



The intersection of child welfare services and public assistance: An analysis of dual-system involvement and successful family preservation completion on a maltreatment re-report

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ABSTRACT

Families involved in child welfare services (CWS) and public social services simultaneously, known as dual-system families, have been shown to be at higher risk for repeat child abuse and neglect compared to CWS-only families, yet few studies have examined these families' characteristics and whether programs like Family Preservation (FP) might help protect their children from a re-report to CPS. Using administrative data on families receiving FP between January 2013 and December 2014 (including a subset of dual-system families), we examined the effect of demographic characteristics and successful FP completion on a maltreatment re-report between 2013 and 2017.

Dual-system families differed from CWS-only families on demographics including mother's age, child race/ethnicity, and child age. Controlling for demographics, multivariable survival analyses revealed that dual-system involvement was associated with increased risk of a re-report while successful FP completion was associated with decreased risk of a re-report. An interaction effect of dual-system involvement by FP completion was tested but not significant, and the effect of FP completion was similar for CWS-only families and dual-system families. Our findings highlight the vulnerability of dual-system families and suggest that successful FP completion can help protect against the risk of a maltreatment re-report for both dual-system families and CWS-only families.

1. Introduction

A vast amount of research connects poverty and child maltreatment (Berger & Waldfoegel, 2011; McLaughlin, 2017; Pelton, 2015; Sedlak et al., 2010; Shook, 1999). Although poverty does not cause maltreatment, child neglect was the most frequent reason for victimization nationwide in 2019 accounting for 75% of identified victims when counting multiple maltreatment types and 61% of identified victims when looked at separately (USDHHS, 2021). Thus, it is not surprising that many families involved with the social service system designed to protect children from maltreatment, the child welfare system (CWS), are also involved with the main social service system program designed to support families in poverty, the Temporary Assistance to Needy Families (TANF) program. Dual-system families, sometimes referred to as dually-involved families or mutually-involved families (Ehrle, Andrews Scarcella, & Geen, 2004; Kang, Romich, Hook, Lee, & Marcenko, 2016;

Latzman et al., 2019), are simultaneously involved with public social services receiving TANF because of poverty and also involved with child protective services (CPS) because of suspected or confirmed maltreatment. TANF was created in 1996 when the previous federal aid program, Aid to Families with Dependent Children (AFDC), was reconfigured as a block grant to states (see Doran & Roberts, 2002; Latzman et al., 2019; Reed & Karpilow, 2009, 2010). One national study of families involved in CWS estimated that 1 in 5 children (21%) are simultaneously involved in TANF (USDHHS, 2005); in California, about a quarter (26.5%) of children involved in CWS between July 2007 and December 2008 were also involved in CalWORKs, California's version of TANF (Reed & Karpilow, 2009, 2010).

Children from dual-system families have been found to be at higher risk for status offending, delinquency, and ER/hospital care than children from families involved in just one system (Jonson-Reid, Drake, & Kohl, 2009). In addition, children from dual-system families are also at

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higher risk for a subsequent report(s) of maltreatment compared to children involved only in child welfare services (Drake, Jonson-Reid, & Sapokaite, 2006; Jonson-Reid et al., 2009; Jonson-Reid, Emery, Drake, & Stahlschmidt, 2010; Wolock, Sherman, Feldman, & Metzger, 2001). One possible explanation may be that families involved in these two systems might be more likely to be re-reported for maltreatment because they have a higher number of risk factors associated with future child maltreatment such as younger child age (Courtney & Dworsky, 2006; Drake et al., 2006; Needell, Cuccaro-Alamin, Brookhart, & Lee, 1999), White child race/ethnicity though this is not the case for other indicators of subsequent CPS contact such as substantiation and child placement (Connell, Bergeron, Katz, Saunders, & Tebes, 2007; Inkelas & Halfon, 1997; Drake, Jonson-Reid, Way, & Chung, 2003; Needell et al., 1999), more children in the household (Courtney & Dworsky, 2006; Drake et al., 2006; Needell et al., 1999), and younger age of mother (Drake et al., 2006; Needell et al., 1999). Another possibility is that TANF operates as a marker for extreme poverty that exacerbates existing risk factors for child abuse and neglect. Both hypotheses are supported by prior research comparing dual-system families and child welfare only families, which found dual-system families had a greater number of risk factors associated with child maltreatment and lower median income levels than child welfare-only families (Jonson-Reid et al., 2009). Considering that low income has been found to be associated with maltreatment in a host of studies (Berger & Waldfogel, 2011; Pelton, 2015; Sedlak et al., 2010), this may affect a family's ability to meet children's basic needs due to inadequate resources (reaching the threshold for neglect) or through its association with parental stress and mental health that in turn affect parenting (Berger & Waldfogel, 2011).

