ORIGINAL ARTICLE

Translating and Implementing Evidence-Based Mental Health Services in Child Welfare

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Abstract
Children in the child welfare system with mental health difficulties seldom receive evidence-based treatment (EBT) despite the abundance of validated interventions that exist. This manuscript describes two projects aimed at increasing access to EBTs. The first is a completed field trial of an adapted parent–child interaction therapy intervention with foster-parent child dyads. New findings are presented from variable- and person-centered analyses of impact on diverse symptom profiles. The second is an ongoing statewide initiative that is increasing access to multiple EBTs while navigating implementation barriers. Lessons learned for bridging gaps between children's mental health research, services, and policy are discussed.

Keywords Mental health · Evidence-based treatment · Children · Implementation · Translational research

Introduction

The annual prevalence of child mental health disorders in the United States is estimated to be between 13 and 20%, with anxiety, depression, and behavioral/conduct problems counting among the most frequently diagnosed disorders (Ghandour et al. 2019; Merikangas et al. 2010; Perou et al. 2013). Studies have shown that there is marked continuity in mental health problems from childhood to adulthood, and that early challenges forecast other unwanted outcomes in later life such as poor physical health, substance use problems, and suicidality (Collishaw 2015; Merikangas et al. 2010). In light of their prevalence and impact, child mental health problems are a major public health concern that must be addressed by child and adolescent mental health service providers, program administrators, and policy makers.

While mental health problems are widely distributed in the population, they are not equally distributed. Children who enter the child welfare system, for example, are a high-risk subgroup. Findings from the first National Survey of Child and Adolescent Wellbeing (NSCAW) revealed that 48% of children served by child welfare agencies scored in the clinically significant range on the Child Behavior Checklist, signifying the presence of an emotional or behavioral problem (Burns et al. 2004). Children who are placed in out-of-home care settings are particularly likely to present with mental health difficulties due to their exposure to potentially traumatic experiences such as abuse, neglect, and caregiver separation (Tarren-Sweeney 2008).

Recognizing the acute needs of children placed in foster care, professional associations such the Child Welfare League of America (CWLA 1988) and the American Academy of Pediatrics (AAP 2005) have issued standards for delivering child mental health. Soon after being placed in care, it is advisable for children to receive a mental health screening and, when indicated, referral for a more comprehensive assessment. Recent guidelines have been issued that also recommend universal screening for trauma exposure and related symptoms (Center for Substance Abuse Treatment 2014). For children with diagnosable disorders, best practices include prompt access to evidence-based mental health services and coordinated care (Raghavan et al. 2010).

Compared to children in the general population, children in out-of-home care receive mental health services at disproportionately high rates (Horwitz et al. 2012), yet most

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do not receive services that are consistent with best practices. An analysis of NSCAW data by Raghavan et al. (2010) found that less than 10% of foster children received care that met national standards for screening, assessment, and referral. Many of these children are not provided mental health care in any form, and most do not receive evidence-based treatment (EBT) while they are in foster care (Aarons and Palinkas 2007; Horwitz et al. 2010). Disparities have also been documented within the child welfare system, as racial/ethnic minority children appear to be less likely than their white counterparts to receive treatment (Garcia et al. 2013).

Evidence-Based Treatments for Child Welfare

The lack of access to EBTs in child welfare is especially regrettable considering the technological advances in child mental health care that have resulted in an abundance of validated models on the market. A comprehensive review is beyond our scope but interested readers can turn to various public registries that catalogue mental health interventions, including the California Evidence-Based Clearinghouse (CEBC) for Child Welfare (https://www.cebc4cw.org/). The CEBC rates interventions that are applicable to child welfare according to their level of supporting evidence from (1) well supported to (5) concerning practice. As of this writing, 82 child mental health interventions have been rated by the CEBC as supported or well supported.

Despite the proliferation of EBTs, a small proportion target young children (Burns et al. 2004; Kerns et al. 2014). This gap in care is especially salient for child welfare because younger children are more likely than older children to have a substantiated report of maltreatment and to be placed in foster care (U.S. Department of Health and Human Services 2019). Only two mental health interventions for infants and toddlers, Attachment and Biobehavioral Catch-up (Dozier et al. 2009) and Child–Parent Psychotherapy (Lieberman et al. 2005), are currently rated by the CEBC as supported or well-supported. Treatment options that are available for preschool and school-aged children include parent management training models, including Parent–Child Interaction Therapy (PCIT), The Incredible Years®, GenerationPMTO®, and Level 4 of the multi-tier Triple P®—Positive Parenting Program, all of which meet the CEBC's highest standard for evidence. PCIT, for example, is backed by four decades of research demonstrating its efficacy with diverse populations, including biological and foster families in the child welfare system (Thomas et al. 2017; Wilsie et al. 2017).

Parent management training models were developed to treat externalizing problems such as aggression and hyperactivity, though research indicates that they also mitigate internalizing problems such as anxiety and depressive symptoms (e.g., Chase and Eyberg 2008; Herman et al. 2011).

