# The Dissemination and Implementation of Evidence-Based Psychological Treatments

## A Review of Current Efforts

R. Kathryn McHugh and David H. Barlow      *Boston University*

*Recognizing an urgent need for increased access to evidenced-based psychological treatments, public health authorities have recently allocated over $2 billion to better disseminate these interventions. In response, implementation of these programs has begun, some of it on a very large scale, with substantial implications for the science and profession of psychology. But methods to transport treatments to service delivery settings have developed independently without strong evidence for, or even a consensus on, best practices for accomplishing this task or for measuring successful outcomes of training. This article reviews current leading efforts at the national, state, and individual treatment developer levels to integrate evidence-based interventions into service delivery settings. Programs are reviewed in the context of the accumulated wisdom of dissemination and implementation science and of methods for assessment of outcomes for training efforts. Recommendations for future implementation strategies will derive from evaluating outcomes of training procedures and developing a consensus on necessary training elements to be used in these efforts.*

*Keywords:* dissemination, evidence-based practice, psychological treatments, implementation

In recent years, health care policy has incorporated evidence-based practice as a central tenet of health care delivery (Institute of Medicine, 2001). Despite the promise to raise standards of care, evidence-based practice has encountered barriers common to all knowledge diffusion efforts (Rogers, 2003), and the dissemination of empirically supported medical and psychological interventions has been slow. A report by the Institute of Medicine (2001) argued that the remarkable disconnect between medical research and practice represents "not just a gap, but a chasm" (p. 1). Moreover, reports by the U.S. Surgeon General (U.S. Public Health Service, 1999) and the President's New Freedom Commission on Mental Health (2004) have specifically highlighted a lack of access to evidence-based mental health care. In the context of the development of evidence-based psychological treatments (EBPTs; Barlow, 2008; Kazdin & Weisz, 2003; Nathan & Gorman, 2007) with the potential to improve clinical outcomes across mental health and substance abuse treatment settings, research has confirmed low levels of successful dis-

semination in both clinical practice settings (e.g., Goisman, Warshaw, & Keller, 1999; Stewart & Chambless, 2007) and graduate and internship training programs (e.g., Crits-Christoph, Frank, Chambless, Brody, & Karp, 1995; Weissman et al., 2006).

Motivated by the continued lack of widespread availability of EBPTs, both public and private funding mechanisms for dissemination and implementation efforts have emerged. Government agencies with a marked sense of urgency have created financial and regulatory incentives and mandates promoting a shift to evidence-based practice and are driving these efforts with large financial commitments totaling several billion dollars. Support for these efforts continues to build. As a consequence, a number of new programs have emerged rather quickly, and some have begun programmatic activity.

The programs under way are heterogeneous in their structure, aims, and scope and are in relatively early stages of implementation and evaluation. Furthermore, many of these programs have developed independently, and some funding initiatives carry an urgent mandate precluding deliberate (but time-consuming) consultation across programs on best practices. Thus, at this critical juncture, an evidence base for the dissemination and implementation of EBPTs is lacking, and no clear consensus has emerged on best practices for these initiatives. Our aim in the current article is to review leading dissemination and implementation programs at the national, state, and individual treatment developer levels in order to examine strategies used by these programs, commonalities among them, and the extent to which they target the usual and customary barriers to adoption of emerging knowledge. We do not revisit controversies surrounding the identification or appropriateness of EBPTs (Hofmann & Weinberger, 2007); rather, we focus on the status and adequacy of efforts currently under way that have already attracted billions of dollars in funding, with more to follow. We begin with a brief discussion of dissemination and implementation science and a two-part conceptualization of the necessary components of cli-

R. Kathryn McHugh and David H. Barlow, Department of Psychology, Boston University.

Correspondence concerning this article should be addressed to R. Kathryn McHugh, Department of Psychology, Boston University, 648 Beacon Street, 6th Floor, Boston, MA 02215. E-mail: rkmchugh@bu.edu

**R. Kathryn McHugh**
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nician training; we then review programs in this context and on the methods they use for assessing outcomes of training. We provide a checklist of the procedures currently being used by these programs for training and for assessing outcomes. From this checklist one can begin to glean where consensus is emerging (didactic and training procedures) and where little consensus yet exists (outcomes assessment of training, patient outcomes, and procedures for sustainability). Finally, we provide conclusions and recommendations based on this review.

For this article, we use the following definitions of key terms. *Adoption* is defined as the decision by a clinician or clinical system to learn and implement a treatment. *Dissemination* is defined as an effort to facilitate initial adoption, and *implementation* is defined as the process of transferring the treatment to the clinical setting (e.g., training). Given the clear overlap between dissemination and implementation, many of the programs reviewed include components of both and are discussed as such.

## Disseminating and Implementing Innovations

Difficulty in disseminating new technology is not unique to health care; the slow adoption of innovation has been consistently noted in fields as diverse as agriculture, education, and communication (see Rogers, 2003). The successful adoption of innovation often follows an *s*-shaped curve characterized by slow initial use that builds more rapidly over time until a "tipping point" is reached (Gladwell, 2000). Once adoption occurs (i.e., a setting chooses to begin utilization of an EBPT), the process of implementation presents another set of challenges to the long-term use and sustainability of the innovation (see Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005). Indeed, sustainability

of a seemingly straightforward procedure such as hand washing in hospitals has proven particularly difficult to achieve (Gawande, 2007). Many barriers can arise throughout the dissemination and implementation process, and achieving success requires the management of several of these barriers, including negative perceptions of the innovation, challenges to implementing a new procedure in an existing system, and the potential for drift in utilization over time.

