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Three Collaborative Models for Scaling Up Evidence-Based Practices

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Abstract

The current paper describes three models of research-practice collaboration to scale-up evidence-based practices (EBP): (1) the Rolling Cohort model in England, (2) the Cascading Dissemination model in San Diego County, and (3) the Community Development Team model in 53 California and Ohio counties. Multidimensional Treatment Foster Care (MTFC) and KEEP are the focal evidence-based practices that are designed to improve outcomes for children and families in the child welfare, juvenile justice, and mental health systems. The three scale-up models each originated from collaboration between community partners and researchers with the shared goal of wide-spread implementation and sustainability of MTFC/KEEP. The three models were implemented in a variety of contexts; Rolling Cohort was implemented nationally, Cascading Dissemination was implemented within one county, and Community Development Team was targeted at the state level. The current paper presents an overview of the development of each model, the policy frameworks in which they are embedded, system challenges encountered during scale-up, and lessons learned. Common elements of successful scale-up efforts, barriers to success, factors relating to enduring practice relationships, and future research directions are discussed.

Keywords

Scale-up; Cascading dissemination; Community development teams; KEEP; MTFC

“If you build it they will come” is an adage better suited for the baseball field than for the uptake of research-based interventions into community practice settings. Over the past three decades, hundreds of empirically supported interventions showing improved outcomes for children and families have been developed, yet few are actually assimilated into public child services systems (Hoagwood and Olin 2002). Consequently, these practices have made little measurable public health impact (DeAngelis 2010). In fact, the integration of evidence-based practices into usual care settings has proved to be a far more daunting task than the initial development and testing of the interventions. This is not surprising given the greater variations in levels of complexity in real-world settings versus those in research laboratories. When testing the efficacy of interventions, researchers must overcome numerous hurdles including convincing funding agencies that the new program will be cost effective and improve outcomes, convincing institutional review boards that the protocols are safe, and convincing participants to partake in a clinical trial where positive outcomes cannot be guaranteed. In effectiveness trials, an additional layer of complexity is introduced when non-research staff with less oversight and typically less understanding of the intervention’s theoretical underpinnings implement in community settings with more heterogeneous populations of consumers. Scaling up interventions across larger contexts (e.g., county, state, country) introduces another level of complexity that requires the alignment of multiple systems and stakeholders that, at a minimum, include policy decision makers, payers, providers, organizations, practitioners, and consumers (Fixen 2009). It is likely that top-down and bottom-up collaborations are needed to scale-up EBP’s to successfully move research into the big leagues.

This paper describes the history and outcomes of three models of community-research partnerships that were developed to help scale-up two research-based intervention models (Multidimensional Treatment Foster Care [MTFC] and KEEP) that focus on improving outcomes for children and their families in the juvenile justice, child welfare, and mental health systems. MTFC (Chamberlain 2003) targets adolescents referred from juvenile justice or child welfare that have severe behavioral problems and are being placed in or considered for group or residential care. A partner-intervention to MTFC, MTFC-P, focuses on preschoolers in child welfare who have challenging socio/behavioral problems (Fisher et al. 2009). Results from randomized controlled trials of MTFC and MTFC-P show that compared to services “as usual,” children and adolescents participating in these models experience better long-term outcomes in multiple domains (e.g., family stability, antisocial/criminal behavior, neurobiological indicators, school adjustment, drug use, pregnancy risk; Chamberlain et al. 2007; Leve et al. 2009; Kerr et al. 2009). KEEP is a support and skill building program for regular state child welfare foster and kinship parents that focuses on preventing placement disruptions and increasing family reunification for children placed in child welfare systems. Recent clinical trials on KEEP compared to casework as usual show favorable effects on child behavior, parenting practices, and placement outcomes (Chamberlain et al. 2008; Price et al. 2008). An overview of the components of MTFC and

KEEP, populations served, key studies and findings, and support needed to implement both programs is provided in Table 1.

The three scale-up models described in this paper were designed with unique structural and conceptual features in order to be responsive to pressing policy needs. The scale-up models presented here did not adhere to any particular theoretical framework for scaling up. Rather, they were influenced by the immediate goals and specific characteristics of the individual projects and settings (for a comprehensive review of scale-up frameworks, including consideration of diverse theoretical perspectives, see Fixen 2009).

Each scale-up approach described here is the product of intense collaboration between practitioners and researchers. They are discussed in the order in which they occurred temporally. The first is the Rolling Cohort model in England that was initiated in partnership with the government and a National Implementation Team at the Maudsley Hospital beginning in 2002. The goal of the Rolling Cohort was to establish a MTFC training sequence for local authorities (equivalent to U. S. counties). First, a small number of sites established MTFC teams to implement the intervention. Next, those sites used the experiences and “lessons learned” from implementing in their local authorities to assist in the implementation of MTFC in subsequent sites during successive yearly cohorts. The National Implementation Team collaborated with the developers of MTFC (the first author and Oregon colleagues) to conduct training and adapt the model to fit culturally.

The second model, Cascading Dissemination, was used to implement KEEP in San Diego County in partnership with the Child and Adolescent Services Research Center (CASRC) and the county Health and Human Services Agency child welfare system leadership. The goal of Cascading Dissemination was to develop a systematic strategy for gradually reducing the direct role of the model developers in the training and supervision of the interventionists who were delivering the front line services. The third model, developed by the California Institute of Mental Health (CIMH), uses Community Development Teams (CDT) to promote planning and to increase organizational capacity through facilitated peer-to-peer exchanges. The overarching goal of the CDT model is to assist cohorts of counties to successfully implement an evidence-based practice in tandem. Six CDT meetings and technical assistance activities are conducted where counties share readiness plans and discuss barriers and solutions to adopting a new EBP. Currently, the effectiveness of the CDT model for promoting the scale-up of MTFC is being tested in a large randomized controlled trial in 53 California and Ohio counties.

