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Returning Children in Care to Their Families: Factors Associated with the Speed of Reunification

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Abstract Various factors influence children's tenure in protective care. The current study examined whether the speed of reunification with parents differs by reasons in care and social environment at intake. The effects of age and sex of the child and referral source were also examined. The study sample consists of 155 children aged 0–12 years from 92 families, who presented at Barnardos temporary care services in two metropolitan areas in Australia. Participants continuously entered the study over the 4 year study period from 1 Jan 2003 to 31 Dec 2008, the study window being 18 months since the intake. Drawing on event history analysis models two analyses were conducted: one focusing on the primary reason in care and another focusing on a risk typology based on the North Carolina Family Assessment Scale-Reunification (NCFAS-R). The risk typology developed through latent profile analysis grouped families with similar profiles of social environmental risks together. Children were reunified with their parents rapidly at the beginning until week 13 and the rate became slower but steady until the end of study period. Compared to children with parental health issues, children with parental substance abuse issues had 86% lower rate, children who experienced abuse/neglect had 83% lower rate of return, children from domestic violence situations or other issues had 73% lower rate of reunification with their parents. Compared to children with low risks in their social environment, children with high risks had 73% lower speed of reunification with their parents. The rate of reunification with parents was higher for older children whereas there was no difference on the speed of reunification by child's sex or the source of referral. The implications for policy, practice, and research are discussed.

Keywords Reunification · Out of home care · Foster care · Event history analysis · Latent profile analysis

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Protective care is a necessary intervention for children who are in need or abused or neglected. Child welfare services have emphasized working with vulnerable families to prevent abuse and neglect and removal of children into protective care and, if placement is needed, reducing the length of time children spend in care to minimise separation between parent and child. Increasing the reunification of children with their parents or kin wherever possible is an explicit goal and, if it is not safe to do so, working towards permanency becomes the most feasible option. Policies support the concept of family preservation and place a strong emphasis on reunification for children in out-of-home care (AIHW 2009; Ainsworth 2001). While reunification is an acknowledged goal of foster care systems and the most common permanency planning decision, reunification decision-making and the process of reintegrating children into birth families remains under resourced and under researched in Australia. The research reported in this article explores factors influencing reunification outcomes with a view to strengthening practice, informing policy formulation and enhancing outcomes for children and families. While the specific focus of this paper is on Australian based research it has parallels with research and practice overseas. Several pertinent studies have informed the design and implementation of the research reported.

In this domain of international research, studies focus on identifying patterns of reunification and isolating predictors of return. Wells and Guo (1999) found that 36% of children were reunified within 24 months of being placed in care while Clyman et al. (2001) assert that between 50% and 75% of children placed in care eventually reunify. The timing of reunification is the focus of several studies. Trends in various studies suggest that many children are reunified rapidly and that the likelihood of return declines after 6 months. Courtney and Wong (1996) examined the impact of various variables on the timing of exit from care for a sample of 8,000 children in care in the US. Of the 35% who returned over a 3 year period 50% returned within 6 months (Courtney 1994). The speed of reunification declined rapidly during the first 5 months after placement and continued to decline gradually thereafter. Wulcyzn (2004) reporting from the Multistate Foster Care Data Archive notes that overall in the US the first year a child is in foster care the probability of reunification is 28%. This probability drops to 16% over the following year and declines further as time goes on. Key studies by Barth et al. (1994), Fanshel and Shinn (1978), Bullock et al. (1998), Goerge (1990), Fernandez (1999) and Delfabbro et al. (2003) highlight similar reunification patterns.

Several studies have indicated that a variety of factors are related to children's tenure in care. These include the characteristics of children and parents, reasons for care and characteristics of placements and services. Such factors are analysed in terms of the probability of return and speed with which children return. Predictor variables most commonly analysed in outcome studies on reunification are age of the child, gender, ethnicity, reasons for placement and placement type. Several studies have investigated the relationship between children's age and reunification. In terms of age, the evidence from studies which have explored this factor suggests that infants and adolescents are less likely to exit to reunification and do so at lower rates (Courtney and Wong 1996; Fanshel and Shinn 1978; Fraser et al. 1996; Connell et al. 2006; Goerge 1990; Kortenkamp et al. 2004; Wells and Guo 1999). In the longitudinal study of Connell et al. (2006) children who entered care between the

ages of 2 years and 15 years were significantly more likely to be reunified. Similar patterns are reflected in the analysis conducted by Westat and Chapin Hall Centre for Children (2001) which suggests children under the age of 1 year or over the age of 12 years are less likely to reunify than children in other age groups. Fanshel et al. (1989) tracked a cohort of new entries to care for 2 years. In this study children under 1 year at placement who spent an additional year in care experienced a 10% decrease in probability of return to parents or kin within 2 years.

