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Foster care re-entry: Exploring the role of foster care characteristics, in-home child welfare services and cross-sector services★

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Abstract

This study seeks to advance our understanding of how modifiable and non-modifiable factors may impact the likelihood of re-entry into foster care. Children who entered foster care for the first time following at least one report of maltreatment and were then reunified were followed from exit to re-entry, age 18 or the end of the study period using longitudinal administrative data. Risk of re-entry was explored according to a range of modifiable and non-modifiable case and service characteristics. Children removed from homes with parents who had multiple risk factors (e.g., no high school diploma, mental health diagnosis, criminal record, or teen parents) or were receiving AFDC prior to entry were more likely to re-enter. The receipt of in-home child welfare services during or after foster care was associated with reduced risk of re-entry. Having the longest placement with a relative was associated with decreased risk of re-entry. In conclusion, both modifiable and non-modifiable factors are associated with re-entry into foster care. Among modifiable factors, services appear to have a particularly strong relationship to re-entry. Our data also suggest that in-home child welfare services provided during and after foster care may be associated with improved long-term permanency after return home. Given the continued import of caregiver risk factors even among reunified families, services provided to support reunification should include attention to caregiver needs outside parenting.

Keywords

Child maltreatment; Foster care; Risk factors

1. Introduction

The United States Child Welfare system has been guided by the objectives of safety, reunification and permanence for at least the last 30 years (Bates, English, & Kouidou-Guiles, 1997). These principles guide our foster care system, which currently serves about 400,000 children, with 250,000 new children entering the system each year (USDHHS, 2011). Unfortunately, between 16% and 40% of children who leave care (varying by age, length of stay and reunification status) will later re-enter (Barth, Weigensberg, Fisher, Fetrow, & Green, 2008; Jonson-Reid, 2003; Taussig, Clyman, & Landsverk, 2001). Given

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this high return rate, we must ask ourselves, “which children are likely to re-enter care?” and “what can be done to reduce these re-entries?”. This requires that we gain a better understanding of risk factors which predispose to re-entry, particularly child welfare system factors, which remain understudied (Kimberlin, Anthony, & Austin, 2009). Risk factors may be classed as non-modifiable factors which cannot be changed (e.g. gender) or modifiable factors which are amenable to change (e.g. service or treatment history). Better knowledge of risk factors in general will improve our understanding of which children are most likely to re-enter care. Understanding *modifiable* risk factors for re-entry carries the additional benefit of allowing us to target interventions.

1.1. Policy mandates

The modern United States foster care system prioritizes safety, reunification and permanency. The Adoption Assistance and Child Welfare Act of 1980 promoted permanency planning for children and classified outcomes according to the following priority; 1) reunification, 2) adoption, 3) guardianship, and 4) long-term out-of-home care (McDonald, Allen, Westerfelt, & Piliavin, 1996). The act regarded the rate of return to foster care as one of the measures of success of family reunification service (Courtney, 1995). The Adoption and Safe Families Act of 1997 prioritized child safety, permanence and child well-being, and shortened the decision-making timeframe of permanency planning from 18 months to 12 months (Pecora, Whittaker, Maluccio, Barth, & Plotnick, 2000).

1.2. Risk factors

Rational policy and case decision-making require an understanding of which cases are most likely to recidivate. The relationship of risk factors to recurrence can be complex. For example, recent work has shown that risk factors may vary by type of maltreatment, with family-level factors having a larger effect on recurrence in sexual abuse cases, and CPS system factors having a greater effect in neglect and abuse cases (Bae, Solomon, & Gelles, 2007). We will divide our discussion of risk factors into sections on non-modifiable and modifiable factors. This division is somewhat arbitrary—for example, community contexts can and do change, but are probably best classed as nonmodifiable relative to particular cases.

1.2.1. Non-modifiable risk factors—Gender has not been a clear risk factor in studies of re-entry (Courtney, 1995; Frame, 2002; Wells & Guo, 1999). Black children have been found to be more likely to return to foster care than White children (Courtney, 1995; Courtney, Piliavin, & Wright, 1997; Jones, 1998; Shaw, 2006; Wells & Guo, 1999; Westat and Chapin Hall Center for Children, 2001), but this research has not been able to control for a wide range of key child and caregiver characteristics (e.g., assets). There have been contradictory findings regarding the relationship of age to recurrence (e.g., Connell et al., 2009; Courtney, 1995; Courtney et al., 1997; Frame, 2002; Jonson-Reid, 2003; Shaw, 2006; Wells & Guo, 1999; Yampolskaya, Armstrong, & King-Miller, 2011). The predictive utility of maltreatment type is unclear, with Wells and Guo (1999) finding lower risk of re-entry for physical abuse victims, but Terling (1999) finding higher rates, while Yampolskaya et al. (2011) found lower rates for neglect. Other studies found a higher rate of re-entry associated with a history of neglect compared to abuse (Frame, 2002; Jonson-Reid, 2003; Shaw, 2006). Type of maltreatment is likely to be confounded by cross-type variation over time (Jonson-Reid, Drake, Chung, & Way, 2003). Family poverty at entry is often linked to an increased risk of return to foster care (Courtney, 1995; Jones, 1998; Jonson-Reid, 2003; Shaw, 2006), but this varies according to how it is measured (Terling, 1999), and it is likely that important neighborhood constructs have yet to be clearly defined (Coulton, Crampton, Irwin, Spilsbury, & Korbin, 2007).