Emerging evidence suggests parent training programs enhance children's emotion regulation as well (Reinke et al. 2018; Zimmer-Gembeck et al. 2019). These findings align with mounting support for transdiagnostic models that point to common factors and processes such as emotion regulation that underlie comorbid symptoms and disorders (Fernandez et al. 2016). To date, most transdiagnostic research has been directed to adults and youth with mood and anxiety disorders (Ehrenreich-May and Bilek 2012; Marchette and Weisz 2017), signaling the need to expand the study of interventions that address multiple mental health problems in young children.

Barriers to Evidence-Based Treatment in Child Welfare

The limited and variable supply of EBTs in child welfare can be partly attributed to an array of systemic, organizational, and client barriers. Federal child welfare policies established during the twentieth century primarily set minimum legal standards to ensure that endangered children are safe and that they reside in stable, permanent homes. Even with the passage of the Adoption and Safe Families Act in 1997, which required states to benchmark child welfare system performance against indicators of child well-being, child welfare agencies seldom implement EBTs that are proven to promote well-being (Government Accountability Office 2013). These gaps endure, in part, due to a dearth of federal, state, and local funding for preventive services. To wit, allocations for Title IV-B of the Social Security Act, which can be used for services to preserve or reunite children and families, accounts for only 8% of roughly $8 billion in federal child welfare spending (Stoltzfus 2014). Similarly, about 80% of state and local child welfare funds are spent on child protection, out-of-home placement, and adoption assistance, whereas only 16% goes toward preventive services (Rosinsky and Connelly 2016).

Given these policy priorities and economic constraints, child welfare agencies typically do not employ licensed providers and instead refer children to external mental health service providers. However, validated mental health screening and assessment tools are not used uniformly in child welfare, and many agencies lack systematic processes to ensure that data collection efforts convert into service referrals (Burns et al. 2004). Connections with community mental health agencies are often inadequate, especially ones that accept public insurance (Bai et al. 2009; Raghavan et al. 2007). Most children who receive child welfare services have Medicaid coverage and are frequent consumers of Medicaid-reimbursable services, yet they often receive insufficient and inconsistent care (Raghavan et al. 2010).

Child welfare agencies that aim to innovate and provide mental health services internally face many barriers.

Because the child welfare system is not structured to administer mental health services, agencies will likely need to alter staffing decisions and reconfigure work flow to fit many EBTs. In addition, EBTs usually have stringent and time-consuming requirements for training and supervision, and, therefore, agencies may be reluctant to invest in them. Direct costs for training in EBTs, many of which are proprietary, can run thousands of dollars per clinician, which is a daunting proposition for agencies that routinely struggle with staff turnover (DePanfilis and Zlotnik 2008; Sigel et al. 2013). The bureaucratic nature of child welfare work also may undermine staff perceptions of and adherence to evidence-based practices (Aarons and Palinkas 2007), though, paradoxically, implementing EBTs may enhance staff satisfaction and retention (Aarons et al. 2012).

Along with systemic and organizational challenges, agencies often encounter client barriers to treatment. Most families in the child welfare system are poor, and their engagement may be stymied by limited transportation, work conflicts, and household difficulties such as substance use and mental health problems (Kemp et al. 2009). Biological caregivers also may not consider child mental health services to be necessary or beneficial, perceptions that can be compounded by stigma associated with child welfare system involvement (Kemp et al. 2009). For children in foster care, the primary therapeutic milieu is the foster home itself, but foster parents are rarely trained in evidence-based parenting interventions that are known to improve children's mental health (Horwitz et al. 2010). In addition, many foster parents care for multiple children with complex needs, and they often face competing work and household responsibilities that hinder their participation in treatment (Mersky et al. 2015).

Purpose and Aims

This manuscript presents two interrelated projects that were designed to address EBT dissemination and implementation barriers in child welfare. The first is a randomized field trial that tested a novel approach to PCIT with foster-parent child dyads using group-based training and auxiliary in-home services. Extending results indicating that the intervention reduced child externalizing and internalizing symptoms (Mersky et al. 2016), the present study examines treatment effects on child emotion regulation. Next, a person-centered analysis is used to classify children according to their externalizing, internalizing, and emotion regulation symptoms. A variable-centered analysis is then performed to test for differences in latent symptom profiles between children in the PCIT treatment and control groups. This line of inquiry aims to examine intervention effects on co-occurring symptoms, which may aid in future efforts to develop and disseminate transdiagnostic treatments for young children.

Building on lessons learned and community–university partnerships forged during the first project, the second project aims to expand regional and statewide access to PCIT as well as child-parent psychotherapy and trauma-focused cognitive behavioral therapy. In this paper, we describe efforts during the first 18 project months to navigate systemic, organizational, and client barriers to implementing and accessing these EBTs for trauma-exposed children and youth. A closing section summarizes lessons learned from both projects and points to future opportunities for bridging gaps between research, practice, and policy.

