An analysis of the impact of the Strengthening Families Program on family reunification in child welfare

Jody Brook *, Thomas P. McDonald, Yueqi Yan

The University of Kansas, School of Social Welfare, Twente Hall, 1545 Lilac Lane, Lawrence, KS 66044-3184, United States

A R T I C L E   I N F O

Article history:
Received 15 June 2011
Accepted 16 December 2011
Available online 5 January 2012

Keywords:
Substance abuse
Family reunification
Child welfare
Foster care
Survival analysis
Parent training

A B S T R A C T

This study examines reunification outcomes of children of alcohol or other drug involved parents who were placed in foster care and received the Strengthening Families Program as part of their child welfare service intervention. Following the use of propensity score matching to generate a comparison group, survival analysis was utilized to predict reunification rates. Strengthening Families participants had a significantly higher reunification rate than matched families who did not receive this intervention. Time to reunification was run from two points in the life of the child welfare case: from the date of child removal from the home and from the date of Strengthening Families Program start. In both instances, our analyses indicated that the Strengthening Families Program participants were significantly more likely to reunify than comparison cases.

© 2011 Elsevier Ltd. All rights reserved.

1. Introduction

The role of parental substance abuse in child maltreatment has gained attention in recent years, and interventions targeted at facilitation of successful family reunification for this population are being developed and tested at numerous sites across the country. While the presence of parental substance abuse as a precipitant to child welfare (CWS) involvement is present in 40–60% of all foster care cases, there is surprisingly little empirical research evaluating the effectiveness of interventions aimed at facilitating successful reunification for substance involved families who have experienced child removal from the home (Barth, 2009; Testa & Smith, 2009; U.S. Department of Health & Human Services (HHS), 1999; Young, Gardner, & Dennis, 1998).

As part of a large nationwide funding initiative to address the gap in services and research related to substance use and abuse in child welfare, the Strengthening Families Program (SFP) is currently being implemented statewide in this Midwestern US State, as part of a five-year grant to the Children and Family Services (CFS) division of the State’s social and rehabilitative services. The project began in October 2007, and families began receiving the service in February 2008. Target families included in this study are those families with CWS involvement who have a child in out-of-home placement, who have a case plan goal of family reunification, and for whom substance abuse is determined by the caseworker to be a contributing factor in the child welfare case. Staffs in six private foster care provider agencies have received six trainings as SFP leaders since 2008, and are trained in two age-specific versions of the SFP program curriculum (target child ages 3–5 and 6–11). The sites have also received monthly support in the form of conference calls with the program developer. Site visits by the program developer have taken place annually in order to assess program fidelity and to provide support to each of the program sites. The program is generally provided in weekly meetings for a 14-week period, with four leaders/trainers and a site coordinator involved in each session. SFP leaders/trainers and participants are divided into parent and children groups for a portion of the curriculum and are together before and after the curriculum content is delivered. The sessions begin with a family meal and are followed by age-specific group breakouts for children (ages 3–5, ages 6–11, or both) and a parent breakout group. The families are then reunited to practice implementing the information they have just learned and to help integrate information learned in previous sessions. As part of the grant funding, child welfare providers are expected to conduct two sessions each year (fall and spring) with a maximum of 10 to 12 families starting each 14-week session.

SFP was developed in the early 1980s by Karol Kumpfer, and evaluated in National Institute of Drug Abuse randomized control trials from 1982 to 1986 (Alvarado & Kumpfer, 2000; Kumpfer & Alvarado, 2003; Kumpfer, Alvarado, & Whiteside, 2003). It has been implemented
in various settings worldwide since that time. It is currently listed on the Substance Abuse and Mental Health Services Administration's (SAMHSA) National Registry of Evidence-based Programs and Practices (NREPP) with outcomes tested in the domains of family relationships, parenting practices and efficacy, and children's behaviors (U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (HHS/SAMHSA), 2007). The program focuses on three targeted areas: parenting skills training, child skills training, and family training. Content is focused on child development, behavior management techniques, child skills training, family skills enhancement and attachment/bonding, parental supervision, and psycho-educational material targeted at improving the parent child relationship. It is noteworthy that complete abstinence from alcohol and other drugs (AOD) or participation in substance abuse treatment is not a requirement for participation in SFP. Only one of the 14 sessions of SFP focuses on substance abuse directly. According to information presented in the NREPP, SFP is currently being utilized in every state nationwide and in 17 countries worldwide.