There has been some indication that cultural origin is associated with reunification. Studies from the US report that African American children return to their families of origin at a slower rate than white children (Wells and Guo 1999; McMurty and Lie 1992; Seaberg and Tolley 1986; Grogan-Kaylor 2001). The reasons for this are varied and have been the subject of further investigation of the interaction of this variable with other factors such as age (Seaberg and Tolley 1986), family structure (Harris and Courtney 2003), poverty (Goerge 1990) and placement type (Landsverk et al. 1996).

The characteristics of children in care and their families, or elements in the family's environment have also been found to influence reunification. A range of studies have explored the impact of family composition and parental profiles on reunification (Fraser et al. 1996; Jones 1998; Goerge 1990). Parent profiles associated with reduced probability of reunion included mental illness, emotional problems and substance abuse (Jones 1998; Brook and McDonald 2009; Shaw 2010). Research by Shaw (2010) concluded that families experiencing parental drug or alcohol use have lower odds of reunification compared to those in which parents do not have any indications of these conditions. Multiple and co-occurring problems such as poor parenting skills, domestic violence, and mental health amongst birth mothers tend to have a negative effect on the reunification process (Choi and Ryan 2007). Children in the out of home care system are seldom there for any single reason. While there may be in fact an overtly identified problem such as parental drug use, there is commonly a cluster of co-contributing factors which have led to the child being placed in care. Poverty and its correlates such as inadequate or lack of housing and low income have also been identified as variables associated with reduced likelihood of reunification (Fraser et al. 1996; Smith 2003; Courtney and Wong 1996). In terms of additional parent related factors evidence from selected studies indicate parental motivation and ambivalence are related to the likelihood of return (Hess and Folaron 1991; Bullock et al. 1998).

The link between reasons for children's entry into care and timing of reunification has been explored in previous research. Parent's physical illness has been identified as a factor in early reunification in a number of studies (Fanshel and Shinn 1978; Bullock et al. 1998; Cleaver 2000; Kortenkamp et al. 2004). Cleaver's research found that those who entered care because of parent's illness were twice as likely to be returned as those placed for other reasons. There has also been some exploration of the influence of child related and placement related factors on the pattern of return (Fernandez and Delfabbro 2010; Kortenkamp et al. 2004; Wulcyzn 2004). Kortenkamp, et al. analysing the impact of child characteristics found that those children in care who display behavioural problems, developmental delays or health issues have a lower chance of being reunified to birth families. They also note that the more placements a child endures in the care system, the lower their odds are of

being reunified. The effects of kinship placement and non relative care on reunification patterns explored in some studies suggest that those placed in kinship care return at a slower rate than those placed in non relative placements (Harris and Courtney 2003; Farmer and Moyers 2005; Kortenkamp et al. 2004; Davis et al. 1996). The study of Davis et al. (1996) estimated that children in kinship care returned six times slower than those in non relative care.

1 Methodology

The analysis reported in this paper draws on findings from a research project that explored the process and outcomes of reunification through a 4 year prospective longitudinal study. Specific aims of the research were to:

- gain an understanding of pre and post intervention characteristics, circumstances and functioning of families whose children enter temporary foster care
- identify child and family characteristics of the studied sample that are associated with a) reunification b) other pathways for children such as long term care
- determine the relative influence of case characteristics, decision making elements and service variables on reunification outcomes

This paper draws on this wider study to investigate specifically (1) whether the speed of reunification differs by reasons in care; (2) whether the speed of reunification differs by social environment and family functioning at intake. The effects of age and sex of the child and referral source were also examined.

1.1 Site of the Study and Participants

The study was carried out at Barnardos Temporary Family Care (TFC) programs which provide integrated assessment, family preservation and out of home care services to families with children aged 0–12 years, who are 'in need', or who are at 'significant risk of harm'. TFC services are provided by a team of caseworkers and foster carers on a 24 h × 7 days per week basis for children and families. Temporary foster care placements are arranged with the goal that a child will be restored to their family as quickly as it is safe to do so. Where it is not safe for a child to return home, caseworkers initiate a plan for long stay foster care or adoption. Parental visiting and parent/foster carer contact are part of the case plans to reduce a child's feelings of separation and loss. The participants in this study were derived from a consecutive sample of children and families who presented at Barnardos temporary care services in two metropolitan areas. The sample included 168 children from 96 families. All children were entering out of home care for the first time. A minimum period of 2 weeks in care was the criterion for inclusion in the study.