1.2.2. Modifiable risk factors—Studies have found that children with health problems are more likely to return to foster care (Courtney, 1995; Courtney et al., 1997). Child behavior problems also contribute to placement disruption (Farmer, Mustillo, Burns, & Holden, 2008; Newton, Litrownik, & Landsverk, 2000). Child disability has been associated with greater risk of maltreatment (Jonson-Reid, Drake, & Kohl, 2009; Sullivan & Knutson, 2000). Maternal substance abuse has been found to predict return to foster care (Frame, Berrick, & Brodowski, 2000; Terling, 1999). Lower levels of education, maternal age at a child's birth and parental mental health service use have been found to predict recurrent maltreatment in some data sets (Drake, Jonson-Reid, & Sapokaite, 2006), but not in others (Kohl, Jonson-Reid, & Drake, 2009).

Services comprise another set of modifiable factors which may predict recidivism. Children entering care have a wide range of mental health and behavioral problems (Berzin, 2008; Clausen, Landsverk, Ganger, Chadwick, & Litrownik, 1998) which could be exacerbated by experiences during foster care such as multiple placements (American Academy of Pediatrics, 2000; English, Widom, & Brandford, 2002; Widom, 1991), which in turn make it more difficult to maintain the child in the home following exit (Courtney, 1995; Wells & Guo, 1999). In research on placement changes, it has been suggested that child problem behaviors can be both a cause and a consequence of disruption (Farmer et al., 2008; Newton et al., 2000). There have been a range of important differences noted based on services delivered. For example, children in kinship care are about twice as likely to live in poor households compared to children in relative foster care as opposed to non-relative foster care (Litrownik, Newton, Mitchell, & Richardson, 2003).

1.3. The present study

This study helps fill gaps in our understanding of modifiable and non-modifiable factors associated with re-entry among children reunified after their first spell in foster care. We take a series of factors into consideration, including caregiver and child level risks; fixed individual and census tract level characteristics; patterns of placement moves and time in care; other services such as in-home child welfare services and income-maintenance; and changes in policy during the study period. The research questions for the present study were:

1. Which *non-modifiable* child, caregiver and community characteristics are associated with re-entry into foster care following reunification?
2. Which *modifiable* child and caregiver characteristics are associated with re-entry into foster care following reunification?
3. Are foster care service experiences (type, number, length, pattern) predictive of re-entry into care among children who are reunified when controlling for child, caregiver and community characteristics, prior maltreatment, in-home services and cash assistance?

2. Methods

The data for this article are drawn from a larger longitudinal parent study of services and outcomes for children in a large metropolitan Midwestern area. The parent study sample was constructed by selecting all low-income children born 1982–1994 who were first reported for child abuse and neglect during the period of 1993–1994. A matched comparison group of low-income children without histories of a maltreatment report was created. Finally, a group of same-aged children reported for maltreatment in the same period and region, but without indication of low income was also included (total study N=12,409). Parent study data consist of individual level linked and cleaned statewide and metropolitan region sources, such as adult corrections entries, birth and death records, child welfare data (investigated child abuse

and neglect reports, in-home services data and foster care data), juvenile court data (status and delinquent offense petitions), income maintenance data (initially AFDC and later TANF), Medicaid reimbursed health and mental health data, and special education eligibility records. Data were also geocoded to allow for linkage to U.S. Census data from 1990 (the closest year to the study sampling period). The study data were obtained through agency consent and human subjects approval granted by (omitted for blind review).

2.1. Sample

For the present paper, a subgroup of children was selected from the parent study who (1) entered and exited their first spell in foster care prior to 2004 (to allow for a minimum of two years postreunification follow-up); and (2) exited home to the family of origin or exited to kinship/guardianship ($n=846$). In this study, “exit” meant an official notation in administrative data that the children were no longer in foster care. It is possible in the case of kinship/guardianship exits that the child remained in the same home they were in during the time they were noted as being in foster care, but it was not possible to confirm this. The sample was further limited to those who exited by age 16, as older children have much less chance to return to care and a minimum of at least two years follow-up after exit was desired ($n=787$). The sample was limited to those who remained in out of home care for at least three days as, before this time, an official court proceeding for placement may not have occurred and thus the child was never classified as a dependent of the state ($n=720$). In the resulting sample of children who were classified as dependents, 88 children (12.9%) exited to kinship/guardianship arrangements and the remainder reunified with their family of origin. While exits to reunification or guardianship/kin are considered positive outcomes in regards to permanency, because of the inability to control for family factors in kinship/guardianship homes it was decided to drop these from analyses leaving a final sample of 632 children. It should be noted that there was no significant difference in rates of re-entry into foster care for the 88 excluded children compared to those reunified.

Because our data come from service systems, child level factors such as mental health diagnosis or disability are not typically detected or served prior to age five. Because of the timing of ASFA legislation, those children placed aged five or after in our sample experienced different policy mandates. For these reasons separate analyses were run on a restricted sample to limited to those aged five or older at time of entry to foster care ($n=397$). All analyses follow children through 2006, a follow-up time after exit of between two and ten years per child.

