Disseminating Evidence-Based Practice For Children & Adolescents:

a systems approach to enhancing care

APA TASK FORCE ON EVIDENCE-BASED PRACTICE WITH CHILDREN AND ADOLESCENTS

American Psychological Association

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APA Task Force on Evidence-Based Practice With Children and Adolescents

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Report of the APA Task Force on Evidence-Based Practice With Children and Adolescents

Available online at www.apa.org/pi/cyf/evidence.html

Printed copies available from:
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American Psychological Association
750 First Street, NE
Washington, DC 20002-4242
(202-336-6045)

suggested bibliographic reference:

American Psychological Association Task Force on Evidence-Based Practice for Children and Adolescents. (2008). *Disseminating evidence-based practice for children and adolescents: A systems approach to enhancing care.* Washington, DC: American Psychological Association.

AUGUST, 2008

Design by: Elizabeth Woodcock, APA Editorial and Design Services

ACKNOWLEDGMENTS

The task force would like to express its appreciation to the following individuals for their thoughtful reviews and comments during the report's development: Mark Atkins, PhD; Guillermo Bernal, PhD; Leonard Bickman, PhD; Barbara Burns, PhD; George DuPaul, PhD; Robert Friedman, PhD; Carol Goodheart, EdD; Darcy Gruttadaro, JD; Larke Huang, PhD; Linda Hurley, PhD; Alan Kazdin, PhD; Kelly Kelleher, MD; Gerald Koocher, PhD; John March, PhD; John Norcross, PhD; Rivka Olley, PhD; Elaine Slaton; Brent Slife, PhD; Karen Sowers, PhD; Patrick Tolan, PhD; Dennis Wendt, MA; and Luis Zayas, PhD.

The task force is also heavily indebted to the following APA divisions for their invaluable contributions to the report via their appointed representatives: Division 16, School Psychology; Division 17, Society of Counseling Psychology; Division 22, Rehabilitation Psychology; Division 27, Society for Community Research and Action; Division 37, Society for Child and Family Policy and Practice; Division 40, Clinical Neuropsychology; Division 43, Family Psychology; Division 45, Society for the Psychological Study of Ethnic Minority Issues; Division 53, Society of Clinical Child and Adolescent Psychology; and Division 54, Society of Pediatric Psychology.

The task force would also like to express gratitude to the following APA governance groups for their excellent and substantive input on the report during the extensive review process: Board of Directors; Board for the Advancement of Psychology in the Public Interest; Board of Educational Affairs; Board of Professional Affairs; Board of Scientific Affairs; Committee for the Advancement of Professional Practice; Committee on Aging; Committee on Children, Youth, and Families; Committee on Disability Issues in Psychology; Committee on Division/APA Relations; Committee on Ethnic Minority Affairs; Committee on International Relations in Psychology; Committee on Legal Issues; Committee on Lesbian, Gay, Bisexual, and Transgender Concerns; Committee on Socioeconomic Status; Committee on Women in Psychology; Ethics Committee; Policy and Planning Board; and Teachers of Psychology in Secondary Schools.

contents

The prevalence of children's behavioral disorders is well documented, with 10 to 20% of youth (about 15 million children) in the United States meeting diagnostic criteria for a mental health disorder. Many more are at risk for escalating problems with long-term individual, family, community, and societal implications (National Advisory Mental Health Council Workgroup on Child and Adolescent Mental Health Intervention Development and Deployment, 2001; President's New Freedom Commission on Mental Health, 2003; U.S. Public Health Service, 2000). Child mental health services are historically and consistently underfunded with the result that children and adolescents often do not receive the mental health care they need (Knitzer, 1982; Masi & Cooper, 2006). For example, among those with a recognized disorder, only 20 to 30% receive any specialized mental health care in a given year (Burns et al., 1995; Kataoka, Zhang, & Wells, 2002). The situation is even worse for youth from low-income families, those in the juvenile justice and child welfare systems, ethnic minority youth, and those with substance abuse problems (Masi & Cooper, 2006). Latino children and adolescents are most likely to go without needed mental health care (Health Care Financing & Organization (HCFO), 2004; National Center for Children in Poverty, 2006). In this report, we adhere to the definition of evidence-based practice (EBP) developed by the 2005 Presidential Task Force on Evidence-Based Practice of the American Psychological Association and the policy statement on practice recommended by the task force that the APA Council of Representatives adopted as **policy:**

Evidence-based practice in psychology (EBPP) **is the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences. This definition of EBPP closely parallels the definition of practice adopted by the Institute of Medicine (2001, p. 147) as adapted from Sackett and colleagues (2000). The purpose of EBPP is to promote effective psychological practice and enhance public health by applying empirically supported principles of psychological assessment, case, formulation, therapeutic relationship, and intervention.**—Adopted by APA Council of Representatives, August 17, 2005

The **EVIDENCE-BASED PRACTICE FOR CHILDREN AND ADOLESCENTS (EBPCA)** report focuses specifically on psychological practice with children and adolescents. We agree with the framers of the original task force report that integrating science and practice must be a priority. In addition, we believe that developmental considerations and cultural/contextual factors warrant specific, distinctive attention by researchers and practitioners who focus on youths and their families. Evidence-based practice (EBP) denotes the quality, robustness, and/or scientific evidence on prevention, assessment, treatment, access, engagement, and retention of targeted patient populations (Cournover & Powers, 2002; Hoagwood & Johnson, 2003). EBP assumes the presence of a coherent body of scientific knowledge relevant to a broad range of services that optimizes the effectiveness of interventions, treatments, or services on a particular student, client, or system. Although growing evidence exists for effective practice for children with mental health problems, the integration of science and practice and the development of systems for assuring that children receive effective treatment and services present myriad challenges. Effectively implemented EBP requires a contextual base, collaborative foundation, and creative partnership among families, practitioners, and researchers. Children and adolescents should receive the best available evidence-based mental health care based on scientific knowledge and integrated with clinical expertise in the context of patient characteristics, culture, and preferences. Evidence-based care should be provided as consistently as possible with children and their families across clinicians and settings. Care systems should demonstrate responsiveness to youth and their families through prevention, early intervention, treatment, and continuity of care. Equal access to effective care should cut across age, gender, sexual orientation, and disability, inclusive of all racial, ethnic, and cultural groups.

THE PSYCHOLOGIST'S FRAMEWORK

The practice of the psychologist providing EBP to children and adolescents must include partnerships with other providers, cultural responsiveness, a developmental approach, and a socioecological framework. Although many evidence-based interventions are intended for implementation by clinicians (e.g., manual-based treatment for anxiety disorders), multiple stakeholders are increasingly becoming involved in developing, shaping, and providing behavioral health services to children and adolescents, including, for example, families, administrators, direct care professionals, and teachers. Psychologists frequently work in collaborative multidisciplinary settings in which they help to organize and structure EBP and consult with and train other professionals to implement evidence-based interventions and address systemic processes that have an impact on the effectiveness of the practice (Friedman, 2006; Kratochwill, 2007; Kratochwill & Hoagwood, 2006; Sheridan & Kratochwill, 2007). This form of EBP requires psychologists to function as collaborators, consultants, and problem solvers in order to optimize the effectiveness of their practice. Psychologists must also be culturally responsive, that is, have the skills, values, attitudes, and beliefs to reduce bias in assessment and intervention approaches. They must have the knowledge and training to integrate multiple developmental processes (e.g., physical, mental, cognitive, social, emotional) in treatment and practice. They must be able to develop or adapt evidence-based interventions and practices that are responsive to the needs and cultural beliefs and values of the local communities they serve.

CONTEXT

Service delivery for children cannot occur without attention to context, including the family, schools, the health care system, and the child mental health system. Within each of these systems, particular attention must be paid to integrating EBP with culturally, geographically, and socioeconomically diverse groups. Research has provided evidence for the success of EBP with ethnic minority youth, for example in the treatment of anxiety-related problems, ADHD, depression, conduct problems, substance use problems, trauma-related syndromes, and other clinical syndromes and problems (Huey & Polo, 2008). In addition to developmental and other factors, psychologists providing EBP should take into account sociocultural and familial factors (e.g., gender, gender identity, ethnicity, race, social class, religion, disability status, family structure, and sexual orientation) and environmental context (e.g., institutional racism, health care disparities) (American Psychological Association, 2006).

Psychologists should adapt services and subsequently monitor these modifications and evaluate treatments developed within and for specific cultural and socioeconomic groups. Culturally insensitive treatments can cause the therapist unwittingly to select goals or embrace values that reflect the culture of the therapist rather than that of the child and family (Comas-Díaz, 2006).

THE FAMILY

Children and most adolescents typically access care via an adult "gatekeeper," most often a parent, school or juvenile

justice personnel, or physician. Although many psychosocial treatments emphasize the child as an individual, those that include family context and actively engage families in fostering adaptive development represent optimal approaches. Some evidence-based treatment approaches explicitly engage family members and target family change as a necessary outcome. However, even in treatments that lack this explicit focus, it is clear that families are essential partners in clinical engagement of children, support for children who are learning new ways of functioning and coping (e.g., Mendlowitz et al., 1999; Thienemann, Moore, & Tompkins, 2006), and support for sustaining changes after children are no longer receiving care (Hawley & Weisz, 2005).

SCHOOLS

Schools are influential forces in the development of prosocial and problem behavior and provide opportunities for prevention and treatment. Limited access to health and behavioral health care increases the likelihood that untreated behavioral concerns will emerge in schools. Traditionally, special education services have served students with special needs, wherein they were referred, evaluated (typically by a school psychologist), and placed in special education classes. Among students between the ages of 6 and 21 years, nearly 3 million with learning disabilities (LD), 500,000 with emotional and behavior disorders (EBD), and more than 78,000 with autism received special education services in 2001 (Office of Special Education Programs, 2003). After years of implementation, the limitations of this model became evident. Students had to develop serious problems prior to receiving needed services (frequently called the "wait-to-fail model"), and schools placed a disproportionate number of minority students in special education. Because the category of "learning disabilities" was the most common and purportedly overused category of services, a long series of research reviews, task forces, commissions, and work by various government groups targeted and proposed alternatives (Gresham, 2006).

One recommendation for services to students at risk for academic and behavioral problems is response to intervention (RtI) that employs evidence-based interventions implemented in a multitiered model of services, using student outcomes in learning and behavior domains to make decisions about the need for subsequent and more intense interventions, including special education (National Association of State Directors of Special Education, 2005). A corollary to RtI in the behavior disorder domain is a prevention and intervention movement called positive behavior support (PBS) that uses functional assessment and analysis to design intervention programs for individual students.

THE HEALTH CARE SYSTEM

Pediatricians may be the first to detect potential precursors of health or behavioral concerns that warrant further attention, especially for those children and adolescents who may not receive evidence-based treatment through the mental health or educational systems. Unfortunately, pediatricians and pediatric health care systems are often not able to treat these problems. That is, pediatricians may feel unprepared to accurately diagnose behavioral problems and to treat complex problems that may necessitate both pharmacologic and behavioral treatments.

Pediatric psychologists and other behavioral health care professionals are often integrated into multidisciplinary treatment teams for children with disorders such as cancer, asthma, diabetes, chronic and acute pain, sickle cell disease, neurological disorders, HIV/AIDS, cystic fibrosis, cardiac disease, organ and stem cell transplantations, burns, gastroenterological disorders, rheumatic diseases, injuries, sleep disorders, and genetic disorders, among others. While disease-specific expertise is needed for a subset of each pediatric group noted, more generic problems common across diseases include strategies for coping with pain and distressing procedures, adherence to medical treatment, family functioning, and child anxiety and depression. Evidence-based practices are available and broadly utilized (Drotar, 2006; Roberts, 2003; Shaw & DeMaso, 2006; Spirito & Kazak, 2006). The pediatric health care system can implement additional diverse intervention efforts, including, for example, cognitive remediation for children with impairments to the central nervous system, end-of-life care, and the impact of child death on families.

CHILDREN'S MENTAL HEALTH CARE SYSTEM

The most salient characteristic of the children's mental health care system is, unfortunately, its fragmentation and lack of coordination of services. In addition to creating considerable burden on families, it is inefficient for states, providers, and systems and destructive to the shared goal of service integration. At least six separate sectors or administrative structures constitute the "system" serving children with psychological problems: the mental health sector; education; child welfare, including foster care and adoptive services; substance abuse; general health; and juvenile justice. These sectors themselves are asymmetrical

in that each offers a range of programs with varying levels of restrictiveness and no consistent standards for access or discharge and sometimes parallel in that services offered in one sector are not coordinated with services in another sector.

JUVENILE JUSTICE SYSTEM

Mental health problems and behavioral and social dysfunction are highly prevalent among youngsters in the juvenile justice system (Skowyra & Cocozza, 2006), and the evidence base on interventions, including anger management and systematic problem solving, for such behavior is particularly extensive (United States Public Health Service, 2001). Unfortunately, many youngsters do not have access to sufficient intervention to prevent their entry into the juvenile justice system, particularly youth of color. For example, African American youth ages 10 to 17 years make up about 16% of the juvenile population in the United States; yet, they accounted for 38% of almost 100,000 juveniles in secure residential placement (National Council on Crime and Delinquency, 2007). Youth of color comprise the majority of youth held in public and private facilities, and youth of color, especially Latino youth, represent a much larger proportion of juveniles in public facilities, which are often harsher environments than private facilities (National Council on Crime and Delinquency, 2007). In a national study of youth from various juvenile justice programs, 72% of girls and 63% of boys in the aggregate sample had a clinical elevation on at least one scale on the Massachusetts Youth Screening Instrument-Version 2 (Vincent, Grisso, Terry, & Banks, 2008).

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CHILD PROTECTION

Child maltreatment, encompassing both neglect and abuse, is evident in all regions of the country, necessitating child protective service systems in every state. Sometimes lost in the complexity of the bureaucracy designed to handle such situations is attention to the trauma the children have experienced, as related to the identified maltreatment, the investigations by child protective services and law enforcement, involvement in legal proceedings, and subsequent changes in the children's living situation. Evidence-based assessment methods exist for identification of problems and disorders that warrant clinical attention, and evidence-based treatments exist for some of the most likely problems and disorders (see, e.g., Cohen, Mannarino, & Deblinger, 2006). However, because child protection and justice systems often operate independently from mental health systems, awareness of these assessment and treatment methods may be limited. In addition, the personnel responsible for child protection, criminal investigation, and legal proceedings may have training relevant to their primary work, but relatively little exposure to evidence-based assessments or treatments.

SUBSTANCE ABUSE

Substance use may be more prevalent in certain subgroups of youth, and the approaches necessary (e.g., for GLBT youth) may differ from more "traditional" treatment models (Russell, 2006).

Alcohol and drug abuse in children and adolescents often co-occur with mental health problems, and the existence of separate "systems" (substance abuse treatment, behavioral health, general health, and juvenile justice systems) pose a significant challenge for children, adolescents, and their families. Evidence-based treatment programs for children or adolescents with co-occurring disorders are still rare.

ASSESSMENT, INTERVENTION, AND PREVENTION

A large and ever-expanding scientific literature documents the existence of two major elements of evidence-based practice: assessments shown to be psychometrically sound for the populations on whom they are used and interventions with sufficient evidence for their effectiveness. Sound assessment is required for accurate identification of children's problems and disorders, for ongoing monitoring of children's response to interventions, and for evaluation of the outcomes of intervention once termination has occurred. Evidence-based interventions, and particularly those utilizing longitudinal data for short- and longer-term outcomes, are required if practitioners are to draw on clinical care procedures that have track records—i.e., procedures shown to ameliorate problems or symptoms—or to otherwise bolster or sustain children's adaptation or well-being.

Using assessment approaches with a well-demonstrated evidence base can make it possible to properly match the

child's condition to the appropriate treatment. Assessment should also identify each youngster's strengths, as these are the resources upon which intervention can build and encompass environmental and system factors that are so often critical to successful treatment. Once treatment has begun, culturally responsive and psychometrically sound assessment at regular intervals (e.g., each treatment session, weekly) will gauge the child's response to the intervention, inform adjustments in treatment strategy, and guide decisions about how long treatment needs to continue. After treatment ends, posttreatment assessment will gauge the overall impact of care.

Several narrative reviews and meta-analyses have shown that prevention programs for young people can produce significant benefit by reducing rates of later social, behavioral, academic, and psychological problems.

Several narrative reviews and meta-analyses have shown that prevention programs for young people can produce significant benefit by reducing rates of later social, behavioral, academic, and psychological problems. Researchers have designed some specific programs to promote a broad array of positive outcomes, called health promotion or positive youth development programs. In one program with elementary school students in high-crime areas, teacher training, parenting classes, and child social skills training resulted in more positive outcomes, including reduced rates of risky sexual behavior, pregnancy, and delinquency, and higher levels of school achievement among youths who participated in the program versus those who did not (Lonczak, Abbott, Hawkins, Kosterman, & Catalano, 2002). Other programs focus on universal prevention in an entire population. One "whole school program" markedly reduced bullying, vandalism, fighting, and theft in schools by improving school recess supervision, establishing anti-bullying school rules, and arranging meetings with bullies, victims, and parents of both (Olweus, 1994).

Still other programs employ selective prevention, targeting specific groups that are especially at high risk of unwanted outcomes. In the Nurse Home Visitation Project (Olds et al., 1998), designed specifically for low-income women experiencing their first pregnancy who were younger than 19 or unmarried, nurses worked with the expectant mothers to promote healthy behavior during pregnancy and the child's early years, to build competency in child care, to link mother and child to services and social supports, and to support the mother's personal development. The program has shown benefits that include reduced rates of substance use, antisocial behavior, and child maltreatment—effects documented over 15 years after birth. In a fourth category of preventive intervention, indicated prevention, the focus is on youngsters who already show some evidence of the target problem. In the Montreal Prevention Experiment, Tremblay, Pagani-Kurtz, Masse, Vitaro, and Pihl (1995) identified inner-city kindergarten boys who already showed significant disruptive behavior and provided the boys with school-based social skills training and their parents with home-based parent training. This indicated prevention program led to better school performance and reduced delinquency over the subsequent 5 years.

BENEFITS OF YOUTH TREATMENT PROGRAMS

There is a rich evidence base of sound assessment and intervention strategies tailored to particular conditions, contexts, and needs demonstrating that structured, empirically tested treatment programs can have beneficial effects with children and their parents. Many of these programs include individual therapy with children and others—particularly for conduct problems and other externalizing behavior—and address child problems primarily by working with parents. Still others focus intervention on multiple levels of children's social ecology.

AN EVIDENCE-BASED ORIENTATION TO PRACTICE

Central to an evidence-based orientation to clinical practice is a scientifically minded approach characterized by knowledge and skills in applying psychological science, including models of etiology and change, as well as a constant process of observation and inquiry. The three primary elements of an evidence-based clinical practice are (a) assessment that guides diagnosis, intervention planning, and outcome evaluation; (b) intervention that includes, but is not limited to, those treatment programs for which randomized controlled trials have shown empirical support for the target populations and ecologies; and (c) ongoing monitoring, including client or participant feedback, conducted in a scientifically minded manner and informed by clinical expertise (e.g., judgment, decision making, interpersonal expertise). In addition, efforts to alleviate

concerns, align expectations about treatment, culturally adapt or tailor treatment, and provide support for individuals and families to receive treatment can enhance treatment engagement.

