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Child Welfare

94 Years of Excellence 1922–2015

Special Issue

Families in Child Welfare Affected by Substance Use

(First of two issues)

Guest Editors
Nancy K. Young, PhD, and Julie Collins, LCSW

Together, Making Children and Families a National Priority

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Acknowledgements

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Special recognition goes to the select team from the NCSACW and Children and Family Futures staff, who provided their time and expertise conducting the reviews and selection of abstracts. A special acknowledgement goes to Sharon Amatetti, MPH, the NCSACW project officer from SAMHSA, and Elaine Stedt, MSW from Children's Bureau, Office on Child Abuse and Neglect, who provided guidance and oversight to the work of the NCSACW. We also acknowledge the contributions of Amanda Kellerman, MSW, and Kelly Jones from Children and Family Futures, who were instrumental in shepherding the project to fruition. We extend special thanks to the group of peer-review experts that lent their time and expertise conducting reviews of the manuscripts. Without the help of all of these individuals, this two-volume Special Issue could not have been completed.

Finally, special thanks go to the children and families, along with the professionals from the child- and family-serving systems, substance abuse treatment agencies, and community partners who have been so willing to share their journey and experience. It is hoped that this two-volume Special Issue will help increase the knowledge of the fields of child welfare, family courts, and treatment for substance use disorders, and will encourage other communities to take similar actions to improve the outcomes for this important set of families. We are honored and deeply appreciative.

A Note on Substance Use Disorder Terminology

Professionals in the fields of child welfare, treatment for substance use disorders, and the courts that oversee cases of child abuse and neglect may use a range of terminology to refer to concepts related to substance use, physical dependence, and addiction, such as *addiction, substance use disorders, substance use, substance abuse,* and *substance dependence.* Additional terms that might be used are *alcohol and other drug use, alcohol and other drug abuse,* and *alcohol and other drug dependence.* While there is variation in use of these terms in the field, the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-V), released in 2013, provides guidance on this terminology. The DSM-V no longer uses the terms *substance abuse* and *substance dependence*; rather, it refers to *substance use disorders,* which are defined as mild, moderate, or severe, to indicate the level of severity as determined by the number of diagnostic criteria met by an individual. The term *addiction* was also omitted from the DSM-V diagnostic terminology. Due to this change in terminology used in the DSM-V, the field is shifting toward the use of the term substance use disorders.

According to the DSM-V, substance use disorders occur when the recurrent use of alcohol and or drugs causes clinically and functionally significant impairment, such as health problems; disability; and/or failure to meet major responsibilities at work, school, or home. A diagnosis of substance use disorder is based on evidence of impaired control, social impairment, risky use, and pharmacological criteria. Alcohol and other drug use exists on a continuum; however, not everyone who uses substances develops a clinical substance use disorder. Therefore, there are cases in which the term *substance use* is justified. Any pattern of substance use by a parent can present risks of child abuse or neglect for children in the absence of protective factors, whether or not there is a diagnosed *substance use disorder.*

While the DSM-V indicates changes in the classification of substance use disorders, many child welfare, treatment, and court systems still refer to these disorders with the generic term *substance abuse*. There is variation in terminology within the articles in this journal, depending upon the context in which the author is using the term. In some cases, authors use the term *substance abuse* to indicate when an individual's substance use interferes with areas of life functioning, yet there may not be a clinically diagnosed substance use disorder. In other cases, the term addiction is used to refer to individuals who have a substance use disorder. While the authors have attempted to be clear in their delineation of the terms they are using, the reader should be aware of these variations in terminology and the current ubiquitous use of the term substance abuse as the field transitions to the DSM-V classification and terminology.

From the Editor:

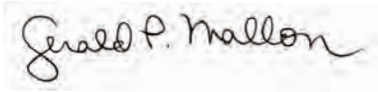
Substance Use and Child Welfare

Child welfare has been consistently dominated by three major social dilemmas that have serious consequences for our children, youth, and families: substance use disorders, domestic violence, and mental health. All of these conditions occur under a wide umbrella of poverty. Although each of these areas could fill a special issue of *Child Welfare,* this double issue of the journal focuses on issues related to parents with substance use disorders. Indeed, parental substance use and addiction complicate and interfere with the healthy development of children and youth—and in particular with children, youth, and families known to child welfare.

Volume I features articles on the prevalence of substance use among families involved in child welfare and its impact among specific populations such as infants, children with a serious emotional disturbance, and families in rural communities; it provides specific approaches for the provision of services for these children and their families, as well as for Native Americans living in urban communities. The volume concludes with a description of the federally funded grant program for children affected by methamphetamine that provided family drug courts with funds to augment their services with specific parenting and child development interventions. The focus of the Volume II is on the importance of collaborative efforts to improve outcomes for children and families, such as the regional partnership grants program and family treatment drug courts.

"One day at a time for the rest of my life" is a common adage among persons in recovery. This statement suggests that the work of recovery is ongoing, but parents can and do recover. Our policies and practices in child welfare ought to reflect this reality, and the articles in these issues document the extraordinary efforts underway across the nation to improve the outcomes for this critical set of children and their parents.

We wish to thank the co-editors of this special volume, Nancy K. Young and Julie Collins, who are two of our profession's finest advocates for understanding and addressing the plethora of issues faced by families affected by parents' substance use and child abuse or neglect.



Gerald P. Mallon DSW
Senior Editor

Special Foreword:

Substance Use and Child Welfare

(First Issue)

CWLA's 2001 Special Issue of *Child Welfare* put a spotlight on parental substance use disorders among families in child welfare, including those involved with dependency courts. This topic was of increasing concern because throughout the 1990s, child welfare systems and courts had experienced growing numbers of cases, and many children remained for too long in out-of-home care. The articles in the 2001 Special Issue reflected initial efforts to identify and address these challenges using new case practice and treatment approaches—yet, the editors recognized that this was just the beginning. They suggested that to achieve better outcomes for children and families, five challenges should be addressed by child welfare, the courts, and the systems that provide treatment for substance use disorders and the community resources that support recovery: (1) improved information systems that track these families across systems; (2) expanded resources specific to this population; (3) a better understanding of policies and interventions for infants with prenatal substance exposure; (4) a continuing need to invest in staff development; and (5) ensuring a family focus in child welfare interventions.

Since that time, much work has been conducted and much progress has been made. Many communities across the nation have invested their time and resources to provide enhanced outreach efforts to this group of families through specialized recovery management and motivational enhancement services, developing more than 360 family drug courts, focusing on improving data monitoring across the various systems, instituting comprehensive cross-system training programs, and developing state-wide strategic plans focused on improving outcomes. The federal government fostered grant programs targeting this population, and funds a resource center to provide training and technical assistance to states, tribes, and communities focused on this population. The National Center on Substance Abuse and Child Welfare (NCSACW) (www.ncsacw.samhsa. gov) is jointly funded through the Substance Abuse and Mental Health Services Administration and the Administration on Children and Families (ACF), providing a wide array of training and technical

assistance resources. The Department of Justice's Office of Juvenile Justice and Delinquency Prevention has also provided a targeted training and technical assistance effort to improve dependency court proceedings and to foster the development and improvements of family drug courts (see http://www.cffutures.org/projects/family-drug-courts-tta).

Child welfare agencies have worked with treatment agencies and the courts to create new practices and policies that take a collaborative approach toward achieving better outcomes for these children and families. During this 15-year period, states and communities have also seen significant changes in the drug use patterns across the country requiring shifts in resources, approaches, and training to ensure that workers have sufficient knowledge to effectively work with the changing landscape of substance use and co-occurring mental disorders. The production and use of methamphetamine in the first decade of the 21st century required new partnerships by child welfare agencies with law enforcement. The proliferation of opioid-based prescription drugs use and its resultant epidemic of heroin use, combined with the rapid escalation of overdose deaths, has put additional strain on child welfare agencies and courts. The needs of the growing numbers of grandparents and kin who are caring for children involved in child welfare, along with the training needs of staff on medication-assisted treatment for opioid use disorders, are current challenges facing child welfare systems and courts.

Research has also expanded in various fields of practice, including studies that indicate far too many infants in their prenatal period are exposed to alcohol, tobacco, and other drugs, placing them at-risk for neurodevelopmental challenges throughout their lives. Research findings have also driven practice changes to address the needs of each family member in a child's life. Studies such as the Adverse Childhood Experiences,[1] which assessed the association between childhood maltreatment and later-life health and well-being consequences, have brought to light the impact of trauma on two sets of family members: children who are victims of child abuse or neglect and the extraordinarily high rate of parents in child welfare services who have significant trauma histories that must be addressed during treatment for their substance use disorder together with any co-occurring

[1] Information on the study by Centers for Disease Control and Prevention and Kaiser Permanente can be found at http://www.cdc.gov/violenceprevention/acestudy/.

mental disorders. Advancing knowledge of the neuroscience of addictive disorders and evidence-based programs and practices that work with this population have also led to a better understanding of the need for adjustments in practices, treatment approaches, and policies. Even the latest version of the *Diagnostic Services Manual* (DSM-V), which has reclassified the disorders as levels of severity of addiction to alcohol and other drugs, is having an impact on treatment systems and approaches. Research on child abuse and neglect, protective factors, and resiliency has supported the increased use of parent partners and community resources in prevention and intervention with children and their families. Evidence-based practice in parenting programs has supported new ways of addressing the needs of parents as effective prevention among this set of children at high risk of developing their own substance use disorder.

The recent recession has had a significant impact on many communities, with reductions in resources available to families. At the same time, expansion of health insurance coverage across the nation is leading to better health care for family members, while the enforcement of insurance benefit parity rules for treatment for substance use and mental disorders is creating shifts in funding for treatment. There have also been changes in legislation affecting child welfare interventions for this group of families, including amendments to the Child Abuse Prevention and Treatment Act (CAPTA) Title II, that requires infants identified with effects from prenatal substance exposure be provided with a plan of safe care. Federal grant investments, research efforts, and other state and local initiatives have led to practices, treatment approaches, and policies that have improved outcomes for the children and families affected by substance use.

Despite these investments, much work still remains in order to implement these practices, treatment approaches, and policies to the scale at which they are needed across the country. In honor of the advancements made to date, CWLA and the NCSACW have compiled the lessons from many of these efforts into this two-volume special issue of *Child Welfare.*

Volume I of this special issue features articles on the prevalence of substance use among families involved in child welfare and its impact among specific populations such infants, children with a serious emotional disturbance, and families in rural communities. The volume also provides specific approaches for the provision of services for these children and

their families, as well as for Native Americans living in urban communities. The volume ends with a description of the federally funded grant program for children affected by methamphetamine (CAM) that provided 12 family drug courts with funds to augment their services with specific parenting and child development interventions.

The focus of the Volume II is on the importance of collaborative efforts to improve outcomes for children and families, such as the regional partnership grants (RPG) program and family treatment drug courts. It also highlights predictors of substance abuse assessment and treatment completion and specific approaches to improve family engagement in services that show much promise. It ends with an article about the unintended outcome from an intensive family preservation service approach that increased families' sense of hopefulness as they participated in child welfare services, which significantly correlated with decreases in the problem severity and mental health symptomology.

The current volume begins with an article to help readers gain a better understanding of the current scope of the problem of parental substance use as a factor in child welfare cases. Author Seay reviews the studies on the prevalence rates and points out the lack of current studies focused on this important issue, as well as the wide variation in the data. Despite the oft-cited estimates, there were surprisingly no published studies on the prevalence of the issue in the past decade. The author found that administrative data submitted by states to the Children's Bureau reflected a range from less than 10% of child removals associated with parental substance use to well over 60% in some states. While the author's original intent was to narrow the prevalence estimates, she found that based on current research, it is not possible to accurately estimate the prevalence of parental substance use disorders in child welfare cases, and calls for specific reforms to improve the administrative child welfare data as well as specific improvements in research on this population.

The next article focuses on the prevalence of mental health diagnoses for a group of children with prenatal substance exposure in a rural community and those in an urban area in Illinois. Authors Chasnoff, Telford, Wells, and King hypothesized that children in rural communities would have higher rates of mental health diagnoses, and that those disorders were due to a lack of access to mental health services; however, the researchers found that the majority of children in the rural group had in

fact received prior mental health services. They determined that the higher rate of mental health diagnoses among the rural population, particularly higher rates of internalizing behaviors (e.g., anxiety and mood disorders), were driven by the higher rates of chronic neglect. While these findings are specific to children with prenatal substance exposure, they have great importance for child welfare practice, as nearly three quarters of children with substantiated maltreatment are those with neglect allegations. The findings point to the need for child welfare to more fully assess and intervene with children to prevent and treat childhood mental health diagnoses among those with substantiated chronic neglect.

Authors Akin, Brook, and Lloyd, from the University of Kansas, focused on families in child welfare who had a child with a serious emotional disturbance. They classified families into groups of those with and without parental substance use disorders, finding that 37% of the parents were determined to be in the substance use disorder group. Child and adult assessments were conducted in four domains: child well-being, socioeconomic factors, parent history of trauma and foster care, and parent functioning. The authors found distinct differences between families with and without parental substance use disorders that merit unique program responses to the complexity of parenting a child with a serious emotional disturbance.

Despite the problems of obtaining prevalence data, it is known that for certain segments of the population, there are disproportionate numbers involved with the child welfare system and with disparities in those receiving needed treatment services. This is especially true with Native American children and families. Authors Lucero and Bussey use their 15 years of experience providing family-focused services to urban Native families to describe a culturally responsive approach, using practice-informed evidence developed at the Denver Indian Family Resource Center. They highlight the need for non-Native child welfare workers and treatment providers to pay increased attention to the trauma experience of Native families involved with child welfare, and provide culturally responsive services that draw on families' kinship networks and values such as generosity, respect, humility, worldviews, and traditional practices. The authors describe four essential culturally responsive practices that lead to improved outcomes. While these culturally responsive practices were generated with urban Native families, clearly they are lessons in good practice for the population of children and families involved with child welfare affected by parental substance use as a whole.

The next two articles describe treatment approaches to address the specific needs of families affected by parental substance use who live in rural communities. Authors Hall, Huebner, Sears, Posze, Willauer, and Oliver describe the implementation and outcomes of the Sobriety Treatment and Recovery Teams (START) model in a rural Appalachian county with high rates of poverty, nonmedical prescription drug use, and child maltreatment. They found improved outcomes for the children served by the START program. These children were less likely to reenter foster care and to experience recurrence of child abuse or neglect compared with a matched control group. Authors Pollock and Green, on the other hand, looked at the outcomes from a rural family drug treatment court (FDTC) in North Carolina, where approximately a quarter of the families live below the poverty level and nearly 40% of the population identify as American Indian. The local policymakers have been engaged since 2007 in developing a structured, collaborative approach to improve child and family well-being and reduce the impact of out-of-home care on children and their families. Gender-specific, intensive outpatient and residential services were supplemented with evidence-based programs, such as Matrix Model, Seeking Safety, Strengthening Families Program, and augmenting clinical social work services with child and family therapy. The comparison group was selected from other counties in North Carolina who did not have access to FDTC and the complement of additional services. The authors found that families in the treatment group required more days until permanency was achieved for the child(ren) than did the comparison group—but, importantly, they experienced a much lower rate of maltreatment recurrence, suggesting that this FDTC model had enduring positive effects for families.

While the two prior articles focus on treatment approaches for children and families in rural communities, the next two articles focus on approaches that specifically address the needs of infants and young children and preventing their removal from their families. The first article, by Hanson, Saul, Vanderploeg, Painter, and Adnopoz, discusses reducing parental stress and depression while increasing the bonding with their child; the second article, by Rivera and Sullivan focuses on a housing, treatment, and supportive services approach to keep children with their parents to minimize the trauma of removal when they are placed in out-of-home care.

Authors Hanson, Saul, Vanderploeg, Painter, and Adnopoz detail Family-Based Recovery, a program designed for families participating in child

welfare in-home services in Connecticut. The program is based on the hypothesis that children have the best chance to thrive in a substance-free, safe, and stable home with their biological family and that parenting can be a positive reinforcement in recovery from substance use disorders. Nearly 1,000 parents have participated in the program, achieving favorable outcomes in a paired pre-/post-test design on several measures of parent mental health, parenting stress, and parent-child bonding. The authors suggest the model demonstrates that preventing child removal is possible while their parents participate in treatment for substance use disorders.

Authors Rivera and Sullivan describe their evaluation of a housing-based model of support to families designed to reduce placement of children in out-of-home care and its associated trauma. The model includes pairing certified treatment professionals who have personal experience in recovery with child welfare investigations staff, family-based emergency housing with on-site case manager and treatment staff, intensive day treatment, and therapeutic child care and child development services. Ongoing housing needs are provided in a continuum leading to permanent affordable housing with drug- and alcohol-free leases. The authors found significantly favorable outcomes for program participants in decreased repeat maltreatment and subsequent child removals with higher reunification rates than the comparison group. The program model has been expanded to other Oregon counties through state legislation.

The last article in this volume describes findings from the federally funded grant program serving children affected by methamphetamine (CAM). The CAM grant program was funded by the Substance Abuse and Mental Health Services Administration in 2010 to provide 12 family drug courts with funds to augment their services with specific parenting and child development interventions. Authors Rodi, Killian, Breitenbucher, Young, Amatetti, Bermejo, and Hall provide an in-depth description of the range of services the grant sites chose to implement, including various parenting education programs, behavioral and developmental screening for children with service coordination to meet those needs, targeted outreach and engagement service models, therapeutic and trauma-focused child or parent-child interventions, and trauma-focused parent interventions. The authors describe several key implementation lessons regarding the addition of parenting and child development services in existing family drug courts as they shifted their focus from parents' recovery to family well-being.

Conclusion

This group of articles highlights the importance of improving data collection and information systems, expanding resources specific to this population, increasing understanding of policies and interventions for infants with prenatal substance exposure, meeting the ongoing need to invest in staff development, and ensuring a family focus in child welfare interventions. Despite the advancement of our knowledge on how to serve these families better, there are still concerns and much work to be accomplished. Parents with substance use and mental disorders are given disproportionately inadequate attention in child welfare systems relative to their impact on caseloads, costs, and the lives of the children and their family members. Public child welfare agencies need and deserve help from other child and family serving agencies; they cannot accomplish their mission with their own limited resources. Progress has been made at the project level, which is often in just one community, with proven improved outcomes, but little is being done at scale or in moving toward scale. Resources and results can reinforce each other, but the critical ingredient is leadership that builds trusting relationships as the foundation for strategic policy change. As we look forward to the next decade of developing, testing, and scaling up interventions for this significant set of families, prognoses for the future includes the need for focused leadership to address these challenges. Strategies for using new and modified funding streams from within and outside child welfare agencies are critical to moving toward scale. We can no longer say that we do not know what to do to obtain better outcomes with this critical set of families. Yet, without focused leadership on this issue, there may well be less than optimum results for children involved in child welfare who have parents with a substance use disorder, as well as for those with co-occurring mental disorders.

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How Many Families in Child Welfare Services Are Affected by Parental Substance Use Disorders?

A Common Question that Remains Unanswered

Kristen Seay
University of South Carolina

Associated with extensive negative outcomes for children, parental substance use disorders are a major concern within the child welfare system. Obtaining actual prevalence rate data has been difficult, however, and there are no recent published reports on this issue. Using a systematic search, this paper examines: (1) Prevalence estimates of parental substance use disorders in the child welfare population; (2) the types of child welfare involvement for reported prevalence estimates; and (3) how prevalence information is being collected. Prevalence rates were found to have a wide range, from 3.9% to 79%, with regional prevalence estimates being higher than national estimates. Prevalence rates of parental substance use disorders varied by type of child welfare involvement of the family and method of data collection. This study points out the need for improvements in prevalence estimates in the United States and national data collection procedures to ensure that child welfare and substance abuse treatment systems are adequately responding to children and families with substance use disorders.

Parental substance use disorders are a major concern within the child welfare system (Hill, Tessner, & McDermott, 2011; Seay & Kohl, 2013; Seay & Kohl, 2015; Staton-Tindall, Sprang, Clark, Walker, & Craig, 2013). Yet, estimates of the prevalence of parental substance use disorders in the child welfare system have been cited to range from 5% to 90% (Jaudes, Ekwo, & Van Voorhis, 1995; Jones, 2004). Such a wide range indicates a lack of precision and consensus on this topic. Although prevalence is often cited as a range in the literature, little description is provided for the basis of these estimates. Researchers have frequently discussed the need for future research to examine how many clients involved with child welfare have substance use disorders (Jones, 2004; Semidei, Radel, & Nolan, 2001; Young, Boles, & Otero, 2007). To report on the current state of the field and to recommend policy changes to better track parental substance use disorders, this article examines and systematically compares the ten empirical studies that provide estimates of the prevalence rates. Within the article, child welfare indicates a continuum of agency involvement including investigations, in-home services, foster care, and adoption. Estimates are compared based on (a) whether they are from regional or national samples; (b) by the type of child welfare involvement (i.e., all child welfare reports, families receiving in-home services, and families with a child in foster care); and (c) by the source of data used to measure substance use.

Issues in the Measurement of Substance Use Disorders

The Statewide Automated Child Welfare Information System (SACWIS) does not require states to collect information that could be used to determine the percentage of families in the child welfare system that are affected by parental substance use, and the Adoption and Foster Care Analysis and Reporting System (AFCARS) treats these data as voluntary for states to submit in their reporting to Children's Bureau (Young et al., 2007).

Explanations for the wide variation in prevalence estimates have been proposed by a number of researchers. The type of child welfare involvement of the sample is one key distinction that may be contributing to

inconsistencies in rates (Besinger, Garland, Litrownik, & Landsverk, 1999; Jones, 2004; Semidei et al., 2001; U.S. Department of Health and Human Services [USDHHS], 1999; Young et al., 2007). The prevalence rates of substance use disorders among families involved with child welfare has been proposed to increase across the continuum of services, from cases in which children are not removed (often referred to as in-home services), to more intensive services in which children are placed in protective custody in foster or kinship placements, to those for whom parental rights are terminated and children are adopted or in legal guardianships. The data collection method has also been proposed to impact prevalence estimates (Jones, 2004; USDHHS, 1999; Young et al., 2007). Researchers have used a wide array of data collection methods to assess for prevalence because no standard method or definitions exist. Case record reviews of case files may include examinations of risk assessment measures, case notes, court records, and other completed forms and documents. While in some studies workers are interviewed about their perceptions of parental substance use, other studies may use strict diagnostic guidelines for alcohol dependence and drug dependence. Additional explanations include inconsistencies across studies in definitions for substance use disorders (Besinger et al., 1999; Jones, 2004; Semidei et al., 2001; USDHHS, 1999; Young et al., 2007); whether or not both parents are assessed (Besinger et al., 1999; Jones, 2004); and in the onset, recency, or duration of the substance use disorder (Jones, 2004).

The following research questions will be answered in this study:

1. What are the prevalence rates being reported for parental substance use disorders in the child welfare population?
2. What are the types of child welfare involvement for the reported estimates?
3. What sources of data are used to measure substance use disorder prevalence?

Methods

This review located studies reporting prevalence rates of substance use disorders among samples of parents in the child welfare population.

Prevalence is the total number or percentage of individuals in a given population that have a particular condition. Prevalence is distinct from incidence (i.e., the number of new cases with a particular condition in a given population), and is the focus of this review. In the study, the term *parent* is used to describe primary caregivers who may have been biological/step/foster/adoptive parents, custodial grandparents, or legal guardians providing long-term care of a child.

A detailed literature search was conducted to identify journal articles or government documents discussing data collection of prevalence estimates of substance use disorders among parents involved with child welfare in the United States. In the initial search for published journal articles, a total of six databases were searched: Academic Search Premier, CINAHL Plus, MEDLINE, PsycINFO, Social Work Abstracts, and SocINDEX. The terms used in this search were *substance abuse, prevalence,* and *child welfare,* as well as synonyms of these terms. The search was not limited by publication year due to the small number of studies meeting inclusion criteria. This initial search resulted in 239 references published between 1983 and 2004. Titles, abstracts, and the text of these articles were reviewed to determine if they reported prevalence rates of parental substance use in the child welfare system. In articles in which prevalence rates were cited from another article, citations were used to find the original article or government report listed in the 239 articles.

Government reports are publically available documents that were created for submission to committees of the U.S. House of Representatives or U.S. Senate. Citations listing information received through personal communication or studies lacking basic details on how the data were collected were excluded from the study. A small number of highly cited articles that reported prevalence rates based on anecdotal information (e.g., Judge Doe stated that over half of his cases involve substance abuse) were excluded from the study. Three studies that provided prevalence estimates were excluded from this analysis due to extremely specific samples (e.g., all children were survivors of parent-perpetrated sexual abuse) not widely generalizable to the child welfare population.

This search resulted in the inclusion of nine studies (see Table 1 on page 36) measuring the prevalence rates of substance use disorders among parents in the child welfare population.

To incorporate unpublished but relevant scholarly work, the author conducted a separate search with the search terms described above using online search engines. This resulted in one additional article for the sample (Gibbons, Barth, & Martin, unpublished) that was drawn from an academic website listing the article as under review. Additionally, unpublished data from the Adoption and Foster Care Analysis and Reporting System (AFCARS) was included in the analysis. This resulted in a total of eleven studies. The search was replicated by a trained graduate assistant. No additional articles were found in the replicated search. Using SAS 9.4, mean and standard deviations were obtained for the total studies and for smaller groups of studies within the sample. These means and standard deviations do not provide any weighting based on the sample size of the eleven studies or the number of estimates per study.

Results

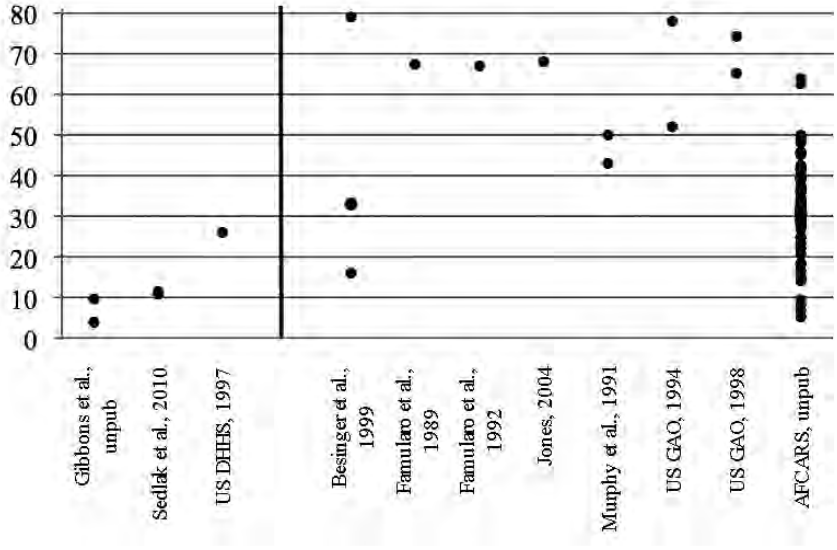
Description of Studies

Of the eleven studies reporting primary data collection of prevalence rates for parental substance use disorders in the child welfare system, three studies provide national estimates (Gibbons et al., unpublished; Sedlak et al., 2010; USDHHS, 1997) and eight provide state or regional estimates (AFCARS, unpublished; Besinger et al., 1999; Famularo, Kinscherff, Bunshaft, Spivak, & Fenton, 1989; Famularo, Kinscherff, & Fenton, 1992; Jones, 2004; Murphy et al., 1991; United States General Accounting Office [USGAO], 1994, 1998). Prevalence rates across the eleven studies in the sample ranged from 3.9% to 79% (Figure 1; $M = 35.04$, $SD = 18.06$). In Figure 1, national prevalence estimates are located to the left of the solid black line and regional prevalence estimates are to the right. National prevalence estimates ($n = 5$) were lower than regional estimates, ranging from 3.9% to 26% ($M = 12.34$, $SD = 8.19$).

State and regional prevalence estimates (n = 63) ranged from 5.2% to 79% (M = 36.84, SD = 17.42).

Figure 1

Prevalence Rates of Parental Substance Use in Child Welfare



Each of the national estimates was obtained from large sample, national probability studies. First, Gibbons and colleagues (unpublished) report data from the National Survey of Child and Adolescent Well-Being I (NSCAW), which assessed the prevalence of caregiver substance use disorders among all families reported to child welfare for maltreatment and a subgroup of these families in which the children remained in the home following the baseline report. Next, Sedlak and colleagues (2010) report estimates based on data from the Fourth National Incidence Study of Child Abuse and Neglect (NIS-4). The NIS-4 sample includes both families reported to child welfare and families that

were not reported to child welfare but in which child maltreatment had occurred. The prevalence estimate focuses on a subset of the NIS-4, cases in which there was clear harm to the child (Sedlak et al., 2010). Finally, the USDHHS (1997) National Study of Protective, Prevention, and Reunification Services Delivered to Children and Their Families interviewed the caseworkers of a random sample of children and their families with an open child welfare case on March 1, 1994. Additional details about the sample of each study, type of child welfare involvement, how substance use was defined, and how information was collected is available in Table 1 (see page 24).

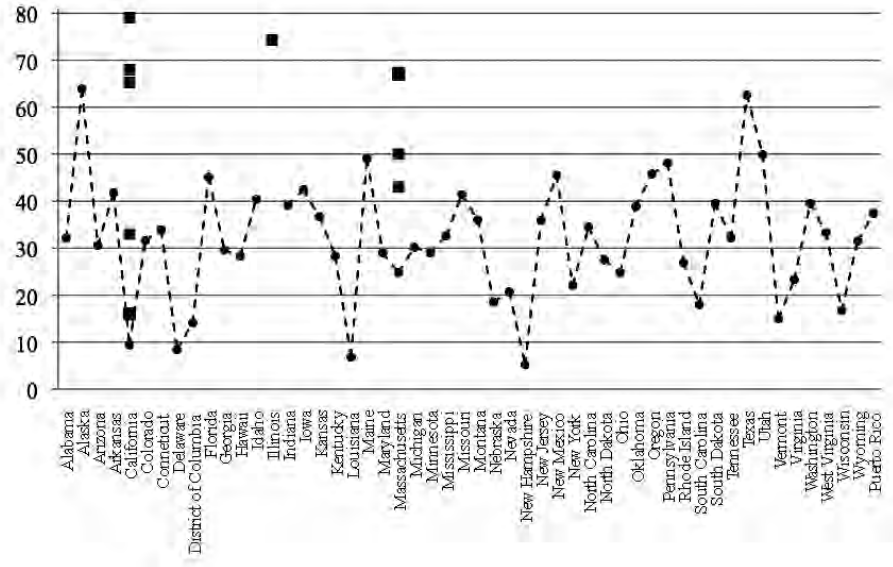
The regional studies varied in the number of states for which they provided estimates. Five of the seven regional studies provide data on one state or rates for one county in a state (Jones, 2004; Murphy et al., 1991; Besinger et al., 1999; Famularo et al., 1989; Famularo et al., 1992). The other three studies provide estimates for two states (USGAO, 1998); three states (USGAO, 1994); or all 50 states, the District of Columbia, and Puerto Rico (AFCARS, unpublished). Excluding the AFCARS data, the remaining seven regional studies only collected data in five total states, with four studies reporting data on California (Besinger et al., 1999; Jones, 2004; USGAO, 1994, 1998); three studies reporting data on Massachusetts (Famularo et al., 1989; Famularo et al., 1992; Murphy et al., 1991); and one study each reporting data on Pennsylvania (USGAO, 1994), Illinois (USGAO, 1998), and New York (USGAO, 1994). With the exception of the AFCARS data, which provides the number of children placed in out-of-home care with parental alcohol or drug use as a factor in the child's removal for all states (except Illinois, which does not report the parental alcohol and drug use data), the vast majority of regional data are coming from the northeast or California; less is known about the rest of the country.

To illustrate the available prevalence estimates for each state, AFCARS data and individual state estimates are presented in Figure 2. The extreme variability in AFCARS data is illustrated by the dotted line connecting estimates. Comparing the regional prevalence estimates to the AFCARS data, square data points indicate prevalence estimates for

three states: California (Besinger et al., 1999; Jones, 2004; USGAO, 1998), Massachusetts (Famularo et al., 1989; Famularo et al., 1992; Murphy et al., 1991), and Illinois (USGAO, 1998). For the national studies (Gibbons et al., unpublished; Sedlak et al., 2010; USDHHS, 1997) and for USGAO (1994), it was not possible to identify estimates by state.

Figure 2

Prevalence Estimates by State



Note: Dotted line indicates AFCARS data by state; No AFCARS data reported for Illinois; Square markers indicate regional estimates separated by states where possible.

Type of Child Welfare Involvement

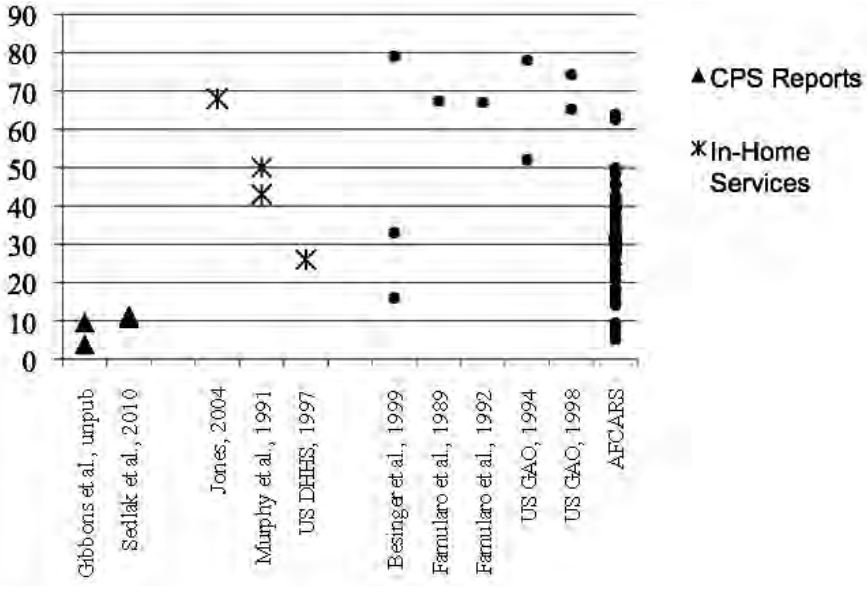
To examine prevalence rates by the type of child welfare involvement, each of the eleven studies were classified by the type of child welfare services (see Table 1). Two studies reported the prevalence among families referred to child welfare who may or may not have received any

services (Gibbons et al., unpublished; Sedlak et al., 2010) (see Figure 3). Sedlak and colleagues (2010) also contained families who were not reported to child welfare but a community professional reported to the study team that the child was maltreated. Three studies reported prevalence rates among cases in which in-home services were provided to the family by child welfare (Jones, 2004; Murphy et al., 1991; USDHHS, 1997). Finally, six studies reported prevalence rates among cases in which the children were removed and placed in foster care (AFCARS, unpublished; Besinger et al., 1999; Famularo et al., 1989; Famularo et al., 1992; GAO, 1994, 1998).

Prevalence rates of parental substance use disorders were observed to vary based on the type of child welfare involvement of the sample. Among all families reported to child welfare (n = 4), prevalence estimates ranged from 3.9% 11.4% (M = 8.93, SD = 3.43). Among families receiving

Figure 3

Prevalence Rates by Type of Child Welfare Involvement



in-home services (n = 4), estimates ranged from 26% to 68% (M = 46.75; SD = 17.39). In families with children placed in foster care (n = 60), estimates ranged from 5.2% to 79% (M = 36.00, SD = 17.26).

Methods of Data Collection

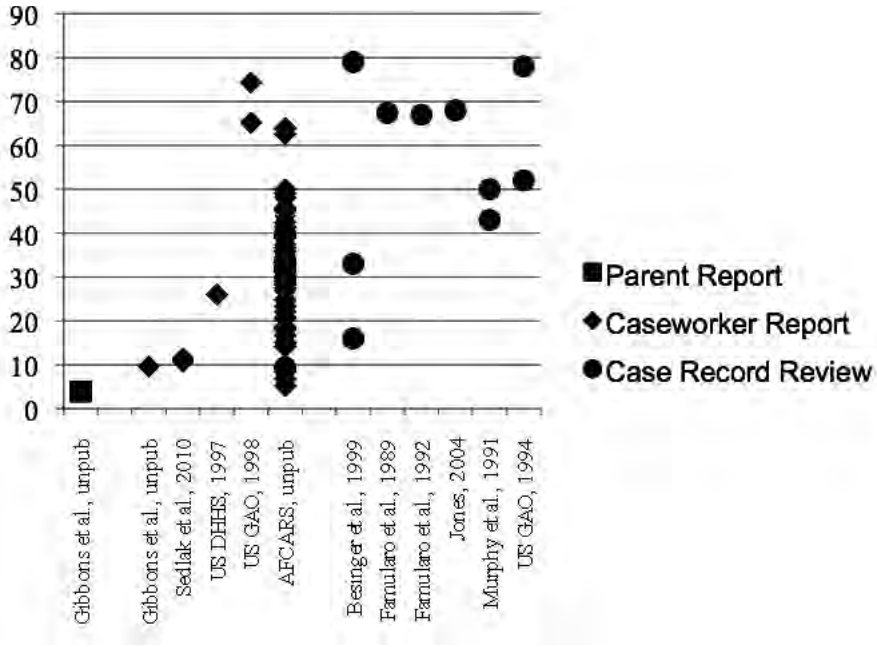
The method of data collection for each study was examined (see Figure 4). Each statistic was classified based on the method of data collection used. Therefore, a study by Gibbons and colleagues (unpublished), which collected data using more than one method, was listed in two categories with a different statistic reported in each category. Six studies assessed for the presence of parental substance use disorders through case record reviews (Besinger et al. 1999; Famularo et al., 1989; Famularo et al., 1992; Jones, 2004; Murphy et al., 1991; USGAO, 1994). Parental substance use disorders were assessed through caseworker reports in five studies (AFCARS, unpublished; Gibbons et al., unpublished; Sedlak et al., 2010; USDHHS, 1997; USGAO, 1998) and parent report in one study (Gibbons et al., unpublished). In the Sedlak and colleagues (2010) study, both child welfare caseworkers and community sentinels were reporters for the study. The Sedlak and colleagues study was grouped with the caseworker report studies because data reported by both child welfare caseworkers and community sentinels were combined and separate results could not be obtained. Prevalence estimates varied based on the source of information about the parent's substance use disorder. Only one study provided estimates based on the caregiver's self-report (3.9%). Caseworker report of substance use (n = 57) produced estimates from 5.2% to 74.3% (M = 32.02, SD = 14.94). Case record reviews resulted in the highest prevalence estimates of parental substance use disorders, ranging from 16% to 79% (M = 55.34, SD = 20.42).

