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Going Missing from State Care Is Rare, but Marked by Profound Vulnerability: Population-Scale Evidence on Modifiable Risk Factors from the NSW Human Services Dataset

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Going Missing from State Care Is Rare, but Marked by Profound Vulnerability: Population-Scale Evidence on Modifiable Risk Factors from the NSW Human Services Dataset*

Abstract

Out-of-home care is intended to shield children from harm, yet some children placed in state guardianship go missing from their placements — a phenomenon poorly understood at population scale. Who these children are, and what becomes of them, has been invisible to researchers and policymakers alike. Using linked administrative data from the New South Wales Human Services Dataset, encompassing over 317,000 care episodes for 47,800 children (2000-2019), this paper provides the first large-scale population-based analysis of children recorded as missing-in-care. We document three key findings. First, missing-in-care episodes are rare (0.5% of all exits) but concentrated among adolescents who enter care late. Second, placement type is the strongest modifiable risk factor. Third, linking care records to nine post-exit administrative datasets, we show that missing-in-care children are profoundly vulnerable. Missing-in-care significantly increases the risk of police contact, victimisation, and assignment to the highest vulnerability service use profile. These findings carry urgent implications for child protection placement policy and integrated service delivery.

JEL classification

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Keywords

economics of social policy, out-of-home care, linked administrative data, predictive risk modelling, k-means cluster analysis

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1. Introduction

Across high-income countries, like the United States, Germany, Canada, England, Australia, and New Zealand, hundreds of thousands of children – or between four and eight per 1,000 – are removed by the state from their families and placed into out-of-home care arrangements.[1] An intervention that is massively invasive into family life, out-of-home care creates one of the most consequential trade-offs in social policy: removing a child from an unsafe home protects against imminent harm but simultaneously severs attachment bonds, disrupts schooling and social networks, and exposes children to the instability of placements that may shift across foster homes, residential facilities, and emergency accommodation. Statutory child protection is therefore asked to balance the state's duty to protect children from abuse and neglect with the right of every child – enshrined in the United Nations Convention on the Rights of the Child (UNCRC) – to safety, family life (Articles 9 and 19), and voice in decisions that affect them (Article 12). Out-of-home care is intended to shield children from harm, yet some children placed in state guardianship go missing from their placements – a phenomenon poorly understood at population scale. Who these children are, and what becomes of them, has until now been largely invisible to researchers and policymakers alike.

This paper provides the first large-scale population-based analysis of children recorded as missing in out-of-home care in Australia, and one of the first internationally to link missing-in-care records to cross-sector administrative data tracking children after they leave care. We draw on the NSW Human Services Dataset – a linked administrative resource encompassing over 317,000 care episodes for 47,800 children in New South Wales between 2000 and 2019. Crucially, the dataset links child protection records to nine additional administrative datasets spanning police, courts, juvenile justice, health, housing, education, and social services. This cross-sector linkage is what makes the analysis distinctively powerful: rather than tracking

[1] In the United States, approximately 329,000 children live in foster care on any given day — a rate of around 4.3 per 1,000 children (U.S. Department of Health and Human Services, 2025); in England, 83,630 children were in the care of local authorities in 2024, a rate of 70 per 10,000 children (7.0 per 1,000) (Department for Education, 2024); in Canada, approximately 61,100 children were in out-of-home care in 2021/22, a national rate of 8.24 per 1,000 (Pollock et al., 2024); and in New Zealand, around 6,000 children are in out-of-home care at any one time, a rate of approximately 5.5 per 1,000 (Oranga Tamariki, 2024). In Germany, approximately 215,000 children and young people span residential homes and foster families, though this figure includes young adults up to age 21 under the broader German child and youth welfare system (Statistisches Bundesamt, 2024). In Australia, as at 30 June 2024, approximately 44,900 children were in out-of-home care, a rate of 7.7 per 1,000 children, with around 11,000 newly entering care each year (AIHW, 2025).

children only within the child protection system, we can follow them across the full range of public institutions they subsequently encounter. Exploiting the longitudinal nature of our data, we identify the most salient modifiable risk factors of being missing-in-care, observable before care exit and assess the risk of vulnerability post care exit. A measure of vulnerability is pragmatically constructed from information on service contact that indicates risk of serious harm and unmet care needs. To reduce the high-dimensionality of service contact points, we use a *K-means* clustering analysis approach (Hastie et al., 2009). Together, these methods allow us to move beyond mere description toward evidence that can directly inform placement policy and service design.

Three important findings emerge from our analysis. First, missing-in-care episodes are rare, where only 0.5% of all care exit records are coded as missing. These are concentrated among adolescents who enter care after the age of ten and girls. Second, placement type is the strongest modifiable risk factor: children in youth refuges face nearly 15 times the baseline risk of going missing relative to those in foster care, with residential care and hotel/alternative arrangements also significantly elevated. Third, missing-in-care children are already profoundly vulnerable during their care placement, but missing-in-care significantly increases their risk of vulnerability after they leave care. Almost all the children missing-in-care re-appear in at least one other public service system associated with unmet needs within a year of exit. ‘Ever missing in care’ status significantly increases the risk of police contact as a person of interest by 23%, victimisation by 8%, and assignment to a high-complexity service-use cluster by 88%. Over 84% of missing children belong to two high-vulnerability profiles characterised by extensive justice, health, and housing system contact.

Our findings address critically important issues related to children’s involvement with a range of services before and after they go missing from care. Children can be missing from care for a range of reasons including 'push' (getting away from) and 'pull' (going toward) factors, or a combination of the two (Crosland & Dunlap, 2015). They may run away to, return to, or reconnect with family members – called 'self-placing' or 'self-restoring' – or go to live with partners, friends, or peer networks. They may also be leaving negative social contexts with carers, placement staff, and peers that made them feel uncared for or unsafe (Venables, 2025). Risk is heightened for youth in residential care settings compared with those in foster or kinship care (McFarlane, 2021; Commission for Children and Young People, 2021), and

multiple placements are associated with a higher risk of going missing (Bezeczky & Wilkins, 2022; Courtney & Zinn, 2009; Kim, Chenot & Lee, 2015).

