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Evidence-Based Therapies: Translating Research into Practice

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A plethora of evidence exists supporting the use of certain clinical practices for children and adolescents over others (e.g., Kazdin et al., 1990; Weiss & Weisz, 1995; Weisz et al., 1995), yet current research shows that practitioners rarely use these interventions in their own practice (e.g., Weersing et al., 2002) and that therapy conducted in community settings is not as effective as therapy conducted in research settings (e.g., Weiss et al., 1995, 1999). Thus, practices with evidence of being helpful are not available to most children and adolescents who seek treatment. An even greater challenge involves recent evidence suggesting that the relative advantages of evidence-based practices documented in the laboratory may not hold up in real-world settings (e.g., Barrington et al., 2005). Thus, at least two related problems appear to face the field: (1) Despite years of documentation of the promising effects of evidence-based practices, their penetration into practice settings is extremely limited; and (2) the quality and relevance of laboratory findings on treatment may not universally apply to real-world applied settings. However, despite leading researchers' having emphasized moving treatment research into practice settings for over a decade (e.g., Kazdin et al., 1990; Weisz et al., 1995) and policy makers and funding sources encouraging the rapid development of dissemination research (e.g., Chambers et al., 2005; National Advisory Mental Health Council Workgroup on Child and Adolescent Mental Health Intervention Development and Deployment, 2001; National Institutes of Health, 2002; Norquist et al., 1999), only a handful of evidence-based practices have been examined in "real-world" settings in the youth mental health literature to date (Barrington et al., 2005; Henggeler et al., 1992; Mufson et al., 2004). To address these matters, this chapter begins with a discussion

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of the possible reasons for the relatively slow translation of research to practice, follows with a brief review of current models of dissemination, and finishes with a summary of an alternative perspective to addressing not only problems with dissemination but also problems with the relevance and generalizability of intervention research.

BARRIERS TO DISSEMINATION

There are a multitude of obstacles to the much-sought-after connection between science and practice. One way to organize these stumbling blocks is by putting them into a larger framework for understanding human behavior. For decades, researchers in a number of different fields have theorized that human change behavior is related to (1) *knowledge* about the targeted concept and (2) *attitude* toward this concept. For example, researchers have used this knowledge-attitude-practice framework to examine family planning and contraception use in underdeveloped countries (e.g., Rehan, 1984), recycling behavior (e.g., Arbuthnot, 1974), and tobacco use among college students (e.g., Torabi et al., 2002). This framework could be used to help better understand the obstacles the field is currently facing with regard to the adoption of evidence-based practices.

Knowledge Barriers

Knowledge of evidence-based practices has many facets, from awareness of the concept to the more technical, "how-to" aspects of applying specific evidence-based interventions. As such, there are a number of knowledge-related barriers to translating research into practice.

Defining Evidence

First, one would assume that with the growing interest in and attention to this area over the last decade, as well as the many task forces and workgroups developed to address this concern specifically [e.g., Task Force on Psychological Intervention Guidelines of the American Psychological Association, 1995; Task Force on Promotion and Dissemination of Psychological Procedures, Division of Clinical Psychology, APA, 1995; APA Division 12, Section 1 Task Force on Empirically Supported Psychosocial Interventions for Children (Lonigan et al., 1998)], there would be at least some consensus on the definition of evidence. For instance, the Division 12 Task Force (Lonigan et al., 1995) differentiated *efficacy*, the scientific or internal validity of the outcome research, from *effectiveness*, the external validity or generalizability of the treatment in real-world settings. ESTs were categorized into two levels: *probably efficacious* and *well-established* (Chambless et al., 1998; Chambless & Hollon, 1998). In contrast, the Substance Abuse and Mental Health Services Administration (SAMHSA) separates evidence-based programs into three different categories: *promising*, *effective*, and *model*. *Promising programs* have been evaluated and implemented and are considered "scientifically defensible" but have not yet yielded consistently positive outcomes required for effective program status. *Effective programs* are well implemented and evaluated and produce a consistent positive pattern of results. The only difference between *effective programs* and *model programs* is that developers of *model programs* have agreed to work with SAMHSA/CSAP to provide materials, training, and technical assistance for nationwide implementation (U.S. Department of Health and Human Services, SAMHSA, n.d.). The inconsistency and complexity of the evidence-based taxonomies are clearly obstacles to the therapist seeking to select and implement the most effective therapeutic strategies.