Discussion

Despite the vast differences among the studies, some generalizations can be made. The family's type of child welfare involvement has some impact

Figure 4

Prevalence Rates by Method of Data Collection



on the prevalence rate of parental substance use disorders in the child welfare population. Rates of substance use disorders were consistently lower in samples of reported cases (M = 8.93, SD = 3.43) than in families receiving in-home services (M = 46.75; SD = 17.39) or families with children placed in foster care (M = 36.00, SD = 17.26). Although it was anticipated that rates of substance use would be higher in the foster care sample than the in-home services sample, the prevalence of substance use disorders was higher in the in-home services group than the foster care sample. The high level of variability within the AFCARS data (5.2% to 62.2%) was one possible reason for this relationship. When the AFCARS data were removed from the foster care sample, the anticipated relationship was found with the foster care sample having a higher

mean prevalence (M = 59.10, SD = 21.63) than the in-home services group (M = 46.75, SD = 17.39). The AFCARS data only reports alcohol and drug use that was associated with the reason for the child's removal, likely excluding cases in which parents were engaged in substance use but the child was reported as removed for a different reason. In addition, some states collect only the primary reason for removal and not factors associated with the removal.

The method of data collection assessing for parental substance use disorders is also an important factor. Case record reviews consistently found higher rates than parent self-report or caseworker report. Case files may provide the most comprehensive way to examine information about families. Within case files, parental self-report data, caseworker perceptions, and additional corroborating information, including drug screens and assessments for substance use disorders, can be examined in one place. However, being a comprehensive source of information does not necessarily indicate that information found during a case file review is entirely accurate. Additional information is needed to confirm the best method for measuring the prevalence of parental substance use disorders.

A key finding of this analysis is that parental substance use disorder prevalence rates are based on extremely old data that may no longer be representative of current trends. Of the nine published studies, one was published in the 1980s, six were published in the 1990s, and only two were published since 2000. Due in part to the length of time publication can take, the data used in the analyses were often much older than the publication date. Of the six studies published in the 1990s, only four studies reported any data from the 1990s, with the remaining studies reporting data from the 1980s. Interestingly, the study by Gibbons and colleagues and the AFCARS data were unpublished, but contained some of the most current data, collected between 1999 and 2013. These findings indicate the need for more current data collection and analyses. Federal, state, and local policymakers should explore opportunities to update and refine these data, ensuring allocation of resources that adequately respond to the federal requirement in child welfare funding that reasonable efforts be made to prevent placement and to reunify families. The lack of current information on the scope of the

problem calls into question the appropriate service mix available to families.

This review highlights the need for consistent measurement of parental substance use disorders across the field. Although parental alcohol and drug use as a factor in the case is measured in some way in the AFCARS data, this is insufficient. The extreme variation seen in the AFCARS data is likely due to inconsistencies in measurement of parental substance use disorders. For example, assessments procedures vary greatly in the United States, ranging from locales that rely on drug screens to those with substance use disorder assessments conducted by licensed or certified substance abuse treatment assessors. The inconsistencies across states may also be attributed to data-collection methods and data-system requirements rather than extreme variations in the actual prevalence of parental substance use as a reason associated with the child's removal. However, this assumption cannot be evaluated until data on parental substance use is consistently reported to AFCARS in a standardized way across all states.

As Congress and ACF propose updates and changes to the nation's reporting system, the inconsistent and unreliable measurement of parental substance use disorders as factors in child welfare cases within the AFCARS data should be addressed. First, it should be made mandatory in AFCARS for every state to report data on parental substance use disorders to the Children's Bureau. Experts in the field have been making this recommendation for almost a decade (Young et al., 2007), and the revisions to the AFCARS system provide an opportune time to implement this important change. In order for AFCARS data to be accurate, child welfare agencies must examine their internal systems for assessment of substance use disorders and data-tracking systems to accurately record these indicators. Parental substance use disorders should be documented consistently across cases so that this data can be accurately reported in the AFCARS systems.

Even if consistently obtained from each state, data reported to AFCARS would still not account for the prevalence of parental substance use among the majority of families involved with the child welfare system—those in which the children remain in the home (Dolan, Smith, Casanueva, &

Ringeisen, 2011). Children who remain in the home with a caregiver affected by a substance use disorder are at risk for numerous negative outcomes, and these risks remain high over time. For example, Seay and Kohl (2015) found that 3 years after a child welfare investigation, children who remain in the home with a mother who is substance-dependent experienced higher rates of neglect, emotional maltreatment, and internalizing and externalizing disorders than children whose mothers had depression and children whose mothers had comorbid depression and substance dependence. More effort is needed to understand the prevalence and effective response to substance use disorders among families involved with the child welfare system whose children remain in the home.

In addition to incorporating substance use data into the SACWIS system, researchers reporting substance use data for their child welfare research samples should clearly define the type of child welfare involvement, understand how severe the substance use issues are, and discuss how the substance use impacted the case decisions or removal of the child from the home. This level of detail will allow the prevalence estimates to be compared across studies. Only Gibbons and colleagues (unpublished) obtained caregiver self-report of substance use. More research is needed to examine the self-reported prevalence of caregiver substance use in the child welfare system. Although it is unknown if parent self-report will produce a more accurate prevalence estimate, it is clear that knowing how many parents would self-report substance use disorders is an important indicator for service provision and possibly for interest in engagement with substance abuse treatment services.

There are a number of limitations to this review. Although some study characteristics were clearly related to the size of the prevalence estimate, it is possible that these trends are present due to the small number of studies and might not be present if a larger number of prevalence studies were available. The prevalence patterns supported by this analysis should be further tested in additional samples. In the reviewed studies, national samples were predominantly families investigated by child welfare and regional samples were predominantly among in-home services or foster care services. Therefore, in this analysis it is difficult

to disentangle the impact of type of child welfare involvement from the impact of sample location. It is also likely that some regional or statewide estimates are unpublished and were not located during the search. Insufficient detail was available in the reviewed articles to compare the degree to which substance use disorders were a contributing factor in the case decisions. Information available from this aspect of the review is provided in Table 1.

Originally intended to narrow the prevalence estimates of parental substance use disorders in the child welfare system, this analysis was severely limited due to small sample sizes, geographically limited regional samples, extremely old data, and a wide range in the estimates. Wide variations in samples and data collection methods make it currently impossible to determine the exact prevalence of parental substance use disorders in the child welfare system. However, determining this prevalence is a critical step toward understanding the scope of the problem; strategizing the best way to intervene; and creating policy that ensures treatment, recovery, and parenting services are provided that address the family's needs and the important need to ensure prevention and intervention services for children who are at high risk of developing their own substance use disorder. Despite the reported prevalence ranges, the extensive limitations of and inconsistencies in the available data decrease generalizability. This analysis indicates the great need to examine caregiver substance use disorders in the child welfare system in large regional and national samples.

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Table 1: Prevalence Data Collection Articles

NATIONAL ESTIMATES				
Article	**Data From; Location**	**Prevalence Estimate**	**Sample size**	**Sample Characteristics**
Gibbons et al., unpublished	1999–2001 National NSCAW I	9.6%	*N* = 4073 Only one child per household	Children: 17% 0–2 21% 3–5 37% 6–10 24% 11–14 47% White & Non-Hispanic 27% Black & Non-Hispanic 19% Hispanic 7% Other 50% male Parents: 64% <35 yr 28% 35–44 7% 45–54 2% 55+ 90% female 10% male
	1999–2001 National NSCAW I	3.9%	*N* = 4073	Same as above

Type of Child Welfare Involvement	Substance Abuse Definition	Degree to which substance abuse is a factor in the case decisions	Who is the parent?	How information was collected
Cases reported to child welfare Reported to child welfare and child remained in the home	Combining two questions on the risk assessment, child welfare caseworker stated yes that caregiver had an active alcohol and/or drug abuse problem at the time of the investigation	Child welfare caseworker reported he/she perceived caregiver active alcohol and/or drug abuse—Likely impacted case decisions	Primary or secondary caregiver who was living in the home of the child at the time of the report	National probability study; child welfare caseworkers interviewed
Same as above	By self-report, met criteria for alcohol or drug dependence based on Composite International Diagnostic Interview Short Form (CIDI-SF; Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998)	Unknown if alcohol and/or drug use were even recognized in the case	Same as above	National probability sample, Primary caregiver completed CIDI-SF about their alcohol and drug use using audio computer-assisted self-interview technology

Table 1: Prevalence Data Collection Articles – continued

NATIONAL ESTIMATES				
Article	**Data From; Location**	**Prevalence Estimate**	**Sample size**	**Sample Characteristics**
Sedlak et al., 2010	2005–2006 National NIS-4	11.4%	*N* = 29,488 children	Children investigated by child welfare, reported but screened out, or not reported to child welfare but recognized as maltreated by community professionals Not reported separately for children meeting Harm Standard
	2005–2006 National NIS-4	10.8%	Same as above	Same as above

Type of Child Welfare Involvement	Substance Abuse Definition	Degree to which substance abuse is a factor in the case decisions	Who is the parent?	How information was collected
Combined sample of maltreated children, some reported to child welfare Children (0–17) investigated by child welfare, children reported but screened out, and children not reported to child welfare who were recognized as maltreated by community professionals. All children meet Harm Standard	ALCOHOL USE For each case meeting the Harm Standard, data was collected from child welfare agencies and community professionals on "the extent to which sentinels or CPS investigators considered [the perpetrator's alcohol use] to be a factor in the maltreatment"	The caregiver's alcohol use was perceived to be a factor in the child maltreatment	Perpetrating caregiver with the closest biological relationship to the child	Forms completed by child welfare investigators and community professionals
Same as above	DRUG USE For each case meeting the Harm Standard, data was collected from child welfare agencies and community sentinels on "the extent to which sentinels or CPS investigators considered [the perpetrator's drug use] to be a factor in the maltreatment"	The caregiver's drug use was perceived to be a factor in the child maltreatment	Same as above	Same as above

Table 1: Prevalence Data Collection Articles – continued

NATIONAL ESTIMATES				
Article	**Data From; Location**	**Prevalence Estimate**	**Sample size**	**Sample Characteristics**
USDHHS, 1997	1994 National National Study of Protective, Prevention, and Reunification Services Delivered to Children and Their Families	26%	*N* = 499,700 primary caretaker	46% Caucasian 41% African American 11% Hispanic 2% Other 48% children had a disability Primary caretaker: 75% bio/step/adoptive mom 5% bio dad 4% grandparent Mean age 37 yrs

Type of Child Welfare Involvement	Substance Abuse Definition	Degree to which substance abuse is a factor in the case decisions	Who is the parent?	How information was collected
Cases reported to child welfare Families and children who had an open case in the child welfare system on 3/1/94	During the families' current service episode, the caseworker reported that at least one of the "Presenting problem of the primary caretaker" was "Substance abuse"	Presenting problem among families with an open child welfare case Parents could have many presenting problems	Primary caretaker—person typically responsible for the day-to-day care of the child If more than one person jointly cared for the child, the mother was always considered the primary caregiver if she was one of them	Phone interviews with case workers of a random national sample of children and their families with an open child welfare case on 3/1/94

Table 1: Prevalence Data Collection Articles – continued

REGIONAL ESTIMATES				
Article	**Data From; Location**	**Prevalence Estimate**	**Sample size**	**Sample Characteristics**
Besinger et al., 1999	1990–1991 San Diego County, California	79%	*N* = 639 Only one child per family	Children: 44.3% male 55.7% female 44% Caucasian 33% African American 19% Hispanic 4% Asian or Pacific Islander 1% American Indian Mean age 5 years (*SD* = 4.88 years) Caregiver characteristics not reported.
	1990–1991 San Diego County, California	16%	Same as above	Same as above
	1990–1991 San Diego County, California	33%	Same as above	Same as above

Type of Child Welfare Involvement	Substance Abuse Definition	Degree to which substance abuse is a factor in the case decisions	Who is the parent?	How information was collected
Foster Care Sample of children (0 to 16 years) placed in out-of-home care due to maltreatment and who remained in care at least 5 months	At least one of the following: 1. Review of court reports, face sheets, and psychological evaluations with data abstraction tool indicated evidence of substance abuse and addiction. 2. Child welfare coded the reason for removal as related to drug or alcohol use 3. DSM III-R diagnosis of abuse or dependence of alcohol or drugs in file	Varied from contributed to the removal to not enough information to know if contributed	Mother, father, an adult who lived in the home at the time of the child's removal by child welfare, or another adult who assumed caregiver responsibilities for the child	Review of child welfare case records for children who entered out-of-home care between May 1990 and October 1991 for a period of 18 months following the removal of the child. Files may contain police reports, court reports/ documents, medical and psychiatric evaluations, and caseworker reports
Same as above	Must have a DSM III-R diagnosis of abuse or dependence of alcohol or drugs in file	Not enough information to know if contributed	Same as above	Same as above
Same as above	Child welfare must have coded the reason for removal as related to drug or alcohol use	Drug or alcohol use contributed to the child's removal	Same as above	Same as above

Table 1: Prevalence Data Collection Articles – continued

REGIONAL ESTIMATES				
Article	**Data From; Location**	**Prevalence Estimate**	**Sample size**	**Sample Characteristics**
Famularo et al., 1989	Not provided Case load of one urban juvenile and family court Boston	67.4% 147 of the 218 caregivers were involved in substance abuse based on RDC criteria; Prevalence in 136 cases was not reported	*N* = 218 caregivers More than one caregiver could be from the same case—218 caregivers from a sample of 136 separate cases	Demographics not reported Of 147 individuals: 55.1% Alcohol abuse 26.5% Polydrug abuse 18.4% Other
Famularo et al., 1992	1985–1988 Case load of one urban juvenile and family court Boston	67% 127 case records of the 190 records involved 1 or more parent classified as engaging in substance abuse	*N* = 190 case records	Average caregiver age of 26 for total sample; No other demographics reported

Type of Child Welfare Involvement	Substance Abuse Definition	Degree to which substance abuse is a factor in the case decisions	Who is the parent?	How information was collected
Foster Care "children maltreated enough to warrant custodial transfer of the child from the parents to the state" who were referred for clinical evaluation	Involved in substance abuse based on RDC criteria (Spitzer, Endicott, & Robins, 1978). The RDC defines alcoholism as "at least three specific manifestations of alcoholism in an illness of at least one month's duration" and drug use disorder as addiction, dependence, or abuse of "drugs other than alcohol, tobacco, and ordinary caffeine-containing beverages" (p. 778)	Unspecified but 137 of the 147 caregivers involved in substance abuse were court ordered to treatment for substance abuse indicating it was likely a factor in the foster care case	Person living with the child at the time of the court proceedings	Review of court records by the authors
Foster Care—"cases in which the state took legal custody of the children following a finding of significant child maltreatment"	One or more of the following: 1. Substantiated allegations by two or more separate professionals (social services or mental health) of alcohol and/ or drug misuse Self-report of substance abuse of sufficient severity to meet RDC; excludes recreational or occasional drug us (Spitzer et al., 1978)	Court records for cases where the state took legal custody of the children; No information about the extent to which substance use impacted the decision	A parent or stepparent living in the home	Review of court records by the authors Sample of cases only included those in which the perpetrator of the maltreatment was one of the child's parents but not both of the child's parents

Table 1: Prevalence Data Collection Articles – continued

REGIONAL ESTIMATES				
Article	**Data From; Location**	**Prevalence Estimate**	**Sample size**	**Sample Characteristics**
Jones, 2004	1995 San Diego County, CA	68% of children had a biological mother who abused alcohol or drugs	*N* = 443 Only one child per family	Biological Mother: 49.0% white 26.1% Hispanic 18.3% African American 31.9% married and living with spouse 26.3% employed 47.3% on public assistance
Murphy et al., 1991	1985–1986 Boston 1 juvenile court	43%	*N* = 206	67% single parent families 22% 2-parent non-married 11% 2-parent married AFDC present in 56% 53% rejected court ordered services No race, age reported

Type of Child Welfare Involvement	Substance Abuse Definition	Degree to which substance abuse is a factor in the case decisions	Who is the parent?	How information was collected
In-home services Substantiated child welfare case of abuse and initially received in-home services	At least one of the following: 1. Mother received services or referral for drugs or alcohol abuse 2. Child tested positive for drug at birth 3. Mother self-reported a problem with drugs or alcohol 4. Helping professional (e.g., psychologist) reported to the social worker that mother abused drugs or alcohol 5. "someone in a position to know, such as a parent or spouse" reported person had a substance abuse problem	Not enough information 39.1% of the total sample of families received services for alcohol and/or drug abuse during the service period indicating that a smaller percentage of families had a case with substance abuse treatment included than the total indicated need	Biological mother	Review of child welfare case records for families who initially received in-home services between 1/1/95 and 6/30/95
Classified as in-home services because court-involved case where foster care is unspecified "serious child abuse or neglect brought before a metropolitan juvenile court on care and protection petitions"	At least one caretaker had "documented problem with either alcohol or drugs" Alcohol or substance abuse had to be documented in a written report by a psychiatrist, psychologist, or a court-ordered screening for substance abuse	Not enough information to know how much it factored in but it was on the court investigators' risk checklist and then it was documented by a professional—Likely impacted the case	Original caretaker from which the petition was involved including biological parents, grandparents, foster parents, mother's boyfriend	Consecutive sample of cases at the Boston Juvenile Court. Cases in which the primary complaint was sexual abuse or where the child was older than 12 were excluded Court investigators completed 92 item risk checklist which documented "observable, behavioral characteristics of the parent, child, or type of mistreatment". Master's students then reviewed the risk checklist for substance abuse variables

Table 1: Prevalence Data Collection Articles – continued

NATIONAL ESTIMATES				
Article	**Data From; Location**	**Prevalence Estimate**	**Sample size**	**Sample Characteristics**
Murphy et al., 1991 *continued*	1985–1986 Boston 1 juvenile court	50%	Same as above	Same as above
USGAO, 1994	1986 Examination of statewide foster care databases for California and New York and review of random samples of case files for LA county, New York City, and Philadelphia County	51.8% abused substances in 1986	*N* = 376 children 0 to 36 months in foster care	Not reported

Type of Child Welfare Involvement	Substance Abuse Definition	Degree to which substance abuse is a factor in the case decisions	Who is the parent?	How information was collected
Same as above	"Alleged instances of substance abuse" Alcohol or substance abuse was alleged but NOT documented in a written report by a psychiatrist, psychologist, or a court-ordered screening for substance abuse	Not enough information to know how much it factored in but it was on the court investigators' risk checklist and then it was NOT documented by a professional—May or may not have impacted the case	Same as above	Same as above
Foster care	"abusing drugs or alcohol" at the time child was removed from the home Not further defined	Difficulties faced around the time the child was removed from the home; Unknown how much it contributed to removal	At least one parent; "Parent" not operationalized	Examination of statewide foster care databases for California and New York and review of random samples of case files for LA county, New York City, and Philadelphia County

Table 1: Prevalence Data Collection Articles – continued

NATIONAL ESTIMATES				
Article	**Data From; Location**	**Prevalence Estimate**	**Sample size**	**Sample Characteristics**
USGAO, 1994 *continued*	1991 Examination of statewide foster care databases for California and New York and review of random samples of case files for LA county, New York City, and Philadelphia County	78.2% abused substances in 1991	*N* = 383 children 0 to 36 months in foster care	Same as above
USGAO, 1998	1997 California	65.2%	*N* = 227 foster care cases	Not reported
	data re-viewed 1997	Illinois	74.3%	*N* = 292
tion Same as above Same as	above AFCARS, 2013 data, unpublished With the exception of Illinois, all U.S. states including	District of Columbia, and Puerto Rico	31% national average	

Type of Child Welfare Involvement	Substance Abuse Definition	Degree to which substance abuse is a factor in the case decisions	Who is the parent?	How information was collected
Same as above	Same as above	Same as above	Same as above	Same as above
Foster care	Parent who was required to undergo drug or alcohol treatment as part of the case plan for family reunification	Likely impacted case as treatment was required before reunification	At least one parent	Data collected in two ways: 1. Questionnaire mailed to foster care caseworker on a random sample of foster care. 2. Administrative
foster care cases	Same as above	Same as above Same as above Likely impacted case as treatment	was required	before reunifica-
N = 637314 children in foster care Children removed from the	home and placed in foster care Combining two questions from the AFCARS data: As a condition associated with a child's removal from home and contact with the foster care system, the principal caretaker's compulsive use of alcohol/	drugs that is not of a temporary nature Alcohol or drug use was the reason the child was removed	from the home	"principal caretaker" Each state is asked to report this information to the federal government through the federal reporting system

Mental Health Disorders among Children within Child Welfare who have Prenatal Substance Exposure:
Rural vs. Urban Populations

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This study analyzed differences in mental health diagnoses among Illinois child welfare-involved youth who have had prenatal substance exposure. Results indicate that youth from the rural area had a significantly higher rate of co-occurring mental health disorders. A multiple regression analysis revealed five significant predictors: living in a rural area, a history of neglect, having Fetal Alcohol Syndrome or an alcohol-related neurodevelopmental disorder, and age. These results have implications for adapting existing treatment models.

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Prenatal substance exposure is a significant risk factor for child development. The direct biological toxicity of the drugs and the social and psychological chaos of the drug-abusing environment ultimately impede the child's growth and development and pose risk to the child's overall well-being (Chasnoff, 2011; Young, 2006). These matters frequently are complicated by the child's referral into the child welfare system, with significant numbers of infants in foster care having been prenatally exposed to alcohol and illicit drugs (Dicker & Gordon, 2004) and significant numbers of children with Fetal Alcohol Spectrum Disorders (FASDs) in out-of-home placement (Lange, Shield, Rehm, & Popova, 2013).

Multiple studies have documented the high prevalence of mental health difficulties among children and adolescents with prenatal exposure to alcohol (Fryer, McGee, Matt, & Riley, 2007; O'Connor et al., 2002), and prenatal cocaine, opiate, and marijuana use (Chasnoff et al., 1998; Fried & Smith, 2001; Meeyoung, Minnes, Yoon, Short, & Singer, 2014) have been shown to have a long-term impact on behavioral and mental health disorders as children grow older.

Prenatal substance exposure and removal from the birth home are just two of many factors that lead to the high rate of mental health difficulties among children in the child welfare system (Chasnoff, 2011). In a nationwide survey of 3,803 children 2–14 years of age who were in out-of-home placement, almost half (47.9%) had clinically significant emotional or behavioral problems (Burns et al., 2004). Youth in foster care also have been found to be more likely to experience depression, anxiety, loss of behavioral or emotional control, and poorer psychological well being than youth in the general population (Shin, 2005) and suffer greater long-term psychiatric illness (Viner & Taylor, 2005).

Additional risk factors come to bear when one considers demographically diverse populations. Several investigators have found that rural children in general are more likely to have a mental health problem and behavioral difficulties than urban children (Lenardson, Ziller, Lambert, Race, & Yousefian, 2010). Researchers have postulated that the basis of the higher rates of mental health problems in rural versus urban populations

of children primarily lies in a lack of providers and limited availability of specialty mental health providers in rural areas (Anderson, Neuwirth, Lenardson, & Hartley, 2013; Howell & McFeeters, 2008; Lambert, Ziller, & Lenardson, 2009; Sturm, Ringel, & Andreayeva, 2003).

The purpose of this study is to assess the presence of mental health disorders in rural versus urban populations of children with prenatal substance exposure who have been in custody of Illinois' child welfare system and to elucidate the factors that may differentiate risk in the two groups. Using existing research on rural populations as a basis, we hypothesized that:

1. Children in rural areas with prenatal substance exposure who have been in the custody of the Illinois child welfare system will have a significantly higher rate of mental health disorders than prenatally exposed children in the child welfare system in an urban area.

2. Children in rural areas with prenatal substance exposure who have been in the custody of the Illinois child welfare system will have increased rates of mental health disorders due to a lack of access to mental health services.

Methods

Participants

Children's Research Triangle (CRT) focuses on the evaluation and treatment of children at high risk for long-term developmental and mental health problems, including those children in the child welfare system that have been removed from their biological families due to prenatal exposure to alcohol or illicit drugs. The populations under investigation in this study were enrolled in one of CRT's two behavioral health clinics. The first group consists of 95 children, 4 to 18 years old, who had a confirmed history of prenatal substance exposure, had been in the custody of the Illinois Department of Children and Family Services (DCFS), and were evaluated at CRT's Southern Illinois clinic. This clinic is embedded

in a federally qualified Community Health Center and serves 34 rural counties in the far southern half of Illinois. The second group is composed of 175 children in the Chicago metropolitan area, ages 4 to 18, with a confirmed history of prenatal substance exposure and a history of having been in DCFS custody, who were evaluated at CRT's Chicago clinic.

Measures and Procedures

Child Assessment

Documentation of prenatal alcohol or illicit drug exposure was confirmed for all children in the study through review of the child's birth, medical, child welfare, court, and/or adoption records; however, exact dosage and patterns of maternal substance use were not consistently available. The initial evaluation for each child consisted of a full pediatric, neurological, and dysmorphology diagnostic examination, conducted by a board-certified pediatrician, and a comprehensive psychological evaluation, conducted by doctorate level psychologists. Assessment of possible facial dysmorphia related to prenatal alcohol exposure was conducted via direct examination and analysis of a digital facial photograph of each child (Astley & Clarren, 2000). Following the medical evaluation, the child and family underwent a clinical interview with a psychologist, and the child was evaluated across multiple domains. The neurodevelopmental battery with which each child was evaluated involved assessment of neurocognitive functioning, including general intelligence, memory, executive functioning, and speech and language; academic achievement; self regulation, including sensory processing, social skills, and behavior; trauma symptomatology; and adaptive behaviors (Astley et al., 2009; Chasnoff, Wells, Telford, Schmidt, & Messer, 2010; Kodituwakku, 2012).

Substance-Exposure Diagnosis

Based upon the completed comprehensive evaluation, children were assigned a substance exposure-related diagnosis as outlined in Table 1. No matter the diagnostic classification, all children with documented prenatal exposure to alcohol and/or illicit drugs were eligible for inclusion in the study.

Table 1. Criteria for diagnoses related to prenatal substance exposure (adapted from Astley & Clarren, 2000; Astley & Clarren, 2001; Centers for Disease Control and Prevention, 2005)

Diagnostic Category	Alcohol Exposure History	Dysmorphia	Growth	CNS
	Birth mother confirms; or, kinship reports; or, medical records; or, prenatal / birth records; or, DCFS confirms; or, police / court reports	Short palpebral fissures Upper lip (4, 5) Philtrum (4, 5)	Height or weight equal to or less than 3rd percentile currently or in the past	Microcephaly (equal to or more than 2SDs below normed mean); or MR or CNS problem per evaluation: >3 domains more than 2SDs below the normed mean
FAS **Fetal alcohol syndrome**	Confirmed alcohol exposure	All 3 criteria present	+	+
pFAS **Partial fetal alcohol syndrome**	Confirmed alcohol exposure	All 3 criteria present	Normal	+
ARND#	Confirmed alcohol exposure	None to 2 criteria present	±	+
ARBD **Alcohol-related birth defects**	Confirmed alcohol	Major structural abnormalities	Normal	Normal
PDE **Prenatal Drug Exposure**	Confirmed maternal use of illicit drugs with no alcohol	None	±	±

#Based on the DSM 5 *(American Psychiatric Association, 2013), the term ARND will be replaced with the term Neurodevelopmental Disorder with Prenatal Alcohol Exposure (ND-PAE).*

Mental Health Diagnosis

Mental health diagnoses were made on the basis of the *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision* (DSM-IV-TR) (American Psychiatric Association, 2000) criteria, utilizing all the

data collected from the standardized tests, questionnaires, and clinical interviews. A team of psychologists trained and supervised by the clinical director were responsible for making the mental health diagnoses.

Statistical Analysis

Frequency analyses, *t*-tests, and chi square analyses were used to analyze the descriptive data for the sample. Analysis for hypothesis 2 was completed through direct multiple regression using IBM SPSS 21.0 REGRESSION and IBM SPSS FREQUENCIES for evaluation of assumptions. The dependent variable for the regression analysis was number of mental health disorders. Independent variables were selected based on demographic, child welfare, and clinical factors: age; race; gender; site of residence (rural vs. urban); history of abuse; history of neglect; current placement; diagnosis of fetal alcohol syndrome (FAS), partial fetal alcohol syndrome (pFAS), alcohol-related birth defects (ARBD), alcohol-related neurodevelopmental disorder (ARND), or prenatal illicit drug exposure (PDE); and history of previous receipt of mental health services.

The Illinois DCFS Institutional Review Board and the Western Institutional Review Board approved research procedures for this study.

Table 2. Demographic descriptors of children

		All *N* = 270	Rural *N* = 95	Urban *N* = 175	*t/X^2	p
Mean age in years: Mean (SD)		9.17 (4.07)	8.77 (4.00)	9.39 (4.11)	$t = 1.20$	.23
Gender (% male)		153 (56.7%)	51 (53.7%)	102 (58.3%)	$X^2 = .53$	.52
Race/ ethnicity	African American	96 (35.6%)	19 (20.0%)	77 (60.2%)		
	Caucasian	93 (34.4%)	60 (63.2%)	33 (25.8%)		
	Hispanic	5 (1.9%)	4 (4.2%)	1 (0.8%)		
	Biracial/Other	29 (10.7%)	12 (12.6%)	17 (13.3%)		
	Missing data	47 (17.4%)	47 (17.4%)			

**Significance tests compare only rural to urban.*

***Chi square not calculated because expected count less than 5 in two cells*

Results

Demographic Descriptors

The children in the two groups were similar for mean age and for gender distribution (see Table 2). Differences in racial distribution reflected the racial and ethnic distribution of children in the child welfare system in the two areas of the state. All children in both groups had Medicaid as their primary source of insurance.

Table 3. Parental substance exposure patterns

Substance	Total *N* (%)	Rural *N* (%)	Urban *N* (%)	X^2	*p*
Alcohol	121 (44.8%)	54 (56.8%)	67 (53.2%)	.29	.68
Tobacco	52 (19.3%)	21 (22.1%)	31 (29.5%)	1.43	.26
Opiates (heroin, methadone)	27 (10.0%)	5 (5.3%)	22 (21.85)	11.25	.001
Prescription medications	24 (8.9%)	14 (14.7%)	10 (10.1%)	.96	.39
Cocaine	113 (41.9%)	42 (44.2%)	71 (66.4%)	10.01	.002
Methamphetamine	16 (5.9%)	13 (13.7%)	3 (3.0%)	7.50	.008
Marijuana	63 (23.3%)	33 (34.75)	30 (29.4%)	.64	.45

Prenatal Substance Exposure Patterns

The majority of children (54%) were polydrug exposed, with higher rates of opiate and cocaine exposure in the urban population and a higher rate of methamphetamine exposure in the rural population (see Table 3). These differences were consistent with the patterns of substance use disorders seen in Illinois' general population in the two areas of the state.

Child Welfare Factors

Although age at time of initial removal was similar for the two groups, current placement differed significantly (see Table 4). More children in the rural population currently were in the care of their biological families, and more rural children had been adopted. The prevalence of neglect in the biological families of children in rural areas was significantly greater

than in the biological families of children in urban areas. Access to early intervention services was similar for the two groups; there was no difference in the proportion of children in each of the groups who had received early intervention or developmental or mental health interventions prior to referral to the CRT clinics.

Table 4. Child welfare factors

	All children *N* = 270	Rural *N* = 95	Urban *N* = 175	t/X^2	*p*
Current placement					
Biological	12 (4.4%)	11 (11.6%)	1 (0.8%)	X^2=31.62	<.001
Guardian	14 (5.2%)	2 (2.1%)	12 (9.2%)		
Foster	87 (32.2%)	33 (34.7%)	54 (41.2%)		
Adoptive	97 (35.9%)	49 (51.6%)	48 (36.6%)		
Other	16 (5.9%)	0 (0%)	16 (12.2%)		
Incidence of neglect in the families	152 (56.3%)	61 (66.3%)	91 (52.3%)	4.82	.037
Age at time of removal (mean months)	1.94 (2.51)	2.24# (2.71)	1.79 (2.40)	*t* = -1.35	.18
% with previous developmental intervention before age 3	113 (41.9%)	42# (46.7%)	71 (41.5%)	X^2 = .64	.43
% with previous developmental intervention after age 3	127 (47.0%)	44# (50.6%)	83 (47.7%)	X^2 = .19	.70
% with previous mental health assessment/ intervention	217 (80.4%)	78# (82.1%)	139 (79.4%)	X^2 = .28	.63

** Missing some data on 23 children in the rural category*
 # Some variation in N for this category depending on specific factor

Medical and Neurodevelopmental Evaluation

Comprehensive evaluation of the children revealed that, while all children had confirmed prenatal substance exposure, 105 of the 270 children (38.9%) received a diagnosis within Fetal Alcohol Spectrum Disorders

Table 5. Substance exposure-related diagnoses

Diagnosis	All children *N* (%)	Rural *N* (%)	Urban *N* (%)	χ^2	*p*
Total FASDs	105 (38.9%)	32 (33.7%)	73 (42.0%)	1.77	.19
FAS	45 (16.7%)	4 (4.2%)	41 (23.6%)	16.52	< .001
ARND	58 (21.5%)	27 (28.4%)	31 (17.8%)	4.09	.06
pFAS	0				
ARBD	2 (0.7%)	1 (12.5%)	1 (1.1%)	5.08	.15
PDE	171 (63.3%)	79 (83.2%)	92 (52.6%)	24.81	< .001

(FASDs) (see Table 5). Although there was no difference in the rates of FASDs between the two groups of children, significantly more of the children in the urban population met criteria for fetal alcohol syndrome (FAS) than children in the rural population. The rural population of children had a significantly higher rate of prenatal exposure to illicit drugs without alcohol exposure than did the urban population.

Similar to previous reports of children in the child welfare system, there was a high rate of mental health diagnoses within both populations in this study (see Table 6). However, co-occurring mental health disorders occurred significantly more frequently in the rural than in the urban population of children. Consistent with this finding, children in rural areas had a significantly greater mean number of mental health diagnoses (1.89; *SD* = 0.92) as compared to the mean number of mental health diagnoses (1.60; *SD* = 1.17) in the urban population (t (235.29) = -2.28, p < .02). Attention-deficit/hyperactivity disorder (ADHD) was by far the most common diagnosis in both groups of children, while the internalizing behaviors (anxiety disorders and mood disorders) as well as developmental disorders were significantly more common in the rural population.

A standard multiple regression was performed with the number of mental health diagnoses as the dependent variable. Site of residence (urban vs. rural), history of receiving mental health services, abuse, neglect, ARBD, FAS, ARND, PDE, gender, race (Caucasian and African American), and age in months and current placement (biological family, guardian, foster

Table 6. Substance exposure-related diagnoses

Diagnosis	Total	Rural	Urban	X^2	*p*
ADHD	121 (44.8%)	45 (47.4%)	76 (43.7%)	0.34	.61
Anxiety Disorder	43 (15.9%)	24 (25.3%)	19 (10.9%)	9.54	.003
Disruptive Behavior Disorder	22 (8.1%)	8 (8.4%)	14 (8.0%)	0.20	1.00
Mood Disorder	59 (21.9%)	30 (31.6%)	29 (16.6%)	8.12	.006
Trauma	51 (18.9%)	17 (17.9%)	34 (19.4%)	0.10	.87
Developmental Disorders	28 (10.4%)	21 (22.1%)	7 (4.0%)	21.72	<.001
Cognitive	77 (28.5%)	23 (24.2%)	54 (30.9%)	1.33	.26
Adjustment	28 (10.4%)	5 (5.3%)	23 (13.2%)	4.17	.058
Psychosis	5 (1.9%)	1 (1.1%)	4 (2.3%)	0.53	.66
Other	24 (8.9%)	4 (4.2%)	20 (11.4%)	3.96	.07
% with one mental health diagnosis	89 (33.0%)	29 (30.5%)	60 (34.3%)	11.59	.003
% with > 2 mental	147 (54.4%)	62 (65.3%)	85 (48.6%)		

family, adoptive family) served as the independent variables. Race (Caucasian and African American) had three missing cases, abuse had eight missing cases, neglect had four missing cases and ARND and FAS had one missing case each, with a resulting *N* of 257 for the regression.

Three other variables also were initially considered for inclusion in the regression: age of entry into the child welfare system, age of removal from the home, and age of first receipt of developmental or mental health services. However, these variables were dropped because they demonstrated excessive skewness and kurtosis that were not responsive to reduction of the number of outliers and a square root transformation. These variables did not account for a significant amount of variance in the regression when included in the analysis.