Barriers to positive outcomes may exist, including chronic and severe child psychopathology, parental psychological difficulties, needs of siblings, and familial inability to access or utilize services. Competencies in areas such as case formulation; treatment planning; implementation of treatment; monitoring; formation of therapeutic alliances; and understanding of individual, cultural, and contextual influences (APA Presidential Task Force on Evidence-Based Practice, 2006) are necessary to address such barriers.

The momentum to move new and tested practices into real-world settings has created both a set of challenges and a set of opportunities.

IMPLEMENTATION AND DISSEMINATION

The momentum to move new and tested practices into real-world settings has created both a set of challenges and a set of opportunities. Some of the challenges include the acceptance of EBP by providers, administrators, families, and other stakeholders; the effect of the adoption of EBP on caseloads or supervisory practices; and the integration of EBP by existing organizational and management structures. Prompted in part by recognition of these challenges, a series of major federal, state, and local policies launched in recent years has created unprecedented opportunities for partnerships among researchers, practitioners, and policymakers to encourage the implementation and dissemination of EBP into public mental health systems. Several foundations are also supporting major studies to improve delivery of EBP for children. Though empirical testing of implementation or dissemination strategies is lacking, there are several relevant strategies, frameworks, and guiding principles emerging in the literature that can help guide the efforts of those seeking to disseminate EBP and promote their adoption into large systems.

CHALLENGES TO IMPLEMENTATION AND DISSEMINATION

A number of macro (e.g., systemic) and micro (e.g., individual, such as clinician, supervisor, administrator, family) factors hamper implementation of EBP. In addition to the lack of integrative conceptual models described above, other issues include inconsistent definitions for the major constructs; the role of families and local communities in EBP; methodological, measurement, and data analytic challenges; insufficient training and consultation models; and system fragmentation. Complicating this is the fact that children in treatment often present with multiple co-occurring problems and disorders (Angold, Costello, & Erkanli, 1999) with complex social and family problems and situations and diverse cultural contexts. By contrast, most evidence-based treatments are designed for single conditions or groups of closely related conditions (e.g., a cluster of anxiety disorders with partially overlapping symptoms) and do not specify how to deal with the complex social and family circumstances that relate to the children's problems or to the cultural contexts in which the children's problems are manifested and interpreted. Comorbidity may either undermine or enhance the effects of treatment on the primary problem targeted in treatment (see Curry et al., 2006; Hinshaw, 2007), and complexities associated with social and family circumstances and cultural contexts may hamper the effects of treatment if they are ignored (Koss-Chioino & Vargas, 1999). In any treatment episode, those problems and contexts not targeted by the evidence-based treatment in use may persist, continuing to cause difficulty.

METHODOLOGICAL, MEASUREMENT, AND ANALYTIC CHALLENGES

Those seeking to implement new clinical service models in their systems face numerous methodological, measurement, and analytic challenges. These include (a) the lack of reliable or valid methods for determining the preparedness of providers, agencies, regions, or specific stakeholder groups in adopting or sustaining new EBP technologies; (b) the lack of metrics or measures for determining the efficacy and effectiveness of implementation efforts; (c) the lack of adequate measures for assessing the fidelity of implementation efforts at multiple levels (families/youth, clinicians, supervisors, administrators, policymakers) and contexts (e.g., rural vs. urban, or Korean Americans in South Central Los Angeles vs. Ethiopian Americans in Silver Lake, MD); (d) the problems of using data collected within real-world service systems for research purposes, often compromised by missing elements due to random and/or nonrandom factors, as well as observer biases; and (e) the un-ideal nature of service organization and delivery, such that rigorous control of potential confounds or even knowledge of potential sources of bias are increasingly difficult. From a policy perspective, this is very problematic, as substantial analytic and interpretative problems in costly trials result

from noncompliance, treatment switching, variable attendance, and differential attrition/dropout (Little & Rubin, 2000). In the child arena, for example, some evidence shows that these factors vary as a function of cultural or ethnicity variables (McCabe, 2002); failing to assess and account for such factors in the analytic models is likely to obscure genuine understanding (Kazdin & Mazurick, 1994).

Increasingly sophisticated research designs, assessment methods, data capture techniques, and analytic approaches are becoming more common in services research studies.

Increasingly sophisticated research designs, assessment methods, data capture techniques, and analytic approaches are becoming more common in services research studies. However, investigators at a systems level almost always encounter particular research design and analytic challenges resulting from the nested nature of children/families within clinicians, clinicians within supervisors and clinics, clinics within provider organizations, and provider organizations within geographic regions. In addition, the same potential sources of bias that operate at smaller scales, e.g., attrition (perhaps due to lack of EBP "preparedness" or self-selection factors at the family, clinician, or clinic level), adherence/fidelity to EBP methods/procedures, and incomplete or missing data for both random and nonrandom reasons complicate the ability to examine EBP.

Training and consultation issues range from the fact that EBP training is unavailable—or when available, uses ineffective training models, such as half-day workshops at professional meetings with no substantial follow-up or support (Grimshaw et al., 2001); manualization of current psychotherapy models varies widely (Chorpita, 2003); families often will not attend the 16 to 20 sessions needed to complete many of the models (Armbruster & Kazdin, 1994; Kazdin, 2004; McKay & Bannon, 2004); and new clinical practices do not take into account organizational or systems variables characterizing the practice environments (Hoagwood, Burns, & Weisz, 2002; Weisz & Addis, 2006; Weisz, Hawley, & Doss, 2004).

Strengthening the science base requires the ability to identify, measure, track, and monitor processes and outcomes for multiple stakeholders (families/children, clinicians, supervisors, directors, payers, policymakers) across each of these systems. This would be a difficult undertaking in a simple system, and the asymmetry of the current contexts of care and the cultural, geographic, and economic diversity of the populations these mental health systems are intended to serve make it much more complex.

PROMISING APPROACHES

The EBP movement is beginning to recognize and examine issues related to organizational, clinical, and monitoring supports and how to embed these into systems. The development of a policy research base regarding state oversight of mental health service system transformation and implementation of EBP has begun. There have been some encouraging first steps. In addition, research is proposing new models of intervention development to help accelerate the application of research findings to routine practice. These approaches are creating learning communities with typical practice settings, encouraging these settings to become empirically driven centers for both delivering services and examining the impact of routine practice on outcomes. Such normalization of research-based approaches to practice can demystify the scientific enterprise and facilitate the constant re-evaluation, refinement, and improvement of services. This approach also encourages the construction of locally relevant evidence and creates a context for systematic evidence gathering within routine service settings, leading ultimately, one hopes, to improvements in quality.

TRAINING AND SUPERVISION

There are many implications of EBP for the training and supervision of psychologists. Educational efforts in graduate training will have to ensure that students have (a) a firm foundation in philosophy of science and an appreciation of the definition of science from different theoretical and disciplinary perspectives; (b) an understanding of and appreciation for current dominant views about science, how the valued methodologies derived from these views are culturally and historically situated, and the inherent strengths, biases, and limitations of these views; (c) an understanding of varied forms and levels of evidence and methods of evidence gathering, the use and suitability of certain types of evidence in developing treatments (e.g., as derived from qualitative and quantitative methods), and an appreciation for the knowledge that different types and levels of evidence can contribute in the process of scientific inquiry; and (d) an understanding of the knowledge about EBP currently available, the essential practice and contextual aspects necessary to effectively implement an intervention in a particular setting or community, and the strengths and

limitations (e.g., characteristics of patients and ecologies for which the treatment is intended) of EBP.

Because EBP extends to diverse contexts and delivery systems and attends to aspects of access, engagement, treatment process, and retention, students will have to develop specific skills in these areas of practice and appreciate that optimal application of their expertise—whether in research or practice—occurs only in collaboration with the participants in a study or the patients in the office, clinic, school, or community. Students must understand and appreciate the varied and complex characteristics of the target populations, including participants' values, beliefs, and views, the varied treatment contexts, and the delivery systems of psychological services. Students must be able to implement a prevention or intervention program with specific patient populations in specific communities, attend to structural and procedural aspects in order to facilitate access to care, respond to individual and cultural diversity in the efforts and techniques used to increase patient engagement and retention, promote cultural responsiveness in the administrative and organizational systems involved in service delivery, and establish collaborative relationships with the communities of targeted patient populations.

These educational efforts also will have to be directed toward practicing and supervising psychologists. This will likely require close partnerships among the American Psychological Association, state licensing board, state psychological associations, and the Association of State and Provincial Psychology Boards (ASPPB) in order to develop and implement effective strategies to (a) provide training in EBP to practicing psychologists through continuing professional education and (b) encourage state licensing boards to include requirements for training in and implementation of EBP in state licensing board rules and regulations.

APA must be prepared to provide consultation and technical assistance to behavioral health care, health care, juvenile justice, and school systems interested in providing EBP. This will require that APA establish a priority to provide such consultation and technical support and that it develop an organizational mechanism by which to provide such consultation and technical support, ideally in partnership with other professional associations, such as the American Medical Association, American Psychiatric Association, National Association of School Psychologists, National Association of Social Workers, and American Counseling Association.

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Disseminating Evidence-Based Practice For Children & Adolescents:

a systems approach to enhancing care

INTRODUCTION

The prevalence of children's behavioral disorders is well documented, with 10 to 20% of youth (about 15 million children) in the United States meeting diagnostic criteria for a mental health disorder. Many more are at risk for escalating problems with long-term individual, family, community, and societal implications (National Advisory Mental Health Council Workgroup on Child and Adolescent Mental Health Intervention Development and Deployment, 2001; President's New Freedom Commission on Mental Health, 2003; USPHS Mental Health Report, 2000).

A critical problem is that children and adolescents often do not receive the care they need. Among those with a recognized disorder, only 20 to 30% receive any specialized mental health care in a given year (Burns et al., 1995; Kataoka, Zhang, & Wells, 2002). The situation is even worse for those youths from low-income families, those in the juvenile justice and child welfare systems, ethnic minority youth, and those with substance abuse problems (Masi & Cooper, 2006). Up to 50% of youth in the child welfare system have mental health problems (Burns, et al., 2004), and 70% in the juvenile justice system have a diagnosable mental health disorder (Skowyra & Cocozza, 2006). Latino children and adolescents are most likely to go without needed mental health care (Health Care Financing & Organization (HCFO), 2004; National Center for Children in Poverty, 2006). There are also geographic disparities in unmet need. For example, the rate of unmet need ranges from 51.3% in Massachusetts to 80.6% in California (HCFO, 2004).

This unfortunate state of affairs may be in part attributable to the historical underfunding of children's mental health care. Although children and adolescents comprise 25% of the U.S. population, only one ninth of health care funding is directed to them (Costello, Egger, & Angold, 2005). Given the high prevalence of children's behavioral disorders, disparities in rates and access to care, the unmet need, and the underfunding of mental health services, efforts at improving the quality of care are especially timely and have gained public health salience (American Psychological Association, 2003). Although growing evidence exists for evidence-based practice for children with mental health problems, systems for assuring that children receive effective delivery treatment are lacking.

In light of the complexities of developing, testing, and implementing evidence-based practice (EBP) for children and adolescents and the fact that treatment is often delivered within multiple delivery systems, the task force selected a systems orientation to frame this report. Using a variation of a social ecological model for understanding children (as illustrated in Figure 1), we frame the challenges in conceptualizing, evaluating, and disseminating EBP for children systemically. This dynamic system includes multiple layers: individuals (e.g., clinicians, supervisors, researchers), settings (e.g., schools, health centers, community agencies), delivery mechanisms (e.g., training, ongoing consultation, clinical decision making, assessment and monitoring tools),

consumers (e.g., youths and their families), the cultures of and within each layer, and the interactions among these layers. As used in this report, EBP is a broad concept that encompasses evidence-based treatments (EBTs), evidence-based assessments (EBAs), and evidence-based prevention and extends to the systemic, cultural, and structural aspects of the settings, delivery mechanisms, and organizations and institutions through which EBTs and EBAs are developed and implemented and to the relational and transactional processes within and among these layers in order to effect a successful prevention program, assessment, or intervention.

This report builds on the work of the APA 2005 Presidential Task Force on Evidence-Based Practice (EBP) by addressing the unique challenges for practitioners in developing, strengthening, and disseminating EBP for children, adolescents, and their families, focusing on the importance of enhanced dissemination efforts. The overarching purpose of this report is to summarize key issues surrounding the current status of EBP for children and adolescents and their families. We do so guided by four principles (see Table 1) and with an emphasis on the integration of research and practice and a systemic orientation, which are essential to promote national improvements in access to care and much needed dissemination and evaluation of evidence-based behavioral health care to children and adolescents.

TABLE 1. GUIDING PRINCIPLES FOR EVIDENCE-BASED PRACTICE FOR CHILDREN AND ADOLESCENTS (EBPCA)

1. Children and adolescents should receive the best available care based on scientific knowledge and integrated with clinical expertise in the context of patient characteristics, culture, and preferences. Quality care should be provided as consistently as possible with children and their caregivers and families across clinicians and settings.
2. Care systems should demonstrate responsiveness to youth and their families through prevention, early intervention, treatment, and continuity of care.
3. Equal access to effective care should cut across age, gender, sexual orientation, and disability, inclusive of all racial, ethnic, and cultural groups.
4. Effectively implemented EBP requires a contextual base, collaborative foundation, and creative partnership among families, practitioners, and researchers.

We begin this report with a brief overview of the history of practice, including the report of the APA 2005 Presidential Task Force on Evidence-Based Practice, and clarify the definitions relevant to evidence-based practice with children and adolescents. Next, we discuss key assumptions of practice, which, while generally well accepted, admittedly reflect the values of our task force. Our recommendations reflect these assumptions, including the commitment to effective

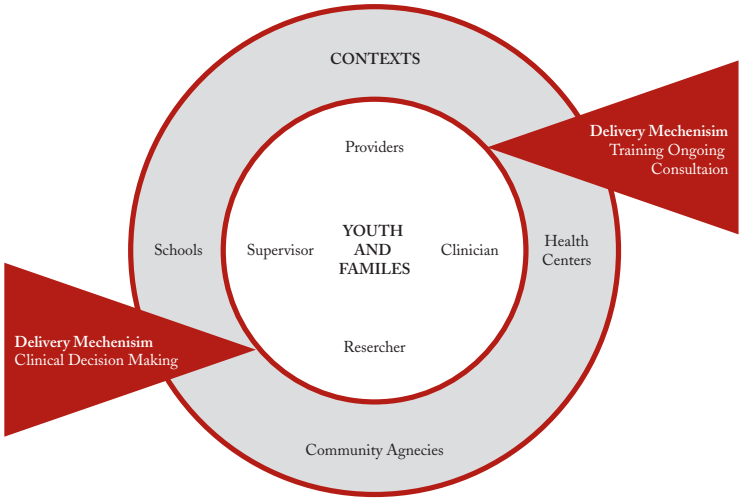

FIGURE 1: ***A systems social ecological framework guides conceptualization of EBP in youth***

child mental health care, the importance of prevention, the critical need to develop evidence-based care at the level of broader systems affecting children, the need for ongoing multidisciplinary and collaborative practices, the importance of culturally responsive care, and the need for diverse bases of evidence in developing and evaluating models of care. The next section highlights developmental considerations for children and adolescents, with particular emphasis on inherent differences in the ways that children seek and receive care, and attention to children in the context of their families as well as other essential systems, such as schools and health care, and other service settings.

In the next section, we provide a summary of evidence-based practice for children and adolescents, including assessment, treatment, and prevention. Building on the evidence base, we propose a scientifically minded orientation to practice that engages the clinician in a constant process of observation, inquiry, and evaluation. Attention to dissemination and implementation is a critical component of this work, thus we provide an overview of current initiatives and concerns related to ensuring that children and adolescents can receive care more readily. The next section that follows addresses training and supervision issues essential to the ongoing refinement and dissemination of EBP. Our process throughout the report was to review the literature broadly and to summarize and integrate key findings in order to provide a scientifically grounded document that could serve as a blueprint for further steps by APA to advance EBP with children and adolescents. We did not conduct an exhaustive scholarly literature review. When specific programs are referenced, we intend them as examples to augment key points in the report. They should not be viewed as exemplars. They are noted to provide illustrations—with awareness that, in many cases, there are multiple programs that we could have cited. We conclude this report with recommendations that cut across research and dissemination, education and training, practice, policy, and public education.

EVIDENCE-BASED PRACTICE: HISTORY AND DEFINITIONS

historical context for the EBPCA Task Force

A century ago, Lightner Witmer, founder of the first psychological clinic, stressed the importance of linking science and clinical care; as he put it, "the pure and applied sciences advance in a single front" (Witmer, 1996/1907, p. 249). Forty years later, the concept of scientist-practitioner model of training was endorsed by APA (Shakow, 1947). The six decades since have seen a massive expansion of both clinical practice by psychologists and research on psychological treatments. With the growth of practice and the expansion of the evidence base, discussion and debate have swirled around the question of how best to link the two. To address this question, among others, APA President Ronald L. Levant appointed the 2005 Presidential Task Force on Evidence-Based Practice.

This 2005 task force discussed the importance of integrating science and practice and recognized the challenges inherent in doing so. In this report we summarize some key points from the earlier report. First, the initial task force acknowledged the diverse forms of evidence that bear on clinical intervention. While there is debate over what constitutes necessary and sufficient "evidence" for treatments, assessments, or practice to be "evidence-based," varied forms of evidence can be obtained through many methods: clinical observation, qualitative and ethnographic approaches, process-outcome studies, single-case designs, randomized controlled trials, crossover designs, quasi-experimental program evaluation, and summary meta-analyses. The final report of the task force (APA Presidential Task Force on Evidence-Based Practice, 2006) includes a discussion of the ways in which, and the questions for which, the various forms of evidence may have value. Second, the report emphasizes the role of clinical expertise and clinical judgment in the various steps of clinical care, including, but not limited to, initial assessment and diagnosis, case formulation, intervention procedures, clinical decision making, and monitoring of client progress.