Restrictive and Uninformative Definitions of Evidence

Another knowledge-related barrier to bridging the science-practice gap is that as a result of the highly restrictive definitions used to identify empirically supported treatments, for some treatment targets, there are no treatments that meet the strict criteria. For example, although numerous treatment programs are reported in the literature for autism, based on previous definitions, none meets the criteria for well-established or probably efficacious status (Chorpita et al., 2002; Rogers, 1998). This is highly problematic for those involved in the provision of services for youth afflicted with problems in such areas where there is no one treatment deemed "evidence-based." As such, some researchers have proposed a third *possibly efficacious* level that does not require that the treatment programs used manuals (Chorpita et al., 2002). Broadening the definition of evidence-based treatments in this manner shows us that in fact, for autism, not all treatments have won and not all must have prizes (cf. Luborsky et al., 1975).

A related definitional problem is that the current evidence base does not communicate information regarding client and context characteristics associated with each treatment. In other words, if one wanted to know more than simply if a treatment is evidence-based or not, such as for whom did the treatment work and in what context, one could not easily draw inferences from the existing lists of evidence-based treatments (Chambless et al., 1998; Lonigan et al., 1998; SAMHSA, 2006). As one attempt to address this issue, Chorpita and colleagues (2005a) proposed a Distillation and Matching Model (DMM). *Distillation* is described as the view that individual techniques (e.g., exposure, time out, etc.) can be gleaned from larger treatment packages (e.g., parent management training), and using statistical *matching* procedures akin to data mining, study or patient characteristics that are most important in the selection of evidence-based treatments (e.g., age, gender, setting, etc.) can be identified via the literature (Chorpita et al., 2005a).

Too Many and Too Few Evidence-Based Treatments

The DMM may also prove fruitful in addressing two other separate but related barriers to practitioner awareness of evidence-based practices. If a practitioner decided to treat a depressed child using cognitive-behavioral therapy (CBT), he or she might find it frustrating that there are at least 13 different treatment manuals to choose from that were used in RCTs. The lack of a tool to help select among multiple evidence-based treatments is one problem that the DMM could potentially address, either by bypassing the need to choose among complete treatment packages and yielding an aggregate summary of the techniques consistent across the manuals (Chorpita et al., 2005a) or by suggesting the most appropriate manual in terms of similarity to that aggregate summary. In other words, instead of trying to choose one of the 13 depression treatment manuals, a practitioner might decide to use the five most common techniques across all of the evidence-based protocols for depression (e.g., cognitive coping, activity selection, psychoeducation, problem solving, and relaxation; Chorpita et al., 2005a).

Having too many manuals to choose from is problematic, but it is definitely preferable over having none to choose from. Too often the field has heard complaints from community clinicians, clinic directors, and even graduate students that the manuals described in RCTs are difficult to find. Furthermore, given that most protocols undergo numerous revisions, the original protocol tested in a trial is often times no longer available (e.g., Anastopoulos et al., 1993; Barrett, 1998; Weisz et al., 1997).

Awareness Knowledge Barrier

Selecting and finding evidence-based treatment manuals may be challenging, but this assumes that practitioners can get past the first step of becoming aware of and identifying these treatments. In a study of youth mental health providers' attitudes toward evidence-based practices, program managers (many of whom were supervisors of the direct care staff) reported very little familiarity with the terms "evidence-based practice" and "empirically supported treatment" (Aarons, 2004). It seems that an even bigger and initial problem to address is the lack of a simple communication tool for practitioners to access the research. Given that the main vehicle researchers have relied on for decades to communicate their findings is through scientific journals, without a more user-friendly "dissemination engine," practitioners in the field have little chance of gaining awareness of these practices supported by the evidence.