Data were collected through face to face interviews conducted onsite at Barnardos' TFC Centres with 103 caseworkers. Interviews with caseworkers took place within 6 weeks of intake (Time 1) with a follow up interview later, or at the time of restoration depending on which came first (Time 2). The study explored caseworkers' perspectives on the decisions regarding placement and reunification. Caseworkers responded to questions about the background and functioning of

families they worked with, the reasons the child/ren came into care, and the case plans instigated as part of the restoration process. In addition, a standardised assessment tool, the North Carolina Family Assessment Scale-Reunification (NCFAS-R) (Reed-Ashcraft et al. 2001) was completed by caseworkers to capture family functioning at entry (time 1) and at closure of the case or at restoration (time 2).

1.2 The Characteristics of Parents and Children

The data analysed from caseworker interviews provide a profile of the families and children and pathways into care. Above half (54.5%) of mothers were aged between 26 and 35 years. The vast majority (86.6%) were receiving benefits as their primary source of income. A mere 3.7% of families owned their homes, 4.9% were homeless at the time of entry. The bulk of families (70.5%) were living in Public Housing or Community accommodation. In terms of family composition, 6% of families had 8 or more children in the family, 24% had between 5 and 7, 35% had either 3 or 4 and 35% had 1 to 2 children. It was not uncommon for children to enter care as sibling groups. Seventy five percent of families had 2 or more children in care and 66% of children were placed together in the same placement. The primary source of referral was the Statutory Department (76%). It is worth noting that 15% referred themselves voluntarily.

1.3 Analysis of Reunification Patterns and Outcomes

As a part of a research project investigating the process and outcomes of reunification, the current analysis explored the speed of reunification by reasons in care and family and social environment at intake. Participants continuously entered the program throughout the study period, the study window being 18 months since intake. Participants were followed up to restoration or up to 18 months since entry into the care (whichever is first). The event was defined as reunification with parents or kin and time to an event (i.e., reunification) was scaled as weeks since entry into care. It was considered as censored when a case exited with other outcomes (e.g., moved to other agencies) or not restored until the end of study period. As noted earlier, the study employed a prospective design to examine the pattern of entry to care and reunification drawing on a consecutive sample of 168 children from 96 families. During the study period 53% of children were restored to either their birth parents or kin. The study sample of the current analysis comprised of 155 children from 92 families after the exclusion of thirteen cases that didn't meet the criteria.

1.4 Variables

Variables analysed include age, sex, referral source, primary reason in care, and the typology of risks derived from the North Carolina Family Assessment Scale-Reunification. Child's age at the entry into care was measured in years, child's sex with male coded as '1' and female coded as '0', and referral source from the Statutory Department as '1' and others as '0'. The primary reason in care was grouped into four categories: Parental health issues, child abuse and

neglect, parental substance abuse, domestic violence and other. Dummy variables for the primary reason in care were created (Parental health issues as a reference category).

The North Carolina Family Assessment Scale-Reunification (NCFAS-R) is a modified version of the North Carolina Family Assessment Scale to be used in working with reunification cases (Reed-Ashcraft et al. 2001). The NCFAS is an instrument to assess family functioning and social environment and measure outcomes. The NCFAS-R covers seven domains: environment, parental capabilities, family interactions, family safety, child well-being, caregiver/child ambivalence, and readiness for reunification. Each domain has 3 to 10 items (refer to Table 1 for details). Each item was rated on a six-point scale (Serious Problem, Moderate Problem, Mild Problem, Baseline/Adequate, Mild strength, and Clear Strength). For the purpose of this analysis, items were rescaled to be between 0 and 5 and domain scores were obtained by taking the average of items in each domain (higher scores indicate better functioning and more positive social environment). Composite scores of six domains except readiness were used to identify groups of children with the different levels of social environmental risks at intake. Based on the typology identified from the latent profile analysis using NCFAS-R, we created three dummy variables indicating high, medium and low risk groups (low risk group as a reference group).