As our analysis shows, youth who go missing from care can be exposed to a range of serious harms. There is emerging evidence of overlap between missing episodes and exposure to sexual and criminal exploitation (Sastre-Gomez et al., 2026). A missing episode can jeopardise a child's current placement and result in more restrictive placement settings on return (Crosland & Dunlap, 2015; Wade et al., 1998) and increases the likelihood of repeat missing episodes. Missing episodes also interrupt schooling — with moves during the school year likely to have a greater negative impact on educational outcomes than moves between grades (Centre for Education Statistics and Evaluation, 2016) — and adversely affect employment opportunities later in life (Chor et al., 2022). Access to health and other vital services may also be interrupted (Attar-Schwartz, 2013).

Despite the severity of these multiple risks, evidence on long-term post-exit trajectories remains thin. Most existing studies are based on small administrative samples, focus on single jurisdictions with limited follow-up, and lack the cross-sector linkage needed to track children across health, justice, and housing systems after they leave care. Causal inference is also challenging, as missing episodes are endogenous to unobserved child characteristics, making it difficult to disentangle selection from the independent effect of a missing episode itself. The present study addresses many of these gaps directly.

Our study contributes to a rich literature in economics, social work, and child development on the costs and consequences of out-of-home care placement. This literature acknowledges that the decision to remove a child to reduce the long-term harm of maltreatment[2] may create consequential trade-offs. Care placements can simultaneously expose children to new forms of harm through carers, other children in placement, or

[2] The consequences of maltreatment for children's long-term life chances are severe and far-reaching: Schurer, Trajkovski, and Hariharan (2019), drawing on British cohort data, estimate an earnings penalty of 7.3% per additional adverse childhood experience and a 53% higher probability of welfare dependence by age 55, mediated almost entirely through human capital deficits accumulated by early adulthood. Structured interventions that keep children within protective institutional environments can interrupt this cycle: Dzulkipli, Black, Johnston, and Segal (2025), exploiting a South Australian reform that raised the compulsory school-leaving age from 16 to 17, find that the reform reduced first-time maltreatment cases reported to child protection services — with the incapacitation effect of remaining within the school environment identified as the primary mechanism.

institutional processes that generate instability and a breakdown of relationships (Uliando & Mellor, 2012).

A growing body of economics research using quasi-experimental methods has sought to identify the causal effects of care placement on children's long-term outcomes, with findings that vary considerably across jurisdictions and time periods. The seminal contributions by Doyle (2007, 2008), exploiting quasi-random assignment of child welfare investigators in Illinois, found that children on the margin of placement tended to have worse outcomes when removed from home — including higher rates of juvenile delinquency, teen motherhood, reduced employment, and greater adult crime involvement. A large Finnish co-sibling study covering all children born between 1986 and 2000 (Sariaslan et al., 2022; total cohort N = 855,622; n in care = 30,127) finds that risks of adverse health and social outcomes in adulthood — including psychiatric disorders, substance misuse, and violent crime — are elevated 1.4- to 5-fold among care-experienced children compared with their own siblings who were never placed, suggesting that the association persists beyond what can be explained by shared family background alone.

More recent evidence from Michigan, however, has revised this picture: Gross and Baron (2022) and Baron and Gross (forthcoming, *Review of Economics and Statistics*) find that foster care substantially improved safety and educational outcomes and reduced adult criminal involvement, with the mechanism running largely through improvements made by birth parents during separation. This finding is confirmed in Cavalca et al. (forthcoming, *Journal of Human Resources)* for Danish children. Although health care utilization temporarily increases shortly after removal, most likely because removal happens in response to an emergency, school absenteeism and criminal charges decline markedly after placement and remain lower than preplacement levels within two years of placement.[3]

[3] These positive findings must, however, be read alongside a significant equity caveat: Baron, Doyle, Emanuel, Hull, and Ryan (*QJE*, 2024) find that calls involving Black children in the US are 55% more likely to result in foster care placement than calls involving white children with the same potential for future maltreatment — a disparity 42% larger than conventional estimates suggest when extended to national data (Baron, Doyle, Emanuel, & Hull, *JPAM*, 2025), and one that cannot be resolved simply by withholding demographic information from decision-makers (Baron, Goldstein, & Ryan, *JPAM*, 2023). While our data do not permit an equivalent analysis of racial discrimination in the Australian child protection system, the disproportionate representation of Aboriginal children in out-of-home care in NSW raises directly analogous concerns about whether the harms we document are distributed equally across racial and cultural groups.

Gross and Baron (2022) and Baron and Gross (forthcoming) point to placement type and stability as a likely explanation for the divergence between their findings and those of Doyle's foster children in Illinois — where outcomes were worst — changed foster homes at a higher rate than in almost any other US state, while nationwide improvements in outcomes over time coincided with a shift toward greater use of kinship placements and shorter lengths of stay. Their instrumental variables design cannot, however, separately identify the causal effect of individual placement types, and they flag this as an important gap.

The child development literature reinforces the importance of placement type and instability. Placement instability in care consistently predicts externalising and internalising behaviours and PTSD (Maguire et al., 2024; Engler et al., 2022). Critically for the present study, O'Hare et al. (2023) show for NSW that placement type is a modifiable risk factor: greater placement instability, longer maltreatment exposure, and longer time in care each predict educational underachievement, mental disorder, and police contact in childhood.

Our paper advances this literature in a distinctive way. Rather than asking whether out-of-home care helps or harms the average child in care, we study a particularly vulnerable subset of this population: children who have gone missing from their placement. These children may leave placements in attempts to reconnect with family, peers, partners, or community; in response to placement instability, trauma, and relational disconnection; to gain autonomy; or in the context of grooming, coercion, or exploitation (Crosland & Dunlap, 2015; Hill et al., 2016; Venables, 2025; Sastre-Gomez et al., 2026). These children represent the extreme end of the placement instability distribution — the point at which the system's protective function has, in the most literal sense, broken down. By linking the records of children in care to nine post-exit administrative datasets, we provide the first population-scale evidence that the consequences of placement breakdown — not just placement itself — are a critical and underexamined driver of long-term vulnerability.