How-to-Knowledge Barrier

Finally, the largest and, some might argue, the most challenging knowledge-related barrier to dissemination is that the training and supervision requirements to learn evidence-based practices are substantial (e.g., Connor-Smith & Weisz, 2003). If a practitioner could find an evidence-based protocol for childhood depression, there is little, if any, research demonstrating that CBT implemented without substantial training, supervision, and quality control would do better than the interventions the practitioner is already implementing. Attention to these issues of training and dissemination will likely dominate the research agenda for the foreseeable future (e.g., Weingardt, 2004).

Attitude Barriers

A practitioner may be aware of evidence-based practices and may have even been trained in an evidence-based procedure, but these together may not predict whether or not he or she will decide to use this intervention in his or her own practice. This is because it is believed that a provider's attitude toward evidence-based practices together with how knowledgeable he or she is about the procedure will predict the likelihood that he or she will adopt it into practice (e.g., Rogers, 2003).

Individual Differences

In an effort to examine practitioners' attitudes toward evidence-based practice, Addis and Krasnow (2000) surveyed practicing psychologists about manual-based psychotherapy. Although predictions that fewer number of years in practice (more recently educated) would be related to more positive attitudes were only weakly supported, results clearly supported hypotheses that theoretical orientation and practice setting are related to attitudes toward manual-based treatment (i.e., cognitive-behavioral orientation and academic setting predicted more positive attitudes; Addis & Krasnow, 2000).

In contrast to findings reported by Addis and Krasnow (2000), Aarons (2004) found that the strongest individual difference variable that predicted positive attitudes toward evidence-based practice was internship status in providers of youth mental health. Interns reported higher levels of openness to change and found evidence-based practices more appealing than staff providers, suggesting that professional internships may be an opportune time to expose developing practitioners to evidence-based practices (Aarons, 2004). More studies are needed to better understand individual difference variables related to practitioner attitudes toward evidence-based practices.

Specific Practitioner Attitudes

There are a number of different reasons why a practitioner might have a negative attitude toward evidence-based practices. Addis et al. (1999) described six thematic concerns commonly voiced by practitioners about manual-based psychotherapies: (1) unmet client needs, (2) restriction of clinical innovation, (3) feasibility of manual-based treatments, (4) effects on the therapeutic relationship, (5) treatment credibility, and (6) competence and job satisfaction. Some of the most commonly cited concerns by practitioners about manualized psychotherapy are related to beliefs that manuals do not allow clinicians to address individual client needs, do not work with "real" patients with multiple problems, and restrict practitioner creativity (Addis et al., 1999). The common theme is that the traditional "cookie cutter," "lock-step," session-by-session manual-driven approach is practically cumbersome and clinically unappealing.

One proposed method of addressing these concerns and at the same time remaining evidence-based is via the use of modular protocols (e.g., Carroll, 1998; Clarke et al., 1990; Curry et al., 2000). Chorpita and colleagues (2005b) described modularity as "breaking complex [therapeutic] activities into simpler parts that may function independently" and modules as "self-contained functional units that connect with other units but do not rely on those other units for their own stable operations" (p. 142). In other words, most cognitive-behavioral therapy for child anxiety includes the following: exposure, modeling, cognitive coping, relaxation, and psychoeducation. By breaking down CBT for child anxiety into modules, practitioners can choose to employ only the most appropriate therapeutic activities for each of their cases. For example, treatment for a young, anxious child who presents with a specific phobia might focus on modeling and exposure, whereas treatment for an adolescent with more generalized symptoms of anxiety might focus on cognitive coping and relaxation. Modularity also allows practitioners the flexibility to incorporate other evidence-based modules into treatment when treatment progress is hindered due to another interfering problem. For instance, during the course of treatment for separation anxiety, a clinician might choose to implement a tangible rewards module if he or she finds that the child's motivation to complete homework exposure tasks is interfering with treatment progress or an active ignoring module if the child tantrums to avoid or escape a fearful situation. Thus, modular protocols can allow practitioners to tailor their evidence-based interventions to fit the individual needs of their clients (Chorpita et al., 2004, 2005b; Chorpita & Weisz, 2005). Modular designs can also address practitioner feasibility concerns related to training and implementation. For example, because a number of protocols have overlapping modules (e.g., rewards), practitioner training is potentially less burdensome and comprehensibility is more parsimonious (Chorpita et al., 2005b; Chorpita & Weisz, 2005). The promise of such an approach has preliminary support but would benefit from further empirical testing. Some additional ways that clinical researchers can address attitude-related barriers will be discussed below.