The Presidential Task Force also considered the likelihood that "psychological services are most likely to be beneficial when they are responsive to the client's specific problems, strengths, personality, sociocultural context, and preferences" (APA Presidential Task Force on Evidence-Based Practice, p. 278). The 2006 report noted a number of ways in which this perspective is reflected in the process of clinical care and then identified possibilities for future research on patient characteristics in relation to intervention procedures and outcomes. A policy statement on practice recommended by the task force reflected its emphasis on these three themes, i.e., scientific evidence, clinical expertise, and patient characteristics. In August 2005, the APA Council of Representatives adopted as policy the following statement:

> *Evidence-based practice in psychology (EBPP) is the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences. This definition of EBPP closely parallels the definition of practice adopted by the Institute of Medicine (2001, p. 147) as adapted from Sackett and colleagues (2000). The purpose of EBPP is to promote effective psychological practice and enhance public health by applying empirically supported principles of psychological assessment, case, formulation, therapeutic relationship, and intervention.*
>
> Adopted by APA Council of Representatives
> August 17, 2005

The EBPCA builds on and extends the work of the 2005 Presidential Task Force on Evidence-Based Practice by focusing specifically on psychological practice with children and adolescents. We agree with the framers of the original task force report that integrating science and practice must be a priority. In addition, we believe that developmental considerations and cultural/contextual factors warrant specific, distinctive attention by researchers and practitioners who focus on youths and their families.

EBP has become a popular construct in psychology and related professions. From 1900 to 1995, there were virtually no citations in Medline or PsycINFO on EBP. However, the period between 1995 and 2006 marked an explosion of citations (Norcross, Koocher, & Garofalo, 2006). Further, there were at least 271 references to EBP with children and adolescents in PsycINFO just for the year 2005 and the first 8 months of 2006 (Frick, 2007). Early in the EBP movement, a Task Force on Promotion and Dissemination of Psychological Procedures of the Society of Clinical Psychology (APA Division 12, 1995) used the terms "empirically validated treatments" and "empirically supported treatments (EST)" to convey the concept of treatment validation and experimental research (see Chambless & Ollendick, 2001). Although these terms never constituted APA policy, they were important in setting the stage for a scientifically minded approach to psychological treatments. They also sparked controversy regarding basic assumptions about evidence, treatment approaches, and implementation. The clinical, counseling, pediatric, and school psychology literature now more commonly use "treatment or intervention" for approaches that meet criteria designated by a task force or professional group as based on research support. Over the past several years, a number of books have been published on evidence-based interventions and therapies for children and adolescents (e.g., Barrett & Ollendick, 2004; Burns & Hoagwood, 2004, 2005; Christophersen & Mortweet, 2003; Fonagy, Target, Cottrell, Phillips, & Kurtz, 2002; Kazdin & Weisz, 2003; Morris & Kratochwill, 2007; Spirito & Kazak, 2006; Tolan, Szapocznik, & Sambrano, 2007; Weisz, 2004).

Our task force uses the broad contemporary term "evidence-based practice" as a framework for discussing the broader movement as well as conceptual and methodological points. EBP is a broader term than "evidence-based treatment." It denotes the quality, robustness, and/or scientific evidence on prevention, assessment, treatment, access, engagement, and retention of targeted patient populations (Cournover & Powers, 2002; Hoagwood, Burns, Kiser, et al., 2001). EBP also incorporates patient characteristics and clinical expertise. EBP assumes the presence of a coherent body of scientific knowledge relevant to a range of service and clinician practices and is designed to allow for the prediction of the impact of interventions, treatments, or services on a particular student, client, or system. EBP is distinguished from evidence-based treatment (EBT), which generally refers to either intervention or prevention programs for which there is a strong scientific evidence base.

Although EBP has gained considerable momentum, the task force prepared this report with awareness that EBP is not a singular concept, or uniformly endorsed. Given the inevitability of different perspectives on some of the issues, we highlight some key points. We intend this report to serve as a unifying document about the clinical, scientific, ethical, and pragmatic mandates for providing EBP for children and adolescents. We prepared the report at the request of the American Psychological Association (APA) and intend it primarily as a resource for psychologists to promote quality care for youth and their families.

We list here some of the issues identified, along with our approach to them in this document:

1. **Definitions used in developing and defining EBP.** We adhered to the 2005 APA definition of EBP and clarify throughout the report when treatments discussed differ, reflecting acknowledgement of alternative definitions and criteria.

2. **Type(s) of evidence used to establish EBP.** There are broad potential discrepancies in the concept of "evidence." In some previous instances, evidence-based approaches have been understood to refer only to specific methods of generating evidence. However, more diverse sources of evidence and alternative models of research (including qualitative methods) are now increasingly recognized as legitimate sources of evidence to support EBP (Slife, Wiggins, & Graham, 2005; Wendt & Slife, in press) especially insofar as they contribute to culturally responsive evidence-based practice. Throughout the report, we define evidence and discuss the various types of evidence that may be used to support EBP. However, we rely heavily on traditional psychometric (reliability, validity) and quantitative approaches (randomized clinical trials) for the evidence summarized in this report. We recognize that traditional psychometric approaches are themselves culturally rooted (often Western European and North American) and applaud efforts to broaden sources of evidence. At the end of the report, we make recommendations to give these approaches greater attention in research and practice.

3. **Core values and principles related to providing care.** Some critics of EBP note concerns that EBP emphasizes clinical problems over person variables, potentially neglecting the importance of individualized (patient-centered) care, strengths-based models, family centered care, and cultural competencies (see Goodheart, Kazdin, & Sternberg, 2006 for comprehensive review of this topic). While the scientific basis for EBP guides the development of this report, we emphasize the process and context of assessment, treatment, and ongoing monitoring rather than focus on particular theories, models, or treatments. We advocate for a systemic, culturally responsive approach that reflects person variables, flexibility in the delivery of care, and aspirations for excellent clinical care and care delivery.

4. **Medical model origins.** EBP has roots in medicine, and some have criticized its disease-oriented approach at the potential expense of attention to preventive or recovery-oriented services and values. In the case of children, an emphasis on prevention becomes imperative.

We highlight the importance of preventive and recovery-oriented approaches and use specific diagnostic examples for illustrative purposes. While scientific advances have often been organized largely by disease entities because of the prominence of the *Diagnostic and Statistical Manual of Mental Disorders (DSM)* (American Psychiatric Association, 2000) and the organization of major funding organizations by disease (such as the National Institutes of Health), there are important reasons for considering other conceptual frameworks (e.g., client-oriented change, common factors) and broader contextual aspects of emotional and behavioral problems in children and adolescents.

5. **Sources of evidence.** Traditionally, the sources of data for EBP have been research-based investigations, such as randomized clinical trials with an emphasis on efficacy research. The need to establish effectiveness is critical. Importantly, other sources of evidence, such as those originating from practice, particularly practice-based evidence, and communities, such as through community-based participatory research, have much to contribute to the evolution of EBP. More attention to longitudinal data is also critical to establish shorter- and longer-term effects.

6. **Range of settings.** There is a growing number of prevention and intervention programs that are being designated as evidence based (see, for example, Silverman & Hinshaw, in press; Weisz, Sandler, Durlak, & Anton, 2005b). Nevertheless, research supporting most of these interventions has occurred largely within a narrow range of practice settings. We might apply EBP more widely if we had stronger evidence for interventions that are effective within a broader range of routine care settings and if we had a better understanding of the organizational and contextual factors that increase the likelihood that interventions will be successful. Throughout the report, we highlight the need for more pragmatic research to support delivery of interventions within routine practice.

7. **Concerns about implementation, monitoring, and evaluation.** The adoption of a practice that has yielded positive results in one context does not necessarily imply that it will be effective in another context. The evidentiary basis for assessing the ability to generalize interventions and practices across settings, cultural groups, communities, or systems does not exist. In the absence of ongoing clinical monitoring systems for tracking change, we cannot know the extent to which practitioners properly implement and faithfully apply EBP. The EBP movement has generally neglected issues of organizational, clinical, and monitoring supports needed to ensure that good clinical care occurs at the level of the patient and family.

8. **Compatibility with family centered care.** Family acceptability, engagement, and collaboration are cornerstones of high-quality care. EBP development and its dissemination are increasingly recognizing the importance of systematically incorporating practices that are both responsive to and inclusive of family and youth perspectives on treatment and services.

9. **Determinations of which treatments are evidence based may be used to restrict services.** Some are concerned that recommendations for EBP may lead to the development of lists of treatments, and that policymakers, state and federal agencies, managed care organizations, or other delivery systems could use these lists to restrict or limit the care provided or reimbursed or apply treatments to populations for which there is little or no evidence of efficacy for the "approved" treatments. The approach in this report highlights the need for more effective, high-quality, and diverse services to children and adolescents and their families. To the extent that services are supported by scientific evidence, that support should serve as protection against efforts to limit care. Our recommendations emphasize the importance of developing more treatments that are supported by evidence and are culturally responsive and the need to advance models for dissemination of those treatments. Rather than reducing the services available, we favor broadening the array and increasing the availability of more services that have been tested and shown to be effective.

10. **Ethical challenges.** Limited or inequitable access to EBP—especially in underserved populations, in rural areas, and for children and families living in poverty and of culturally diverse backgrounds—remain ethical and social justice concerns. Psychologists and other health care professionals providing treatment may not have access to training and supervision in EBP approaches. Continuing education opportunities for practicing psychologists often do not meet the intense training and supervision needed to acquire the competencies for effective and culturally responsive implementation. An additional ethical concern relates to practitioners who focus on the application of manualized treatments without consideration of the individual needs and preferences of people who differ in culture, language, lifestyle, or social status from the populations used to test or establish the efficacy of the treatments.

ASSUMPTIONS OF EVIDENCE-BASED PRACTICE

In this section of the report, we highlight this task force's specific assumptions underlying evidence-based practice (EBP) that we think are essential components of ongoing efforts to develop and disseminate care to youth and their families. Our assumptions include (a) the shared goal of effective child mental health care, uniting families, practitioners, policymakers, payers, and researchers; (b) the importance of evidence-based assessment of childhood problems; (c) the importance of prevention of child and adolescent problems; (d) the need for systems-level changes to support EBP; (e) the importance of collaborative, multidisciplinary-focused EBP; (f) the imperatives of culturally responsive EBP; and (g) the utilization of diverse bases of evidence for EBP. In the sections that follow, we discuss each of these briefly.

a shared objective: effective child mental health care

The challenge of caring for children experiencing mental health problems calls for involvement of a diverse array of individuals, groups, agencies, and professions. Stakeholders in the process of delivering care include the children and their families; the clinicians who provide the care; the clinics and organizations in which those clinicians are employed; the government agencies that set policy for mental health services, education, and human services; the insurance and managed care organizations through which payment is provided; and the researchers who develop and test interventions. While the various individuals, organizations, and professions represented in this list may differ in their views, they share the common objective of effective child mental health care. This shared interest also links the present task force report to the mission of other groups and organizations in the area of child mental health (e.g., APA Working Group on Psychotropic Medications for Children and Adolescents, 2006) and to previous task force reports and resolutions of the APA (APA Presidential Task Force on Evidence-Based Practice, 2006; APA Task Force on Early Mental Health Intervention, 2003).

evidence-based assessment

By definition, EBP emphasizes interventions with strong support. Our task force recognizes that we must not lose sight of our strong tradition in psychology to create an evidentiary base for assessment tools in particular. Psychological assessment contributes to diagnosis, clinical formulation, intervention planning, and outcome assessment, and using instruments with strong reliability and validity remains of paramount importance in EBP (Mash & Hunsley, 2005). However, there are gaps in evidence for the use of assessment for populations that differ from those on whom the instruments were developed and normed (see APA

Committee on Ethnic Minority Affairs/Committee on Psychological Tests and Assessment, 2000) and in treatment planning and outcome assessment (Fletcher, Francis, Morris, & Lyon, 2005; Neisworth & Bagnato, 2004).

Psychological and educational assessments have advanced interorganizational standards to promote high-quality assessment (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999). Mash and Hunsley (2005) discuss recommendations for EBP in the assessment process that guide the evaluation of the psychometric quality of measures used to assess child and adolescent disorders. For example, they present a template for research development of instruments that includes various psychometric standards related to practice applications. Advances have occurred in the psychometric standards used to select interventions. Called the treatment utility or validity of assessment, research in this domain has promise for advancing psychological and educational assessment (Hayes, Nelson, & Jarrett, 1986, 1987). Researchers have also made recommendations for understanding the nature of the metrics used to determine effective outcomes following implementation of evidence-based interventions and for the use of "real life referents" to anchor metrics (Blanton & Jaccard, 2006; Kazdin, 2005, 2006).

prevention orientation

Historically, the EBP movement emphasized matching treatments to major diagnostic categories of the *DSM*. Although this research base and its utilization in practice remain critical, there is increasing emphasis in EBP on prevention that has focused on children and adolescents (e.g., Tolan & Dodge, 2005; Weisz et al., 2005b). Prevention has special importance for children and adolescents in promoting adaptive functioning into adulthood. Increasing numbers of prevention programs demonstrate long-term positive outcomes for early intervention (e.g., Biglan, Mrazek, Carnine, & Flay, 2003; Nation et al., 2003; Weissberg, Kumpfer, & Seligman, 2003). Traditionally, prevention focused on the Institute of Medicine (Mrazek & Haggerty, 1994) framework of primary, secondary, and tertiary services (see also Mrazek & Haggerty, 1994). In particular, within this conceptualization, prevention involves the elimination or mitigation of the causes of disorders before they manifest, with particular focus on risk factors and protective factors (Coie et al., 1993). Numerous trials support prevention at multiple levels for social (e.g., Greenberg, Lengua, Coie, & Pinderhughes, 1999; Nation et al., 2003) and academic (e.g., Fletcher, Lyon, Fuchs, & Barnes, 2007) targets.

The concept of prevention has also been expanded to resilience approaches and positive youth development where there is not just a focus on risk variables (Small & Memmo, 2004). Nevertheless, despite a broader framework for prevention, some wide-scale initiatives have continued to focus on risk models. For example, in educational settings in which federal legislation has mandated the concept of "response to intervention" (RtI) for both academic and behavioral problems, there is increased emphasis on a multitiered prevention approach (Brown-Chidsey & Steege, 2005; Kratochwill, Clements, & Kalymon, 2007). RtI refers to the practice of using evidence-based instruction/intervention to address child needs while monitoring child performance in social/emotional and academic domains (National Association of State Directors of Special Education, 2005). However, because this initiative has largely focused on a risk or deficit model of prevention, it may be more limited in impact than if a broader model of prevention science were embraced (Kratochwill, 2007).

EBP research regarding prevention of childhood problems remains critical in that it illustrates that early intervention can reduce the need for more intense treatment for serious behavior problems, thereby helping to reduce the associated cost of these services (Durlak, 1995). While prevention can also contribute to broader reductions in human suffering, disruption to development, and social problems such as delinquency, there are also ethical considerations related to the identification of "at-risk" youth. These considerations include the potential adverse consequences of labeling a child or adolescent, with attendant hazards of self-fulfilling prophecies and blaming the victim, particularly if treatment is not available or provided (Koocher & Keith-Spiegel, 2008).

systems-focused interventions

Traditionally, treatments for child and adolescent disorders have focused on the individual child (e.g., conduct disorder, anxiety disorders) and have not included interventions that involve families, schools, and broader systems. The health care, mental health, and social welfare systems represent a complex interactive structure with multiple components, including members of the organization (e.g., administrators, teachers, parents), payment authorities (e.g., private and governmental third parties), systematic implementation (e.g., time, resources, costs), and functions of individuals in the system (e.g., clinicians, treatment team leaders).

The President's New Freedom Commission on Mental Health stressed the need for research in order to bridge the gap between science and practice (New

Freedom Commission on Mental Health, 2003). Its Subcommittee on Children and Families similarly urged that mental health care for children and their families be guided by a clearly defined policy that promotes evidence-based interventions, along with effective organization of community-based systems of care and their accompanying service delivery mechanisms, in order to maximize the likelihood of successful interventions for children and their families (Huang et al., 2005). Researchers, clinicians, and policymakers recognize that understanding and appreciating the organizational and ecological context into which evidence-based treatments (EBTs) will be transported is essential to implementing these interventions successfully (Burns, Hoagwood, & Mrazek, 1999; National Advisory Mental Health Council Workgroup on Child and Adolescent Mental Health Intervention Development and Deployment, 2001; Schoenwald & Hoagwood, 2001; Walrath, Sheehan, Holden, Hernandez, & Blau, 2006). A survey of 616 service providers in children service agencies with federal programs to improve children's mental health services found that these agencies only partially implemented EBT protocols largely due to few agency mandates to do so and widely ranging supports within the agencies to implement the EBT protocols (Walrath et al., 2006).

Prevention and intervention programs are increasingly addressing systemic changes to maximize the likelihood that they will succeed (Evidence-Based Intervention Work Group, 2005; Weisz et al., 2005b). Researchers have begun to examine how community-based systems and programs conceptualize, operationalize, and implement service delivery for a particular population of children and families, how they evaluate the result of their service delivery, and how local service policies are integrated into daily operations (e.g., Hodges, Hernandez, Nesman, & Lipien, 2002), which is critical to understanding how systems and agencies can successfully implement EBTs and engage in EBP. For example, large-scale studies are under way in at least a dozen states to examine the implementation of EBP for children and families. Because state policy drives these initiatives, attention to system issues is essential (Burns & Hoagwood, 2004; Burns et al., 2008). These system issues include changes in financing, regulatory, accreditation or licensing, and infrastructure support for training.

Thus, it becomes the responsibility of the psychologist to keep abreast of prevention and intervention programs and the factors affecting adoption, implementation, and sustainability.

a continuum of care: individual, collaborative, and multidisciplinary care

In any system of care, a range of services exists provided by psychologists offering these services in private practice settings to collaborative multidisciplinary hospital- or school-based services provided to children with multiple mental health needs. Multiple stakeholders are increasingly becoming involved in providing prevention and intervention mental health services to children and adolescents, including, for example, families, administrators, direct care professionals, and teachers. Although many evidence-based prevention and intervention services are intended for implementation by psychologists (e.g., manual-based treatment for anxiety disorders), psychologists frequently work in collaborative multidisciplinary settings in which they help to organize and structure EBP and consult with and train other professionals to implement evidence-based services and address systemic processes that affect uptake (Friedman, 2006; Kratochwill, 2007; Kratochwill & Hoagwood, 2006; Sheridan & Kratochwill, 2008). This form of EBP requires psychologists to function as collaborators, consultants, educators, and problem solvers. It also requires them to be involved in assisting in the selection, implementation, modification, and maintenance of prevention and intervention programs and services in community and school settings. Thus, it becomes the responsibility of the psychologist to keep abreast of prevention and intervention programs and the factors affecting adoption, implementation, and sustainability.

The multidisciplinary focus carries with it several important considerations. First, the development of evidence-based prevention and intervention must consider system variables, such as organizational structures and community characteristics (e.g., Hoagwood, Burns, & Weisz, 2002; Schoenwald & Hoagwood, 2001; Weisz 2004; Weisz, et al., 2005b). Second, psychologists must establish relationships with teachers, health care specialists, and other professionals, all of whom may mediate the delivery of care. "Therapeutic relationships" expand and include individuals who are not clients in the traditional sense. Third, psychologists provide training for other professionals in EBP (Kratochwill, Volpiansky, Clements, & Ball, 2008) and must be skilled in doing so (Kratochwill, 2007).

culturally responsive EBP

Concerns have frequently been raised about the applicability of evidence-based treatments to culturally diverse groups, which, in turn, raises concerns about how to integrate these

approaches in EBP with culturally diverse groups. Among the concerns raised are the following.