Table 7 displays the correlations between the variables, the unstandardized regression coefficients and intercept, the standardized regression coefficients, the semipartial correlations, R^2, and adjusted R^2. R for the regression was significantly different from zero ($F(16, 240) = 4.58$,

$p < .001$). For the five regression coefficients that differed significantly from zero, 95% confidence intervals were calculated: the confidence limits for urban were -.76 to -.09, those for neglect were .07 to .63, those for FAS were .12 to .84, those for ARND were .05 to .68, and age (older children have more diagnoses) .00 to .01.

Five of the independent variables contributed significantly to prediction of the number of mental health diagnoses. Living in an urban area ($sr^2 = .02$) demonstrated a negative relationship, meaning that children in a rural area have a greater number of co-occurring mental health disorders. The other significant independent variables included children who came from families with a history of neglect ($sr^2 = .02$), children with FAS ($sr^2 = .02$) or ARND ($sr^2 = .02$), and older children age ($sr^2 = .05$). The sixteen independent variables in combination contributed another .10 in shared variability. All together, 23.0% (17.9% adjusted) of the variability in number of mental health diagnoses was predicted by the sixteen independent variables.

Discussion

The current study is the first to examine geographic disparities in mental health disorders in children in the child welfare system who have been prenatally exposed to alcohol and illicit drugs. Based on previous research demonstrating high rates of mental health disorders in children in the child welfare system (Burns et al., 2004; Shin, 2005; Viner & Taylor, 2005), it is not surprising that the rate of having at least one mental health diagnosis was similar in the two groups. However, both the rate and the mean number of co-occurring mental health disorders were significantly higher in the rural population. Contrary to our second hypothesis, as well as previous studies of general populations of children in rural areas (Anderson et al., 2013; Howell & McFeeters, 2008; Lambert et al., 2009; Sturm et al., 2003), the higher number of co-occurring mental health disorders in children in rural areas was not related to lack of access to developmental and mental health services. In fact, the vast majority of children with co-occurring mental health diagnoses in the rural population (82%) had received earlier mental health services. Rather, the driving factor for the increased

Table 7. Standard Multiple Regression of Demographic, Child Welfare and Alc

Variables	Diagnosis	Urban	Abuse	Neglect	ARBD	FAS	ARND	PDE	Bio family
Urban	-.12								
Abuse	.07	-.00							
Neglect	.21	-.14	.30						
ARBD	-.04	-.08	-.04	.05					
FAS	.11	.24	-.01	.05	-.03				
ARND	.15	-.12	.02	.06	-.03	-.24			
PDE	-.07	-.28	-.03	-.06	.05	-.14	-.05		
Bio family	.03	-.26	.03	-.03	-.01	-.10	.06	.13	
Guardian	.00	.10	-.03	.07	-.02	-.02	-.00	.00	-.05
Foster	-.09	.11	.02	.04	.07	-.01	-.11	-.09	-.18
Adopt	.12	-.16	-.10	-.08	-.05	.02	.08	.06	-.19
Gender	-.10	-.03	.05	.01	.07	-.06	-.00	.05	.02
Caucasian	.06	-.39	.17	.18	-.05	.07	.06	.08	.14
African American	.03	.40	-.12	-.18	-.06	-.05	-.05	-.12	-.17
MH	.25	-.02	.21	.15	-.12	.02	.01	-.08	.02
Age	.33	.08	.15	.07	-.08	.04	.07	-.07	-.02
Means	1.70	.65	.26	.57	.00	.17	.22	.64	.05
Standard deviation	1.12	.48	.44	.50	.06	.37	.42	.48	.21

rate of co-occurring mental health disorders in the rural population was that group's higher rate of neglect. Although federal data have indicated that 78% of the substantiated cases of maltreatment across the nation are related to neglect (U.S. Department of Health and Human Services, 2012), there has been no previous recognition of higher rates of neglect specifically within rural populations.

Chronic neglect has more long-term implications for children's mental health and development than does abuse or other forms of maltreatment

ohol Diagnosis Variables on Number of Mental Health

Guard'n	Foster	Adopt	Gend	Cauc'n	Af Am	MH	Age	B	B	sr2 (unique)
								-.42*	-.18	.02
								-.09	-.04	
								.35*	.16	.02
								-.01	-.00	
								.48*	.16	.02
								.36*	.14	.02
								-.10	-.04	
								.14	.03	
								-.12	-.02	
-.19								.04	.02	
-.20	-.67							.03	.01	
-.08	-.13	.18						-.18	-.08	
-.08	-.08	.10	.14					.13	.06	
.12	.16	-.10	-.15	-.72				.32	.14	
.04	-.07	.09	-.12	.04	-.01			.33	.12	
.09	-.34	.36	.04	.03	.10	.36		.01**	.27	.05
						Intercept = .786		R^2 = .23a		
.05	.41	.42	1.44	.36	.47	.80	110.24	*Adjusted* R^2 = .18		
.23	.52	.49	.50	.48	.50	.40	49.28	R = .48		

(Hildyard & Wolfe, 2002). Neglect alters the development of the body's stress response system, compromising a child's ability to cope with adversity (National Scientific Council on the Developing Child, 2012). Relative to children who have been physically abused, children who are neglected have more severe cognitive and academic deficits, social withdrawal and limited peer interactions, and internalizing (as opposed to externalizing) problems (Hildyard & Wolfe, 2002; Perry, 2012; Tarullo, 2012). Within the current study, and consistent with the greater prevalence of neglect, children in

the rural population exhibited higher rates of internalizing behaviors, specifically anxiety and mood disorders, as compared to the children in the urban population.

The recognition that children in rural populations have greater risk for co-occurring mental health disorders stresses the importance of child welfare and mental health professionals recognizing the impact of neglect. Children with a history of physical or sexual abuse are relatively easily identified by professionals and targeted for treatment. Neglect, however, does not trigger the same referrals, even though the long-term consequences are known to be more detrimental (Hildyard & Wolfe, 2002). Additionally, while a multitude of interventions exist to specifically treat children and youth with a history of physical or sexual abuse, there are few interventions that target the long-term impact of neglect (Widom, 2013).

As in previous studies, FAS and ARND also were significant factors in increasing risk for co-occurring mental health disorders. The assessment and treatment of neglect in the context of prenatal substance exposure requires an appreciation of the neurodevelopmental sequelae of prenatal substance exposure: neurocognitive dysfunction, attentional difficulties, and problems with mood and behavior (Chasnoff et al., 1998; Fried and Smith, 2001; Fryer et al., 2007; Meeyoung et al., 2014; O'Connor et al., 2002). The importance of early recognition of risk in this population is underlined by increasing age in the current study also being a significant contributor for increased number of mental health disorders. Previous studies (Streissguth, Barr, Kogan, & Bookstein, 1996) have documented that early recognition and intervention prior to the age of six years is a key factor in improving the long-term developmental and mental health trajectory of children with prenatal substance exposure.

Future studies investigating neglect among rural populations are needed, as is the development of treatment interventions for children with a history of neglect and prenatal substance exposure. For instance, recognizing that children who are neglected have a unique experience that is different from the child who has been physically or sexually abused is an important first step in creating treatment programs targeting their specific social, emotional, and behavioral needs. Likewise,

adapting existing treatment models to include "bottom-up" approaches that focus on the relationship between the mind and body and improve self-regulation are critical for youth who have been substance-exposed, as this will help improve the child's focus and ability to gain insight from the existing treatment approaches.

The results from this study cannot be generalized to all children in the child welfare system. It is focused on a very specific population: children in the child welfare system with prenatal substance exposure. However, the results clearly demonstrate the need for child welfare personnel to recognize differences in youth from various demographic areas. There are significant differences between youth from rural versus urban areas, both in their experience and their ultimate outcome. As youth from rural areas are more at risk for developing multiple mental health issues, the child welfare system must develop a systemic way of identifying and referring these young people and examine the allocation of financial and clinical resources to rural areas that historically have been neglected.

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Co-Occurrence of Parental Substance Abuse and Child Serious Emotional Disturbance:
Understanding Multiple Pathways to Improve Child and Family Outcomes

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This study is a mixed-methods examination of the prevalence and impact of parental substance abuse among families involved in foster care who have a child with a serious emotional disturbance. Data utilized for this study were both administrative and assessment data collected by case managers and parents as part of a federally funded demonstration project in a Midwestern state. At baseline, parent self-report and case manager ratings of family functioning found that parents affected by substance abuse fared worse in domains related to socioeconomics, parental trauma, parental mental health, and social supports when compared to families without parental substance abuse. Case managers and independent raters scored parents affected by substance abuse higher on effective parenting than parents not affected by substance abuse. While all children in the sample have a serious emotional disturbance, parents and case managers rated children's functioning higher among children whose families were characterized by parental substance abuse. These results suggest that, among families who have children with a serious emotional disturbance and are in foster care, those with and without substance abuse may represent two distinct service groups, each with a unique set of needs and contextual factors. For families with parental substance abuse, findings suggest that an appropriate child welfare response should attend to both children's and parent's behavioral health needs and include strategies that are well matched to the families' socioeconomic and social support needs.

Families who become involved with the child welfare system because of child maltreatment face multiple and complex needs that must be addressed prior to successful reunification. Children who experience maltreatment frequently enter the child welfare system with distinct issues, including serious emotional disturbance (SED). SED is defined by federal regulations as a diagnosable mental, behavioral, or emotional disorder of sufficient duration to meet diagnostic criteria specified in the *Diagnostic Statistical Manual* that results in functional impairment that substantially interferes with family, school, or community activities. An early study found that 72% of children with open child protective service cases were "statistically indistinguishable" from children in intensive mental health treatment programs (Trupin, Tarico, Low, Jemelka, & McClellan, 1993, p. 345), suggesting that the occurrence of child mental health issues, including SED, is widespread among families involved with child welfare.

Because children with an SED exhibit challenging behaviors, literature suggests that effectively parenting children with an SED requires increased parenting skills, capacities, and resources, which may be beyond the capabilities of parents who are high functioning (Pickrel, 2002). Unfortunately, nearly all families under child protection surveillance comprise caregivers with complex service needs themselves, including a sizable proportion with untreated substance abuse. Studies have estimated that up to 80% of families with a child in foster care have a parent with substance abuse as well (Testa & Smith, 2009). Importantly, great variety exists in the definition of substance abuse across studies. The vast majority of studies rely on child welfare administrative records and caseworker assessment rather than relying on a clinical assessment or diagnosis of substance use disorder. As described below, this study designated foster care cases as substance abuse-affected based on child welfare workers' assessments and child protection services' investigation results.

Despite knowledge that children's SED (e.g., Akin, 2011) and parental substance abuse (e.g., Brook, McDonald, Gregoire, Press, & Hindman, 2010) represent stand-alone, well-established barriers to permanency, little has been written about the co-occurrence of child SED

and parental substance abuse among families involved with child welfare or these families' service needs upon their child entering foster care. This study presents findings from a sub-study within a federal demonstration project aimed at improving permanency outcomes for families that encounter the most significant barriers to permanency. Our aim was to begin uncovering knowledge about the role, scope, and influence of parental substance abuse among the foster care population of children with an SED. More knowledge is needed regarding the overlap and interplay between these two risk factors and their collective impact on the achievement of positive outcomes for these highly vulnerable subpopulations within the larger child welfare system.

Children's Mental Health

Children's mental health issues place families at risk for involvement with the child welfare system, and once in the system, children's mental health issues can be a barrier to stability and permanency. Up to 80% of children in foster care have significant mental health challenges, most commonly externalizing disorders (Kerker & Dore, 2006). The etiologies of these mental health problems include the experience of maltreatment and trauma associated with removal from the home (Kerker & Dore, 2006). Other risk factors for SED include child, parent, and family-level variables, such as children with poor physical health, parental substance abuse, and poverty (Kerker & Dore, 2006).

The impact of SED on children's experiences in the child welfare system is profound. Children in care with an SED have less stable placements (e.g., Newton, Litrownik, & Landsverk, 2000). Placement instability is in turn associated with additional mental health deterioration. Rubin, O'Reilly, Luan, and Localio (2007) conducted a study using data from the National Survey of Child and Adolescent Well-Being and found that child behavior problems increased 63% as measured by the Child Behavior Checklist and was associated with placement instability. Research also reveals that children with an SED spend more time in foster care (Orme & Buehler, 2001), are less likely to reunify (Akin,

2011), and are more likely to re-enter care after reunification occurs (Jones, 1998).

Within the child welfare field, interventions designed to address SED among children are generally lacking, as earlier studies document that children in foster care have many unmet mental health service needs (Kerker & Dore, 2006). Relevant to the present study are findings from a national survey that showed the prevalence of concurrent children with an SED and parental substance abuse in a child welfare population was 52%. Importantly, most of this subpopulation was not receiving needed mental health services (Burns et al., 2004).

Parental Substance Abuse

Research into the problem of parental substance abuse in the child welfare system has expanded over the last three decades. Similar to SED, both the pathway to and from the child welfare system is altered by the presence of parental substance abuse. A significant body of research now highlights the many ways in which parental substance abuse interferes with family functioning and contributes to child maltreatment occurrence. Parental substance abuse heightens risks to both the physical and emotional safety of children and is a detriment to a child's overall development and well-being (Haight et al., 2005; Haight, Ostler, Black, Sheridan, & Kingery, 2007; Hohman, Oliver, & Wright, 2004). A recent literature review on the intersection of child maltreatment and parental substance abuse identified that these children also are more likely to witness violence and experience trauma, as well as exhibit behavioral health problems (Staton-Tindall, Sprang, Clark, Walker, & Craig, 2013).

Once in the child welfare system, research finds that parental substance abuse contributes to worse experiences and outcomes. Children with parental substance abuse are more likely to enter foster care (Maluccio & Ainsworth, 2003), spend more days in out-of-home placement, and are less likely to reunify (Brook et al., 2010). Of children who do return home after foster care, those with parental substance abuse are more likely to re-enter foster care (Barth, Gibbons, & Guo, 2006; Brook & McDonald, 2009).

Improving the child welfare outcomes of these families typically centers on the parents' participation in treatment for their substance abuse. Prior research suggests that outcomes improve when parents receive at least 90 days of substance abuse treatment (Grella, Needell, Shi, & Hser, 2009). Research on family treatment courts, which exclusively serve families in the child welfare system with parental substance abuse, found that parents' relationships with caseworkers and court professionals influences their participation in substance abuse treatment. Longer stays in treatment were associated with treatment completion, and treatment completion was associated with improved child welfare outcomes (Worcel, Green, Furrer, Burrus, & Finigan, 2007).

In addition to substance abuse treatment, research indicates that outcomes for parents with substance abuse improve when their myriad needs are met. Grella and colleagues (2009) found that mothers in treatment programs with high levels of family-related or education/employment services were twice as likely to reunify as those with low levels. Other studies have found that reunification is more likely in cases in which the mother had multiple needs met through an array of services, including substance abuse treatment, mental health (Grant et al., 2011), housing, family counseling (Choi & Ryan, 2007), parenting classes, individual counseling (D'Andrade & Nguyen, 2014), and financial assistance (Keegan Eamon & Kopels, 2004). Research on family drug courts also found that families' concurrent participation in evidence-based family skills training programs reduced time in foster care and doubled their likelihood of reunification (Brook, Akin, Lloyd, & Yan, 2015).

Gaps in the Literature

Both SED in children and parental substance abuse demand prompt treatment as child welfare policy dictates that a permanency hearing must occur within 12 months of entering out-of-home care; and, without determination that it is not in the child's best interest, a petition for termination of parental rights must be filed if a child is in care for 15 of 22 months. Complying with these timelines for families with a child

with an SED alone, or with parental substance abuse alone, is difficult. The presence of both a child with an SED and parental substance abuse may further challenge efforts for timely and stable reunification.

Developing approaches and interventions that can consistently and effectively help families with both a child with an SED and parental substance abuse will require greater knowledge regarding the prevalence and needs of these families. Research examining this combination of factors is severely limited, and best practices for working with these families remains untested. This study sought to build understanding about the prevalence of parental substance abuse among families with a child with an SED and further describe the characteristics and needs of the population.

Methods

Using a mixed-methods approach, three primary research questions were posed:

1. What is the prevalence of parental substance abuse problems among families of children with an SED in foster care?

2. How do families affected by parental substance abuse and families not affected by parental substance abuse differ on measures of child well-being, socioeconomic factors, and parent/family functioning upon their child's entry to foster care?

3. How do clinicians perceive the impact of parental substance abuse problems on child well-being, parent/family functioning, and permanency during service delivery?

Project Setting and Sample

The project setting was a statewide demonstration project, serving both rural and urban communities and funded under the federal Permanency Innovations Initiative (PII), that aimed to reduce long-term foster care and improve child and family outcomes among children with the most serious barriers to permanency. During a comprehensive exploration

phase, this local PII grantee assessed the needs of the population and identified children with an SED as the group most at-risk of long-term foster care (Akin, Bryson, McDonald, & Walker, 2012). This planning phase also involved a careful review and intervention selection process (Bryson, Akin, Blase, McDonald, & Walker, 2014) that resulted in the adoption and implementation of an in-home, evidence-based parenting intervention, the Parent Management Training Oregon model (PMTO) (Forgatch & Patterson, 2010).

The study sample comprised families of children between the ages of 3 and 16 who met criteria for an SED and had been in foster care for fewer than 6 months. Other family eligibility criteria included: (a) having a case plan goal of reunification and no legal termination of parental rights; (b) parent(s) were not incarcerated for longer than three months at the time of study invitation; and, (c) the parent did not have a "no contact" order from the court system. All eligible families were randomized to intervention or comparison groups and asked to participate in the study. Each case consisted of the parent(s) and index child with an SED for whom data were collected. Some children were served in two separate cases with each one of their parents (e.g., divorced parents). In this study, "parents" is a general term that includes biological parents, adoptive parents, grandparents, and other permanent caregivers. All parents in the study were primary legal guardians of the index child prior to foster care placement and the person who was targeted to regain custody after reunification. For all intents and purposes, non-biological parents were in relationship to the index child to the same extent as the biological parents in terms of level of responsibility over the child, both physically and legally. All cases were offered foster care case management services, regardless of study condition (i.e., PMTO with foster care case management services vs. foster care case management services) or study inclusion/exclusion status. A total of 742 parents consented for themselves and their 655 children to participate in the demonstration between September 2012 and September 2014. Focal children also provided assent to participate in the study. This article details the baseline assessment data on the families.

Procedures

The project was approved by the Institutional Review Board of the University of Kansas. Families were contacted by foster care agency staff, informed of the demonstration project, including the study condition to which they were randomly assigned, and agreed to participate by signing written informed consent statements. Families participated in a battery of assessments at baseline to assess three general domains: child well-being, socioeconomic factors, and parent functioning. Baseline assessment data were entered into the Research Electronic Data Capture (REDCap) system (Harris et al., 2009).

Measures

Given that this study analyzed data collected by multiple observers on overlapping populations of focus (all children with an SED, parents with and without substance abuse), each population and domain of interest are outlined below. In this study, all participant children and parents were administered the measures; then, the analysis compared results based on whether parental substance abuse was present or not.

SED

Case managers completed the Child and Adolescent Functional Assessment Scale (CAFAS) with youth age 5 and older, and the Preschool and Early Childhood Functional Scale (PECFAS) with 3-to-4-year-old children. Children were assessed and determined to have an SED, with a CAFAS score of 60 or higher and a PECFAS score of 50 or higher indicating SED status. Children were eligible for entry to the study up to the sixth month of their foster care placement.

Child Well-Being

Child well-being was assessed with the CAFAS/PECFAS (Hodges, 2004) and the Social Skills Improvement System rating scales (SSIS) (Gresham & Elliott, 1990). The CAFAS/PECFAS was administered

by case managers and measured mental health functioning for children 5–18 and 3–4 years old, respectively. These scales produce an overall functioning score and 8 subscale scores for functioning in the following areas: school, home, community, behavior toward others, moods/emotions, thinking problems, self-harm, and substance use. Parents reported on their child's behavior via the SSIS parent report form. The SSIS provided a total score for children's prosocial skills and problem behaviors. Prosocial skills included subscales for communication, cooperation, assertion, responsibility, empathy, engagement, and self-control. Problem behaviors included subscales for externalizing, bullying, hyperactivity/inattention, internalizing, and Autism Spectrum.

Parental Substance Abuse

A binary (yes/no) substance abuse variable was established using two data sources. First, up to six reasons for removal into foster care were documented for each child in the state's administrative child welfare database. If any of the six reasons were related to parental substance abuse, the parental substance abuse indicator variable was coded "1." Second, foster care case managers used the North Carolina Family Assessment Scale (NCFAS) (described below), which included a subscale on parental substance abuse. The parental substance abuse subscale was based on a six-point Likert rating that ranged from "clear strength/+2" to "serious problem/-3." Parents with subscale scores of -1 or lower were coded as substance abuse = 1.

Socioeconomic Factors

Parent socioeconomic factors were assessed by a self-report questionnaire. Parents answered questions on demographics, education, employment, and housing, along with financial and material hardship.

Parent History of Trauma and Foster Care

The parent self-report questionnaire also asked parents to report whether they had experienced a past trauma (yes/no) such as physical abuse,

intimate partner violence, and sexual assault. Additionally, parents reported whether they had experienced foster care as a child (yes/no).

Parent Functioning

Parent functioning was assessed in multiple ways, using the Family Interaction Task (FIT) and the North Carolina Family Assessment Scale (NCFAS). The FIT was an observation-based assessment that video records parents and the index child working together on several tasks. Videos were uploaded to a secure portal, then observed and rated by independent, reliable raters. The FIT provided an overall score for effective parenting.

The NCFAS was completed by trained case managers. Subscales included parents' use of social supports, mental health problems, substance abuse problems, and readiness for reunification (Reed-Ashcraft, Kirk, & Fraser, 2001).

Data Analysis

Bivariate analysis compared child well-being, socioeconomic factors, and parent functioning between families affected by substance abuse and families not affected by substance abuse. Categorical and continuous variables were analyzed with cross-tabulations and analysis of variance (ANOVA), respectively.

Qualitative Interviews

To add dimension and context to our quantitative findings, we interviewed and surveyed 20 project clinicians about their perceptions of the impact of, and interaction between, parental substance abuse and child SED. These practitioners were Master's-level, licensed, project-specific clinicians delivering PMTO to the families randomly assigned to the intervention group. Purposive sampling captured their experiences working with families affected by both risk factors. A semi-structured questionnaire was developed and administered via telephone interview

to nine of these project clinicians. The semi-structured questionnaire included nine basic questions including, for example, questions about case managers' response to the presence of parental substance abuse and SED in children and the facilitators and barriers to intervention with these families. These clinicians responded to these questions and additional follow up questions that arose during the interviews. Interviews lasted about one hour. Interview data was analyzed using theoretical thematic analysis (Braun & Clarke, 2006). As a form of further triangulation of findings from the nine telephone interviews, researchers also solicited feedback from 11 additional project-specific clinicians also working with the same population, as a means of confirming or disconfirming the identified themes. The 11 clinicians then responded to the same questions by online survey, providing their answers in written format. To further verify the validity of our findings, a summary report was emailed to all 20 project-specific clinicians and they were asked to provide additional feedback on the study themes. This procedure did not result in any changes to the findings or interpretation.

Results

Findings from the study are organized by the three research questions posed earlier in this work. Questions 1 and 2 center on the prevalence, role, and impact of parental substance abuse, and are reported in the quantitative findings; whereas question 3 required a qualitative approach and thus the findings are presented separately under qualitative findings.

Quantitative Findings

As described earlier, the sample comprised 742 families with 655 individual children. These 742 families all had children with an SED, between the ages of 3 and 16 who were in foster care. Table 1 further describes the population of children, and shows that among the sample's children (N = 655), slightly more than half were boys (53.1%) and the vast majority were White (81.1%). Children's average age at the time of entry into foster care was 11.1 years (SD = 4.1). Most of the

Table 1. Sample Characteristics

	Percent or Mean *(SD)*
Child's gender	
Male	53.1
Female	46.9
Child's race	
White	81.1
Non-white	18.9
Child's age	
Age at foster care entry (years)	11.1 (4.1)
Family Structure	
Single female parent	57.0
Single male parent	14.0
Two parents	29.0
Primary parent age	
Age at study start (years)	37.6 (9.5)
Parent primary language is English	
Yes	95.2
No	4.8
Parent relation to child	
Biological parent	90.9
Adoptive parent	5.6
Grandparent	2.1
Guardian or other relative	1.4
Parental substance abuse	
Family not affected by substance abuse	62.7
Family affected by substance abuse	37.3

Children, N = *655; Families,* N = *742*
Note: 87 children had two separate parents seeking to reunify with them.

families were single mothers (57.0%), while 14.0% were single fathers and a little more than one-quarter were two parent families (29.0%). Primary parent's average age at study start was 37.6 years (*SD* = 9.5). Nearly all of the par-ents spoke English as their primary language (95.2%). Most parents were related to the child as a biological parent (90.9%), while 5.6% were adoptive parents, 2.1% were grandparents with legal guardianship, and 1.4% were legal guardians as a relative or non-relative. Although these parents had different types of familial relationships with the child, all of them were the child's legal parent when they entered foster care and all were seeking to regain custody of the child (i.e., reunification). As is displayed in Table 1, the prevalence of parental substance abuse among this SED foster care population is 37%.

Table 2 shows the bivariate analysis results, comparing families not affected by substance abuse to families affected by substance abuse on four domains: child well-being, socioeconomic factors, parent history of trauma and foster care, and parent functioning.

Table 2. Bivariate Analyses of Key Domains, Comparing Families who were Non-Substance Abuse-Affected (Non-SAA) to Families who were Substance Abuse-Affected (SAA)

Domain		Percent or Mean		*p* value	SAA vs. non-SAA
		Non-SAA			
Child well-being	Child functioning				
	Mental health functioning[a]	92.1	70.9	.000	+
	Prosocial skills[b]	72.1	83.9	.000	+
	Problem behaviors[a]	39.3	33.2	.000	+
	Autism[a]	16.6	14.1	.000	+
Socioeconomic factors	Parent education			.079	NS
	Less than high school	22.8	26.1		
	High school grad	33.4	38.6		
	More than high school	43.8	35.3		
	Parent employment			.000	–
	Not employed	41.7	57.7		
	Part-time or seasonal	13.9	14.6		
	Full-time	44.3	27.7		
	Parent living situation			.000	–
	Homeless/DV Shelter	1.7	2.5		
	Friends/family	8.6	23.1		
	Substance abuse inpatient treatment	0.0	2.5		
	House/apartment	89.7	71.8		
	Homelessness in last year			.000	–
	None	95.9	86.6		
	Was homeless	4.1	13.4		
	Financial/material hardship in last year			.000	–
	None	47.5	28.2		
	Had financial/material hardships	52.5	71.8		
Parent history of trauma and foster care	Parent trauma history			.000	–
	No trauma history	45.0	31.3		
	Has trauma history	55.0	68.8		
	Parent foster care history			.023	–
	No foster care history as child	84.2	77.4		
	Has foster care history as child	15.8	22.6		
Parent functioning	Parent functioning				
	Social supportsb	-0.2	-0.9	.000	–
	Parent mental health[b]	-0.3	-1.0	.000	–
	Effective parenting[b]	3.4	3.6	.000	+

Children, N = *655; Families,* N = *742* [a] *– Higher score is worse;* [b] *– Higher score is better*
+: Group differences were statistically significant and the SAA group's score was favorable compared to non-SAA group
–: Group differences were statistically significant and the SAA group's score was unfavorable compared to non-SAA group

NS: Group differences were not statistically significant

Child Well-Being

Though all children in the sample met the criteria for SED and were thus significantly impacted by mental health issues, in the domain of child well-being, children in families affected by substance abuse were observed as having overall better functioning than families not affected by substance abuse. Baseline mental health functioning scores showed that children in families affected by substance abuse had significantly higher functioning compared to children in families not affected by substance abuse (SA = 70.9; non-SA = 92.1; $p < .001$). Parents' report of children's prosocial skills and problem behaviors also indicated significantly better scores at baseline for the group with substance abuse versus the group without substance abuse (prosocial skills: SA = 83.9, non-SA = 72.1; $p < .001$; problem behaviors: SA = 33.2; non-SA = 39.3; $p < .001$). Criterion validity of these measures is supported by the similarities between case managers' and parents' observations of child well-being.

Parent Socioeconomic Factors

Five variables were used to represent socioeconomic factors. All but one of them demonstrated that families affected by parental substance abuse experienced significantly less favorable socioeconomic context. While there was no statistically significant difference between families who were affected by substance abuse and those who were not affected by substance abuse on parent education, the group with substance abuse fared worse on employment status, living situation, financial and material hardship, and homelessness.

Parent History of Trauma and Foster Care

Parents affected by substance abuse reported a significantly higher rate of trauma history (SA = 68.8%; non-SA = 55.0%; $p < .001$). Similarly, parents in the substance abuse group were also more likely to report having been in foster care as a child (SA = 22.6%; non-SA = 15.8%; $p < .001$).

Parent Functioning

Parent functioning comprised social supports, parental mental health, and effective parenting. In the case of social supports and parental mental health, parents in the substance abuse group scored significantly worse than those in the non-substance abuse group (social supports: SA = -0.9; non-SA = -0.2; $p < .001$; parental mental health: SA = -1.0; non-SA = -0.3; $p < .001$). In contrast, scores for effective parenting were significantly better among parents in the substance abuse group (SA = 3.6; non-SA = 3.4; $p < .001$).

Qualitative Findings

To address research question 3, qualitative research activities of the study yielded four prominent themes as described below.

Multiple Challenges

All project clinicians noted that families with a child with an SED and parental substance abuse have other extant challenges when the children enter foster care. The specific challenges were diverse. Most said that co-occurring mental health disorders were common. One clinician estimated that 90% of parents with substance abuse have concurrent mental health problems. Related to this, many project clinicians reported trauma histories among these parents. It was reported that parents' substance abuse was frequently in response to untreated mental illness as a form of self-medicating.

In addition to psychological needs, most project clinicians considered that this population of parents experienced pronounced material hardship. Inadequate/no housing, food instability, utility disconnection, unemployment, and general financial stress were frequently mentioned. Many of these parents experienced trouble maintaining a phone line or a place to live. Given the large expanse of rural areas in the state, most project clinicians described transportation as a significant obstacle to parents as well. One clinician also commented that parents with substance abuse were more likely to face concurrent criminal charges.

Perception of Parental Substance Abuse Varies

Most project clinicians stated that courts and case managers hold negative opinions of parents with substance abuse. Project clinicians described these perceptions of parents with substance abuse as judgmental, shaming, lacking empathy, and casting parents as criminals. One clinician said that parental substance abuse was viewed as a sign that the parent did not love their child(ren), particularly if the parent relapsed later in the life of the case. Another clinician said that the courts required that parents with substance abuse complete more tasks than parents without substance abuse, making it more difficult for them to accomplish reunification. A couple of clinicians noted that the courts blame the child's SED on the parent's substance abuse.

Variability existed in project clinicians' responses, however. Some clinicians reported that it depended on the county/district attorney and the judge as to how parental substance abuse would be treated. Another clinician observed misunderstandings about addiction: "Relapse is a normal part of getting sober and they [the judges and district attorneys] aren't understanding of that… what people need, and how hard it is to get clean." Rather than outright animosity, this clinician thought that courts' punitive reactions to parents with substance abuse were driven by a lack of knowledge.

Heightened Needs of Children with an SED

Most project clinicians observed that children with an SED required their parents to show greater stability and skills than children without an SED. However, clinicians reported that parents with substance abuse are often less mentally, socially, and physically capable of meeting those needs. Put simply, children with an SED need more time, attention, and skillful parenting, but parents with substance abuse have less availability to do so. One clinician described this as "more of an occasion [for parents] to rise to, but harder for them to do it."

Most project clinicians described this aspect of parent/child dynamics as one with "heightened needs." Many talked about aspects of the

theme. For example, a frequently noted feature of substance abuse was unreliability. According to project clinicians, parents who were actively using alcohol and other drugs often canceled or failed to show up for treatment appointments. Or, they came to the appointment under the influence and then did not retain new program content. Reliability and stability, however, were said to be central to emotional and behavioral improvements in children with SED. One clinician even stated that children who do not reunite with a stabilized parent are unable to recover from their SED. Conversely, another clinician commented that children with an SED can be resilient and experience success in an alternative permanency arrangement (i.e., adoption).

Importance of Social Support

Most project clinicians identified social support as a key factor in improving the likelihood that parents with substance abuse would regain custody of their child with an SED. Project clinicians mentioned parents' connection with case managers and clinicians, but also emphasized the importance of natural social supports, including family and friends. In addition to variation in parents' readiness for change and economic resources, social support was most frequently mentioned as critical to ensuring family reunification.

Discussion

Among this study's statewide sample of children ages 3–16 in foster care and identified as having SED, the rate of parental substance abuse was 37.3%. This rate is moderately higher than the rate (32.3%) found in a recent five-year study that included the same state's entire foster care population (Akin, Brook, & Lloyd, 2015). The present study's findings help to shed light on the presence, characteristics, and needs of families experiencing co-occurring child SED, parental substance abuse, and foster care involvement. A robust understanding of children's, families', and parents' needs and challenges yields important information to assist with more effective program planning and service delivery.

Child Well-Being Domain

This study's findings indicate that, although both groups of children met criteria for an SED and have serious mental health problems, the children of parents affected by substance abuse scored better than the children without parental substance abuse in the areas of mental health functioning, prosocial skills, and problem behaviors. One possible explanation is that children of parents with substance abuse function differently than children of parents not affected by substance abuse, and that emotional and behavioral disorders exhibited by these children are related to child parentification and other documented aspects of substance abuse related family dysfunction, thus presenting differently than traditional emotional disturbance (Harter, 2000). Children in substance-abusing environments often over-function as a means of compensating for a parent's impairment.

An alternative explanation is that parents affected by substance abuse were simply less able to meet their children's needs, regardless of the child's somewhat better level of functioning, and thus the children were placed into foster care primarily due to the parent's problems rather than the severity of the child's emotional and behavioral problems. That is, parents with substance abuse may be unable to meet children's needs, even if the needs are not as great as some of the other children with an SED in foster care. Plausibly, substance use may have generally impaired critical aspects to their parenting capacities (e.g., their ability to provide food, clothing, and shelter).

The findings on parenting effectiveness indicated that parents affected by substance abuse were observed by independent raters as having greater parenting abilities. Perhaps the parenting skills of parents with substance abuse, when not under the influence of substances, were noticeably better than the skills observed among the non-substance abuse group. Moreover, the children of parents with substance abuse had less severe mental health issues and may have been somewhat easier to parent. Social interaction learning (SIL) theory, which is the basis for many evidence-based parenting interventions, posits that improvements in parenting

are the linchpin for improvements in child behavior (Patterson, 1982). Our findings of relatively higher parenting effectiveness and child functioning scores among the families affected by substance abuse was consistent with the SIL theory in that the group with higher parenting scores was also the group with higher child functioning scores.

Perhaps these groups represent two different pathways into foster care. Other researchers have found that caseworkers' perceptions of substance abuse issues increases assessment of risk (Berger, Slack, Waldfogel, & Bruch, 2010). Along these lines, one could speculate that children of families affected by substance abuse enter foster care with a distinct set of problems compared to the families that are not affected by substance abuse. For families affected by substance abuse, perhaps the parenting effectiveness and child behaviors may have been considered by caseworkers but the substance abuse was the factor that tipped the scale and drove the decision to place the child into foster care. While these findings warrant further exploration, they suggest that the trajectory of social and emotional development among children in families not affected by substance abuse may not be as far along (i.e., less severe) than other children with an SED who are in foster care, and this represents an opportunity for earlier intervention and speaks to the resilience of these children. Finally, the suggestion that families with a child with an SED become involved with the foster care system via multiple pathways reinforces the notion that specialized and tailored strategies for them are also warranted.

Socioeconomic Domain

The parents who were substance abuse-affected fared worse in employment status, living situation, financial and material hardship, and homelessness, despite no statistically significant differences in educational levels between the parents in the non-substance abuse and substance abuse groups. This is an important finding in several regards. First, these parent-level differences highlight challenges that can and should be the target of intervention. Research suggests that substance abuse treatment completion is associated with improvements in employment,

housing stability, and economic independence (Conners, Grant, Crone, & Whiteside-Mansell, 2006). Second, poverty and its related conditions are stand-alone risk factors for child welfare involvement. The contribution of parental substance abuse to poor child welfare outcomes has been debated in the literature, and this finding supports the notion that correlated conditions play a distinct role (Testa & Smith, 2009).

Parent Domain

The analyses of parent characteristics showed significant differences in several areas. As mentioned above, parents affected by substance abuse were found to have more effective parenting than their non-substance abuse counterparts. This finding could be due to the fact that the parents were interacting with their children during the video-recorded observation period at times when they were not under the influence of alcohol or other drugs and this made a difference. Qualitative interviews described parents affected by substance abuse, not as lacking parenting skills more than other parents; rather, they were seen as deficient in the qualities of reliability and consistency.