Both of these possible explanations suggest that programs such as Family Preservation (FP) may be effective at helping dual-system families avoid further maltreatment. FP typically consists of targeted, monthly in-home services provided to CWS-involved families whose children are at imminent risk for placement due to numerous risk factors including domestic violence, substance use, and mental health problems or to families who could benefit from additional support to reunify with their children (McCroskey, 2001). One important component of FP services is that they tend to be guided by multiple theories including crisis theory, cognitive and behavioral theory, systems theory, social learning theory, attachment theory, and resiliency theory. Furthermore, they include concrete supports - likely to be useful for impoverished parents - and parenting classes and counseling services, likely to be useful for young mothers dealing with multiple young children or those with clinical needs that require therapeutic interventions (Lin & Lee, 2016; McCroskey & Meezan, 1998; McCroskey, 2001; Schweitzer, Pecora, Nelson, Walters, & Blythe, 2015).

While early research found positive findings for FP on reducing child placement using the Homebuilders Model, a model popular in the 1980s characterized by short-term, high intensity services involving numerous hours per week with social workers who had lower caseloads (Al et al., 2012; Forsythe, 1992; Fraser, Pecora, & Haapala, 1991; Nelson, Walters, Schweitzer, Blythe, & Pecora, 2009), subsequent studies have been equivocal with respect to child placement—the primary outcome of most FP research given its history as a program designed to prevent out-of-home placement (Littell & Schuerman, 1995; Schweitzer et al., 2015). Some studies have found no significant reductions in child placement outcomes (although a few studies have found improvements in family functioning) whereas other studies have found a reduced risk for placement among FP models that resemble the Homebuilders Model (Al et al., 2012; Bezezcky et al., 2020; Lindsey, Doh, & McCroskey, 1996; Littell & Schuerman, 1995; McCroskey, 2001; Nelson et al., 2009; Schweitzer et al., 2015; Yoo & Meezan, 2001). Research in the late 1990s shifted to evaluating FP programs that were shorter in intensity involving fewer hours per week and provided over longer periods of time—several months instead of just four to six weeks (Yoo & Meezan, 2001). One critique of FP programs involves the variations in service models, which makes comparisons among different FP service models

complicated (Al et al., 2012; Bezezcky et al., 2020; Nelson et al., 2009; Schweitzer et al., 2015). Due to these mixed findings, researchers have called for more research examining the effects of FP for different subgroups of families and using different outcomes (Bagdasaryan, 2005; Littell & Schuerman, 1995; Nelson et al., 2009; Rossi, 1992; Wells & Tracy, 1996; Yoo & Meezan, 2001). Given its focus on both therapeutic and concrete services (Al et al., 2012; Franke, Pecora, Christie, McCroskey, Lorthridge, Ho, Vo, & Rosenthal, 2013; McCroskey, 2001), the FP program may be an effective strategy for helping dual-system families reduce the likelihood of future maltreatment as FP provides comprehensive services targeting the aforementioned risk factors to a CWS re-report; however, few studies have explored this possibility.

A handful of studies have looked at the re-report rates of families receiving FP and have found either no difference or a slight increased risk of a re-report relative to a comparison group (Littell & Schuerman, 1995; Rossi, 1992; Schweitzer et al., 2015). In one of the only studies that looked at FP services among dual-system families in Missouri, their re-report rates were 57% at three years and 72% at seven and a half years, which was higher than families that received low-intensity FCS services. Receiving FP was associated with an increased likelihood of a re-report compared to families that did not need services though they found an interaction between FP and report substantiation that led such families to have lower re-report rates (Drake et al., 2006). Such findings highlight the importance of continued research examining whether programs like FP can alter the re-referral trajectory of high-risk groups like dual-system families.

In sum, there is a body of research indicating that dual-system families are at higher risk of detrimental outcomes compared to either CWS-only or TANF-only families, yet little is known about the characteristics of dual-system families that receive FP and whether FP can address the multiple risk factors of these vulnerable families to prevent future maltreatment. This study adds to the literature on FP and dual-system families by using administrative data from a large county in California including data from both CWS and public social services to compare dual-system families and CWS-only families on their characteristics and re-referral rates. This study had the following aims:

- (1) To compare the demographic and case characteristics between dual-system families and CWS-only families;
- (2) To explore the prevalence of dual-system families receiving FP services as well as their re-report rates;
- (3) To examine the effect of demographic characteristics and FP completion on a maltreatment re-report for the entire sample and separately for dual-system families.