The evidence reviewed here converges on a clear conclusion: placement type and placement stability are among the most consequential and modifiable determinants of outcomes for children in out-of-home care. Yet the children who go missing from care represent a group for whom these levers have already failed, and for whom the policy response has too often been punitive or enforcement-led rather than therapeutic – compounding their trauma (Sastre-Gomez et al., 2026) and criminalising behaviour that is better understood as a signal of unmet attachment and relational needs (McKibbin et al., 2026; Colvin et al., 2018).

2. Methods

2.1 NSW Human Services Dataset

A retrospective population-based cohort study was conducted, using de-identified linked data held within the NSW Human Services Dataset. The Human Services Dataset (HSDS) contains linked administrative data on all children born or living in NSW since 1990 and their parents, with 7 million records representing over 60 datasets from 11 government departments agencies, over a 27-year period. The baseline data, refreshed annually, available for our analyses included 3,136,665 children in 2018.

In this study, we analysed a cohort of 52,042 children (344,447 episodes in out-of-home care) who had their *first* appearance in out-of-home care since 1999 and exited care between January 2000 to December 2019. An 'episode' refers to each exit from a specific placement in care. Some children in care have multiple exits (multiple episodes). The final time a child exits care is defined as the last time a child is observed in the out-of-home care data with an exit reason.

This timeframe was selected to avoid the potential difficulties of following up with children during the COVID-19 lockdown periods in 2020 and 2021. For most of the regression analyses, the sample is restricted to children with a placement ending between 2010 and 2019, to focus on a recent policy-relevant decade of practice in out-of-home care.

2.2 Variable definitions

The out-of-home care data contain information on the reason a child exits a placement. Children were identified as missing when their reason for exiting was given as 'Child Young Person (CYP) Missing'. This information was used to identify children missing in the care system at least once, the number of times missing, and the timeframe they were missing in care. Out-of-home care records on all children were used to compare children and young people who had never been recorded as missing with those who had at least one missing episode. A multivariate regression modelling approach was applied to identify the risk and protective factors associated with a missing episode.

Using a unique person identifier, the out-of-home care data were linked with other administrative datasets to assess where and when missing children and young people can be seen again, and whether their system contact differs from never-missing children and young

people during and after their time in care. Contact with service systems was identified for education (school attendance), police (as victim and person of interest), justice (juvenile and adult records), health care (emergency department visits and hospitalisation) and housing need (homelessness and social housing usage).

2.3 Estimation models

We start with a model that estimates the predictors of missing in the system (Y_{it}), as follows:

$$Y_{it} = \alpha + \Sigma_j \beta_j \, PlacementType_{jit} + \gamma' X_{it} + \delta_d + \tau_t + u_i + \varepsilon_{it} \quad (1)$$

where Y_{it} is an indicator equal to one if child *i* exits placement *t* as missing; $PlacementType_{jit}$ are indicators for placement type *j* (reference: foster care); X_{it} is a vector of child- and episode-level controls including gender, Aboriginal status, age at care entry (categorical), placement purpose, and care provider type; δ^d are district fixed effects; τ_t are year fixed effects; u_i is a child-level random effect; and ε_{it} is the idiosyncratic error. Standard errors are clustered at the individual level. The comparison group is foster care, the most common placement type. We focus on a more recent sample of exit episodes that occurred between 2010 and 2019, which is more relevant for today's policy context. This restriction yields a sample of 215,907 care exit episode observations, with 949 episodes of ever missing (744 individual children).

In addition, we estimate a model of post-missing outcomes (PMO_i) as follows:

$$PMO_i = \alpha + \beta \, EverMissing_i + \gamma' Z_i + \delta_d + \tau_t + \varepsilon_i \quad (2)$$

where PMO_i is a post-exit outcome for child i (police contact as person of interest, victimisation, high-service-use cluster membership, etc.); $EverMissing_i$ is an indicator equal to one if the child had at least one missing-in-care episode; Z_i is a vector of controls including age at exit, gender, Aboriginal status, age at care entry, and pre-exit contact indicators for each linked administrative system; δ^d and τ_t are district and year fixed effects; and ε_i is the error term. The control group consists of children who exited care (final) for any other reason. The estimation sample is 32,530 children, of whom 766 children exited care as missing.

2.2.Cluster analysis

To characterise heterogeneity in post-exit service-use patterns, we apply k-means cluster analysis to the set of children observed in administrative data after leaving care. The algorithm partitions children into k groups by minimising the total within-cluster sum of squares (WSS). We select the optimal number of clusters k* using two complementary criteria:

$$\eta^2_k = 1 - WSS(k) / WSS(1) = 1 - WSS(k) / TSS, \quad \forall\, k \in K \quad (3)$$

$$PRE_k = [WSS(k-1) - WSS(k)] / WSS(k-1), \quad \forall\, k \geq 2 \quad (4)$$

η^2_k in Equation (3) measures the share of total variance explained by a k-cluster solution, analogous to R^2 in regression. PRE_k in Equation (4) captures the proportional reduction in within-cluster error when moving from k−1 to k clusters; a sharp decline in PRE signals diminishing returns and identifies the optimal number of clusters k* (Hastie et al., 2009).