Other distinctions between the substance abuse and non-substance abuse groups were seen on parental trauma history, parental history of foster care, social supports, and parental mental health. For each of these indicators, the parents affected by substance abuse fared worse. These quantitative findings were well-supported by the qualitative interviews, which drew attention to the prevalence of dual diagnosis, parental trauma, and significant deficits in social supports among parents affected by substance abuse. The co-occurrence of having a child with an SED, parental substance abuse, parental trauma, and parental mental illness indicate that the complexity of these families' needs extend well beyond the child's emotional and behavioral needs. Moreover, the lack of social supports presents a critical issue in understanding risk and protection and subsequent service design. Recent work by Miller, Orellana, Briggs, and Quinn (2014) found that social support provides a moderating effect for parent substance abuse and children's internalizing and externalizing

behaviors. The parent domain findings, combined with the child well-being and socioeconomic findings, seem to suggest that families affected by parental substance abuse and families not affected by parental substance abuse represent two distinct groups with a unique set of needs and contextual factors.

Limitations

Several study limitations should be considered. First, the study's cross-sectional design is exploratory and descriptive. Further examination of the co-occurrence of parental substance abuse among the population of children with an SED will be advanced by longitudinal designs and outcomes evaluation. Another limitation is that the sample comprised parents who agreed to participate in a randomized study—one that involved video recorded parent-child interactions relatively soon after the child had been placed into foster care. Those families that would not consent to participation may be distinct from the study sample and are not accounted for in our findings. A third limitation is related to the identification of SED in children and parental substance abuse. Both required the foster care case manager to make adequate and accurate assessments. Less concerning is the under-identification of SED because case managers were required to be trained and certified in the use of the assessment tool (i.e., CAFAS/PECFAS). The field's widespread problem with underreporting parental substance abuse was countered by using two distinct data sources, but this could still be an issue if case managers missed signs of parental substance abuse. Future research would benefit from use of a measure of substance abuse severity. Fourth, while the study included variables to examine the key domains of child well-being, socioeconomic factors, parental trauma history, and parent functioning, it may not have included all relevant variables for fully understanding the experiences of this population. For example, the study did not measure availability and access to substance abuse treatment, receipt of corollary services, parental legal representation, or variability in court jurisdictional practices that may impact foster care experiences. Finally, this study investigated

parental substance abuse and SED in children in a single Midwestern state. Generalizability to other states should consider potential differences in jurisdictions. Meta-studies that combine findings across jurisdictions could diminish limitations related to generalizability.

Conclusion

This study contributes to the current knowledge by describing the prevalence of parental substance abuse problems among a child welfare population of children with an SED. It adds to a growing literature that recognizes the complexity of problems encountered by families of children in foster care. Findings suggest that the common practice of addressing child and family risk factors as distinct from one another may be misguided.

The study's findings substantiate that families involved in foster care with a child with an SED and parental substance abuse face unique challenges and barriers to successful outcomes. It is not simply that families affected by substance abuse and families not affected by substance abuse were different, it was that the patterns observed on child well-being, parent functioning, history of trauma and foster care, and socioeconomic factors presented distinct needs and contexts. While parents affected by substance abuse were observed as having relatively higher parenting effectiveness and their children as having relatively better social and behavioral functioning, other domains raised several concerns. Parents affected by substance abuse had many challenges in several key aspects of functioning and thus displayed significant need for specialized services. The combination of the challenges to families associated with child SED, and the parents' limitations stemming from substance abuse, creates a "perfect storm" of heightened needs and lack of parental capacities and resources to meet them. Necessary are more comprehensive service approaches that respond to the family unit, addressing both children's needs and parent's needs, and include strategies that are well matched to families' socioeconomic and social support needs.

A major obstacle to meeting the complex needs of families with children's SED and parental substance abuse is the requisite high level of

collaboration between stakeholders and service systems. While programs are generally designed to serve a single target population or to address a specific social problem, families do not experience their needs or problems as separate from one another. Further, impacts of service delivery, parent or child deficits may become both cumulative and iterative over time and may result in profound impact to the family system. Problems and needs are interwoven and thus more complex to disentangle and treat. This study's results demonstrate and justify the need for interventions that address child and parent trauma, promote child well-being and parent well-being, engage parents and youth, and enhance cross-system collaboration and comprehensive service delivery. The use of evidence-based interventions is an important advancement in the field. However, due to the complexity of family needs, service systems must also collaborate and integrate services in order to fully realize best practice and maximize positive outcomes.

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Practice-Informed Approaches to Addressing Substance Abuse and Trauma Exposure in Urban Native Families Involved with Child Welfare

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Similar to families from other groups, urban-based American Indian and Alaska Native ("Native") family members involved with the child welfare system due to substance abuse issues are also often challenged by untreated trauma exposure. The link between these conditions and the history of genocidal policies aimed at destroying Native family ties, as well as experiences of ongoing discrimination, bring added dimensions for consideration when providing services to these families. Practice-based evidence indicates that the trauma-informed and culturally responsive model developed by the Denver Indian Family Resource Center (DIFRC) shows promise in reducing out-of-home placements and re-referrals in urban Native families with substance abuse and child welfare concerns, while also increasing caregiver capabilities, family safety, and child well-being. This article provides strategies from the DIFRC approach that non-Native caseworkers and supervisors can utilize to create an environment in their own agencies that supports culturally based practice with Native families while incorporating a trauma-informed understanding of service needs of these families. Casework consistent with this approach demonstrates actions that meet the Active Efforts requirement of the Indian Child Welfare Act (ICWA) as well as sound clinical practice.

Intensive and proactive case management designed specifically for families with high levels of service needs is a key

strategy when combined with utilizing a caseworker brief screening tool for trauma exposure; training caseworkers to recognize trauma symptoms, making timely referrals to trauma treatment by behavioral health specialists experienced in working with Native clients, and providing a consistent service environment that focuses on client safety and worker trustworthiness. Finally, suggestions are put forth for agencies seeking to enhance their cultural responsiveness and include increasing workers' understanding of cultural values, worldview, and historical issues; working from a relational perspective; listening deeply to families' experiences; and being open to incorporating traditional healing and cultural practice into service plans.

The movement of American Indians into urban areas that began in earnest in the 1950s has resulted in 78% of all American Indians and Alaska Natives now living in cities rather than on reservations or in tribal communities (Norris, Vines, & Hoeffel, 2012). Urban-based American Indian and Alaska Native ("Native") families who become involved in the child welfare system often present with multiple challenges stemming from an interacting constellation of behavioral, emotional, relational, and economic issues. These challenges can tax the capacity of parents (and other relative caregivers) to provide for the social, emotional, physical, and safety needs of their children. Non-Native child welfare workers have reported that cases that involve urban Native families in which one or more members abuse substances can be some of the most difficult; workers also report that they lack experience and skills in working with this population (Lucero, 2007). Caregiver substance abuse and behavioral health conditions, along with a lack of cultural responsiveness in child protective services (CPS) departments and community-based service delivery systems, can create increased risk for Native families' involvement in the child welfare system—particularly non-kinship out-of-home placement of children (Carter, 2010; Libby et al., 2011).

Since 2000, the Denver [Colorado] Indian Family Resource Center (DIFRC) has been providing intensive case management and supportive services to urban Native families who are involved in or at risk of involvement in the child welfare system. In addition to direct services to families, the agency has been engaged collaboratively in system change efforts with county-level public child welfare departments, the Colorado Department of Human Services, and community-based service delivery systems in an effort to improve the experiences of Native families when involved in a child welfare case or when accessing services.

DIFRC has engaged in comprehensive evaluation of its programs and services since the agency's inception. This focus on evaluation has produced in-depth knowledge of the needs and characteristics of urban Native families involved with child welfare and a body of practice-informed evidence about what works with this population and how to provide services in a culturally responsive way.

Cultural responsiveness in Indian Child Welfare begins with the ability of an agency and its individual workers to acknowledge the wide diversity in cultural expression and experiences of members of the nearly 600 different American Indian and Alaska Native groups. Responsiveness is marked by the flexibility to adapt child welfare services so that they are congruent and incorporate cultural strengths, such as extended kinship networks; expressions of the values of generosity, respect, and humility; and clients' cultural worldviews and traditional practices, including ceremonies, feasts, and community gatherings. Practicing in a culturally responsive way requires that workers integrate skills, attitudes, and values that facilitate the helping process with an understanding of historical and contemporary experiences of Native people and communities (Weaver, 1999). The intention of this article is to share with the field information and practice knowledge specifically about the subset of the urban Native child welfare population with substance abuse and trauma issues so that child welfare professionals and community-based practitioners can increase their cultural responsiveness and thereby become more skilled in practicing with urban Native clients.

Challenges of Urban Native Families with Substance Abuse, Trauma, and Child Welfare Involvement

Although each urban Native family is unique, and good casework, regardless of the race or ethnicity of the family, requires a thorough assessment of family strengths, challenges, and characteristics, practice experience has identified a set of conditions that are frequently found among urban Native families involved with child welfare. Awareness of the prevalence of these conditions, while avoiding stereotyping and remaining open to differences, can help caseworkers be better prepared to work with urban Native families in which substance abuse is present. DIFRC evaluations have shown that Native caregivers commonly experience problems with substance abuse, undiagnosed mental health conditions, and adult relational instability, including high rates of domestic violence (Bussey & Lucero, 2013). A large number of families also experience housing instability or homelessness, which compounds the

effects of other psychosocial conditions and makes healing and recovery more challenging. Although these conditions can be seen in families from all groups, they are, for Native families (both urban-based and reservation-based), strongly linked to a history of genocidal policies aimed at destroying Native family ties as well as continuing discriminatory treatment in many localities (Lucero & Bussey, 2013). These challenges often take on added complexity as they become intertwined with the effects of both historical and current trauma, as discussed more fully in the next section.

A majority of the Native families involved with child welfare served by DIFRC were referred for neglect, consistent with national patterns for all ethnic groups. While NCANDS (National Child Abuse and Neglect Data Systems) data presented in the yearly child maltreatment reports does not analyze type of maltreatment by ethnicity, several analyses have found significant differences for Native families. Using NCANDS data from 1995 to 1999, Earle and Cross (2001) found that Native families were more likely than White families to be referred for neglect (76.6% versus 70%, $p < .001$). In Minnesota, Native families were eight times more likely than White families to be referred for neglect (Minnesota Department of Human Services, 2010). Substance abuse was frequently linked to neglect; in Colorado, approximately one-half of Native families' Dependency and Neglect cases that result in out-of-home placement involve caregiver substance abuse (Casey Family Programs, 2011). In an evaluation of DIFRC's intensive case management services model for clients working toward self-sufficiency (and not necessarily with open child welfare cases), Bussey (2011) found that 54% of families reported one or more family members abused substances.

During the course of DIFRC's 15 years of service provision in collaboration with public child welfare departments, Native families with substance abuse issues have been found to be among the most vulnerable and multi-problematic in the child welfare system. Many of these families struggle with substance abuse by multiple family members, and this pattern of abuse often spans several generations within the family. Family members seen by DIFRC who abuse substances have frequently been assessed also to have high levels of trauma exposure

and unresolved grief, as well as undiagnosed or untreated mental health issues (Lucero, 2007).

Substance Abuse, Trauma Exposure, and Native Populations

SAMHSA (2013) reports that Natives over age 12 have the highest rates among ethnic/racial groups in the United States of substance dependence and abuse (12.7%) and current illicit drug use (21.8%). While the rate of current alcohol use for Natives over age 12, 41.7%, was similar to that of African Americans and Latinos, and less than that of Whites (57.4%), rates of problematic drinking, such as binge drinking and heavy alcohol use, were the highest of any group; 30.2% of Natives reported binge drinking, and 8.5% were heavy alcohol users. Urban Natives have a 178% higher rate of alcohol-related deaths than all other races combined (National Urban Indian Family Coalition, 2008). Researchers studying Native women in outpatient medical clinics document high substance abuse rates; past-year prevalence of alcohol abuse/dependence was 14% among this group, while their lifetime prevalence of drug or alcohol abuse was 65% (Duran et al., 2006). Urban Native clients in substance treatment programs report very high levels of poly-substance abuse (96%), and most urban and rural Native clients also report co-occurring depression and/or anxiety (74%) (Rieckmann et al., 2012).

Natives are also often disproportionately represented in substance abuse treatment. In Colorado, for example, Natives comprise 1.6% of the total population, but 6.3% of total admissions into substance abuse treatment (National Substance Abuse Index, 2013). Urban Native clients involved with child welfare served by DIFRC report high levels of abuse of not only alcohol, but other substances. In a 2007 program for parents (predominantly mothers) with child welfare involvement due to substance abuse, 80% reported using alcohol, 43% marijuana, 35% cocaine, 27% methamphetamines, and 2% heroin (Leake, 2007). Many of these parents combined the use of alcohol and marijuana, or alcohol, marijuana, and cocaine.

There is long-standing evidence, from both the trauma and the substance abuse fields, of a connection between trauma exposure and development of a substance use disorder. Trauma researchers (Herman, 1997; van der Kolk, 1996) have described a common pattern among clients who have been repeatedly victimized, particularly at young ages, of escaping the pain of the traumatic memories through the use of substances. There is also increasing evidence that the brain itself is changed by traumatic events (Anda et al., 2006; Gaskill & Perry, 2012), and that trauma survivors find that drugs and/or alcohol offer them a numbing or dissociative state (Najavits, 2014). However, it is not only childhood abuse that can lead to addiction. Adult survivors of sexual assault (both male and female), combat veterans, and some first responders and survivors of disasters such as 9/11 and Hurricane Katrina also show an increase in use of alcohol, tobacco, and other drugs (Bailey & Stewart, 2014).

Evidence from the field of substance abuse treatment confirms what trauma researchers have found: A high percentage of substance abuse treatment clients have also experienced trauma (Garland, Pettus-Davis, & Howard, 2013). Many studies of trauma and substance abuse have been retrospective and thus unable to determine causality. However, there have also been prospective studies (Hien, Cohen, & Campbell, 2005) and analysis of data (Kramer, Polusny, Arbisi, & Krueger, 2014) demonstrating that trauma preceded substance abuse.

Native people, whether residing in cities or in tribal areas, are one of the most highly victimized ethnic groups in the United States (Greenfield & Smith, 1999). Rates of violent victimization for both males and females over 12 years of age are approximately 2.5 times higher for Natives (101 per 1,000 persons) than for all other races (41 per 1,000) (Perry, 2004). Similarly, clients seen by DIFRC also report high levels of traumatic events; a 2010 evaluation of a subset of clients found that 93% reported trauma histories when completing the Trauma History Questionnaire-American Indian version (Lucero & Bussey, 2013). The range of traumatic events experienced included childhood physical and sexual abuse, adult sexual assault and domestic violence, car accidents, robberies, shootings, and community-wide

traumatic events such as natural disasters. DIFRC case managers interviewed in a 2010 evaluation reported that they could identify a clear link between clients' reports of trauma exposure, untreated post-traumatic stress disorder (PTSD), and self-medicating with alcohol and other substances (Bussey, 2011).

In Native communities, high rates of PTSD and substance abuse have been found to correlate with lifetime abuse and trauma (Myhra & Wieling, 2014). Research has also found that trauma and substance abuse in current generations are heightened by the intergenerational transmission of historical trauma, by cultural and community traumatic experiences, and by the cumulative effects of harmful and racist policies directed at entire tribes (Myhra & Wieling, 2014; Robin, Chester, & Goldman, 1996). This combination of multiple current traumatic experiences and group historical trauma can impact the ability of individuals to meet emerging life challenges (Braveheart, 2001).

Service Challenges

Practice evidence gathered through DIFRC's work with urban Native clients indicates that caregivers with substance abuse issues who are also involved with, or at risk of involvement with, the child welfare system are also typically dealing with additional social, emotional, physical, relational, and even legal challenges. Some of these difficulties are directly related to or exacerbated by substance misuse. Others, such as attempting to meet family needs without adequate income and other resources, lacking transportation, experiencing cultural misunderstandings and feeling marginalized in the city, and having difficulty connecting with other Natives within a large urban area, would exist even without substance abuse. Once involved in a child welfare case, families also often face increased expectations for engagement with a variety of community-based providers to fulfill requirements of CPS family service plans, placing additional burdens on time, energy, and finances.

DIFRC case managers observed early in the agency's work that many clients repeatedly reported feeling overwhelmed with all they had to

handle each day. By exploring this phenomenon in more depth, DIFRC came to understand this expression as the way some clients would convey the effects of their trauma experiences. For many clients from all groups who have significant trauma histories, feeling overwhelmed can result from high levels of active trauma symptoms that drain emotional and physical energy. Thus, individuals with high trauma loads and/or symptomatic mental health conditions may find it difficult to simultaneously address substance abuse, fulfill demands of daily living, and meet child welfare service plan requirements. Furthermore, clients may also feel that time and energy available for participation in services and programs is limited.

DIFRC clients' sense of being overwhelmed was also found to contribute to their reluctance to enter substance treatment until a time when they were able to put their external environment in better order. This is consistent with the belief systems of a number of tribes, which consider that healing and regaining balance occurs not only in the emotional and spiritual realms, but also by putting in order one's environment and relational world[1] (Cross, 1986). Thus, urban Native clients have been found to benefit from an approach that helps them to simultaneously address their substance abuse and their needs for housing, transportation, stable income, parenting education, and stronger family/community support (Lucero & Bussey, 2007).

Providing services to support change in the lives of Native families with child protection and substance abuse issues often requires an intensive level of clinical intervention. Factors contributing to the need for more intensive work include: (a) severity and chronicity of substance use; (b) intra-familial substance abuse, often spanning several generations; (c) high levels of unresolved grief, loss, and trauma (both historical and contemporary); (d) undiagnosed and/or untreated mental illness; and (e) economic vulnerability and lack of material resources, including the inability of clients to pay for substance abuse and mental health treatment. DIFRC has found that factors such as these negatively impact individuals' readiness to address their substance abuse as well as their ability to participate in family preservation or reunification activities. In addition,

participants faced with these issues often have lifestyles that are extremely chaotic, and may also experience difficulty meeting basic needs, such as food or stable housing. Serious problems with interpersonal relationships, domestic violence, involvement with the criminal justice system, and disruptions in family support networks may also be present and require concentrated intervention.

While many Native families urgently need services, they frequently report to DIFRC having experienced a number of barriers to accessing services from community-based agencies, among which the lack of culturally responsive services and service providers can often seem almost insurmountable to Native clients. When added to concerns about whether services are relevant or will fit their needs, these barriers can limit engagement with needed services (Lucero, 2007). Traditionally, when one needs help in most Native communities, he or she might first seek assistance from his/her kinship network rather than a formal system, and this approach toward help-seeking continues to operate for many members of urban Native communities. Additionally, many urban Native people are reluctant or fearful about seeking help from non-Native agencies, often due to a deep distrust of dominant culture systems (especially the child welfare system) based upon historical experiences unique to Native people (Halverson, Puig, & Byers, 2002).

The existence of multiple barriers to accessing and engaging in services points to the importance of workers and agencies increasing their cultural responsiveness and skills in serving this segment of the child welfare population. Most Native children and families will receive services from child welfare and community-based agency workers who are culturally different than themselves. In addition to this cultural difference, these workers frequently disclose that they have had little training in educational programs and work settings to prepare them to work with Native clients (Weaver, 1997). At the same time, however, workers can often identify both negative stereotypes and romanticized images of Native people (Lucero, 2007). Workers also report they know little about the issues contemporary Native people face or the conditions in Native communities.

Native people, in turn, report feeling that they will have to educate workers about their culture and the realities of Native life, fear not knowing what negative stereotypes workers may hold about members of their cultural group, and wondering if services will be relevant (Lucero, 2009). Native clients have shared with DIFRC that having to explain about their culture and its practices to a worker who has no basic understanding of Native people can seem daunting and makes reaching out for services seem extremely difficult. Some Native clients who have sought services from non-Native agencies have reported experiences such as workers not believing they were an American Indian and minimizing the importance to them of their culture because they lived in the city.

An Approach Using Practice-Informed Evidence

DIFRC has been committed to ongoing evaluation of the impact of its services and to articulating best practices with urban Native children and families involved in the child welfare system since the agency's founding in 2000. Littell and Shlonsky (2010) argue that wise decision- making in child welfare emerges when the results of rigorous evidence are combined with practice wisdom that guides practitioners on what to do. Previously reported outcomes from the DIFRC evaluation found reductions in out-of-home placements and very low re-report rates during services and at 6 months post-case closure as well as positive changes in caregiver capabilities, family safety, and child well-being (Lucero & Bussey, 2012). Additional details on the practice approach that resulted in these findings will be provided in this section.

Addressing substance abuse issues and engaging in treatment can be difficult for any client regardless of their ethnicity. When clients also have high trauma loads and/or other mental health challenges, it becomes even more difficult. An important first step in working with urban Natives with substance abuse and child welfare involvement is to assess a client's level of trauma exposure and ascertain whether trauma symptomatology may play a role in current social, emotional, and behavioral difficulties. Not only is this step consistent with clinically sound practice, it demonstrates

actions that meet the Active Efforts requirement of the Indian Child Welfare Act (ICWA).[2]

A trauma-informed and culturally responsive approach, with intensive case management (ICM) at its foundation, has been found to be effective in working with urban Natives with substance abuse and child welfare concerns. A trauma-informed approach begins with service providers' awareness of three major aspects of Native traumatic experiences, each of which may play a role in an individual Native person's trauma load: (a) historical group traumatic events (such as forced relocations and boarding school attendance); (b) intergenerational transmission of trauma; and (c) individual contemporary trauma exposures. Additional elements of a trauma-informed approach include creating an agency environment and procedures in which Native clients feel as physically, emotionally, and culturally safe as possible; clients are recognized as likely to be operating with a high level of emotion and managing what may feel like a formidable number of responsibilities and expectations; and messages are communicated that service providers understand clients are facing trying, overwhelming, and frightening situations.

The following four practices have been found to be essential to the success of a trauma-informed approach with urban Natives: (a) utilizing a brief screening for trauma exposure[3] that can be administered by case managers and others not specifically trained as mental health providers; (b) training case managers and other providers to recognize trauma symptoms and listen to client communication for cues that suggest possible trauma exposure; (c) providing seamless referrals to trauma treatment by behavioral health specialists experienced in working with Native clients; and (d) providing a consistent service environment that focuses on client safety, worker trustworthiness, and interactions between case managers and clients based upon mutuality rather than authority and legalities.

A culturally responsive approach with Native clients (Lucero, 2002) involves creating an agency environment in which workers: (a) understand the cultural values and worldview shared by many tribes, and especially any tribe(s) located in the agency's service area; (b) are aware of

the impacts of historical events and contemporary issues on Native individuals, families, communities, and tribes; (c) have the ability to hear each individual's or family's experience of being Native and accept differences in expression of identity and cultural connectedness; (d) incorporate a relational approach that acknowledges the family's current context and respects its vision for its future; and (e) are willing to include as services those traditional healing and cultural practices identified and defined by each families as necessary to achieving health and well-being. (Out of respect for tribes and tribal traditions, specific practices are not named here in print; instead, workers are encouraged to explore these practices directly with families who are requesting them as services.) These five practices can be implemented to increase cultural responsiveness in all types of agencies, not just those specifically designed to serve urban Native clients. Importantly, workers can begin to gain this understanding through cultural brokers, such as tribal child welfare and ICWA programs or urban agencies that specifically serve Native people, as well as the professional and academic literature written by Native professionals or organizations.

Providing the services to support change in the lives of Native families with child protection and substance abuse issues has been found by DIFRC to require a more rigorous level of clinical intervention than is typical in many child welfare programs. Intensive and clinically based case management has been shown to be an especially important tool to address the needs of this population. ICM is a proactive approach to service delivery and services coordination for families with a high level of service needs. Typically, these families have multiple and persistent risk factors that, if left unaddressed, have a high probability of resulting in children's removal from the home or their failure to reunify after out-of-home placement. ICM differs from traditional models of case management in its emphasis on high frequency and intensity of contacts between clients and case managers and small caseloads.

DIFRC case managers providing ICM focus on developing a supportive working relationship with clients to enhance their motivation to participate in and successfully complete activities and services that will

increase the safety and well-being of their children and improve parenting skills and family functioning. Families are involved in case planning and decision-making, and ICM services are provided in a variety of settings including the client's home, community-based agencies, child welfare offices, or at DIFRC. The frequency of client/case manager contacts and visits is high (typically 2–4 per week). Typical caseload size is 10–15 families and services are not time limited. Case managers have the opportunity to explore with clients the possibility of barriers that may preclude them from maintaining their children in the home or reunifying with their children, including evaluating whether clients may need referrals for mental health, domestic violence, substance abuse, or medical assessments. ICM draws upon family and cultural strengths for supporting change, and at the request of families, case managers may also incorporate into service plans traditional cultural approaches to healing provided from within the Native community.

Several studies support the value of addressing substance and trauma issues in an integrated treatment approach, particularly for women (Morrissey et al., 2005; Najavits, 2014). The addition of ICM is consistent with promising practices for alcohol treatment with Native women suggested by Montag and colleagues (2012), which include tailoring interventions to level of need, offering a comprehensive program, and attending to transportation and childcare needs.

DIFRC's impetus for incorporating an intensive case management approach also included feedback from clients, who indicated that if they could feel more in control of life issues, their readiness to address substance abuse issues in treatment would increase. Evaluation of this level of services found it helped clients tackle the issues of daily living that they reported to be overwhelming or otherwise believed were too difficult to handle alone, and assisted clients to move into treatment to address trauma and other mental health conditions.

DIFRC also found that providing a pre-treatment support and psycho-educational group increases the readiness of Native clients with substance abuse concerns to move into an appropriate level of treatment. Individuals who are reluctant, unwilling, or unable to quickly

Table 1. DIFRC Intensive Case Management Model

Denver Indian Family Resource Center Intensive Case Management Service Delivery Model	
Services are: • Client-centered • Trauma-informed • Culturally responsive—able to incorporate tribal differences as well as different expressions of cultural connectedness and cultural identity • Interactional and relational • Integrated • Needs-driven • Individualized for each family member	**In addition, services:** • Stem from a highly individualized plan that has identified parent/caregiver, child, and family strengths and that addresses multiple family challenges • Involve natural supports (e.g., extended family, community, cultural/spiritual advisors) • Demonstrate persistence in engaging and supporting clients • Collaborate with the child welfare system and community-based providers • Balance attention to relationships, process, and outcomes

enter treatment (many times due to wait lists, funding, or other logistical issues) are encouraged to attend the group while they are receiving intensive case management services. The pre-treatment group's goal is to increase individuals' readiness to engage in treatment and to examine and address underlying issues related to their substance use, such as unresolved trauma, grief, and loss. The 8-week group is led by an MSW with substance abuse treatment experience and structured around 90-minute sessions held once a week with topics that include: (1) Stages of Change; (2) intergenerational transmission of alcohol and drug use; (3) effects of historical and cumulative trauma; (4) impact of substance abuse on parenting; (5) addictive relationships, and setting limits and boundaries; (6) dynamics of substance abuse and recovery; and (7) relapse prevention.

Summary

Native families who become involved with the child welfare system due to substance abuse issues often are also challenged by untreated trauma

exposure and mental health concerns. These issues can lead to, or exacerbate, other economic, social, and interpersonal problems. This package of family challenges can result in cases involving Native families being considered to be among the most difficult in child welfare systems. Practice-based evidence supports the use of the trauma-informed, culturally responsive, comprehensive approach described in this article when working with urban Native families with substance abuse, trauma, and child protection issues. A critical first step in this approach is to assure that child welfare workers and community-based providers are aware of the relationship between trauma and substance abuse and understand the role that these co-occurring conditions may play in child protection concerns for Native families living in urban areas. Additionally, this approach calls for child welfare practice that incorporates thorough assessment of trauma exposure in parents and other family members, includes the ability to appropriately identify certain problematic behaviors and interactional patterns as trauma symptoms, and makes referrals to appropriate trauma-informed substance abuse and mental health treatment. Following assessment, intensive and clinically based case management—ideally delivered by providers from the family's own urban American Indian community—can be a means to address the high level of service needs of many Native families with trauma, substance abuse, and child protection issues who are living in urban areas, thereby leading to improved capacity of caregivers to nurture and protect their children.

Notes

[1] Many American Indian/Alaska Native groups continue to operate from a traditional world view based upon the belief that all elements of the universe exist in relationship to, and thus affect, all others. An individual's relational world is, thus, fundamental and all-encompassing. "The relational worldview, sometimes called the cyclical worldview, is intuitive, non-time–oriented, and fluid. The balance and harmony in relationships between multiple variables, including spiritual forces, make up the core of the thought system. Every event is understood in relation to all other events regardless of time, space, or physical existence. In the relational worldview, helpers and healers are taught to understand problems through the balances and imbalances in the person's relational world" (Cross, 1997).

[2] New *Regulations for State Courts and Agencies in Indian Child Custody Proceedings* were recently developed by the Bureau of Indian Affairs (BIA) and published in the Federal Register on March 20, 2015. These regulations, which are commonly referred to as the "new BIA ICWA guidelines" now provide a definition of active efforts and give examples of such efforts (see p. 14885). Readers can download these new guidelines at https://www.federalregister.gov/articles/2015/03/20/2015-06371/regulations-for-state-courts-and-agencies-in-indian-child-custody-proceedings.

[3] While few family functioning, parenting, trauma, or child well-being scales have been both modified and then validated for Native communities, some scales include explicit information about their validation process. The North Carolina Family Assessment Scales, for example, include discussion of validation across ethnic groups, including Native families (see http://www.nfpn.org/assessment-tools), as does the Family Assessment Form (see http://familyassessmentform.com/index.php). The National Indian Child Welfare Association (NICWA) engages in research and advocacy for Native families, and their website includes a link to an article about modifying/creating assessment tools for Native youth (see http://www.nicwa.org/research/). DIFRC used a process of Native community and staff focus groups to review existing scales, contact scale authors for permissions, and modify the language (when needed) to better fit an urban Native worldview. For non-Native agencies considering modifying and validating scales for use with Native clients, partnering with Native practitioners/scholars would provide a way to tailor the assessments for their geographic area.

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Sobriety Treatment and Recovery Teams in Rural Appalachia:
Implementation and Outcomes

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The Sobriety Treatment and Recovery Teams (START) model is designed for families with co-occurring substance use and child maltreatment. This study describes the implementation and outcomes of START in a rural Appalachian county with high rates of poverty, nonmedical prescription drug use, and child maltreatment. Despite a severely limited addiction treatment infrastructure at baseline, children served by START were less likely to experience recurrence of child abuse or neglect within 6 months or re-enter foster care at 12 months compared with a matched control group.

Parental substance use and child maltreatment are complex and interconnected problems. It is estimated that more than one million parents enter treatment for substance use each year (Young, Boles, & Otero, 2007). While many of these parents will not face contact with child protective services (CPS; Scannapieco & Connell-Carrick, 2007; Smith & Testa, 2002; Street, Whitlingum, Gibson, Cairns, & Ellis, 2008), between 40% and 80% of all families referred to CPS include a parent using alcohol or drugs (Young, Gardner, & Dennis, 1998). CPS cases with parental substance use comprise up to 79% of out-of-home-care (OOHC) placements (Besinger, Garland, Litrownik, & Landsverk, 1999), and parental substance use often predicts maltreatment recurrence (Barth, Gibbons, & Guo, 2006; Fuller, Wells, & Cotton, 2001; Wolock, Sherman, Feldman, & Metzger, 2001).

Given these intersecting challenges, partnerships between child welfare and addiction treatment providers are imperative. Some recent progress has been made. Drabble (2007) outlined barriers to cross-system collaborations, and Oliveros and Kaufman (2011) described promising practices for improved addiction treatment with parents involved with CPS. However, more research and development are needed, particularly for areas like rural Appalachia, where program development is often neglected despite continued barriers to treatment utilization and access (Clark et al., 2002). Indeed, the challenges facing rural Appalachia demand innovative responses that may well provide new knowledge and strategies for cross-system collaborations serving families.

Appalachia encompasses 420 counties across 13 states and is home to over 25 million people, 42% of whom live in rural areas, compared to 20% nationally (Appalachian Regional Commission [ARC], 2014). Despite the War on Poverty and other efforts to improve key economic and health indicators, disparities persist in the Central Appalachian subregion, which includes counties within Kentucky, Tennessee, Virginia, and West Virginia. Many Central Appalachian communities have been dependent on coal mining, and the impact of this declining economic infrastructure intersects with other social, cultural, and geographic factors (Zhang et al., 2008). Lost job opportunities has forced out-migration, which has weakened

social and kinship networks and contributed to social isolation (Goodrum, Wiese, & Leukefeld, 2004). Rural Appalachian counties in this subregion have poverty rates as high as twice the national average (U.S. Census Bureau, 2014), an epidemic of nonmedical prescription drug use (Hall, Leukefeld, & Havens, 2013; Leukefeld et al., 2005; Wunsch, Nuzzo, Behonick, Massello, & Walsh, 2013; Young, Havens, & Leukefeld, 2012), and annual rates of child abuse and neglect (CA/N) as high as 5.4 per 100 children (Kentucky Department for Community Based Services, 2012).

As with other regions of rural America, inequalities in treatment access and utilization in rural Appalachia stem from distance to treatment facilities (Cummings, Wen, Ko, & Druss, 2014; Fortney, Rost, Zhang, & Warren, 1999) and access to transportation (Arcury, Preisser, Gesler, & Powers, 2005). However, cultural factors may also be influential. Rural Appalachian values of individualism and self-reliance may play a role in limiting substance users' identification of a need for professional treatment (Leukefeld et al., 2005). Additionally, a long and often troubled history between local Appalachians and absentee land-owning corporations (e.g., coal, timber) are thought to have fostered a lingering skepticism of outsiders (Keefe, 1988). One innovative recent study sought to establish the impact of conjoint geographical and cultural barriers on addiction treatment outcomes (Oser & Harp, 2014). The authors found that geographic discordance—receiving treatment in a location that is both geographically and socio-culturally different—increased the odds of relapse and incarceration 12 months after treatment entry.

In the context of these myriad issues, the Sobriety Treatment and Recovery Teams (START) model (Huebner, Willauer, & Posze, 2012) was implemented between 2007 and 2013 in one rural, Central Appalachian county to address the needs of families with co-occurring substance use and CA/N. START is a child welfare-led program delivered in an integrated and collaborative manner with local addiction treatment services. START pairs highly trained CPS workers with family recovery mentors (peer support employees in long-term recovery) and partners with local treatment providers and the courts using a system-of-care approach. An essential strategy of these collaborations is ensuring quick access to

addiction treatment once families enter the START program. Each START CPS worker and mentor dyad have a caseload of 12–15 cases, allowing the team to work intensively with families to individualize services by using a wraparound array of natural supports and formal services to promote sobriety and parental capacity. START draws on the growing interest in peer supports for addiction recovery (White, 2010) and their potential for improving outcomes for individuals who engage in substance use and are involved with CPS (Huebner, Willauer, Brock, & Coleman, 2010; Oliveros & Kaufman, 2011; Ryan, Choi, Hong, Hernandez, & Larrison, 2008; Ryan, Marsh, Testa, & Louderman, 2006).

This study has three aims. The first aim consists of describing the implementation of the START model in a rural Appalachian county with a very limited infrastructure. The second study aim is to report on the process evaluation assessing fidelity to the START model. Finally, aim three is to report proximal and distal CA/N and treatment outcomes for START program participants.

Method

Study Design

In 2007, the Children's Bureau awarded a Regional Partnership Grant (RPG) to the Kentucky Department for Community Based Services (DCBS), the state's public child welfare system, to develop a START program in Martin County, Kentucky. After one year of start-up training and infrastructure building, the program began accepting families in 2008. The evaluation plan consisted of both a process and outcome evaluation. The goal of the process evaluation was to continuously monitor and improve the fidelity and potency of the START program. The outcome study used a quasi-experimental design featuring families served by START in Martin County and a matched control group of families selected from two contiguous counties. All three counties are located in Central Appalachia, experience high rates of substance use and CA/N, and are served by the same family court judge and community mental health center. DCBS provided secondary data for the outcome study

based on federally submitted administrative data. Both process and outcome evaluation were approved by the Cabinet for Health and Family Services' Institutional Review Board.

Participants

Families of both START and the control group were first reported to the state's regional intake or weekend child abuse hotline. Selection criteria for START required that families have: (a) a finding of substantiated CA/N on this report; (b) substance use as a primary child safety risk factor; (c) at least one child 3 years of age or younger; (d) prior CPS cases (if applicable) that were closed at the time the new case was referred to START; and (e) cases that had to be referred to START from the CPS intake team within 30 days of the CPS report. Families in the control group were matched on having a substantiated report of CA/N within the same timeframe as the START case, substance use as a child safety risk factor, similar overall risk ratings to families served by START (0–28 scale), and at least one child 3 years of age or younger. There were no statistically significant differences between groups on cumulative risk ratings, mental health issues, parental criminal history, and domestic violence.

Measures

Process Measures

Between 2008 and 2012, the START implementation process was tracked through pre-test and post-test results of the Collaborative Capacity Instrument (CCI), fidelity to quick-access service-delivery standards, and analysis of meeting and training notes. The START program evaluation was implemented using an empowerment model, where practitioners were actively involved in the design and implementation of the evaluation and in actions to strengthen implementation and fidelity to the START model. For the process evaluation, we will describe four specific areas that provide good measures of START implementation: community collaborative capacity, participation in mental health and psychiatric services, type and duration of addiction treatment, and amount of recovery mentor contacts.

Community collaborative capacity. Collaborative capacity was assessed by the Collaborative Capacity Instrument (CCI). The CCI, developed by Children and Family Futures (CFF) and tested by Drabble (2007), is designed to assess respondents' perception of collaboration in their region (in this case, their county). The CCI consists of 104 items in ten areas: (a) underlying values and principles, (b) daily practice related to screening and assessment, (c) daily practice related to client engagement and retention in care, (d) services to children, (e) joint accountability and shared outcomes, (f) information sharing and data systems, (g) training and staff development, (h) budgeting and program sustainability, (i) working with related agencies, and (j) working with communities and supporting families. Responses to statements in each of the 10 areas are measured by a 4-point Likert-type scale (agree, somewhat agree, disagree and not sure/don't know). Child welfare, addiction treatment providers, and court personnel affiliated with the START-Martin County program completed the CCI in the first and fifth year of the program as part of the national RPG process with the CCI link sent to participants via email.