2.2. Data preparation

Most data were linked using a common identifier available across state services agencies. When this was not possible, probabilistic matching methods were used based on identifying data. Matched records were cross-checked whenever possible across multiple data sets to support accuracy. Aggregate rates of overlap are also cross-checked with agency representatives and existing literature. Working with administrative data poses challenges and opportunities (Jonson-Reid & Drake, 2008). While missing data can be a problem in administrative data files, this is lessened for variables that are recorded by multiple agencies as they are unlikely to be missing across all files. Initial selection of variables for study analyses is based on their utility for common agency functions. For example, in order to bill for a given mental health service both a date and a diagnosis will be present. All data dictionaries and entry convention documentation were collected from each agency. Decisions about the reliability of a variable as well as processes for coding those variables were done in concert with representatives from the contributing agencies and preliminary analyses were checked against existing literature whenever possible. This process was conducted by the lead researchers for the parent study.

2.3. Variables used in the present analyses

The dependent variable was entry into foster care for a second time following an exit to family reunification from the child's first spell in foster care. Data reduction processes for including variables in final analyses were based on bivariate survival analyses indicating a significant or near significant association with re-entry. The exception to this was child race and gender which were retained due to their practical import. Control variables included standard demographic factors but were also informed by an ecological framework: (1) child characteristics (age at entry into foster care (birth through age 15), race, gender), (2) caregiver characteristics (under 18 at birth of the subject, lack of high school completion, known mental health or substance abuse problem, or criminal behavior), (3) neighborhood of origin characteristics: census (1990) tract characteristics (median income, % high school graduates, tenure in same home in last five years (% moved)). In addition, a range of service variables were used, including maltreatment report characteristics (type and number prior to first placement), in-home child welfare services (timing and duration relative to foster care), foster care experiences (timing, type of placements over time, number of moves, length of stay overall and longest single placement), receipt of cash assistance prior to entry, or during and after compared to never, and any record of child level services for disability (special education participation) or mental health (emergency room or mental health outpatient treatment). While all children in the sample had a first report of abuse or neglect prior to age 12, most children do not enter foster care following their first report. Therefore age at entry into foster care ranged from birth through age 15. Due to subsample size, caregiver service for substance abuse could not be disaggregated from other mental health issues. Because many caregivers have more than one noted risk factor and sample size precluded testing possible interactions among caregiver risks, caregiver risks were recoded as a cumulative measure from 0 to 4 known risks. While three census tract variables were examined (poverty, education level, and mobility) only tenure in the same home within the last five years was significantly associated with maltreatment. The lack of predictive utility of other economic measures was probably due to insufficient variability in our sample. Mobility was recoded into three categories reflecting the percent of tract population having moved in the prior five years (<40%, 40–60% and >60%).

Other variables included child maltreatment history, foster care service experiences, and other service system participation. Based on specific subtypes of maltreatment noted in the report files (e.g. "bruises", "lack of supervision") four types of maltreatment were derived: (1) neglect only, (2) physical abuse only, (3) sexual abuse only, or (4) mixed/other type. Classification of the maltreatment type experienced by a given child was based on all available reports prior to foster care entry. Most children did not enter foster care after a single report of maltreatment, resulting in a high proportion of cross-type maltreatment (Jonson-Reid et al., 2003). Total number of reports prior to entry was also examined. After preliminary analyses, only primary maltreatment type over time (physical abuse versus all other) was retained for analyses.

While placement patterns can be conceptualized in different ways (Usher, Randolph, & Gogan, 1999), due to our sample size, we chose to examine the foster care experience in terms of total length of time in care, number of placements, first type, longest type, and therapeutic (restrictive) and non-therapeutic settings. In classifying placement type, 26 specific types of foster care placements were collapsed into (1) non-licensed foster home, (2) regular foster home, (3) residential treatment home, (4) relative home, (5) emergency home, and (6) others. Placement pattern variables were coded using first and last placement and the nature of these placements as either therapeutic or non-therapeutic. Non-therapeutic settings include non-licensed foster care, family foster care, kinship care, group (non-behavioral) and emergency homes. Therapeutic or restrictive settings include residential treatment, medical or mental health homes, and locked facilities. The placement pattern

variable consists of four categories; (1) from non-therapeutic to non-therapeutic setting, (2) from therapeutic/restrictive to therapeutic/restrictive setting, (3) from non-therapeutic to therapeutic/restrictive setting, (4) from therapeutic/restrictive to non-therapeutic setting. Preliminary analyses indicated that only *longest* placement type and length of stay in care were associated with re-entry and that an indicator of multiple moves and placement patterns were near significant. Finally, it was possible for the older subsample of children to enter their first spell in foster care before or following the Adoption Safe Families Act. While it is not possible to test the effects of policy change in this study, it was entered as a control variable in models restricted to older children.