1. Some have criticized the idea of cultural competence by claiming that there is no convincing evidence for the effectiveness of cultural competence (Sue, 2003) and/or by excluding evidence particularly relevant to the concept of cultural competence (Bernal & Scharron-del-Río, 2001; Sue, 2003).
2. The overemphasis on hypothesis-testing in efficacy studies ignores the use of other methodologies to obtain evidence. Other sources of evidence, such as discovery-oriented methodologies, may be ignored or discouraged (Bernal & Scharrón-del-Río, 2001; Nagayama Hall, 2001; Sue, 2003).
3. Including representative numbers of ethnic minorities in efficacy studies, especially when based on distribution, in the general population, is unlikely to produce useful information on outcomes because the numbers will be too small to produce reliable findings (Miranda, Nakamura, & Bernal, 2003).
4. Aspects that are important to culturally diverse groups, such as interdependence, spirituality, and discrimination, have received less attention (Nagayama Hall, 2001). A culturally competent orientation is consistent with growing evidence for the strengths of ethnic minority youth and the development of tailored interventions (Brody et al., 2004; Spencer, Cole, Dupree, Glymph, & Pierre, 1993).
5. Samples of ethnic groups in efficacy studies are sometimes obtained without measuring or adequately measuring the degree to which the group sampled adheres to the values, beliefs, and attitudes of the ancestral cultures. It is possible that participants from ethnic groups may be more like another group or like the dominant ethnic group (e.g., the European American group).
6. There is a wide range in the extent of cultural adaptation and meta-analyses that have not generally considered the degree of cultural adaptation.
7. Many interventions considered to be evidence based were developed by European American researchers with largely European American participants in a restricted socioeconomic range. In other words, the interventions are themselves culturally rooted. Transporting approaches to culturally diverse groups that differ substantially from the original groups in which the treatments were developed and tested, even with subsequent cultural adaptations, might ignore important aspects of culturally framed problem formulations and culturally responsive interventions.

The APA Presidential Task Force on Evidence-Based Practice (2006) emphasized patient characteristics, culture, and preferences in the delivery of psychological services. The increasing emphasis on including culturally constituted EBP is only part of the picture. The important agenda for the future of EBP is to ensure that the psychologist is culturally responsive; that is, assuring that psychologists have the skills, values, attitudes, and beliefs to reduce bias in assessment and intervention approaches. Our task force assumes that the psychologist engaged in EBP for youth must be culturally responsive. One example of this consideration is the Multicultural and Diversity Committee of the Task Force on Evidence-Based Intervention in School Psychology (Task Force on Evidence-Based Interventions in School Psychology, 2007) offering directions for psychologists in the selection and implementation of interventions appropriate for their settings. Likewise, we encourage the practitioner to be mindful of the APA Policy Statement on Evidence-Based Practice in Psychology (APA, 2005):

> *Psychological services are most effective when responsive to the patient's specific problems, strengths, personality, sociocultural context, and preferences. Many patient characteristics, such as functional status, readiness to change, and level of social support, are known to be related to therapeutic outcomes. Other important patient characteristics to consider in forming and maintaining a treatment relationship and in implementing specific interventions include (a) variations in presenting problems or disorders, etiology, concurrent symptoms or syndromes, and behavior; (b) chronological age, developmental status, developmental history, and life stage; (c) sociocultural and familial factors (e.g., gender, gender identity, ethnicity, race, social class, religion, disability status, family structure, and sexual orientation); (d) environmental context (e.g., institutional racism, health care disparities) and stressors (e.g., unemployment, major life events); and (e) personal preferences, values, and preferences related to treatment (e.g., goals, beliefs, worldviews, and treatment expectations). Some effective treatments involve interventions directed toward others in the patient's environment, such as parents, teachers, and caregivers. A central goal of EBPP is to maximize patient choice among effective alternative interventions.*

We also recognize the importance of considering resilience in youth from all cultures and the specific identification of factors that may promote further development of interventions mindful of the strengths of Black youth. (APA Task Force on Resilience and Strength in Black Children and Adolescents, 2008)

Research has also provided helpful information on the success of empirically supported treatments when used with ethnic minority youths. In a recent review and meta-analysis focused on ethnic minority samples, Huey and Polo (2008) found supportive evidence for treatments of ethnic minority youngsters with anxiety-related problems, ADHD, depression, conduct problems, substance use problems, trauma-related syndromes, and other clinical syndromes and problems. Overall treatment effects in the Huey-Polo meta-analysis met Cohen's (1988) criteria for a medium effect (effect size [d] = .51). Moreover, treatment outcome in these studies was not significantly moderated by youth ethnicity. After a comprehensive review of EBT research as pertains to ethnic minorities, a group of researchers (Miranda et al., 2005) addressed in their conclusion the issues of culturally responsive EBP in carrying out EBTs:

> *Our review of the literature has led us to believe that evidence-based care is likely appropriate for most ethnic minority individuals. In the absence of efficacy studies, the combined used of protocols or guidelines that consider culture and context with evidence-based care is likely to facilitate engagement in treatment and probably to enhance outcomes. We also believe that two areas of research need immediate attention. First, methodologies for tailoring evidence-based interventions for specific populations would be extremely helpful. Because culture is continually evolving, the ability to identify factors that are amendable to adaptation, while maintaining the critical ingredients of care, would provide a methodology for continually ensuring that care is sensitive to the needs and concerns of any client group. Second, although beyond the scope of this review, we would be remiss in not noting that ethnic minorities are less likely to receive mental health care than are majority populations (U.S. Department of Health and Human Services, 2001). Furthermore, those who do receive care are less likely to obtain evidence-based care than are their majority counterparts (U.S. Department of Health and Human Services, 2001). We believe that research focusing on methods for actively engaging ethnic minorities in mental health care is extremely important. For example, studies of American Indian youths have included entire classrooms. Could there be appropriate ways for identifying and treating American Indian youths with disorders that would avoid stigmatizing them? Clearly, working with communities to identify ways to bring appropriate care to minority populations is a priority. (p. 134)*

Many researchers believe that the main reason that ethnic minority clients underutilize mental health services and drop out of treatment at high rates is the inability of clinicians to provide culturally responsive treatments for their ethnic minority clients (Gelso & Fretz, 2001). Buttressing this belief is a meta-analysis of 76 studies that evaluated culturally adapted interventions (Griner & Smith, 2006). The meta-analysis showed moderately strong benefit of culturally adapted interventions. Other findings included: (a) interventions targeting a specific cultural group were four times more efficacious than interventions provided for groups of clients of diverse cultural backgrounds, and (b) interventions carried out in the clients' native language (when it was not English) were twice as effective as interventions conducted in English.

As we apply services within ecologies and for people who differ from the participants and contexts in which the research base was originally established, there is greater need for adaptations of the treatments and subsequent monitoring of these modifications and for evaluation of treatments developed within and for specific cultural and socioeconomic groups. Culturally insensitive treatments can cause therapists unwittingly to select goals or embrace values that reflect the culture of the therapist rather than that of the child/family (Comas-Díaz, 2006).

diverse bases of evidence

Multiple professional groups and government organizations have attempted to designate prevention and treatment practices as evidence based. For example, task forces of APA Divisions 12, Society of Clinical Psychology; 53, Society of Clinical Child and Adolescent Psychology; and 16, School Psychology have all developed criteria for EBP designation and have published information that is now readily available to psychologists (e.g., Kratochwill & Shernoff, 2004; Lonigan, Elbert, & Johnson, 1998; Masia-Warner, Nangle, & Hansen, 2006). Federally funded initiatives such as the What Works Clearinghouse have similarly begun the process of reviewing academic and behavioral programs for implementation in schools (http://www.whatworks.ed.gov). A number of other groups are now providing information on EBP, especially in the area of school-based prevention. Some examples are included in the box on the next page.

Some clinicians and researchers have argued that limiting EBP to the use of EBTs raises concern about important areas of treatment that are ignored in EBT research. Researchers (e.g., Messer, 2004; Westen, Novotny, & Thompson-Brenner, 2005; Whaley & Davis, 2007) have pointed out that EBTs are one of the subcategories of EBP and that the narrow focus of RCTs prevents clinicians from using other valuable sources of information in their practice. Furthermore, EBT studies tend to ignore or deemphasize some essential elements of psychotherapy, such as (a) the person of the therapist, (b) the therapeutic relationship and working alliance, (c) the client's nondiagnostic characteristics,

- **www.CASEL.org**
  Collaborative for Academic, Social, and Emotional Learning
- **www.Character.org**
  Character Education Partnership
- **www.NASPonline.org**
  National Association of School Psychologists
- **www.NMHA.org**
  National Mental Health Association
- **www.ecs.org/nclc**
  Education Commission of the States/National Center for Learning and Citizenship
- **www.ed.gov/offices/OSDFS/exemplary01/2_intro2.html**
  U. S. Dept. of Education, Office of Safe and Drug-Free Schools
- **www.samhsa.gov/centers/csap/modelprograms**
  Center for Substance Abuse Prevention
- **http://modelprograms.samhsa.gov/template_cf.cfm?page=model_list**
  Center for Substance Abuse Prevention site for searching for model programs based on matching criteria
- **www.cdc.gov/hiv/projects/rep/compend.htm**
  Centers for Disease Control and Prevention
- **www.nida.nih.gov/prevention/prevopen.html**
  National Institute on Drug Abuse
- **www.colorado.edu/cspv/blueprints/index.html**
  Office of Juvenile Justice and Delinquency Prevention, Blueprints Project
- **http://consensus.nih.gov/ta/023/023youthviolencepostconfintro.htm**
  State of the art science in preventing adolescent violence and other problem behavior.

(d) processual aspects of a treatment, and (e) the context in which the treatment is delivered (Elliott, 1998; Norcross, 2002; Seligman, 1995). Another line of discourse has addressed how methodologies are predicated on explanatory systems and models (Frank & Frank, 1991; Wampold, 2007) or what Messer (2004) has called "psychology's dual heritage," the scientific and humanistic traditions.

The majority of review efforts have considered only randomized controlled trials (RCTs) as "evidence." RCTs have emerged as the gold standard for EBP across health care, mental health, and education. RCTs can involve a number of different design structures with the basic feature being random assignment of participants to conditions of the experiment (e.g., randomized design comparing intervention and control, factorial designs, crossover designs). However, they are not without limitations, including threats to validity such as internal, external, statistical conclusion, and construct validity (Shadish, Cook, & Campbell, 2002). Moreover, the literature reflects a growing recognition that other methodologies also contribute to understanding and improving practice (Hayes, Barlow, & Nelson-Gray, 1999; Laurenceau, Hayes, & Feldman, 2007; Messer, 2004; Slife, Wiggins, & Graham, 2005), sometimes in unique ways that RCTs cannot. For example, the Division 16 task force has presented the case for the role of qualitative methods for addressing issues related to monitoring of intervention implementation and assessment of issues such as acceptability, social validity, and cultural diversity (Ingraham & Oka, 2006; Nastasi & Schensul, 2005). In addition, the task force has focused on the role of mixed methods in fostering cultural validity and adaptation of evidence-based practices (Nastasi et al., 2007; see Tashakkori & Teddlie, 2003 for information on mixed methods research). APA's Division 43, Family Psychology, has also developed *Guidelines for Evidence-Based Treatments in Family Psychology* to assist in the identification and evaluation of specific interventions taking into account absolute, relative, and contextual efficacy (Sexton et al., 2007).

Therefore, in concert with these example efforts and with the APA Presidential Task Force on Evidence-Based Practice (2006), we endorse multiple types of research evidence that can serve as legitimate bases for establishing "research evidence." Because diverse research designs and methodologies address different types of questions, their inclusion in establishing "evidence" will give a more fully informed picture of whether and how a given intervention works, for whom, and in what circumstances. However, we also emphasize that RCTs extended to different research questions about EBP are the best sources of scientific information and that other methods must be interpreted with caution as they may contain various threats to validity and may bias causal inference (Shadish et al., 2002).

DEVELOPMENTAL CONSIDERATIONS

the importance of development

In considering EBP for children and adolescents, a developmental lens is important in order to integrate multiple developmental processes (e.g., physical, mental, cognitive, social, emotional) in treatment. Development is ever changing and relatively rapid across childhood and adolescence, providing a "moving target" for accurately identifying and assessing behavioral concerns and for formulating effective evidence-based treatment approaches that accommodate developmental change (Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald, 2001). The changes seen across normal development are multidetermined and relatively consistent within individuals. However, there are many potential deviations from "normal" development. In order to understand and evaluate the extent to which children's behavior is sufficiently "off the (developmental) curve" to warrant intervention, considering both risk (vulnerabilities) and resilience (strengths) is important. Children's competence in handling developmental challenges and success in mastering increasingly complex challenges are critical components of intervention and prevention approaches for children and adolescents and their families. Understanding resilience in a culturally competent manner also necessitates considerations of the strengths of children from specific cultural backgrounds (Brody et al., 2002).

Specialized training that conveys an understanding of developmental change, capacities, and vulnerabilities at various ages, family characteristics and functioning, and the interplay of young people and the settings in which their development unfolds may be relevant to providing EBP to children and families. Beyond the truism that "children aren't just small adults" lies evidence for the many unique stages and phases of childhood, including differences associated with gender and gender development. Traditionally underrepresented groups, such as gay, lesbian, bisexual, and transgendered (LGBT) youth, underscore the importance of considering development broadly and with respect for different developmental trajectories (D'Augelli & Patterson, 2001). Differences in development associated with gender cut across physical, emotional, and social components and have implications for long-term well-being. Asking whether a particular behavior (e.g., oppositionality, sparse expressive language, emotional outbursts toward parents) is "normal" rests in large part on the age of the individual and the context of the behavior. In training developmentally sensitive

clinicians, emphasis on skills in engaging and working not only with children, but with the significant others whose behavior impinges on them, including siblings, parents, extended family members, and teachers, is important. Such training can provide an essential foundation for the use of evidence-based practice in child and adolescent mental health care (cf., Dishion & Stormshak, 2007; Roberts et al., 1998; Spirito et al., 2003).

a social-ecological framework

Social ecology (Bronfenbrenner, 1979) helps us understand children contextually, within multiple systems that interact and affect children's development. In addition to biological and psychological characteristics of the child, families, neighborhoods, communities, and educational settings influence children's development. Social ecology sees the child or adolescent as part of a far broader and powerful ecology that includes numerous aspects of culture, subculture, and society and the broadest systems shaping our society, including legal systems and ethical principles. The complexities of development would be daunting even if these processes were uniform and/or predictable. However, even within normal development, variations based on genetic and early environmental factors affect subsequent development. The risk factors associated with early experience can presage later emotional or behavioral problems for children and adolescents and signal opportunities for prevention and intervention efforts.

Children develop within a network of different contexts as members of their families, schools, peer groups, and communities. To effect positive change for children and adolescents with mental health problems, it is necessary to develop approaches that access children in natural settings and formulate interventions that fit into these contexts and in partnership with families. These contextual factors would be important to consider even if access and availability of interventions were plentiful and nonproblematic. Given constraints in providing EBP to children and adolescents in need, contextual factors become even more essential because access, engagement, and delivery of services automatically involve attention to the contexts that surround children's lives. Service delivery for children cannot occur without attention to context, including culture. The key contexts reviewed here are the family, schools, the health care system, and the child mental health system.

unique aspects in receiving and accessing care

Important differences in the ways in which children and adolescents, compared to adults, experience and access health care affect the conceptualization and development of EBP. Developmentally, children and adolescents may not be as able to recognize, understand, and communicate their distress as adults. In fact, children and most adolescents typically access care via an adult "gatekeeper," most often a parent, school personnel, or physician. Consent to treatment itself is even defined by age and usually necessitates adult involvement. Providers of EBP for children and adolescents must have skills and training in developmentally guided interventions. However, they must also be skilled in joining and motivating youth who may be disengaged, reluctant, or even hostile to care. Children, much more than adults, are in situations that they may be unable to change or expect to change (e.g., an abusive home, an underperforming school, a poor or violent neighborhood). Psychological services for many children and adolescents rest upon understanding the challenges inherent in changing some environments and balancing efforts to change with strategies to cope realistically with these situations.

families

Families are essential to the growth and development of children and are key determinants of whether a child will receive mental health services (Angold et al., 1999; Burns et al., 1995; Farmer, Burns, Angold, & Costello, 1997). The extent to which families are engaged in services can at least indirectly affect children's outcomes (Tolan, Hanish, McKay, & Dicky, 2002). The linkage of strategic engagement strategies for improving collaboration with families to use of EBP is likely to have a positive impact on outcomes (Hoagwood, 2005).

Families are also intimate and powerful environments for protection, nurturance, and socialization of children. They are generally strong advocates for their children and provide a key context for prevention and treatment. In some cases (such as families characterized by social isolation or abuse, substance use, and/or other illegal activities), families may be adverse environments for children. In other situations, families may struggle with issues, such as youth sexuality, and be inconsistent in their support. Although many psychosocial services emphasize the child as an individual, those that include family context and actively engage families in fostering adaptive development represent optimal approaches.

Family structure has varied across settings and across time. For example, over the period from 1980 to 2000, the percentage of children living in two-parent (married) families declined, and the percentage in single-parent families (both mother-headed and father-headed) increased (U.S. Census Bureau, 2000). These patterns coexist with other diverse

patterns of family structure and parenting, including those in which children live with grandparents, with lesbian or gay parents, and in foster families. The association between family structure and child outcomes has yielded inconsistent findings. However, children in single-parent families, particularly those of lower socioeconomic status and with other high-risk indicators (e.g., divorce, substance use, unemployment, domestic violence) are at elevated risk for behavioral difficulties (National Institute for Health Care Management Foundation, 2005).

Across family types and structures, family characteristics such as cohesion, warmth, consistency, and engagement with the broader community and social worlds are factors consistently associated with more adaptive family outcomes (Lavigne & Faier-Routman, 1992). Major risks include parental mental illness, social isolation, substance use, domestic violence, and chaotic living circumstances, all of which are associated with negative child outcomes, particularly with respect to externalizing behaviors and disorders. Some evidence-based interventions explicitly support, educate, and engage family members (e.g., Forehand & McMahon, 1981; Kazdin, 2004a; McKay & Bannon, 2004). However, even in interventions that lack this explicit focus, it is clear that many families are essential partners and can become active agents of change on behalf of their children (Jensen & Hoagwood, 2008).