2. Methods

2.1. Family Preservation overview

Family Preservation is a strength-based, collaborative program that builds upon families' existing strengths to help them address problems related to child safety and risk. Established in 1991 with the passage of AB 546, this large southwestern metropolitan city began to integrate a comprehensive approach to strengthening and preserving families experiencing challenges related to child maltreatment through FP services. FP engages families in services during multi-disciplinary case planning committee meetings in which the family and FP agencies discuss mutual goals and services. FP agencies that are contracted through the county provide voluntary and court-ordered in-home services that are typically offered for 6 months although they can be extended to 12 months or more depending upon the family's individual needs. In addition, families receive an array of services including but not limited to case management, parenting, transportation, therapy, substance abuse and domestic violence counseling, housing services, and youth services (Department of Children and Family Services [DCFS], 2016). For additional information regarding FP services in this

jurisdiction, see Franke and colleagues (2013), McCroskey (2001), and Palmer, McCroskey, Eastman, Rebbe, Guo, and Foust (2020).

2.2. Data

This study utilized a dataset of families with an open CWS case that were receiving Family Preservation services from a CPS agency in a large Southwestern metropolitan city between January 2013 and December 2014 ($n = 5,597$). Among these families, there was a subset of dual-system families involved in the local public services agency that were receiving CalWORKS services ($n = 1,042$), California's implementation of the TANF program. Data cleaning efforts using the mother's name and date of birth identified 111 duplicate records for the mother and 137 duplicate records for the child, which were dropped resulting in a sample size of 5,349. Further data cleaning resulted in the exclusion of 73 cases in which a child was detained shortly after receiving FP or cases with termination reasons indicating that the family was unable to be located. Last, 423 families were excluded because their termination codes indicated that they were re-reported to CPS, which presented issues of collinearity with the outcome variable because of how the successful FP services completion variable was constructed (as all kids with this termination code were re-reported); this resulted in a final sample size of 4,853 consisting of 3,975 CWS-only families and 878 dual-system families.

Re-report data were obtained from the local CPS agency from January 2013 to August 2017 for a follow-up period ranging from 2.5 to 4.5 years. This study was approved by the Institutional Review Board at the first author's university.

2.3. Independent variables

The following demographic characteristics were included as covariates in our study because they have been found to be associated with a re-report to CPS as noted in the literature review. Child demographic characteristics were obtained for the focus child of the investigation. The covariates are presented below with respect to the coding and reference group, which is presented last in each variable definition:

- (1) Mother's age (26–35 or 36 and older vs. 15–25). It should be noted that information on the father was not available.
- (2) Number of children in the household (2 or 3 children, 4 or 5 children, and 6 or more children vs. 1 child).
- (3) Child race/ethnicity (African American, Latino, and Other/Asian vs. Caucasian).
- (4) Child age (6–10 & 11 and older vs. less than 5).
- (5) Prior CWS report history (history of prior CWS reports and cases vs. no history of reports or cases for the focus child).
- (6) Dual-system family status (Dual-system families vs. CWS-only families).
- (7) Successful FP services completion (termination codes indicating successful FP completion, case plan met, and court terminated services) vs. unsuccessful completion of FP services (termination codes indicating dropped out, declined services, moved from the area while receiving FP, and/or time expired because all of these families began services but did not successfully complete the program).

2.4. Dependent variable

The outcome of interest is the time to a maltreatment re-report in months. Re-report is defined as a subsequent report of maltreatment that was screened in to CPS following a prior substantiated report that led to a child abuse investigation for the focus child following or during the receipt of FP services vs. no maltreatment re-report. Specifically, time was determined by subtracting the re-report date from the start date of FP services divided by 30.4. Please note, the variable of interest is any

re-report that led to an investigation and not a substantiated re-report. We made this decision based on the existing research suggesting that any report to CPS is an indicator of increased risk and vulnerability for future child abuse and neglect (Putnam-Hornstein et al., 2014, 2015) as well as existing research indicating that families indicating that families have similar needs and outcomes regardless of the investigation disposition (Casanueva, Dolan, Smith, & Ringeisen, 2012; Drake et al., 2003; Hussey et al., 2005; Kohl, Jonson-Reid, & Drake, 2009; Wolock et al., 2001).