2.4. Analysis

All data management and analyses were completed in SAS 9.2. Analyses included bivariate survival analyses and Cox regression models of risk of re-entry. Children were censored due to death, turning 18 or at the end of the study period. The strength of a survival analysis is the ability to handle differing times at risk for a given issue. Children who are older at time of placement will by nature have shorter periods at risk for re-entry after exit, but this reflects the reality of the variability of age at entry and/or time in care. Our goal was to understand re-entry for the full range of children entering care for the first time given having at least one report of maltreatment prior to adolescence. Time at risk was therefore calculated according to months since exit from foster care to re-entry or other censoring date detailed above.

Because children could be clustered by census tract (i.e. many children might be from a given census tract), a sandwich estimator was used to produce robust standard error estimates (Allison, 2005). To assess overall model fit, the Wald χ^2 adjusted with the sandwich estimator is reported. Cox regression models assume proportional hazards over time and this assumption was tested by examining the log-log survival (Allison, 2005). If a variable violated the assumption an interaction with time was created to test in the multivariate model. Time interactions were only retained if they were significant in the model and/or impacted model fit or the main effect of the variable. Investigation of deviance residuals to assess outliers can only be accomplished in models without time-varying variables (Allison, 2010). Investigation of the deviance residuals did identify 30 cases that had residuals greater than 2 or -2 which can be an indicator of outliers (Rodriguez, 2009). Further investigation revealed that these cases were more likely to enter when older, more likely to be White, and more likely to have histories of income maintenance. Running models without these observations did improve model fit and increased the magnitude of some coefficients but did not change the direction or overall findings. Because we wanted to model the population as it existed we choose to retain the observations. Cox regression models were constructed first for all children and variables were entered in a hierarchal fashion to examine change in model fit as services variables were added (n=632). The same approach was used for the subsample of children ages five or older (n=397). Model chi-squares were compared to compare the performance of models as variable groups were added (Preen, Holman, Spilsbury, Semmens, & Brameld, 2006).

3. Results

Thirty-seven percent of the children who were reunified re-entered care within the follow-up period. The average time from exit to re-entry was 26.7 months. Fig. 1 illustrates the estimated hazard function, or the probability of re-entry per time interval given no re-entry up to that point. There is a rapid decline in the hazard of re-entry from .059 within the first month after exit to .004 by month 19. After that there is a very gradual decline in the hazard function until leveling off at an average of .002 after 100 months post exit.

3.1. Preliminary analyses

Descriptive statistics and bivariate survival results are shown in Table 1 for the full sample (0–16 year olds at time of entry) and then restricted sample (aged 5–16 at entry). Corresponding to the discussion in the methods section about variables, only significant or near significant bivariate associations are shown with the exception of child demographics. The table is organized according to case characteristics of the sample, experiences during foster care and the other child welfare and cash assistance services before, during and after foster care.

3.1.1. Child, caregiver, community and prior maltreatment characteristics—

Among child demographic characteristics, only age at first placement was significantly associated with re-entry with highest rates of re-entry among the pre-school age (2–4 yr olds in table) population in the full sample and among those 12–15 in the restricted sample. Among measured caregiver risk characteristics, greater number of risks was associated with higher re-entry rates. Among neighborhood characteristics initially examined, only mobility of residents in the census tract was significant in bivariate analyses and only for the full sample. With regard to child maltreatment report characteristics, as detailed in the variable section the only significant effect found was when examining type over time. The type of maltreatment immediately preceding placement, number of prior reports, and prior substantiation of a report were not associated with re-entry (not shown).

3.1.2. Foster care placement—Among the various measures of foster care experiences, length of stay and number of placements were non-significant predictors in both samples, but the *longest* placement type (where child spent the most time) was significant, with placements with kin (licensed or nonlicensed) having the lowest return rates. Those children experiencing stays in care beyond seven months but within 18 months had higher rates of return than those with shorter or longer stays in care.

3.1.3. Non- foster care service and policy—In the full sample (0–16 years of age) ever having a physical abuse report was associated with a statistically significant but small increase in reentry, while for the older sub-population, this relationship reversed. Children whose families received in-home child welfare services after foster care entry had lower rates of reentry compared to those who received services. Children in families beginning AFDC or TANF prior to placement had higher return rates. For the older sample, a record of child mental health service or onset of special education after entering care was associated with higher return rates. Children who entered care after implementation of ASFA had lower return rates, although this may have been due to other historical factors, rather than ASFA per se.

3.2. Multivariate models of re-entry (full model)

A set of Cox regression models adjusted for possible clustering at the census tract level were constructed to examine the risk of re-entry into the foster care system by entering variables in four blocks corresponding to fixed (or non-modifiable) case characteristics; then adding foster care experiences; and finally adding services received during or after foster care (see Table 2). This approach was chosen to be able to determine how the introduction of additional clusters of variables affected overall model fit and might modify the effects of case characteristics. Variables were selected based upon significance of observed bivariate relationships or relative importance in prior research (e.g. length of stay in care, etc.), the desire to retain core child demographic variables, and the explicit goal of exploring service provision outside foster care. Full sample models are presented first. An interaction term (census tract mobility*time) was retained in all models and a time interaction with receiving

IM prior to placement included in models 2–4 to correct for violations of proportionality. For ease of discussion, only the results from Model 4 are discussed.