Perhaps the greatest challenge to these efforts relative to EBPTs is training clinicians to competently administer treatments. The implementation of EBPTs may be particularly difficult relative to the implementation of other types of innovations (e.g., medication prescribing practices) because of the complex and nuanced nature of psychological therapies. Successful training of clinicians in EBPTs requires a balance of both *didactic training*, defined as the methods used for information transfer such as written materials and workshops, and *competence training*, defined as the process of acquiring skills necessary to administer a treatment skillfully and with fidelity.

Traditional means of translating research results into clinical practice rest on the assumption that clinicians will adopt and administer treatments on the basis of published research findings and attendance at didactics alone. However, evidence suggests that didactic training alone, in the form of workshops or basic training materials, is insufficient to create sustainable change in clinician practices (for a review, see Oxman, Thomson, Davis, & Haynes, 1995). Recent studies examining the efficacy of training programs highlight the importance of competence training in addition to didactics (e.g., Crits-Christoph et al., 1998; Miller, Yahne, Moyers, Martinez, & Pirritano, 2004). Competence training, typically involving some form of supervision or coaching, has proven a much more elusive target than didactic training; however, some important attempts to better define and evaluate competence are now beginning (e.g., Roth & Pilling, 2007). Moreover, little is known about the degree to which the achievement of competence following training will be maintained over time. Indeed, drift is a major problem in dissemination efforts generally, and thus the evaluation and maintenance of treatment fidelity may be a core component of ongoing training efforts (see McHugh, Murray, & Barlow, 2009). Evaluation of the success of efforts to train clinicians will need to rely on clear definitions of the didactic knowledge and competence benchmarks required for completion of training.

## Review of Current Efforts

In the following sections, we review a sample of dissemination and implementation programs. The discussion of each program includes the following components: description and motivating circumstances, review of didactic and competence training procedures, and methods used for assessing outcomes. Each section concludes with a brief discussion of how the program is targeting usual and customary barriers to adoption.

**David H.
Barlow**

### National Programs

Several national-level programs have been initiated to implement an extensive rollout of treatments to a wide range of service providers. The three national initiatives reviewed below are the Improving Access to Psychological Therapies program in the United Kingdom and the Veterans Health Administration and National Child Traumatic Stress Network initiatives in the United States.

*Improving Access to Psychological Therapies program.* The Improving Access to Psychological Therapies (IAPT) program is the most extensive and centralized effort in the dissemination and implementation of EBPTs to date (see Clark et al., 2009). In 2007, the Department of Health in the United Kingdom announced a large-scale investment in the National Health Service to improve the availability of psychological treatments through providing funding, training, and structure for EBPT dissemination. The Department of Health committed to gradually building funding from 2007 to 2010 to a total of £300 million (approximately 435 million U.S. dollars), with plans to continue funding beyond that time. The National Institute for Health and Clinical Excellence (NICE) treatment guidelines—developed collaboratively by the Department of Health, stakeholders, and health care experts to provide evidence-based treatment recommendations—serve as the evidence base for service selection and provision. Consistent with the NICE guidelines, the IAPT uses a stepped care model in which the results of an initial assessment determine the relevant level of care, such as self-help, computerized therapy, or intervention with a clinician.

Training and implementation are organized at the unit of a primary care trust, the unit responsible for health care provision to a particular geographical area under the National Health Service. Implementation begins with the engagement of local stakeholders to facilitate fit to the system's needs and to evaluate potential barriers to adoption. The IAPT funds trainings to ensure that adequate resources are available and emphasizes the balance between didactic and competence components. Modular training programs occurring over the course of a full year combine didactic presentations, discussion-based groups, and independent study with role-playing and/or simulation exercises (e.g., IAPT, 2008). In addition, clinicians are supervised in patient care during training. A recent publication provided a definition of competence in cognitive-behavioral therapy (CBT) that was based on the efforts of an expert panel of clinical researchers who extrapolated from empirically supported treatment manuals the types of skills necessary to successfully administer treatments (Roth & Pilling, 2007). This model guides the training program and emphasizes building both basic and disorder-specific skills. The competences framework also provides guidance on the selection of disorder-specific treatment manuals for training. Assessment of training progress examines both didactic knowledge and skills related to competence across all relevant training areas (e.g., assessment, treatment, diversity) using validated instruments. In addition to written exams measuring didactic knowledge, standardized role plays are assessed by supervisors. To facilitate ongoing training and maintenance of fidelity to interventions, sites are required to identify staff to receive additional supervisory training to serve as trainers of future staff. Certification occurs upon completion of the training and all of its elements, including a minimum required number of direct patient contact hours with supervision.

The implementation of the IAPT program has involved the progressive inclusion of sites over time, beginning with two primary care pilot sites within the National Health Service in Newham and Doncaster. Together, these two sites serve a population of over 500,000 people. Preliminary results from these pilot sites are promising. In addition to demonstrating feasibility in increasing referrals and access to treatment (over 5,000 referred and almost 2,000 receiving treatment across both sites in approximately one year) and instituting a standardized outcome monitoring system with strong rates of completion, these sites showed clinical outcomes that were comparable to those in research studies (50%–60% recovery rates and effect sizes for outcome measures ranging from 0.98 to 1.26). Improvements in patient employment rates (as an index of functioning) were also found (Clark et al., 2009). As the IAPT expands to new sites, ongoing program evaluation will be conducted to examine progress toward the initiative's goals.

Demonstrating the largest system-wide commitment to disseminating and implementing EBPTs to date, the IAPT is a pioneering effort backed by substantial resources and government support. Training, and assessment of outcomes of training, as well as patient outcomes are particular strengths of this effort. Training consists of a full year of ongoing didactic and competence-based learning opportunities, structured similarly to a full-time academic course.