2.5. Analytic strategy

We conducted univariate analyses to describe demographic characteristics, case characteristics, and the outcome of interest (Aim 1), and we used bivariate analyses using Pearson chi-square tests for categorical variables and Mann-Whitney U tests (for ordinal variables) to compare dual-system families and CWS-only families (Aim 2). To answer our third aim, we tested two models using multivariable Cox proportional hazard survival analyses to determine the association among demographic characteristics and successful FP completion on a maltreatment re-report while controlling for the time of available follow-up for both the full sample (Model 1) and on the subset of dual-system families (Model 2). To test the proportional hazards assumption, we tested all variables for interaction with time using Stata's *tvc* option and included interactions with time for any significant variable in the final multivariable Cox survival analyses (Cleves, Gould, & Marchenko, 2016). All statistical analyses were conducted using Stata version 15.1.

3. Results

Table 1 first displays the demographic and case characteristics of the entire sample and then compares CWS-only families to dual-system families. The results are presented below first for the entire sample and then by comparing CWS-only families and dual-system families. Column percentages are given in the bivariate table, so comparison should be made across the rows.

Of the 4,853 families that received FP, 18% were classified as dual-system families. Nearly half of all mothers were between the ages of 26 and 35, three quarters of mothers had 3 or fewer children, and only 5% had 6 or more. Almost 70% of the children were Latino followed by African-American (17%), Caucasian (9%), and Other/Asian (6%). Half of the children in the sample were between the ages of 0 and 5 whereas the remaining children were equally spread throughout each age category. Approximately 45% of mothers had prior referrals for suspected maltreatment. With respect to case characteristics, 86% of families had a successful termination of FP services indicating that they met the goals that they established in their initial case plan, almost half of mother had a CWS re-report during the four-and-a-half-year follow-up period following the start of FP services, and one fifth had a substantiated re-report.

When comparing CWS-only families and dual-system families, statistically significant differences emerged with respect to mother's age, child race/ethnicity, youngest child age, and the case characteristics. Only two demographic characteristics were not significant—the number of children and their CWS history. With respect to caregiver age, a higher percentage of dual-system mothers were in the youngest age category (15–25) and a lower percentage of dual-system mothers were in the highest age category (36 and older) compared to CWS-only families. With respect to child race/ethnicity, a higher percentage of children in dual-system families were African-American, and a lower percentage were of an "other" ethnic category, compared to CWS-only families. Differences also emerged with respect to youngest child age with a higher percentage of dual-system families having a child under the age of 5 compared to CWS-only families. With respect to case characteristics, dual-system families had a lower rate of successful FP completion compared to CWS-only families (80–87%); in contrast, a

Table 1
Comparison of Demographic and Case Characteristics of CWS-only Families and Dual-system Families.

	Entire Sample	Dual-system Families		Chi-square test / Mann-Whitney U $\chi^2(df)/Z$
	n = 4,853 %	No (n = 3,975) %	Yes (n = 878) %	
Demographic and Case Characteristics				
Mother's Age ¹				
15–25	20.0	16.6	35.1	Z = 14.14***
26–35	44.2	43.9	45.6	
36 and older	35.9	39.5	19.3	
Number of children ¹				
1	24.8	24.9	24.6	Z = -0.610
2–3	51.5	51.9	50.1	
4–5	18.7	18.3	20.4	
6 or more	4.95	4.96	4.90	
Child Race/Ethnicity				
African-American	17.2	15.4	25.6	$\chi^2(3) = 67.3***$
Caucasian	9.44	9.61	8.66	
Latino	67.8	68.8	63.3	
Other/Asian	5.54	6.24	2.39	
Child age ¹				
< 5	49.4	46.2	64.4	
6–10	24.9	25.7	21.4	Z = 10.74***
11 and older	25.6	28.1	14.2	
Prior CWS History ^a				
No	55.1	54.6	57.5	$\chi^2(1) = 2.53$
Yes	44.9	44.4	42.5	
Successful FP Completion				
No	14.5	13.3	20.2	$\chi^2(1) = 27.7***$
Yes	85.5	86.7	79.8	
CWS Re-report				
No	52.7	54.7	43.6	$\chi^2(1) = 35.7***$
Yes	47.3	45.3	56.4	
Substantiated Re-report				
No	77.6	78.7	73.5	$\chi^2(1) = 5.94*$
Yes	22.4	21.3	26.5	

Note. * = $p < .05$; ** = $p < .01$; *** = $p < .001$. ^a = Prior CWS reports and cases. ¹ = For ordinal variables, we use Mann-Whitney U tests and report the corresponding Z statistic as Stata does not provide the U statistic.