Regarding model fit, a significant improvement occurred when service contacts prior to placement were added with the model chi-square doubling (29.5 to 60.8). The model chi-square also improves significantly when controls for foster care experiences were added (model 3) and improves again when services during or following exit were added (87.3 to 113.4).

Child demographic characteristics were not significant. There was increased reentry associated with having more caregiver risks, 49% greater ($p=.04$) with one risk, and almost twice as great (+94%, $p<0.001$) with two or more risks. Mobility in the neighborhood was a trichotomous variable, broken down as low (<40%), medium and high (60+%). Each increase in unit of mobility was associated with about a 39% increase in risk ($p<0.01$). The time interaction, however, indicates that this effect decreased for each month following initial exit. A history of income maintenance receipt prior to entry into foster care doubled risk ($HR=2.20$, $p<0.001$) but again, the significant time interaction shows this degrades over time. Those who spent most or all of their time in care with a relative had about 35% lower risk of later re-entry ($p=0.004$). Those who remained in care for between 8 and 18 months had a substantially higher rate of re-entry than those who exited after shorter stays.

3.3. Multivariate models of re-entry (restricted sample)

We ran similar models again with the sample restricted to older children (ages 5–16 at entry) to include child mental health treatment and special education eligibility as well as controls for ASFA implementation (see Table 3). The age range was broken down according to early elementary, latency age and adolescence.

In the final model, children who entered care between the ages of 9 and 11 had lower risk of re-entry than those entering ages 12 to 15. Children who entered care following the implementation of ASFA were less likely to re-enter care. Among prior service contacts, the only substantial change from the full sample model was that ever having had a report of physical abuse had a stronger association with re-entry. Regarding foster care experiences, a longest stay in kinship care became non-significant once controls for services during and after care were added. At exit children participating in special education had no higher or lower risk of re-entry, but a time interaction indicated that risk of re-entry increased by about 1% per month after exit for these children.

4. Discussion

About 37% of the children who exited foster care to reunification reentered care. This is somewhat higher than reported in prior studies (Terling, 1999; Wulczyn, 2004), but to be expected as our follow-up period was markedly longer. We found relatively few factors associated with maltreatment reports prior to initial placement into foster care to be important, but did find aspects of the foster care experience and services outside foster care to be associated with re-entry.

4.1. Non-modifiable characteristics

A range of non-modifiable characteristics were examined including demographics, child maltreatment characteristics, caretaker risks, caregiver risks, poverty and policy changes.

4.1.1. Demographic characteristics—The association of a child's age with re-entry has been mixed in prior research (e.g., Connell et al., 2009; Courtney, 1995; Courtney et al.,

1997; Frame, 2002; Jonson-Reid, 2003; Shaw, 2006; Wells & Guo, 1999; Yampolskaya et al., 2011). We also had complex findings. In the final model including very young children, elementary school-aged children had a lower risk for re-entry than infants. However, in the model restricted to older children, those entering care from age nine through age 11 had the lowest risk of re-entry. This highlights the importance of considering the sampling frame in making generalizations about younger vs. older children.

Race was not a significant predictor of re-entry in this study. This may be due, in part, to the fact that all children in the present study were reunified. The fact that gender was non-significant is consistent with previous studies (Courtney, 1995; Courtney et al., 1997; Frame, 2002; Jonson-Reid, 2003; Shaw, 2006; Wells & Guo, 1999).

In the full model, residential mobility was the only significant neighborhood factor. This sample was relatively homogeneous in terms of poverty; median census tract income of the sample was \$22,356. Thus, adequate variation may not exist for this construct in our statistical model. Neighborhood mobility may be a proxy for lower availability of social supports (e.g., Sampson, 2003). This was not significant for the model restricted to older children which may suggest greater import of such factors for young families. It was not possible to determine whether or not a family's location may have influenced access to services or other positive supports.

4.1.2. Child maltreatment characteristics—Our finding that among older children, those with a history of at least one physical abuse report were at higher risk of reentry is consistent with Terling's (1999) findings. The existing literature provides little guidance for interpretation here and more work needs to be done to understand how prior maltreatment impacts outcomes for foster care.

4.1.3. Caregiver risks prior to entry—Children whose parents had higher levels of risk factors noted prior to entry had higher rates of re-entry. This was consistent with prior work establishing negative effects of risks like low parental education, known mental health problems, and substance abuse (Drake et al., 2006; Frame et al., 2000; Terling, 1999). Low education might be associated with unrealistic expectations of the child or inadequate knowledge of child care, both of which have been identified as risk factors for child maltreatment (Johnson & L'Esperance, 1984; Pecora et al., 2000). While receipt of mental health services might be beneficial in reducing risk, without controls for quality of care it may instead serve as a proxy for existing risk. It is also possible that those parents engaged in the mental health system prior to the child's placement had more serious symptoms or behaviors.

4.1.4. Poverty prior to foster care—In bivariate analyses, income maintenance (AFDC/TANF) before foster care was associated with higher risk of return. This is consistent with studies showing poverty is associated with re-entry (Courtney, 1995; Jones, 1998; Jonson-Reid, 2003; Shaw, 2006). In multivariate models, however, this relationship disappeared over time, suggesting that income assistance participation prior to initial entry into care may be most relevant to understanding children who re-enter quickly.