The research evaluation presented in this work received human subject's approval from the University of Kansas Institutional Review Board. The researchers conducting this evaluation are not affiliated with the program developer of the Strengthening Families Program and have no direct or indirect financial or other interest in the promotion or utilization of SFP.

The SFP is theoretically based on Patterson's (1976) behavioral parenting model, Shure and Spivak's (1979) social skills training program, and Forehand and McMahon's (1981) curriculum described in Helping the Noncompliant Child. It was chosen for this Midwestern State implementation because it contained key elements that stakeholders believed needed to be addressed: parent behaviors, child behaviors, and overall family functioning among families characterized by substance abuse. SFP was designed specifically for substance abusing families, and was designed with primary prevention of child maltreatment as a focus.

1.1. Substance abuse and child welfare services

Research on the specific impact of child welfare services on reunification for substance abusing families is scant, and what has been published yields mixed results (Testa & Smith, 2009). In child welfare caseloads overall, family reunification has been demonstrated to be impacted by a multitude of factors, many of which are intertwined with one another and are predictive of poor outcomes in a multitude of domains. Family characteristics such as structure, composition, and income level have been shown to be predictive of reunification time- lines. Children removed from single parent homes return home more slowly than those removed from two-parent households (Courtenay, 1994; Fraser, Walton, Lewis, Pecora, & Walton, 1996; Thomlison, Maluccio, & Abramczyk, 1996). The presence of poverty also reduces the reunification rate of children (Courtenay, 1994; Fernandez, 1999; Festinger, 1996). In a comprehensive review of reunification patterns, Wulczyn (2004) reported that age of the child is an important consideration: children younger than age 2 are more likely than older children to be reunified in the first six months of placement, and young children (ages 1–12) are more likely to leave foster care through reunification with parents, whereas infants under age 1 are more likely to exit foster care through adoption. The impact of age has also been shown to be moderated by family ethnicity—with reunification differences associated with age increasing if the child is African American (Wells & Guo, 1999; Wulczyn, 2004). Family ethnicity has also been shown to influence the timing of family reunification—with Caucasian children reaching reunification the fastest of any ethnic group, followed by Asian, Latino, and African-American children (Courtenay, 1994, 1995; Roberts, 2002; Wells & Guo, 1999). Child characteristics, such as behavioral or medical disabilities, also negatively impact the likelihood of reunification as well as reunification stability (Teare, Becker-Wilson, & Larzelere, 2001; Wells & Guo, 1999).

Barth (2009) reported that five parental/familial risk factors are predictive of child maltreatment: substance abuse, mental illness, domestic violence, child conduct problems, and poverty. The first four of these have been addressed through the implementation of specialized parent training programs. It is not news that families characterized by substance use disorders in the child welfare system have traditionally had poor outcomes when compared to non-substance-abusing families. However, the mechanisms through which substance abuse leads to child abuse and neglect remain elusive, and the characteristics of successful service delivery systems that are required to facilitate timely reunification have yet to be identified. It is entirely possible that (in addition to the complexity of the client’s lives) the service delivery characteristics in child welfare service systems, AOD and mental health treatment communities, and court systems also play a complex and interrelated role. Substance abuse is often present with a host of other individual, family, and case characteristics resulting in a complex set of interactions and characteristics that make service delivery and evaluating the impact of a single intervention difficult. Testa and Smith (2009) reported that data from a large demonstration project that focused on those with substance abuse problems in child welfare indicate that in only 8% of the cases was substance abuse identified as the “sole problem.” Further, how different caseworkers, agencies, or local jurisdictions classify substance abuse can also vary, creating an artificial conglomeration of families designated as substance involved, who may or may not share the same substance-using characteristics or addiction severity. In a recent work co-authored by these authors, families in a State's foster care system were stratified by presence and type of substance abuse (alcohol only involvement, illicit drug only involvement, both alcohol and drugs, and neither alcohol nor drug involvement) and our research indicated that differentiating child welfare cases on the basis of type of substance used revealed significant differences in time to reunification. Those cases with illicit drug only abuse or both alcohol and other drug abuse had over 100 days longer to reunification than those parents who were alcohol only involved, and 200 days longer than those cases where no substance use was noted as a child removal reason. This research suggests that disaggregating parental AOD abuse may have merit in the context of child welfare knowledge and interventions (Brook, McDonald, Gregoire, Press, & Hindman, 2010).

