



Family Drug Court, Targeted Parent Training and Family Reunification: Did this Enhanced Service Strategy Make A Difference?

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ABSTRACT

This article reports findings from an evaluation of reunification outcomes for children and families who participated in a family drug court (FDC) that incorporated the use of two innovative evidence-based parenting programs. In addition to comprehensive FDC services, families participated in the Strengthening Families Program and Celebrating Families!TM programs in a sequential format. Data analyses were conducted on a sample of 214 children whose child welfare cases were adjudicated through the FDC and 418 matched comparison cases. Entry-cohort survival analysis results indicated that families receiving FDC services were more than twice as likely to reunify in a 45 month observation window.

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1. INTRODUCTION

Prevalence estimates suggest that parental alcohol and other drug abuse (AODA) is a major contributor to various levels of child welfare system involvement. Testa and Smith (2009) estimated that 11-14% of investigated cases, 18-24% of substantiated cases, and 50-79% of cases where the child is placed into foster care are characterized by parental substance abuse concerns. Prior research suggests that substance abuse affected children encounter worse outcomes than their peers who enter care for other reasons (Barth, Gibbons, & Guo, 2006). For example, children whose child welfare cases are characterized by parental substance abuse experience more placement instability (Connell, Bergeron, Katz, Saunders, & Tebes, 2007), stay in foster care longer, and are less likely to reunify with their primary caregivers (Courtney & Hook, 2012; McDonald, Poertner, & Jennings, 2007), especially in cases involving illicit drug use (Brook, McDonald, Gregoire, Press & Hindman, 2010). Even when these children do return home, they are more likely to re-enter care (Brook & McDonald, 2009).

Despite the fact that parental AODA is widely recognized as a factor in multiple aspects of child welfare system involvement, the public service delivery systems designed to serve this highly vulnerable population of parents and children continue to struggle with identification, implementation, and sustainability of effective interventions. This study presents the findings of a rigorous four-year evaluation of one Midwestern community's efforts to provide comprehensive, collaborative services within the context of an existing family drug court (FDC).

1.1 Family Drug Courts

Family drug courts have operated in child welfare jurisdictions across the country since 1994, serving as an alternative to traditional family court dockets that handle cases of child abuse and neglect and involve parental substance use disorders (McGee, 1997). The FDC model has shown promise in prior research for decreasing the amount of time children spend in foster care, and for increasing the likelihood that families will reunify (see Lloyd, 2015 for a review). FDCs were developed based on the adult drug court model, which is characterized by therapeutic diversion. Adult drug courts began in the late 1980s to combat the rising population of drug-addicted individuals in jails and prisons (Hora, 2002). The FDC, like its criminal predecessor, emphasizes substance abuse treatment for AODA-involved parents, while also leveraging successful child welfare outcomes including sustaining parental rights and reunification to encourage treatment participation and compliance (McGee, 1997). In addition to the focus on substance abuse treatment receipt, the FDC model encourages a collaborative team approach that facilitates the receipt of comprehensive services aimed at parental substance abuse, employment, domestic violence intervention, and housing stability. As of 2013, more than 350 FDCs were operating nationwide (Young, Barber, & Breitenbucher, 2013).

Although no two FDCs are identical in their day-to-day operations, certain features are common to most FDCs. The courts are modeled off of criminal drug courts, and as such rely on the use of the 10 key components of drug courts as a starting point for

developing and maintaining services (Pach, 2009). While building upon that framework, FDCs also address issues unique to child welfare courts, including balancing the rights and needs of parents and children. The following definition of an FDC was authored by a group of family drug court professionals:

A family dependency treatment court is a court devoted to cases of child abuse and neglect that involve substance abuse by the child's parents or other caregivers. Its purpose is to protect the safety and welfare of children while giving parents the tools they need to become sober, responsible caregivers. To accomplish this, the court draws together an interdisciplinary team that works collaboratively to assess the family's situation and to devise a comprehensive case plan that addresses the needs of both the children and the parents. In this way, the court team provides children with quick access to permanency and offers parents a viable chance to achieve sobriety, provide a safe and nurturing home, and hold their families together (Center for Substance Abuse Treatment, 2004, p. 4).

Jurisdictional differences in FDCs often include whether the case is overseen by one or more judges, the eligibility criteria for court participation, the staff composition of the court team (although all teams include attorneys, caseworkers, and treatment professionals), the guidelines established for compliance failure, the presence and progression of phasing, requirements for successful completion, the quality and model of available substance abuse treatment, and the supplementary services available to clients (Ashford, 2004; Burrus, Mackin, & Finigan, 2011; Green, Furrer, Worcel, Burrus & Finigan, 2007). In an attempt to disseminate information about various aspects of FDCs, the Office of Juvenile Justice and Delinquency Programs published a set of 10 recommendations for implementing FDC programs (Young, Breitenbucher, & Pfeifer, 2013), suggesting that variability among courts in different jurisdictions will likely continue to decrease over time. These recommendations address a broad range of FDC implementation issues including the need for a cohesive mission, collaborative partnerships in the community, and addressing the complex needs of parents and children (Young, Breitenbucher et al., 2013).