These learning opportunities focus on concrete definitions of competence and utilize ongoing evaluation to ensure that trainees are acquiring the relevant knowledge and skills. The IAPT utilizes patient outcomes as the ultimate marker of the program's success. This measure of program success differs from that used in many other programs and may be a particular strength as it provides a direct marker of the program's ultimate goal. The data available to date support the feasibility of collecting outcomes data at a high rate as well as positive symptom and quality-of-life outcomes in line with those achieved in efficacy trials. The longer term sustainability of the program's ability to maintain clinician adherence and competence and continue to improve or maintain positive patient outcomes is currently unclear given that this program is in an early stage of implementation.

### The Veterans Health Administration.
The Veterans Health Administration (VHA) is the largest organized system of health care in the United States. In response to the publication of the President's New Freedom Commission on Mental Health report in 2004, a workgroup was created to conduct a needs assessment specific to the VHA system. This work resulted in the development of the Mental Health Strategic Plan in 2004, which called for the integration and improvement of mental health care within the VHA and a commitment to support over 200 initiatives in this area. Among the goals of this plan was the implementation of dissemination efforts with a focus on the translation of EBPTs into clinical practice through training clinicians within the VHA system. Funding for this initiative was $316 million in fiscal year (FY) 2007 and $380 million in FY 2008.

The process of identifying treatments to be disseminated first involves identifying a need area in the system, for which EBPTs are then identified through consideration of the VHA/Department of Defense best practice guidelines. Clinician preferences are accommodated through offering training in multiple EBPTs for a given need area. For example, trainings have been conducted for both cognitive-processing therapy (CPT; Resick, Monson, & Chard, 2007) and prolonged exposure therapy (PE; Foa, Hembree, & Rothbaum, 2007) for the treatment of posttraumatic stress disorder (PTSD) and for both CBT and acceptance and commitment therapy (ACT) for the treatment of depression and anxiety. All VHA centers are required to have staff trained in EBPTs; however, the clinical use of EBPTs is not mandated, and the decision on whether to utilize a particular intervention remains with the clinician and the patient. Overall, the goal of the VHA program is for EBPTs to reflect the usual standard of care and for this standard to be available to all patients within the system (B. E. Karlin, personal communication, August 6, 2008). Efforts to disseminate EBPTs are coordinated by the VHA Central Office for rollout throughout the system; for each treatment initiative, a coordinating site within the system is identified on the basis of expertise in that area. These sites, often led by experts in the respective treatment being offered, assist in the implementation of EBPTs under direction from the VHA Central Office.

The overall structure of training typically involves an intensive workshop, including a didactic component, and experiential strategies such as small-group activities and role plays. Subsequent to the workshop, participants return to their sites and begin treating patients, and some ongoing consultation is required to facilitate competence. Completion of a training program requires participation in both the initial workshop and ongoing consultation activities. The frequency and duration of ongoing consultation vary depending on the particular treatment, often occurring weekly for six months. The consultant monitors treatment administration and provides ongoing feedback and guidance to clinicians as they learn the intervention. In addition, patient outcomes are collected, such as symptom-change and quality-of-life measures. Furthermore, like the IAPT model, a "train the trainer" model emphasizes the development of supervisory skills within treatment teams to facilitate ongoing use of and adherence to the intervention.

Given its particular relevance to the VHA system, PTSD was identified as a primary area for intervention, and thus a nationwide training for CPT was the earliest funded initiative through this program (Resick, Foa, Ruzek, & Karlin, 2008). Trainings were coordinated through the treatment developers at the National Center for PTSD in Boston, Massachusetts. In the first phase of this initiative, training materials, including manuals, workshop materials, and a training video library, were developed, and a conference was conducted to train experts to run workshops and provide ongoing consultation. During the second phase, CPT trainers conducted 22 official regional CPT workshops, which trained 839 VHA clinicians in CPT. There were 44 additional CPT workshops conducted by CPT trainers outside of the initiative, which resulted in the training of an additional 1,350 VHA and DOD clinicians in 2007–2008. Overall, a total of 1,488 VHA and DOD clinicians participated in a two-day CPT training during this time period. Since this time, an additional round of CPT training has been successfully completed, as well as trainings in PE, CBT, and ACT.

These training workshops were followed by case consultation, offered 25 hours per week (with a maximum of eight clinicians per call), via the VHA National Teleconferencing System. In order to achieve certification, clinicians must attend a two-day workshop, complete either four CPT individual cases or two group cases per the CPT protocol, and actively participate in at least 10 consultation calls during which they receive support and consultation to implement the CPT protocol successfully. Clinicians must also submit sample progress notes, fidelity measures, and a treatment summary as part of the certification process. A preliminary program evaluation survey suggested that more than 75% of clinicians surveyed had treated at least one patient using CPT, with a mean of approximately eight patients receiving the intervention per clinician, or approximately 6,000 patients (P. A. Resick, personal communication, May 6, 2008).

Like the IAPT, the VHA effort has several advantages because of its large scope and structural support, such as the ability to roll out trainings to large numbers of clini-

cians. Funding is provided for trainings to facilitate completion, and enthusiasm is often built within the system by using advocates within sites to champion efforts. The VHA program emphasizes flexibility in not mandating the use of EBPTs and thus allows for an emphasis on patient preference and clinician judgment in the decision regarding whether to utilize a treatment. Flexibility may be particularly facilitative of adoption rates (see Rogers, 2003); however, the impact of this strategy on adherence/fidelity and subsequently on outcomes remains unclear at this time. For example, attendance at consultation calls may be variable, and the literature provides little guidance on how much supervision is necessary to achieve competence. Thus, the percentage of clinicians who satisfactorily complete training is not clear. Given the use of multiple implementation models, outcomes data will eventually provide guidance on the most effective model within the VHA system. In addition to offering ongoing training through the Central Office, the VHA system utilizes a "train the trainer" model to maintain sustainability, and the effectiveness of this strategy will need to be evaluated over time.