Among students between the ages of 6 and 21, nearly 3 million with learning disabilities (LD), 500,000 with emotional and behavior disorders (EBD), and more than 78,000 with autism received special education services in 2001. These numbers are increasing…

school systems

Schools are immensely influential forces in the development of prosocial as well as problem behavior and provide opportunities for prevention and treatment. Limited access to health and behavioral health care increases the likelihood that untreated behavioral concerns will emerge in schools. The categories of disorders in educational settings are somewhat different than in mental health, but paint a similar picture of need. Among students between the ages of 6 and 21, nearly 3 million with learning disabilities (LD), 500,000 with emotional and behavior disorders (EBD), and more than 78,000 with autism received special education services in 2001. These numbers are increasing (Office of Special Education Programs, 2003), creating a greater demand on the school system and causing these youths to miss more school days and have associated emotional struggles with depression and anxiety (Blanchard, Gurka, & Blackman, 2006).

Children and adolescents display a wide variety of educational and mental health needs that are, in part, addressed by the public schools. Traditionally, special education services have served students with special needs, wherein they were referred, evaluated (typically by a school psychologist), and placed in special education classes. This process has been the most common since 1975, when the Education of All Handicapped Children Act passed (Public Law 94-142). After years of implementation, the limitations of this model became evident. Students had to develop serious problems prior to receiving needed services (frequently called the "wait-to-fail model"), and schools placed a disproportionate number of minority students in special education. Because the category of "learning disabilities" was the most common and purportedly overused category of services, a long series of research reviews, task forces, commissions, and work by various government groups targeted and proposed alternatives (Gresham, 2006). In 2004, the federal government signed the Individuals With Disabilities Education Improvement Act into law and included an option for school professionals to determine learning disability "based on the child's response to *scientific, research-based intervention*" (emphasis added) (United States Department of Education, 2004).

Further, when considering EBP for children and adolescents with disabilities, it is vital to recognize the heterogeneity of this population, including factors such as life-long versus acquired disabilities, type of disability, and level and impact of disability (Gibson, 2007). This population includes children with mental disabilities and those with multiple handicaps, including some with severe difficulties that may change with development over time. Partnerships among families, health care providers, and schools are essential in advancing EBP for children with disabilities. Despite progress in educational outcomes, students with disabilities fare much worse than peers without disabilities (Blackorby & Wagner, 1996). Although the pediatric psychology literature provides substantive background on the psychosocial adjustment of children with disabilities, interventions specific to these children are rare.

Several school-based examples of psychological and educational services can be featured, including those involving promotion and prevention models, comprehensive

mental health services including school-based health clinics, initiatives in special education, and positive behavior support. In the area of mental health promotion and prevention, considerable progress has been made in competence enhancement of school-age children as featured in the work of Weissberg and his colleagues involved in the Collaborative for Academic, Social, and Emotional Learning (CASEL) (Weissberg, Kumpfer, & Seligman, 2003). In particular, the Social and Emotional Learning (SEL) work is focused on building skills in four major domains including life skills and social competence, health promotion and problem-prevention skills, coping skills and social support for transitions and crises, and positive contributory service. Further information on SEL can be found in several sources (e.g., Devaney, Utne O'Brien, Resnik, Keister, & Weissberg, 2006; Elias et al., 1997; Zins, Weissberg, Wang, & Walberg, 2004).

Recommended models of comprehensive mental health services (Nastasi, Moore, & Varjas, 2004) typically are characterized by several components, including an integration of services of education, mental health, and social services through collaboration, a broad ecological focus (e.g., school, family, peers, community, society) that influence child functioning, a full continuum of services (e.g., ranging from prevention to intervention), program evaluation of process and outcome, and evidence-based approaches (Nastasi, Moore, & Varjas, 2004). Nastasi et al. (2004) also identified limitations of the evidence base in this area, including understanding essential components of programs, transfer of programs to other settings and populations, unintended outcomes, factors influencing program implementation, sustainability, cultural specific measures, and the relationship between program modifications and effective outcomes (see pp. 19-23).

Another recent initiative in education for services for students at risk for academic and behavioral problems is the response to intervention (RtI). The basic feature of an RtI approach is the use of evidence-based interventions implemented in a multitiered model of services, using student outcomes in learning and behavior domains to make decisions about the need for subsequent and more intense interventions, including special education (National Association of State Directors of Special Education, 2005). Interventions used in this model have included both academic (e.g., direct instruction, peer-assisted learning strategies) and, less often, behavioral domains (e.g., second step, multisystemic family therapy). RtI as a model of mental health and educational services is the first federally recommended wide-scale preventive approach implemented in schools. Schools can serve students demonstrating early signs of learning problems and behavioral concerns without a designation of "special education" and with evidence-based prevention and intervention. However, the RtI option in education does not yet have extensive research support (especially as a system of services), focuses primarily on academic skills in reading, is generally underfunded, is not well integrated in general education, and requires considerable professional development to realize the goals of the initiative (Kratochwill, 2007; Kratochwill, et al., 2007).

A corollary to RtI in the behavior disorder domain is a prevention and intervention movement called positive behavior support (PBS) or school-wide positive behavior support. PBS developed independently of the RtI initiative, but is also implemented in a multitiered prevention framework (Crone & Horner, 2003; Lewis, Newcomer, Trussell, & Richter, 2006). A full continuum of support may be available to students, including universal school-wide programs, secondary support, and tertiary or individual support. An important aspect of PBS (but not unique to PBS) is the use of functional assessment and analysis to design intervention programs for individual students (Crone, Horner, & Hawken, 2004). Many of the programs used within PBS are based on interventions developed within the field of applied behavior analysis and so have a strong evidence base. However, evidence for the system of intervention programs across a wide range of mental heath outcomes is still in its infancy.

pediatric health care systems

Pediatricians may identify children and adolescents with and at risk for behavioral health problems who may not receive evidence-based treatment through the mental health or educational systems. Indeed, about 75% of youth have medical visits with primary care pediatricians (Bernal, 2003), and half of "well-care" appointments in primary pediatrics may involve behavioral concerns (Cassidy & Jellinek, 1998). Unfortunately, pediatricians and pediatric health care systems are often not able to treat these problems. That is, pediatricians may feel unprepared to accurately diagnose behavioral problems and treat complex problems that may necessitate both pharmacologic and behavioral treatments. Recent evidence suggests that health care providers may more readily identify and treat ADHD than anxiety, depression, and conduct disorder (Williams, Klinepeter, Palmes, Pulley, & Foy, 2004), thus further demonstrating gaps in identifying and treating children and adolescents.

Appreciation for the role of behavioral professionals in primary care pediatrics is growing (Drotar, 1995) and in fact, the American Academy of Pediatrics (AAP) now has a

mental health task force to develop tools to help pediatricians better address the mental health needs of children and adolescents.

Pediatricians are often the first to identify developmental concerns in infants or toddlers (e.g., developmental delay, autism, health impairments, behavior problems).

Pediatricians are often the first to identify developmental concerns in infants or toddlers (e.g., developmental delay, autism, health impairments, behavior problems). They may also be the primary (or only) provider treating behavioral problems such as attention-deficit/hyperactivity disorder (ADHD). Pediatricians are in the front line in addressing public health issues, such as pediatric obesity, and may be the first to detect potential precursors of health or behavioral concerns that warrant further attention. They are strong allies in understanding, diagnosing, and treating a broad range of child problems, and they are partners in preventive and advocacy work on behalf of children and families. There are, for example, ample needs and opportunities for health promotion activities that can be formulated in collaboration with pediatricians (Black, 2002), although reimbursement for these activities is inconsistent.

An estimated 10 to 20% of children and adolescents have a chronic medical condition and may be at heightened risk for behavioral difficulties associated with their health conditions. These youth—particularly those with life-threatening illnesses and/or those conditions requiring intensive treatment regimens necessitating close medical monitoring—and their families receive treatment in tertiary care facilities or associated community-based care satellites. Pediatric psychologists and other behavioral health care professionals are often integrated into multidisciplinary treatment teams for children with disorders such as cancer, asthma, diabetes, chronic and acute pain, sickle cell disease, neurological disorders, HIV/AIDS, cystic fibrosis, cardiac disease, organ and stem cell transplantations, burns, gastroenterological disorders, rheumatic diseases, injuries, sleep disorders, and genetic disorders, among others. While disease-specific expertise is needed for a subset of each pediatric group noted, more generic problems common across diseases include strategies for coping with pain and distressing procedures, adherence to medical treatment, family issues, and child anxiety and depression. Evidence-based practices are available and broadly utilized (Drotar, 2006; Roberts, 2003; Shaw & DeMaso, 2006; Spirito & Kazak, 2006). The pediatric health care system can implement additional diverse intervention efforts, including, for example, cognitive remediation for children with impairments to the central nervous system and end-of-life care and the impact of child death on families.

child mental health systems

The most salient characteristic of the children's mental health system is, unfortunately, its fragmentation. Many sectors are involved in delivering services for children, adolescents, and their families. In addition to creating considerable burden on families, it is inefficient for states, providers, and systems and destructive to the shared goal of service integration. At least six separate sectors or administrative structures constitute the "system" serving children with psychological problems: the mental health sector; education; child welfare, including foster care and adoptive services; substance abuse; general health; and juvenile justice. These sectors are administratively and fiscally segregated in most states and localities. Consequently, one, two, all, or none of these sectors may provide services to a child with mental health needs. What dictates whether a child will receive services within one sector or another has nothing to do with the child's mental health needs. Instead, a host of familial (e.g., impact on caregiver, insurance status), community (e.g., availability, accessibility), and personal factors (e.g., trust, attributions) create an uneven, asymmetrical, and uncoordinated patchwork of service options for children with mental health problems. There has been criticism of the fragmentation of the mental health system for over 25 years, since the landmark report *Unclaimed Children: The Failure of Public Responsibility to Children and Adolescents in Need of Mental Health Services* (Knitzer, 1982); yet fragmentation exists.

In addition to the fragmentation, the sectors themselves are asymmetrical in that each offers a range of programs with varying levels of restrictiveness and no consistent standards for access or discharge. For example, within the specialty mental health sector, one can find inpatient settings, such as hospitals; residential settings, such as residential treatment programs; and partial hospitals and day treatment programs. There are also a variety of outpatient services, including psychotherapy, medication therapies, and case management services. Similarly, the child welfare sector offers and pays for residential treatments; therapeutic foster care; day treatments; outpatient services, such as psychotherapy; and crisis services. Schools offer a range of settings as well, including residential treatment; day programs, sometimes attached to hospital programs; and group or individual counseling, basically equivalent structurally to outpatient services. Some studies

have focused on the impact of integrative or coordinated care models on children's clinical outcomes. However, these studies (Bickman, 1996) have found that coordination in itself does not lead to improved outcomes.

JUVENILE JUSTICE

Mental health problems and behavioral and social dysfunction are highly prevalent among youngsters in the juvenile justice system (Skowyra & Cocozza, 2006). Perhaps because youth antisocial and delinquent behaviors have been matters of such significant concern in society for so many years, the evidence base on interventions for such behavior is particularly extensive (United States Public Health Service, 2001). Relevant interventions focus, for example, on anger management, social skills, and systematic problem solving in situations that often lead to aggression and adjustments in the social systems that impinge on the young person (e.g., changing peer associations, identifying an adult mentor). Unfortunately, many youngsters do not have access to sufficient intervention to prevent their entry into the juvenile justice system. Moreover, once they have entered that system, many youths, in many states, may find that the emphasis on incarceration outweighs the emphasis on intervention and support for change. Public attitudes, combined with budget constraints, may severely limit access to evidence-based assessment and evidence-based treatments. Another factor limiting access to evidence-based practice is that juvenile justice personnel often lack opportunities to learn about evidence-based assessments and treatments (Wasserman et al., 2003).

Public attitudes, combined with budget constraints, may severely limit access to evidence-based assessment and evidence-based treatments.

CHILD PROTECTION

Child maltreatment in various forms—encompassing both neglect and abuse—is evident in all regions of the country, necessitating child protective service systems in every state. Children and families embedded within these systems are often caught up in massive bureaucracies involving mandated reporters, case managers, foster care placement, and an array of complex regulations and policies. What may sometimes be lost in all the complexity is attention to the trauma the children have experienced, both as a part of the identified maltreatment or in connection to subsequent changes in the children's living situation—such as out-of-home placement and separation from siblings. Evidence-based assessment methods exist for identification of problems and disorders that warrant clinical attention, and evidence-based treatments exist for some of the most common problems and disorders (see, e.g., Cohen, Manarino, & Deblinger, 2006). However, because child protection systems often operate rather separately from mental health systems, awareness of these assessment and treatment methods may be limited. In addition, the personnel responsible for child protection may have training relevant to their primary work but relatively little exposure to evidence-based assessments or treatments.

SUBSTANCE ABUSE

Alcohol and drug abuse in children and adolescents often co-occurs with mental health problems, and the existence of two separate "systems" poses a significant challenge for children, adolescents, and their families. Although many school and community programs have examined evidence-based programs to prevent the development of substance abuse, evidence-based treatment programs for children or adolescents with co-occurring disorders are still rare. We recognize as well that substance use may be more prevalent in certain subgroups of youth and that the approaches necessary (e.g., for GLBT youth) may differ from more "traditional" treatment models (Russell, 2006). The existence of two separate systems also makes delivery of those programs that do exist extremely challenging (Copello & Orford, 2002). However, some promising family based approaches offer adolescent substance abusers greater likelihood of treatment success (Liddle, 2004).

summary

Thus far, this report has highlighted key assumptions of practice and the developmental needs of children and adolescents practitioners need to consider when delivering EBP. Further, we have introduced the multiple systems within which children and adolescents exist—school, health care, and mental health systems, for example—and addressed the mental health needs of youth and their families within these systems. We now move to an overview of the evidence base upon which evidence-based practice can draw within these various systems.

OVERVIEW OF THE SCIENTIFIC EVIDENCE: ASSESSMENT AND INTERVENTION

A large and ever-expanding scientific literature documents the existence of two major elements of evidence-based practice: psychometrically sound assessments and empirically supported interventions. Sound assessment is required for accurate identification of children's problems and disorders, for ongoing monitoring of children's response to interventions, and for evaluation of the outcomes of intervention once termination has occurred. Empirically supported interventions are required if practitioners are to draw on clinical care procedures that have track records—i.e., procedures shown to ameliorate problems or diagnoses or to otherwise bolster children's adaptation or well-being.

evidence base on psychometrically sound assessments

The long history of research on assessment has generated an extensive collection of measures for informing, guiding, and evaluating the effects of prevention and intervention for children (see Cone, 2001 and Meyer et al., 2001 for reviews). At the beginning of care, an assessment identifies problems and diagnoses to ensure that the practitioner knows what the focus of treatment needs to be (e.g., screening, diagnostic measures). Using empirically sound assessment approaches at this early stage can make it possible to properly match the child's condition to the appropriate intervention. In addition, assessment should identify each youngster's strengths, as these are the resources upon which intervention can build. Assessment should also encompass environmental and system factors that are so often critical to successful intervention outcomes as can be observed in many prevention and intervention programs. For example, practitioners can enhance intervention planning for an individual child by learning the antecedents and consequences of a particular problem behavior if it occurs in the presence of one parent but not the other, or that a problem behavior is followed by parental attention (which may inadvertently reward the child for unwanted behavior). Further, some particularly successful prevention and intervention programs involve understanding and modifying system factors such as characteristics and behavior of the immediate family; extended family; neighbors; school personnel; cultural, social, and religious communities; and even juvenile justice personnel in relation to needed services.

Once intervention has begun, psychometrically sound assessment at regular intervals (e.g., each treatment session, weekly) can gauge the child's response to the intervention, inform supervision, guide adjustments in treatment strategy, and guide decisions about how long treatment needs to continue. After treatment ends, posttreatment assessment will gauge the overall impact of care. For these purposes, measures of symptoms, disorders, problems, and real-life functioning (e.g., at home, at school, with peers) are relevant, and reliance on multiple informants (e.g., children, parents, teachers, peers) can be extremely helpful.

A number of books and handbooks [see Hersen, 2004; intellectual and neuropsychological assessment

(Goldstein & Beers, 2004), personality assessment (Hilsenroth & Segal, 2004), and behavioral assessment (Haynes & Heiby, 2004); learning disabilities (Fletcher et al., 2007)] contain lists of such measures, together with their psychometric characteristics and previous applications (see also Cone, 2001 for a review of tools for evaluation of practice). Conceptual guidelines for evaluation of prevention programs such as SEL have been presented (e.g., Elias et al., 1997). In addition, a special issue of *Journal of Clinical Child and Adolescent Psychology* (see Hunsley & Mash, 2007; Mash & Hunsley, 2005) has provided very thoughtful reviews of the measurement literature and research in the field. Another set of reviews, focused on evidence-based assessment in pediatric psychology, is forthcoming in *Journal of Pediatric Psychology* and provides reviews of measures and approaches for assessment of pain (Cohen et al., in press), adjustment (Holmbeck et al., in press), families (Alderfer et al., in press), adherence to medical treatment (Quittner, Modi, Lemanek, Levers-Landis, & Rapoff, in press), stress and coping (Blount et al., in press), and cognitive assessments specific to children with medical conditions (Campbell, Brown, Cavanagh, Vess, & Segall, in press).

evidence base on empirically supported interventions

Research over several decades has documented the beneficial effects of a broad range of interventions for children and adolescents. In addition, the array of empirically supported interventions includes prevention programs to reduce the likelihood of youth problems and disorders and treatment programs to ameliorate youth problems and disorders that have already emerged. Research has used at least two broad approaches to review the evidence and identify beneficial interventions. One is systematic narrative review, sometimes carried out by task forces, with panels of experts reviewing individual clinical trials to identify the interventions that pass standards of acceptability and effectiveness (Cooper, 1998). Another approach is meta-analysis, in which findings are pooled and their effects averaged across multiple studies through the use of effect size values; these are usually calculated as the postintervention difference between the intervention group and control group, divided by the standard deviation of the outcome measure used. Effect sizes convey the magnitude of intervention impact. Meta-analysis has been applied to both group RCT studies (Glass, McGaw, & Smith, 1981) and single-case research design studies (Busk & Serlin, 1992). Single-case designs (sometimes referred to as time-series designs) involve repeated assessment over time with various design features structured to rule out threats to validity. These experiments typically involve one or a small number of participants with baseline and treatment conditions compared within and/or between participants (Kazdin, 1998).

As a general guideline in RCT studies (following Cohen, 1988), an effect size (ES) value of 0.20 is a commonly used benchmark for a "small" effect, 0.50 for "medium," and 0.80 for "large." Currently, there is no counterpart to these ES benchmarks in single-case design; these metrics may be forthcoming in the near future with several research groups addressing the issue. Nevertheless, the meaning and importance of a specific effect size value may depend on the context and topic. For example, even "small" effects may have genuine public health impact if they concern an outcome or risk factor that is very prevalent (e.g., parental divorce) or very sinister in its implications (e.g., suicide attempts or HIV infection).