Table 2
The Impact of Demographic and Case Characteristics on a Child Maltreatment Re-report.

	Entire Sample (n = 4,751)		Dual-System (n = 858)	
	HR	95% CI	HR	95% CI
Mother's Age				
15–25	(Reference)	(Reference)	(Reference)	(Reference)
26–35	1.20*	[1.03, 1.40]	1.04	[0.84, 1.30]
36 and older	1.08	[0.85, 1.37]	0.92	[0.68, 1.24]
Number of children				
1	(Reference)	(Reference)	(Reference)	(Reference)
2–3	1.30***	[1.16, 1.46]	1.34**	[1.05, 1.69]
4–5	1.74***	[1.52, 1.99]	1.82***	[1.36, 2.45]
6 or more	1.81***	[1.49, 2.20]	2.05**	[1.34, 3.15]
Child Race/Ethnicity				
Caucasian	(Reference)	(Reference)	(Reference)	(Reference)
African-American	0.96	[0.82, 1.13]	0.86	[0.62, 1.19]
Latino	0.70***	[0.61, 0.81]	0.66*	[0.49, 0.89]
Other/Asian	0.65***	[0.51, 0.82]	0.43*	[0.20, 0.90]
Child age				
< 5	(Reference)	(Reference)	(Reference)	(Reference)
6–10	0.94	[0.83, 1.06]	0.77*	[0.61, 0.98]
11 and older	0.89	[0.73, 1.10]	0.60**	[0.43, 0.83]
Prior CWS History				
No	(Reference)	(Reference)	(Reference)	(Reference)
Yes	1.45***	[1.33, 1.59]	1.22*	[1.01, 1.48]
Successful FP Completion				
No	(Reference)	(Reference)	(Reference)	(Reference)
Yes	0.62***	[0.52, 0.75]	0.76**	[0.61, 0.95]
Dual-system Family				
No	(Reference)	(Reference)	–	–
Yes	1.16**	[1.05, 1.29]	–	–
Model χ^2	379.37***		57.7***	

Note. * = $p < .05$; ** = $p < .01$; *** = $p < .001$. An interaction was tested between successful FP completion and dual-system family status but was not significant and subsequently excluded. The first model included interactions with time for mother's age, child age, & successful FP completion. No variables in the second model interacted with time.

higher percentage of dual-system families had a CWS re-report and a substantiated CWS re-report compared to CWS-only families, 56–45% and 27–21%, respectively.

Table 2 presents the adjusted hazard ratios and corresponding 95% confidence intervals of multivariable Cox survival analyses that examined the impact of demographic and case characteristics on time to a CWS re-report in months for the entire sample and then for the subset of dual-system families. Both models were significant with a significant Likelihood-Ratio χ^2 indicating a good model fit, and nearly every covariate was significantly associated with a CWS re-report.

In the first model for the entire sample, mothers between 26 and 35 were at increased risk of a CWS re-report compared to younger mothers age 15–25 ($HR = 1.20$). Mothers with more children were at increased risk of a CWS re-report relative to mothers with only one child, with the risk increasing as the number of children increased. With respect to child race/ethnicity, Latino children and children designated as Other/Asian were at decreased risk of a CWS re-report relative to Caucasian children ($HR = 0.70$ and $HR = 0.65$, respectively). Mothers with a history of CWS involvement and dual-system mothers were at increased risk of a CWS re-report ($HR = 1.45$ and $HR = 1.16$, respectively). Last, successful completion of FP services was significantly associated with a decreased risk of a maltreatment re-report ($HR = 0.62$) while controlling for all other covariates. In results not shown here, an interaction effect of dual-system involvement by successful FP completion was tested but not significant.

The second model presents the results of a multivariable Cox proportional hazard survival analysis that examined the impact of demographic characteristics as well as the successful completion of FP services on time to a CWS re-report for just the subset of dual-system families. The significant Likelihood-Ratio χ^2 indicated the model fit the data well. Many of the same variables were significant and were in the same direction.

For this subset of dual-system families, mother's age was not significant, while the number of children was with an increased number of children relative to one child also being associated with increased risk of a CWS re-report. Child race/ethnicity again was significant for Latino children and was similar in magnitude in direction to the previous model; Asian/Other was no longer significant. Older children had a decreased likelihood of a CWS re-report relative to children 5 and under; the likelihood continued to decrease as children became older, from an HR of 0.66 for children six to 10 to an HR of 0.60 for children 11 and older. Last, having prior CWS history was significantly associated with increased risk of a CWS re-report ($HR = 1.22$) and successful FP completion was significantly associated with a decreased likelihood of CWS re-report ($HR = 0.76$), similar in magnitude and direction of the first model.