### The National Child Traumatic Stress Network.

The mission of the Substance Abuse and Mental Health Services Administration (SAMHSA) is to improve access to and quality of clinical care through facilitating the dissemination of evidence-based practices. SAMHSA is currently funding several major programs; among these is the National Child Traumatic Stress Network (NCTSN), funded by the Center for Mental Health Services. This is a broad-reaching initiative that involves collaboration among more than 50 universities and community treatment facilities in the development, evaluation, and dissemination of EBPTs for traumatized children. Its budget allocation was $29 million for FY 2007 and $33 million for FY 2008.

Implementation efforts within the NCTSN have utilized a learning collaborative (LC) model, which aims to train clinicians in clinical competence and implementation capability in delivering EBPTs for trauma and to facilitate long-term sustainability of adoption (see Amaya-Jackson & DeRosa, 2007; Markiewicz, Ebert, Ling, Amaya-Jackson, & Kisiel, 2006). The LC model was adapted from the Breakthrough Series Collaborative model (Institute for Healthcare Improvement, 2003), which has been used across heterogeneous medical settings for the dissemination of best care practices. This model places particular emphasis on a scientific approach to change characterized by cycles of goal setting, implementation, and assessment. In the LC model, a project begins with the identification of a general clinical need, the development of training materials, and the identification of faculty trainers with expertise in clinical and implementation training. Treatments for dissemination are selected by the NCTSN on the basis of their empirical support and evidence for applicability for use among diverse patient populations. Groups consisting of supervisors, clinicians, and their administrative leaders can apply to participate in the training on the basis of their particular system needs; a needs/readiness assessment is then conducted for each group.

The training process is described in detail in the

Learning Collaborative Information Packet and the NCTSN Learning Collaborative Toolkit (Markiewicz et al., 2006; NCTSN, 2007). The didactic portion of training includes pre-learning-session Web-based videos and readings, followed by three two-day workshops (separated by 9–12 months) that emphasize guided learning activities, role plays, and breakouts. In the time between these trainings, groups implement the treatment and assess progress. During this time, several forms of supervision and/or consultation are available (e.g., expert consultation, Web conferences). Active learning and collaboration among clinical teams is emphasized in this model to encourage motivation and to facilitate implementation among the groups trained. Training of clinicians to competence is assessed through consultation calls and collection of patient outcomes; specific procedures for competence assessment (e.g., supervisor rating of clinician's skill at utilizing the protocol) and fidelity assessment (e.g., use of a supervisor-completed fidelity checklist) vary depending on the specific LC.

Preliminary outcome data for this model suggest success in facilitating the adoption of EBPTs. In a pilot study of the implementation of trauma-focused cognitive-behavioral therapy (TF-CBT; Deblinger & Heflin, 1996) at 12 sites, with 11 providing one-year follow-up data, all sites continued to provide the intervention to patients, and more than 70% of the sites increased the availability of TF-CBT to patients through providing additional training (Amaya-Jackson, Ebert, Forrester, & Deblinger, 2008). Staff turnover was reported as a major barrier to sustainability; however, even sites reporting high turnover were able to maintain posttraining levels of implementation, and many sites actually reported spread of the intervention to other locations or affiliates.

The NCTSN targets perceptions of EBPTs by involving stakeholder groups at all stages of the process, from research through implementation; thus, barriers can be identified and addressed early in the dissemination process. Like many other dissemination efforts, the NCTSN targets early adopters, who are motivated to apply to receive training based on an identified need area. Training utilizes both didactic and competence components and provides a trial period following initiation of training during which barriers to implementation can be identified and then addressed at the second training session; this model has been used successfully in quality improvement in medical settings (e.g., to reduce adverse drug events; Leape et al., 2000). Indeed, the utilization of a well-established model for quality improvement is a particular strength of this program. Ongoing evaluation of number of patients treated, treatment dropout, and clinical outcomes as well as of treatment adherence (e.g., through ongoing monitoring by supervisors) is emphasized, and thus a range of outcomes is assessed, similar to the situation in the IAPT. A lack of sustainability has been specifically targeted as a potential barrier to ongoing use of services, so efforts have been made to enhance sustainability through a focus on long-term maintenance of funding support, ongoing consultation opportunities, and the use of a "train the trainer" model; as

in other programs, the effectiveness of sustainability strategies is unknown at this early stage.

## State Programs

In recent years, state mental health systems have also increased efforts toward implementing evidence-based practice. Initiatives have been heterogeneous given the variety of structures involved in state mental health systems and have ranged in scope from small (e.g., implementing one EBPT) to system-wide. Two of the leading state initiatives, those of Hawaii and New York, are reviewed here.

***Hawaii.*** Hawaii is one of the leading states in the implementation of evidence-based practice and quality improvement in mental health care. In the mid-1990s, the state began a major restructuring of mental health care services for children in response to the settlement of a civil lawsuit alleging a failure of the state to provide sufficient services to children with disabilities. The need for improved treatment outcomes within this new system was identified, highlighting the importance of the implementation of evidence-based practice into children's mental health care in the state (Chorpita et al., 2002).