Project One: Translating Evidence-Based Practices into Child Welfare Services

The field is increasingly turning to translational science to address many of the barriers to evidence-based practice in child welfare. Translational research that tests clinically validated interventions in real-world settings can help to create generalizable solutions that are sustainable and scalable. Below we present results from a translational study of a PCIT intervention that was adapted to meet the service needs of foster families and match the service structures of the child welfare system. PCIT was selected for several reasons, including its efficacy in enhancing parenting practices and child mental health outcomes—two central needs of the population of interest. PCIT also fills a gap in services for young children, who are often underserved. Furthermore, PCIT is a relatively brief intervention, with an average course of treatment lasting 12–14 weeks. Thus, compared to longer-term interventions, PCIT was deemed to be a better fit for the context due to the uncertain duration of foster care placements.

The Current Study

Intervention and Study Design

This study uses data from a randomized field trial that was funded by the National Institutes of Health (R15HD067829) and conducted from 2011–2014 with the aim of testing an adapted PCIT model for foster parent–child dyads. PCIT is normally delivered by a therapist to a parent–child dyad in an outpatient clinic. For this study, PCIT was reconfigured to be delivered during group trainings to match the conventional format of foster parent training. We speculated that the abbreviated, group format would facilitate parent observational learning and treatment adherence as well as model sustainability within the agency. The group-based activities were augmented with a daily homework routine that parents completed with their children as well as weekly phone consultation calls during which parents reviewed their

progress with a clinician. Homework and phone consultation were thus intended to reinforce the clinical training sessions and promote the generalization of gains from training to the home environment (Mersky et al. 2015).

PCIT services were provided by a lead clinician with support from graduate students who were trained at a child welfare agency as part of their placement in a Title IV-E training program. Each practitioner completed 56 h of in-person training and at least one year of supervision with a master PCIT trainer. Fidelity to the clinical model was enhanced through the use of standard PCIT integrity checklists and reviews of videotaped clinical sessions. Specialized integrity checklists were also developed for this project to monitor fidelity to the telephone consultation protocol; an analysis of all completed sessions indicated that provider adherence to the protocol was 88.1%.

Eligible children in foster care ($n = 128$), ages 3–6, were randomly assigned to a waitlist control group or to one of two treatment groups that received either (a) two full-day PCIT trainings plus 8 weeks of telephone consultation and homework, or (b) three full-day PCIT trainings and 14 weeks of phone consultation and homework. Waitlist controls received usual care during the study, including standard case management and parent training services. Observational and caregiver report data were collected at baseline as well as eight weeks and 14 weeks post-baseline to test the model's impact. Informed consent was obtained from all study participants. For more information about the model adaptations and study protocols, please see Mersky et al. 2015 and 2016.

This study addresses the following research questions:

1. Compared to waitlist controls, do children who received PCIT show significantly greater improvements in emotion regulation, as indicated by lower lability/negativity symptoms?
2. Based on foster parent ratings of child externalizing, internalizing, and lability/negativity symptoms, how many latent mental health classes best fit the data?
3. Are there significant differences in latent class group membership between the treatment and control groups?

Instruments

Child Behavior Checklist (CBCL) The CBCL (Achenbach and Rescorla 2001) is a standardized parent-report measure of child emotional and behavioral problems. Providers with a child under age six completed the CBCL for Ages 1.5–5, and providers with a child age six or older completed the CBCL for Ages 6–18. Both versions of the CBCL produce broadband externalizing and internalizing problem scales with recommended clinical cutoffs (T score > 63). The CBCL has been shown to have good internal consist-

ency, test–retest, and inter-rater reliability as well as sound content validity (Ivanova et al. 2010). Internal reliability in the current sample was .90 (Ages 1.5–5) and .88 (Ages 6–18) for the externalizing scale and .84 (Ages 1.5–5) and .90 (Ages 6–18) for the internalizing scale.

Emotion Regulation Checklist (ERC) The ERC (Shields and Cicchetti 1997) measures two child emotion regulation subscales: lability/negativity (e.g., arousal, reactivity, anger dysregulation, mood lability) and adaptive emotion regulation (e.g., affective display, empathy, emotional self-awareness). Prior research indicates that the ERC has good internal consistency reliability as well as convergent and discriminant validity (Shields and Cicchetti 1997). The 15-item lability/negativity scale (Cronbach's $\alpha = .79$ in present sample) was the focus of the current study based on our interest in classifying emotional and behavioral dysregulation profiles. The ERC does not produce clinical cutoffs; higher lability/negativity scores indicate less capacity to regulate arousal and mood.

Data Analysis

Descriptive statistics (e.g., means; standard deviations) were calculated for all study variables using SPSS version 25.0. Next, a multivariate regression analysis was performed to test the effects of PCIT on children's ERC lability/negativity scores. Prior results have shown that the adapted PCIT model was associated with a significant reduction in CBCL externalizing and internalizing symptoms. As a precondition for our person-centered analysis plan, means comparisons were performed to confirm that externalizing and internalizing scores were significantly associated with lability/negativity scores and that the intervention was significantly associated with lower lability/negativity scores.