Mental health services. Whether participants received any individual, group, family therapy, or psychiatric care during the study period *(yes or no)*.

Addiction treatment services. Participation in addiction treatment services was assessed for four types of treatment: residential/inpatient care; intensive outpatient; outpatient; and case management (all yes or no). Additionally, the average number of sessions and duration (months) of each type of service were reported.

Recovery mentor contacts. Family mentors were responsible for helping the parents navigate the CPS/treatment provider systems, transporting parents to the first four treatment appointments, providing coaching on sober living and parenting, reengaging parents after relapse, and working with the entire CPS team to promote understanding of addiction and recovery. The nature and duration of mentor contacts was logged and assessed to monitor and promote START fidelity.

Outcome Measures

Child welfare outcomes for children served by START and the matched control group were measured by state administrative data.

Children entering and exiting state custody. The number of children who entered and exited state custody (i.e., could not be safely maintained in the home) during the duration of the START program with follow-up to December 2012.

Recurrence of child maltreatment. Subsequent CA/N substantiations for all children in the intervention and matched control group were collected from the time of program entry up to 24 months (yes or no). For this study, we use the federal standard of a subsequent substantiation within six months of the first substantiation.

Reentry into foster care. Reentry into foster care was calculated (yes or no) for children who were placed in foster care at any point during the evaluation period and then re-entered foster care up to 12 months later.

Cost avoidance. As described in greater detail in Huebner and colleagues (2012), the costs associated with OOHC in Kentucky for a child aged 3 years or younger are conservatively estimated to be $30,000 per child based on survival analysis projected length of time in care by age at entry. While OOHC rates for young children with substantiated CA/N and parental SUDS as a risk factor in Kentucky vary by year, they are typically near 40%. To calculate cost avoidance, the actual number of children served by START-Martin County who entered OOHC was subtracted from the 40% rate. The difference was then multiplied by $30,000 to estimate the OOHC cost avoidance for START-Martin County.

Results

Overall, 67 families served by START were served across a five-year period, including 66 biological mothers and 45 biological fathers. Eighty-five percent of caregivers were couples (57 families). Adults served by START were on average 29.2 years of age and almost exclusively White (99.2%). At the time of referral to START, 8.6% of female parents and 42.4% of male parents were employed either full or part-time. Adults served by START tended to be poly-substance users, reporting problematic use of 3.2 substances on average at the time of their CPS report. The

most commonly used substances were opiates (76.6%, of which 65.6% were diverted prescription opioids), benzodiazepines (60.2%), barbiturates (38.3%), and marijuana (38.3%).

START-Martin County served 153 children (79 girls and 74 boys) during the evaluation period. Seventy percent of the children were 3 years of age or younger at the time of the CPS report, with 15% being 30 days or younger at referral. Among these children, 80.2% received developmental services, 66.7% received educational services (e.g., developmental services such as Head Start), 69.3% received mental health services, and 80.4% received medical services.

Implementation Process and Results

Multiple obstacles for delivering the START model were overcome through persistent efforts at the county, regional, and state level. The most significant barriers to implementation included limited readiness and available infrastructure to establish a rigorous program needed for fidelity to the START program model. This limited readiness was due in part to attitudes and beliefs about addiction treatment, as well as a significant lack of any community infrastructure for treatment or recovery supports. As such, START program directors spent considerable time in the first years helping the local treatment provider develop an intensive outpatient treatment program. Compared to three other functioning START sites in Kentucky, all of which had an existing treatment infrastructure and community recovery support groups at the time of their initiation, START-Martin County required a significantly longer time—essentially the full grant period—to implement with fidelity. In addition to formal treatment, Martin County had only one recovery support group in place when the project was initiated in 2007. However, by the end of the evaluation period, 12 weekly recovery support meetings had been established (8 Narcotics Anonymous meetings; 1 Alcoholics Anonymous meeting; 1 Families Anonymous meeting; 2 faith-based recovery support meetings), as well as a People Advocating Recovery [PAR] chapter.

Additionally, there had been years of tension and mistrust between the local addiction treatment provider and CPS agencies. This strained

relationship undermined willingness to establish joint expectations, communicate honestly and frequently, problem-solve, and develop integrated treatment systems. Building the behavioral health treatment infrastructure and START program could not occur until the community/staff could be convinced that it was a worthwhile effort. Thus, early work consisted of convincing stakeholders that START project directors were committed and could be trusted, treatment was necessary, and recovery was possible.

While the previously described START eligibility criteria were adhered to throughout the course of the program, the program's acceptance protocol for occasions when there were more referrals than available spaces was poorly implemented initially. The protocol specifies that when two or more START-eligible referrals are received and there is only one caseload opening, the START case will be selected randomly. However, a comparison of the first 25 families enrolled in START-Martin County to 12 families that were referred but not selected demonstrated that the START team consistently selected families with the greatest needs. Families served by START-Martin County had higher risk and poverty ratings, more criminal history, and were more likely to have experienced chronic involvement with CPS when compared to families that were START-eligible who were referred but not selected for the program. Following this finding, the specified protocol was reinforced and monitored. However, the selection of the first 25 families—a highly vulnerable and challenging population and over a third of all families served—likely biased program outcomes.

START-Martin County encountered other challenges unique to the rural location. Logistical challenges of transportation for treatment and regular drug testing had to be minimized. Additionally, the lack of alternatives for treatment and the desire to do everything possible for families served by START often meant that the family court judge ordered CPS to continue services when the START program might have otherwise been closed or transferred the case to the adoption unit. These factors resulted in a longer duration of START services in Martin County and less successful outcomes when compared to other START sites.

Table 1. Five-Year Changes in Collaborative Capacity Based on the Collaborative Capacity Instrument. +

Domain and Item	% Agree Year 1 (*n* = 18)	% Agree Year 5 (*n* = 14)
Shared Valued Domain		
Our RPG has discussed and developed responses to the conflicting time frames associated with CWS, TANF, AOD treatment and child development.	38.9%	78.6%
Client Screening and Assessment		
Our RPG has multi-disciplinary service teams that include both AOD and CWS workers.*	50.0%	92.3%
Our RPG has developed coordinated AOD treatment and CPS case plans.*	38.9%	84.6%
Our RPG supplements child abuse/neglect risk assessment with an in-depth assessment of AOD issues and their impact on each of the family members.*	33.3%	92.3%
Our RPG routinely documents AOD factors from its screening and assessment process in the information system.*	47.1%	92.3%
Client Engagement and Retention in Care		
Our RPG's CWS staff have the skills and knowledge to talk with their clients about their AOD use and related problems.*	38.9%	100.0%
Our RPG's CWS staff have knowledge about dependency courts.*	44.4%	92.3%
Our systems have implemented integrated case plans that include the substance abuse recovery plan integrated or linked with the child welfare case plan.*	33.3%	76.9%
Our dependency court system has adequate access to treatment monitoring information to determine how parents are progressingthrough treatment in a timely way.*	27.8%	81.8%
Our RPG's CWS staff provides outreach to clients who do not keep their initial AOD appointment or drop out of treatment.*	27.8%	84.6%
Our RPG's AOD staff track the status of their clients' progress in the CWS system.*	33.3%	76.9%
In our RPG, CWS and AOD agencies have agreed on the level of information about clients' progress in treatment that will be communicated from treatment agencies to CWS workers and the courts.*	33.3%	92.3%

Table 1. Five-Year Changes in Collaborative Capacity Based on the Collaborative Capacity Instrument. + *(continued)*

Domain and Item	% Agree Year 1 (n = 18)	% Agree Year 5 (n = 14)
In our RPG, client relapse typically leads to a collaborative intervention to re-engage the client in treatment and to re-assess child safety.*	22.2%	92.3%
In our RPG, drug testing is used effectively and in conjunction with a treatment program to monitor clients' compliance with treatment plans.*	27.8%	84.6%
Services to Children of Substance Abusers		
Our RPG ensures that all children in the child welfare system have a comprehensive mental health assessment.*	27.8%	76.9%
Our RPG ensures that all children in CWS are screened for neurological effects of prenatal substance exposure.*	16.7%	61.5%
Our RPG ensures that all children in CWS are screened for developmental delays associated with parental substance abuse.*	22.2%	84.6%
Our RPG is familiar with national models of prevention and intervention for AOD-affected children.*	44.4%	76.9%
Joint Accountability and Shared Outcomes		
Our RPG's CWS agency has identified system outcomes and has communicated them to the AOD agency and the dependency court.*	44.4%	92.3%
In our RPG, CWS-AOD involved parents are referred to child development education programs that have demonstrated positive results with this population.*	27.8%	76.9%
Our RPG's CWS agency shares accountability with their AOD counterpart for successful treatment outcomes for their mutual clients.*	33.3%	76.9%
Our RPG's AOD agency shares accountability for positive child safety outcomes for clients who have enrolled in treatment programs.*	33.3%	92.3%
In our RPG, drug testing is not used in the court system as the most important indicator of clients' status in resolving their AOD problems.*	16.7%	69.2%

Table 1. Five-Year Changes in Collaborative Capacity Based on the Collaborative Capacity Instrument. + *(continued)*

Domain and Item	% Agree Year 1 (*n* = 18)	% Agree Year 5 (*n* = 14)
Information Sharing and Data Systems		
Our RPG has assessed its data system to identify gaps in monitoring clients involved in both CWS and AOD systems.*	27.8%	84.6%
Our RPG's data system can retrieve the percentages of families that receive services in both the AOD and CWS agencies.*	33.3%	100.0%
Our RPG consistently documents AOD factors related to the case in our management information system.*	38.9%	92.3%
Our RPG's AOD services have supplemented the alcohol/drug data system to generate data on their clients' children and their CPS involvement.*	33.3%	84.6%
Our RPG is using data that can track CWS-AOD clients across information systems to monitor system outcomes.*	33.3%	84.6%
Training and Staff Development		
Our RPG's CWS ensures that all managers, supervisors and workers receive training on working with AOD-affected families.*	61.1%	100.0%
Our RPG's AOD agency ensures that their staff/providers receive training on working with families in the CWS system.*	44.4%	92.3%
Our RPG has a multi-year staff development plan that includes periodic updates to the training and orientation received by the staff of both CWS and AOD agencies on working together.*	27.8%	84.6%
Our RPG has training programs that include cultural issues to improve staff's cultural relevance and competency in working with diverse AOD-CWS client groups.*	27.8%	76.9%
Working with Related Agencies		
Our RPG's CWS staff know how to identify and link families with the support services that are frequently needed by CWS-AOD involved clients and makes effective referrals to those agencies.*	55.6%	100.0%
Our RPG's AOD staff/providers know how to identify and link CWS-involved families with the other services that are frequently needed and make referrals to those agencies.*	55.6%	100.0%

Table 1. Five-Year Changes in Collaborative Capacity Based on the Collaborative Capacity Instrument. + *(continued)*

Domain and Item	% Agree Year 1 (n = 18)	% Agree Year 5 (n = 14)
Our RPG has AOD support/recovery groups that include a special focus on CWS and child safety issues.*	22.2%	84.6%
Our RPG coordinates with law enforcement, AOD, and CWS to meet the needs of parents and their children affected by the criminal justice system.*	22.2%	84.6%
Working with Community and Supporting Families		
Our RPG has developed strategies to recruit broad community participation in addressing the needs of AOD-CWS and dependency court involved families.*	58.8%	92.3%
CWS and AOD staff members have access to up-to-date resource directories to locate family support centers and resources.*	44.4%	91.7%
Our RPG assists in supporting sober living communities and housing for parents in recovery.*	22.2%	76.9%
Consumers, parents in recovery and program graduates have an active role in planning, developing, implementing and monitoring services for families with substance abuse problems in the child welfare system.*	22.2%	84.6%
Youth and former foster children/youth have an active role in planning, developing, implementing and monitoring services for families with substance abuse problems in the child welfare system in our RPG.*	5.6%	53.8%

Note. * = $p < .05$. RPG = Regional Partnership Grant; CWS = child welfare services; TANF = Temporary Assistance for Needy Families; AOD = alcohol or other drug; CPS = child protective services.

+ The language used in the table reflects the original language of the Collaborative Capacity Instrument.

In spite of these challenges, significant gains were made in the region. Table 1 shows key variables from the CCI. Child welfare, addiction treatment providers, and court personnel reported significantly improved collaboration on nearly all domains of the CCI (at the .05 level based on t-test analysis) between year one and year five of the program.

Table 2. Type and Duration of Addiction Treatment Services for Adults served by START-Martin County

	n (%)	Average Number of Sessions	Average Months Duration
Detoxification	10.9%	N/A	N/A
Long-Term Residential	40.3%	51.0a	1.8
Intensive Outpatient	66.4%	25.4b	6.7
Outpatient Services	52.1%	24.5c	10.0
Case Management	86.4%	29.7d	7.9

Note. N/A = not applicable.
[a]Residential sessions included at least 6 hours of programming per day. [b]Intensive outpatient sessions included at least 2 hours of programming per day. [c]Outpatient sessions included 1–2 hours of programming. [d]Case management sessions were highly variable, ranging from 15 minutes to all day.

Improved collaborative capacity was evident in service utilization. Nearly 85% of adults served by START-Martin County received mental health services, compared to only 22.5% of adults in the matched control group (X^2 (1) = 166.2, p < .001). Addiction treatment data are presented in Table 2. Two-thirds of adults served by START-Martin County received intensive outpatient treatment, and most received case management as part of their treatment. Notably, though the majority of adults in START-Martin County reported problematic use of opiates at program entry, only 4.2% received medication-assisted treatment. Finally, as shown in Table 3, recovery mentors in Martin County served families for 18.5 months on average. While recovery mentors averaged 4.5 contacts with the family per month, the range of contacts was between .9 and 11.5, illustrating varying intensity based on client need with more frequent contacts early in the program.

Outcome Evaluation Results

Outcomes for children in the intervention and matched control group are presented in Table 4. The overall rate of children entering state custody

Table 3. Recovery Mentor Contacts in Closed START-Martin County Cases (*n* = 67)

	n (%)	Average Number of Sessions	Average Months Duration
Months Served	18.5 (11.4)	1.4	49.4
Number of Mentor Contacts	74.4 (44.5)	15.0	189.0
Total Mentor Hours Spent with Family	70.2 (40.3)	14.7	167.7
Intensity: Average number of mentor contacts per month served	4.5 (1.9)	.9	11.5

Table 4. Recovery Mentor Contacts in Closed START-Martin County Cases (*n* = 67)

	START-Martin (*n* = 153)	Matched Control (*n* = 345)	Results
Children entering state custody, n (%)	49 (32.0%)	93 (27.0%)	2 (1) = 1.3, $p = .25$
Children discharged from state custody by 12/2012, n (%)	29 (59.2%)	68 (73.1%)	2 (1) = .04, $p = .84$
Recurrence of CA/N within 6 months, n (%)	7 (4.6%)	35 (10.1%)	2 (1) = 4.3, $p < .05$
Reentered foster care within 12 months, n (%)	0 (0.0%)	9 (13.2%)	2 (1) = 4.1, $p < .05$

Note: CA/N = child abuse/neglect

was 32% in START-Martin County, higher than the matched control group (27.0%). Only 4.6% of families served by START-Martin County experienced recurrence of CA/N, compared to 10.1% of the matched control group. Additionally, no children from START-Martin County re-entered foster care within 12 months of previous foster care exit, while rates for foster care reentry for the matched control reached 13.2%.

With regard to cost avoidance, START-Martin County served 153 children and 49 (32%) were placed in OOHC at some point during the study period. Assuming an OOHC placement rate of 40%, which is typical in Kentucky, 61 children served by START-Martin County might be expected to have been placed in OOHC were it not for the program. The difference of 12 children, at $30,000 per child, resulted in a cost avoidance of $366,000.

Discussion and Implications

The START program was designed for an urban environment serving infants that are substance-exposed. Adapting the program to a rural community with virtually no infrastructure was a challenging, long-term but worthy process that provided valuable insights for other county or state systems. Before initiation, a formal assessment of infrastructure and readiness for implementation is needed and a strategic plan should be developed with state leadership to identify resource needs and establish realistic time frames. In rural, underserved areas, longer start-up periods may be requested to accommodate infrastructure development and leadership readiness. Our experience suggests that implementation of programs like START in rural counties should be built incrementally through persistent attention, cross training, and collaborative meetings.

Despite achieving lower rates of positive results than anticipated, the RPG grant funding in Martin County encouraged a profoundly positive transformation of the community that will be sustained regardless of ongoing funding. CPS, addiction treatment staff, and community partners received extensive formal and informal training over a five-year period that improved professional skills, embedded knowledge about working with families where there is maltreatment and substance abuse, and changed the culture in the community. As community recovery supports strengthen and evolve, we expect that more people will learn about addiction and its impact and find ways to obtain treatment services for members of their family. In turn, the growing readiness may support future intensive programs such as START.

Certain practices of START, such as keeping children with their family during treatment, were contrary to the belief that removing children motivates parents that are addicted toward sobriety. For these and other contradictory beliefs, it took reinforcement, reassurance, diligence, and success to convince others that children can be safe, and that parents may benefit by bonding with their children and learning parenting skills. Persistence and consistent messaging in a variety of venues from formal training through personal contacts was the most important strategy to replace mistrust and myths with knowledge of addition, recovery, and a focus on child well-being. A change in basic beliefs, in turn, yields ongoing benefits stemming from a community more supportive of a treatment and recovery paradigm.

Although all children served by START were all at high risk of placement in state custody, only 32% of children in Martin County START were placed in state custody at any time. This is lower than children that were not served with a rate of 40% placed in state custody. Similarly, children served by START experienced less recurrence of child abuse and neglect, with a 6-month rate of recurrence at 4.6% compared to 10.1% of children in the matched control group. This finding is notable given that in 2007, prior to START, the 6-month rate of recurrence of CA/N in Martin County was 25%; in 2012, the overall county rate was 9.4% with a 4.6% rate for children served by START. The overall State rate of recurrence for Federal Fiscal Year 2012 was 6.2%. Finally, Kentucky's overall rate of reentry to OOHC was 12.7% within 12 months (Children's Bureau, 2013). START maintained a rate of 0% throughout the evaluation period in Martin County, while the matched control group had a reentry rate at 17.6% in 12 months.

Strengths of this study include a description of the implementation and initial outcomes of a promising intervention approach in an underserved and understudied population. This research has two main limitations. First, though the control group was matched on START- eligibility criteria and derived from contiguous counties served by the same judge and addiction treatment provider as Martin County, intervention and control groups were not randomized and their baseline equivalency was

only partially established. Second, the outcome study relied exclusively on administrative data, and intervention and control groups could not be compared on some important primary outcomes (e.g., parental drug and alcohol use). Despite these limitations, the lessons learned in Martin County are important in designing implementation procedures for programs in similar rural communities with limited access to qualified treatment personnel and no treatment infrastructure. Furthermore, future program and evaluation design would benefit from isolating components of the START model to determine which of these is most effective.

Finally, installing START in Martin County took longer than expected and even when established was fragile. Given the findings of implementation science (Fixsen et al., 2005), however, this extended time frame is not unrealistic for programs implemented in similarly disadvantaged sites. The challenges associated with program development in such areas should not dissuade new attempts to address co-occurring addiction and child maltreatment; without potent integrated interventions like START, families may be abandoned to poor outcomes. However, our findings demonstrate the need for extended time and funding for infrastructure building in under-resourced areas, following which, more comprehensive determinations of efficacy can be made.

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Effects of a Rural Family Drug Treatment Court Collaborative on Child Welfare Outcomes:
Comparison Using Propensity Score Analysis

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Previous studies that have examined the impact of family drug treatment courts (FDTCs) on child welfare outcomes have produced mixed results. This study evaluates the impact of a rural, FDTC collaborative on child welfare outcomes using propensity score analysis. Findings from the study show that children in the treatment group had longer stays in child welfare custody but were substantially less likely to experience future incidents of maltreatment than those in families with parental substance use disorders without these services.

Family drug treatment courts (FDTCs), also known as family treatment drug courts or dependency drug courts, are promising interventions that integrate specialized courts with substance use disorder treatment and child welfare services to address the needs of families involved with child welfare because of parental substance use. The few studies that have evaluated the impact of these court system collaborations have shown equivocal results for child welfare outcomes, with mixed results for time spent in foster care and the probability of experiencing maltreatment recurrence. The FDTC program of interest in this study, the Bridges for Families Collaborative (Bridges), arose from a regional partnership grant (RPG) funded by the U.S. Department of Health and Human Services (DHHS), Administration for Children and Families. Two of the goals of the grant were to improve child well-being and reduce the impact of out-of-home placement. These goals were addressed through efforts to implement a new FDTC; to enhance collaboration between child welfare, substance abuse treatment providers, the court system, and other community agencies; to expand treatment to include gender- and trauma-informed residential and outpatient services; and to provide training on substance use and the family. A comparison group consisting of families involved with child welfare in 10 North Carolina counties was chosen based on a range of population statistics, the absence of FDTCs, and the full range of evidence-based treatment services that were provided by Bridges.

Using propensity score analysis (PSA), this study evaluates the overall impact of Bridges on maltreatment recurrence, days until physical reunification, and days until permanency. Unlike prior research, this study focuses on a unique FDTC collaboration in a rural community.

Background

In the federal fiscal year 2012, 3.4 million referrals were made to child welfare agencies in the United States; of those, 62% were screened in for investigation and approximately 20% of those investigations were considered substantiated or indicated (U.S. Department of Health and Human Services, 2013b). At the end of fiscal year 2012, almost

400,000 children were in foster care in the United States, and the average length of stay in foster care was 22.7 months (U.S. Department of Health and Human Services, 2013a), or approximately 691 days. In the majority of states, parental substance use disorders has been reported as one of the leading problems, second to poverty, experienced by families involved with child welfare services (Wells, 2009). Approximately 75% of all child welfare cases in which children are placed out of the home are impacted by parental alcohol and other drug use (Young, Gardner, & Dennis, 1998). Parents with substance use disorders experience more difficulty with successful reunification, and children of these parents are more likely to remain in foster care placement for extended periods of time. In a study of low-socioeconomic-status families, parental substance abuse was a strong predictor of child neglect (Ondersma, 2002). Another study found that a mother's lifetime use of illicit substances was associated with an increased risk for a child maltreatment report (Dubowitz et al., 2011). Concerns over prenatal exposure to substances and neonatal abstinence syndrome in North Carolina, as in other states, can lead to hospital referrals to child welfare.

Treatment Intervention

The Bridges site is in Robeson County, one of the largest and most diverse rural counties in North Carolina, and the community there faces numerous challenges. Approximately one quarter of families in the county live below the poverty level, compared to 12% in North Carolina and 11% in the United States. Similar to other rural communities, Robeson County has no central public transportation system, which, paired with the high prevalence of poverty, makes the provision and receipt of services more difficult.

The racial and ethnic makeup of Robeson County (based on 2010 census data) is unique when compared to the state overall, with a significantly higher percentage of citizens self-identifying as American Indian (38.4% in Robeson versus 1.3% in North Carolina) and a significantly lower percentage as Caucasian (29% in Robeson versus 68.5% in North Carolina). This aspect of demographic makeup of the county was addressed through

the propensity score analysis, which considered the parents' race when matching comparison cases with Bridges treatment cases.

Bridges is structured to support leaders to work across systems to engage various emerging concerns as they arise. A local implementation team addresses policy issues and barriers to coordinated care; a state-level cross-systems management team informs policy and practice statewide, based on lessons learned in the collaborative. Administration and evaluation are led by a partnership between a research university and a nonprofit substance abuse treatment agency. From design, to implementation, to dissemination of lessons learned, the collaborative is built for systems change and sustainability. By enhancing collaboration between child welfare, substance abuse treatment providers, the court system, and other community agencies, and implementing a FDTC and evidenced-based practices (EBPs)—including a residential treatment option where mothers attend with their children—the goal of the grant was to improve child and family well-being and reduce the impact of out-of-home placement among children involved in child welfare due at least in part to parental substance use disorders.

In North Carolina at the time of this program, eight Medicaid billable outpatient services were available in many counties, including for most of the comparison and for the intervention groups: substance abuse intensive outpatient treatment, community support (group and individual), diagnostic assessment, substance abuse outpatient treatment (group and individual components), and individual and family therapy. North Carolina has gender-specific outpatient and residential treatment for women and their children in several communities across the state, but not in the comparison counties (although women and their children could be referred out of the county for residential care through a cross-service area agreement). For the intervention site, an evidence-based outpatient women's treatment program and eight residential treatment beds/apartments where women could go for treatment with their young children were added to an existing transitional housing community with periodic outpatient services for women and their children. Four additional EBPs were chosen and layered on top of this existing gender-specific substance abuse treatment program for women with children:

(1) Matrix Model, (2) Seeking Safety, (3) Strengthening Families Program, and (4) Trauma-Focused Cognitive Behavioral Therapy (TF-CBT). Given the very diverse makeup of the target community, the EBPs were chosen based on their positive therapeutic track record, and because they had all been researched/used with racial and ethnic minorities and with women (BigFoot & Schmidt, 2009; Kumpfer, Alvarado, Tait, & Turner, 2002; Patitz, Anderson, & Najavits, 2015; Rawson et al., 2004).

Literature

Previous studies that have examined the impact of FDTCs have found that they benefit substance abuse treatment and child welfare outcomes but produce mixed results related to time to reunification and subsequent maltreatment. An early study on a FDTC located in Arizona found that FDTC participants had an average of 8.4 months until reaching permanency, which fell between families in the comparison group that refused the FDTC intervention (7.7 months) and families that received treatment as usual (11.4 months) (Ashford, 2004). A study of an FDTC located in an urban area of California found that the children of participants in FDTC had significantly fewer days out of the home on average, compared to children in the comparison group (641.5 versus 993 days) (Boles, Young, Moore, & DiPirro-Beard, 2007). Similarly, a study of four FDTC sites found that children of FDTC participants had on average fewer days until permanency (360 days) than the comparison group (435 days) (Green, Furrer, Worcel, Burrus, & Finigan, 2007). A few studies examined child welfare outcomes using PSA to compare participants in FDTC with other families. One study found that children of participants in FDTC spent fewer days in out-of-home placements than the comparison group (median of 476 and 689, respectively); similarly, the children of participants of FDTC spent less time in Department of Social Services (DSS) custody (median of 718 days) than the comparison group (813 days) (Bruns, Pullmann, Weathers, Wirschem, & Murphy, 2012). Another study found that children in families participating in FDTC spent fewer days out of the home than those in the comparison group, but the latter reached permanency faster than children in families participating in FDTC

(Worcel, Furrer, Green, Burrus, & Finigan, 2008). Chuang and colleagues found that while a higher proportion of children in families participating in FDTC experienced reunification than the comparison group, on average, children in families participating in FDTC spent more time until permanency (495 days) than those in the comparison group (395 days) (Chuang, Moore, Barrett, & Young, 2012). Two studies were identified that examined subsequent child maltreatment investigations, and both found no difference between the FDTC and comparison groups (Bruns et al., 2012; Green et al., 2007). These mixed results indicate a need to continue to evaluate the impact of FDTCs on child well-being. In addition, the lack of focus on FDTCs in rural areas highlights the importance of investigating the impact of rural FDTCs on child welfare outcomes.

Propensity Score Analysis

The RPG that gave rise to Bridges was first and foremost a services grant with a strong evaluation research component. Because there was evidence that the enhanced treatment and FDTC services would have positive benefits for families, the principal investigator could not ethically deny families access, as would be required for a randomized control trial. In addition, no suggestion that participation in the study would win parents favor or influence their child protective services case could be tolerated. Therefore, the principal investigator advised the community and state partners to allow parents to choose to participate in the program or let the judge court-order participation instead of randomizing families to treatment or nontreatment groups. Because quasi-experimental studies cannot control for factors that may influence why or how families chose to participate in the collaborative—and which may also contribute to the identified outcomes—the research team implemented PSA to correct for this potential selection bias by creating propensity scores that match the treated and comparison groups based on relevant factors that contribute to families' likelihood of participating in an intervention similar to Bridges (Guo, Barth, & Gibbons, 2006). Use of PSA allows for a more accurate estimation of the causal effect of Bridges on maltreatment recurrence, time to physical reunification, and time to permanency.

Methods

Sample

Bridges Treatment Group

Bridges began in the fall of 2007, but the program partners noted that it took time to establish a smooth referral and intake process. Thus, the research team chose to include families involved with Bridges after the first two years of the implementation of the program and included families that participated in the program between October 1, 2009, and June 30, 2014, with substantiated or indicated reports of child maltreatment during that time period. Out of the 225 families eligible, 208 families had complete information for all key measures and were included in the analyses (92%).

Adults were eligible to participate in Bridges if their children were removed from the home or were at risk of removal by DSS, and if parental substance use was a contributory factor to the maltreatment. DSS caseworkers referred parents to Bridges, and parents then chose to participate or were ordered to by the dependency court judge. Parents attended bimonthly FDTC sessions to monitor progress with treatment and movement toward reunification and self-sufficiency. The partners engaged in continuous care coordination to facilitate substance abuse treatment for the parents and address the family's mental health and health care, and the parents' vocational, educational, and parenting needs.

Comparison Group

The comparison group consisted of 10 counties in North Carolina that were selected based on having similar county-level poverty rates, crime rates, and urbanicity, or being considered a rural county; implementing the new DSS multiple response system at the same time as Robeson County; and not having an existing FDTC or specialized perinatal and maternal substance abuse outpatient or residential treatment programs within the county.

Of the 100 North Carolina counties, 48 were considered for the comparison group because they were in the final wave of the state's Multiple Response System (MRS), a reform of the state's entire Child Welfare System that allows for differential responses to child maltreatment reports. The MRS was implemented in three waves, and Robeson County was in the final wave. Because of the systemic influence of this change, the comparison counties needed to be on a similar change cycle.

Next, the 48 potential comparison counties were assessed for similar rates of poverty, crime, and urbanicity. The percentage of persons below the poverty level (poverty rate) and number of persons per square mile (urbanicity) were obtained through census data (U.S. Census Bureau, 2014). The crime index rate per 100,000 people, which includes both violent and property crimes (North Carolina Department of Justice & State Bureau of Investigation, July 2012) for potential comparison counties, was also compared with the rate in Robeson County.

In addition to matching on environmental factors and systems changes, comparison counties did not have FDTCs or extensive support for community collaboration beyond treatment as usual. While families in the comparison counties could be referred to other communities for gender-specific, family-focused treatment services, such as residential treatment to which mothers can take their young children with them, the comparison counties did not have the enhanced treatment services supported through Bridges in their communities.

After selecting the group of 10 comparison counties meeting these criteria, the research team requested data on children who had at least one substantiated or indicated child maltreatment report between October 1, 2009, and June 30, 2014, and who had experienced maltreatment with parental alcohol or substance use disorder as a primary contributory factor. While DSS had 10,629 total children represented in the administrative dataset across all of the comparison counties, this study used complete case analyses, which meant that only cases with data for all selected variables in the treatment timeframe could be included. After assuring all data were complete and selection based on key characteristics, the comparison sample for this analysis consisted of 169 children.

Data Sources

The original data collection plan was designed to be sustainable for the collaborative partners, so the evaluation team relied on the existing DSS administrative dataset. DSS caseworkers collect information about the maltreatment incidence, the child and family, DSS placement, and service assessments and receipt of supportive services. Primary data were also collected from local DSS caseworkers involved in the collaborative whenever substantial information was missing about families who were participating in Bridges; however, the research team was unable to utilize primary data collection from the comparison group counties to address the missing data issue, highlighting limitations common in the use of administrative data for research purposes.

Study Measures

Outcome Measures

Maltreatment recurrence was measured as a dichotomous variable. If the child experienced more than one substantiated or indicated incident of maltreatment during the study period, he or she was considered to have experienced maltreatment recurrence. Time to physical reunification was measured as the number of days between removal from the home and returning to the home of his or her parents or engaging in a trial home visit before legal reunification with the parent. Finally, time to permanency was defined as the number of days between the child being removed from the home and being discharged from DSS custody, including legal reunification with the parent or other dispositions, such as adoption.

Covariates

Individual child and parent demographics, family characteristics, and risk factors were considered in both the propensity score and the multivariate regression models for this study: age of child (0–5 years; 6–18 years [referent]), parental age (less than 35 years; 35 years or more [referent]),

parental race/ethnicity (Caucasian [referent], non-Hispanic; African American, non-Hispanic; American Indian, non-Hispanic; other), single-parent home (no [referent]; yes), number of children in the home (1 or 2 [referent]; 3 or more), type of maltreatment (neglect [referent]; abuse), and risk assessment score (low [referent]; moderate; high). The risk assessment score is based on the structured decision-making risk assessment, which assesses the family's propensity for future risk of child maltreatment and level of services needed based on the type of neglect; information about previous DSS involvement; and various parent, child, and family characteristics (Children's Research Center, 2008).

Analysis

As described by Barth and colleagues, the research team first created propensity scores by modeling a logistic regression that estimates the likelihood of participating in Bridges by controlling for factors that may confound the relationship between Bridges participation and the child welfare outcomes (Barth, Gibbons, & Guo, 2006). The factors considered for this analysis include parental demographics, family characteristics, the child's age, and risk factors.

Propensity score weighting was used to estimate the average effect of treatment on those treated. Children in the comparison group were weighted in the regression models so that the distribution of the covariates among this comparison group matched as closely as possible the distribution of the Bridges group. These propensity score weights were then checked to determine if the factors were balanced between the Bridges and comparison groups after matching. Finally, the matched sample was then analyzed to determine differences between the two groups and to estimate the effect of the collaborative on the outcomes of interest. Therefore, the findings represent an estimate of the average treatment effect for children of parents in the FDTC collaborative (the treatment group) compared to the expected child welfare outcomes of those same children had their families not received the intervention or were a part of the comparison group.

Results

During the study time period, 11% of children in the treatment group experienced a recurrence of substantiated or indicated maltreatment, whereas 71% of children in the comparison group experienced maltreatment recurrence. On average, children in the Bridges group were out of the home for 218 days and did not experience permanent placement for 599 days. Children in the comparison group, on average, were physically reunified after 284 days and were permanently placed after 466 days. The differences in maltreatment recurrence and time to permanency were statistically significant ($p < 0.001$). It should be noted that for the Bridges group, the average time between removal of the child from the home and admission to the collaborative was 166 days. Based on interviews with child welfare supervisors and members of the FDTC team, this time lapse is in part explained by a requirement for adjudication of the custody case before parents can be court ordered into the FDTC, after which time the cases remain open on average another ten months while parents complete FDTC requirements. Guardian ad Litem and DSS supervisors report that physical reunification is a more viable option once families are enrolled in the collaborative.

Table 1 presents the descriptive statistics for both the Bridges treatment group and the comparison group, both before applying propensity score weights and after weighting. Chi-square bivariate analyses were used to assess statistically significant differences between groups. Both before and after matching, the children in the comparison group were slightly older than the treatment group. A larger proportion of parents in the treatment group (86%) than the comparison group (69%) was less than 35 years of age. Parents in the Bridges group were mostly American Indian (62%) or Caucasian (32%), while parents in the comparison group were mostly Caucasian (50%), African American (30%), and American Indian (14%). The majority of children in both groups lived in single-parent homes, but the Bridges groups had a larger percentage (77%) of single-parent homes than the comparison group (54%). More children in the comparison group (68%) were categorized as high-risk than the treatment group (30%). Differences between the comparison and treatment groups were controlled for by including these factors in the statistical models and through inclusion of these factors in the creation of the propensity weights. Nonsignificant differences between

Table 1. Descriptive Statistics of the Unmatched and Matched Samples by Trea

	Unmatched, comparison (*n* = 10,629)		Unmatched, treatment (*n* = 225)	
	n	(%)	*n*	(%)
Child age				
0-5 years	5,822	(54.8)	70	(31.1)
6-18 years	4,807	(45.2)	155	(68.9)
Parental age				
Less than 35 years	119	(68.6)	203	(87.1)
35 years or more	54	(31.2)	30	(12.9)
Parental race/ethnicity				
Caucasian, non-Hispanic	85	(49.1)	75	(32.2)
African American, non-Hispanic	52	(30.1)	7	(3.0)
American Indian, non-Hispanic	26	(15.0)	145	(62.2)
Other	10	(5.8)	6	(2.6)
Single-parent home				
No	79	(44.9)	47	(21.0)
Yes	97	(55.1)	177	(79.0)
Number of children in the home				
1 or 2	89	(52.4)	103	(44.2)
3 or more	81	(47.7)	130	(55.8)
Maltreatment type				
Neglect	18,050	(91.4)	956	(95.5)
Abuse	1,699	(8.6)	45	(4.5)
Risk Assessment Score				
Low	1,985	(18.9)	26	(11.6)
Moderate	5,601	(53.3)	118	(52.7)
High or intensive	2,926	(27.8)	80	(35.7)

[a]*Results for the unmatched group consists of 20,738 observations for 10,877 children. The matched sample consists of 1311 observations for 377 children.*

tment Group[a]

	Matched, comparison (n = 169)		Matched, treatment (n = 208)		
X^2 test/ t-test	*n*	(%)	*n*	(%)	X^2 test
	63	(37.3)	61	(29.3)	
	106	(62.7)	147	(70.7)	$p = 0.102$
	117	(69.2)	178	(85.6)	
$p < 0.001$	52	(30.8)	30	(14.4)	$p < 0.001$
	84	(49.7)	67	(32.2)	
	51	(30.2)	7	(3.4)	
	24	(14.2)	128	(61.5)	
$p < 0.001$	10	(5.9)	6	(2.9)	$p < 0.001$
	78	(46.2)	47	(22.6)	
$p < 0.001$	91	(53.9)	161	(77.4)	$p < 0.001$
	88	(52.1)	93	(44.7)	
$p = 0.106$	81	(47.9)	115	(55.3)	$p = 0.155$
	410	(94.3)	833	(95.1)	
$p < 0.001$	25	(5.8)	43	(4.9)	$p = 0.519$
	13	(3.0)	122	(13.9)	
	125	(28.7)	488	(55.7)	
$p < 0.01$	297	(68.3)	266	(30.4)	$p < 0.001$

the two groups include the child's age, number of children in the home, and maltreatment type.