Early implementation efforts focused on needs assessment and identification of standards for evidence-based practice. Assessments involving community stakeholders were conducted to evaluate specific need areas and potential barriers to the implementation of EBPTs. Furthermore, efforts were made to build support for systemic change, including the provision of materials relevant to EBPTs (e.g., research findings, clinical materials) and presentations to stakeholder groups to address concerns and misperceptions about potential changes. The Empirical Basis to Services Task Force was created by the Child and Adolescent Mental Health Division (CAMHD) of the Hawaii Department of Health in 1999, and it was charged with creating a system for identifying treatments and developing practice guidelines. The group based the identification of treatments largely on the guidelines utilized by the Society of Clinical Psychology (Division 12) of the American Psychological Association (APA; e.g., APA, 1995, which was based on the work of the APA Task Force on Psychological Intervention Guidelines, and Chambless et al., 1998); however, specific needs and priorities of the community were considered, such as the acceptability of treatments to patients (as reflected by dropout rates), length of treatment, and the difficulty of training treatment providers (Chorpita & Daleiden, 2007).

The provision of training has occurred both through statewide trainings in treatments targeting specific need areas and through initiatives by the University of Hawaii. CAMHD has coordinated treatments in several specific EBPTs, such as multisystemic therapy (MST; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998), which has been disseminated throughout the state system, and, more recently, functional family therapy (FFT; Alexander, Pugh, Parsons, & Sexton, 2000) and multidimensional treatment foster care (MTFC; Chamberlain & Reid, 1998). In addition, a major innovation arising from this program is the examination of specific evidence-based treatment procedures or practice elements (e.g., social skills training, graded exposure) utilized in existing evidence-based treatment protocols (Chorpita & Daleiden, 2007; Chorpita, Daleiden, & Weisz, 2005). Recently, CAMHD began statewide trainings in these practice elements that can be combined in idiographic ways to match the needs of specific patients following guidelines provided by the CAMHD Clinical Services Office regarding how to combine components of evidence-based procedures to build a treatment plan.

Although trainings vary according to the intervention and the sponsoring body (e.g., CAMHD; MST Services, LLC; MTFC Consultants), the typical structure incorporates both didactic and competence components. More broadly, information dissemination is facilitated by an innovative Web-based system, which includes detailed information summarizing the research literature and provides a structure for clinicians to gather information relevant to their particular needs (e.g., patient characteristics, treatment setting). For the package trainings, didactic trainings in the form of workshops that include role-playing activities are followed by ongoing supervision and coaching. In addition, competence training has focused on the use of both experts and peer groups for supervision and consultation. Initiatives often follow didactic components with a minimum of six months of phone consultation. The structure of the training, consultation, and assessment varies depending on the particular program (e.g., see MST section later in this article). The implementation of the practice elements training is relatively new, and thus the more comprehensive competence component is not currently in place.

Program evaluation through CAMHD has been emphasized in the EBPT movement in Hawaii. Preliminary data suggest that time in treatment has decreased and rate of improvement has increased, which suggests that the program has had initial success (Daleiden, Chorpita, Donkervoet, Arensdorf, & Brogan, 2006). One EBPT that has seen extensive rollout in Hawaii is MST. An open trial examining outcomes among 254 youths receiving MST showed positive results demonstrating the feasibility and acceptability of the treatment in the care setting and found substantial improvement in clinical outcomes, although rates of improvement were somewhat lower than those in efficacy trials (Tolman, Mueller, Daleiden, & Stumpf, 2007). Since 2001, approximately 300 patients annually have been treated with the MST protocol. Moreover, in addition to evaluation of clinical outcomes, clinicians are asked to report their use of treatment practices in order to provide feedback to providers and case managers and to inform the evidence available for the use of treatment practices (Higa-McMillan, Daleiden, Pestle, & Mueller, 2008).

The Hawaii system targets several barriers to adoption. Significant focus on fit is accomplished by attending to the specific characteristics and needs of the system in selecting and adapting treatments. This includes evaluation of system needs by involving various stakeholders at the outset in building support for and anticipating barriers to implementation. The innovative practice elements compo-

nent is notable because it reduces complexity by eliminating the large number of treatment manuals in favor of a specific set of principles that can be applied across problem areas. Furthermore, training may be simplified relative to training in several individual treatment protocols, and flexibility is afforded by the rollout of both practice elements and package treatments (e.g., MST). A drawback, however, is that clinicians must make a number of individual decisions on which modules are indicated, and the reliability of these decisions is not yet clear. Sustainability is emphasized through the use of ongoing supervision models, often through the training of on-site supervisors (i.e., "train the trainer"). Outcomes data on sustainability are not yet available.

**New York.** The New York State Office of Mental Health gathered several focus groups starting in 2001 to evaluate the potential implementation of EBPTs into state services (Carpinello, Rosenberg, Stone, Schwager, & Felton, 2002). Various stakeholders were represented at the meetings, where needs and potential barriers were discussed and initial support building occurred for the improvement of mental health care services for both children and adults. Several programs have been initiated in New York since these meetings, including implementation of EBPTs such as FFT in clinical settings. One of the major initiatives within New York State has been Achieving the Promise for Children, Youth and Families, a $62 million initiative to improve services for children's mental health.