Table 1 North Carolina Family Assessment Scale-Reunification (NCFAS-R) Version 2.0

Domain	Items
Environment	Overall environment, housing stability, safety in the community, habitability of housing, income/employment, financial management, food and nutrition, personal hygiene, transportation, and learning environment
Parental capabilities	Overall capabilities, supervision of children, disciplinary practices, provision of developmental/enrichment opportunities, parent/caregiver's mental health, parent/caregiver's physical health, parent/caregiver's use of drugs/alcohol
Family interactions	Overall family interactions, bonding with child, expectation of child, mutual support within the family, relationship between parents/caregivers
Family safety	Overall family safety, absence/presence of physical abuse of children, absence/presence of sexual abuse of children, absence/presence of emotional abuse of children, absence/presence of neglect of children, absence/presence of domestic violence b/w parents/caregivers
Child wellbeing	Overall wellbeing, child's mental health, child's behaviour, school performance, relationship with caregivers, relationship with siblings, relationship with peers, motivation/cooperation to maintain the family
Ambivalence	Overall caregiver/child ambivalence, parent/caregiver ambivalence towards child, child ambivalence towards caregiver
Readiness for reunification	Overall readiness for reunification, resolution of significant CPS risk factors, completion of case service plans, resolution of legal issues, parent/caregiver understanding of child's treatment needs, established back-up supports or service plans

Reed-Ashcraft et al. (2001). In the current study, Readiness for reunification was not used to assess social environment at intake

1.4.1 Data Analyses

The data were analysed descriptively and by using latent profile analysis and event history analysis. Analyses were conducted using SPSS 18 (SPSS Inc 2009), Mplus 5.2 (Muthen and Muthen 2007) and STATA 10 (StataCorp 2007). Specifically the analysis drew on Cox proportional hazards model, a multivariate technique that allows one to predict time to event (in this case reunification) based on a set of predictor variables. Proportional Hazards models have the ability to incorporate time into the model and estimate the probability of children remaining in care or going home at any point in time. The current study used the reduced cause-specific proportional hazard model (Lunn and McNeil 1995) focusing on reunification with parents.

The Cox proportional hazards model was used in the present analysis as it incorporates two functions: the baseline hazard function and a function of subject covariates (Allison 1995). The hazard ratio is a central concern of the proportional hazards model. In the current study, the hazard ratios provide information about relative risk or relative speed of reunification. The hazard translates the length of time to the event occurrence into a rate. Thus, the hazard ratio can be translated into a relative speed of event occurrence (Wells and Guo 2003): a group with a relatively higher risk of reunification experiences shorter stay in care and has a higher speed of reunification.

The hazard is the instantaneous probability of event occurrence at time t when an individual is at risk of having an event (Allison 1995). The 'event' of the current study is reunification; however, there are two types of reunification. Children can be reunified with their parents or with their kin. Thus, a cause-specific proportional hazard regression (1995) was used to model these two reunification outcomes as competing risks. The Cox proportional hazard regression using the augmented data enabled estimation of regression coefficients for each type of event with the appropriate P values (Lunn and McNeil 1995).

In the cause-specific proportional hazard regression model, children who are reunified with kin can be removed from all later risk sets for the reunification with parents at time t. Thus, the cause-specific hazard with continuous time is defined as:

$$h_j(t) = \lim_{\Delta t \to 0} \frac{\Pr\{\square \leq T < t + \Delta t, J = j | \square \geq t\}}{\Delta t} \quad j = 1, 2$$

where $J=j$ indicates whether reunification with kin ($j=1$) or reunification with parents ($j=2$) is being estimated. Consequently, a cause-specific proportional hazards model can be constructed as:

$$h_j(t|Z) = h_{\mathbf{0}j}(t) \exp\left(Z\beta_j\right) \quad j = \mathbf{1}, 2$$

Here, h_0 (t) constitutes the baseline hazard function, while Z represents the p-vector of covariates and β_j the p-vector of regression coefficients for each event j. Thus, exp (Z β_j) is interpreted as the relative change in the cause-specific hazard for the jth event corresponding to a 1-unit increase in the corresponding covariate.

As the main interest of the current study is reunification with parents, the current analysis used the reduced cause-specific proportional hazard model (Lunn and

McNeil 1995) focusing only on reunification with parents. This decision was made to maintain the adequate ratio between number of cases and number of variables in the model.

The proportionality of hazards is an essential assumption of the proportional hazards model. This means that the estimated hazard ratios are not dependant on time (Hosmer et al. 2008). To test the assumption, relationships were examined between the scaled Schoenfeld residuals and time. Covariate specific tests and plots of the scaled Schoenfeld residuals over functions of time *g(t)* supported the proportional hazards assumption.