Due to the time interactions in the first model, we generated separate survival curves to estimate the effect of successful FP completion using Stata's *scurve_tvc* command (Ruhe, 2016). Separate curves comparing successful FP completion on months to a re-report were estimated using demographic and case characteristics from the high-risk group (i.e., Caucasian, dual-system families, with younger mothers, prior CWS history, and more children that were younger) and for the low risk group (i.e., Latino, CWS-only families, with older mothers, no prior CWS history, and with fewer children that were older) based on the aforementioned research among these risk factors and a re-report to CWS. As outlined by Ruhe (2016), the survival curves used the entire sample ($n = 4,751$) and computed the predicted values for the plots using the aforementioned risk conditions on the outcome of re-referral ($n = 2,227$). As indicated in Figs. 1 and 2, the survival curves support multivariate models indicating that successful FP completion among high risk and low risk groups was associated with increases in survival time as indicated by their lower risk of re-reports over time.

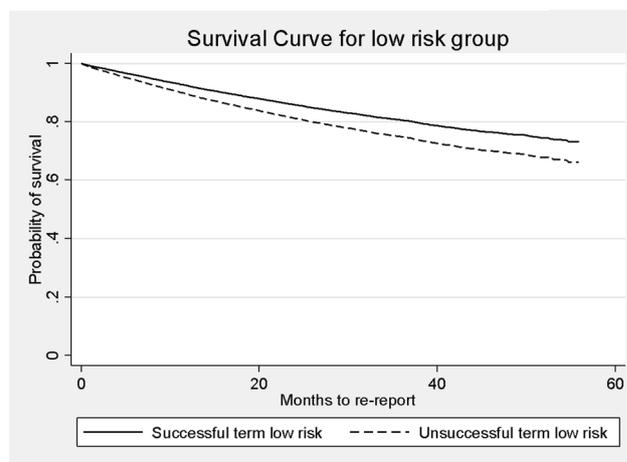


Fig. 1. Estimated survival curves comparing FP completion for low risk group.

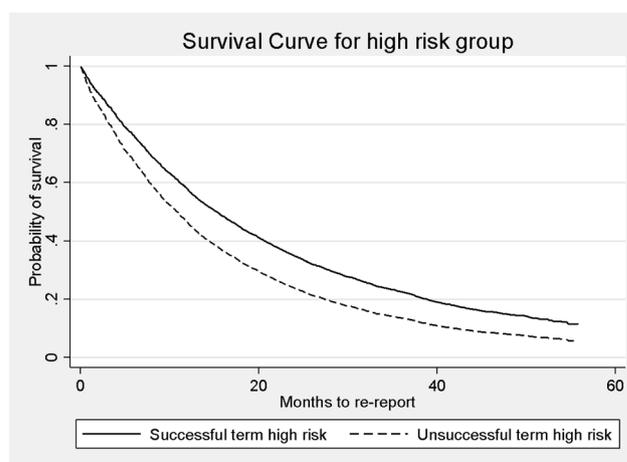


Fig. 2. Estimated survival curves comparing FP completion for high risk group.

4. Discussion and implications

Findings from this study highlight the importance of focusing on dual-system families due to their intersecting disadvantages that put them at higher risk of a CWS re-report. Dual-system families differed significantly from CWS-only families with respect to mother's age, child race/ethnicity, and child age—demographic characteristics that are all known to be significant predictors of a CWS re-report (Dettlaff et al., 2011; Jonson-Reid et al., 2010; Kahn & Schwalbe, 2010; Kohl & Barth, 2007; Putnam-Hornstein, Simon, Eastman, & Magruder, 2015; Wolock et al., 2001; Wulczyn, 2009). However, even controlling for these variables as well as other demographic characteristics, dual-system involvement was associated with an increased risk of re-report, indicating that there are other aspects of the experience of being a dual-system family that contribute to their increased risk of a re-report.