A latent profile analysis was performed via Mplus 8.1 (Muthén and Muthén 1998–2018) to expose unobserved subgroups of child symptom profiles based on their T-scores on the CBCL externalizing and internalizing scales and the ERC lability/negativity scale. The process of deciding how many classes best fit the data (i.e., class enumeration) was made based on low Bayesian information criterion (BIC), high entropy, and bootstrapped likelihood ratio tests (see Nylund et al. 2007). The resulting number of latent classes were regressed on treatment condition via a multinomial logistic regression model in Mplus. For this analysis, the two PCIT conditions were combined into one group because the two doses did not produce differential effects. Although there were no demographic differences between study groups at baseline (Mersky et al. 2016), child age, gender, and race/ethnicity were included in the analysis to protect against chance imbalances between groups.

Results

Most foster care providers in the sample were female (89.1%), and their average age was 44.3 years (SD = 11.2). Half of the foster parents were non-Hispanic white, 44.5% were non-Hispanic black, 4.7% were Hispanic, and 0.8% identified as other race/ethnicity. Over half were married (52.3%) and most had some post-secondary educational or vocational experience (79.1%). The median length of experience as a foster parent in the sample was 24 months. The mean age of children at the study start was 4.6 years (SD = 1.3), and 55.5% were female. The racial/ethnic distribution of sample children was 60.2% non-Hispanic black, 16.4% Hispanic, 15.6% non-Hispanic white, and 7.8% other race/ethnicity.

According to foster parent ratings at baseline, children's mean T-scores were 68.7 (SD = 9.1; range 46–100) on the CBCL externalizing scale and 63.4 (SD = 10.4; range 41–90) on the CBCL internalizing scale. The sample mean on the lability/negativity scale of the ERC was 38.6 (SD = 6.3; range 23–54). T-tests showed that lability/negativity mean scores were significantly higher among children with externalizing scores in the clinical range than the non-clinical range (42.9 vs. 32.2, p < .001). Lability/negativity means were also higher among children with internalizing scores above the clinical cutoff than children with subclinical scores (42.6 vs. 35.4, p < .001). Results also revealed that, compared to controls, children who received PCIT had significantly lower post-baseline lability/negativity mean scores (38.7 vs. 34.5, p = .003).

Latent profiles of externalizing, internalizing, and emotional lability were compared by testing the model fit of two-class, three-class, and four-class solutions. Results showed that the three-class solution fit the data better than the two-class solution, as denoted by lower BIC values (2802.1 vs. 2797.3), higher entropy values (.817 vs. .831), and a significant bootstrapped likelihood ratio test (− 2LL = 43.6, p < .001). For the three-class model, the average latent class probabilities for the most likely class membership were .944, .915, and .923, indicating good prediction of class membership. Although results suggested that the four-class solution fit the data slightly better than the three-class solution, the former model produced a subgroup with only four subjects, raising concerns about its interpretability and generalizability. Therefore, we selected the three-class solution based on its good fit and prediction of class membership. According to their aggregate symptom levels, the three-class solution classified children as presenting with mild problems (31.3%), moderate problems (51.5%), or severe problems (17.2%).

Figure 1 presents the pattern of child symptom profile for each class. Children classified with mild problems had the lowest mean scores on the externalizing scale (50.3), internalizing scale (47.8) and negativity/lability scale (29.6). The subgroup with moderate problems had intermediate mean scores on the externalizing (66.5), internalizing (62.3), and lability/negativity 37.1) scales. The class with severe problems had the highest mean externalizing (77.2), internalizing (67.5), and lability/negativity (46.9) scores.

A latent profile multinomial logistic regression analysis was conducted to test for differences in class membership between the PCIT treatment and control groups. Results shown in Table 1 indicated that children who received PCIT were significantly more likely to have mild problems than severe problems (OR 4.14, 95% CI 1.31–13.10). Children who received PCIT also were more likely than controls to have moderate problems than severe problems (OR 5.86, 95% CI 1.59–21.59). The PCIT and control groups did not differ in their likelihood of presenting with moderate

Fig. 1 Latent profile analysis of child externalizing, internalizing, and lability/negativity symptoms (N = 128)
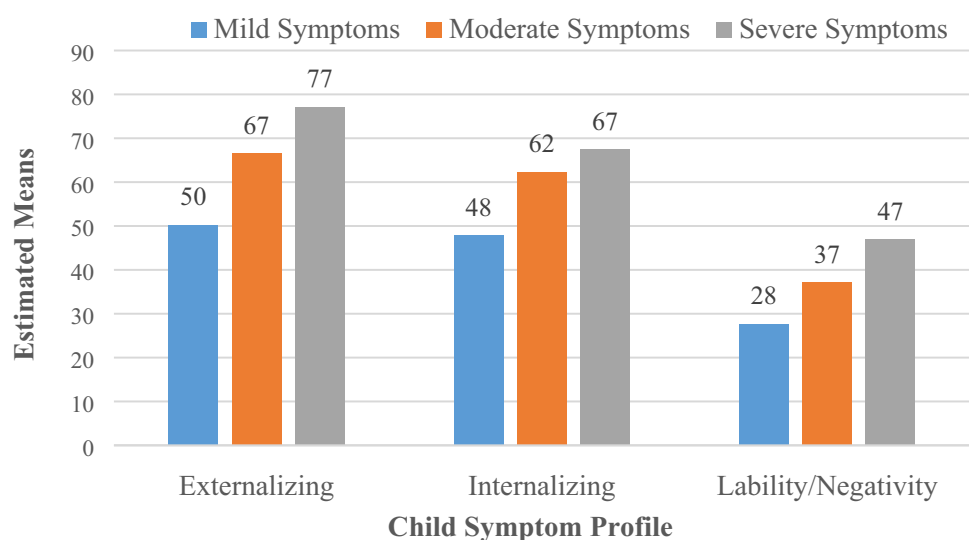
Table 1 Latent profile multinomial regression results (N = 128)