Much previous research on FDCs is limited in rigor (Bryan & Havens, 2008). Variations in program components, study design, sample frame and size, strength of the comparison group, use of multivariate statistics, metrics for defining successful outcomes, and whether the study has been subjected to the peer review process make a systematic review of FDC efforts challenging.

Ashford's (2004) small scale quasi-experimental evaluation of the FDC in Pima County, Arizona, found no significant differences regarding reunification rates between FDC and non-FDC families, but significantly more FDC children were permanently placed via guardianship or adoption within 12 months than the treatment-as-usual comparison group (79% vs. 49%), and the FDC children achieved permanency more quickly (8.4 months vs. 11.4 months) (Ashford, 2004). Boles, Young, Moore and DiPirro-Beard (2007) evaluated the FDC in Sacramento, California, and found that significantly more FDC families reunified at 24 months post-entry (42% vs. 27.2%), but there were no differences between groups in time to reunification. However, their study investigated a "parallel" FDC, which meant that clients' child welfare cases were heard by one judge and their substance abuse treatment was overseen by a separate

judge. Parallel FDCs are much less common than integrated “one family, one judge” courts (Green, Furrer, Worcel, Burrus, & Finigan, 2009) and the generalizability of findings across FDC types is limited. One of the largest studies to date evaluated four separate FDC sites across the country and found that overall, FDC children were more likely to reunify than children in the comparison group (43% vs. 32%). However, evaluating sites separately, the researchers found that FDC children spent less time in out-of-home care at only two of the four sites, and were more likely to reunify at three sites (Worcel et al., 2007).

Despite these mixed outcomes, other studies have reported unilaterally positive findings. Green et al. (2007) found that FDC children achieved permanency more quickly (360 vs. 435 days) and were more likely to achieve reunification (57% vs. 44%). Researchers evaluating a Rhode Island FDC, which focused on drug-exposed infants, found that the average time to reunification was significantly shorter for families in the FDC. Within the first three months, 73% of FDC infants were reunited versus 39% of comparison infants (Twomey, Caldwell, Soave, Fontaine, & Lester, 2010). Burrus et al. (2011) found that FDC children spent significantly less time in foster care (252 vs. 346 days) and were significantly more likely to reunify (70% vs. 45%) than a matched comparison group. Generally, the body of literature on FDCs is positive (Lloyd, 2015) and suggests that key child welfare outcomes are maximized in the FDC setting for families who may otherwise fare poorly.

1.2 Targeted Parenting Skills Training

A variety of thought leaders and scholars have called for the child welfare sector to markedly increase its adoption of evidence-based programs (EBPs) in general, and, more specifically, evidence-based parenting programs (Barth, 2008; Barth, 2012; Horwitz et al., 2010; Horwitz et al., 2014). Many agencies and communities, because of lack of developed EBPs in child welfare, have turned to other fields and disciplines such as mental health and substance abuse to locate an EBP that will address a client population’s specific need. The National Registry of Evidence-Based Programs and Practices (NREPP) is administered by the Substance Abuse and Mental Health Services Administration (SAMHSA) and serves as a clearinghouse for local community stakeholders to access information about interventions that have met a minimum requirement for review and have been independently assessed and rated for “Quality of Research” and “Readiness for Dissemination” (U.S. Department of Health and Human Services & Substance Abuse and Mental Health Services Administration, 2014). The NREPP contains information on more than 340 behavioral health interventions, including information on the client populations with whom the intervention has been used.

Importantly, when considering an EBP the service system must consider how well the EBP will fit with the needs of the target population and the local setting. While the movement toward EBPs in child welfare is expanding the field’s knowledge on a variety of adopted interventions, little information exists on EBPs that target families involved in child welfare *and* are also affected by substance abuse. Even more scarce are studies of these interventions within family drug courts. It has been suggested for some time that

these families need specific interventions that are tailored to the behavioral, relational, developmental and familial patterns that are characteristic of this population (Brook, 2005). Earlier work conducted by Marsh, Ryan, Choi, and Testa (2006) indicated that child welfare services as usual are indeed inadequate for the population of substance-abuse affected families, and that integrated and targeted services comprise the best service delivery approach.