There are several explanations for this greater vulnerability of dual-system families. First, these families are likely to have higher rates of poverty. Other studies have found dual-system families to be more impoverished than child welfare only families (Jonson-Reid et al., 2009); additionally, although not all poor families receive TANF, the TANF-to-poverty ratio – a measure of the percentage of needy families that are accessing TANF – is higher in California than in any other state at 65%, and has remained steady over the past decade suggesting that TANF may still be used as a reasonable indicator of poverty (Floyd, Pavetti, & Schott, 2017; Keenan, 2020). Finally, poverty has been found to be associated with maltreatment (Berger & Waldfoegel, 2011; Pelton,

2015; Sedlak et al., 2010). A second explanation could be related to the multiple systems these families are involved with. Having to meet the requirements of two separate agencies can present additional burdens to families that are already stressed (Doran & Roberts, 2002; Geen, 2002). Whether the higher rate of re-report in the dual-system group is due to higher rates of poverty, the increased stress of meeting the needs of two systems, or some combination thereof, this finding highlights the importance of designing services to meet their unique needs and of the importance of future studies to examine what particular components of FP emerge as essential for reducing a re-report among this vulnerable group.

It is interesting to note that although differences emerged when comparing successful FP completion among dual-system families and CWS-only families, the vast majority of families in both groups successfully completed FP indicating high levels of engagement. Our estimated survival probabilities (depicted in Figs. 1 and 2) comparing families successfully completing FP to unsuccessful completers in both high-risk and low-risk groups showed better survival rates (i.e., longer times to re-report) for both groups while holding other variables constant. Low-risk groups, regardless of their successful completion of FP, were less likely to be re-reported than high-risk groups. High-risk groups successfully completing FP were less likely to be re-reported (compared to non-completers) but were still more likely to be re-reported than low-risk groups (completers and non-completers). This suggests that successful FP completion can be protective for low-risk (CWS-only) & high-risk groups (dual-system families). Identifying what subgroups can benefit from FP is an important question for the field (Bagdasaryan, 2005; Littell & Schuerman, 1995; Nelson et al., 2009; Yoo & Meezan, 2001). Similarly, FP appeared to also work well for Latino families, which comprised nearly 70% of the sample, as they had lower re-report rates in the entire sample and even among dual-system families while holding other variables constant. Other studies have found a protective effect among Latino families involved in child welfare (Cardoso, Dettlaff, Finno-Velasquez, Scott, & Faulkner, 2014; Putnam-Hornstein, Needell, King, & Johnson-Motoyama, 2013), so future studies should examine whether participation in programs like FP enhance protective factors among Latino and Asian/Other families and why it is less effective for White and Black families. Furthermore, future studies could qualitatively examine the experiences of different racial/ethnic groups receiving FP to examine some of these differences related to engagement, receiving services to address their needs, and their outcomes.

This study also makes an important contribution to understanding the general prevalence of dual-system families receiving FP (18% of our sample) as well as their re-report prevalence. It should be noted, that this refers to any re-report and not a confirmed re-report (AKA substantiated re-report), which are different outcomes despite being lumped under the same name of recurrence report in many studies (see DePanfilis & Zuravin, 1999). Our re-referral rate of 56% over four and a half years is lower than another study with a similar time frame, which was 57% over a 3-year period and 72% over 7.5 years (Drake et al., 2006), suggesting that the re-report rate for dual-system families might have been higher had they not successfully completed FP services. Although our study contrasts with the Drake and colleagues' study on the same population, our lower rates may be due to differences in the FP model, regional differences, and/or our use of successful completion whereas they looked at the receipt of FP services (not successful completion). Furthermore, they found an interaction between substantiation at index report and the receipt of FP to affect the likelihood of a re-report, which we were unable to test because all of the families in our sample needed to have a substantiated index report in order to receive FP services. Future research should try to replicate our findings among dual-system families that do not receive FP and should examine whether specific service components of FP improve re-report rates for dual-system families. For example, the FP program in this jurisdiction is unique with respect to its large annual budget of over 30 million dollars, large collaborative network of FP agencies, the availability of services, and its

focus on strengthening protective factors to reduce maltreatment—all factors that may have contributed to the observed findings (see Franke et al., 2013; McCroskey, 2001; McCroskey & Meezan, 1997).