	OR	95% CI	p
Mild vs. severe			
Treatment	4.14	1.31, 13.10	0.016
Age	0.74	0.46, 1.21	0.237
Female	0.78	0.22, 2.74	0.702
African American	0.71	0.21, 2.43	0.583
Moderate vs. severe			
Treatment	5.86	1.59, 21.59	0.008
Age	0.86	0.55, 1.35	0.506
Female	0.60	0.16, 2.18	0.436
African American	2.00	0.49, 8.13	0.332
Mild vs. moderate			
Treatment	1.42	0.43, 4.63	0.564
Age	1.15	0.79, 1.69	0.463
Female	0.76	0.29, 1.98	0.577
African American	2.82	1.03, 7.76	0.044

OR odds ratio

problems as compared to mild problems (OR 1.42, 95% CI 0.43–4.63). There were no significant differences in class membership by child age, gender, or race/ethnicity with one exception: African American children were more likely to be rated as having moderate problems than mild problems (OR 2.82, 95% CI 1.03–7.76).

Project Two: Bringing Evidence-Based Practices to Scale in Child Welfare

As findings from the pilot study materialized and for multiple years thereafter, [Children's Hospital of Wisconsin] integrated PCIT within a specialized service unit that is dedicated to promoting child well-being by implementing evidence-based practices. Under the direction of the unit's Director of Well-being, three interns that were trained as PCIT therapists during the pilot study were hired to join a new team of 6–8 providers that deliver empirically supported services to children and families that have an open child welfare case. In addition to PCIT, which has been validated with children ages 2–7, the agency adopted trauma-focused cognitive behavioral therapy (TF-CBT; Cohen et al. 2012), a widely disseminated EBT for children ages 3 to 18 that is rated as well-supported by the CEBC. Clinicians within the well-being unit also provide child-parent psychotherapy (CPP), an EBT for infants and toddlers. With these three models, the unit can offer developmentally appropriate mental health services to trauma-exposed children from ages 0–18.

While establishing the well-being unit, [Children's Hospital of Wisconsin] collaborated with faculty from the [University of Wisconsin-Milwaukee] to implement conventional and modified PCIT within its standard care menu. One faculty member provided clinical consultation and supervision to the unit's providers, which helped the agency to deliver the services with fidelity while offsetting costs. Another faculty member worked with the agency to establish data protocols for assessing client progress and program improvement. Over time, these and other mutually beneficial exchanges led to the formation of the [Institute for Child and Family Well-being], a community–university partnership that aims to improve the lives of children and families with complex challenges by implementing effective programs, conducting innovative research, engaging communities, and promoting systems change.

Having established the organizational infrastructure need to implement EBTs on a small scale, the [organization blinded] began to expand its dissemination and implementation activities. To identify the most pressing mental health care gaps in the child welfare system, the [Institute for Child and Family Well-being] completed a regional and statewide needs assessment. Results showed only 7.2% of the 2088 children that entered foster care from July 2014 through June 2015 in [Milwaukee and Racine Counties, Wisconsin] received a mental health screening within 30 days of entering care. Over a third (35.3%) of the children that were screened had an indicated mental health problem, suggesting that hundreds of additional children with mental health difficulties could have been promptly detected had the expected screening protocol been applied universally. In addition to front-end screening, gaps in ongoing assessment and service provision were identified. For example, the Child and Adolescent Needs and Strengths (CANS; Lyons et al. 1999) tool is used statewide to assess trauma along with other risk and protective factors within 30 days after a child enters out-of-home care as well as every six months thereafter. Nearly half (49%) of the 4587 children that exited out-of-home care across the state in 2015 had not received a CANS assessment.

These findings underscored a previous analysis of data gathered by [the Wisconsin Department of Children and Families] in 2011, which found that only 3 out of 72 county child welfare agencies reported using evidence-based interventions. In response to these gaps in service coverage, the [Department of Children and Families], the state governmental agency responsible for the provision of services to children in need of protection, launched a statewide initiative in 2012 to increase the availability of TF-CBT. Over a period of 5 years, TF-CBT Learning Collaboratives were established in different regions of the state and hundreds of mental health providers were trained in TF-CBT across 43 counties and three tribal areas. As of 2016, however, a TF-CBT Learning Collaborative had not been established in [Milwaukee], the state's largest and most diverse metropolitan area.