Practice (Contextual) Barriers

The knowledge-attitude-practice framework is useful in understanding which individual factors are related to the eventual adoption of certain behaviors. However, given that most providers of youth mental health services work in settings with other people as part of a system, the context in which the individual is embedded is also very important to consider.

Few Incentives to Change

In many cases, there are countless motivating reasons to choose not to adopt evidence-based practices and to continue doing things the way they have been, with few incentives to adopt a completely new way of doing treatment. For instance, unlike with medicine or other professions, federal authorities do not regulate mental health services. Whereas a new medication must receive FDA approval before it can be prescribed (and not be considered an off-label prescription), mental health treatments are not required to undergo extensive evaluation before their use. And although governing bodies have taken more of an interest in regulation of the practices clinicians provide, these at least initially have been motivated by cost-containment motives, such that brevity is emphasized over specific content of the intervention (Hayes et al., 1999). Given that licensing in most states requires continuing education, some clinicians might be motivated to learn evidence-based procedures in their practice. However, in our work on the Child STEPs Clinic Treatment Project (CTP), we found that a majority of practitioners in community outpatient clinics do not hold a state license (Nakamura et al., 2005), and so this motivating factor may be less powerful. Furthermore, as staff turnover rates are high in the mental health field (e.g., Torrey et al., 2001), agencies are much less motivated to invest in training practitioners who may not be with the agency for very long.

Many Costs to Change

In addition to having few reasons to adopt evidence-based practices, there are considerable costs associated with training in most manualized treatments, including materials and trainer costs as well as costs to the agency in lost productivity time due to practitioner participation in training and, in some cases, continuing education via booster sessions, supervision time, etc. (e.g., Strosahl, 1998; Torrey et al., 2001). As such, learning how to use new treatment procedures is timely and costly, and for many practitioners, new learning must occur outside their normal work hours or they experience a loss in wages as a result of not meeting productivity benchmarks placed on them by clinic administration (e.g., Hatgis et al., 2001). In the Child STEPs CTP, one challenge being faced is that many of the clinicians participating in the study are on a fee-for-service pay schedule with their agency, so any time they spend working outside direct clinical contact (e.g., training and consultation with manual experts), they are not earning a paycheck; therefore, finding time to meet with them can sometimes be very challenging (Ho et al., 2007). These costs, coupled with the fact that there are few incentives to investing personal time into learning new treatment procedures, make the slow adoption of evidence-based practices less surprising.