Our review of the literature that sought studies on the implementation of evidence-based parenting interventions within an FDC located only two publications, both from implementation of the Engaging Moms Program (EMP) in the Miami, Florida FDC. EMP is based on Multidimensional Family Therapy and adapted for use in an FDC. More information on the intervention can be found in Dakof, et al. (2010). The first evaluation utilized a natural experiment design to compare case outcomes the year prior to, and the year following, EMP implementation. The comparison group ($n = 37$) received standard case management services and the treatment group ($n = 43$) received EMP, although both groups had the same FDC judge. Both groups were tracked for 15 months after mothers' entry into the FDC. The study found that significantly more participants in the EMP graduated from FDC (72% vs. 38%) and were reunified with their children (70% vs. 40%) than participants who engaged in FDC alone (Dakof, Cohen, & Duarte, 2009). The following year a randomized controlled trial found that at 18-months post-FDC enrollment, 77% of mothers assigned to EMP ($n = 31$) had positive child welfare dispositions (defined as sole custody, joint custody, or family guardianship without termination of parental rights) compared to 55% of the control group ($n = 31$) (Dakof et al., 2010). Although it is recognized that other evidence-based programs are occurring within the context of FDCs nationally (Quittan, 2004), these authors were unable to locate any other published research regarding EBP in FDC effectiveness in the peer-reviewed literature.

Perhaps unlike the general child welfare system, attention to increasing EBPs in FDCs is not simply a top-down mandate from bureaucrats or ivory tower scholars. Rather, the role of EBPs in FDCs has roots in the foundations of the FDC approach. Therapeutic jurisprudence, the legal philosophy which underpins the drug court model, calls for empirical evaluation of the impact of legal system procedures *and* consideration of those evaluation findings when making decisions in the courtroom. The 10 key components of drug courts (NADCP, 1997) and more recently published 10 recommendations for developing FDC guidelines (Young, Breitenbucher, & Pfeifer, 2013) emphasize research and evaluation as integral to FDCs. Equally important according to therapeutic jurisprudence and the key components of drug courts, and equally necessary for effectuating research, is macro-level support for building this evidence-base, including linkages with community resources and policies which promote a research-based feedback loop for quality improvement. This system of "communities, systems, programs, and policies" that promotes EBP implementation, effectiveness, and sustainability, has been termed an "evidence-based environment" (Scheyett, McCarthy & Rausch, 2006, p. 253). To this end, the current study makes an overdue contribution to the body of literature regarding the process and product when an FDC employs evidence-based practices.

1.3 Program Description

The FDC evaluated for this article operates under a modified integrated family drug court model protocol. The FDC in this study originated in 1998. The court is located in Tulsa County, Oklahoma, and serves a Level B sized Metropolitan Statistical Area (population of 250,000 to 999,999) (U.S. Census Bureau, *n.d.*). The court received a grant from the USDHHS, Substance Abuse Mental Health Services Administration, to expand services in 2010 and the current evaluation was conducted in conjunction with that award. The funding enabled the implementation of two evidence-based parenting programs, the Strengthening Families Program (SFP) and Celebrating Families!TM (CF) programs. The state had an existing mandate of required parenting classes for families with a child in foster care. SFP and CF both use manualized 14-week curricula that focus on child development, attachment and bonding, discipline, child and family safety, and family organization. While both EBPs were developed for substance abusing families, the content of each session is often focused on other aspects of family life and risk reduction. Both EBPs are contained on SAMHSA's National Registry of Evidence-based Programs and Practices (NREPP) due to earlier research supporting their effectiveness. Given the extant parenting program requirement, the prior research support, and the programs' similar structure and timeframe, stakeholders opted to implement the two programs in a paired sequence starting with SFP first and then CF. The rationale for this approach was that SFP is designed to work with those individuals in earlier phases of substance abuse recovery and focuses heavily on skill-based training, whereas CF is targeted directly at clinical behaviors related to family dynamics associated with substance abuse and is targeted towards those with more recovery.

Throughout the evaluation period, the FDC served a maximum of 40 families at any time. Eligible families were invited to participate in the FDC if parental substance abuse was suspected to be one of the primary reasons for their child welfare involvement. Entry into the FDC was voluntary however a family could not voluntarily exit the FDC; parents exited via failed completion or graduation. The court actively adhered to key components of the FDC model, including convening the FDC team prior to court hearings to discuss admissions and progress; integrating the well-being and safety of the children with the needs of the parents; implementing the use of phases, rewards, and progressive sanctions; using frequent and random urinalysis (UAs); and, employing cross-disciplinary collaboration and training. The FDC used a single, local treatment provider for substance abuse treatment and counseling and outpatient mental health services. All FDC participants were mandated to outpatient substance abuse treatment services at a minimum and received additional services commensurate with need. Inpatient substance abuse treatment represented a statewide service gap, although it was available to FDC clients via wait lists. Although we lack detailed information about the effect of this service gap on FDC clients, the fact that inpatient treatment was limited across the state suggests that this barrier impacted all child welfare involved parents statewide, including those at the FDC, similarly.