It is also widely noted in the literature that addressing underlying risk factors through comprehensive family services is vital to family reunification efforts (Barth, 2009; Testa & Smith, 2009). Marsh, Ryan, Choi, and Testa (2006), in a study of substance involved families in CWS, found that services that fall into the child welfare service model alone are not sufficient to promote reunification, and that families with substance abuse are often accompanied by a multitude of problems and, therefore, must have targeted assistance in multiple domains. Their study of 724 CWS involved families found that progress in co-occurring domain areas such as domestic violence, mental health, and substance abuse increased the likelihood of reunification. They argued for integrated service delivery models that are inclusive of the multiple needs of these families, rather than standard child welfare models.

1.2. Parenting skills training

In theory, parent training is in part aimed at preventing the onset or recurrence of child maltreatment through teaching parents needed skills and enhancing their functioning in areas which have been shown to increase risk. Some parent training programs also include interventions aimed at increasing children’s skills and overall family functioning rather than focusing solely on the parents. In our review of the literature, we found several meta-analyses published that assess the effectiveness of parent training for generalized community
implementation (Cedar & Levant, 1990; Lundahl, Risser, & Lovejoy, 2006; Serketch & Dumas, 1996), and one meta-analyses that focused on the effectiveness of parent training for those deemed to be at high risk for child maltreatment (Lundahl, Nimer, & Parsons, 2006). However, these analyses focused primarily on studies that identified the characteristics of parenting program content and service delivery that led to desired changes in parent behavior, rather than looking at the effectiveness of these programs in terms of common child welfare outcomes of interest (time to reunification, maltreatment recurrence, etc.). In the work presented by Lundahl et al. (2006), only 3 of the 23 studies contained information about actual abuse rates.

Barth (2009) also provided a comprehensive review of parent training and overall considerations and evidence to date. He asserted that there is no consensus on what works at this point in time and, consequently, the direction in which interventions should be aimed is not fully evident. He also referred to the status of parent training in child welfare as being “in a period of transformation” (p. 95). Recent work by Testa and Smith (2009) echo this sentiment, and specifically direct the observation to the area of parental substance abuse. These works suggest the same underlying issue: it is not known whether familial problems (or conditions which lead to heightened risk, such as substance abuse), are best approached through directly addressing the risk factor per se or through attempting to improve underlying parenting practices of those who exhibit these risk factors (Barth, 2009; Testa & Smith, 2009).

The purpose of this study is to evaluate the impact of the provision of SFP on family reunification among substance involved families in the CWS in this Midwestern State. While SFP has been evaluated in multiple clinical trials worldwide, it has not been evaluated for its effectiveness in facilitating reunification with this population. We believe that the implementation of SFP within the context of this State’s child welfare service delivery is a unique approach. The circumstances surrounding the service delivery speak to the issue of whether addressing parenting directly has an impact on reunification outcomes with this population, even in the absence of treatment provision for substance use or abuse issues or a requirement of parental sobriety. It should be noted, however, that all families were receiving standard child welfare reunification services in the State, including varying degrees of comprehensive case management supportive services.

2. Methods

2.1. Data source

Data for these analyses come from the information provided to these authors by the SFP site providers for federal reporting purposes and include 214 SFP participants and 423 matched non-participants who were tracked from the time period February 2008 through September 2010.