The following section describes the *Trauma and Recovery Project*, an initiative that capitalizes on investments by the Department of Children and Families and the organizational readiness of the Institute for Child and Family Well-being to expand access to trauma-responsive mental health services in Milwaukee and Racine Counties. We briefly describe the collaborative planning process that led to the project and that is being used to fulfill its goals. We then present the long-term implementation goals of the project and progress made during the first 18 project months toward navigating barriers to these goals.

Collaborative Planning

The Trauma and Recovery Project was launched in 2017 with funding from the Substance Abuse and Mental Health Services Administration (SAMHSA; #SM063270-01) through the National Child Traumatic Stress Initiative (NCTSI). The NCTSI has established Community and Treatment Services Centers across the nation to help trauma-exposed children and families gain access to effective treatment services while collaborating with larger systems of care. The project leveraged existing relationships between multiple local and state organizations, including [the Department of Children and Families and the Institute for Child and Family Well-being]. Another key partner in the project is [the Wisconsin Office of Children's Mental Health], which works with other state agencies to enhance children's social and emotional well-being by improving child and family service systems. The partnership also includes the [Wisconsin Professional Development System], which offers training and professional development opportunities to child welfare professionals and foster care providers throughout the state.

Project collaboration is facilitated by an Executive Committee and two subcommittees. One subcommittee is charged with monitoring project data collection and performance assessment as well as facilitating the use of data to improve the quality of staff training and client services. The other subcommittee focuses on promoting treatment access, client engagement, and integration of consumer voice into project planning and implementation. Cross-agency collaboration and coordination of project activities are also fulfilled through an ongoing Collective Impact initiative guided by [Office of Children's Mental Health]. Collective Impact is a systems-change strategy that assembles consumers and professionals across agencies and systems to develop shared language and understanding of complex social problems. The Collective Impact process is facilitating the exchange of information between consumers and professionals. Lessons learned from the lived experiences of consumers, who make up at least one quarter of the Collective Impact team, are helping to identify facilitators and barriers to care and improve our understanding of the needs of families who have children with mental health difficulties.

Project Goals

The 5-year Trauma and Recovery Project has three intermediate aims, the first of which is to expand regional service capacity in TF-CBT, PCIT, and CPP. The project has established a Center of Excellence at [Children's Hospital of Wisconsin] to accelerate the implementation and dissemination of best practices in trauma-focused treatment. The Center is also tasked with devising solutions to alterable treatment barriers and developing alternative treatment approaches that can be integrated into usual care.

In the first 18 project months, 80 clinicians in [Milwaukee and Racine] have received training in an EBT, including 16 at the Center of Excellence. It is expected that approximately 150 regional providers will be trained by the end of the five-year period. While increasing access to professional training, the project supports providers in achieving model certification and, for a select few, progressing from practitioner to trainer status. Clinical training is provided via a learning collaborative model that supports the uptake and maintenance of evidence-based practices through a team-based, participatory approach (Ebert et al. 2012). Unlike the didactic trainings that are typically offered to child welfare staff, the learning collaboratives integrate didactics with competence training that involves coaching and other experiential activities that promote skill acquisition (McHugh and Barlow 2010).

A second project aim is to improve the identification and treatment of trauma and mental health symptoms by routinely implementing validated screening and assessment tools, including the Child Behavior Checklist and the UCLA Posttraumatic Stress Disorder Reaction Index (Rodriguez et al. 1998). Survey data gathered from participants in the project's Learning Collaboratives showed that, prior to receiving training (i.e., baseline), 55.7% reported using a standardized tool to assess trauma exposure. At six months post-baseline, 70.0% indicated that they used a standardized tool. Similarly, 52.3% reported at baseline that they used a standardized tool to assess trauma symptoms; at time 2, roughly two-thirds reported using a standardized tool (67.8%).

Third, the project aims to increase public and professional awareness of trauma and mental health services in the region. Resources such as fact sheets and issue briefs are being distributed to increase awareness of trauma and available mental health services among child- and family-serving agencies. Information is also being disseminated through multidisciplinary trainings and conferences. Additionally, parents and youth who have received child welfare services are sharing their lived experiences through a Collective

Impact process, described previously, to help identify facilitators and barriers to treatment that principally affect disadvantaged and underserved communities.

Progress toward the three intermediate aims above will help to fulfill the project's ultimate goal of helping trauma-exposed children and families access evidence-based mental health services. During the first 18 project months, clinicians at the Center of Excellence have served over 400 children with one of these EBTs. Based on current projections, more than 2,000 children will receive these services at the Center by the end of the five-year project.

Navigating Barriers to Implementation

Preliminary findings suggest that the project is hitting its targets for numbers trained and served, but there are still formidable barriers to implementing EBTs with fidelity and integrating them into standard care. One major challenge is that the models are time-intensive and, therefore, caseloads must be restricted to a manageable size. For example, clinicians employed at [Children's Hospital] carry smaller caseloads while they are participating in a Learning Collaborative. Adding to direct service time, agencies must ensure that their practitioners receive clinical supervision from a licensed provider. Altogether, these factors impose significant pressures on the resources of the implementing agency. As a result, when determining caseloads, the implementation sites must balance between what is optimal clinically and viable financially.