BENEFITS OF PREVENTION PROGRAMS

Several narrative reviews and meta-analyses have shown that prevention programs for young people can produce significant benefit by reducing rates of later social, behavioral, academic, and psychological problems. A cost analysis by Aos and colleagues (2001) found significant cost savings through implementation of these prevention programs. Researchers have designed some of the specific programs to promote a broad array of positive outcomes; these are sometimes called health promotion or positive youth development programs. In one example, Lonczak, Abbott, Hawkins, Kosterman, and Catalano (2002) used teacher training, parenting classes, and child social skills training to better the odds of positive outcomes among elementary school students in high-crime areas. Follow-up assessment over the subsequent 11 years showed reduced rates of risky sexual behavior, pregnancy, and delinquency, and importantly, higher levels of school achievement among youths who participated in the program versus those who did not. Other programs focus on universal prevention in an entire population (e.g., an entire school). In one example, the Olweus (1994) "whole school program" markedly reduced bullying, vandalism, fighting, and theft in schools by improving school recess supervision, establishing anti-bullying school rules, and arranging meetings with bullies, victims, and parents of both.

Still other programs employ selective prevention, targeting groups at especially high risk of unwanted outcomes. A well-known example is the Nurse Home Visitation Project (Olds et al., 1998) designed specifically for low-income women experiencing their first pregnancy who were younger than 19 or unmarried. Through multiple home visits, nurses worked with the expectant mothers to promote healthy behavior during pregnancy and the child's early

years, build competency in child care, link mother and child to services and social supports, and support the mother's personal development. The program has shown benefits that include reduced rates of substance use, antisocial behavior, and child maltreatment effects documented over 15 years after birth. In a fourth category of preventive intervention, *indicated prevention,* the focus is on youngsters who already show some evidence of the target problem. In one example, the Montreal Prevention Experiment, Tremblay, Pagani-Kurtz, Masse, Vitaro, and Pihl (1995) identified inner-city kindergarten boys who already showed significant disruptive behavior and provided the boys with school-based social skills training and their parents with home-based parent training. This indicated prevention program led to better school performance and reduced delinquency over the subsequent 5 years.

Summary reviews and meta-analyses of programs like these generally show beneficial effects. For example, one meta-analysis of 177 universal prevention studies found significant mean effects ranging from 0.24 to 0.93 (Durlak & Wells, 1997). In a review of 130 indicated prevention studies, Durlak and Wells (1998) found mean effects to be in the 0.50s. Several meta-analytic reviews have focused on the prevention of specific problems. For example, meta-analyses of programs to prevent child abuse (Davis & Gidycz, 2000), to reduce harmful effects of parental divorce (Lee, Picard, & Blain, 1994), and to prevent drug abuse (Tobler & Stratton, 1997; but see Ennett, Tobler, Ringwalt, & Flewelling [1994] on the apparent ineffectiveness of the popular Drug Abuse Resistance Education [DARE] program for school children) have found beneficial effects. Other meta-analyses have generated evidence of the effectiveness of school-based interventions in preventing substance use and school dropout (Wilson, Gottfredson, & Najaka, 2001) and that prevention programs combining preschool intervention with family support showed effects on delinquency and antisocial behavior as long as 8 to 12 years after the intervention (Yoshikawa, 1995; see other relevant reviews by Fletcher et al., 2007, and by Bear & Minke, 2006). The What Works Clearinghouse (www.whatworks.ed.gov) provides ongoing reviews of various academic prevention and intervention programs in education (see p. 26 for other Web sites that feature evidence-based prevention programs).

BENEFITS OF TREATMENT PROGRAMS

The body of evidence on treatment programs includes at least 1,500 clinical trials (Durlak, Wells, Cotton, & Johnson, 1995; Kazdin, 2000). Several hundred of these have met criteria for inclusion in various narrative reviews and meta-analyses. A special issue of the *Journal of Clinical Child and Adolescent Psychology* (Silverman & Hinshaw, 2008) provides 10 particularly recent reviews of the evidence on treatments for child and adolescent problems and disorders. The special issue encompasses treatments for early autism (Rogers & Vismara, 2008), eating problems and disorders (Keel & Haedt, 2008), depression (David-Ferdon & Kaslow, 2008), phobic and anxiety disorders (Silverman, Pina, & Viswesvaran, 2008), obsessive-compulsive disorder (Barrett, Farrell, Pina, Peris, & Piacentini, 2008), exposure to traumatic events (Silverman, Ortiz et al., 2008), ADHD (Pelham & Fabiano, 2008), disruptive behavior (Eyberg, Nelson, & Boggs, 2008), and substance abuse (Waldron & Turner, 2008), as well as the review and meta-analysis of treatments for ethnic minority youths noted previously (Huey & Polo, 2008). In general, the take-home message of most of the reviews and meta-analyses has been this: structured, empirically tested treatment programs can have beneficial effects with children and their parents.

Many of the treatment programs include individual therapy with children. An example is the Coping Cat protocol, through which children with social phobia, separation anxiety disorder, or generalized anxiety disorder learn to identify and alter their unrealistic fearful thoughts and to try the actions they have been too fearful to take, such as starting a conversation, speaking up in class, or even attending school (e.g., Kendall et al., 1997). Numerous reports indicate positive outcomes associated with this intervention. Other empirically tested programs—particularly for conduct problems and other externalizing behavior—address child problems primarily by working with parents. An example is the Incredible Years program, which has led to improved child behavior in numerous clinical trials and in multiple countries: Therapists use video illustrations and carefully structured discussions with parent groups to build parental skills in nurturing a positive parent-child relationship, giving clear instructions, using attention and praise to encourage appropriate prosocial child behavior, and responding appropriately (e.g., with proper use of time-out) when children misbehave.

Other programs focus intervention on multiple levels of children's social ecology. Almost certainly, the most thoroughly tested of these is multisystemic therapy (MST; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998), most often used to address delinquent, antisocial behavior in youngsters who have already been arrested, often multiple times. In MST, therapists work to produce changes in the youths themselves (e.g., improved anger management, better decision-making skills), family members (e.g., closer parental monitoring of the youth, better behavior

management skills), social relationships (e.g., ending contact with delinquent peers, finding productive alternatives such as learning a job skill), and others in the youth's social world (e.g., arranging for regular contact among school personnel, probation officer, and parents). Considerable evidence suggests that MST has produced striking reductions in re-arrest rates, and with methods that appear less costly than incarceration and other juvenile justice alternatives (see Henggeler et al., 1998). As the findings illustrate, evidence-based treatments can improve functioning in youngsters and their families, reduce the risk to others in society, and, in some cases, even reduce the cost of care.

Meta-analyses focused on these and many other tested treatments have found that the treatments, collectively, produce substantial beneficial effects (Casey & Berman, 1985; Kazdin, Bass, Ayers, & Rodgers, 1990; Weisz, Weiss, Alicke, & Klotz, 1987; Weisz, Weiss, Han, Granger, & Morton, 1995). To describe the benefit in quantitative terms, we note that average effect sizes in the various child-focused meta-analyses have ranged from medium (about .50) to large (about .80). This is about the same range of effects reported for adult psychotherapy (e.g., Shapiro & Shapiro, 1982; Smith & Glass, 1977). Two other child meta-analytic results help clarify the nature of the effects: (a) Effects measured immediately after treatment are quite similar to effects measured at follow-up assessments, which average 5-6 months after treatment termination, suggesting that effects hold up well over typical follow-up time frames, and (b) effect sizes for the problems targeted in treatment tend to be higher than effect sizes for related problems that were not the focus of treatment (Weisz et al., 1995), suggesting that these therapies are not merely producing broad nonspecific effects, but instead have a rather precise impact on the primary focus of therapy.

reviews of other treatments

Some reviewers and meta-analysts have focused on more narrowly circumscribed questions. For example, meta-analyses have reported substantial effects of cognitive behavioral therapy on impulsivity and on treatments used to get youngsters ready for medical and dental procedures. A diverse collection of focused meta-analyses (cited and discussed in Weisz, 2004) points to positive effects of multiple treatments for rather diverse problems (for further review of the evidence base on child treatments, see Kazdin & Weisz, 2003; Weisz, 2004). Other information on what scientific research has shown about treatment effects with children is located on an APA Division 53, Society of Clinical Child and Adolescent Psychology, Web site at www.effectivechildtherapy.com.

In terms of interventions for children experiencing academic disabilities, learning disabilities in particular, Fletcher et al. (2007) reviewed evidence-based programs for reading disabilities (word recognition, fluency, and comprehension), mathematics disabilities, and written expression disabilities. Evertson and Weinstein (2006) and the What Works Clearinghouse site as referenced above also contain reviews of academic interventions and instructional practices in school settings.

A series of 11 papers published in the *Journal of Pediatric Psychology* from 1999-2001, and subsequently updated by Spirito and Kazak (2006), reviewed treatments for children with a range of chronic pediatric illnesses. The series covered pain (headaches (Holden, Deichmann & Levy, 1999), recurrent abdominal pain (Janicke & Finney, 1999), procedural pain (Powers, 1999), disease-related pain (Walco, Sterling, Conte, & Engel, 1999), sleep disorders (Mindell, 1999), adherence to medical treatment (Lemanek, Kamps, & Chung, 2001), feeding problems (Kerwin, 1999), obesity (Jelalian & Saelens, 1999), encopresis (McGrath, Mellon, & Murphy, 2000), enuresis (Mellon & McGrath, 2000), and treatment of symptoms related to common chronic illnesses (McQuaid & Nassau, 1999). Chen, Cole, and Kato (2004) subsequently published a review of sickle cell disease pain and adherence. In general the findings support a range of approaches for a diversity of pediatric conditions and for treatment approaches that integrate modalities and approaches. There are also consistencies in the recognition of the difficulties of conducting studies of EBP in pediatric populations, due to low base rates of medical conditions and practical considerations in the integration of behavioral care in pediatric settings (Spirito & Kazak, 2006).

In sum, there is a rich evidence base of sound assessment and intervention strategies tailored to particular conditions, contexts, and needs. This continually evolving literature provides the practitioner with additional resources to integrate evidence-based practice in clinical care with children and adolescents and their families. The clinician, however, must perform the difficult task of considering the evidence base, the youth's and family's characteristics, needs, and capabilities, as treatment is being initiated. We propose that a particular orientation to providing evidence-based practice will assist the clinician in this process.

AN EVIDENCE-BASED ORIENTATION TO PRACTICE

Central to an evidence-based orientation to clinical practice is a scientifically minded approach. This approach is characterized by knowledge and skills in applying psychological science, including models of etiology and change (e.g., Walker's (1999) conceptualization of the role of psychosocial factors in the course of childhood recurrent abdominal pain; acceptance and commitment therapy's emphasis on acceptance of personal reactions and action on valued directions in the effort to improve psychological functioning, Hayes, Strosahl, & Wilson, 2003), as well as a constant process of observation and inquiry. Evidence gathered throughout this process guides subsequent practice activities. The scientifically minded approach reflects a commitment to the ideals espoused in the scientist-practitioner model of clinical training (McFall, 1991; Raimy, 1950; Thompson & Super, 1964) and emphasizes the importance of bringing a scientific attitude and knowledge base to clinical practice (Stricker & Trierweiler, 1995). It recognizes the value of local observations and local solutions to clinical problems.

The three primary and reciprocal elements of an evidence-based clinical practice are assessment, intervention, and ongoing monitoring (see Figure 2 on page 39), conducted in a scientifically minded manner and informed by clinical expertise (e.g., judgment, decision making, interpersonal expertise). As noted earlier, attention to developmental processes and contexts of care is critical when working with children and adolescents. Children represent "moving targets" because they are ever-changing and rapidly developing. To be effective, clinical service delivery must be sensitive to these processes. Further, development occurs in different contexts, and attention to contextual factors is essential. Clinicians deliver services across multiple contexts of care (e.g., community mental health centers, private practices, schools, hospitals).

assessment, intervention, and monitoring

As noted in the previous section, EBP with children and adolescents emphasizes assessment procedures that are reliable and valid, with attention to developmental level, culture, and context. The preferred procedures have "treatment utility" (Hayes et al.,1987) in that they are consistent with and assess factors central to the clinician's working model of the child, the child's circumstances, and the therapeutic process necessary for change. Assessment results guide diagnosis, intervention planning, and outcome evaluation (e.g., see special issue of *Journal of Clinical Child and Adolescent Psychology* on evidence-based assessment, Vol. 34(3)). For prevention programming, assessment data shed light on those skill deficits or risk factors in need of attention.

EBP intervention includes, but is not limited to, those treatment programs that randomized controlled trials established as empirically supported. The clinician may consider multiple types of research evidence, including individual case studies, qualitative research, single-case experiments, public health and ethnographic research, and process-outcome studies. While a certain intervention

The evidence-based practitioner engages in constant observation and inquiry, and ongoing monitoring of therapeutic outcome and process is an essential part of clinical activities

program may have a strong evidence base, it may not be helpful to a particular child if she or her parents do not have the prerequisite abilities needed for the protocol. Factors like personal beliefs and values may affect understanding, acceptance, and follow-through with an intervention. Informed by consideration of these factors, the clinician determines whether to use an established treatment program, components of existing treatments, and/or other intervention strategies deemed relevant. When no established treatment exists for a particular condition, the use of assessment and monitoring data facilitates an idiographic approach to evidence-based intervention. Clinically effective intervention requires maintenance of gains. Protracted spacing between visits, booster sessions, and scheduled phone calls and reminders for follow-up appointments may be useful strategies for maintenance promotion.

The evidence-based practitioner engages in constant observation and inquiry, and ongoing monitoring of therapeutic outcome and process is an essential part of clinical activities (e.g., Chorpita, Bernstein, Daleiden, & the Research Network on Youth Mental Health, 2008; Lutz et al., 2006). Data gathered in an ongoing manner allows for a more informed and dynamic process of care. Client or participant input and feedback play important roles in ensuring that this process is a collaborative one. Monitoring outcomes increases the clinician's understanding of the child's condition, sheds light on factors that need attention, and assists in tailoring treatment efforts. As such, these data facilitate the process of making efficacious intervention strategies truly effective in the real world. They are also helpful for assessing possible adverse effects of the services provided. The use of monitoring strategies is a minimal requirement for characterizing a clinical practice as evidence-based.

common factors

Research has also supported the relevance of common factors to treatment of adults (e.g., Norcross, 2002) and children (e.g., Shirk & Karver, 2003). In child and adolescent practice, three important variables are alliance, engagement, and treatment retention. A number of findings suggest that therapeutic alliance between therapist and child, and between therapist and caregiver, may be related to effectiveness (e.g., Kazdin, 2002; Shirk & Karver, 2003). Barriers to treatment engagement include individual and family characteristics, logistics (e.g., transportation), and skepticism about those individuals or centers providing care (Greeno et al., 2002; Kazdin, Holland, & Crowley, 1997; McKay & Bannon, 2004). Efforts to alleviate concerns, align expectations about treatment, and provide support for individuals and families to receive treatment can enhance treatment engagement. For example, programs to increase participation in clinical care (Breland-Noble, Bell, & Nicolas, 2006; McKay & Bannon, 2004) and prevention programs with children and families (Coatsworth, Duncan, Pantin, & Szapocznik, 2006; Szapocznik, Lopez, Prado, Schwartz, & Pantin, 2006) have proven successful in engaging families traditionally seen as underserved populations. The common factors in these programs are efforts to reach out, normalize treatment, and provide a rationale for engaging in treatment while considering the important contextual variables of each individual or family unit.

A significant barrier to receiving services is the fact that nearly 40 to 60% of individuals who enter outpatient treatment do not stay in treatment for longer than

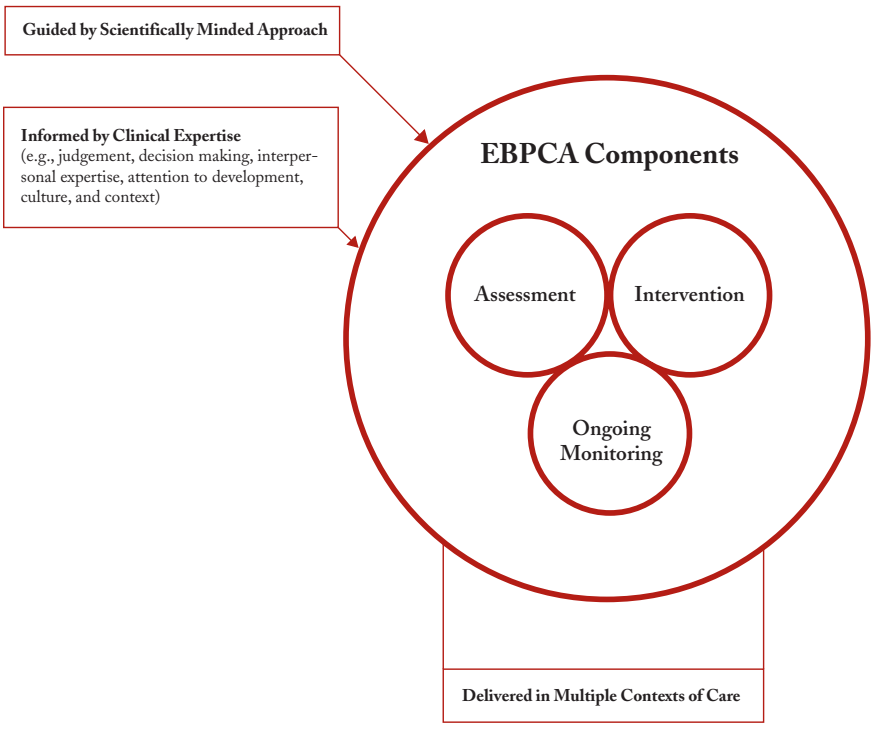

FIGURE 2: *Three primary and reciprocal elements of an evidence–based clinical practice*

a few sessions (Harpaz-Rotem, Leslie, & Rosenheck, 2004; Kazdin & Mazurick, 1994). Factors that contribute to treatment retention include individual and family characteristics, satisfaction with treatment, and therapeutic alliances (Hawley & Weisz, 2005; Weisz, Jensen Doss, & Hawley, 2005). Further, variables such as access to treatment and timely response to the initiation of treatment also factor into retention (Hoagwood, 2005; Werba, Eyberg, Boggs, & Algina, 2006). Once an individual or family is engaged in treatment, efforts to promote retention should focus on responsiveness to the family's needs, close inspection of the alliances developed during treatment, and assessment of satisfaction and progress in a systematic fashion (see McKay & Bannon, 2004).

A significant barrier to receiving services is the fact that nearly 40 to 60% of individuals who enter outpatient treatment do not stay in treatment for longer than a few sessions

summary

An evidence-based orientation to practice is scientifically minded and guided by clinical expertise. However, even when services are provided in the manner described, barriers to positive outcomes may exist, including chronic and severe child psychopathology, parental psychological difficulties, needs of siblings, and familial inability to access or utilize services. Competencies in areas such as case formulation; treatment planning; implementation of treatment; monitoring; formation of therapeutic alliances; and understanding of individual, cultural, and contextual influences (APA Presidential Task Force on Evidence-Based Practice, 2006) may help address such barriers. Clinical expertise is necessary for making flexible decisions about the nature and amount of service needed and the integration of evidence-based strategies from related disciplines. For example, the family receiving parent management training to treat attention deficits and impulsivity related to attention-deficit/hyperactivity disorder will likely have the child treated with stimulant medications as well. Practitioners may need to consider thoughtful integration of treatment strategies—psychosocial, pharmacological, and other—for the most positive outcomes.