The "Achieving the Promise" initiative consists of several components aimed at facilitating improvement in mental health care services for children. These components include efforts aimed to improve assessment, train clinicians to administer EBPTs, identify community advocates for programs, and implement incentives for the use of EBPTs (see Bruns & Hoagwood, 2008). The Evidence-Based Treatment Dissemination Center (EBTDC), a collaboration between the Office of Mental Health and Columbia University, was developed through this initiative and serves as a coordinating center for training in interventions. A steering committee identifies the priorities for training on the basis of the needs of the system and available evidence. Trainings offered through the EBTDC acknowledge the importance of both didactic and competence training. The general model consists of a Web-based training and a three-day didactic workshop followed by one year of phone consultation every two weeks for one hour in a small group format. Furthermore, evaluation of diagnosis, symptoms, and functioning at pre-, mid-, and posttreatment is emphasized as critical to successful adoption. The Office of Mental Health also contracts with external expert trainers, usually treatment developers, to conduct implementation efforts. For example, FFT has begun to be implemented in New York State through collaboration with FFT, Inc., the training organization for this intervention. This initiative also reflects an emphasis on competence training, with on-site start-up and follow-up trainings in the first six months followed by continued phone consultation and monitoring for two years. To receive certification, clinicians are required to complete all didactic training compo-nents, participate in at least 75% of calls, and complete outcome evaluations.

A major training initiative through the EBTDC involved training over 300 clinicians in CBT for trauma and depression throughout New York State between June and October of 2006 (Gleacher et al., 2007). Agencies applied for admission into the trainings on the basis of fit to the program (e.g., number of patients requiring a particular service). Trainings consisted of an initial workshop followed by biweekly group phone consultation for one year, during which a minimum number of case presentations and full completion of a manual-based course of treatment with the use of outcome measures was required. Supervisors at each site received additional consultation to facilitate training and adherence; however, formal monitoring of fidelity was not conducted. In total, over 400 clinicians completed training, and although fewer than half of clinicians reported completing a full course of treatment (48% for depression, 46% for trauma), the majority of clinicians reported that they used parts of the manual and intended to use the treatment in the future (Gleacher et al., 2007). Given the effort's success in training a large number of clinicians, the training was offered again in 2007. Overall, the EBTDC has trained approximately 400 clinicians annually, but the number of patients receiving the full or a partial treatment protocol is not available.

The efforts in New York involve several initiatives that may differ in their specific procedures for implementation. The EBTDC provides systemic support through funding for widespread training in EBPTs. Trainings are unique in using a longer period of consultation calls (one year) than is used in most other programs. However, despite the large number of clinicians who enroll in this program, many do not complete the training requirements. Given the lack of availability of fidelity measures, the degree to which competence is reached among those who complete training standards or those who partially complete training is unclear. Strategies to improve clinician retention and evaluate fidelity may help to better understand the effectiveness of this program. Furthermore, plans for sustaining change, such as funding for clinical centers and ongoing provision of training, will need to be evaluated over time to determine their success at preventing drift.

### Programs From Treatment Developers

Some of the most successful dissemination efforts have been those pursued by treatment developers. Two programs that have demonstrated particular success are reviewed below: multisystemic therapy and dialectical behavior therapy.

**Multisystemic therapy.** MST is an empirically supported treatment approach for antisocial behavior in adolescents (Kazdin & Weisz, 1998) that has been widely disseminated and adopted both locally (30 states in the United States) and internationally (eight countries; Schoenwald, Heiblum, Saldana, & Henggeler, 2008). MST Services, LLC, a private, for-profit corporation, was started in 1996 to provide structured implementation training to community treatment providers.

Efforts to implement MST in service provision settings have been described in some detail (e.g., Edwards, Schoenwald, Henggeler, & Strother, 2001; Schoenwald et al., 2008). The implementation process for a site begins with an in-depth assessment of needs and barriers. Sites include both public and private mental health service settings that provide a range of types of services (e.g., outpatient, home-based). MST trainers and community leaders collaborate to identify the fit of MST to the clinical needs of the community and to build support for adoption. Factors including financial resources, sustainability, compatibility with organizational beliefs and goals, and potential infrastructure barriers are all considered, and the results of this assessment are used to guide the implementation process.

Following a decision to adopt, an extensive training program is conducted (Edwards et al., 2001). Didactic training (including both education and experiential components) consists of an initial five-day, on-site training, quarterly booster training, and provision of written materials to the program. Competence training is a critical component of this process and consists of both weekly on-site supervision led by a trained staff supervisor and weekly phone consultation led by an off-site expert supervisor. In-house supervisors receive training to lead regular group and/or individual supervision. In addition, ongoing consultation with an MST expert is used to monitor supervisor and clinician fidelity to the treatment model and to assist with the learning process. The frequency and duration of both in-house supervision and external consultation are often high early in implementation of MST and then may decrease over time.

Given the importance of fidelity to treatment outcomes for MST (Schoenwald, Sheidow, Letourneau, & Liao, 2003), adherence to the treatment is emphasized and monitored through the use of monthly, empirically validated adherence measures of clinician practices completed by the patient's family, which are scored using an Internet-based system that provides immediate feedback to clinicians. Furthermore, supervisors are responsible for also monitoring clinician adherence. Supervisor adherence to the supervisory guidelines is also regularly monitored by MST consultants, who rate and provide feedback on their adherence to the supervisory procedures. Thus, monitoring is facilitated through both the regular, standardized measurement of adherence and booster trainings that provide opportunity to manage difficulties with implementation.

Several strategies have been undertaken to assess clinical outcomes, including parent and clinician report and the use of archival data regarding criminal outcomes (Schoenwald, 2008). For example, unlike results in Hawaii, in a large study of the transportability of MST, clinical outcomes similar to those found in efficacy trials were noted (Schoenwald et al., 2003). Furthermore, clinician adherence has been shown to be significantly associated with clinical outcome (see Schoenwald, 2008). Moreover, evaluation of the implementation model has suggested that poorer outcomes are seen in the absence of ongoing consultation and fidelity checks (Henggeler, Melton, Brondino, Scherer, & Hanley, 1997).