MODELS OF DISSEMINATION

In order to address these numerous barriers, differing models of dissemination have developed and evolved. We will briefly describe two models of dissemination in the context of moving treatment outcomes research into practice settings (for a more thorough review of dissemination models, see Southam-Gerow et al., in press). Before moving to a summary of these models, we want to comment briefly on terminology. The focus here is on how researchers translate or decode information from research to practitioners, implying a unidirectional or hierarchical relationship. The term *translational research* grew out of a U.S. Food and Drug Administration philosophy and, accordingly, has been termed the "medical-pharmaceutical" model by some authors (Weisz et al., 2005). The concept proposes that treatments initially be developed via wisdom from basic laboratory research and then tested first in lab-based efficacy experiments. Only after extensive efficacy research is an intervention then brought into the community setting to measure the public health impact (e.g., Greenwald & Cullen, 1984; Norquist et al., 1999). In an ideal world, the lab setting would be a close approximation to the real world so that findings from lab-based efficacy trials could easily be generalized to practice settings. Unfortunately, the targets of impact in efficacy trials often differ widely from those in real-world settings (see Schoenwald & Hoagwood, 2001; Southam-Gerow et al., in press). Research on programs that were widely disseminated before they were examined for effectiveness has indicated that identifying whether practices shown to be efficacious in a highly controlled setting might be transportable to another setting is an important missing link in much of the previous dissemination research. For example, the Home-Builders Model of Family Preservation Services and the Healthy Families America program were both widely disseminated before they were examined in the settings to which they were disseminated, and subsequent studies found that they were not effective at preventing foster care placement (Heneghan et al., 1996) or child abuse and neglect (Duggan et al., 1999; Olds et al., 2002), respectively. As such, leading researchers in the field have argued for the importance of studying interventions that have demonstrated efficacy in research settings in the community settings they are to be disseminated to before widespread diffusion takes place (e.g., Schoenwald & Hoagwood, 2001; Weisz, 2004).

Deployment-Focused Model

Weisz (2004) described a deployment-focused model of dissemination that addresses the missing link between efficacy and dissemination by breaking the traditional stage III research (NIH, 2003) into three separate steps and adding a final step for a total of 6 steps: (1) construction, refinement, and manualizing of the intervention protocol; (2) initial efficacy trial under controlled conditions to establish evidence of benefit; (3) single-case applications in practice settings, with progressive adaptations to the protocol; (4) partial effectiveness tests of one or more practice setting targets (referred youth, community setting, community practitioners, etc.); (5) full tests of effectiveness and dissemination; and (6) tests of sustainability in practice contexts. He further argued that other foci of interest that have typically been examined in research settings must also be first examined in community settings before assumptions can be made about their generalizability. Some of these include the (1) necessary and sufficient components of treatment packages, (2) moderators of outcome that set boundaries around treatment impact, (3) hypothesized mediators of outcome, (4) treatment costs relative to benefits, (5) organizational factors in the systems and settings where the treatments are being used related to effectiveness of use, and (6) variations in treatment procedures, packaging, training, and delivery designed to improve fit between treatment and various settings of deployment. Using the NIH model, even research that examines the adaptation of a therapy for use in a community setting is defined as Stage I (NIH, 2003). This strict definition and requirement that any changes to protocols be "run through the gauntlet" of stages of research could potentially impede the deployment of evidence-based procedures to children and families who might benefit from them, and Weisz's (2004) model attempts to address this problem.

Multilevel Contextual Model

Schoenwald and Hoagwood (2001) described similar procedures for researching the transportability of efficacious interventions to usual care settings. They argued for a model of dissemination research that is a cross between efficacy and effectiveness and that emphasizes multilevel factors, including organizational and system factors as well as other factors traditionally emphasized in child intervention research. Federal and foundation-sponsored initiatives have also incorporated such multilevel thinking into strategies to disseminate evidence-based practices for adults with serious mental illnesses (Torrey et al., 2001). Multilevel contextual models such as these reflect the "emerging concept that broad-based implementation has a systemic nature and underpinnings, with facilitators and barriers at the level of policy and regulations, the level of the organization, the level at which service provision or treatment occurs, and the levels of the consumer and family member" (Stuart et al., 2002, p. 328). Youth receiving mental health care are nested within a mental health system (providers and agencies) that is influenced by policy and funding mechanisms, and each level influences and interacts with all other levels. Consistent with this model, recent findings show that in multisystemic therapy, therapist adherence, organizational climate, and organizational structure all have direct effects on posttreatment child outcomes (Schoenwald et al., 2003).