The comparison group consists of matched families with children in foster care with removal reasons that included parental substance abuse, who had reunification as a case plan goal, and who were not referred to SFP. The comparison group was selected from a pool based on the following criteria: (1) children who were discharged due to emancipation were excluded; (2) as the formal starting date for the demonstration project was October 1, 2007, all children who were reunified prior to September 31, 2007 were excluded; and (3) consistent with SFP participant children, only children who were removed later than January 1, 2002, were younger than 15 at removal, and younger than 17 on April 22, 2010, were included for matching.

The application of these criteria resulted in a pool of 9340 children for matching. StataIC version 11.0 was used for propensity score nearest neighbor one to two matching within a caliper (Guo & Fraser, 2009). 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, 2009). Six variables were used as covariates for matching: (1) time in placement; (2) child’s birthday; (3) child’s gender; (4) dummy coded race/ethnicity variable for Caucasian, (5) dummy coded race/ethnicity variable for African American; and (6) dummy coded race/ethnicity variable for Hispanic. The propensity score matching was conducted within CWS region of the state. Once matching was conducted, the comparison cases were compared to their matched treatment case to determine if they were reunified prior to their matched treatment cases’ SFP starting date. If the comparison case was reunified prior to the treatment start date, the comparison case was dropped and the matching procedure repeated until an appropriate match was achieved. Of the treatment cases, 209 matched with two comparison cases. Five of the treatment cases matched to only one comparison case. In total, there are 214 treatment cases and 423 matched comparison cases.

Bivariate analyses were conducted to examine the group differences on the covariates between the SFP treatment and matched comparison cases. The initial matched samples were found to have no significant differences between the two groups on all of the covariates except time in placement. Following a procedure suggested by Rosenbaum and Rubin (1984) a squared term for time in placement was added to the covariates and the matching procedure was repeated. Subsequent bivariate analyses found no significant differences between SFP treatment and matched comparison groups on any of the covariates.

3. Methodology

Analyses of program effects in the context of child welfare can be challenging, since children and families enter the SFP program at different points in time over the project period and not all families achieve reunification during the period they are tracked in the administrative database. These data are called “censored”—meaning that they have not been observed for sufficient time to determine what their permanency outcome will be. A preferred way to analyze data such as these is survival analysis (aka, event history analysis). Survival analysis is used to study the time to a particular event (in this case reunification rates). In this study, time is measured in two ways: (1) as time from removal to reunification for cases that are reunified and (2) as time from entry into SFP to reunification for cases that are reunified. For censored cases (those not reunified), time is measured as the time period the case is observed (that is, time from removal until the last day of observation, 9/30/10).

4. Findings

Table 1 displays the reunification rates for the two groups at specified time intervals. Reunification rates for the two groups are quite low in the first six months and still low, but approximately equal, at one year. At the one-year point, the two groups diverge with the SFP treatment group moving significantly faster toward reunification. One can see, for example, by looking at Table 1 that 47% of the SFP group has achieved reunification at 720 days from removal, compared to 32% of the Non-SFP group. These same results are shown graphically in Fig. 1, where the higher rate of reunification is shown as a steeper slope for the line representing the SFP treatment cases.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Time-in-placement for SFP and Non-SFP groups—percent reunified.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>SFP</td>
<td>214</td>
</tr>
<tr>
<td>Non-SFP</td>
<td>423</td>
</tr>
</tbody>
</table>

Note: Log-rank test for equality of survivor functions: $\chi^2 (1) = 10.21, P = 0.0014.$
of abstinence or behaviors more specific to desired parenting behaviors and child safety. The standard child welfare intervention response is to maximize child safety by placement in foster care and referral of the abusing/neglecting parent for substance abuse treatment.