Table 2 presents the results from multivariate analyses for maltreatment recurrence before and after applying propensity score weights. Before and after matching, children of parents who participated in Bridges were 97% and 99%, respectively, less likely to experience maltreatment recurrence than the comparison group ($p < 0.01$). Parents' race was significantly associated with maltreatment recurrence before and after weighting, with American Indian parents being two or three times more likely to experience maltreatment recurrence than parents of other races. There was also a significant association with high-risk scores after matching, where children with high-risk scores were 70% less likely to experience maltreatment recurrence. No other variables were statistically significant.

Table 2. Maltreatment Recurrence: Logistic Regression Before and After Propensity Score Weighting[a]

	Before matching		After matching	
	O.R.	Robust S.E.	O.R.	Robust S.E.
Bridges program	0.03**	0.02	0.01**	0.00
Child age (binomial)	1.16	0.34	1.35	0.44
Parental age (binomial)	1.30	0.42	0.77	0.39
Parental race – African American	1.82	0.84	4.25	5.55
Parental race – American Indian	2.43*	0.83	3.37*	1.19
Parental race – other[b]				
Single parent	1.57	0.64	2.01	0.93
Number of children (binomial)	1.36	0.42	1.36	0.48
Maltreatment type	0.49	0.18	0.66	0.37
Risk score – moderate	0.98	0.38	0.68	0.20
Risk score – high	0.78	0.27	0.29**	0.09

*$p < 0.01$, **$p < 0.001$

[a]*Results for 1311 observations for 377 children;* [b]*The variable representing other races perfectly predicted maltreatment recurrence, so it was dropped from the model.*

Table 3 shows the results of multivariate analyses for time to physical reunification and time to permanency. Both before and after matching, children of parents in Bridges had fewer days to physical reunification, but these findings were not statistically significant. However, children in families that participated in Bridges experienced more days until permanency. Before matching, children of families that participated in Bridges experienced 172 more days until permanency ($p < 0.001$) than children

Table 3. Days to Physical Reunification[a] and Days to Permanency[b]: Multivariate Regression Before and After Matching

	Days to Physical Reunification		*Days to Permanency*	
	Before matching	After matching	Before matching	After matching
	Estimate Regression Coefficient (Robust S.E.)		Estimate Regression Coefficient (Robust S.E.)	
Bridges program	-68.15 (45.55)	-0.32 (52.20)	171.65 (42.12)***	166.29 (54.28)**
Child age (binomial)	-4.65 (36.93)	7.15 (67.81)	-108.03 (55.43)	-96.94 (63.42)
Parental age (binomial)	-33.02 (47.29)	40.44 (77.26)	-129.77 (49.90)*	-139.22 (75.79)
Parental race – African American	29.17 (42.76)	64.37 (62.72)	63.75 (54.62)	29.16 (61.64)
Parental race – American Indian	-40.99 (41.42)	-13.39 (50.72)	-14.26 (45.62)	34.54 (71.25)
Parental race – other[c]				
Single parent	5.60 (37.85)	25.47 (54.34)	37.59 (43.54)	43.78 (54.94)
Number of children (binomial)	-53.96 (41.04)	30.66 (61.33)	12.29 (37.07)	-70.12 (79.24)
Maltreatment type	-76.87 (55.76)	-119.76 (55.30)*	27.89 (47.50)	-117.90 (76.47)
Risk score – moderate	-74.53 (24.25)**	-9.36 (46.57)	50.37 (43.57)	-111.04 (78.67)
Risk score – high	-62.49 (28.15)*	-22.73 (48.81)	138.66 (48.62)**	-56.91 (53.28)
Constant	409.00 (65.74)***	200.49 (120.66)	415.15 (72.70)***	594.42 (111.01)***

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

[a] *Results for 318 observations for 100 children.* [b] *Results for 808 observations for 322 children.*

[c] *The variable representing other races perfectly predicted time to physical reunification, so it was dropped from the model.*

whose parents declined to participate in the program, and after matching, these children experienced 166 more days until permanency ($p < 0.01$). Before matching, a high-risk assessment score was significantly associated with experiencing more days until permanency (139 days), but this association was no longer significant after applying propensity score weights. Similarly, children of parents who were older experienced 130 fewer days until permanency, but this finding also was no longer significant after applying propensity score weights. No other covariates were statistically significant after applying weights. Therefore, after applying propensity score weights and then controlling for select child and parent characteristics, participation in Bridges continues to explain the lower likelihood of experiencing maltreatment recurrence, and the longer time span between removal from the home and achieving permanency.

Discussion

Previous studies that have examined the impact of FDTCs on child welfare outcomes have produced mixed results. Some studies have found that FDTC participation reduces the length of stay in foster care (Boles, Young, Moore, & DiPirro-Beard, 2007; Bruns, Pullmann, Weathers, Wirschem, & Murphy, 2012), and other studies have found that children of participants stay in foster care longer than comparisons (Chuang, Moore, Barrett, & Young, 2012). To date, no known studies have focused on the effect of a FDTC collaborative on child welfare outcomes within a rural community.

This study demonstrates that the overall treatment collaborative did have an impact on child welfare outcomes. Notably, children in the treatment group had longer stays in DSS custody (before the case was closed), but this investment of time is partially explained by delays before referral into collaborative services, and it suggests true permanency in which children are substantially less likely to experience future incidents of child maltreatment. The difference in the time spent out of the home until physical reunification between the two groups was not statistically significant.

One surprising finding was the relationship between high-risk assessment scores and maltreatment recurrence: children with high-risk scores were 70% less likely to experience maltreatment recurrence. This

may be because these families were identified as needing a more rapid provision of intensive services and monitoring by DSS. Additionally, children of American Indian parents were more likely to experience maltreatment recurrence, but this relationship may be partially explained by socioeconomic status or poverty, an individual level factor we were unable to account for in our analyses. A study based in Canada found that caseworker identification of parental substance abuse, single-parent households, and housing problems increased the odds of neglect substantiation for First Nations children but not for nonaboriginal children (Sinha, Ellenbogen, & Trocmé, 2013), indicating that mitigating factors may be perceived differently by caseworkers depending on the family's race. While we had no evidence of treatment bias, given the racial/ethnic differences in substantiated child maltreatment recurrence and the limited research on this topic, this finding deserves further research.

Limitations

The findings of this study should be considered in light of its limitations. First, the study utilizes administrative data collected by child welfare caseworkers, not researchers. While caseworkers are trained to input case information into the electronic database, this process may be seen as another "busywork" task and not beneficial to their daily work with families. Additionally, the administrative data lacked information on factors important to specific research questions. For this study we used complete case analysis, which could have created bias if families were missing information because of some factor related to the outcomes. This research team found missing information that contributed to the exclusion of important factors that have been shown to be related to child welfare outcomes among families affected by parental substance abuse, such as poverty, types of substances used, and receipt of substance abuse treatment (Barth et al., 2006). However, some of these limitations are addressed by how the comparison counties were selected. In addition to selecting counties also in the final MRS wave, the comparison group counties were selected based on having similar county-level poverty levels, crime rates, and urbanicity to help account for those vari-

ables that were not accessible through the data. The majority of families in Bridges were ordered to participate by the court system. For this analysis, we were not able to compare families who voluntarily participated to court-mandated families, but future studies should consider potential differences on child and family outcomes between these groups. Additionally, the research team was informed anecdotally that families involved with Bridges had higher levels of need than families not referred to the program. Past research has shown that in adult drug courts persons with medium- or high-risk scores for recidivism had significantly better improvements than persons who attended traditional court systems (Fielding, Tye, Ogawa, Imam, & Long, 2002). Unfortunately, the administrative data only provided the risk assessment score and not the information that informed the score. This additional information may inform future research that seeks to compare families who participate in similar programs with families that do not. Also, the regression models are unable to account for the lapse between removal of the child from the home and entry into Bridges. While this likely dilutes the effect measure of the impact of the treatment intervention on outcomes, a similar lapse in time could not be accounted for in the comparison group. Although use of propensity scores in analyses can correct for imbalance between the treatment and comparison groups on observed covariates, it cannot correct for hidden selection bias that could be addressed with a randomized control trial design.

While EBPs for enhancing services in the target community were chosen thoughtfully, efforts toward clinical cultural and therapeutic competence include two key limitations. First, the TFCBT model was never fully implemented by the intervention site; however, Bridges treatment providers enhanced existing family therapeutic services through the training for and allocation of clinical social work resources for child and family therapy. Second, the RPG site was unique in that a majority of clients identified as Native American, but this was not a tribe-specific intervention. The Lumbee tribe is state-recognized, not federally recognized, which sometimes influences available funding and program structures. Separate groups for Lumbee, African American, and non-Hispanic White

clients were not offered in this incredibly diverse rural community, but many attempts were made by clinical staff to integrate racial, cultural, and ethnic information and sensitivities into therapeutic and court services. Though not an assurance of cultural competence, the clinical and administrative staff of all agencies participating in the Bridges collaborative reflects the cultural diversity of the client population.

Conclusions

Despite noted limitations, this study contributes to the literature by evaluating the impact of a rural-based FDTC collaborative on time in DSS custody, time until physical reunification, and child maltreatment recurrence. The program of interest utilizes a unique collaboration model that integrates local- and state-level partners to address the impact of child maltreatment in families experiencing parental substance use disorders. In particular, this program has been found to have a lasting impact on participating families, including reduced likelihood of subsequent child maltreatment. Further exploration of the impact of race and ethnicity on child welfare involvement and caseworker substantiation of abuse or neglect, on volunteer and court-ordered enrollment in the FDTC, and on outcomes is warranted. Exploration of successful models to improve state administrative data sets so that their long-term usefulness for policy-related research would be beneficial. Further examination of the contributing factors leading to effective cross-system collaboration for child welfare-involved families could inform efforts in other communities.

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Family-Based Recovery:
An Innovative In-Home Substance Abuse Treatment Model for Families with Young Children

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Family-based in-home treatment can effectively meet the needs of mothers and fathers struggling with the dual challenges of substance abuse recovery and parenting infants and toddlers. This article describes one such program, Family-Based Recovery (FBR), which integrates substance abuse treatment for parents and infant mental health intervention with the goal of preventing child maltreatment and family disruption. Program design, implementation, and results are provided. Outcome data suggest that FBR is a promising model.

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In Connecticut (CT), parental substance abuse is reported as a factor in half of foster care placements of children under the age of 3[1] (National Data Archive on Child Abuse and Neglect, 2015). This age group also experiences the highest rates of maltreatment (25.6%) of all children involved in CT Department of Children and Families (DCF) (Children's Bureau, 2013). Children removed from their biological parents as a result of parental substance use disorders are likely to remain in foster care longer and have significantly higher rates of adoption than those in foster care for other reasons (Vanderploeg et al., 2007).

In addition to child protective service involvement, families affected by substance use frequently experience an array of issues that adversely affect their emotional and physical well-being. Compared to their peers, women with substance use disorders experience a higher prevalence of serious risk factors such as mental health disorders, trauma, victimization, criminality, unstable housing, and unemployment. An accumulation of these factors often affects their ability to parent effectively and progress toward substance recovery (Nair, Schuler, Black, Kettinger, & Harrington, 2003; Donohue, Romero, & Hill, 2006; Conners et al., 2004). Subsequently, children living with caregivers with a substance use disorder may experience poor outcomes including developmental delays and cognitive, social, psychological, school, and health problems related to prenatal drug exposure and adverse postnatal environmental factors (Carta et al., 2001; Lester, Andreozzi, & Appiah, 2004).

In response, the CT DCF brought together the Yale Child Study Center (YCSC) and Johns Hopkins University (JHU) to develop an innovative approach to address the needs of parents with substance use disorders and have young children. The resulting model, Family-Based Recovery (FBR), is based on the hypothesis that (1) children have the

[1] The data used in this publication were made available by the National Data Archive on Child Abuse and Neglect, Cornell University, Ithaca, NY, and have been used with permission. Data from the Adoption and Foster Care Analysis and Reporting System (AFCARS) were originally collected by the Children's Bureau. Funding for the project was provided by the Children's Bureau, Administration on Children, Youth and Families, Administration for Children and Families, U.S. Department of Health and Human Services. The collector of the original data, the funder, the Archive, Cornell University and their agents or employees bear no responsibility for the analyses or interpretations presented here.

best chance of thriving in a substance-free, safe, and stable home with their biological family; and (2) parenting a child is a primary positive reinforcement in substance abuse recovery.

Background

Most often, women and men requiring substance abuse treatment engage in individual, group, or intensive outpatient programs. For parents seeking to recover from substance use disorders, lack of child care and the need to balance competing demands of parenting and working toward sobriety are major barriers to seeking and completing treatment (Choi & Ryan, 2006). While many programs offer special groups for adult women, few offer specialized groups for pregnant or women who are postpartum (Substance Abuse Mental Health Services Administration [SAMHSA], 2014). Many others fail to offer services that would help parents complete treatment. Olmstead and Sindelar (2004) examined the prevalence of key services in substance abuse treatment programs that reported offering services tailored to specific client types. Their analysis revealed that fewer than half of women-only programs offered child care (19%), transportation assistance (45%), housing assistance (40%), or domestic violence and employment counseling (44%). In a randomized sampling of close to 200 treatment programs nationwide, only 59% emphasized the development of parenting skills with their clients and only 43% offered parenting classes (Arria et al., 2013). At times, mothers involved with child welfare services are required to enter residential programs for women and children to continue to parent their children. While these are appropriate settings for some mothers, programs frequently need to restrict the number and age of children allowed. These policies present mothers with difficult choices that may deter them from entering treatment facilities, resulting in missed opportunities for timely intervention. In regard to men, McMahon and colleagues (2007) found that 96% of fathers interviewed at a methadone clinic would consider attending a group focusing on effective parenting. In Connecticut, there are no residential substance abuse treatment programs for actively parenting men (United Way of Connecticut, 2015).

Substance abuse treatment programs generally offer limited opportunities to focus on parenting, and traditional parenting programs rarely address substance use or the special needs of parents with substance use disorders. Researchers have found that women with substance use disorders are less emotionally available to their children, have less sensitivity to their infants' cues, and have poorer interactive skills with infants than do their peers who do not (Burns, Chethik, Burns, & Clark, 1997; Belt et al., 2012). Some researchers suggest that programs must first help mothers become aware of their feelings and understand their own needs to be able to identify and respond to their child's needs (Suchman, Pajulo, DeCoste, & Mayes, 2006; Suchman, DeCoste, Rosenberger, & McMahon, 2012). Studies have also shown that dyadic interventions that promote positive parent-child interaction and parental sensitivity reduce maltreatment (Chaffin et al., 2004). A meta-analysis of 70 studies found that interventions that increase parental sensitivity to infant cues were most likely to result in improved attachment in infants (Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2008). Pajulo and colleagues (2006) have found that treatment focused on enhancing the parent's reflective capacity during sessions has been shown to have beneficial outcomes related to abstinence and the quality of parenting.

For some individuals with substance use disorders, the motivation to parent offers a uniquely powerful opportunity for sobriety (Jessup, Humphreys, Brindis, & Lee, 2003; Nace et al., 2007). The pleasure of bonding with a baby and the satisfaction of providing competent care can reinforce abstinence. An overall richer parenting experience can be a means to recovery (Marsh, Smith, & Bruni, 2010; Barth, 2009; Testa, & Smith, 2009).

The Family-Based Recovery Program

Family-Based Recovery was designed to address the shortcomings of substance abuse and parent-child treatment options for families involved with child welfare services, thereby filling a void in the continuum of treatment programs. FBR integrates and expands a JHU evidence-based substance abuse treatment model, Reinforcement-Based Treatment

(RBT; Tuten, Jones, Schaeffer, & Stitzer, 2011), and a YCSC home-based parent-child program for mothers with substance use disorders. By providing dual treatment foci, FBR offers the opportunity to effect change in both areas and enhance treatment access and efficiency. In 2007, CT DCF funded teams at six agencies to implement the FBR model, and in 2013 it increased the number of teams to 10 to serve families statewide. Based at YCSC, FBR Services provides training, consultation, data collection, and quality assurance to all sites.

Program Description

FBR is an intensive, long-term clinical treatment program that provides substance abuse treatment, individual psychotherapy, parent-child relational support and developmental guidance, and comprehensive case management in the home and community. FBR clinicians are trained to provide all aspects of the model, which allows for the seamless integration of treatment components. Team members conduct observed urine toxicology screens and breathalyzer tests of clients at each home visit. In the first months of treatment, clients receive positive reinforcement in the form of a $10 gift card for each negative toxicology screen. Additionally, staff facilitate a weekly, two-hour group for parents and their children. Group attendance is another form of positive reinforcement, as clients may attend only when they have a negative urine toxicology screen and breathalyzer result. The group provides a forum where parents experience peer support and discuss the successes and challenges of recovery or parenting.

Population Served

FBR treats mothers and fathers who have abused substances in the 30 days prior to referral and have a child under the age of 36 months. The majority of families are referred by DCF because of the risk of child maltreatment due to parental substance use disorders. If the child is in placement at the time of referral, the parent may participate in FBR if DCF plans to reunify the child with the parent within one month.

While the index parent and index child are the primary recipients of treatment, other family members are included as appropriate.

Staffing and Service Intensity

FBR services are delivered by a three-person team: two Master's-level clinicians and a Bachelor's-level Family Support Specialist. A licensed behavioral health specialist provides administrative and reflective supervision. A psychiatrist is available to evaluate clients and provide pharmacotherapy as needed. Teams work with families for up to one year and serve no more than 12 families concurrently. Each clinician provides the substance abuse/individual psychotherapy component to six families and the parent-child component to the other six families. For the first six months, the family has three 60-minute sessions per week. Thereafter, service intensity can decrease gradually to one visit per week. In addition to home visits, a clinical team member is available by telephone 24/7 for urgent matters.

Substance Abuse and Individual Psychotherapy Components

The clinician providing substance abuse/individual psychotherapy uses a variety of RBT tools to inform and guide the clinical work in the twice-weekly sessions with the index parent. During the assessment phase, the clinician utilizes information gathered in the Brief Substance Abuse Assessment and Functional Assessment (unpublished tools) to understand how and why the client abuses a substance. The information is synthesized and documented in the Feedback Report, which helps the client weigh the advantages and disadvantages of continued substance use. The Global Appraisal of Individual Needs (Dennis, White, Titus, & Unsicker, 2008) is completed at intake and discharge, pursuant to DCF requirements. Throughout treatment, graphs are used to visually depict the client's recovery. Contracts are co-constructed to emphasize personal choice and make goals concrete. The clinician helps the client learn coping strategies to manage substance-use triggers and increase behaviors that support recovery. Insight-oriented psychotherapy is provided to

address mental health issues that may contribute to substance use. Sessions may focus on trauma, relationships, anger management, or interpersonal violence. Helping clients learn to live a life of recovery, not to just stop using substances, is a critical component of FBR.

Parents enrolled in FBR do not participate in other substance abuse or mental health treatment programs except for medication-assisted treatment for opioid dependence. Clients are not required to attend Narcotics Anonymous or Alcoholics Anonymous meetings, but FBR supports those who wish to go.

Parent-Child Component

The clinician providing parent-child dyadic psychotherapy meets with clients once per week. He or she uses an infant mental health approach to explore the parenting experience, child behavior, and parent-child interaction. Attachment theory, first conceptualized by Bowlby (1969) and Ainsworth (Ainsworth & Bowlby, 1991), guides the parent-child psychotherapy of the model. The attachment relationship is rooted in a caregiver's ability to provide sensitive, developmentally appropriate care and be emotionally available when a child in distress seeks comfort. Children who feel understood and securely attached to a primary caregiver self-regulate and manage difficult situations throughout the lifespan more effectively than those whose needs for reassurance and protection are unmet (Belsky & Fearon, 2002; Edwards, Eiden, & Leonard, 2006). A goal of FBR is to prevent adverse experiences that can affect attachment, emotion regulation, learning capacity, and development (Sullivan, Landers, Yeaman, & Wilson, 2000; Nemeroff, 2004).

The clinician is especially interested in understanding the parent's perception of his or her own early care and how those experiences may affect parenting. Completing a three-generational genogram initiates that exploration. Topics discussed during sessions include how index parents define the role of mother or father; how adequate they feel in that role; and how they view their child's behavior, intentions, dependency, and needs. Family-friendly developmental screens, Ages and Stages Questionnaires (ASQ-3; Squires, Bricker, Twombly, & Potter,

2009) and Ages and Stages Questionnaires-Social-Emotional (ASQ-SE; Squires, Bricker, & Twombly, 2003) are completed quarterly. The clinician attempts to raise parental awareness of the child's possible experience given his or her stage of development and how the child's behavior affects the parent. This lays a foundation for promoting parental responsiveness characterized by warmth, sensitivity, and synchronicity in parent-child interactions. The clinician uses naturally occurring parent-child interaction as an opportunity for reflection and support. FBR conceptualizes the parent-child relationship and its capacity to provide shared joy and pleasure as the primary positive reinforcement for parental abstinence. Treatment highlights the client's unique role as an individual and parent, supporting the client's sense of self-efficacy.

Measures

In addition to the tools mentioned above, the substance abuse treatment clinician completes a biopsychosocial assessment with the client at intake. The assessment gathers demographic information, mental status, past personal and family history, and risk factors. Observed urine toxicology screens are performed at each session using a multi-panel instant-read test card or cup that is an immunoassay method of screening for qualitative detection of substances.

At intake, 90-day intervals, and discharge, the parent-child clinician completes three assessments designed to measure change in the parent's symptoms of depression, parenting stress, and bonding with the child. The team administers the Edinburgh Depression Scale (EDS; Cox, Holden, & Sagovsky, 1987) to assess risk of depression among parents. The EDS demonstrates strong psychometric properties for a brief screening instrument (Murray & Carothers, 1990) and has been found to have satisfactory sensitivity and specificity. It has been validated with parents with substance use disorders (Cox, Chapman, Murray, & Jones, 1996; Matthey, Barnett, Kavanagh, & Howie, 2001), with fathers, and with women who are not pregnant and have a child over the age of one.

The Parenting Stress Index-Short Form (PSI-SF; Abidin, 1990) is a derivative of the full-length Parenting Stress Index. The PSI-SF is a

36-item questionnaire that provides an indication of the perceived stress associated with being a parent. The PSI-SF has four subscales: Parent Distress, Parent-Child Interaction, Difficult Child, and Defensive Responding. It yields a Total Score of perceived stress. The measure has been used in a number of studies involving families affected by parental substance use disorders (Kelley, 1998).

Finally, the Postpartum Bonding Questionnaire (PBQ; Brockington et al., 2001), which can be used in conjunction with the EDS, is used to screen disorders of the early parent-infant relationship. The PBQ yields scores on four subscales: Impaired Bonding, Rejection and Anger, Anxiety about Care, and Risk of Abuse, along with a Total Score.

Findings

This section describes the socio-demographic and clinical characteristics of caregivers and children served by FBR and the results of the three measures of caregivers' clinical functioning and urine toxicology screens. The data are analyzed quarterly for the purposes of program quality assurance and improvement (QA/QI). The design of the QA/QI evaluation is non-experimental. It is used to monitor clients' characteristics, programmatic adherence, and outcomes. FBR clinicians collect and enter the data into a web-based system that YCSC developed and maintains. The data are extracted, cleaned, and analyzed using descriptive statistics, measures of central tendency, and *t*-tests.

From its inception in January 2007 through June 2014, FBR has treated 806 families, representing 1,698 mothers, fathers, and children. The average duration of service is 6.4 months; only 8.2% of all families are discharged in less than one month. Eighty-six percent of cases involved a maternal caregiver, 10.7% involved both maternal and paternal caregivers, and 3.3% involved a paternal caregiver only. The majority of mothers and fathers are Caucasian and single, with a high school diploma or less education. Average monthly gross income for FBR families is $661.49 (*SD* = $755.45). With respect to children served, 51.4 % are boys and 48.6% are girls. The average age of index children at intake is 10 months. Approximately 89% of index children were living

at home with at least one biological parent at intake; 6.7% were with a relative; 2.6% were in foster care; and 1.5% were in the hospital. See Table 1 for demographic data for all clients.

Table 1. Demographic Data

	Mothers	Fathers	Child
Numbers Served	779	113	806
Race/Ethnicity			
Caucasian	51.0%	55.8%	42.3%
African American	27.4%	16.7%	26.2%
Hispanic/Latino	16.5%	20.0%	15.7%
Age	27.19 (5.38)	30.42 (7.88)	9.67 (12.90)
Marital Status			
Single	75.8%	58.3%	
Married	11.7%	21.7%	
Divorced	4.9%	6.7%	
Educational Attainment			
Some High School or less	34.7%	27.5%	
High School/GED	33.7%	35.0%	
Some College	16.2%	9.2%	
Trade School	4.5%	2.5%	
College Graduate (2 or 4 years)	2.3%	.8%	

When completing the biopsychosocial assessment, the clinician gathers information on risk factors for the index parent and child. Mothers reported a high prevalence of current or past risk factors, including psychiatric disorders (50.3%), intimate partner violence (45.6%), criminal convictions (32%), sexual abuse (27.4%), physical abuse (25.6%), probation/parole (13.2%), selling drugs (11.1%), and prostitution (6.7%). Fathers reported a history of criminal conviction (48.3%), selling drugs (31.7%), psychiatric disorders (23.3%), probation/parole (20.8%), physical abuse (17.5%), intimate partner violence (15.8%), sexual abuse (10.0%), and prostitution (1.7%).

FBR also collects data on the substances targeted during treatment. Thirty-two percent of mothers and 29% of fathers met standard criteria

for poly-substance abuse or dependence. The substances most commonly targeted among mothers were cannabis (57%), cocaine (29.8%), opiates (22.6%), alcohol (13.8%), and PCP (7.8%). The substances most commonly targeted among fathers were cannabis (57.4%), cocaine (27.8%), opiates (25.2%), and alcohol (20%).

Information on the index child's risk factors is also collected at intake. Mothers are asked about their use of various substances during their pregnancy with the index child. The most commonly reported substances used during pregnancy were tobacco (53.7%) and marijuana (45.1%), followed by cocaine (21.7%), opiates (18.8%), alcohol (13.9%), and methadone (12.6%). Seventy-three percent of index children had a urine toxicology screen conducted at birth. Of those, 48.7% tested negative for any substance, while 21.5%, tested positive for marijuana, 13.2% for methadone, 11.3% for opiates, 10.3% for cocaine, and 12.1% for other substances. Gestational age of index children ranged from 25 to 42 weeks, with an average of 38.0 ($SD = 2.8$) weeks. Twenty-three percent of children were born pre-term. Index child birth weight ranged from 1.6 to 9.9 pounds with an average of 6.5 ($SD = 1.3$) pounds. Twenty percent of index children were born with low birth weight.

Caregiver Clinical Functioning

FBR focuses on reducing parental stress and depression while increasing bonding with the index child. EDS, PSI-SF, and PBQ scores at intake and discharge are analyzed to determine whether there has been significant change during the course of treatment. To maximize available data, maternal and paternal caregiver scores are combined.

The EDS yields a Total Score ranging from 0 to 30, with higher scores indicating more severe symptoms of depression. Eighty-nine fathers have completed an intake EDS. The majority (79.8%) fell in the Normal range of 0 to 9, while 6.7% fell in the Distress range of 10 to 12, indicating the presence of symptoms of distress that may be discomforting. An additional 13.5% were in the Evaluate range of 13 or higher, indicating the need for further evaluation and possible treatment for depression. Of the 684 mothers who have completed an intake EDS, 61.8% scored in the Normal range; 14.3% fell in the Distress range; and 23.8% were in

the Evaluate range. A total of 411 paired EDS baseline and discharge scores were analyzed. The mean baseline score was 7.51, and the mean discharge score was 5.17. The change is statistically significant ($t = 8.18, p < .001$). EDS scores are summarized in Table 2.

Table 2. Edinburgh Depression Scale Scores

Baseline Scores	N	Distress Range	Evaluate Range
Mothers	684	98 (14.3%)	163 (23.8%)
Fathers	89	6 (6.7%)	12 (13.5%)

Pre-Post Change (Paired Scores)	N	Baseline	Discharge	T-Value and Significance
Edinburgh Total Score	411	7.51	5.17	8.18***

*Note: * p < .05; ** p < .01; *** p < .001*

At intake, 664 mothers and 91 fathers completed the PSI-SF. Scores above the 85th percentile are considered clinically elevated. Fourteen percent of mothers and 13% of fathers had elevated Total Scores at intake. A total of 394 paired PSI-SF baseline and discharge scores were analyzed. Statistically significant changes were observed in the Total Score and each of the three subscales (Parental Distress, Parent-Child Dysfunctional Interaction, Difficult Child). PSI-SF scores are summarized in Table 3.

PBQ baseline scores reveal a small percentage of caregivers with elevated scores at intake. Of the 573 mothers assessed using this measure at intake, 1.7% had an elevated score, as did 1.3% of the 77 fathers. Fathers had no elevated scores in any of the three subscales. For mothers, 14 scores, or 2.5% of scores among those with valid data, were elevated. In the Risk of Abuse subscale, any score above "0" is considered clinically elevated. To date (January, 2007–June, 2014) 320 caregivers have submitted valid PBQ measures at intake and discharge. Statistically significant changes were observed in the Total Score and two of the three subscales (Impaired Bonding, Anxiety-Care). PBQ scores are summarized in Table 4.

Table 3. Edinburgh Depression Scale Scores

Baseline Scores (85th percentile and higher)	N	Total Score	Parental Distress	Parent-Child Dysfunctional Interaction	Difficult Child	Defensive Responding
Mothers	664	14.1%	23.8%	13.3%	9.6%	14.8%
Fathers	91	13.2%	25.3%	14.3%	8.8%	26.4%

Pre-Post Change (Paired Scores)	N	Baseline	Discharge	T-Value and Significance
Total Score	394	65.81	59.81	7.74 ***
Parental Distress	395	25.91	22.27	9.65 ***
Parent-Child Dysfunctional Interaction	394	18.84	16.99	6.48 ***
Difficult Child	395	22.05	21.23	2.38 *

*Note: * $p < .05$; ** $p < .01$; *** $p < .001$*

Table 4. Postpartum Bonding Questionnaire Scores

Baseline Scores (Percentage of Elevated Scores)	N	Total Score	Impaired Bonding	Rejection-Anger	Anxiety-Care	Risk of Abuse
Mothers	573	1.7%	0	0	0	2.5%
Fathers	77	1.3%	0	0	0	0

Pre-Post Change (Paired Scores)	N	Baseline	Discharge	T-Value and Significance
Total Score	320	5.93	4.75	3.99 ***
Impaired Bonding	319	3.29	2.61	3.67 ***
Rejection-Anger	319	0.82	0.71	1.07
Anxiety-Care	319	1.46	1.17	2.57 *
Risk of Abuse	319	0.05	0.00	1.85

*Note: * $p < .05$; ** $p < .01$; *** $p < .001$*

Analysis of pre-post paired scores on these three clinical measures provides preliminary evidence that caregivers in FBR treatment experience reductions in depression and parental stress and enhanced parental bonding with their children.

Urine Toxicology Screen and Breathalyzer Data

FBR staff have collected toxicology data from 711 mothers and 106 fathers, resulting in 41,988 screens to date. Clients provided a urine sample for screening approximately 1.7 times per week (*SD* = 0.7). Toxicology screen results differ from other FBR data elements in that they are collected repeatedly over time. As a result, clients in the program longer have significantly more data than clients recently admitted. FBR analyzes toxicology results in two ways. First, the percentages of negative and positive screening results are determined and the substances revealed in positive screens are identified. Overall, 79% of all screens administered were negative and 21% of screens were positive for one or more substances. The substances most frequently identified in the 8,931 positive screens were marijuana (59%), prescription drugs (18%), cocaine (12%), opiates (12%), PCP (8%), benzodiazepines (5%), other substances (1%), and alcohol, identified via breathalyzer tests (0.4%). Second, we assess rates of negative toxicology reports based upon number of weeks in FBR. Test results are aggregated into weeks after program entry and calculated based upon the percentage of clients testing positive on urine or breathalyzer screens at a given week of FBR participation, up to 20 weeks. Results from 810 clients were examined. After adjusting for missing data, 51% tested positive in week one of treatment; 28% tested positive at week five; 18% at week 15; and 14% at week 20. These findings suggest decreasing levels of substance use over the course of FBR treatment.

Case Outcomes

The placement of the index child at the time of discharge is the primary child-related outcome measure. To date, 79.2% of index children were living with a biological parent at discharge, of whom a small number

(1.7%) had moved into the home of a parent who was not their primary caregiver during the FBR episode of care. The remaining index children were either placed with a relative (12.3%) or in foster care (7.2%).

The reasons for case closure are also documented. Of the 734 families discharged from FBR, 44.1% successfully completed treatment. The second most common reason for discharge was referral to another treatment program (19.7%). Parents were referred to inpatient or residential treatment programs (8.4%), intensive outpatient treatment programs (6%) or a lower level of care (4.6%). Other reasons for discharge were client unavailable (12.6%), removal of the index child with no immediate plans for reunification (11.1%), and client choice to terminate services (8.1%).

Discussion

Before FBR, many children were placed in foster care or kinship care while their parents participated in a treatment program to work toward recovery. Participation in a parent-child program might have been offered as part of the reunification plan. DCF and its developers conceived of FBR as a means of reducing out-of-home placement for children affected by parental substance use disorders.

Our experience shows that many parents are invested in engaging in both treatment components concurrently, suggesting that parenting may offer unique opportunities for behavior change. The vast majority of children (89%) were living with their parent at the time of intake into FBR. A number of these children would have been placed outside of the home if their parent had not engage with FBR services. The service intensity and close collaboration between FBR and DCF staff allows children to remain in the home. Depending on the level of risk, DCF may develop a safety plan that requires the parent to have 24-hour supervision with their child during the initial phase of treatment. The percentage of children living with a biological parent decreases to 79.2% at the time of discharge. FBR gives mothers and fathers an opportunity to parent but for many reasons not all children are able to remain at home. In some situations, placement in kinship or foster care provides optimal safety and well-being for a child.

This suggests that children may not necessarily need to be removed from their homes while their mother or father engages in substance abuse treatment. With support, many parents are able to create and maintain stability and safety for their children. Statistically significant changes in the Total Scores from intake to discharge on the EDS, PSI-SF, and PBQ suggest that the FBR intervention is meeting its goal of improving parental well-being, which benefits the parent-child relationship. Based on the high prevalence of serious risk factors endorsed by parents, it would seem likely that a greater percentage of intake scores on these measures would be elevated. Parents may be concerned that endorsing more symptoms will lead to extended DCF involvement and possible child removal. There is a possibility that the partnership between service providers and DCF inhibits a parent's reporting on standardized measures. Another reason for lower intake scores might be that the measures are completed during the first month of treatment, when the therapeutic relationship is still being developed and/or clients have yet to gain insight into their symptoms. The reduction in the rate of positive urine toxicology screens over the course of treatment demonstrates that many parents can obtain and maintain abstinence during the FBR intervention. Forty-four percent of FBR families are discharged upon successful completion of the program. Success is defined as completing approximately six months of treatment and achieving at least three of five treatment goals. This result compares favorably with SAMHSA Treatment Episode Data Set (SAMHSA, 2014) for all substance abuse treatment programs. Nationally, 33% of clients enrolled in intensive outpatient treatment programs and 37% of those in outpatient treatment programs successfully complete treatment. Eight percent of FBR parents were referred to a higher level of care at discharge. In over half of these cases, the index child accompanied the mother into residential treatment, avoiding a disruption in dyadic relationship.

We have found that the program's effectiveness is greatly enhanced by a strong working relationship between DCF and FBR clinical teams. Managing risk for children environmentally exposed to substances raises concerns for both DCF and treatment providers. Accordingly, FBR,

DCF, and parents jointly develop safety plans. The client and FBR staff inform DCF when a substance use relapse occurs or child safety issues arise, while confidentiality is maintained regarding other aspects of the client's life. Sharing information related to risk factors has facilitated the establishment of trust among the program's partners. In fact, collaborative risk management using the FBR model has shifted practice in some DCF Area Offices. It should be noted that variation in the definition and management of risk at DCF affects selection of families for referral and how the course of treatment proceeds. FBR Services and the DCF Central Office FBR contract manager meet with DCF staff to address regional differences related to referrals, course of treatment, removals and collaboration with FBR providers.

Experientially, we have found that providing services in the home eliminates barriers to treatment and facilitates client engagement. It demonstrates a willingness to join with the family in its environment, while team members experience a client's daily life and gain deeper understanding of family functioning, values, and beliefs. Additionally, meeting several times a week promotes clients' recovery from their substance use disorder and sense of self-efficacy in parenting. FBR has learned that focusing on the child and the client's role as a parent motivates those reluctant to engage in substance abuse treatment.