4.1.5. Policy—With regard to policy, children who entered foster care after ASFA was introduced had a markedly lower chance of returning to care. Unfortunately, due to the study design (e.g. the obvious inability to randomly assign to conditions), it was not possible to rule out spurious causality, causing any direct link to policy per se to be ambiguous. Further it was not possible to accurately identify all the various systemic changes that might have occurred related to the policy.

4.2. Modifiable characteristics

We now turn to a discussion of modifiable characteristics.

4.2.1. Placement experiences—In models that included very young children, children who spent most of their time in out of home care with relatives were significantly less likely to return to foster care compared to children placed in other settings. This is consistent with prior studies of re-entry (Courtney, 1995; Courtney et al., 1997; Frame, 2002; Jonson-Reid, 2003; Shaw, 2006; Wells & Guo, 1999). A growing body of research report greater stability and longer staying in kinship placement than regular foster care (Berrick, Barth, & Needell, 1994; Hegar & Scannapieco, 2005; Testa, 1997). On the other hand, this relationship did not hold in the model restricted to older children where services to the child were controlled. It may be that whatever buffer care by relatives provides is diminished for children who have special needs.

In the full sample, children who had medium length placements had a higher risk of re-entry than those exiting more rapidly. This is somewhat inconsistent with prior work that indicated higher risk for children exiting within 4 months (Courtney, 1995) or less than 3 months (Jonson-Reid, 2003). A difficulty in comparison is that prior studies included differing study periods or children who exited to other settings. The medium range spans the typical time period set by policy for reunification during most of the study period. Children exiting quickly may have had fewer problems, and so be at lower risk of re-entry. Using this line of reasoning, we would have expected children with longer length of stays to have higher rates of re-entry than those who exited quickly, which they did not. Perhaps there are positive benefits to longer-term foster care which counter the lower risk levels in the early exit group.

4.2.2. Non-foster care services—Families receiving in-home child welfare services during or after foster care were considerably less likely to experience reentry compared to children not receiving services. Given current skepticism about the utility of child welfare interventions, much more research is needed to determine the degree to which current in-home child welfare services are indeed responsible for such results. It may be that the additional ongoing support and case management help families readjust after reunification. If so, this has implications for policy and funding of in-home services as an expected component of after care for reunified families.

Over time, children receiving special education services had a higher risk of return to foster care. While this effect is not seen immediately at exit, the finding over time is consistent with prior work that suggests that children with disabilities are at greater risk of victimization (Kohl et al., 2009; Sullivan & Knutson, 2000). Child receipt of mental health services was not associated with re-entry but this finding as an indicator of a lack of relationship between child mental health issues and lack of permanence cannot be confidently asserted absent an independent measure of unmet need. On the other hand, research increasingly points to a dynamic interrelationship between parenting, child mental health and parent mental health (Vostanis et al., 2006). Perhaps children receiving mental health care in families whose parenting improves enough for reunification reduce child behavior problems. This may, in turn, continue to enhance a parent's ability to effectively manage behaviors. More research is needed to explore this possibility.

4.3. Strengths and limitations

The current study has a number of strengths. It is longitudinal, follows children from the point of their exit from a first spell in foster care for a minimum of 24 months, and examines patterns of foster care experiences. While the time period for follow-up did vary across

subjects, the use of survival analyses controls for varying end times among subjects. While we lacked ability to track all potential services outside foster care, we were able to track engagement in a number of key public funded systems. Despite these limitations, the broad range of variables included as well as the length of time covered represent a valuable contribution to the literature, helpfully supplementing prior studies (e.g. Yampolskaya et al., 2011).

The reliance on administrative data also has several limitations. First, variables in the analysis were limited to the information existing in the administrative data making it impossible to test factors such as unserved mental health conditions. Our mental health service use was limited to community medical and mental health service utilization that was reimbursed by Medicaid or other state public funds, thus missing use of free clinics or service paid for by private health insurance. It should be noted, however, that the majority of the families in this study were low income meaning that private insurance was less likely and all children in foster care are covered by state and federal health care plans. Finally, it is impossible to assess the quality of care provided within various systems like mental health or special education. It was also not possible to assess the clinical judgment of the foster care caseworker, or the strength of the caseworker/family relationship.

4.4. Implications

Our findings replicate prior work showing better outcomes associated with relative care. Our findings also highlight the need to consider child and family risks and participation in services outside of foster care. While a foster care caseworker cannot go back in time to change prior service contacts, knowing a family's prior service history (for example prior cash assistance or maternal mental health needs) may enable a caseworker to better identify supports necessary to enhance permanence. These services may need to continue for some time after an exit from care. Indeed, after care in-home child welfare services appeared to be a positive support for many families and may be particularly critical when caregivers or children have special needs.

Most prior work examines re-entry within two years, but our median time to return was outside this window. Should follow-up periods routinely be extended past two years? On the one hand, one does not want to extend unrealistic expectations to a service intended to be short term. On the other hand, these returns represent a cost to the child welfare system and are likely to impact child outcomes. While beyond the scope of the present study, future research may be able to tease out characteristics of these late returns that can improve the ability to target services or perhaps institute a later check-in with families.