Once an individual parent initiated FDC participation, the family immediately began the next available group of Strengthening Families (within three months of FDC

start), followed by Celebrating Families!TM. Participants were not allowed to miss more than two sessions of either program or they were removed from the group. Of the 89 families that started SFP during the study period, 75 (84.3%) completed the SFP section and 66 (74.2%) completed the full sequence. Earlier research has demonstrated that there is a gap in practice knowledge surrounding how to most effectively improve family functioning and reduce risk for maltreatment among child welfare involved families with a substance abusing parent, and it is not known whether improving parenting practices, addressing underlying substance abuse, improving knowledge of risk reduction, or some combination of these factors is most effective (Barth 2009; Testa & Smith, 2009). In the case of this FDC, families received treatment for the underlying substance abuse and received these two services aimed at improving parenting and family functioning as part of their court experience.

The research evaluation presented in this work received Human Subjects approval from the University of Kansas Institutional Review Board. The researchers conducting this evaluation are not affiliated with the program developers of either of the EBPs under study in this evaluation, and have no direct or indirect financial or other interest in the promotion of these EBPs.

2. METHODS

2.1 Data Source

The data used in this study were administrative data that were required to be submitted to the federal government as part of the Adoption and Foster Care Analysis and Reporting System (AFCARS). These data were provided by the state to the local evaluators.

2.2 Sample

The sample comprised two groups, the FDC group that received the parenting intervention, and a matched comparison group that received child welfare services-as-usual through the non-FDC dependency docket. The FDC group consisted of 214 children, and the comparison group consisted of 418 children. All case outcomes were tracked from January 2011 through September 2013.

A pool of possible comparison candidates was created from the state's AFCARS dataset. Membership in the pool was determined through the use of the following criteria: (1) to avoid verified substantiated outliers for matching, only children who were removed later than December 31, 2009 (the earliest FDC child's removal date) were included; (2) only children whose alleged type of maltreatment included parental alcohol or drug abuse were included; (3) children who were older than 17 at the time of removal were excluded; and (4) children who were emancipated were excluded and (5) children who were discharged prior to July 20, 2010, were excluded. The application of these criteria resulted in a pool of 3,827 children for matching, including 226 treatment cases

and 3,601 comparison cases. Stata version 12.0 was used for propensity score nearest neighbor one-to-two matching within a caliper (Guo & Fraser, 2010). According to Rosenbaum's and Rubin's suggestion (1985), a quarter of a standard deviation of the estimated propensity scores was used as a caliper size (Guo & Fraser, 2010).

Based on our review of the literature aimed at known characteristics that impact permanency outcomes, and the data that were available for analysis, 14 variables were selected as covariates for matching: (1) time in placement (Brook, McDonald & Yan, 2012); (2) age at entry to care (Akin, 2011); (3) child's gender (Courtney & Wong, 1996); (4) child's race, (Barth, Courtney, Berrick, & Albert, 1994), categorized as African American, White, American Indian/Native Alaskan, Multiracial, and other; (5) ethnicity (Barth et al., 1994); (6) kinship placement (Courtney, 1994); (7) type of placement setting (Akin, 2011); (8) number of foster care placements (Pecora et al., 2006); (9) presence of developmental disabilities (Courtney & Wong, 1996); (10) presence of child emotional/behavioral disorder (Connell, Katz, Saunders & Tebes, 2006); (11) removal due to sexual abuse (Connell et al., 2006); (12) removal due to physical abuse (Cheng, 2010); (13) removal due to reasons other than sexual abuse, physical abuse or neglect (Rosenau, 2000); and (14) single parenting (Yampolskaya, Armstrong, & Vargo, 2007). The propensity score technique then matched on state service region, meaning that only those cases served within the same child welfare service region were included. Once matching was conducted, the comparison cases were compared to their matched FDC case to determine if they were reunified prior to their matched FDC cases' start date. If the reunification for a comparison case occurred prior to its matched FDC case's program start date, the comparison case was dropped and the matching process repeated until an appropriate match was achieved. As a result, 204 FDC cases matched with two comparison cases, and ten FDC cases matched with only one comparison case. However, twelve FDC cases could not match with any comparison cases and were excluded from further analyses. In total, there were 214 FDC cases and 418 matched comparison cases.

After generating a comparison group, life tables and Cox regression (also known as survival analysis) were used to examine whether FDC participants were more likely to reunify with their families of origin and what the likelihood of reunification was for the FDC group over time, compared with the comparison group, after controlling for the covariates listed above. Bivariate analyses were conducted to examine the group differences on the covariates between the FDC and matched comparison cases. The matched samples were found to have no significant differences between the two groups except for removal time [$t(630) = 3.25, p < .01$].