The Strengthening Families Program is a widely used and tested evidence-based intervention for substance abusing families aimed at primary prevention of child maltreatment. It has not been tested previously for families where the child resides in foster care with reunification as a goal. It is also unique in its focus on improving parenting skills and parent/child interaction without focusing on parental sobriety as an intervention. Viewed in this context, the positive reunification findings for SFP found in this study have significant implications for child welfare policy and practice. These authors would like to emphasize that we are not suggesting that parental sobriety is not a worthwhile goal. Nor are we suggesting that implementing a parent/child skills training program will provide a panacea for working with this complex service population. However, our experience with SFP indicates that, for the families involved in this program, participation in SFP led to higher rates of reunification, and sobriety status from alcohol or other drug addiction recovery was not the focus of the intervention. Parenting skills, child skills, family bonding, and attachment were emphasized. There is existing evidence that substance abuse contributes to reduced parental capacity, reduced availability to supervise children, reduced impulse control and emotion management among parents, reduced ability to understand child development and emotional queuing of children, as well as exacerbation of behavioral problems among children (Cooney & Zhang, 2006; Marsh et al., 2006; Testa & Smith, 2009; Wolock & Magura, 1996). Perhaps addressing these issues, in some families, may be sufficient to promote reunification. As Barth (2009) points out in his work, there is evidence that helping parents to increase their parental capacity may positively impact mental health and chances of substance abuse recovery, thereby positively influencing family problems overall.

Testa and Smith (2009) carefully illustrated the complexities of working with substance-affected families in the child welfare system. The co-occurring problems facing most of these families are quite intertwined, and addressing some underlying issues in absence of addressing others makes evaluation of strategies difficult. Furthermore, service delivery systems do not appear to have uniform standards for determining when families are stable enough for reunification—making the process ambiguous. In an earlier work, these researchers (Brook & McDonald, 2007) argued that more intensive service interventions did not automatically produce better outcomes. While it is widely acknowledged that recovery from substance abuse is a long-term and variable process, we have found that parental sobriety status and completion of treatment may become dominant determinants of reunification readiness. In this study, the families were all receiving comprehensive child welfare services as usual, and the addition of this targeted intervention to their service experience led to improved

![Fig. 1. Time-in-placement from removal for SFP and Non-SFP groups.](image1.png)

![Fig. 2. Time in placement from program start to reunification for SFP and Non-SFP groups.](image2.png)
outcomes. Just as we do not fully understand how substance abuse leads to child maltreatment, we do not yet fully understand how service delivery strategies impact the likelihood of reunification or future maltreatment risk. The cases in this study will be followed for a sufficient period of time to evaluate their likelihood of re-entry into the child welfare system. Results from this analysis provide clear evidence that the Strengthening Families Program has improved the reunification rate for participating families. One could feel even greater confidence in drawing this conclusion had the evaluation been able to randomly assign eligible families to the treatment and comparison groups. While propensity score analysis has been refined and put to greater use over the past 30 years, it is not without critics. Guo and Fraser (2009) observe that “In general, opponents question the assumptions made by correction methods, and they are skeptical that the conditions of real-world application can meet these assumptions.” (p. 327). They also note that within the group of proponents and developers of non-experimental approaches there is considerable debate over numerous issues including:

restrictiveness of distributional assumptions made in the estimators, the tenability of assumptions in actual application settings, the extent to which researchers can assume that the selection process is random, the extent to which researchers should not assume that the selection process is random and should make efforts to model the structure of selection, and the ability to control for hidden selection or unobserved heterogeneity (Guo & Fraser, 2009, p. 328).

A specific concern regarding the present study involves the significant time in out-of-home placement experienced by the majority of participants. The original design of the intervention expected the target population to be families who had experienced recent child removals for whom reunification was the goal and substance use/abuse was a factor in the removal or barrier to reunification. Initially, referrals were slow and clinicians expressed a desire to use the program as families were close to reunification or aftercare. We cannot rule out the possibility that the program was implemented in a way that introduced some selection bias toward families achieving reunification that was not adequately controlled for in the matching process. Further, one inclusion criterion for the comparison group was that substance abuse was a recorded reason for child removal. For families participating in SFP, this does not have to be the case: families that introduced some selection bias toward families achieving reunification or future mal-

References