The Rolling Cohort Model in England

In 2002, the government introduced the MTFC programs in a rolling cohort design, beginning with a focus on programs for adolescents (MTFC-A). Local children’s services departments responsible for the placement of children in the care system teamed up with their health and education services partners to bid for start-up funding (pump priming grants) to establish MTFC in their local area. The funding was for set up costs only and was allocated to support the initial time required to recruit, assess, approve, and train foster parents; recruit and train clinical team staff; and set up the required systems for multi-

agency collaboration, including referral pathways. The program start-up phase was estimated to take 6–9 months and government funding was provided to support local development up to the point when children were placed in the program. Because local authorities in England already received regular funding to cover the costs of children's placements, they were expected to pick up the costs of the foster parent's fees and allowances once placements were made and agreed to secure internal budgetary funds to support the MTFC program after the grant period. In collaboration with the developers of the MTFC model, a National Implementation Team was set up in 2003 to help build program capacity and sustainability, to act as a bridge between researchers and practitioners during the implementation process, and to provide support and training to the sites in England. In addition, the team would provide information on the outcomes for children and young people and lessons learned from the national implementation program via an annual audit and report to the government.

Policy Framework

The impetus for the MTFC program reflected the growing concerns about poor outcomes for looked after (placed) children in England at this time. As a group they are more troubled than others; up to 70% of looked after teenagers have psychiatric disorders compared with 10% of teenagers living at home (McCann et al. 1996; Meltzer et al. 2000), two thirds are reported to have at least one physical complaint (Meltzer et al. 2003), and their life chances are considerably poorer. In 2000, the percentage of looked after children who left school with five General Certificate of Secondary Education grades A–C was 7.3%; however, because of the considerable policy and practice attention paid to the education of these children in the last 10 years, the percentage of graduating looked after children has increased to 21% in 2009. Many are out of mainstream education through exclusion or truancy. Repeated change of schools is common, not only due to difficulties experienced there, but also due to placement disruptions in foster and residential care (Morgan 1999). Children who have more than one outcome placement disruption are at the greatest risk for poor outcomes and stable placements are linked to positive outcomes, especially in respect to relationship skills, good education, and employment outcomes (Koprowska and Stein 2000).

Government policy reflected these concerns. The implementation of the 1989 Children Act sparked a change in child welfare policy that shifted the emphasis from a framework based on "unfit parents" to a framework based on child development and discussion of children's *needs*. Policies were developed that explicitly aimed to improve outcomes for all children including those in care, and children's services began to integrate early intervention and prevention service strategies. Key events that accelerated this process were the election of a new government in 1997, a major policy shift toward the eradication of poverty, and a consequent service investment in early intervention and prevention. Sure Start was developed, and the 1997 report *'People Like Us'* (Utting 1997) was published in response to evidence about the serious institutional abuse of children and young people looked after by local authorities. Changes in legislation, shifts in policy, tragedies in child welfare, and advances in research have all shaped these changes.

The key legislation about children in England focuses on the developmental needs of children and the appropriate service response. One direct effect of this policy shift meant that it was no longer sufficient for the state merely to provide basic care for children in its care; attention also had to be given to addressing their often complex needs and ensuring that they had sufficient opportunities to progress toward a satisfactory standard of well-being in adulthood. Further initiatives soon followed. Quality Protects (September 1998) linked safeguarding and welfare by focusing on childhood health and development and on children's attachment to their caregivers, the creation of a social exclusion unit which focused on concerns about socially excluded adolescents and anti-social behavior, and the government Green Paper, *Every Child Matters* (2003), which outlined the five key outcomes every child should achieve, including children in the care system. This progressive policy development provided fertile grounds for a number of innovative government initiatives, including MTFC.

Building a National Model

A government-funded research initiative on children's residential care identified a number of problems with the sector at a time when unit costs of the provision were escalating (Caring for Children Away from Home: Messages from Research, 1998). The robust evidence base for MTFC provided an opportunity to offer a cost-effective alternative to services as usual and to see whether such a program would be transferrable to an English system and produce positive outcomes for children and young people. All local authorities and agencies, including health, education, and youth justice partners were offered the opportunity to bid for grants in separate yearly "rounds" or cohorts over a 4-year cycle. The goal of the 4-year time-frame was to build capacity and allow for learning across sites. Participants in earlier cohorts would spearhead the process for those who followed. Developing several sites at once would allow for group training of staff and foster parents and an increased exchange of information and networking across the country facilitated by the National Implementation Team. Larger numbers would also allow for the possibility of some teams folding. Sites signed up to implement the program and agreed to sustain it following the grant period. In year 1, six sites were awarded grants, one site withdrew due to foster parent recruitment issues, and five sites successfully set up MTFC and made placements. In year 2, four additional sites were funded and another six sites were set up in year 3, all of whom made placements. In the 4th year, four sites were funded of which one withdrew due to financial constraints. In total, 18 sites set up MTFC programs for adolescents and made first placements between 2004 and 2007. The first-round sites were breaking new ground; very few evidence-based programs were previously used in the children's social care system and they were mainly parenting programs established by health rather than social care staff.

System Challenges

The National Implementation Team worked closely with the MTFC program developers, organized training for staff and foster parents, provided weekly consultation and supervision, attended steering groups with senior managers, organized update events, and received regular audit data and feedback from each site on their development, implementation progress and concerns. New sites faced a number of challenges including

managing the pump priming grant funding in the year in which it was allocated to the local authority, setting up complex multi-agency teams, scheduling non-traditional working hours (i.e., on call availability which is a requirement of the MTFC model), recruiting suitable staff and foster parents, and fitting an American MTFC model into established practice in social services, education, and Child and Adolescent Mental Health Services (CAMHS) in England. Sensitive issues were addressed by the National Implementation Team in collaboration with the practice community and Oregon model developers, including cultural differences in working practices and attitudes toward evidence-based treatments, specifically to behaviorally-based interventions for abused and vulnerable children and how this might affect the attachment needs of young people. Added to this was the challenge of adapting a model with an evidence base primarily in the youth justice system to a social care population. The National Implementation Team was supported by the government to address these barriers and other significant local and system issues. Some of the pressing issues included paying for on-call staff; gathering informed consent of young people, their families, and the support of other significant agencies; managing children's rights issues; establishing contracts and payments for foster parents; processing agreements with social workers and referral systems; and managing assessment issues. A key lesson learned from the early cohorts was the importance of drafting a clear contract that outlined the grant conditions and government expectations. The contracts were significantly tightened for the third and fourth rounds to include requirements about following the model with adherence, planning for sustainability, and participating in research activities.