Latent profile analysis (LPA) was conducted using MPlus 5.2 to identify children with similar risk profiles at intake based on the North Carolina Family Assessment Scale-Reunification (NCFAS-R) (Reed-Ashcraft et al. 2001). In studies of child wellbeing, researchers often use multiple indicators of social environmental risks and use them as predictors of child wellbeing. However, many families exhibit multiple risks at various domains. When indicators of risks are highly correlated, it is hard to include those indicators in a regression type models at the same time due to the multicollinearity. Even when those indicators are conceptually different, they often have high correlations because one risk exposes individuals to other risks or one risk reduce individuals' capacities to avoid other risks. When variables with multicollinearity are in a regression model, it becomes hard to decide the relative influence or strength of an indicator over another. In this case, researchers' substantive judgments need to guide the selection of an indicator over another. However, losing the rich information of various indicators is unfortunate because the indicators provide conceptually different information. LPA helps researchers solve this issue because researchers can utilise the information from all indicators. LPA is a person-centred approach (Muthen and Muthen 2000) in which individuals with similar profiles of environmental risks can be grouped together. Although grouping individuals can be done in many different ways, the uniqueness of using the latent profile analysis is that the thresholds of dividing low, medium, and high risk groups are not decided by the researchers but driven by data.

The objective of LPA is to find the smallest number of latent classes (group membership) that can explain the associations among a set of observed variables. A number of strategies for assessing model fit and selecting a solution are discussed in the literature (Muthen and Muthen 2000). Researchers often use the Log Likelihood statistic, the Bayesian Information Criterion (BIC), posterior probabilities, and the number or percentage of sample members in the smallest classes of a solution. In addition, researchers also consider interpretability, theoretical validity, and utility of the class solution in deciding the number of latent classes. In the current study, starting with the one-class solution, we added classes sequentially and decided the best solution based on the criteria discussed above. Given the number of participants, the 3-class solution was chosen based on statistical criteria and substantive knowledge.In the current study, the typology of family and social environment of children was identified using caseworker assessments on six domains of NCFAS-R at intake. The groups of families who share similar risks were grouped together. Subsequently, the group membership was entered as a predictor in the Cox regression model.

Overall, two models were employed in the analysis. Model 1 includes the primary reason in care as a predictor while model 2 draws on risk typology based on the NCFAS-R. They were separately modelled because the NCFAS-R includes some items that overlap with the reason in care (e.g., parental health, presence of abuse) and incorporates constellations of risk factors.

2 Results

2.1 Descriptive Statistics

Children's age at entry ranged from 3 days to 16 years old and the mean age was about 4.7 years (SD=4.2 years). About 58% of children were males and 78% of them were referred by the Statutory Department. About 23% of children entered care due to the parental health issues whereas the rest of children entered care due to other issues such as child abuse and neglect, domestic violence, or parental substance abuse. Table 2 displays descriptive statistics of the study sample.

Descriptive methods were used to understand the pattern of the survival function. Median survival time was 71.4 reflecting that half of the study sample still remained in care by the week 71. Figure 1 shows the Kaplan-Meier estimates of the survival function by the restoration outcome. The survival function of combined restoration outcome shows a steep drop at the beginning until week 13. Two restoration outcomes (Restored to a parent VS Restored to kin) were examined separately as competing risks. Children were reunified with their parents rapidly at the beginning until week 13. Thereafter the rate became slower but steady until the end of study period. In contrast restoration to kin was very slow at the beginning, followed by a sudden increase of the rate between week 10 and 12. A moderate to slow rate of restoration appears by week 41, and no restoration occurred after week 41. The

Table 2 Descriptive statistics of study sample (n=155)

Variables	n/Mean	%/SD
Age at entry	4.7	4.2
Sex		
Male	90	58.1
Female	65	41.9
Source of referral		
Statutory Department	121	78.1
Other	34	21.9
Reason in care		
Parental health	35	22.6
Parental substance abuse	33	21.3
Child abuse and neglect	44	28.4
Domestic violence and Other	43	27.7