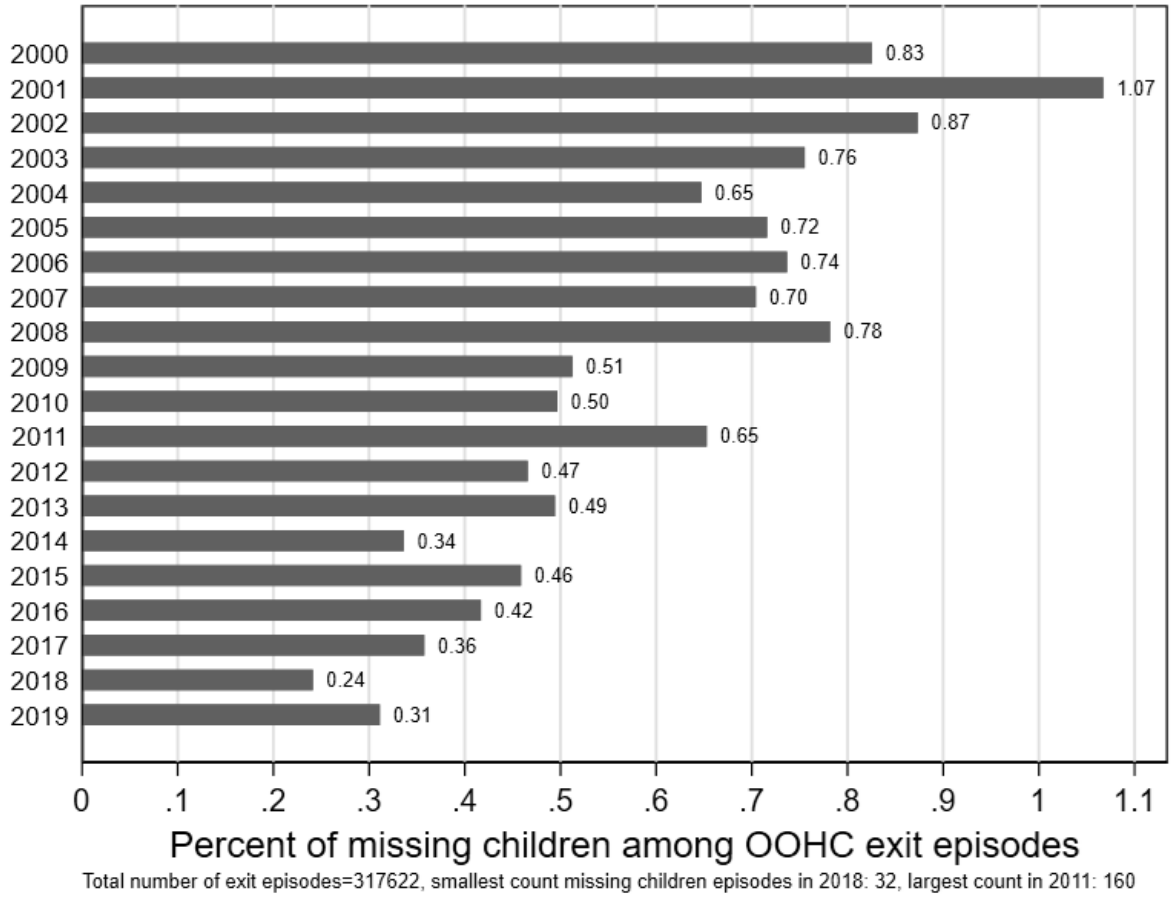
3. Results

3.1 Characteristics of children who go missing from care

Going missing in care is a rare event. From 2000 to 2019, of 317,622 care episodes, 1,684 episodes (0.53%) had a record of a child missing at exit. In total, 1,149 individual children in care had at least one record as missing, and 46,663 individual children in care had no record as missing. Table 1 reports sample sizes and summary statistics of basic characteristics.

On average, 0.5% of all exit episodes recorded the child as missing. The risk of being recorded as missing in care has decreased since the early 2000s, from a maximum risk of 1.1% in 2001, to 0.5% in 2010 and to 0.3% in 2019 (Figure 1). However, this apparent decline should be interpreted cautiously. During this period, non-government organisations progressively assumed greater responsibility for case management of children in out-of-home care through outsourcing reforms, with a major expansion occurring under the Permanency Support Program introduced in 2017. Differences in data entry processes between government and non-government providers may therefore have influenced the consistency with which missing episodes were recorded over time.

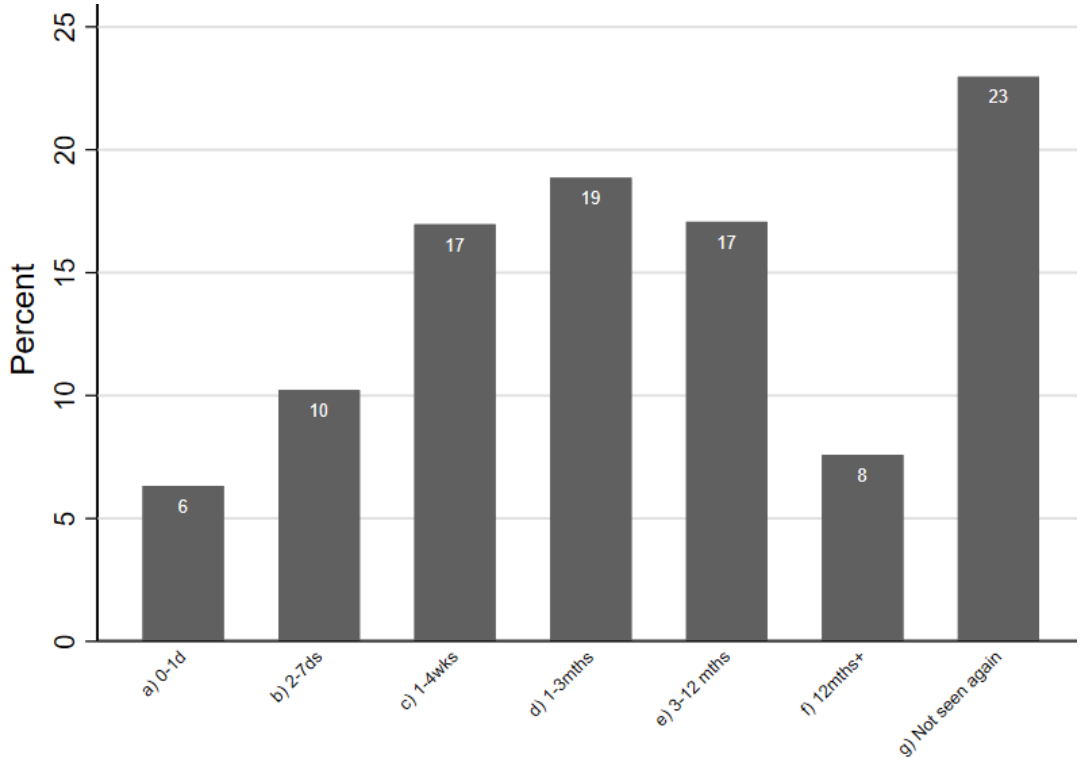
Figure 1 Percent of missing children among care exit episodes



Most children re-entered care following an exit as missing (77%), with the majority returning within three months (52%). Fewer than one in ten (8%) re-entered care after 12 months of going missing. About one in four were not observed to re-enter care (23%) (Figure 2). Most missing children went missing once (67%), but one in five went missing twice (20%), and almost 1 in 8 individuals went missing three or more times (13%).