Learning from the Implementation

The use of the Rolling Cohort design was successful in establishing MTFC into English social care. The program helped create systems-level changes and opened the door for establishing other evidence-based interventions. The emphasis on multi-agency teamwork, establishing a specific model, and creating effective and cost-effective services that work for children in the care system has highlighted the paucity of available evidence of effectiveness for other services for this group. The program has identified a nationwide need for evidence-based programs in the English care system and with the help of government support via start-up funding, local authorities can now share their experience about implementing MTFC across the country. As a result, the government extended the funding for an additional 3 years to provide financial assistance for local authorities to set up and develop the MTFC-P programs for 3–6-year-old children and then for children aged seven to 11 years (MTFC-C). The existence of the National Implementation Team offered flexibility when sites developed at a different (slower) pace and offered insight on how the initial programs for adolescents could map on to new programs and pave the way for increased success with future programs.

For many pilot local authorities, the national approach to the implementation of MTFC has been instrumental in creating positive systems change. In some local authorities, it has represented a significant reduction in the numbers of children in expensive out-of-county placements and specialist residential units. The new approach has changed the way training and support systems for mainstream foster parents is arranged, it has challenged how residential units are organized, and it has enabled budget holders to ask what theoretical

models, treatment interventions, and outcomes might be expected from other service providers. Positive attitudes toward proven evidence-based interventions have increased in social services departments and the introduction of MTFC has made the establishment of other innovative government sponsored programs smoother. Lessons have been learned, contracts have been tightened, and expectations and requirements have been clarified.

A recent government exploration into the feasibility of a wider roll-out of MTFC across England described a detailed financial model which demonstrated the potential for significant cost savings over a 20-year period, provided sites had the recommended minimum number of occupied foster placements. However, this work also highlighted that some smaller local authorities would not, as a single authority, achieve cost savings, as numbers of eligible children were too low. Although the cost of MTFC for adolescents is comparable, and in some cases less costly, to other provisions for children with complex needs in the care system, a number of sites have closed down because of budgetary constraints (Holmes et al. 2008). The sites where MTFC has not been fully integrated into usual services have felt the most budgetary pressure because the discrete nature of the service has positioned the program for vulnerable short-term cost savings cuts. The initial pump priming funding was provided by the government in recognition that local authorities did not have surplus funds in their current years' budget to finance the long start up phase (recruitment and training of staff and foster parents and system set up) prior to making placements. During the bidding and set-up process, local authorities were expected to continue to consider how to sustain the program, and in particular, how to integrate it into "services as usual". However, the different funding stream, long start up period, and multi-agency approach all contributed to making the program a "different" and discrete service. Those local authority sites that have worked to integrate their program into mainstream services have proven to be more sustainable over time. This is an important piece of information for the future implementation of evidence-based programs. The factors most likely to lead to sites sustaining the programs over the longer term include paying greater attention to a detailed feasibility plan, outlining clear financial modeling for the specific local authorities, and paying attention to the wider systems issues that are now acknowledged to have an impact on successful implementation.

The ideal future implementation plan may start with a clear feasibility study and financial modeling of current services, costs, and outcomes to establish the need and commitment to the MTFC program with the local authority. The Rolling Cohort model could be combined with a tapered funding approach where year-to-year funding for sites is gradually reduced over a three or 4 year period. A calculated funding structure would strengthen the model and would provide a feeling of financial security from which sites could build sustainability from a much earlier stage, knowing that funding will be available over a longer period of time. Recent feasibility work demonstrates savings in year 3 so that tapered funding would allow for establishment of the team and cost savings to be demonstrated within this time frame. A tapered approach to funding also allows for a gradual increase in local authority funding of the program, allows time for the program to consolidate learning, and provides evidence of success and value for the money. Other models might include local authorities joining together in consortia, or working with a private or voluntary agency to set up

programs thereby sharing the long-term financial risk and increasing geographic referral areas.

We now know that implementation of new programs into usual services can sometimes take years and require changes at multiple levels of the system. Those changes must be integrated into local commissioning and delivery structures and cannot merely reside in the goodwill and efforts of champions for the programs. There is a growing body of implementation research which highlights the essential elements needed to scale up evidence-based programs which suggests that effective *intervention* practices plus effective *implementation* practices results in the best outcomes (Fixsen and Blase 2007; Fixen et al. 2005).

The Cascading Dissemination Model

The Cascading Dissemination (CD) model was designed as a study and was conducted by a team of researchers from the Oregon Social Learning Center and the Child and Adolescent Services Research Center (CASRC; 1st and 6th authors), in partnership with system leaders and practitioners from the San Diego Child Welfare, Health and Human Services Agency (HHSA). When the CD study and scale-up model were developed, CASRC had a decade-long collaborative relationship with HHSA that involved not only the regular exchange of information and ideas, but also joint participation in research and data analysis projects and co-sponsorship of seminars on child welfare policy. However, no previous intervention studies had been conducted prior to this project. The KEEP intervention focused on strengthening the skills and confidence of state-supported foster and kinship parents and is an offshoot of MTFC. It was first tested in a randomized efficacy trial in 3 Oregon counties (Chamberlain et al. 1992) where positive outcomes were found on reducing child behavior problems and increasing foster parent skills (compared to control group case work “usual” services). The Oregon study formed the basis for the CD study in San Diego, a county with a culturally diverse child welfare system.