SD stands for standard deviation

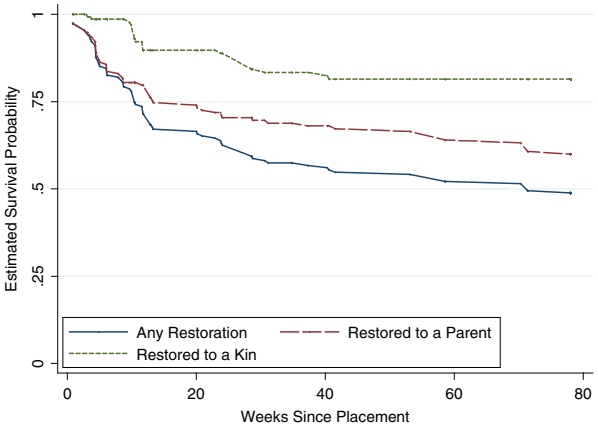

Fig. 1 Kaplan-Meier survival estimates by restoration outcome

result supports the feasibility of using a cause-specific proportional hazard regression model suggested by Lunn and McNeil (1995) because the hazard functions of two reunification outcomes do not overlap although there is a slight difference in shapes.

2.2 Cause-Specific Proportional Hazard Models

Thereafter the analysis ran the reduced cause-specific proportional hazard models to focus on restoration with parents alone. Model 1 using the primary reason in care indicated that, compared to children with parental health issues, children with parental substance abuse issues had 86% lower rate of reunification with their parents, children with abuse/neglect issue had 83% lower rate of return, children with domestic violence or other issues had 73% lower rate. The rate of reunification with parents was higher for older children. Holding other variables constant, compared to the rate for infants, the rate for 5 years olds is 2.38 times greater. There was no difference on the speed of reunification by child's sex or the source of referral (Refer to Table 3 for details).

Model 2 used the risk typology based on the North Carolina Family Assessment Scale-Reunification (NCFAS-R). From the latent profile analysis, three risk groups were identified: low (14.0%), medium (48.4%), and high (37.5%). Latent profile analysis is a person-centred approach. The thresholds are not predetermined; they were rather derived from the patterns in the data. Number of groups was decided based on several statistical criteria (log likelihood, BIC, posterior probabilities, entropy etc.) and substantive knowledge (interpretability). Table 4 and Fig. 2 show average scores on each domain by groups. The result shows that families in the high risk group have lowest average scores on all domains whereas families in the low risk group have highest average scores on all domains. Three risk groups particularly diverge on family interactions and family safety. Another noticeable trend is that, although differences exist between groups, all groups have relatively lower averages on parental capabilities (Table 4).

Model 2 using the risk typology indicated that, compared to children in the low risk group, children in the high risk group had 73% lower speed of reunification with their parents. The rate for children in the medium risk group did not significantly

Table 3 A reduced cause-specific proportional hazard model with competing risks: Using the primary reason in care (n=155)

	Coefficient	SE
Parent	0.53	0.64
Parent. Male	−0.08	0.25
Parent. Referred by Statutory Department	0.98	0.51
Parent. Child age at entry	0.17**	0.05
Reason in care (Parental health issue)		
Parent. Parental substance abuse	−2.00**	0.65
Parent. Child abuse/neglect	−1.76**	0.56
Parent. Other	−1.32**	0.50

** p<0.01, * p<0.05, SE stands for standard error. The reference group is in parenthesis

differ from the rate for children in the low risk group. As it was found in Model 1, older children reunified faster than younger children. Other things being equal, compared to the rate for infants, the rate for 5 years olds is 1.86 times greater. There was no difference on the speed of reunification by child's sex or the source of referral (Refer to Table 5 for details).

2.3 Implications of Findings for Policy, Practice and Future Research

The analysis yielded findings that reflect patterns in reunification studies undertaken internationally. Children reunified rapidly with parents until three months. Thereafter the speed of reunification declined Findings illuminate a pattern which suggests majority of children who reunify do so in the early months after entry to care. Findings indicated that the probability of going home decreases the longer children are in care, corroborating findings from previous research (Bullock et al. 1998; Fanshel et al. 1989; Goerge 1990). This pattern of return has implications for administrators and practitioners in terms of ensuring resources and caseloads are prioritised to maximise the potential in the early months for reunification and

Table 4 Means and standard deviations of NCFAS-R (n=142)

	All (n=142) Mean (SD)	Low risk (n=20) Mean (SD)	Medium risk (n=68) Mean (SD)	High risk (n=54) Mean (SD)
Environment	2.17 (1.01)	3.22 (0.84)	2.32 (0.88)	1.61 (0.85)
Parental capabilities	1.66 (0.88)	2.71 (0.99)	1.80 (0.71)	1.11 (0.57)
Family interactions	2.09 (1.26)	4.30 (0.58)	2.23 (0.79)	1.09 (0.64)
Family safety	2.07 (1.13)	3.86 (0.81)	2.32 (0.61)	1.08 (0.61)
Child wellbeing	2.79 (1.04)	4.00 (0.84)	3.17 (0.69)	1.87 (0.68)
Ambivalence	2.73 (0.93)	3.50 (0.71)	3.07 (0.80)	2.03 (0.69)