Efforts to implement MST have addressed barriers in a manner very consistent with the strengths of implementing an individual treatment. The fit to the clinical service environment is strongly emphasized through the use of extensive needs assessment and involvement from stakeholders and advocates. Furthermore, training is extensive and includes a particularly lengthy competence component relative to training in other programs, particularly regarding the emphasis on fidelity. The use of a Web-based system to facilitate fidelity is unique to this program and may provide a particularly cost-effective method for maximizing fidelity and preventing drift. Sustainability of changes is maximized through training of on-site supervisors and provision of ongoing monitoring and booster trainings. Preliminary results suggest that this model has been particularly successful; further evaluation will provide additional information on the success of these strategies.

***Dialectical behavior therapy.*** Dialectical behavior therapy (DBT) is a type of CBT developed for the treatment of borderline personality disorder (Linehan, 1993). It has demonstrated both efficacy (e.g., Linehan, Comtois, & Murray, 2006) and effectiveness (e.g., Kroger et al., 2006) and has been widely disseminated both within the United States and internationally. From its initial development, the transportability of DBT has been a focus of its developers. The barriers to successful implementation in community settings were evaluated during the process of treatment development and were used to inform the treatment manual (see Linehan, 1993).

A not-for-profit organization (Behavioral Tech, LLC) was developed to coordinate the dissemination and training of DBT. Dissemination occurs both at the state level and for interested groups of clinical providers. Linehan described the latter type of dissemination as an "early adopter model" in which interested groups who demonstrate high levels of readiness and interest seek training (M. M. Linehan, personal communication, July 30, 2008). More traditional dissemination methods, including the sale of instructional videos and treatment descriptions, have been utilized widely by clinicians. Trainings occur on several levels of intensity ranging from basic training to advanced intensive training. Once basic skills have been obtained through an introductory workshop or review of DBT materials, clinicians are eligible to participate in intensive trainings. These trainings are designed for treatment teams who participate in two five-day workshops separated by several months of implementation and evaluation. The first workshop includes components of other intensive workshops (e.g., lectures, group activities), and the second focuses more on consultation and evaluation of the implemented treatment services. Ongoing consultation is available to sites as needed to facilitate maintenance of fidelity and to address barriers through problem solving. The use of treatment teams that facilitate ongoing adherence and monitoring of outcomes is emphasized as critical to the administration of DBT. Certification is currently not available but is in the planning stages.

In the implementation of a DBT program, there is a strong emphasis on monitoring outcomes for sustained fidelity and quality improvement (Comtois et al., 2007). Linehan described this process as critical to the long-term success of training efforts to maximize effectiveness and to prevent drift (M. M. Linehan, personal communication, July 30, 2008). The team-based approach may provide both support and a means to facilitate continued fidelity to the treatment model and evaluation procedures. Assessment of fidelity is based on the judgment of the treatment team.

Adoption of DBT has been widespread, and the demand from providers and mental health systems remains high. Almost 2,500 clinicians have received training through Behavioral Tech from 2003 to 2007 alone, and DBT has been introduced to 31 states and 12 countries (Linehan, Manning, & Ward-Ciesielski, 2008). Monitoring of patient outcomes (e.g., hospitalizations) within Behavioral Tech has suggested feasibility of the implementation model and success of adoption into clinical settings. The results of this monitoring, along with feedback from clinical teams regarding barriers to implementation, have been used to continually improve the training model.

Barriers to implementation have been vetted and targeted throughout the development and evaluation of DBT, and the focus has been on training and sustainability. Trainings have been adapted to maximize the achievement of competence and to allow for the best fit for the clinical system. The training model, similar to the one used in the NCTSN, allows for a period of implementation between trainings, which is different from the usual one-time didactic training followed by a period of supervision and implementation. This allows the management of both expected and unanticipated barriers by providing an opportunity for additional intensive consultation after the first period of implementation. Monitoring of clinical outcomes has been emphasized for both initial training and ongoing implementation to prevent drift and maximize effectiveness. The use of such monitoring in controlled investigations may provide more information on the effectiveness of each component of this program.

## Discussion

In this article we have reviewed some of the leading efforts by federal, state, and private organizations to disseminate and implement EBPTs and have examined the strategies currently used to facilitate the successful transfer of interventions into service provision settings. More in-depth descriptions of these efforts are available (see Clark et al., 2009; Schoenwald, 2008) or in progress (McHugh & Barlow, in press). As we noted earlier, many of these programs were created with a sense of urgency that precluded the development of a consensus on, or even knowledge of, procedures required to achieve success; but at this early stage in these efforts, there is a clear need for a consensus on the best procedures for successful adoption and implementation of EBPTs. On the basis of this review and the currently available data and in consideration of the tenets of dissemination and implementation science, we found several procedures emerging as important in these efforts.

From these leading efforts, we have extracted a variety of procedures that, at this time, are used by at least some groups. Table 1 lists the procedures identified in this review and the utilization of these procedures by each of the initiatives reviewed above (Hawaii was not included in the table because the "package" treatments have been implemented by outside organizations and thus utilize a range of procedures). Given the particular importance of training to the success of these efforts, much attention is focused on the nature of training. Table 1 also includes components of needs assessment, evaluation, and practices to facilitate sustainability. Organizational factors, which are also a critical component of these efforts, are not discussed in detail; discussion of such factors can be found elsewhere (e.g., Fixsen et al., 2005).