Finally, more research is needed to understand the experiences of children and families following an exit from care. This study indicates that both child welfare and non-child welfare service systems remain important to these families during and after foster care. This is a hopeful finding, suggesting that modifications to current service systems could result in improved downstream outcomes at the level of foster care re-entry. It is not known whether families that remain intact are also accessing other formal and informal supports that contribute to the success of returning to family following foster care. Understanding what these factors are at the child, family and community levels can help inform policy and programming to improve permanency outcomes.

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Fig. 1.
Graph of re-entry hazard function in three month intervals.

Table 1

Proportion re-entered and bivariate survival statistics for full and restricted samples.

Variable	Value	0–16 years at exit from 1st spell				5–16 years at exit from 1st spell			
		N=632	% Reenter	χ^2 ^a	<i>p</i>	n=397	% Reenter	χ^2	<i>p</i>
<i>Case characteristics</i>									
Child age at placement	<2 years	114	36.8	11.31	0.01	n (ages)			
	2–4 years	121	44.6			179 (5–8)	35.8	8.05	0.02
	5–11 years	305	33.4			126 (9–11)	30.2		
	12+years	92	39.1			92 (12–15)	39.1		
Child race	White	164	39.6	1.21	0.27	109	37.6	0.71	0.39
	Black	468	36.1			288	33.7		
Child gender	Female	285	36.5	0.04	0.95	183	37.2	1.47	0.22
	Male	347	37.5			214	32.7		
Child mental health diagnosis recorded	No	n/a				337	32.3	12.15	0.0005
	Yes					60	48.3		
Child special education eligibility	No	n/a				277	33.2	1.65	0.019
	Yes					120	38.4		
Caregiver risk scale	None	165	29.7	17.02	0.001	115	31.3	15.3	0.002
	One	281	36.3			167	31.1		
	Two	162	41.4			98	38.8		
	Three +	24	66.7			17	70.6		
Mobility in tract %	<40	224	35.8	6.07 ^w	0.05	138	31.1	1.91	0.38
Moved last 5 years	40–60	311	35.7			199	36.7		
	60+	97	44.3			60	36.7		
AFSA (policy change)	Entry prior	NA				211	41.2	2.94	0.09
	Entry after					186	27.4		
<i>Foster care characteristics</i>									
Longest Placement	Kinship care	214	29.4	11.01	0.03	122	27.1	5.97	0.20
Type	Foster home	154	42.2			84	38.1		
	Resid/other Tx	129	38.8			118	19.4		
	Emergency home	98	45.0			54	38.9		
	Others	37	32.4			19	26.3		
Length of stay	3 days–7 mo	356	34.3	8.64	0.01	199	32.7	2.54	0.27
	8–18 mo	181	42.7			129	38.8		
	19+mo	95	34.7			69	33.3		
# placements	1	269	34.9	6.18	0.10	154	33.1	6.42	0.09
	2	180	37.8			108	32.4		
	3	102	35.3			69	31.9		
	4+	81	44.4			66	45.5		
Placement pattern	Non-Tx/1 place	204	37.8	9.93	0.08	109	37.7	8.35	0.14
	OnlyTx/1 place	65	26.2			45	24.4		

Variable	Value	0–16 years at exit from 1st spell				5–16 years at exit from 1st spell			
		N=632	% Reenter	χ^2 ^a	p	n=397	% Reenter	χ^2	p
	Non-Tx/2+ place	202	37.1			113	31.0		
	Only Tx/2+ place	50	44.0			47	42.6		
	Non-Tx to Tx	41	41.5			38	36.8		
	Tx to non Tx	70	37.1			45	40.0		
<i>Non-foster care service systems before, during and after</i>									
Prior maltreatment type	Ever phys. abuse	270	39.6	5.31 ^w	0.02	197	37.4	10.8	0.001
	Other	362	35.1			200	42.0		
In-home child welfare	None/prior only	116	61.2	31.94	0.0001	52	57.7	18.75	0.003
	During not after	359	31.8			249	32.9		
	After only	58	36.2			32	43.8		
	After+other	99	28.3			64	18.8		
Length of in-home following exit (mo)	0	475	38.9	9.86	0.02	301	37.2	6.74 ^w	0.08
	1–10	37	14.5			21	19.1		
	10–26	31	35.5			19	21.1		
	27+1	89	37.1			56	32.1		
AFDC	Never	63	33.3	21.0	<.0001	43	34.9	8.29	0.01
	Before only	130	47.7			105	41.9		
	During/after	439	34.4			249	31.8		

^aLog rank unless a “w” is listed—then only Wilcoxon was significant or time interaction possible.

Table 2

Hierarchical Cox regression of foster care re-entry following reunification from first spell (full sample, n=632).