Children missing in care differ significantly from 'never missing' children in their demographic characteristics: gender, and age at care entry and final care exit, (Table 1). Female children are over-represented in the missing in care group: 59.7% were female compared with 48.8% of all children in care without an episode of missing (Table 1). This difference is statistically significant ($p < .001$).

Figure 2 Time to re-appearance in out-of-home care following exit as missing



Note: Reappeared within a) 0-1 days, b) 2-7 days, c) 1-4 weeks, d) 1-3 months, e) 3-12 months, f) 12 months or more. Some are not seen again in care records g).

Children who were recorded as missing from care entered care at an older age (Table 1), with almost two in three entering care for the first time at age ten or later (62.7%). Conversely, nearly two in three children who were never missing entered care for the first time before age six (62.4%). The average age at which youth exited care for the final time is 15.7 years for those who had an exit as missing and nine years for those never missing ($p < .001$) (Table 1).

Children missing in care had significantly more interruptions across all their placements than those who were never missing. They were more likely to have had a planned move (75.6% versus 67.0%, $p < .001$), a disruption (52.0% versus 11.9%, $p < .001$), a change in circumstance of the carer (24.3% versus 15.2%, $p < .001$), a breakdown in the relationship with the carer (16.5% versus 3.9%, $p < .001$), and were more likely to self-restore by returning to their parents without DCJ assessment approval or a court order (17.8% versus 3.9%, $p < .001$) (Table 1).

Table 1 Comparison of characteristics of children never missing and ever missing

	Proportion of children in care:		Test (1)=(2)	Sample size in each category	
	Never missing (1)	Ever missing (2)	p-val (3)	Never missing (4)	Ever missing (5)
Female	0.488	0.597	< .001	22,772	686
Age entry into care:					
0 to < 2	0.243	0.049	< .001	11,339	56
2 to 3	0.181	0.082	< .001	8,446	94
4 to 5	0.200	0.099	< .001	9,333	114
6 to 9	0.142	0.144	0.907	6,626	165
10+	0.233	0.627	< .001	10,872	720
Age exited out-of-home care	9.0	15.7	< .001	46,663	1,149
Exit reasons that indicate placement instability					
Planned move	0.670	0.756	< .001	31,264	869
Disruption	0.119	0.520	< .001	5,553	597
Changed circumstances	0.152	0.243	< .001	7,093	279
Breakdown	0.039	0.165	< .001	1,820	190
Self-restoration	0.039	0.178	< .001	1,820	205
Family restoration	0.263	0.222	< .001	12,272	255
Number of individuals				46,663	1,149

Note: This table reports the proportion of children in each category who were never missing (column (1)) at care exit and who were missing at least once (column (2)). Column (3) reports the p-value of the t-test statistic of a comparison of proportions or means between column (1) and column (2), testing the hypothesis that proportions/means between the two groups are the same. List of reasons for placement end is incomplete in terms of all reasons recorded for the exit. Other reasons were NULL, self-restored, System [information] missing, formal exit from care.

Placement type is a risk factor for being missing in care. Table 2 shows the proportion of episodes in specific placement types by the two groups. The proportion of episodes spent in specific placement types differs significantly between children never missing in care (column (1)) and children missing in care (column (2)). Foster care was the most common placement type, with 70.9% of episodes among those not missing, and 44.6% of episodes among those missing in this exit episode ($p < .01$). The second most common placement type was kinship care, again with significant differences between those not missing and those missing in care (17.5% versus 13.3%, $p < .01$). Less common were placement episodes in hotels/Alternative Care Arrangements (ACAs) (1.1% versus 2.2%, $p < .01$), independent living (0.7% versus

5.2%, $p < .01$), residential care (2.2% versus 10.9%, $p < .01$), or youth refuges (1.2% versus 10.3%, $p < .01$), but for each of these, children missing at care exit were significantly more likely to be exiting from these less supervised care arrangements.

Table 2 Placement type across all episodes, by ever missing in care status

	Never missing	Ever Missing	p-val	Number of care episodes in category for children	
				Never missing	Ever missing
	(1)	(2)	(3)	(4)	(5)
Type:					
Foster carer	0.709	0.446	0.000	214,665	6,648
Kinship care	0.175	0.133	0.000	52,936	1,983
Residential care	0.022	0.109	0.000	6,537	1,622
Parents	0.034	0.038	0.005	10,161	567
Hotel/ACAs	0.011	0.022	0.000	3,472	331
Independent living	0.007	0.052	0.000	2,210	775
Youth refuge	0.012	0.103	0.000	3,486	1,536
Juvenile justice	0.002	0.035	0.000	534	517
Non-related person	0.012	0.019	0.000	3,652	276
Self-placed, not authorised	0.004	0.024	0.000	1,335	355
Absent location unknown	0.001	0.010	0.000	249	145
Other / undefined	0.012	0.010	0.049	3483	147
Number of care exit episodes				302,720	14,902

Note: The total number of episodes at care exit is: 317,622 between 2000 and 2019. In total, 1,149 individual children in out-of-home had at least one record as missing, and 46,663 individual children in care had no record as missing. Column (3) reports the p-value for a t-test of equality of proportions between column (1) and columns (2). Columns (4) and (5) report the individual observations for each placement type, by missing status.

3.2 Relationship between placement types and risk of missing in care

So far, the analysis has shown that children missing in care were more likely to be female and enter care at an older age (on average in adolescence), had a greater risk of placement interruptions, and had more episodes spent in more temporary placements. This section presents the multivariate regression modelling and data on all available care exit episodes (2010–2019) to identify key risk factors of missing in care that agencies could change

and therefore are modifiable, while controlling for a variety of characteristics that could explain both risk factors and missing in care.