It is important to note that studies evaluating the efficacy of dissemination and implementation programs in general, and of procedures specifically, are in very early stages. Moreover, these and other programs are moving forward at a rapid pace, and thus efforts to continuously improve these procedures are ongoing. The standards listed in Table 1 reflect our interpretation of the components of programs used by the leading efforts at this time. From this framework, it is unclear what combination of procedures may prove to be critical to the success of these efforts. It is possible that only some of the procedures listed in the table are necessary to achieve high levels of adoption, competence, and sustainability or that additional procedures not yet introduced may prove to be important. In addition, from a cost–efficacy perspective, it will be important to both maximize cost savings and ensure that sufficient funding and effort are invested to implement the procedures needed for meaningful and sustainable change. For example, given the importance of fidelity to outcomes, the failure to include fidelity monitoring within these efforts may attenuate the outcomes achieved (McHugh et al., 2009).

## Future Directions

Given the relative lack of data regarding the efficacy of specific dissemination and implementation procedures for increasing access to EBPTs, evaluation is a particularly important topic for future research. For example, few programs have information on the number of clinicians (or clinical teams) who fail to reach competence standards after initiating training, which may have major implications for future initiatives. In order to determine the best practice for these efforts, examination of outcomes in ongoing efforts is needed. Such examination should not be limited to clinical outcomes and should also include potential mediators of successful adoption, such as the duration of supervision necessary to achieve competence, the best procedures to facilitate sustainability (e.g., "train the trainer" models), and the most effective means of gaining stakeholder support and addressing negative perceptions about EBPTs among late adopters.

The programs reviewed in this article are some of the leaders in these efforts, and using the knowledge gained from these and other ongoing initiatives is critical to informing future dissemination and implementation efforts.

**Table 1**

*Procedures for Comprehensive Assessment and Training in Leading Dissemination Programs*

| Standard | IAPT | VHA | NCTSN | New York State | DBT | MST |
|---|---|---|---|---|---|---|
| **Needs and barrier assessment** | | | | | | |
|   Agency driven | X | X | X | X | X | X |
|   Early adopter | | X | X | X | X | X |
|   Heterogeneous stakeholder involvement | X | X | X | | X | X |
|   Structured needs assessment | X | X | X | X | X | X |
| **Training structure** | | | | | | |
|   Spaced training | X[a] | | X | | X | |
|   Booster trainings/advanced training | X | X | X | | X | X |
| **Didactic training** | | | | | | |
|   Training materials | X | X | X | X | X | X |
|   Workshop | X | X | X | X | X | X |
|   Web-based individual training | X | X | X | X | X | |
|   Assessment of knowledge | X | | | X | X | X |
| **Competence training** | | | | | | |
|   No. of patients required to be seen | 8[b] | 2–4 | 1[c] | 3 | X[d] | |
|   Supervision | | | | | | |
|   In-person supervision (individual or group) | X | X | X | X | X | X |
|   Telephone consultation (individual or group) | | X | X | X | X | X |
|   Tape feedback | X | X | | | | X |
|   Fidelity to treatment | X | X | X | | X | X |
|   Duration of expert supervision (months) | 12 | varies | 9–12 | 12 | ongoing | ongoing |
| **Outcomes collected** | | | | | | |
|   Patient outcomes | | | | | | |
|   No. of patients receiving services/service outcomes? | X | | X | | | X |
|   Pre–post symptoms | X | X | | X | | |
|   Ongoing symptom monitoring | X | X | | X | | |
|   Impairment/quality of life | X | X | | | X[e] | X |
|   Assessment of competence | | | | | | |
|   Validated instrument | X | | | | | X |
|   Clinician assessed | X | | | | | X |
|   Supervisor assessed | X | | X | | | X |
|   Patient assessed | | | | | | X |
|   Individual feedback to clinicians of assessment data | X | | X | | | X |
|   Certification | X | X | X | X | | X[f] |
|   Clinician/training outcome | | | | | | |
|   No. of clinicians trained | unavailable | > 1,500 | unavailable | >1,200 | >2,500 | unavailable |
|   Clinician attrition | unavailable | < 30% | unavailable | unavailable | unavailable | N/A |
|   Percentage who achieve competence | unavailable | unavailable | unavailable | unavailable | N/A | N/A |
| **Sustainability** | | | | | | |
|   Train the trainer[g] | X | X | X | X | | X |
|   Structured long-term consultation (> 1 year) | X | X | | | | X |
|   Peer consultation network | X | X | X | | X | |

*Note.* IAPT = Improving Access to Psychological Therapies program; VHA = Veterans Health Administration; NCTSN = National Child Traumatic Stress Network; DBT = dialectical behavior therapy; MST = multisystemic therapy; N/A = not applicable.
[a] IAPT offers a year-long full-time course. [b] Minimum of 200 hours of assessment and treatment. [c] Must be completed with fidelity. [d] Must initiate program and begin implementing program, but there is no minimum number of patients. [e] Monitoring is based on identified treatment goals. [f] Programs are certified, not individual clinicians. [g] Includes training on-site supervisors to provide ongoing supervision to staff and does not preclude mandated expert training for new staff members (e.g., MST).

To this end, we suggest that all programs begin to assess both training outcomes and clinical outcomes using the procedures presented in Table 1. Thus, training outcomes would routinely include acquisition of didactic knowledge (currently present in all leading programs) as well as objective assessment of fidelity including clinician competence and number and percentage of clinicians who complete training, achieve competence, and sustain competence (currently present in only a few leading programs). Clinical outcomes, including number of individuals receiving the intervention, problem remediation, and reductions in impairment and increases in quality of life, all benchmarked to efficacy studies, would comprise the more important result.

Governments, public health authorities, and individuals suffering from psychological problems around the world are demanding increased access to psychological treatments, and the urgency of this demand has gotten ahead of the determination of best practices to achieve it. Scientists and clinicians must work together to meet this demand with the same sense of urgency expressed by health care policymakers and the individuals we serve.

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