	<u>Model 1</u>		<u>Model 2</u>		<u>Model 3</u>		<u>Model 4</u>	
	H.R.	p	H.R.	p	H.R.	p	H.R.	p
<i>Fixed prior</i>								
Child age at entry (0–1) ^a	1.00		1.00		1.00		1.00	
2–4	1.25	0.24	1.29	0.17	1.43	0.06	1.44	0.06
5–11	0.94	0.70	0.87	0.41	0.84	0.31	0.89	0.49
12–15	1.86	0.005	1.49	0.08	1.33	0.22	1.47	0.10
Black (White)	0.83	0.19	0.87	0.36	0.95	0.74	0.95	0.74
Female (Male)	0.99	0.93	0.98	0.85	1.00	0.99	0.97	0.84
Caregiver risk (none)	1.00		1.00		1.00		1.00	
One	1.31	0.13	1.37	0.08	1.42	0.06	1.49	0.04
Two or more	1.72	0.003	1.78	0.002	1.87	0.001	1.94	0.001
% Mobility in census tract (<40, 40–60, 60)	1.42	0.005	1.45	0.003	1.38	0.01	1.39	.01
<i>Fixed service system contact prior</i>								
Ever phys abuse (other maltreatment)			1.29	0.06	1.30	0.051	1.39	.02
IM before only ^b			2.91	<.0001	2.81	<.0001	2.20	0.01
<i>Foster care experiences</i>								
Foster care (3 days–7 months)					1.00		1.00	
8–18 months					1.63	0.002	1.60	0.004
19+months					1.18	0.50	1.29	0.28
4+ placements in FC (1–3 placements)					1.34	0.20	1.39	0.14
Longest placement with kin (other types)					0.62	0.002	0.65	0.004
<i>Non foster care services</i>								
In-home CWS (Never or 26+months)							1.00	
During not after foster care							0.57	0.0001
After exit 1–25 months							0.41	0.001
IM during/after (none)							0.76	0.29
<i>Time interactions</i>								
Mobility*time	0.99	0.02	0.99	0.02	0.99	0.03	0.99	0.03
IM before*time			0.98	0.01	0.98	0.01	0.98	0.01
Model fit statistics	Wald Sandwich		Wald Sandwich		Wald Sandwich		Wald Sandwich	
	$\chi^2=29.50$ df=9, $p<.0005$		$\chi^2=60.82$ df=12, $p<.0001$		$\chi^2=87.29$ df=16, $p<.0001$		$\chi^2=113.44$ df=19, $p<.0001$	

^a Comparison groups in parentheses. HR for comparison group is always 1.0.

^b In Models 2 and 3 this is compared to no such records or later records.

Table 3

Hierarchical Cox regression: risk of re-entry for children aged 5–16 at reunification from first spell (restricted sample, n=397).

	<u>Model 1</u>		<u>Model 2</u>		<u>Model 3</u>		<u>Model 4</u>	
	H.R.	p	H.R.	p	H.R.	p	H.R.	p
<i>Fixed prior demographics</i>								
Child age (12–15) ^a	1.00		1.00		1.00		1.00	
5–8	0.51	0.002	0.69	0.14	0.72	0.18	0.72	0.19
9–11	0.47	0.002	0.54	0.013	0.58	0.03	0.59	0.04
Black (White)	0.79	0.21	0.87	0.48	0.96	0.84	0.95	0.81
Female (Male)	1.18	0.35	1.28	0.16	1.37	0.08	1.33	0.11
Caregiver risk (none)	1.00		1.00		1.00		1.00	
One	1.12	0.59	1.19	0.42	1.20	0.41	1.24	0.37
Two +	1.61	0.03	1.73	0.012	1.87	0.005	1.89	0.01
Mobility (<40, 40–60, 60)	1.37	0.04	1.34	0.07	1.27	0.15	1.29	0.14
Entered care after ASFA (before)	0.62	0.012	0.53	0.001	0.50	0.0006	0.53	0.002
<i>Fixed service system contact prior</i>								
Ever phys abuse (other maltreatment type)			1.76	0.002	1.81	0.002	1.78	0.002
IM before only ^b			2.60	0.0002	2.59	0.0003	2.37	0.02
<i>Foster care experiences</i>								
4+ placements in FC (1–3 placements)					1.35	0.22	1.33	0.19
Longest placement with kin (other type)					0.65	0.04	0.72	0.07
Foster care (3 days–7 months)					1.00		1.00	
8–18 months					1.55	0.04	1.56	0.05
19+months					1.02	0.94	1.08	0.77
<i>Non foster care services</i>								
Child services								
Child MH treatment					1.61	0.051	1.52	0.13
Special education					1.01	0.94	1.05	0.81
IM during/after (None)							0.86	0.66
In-home CWS (never or 26+months)							1.00	
During not after foster care							0.67	0.04
After exit 1–25 months							0.46	0.04
<i>Time interactions</i>								
Mobility*time	0.99	0.09	0.99	0.08	0.99	0.10	0.99	0.12
IM before*time			0.97	0.02	0.97	0.02	0.97	0.02
Special Ed*time							1.01	0.04
Model fit statistics	Wald Sandwich		Wald Sandwich		Wald Sandwich		Wald Sandwich	
	$\chi^2=28.16$, df=9, $p=.0009$		$\chi^2=59.37$, df=14, $p<.0001$		$\chi^2=88.82$, df=18, $p<.0001$		$\chi^2=99.98$, df=22, $p<.0001$	

^aComparison groups in parentheses. HR for comparison group is always 1.0.

^bIn Models 2 and 3 this is compared to no such records or later records.