From a policy perspective, funding needs to be augmented to support programs that address the unique needs of dual-system families. While we were unable to ascertain whether dual-system families' greater vulnerability was due solely to poverty or also due in part to other characteristics such as their increased risk factors and/or challenge of negotiating requirements from multiple systems, these needs should be addressed by collaboration among child welfare and public social services (Berrick, Frame, Langs, & Varchol, 2006; Ehrle, Andrews Scarella, & Geen, 2004; Geen, 2002; Kang, Romich, Hook, Lee, & Marcenko, 2016; Latzman et al., 2019; Children's Bureau Express, 2013). Although these data did not capture the amounts and types of services received from public social services, there is an abundance of evidence indicating how policies that address poverty can reduce maltreatment rates and increase reunification rates (Fortson, Klevens, Merrick, Gilbert, & Alexander, 2016; Kang et al., 2016; Klevens, Barnett, Florence, & Moore, 2015). Furthermore, organizations should ensure that they identify dual-system families and have policies that facilitate coordination among agencies serving dual-system families. Similarly, social workers working in agencies should screen for dual-system families and work with partner agencies to meet their multiple needs. In California, the Linkages program was established in 1999 to facilitate service collaboration to address the multiple needs of dual-system families by linking families to necessary services that meet the requirements of both CWS and TANF to improve their outcomes (Berrick et al., 2006; Gateway, 2012; D'Andrade et al., 2017). Despite the attempt to measure program effectiveness, few studies have gone beyond a process evaluation to look at outcomes (Berrick et al., 2006; Child Welfare Information Gateway, 2012; Gordon, 2007, n.d.), so this is a crucial next step. Future collaborations between public social services and CWS are necessary to examine the effects of Linkages participation (and similar programs meant to enhance collaboration) on important CWS outcomes including a re-report, a substantiated re-report, case openings, and out-of-home placement.

5. Limitations

As with all correlational studies, our findings should be interpreted cautiously as the lack of random assignment (as well as the lack of a comparison group of similar families that did not receive FP) prevents us from making causal statements regarding the effectiveness of FP. This study was further limited by the fact that we did not have a variable measuring income, which is commonly associated with a CWS re-report (Connell et al., 2007; Dettlaff et al., 2011; Drake & Jonson-Reid, 2014; Eckenrode, Smith, McCarthy, & Dineen, 2014; Kahn & Schwalbe, 2010; Kohl & Barth, 2007; Kohl et al., 2009; Slack, Berger, & Noyes, 2017). As a result we cannot determine whether the heightened risk for dual-system families is due to their greater level of impoverishment, their numerous risk factors, some other attribute of involvement in two systems, such as the challenge of negotiating multiple sets of requirements, or a combination of the aforementioned factors. Furthermore, we did not have information regarding the allegation type for the initial referral that led to the receipt of FP services. Although the research is mixed with respect to whether maltreatment type significantly predicts a re-report (see Hélie & Bouchard, 2010), we recognize that our results may have been different had this variable been included.

Missing data presented as a limitation because of the exclusion decisions that were made. As discussed in the methods section, 423 families were excluded because their cases were closed due to their children being detained and hence re-reported to CPS—the outcome variable of this study. Every child with this termination code was re-reported, so we chose to exclude these children to avoid collinearity with the outcome variable. Comparisons were made between the model with and without these children, and the relationships were nearly identical albeit

stronger due to the collinearity. In analyses not shown here, bivariate analyses were run comparing the demographic characteristics of observations that were dropped to those that were included, and no significant differences emerged on any of the demographic characteristics suggesting that this likely did not affect the results significantly.

Last, previous work in the same county by the authors (D'Andrade & Simon, 2015) had identified that in a random sample of 230 FP cases from eight offices, 12% were receiving TANF but had not been correctly identified as dual-system families by the child protection agency. If practice throughout the county is similar to practice in these locations, some dual-system families may have been incorrectly identified as CWS-only families in our sample, resulting in slightly biased estimates. It should also be noted that our results may not have included all dual-system families involved in CWS as our sample only included dual-system families that were receiving TANF and may have missed some families that may have been receiving other programs such as WIC. Although TANF is a reliable indicator of poverty in California as mentioned above, this may limit generalizability to other states with more variable TANF-to-poverty ratios (see Floyd et al., 2017; Keenan, 2020).

6. Conclusion

Children in dual-system families involved in both CWS and public social services make up a highly vulnerable population at risk of subsequent maltreatment. Our findings showed that dual-system families differed from CWS-only families with younger mothers, younger children, African American race/ethnicity, and CWS history being more predominant in dual-system families than in CWS-only families. The multivariable survival analyses indicated that dual-system families were at higher risk of subsequent CWS re-report and that successful FP completion was associated with a reduced risk for them as well as for CWS-only families. These findings suggest that FP agencies should do more to ensure successful completion of FP CWS-only families as well as dual-system families and that organizations should ensure that they identify dual-system families to facilitate coordination among agencies serving dual-system families given their increased risk. Considering their greater vulnerability, such efforts would be a wise investment of resources.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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