SD stands for standard deviation. Domain scores range from 0 to 5 and higher scores indicate better functioning and more positive social environment

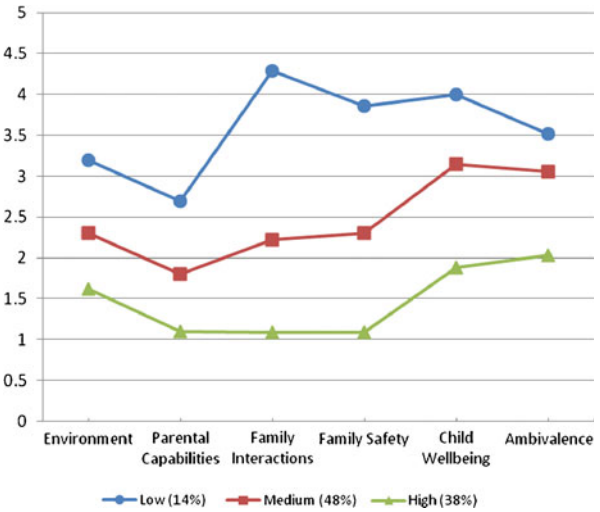

Fig. 2 Risk typology based on six domains of NCFAS-R (n=142)

support is available for children and families. More active social work practice and intensive support services are needed to facilitate reunification once children have been in care for some time.

Importantly previous research on the significance of systematic case planning and goal setting for achieving reunification is to be noted (Cleaver 2000; Farmer 1996; Aldgate 1980; Stein and Gambrill 1977). The need for planned case activity directed towards exit from care early in children's placement careers is to be emphasised to avert the risk of children remaining in unplanned care for extended periods and drifting through multiple placements.

These findings highlight the critical role of early intervention and supportive services for families when children enter care in order to facilitate reunification. This is of particular significance in the context of decision time frames imposed by legislative requirements that limit the duration of short term orders and require the Statutory Department to apply for longterm orders. While caseplans to reunify might

Table 5 A reduced cause-specific proportional hazard model with competing risks: Using the risk typology based on NCFAS-R (n=155)

	Coefficient	SE
Parent	0.53	0.95
Parent. Male	0.24	0.25
Parent. Referred by Statutory Department	0.20	0.57
Parent. Child age at entry	0.12**	0.04
Risk typology on NCFAS-R (Low)		
Parent. Medium	−0.11	0.54
Parent. High	−1.30*	0.63
Parent. Unknown	−1.54	0.92

** p<0.01, * p<0.05, SE stands for standard error. The reference group is in parenthesis

be built into such orders the lack of resources and casework support services to assist families can mitigate the possibilities of reunification.

Evidence is also provided from previous research that caseworkers can facilitate reunification by involving parents in joint planning and supporting them in maintaining contact with their children. Parental visiting has been identified as an influential factor in reunification in a number of studies.

The level of contact maintained between children in care and their birth families and its effect on placement outcomes have received considerable research interest (Cleaver 2000; Davis et al. 1996; Pecora et al. 2000; Bullock et al. 1998; Delfabbro et al. 2003; Fernandez 1996). In their study of 925 children, Davis and her colleagues found that visits were the key to discharge from care. When visit plans were developed, the likelihood of visits was increased; the majority of children who visited with their parents at the level recommended by the courts were reunified with their families.

The lack of services to birth families to ameliorate the problems precipitating placement initially or necessitating its continuation is also widely documented in the analysis of reunification outcomes (Malucio et al. 1996). Previous studies have attributed success to service variables such as the provision of concrete services, the establishment of strong worker-family relationships, and the provision of skills training to parents (Walton et al. 1993; Lewis 1994). The size and quality of the families' social support network has shown to be positively correlated with reunification (Festinger 1996; Fraser et al. 1996). Responding to the structural dimensions of neglectful parenting and addressing the wider context of welfare arrangements, income support, housing, child care and health care are crucial to reducing the structural risk factors impacting on children and families. A structured approach to reunification supported with a package of services and comprehensive parenting support is pivotal. Research is also needed to examine the relationship between barriers to reunification and types of services offered to families.