A linear probability model of the risk of missing-in-care is estimated, allowing for random effects (see Equation (1)). Table 3 presents selected estimation results and full estimation results are presented in Appendix A (Table A 1). Table 3 reports both estimated coefficients and clustered standard errors in columns (1), (3), and (5), and relative risk ratios (× base = estimate + base share missing / base share missing) are reported in columns (2), (4), and (6). Statistical significance is reported for $p < .05$.

The strongest predictor of missing in care is placement in a youth refuge. Relative to foster care placements, for which the baseline risk of missing is less than half a percent (0.44%), it significantly increased the baseline risk by almost 15 times ($p < .01$). Other significant placement types are residential care (2.8 times, $p < .001$), hotels and ACAs (2.0 times, $p < .001$).

Independent living arrangements are associated with increased risk of going missing by 1.8, but the estimate is not statistically significant ($p < .10$). Children in kinship care and placed with parents were not significantly different in their risk of missing at exit relative to foster care. Importantly, results for residential care, hotels/ACAs and independent living are driven by boys who are missing in care. They had a higher increased risk of residential care, hotels/ACAs and independent living, relative to foster care placements, by a factor of 3.6 ($p < .01$), 2.6 ($p < .01$), and 5.0 ($p < .01$), respectively. For girls, the relative risk factors are 2.4 ($p < .01$), 1.6 (not significant), and 0.6 (not significant), respectively. The increased relative risk of going missing-in-care for youth placed in a youth refuge is also greater for boys (17.5, $p < .01$) than for girls (11.9, $p < .01$).

Table 3 Risk factor of going missing by placement type (vs baseline of foster care), by gender

Placement type	Pooled		Female		Male	
	(1)		(2)		(3)	
	Estimate (Std. err.)	× base[a]	Estimate (Std. err.)	× base[a]	Estimate (Std. err.)	× base[a]
Base: Foster care						
Kinship care	-0.0000	1.00	-0.0011	0.8	0.0009	1.3
	(0.0005)		(0.0009)		(0.0006)	
Parents	-0.0050	-2.1	-0.0139	-1.4	0.0040	2.3
	(0.0109)		(0.0181)		(0.0128)	
Residential care	0.0079***	2.8	0.0080***	2.4	0.0080***	3.6
	(0.0010)		(0.0018)		(0.0012)	
Hotel/ACAs	0.0042***	2.0	0.0033	1.6	0.0050***	2.6
	(0.0013)		(0.0022)		(0.0015)	
Independent living	0.0037*	1.8	-0.0022	0.6	0.0123***	5.0
	(0.0019)		(0.0029)		(0.0025)	
Youth refuge	0.0612***	14.9	0.0645***	11.9	0.0510***	17.5
	(0.0020)		(0.0032)		(0.0025)	
Base risk missing	0.0044		0.0059		0.0031	
# Missing episodes	949		592		357	
# Episodes	215907		99957		115950	
# Individuals	32530		15940		16605	

Note: Regression model is a random effects linear probability model with repeated individual observations over time. The outcome variable is whether the child was recorded as missing (CYP missing) at exit from care (=1 if yes, =0 if no). The model controls for individual characteristics pre-missing or pre-exit from care, district and end of placement year fixed effects (gender, Aboriginal status, age at entry, provider and placement purpose indicators, district and exit year fixed effects). Data spans care episodes from 2010 to 2019. [a] × base = estimate + base share missing / base share missing. Clustered standard errors (by individual) in parentheses. Full estimation results are presented in Appendix Table A 1. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

3.3 Public service usage post-missing

Where can children missing from care be seen again, what is the timing of service usage post-missing, and what patterns of service usage are observed? To answer these questions, children's records (2010-2019) from the out-of-home care system were linked with data from nine other administrative sources that record services provided to children in NSW.

1. Schools and attendance data
2. Police records – Person of Interest[4]
3. Police records – Victim
4. Health care: Emergency department presentation
5. Health care: Hospital admission
6. Justice system: Juvenile justice record[5]
7. Justice system: Adult justice record
8. Housing needs: Social housing – service used
9. Housing needs: Homelessness/shelter – service used

Having the exact date when a child is recorded as missing in the care data enabled identification of when and how often a child uses one of the nine services – before and after exiting care for the last time. Apart from schooling, all services indicate vulnerability and/or exposure to adversities.

Most of the 766 children who went missing from care in the period 2010-2019 can be found through their encounters with other public service systems (97.1%). This is the case even for the 182 children who never re-entered care post-missing (91.8%). There were 22 children who went missing from care who could not be identified again in any other administrative systems, which may mean that they relocated out of state or that they died. Most of them were never seen again in care either (number suppressed due to small sample size).

[4] The term 'Person of Interest' refers to a person identified in a criminal investigation who has not been arrested or formally accused of a crime, either because the person is cooperating with the investigation, and may have information that would assist the investigation, or possesses certain characteristics that merit further attention.