2.3 Demographic Characteristics

Table 1 summarizes the demographic characteristics of the FDC and matched comparison groups. Each included about half of either gender, and the mean child's age in both of the groups is 3.42 years. Both White and other racial groups comprise 40% of the children in the FDC and comparison groups, followed by American Indian (10% FDC; 8% comparison) and African American (6% FDC, 9% comparison) children. About 10% of children from FDC and comparison cases had emotional disturbance and less than

TABLE 1
Demographic Characteristics

	<i>FDC</i>	<i>Comparison</i>	<i>Statistics Test and value</i>
	<i>n = 214</i>	<i>n = 418</i>	
	<i>N (%)</i>	<i>N (%)</i>	
Child's gender (female)	106 (49.53%)	186 (44.50%)	$\chi^2 (1) = 1.44, p = 0.23$
Race			$\chi^2 (3) = 3.76, p = 0.29$
African American	12 (5.61%)	36 (8.61%)	
White	93 (43.46%)	168 (40.19%)	
American Indian	22 (10.28%)	31 (7.42%)	
Other race	87 (40.65%)	183 (43.78%)	
Ethnicity: Hispanic	27 (12.62%)	48 (11.48%)	$\chi^2 (1) = 0.17, p = 0.68$
Child's disability			
Mental Retardation	2 (0.93%)	4 (0.96%)	$\chi^2 (1) = 0.001, p = 0.98$
Emotional Disturbance	21 (9.81%)	45 (10.77%)	$\chi^2 (1) = 0.14, p = 0.71$
Removal reason			
Neglect	101 (47.20%)	204 (48.80%)	$\chi^2 (1) = 0.15, p = 0.70$
Sexual Abuse	4 (1.87%)	6 (1.44%)	$\chi^2 (1) = 0.17, p = 0.68$
Physical Abuse	7 (3.27%)	19 (4.55%)	$\chi^2 (1) = 0.58, p = 0.45$
Other Removal Reasons	105 (49.07%)	205 (49.04%)	$\chi^2 (1) = 0.001, p = 0.99$
Family structure			
Single Mother	72 (33.64%)	143 (34.21%)	$\chi^2 (1) = 0.02, p = 0.89$
Current Placement Setting			
Kinship Care	53 (24.77%)	132 (31.58%)	$\chi^2 (1) = 3.17, p = 0.08$
Foster Care	59 (27.57%)	127 (30.38%)	$\chi^2 (1) = 0.54, p = 0.46$
	<i>Mean (SD)</i>	<i>Mean (SD)</i>	
Child's age at removal	3.42 (3.76)	3.42 (3.92)	$t (630) = 0.02, p = 0.98$
Number of placements	1.06 (0.23)	1.08 (0.28)	$t (630) = 1.44, p = 0.15$
Remove time (in months)	25.31 (11.09)	28.41 (11.50)	$t (630) = 3.25, p = 0.001$

1% from both groups had a developmental disability. Nearly half of all children from both groups were removed from their families of origin due to reasons other than neglect, physical abuse and sexual abuse. The two groups reported similar rates of children placed in kinship care and foster care. No statistically significant differences between groups were observed with the exception of removal time in months, with the FDC group spending less time in foster care on average [$t(630) = 3.25, p < .001$].

2.4 Data Analysis

Analyses of program effects in the context of child welfare can be challenging, since children and families enter the FDC program at different points in time over the project

period and not all families exit foster care during the period of study. When events do not occur (such as reunification) during the study period, these data are referred to as “censored”—meaning that the case has not been observed for sufficient time to determine what the permanency outcome will be. A preferred way to analyze data such as these is survival analysis. Creation of a life table is one survival analysis tool that these researchers used to calculate time in placement expectancy for FDC and comparison children in foster care. A life table is used to study the time to a particular event, in this case the time to reunification. Life tables are commonly used in actuarial and health sciences to predict when events of importance will occur. Since families begin FDC at various points in their child welfare experience, these researchers analyzed the data for the treatment and comparison groups using two points in time: (1) time from removal to reunification for those reunified, and (2) time from entry into FDC to reunification for those reunified. For censored cases (those not reunified), time was also measured with the same parameters, and was calculated by using the latest date of the observation period for the dataset, September 30, 2013.

In addition to life tables, another statistical technique called Cox regression was used to analyze the impact of multiple variables on the likelihood of reunification. This is a significant advantage, because there are multiple variables known to impact reunification (e.g., child age, race/ethnicity, removal reason, etc.), and use of this technique allowed us to increase rigor by statistically controlling for the effect these variables may have on reunification of FDC and non-FDC cases.