To design the CD study, the researchers and HHSA system leaders conducted a series of meetings with child welfare supervisors and caseworkers and with key community stakeholders. Top-down and bottom-up approaches were used to define the need, identify the target population, and refine and adjust the intervention to be relevant to the local ethnic and cultural conditions. The KEEP manual and materials were translated into Spanish and feedback was gathered from members of foster parent associations on the relevance of the intervention and on logistical considerations (e.g., session locations, incentives for parents to attend, barriers to attendance). Because the idea was to map onto the existing ecology of the San Diego child welfare system, we designed the Cascading Dissemination study with few exclusionary criteria. All foster and kinship parents receiving a new foster or kin placement of a child from 4 to 12 years were randomized to KEEP ($N = 350$) or casework services as usual ($N = 350$). The KEEP intervention includes participation in 16 weekly 90-min group sessions and a weekly telephone call during which data were collected on the child’s behavior and the foster parent’s stress level (described in Price et al. 2008).

Policy Framework

The overarching aims of the Cascading Dissemination study were designed to relate to two policy issues: the need for the implementation of evidence-based parent mediated interventions within the child welfare system and the desire to build local capacity to sustain a high quality implementation of the intervention once the research study was completed. Therefore, the aims were jointly determined by the HHSA system leaders and the researchers (authors 1 & 6) and were twofold: (a) to test whether participation in the KEEP intervention strengthened foster parents' parenting skills and whether improved skills resulted in fewer child behavioral and emotional problems and increased permanency (e.g., fewer disruptions, increased stability, more frequent reunifications with biological/adoptive families), and (b) to compare the effects on child outcomes obtained during two phases of implementation (i.e., with and without the direct involvement of the intervention developers; a cascaded training or training-the-trainers model as shown in Fig. 1).

Over the past three decades, efficacy studies evaluating parent management training in non-child welfare settings have documented improved outcomes for youth with externalizing problems (DeGarmo and Forgatch 2005; Patterson 2005). These studies have included children and adolescents who varied in age and severity of problems. All emphasized the need for parents to use a set of core processes, including providing daily encouragement and mentoring, setting consistent and rational limits, and exercising nonviolent discipline. Outcome data showed that by using these tactics, rates of child problem behaviors typically drop to normal levels in 75% of the cases (Snyder et al. 2003). In all but two states, child welfare systems require that foster parents participate in some form of training to prepare for the placement of children in their homes; however, little is known about the effectiveness of this training (Dorsey et al. 2008). The second aim was meant to address issues of sustainability, to develop a model that gradually decreased the level of developer training, supervision, and interaction over time and transfer those responsibilities to local oversight and control to make the intervention more compatible with local user needs and goals (Backer 2000; Gager and Elias 1997; Rogers 1995).

Although there has been relatively little research on sustainability, some challenges are well known. Stroul and Manteuffel (2007) discussed the need for bringing in trained providers when turnover occurs. They also identified a gap between data routinely collected by evidence-based practices and the routine use of those data to inform supervision or practice. Although success of individual sites in the uptake of evidence-based practices is well documented, models for spreading and sustaining interventions that foster local control and program fidelity are needed.

Building Local Capacity

A train-the-trainer model was used to build local capacity where a cohort of interventionists (Cohort 1) was trained to conduct the intervention while being supervised by the developers. Weekly supervision took place via telephone after a videotape of the KEEP session was reviewed along with data on foster parent engagement, child behavior rates, foster parent stress levels, and attendance. The calls lasted 1 h and included discussions of clinical strategies and how to use data to create intervention plans for the next week. After Cohort 1

interventionists met performance criteria, they trained a second cohort (Cohort 2). Developers supervised Cohort 1's training and weekly supervision of Cohort 2.

Results from the study showed that, compared to controls, children whose foster parents participated in KEEP had fewer behavior problems and higher levels of placement permanency 5 months later (Price et al. 2010). A key finding was that there was no decrement in the intervention effect for Cohort 2 when developers pulled back and Cohort 1 interventionists assumed all of the training and quality monitoring activities.

Learning from the Implementation

When implementing the cascade more broadly, conversations with the cohort #1 facilitators led to the recognition of a major logistical barrier. This related to the timeliness of the weekly supervision of the group facilitators. We found that the supervision was not maximally relevant unless the sessions could be viewed and the supervision could occur prior to the subsequent group session. There were often delays when sending videotapes by mail which prompted us to explore alternative methods in technology. A web-based system was recently developed that allows for video-streaming of group sessions (Sprengelmeyer 2011). Sites implementing KEEP are provided with a pre-programmed laptop computer equipped with a webcam and a remote microphone. The laptop is positioned in the room where the group meetings are conducted and recordings of the group sessions are streamed over the internet to a secure KEEP server. This server also holds data on the weekly occurrence of child behavior problems, ratings of foster parent engagement by facilitators, attendance reports, and demographic information on participants. The clinical supervisor and interventionists have varying levels of access to the program's folder and can use this system to collaborate in a timely manner. In addition, once the supervisor has reviewed the recording, they code adherence to the treatment protocol. This web-based system is currently being used in two U.S. and six international agencies that are implementing KEEP.

Video streaming via the web-based consultation method has generally been accepted by implementing sites. The use of this technology does not represent a substantive difference from videotaping (our former practice) but transitioning to this new technology has not been without problems. Additional resources are needed to install the required software (sites have the option to install the software or we can install and send it on preloaded computers) and additional funds are needed to purchase a laptop (although this can be relatively modest because the requirement is for a basic level machine). Internet access is also required which can sometimes be a barrier. Foster parents who are participants in the groups are often hesitant to be videotaped. We can obviate this concern by aiming the camera at the facilitators, giving foster parents the option to be "off screen". We can also emphasize that the purpose of the video is for supervision of the group facilitator. Despite these barriers, we have found that when sites take the steps to invest scarce resources in staff training to perform an evidence-based practice, at least at the leadership level, they are also invested in monitoring fidelity. Fidelity monitoring can strengthen the partnership if it is done in a respectfully manner and with a mutual recognition and commitment to overcoming barriers.