We continue to work to improve the FBR model and our ability to assess its results and clarify costs. FBR Services was helped in identifying limitations and possible solutions regarding program evaluation by two technical assistance grants from the SAMHSA Center for the Application of Prevention Technologies. One limitation has been insufficient data on FBR intervention's effectiveness in improving parental reflective functioning and child well-being. We did not implement a standardized measure to assess the effectiveness of these aspects of the model until 2013. Four sites were selected to pilot, at intake and discharge, administration of the Parental Reflective Functioning Questionnaire-1 (Luyten et al., 2009) and the Devereaux Early Childhood Assessment for Infants and Toddlers (Mackrain, LeBuffe, & Powell, 2007). These instruments will be used to measure the quality of the

dyadic attachment, provide data related to child safety and protective factors, and assess any change in the degree to which parents are attuned to their child's needs. In addition, data collected from the ASQ and ASQ-SE need to be analyzed to determine if FBR improves child outcomes.

An independent evaluator funded by DCF is conducting a comparison study of FBR child welfare outcomes using a matched sample of families identified by DCF as needing substance abuse treatment. The lack of treatment information on the comparison families makes it challenging to draw definitive conclusions on the effectiveness of the FBR model. DCF policy requires FBR to operate with a "no wait-list" policy because DCF considers the families too high-risk to wait for services, thus eliminating one research option, an analysis of a wait-list comparison group. In addition, there are no treatment models comparable to FBR in Connecticut. Despite these challenges, FBR Services is committed to conducting a rigorous research study to in order to demonstrate program effectiveness. FBR Services and DCF are currently exploring opportunities to examine the cost savings of FBR in-home programming and decreased future involvement with DCF.

Conclusions

Family-Based Recovery was created in response to findings by the Connecticut Department of Children and Families that children exposed in utero and environmentally to parental substance use disorders are at high risk for out-of-home placement and compromised safety and development. Mothers and fathers caring for young children need accessible substance abuse treatment that takes into account their parenting needs and experience. Preliminary program outcome data suggest that in many cases FBR engages, stabilizes, and effectively treats parents and promotes healthy parent-child attachment. The results indicate that relationship-focused substance abuse treatment in the home that prioritizes the parenting experience can benefit families and has the potential to improve future outcomes for the next generation. The outcome data support the conclusion that FBR is a promising practice that merits rigorous research in order to become an evidence-based treatment model.

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Rethinking Child Welfare to Keep Families Safe and Together:

Effective Housing-Based Supports to Reduce Child Trauma, Maltreatment Recidivism, and Re-Entry to Foster Care

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Large numbers of children who are placed in child protective custody have parents with a substance use disorder. This placement occurs despite evidence that the trauma of removal is associated with poor long-term child outcomes. This article describes a collaborative model of a continuum of housing-based clinical and support services for the whole family that has safely reduced foster care placement. An external evaluation of this pilot in Jackson County, Oregon, found significant differences in subsequent maltreatment, foster care re-entry, and family permanency outcomes favoring the treatment group. After initial external grant funds, this program is continuing and expanding across Oregon due to state legislation, and funding and can be a model for other states.

In pursuit of the protection and best interests of children, the state has a right to intervene in the private affairs of families by removing from their home children who are neglected or abused and placing them into protective custody, often in a foster care placement. This initial intervention can be critical to ensure the child's safety, but historically child welfare agencies have not been structured in a way that focused sufficiently on the longer-term well-being outcomes for children. Households in which parents abuse substances have an increased likelihood of providing chaotic environments for children. Rife with conflict, poor supervision, and insufficient emotional attention, the home lives created by parents with substance use disorders pose risks and safety factors too often requiring protective placements for children (Donahue, Romero, & Hill, 2006).

Child welfare policies have historically aimed to reduce these risks and increase safety by removing children from homes with parents who have a substance use disorder. For decades, the short-term gains of these child welfare policies may have been offset by long-term consequences of trauma associated with removal of children and placement in out-of-home care. This trauma can be avoided with appropriate resources to ensure that the children can safely remain with their parents while the family addresses the myriad problems they may be experiencing. Due to a lack of resources and other practice and policy concerns, child welfare agencies and substance abuse treatment communities have worked separately to assist a shared population that experience co-occurring problems. This recognition was made in our county in the late 1980s and resources began to be allocated to programs for the provision of integrated services.

Improved policies and systems change across the nation have contributed in part to the decline in the number of children in foster care: between 2004 and 2013 the number decreased by more than 22 percent (Child Welfare Information Gateway, 2015). Despite this drop large numbers of children continue to be removed from their families and placed into foster care, over 250,000 annually between 2009 and 2013, and many removals are for maltreatment secondary to parental substance use disorders (Child Welfare Information Gateway, 2015; Department of Health and Human Services [DHHS], 2014). This article presents the evaluation of a pilot project—a

family-focused, housing-based, drug treatment program with wraparound services provided through a collaboration involving child protection and substance abuse treatment—that reduced reliance on out-of-home care and the trauma associated with the child's removal. An underlying premise of the program is that reducing intergenerational transmission of substance use disorders and child maltreatment requires efforts to improve the parents' ability to parent while safely keeping families together or reunifying them as quickly as possible. This program model is offered to other jurisdictions to effect the systems change needed to treat parental substance abuse problems associated with child maltreatment.

Literature Review

Parental substance use is a significant risk factor for children and increases the likelihood of both child maltreatment and child welfare system involvement. Data documenting the existence of parental substance use disorders in child welfare cases is not consistently collected. However, a prospective longitudinal study identified maternal substance use as one of five key factors that increased the odds of a report to child protection services (Dubowitz et al., 2011). Higher rates of child neglect or abuse are likely consequences of parents who are impaired and prioritize their substance use (seeking, using, and recovering from intoxication) over the needs of their children. Parents with a substance use disorder parent ineffectively when their addiction contributes to a chaotic home life with few positive role models, poverty, and many moves.

Parental substance use disorders also impact decision-making processes within the child welfare system. Wulczyn (2009) found that 79% of maltreatment reports involving parents with a substance use disorder were substantiated, while only 18% of maltreatment reports not involving substance abuse were substantiated. This study also found that reports involving parental substance abuse were twice as likely as those without substance abuse to result in foster care placement. As a result, substance abuse by a parent was a reason for the removal of nearly 31 to upwards of 60 percent of children placed in out-of-home care in 2012, and child placements for maltreatment secondary to substance abuse by parents have increased

in recent years (Child Welfare Information Gateway, 2014; Correia, 2013). Although parents who abuse substances are more likely to come into and remain in contact with child protection agencies, these agencies face challenges treating the parental substance abuse problems underlying the neglect and/or abuse of children (Marsh, Smith, & Bruni, 2011).

In addition to the trauma caused by child maltreatment, children also experience trauma when they are removed from their familiar home life and placed in substitute care. Children may also be re-traumatized when they are returned to the care of their biological parent after developing attachments to one or more foster families (Gauthier, Fortin, & Jeliu, 2004). Child protection agencies are protecting children from imminent risk and safety factors by removing them from parents who are neglectful or abusive. However, they may have been slow to learn from trauma research to address the traumatic stress that children experience when removed from their families. A parenting fact sheet developed by a Temple University collaborative suggested that the trauma of removal experienced by children may be equivalent to the trauma of being abused by a parent and may be experienced by the child as greater than the trauma resulting from the parental neglect. This trauma was likened to that associated with divorce, which has been included in the study and classification of adverse childhood experience (ACE) ("Removal From the Home," n.d.; Felitti et al., 1998). Child placement in protective custody may be as traumatic to children as divorce resulting in toxic stress and changes in neurodevelopment similar to impacts demonstrated by other ACEs.

Just as ACEs have been associated with a host of negative outcomes through disrupted neurodevelopment, placement in out-of-home care has been linked to poor short- and long-term behavioral, physical, and mental health outcomes. Neurobiological consequences result from the toxic stress associated with removal and disrupted attachment and may place children at-risk for social, emotional, and cognitive impairment with lifelong consequences (Racusin, Maerlender, Sengupta, Isquith, & Straus, 2005). Stress and negative emotions associated with removal have been documented. One study of children placed in foster care found that in the year prior to data collection, more than half of them experienced depression,

anxiety, drug dependence, or posttraumatic stress disorder (PTSD) and nearly 20% experienced multiple problems (Casey Family Programs, 2005, as cited in Bruskas, 2008). Children who are removed from parents and placed in out-of-home care frequently suffer from a volatile mix of negative neurophysiological, emotional, and environmental influences while in foster care. Specifically, researchers found that children who are placed into foster care experience negative outcomes that compound one another, including chronic mental health problems, poor academic achievement, increased high school dropout rates, substance abuse, unintended pregnancies, un/underemployment, reliance on welfare, homelessness, or criminal and other antisocial behaviors (Doyle, 2007; Racusin et al., 2005).

Considering the trauma caused by removal and the negative outcomes linked to foster care, removal should be the option of last resort for children who are neglected associated with parental substance use disorders. Doyle (2007) suggested that children who are not in imminent danger of physical abuse enjoy better outcomes when family preservation is prioritized over removal. Children who are neglected by a parent with a substance use disorder will potentially fare better by remaining in their parents' care as part of a family-focused drug treatment program than by being removed from the family. Avoiding removal can reduce iatrogenic trauma, produce cost savings, and result in better short- and long-term outcomes for children and families (Manion, 2009 as cited in "Removal From the Home," n.d.). However, policy and systems changes are required to reduce reliance on foster care for children who come to the attention of child protection agencies as a result of neglect associated with parental substance use disorders. This group of children is a prime population for systems change to promote better and more cost-effective child and family outcomes.

Program Description

The poor outcomes for children and the costs that are associated with foster care placement led to concern about the increasing number of children in our county who are removed from their families for neglect associated with parental substance abuse (Doyle, 2007). Through a partnership

involving OnTrack (Substance Abuse Treatment), the Oregon Department of Human Services Child Welfare Jackson County Office, the court, Court Appointed Special Advocates (CASAs), the local crisis relief nursery, Jackson County Public Defender, the District Attorney, and the Jackson County Foster Parent Association, this project aimed to reduce the number of children who are removed from their families and to change the experience for those children who needed to be temporarily removed. This work was initiated as a demonstration project, supported with multiyear grants awarded by the U.S. Administration for Children and Families' Children's Bureau for two similar populations: children who are removed and children who are at risk for removal.[1]

First, a front-end model was designed to avoid removal whenever possible. Trained and certified treatment providers (peer assisters), who have personal child welfare experience and are in recovery from a substance use disorder go with child welfare case workers on investigations involving substance use allegations. The normal fear and defensiveness that frequently occurs when child welfare workers knock on a family's door is drastically reduced when someone who can say they have "been there," does not judge them, and does not have the capacity to take their children, begins the conversation with "You don't have to lose your children." The family, along with the child welfare caseworker and the peer assister, develops a services plan that usually involves immediate entry into emergency housing where the families are supervised 24/7 by on-site case managers and other treatment provider staff. This plan is shared with the judge, who usually accepts it.

The program requires families to participate in intensive day treatment 20 hours per week as well as utilizing support services such as: case management and bonding and attachment services (learning the importance of facial expressions, body language, touch, and of tone of voice, pacing, timing, and intensity of verbal communication). Families are provided with emergency housing where there is 24/7 supervision and move to

[1] The projects described were made possible by two grants awarded by U.S. Department of Health and Human Services, Administration for Children and Families, Children's Bureau: the Regional Partnership Grant (grant number HHS-2007-ACF-ACYF-CU-002-) from 2007 until 2011, and the Family Connections initiative (FC grant number HHS-2009-ACFF_OF-) from 2009 to 2011.

transitional, then permanent, housing as threats are removed. Other support services include transportation, relationship education, couples and family therapy, and medical education and care. This participation involves a minimum of 20 hours per week. At the same time, their children are provided with therapeutic child care and developmental services to address assessed deficiencies. Family compliance is promoted by having parents who are committed to treatment enter housing together. When parents are required to initially participate in separate treatment programs because of clinical indicators such as dissimilar commitment to recovery, parents focusing more on one another than on their children or recovery, or existing no-contact orders, children may need to reside with only one parent initially. possible, child care is shared and the goal is to reunite the parents as quickly as possible.

A family who enters emergency housing has a petition filed with the court giving temporary custody to the Oregon Department of Human Services, Child Welfare, and the child is placed with the parents. A continuum of housing options keeps families safely together while safety threats to children are resolved. Housing options include gender-specific residential treatment for moms and dads with their children, as well as emergency, transitional, and permanent housing where families live safely together under supervision. Along with housing, programs are offered that are family-centric, evidence-based, and gender-specific. Treatment for the substance use disorder is trauma-informed and provided along with family-strengthening services including bonding and attachment therapy, family and couples therapy, relationship education, yoga, and music with children.

Child Welfare staff and the judges gain confidence in a family's ability to safely parent their children through progress reports from treatment providers and observations of family visits. As confidence in the family grows, the treatment team makes a recommendation for the family to move to less intensely supervised housing. As they do, the focus shifts to the maintenance of recovery, continued improved parenting, strengthening family and couples' relationships, building life skills, and moving toward system independence. Families typically stay in the program for 18 to 24 months; about four months are spent in emergency

or residential treatment, followed by four months spent in transitional housing. The families are supported through their transition to permanent housing for a minimum of four months and a maximum of a year or more.

After active treatment is completed, many families move into permanent affordable housing, with drug- and alcohol-free leases offered by the treatment provider. All residents of the program are required to comply fully with their individual services and support plans. While living in the treatment provider's permanent housing, families are provided with continuing supportive services, and their sobriety is monitored through random urinalysis as appropriate. To minimize the risk of relapse due to lack of appropriate housing, the treatment provider supplies families with desirable, affordable, substance-free, permanent housing. In this housing environment, families learn how to be good tenants; after a year of good tenancy and completion of service plans, they earn a rental reference that opens housing options for them. Case managers assist families in locating mainstream housing when they are ready to move.

Because we want to ensure that biological parents are kept substantively involved in the lives of their children when they must be temporarily removed, foster parents are recruited who are willing to mentor families through our "Partners in Parenting" program. For example, biological parents can meet the foster parent at school in the mornings to hug their children and wish them a good day, or attend doctor's appointments, school conferences, and other important appointments with the children. Under this model, foster parents act as safety providers when parents interact with children, and also teach the parents skills of daily living and parenting practices so that children have consistent parenting when they return to their biological parents. Foster parents then stay involved with the family after the children are returned so that the children do not suffer another relationship interruption. Additionally, biological parents and children maintain a relationship with the foster parent to provide ongoing support to them as a collective family by choice. Ludy-Dobson and Perry (2010) suggest that this type of parental coaching can minimize stress and reduce the trauma of removal.

Methods

Data for this project were originally collected for federal grant reporting requirements under the two grant programs that funded the pilot project. Both grants served parents who were involved with the child welfare system, had abused substances, and had opted into substance abuse treatment, but focused on different populations that had goals of either keeping their families together or achieving speedy reunification with children. Child welfare outcomes were evaluated using a quasi-experimental design involving a non-equivalent, retrospective comparison group of families involved with child welfare.

The evaluation was designed to answer three research questions:

1. Do children in the treatment group experience lower rates of subsequent maltreatment reports than comparison group children?
2. Do children in the treatment group experience lower rates of subsequent maltreatment removals than comparison group children?
3. Do children in the treatment group enjoy more favorable permanency outcomes (i.e., reunification) relative to the comparison group?

Treatment and Comparison Groups

The target population for the treatment group was children who were in, or at risk for, an out-of-home placement due to the methamphetamine or another substance use disorder of a parent or caretaker. The treatment group consisted of 196 children who were admitted to either grant-funded program between January 2008 and September 2011and for whom a minimum of 18 months follow-up data were available. The comparison group was a retrospective group of children who were reunified with their parent following the most recent removal as a result of child maltreatment. Since the outcomes of interest were child welfare recidivism and re-entry, comparison cases were selected only if reunification occurred

and there was an equivalent follow-up time period of 18 months in which to examine reoccurrence of maltreatment or re-entry to foster care. To be considered retrospective, the child maltreatment report must have occurred in the county in calendar years 2005, 2006, or 2007. The comparison group was used to compare child welfare outcomes in the county prior to the implementation of enhanced services provided as part of the treatment.

Eligibility criteria for the comparison group were specified with the goal of identifying a retrospective group of children whose characteristics matched the characteristics of children in the treatment group. The comparison group included 54 children (a sub-population of the original retrospective comparison group) who experienced an out-of-home foster care placement and excluded cases in which the safety plan involved removal of the children from one parent and placement with the other parent. In addition, the parent of the children who were removed due to substantiated maltreatment must have had data on alcohol and/or drug abuse noted in their child welfare record as a family stress indicator. Each family selected for inclusion in the comparison group had to have at least one child aged 5 or younger. Since the comparison group only included children who were reunified with their parent, the size of the resulting comparison group for these analyses was reduced considerably from the group for whom child welfare data was originally collected. Examining only children who were reunified with their parent put the comparison group at an advantage when making comparisons to the treatment group; that is, only the safest most successful families in the comparison group were used to compare subsequent maltreatment reports and subsequent removals with the treatment group.

Definitions and Measures

For the treatment group, subsequent maltreatment report or removal refers to a substantiated maltreatment report or removal made on any date after the program entry date. For the comparison group, a subsequent report or a subsequent removal was one that occurred on any date after the child was physically reunified with their parent following the

most recent removal. Subsequent maltreatment and subsequent removal were operationalized this way because of the interest in examining safety of the children versus reoccurrence of maltreatment or re-entry to foster care while in the care of their biological parents, rather than in substitute care. Child welfare outcomes for children in the treatment group (with 18 months of follow-up data) were examined regardless of whether or not the children and their families successfully completed the treatment program. The follow-up period for examining subsequent substantiated maltreatment reports and removals was 18 months for both the comparison and treatment groups.

Data Collection and Analysis

The Oregon Department of Human Services, Child Welfare Jackson County Office (DHS) provided child welfare data for the treatment group outcomes and the state Oregon Department of Human Services (state DHS) Child Welfare Office provided data for the comparison group outcomes. Data provided by the county DHS and state DHS offices came from the National Child Abuse and Neglect Data System (NCANDS) and the Adoption and Foster Care Analysis and Reporting System (AFCARS) databases. Oregon adopted a new data management system during the study period that led the state to recommend avoiding some of the data for evaluation purposes (DHHS, 2011). As a result, the county DHHS office collected by hand the remaining data that were needed to complete the evaluation. The data required considerable cleaning and recoding prior to analysis.

Continuous data on the number of subsequent maltreatment reports and number of subsequent removals were recoded into dichotomous categorical variables with the attributes yes and no. The data were analyzed at the level of the unique child using SPSS 22. Cross-tabulation and bivariate chi-square analyses were used to evaluate the categorical outcomes of subsequent maltreatment report, subsequent removal, and final family permanency outcome (reunified or not) to determine whether significant differences existed between the treatment and comparison group.

Results

Similar results were found when using children as the units of analysis and when using families as the unit of analysis. Results presented here are based on analyses using individual children as the unit of analysis and all children in the families of both the treatment and comparison groups were included in analyses.

Child Demographics

Children in the treatment and comparison groups did not differ significantly in terms of their sex, race/ethnicity, or average age at entry (see Table 1). In the comparison group, over half of the children were male and in the treatment group slightly less than half were male. The majority of children were Caucasian (71% and 67%) and the average age was approximately three years. Children under the age of six made up roughly three quarters of each group.

Table 1. Demographics of Children in the Treatment and Comparison Groups

		Treatment	Comparison	Difference test[a]
Sex				1.07
	Male	49.2%	57.8%	
	Female	50.8%	42.2%	
Race/ethnicity				.27
	Minority	28.6%	32.6%	
	Caucasian	71.4%	67.4%	
Age of child (mean in years)		3.58	3.62	.07
Age of child (categorical)				1.37
	< 1	24.6%	20.0%	
	1 to 5	48.7%	58.0%	
	6 or older	26.7%	22.0%	

[a] *t statistic for tests of continuous variables and* $\chi 2$ *for tests of categorical variables*

Table 2. Subsequent Maltreatment Reports

	Treatment Group		Comparison Group		Total	
No subsequent maltreatment report	177	90.3%	42	77.8%	219	87.6%
Subsequent maltreatment report	19	9.7%	12	22.2%	31	12.4%
Total	196	100.0%	54	100.0%	250	100.0%

X^2 *(1, N = 250) = 6.12, p < .05*

Subsequent Reports of Maltreatment

Subsequent substantiated maltreatment reports for the treatment and comparison groups were examined. Whereas only 10% of children in the treatment group experienced subsequent maltreatment evidenced by a substantiated report within 18 months, 22% of children in the comparison group did. The rate of subsequent maltreatments in the treatment and comparison groups differed significantly, X^2 (1, N = 250) = 6.12, $p < .05$ (see Table 2). With a Cramer's V of .156, the relationship between treatment group membership and a lower likelihood of subsequent maltreatment is moderate. The answer to the first research question is yes, children in the treatment group experienced significantly lower rates of subsequent maltreatment reports than comparison group children.

Subsequent Removals

Rates of removal due to maltreatment subsequent to program entry (out-of-home care re-entry) for the treatment group and subsequent to reunification for the comparison group were analyzed. Over 18 months, 5% of children in the treatment group experienced re-entry (a subsequent removal) and seventeen percent of children in the comparison group experienced re-entry. The rate of subsequent removals in the treatment and comparison groups differed significantly, X^2 (1, N = 250) = 8.06, $p < .05$ (see Table 3). With a Cramer's V of .180, the relationship between treatment group membership and a lower likelihood of subsequent

removal is moderate. The answer to the second research question is yes, children in the treatment group experienced significantly lower rates of subsequent maltreatment removals than children in the comparison group.

Table 3. Subsequent Maltreatment Reports

	Treatment Group		Comparison Group		Total	
No subsequent removal	186	94.9%	45	83.3%	231	92.4%
Subsequent removal	10	5.1%	12	16.7%	19	7.6%
Total	196	100.0%	54	100.0%	250	100.0%

$\chi^2 (1, N = 250) = 8.06, p < .05$

Family Permanency

Evaluating family permanency outcomes involved recoding the foster care discharge reason for children who experienced a removal into a dichotomous categorical variable with reunified and not reunified as attributes. Reunification rates for the treatment and comparison groups were then examined. While over 92% of children in the treatment group experienced reunification as their family permanency outcome, just over half of the children in the comparison group (52%) were reunified with their parent. The reunification rate in the treatment and comparison groups differed significantly, $\chi 2$ (1, N = 162) = 33.694, p = .000 (see Table 4). With a Cramer's V of .456, the relationship between treatment group membership and a higher likelihood of reunification is strong. The answer to the third research question is yes, children in the treatment enjoyed significantly more favorable permanency outcomes (i.e., reunification) relative to the comparison group. The size of the treatment group was smaller in this analysis, as it was limited to children in the treatment group who had been discharged from their most recent foster care episode.

Table 4. Reunification Outcomes

	Treatment Group		Comparison Group		Total	
Not reunited	9	8.3%	26	48.1%	35	21.6%
Reunited	99	91.7%	28	51.9%	127	78.4%
Total	108	100.0%	54	100.0%	162	100.0%

X^2 *(1, N = 162) = 33.694, p = .000*

Discussion

Three outcomes (subsequent maltreatment; subsequent removal, i.e., out-of-home care re-entry; and final family permanency outcome), were examined to assess child safety in both the treatment and comparison groups. Children in the treatment program had better outcomes, evidenced by experiencing fewer subsequent reports and removals and higher rates of reunification.

Relative to other studies, the subsequent maltreatment report and subsequent removal rates experienced by the treatment group are positive. In the existing literature, rates of subsequent maltreatment vary depending on the definition used and time frame examined. Rates are lower with a stricter definition of subsequent maltreatment, such as substantiated reports, and higher when a longer follow-up period is examined. Available rates of subsequent maltreatment range from 17% to 35% (when children remain with their parents) when tracked over 5 years (Fluke et al., 2005), and up to 48% when children in foster care were tracked for 3 years (Drake, Johnson-Reid, & Sapokaite, 2006). Across the United States, state foster care re-entry rates within a 12-month period following reunification ranged from 2.3% to 27.8%, with a median rate of 11.9% in 2005 (U.S. Department of Health and Human Services, 2011). Oregon's 2006 re-entry rate was 8.6% within a 12-month period (U.S. Department of Health and Human Services, 2012). The treatment group of children with parents with a substance use disorder experienced lower rates of subsequent maltreatment than

other studies of general populations not limited to parents with substance use disorders.

With regard to family permanency outcomes, the treatment group, who participated in family-focused drug treatment, performed exceptionally well. In 2003, the U.S. Government Accounting Office reported that "[c]hildren in substance abusing families remain in substitute care placements for significantly longer periods of time, and experience significantly lower rates of family reunification relative to almost every other subgroup of families in the child welfare system" (as cited in Ryan et al., 2008, p. 1073). The Adoption and Safe Families Act (ASFA) (1997), designed to shorten the time children spent in out-of-home care, has presented challenges for parents with substance use disorders, and many have had their children removed as a result of maltreatment. Researchers have found that parents who abuse substances were less likely to be reunified with their children following implementation of ASFA than they were prior to ASFA (Rockhill, Green, & Furrer, 2007). Increased rates of adoption for children of parents with substance use disorders and have had their children removed due to maltreatment are in part due to delayed treatment entry resulting from insufficient beds or space and the inability to complete treatment within the ASFA recommended timeframe.

Although the treatment group outcomes were powerfully positive, this study is not free of limitations. First, the characteristics of the comparison group may influence the generalizability of results. The subset of parents in the comparison group who were reunified with their children was smaller than the original sample and may differ from them in unknown ways. Second, using a non-equivalent comparison group design means that a selection bias could have impacted the results. Factors that affected comparability of the groups in this study favored the comparison group (only examining children in the comparison group who had been reunified and who were subjected to lower levels of DHHS supervision than the treatment group), but the treatment group that enjoyed more supportive services had better outcomes. Third, the positive outcome of a small number of subsequent maltreatment removals presented a statistical

limitation; we found very few statistically significant predictors of failure in analyses conducted for the final grant report that were not presented in this article. The final study limitations stem from the analysis of secondary child welfare data. National reports have highlighted limitations particularly of data in AFCARS (Office of the Inspector General, 2003; Testa, Koh, & Poertner, 2008).

Conclusion

These evaluation results demonstrate desirable safety and permanency outcomes among families with maltreatment reports who were kept together safely while being provided effective substance use treatment for the parents and other wraparound services for the family. This type of program, offered by a transformed system, will minimize the trauma experienced by children in out-of-home placements, reduce the child welfare caseload, and reduce expenses associated with foster care. This change in philosophy and practice can take place on a larger scale without increased safety risks to children. In fact, the program in this study will be sustained by funding from state legislation, and the model will be expanded to produce statewide systems change and improve outcomes for a larger population. As a result, the financial costs associated with the traditional response to child maltreatment of removal from the home will be reduced and can be reinvested. Reallocating resources to make it possible for more parents who have substance use disorders and are involved with the child welfare system to receive clinically proven, trauma-informed care, provided by a transformed child welfare system, could improve outcomes for these families and is a sound investment. Important considerations for future research include evaluating statewide outcomes and conducting a cost analysis. Longer-term outcomes for children as they age into adolescents and adults are also of interest, including educational achievements, involvement with or avoidance of the juvenile justice system, and entry into the child welfare system by the next generation (children of the children in the program) in order to evaluate the benefits of remaining at home. The vision of the legislation is to transform the state's child welfare system to one that is

fully trauma-informed and to improve outcomes for children and families, reducing the intergenerational transmission of child maltreatment and substance use disorders across the state.

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New Approaches for Working with Children and Families Involved in Family Treatment Drug Courts:
Findings from the Children Affected by Methamphetamine Program

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This is a descriptive study of the Children Affected by Methamphetamine (CAM) grant program, a federally funded effort to improve outcomes through the addition of targeted interventions for 1,940 families, including 2,596 adults and 4,245 children involved in 12 diverse Family Treatment Drug Courts (FTDCs) located across six U.S. states. The majority were children of parents with a primary methamphetamine use disorder. Findings reflect grantees' reporting on 18 performance indicators of child safety and permanency, adult recovery, and family well-being. Additional information gleaned from grantees' biannual reports provides insights about program implementation. Results, drawn from this large and complex dataset, indicate that comprehensively addressing families' needs is associated with better outcomes than those experienced by similarly situated families in grantees' communities and the nation overall. In addition to describing common program components and outcomes, this article presents important lessons learned about implementing evidence-based children's services in the FTDC context, as well as future directions for research and evaluation in this arena.

More than 8.3 million children in the United States under the age of 18 live with a parent who is dependent on alcohol or needs treatment for a substance use disorder, representing 11.9% of children nationwide. For children younger than 6 years of age, this proportion increases to 14% (Substance Abuse Mental Health Services Administration, Office of Applied Studies, 2009). Within child welfare, parents with substance abuse problems are least likely to successfully reunify with their children, and their children often stay in the foster care system longer (Gregoire & Schultz, 2001).

Family Treatment Drug Courts (FTDCs) are an increasingly important strategy for addressing the needs of families involved with child welfare and impacted by substance use. FTDCs have grown exponentially in the past two decades from only two programs in 1995 to approximately 350 FTDCs in 2015 (National Association of Drug Court Professionals, 2015). FTDCs provide structured support for the parent through expanded judicial oversight in conjunction with intensive intervention and treatment for parents' substance abuse and other comorbidity issues (Wheeler & Fox, 2006). Overseen by specially trained and dedicated judicial teams, FTDCs have the flexibility to administer a timely and intensive array of responses to the parents' behavior and to improve their engagement in treatment and recovery support. Federally published guidelines suggest that FTDCs should bring together substance abuse, mental health, social service, and other family-serving agencies to meet the needs of parents and their children (Young, Breitenbucher, & Pfeifer, 2013).

FTDCs have been shown to produce positive outcomes, including: (1) significantly higher rates of parental participation in substance abuse treatment; (2) longer stays in treatment; (3) higher rates of family reunifications; (4) less time spent in foster care for children; and (5) less recurrence of maltreatment (Boles, Young, Moore, & DiPierro-Beard, 2007; Green, Rockhill, & Furrer, 2007; Worcel, Green, Furrer, Burrus, & Finigan, 2007; Worcel, Furrer, Green, Burrus, & Finigan, 2008). Some studies also suggest that FTDC participation in some jurisdictions may be associated with longer stays in out-of-home care (Worcel, Furrer, Green, Burrus, & Finnigan, 2008) or higher rates of reentry into care

(Boles, Young, Moore, & DiPirro-Beard, 2007). Though these same studies note that these effects do not persist, or may reverse, when findings are aggregated across the study sites.

Historically, most FTDCs and their partner agencies focused primarily on parental recovery from substance abuse and on family reunification. Elsewhere in child welfare, however, efforts focusing additional services on children demonstrate improved outcomes for parents and children, better family bonding and attachment, as well as improved school outcomes (Lieberman, Ghosh Ippen, & Van Horn, 2006; National Scientific Council on the Developing Child, 2007). Furthermore, in a 2010 needs assessment, Children and Family Futures (CFF) found that "services to children" was one of the most urgent technical assistance needs of FTDCs. Just over half (55.8%) of surveyed FTDCs indicated that they provided family-centered treatment or family-based services, and just 51.2% indicated that they provide children's services (Young, Breitenbucher, Lemus, & Boles, 2010).

In 2010, the Substance Abuse and Mental Health Services Administration (SAMHSA) of the U.S. Department of Health and Human Services initiated the Grants to Expand Services to Children Affected by Methamphetamine in Families Participating in Family Treatment Drug Court (Short title: Children Affected by Methamphetamine [CAM] program.) The CAM program was designed to pilot the expansion of services to the children and the parent-child dyad of families participating in FTDCs and improve the field's knowledge base about strategies to improve family outcomes. The focus on methamphetamine was a result of the growing national concern about methamphetamine use and home lab manufacturing, as well as the impact that parental methamphetamine use was having on the lives of families and young children.

Grantees designed their programs to address the unique community context of their FTDC and the needs of their FTDC participants. SAMHSA did not require particular interventions, only that interventions and program designs were matched to program goals and were evidence-based. Grantees' program designs included an evidence-based intervention focused on parenting, child and parent trauma, parent-child

relationships, or parental recovery. To these interventions, grantees typically added programmatic components about which there has been less research and evaluation including service coordination for children, as well as targeted family outreach, engagement, and retention efforts. Table 1 summarizes the areas on which a minimum of 30% of grantees focused their efforts.

Table 1. Program Strategies

Program Strategy	Number of Grantees
Parenting Education	12
Developmental and Behavioral Interventions	12
Engagement and Outreach	10
Therapeutic and Trauma-Focused Parent-Child Interventions	8
Trauma-Focused Adult Interventions	5

Parenting Education

All grantees included at least one relationship-based parenting program that brought the parents and children together to improve family-level functional and clinical outcomes. All of the programs are included in either SAMHSA's National Registry of Evidence-based Programs and Practices (NREPP) or the California Evidence-Based Clearninghouse for Child Welfare (CEBC). The parenting programs grantees implemented most frequently included:

- *Nurturing Parenting in Recovery:* A 16-week interactive parenting program which offers parenting classes, parent modeling, and coaching that involves the entire family as parents and children learn skills to prevent future abuse and neglect.
- *SafeCare®*: A home visitation model providing parent training in child safety, health care, and parent-child interaction.

- *Strengthening Families*™: A 14-session family skills training program designed to increase resilience and reduce risk factors for substance abuse, depression, violence and aggression, delinquency, and school failure in high-risk, 6-to-12-year-old children and their parents.
- *Celebrating Families!*™: A 16-week interactive parenting program that helps families recover from the effects of substance abuse and child neglect; every family member from ages 3 through adulthood participates in structured educational groups and activities.
- *Nurturing Families Program:* A 12-week parenting education program using parent modeling and coaching strategies involving the entire family with parents and children participating together to learn skills to prevent future child abuse and neglect.
- *Promoting First Relationships:* A 10-week training curriculum used during home visits for families with children ages 0–3 to promote attachment and positive, responsive parent-child relationships.

Developmental and Behavioral Screening and Services Coordination for Children

All grantees included a developmental or behavioral screening or service coordination component for children, such as:

- *Ages and Stages Questionnaire:* A screening tool to detect developmental disabilities and facilitate receipt of early intervention services.
- *COACHES – Enhanced Model:* A a neurocognitive behavioral intervention and service coordination approach to supporting a therapeutic recovery process for children.

Engagement and Outreach

Ten grantees began with or added components to improve outreach and engagement among their participants. Strategies included:

- *Family Case Specialists:* Typically a social worker who provides case management, comprehensive assessment, and service coordination for all family members.
- *Recovery Support or Resource Specialists:* Typically a peer in recovery who provides assertive outreach and connection to community services.
- *After Care:* An FTDC alumni group led by an FTDC graduate gathers twice monthly for support and family activities. In addition, a group of families involved in the child welfare system gathers once a week for support.
- *Peer Mentor Support:* An FTDC graduate works with participants as they enter the program to provide peer support throughout the family's participation in the project.

Therapeutic and Trauma-Focused Child or Parent-Child Interventions

Eight grantees implemented psychological therapy-based interventions to improve parent-child functioning and address child trauma. All of these interventions are included in NREPP or the CEBC. Strategies included:

- *Parent-Child Interaction Therapy:* A treatment for young children with emotional and behavioral disorders that focuses on improving the quality of the parent-child relationship.
- *Theraplay:* A a trauma-informed therapy modality focused on building and enhancing attachment, self-esteem, trust in others, and meaningful engagement.

- *Child-Parent Psychotherapy:* A clinical intervention for young children (0–5 years old) who have experienced at least one traumatic event and, as a result, are experiencing behavioral, attachment, or mental health problems.
- *Trauma-Focused Cognitive Behavior Therapy:* An approach that helps address the biopsychosocial needs of children with post-traumatic stress disorder or other problems related to traumatic life experiences, along with their parents or primary caregivers.

Trauma-Focused Adult Interventions

Five grantees implemented interventions to address adult's exposure to trauma. All of these interventions are included in NREPP or the CEBC. Interventions included:

- *Seeking Safety:* An evidence-based therapy to help people attain safety from trauma/post-traumatic stress disorder and substance abuse.
- *Helping Women Recover (a program for treating substance abuse)* and *Beyond Trauma: A Healing Journey for Women:* Manual-driven treatment programs that, when combined, serve women in criminal justice or correctional settings who have substance use disorders and are likely to have co-occurring trauma histories (i.e., sexual or physical abuse).
- *Helping Men Recover:* A gender-responsive, trauma-informed substance use treatment program for men.

Grantees implemented a number of other strategies in addition to those listed above. Several grantees administered psychological assessments. For example, one grantee used the Delis-Kaplan Executive Function System (D-KEFS), an in-depth neuropsychological test for parents. The psychologist who conducted the tests attended CAM FTDC team and parent staffing meetings to offer insight into parent behaviors, skills, and needs for support. Some projects also used marriage and family

therapists or pubic health nurses to help meet the needs of families and connect them with additional services through care coordination.

Information included in this article begins to fill the gaps in the published literature in terms of understanding the promising outcomes that are associated with expanding FTDC services to serve children together with their parents across diverse systems, needs, and implementation environments. A comprehensive review of grantees' biannual progress reports (BAPRs) also provides insights and lessons learned about implementing evidence-based children's services in FTDC settings.