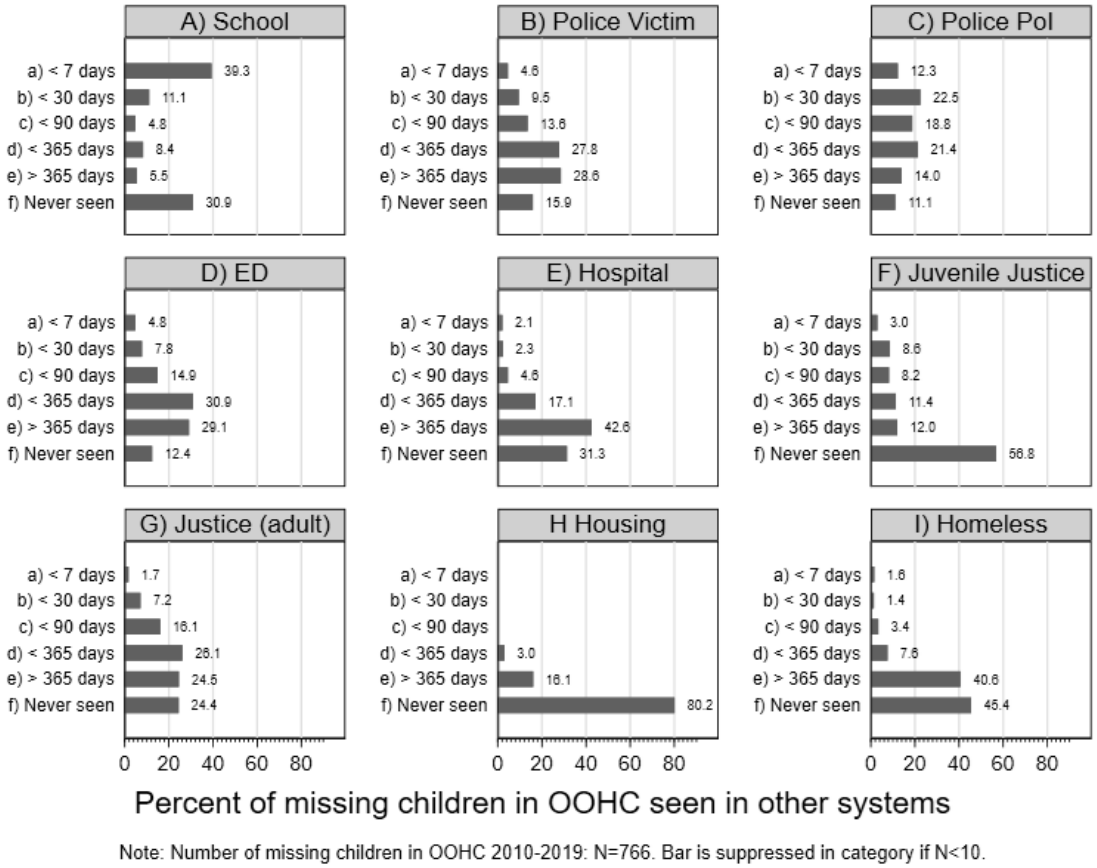
[5] Appearance in juvenile or adult justice data or records implies that the child/young person was charged for an alleged crime.

Just over one in two of the missing children (54.3%) were observed within one week of being missing in other administrative systems and 90% are observed at least once within three months.

- **School:** Four out of ten children missing in care can be found in school within the first week of being missing (39.3%), and more than one in two within the first three months (55.2%) (Figure 3, A).
- **Police Victim**: Almost one in 20 appeared as a victim in police data within seven days of being missing, and over one in four (27.7%) appear in the system within three months (Figure 3, B).
- **Police Person of Interest (POI)**: More than one in ten appeared in police records as a person of interest within seven days (12.3%) and more than one in two (53.6%) within three months (Figure 3, C).
- **Hospital:** Within three months, almost one in three presented at least once to an emergency department (30.5%) (Figure 3, D) and just over one in five (21.5%) are admitted to hospital (Figure 3, E).
- **Juvenile justice**: Almost one in five have a juvenile justice record within three months of missing (19.8%) and one in three within a year (31.2%) (Figure 3, F).
- **Housing**: Very few children missing in care used social housing services (Figure 3, I) or homelessness services (Figure 3, I) within a year of missing in care. If they do, this is after more than one year of missing.

Patterns of service contact varied substantially across systems, suggesting a variable pattern of risk. For instance, while only one in ten (11%) of the children missing in care were never observed in police records as a person of interest (POI), four out of five (80%) of the children missing in care were never seen in social housing.

Figure 3 Percent of missing children in other datasets by time elapsed since missing



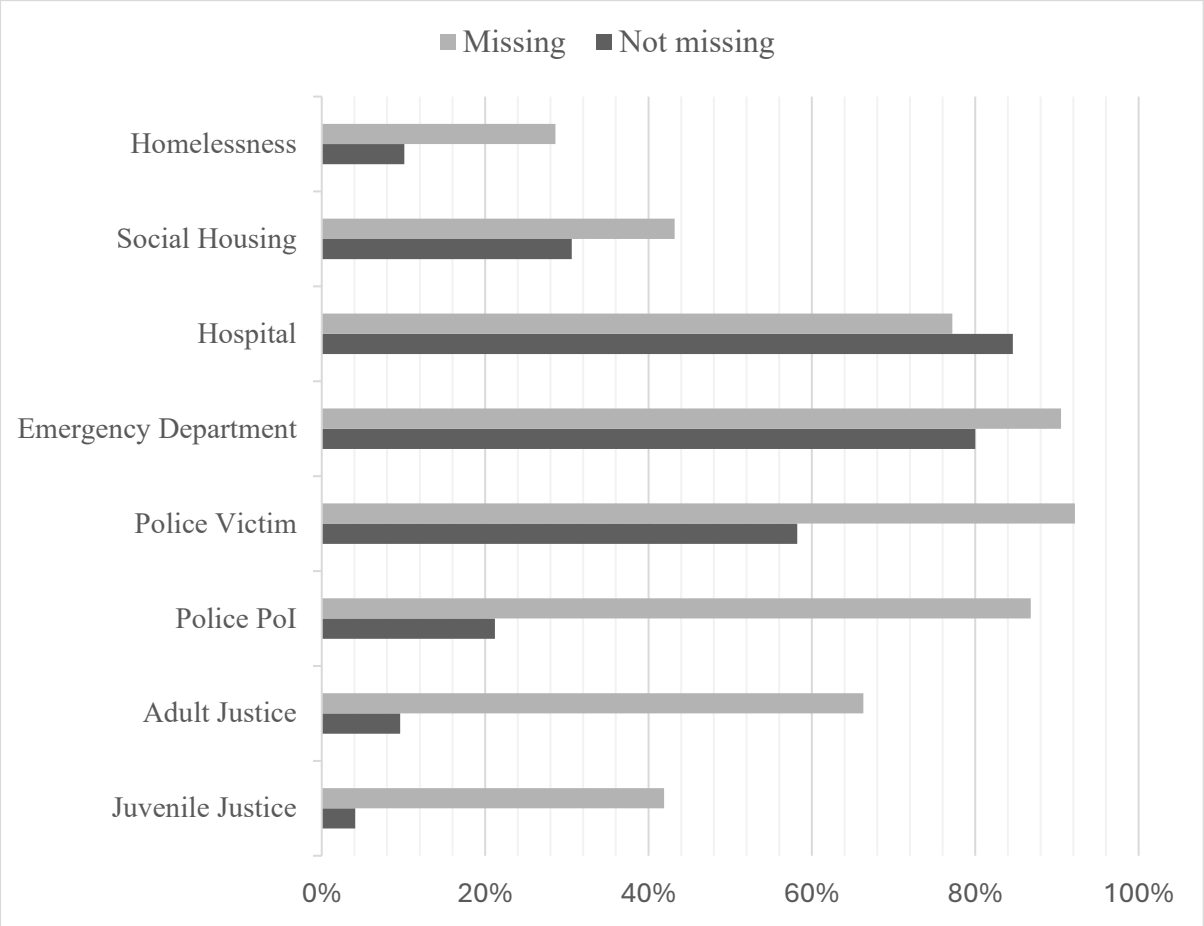
Note: Number of missing children in OOHC 2010-2019: N=766. Bar is suppressed in category if N<10.