One key limitation of the San Diego study was that Cohort 1 and 2 interventionists were all members of the CASRC research team so incorporating the intervention delivery into a

community service agency was not accomplished. However, subsequent to the Cascading Dissemination study, Price conducted a pilot study testing delivery of the KEEP intervention by community agency interventionists. Foster parents who had already participated in community agency delivered KEEP were then matched to study control cases (from the original CD trial). Price found comparable results to those found in the CD study on reductions of child behavior problems for the community agency treated group. This finding strengthens the idea that the Cascading Dissemination model appears to hold promise as a scale-up strategy. Price is currently conducting a randomized trial where all of the interventionists delivering KEEP are employees in a community-based agency. As with the Rolling Cohort model, it is expected that the KEEP intervention will need to be fully integrated into the existing child welfare services systems for it to be sustained over time.

The Community Development Team Model

The Community Development Team (CDT) model was developed by the California Institute of Mental Health (CIMH; Sonza and Marsenich 2006) to help public service systems in California counties implement evidence-based practices. CDTs build on positive relationships and collaborations among system and political leaders, agencies, practitioners, and consumers. The CDT model operates through six multicounty development team meetings that are augmented by individualized technical assistance. Key stakeholders in each county are drawn from multiple levels (i.e., system leaders, organizations/agencies, practitioners and consumers) to participate in development team meetings that include: (a) information about specific evidence-based practices and the fit with state and county needs and policies; (b) peer-to-peer exchange identifying barriers, planning for implementation, and examining data for fidelity monitoring; and (c) support and feedback about progress and problems encountered throughout the adoption/implementation/fidelity monitoring and sustainability process. The CDT meetings provide structured, yet informal, interactions among counties to help find solutions to barriers, highlight successes, provide reinforcement for the redirection of efforts, and focus implementers toward improvement in adherence and conflict resolution. Components of the CDT strategy are consistent with concepts in prominent organizational development models like boundary spanning and connecting experts with local trusted peers (Glisson 2000; Valente 1996). CDT consultants operate as “boundary spanners” across formal and informal groups to achieve specific goals, including initial identification of a local need and the selection of a corresponding treatment model. CDTs are used to monitor and support the implementation and enhance the organizational capacity to sustain the selected EBP model. CDT consultants typically have experience working in county departments such as mental health and child welfare. CDT consultants are aware of their state’s changing fiscal landscape because they participate in state-wide policy and training and technical assistance organizations; therefore, they are experts in California policies, procedures, funding streams, laws, and trends. In California, the CDT consultants work for the California Institute of Mental Health¹ and their positions are funded

¹The California Institute for Mental Health (CIMH) was established in 1993 to promote excellence in mental health services through training, technical assistance, research and policy development. Local mental health directors founded CIMH to work collaboratively with all mental health system stakeholders. The commitment to collaboration has led the board to expand board membership to include consumers, family members, and other interested persons representing the public interest.

through a variety of sources including the State Department of Social Services, the California Board of Corrections, and county mental health departments.

CDT consultants connect the potential adopters with intervention developers and offer county leaders encouragement and support for assessing and addressing the risks associated with adopting and implementing a new innovation. Seven core processes occur within the CDT meetings. These include: (1) conducting needs-benefit analyses designed to overcome risk hesitancy and promote enthusiasm for adopting and implementing the practice with fidelity; (2) planning designed to assist sites in overcoming implementation barriers specific to the particular practice and the fit (or lack thereof) of that practice to their established operating system; (3) ongoing monitoring and support designed to highlight each site's advancement and perseverance; (4) recommending adjustments to the site's administrative and programmatic practices to promote practice fidelity and prevent drift; (5) technical investigation and problem solving to clarify actual versus perceived implementation barriers and to investigate potential solutions to barriers through CIMH's established relationships with State agencies and policy makers; (6) procedural skills development through provision of guidance and technical assistance on managerial and human resource skills needed to implement the practice; and (7) peer-to-peer exchange intended to promote engagement, commitment, support, sharing of concrete strategies to overcome barriers to implementation and sustainability, and to reduce risk hesitancy. The peer-to-peer component matches local constituents (e.g., a county director interested in MTFC) with a similar social network (other county directors, or an agency administrator with administrators in other counties). In addition, the peer-to-peer exchange targets increasing intracounty team building and support for collaboration between county systems; they give support and reinforcement for planning, team building, and cooperative problem solving within county teams, which sets the stage for promoting proactive and positive psychological and organizational climates.

Policy Framework

Like other states, California has been criticized for failing to meet the needs of children with mental health disorders in the child welfare system (Marsenich 2002). In December 2003, 91,755 children were in out-of-home care in California, 6,698 were supervised by probation with an average length of stay of 10.5 months, and 84,177 were supervised by child welfare with an average length of stay of 23.2 months. Of these, 13,965 were in group homes. Factoring in length of stay during a 4-year period from 2005 to 2009, more than 27,700 probation youth and 15,875 child welfare youth were projected to be in group homes for a total of more than 43,600 children and teenagers in group home placements in the state. The MTFC model holds promise as an alternative to group home placement for some of the most high-needs California children being placed in Group Care settings. A scale-up study was proposed in 2005. The overarching purpose of the study was to establish the capacity for youth currently being served in group care to instead be served in MTFC by supporting an additional 40 counties who were not early adopters of the MTFC model (10 counties already were implementing MTFC; early adopters). In addition, the counties were randomized to CDT or Individualized Implementation ("as usual" where counties would implement singly).

In addition to increasing the capacity to serve high-needs children and adolescents with an evidence-based model, there were a number of additional reasons why the initiation of the MTFC scale-up study was timely in California. Proposition 63, “The Mental Health Services Act,” had recently been passed by California voters which created additional funding for mental health services and encouraged the use of evidence-based practices. The State Departments of Health Services and Mental Health were the targets of two large class action lawsuits leading to significant increases in Medicaid funding for mental health services. In addition, a third suit specifically asking that Treatment Foster Care be designed as a Medicaid mental health service was being advanced. Finally, CIMH had originally developed the CDT model to promote the sustainable adoption of evidence-based practices. The model had been first employed using MTFC with nine early adopting counties between 2003 and 2005. The California Departments of Mental Health and Social Services were impressed with the work of the MTFC CDTs and were interested in testing the effectiveness of the CDT model to support the application of MTFC and other evidence-based and cost-effective practices statewide.