The trend of children returning in the early months of placement should not, however, be construed as support for unplanned and hasty reunification overlooking adequate and comprehensive assessment to ensure children's safety and best interests. The body of research on post reunification outcomes and on re-entry prompts caution in relation to over hasty decisions to reunify. It is important to consider the outcomes for children on return both in terms of disruption and re-entry and the likelihood of recurring maltreatment (Biehal 2006; Fuller 2006). Studies which have investigated the outcomes for children reunified with their families have indicated that some may be vulnerable to abuse and neglect, besides experiencing marginal psychological outcomes after return (Taussig et al. 2001; Sinclair et al. 2005). Reunification can trigger challenges and stresses for families when children reintegrate. Little is known about post reunification outcomes and this is a fertile area for future research.

There were significant differences in the rate if reunification based on age and reasons for care. It will be useful to continue to investigate the differential rates of reunification for specific age groups. The vulnerability of younger children entering into care and remaining in care for extended periods has implications for preventative services for parents with infants and young children for systematic

care planning. There is a need to model reunification outcomes by stratifying samples into different age groups to better understand factors related to reunification based on age. Research has shown that different factors influence reunification for different age groups. It will be of value to consider such groups to isolate different child, parent and system related factors in future research.

Multiple factors contributed to the reasons for care in this sample. Child neglect and abuse, parental substance abuse, domestic violence and parental ill health were prominent among the reasons triggering entry into care. Results from the analysis pinpointed particular reasons for entry to care as predictors of lower rates of reunification. Children who entered care for reasons of parental alcohol and substance abuse and domestic violence were vulnerable to slower rates of reunification relative to other reasons. Children in care for reasons of parental substance abuse had 86% lower rate of return in this study, a finding reflected in previous studies (Marsh et al. 2006; Miller et al. 2006; Terling 1999). Substance use is related to high levels of maltreatment and poor parenting during return. Marsh et al. explored patterns of reunification based on substance abuse and co-occurring problems concluding that it is not the problem itself that decreases the likelihood of reunification but the lack of demonstrated progress made within those problem areas. Reunification practice in cases involving parent's misuse of drugs or alcohol needs to emphasise that workers ensure parents have clear expectations about addressing substance use before and during return, and access to treatment and support programs.

The findings from the latent profile analysis based on the typology of risk factors derived from NCFAS-R illustrate how constellations of family, child and environmental problems are related to reunification outcomes. Families with low average ratings on the domains of parental capabilities, family interactions and 'family safety' had a 73% lower rate of reunification. This draws attention to the need to assess and intervene on multiple fronts in making reunification decisions and tailoring services and supports for families and children.

The limitations of the analysis must be acknowledged. The analysis did not include time-varying variables in the model that, if incorporated, could influence the speed of reunification. Illustratively the speed of reunification could be influenced by services accessed by families, patterns of contact or changes in family composition. Another limitation is related to the size of the sample and the context of the programme from which the sample was drawn. Recognising this constraint the analysis used the reduced cause-specific proportional hazards model (Lunn and McNeil 1995) focusing on reunification with parents. The sample and its limited size warrant caution in generalising the findings to a wider population.

Despite these limitations, the results corroborate findings from other studies adding confidence to the validity of findings about factors related to speed of reunification. The event history analysis model adopted for this analysis enabled the prediction of both the probability and speed of reunification. It allowed the inclusion of censored cases: cases of children who exited the study to other destinations or remained in care until the end of the study period. The statistical model that predicts the speed of reunification with the breadth of the data from censored cases enabled a fuller understanding of the reunification process.

Another major strength of the current study utilization of the typology developed through latent profile analysis (LPA). The North Carolina Family Assessment Scale-Reunification (NCFAS-R) provided a multidimensional measure of needs and risks in the cohort of families. The six domains provided a helpful scope for identifying problem areas, including the opportunity for capturing within domain capabilities and cumulative concerns within and across domains. Many families exhibited multiple risks in different domains. This can lead to multicollinearity in regression models. The typology developed in this analysis through LPA permitted the inclusion of multiple indicators of family functioning and social and environmental risks without the problem of multicollinearity. This provided a mechanism for maximising the rich data on co-occurring needs and problems obtained from assessment tools such as the NCFAS-R.

3 Conclusion

Reunification of children in care with birth families continues to be a contested area with resources heavily weighted towards child protection and children in care, and the drive towards increasing adoption as a permanency option. It is important that reunification as a pathway to permanency is not undervalued and is given a higher priority in the policy agenda of child welfare systems and in curricula. Given the policy relevance of this area of decision making there is a great need for expanded research.

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