Adding to these pressures are agency data entry requirements, activities that are necessary for billing and beneficial for tracking client progress and promoting program improvement. Yet, clinicians often regard data entry as a burdensome task that draws their time and attention away from direct care. For the current project, these burdens are compounded by the obligations of the grant contract. The Center's clinics are asked to enter client data into SAMHSA's National Outcomes Measures system as well as a separate state-administered database. To no surprise, Center clinicians reported anecdotally that multiple data entry processes were duplicative and onerous. In response to this challenge, project data entry responsibilities were reallocated from clinical staff to administrative staff. In addition, agency personnel are collaborating with project evaluators to develop data capture protocols that are tailored to the work flow of each implementation site. One objective of this work is to create feedback loops at the Center's clinics whereby client assessment data continuously informs case planning and program improvement (Bickman et al. 2011).

Another set of barriers to treatment relate to the clients themselves. No-shows and attrition are a persistent challenge to treatment fidelity and administration. One way that the Center addresses this barrier is by exploring alternative treatment modalities that can increase client engagement as well as service access and efficiency. For example, Child–Adult Relationship Enhancement (CARE), an off-shoot of PCIT, is being piloted at one Center site. CARE is a 6-h skill-based training that can be implemented by caregivers of children from ages 2–18 with moderate emotional and behavioral concerns (Gurwitch et al. 2016). Initial evidence from a small randomized trial indicates that this brief approach was efficacious in training foster care providers to implement parent management training techniques and in addressing child anxiety and trauma-related symptoms (Messer et al. 2018).

Another client barrier that must be addressed is the stigma associated with mental health services. Research suggests that perceptions of stigma may be particularly acute in racial/ethnic minority clients (Clement et al. 2015). Parent consumers who are members of the project's Collective Impact process have also expressed this concern, and they have been actively engaged in developing direct outreach and public messaging strategies to combat the issue. Of course, stigma is not the only factor that contributes to disparities in treatment access. On a broader level, by allocating clinical training and direct services to [Milwaukee and Racine Counties], where a large proportion of the state's racial/ethnic minority citizens reside, the project is taking a step toward addressing disparities in treatment access. To date, 63% of the children served at the Center have been from an underserved racial/ethnic minority group. The project also has increased the number of racial/ethnic minority clinicians that are providing TF-CBT, PCIT, and CPP. Over the past 18 months, 30.5% of clinicians that have been trained in [Milwaukee and Racine] have self-identified as African American or Hispanic.

Conclusions and Future Directions

This paper presented two related, sequential projects that aimed to increase the use of EBTs in the child welfare system. The first is a randomized field trial of an adapted PCIT model that we tested with foster parent–child dyads. Extending previous study results that linked the intervention to reduced child externalizing and internalizing symptoms, we found that children who received PCIT exhibited improved emotion regulation in the form of reduced lability/negativity symptoms. Our findings are also consistent with studies that indicate PCIT alleviates emotion regulation difficulties (Rodríguez et al. 2014; Zimmer-Gembeck et al. 2019) and internalizing problems (Thomas et al. 2017). Thus, although it was originally designed as a treatment for externalizing behaviors, PCIT appears to be an effective treatment for many child mental health challenges.

Extending this line of inquiry, our person-centered analysis uncovered latent mental health profiles among study children based on their externalizing, internalizing, and emotion regulation symptoms. Results showed that the sample could be categorized into severe, moderate, or mild symptom profiles, and that children who received PCIT were less likely than controls to exhibit moderate and severe symptoms at the end of the study period. While it is premature to draw strong inferences from this analysis of a small, non-representative sample, our findings underscore the need for further transdiagnostic research on comorbid conditions—particularly in young children. Promising empirical evidence on transdiagnostic approaches for children and youth have surfaced in the last decade, including Modular Approach to Therapy for Children with Anxiety, Depression, Trauma, or Conduct Problems (MATCH-ADTC; Weisz et al. 2012). We look forward to the arrival of similar approaches for young children as well as transdiagnostic impact research on PCIT and other established EBTs that appear to be effective in treating varied symptom presentations. Identifying approaches that promote mental health broadly across domains may reduce the need for multiple potentially competing interventions and thereby maximize the use of limited resources.

The development of effective transdiagnostic interventions will be advanced by unveiling the underlying mechanisms that precipitate dysfunction and disorder. Increasingly, the field is turning to dimensional mental health frameworks such as the Research Domain Criteria (RDoC) that outline transdiagnostic factors that contribute to different disorders. Our findings suggest that emotion regulation difficulties co-occur with externalizing and internalizing problems. Emotion regulation has been implicated in the emergence and maintenance of mental health disorders (Aldao et al. 2010; Berking and Wupperman 2012), leading to calls for emotion regulation to be added to the RDoC matrix as a central domain of functioning (Fernandez et al. 2016; Sloan et al. 2017).