Studying the Effectiveness of CDTs: The Cal/Ohio Scale-Up Study

A multidisciplinary planning team was assembled to design the study including C. H. Brown (biostatistics), J. Reid (intervention), L. Marsenich and T. Sosna (CDT originators and authors 4 and 5), and P. Chamberlain (MTFC developer and P.I.; author 1). The group considered research and community agendas when developing the study. Dual aims of the project were to (a) create viable alternatives to residential care for children and teens in California and (b) examine the effectiveness of using a locally developed model of technical assistance and support (CDTs) compared to the typical developer-based (individualized) implementation strategy (i.e., the usual process of contracting the program developer or purveyor of an EBP to implement).

Five years prior to the beginning of the Cal/Ohio Scale-Up Study, the California Institute of Mental Health extended a general invitation to all California counties to implement MTFC. Nine of the 58 counties elected to participate; those early adopting counties were excluded from the scale-up study. In addition, eight other counties were excluded that had a low “need” for MTFC, defined as having fewer than six entries into group care measured on two snapshot days. One additional county was excluded because they were involved in a class action lawsuit that hindered their participation. The remaining 40 counties were targeted for recruitment into the study. State and county leaders in mental health, child welfare, and juvenile justice systems were contacted to solicit support for the project. Once sufficient support was gained, a research application was submitted to the National Institute of Mental Health to conduct the trial (R01MH076158-01A1). This trial was later extended to include 11 counties in Ohio in partnership with P. Kanary and E. Baltrinic at the Center for Innovative Practices at Kent State University. A total of 53 counties were randomized to CDT or Individualized Implementation. Details on the design of the study are described elsewhere (Chamberlain et al. 2010). The design includes organizing counties into like-clusters based on demographic characteristics and then randomizing the clusters to timeframe for implementation and condition (CDT or Individual). In the CDT condition, CDT consultants and MTFC consultants work together with a group of counties to

implement; the Individual condition counties work with MTFC consultants only. Implementation progress is measured by the Stages of Implementation Completion (SIC) scale using a method developed for this trial. The SIC measures both time-based and quality measures of completion for eight implementation steps: (1) engagement; (2) consideration of feasibility; (3) readiness planning; (4) staff hired/trained; (5) adherence monitoring; (6) services and consultation begin; (7) ongoing services, consultation, and feedback; and (8) competency. Activities are specified and measured at each stage using dates of accomplishment and quality ratings.

Learning from Implementation

So far, we have examined predictors of initial engagement (SIC stage 1) of the system leaders (Wang et al. 2010). Engagement was defined as system leaders agreeing to *consider* implementing MTFC. All participating counties were non-early adopters of MTFC who had declined a prior opportunity to implement. We think this is potentially useful information because up to 90% of public systems do not volunteer to adopt evidence-based programs, so more information about the best ways to garner interest and engage non-early adopters is needed to facilitate increased penetration of evidence-based programs into the majority of routine care settings. We found that the initial engagement, specifically the decision to consider implementing by the directors of the three key child service systems, was most influenced by their own objective need for MTFC (presumably to better deal with children placed in out-of-home care). Objective need was defined by the rate of out-of-home placements that existed in the county. This factor significantly predicted participation even when considering other factors such as county size, the previous amount of funds spent on mental health services, poverty level, and percentage of minority residents; thus, speaking to the importance of understanding a program's fit with the local needs and priorities of individual counties. Careful preparation and partnering with system leaders is needed to analyze local needs and existing service use patterns.

The Stages of Implementation Completion measure could prove useful in predicting other aspects of implementation success or failure. In our first analysis, a time-to-event modeling method was used to predict the duration to the critical first engagement stage. We plan to employ this method for subsequent implementation stages. As long as there is a standardized invitation to start time and a measurable behavior such as consent to participate, hiring staff, completion of staff training, or start date for new services, the time-to-event for completion can be readily measured. Our randomized trial evaluation plan relies heavily on the use of a Cox proportional hazards model to examine the time until completion of multiple stages of implementation. In addition to modeling the time to complete multiple stages, further modeling also is planned to examine the quality (fidelity) and quantity (amount of services provided) associated with the completion of key stages.

There is broad consensus that implementation practices are as crucial for bridging the gap between research and practice as the EBPs, yet we lack methods for measuring unfolding implementation practices and processes. Our goal is to generalize the SIC to map on to other EBPs so that it could potentially be used to help inform the field of implementation science about the role of time and to measure scores on quality indicators in successful and failing

implementations. The SIC also has the potential to provide useful data to child public service systems about the progress in their implementation efforts and where these stand relative to other agencies who have previously implemented the same EBP.

Conclusions

The three scale-up models described above have all emanated from partnerships between researchers who developed the interventions and community system and policy leaders who ultimately engineered the implementation of the interventions in their communities. In all cases, the partnership was born out of a community policy priority or gap in existing services that provided the backdrop for the opportunity to introduce the evidence-based interventions. Community stakeholders and researchers either co-designed or were highly involved in the initial planning process for the projects. This dual perspective of research and practice ensured that the plan accounted for complex multi-level system factors while simultaneously maintaining the key characteristics of the interventions thought to drive outcome effects.

While the three scale-up models each used a different strategy, they all shared common elements. In the two larger contexts (national in England and state-wide in California), credible local organizations played a critical role in initiating and supporting the scale-up efforts. In the Rolling Cohorts approach, the National Implementation Team received funding from the government to spearhead the effort. The team was responsible for leveraging preparations and paved the way for future efforts to increase the systems-level receptiveness to implementing evidence-based practices throughout England. They addressed barriers at the site level, documented progress and problems, prepared for and solved systems-level issues, and shared lessons learned from early implementations with new service providers to inform subsequent efforts. The Community Development Team's consultants in California serve many of the same functions. CDT consultants provide technical assistance to counties, share advice and experience, and generate solutions to barriers. Funding sources for the CDT are more complex and include a variety of State and county sources. These organizations were formed to address local needs and are staffed by individuals who are extremely knowledgeable about local conditions (including regulations, culture, funding, and current practice). They have a broad understanding of the relevant research literature and of the advantages and challenges of implementing evidence-based practices in their communities. These highly informed community experts were needed to perform critical functions in the scale-up process; however, future research is needed on the characteristics of these individuals and the composition of the organizations that support them. The Cascading Dissemination model focused on staff training and tested a method for incrementally broadening the training capacity while still paying close attention to program fidelity. Along these lines, lessons learned from the CD study demonstrated how advances in technology are likely to play an increasing role in large-scale implementations by enhancing our ability to actively observe and communicate effectively about critical details of intervention delivery.