3. FINDINGS

Table 2 summarizes the findings from the life table and displays the reunification rates for the two groups at specific time intervals. This table presents findings using the date of child removal as the baseline date. Reunification rates for the two groups are fairly low in the first 200 days and approximately equal. After that, the two groups diverge with the FDC cases moving significantly faster toward reunification. One can see, for example, that 16.69% of the FDC group has achieved reunification at the 400th day from removal, compared to only 9.15% of the comparison group. Further, the FDC participant

TABLE 2
Reunification Rates for FDC and Comparison Groups by Specific Time Intervals, Beginning From Child Removal Date (Percent of Cases Reunified)

<i>Group</i>	<i>Sample Size</i>	<i>Time Intervals (In Days)</i>				
		<i>0-200</i>	<i>201-400</i>	<i>401-600</i>	<i>601-800</i>	<i>801-1000</i>
Comparison	418	4.80%	9.15%	17.26%	21.11%	25.27%
FDC	214	3.90%	16.69%	45.78%	54.35%	61.37%

$\chi^2 (1) = 31.38, p = 0.0001$

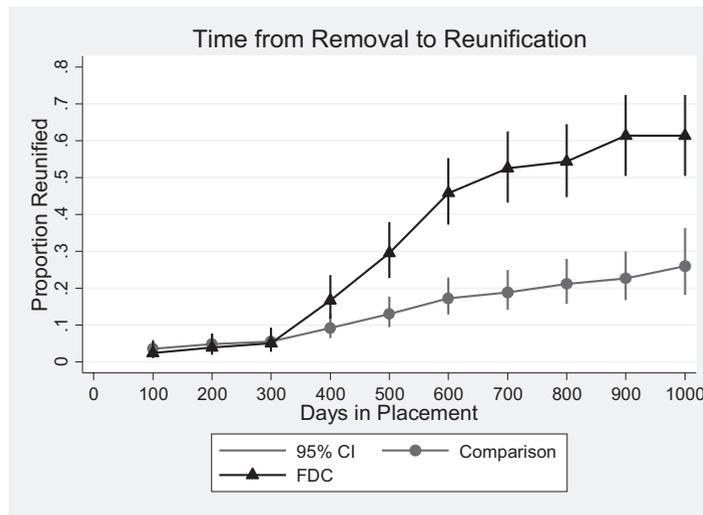


FIGURE 1. Time from Removal to Reunification

reunification rate increases dramatically to 45.78% at the 600th day from removal, whereas the comparison children’s rates only increase to 17.26% at that same point in time. These same results are shown graphically in Figure 1, where a steeper slope for the line represents the FDC court cases, indicative of a higher rate of reunification (black line with triangle markers, marked as FDC = 1). One can see from looking at Figure 1 that the FDC cases drastically “take off” at about the 400th day mark, and continue their climb upwards. In addition, during the observation period, this study finds no child reentering care after family reunification for both the FDC and matched comparison groups.

One important consideration in this study is that not all families enrolled in FDC immediately upon removal of a child; therefore, it could be argued that some other intervention may have impacted the case in a way that is not accounted for in this model. While this argument is always present because families enter the child welfare system and access multiple services at various points in time, one way to attempt to isolate the impact of the FDC program is to conduct the statistical analysis using the date the family enrolled in the FDC as the starting point. To do this, these researchers created a second life table where the time to reunification variable was calculated from the FDC program start to reunification. Table 3 and Figure 2 show that the FDC group has a significantly higher reunification rate than the comparison group, and by the 400th day point from the start of the FDC, the FDC group reunifies at a much higher rate than comparison group (27.83% compared to 9.94%). Further, Table 3 reveals that by the 1000th day point from start of FDC, over 56% of the FDC children have been reunified, compared to only 24% of the comparison children. These difference were statistically significant at $p < .001$ probability level.

Besides examining the difference of reunification rates across the FDC and matched comparison groups, the analysis was furthered through the use of a Cox Regression. Cox

TABLE 3
Reunification Rates for FDC and Comparison Groups by Specific Time Intervals, Beginning From FDC Program Start Date (Percent of Cases Reunified)

Group	Sample Size	Time Intervals (In Days)				
		0-200	201-400	401-600	601-800	801-1000
Comparison	418	4.90%	9.94%	14.28%	20.10%	24.13%
FDC	214	8.41%	27.83%	49.30%	56.17%	56.17%