FROM TRANSLATION TO DISSEMINATION TO DIFFUSION

Recently, mental health researchers have found the cross-fertilization of ideas from public health, sociology, anthropology, and even marketing helpful in reconceptualizing the psychological services approach. Rogers' (2003) classic model of diffusion of innovation is especially useful. The utility of that model here is that it may reveal the relative strengths and weaknesses of current models as well as point to gaps in thinking about these issues as they have been developed within the EBT context. Rogers (2003) describes diffusion as "the process by which (1) an *innovation* (2) is *communicated* through certain *channels* (3) over *time* (4) among the members of a *social system*" (p. 11).

Innovation

The perceived attributes of an innovation or technology determine how quickly or slowly it will be adopted. If evidence-based practices are perceived as having (1) *relative advantage* (better than the practices they supercede), (2) *compatibility* (consistent with values, experiences, and needs of potential adopters), (3) minimal *complexity* (not difficult to understand and use), (4) *trialability* (free to try before completely adopting it), and (5) *observability* (results are visible to others), they will be adopted more quickly. Although evidence-based practices appear to provide relative advantage over current practices, in many cases they are not compatible with the interventions practitioners currently use, and learning to use them proficiently is not an easy task. Moreover, practitioners may not feel they have trialability if their clinics invest in materials and training in a new intervention. Given that much of the research on youth mental health has been conducted in lab-based settings, a common argument about evidence-based practices is that clinicians have not truly observed positive results of these practices with the kinds of youth they treat (e.g., Weisz et al., 2005).

In an effort to increase the staying power of an innovation, Rogers (2003) suggested that adopters who actively participate in customizing an innovation to fit their unique situation will be more likely to sustain their use of the innovation (Rogers, 2003). This concept supports the use of a deployment-focused model of dissemination where the study design calls for reinventions and examination of these reinventions (Weisz, 2004).

Communication

The characteristics of the communication channel—or how information about the innovation is transmitted—also affect the adoption rate of an innovation. Although mass media channels are a rapid and efficient way to build awareness knowledge about an innovation, interpersonal channels are generally more effective in persuading an adopter to implement an innovation, especially if the two people communicating about an innovation share similar attributes (i.e., beliefs, educational level, SES, etc.; Rogers, 2003). Rogers called this "homophily" and contrasts it with the term "heterophily," which is defined as "the degree to which two or more individuals who interact are different in certain attributes" (p. 19). He argued that heterophilious interpersonal communication channels slow the rate of innovation adoption. This has especially problematic implications for dissemination of evidence-based interventions given that it is almost always the case where researchers are seen as quite different from those practicing in the community. Rogers (2003) suggested that the more attributes on which people are different (e.g., educational level, field of training, theoretical orientation, age, etc.), the less likely adoption of an innovation is to occur. This means that researchers and innovators of evidence-based treatments must find unique ways to promote change by selecting key people who are homophilious with the adoptee majority yet are also able to advance the innovation. One way to accomplish this could include hiring staff that are similar to the targeted group. Another way is by training community partners to work with the dissemination team (e.g., Hardy et al., 2004). Related to this, diffusion research shows that most people do not evaluate an innovation on the basis of scientific studies of its consequences, but rather on more subjective evaluation of information conveyed to them from other adopters. In other words, when arguing for the importance of using evidence-based treatments to practitioners, it is more important that leaders in the field focus on enhancing subjective evaluation via people who are most like the potential adopters. Potential avenues to explore further include the use of testimonials by homophilious practitioners who have experienced success with the evidence-based procedure as well as clinical vignettes with practitioners and clients that are as similar to the potential adoptee as possible.