IMPLEMENTATION AND DISSEMINATION

As noted above, practitioners, policymakers, and researchers are strenuously questioning the implicit assumption that practices defined as efficacious in academic studies are readily translatable to routine practice (Drake et al., 2001; Goldman et al., 2001; Schoenwald & Hoagwood, 2001; Tanenbaum, 2003). The well-documented differences between the conditions of research and typical practice (Burns, 1999; Burns, Hoagwood, & Mrazek, 1999; Hoagwood, Hibbs, Brent, & Jensen, 1995; Hoagwood et al., 2001; Jensen, Hoagwood, & Petti, 1996; Jensen, Hoagwood, & Trickett, 1999; Schoenwald & Hoagwood, 2001; Weisz, 2000a, b, c; Weisz, Weiss, & Donenberg, 1992) imply that interventions developed through efficacy trials may need adaptation to fit into typical services, and, likewise, that service contexts may need to adapt to new exigencies necessitated by the introduction of new therapies, interventions, or practices. In fact, the existence of scientific evidence in support of an intervention has little bearing on the question of whether it can be adopted (Gonzales, Ringeisen, & Chambers, 2002; Greer, 1994; Panzano, Roth, & Crane-Ross, 2002; Tanenbaum, 2003).

Several studies have now demonstrated that the quality of usual care is at best uneven (Bickman 1996; Weisz et al., 1995; Weisz, 2004; Weisz et al., 2005b; Zima et al., 2005) and at worst harmful (U.S. Public Health Service, 2001). The momentum to move new and tested practices into real-world settings has created both challenges and opportunities. Some of the challenges include the acceptance of EBP by providers, administrators, families, and other stakeholders; the effect of the adoption of EBP on caseloads or supervisory practices; and the integration of EBP into existing organizational and management structures. Studies examining the clinical efficacy of interventions (Drake, Latimer, Leff, McHugo, & Burns, 2004; Goldman et al., 2001; Schoenwald & Hoagwood, 2001; Weisz & Hawley, 1998) rarely addressed these issues. These questions are critical because they affect the degree to which the integration of new technologies can occur (Greer, 1994; Rosenheck, 2001) and whether it will occur.

Prompted in part by recognition of these challenges, a series of major federal, state, and local policies launched in recent years has created unprecedented opportunities for partnerships among researchers, practitioners, and policymakers. For example, system-wide reforms are under way in at least 44 states (National Association of State Mental Health Program Directors (NASMHPD), 2005; Yannacci, Rivard, & Ganju, 2005), and numerous federal agencies, including National Institute of Mental Health (NIMH), National Institute on Drug Abuse (NIDA), National Institute on Alcohol Abuse and Alcoholism (NIAAA), Substance Abuse and Mental Heath Services Administration

(SAMHSA), and Department of Education (DOE)], have redirected funding priorities to incentivize the adoption of EBP. At least a dozen states are actively implementing EBP for children and families, and program leaders in the states have created a unique consortium to share evaluation and implementation lessons as they learn them (Burns & Hoagwood, 2004; Burns et al., 2008). All of these initiatives are focusing on the uptake of EBP into public mental health systems. Federal activities include SAMHSA's EBP Toolkit Project and, for children, the *Implementation Resource Guide* (Burns et al., 2008); SAMHSA's Science to Service Initiatives; the NASMHPD Evidence-Based Practice Initiative for Children and Adolescents; NIMH's program announcement on dissemination and implementation; and jointly issued program announcements from both NIMH and SAMHSA.

Though empirical testing of implementation or dissemination strategies for children's mental health is lacking, there are several relevant strategies, frameworks, and guiding principles emerging in the literature that can help guide the efforts of those seeking to disseminate EBP and promote its adoption into large systems.

In addition, national family support, education, and advocacy organizations, such as the National Alliance for the Mentally Ill (NAMI), have recently issued a new guide for families named *Choosing the Right Treatment: What Families Need to Know About Evidence-Based Practices* (Gruttadaro, Burns, Duckworth, & Crudo, 2007). A guide for family advisors working across multiple systems in children's mental health to support quality services has also recently been published (Jensen & Hoagwood, 2008). The attention to EBP forecasts increased emphasis by family based organizations on the uptake and dissemination of research-supported and quality practices. Other examples include results of a national survey of family advocacy organizations. In a project funded by the MacArthur Foundation Network on Youth Mental Health Research and the Robert Wood Johnson Foundation, a national survey of 226 family advocacy, support, and education organizations (FASEOs) was undertaken (Hoagwood et al., 2008). Directors across 38 states identified factors influencing advocacy decisions about EBP uptake for children and family and described the structure and funding of their organizations. The survey found that directors of family based organizations believe that improvement of mental health services for children requires attention to screening and appropriate diagnostic assessments and use of effective clinical practices, in addition to service availability and quality of the therapeutic relationship. These findings hold promise for the alignment of family advocacy interests with research, policy, and practice in promotion of EBP in children's mental health.

In addition to federal, state, and family advocacy attention to these issues, other initiatives are under way to improve understanding of effective uptake of EBP for children. Annie E. Casey's Blue Sky Project (Chambers, Ringeisen, & Hickman, 2005) is examining training and linkage models for connecting three specific EBPs targeted at youth with disruptive or antisocial behavior problems (multisystemic therapy (MST), functional family therapy (FFT), and multidimensional treatment foster care). The MacArthur Foundation has established a research network on youth mental health (J. R. Weisz, PhD, primary investigator—see www.childsteps.org) focused on identifying strategies for effective use of treatments (for anxiety, depression, and conduct problems) in such everyday care settings as community mental health clinics and schools. The William T. Grant Foundation recently funded the development of a monograph on implementation studies (Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005).

Though empirical testing of implementation or dissemination strategies for children's mental health is lacking, there are several relevant strategies, frameworks, and guiding principles emerging in the literature that can help guide the efforts of those seeking to disseminate EBP and promote its adoption into large systems. For example, Rosenheck (2001) has proposed four strategies for translating EBP into practice: (a) construction of leadership coalitions, (b) linkage to widely endorsed goals and values, (c) development of communities of practice, and (d) measurement of implementation fidelity and outcomes. In addition, new strategies are emerging with respect to the dynamic interplay among factors affecting innovation uptake. Fixsen et al. (2005) described a conceptual framework to guide implementation of well-defined programs or practices based on an extensive review. The framework differentiates between "source" of innovation (e.g., the developer of a best practice), "destination" (e.g., practitioner or organization), a "communications link" (e.g., one or more purveyors), and "feedback mechanisms" that occur and are acted upon.

Finally, several processes are core to the implementation of technological innovations such as EBP in public mental

health systems (Glisson, 2002). These include, first, that implementation is a social process as much as a technical one; second, that implementation must attend to multiple layers of social context (including the practitioner, provider organization, and community); and third, that success is determined by the fit between the new technology and the social context. A model called ARC (availability, responsiveness, and continuity) has used these assumptions for facilitating introduction of new technologies, such as empirically supported treatments, into usual community practice settings (Glisson & Schoenwald, 2005). ARC has been experimentally examined in studies involving casework teams, and the model has been found to reduce staff turnover and improve organizational climate (Glisson, Dukes, & Green, 2006).

The attention by federal and state agencies, family advocacy organizations, and foundations to dissemination of EBP has created a zeitgeist wherein researchers, practitioners (i.e., clinicians, supervisors), families, and policymakers are partnering in unique ways to create social contexts for these changes.

challenges to implementation and dissemination

A number of macro (e.g., systemic) and micro (e.g., individual, such as clinician, supervisor, administrator, family) factors hamper implementation of EBP. In addition to the lack of integrative conceptual models described above, other issues include inconsistent definitions for the major constructs; the role of families in EBP; methodological, measurement, and data analytic challenges; insufficient training and consultation models; and system fragmentation. These obstacles create complexities for individuals or organizations wishing to adopt or use evidence-based practice. This becomes apparent when intervention developers—individuals and organizations that are not affiliated with the development and testing of a particular model—design strategies to take that model to scale (Torrey et al., 2001, 2002). Although several groups of intervention developers have produced multilevel approaches to the problem of taking an effective model to scale (Schoenwald, Halliday-Boykins, & Henggeler, 2003), the methods to do so have been largely idiosyncratic and informed as much by field experience as by theory or research on implementation processes.

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comorbidity and complexity of children in treatment

Implementation and dissemination of evidence-based treatments is complicated by the fact that children in treatment often present with multiple co-occurring problems and disorders (Angold et al., 1999), and, by contrast, most evidence-based treatments are designed for single conditions, or groups of closely related conditions (e.g., a cluster of anxiety disorders with partially overlapping symptoms). Various kinds of comorbidity may either undermine or enhance the effects of treatment on the primary problem targeted in treatment (see Curry et al., 2006; Hinshaw, 2007; Jensen et al., 2007). In addition, in any treatment episode, those problems not targeted by the evidence-based treatment in use may persist, continuing to cause difficulty. More broadly, many children in treatment are embedded within complex life circumstances that may include poverty, abuse or neglect, unstable living or custody arrangements, or neighborhood violence, any of which may require attention in therapy or case management outside therapy and for most of which no evidence-based treatment exists.

multiple definitions

The proliferation of new terms to describe the range of processes and outcomes associated with implementation and dissemination activities has led to confusion. Recently, federal interest in closing the research-to-practice gap has led to attempts to standardize the definitions of key terms relevant to implementation and dissemination. For instance, the Centers for Disease Control (CDC), the National Institutes of Health (NIH), and SAMHSA are generally using a standardized and similar set of working definitions (see Appendix: Definitions).

family participation and activation as treatment partners

Improving delivery of effective clinical services to children requires attention to families and their service needs as well (de Arellano et al., 2005; Melnyk, Small, & Carno, 2004). Yet the evidence base on types of supportive, educational, or related services that improve family functioning is limited. In a research review of studies on family based interventions and processes of family involvement for children with a broad range of health or mental health problems, Hoagwood (2005) identified 41 studies that met methodological criteria

for inclusion and encompassed three distinct categories: (a) families as recipients of interventions (e.g., family education, support, engagement, empowerment), (b) families as cotherapists, and (c) studies of the processes of involvement (e.g., therapeutic alliance, engagement, empowerment, expectancies, choice). The review found that too few experimental studies exist to conclude decisively that family based services improve youth clinical outcomes. However, rigorous examination demonstrated improvements in other types of outcomes, such as retention in services, knowledge about mental health issues, self-efficacy, and improved family interactions. One of the key conclusions was that linkage of family based supportive services to delivery of evidence-based clinical services for youth was likely to amplify the impact of those services and improve outcomes for both youth and families.

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methodological, measurement, and analytic challenges

Those seeking to implement new clinical service models in their systems face numerous methodological, measurement, and analytic challenges. These include (a) the lack of reliable or valid methods for determining the preparedness of providers, agencies, regions, or specific stakeholder groups in adopting or sustaining new EBP technologies; (b) the lack of metrics or measures for determining the efficiency or effectiveness of implementation efforts; (c) the lack of adequate measures for assessing the fidelity of implementation efforts at multiple levels (families/youth, clinicians, supervisors, administrators, policymakers); (d) the problems of using data collected within real-world service systems for research purposes, often compromised by missing elements due to random and/or nonrandom factors, as well as observer biases; and (e) the nonideal nature of service organization and delivery, such that rigorous control of potential confounds or even knowledge of potential sources of bias are increasingly difficult.

In some instances, e.g., (a) and (b) above, the absence of integrative theoretical models exacerbates the lack of methods to assess preparedness for and sustainability of EBP; or, for assessing EBP implementation efficiency/effectiveness, the absence of appropriate tests to contrast, compete, or augment different approaches. In other problem areas, such as (c) above, methods to address such constructs do exist, but generally are used only at smaller scale. In some instances (d and e above), at least partial solutions (e.g., specific analytic approaches such as mixed-effects regression, propensity score methods, etc.) are available, but not widely known or disseminated within data analysis/policy settings. From a policy perspective, this is very problematic, as substantial analytic and interpretative problems in costly trials result from noncompliance, treatment switching, variable attendance, and differential attrition/dropout (Little & Rubin, 2000). In the child arena, for example, some evidence shows that these factors vary as a function of cultural or ethnicity variables (McCabe, 2002); failing to assess and account for such factors in the analytic models is likely to obscure genuine understanding (Kazdin & Mazurick, 1994).

Increasingly sophisticated research designs, assessment methods, data capture techniques, and analytic approaches are becoming more common in services research studies. However, unlike the challenges facing investigators operating within a single location or on a relatively small scale, investigators at a systems level almost always encounter particular research design and analytic challenges resulting from the nested nature of children/families within clinicians, clinicians within supervisors and clinics, clinics within provider organizations, and provider organizations within geographic regions. In the research design and data analytic steps, as well as the steps of EBP deployment, investigators must consider and take into account such potential sources of covariation (and potential bias). Thus, without methods for identifying and assessing (and intervening with) ongoing implementation fidelity problems, such as those within a particular clinic (and all of its nested clinicians and families), interpreting the resultant data from large-scale projects can be difficult, regardless of the sophistication of initial design or statistical methods.

In addition, the same potential sources of bias that operate at smaller scales, e.g., attrition (perhaps due to lack of EBP "preparedness" or self-selection factors at the family, clinician, or clinic level), adherence/fidelity to EBP methods/procedures, and incomplete or missing data for both random and nonrandom reasons, complicate the ability to examine EBP. At a larger scale, these factors take on added urgency, given the clustering (and likely magnification) of these potential sources of error/bias and the increasing difficulties

of controlling for such biases by either prospective design or post hoc analytic methods.

Fortunately, there has been recent progress in observational study methods that deal with issues such as examining treatment efficacy in light of biases due to unbalanced comparison groups (Rosenbaum, 2002). These new developments are just starting to find their way into the mainstream of mental health services research in longitudinal studies. However, to account for within subject and/or within-clinic correlation, repeated-measures, longitudinal studies that use rigorous designs and analyses need to incorporate these newer statistical and analytic approaches (e.g., observational study methods such as propensity score and instrumental variable approaches for adjusting for overt bias and sensitivity analyses and tests for hidden bias) (Gibbons, 2000). Given the potential for hidden sources of bias, magnification of error, loss of precision of estimates, and the huge policy and financial investments at stake, especially for system-wide scaling of services, a need exists for data analysts and academic collaborators to understand and apply these newer statistical methods.

training and consultation issues

Training and consultation issues range from the fact that EBP training is unavailable—or when available, uses ineffective training models, such as half-day workshops at professional meetings with no substantial follow-up or support (Grimshaw et al., 2001); manualization of current psychotherapy models varies widely (Chorpita, 2003); families often will not attend the 16 to 20 sessions needed to complete many of the models (Armbruster & Kazdin, 1994; Kazdin, 2004b; McKay & Bannon, 2004); and new clinical practices do not take into account organizational or systems variables characterizing the practice environments (Hoagwood, Burns, & Weisz, 2002; Weisz & Addis, 2006; Weisz, Hawley & Doss, 2004).

In addition, at least one state is systematically examining the impact of family engagement and empowerment as a way of improving the uptake of EBP and improving retention and treatment completion (Burns et al., 2008).

system fragmentation

In 1982, the Mental Health Commission established under the Carter Administration and the landmark *Unclaimed Children* (1982) report noted the fragmentation of the children's mental health service. Recent panels convened by the Institute of Medicine and reports such as *Crossing the Quality Chasm* (Institute of Medicine, 2001) have continued to point to fragmentation as a major impediment to health care quality improvement. While examples of coordinated efforts across these sectors exist, funded, for example, by SAMHSA's Center for Mental Health Services Comprehensive Community Mental Health Services for Children and Their Families grant program, structural impediments to sustaining coordinated efforts are formidable.

While some studies have focused on the impact of integrative or coordinated care models on children's clinical outcomes, these studies (Bickman, 1996) have found that coordination in itself does not lead to improved outcomes. A coordinated delivery model can affect access to and the restrictiveness of services used; however, it does not affect service outcomes.

The fragmentation of the children's mental health system negatively affects the development of effective implementation and dissemination models and strategies. Identifying consistent metrics with real-life referents to track change in processes, fidelity, engagement, or any core implementation processes is difficult because each system is different. Strengthening the science base requires the ability to identify, measure, track, and monitor processes and outcomes for multiple stakeholders (families/children, clinicians, supervisors, directors, payers, policymakers) across each of these systems. This would be a difficult undertaking in a simple system, and the asymmetry of the current contexts of care and the cultural, geographic, and economic diversity of the populations these mental health systems are intended to serve make it much more complex.

promising approaches

The EBP movement is beginning to recognize and examine issues related to organizational, clinical, and monitoring supports and how to embed these into systems. For example, the MacArthur Foundation Youth Research Network (Weisz, PI) is examining a range of social and contextual strategies for improving the implementation of EBP in child clinics (Weisz & Addis, 2006). Some states (Hawaii, New York, California) are embarked on state-wide research projects to examine specific strategies for improving large, system-wide dissemination of specific empirically based practices (CBT for trauma, depression; treatment foster care, etc.) (Burns & Hoagwood, 2004). In addition, at least one state is systematically examining the impact of family engagement and empowerment as a way of improving the

uptake of EBP and improving retention and treatment completion (Burns et al., 2008).

The development of a policy research base regarding state oversight of mental health service system transformation and implementation of EBP has begun. There have been some encouraging first steps. In child and adolescent mental health services, published descriptions are emerging from Hawaii (Daleiden et al., 2006), Ohio (Julian, 2006; Panzano & Roth, 2006), and New York (Zazzali et al., 2008). Because state efforts to implement one or more EBP require oversight of constellations of "idiosyncratic, complex microsystems" (Drake, Becker, Goldman, & Martinez, 2006; p. 304), they are necessarily complex and unique. Many state efforts oversee comprehensive training, supervisory, or regulatory activities to implement a range of EBPs across the developmental continuum, making them all the more complicated (Chambers et al., 2005). Thus, at the current stage of development of this policy research base, describing and characterizing approaches undertaken by different states is an important endeavor.

Research studies examining the effectiveness of interventions and incorporating the examination of core factors likely to affect their uptake may strengthen the development of this new science on implementation and dissemination.