$\chi^2 (1) = 42.38, p = 0.0001$

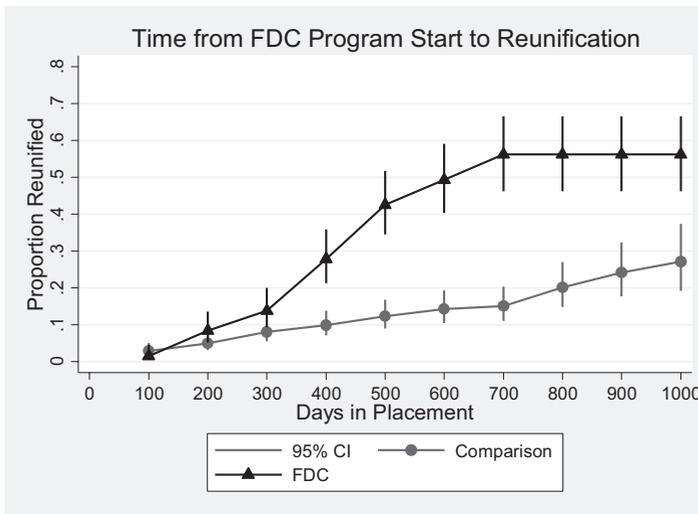


FIGURE 2. Time from FDC Program Start to Reunification

Regression allows one to examine the likelihood of reunification over time for the FDC group, compared with the matched comparison group, and controls for variables known to be predictive of reunification. Table 4 displays the findings for this analysis, and displays for the reader those predictive variables. Findings indicate that after controlling for all other variables, the FDC group is associated with a 178% increase in the likelihood of reunification, compared with the matched comparison group (H.R. = 2.78, $p < .001$).

4. DISCUSSION

The results of this study add to the evidence that FDCs with the inclusion of two evidence-based parenting programs may offer a timelier route to reunification for families in the child welfare system due to parental substance abuse than traditional dependency

TABLE 4
Cox Regression Results

	<i>Hazard Ratio</i>	<i>Standard Error</i>	<i>z</i>	<i>P > z</i>	<i>95% Conf. Interval</i>	
					<i>Lower</i>	<i>Upper</i>
FDC	2.78	0.54	5.24	0.001	1.90	4.08
Removal time (in months)	1.07	0.01	5.06	0.001	1.04	1.10
Female	0.74	0.14	-1.56	0.12	0.51	1.08
Race						
African American	0.77	0.26	-0.77	0.44	0.39	1.51
Caucasian	0.59	0.19	-1.65	0.10	0.32	1.10
American Indian	0.71	0.15	-1.58	0.11	0.47	1.08
Other racial group(reference group)						
Ethnicity: Hispanic/Latino	1.62	0.47	1.65	0.10	0.91	2.87
Current Placement Setting Type						
Kinship care	0.16	0.05	-5.47	0.001	0.08	0.31
Foster care	0.11	0.05	-5.30	0.001	0.05	0.26
Other Settings (reference group)						
Number of placements	<.00001	.	.	.	.	.
Child's disability						
Mental Retardation	<.00001	.	.	.	.	.
Emotional Disturbance	0.32	0.15	-2.37	0.02	0.12	0.82
Removal Reasons						
Sexual Abuse	2.60	1.58	1.58	0.12	0.79	8.54
Physical Abuse	0.83	0.51	-0.31	0.76	0.25	2.76
Other Reasons except for Neglect, Sexual Abuse and Physical Abuse	1.41	0.29	1.69	0.09	0.95	2.11
Single Motherhood	0.78	0.17	-1.15	0.25	0.51	1.19
Child's Age at Entry into Care	1.04	0.03	1.47	0.14	0.99	1.09

N = 629

Log likelihood = -586.17, LR χ^2 (14) = 165.50, p = 0.0001

courts. The study showed that the FDC involved cases were nearly twice as likely to reunify after controlling for other variables known to impact child welfare outcomes, and did so hundreds of days more quickly. The analysis of child welfare outcomes in the context of a family drug court with a comprehensive service model is a relatively new undertaking. As others have noted (Marlowe & Carey, 2012), the ability to link a specific service or component to a positive or negative outcome in the context of family drug court remains challenging. The research presented in this study provides a solid case for the use of a FDC, though the specific impact of the parenting programs on the FDC experience is still unknown.

FDCs were established to serve what has been identified as one of the most challenging child welfare subpopulations; families with parental substance abuse. While FDCs are now used across the country, comprehensive studies with acceptable levels of methodological rigor are just beginning to emerge. This evaluation provides an important contribution to existing evidence about time in placement and family reunification within the context of the FDC. The use of survival analysis conducted in this evaluation is an important analytical advancement. It is very important to understand the ramifications of using different analytical strategies to deal with the fact that some of the events of interest in child welfare outcomes are events that have not yet occurred for all of the participants. Stated more explicitly, some children enter the child welfare system during the study period, but do not exit because they have not yet experienced reunification. If one chooses to report only on those who have reunified (as is the case with many FDC and some child welfare studies), children who are in the system but who have not exited at the time of analysis are not being counted in computing outcomes. In other words, if one is only counting the cases who have reunified, then the focus is solely on the “victories,” which seriously biases the results. This same analytical flaw (called using an “exit cohort strategy”) was a major criticism of the first iteration of federal Children and Family Service Reviews, and has been updated for subsequent iterations to more accurately reflect the outcomes experienced by all children in foster care, not just those who experienced the event of interest such as reunification (Courtney, Needell, & Wulczyn, 2003; Zeller & Gamble, 2007).