As mentioned previously, the models discussed here were not based on a comprehensive theory or framework. However, frameworks such as PRISM (Feldstein and Glasgow 2008)

and the model proposed by Aarons et al. (2011) can potentially help organizations and researchers understand the factors that need to be considered and addressed in order to integrate key features of successful implementation. Such frameworks should go beyond being interesting taxonomies in order to be maximally useful; they should produce measurable scores that can be used to predict successful/unsuccessful outcomes such as long-term program sustainability. Observation-based measures such as the SIC might be useful to provide practical information about the time and effort involved in the implementation process. Future research should focus on the development of comprehensive sets of measures to inform the assimilation of knowledge across individual scale-up efforts. Such advances in measurement coupled with strong research-practice partnerships are needed to move evidence-based practices into the “big league” of routinely delivered evidence-based practices to children and families.

References

- Aarons GH, Hurlburt M, Horwitz SM. Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration and Policy in Mental Health and Mental Health Services Research*. 2011; 38:4–23. [PubMed: 21197565]
- Backer TE. The failure of success: Challenges of disseminating effective substance abuse prevention programs. *Journal of Community Psychology*. 2000; 28:363–373.
- Chamberlain, P. The Oregon multidimensional treatment foster care model: Features, outcomes, and progress in dissemination Moving evidence-based treatments from the laboratory into clinical practice. In: Schoenwald, S.; Henggeler, S., editors. *Cognitive and Behavioral Practice*. Vol. 10. 2003. p. 303-312.
- Chamberlain P, Leve LD, DeGarmo DS. Multidimensional treatment foster care for girls in the juvenile justice system: 2-year follow-up of a randomized clinical trial. *Journal of Consulting and Clinical Psychology*. 2007; 75:187–193. [PubMed: 17295579]
- Chamberlain P, Moreland S, Reid K. Enhanced services and stipends for foster parents: Effects on retention rates and outcomes for children. *Child Welfare*. 1992; 5:387–401. [PubMed: 1521497]
- Chamberlain P, Price J, Leve L, Laurent H, Landsverk J, Reid J. Prevention of behavior problems for children in foster care: Outcomes and mediation effects. *Prevention Science*. 2008; 9:17–27. [PubMed: 18185995]
- Chamberlain, P.; Saldana, L.; Brown, H.; Leve, L. Implementation of MTFC in California: A randomized trial of an evidence-based practice. In: Roberts-DeGennaro, M.; Fogel, SJ., editors. *Using evidence to inform practice for community and organizational change*. Chicago: Lyceum; 2010. p. 218-234.
- DeAngelis T. Getting research into the real world. *American Psychologist*. 2010; 4:60. Retrieved from <http://www.apa.org/monitor/2010/11/dissemination.aspx>.
- DeGarmo DS, Forgatch MS. Early development of delinquency within divorced families: Evaluating a randomized preventive intervention trial. *Developmental Science*. 2005; 8:229–239. [PubMed: 15819755]
- Department for Education, Skills. Every child matters (Green paper, Cm.5860). London: HMSO; 2003.
- Dorsey S, Farmer EMZ, Barth RP, Greene KM, Reid J, Landsverk J. Current status and evidence base of training for foster and treatment foster parents. *Children and Youth Services Review*. 2008; 30:1403–1416. [PubMed: 21647272]
- Feldstein AC, Glasgow RE. A practical, robust implementation and sustainability model (PRISM) for integrating research findings into practice. *The Joint Commission on Accreditation of Healthcare Organizations*. 2008; 34:228–243.
- Fisher PA, Kim HK, Pears KC. Effects of multidimensional treatment foster care for preschoolers (MTFCP) on reducing permanent placement failures among children with placement instability. *Children and Youth Services Review*. 2009; 31:541–546. [PubMed: 19430545]