In addition, research is proposing new models of intervention development to help accelerate the application of research findings to routine practice. For example, the deployment-focused model of Weisz (2004) suggests that development of new treatments should take into account those context variables (such as characteristics of the practice setting) that are essential to the ultimate acceptability of new services; accordingly, the model recommends that the bulk of treatment development and testing take place not under laboratory conditions but in the treatment contexts, and with the kinds of clients and clinicians for whom the treatments are ultimately intended. In addition, researchers are examining alternatives to a top-down model of EBP implementation (Daleiden & Chorpita, 2005; Garland, Plemmons, & Koontz, 2006; Hodges & Wotring, 2004; Southam-Gerow et al., 2008). These approaches are creating learning communities with typical practice settings, encouraging these settings to become empirically driven centers for both delivering services and examining the impact of routine practice on outcomes. Work in such settings is quite compatible with new approaches to treatment, such as modular treatment protocols, which provide clinicians with increased flexibility in the use of empirically guided intervention strategies (see, e.g., Chorpita, 2007; Chorpita, Daleiden, & Weisz, 2005). Such normalization of research-based approaches to practice can demystify the scientific enterprise and facilitate the constant re-evaluation, refinement, and improvement of services. This approach also encourages the construction of locally relevant evidence and creates a context for empiricism within routine service settings, leading ultimately, one hopes, to improvements in quality.

Research studies examining the effectiveness of interventions and incorporating the examination of core factors likely to affect their uptake may strengthen the development of this new science on implementation and dissemination. Translation studies focused on incentives and policies that support adoption, organizational and structural supports, fiscal incentives and disincentives, systematic monitoring, clinical decision-supports, strategies to improve training and consultation, and engagement techniques are among the most important studies likely to strengthen implementation and dissemination of evidence-based practices for children and adolescents.

TRAINING AND SUPERVISION

There are many implications of EBP for training and supervision. In this report, we focus primarily on the training and supervision needs relevant to psychology. However, training and supervision must be broader in their scope, to include all those who work with children in distress and their families.

psychology training

EBP values scientific mindedness in the selection and application of treatments and in the exercise of clinical judgment. To adequately prepare psychologists to engage in EBP, educational efforts in graduate training will have to ensure that students have

1. a firm foundation in philosophy of science and an appreciation of the definition of science from different theoretical and disciplinary perspectives;
2. an understanding of and appreciation for current dominant views about science, how the valued methodologies derived from these views are culturally and historically situated, and the inherent strengths, biases, and limitations of these views;
3. an understanding of varied forms and levels of evidence, the use and suitability of certain types of evidence in developing treatments (e.g., as derived from qualitative and quantitative methods), and an appreciation for the knowledge that different types and levels of evidence can contribute in the process of scientific inquiry; and
4. an understanding of the knowledge about EBP currently available, the essential practice and contextual aspects necessary to effectively implement an intervention in a particular setting or community, and the strengths and limitations (e.g., characteristics of patients and ecologies for which the treatment is intended) of EBP.

For example, some have argued that "method over theory" has driven treatment outcome research (e.g., Bernal & Scharrón-del-Río, 2001; Slife, Wiggins, & Graham, 2005; Sue, 2003). Others have argued that randomized clinical trials (RCTs) have ignored the important role of the psychologist-practitioner and the subjective experiences of the patient (e.g., Elliot, 1998; Seligman, 1995; Wampold, 2004). Examples of clinical practice that integrate EBP with the relationship and context orientation of clinical practice include, but are not limited to, the disciplined inquiry model (Peterson, 1991) and the local clinical scientist model (Stricker & Trierweiler, 1995). These and similar models can provide the basis for training students to be scientifically minded practitioners and/or practice-oriented researchers. Training in psychology should address not only empirical models (e.g., use of experimental designs, random clinical trials, and meta-analyses of experimental studies), but other models for gathering evidence as well.

Because EBP extends to diverse contexts and delivery systems and attends to aspects of access, engagement, treatment process, and retention, students will have to develop specific skills in these areas of practice and appreciate that optimal application of their expertise—whether in research or practice—occurs only in collaboration with the participants in a study

or the patients in the office, clinic, school, or community. EBP encourages student researchers to develop specific skills and competencies in order to enlist and integrate study participants' values, beliefs, and views or patients (broadly defined) into the theories under development and the prevention/intervention programs under examination. Student practitioners will develop specific skills and competencies in order to understand and appreciate a patient's (broadly defined) values, beliefs, and views, and integrate them into the application of a particular prevention/intervention program. To be prepared to engage in EBP, students must understand and appreciate the varied and complex characteristics of the target populations, the varied treatment contexts, and the delivery systems of psychological services. This task includes, but is not limited to, being able to implement a prevention or intervention program with specific patient populations in specific communities, being able to attend to structural and procedural aspects in order to facilitate access to care, responding to individual and cultural diversity in the efforts and techniques used to increase patient engagement and retention, promoting culturally sensitive responsiveness in the administrative and organizational systems involved in service delivery, and establishing collaborative relationships with the communities of targeted patient populations.

The authors' framework for supervision included didactic instruction, exposure-based training under supervision, self-change projects in specific treatments, and competency-based training in specific EBP.

In addition to these considerations, research has advanced various issues related to graduate training specifically for psychological services for children and adolescents. The training model advanced by Roberts et al. (1998) included 11 integrated aspects of training with recommendations for topics, justification, and implementation suggestions. Although advanced prior to the major thrust of the EBP movement, the model's recommendations are in concert with the focus of this report and the reliance on psychological science to justify applications. For example, the authors recommended that coursework integrate a critical examination of research on the effectiveness of various interventions. They also stressed the importance of including a focus in graduate training programs and internships on systems and policy issues. A major aspect of EBP is the use of clinical training (that includes a scientific orientation and a reliance on scientific evidence) to improve not only individual practice, but also the systems and organizations through which treatment are delivered.

Subsequent attention has focused on graduate training in several specialty areas relevant to psychological practice with children and adolescents. Building on the work of Roberts et al. (1998), Spirito and colleagues (2003) produced a *Society of Pediatric Psychology Task Force Report* with recommendations for the ideal type of training for pediatric psychologists. The authors emphasized evidence-based interventions in coursework. Most recently, Kratochwill (2007) addressed specific training challenges for EBP for the profession of school psychology, identifying challenges in four domains: (a) integrating the EBP knowledge base in the curriculum, (b) expanding models of research training, (c) expanding training in prevention science, and (d) expanding problem-solving consultation and school contextual issues and advancing specific recommendations for graduate training in each of these areas.

supervision

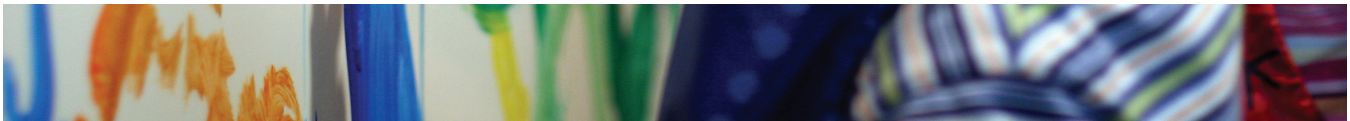
Supervision is a critical facet of the education and training of psychologists and covers a broad range of target areas, including practicum, internship, postdoctoral training, and practicing professionals. All specialty areas of child and adolescent practice require supervision, and all will need to address supervision of EBP. Models and definition of supervision vary widely, and research on various aspects of supervision is still developing. *The Handbook of Psychotherapy Supervision* (Watkins, 1997) addressed a broad spectrum of models and research agendas relevant to EBP. In particular, Kratochwill, Lepage, and McGivern (1997) outlined issues in child and adolescent psychotherapy supervision, including a theoretical framework for supervision, methodologies for training and supervision, and components for the supervision process for EBP. The authors outlined a supervision framework relevant to EBP supervision, including cognitive focus (e.g., knowledge), therapy skills (assessment and treatment implementation procedural skills), and affective skills (e.g., managing emotions during the therapy process). The authors' framework for supervision included didactic instruction, exposure-based training under supervision, self-change projects in specific treatments, and competency-based training in specific EBP. Work in this area needs refinement and extension beyond psychotherapy, including prevention and system intervention models.

Another volume, *Clinical Supervision: A Competency-Based Approach* (Falender & Shafranske, 2004), uses a science-informed process of supervision that delineates the competencies required for good practice and is geared toward mental health professionals who currently provide supervision in academic, training, and treatment settings, as well as to students and beginning practitioners studying supervision research and theory. An edited volume, *Helping Others Help Children: Clinical Supervision of Child Psychotherapy* (Neill, 2006), presents a cross-section of supervision practices in child psychotherapy, including some of the most promising new child therapies.

These and other supervisory models or approaches to supervision have yet to be studied in terms of their outcomes for the supervisee and their relationship to client outcome. Research is currently very limited in evidence-based supervision, an important component of evidence-based practice. There is some evidence that supervision is a limiting factor in the fidelity of EBP, thereby becoming an ethical issue (Baer, Ball, Campbell, Miele, Schoener, & Tracy, 2006). The complexity of the supervision process has been noted in the implementation of MST as it is transported to field settings (Henggeler, Schoenwald, Liao, Letourneau, & Edwards, 2002). The APA Division 43 (Family Psychology) task force outlined some important supervision issues in family intervention as well as the barriers that are likely to emerge in the supervision relationship (Sexton et al., 2007).

RECOMMENDATIONS

This report highlights evidence-based practice as an essential mechanism for addressing the needs of children and adolescents with mental health problems and optimal promoting of health and development. The task force recognizes the importance of broad-based, culturally responsive, and multidisciplinary initiatives to enhance the care provided to children and adolescents. The task force recommends that the following steps be undertaken by the American Psychological Association to promote the agenda described in our report. The recommendations are organized into three categories: Research and Dissemination, Education and Training, and Practice and Policy. They are focused primarily on the activities of psychologists. However, the task force is aware that the recommendations in this report are broad and potentially far-reaching. In order to be successful, they will likely require the development of a strategic plan to further refine priorities and establish mechanisms to initiate and evaluate their impact. We realize that this strategic plan will involve consideration of further input from APA divisions, relationship to current and future organizational priorities, budgetary issues, and relationship to other mental health and educational organizations and initiatives.



research and dissemination

Consistent underfunding of children's mental health services and significant disparities in research funding have created a vacuum for the very issues most relevant to improving mental health care systems and children's outcomes. This set of recommendations addresses the serious gaps in knowledge about how to increase the extent of research pertinent to children's mental health and to rapidly translate research findings on effective care for children, adolescents, and their families into improved delivery systems. The task force recommends that APA take a leadership role in redressing these disparities by:

1. Advocating for increased research funding to develop and disseminate EBP for children and adolescents in multiple settings (e.g., schools, homes, community-based services). Increased research funding is especially needed for underserved children and adolescents (e.g., GLBT youth, those from culturally diverse populations, underserved communities, those experiencing health disparities) and should target development and testing of

education & training

To increase the use of EBP for children and adolescents and their families, professional education and training efforts must squarely align with EBP principles. This alignment requires a focus on population health management and a public health approach to education and training of psychologists. These activities must involve partnership between groups of health and behavioral health professionals. Public education to ensure an informed public, aware of treatment choices and options, is also imperative. APA's initiative and leadership will be essential to assure needed progress. The task force recommends that APA:

1. Develop an interdisciplinary Web-based training initiative on core competencies of EBP in collaboration with other key disciplines (e.g., social work, education, pediatrics, psychiatry).

2. Advocate for the inclusion of EBP for children and adolescents in graduate and postgraduate training and internship programs for psychologists with criteria that specify (a) how training programs

practice and policy

A series of steps are necessary to ensure the translation of EBP into clinical practice, service delivery, and policy. Current national and state policies and practices are not aligned with EBP delivery. In fact, numerous directives, legislative regulations, and fiscal policies either directly contradict or inadvertently interfere with EBP delivery. APA must take vigorous action to advocate for policies that will support rational delivery systems and practices that support effective training, practice, and evaluation of EBP. To this end, the task force recommends that APA enlist all child-oriented divisions to work collaboratively with APA's Government Relations Office (GRO) to:

1. Identify appropriate funding levels for EBP implementation that reflect reimbursement rates, financing structures, and third-party payment rates that are appropriate to the use of EBP for children and adolescents. The funding levels need to ensure adequate coverage for the costs of EBP implementation that may differ from adults (e.g., inclusion of families, coverage for multiple provider consultations, treatment of parents, school consultation).

implementation strategies to support large scale system uptake of EBP. Longitudinal research methodologies are necessary to fully address these outcomes.

2. Establishing a multidisciplinary ongoing coalition with relevant APA divisions, federal agencies, and other relevant organizations, including those representing major stakeholder groups to provide guidance for RFP development that will inform research on the development and dissemination of EBP.
3. Establishing a multi-year, cross-discipline initiative on dissemination of child and adolescent EBP that will: (a) identify how APA can make available training tools, educational materials, and Web-based supports to assist clinicians in using EBP; (b) identify new training opportunities; and (c) provide Web-based information systems to support the use of these tools to support practices in a range of settings and for culturally diverse populations.
4. Advocating for the development and funding of (a) electronic dissemination of EBP training on assessment, prevention, and treatment practices; and (b) electronic tracking delivery and monitoring systems to assess progress across a range of settings and populations.
5. Advocating for funding for the development of brief and valid assessment measures for implementation fidelity to EBP across a range of settings and populations.
6. Developing an electronic repository on nonsignificant or null findings from screening, assessment, and intervention research on EBP for children and adolescents.
7. Encouraging funders and journal editors to require researchers and authors to specify the range and limits of generalizability in proposed and completed EBP studies, to solicit manuscripts that focus on the translation of research into practice, and to address practice or policy implications of research findings in simple, policy friendly language.

include EBP in coursework and practica, (b) the expertise of program faculty in EBP, (c) how EBP is evaluated in self-study processes, and (d) inclusion of EBP as criteria for APA program accreditation and how cultural and individual differences are addressed.

3. Encourage training programs to develop and implement specialized training on EBP for children and adolescents for clinical faculty supervising graduate students and interns and to implement standards requiring such training for these persons, which includes the context of diverse cultural and individual differences.
4. Utilize Continuing Education (CE) mechanisms to promote the dissemination of EBP programs to front-line professionals by linking the approval of APA CE program providers to inclusion of CE programs focused on EBP. CE programs on any clinical practice should include disclosure of scientific support for that practice to CE participants.
5. Foster support for a cross-disciplinary, culturally diverse perspective on EBP for children and adolescents by convening or supporting educational training summits on EBP consisting of culturally diverse proponents across disciplines within an international framework to encourage attention to comparative approaches.
6. Develop and maintain an easily accessible Web-based interactive system to enable state psychological associations, state directors of children's mental health services, universities, relevant agencies, practitioners, youth, and families to obtain as appropriate protocols, manuals, assessment instruments, and information about implementation strategies to improve knowledge about and consistency in the use of EBP across a variety of settings.

2. Collaborate with major national family based advocacy groups to develop and disseminate research-informed EBP for children and adolescent policy briefs relevant to the needs of family advocacy organizations for their policy efforts.
3. Advocate for policies that promote development of and access to EBP with children and families. In addition, there is particular need for more and stronger EBP bases for priority populations (including ethnic minority children, transition-age youth, children and adolescents with severe or comorbid conditions, children in child welfare, juvenile justice, and primary care systems, those with substance abuse and disabilities, those in homeless shelters, and those experiencing significant health disparities).
4. Advocate for the elimination of barriers (including benefit restrictions) to EBP for children and adolescents in the private sector and at the federal and state legislative, regulatory, and policy initiatives. For example, eliminate Medicaid restrictions and standardize billing and reporting requirements for EBP delivery to reduce the variable reporting burden.
5. Advocate for funding to establish a cross disciplinary, multi-agency task force on innovative health care system delivery for EBP for children and adolescents. The goal is to examine the fiscal, regulatory, and structural barriers to the establishment of regional mental health care collaboratives on EBP for children and adolescents. These collaboratives would (a) coordinate mental health care regionally across specialty areas and integrate it with primary care practices, (b) specify a core set of training, assessment, prevention, and intervention services necessary for comprehensive EBP delivery, and (c) identify a set of administrative, monitoring, and reimbursement structures including electronic data monitoring systems for implementing regionalized collaboratives.

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Federal interest in closing the research-to-practice gap has led to attempts to standardize the definitions of key terms relevant to implementation and dissemination. For instance, the Centers for Disease Control (CDC), the National Institutes of Health (NIH), and the Substance Abuse and Mental Health Services Administration (SAMHSA) are generally using these working definitions.

from the CDC

Translation research characterizes the sequence of events (i.e., process) in which a proven scientific discovery (i.e., evidence-based public health intervention) is successfully institutionalized (i.e., seamlessly integrated into established practice and policy). Translation research is composed of many complex components that include specialized fields of study. Specifically, translation research is composed of dissemination research, implementation research, and diffusion research.

Dissemination research is the systematic study of how the targeted distribution of information and intervention materials to a specific public health audience can be successfully executed so that increased spread of knowledge about the evidence-based public health interventions achieves greater use and impact of the intervention.

Implementation research is the systematic study of how a specific set of activities and designed strategies are used to successfully integrate an evidence-based public health intervention within specific settings (e.g., primary care clinic, community center, school).

Diffusion research is the systematic study of the factors necessary for successful adoption by stakeholders and the targeted population of an evidence-based intervention that results in widespread use (e.g., state or national level) and specifically includes the uptake of new practices or the penetration of broad-scale recommendations through dissemination and implementation efforts, marketing, laws and regulations, systems-research, and policies.

Because evidence-based interventions are a key component of translation research, the following definitions are generally used to differentiate types of studies:

Intervention is an intentional action (singular or constellation) designed for an individual, a community, or a region that alters a behavior, reduces risk, or improves outcome. Interventions can be a medical or behavioral therapy, modification to the natural or built environment, including engineering controls, public heath policy, public health program, health communication, or public health law.

Efficacy refers to the intervention's ability to do more good than harm among the target population in an ideal setting (e.g., randomized clinical control trial or community-level trial).

Effectiveness refers to the intervention's ability to do more good than harm for the target population in a real-world setting.

Evidence based means that the intervention has undergone sufficient scientific evaluation to be proven to be efficacious or effective (e.g., intervention is considered valid or "proven" because it is strongly linked to desirable outcome).

Often the following terms are used interchangeably: *evidence-based, proven, effective, valid, or sufficient scientific evaluation.*

Other key terms widely used in the field of implementation and dissemination include the following:

Adaptation refers to the modifications of the intervention itself or the necessary alterations in the supporting infrastructure.

Adoption refers to the uptake of the desired intervention into the target population or uptake by the implementers.

Fidelity refers to "the adherence of actual treatment delivery to the protocol originally developed" (Mowbray et al., 2003) or "the degree program developers implement programs as intended by the developers" (Sussman et al., 2006).

Outcomes and *impacts* are the end results of public health interventions that include effects that people experience and care about, such as change in the ability to function, improved health, quality of life, satisfaction, or cost.

Scalability describes the adoption of an intervention resulting in its wider usage that retains or improves its effectiveness, affordability, and sustainability.

Sustainability is achieved when the evidence-based intervention is routinely executed. Long-term sustainability can be dependent upon funding availability and policies that support a functional infrastructure that maintains fidelity of the evidence-based intervention (e.g., training, laws, and reimbursement for services).

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