The second project is an ongoing collaboration between multiple organizations that is promoting access to PCIT as well as TF-CBT and CPP. Service capacity is being increased by training mental health professionals in these models statewide. A regional Center of Excellence is also developing protocols for screening and assessment, data management, and service referrals to increase the likelihood that children's needs will be properly identified and treated in a timely manner. If successful, these solutions can be exported to other regions of the state. In sum, this project joins other similar endeavors to disseminate EBTs and bring them to scale in child-serving systems (e.g., Herschell et al. 2015; Sigel et al. 2013).

Early returns from the first 18 months indicate that the project is meeting its intermediate training and service targets, though many barriers to full-scale implementation and access remain. To the extent that the project has been successful, two factors have played a pivotal role. For one, years of groundwork before the project cultivated organizational readiness at [Children's Hospital of Wisconsin], the primary implementation site, as well as at [Wisconsin Department of Children and Families]. As a result, the project is situated within an organizational context that supports evidence-based practice and some degree of innovation and systems change (Aarons and Palinkas 2007; Fixsen et al. 2005). A second, related factor that has facilitated the project's success is the community–university partnership between [Children's Hospital of Wisconsin] and [the University of Wisconsin-Milwaukee]. Community–university partnership models are gaining traction in multiple fields as a means of accelerating information exchange and building bridges between research, practice, and policy. In the child welfare arena, such partnerships can facilitate the reciprocal exchange of information between researchers, practitioners, and administrators about what children and families need, strategies to meet those needs, and the feasibility of those strategies given the context and resources available.

Taken together, the two projects represent eight years of commitment to a translational research agenda, and they demonstrate how community–university partnerships can facilitate the dissemination and implementation of EBTs in child welfare. Sustained partnerships of this kind require dedication among stakeholders to a shared vision and considerable investments of time and resources. Unfortunately, federal funding for children's mental health research has lagged in recent years, as illustrated by the 42% decrease in inflation-adjusted expenditures by the National Institutes for Mental Health (NIMH) from 2005 to 2015 (Hoagwood et al. 2018). The decrease in NIMH support for applied research has been pronounced, owing to agency budgetary restrictions (Gordon et al. 2018) but also competing funding priorities such as neurobiological research (Lewis-Fernández et al. 2016). Thus, we echo others who have cited the dire need for increased funding for research that holds the promise of disseminating evidence-based community mental health services across child-serving systems (Hoagwood et al. 2018; Kaplan et al. 2017).

Several specific gaps in treatment access should be addressed by the next wave of implementation science and translational research. Mental health service pipelines are necessary to ensure that children who enter the child welfare system are screened, assessed, and referred in a manner that is consistent with recommended standards (AAP 2005; CWLA 1988). Agencies should, to the extent possible, reduce barriers to access by cultivating a network of preferred providers who accept public insurance. When children are referred for services, case management practices should promote timely access and care coordination. To complement connections to community mental health providers,

child welfare agencies should also explore ways to integrate EBTs into routine services. Providing evidence-based parent management training to foster parents and biological caregivers, for example, is one way that the child welfare system can better address children's mental health needs.

Much can be done to improve services for children and families in the child welfare system by taking advantage of existing resources and connections within and between agencies. To achieve widespread improvements in mental health care, however, major policy changes must alter the way services are delivered and funded. The child welfare system is not designed to provide or procure mental health care effectively or efficiently, and only a small portion of federal and state child welfare dollars goes toward preventive services.

The 2018 Family First Prevention Services Act (FFPSA, P.L. 115-123) represents one promising, albeit measured, step toward reforming child welfare funding priorities. The FFPSA empowers states to use financing from Title IV-E of the Social Security Act to pay for services, without regard to family income, that stabilize families and reduce out-of-home placements. A Prevention Services Clearinghouse has been established to regulate which interventions are approved for reimbursement under FFPSA, and the law stipulates that at least half of state expenditures must go toward "well-supported" practices that have been tested in a rigorous trial and shown to have a sustained impact for a year or more. As of this writing, PCIT is one of six well-supported interventions listed by the Clearinghouse.

In addition to mental health interventions, in-home parent skill-based programs such as home visiting are reimbursable services. The Clearinghouse currently rates three long-term home visiting program models as well-supported: Healthy Families America, Nurse-Family Partnership, and Parents as Teachers. However, because the FFPSA caps the duration of funding per family to 12 months or less, briefer in-home interventions that improve child safety and well-being also warrant attention, such as SafeCare® (Gershater-Molko et al. 2003). In addition, the FFPSA will reimburse for up to 50% of training and administrative costs associated with delivering interventions, which should incentivize states to upgrade and reorganize the infrastructure that supports service delivery. Furthermore, state plans must include a rigorous evaluation of all practices that do not meet the highest standard of evidence. This may stimulate research on promising practices and ultimately increase the availability of effective mental health services that are available to children and families in the child welfare system.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the University of Wisconsin-Milwaukee Institutional Review Board (Federal Wide Assurance 00006171) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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