Methods

By design, the performance monitoring system from which data are drawn did not seek to connect specific components to outcomes; nor were experimental designs possible given the intended performance monitoring approach. Furthermore, the 12 CAM FTDCs represent several common FTDC models, including: integrated (the same docket addresses the child dependency matters and parents' recovery monitoring); parallel (the dependency case is heard separately from the oversight of the treatment and recovery components of the case); and early intervention (i.e., pre-file courts in which the petition for child removal is held in abeyance during FTDC participation).

Data used in this study reflect implementation and performance over the first three and a half years of the CAM initiative (FY 2010–2014). SAMHSA expected that grantees[1] report on 18 indicators (see Table 2), most of which are commonly used in child welfare and substance abuse treatment agencies. Every six months, beginning at the end of CAM Program Year 1, grantees uploaded cumulative data on each of these indicators through an internet-based data portal. At each upload, data were screened for accuracy and completeness using automated data quality and logic checks in addition to review by the CAM performance monitoring team.

Basic descriptive statistics summarize most of the performance data, except where matched pairs were available and simple parametric tests

[1] Performance monitoring data was not required of one grantee that received a much smaller grant award that was insufficient to develop and implement a data collection system.

Table 2. Program Performance Indicators

Child/Youth	Adult
C1. Children remain at home: Percentage of children identified as at risk of removal from the home who are able to remain in the custody of a parent or caregiver through RPG case closure	**A1.** Access to treatment: Percentage of parents or caregivers who were able to access timely and appropriate* substance abuse treatment; number of days between program entry and treatment entry
C2. Occurrence of child maltreatment: Percentage of children who had an initial occurrence and/or recurrence of substantiated/ indicated child maltreatment within 6, 12, 18, and 24 months after enrolling in the CAM program	**A2.** Retention in substance abuse treatment: a) Percentage of parents or caregivers referred to substance abuse treatment who remained until treatment completion; and b) Average length of stay in treatment for referred parents or caregivers
C3. Average length of stay in foster care: For children discharged from foster care, their average length of stay (in days) from date of most recent entry into such care until date of discharge	**A3.** Substance use: Percentage of parents or caregivers who report a reduction in substance use, as measured by number of days of use in past 30 days at treatment intake and discharge.
C4. Re-entries to foster care: Percentage of children returned home from foster care that re-entered foster care in less than 6, 12, 18, and 24 months	**A4.** Parents or caregivers connected to supportive services: Percentage of parents or caregivers who were assessed for and received the following supportive services: primary medical care, dental care, mental health, child care, transportation, housing assistance, parenting training/child development education, domestic violence services, employment or vocational training/ education, continuing care/recovery support services, alternative therapies/natural healing practices, other support services
C5. Timeliness of reunification: Percentage of children who were reunified in less than 12 months from the date of the most recent entry into foster care	**A5.** Employment: Percentage of parents or caregivers participating in substance abuse treatment report being: a. Employed full time b. Employed part time c. Currently enrolled in an educational or vocational training program
C6. Timeliness of permanency: Percentage of children placed in foster care who, in less than 24 months from the date of the most recent foster care placement, achieved a) a finalized adoption or b) legal guardianship	**A6.** Criminal behavior: Percentage of parents or caregivers who report a decrease in criminal behavior
C7. Prevention of substance-exposed newborns: Number of children born to participants in CAM identified as having been exposed to substances at or before birth	**Family/Relationship**
C8. Children connected to supportive services: Percentage of children who were assessed for and received developmental services, mental health or counseling, primary pediatric care, substance abuse prevention and education, substance abuse treatment, educational services, and other supportive services	**F1.** Improved parenting: Changes in parenting measured by the North Carolina Family Assessment Scale
C9. Improved child well-being: Changes in well-being measured by the North Carolina Family Assessment Scale	**F2.** Improved family relationships and functioning: Changes in well-being measured by the North Carolina Family Assessment Scale
	F3. Risk/protective factors: Changes in family risk and protective factors measured by the North Carolina Family Assessment Scale

of change over time were appropriate. As described in Table 2, many of the performance measures are collected in a manner consistent with extant, federally supported data systems. Three of the child welfare performance measures are calculated in a manner that permits comparative analysis of project performance and state or county level data. These indicators include recurrence of maltreatment, reentry into foster care, and timeliness of adoption. The strength of the comparison is limited by a number of factors, including the fact that the children participating in the projects are also included in the state and county data. These contextual performance data about the state, and in some cases county, where grantees implemented their programs were drawn from the Adoption and Foster Care Analysis and Reporting System in addition to statewide data systems (e.g., California Child Welfare Indicators Project). County-level data are considered a better reflection of the grantees' implementation context, but some counties had fewer than the minimum number of maltreatment cases necessary for those data to be reported publicly. State-level data were used if county-level data were unavailable.

In addition to the performance monitoring methods described above, implementation lessons learned were gleaned from a review of grantees' BAPRs. Each site was assigned a technical assistance (TA) specialist, called a Performance Management Liaison (PML), who reviewed the grantees' BAPRs and completed a scoring rubric based on the BAPR as well as their insights and reflections on annual site visits, monthly TA calls, and regular email communications. The BAPR review rubric included nine implementation domains:

- Challenges and successes
- Changes to the program model
- Grantee goal attainment
- Collaboration
- Children's Services
- Engagement and Retention
- Evaluation and Collection/Reporting
- Community and and Contextual Events
- Sustainability

A sample of the rubric for one element of the Collaboration domain can be seen in Figure 1.

Figure 1

Example from BAPR review rubric

At the end of this reporting period, what stage of collaboration would you say the partnership has achieved?

If the CAM has collaboratives in multiple sites and progress varies by site (so that you're not able to provide an overall level), please feel free to check multiple boxes and note the differences by site.

☐ **Stage 1:** Partners still at initial stage of exchanging information about each other's systems and getting to know one another

☐ **Stage 2:** Partners have undertaken other joint projects/shared grants (e.g., out-stationed staff) to better meet families' needs and help sustain the CAM services

☐ **Stage 3:** Partners have begun work on or succeeded in changing the rules (e.g., redirection of funding toward shared clients, changing the content and methods of training toward joint cross-systems training, integrating data systems, implementing interagency agreements and processes for case management of shared clients, developing unified family-centered treatment plans rather than separate plans for the individual child or adult)

☐ **Stage 4:** Partners have moved toward changing the system (e.g., systems have assumed responsibility for shared outcomes, implemented integrated information systems that are linked with statewide information systems, institutionalized CAM practices and services with system-wide practices, CW/SA families receive priority for services with annual monitoring of the results of this priority; an overall focus on the system rather than the project as the target of integrated efforts)

The review rubric included open response options for each element that asked the PML to offer any additional information or examples to substantiate their ratings in the structured response option and suggest any lessons learned. Within 6 weeks of receiving the BAPR from grantees, each PML reviewed the report, asked grantees for clarifying information, and completed the BAPR review rubric. To establish intra-rater reliability, the PMLs and the lead evaluator reviewed and discussed the evidence used for the BAPR until the PML resolved any concerns or questions about accuracy. Seventy-two[2] BAPRs were used for this analysis.

[2] The 12 grantees completed 1 BAPR in year 1, 2 in years 2 and 3, and 1 in year 4 of their grant funding.

Results

Participants

The demographic characteristics of the individuals served by the CAM grantees are summarized for children (Table 3) and adults (Table 4) below.

Table 3. Select Child Demographics

	Number	Percent
Total Children	**4,054**	**100%**
Gender[a]		
Female	2,046	51.0%
Male	1,968	49.0%
Age[b]		
Under 1 Year	774	19.2%
1-3 Years	1,121	27.8%
4-5 Years	626	15.5%
6-8 Years	658	16.3%
9-12 Years	537	13.3%
13 and Older	311	7.7%
Mean Age (years)	5.3	
Race/Ethnicity[c]		
White Non-Hispanic	1,351	33.3%
Black Non-Hispanic	379	9.4%
American Indian/Alaska Native Non-Hispanic	98	2.4%
Asian/Native Hawaiian/Other Pacific Islander Non-Hispanic	23	0.6%
Hispanic (any race)	1,665	41.1%
Multi-Racial Non-Hispanic	117	2.9%
Unknown	421	10.4%
Prior Victim of Maltreatment – Not Associated with CAM Entry or Involvement	1,105	39.4%

[a] Gender information was missing for 40 of the 4,054 children.

[b] Age information was missing for 27 of the 4,054 children.

[c] Race/Ethnicity information was unknown for 421 of the 4,054 children.

[d] Child was prior victim of substantiated/indicated maltreatment that occurred before outreach and engagement in the CAM program (i.e., it was a past incident that is not associated with reasons for involvement in the CAM program). Percentage excludes missing information (935 children).

Table 4. Select Adult Demographics

	Number	Percent
Total Adults	**2,596**	**100%**
Gender[e]		
Female	1,823	71.4%
Male	758	28.6%
Age[f]		
Under 21 years	76	3.0%
21 to 24 years	384	15.0%
25 to 29 years	699	27.4%
30 to 34 years	669	26.2%
35 to 39 years	360	14.1%
40 to 44 years	188	7.4%
45 years and older	178	7.0%
Mean Age (years)	31.6	
Race/Ethnicity[g]		
White Non-Hispanic	1,263	48.7%
Black Non-Hispanic	237	9.1%
American Indian/Alaska Native Non-Hispanic	55	2.1%
Asian/Native Hawaiian/Other Pacific Islander Non-Hispanic	22	0.8%
Hispanic (any race)	765	29.5%
Multi-Racial Non-Hispanic	17	0.7%
Unknown	237	9.1%
Primary Caregiver[h]	1,980	76.3%
Relationship to Child[i]		
Biological Mother	1,691	65.1%
Biological Father	617	23.8%
Other	198	7.6%
Not known	90	3.5%
Females Pregnant at CAM or Substance Abuse Treatment	113	4.4%
Admission[j]		

[e] Gender information was missing for 15 of the 2,596 adults.

[f] Age information was missing for 42 of the 2,596 adults. Represents age at entry to CAM program.

[g] Race/Ethnicity information was unknown for 237 of the 2,596 adults.

[h] A primary caregiver is defined as the person who has consistently assumed responsibility for the housing, health and safety of the child(ren), and who carries out and/or oversees the tasks related to the daily lives of the child(ren), which includes caring for their physical, educational, social, emotional, and other needs. States unknown for 126 of the 2,596 adults.

[i] Includes step mother/father, adoptive mother/father, foster mother/father, presumptive father, grandmother/grandfather, aunt, uncle, significant other, or other relationship not otherwise specified.

[j] Pregnancy information was missing for 133 of the 2,596 adults.

Grantee Performance

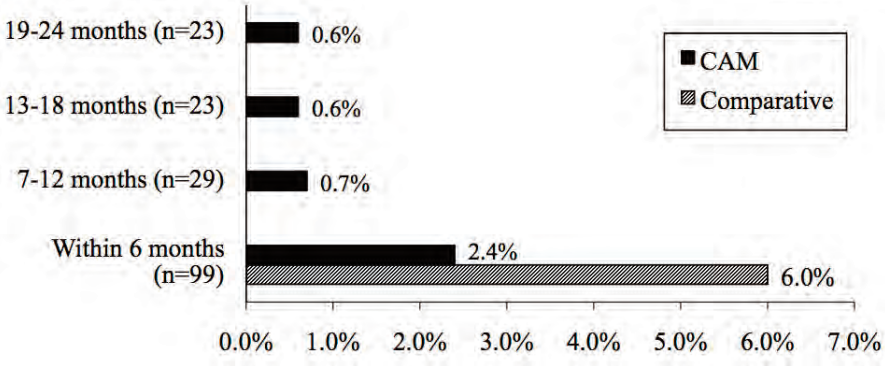
Key performance measures are summarized below according to four general areas: child safety, child permanency, parents' recovery, and well-being.

Safety

Grantees assessed safety outcomes for children and youth in terms of occurrence of maltreatment after the family's admission to the CAM program. Very few children (2.3%) were victims of a substantiated or indicated maltreatment within six months of entering in the CAM program (see Figure 2). This performance is especially favorable when considered in the context of the communities served by grantees where the average six-month recurrence rates were estimated to be nearly four percentage points higher (6.0%).

Figure 2

Recurrence of maltreatment



Calculation for the comparative contextual subgroup is based on the average rate recurrence of maltreatment in the states or counties where grantees implemented their programs from the time of the index substantiated allegation as reported in the Adoption and Foster Care Analysis and Reporting System.

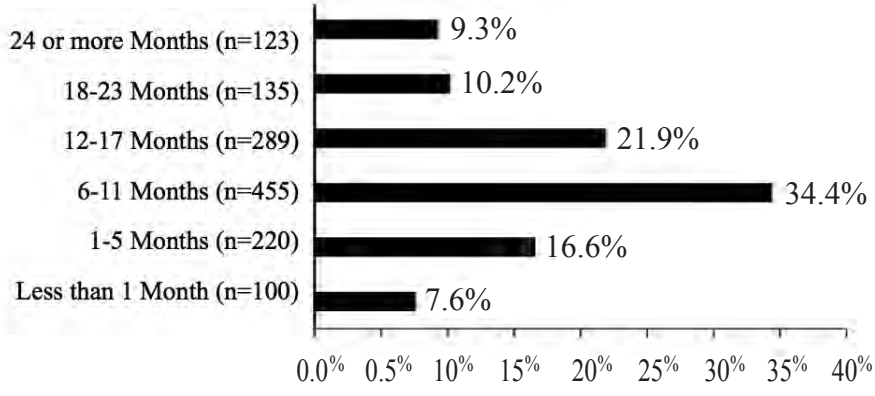
Permanency

Indicators related to permanency assessed whether children remained in their home, the length of stay in foster care if they were placed out of their home, the proportion who re-entered foster care, the proportion who were reunified, the length of time to reunification, and whether the children and youth exited to adoption or legal guardianship if they were not reunified with their parents. Grantee performance on each of these indicators show positive outcomes for children enrolled in CAM programs.

More than half of the children were in their home at the time of program enrollment and nearly all (90.8%) of the children who were in their home at the time of enrollment remained in their home with their parent throughout their family's participation in CAM services. For those who were removed, the median length of stay in out-of-home care was 9.7 months (296.0 days). The median length of stay in out-of-home care ranged by program from 164.0 days to 655.0 days. While over half of the children discharged (58.6%) were discharged from out-of-home care in less than 12 months, approximately a quarter of children (24.2%) were discharged in less than six months (see Figure 3).

Figure 3

Percentage of children discharged from foster care within a given number of months

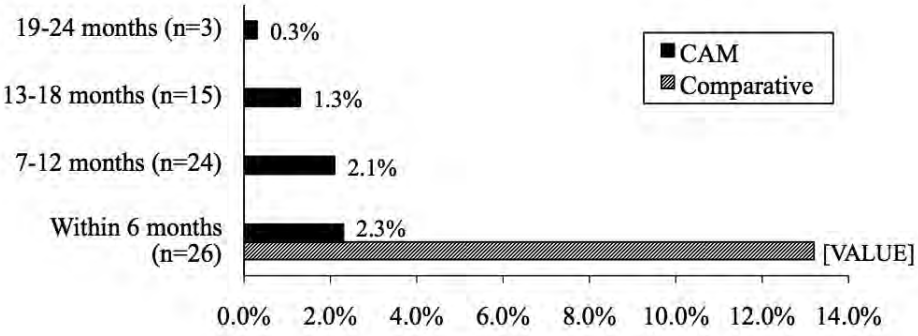


Nearly two-thirds of the children reunified with their families within 12 months. The majority (86.1%) of children exiting out-of-home care were discharged to reunification.[3] The median length of stay in out-of-home care for those reunified was 8.7 months. This finding is favorable when considered in the context of the communities served by grantees where the overall median length of stay in out-of-home care for children reunified with their parents was approximately 11.3 months.[4]

Grantees tracked children for the duration of their program operations. Of the 1,139 children in CAM programs who reunified,[5] 68 children (6.0%) reentered out-of-home care within 24 months after being returned home. Only 4.3% of children reentered out-of-home care within 12 months after being returned home, while 2.3% re-entered within six months (see Figure 4). In the communities where grantees operated, 6-month reentry rates were estimated to be more than five times higher (13.2%).[6]

Figure 4

Percentage of children returned home that re-entered foster care

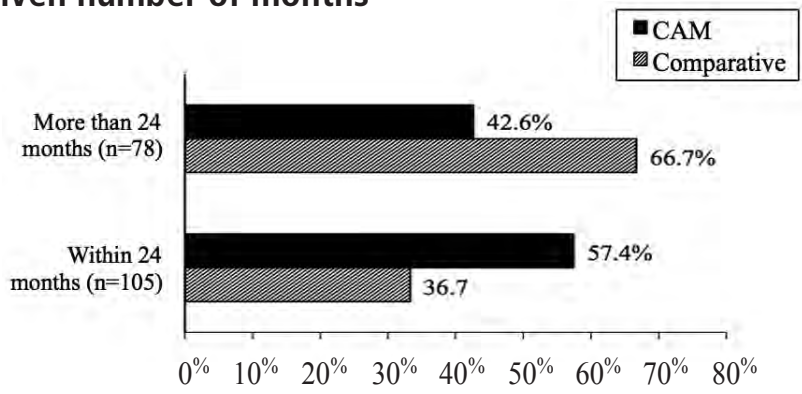


Calculation for the comparative contextual subgroup is based on the average rate at which children who are returned home experience a subsequent removal in the states or counties where grantees implemented their programs as reported in the Adoption and Foster Care Analysis and Reporting System.

During the first three and a half years of the CAM program, 183 participating children were discharged to finalized adoption or legal guardianship, with more than half (57.4%) exiting to permanency in less than 24 months (see Figure 5). This is a rate far higher than what was estimated for the areas served by grantees, where overall just more than one-third of children were discharged to adoption or guardianship within 24 months.[7] Of the children discharged from out-of-home care to adoption, 33.9% achieved finalized adoption within 24 months and 23.5% achieved guardianship within 24 months.

Figure 5

Percentage of children discharged to adoption within a given number of months



Calculation for the comparative contextual subgroup is based on the average time to discharge among those children discharged to adoption as reported in the Adoption and Foster Care Analysis and Reporting System in the states or counties where grantees implemented their programs.

[3] For purposes of calculating the CFSR measures, those discharges coded as "living with other relative" are counted as a valid reunification.

[4] Contextual information is included for indicators where state or county-level measures are similar in definition and publicly available.

[5] Includes discharge reasons of both reunification and living with other relative. For purposes of calculating the CFSR measures, those coded as living with other relative are counted as a valid reunification.

[6–7] Contextual information is included for indicators where state or county-level measures are similar in definition and publicly available.

Recovery

The adult indicators related to recovery included substance use, access to treatment, treatment outcomes, employment, and criminal behavior.

The proportion of participants receiving substance abuse treatment before entering CAM services ranged from 0.3% to 85.4% by grantee, with an overall proportion of 31.2% entering before and 52.9% entering after (see Figure 6). Adults admitted to substance abuse treatment the same day as or after CAM program entry accessed treatment within an average of 18.9 days (the median was 0.0 days, indicating that it was most common for adults to access care the same day they entered CAM services).

Figure 6

Percentage of adults who accessed substance abuse treatment

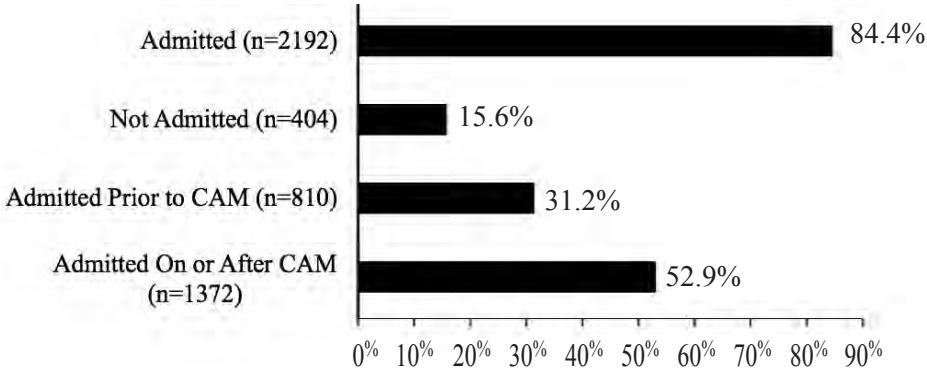
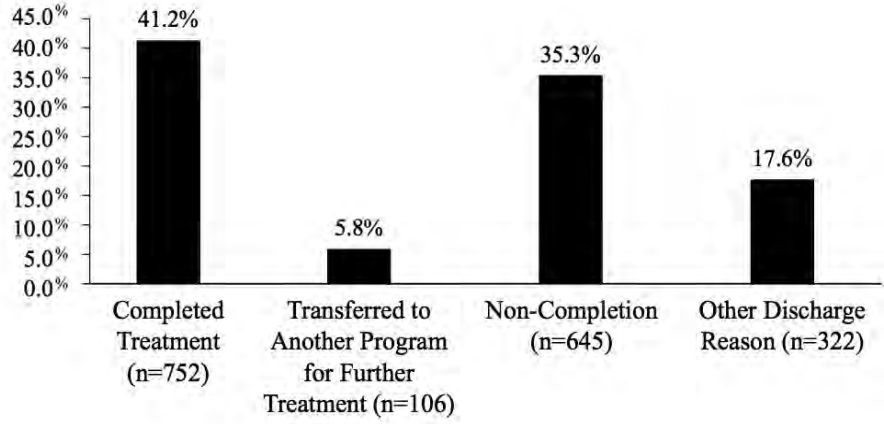


Figure 7 shows the treatment episodes for the adults discharged from treatment for those whose discharge status was known (n = 1,825). Nearly half of treatment episodes resulted in positive outcomes, with 41.2% of the treatment episodes completed and 5.8% transferred to another program or facility for further treatment.[8] More than one third of treatment episodes

[8] Transferred to another treatment program/facility for further treatment and known to report and completed treatment are considered a positive treatment outcome per Treatment Episode Data Set (TEDs) treatment discharge reporting.

Figure 7

Substance abuse treatment discharges — Percentage by discharge status



(35.3%) were not completed or were transferred and did not report to another facility, while the remaining 17.6% had some other type of discharge status (e.g., terminated by facility, incarcerated, death, or other reason out of the adult's or program's control). The treatment discharge status varied by grantee, with non-completers ranging from 6.7% to a high of 61.2%.

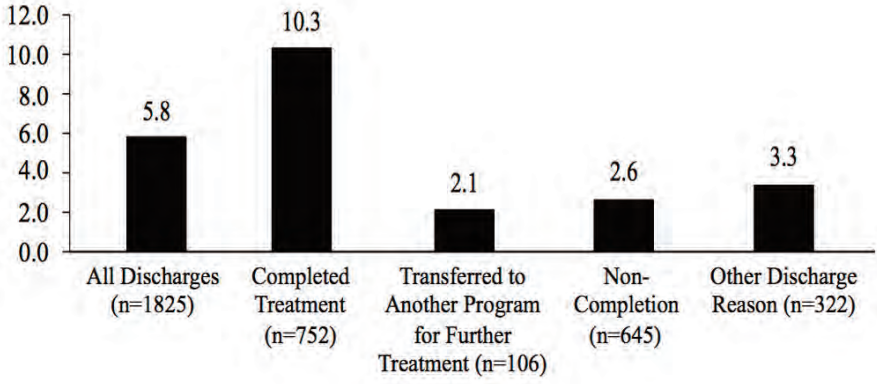
Figure 8 shows the length of stay for adults discharged from treatment for whom discharge status was known (n = 1,825). Across the CAM programs, the median length of stay in treatment was 176 days (5.8 months). The median length of stay in treatment varied by grantee, and ranged from a low of 85.0 days (2.8 months) to a high of 372.0 days (12.2 months).

For adults reporting a primary substance problem at treatment admission, over half (61.7%) reported methamphetamine as their primary substance followed by marijuana (15.3%), alcohol (11.3%), heroin/other opiates (7.7%), cocaine (2.5%), and other drugs (1.5%) (see Figure 9).

For those adults who reported any use in the past 30 days at treatment admission, there was a reduction in the percentage who reported substance use from admission to discharge. This reduction ranged from

Figure 8

Median length of stay in substance abuse treatment by discharge status



44.4% to 65.8%, depending on the substance used. The greatest percentage of adults reported a reduction in use of methamphetamine (65.8%), closely followed by those using marijuana (60.3%), alcohol (56.8%), and heroin/other opiates (51.8%) (see Figure 10).

For adults discharged from treatment who reported employment information, over one-third increased or maintained their employment from treatment admission to discharge.[9] For those discharged from treatment who reported arrest information, the majority (88.8%) reported no arrests at both treatment admission and discharge. Nearly all of adults who reported arrests in the past 30 days at admission reported fewer or no arrests in the past 30 days at discharge.

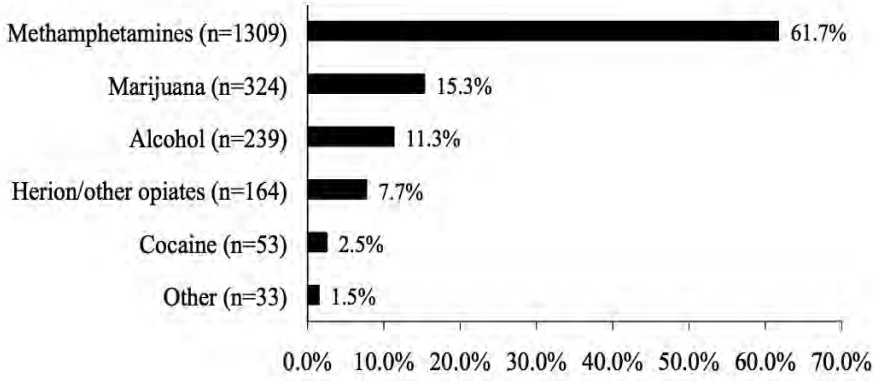
Well-Being

Well-being performance indicators included whether children and adults needed and received supportive services and changes in family functioning. Supportive services needs assessments were conducted for the majority of children enrolled in CAM programs, ranging from 97%

[9] Approximately half (50.6%) were unemployed at both treatment admission and discharge.

Figure 9

Primary substance at treatment admission for adults



Other includes hallucinogens, barbituates, other tranquilizers and sedatives, and other drugs. Percentages exclude those missing primary substance data.

assessed for developmental service needs to over 99% assessed for primary pediatric care needs. Supportive services needs assessments were conducted for the majority of adults served by CAM grantees as well, ranging from 94% for trauma to 99% for primary medical care. Overall, the majority of adults identified as needing supportive services received them. As with children's supportive services, there was a wide range in service delivery. For example, more than 90% of adults identified as needing parenting, family planning, and trauma services received those services, whereas just over one third of adults for whom domestic violence and child care services were a need received those services.

Finally, families demonstrated significant improvement from intake to discharge across 10 domains of family functioning and well-being,[10] including: the environment;[11] parental capabilities; family interactions; family safety; child well-being; social/community life; self-sufficiency;

[10] Family functioning is assessed utilizing the North Carolina Family Assessment Scale – General + Reunification (NCFAS-G+R), an assessment tool used to inform case management and family treatment options.

[11] Includes the areas of housing stability, safety in the community, environmental risks, housing habitability, personal hygiene, and learning environment.

Figure 10

Percentage of adults with reduction in substance use from treatment admission to discharge

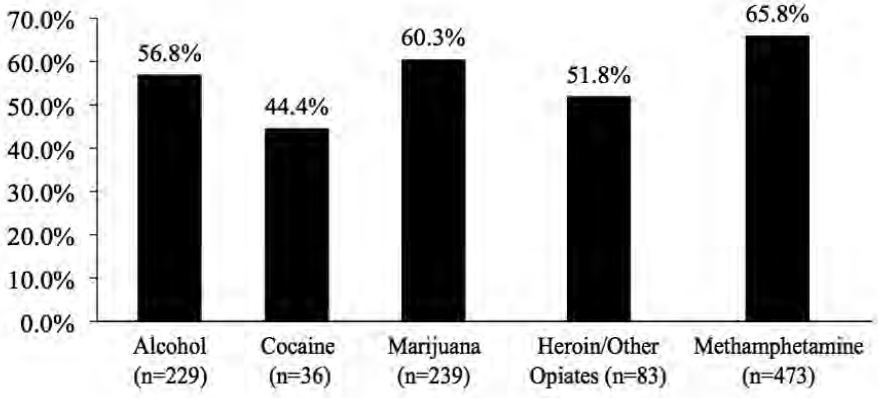
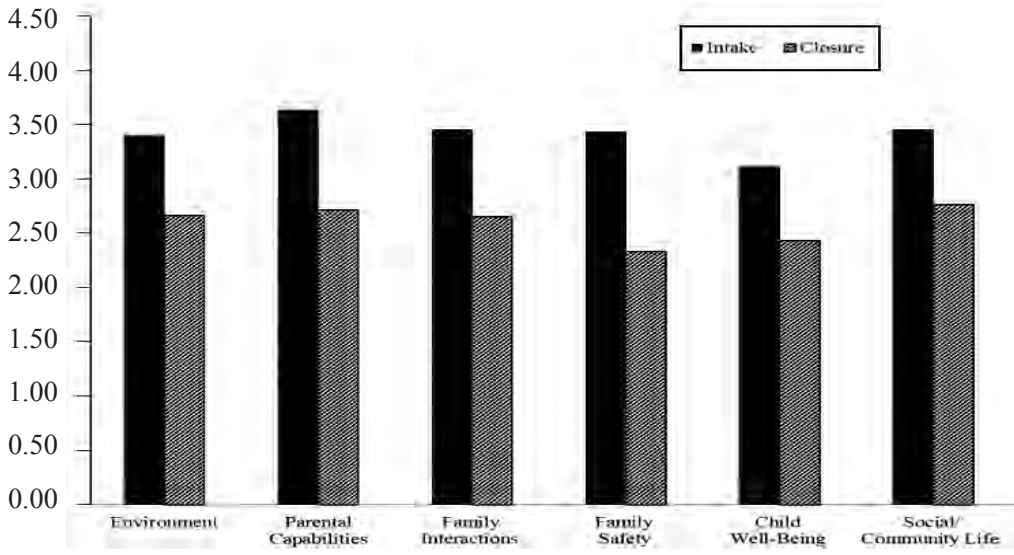


Figure 11

Overall mean NCF-FAS scores for each domain*



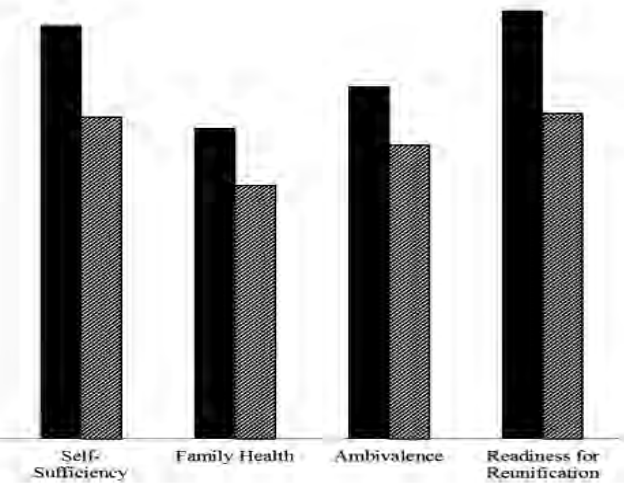
** p< .001 for all domains. Lower scores indicate improvement.*

family health; caregiver/child ambivalence; and, readiness for reunification. The largest improvements between intake and discharge were for family safety, followed by readiness for reunification and parental capabilities. Matched-paired *t*-tests indicate statistically significant changes from intake to discharge on every domain (see Figure 11).

Implementation Lessons Learned

In addition to the promising performance findings described above, several important implementation lessons emerged from BAPR reviews.

- *Improved family functioning and relationships is a part of recovery:* Addressing the needs of children required grantees to recognize improved child and family functioning as core elements in parents' recovery.
- *Delivering evidence-based programming involved unanticipated costs:* Grantees indicated that they did not anticipate some of the costs associated with implementing evidence- based services. For example, a parenting program which many grantees provided includes treatment groups for parents and children. Some families had to participate in multiple groups because of the differing age ranges of their children (the curriculum and treatment groups differ by age group) or because the parents needed to attend groups separately due to conflicts in their relationship. Each additional group was associated with unexpected incremental costs for more therapists, space, and transportation.



- *Matching service to need involves a thoughtful and coordinated process:* For most grantees, the delivery of CAM services expanded their FTDC's service array, resulting in a need for a more coordinated assessment, referral, and phased service delivery process. For instance, grantees found that families' participation in Celebrating Families! was enhanced after first achieving a period of recovery or participating in parent-child therapy. Sites that offered intensive programming like Parent-Child Interaction Therapy (PCIT) ensured that their referral processes adequately assessed whether a family's identified needs required such a high-level, specialized intervention or could be met through an appropriate alternative service.
- *Providing recovery support is a key engagement and retention strategy:* Given the complex needs of participant families, grantees strengthened service referral and engagement efforts by employing specialized engagement or outreach positions, such as Peer Mentors, Recovery Mentors, Recovery Resource Specialists, and Court-Appointed Special Advocates. These team members provided support and encouragement that often included logistical problem-solving on issues such as transportation to improve participation and retention in treatment.
- *Expanded focus means forging new partnerships:* CAM provided an opportunity to mobilize and partner with agencies already serving children. These agencies include maternal and child health, early childhood development, play therapy, mental health, and youth services. The CAM FTDCs demonstrated that no single agency or program can meet the needs of children alone and that broad-based partnerships are necessary to serve children effectively.
- *An expanded focus requires continued interagency collaboration:* Building the capacity of CAM FTDCs to provide children's services requires a collaborative effort and mutual investment across CWS and treatment agencies and the courts. Grantees found they had to establish new or revise existing referral protocols, interagency communication approaches, data-sharing agreements, case management strategies, and other FTDC operations. These policy and practice

improvements came only after grantees broke down barriers and openly discussed issues such as budgeting and financing, information sharing, or areas of territorial responsibility, leading eventually to greater interagency buy-in and collaboration.

- *Start planning for sustainability early:* The CAM initiative emphasized the need for early and ongoing sustainability planning. The unique local context of each CAM program—including agency priorities and partnerships, parallel reforms and opportunities, utilization of data and evaluation, fiscal constraints, and leadership—shaped the planning process. Grantees were encouraged to start negotiations with stakeholders early and often, knowing that gathering data, identifying potential funding streams, and fostering relationships and sharing outcomes takes time and patience. By the final year of the grant, grantees were actively engaged in sustainability discussions, including identification and/or engagement of stakeholders in discussions on sustainability, identification of the components to sustain, and dissemination plans for project outcomes. While grantees made substantial progress with many sustainability planning tasks, most grantees experienced challenges completing a cost study and expanding the scale of their FTDC.

Discussion and Implications

This article provides important guidance based on lessons learned from the CAM program about what communities may expect as they advance practice to meet the needs of children and parents in collaborative court contexts. Given the opportunity and resources, communities appeared to focus most on addressing the relationship between parents and their children, including parent training and behavioral or developmental interventions for children as mechanisms for improving family outcomes. Grantees also seemed to recognize that intensive, family-focused interventions required more outreach and engagement for improving access to services.

Grantees faced many implementation challenges as they sought to impact the systems serving families at the intersection of substance abuse and child welfare, and those challenges evolved over time. Funders and

other agencies looking to support the work of similar collaborations need to be mindful of how their agendas match the needs of the community, their implementation stage, and their readiness for change.

The findings presented in this article suggest that adding child-focused services with adult recovery support services appears to improve child safety and family well-being. Specifically, parents reduce substance use and extend their treatment participation when their children are engaged in services. Children seem to be subject to less neglect and abuse, stays in out–of-home care are shorter, families are more stable, and family functioning appears to be improved as a function of extending services to both children and their caregivers. Finally, for all grantees, CAM represented a fundamental shift in focus from parent recovery to child and family well-being. Many grantees cited that identifying and addressing children's needs became "a new way of doing business," and that they cannot imagine reverting back to their practice and policies prior to CAM where there was little or no intentional focus on serving children with their parents. This new way of doing business is also now an evolving practice in a growing number of FTDCs and adult drug courts nationwide.

Lessons learned from this program include that addressing families' complex and diverse needs across service providers is more challenging than implementation efforts within a single agency or system because such cross-systems endeavors are more demanding on staff and require aligned values, cooperation among partners, and resources to launch new program components. Future studies should increase the scientific rigor applied to evaluating this complex approach to improving outcomes at the family level. An approach that reflects a more nuanced understanding of implementing evidence-based practices in a cross-systems context may enable TA providers, funders, and agency personnel to more precisely anticipate the implementation cycle, successfully address common challenges, and more efficiently meet families' needs.

Limitations

This descriptive study of CAM-funded FTDCs is derived from performance monitoring and reporting systems designed to assist participating

FTDCs and funders in determining the extent to which grantees were meeting their implementation and outcome goals. Furthermore, grantees designed and implemented their projects in diverse communities, using a range of interventions with a wide variety of families.

Evidence presented here indicates that FTDCs should strive to implement children and family services and interventions. Future research and evaluation should address how FTDCs with children's services compare with other multimodal child welfare intervention and reform efforts with impacts on this population, including in-home services and other components of diversion initiatives that are increasingly common in child welfare systems. Future studies should also use more rigorous scientific evaluation and research designs to refine the field's understanding of how to best match FTDC service arrays with participant needs and characteristics, establish clearer models to predict which families are best served by FTDCs, and estimate the cost and benefits of those interventions.

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