Further, the use of evidence-based family skills (parenting) programs for this population as an enhancement to FDC involvement is also novel. As noted the only other articles in the peer-reviewed literature on the topic discuss the Engaging Moms Program (Dakof et al., 2009; Dakof et al., 2010) as a service enhancement to a FDC. The EMP is a broad scope, motivational intervention primarily conducted through one-on-one sessions between mother and EMP counselor, however, not a group-based parenting/family skills program. Because most states mandate that child welfare involved families participate in a parenting intervention, this paper adds to the current body of literature by highlighting how to adopt EBPs to meet parenting requirements in a FDC setting. Moreover, the EMP studies were methodologically limited in that both utilized an exit cohort strategy of observation and had relatively small sample sizes.

Provider perspectives regarding EBPs appear inconsistently in the literature. For example, a study by Aarons and Palinkas (2007) interviewed child welfare case managers actively involved in implementing an EBP to reduce child neglect. These researchers found that caseworkers viewed the EBP positively because it was comprehensive and created a common language for discussion of cases. Further, the workers believed the EBP gave them a structure to disseminate much needed information on reducing child neglect to the participating at-risk parents. In contrast, dissatisfaction with EBP implementation in the field is often related to the poor fit for certain age groups of children, excessive rigidity of the framework, and lack of organizational support (Aarons & Palinkas, 2007). In addition to demonstrating positive permanency outcomes, this FDC was exemplar in implementing an EBP with strong caseworker support and satisfaction. This FDC and its treatment provider successfully implemented two curriculum-based EBPs, including

training staff in a new model. Ongoing fidelity monitoring was achieved through monthly calls with the FDC and treatment team, site visits, and technical assistance from the SFP and CF proprietors. The staff also collected data on each participant at program entry, at the mid-point between SFP and CF, and at the end of the sequential parenting program. As noted, 74.2% of families who started SFP completed CF, which is a remarkably high level of retention and engagement for a child welfare sample. In an unpublished qualitative pilot study on contributors to FDC success, team members expressed high levels of satisfaction with the parent training curriculum (Lloyd, 2013). One treatment professional referred to the importance of the parenting curriculum, stating that “not only [is it] rewarding for us to get to see [the parent functioning effectively], but we’re able to take that information back to the team and then the teams are able to know they do a good job with their kid” (Lloyd, 2013, p. 26). A comprehensive analysis of the SFP/CF program data is forthcoming.

A few limitations of this study must be noted. First, the study relied on a quasi-experimental design with comparison group data harvested from the state’s child welfare administrative database. Although a highly rigorous method (propensity score matching) was used to build the comparison group, only child indicators could be used as matching variables. Prior research suggests that parent variables—including age, race, number of prior substance abuse treatment episodes, and drug of choice (Green et al., 2007; Worcel et al., 2008; Bruns, et al., 2012)—impact FDC outcomes, including reunification. Therefore, this study is limited to evaluating associations but cannot draw causal conclusions. Further, readers should be aware that the censored nature of a large portion of the FDC children means that the survival analysis results are computed based on the predictive capacity of the sample at the time of analysis. While the researchers used statistical techniques to identify and mediate differences between the groups, the fact remains that the FDC group cases could have differed from comparison and prior and future cases in some way that could not be controlled for in our analytic model.

Importantly, the unique impact of the enhanced parenting services cannot be fully evaluated. Ideally, cross-site FDC evaluations will be conducted to further tease out the relative impact and merits of various components of FDC. In an environment characterized by scarce resources, knowing which components contribute to successful outcomes, with whom and under what corollary conditions is important.

This study, although limited in some respects, provides an important contribution to family drug court research. It uses highly rigorous methods often used in child welfare research—research which poses unique challenges due to its complex and vulnerable population of interest to a court-operated intervention. These findings add to a growing body of literature, suggesting that FDCs may be better suited for adjudicating child welfare cases involving parental substance abuse.

Finally, this work represents an early effort to examine implementation of multiple EBPs at the same time, creating an evidence-based environment. We are not suggesting that this pairing of services is the only approach to achieve these results. The families receiving these services are arguably the most challenging to serve within judicial and other human service delivery systems, and they face multiple complex intrapersonal, interpersonal, and systematic barriers to successful outcomes. When families are served in

a way that yields better permanency outcomes, it benefits the court, child welfare, substance abuse treatment, and most importantly, the child and family, to continue implementing and studying the service strategy.

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