- Fixen, AM. Defining scaling up across disciplines: An annotated bibliography. National Implementation Research Network. 2009. Retrieved from www.fpg.unc.edu/~nirn
- Fixsen, DL.; Blase, KA. National Implementation Research Network. NCTI Technology Innovators Conference; November 15–16; Washington, DC. 2007.
- Fixsen, DL.; Naoom, SF.; Blase, KA.; Friedman, RM.; Wallace, F. Implementation research: A synthesis of the literature. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network; 2005.
- Gager PJ, Elias MJ. Implementing prevention programs in high-risk environments: Application of the resiliency paradigm. *American Journal of Orthopsychiatry*. 1997; 67:363–373. [PubMed: 9250338]
- Glisson, C. Organizational culture and climate. In: Patti, R., editor. *The handbook of social welfare management*. Thousand Oaks, CA: Sage Publications; 2000. p. 195–218.
- Hoagwood K, Olin SS. The NIMH blueprint for change report: Research priorities in child and adolescent mental health. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2002; 41:760–767. [PubMed: 12108799]
- Holmes, L.; Westlake, D.; Ward, H. Calculating and comparing the costs of multidimensional treatment foster care, England (MTFCE): Report to the Department for Children, Schools and Families. Loughborough: Centre for Child and Family Research, Loughborough University; 2008.
- Kerr DCR, Leve LD, Chamberlain P. Pregnancy rates among juvenile justice girls in two RCTs of Multidimensional Treatment Foster Care. *Journal of Consulting and Clinical Psychology*. 2009; 77:588–593. [PubMed: 19485598]
- Koprowska, J.; Stein, M. The mental health of ‘Looked-after’ young people. In: Aggleton, P.; Hurry, J.; Warwick, I., editors. *Young people and mental health*. London: John Wiley & Sons Ltd; 2000.
- Leve LD, Fisher PA, Chamberlain P. Multidimensional treatment foster care as a preventive intervention to promote resiliency among youth in the child welfare system. *Journal of Personality*. 2009; 77:1869–1902. [PubMed: 19807861]
- Marsenich, L. Evidence-based practices in mental health services for foster youth. Sacramento, CA: California Institute for Mental Health; 2002.
- McCann JB, James A, Wilson S, Dunn G. Prevalence of psychiatric disorders in young people in the care system. *British Medical Journal*. 1996; 313:1529–1530. [PubMed: 8978231]
- Meltzer, H.; Corbin, T.; Gatward, R.; Goodman, R.; Ford, T. The mental health of young people looked after by local authorities in England. London: Office for National Statistics; 2003.
- Meltzer, H.; Gatward, R.; Goodman, R.; Ford, T. Mental health of children and adolescents in Great Britain. London: The Stationery Office; 2000.
- Morgan, S. Care about education: A joint training curriculum for supporting children in public care. London: National Children’s Bureau; 1999.
- Patterson GR. The next generation of PMTO models. *The Behavior Therapist*. 2005; 28:25–32.
- Price J, Chamberlain P, Landsverk J, Reid JB. KEEP foster parent training intervention: Model description and effectiveness. *Child and Family Social Work*. 2010; 14:233–242.
- Price JM, Chamberlain P, Landsverk J, Reid J, Leve L, Laurent H. Effects of a foster parent training intervention on placement changes of children in foster care. *Child Maltreatment*. 2008; 13:64–75. [PubMed: 18174349]
- Rogers, EM. *Diffusion of innovations*. 4. New York: The Free Press; 1995.
- Snyder, J.; Reid, JB.; Patterson, GR. A social learning model of child and adolescent antisocial behavior. In: Lahey, BB.; Moffitt, TE.; Caspi, A., editors. *Causes of conduct disorder and juvenile delinquency*. New York: Guilford Press; 2003. p. 27–48.
- Sonsa, T.; Marsenich, L. Community development team model: Supporting the model adherent implementation of programs and practices. Sacramento, CA: California Institute for Mental Health Publication; 2006.
- Sprengelmeyer P. A web-based system for streaming video and tracking intervention fidelity data. 2011 Manuscript submitted for publication.

- Stroul BA, Manteuffel BA. The sustainability of systems of care for children's mental health: Lessons learned. *Journal of Behavioral Health Services and Research*. 2007; 34:237–259. [PubMed: 17520373]
- Utting, W. *People like us: The report of the review of the safeguards for children living away from home*. London: HMSO; 1997.
- Valente TW. Social network thresholds in the diffusion of innovations. *Social Network*. 1996; 18:69–89.
- Wang W, Saldana L, Brown CH, Chamberlain P. Factors that influenced county system leaders to implement an evidence-based program: A baseline survey within a randomized controlled trial. *Implementation Science*. 2010; 5:72. [PubMed: 20925947]

Cascading Dissemination Scale-Up Process

Fig. 1.
Cascading dissemination scale-up process

Table 1

Overview of MTFC and KEEP Components

	Multidimensional treatment foster care	KEEP
Who is served?	Children and adolescents who need out-of-home placements, an alternative to group care. Three versions: MTFC-P (3–6 year olds), MTFC-C (6–11 year olds), and MTFC-A (12–18 year olds)	Regular state hired foster and kinship parents caring for children 4–12 years old
Duration Components	6–9 months <ol style="list-style-type: none"> 12 h pre-service training for foster parents (FP) Intensive support for FPs including daily contact (M-F) and weekly support group FPs deliver daily behavior management program to child emphasizing encouragement Individual therapy, skills training, and/or play group (depending on child's age) Daily data collection (M-F) on child behavior Family therapy for bio/adoptive parents/relatives Daily monitoring of school performance Psychiatric consultation as needed All components coordinated by a Program Supervisor 	16 weeks <ol style="list-style-type: none"> Weekly foster/kinship parent support groups (90 min each) Weekly data collection on child behavior problems/ progress
Staffing requirements	Staffing requirements vary with version. For 10 foster families: <ul style="list-style-type: none"> Program Supervisor, 1.0 FTE Individual Therapist, .50 FTE Family Therapist, .50 FTE FP recruiter/trainer/data collector, .50FTE Skills trainer/play group, hourly 	For 3 groups up to 90 foster/kin families: <ul style="list-style-type: none"> Paraprofessional Lead Facilitator (1.0 FTE) Co-Facilitator (.75 FTE) On Site Supervisor (.10 FTE)
Implementation support	5-day training + weekly consultation until team is certified	5-day training + weekly consultation until facilitator is certified
Key studies	Kerr et al. (2009). Pregnancy rates among juvenile justice girls in two RCTs of Multidimensional Treatment Foster Care. <i>Journal of Consulting and Clinical Psychology</i> , 77, 588–593 Chamberlain et al. (2007). Multidimensional treatment foster care for girls in the juvenile justice system: 2-year follow- up of a randomized clinical trial. <i>Journal of Consulting and Clinical Psychology</i> , 75, 187–193 Chamberlain and Reid (1998). Comparison of two community alternatives to incarceration for chronic juvenile offenders. <i>Journal of Consulting and Clinical Psychology</i> , 6, 624–633 Fisher et al. (2009). Effects of Multidimensional Treatment Foster Care for Preschoolers (MTFC-P) on reducing permanent placement failures among children with placement instability. <i>Child and Youth Services Review</i> , 31, 541–546	Chamberlain et al. (2008). Prevention of behavior problems for children in foster care: outcomes and mediation effects. <i>Prevention Science</i> , 9, 17–27 Price et al. (2008). Effects of a foster parent training intervention on placement changes of children in foster care. <i>Child Maltreatment</i> , 13, 64–75
Major outcomes	Reduced recidivism, pregnancy (girls), incarceration, violence, behavior/emotional problems and increased school involvement	Reduced changes in placement, increased reunification, and positive parenting skills for foster parents