Time

In addition to factors associated with the innovation itself as well as how information about the innovation is communicated to potential adopters, there appears to be a common temporal pattern in the diffusion process. Rogers (2003) called this the innovation-decision process and described a progression that all individuals go through at varying speeds from first knowing about an innovation, to the formation of an attitude about the innovation, to a decision to adopt or reject the innovation, to implementation of the innovation, and finally to confirmation of this decision. Individual differences shape how innovative a person is, which determines the speed at which the person will move through the innovation-decision process. Individuals who are more innovative or move more quickly through the process tend to be more educated, are more able to cope with ambiguity, and have a greater exposure to mass media (Rogers, 2003). Rogers identified several adopter categories that describe how quickly or slowly a person moves through the innovation-decision process and collectively, the number of people adopting an innovation progresses over time to form an S-shaped curve such that only a few individuals rapidly adopt a given innovation at first (*Innovators*). The *Early Adopters* (13.5%) then communicate with the *Early Majority* (34%) about their experiences with the innovation. Only after observing the consequences of adoption via interpersonal communication channels does the *Late Majority* (34%) make decisions regarding adoption or rejection of the innovation. People in this adoption category tend to be of lower socioeconomic status and make little use of mass media channels (Rogers, 2003). After the majority of individuals have adopted an innovation, the rate of adoption slows until the *Laggards* (16%) decide to either adopt or reject the innovation. Future dissemination research should focus on individual practitioner variables that moderate adoption of evidence-based practices and whether focusing dissemination efforts on early adopters is a cost-effective and feasible approach to translating research into practice.

Social System

The rate of adoption and the shape of the S-curve are dependent on the characteristics of the social system in which they are embedded. The structure of social systems and, specifically, the way decisions are made in social structures determine the rate and staying power of innovations. If one individual with authority decides for the group that an innovation will be adopted (e.g., clinical supervisor), the rate of adoption is quick, but the staying power will not be as strong as it would be if each individual were allowed to make this decision on his own. On the other end of the spectrum, if the entire social system must make a collective decision about the adoption of an innovation, the slope of the S-curve is much more gradual. However, according to Rogers (2003), if *change agents* or individuals who influence clients' innovation-decisions in a desirable direction utilize *opinion leaders*, individuals within the social system who informally influence the attitudes and adoption behavior of others in the system, the number of adopters per unit of time increases exponentially. Opinion leaders are individuals within the social system to whom other people look to help them make decisions about adoption of innovations (Rogers, 2003). Investing resources in change agents who actively work to identify and support well-established opinion leaders in community agencies would be one way to enhance the diffusion of evidence-based treatments in practice settings. For example, Glisson and Schoenwald (2005) described an organizational and community intervention strategy that specifically targeted the mismatch between the innovation and the social context to which it was to be disseminated. Their Availability, Responsiveness, and Continuity (ARC) intervention strategy used change agents (i.e., doctoral- and masters-level practitioners in clinical psychology, social work, industrial organizational psychology, and counseling) who worked to bridge the technical-social or research-practice gap in a sequence of phases: (1) identifying and forming personal relationships with community opinion leaders, organizations, and key stakeholders, and collecting data about the problem and its effect on the community; (2) working with service providers, opinion leaders, etc. on coming to a collective understanding of how the community can begin to better understand and address the targeted problem; (3) ensuring that agreements are followed through; and (4) promoting self-regulation of the system after the intervention has terminated (Glisson & Schoenwald, 2005). Although there is no clear evidence yet whether this model or some other approach will work best, it is clear that the prevailing model of dissemination (which is to publish a lot, train a little, supervise less, and address organizations not at all) is in need of repair.

CONCLUSION

Taken together, it appears that the translation of research into practice depends on an awareness of the synergistic relationship between the innovation and the social context it is to be disseminated to. In other words, in order to accomplish diffusion of evidence-based practices, attention needs to be paid to both the social aspects of the adoption of evidence-based practices in youth mental health systems as well as the design of the technology itself. In the state of Hawaii, a quality improvement and clinical decision-making model serves as one example of this type of endeavor. Daleiden and Chorpita (2005) described a systemwide implementation of an evidence-based clinical decision-making model adopted by the Hawai‘i Child and Adolescent Mental Health Division. This model was intended to incorporate aspects of the innovation—evidence-based practices—into the existing clinical decision-making processes.

Social context was also addressed through the facilitation of a culture of investigation, learning, and testing of claims. Thus, the foundation of the model drew from the traditional individualized case conceptualization model, in which individual cases are evaluated for their progress. Rather than mandating evidence-based practices, then, the model suggested an order to the decision-making structure, such that practice strategies be reviewed mainly in the absence of clinical progress. Thus, individual case results served as the primary evidence base, after which the larger evidence base of the scientific literature was consulted. This framework helped to establish commitment to the notion of accountability and verifiable results as a first step. Evidence-based practices were then seen as one set of tools to assist practitioners in their efforts to demonstrate success. To that end, extensive work was done to reanalyze the literature and organize it in a way that both optimized and simplified informed decision making about clinical practice (see Chorpita et al., 2002).

One additional innovation that was developed to facilitate this decision-making framework was a clinical reporting system using “clinical dashboards” that communicated important quantitative and qualitative case information (Daleiden & Chorpita, 2005). Dashboards included ratings on specific targets of intervention (e.g., specific phobia) plotted over time so that practitioners could observe case progress at a glance (see Figure 1). Specific therapeutic practices (e.g., practice or exposure, cognitive restructuring, rewards, etc.) that the practitioner had implemented were also plotted over time so that the relationship between case progress and therapeutic activities could easily be observed. Thus, only when case progress ratings suggested non-improvement or problem worsening were practitioners encouraged to examine their current practices against the summary of suggested evidence-based practices. In this way, the clinical dashboard helped to foster a culture of accountability, openness, and results and became a part of routine business procedures that incorporated and encouraged the use of evidence-based practices when clinical conditions warranted.

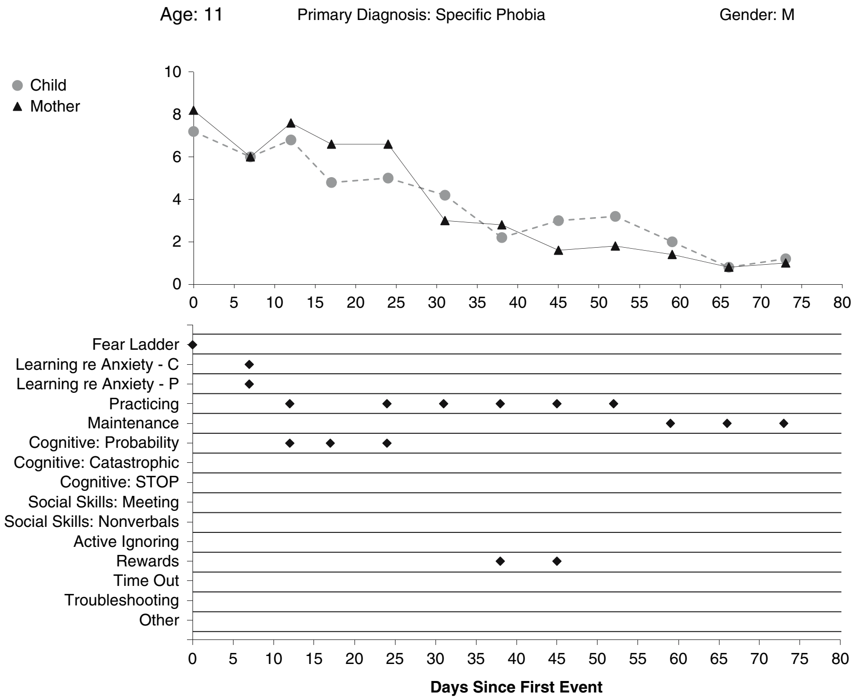

Figure 1. Example of a clinical dashboard for an 11-year-old boy receiving cognitive behavioral treatment for specific phobia.

Models such as these that focus on and appreciate the symbiotic nature of the relationship between the practice innovation (evidence-based practices) and the social context (youth mental health systems) in which it is embedded will be important to test in the future as psychological interventions move out of the laboratory and into the "real world." Our hope is that other models continue to emerge that fuse organizational intervention with the technology of evidence-based practices and that the profession can continue to learn better ways to allow research findings to inform and improve clinical practice.

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