There were distinct patterns of service usage outside out-of-home care services. Children who were later to exit care as missing appeared to be significantly more vulnerable in terms of their service use and contact with the service system outside child protection than children who exited care for any other reason. While still in care, children missing in care, compared with those who never exited care as missing (Figure 4) were:

- 10.2 × more likely to have a record in the juvenile justice system (41.9% versus 4.1%)
- 6.9 × more likely to have a record in the adult justice system (66.3% versus 9.6%)
- 4.1 × more likely to have a record in police data as person of interest (86.8% versus 21.2%)
- 1.6 × more likely to have a record in the police data as victim (92.2% versus 58.2%)
- 2.8 × more likely to have a record in homelessness services (28.6% versus 10.1%)

They were somewhat less likely to be admitted to hospital (77.2% and 84.6%) and more likely to present to an emergency department (90.5% versus 80%).

Figure 4. Risk of contact with the system *before* exiting care



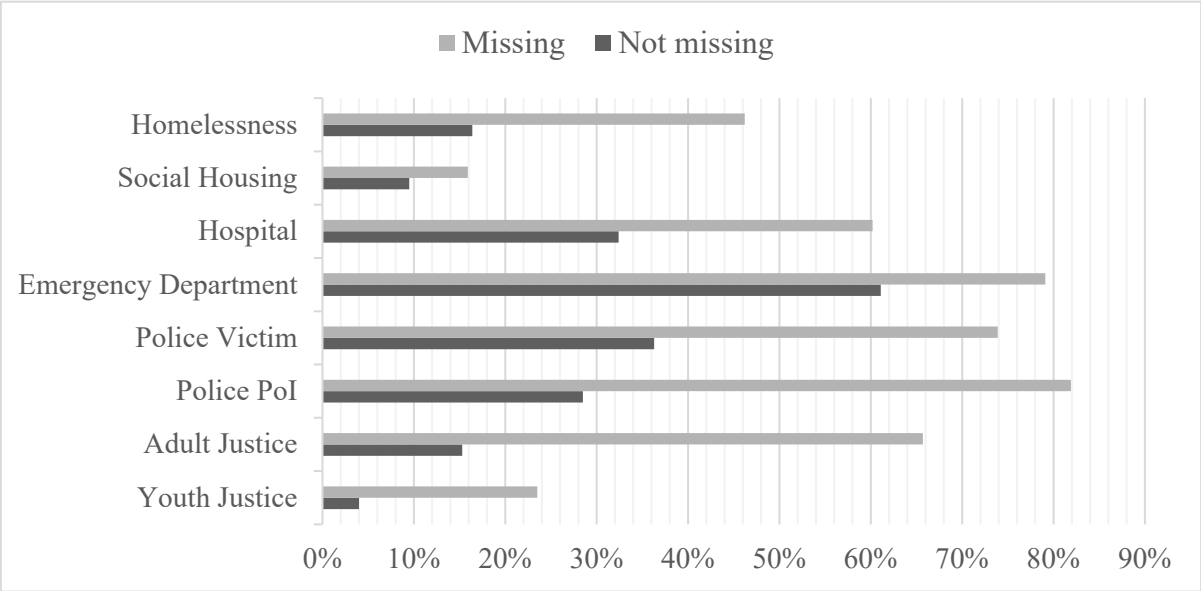
After their exit from care, children whose final exit from care was 'missing' were at least twice as exposed to other service systems as children who exit the system for any other reason. After their final exit from care, those exiting care as missing, versus those who exit care for other reasons, were on average (Figure 5):

- 2.3 × more likely to have a record in the juvenile justice system (23.5% versus 4.0%)
- 4.3 × more likely to have a record in the adult justice system (65.7% versus 15.3%)
- 2.9 × more likely to have a record in the police data as a person of interest (81.9% versus 28.5%)
- 2.0 × more likely to have a record in the police data as a victim (73.9% versus 36.3%)
- 2.8 × more likely to have a record in homelessness services (46.2% versus 16.2%)

- 1.7 × more likely to have a record in the social housing services (15.9% versus 9.5%)

Post final exit, those exiting as missing were also more likely to be seen in the health care system than those exiting care for other reasons. They were 1.3 times more likely to present at an Emergency Department (79.1% versus 61.1%) and 1.9 times more likely to be admitted to hospital (60.2% versus 32.4%).

Figure 5. Risk of contact with the system *after* final exit from care



These numbers show the high degree of vulnerability of youth missing in care, both during their care episodes but also after these exit episodes. Four out of five youth missing in care were seen post-care exit in police records as a person of interest and almost 3 in 4 as a victim (73.9%). However, most of the youth missing in care were already in contact with police systems before they exited care as missing (86.8% as a person of interest, and 92% as victim).

3.3.1 Relationship between missing in care and post care exit risk of contact with police

The question is whether being missing in care increases the risk of contact with police after going missing, or whether there are other underlying factors that increase both the risk of contact with police in care placement and the risk of missing. To gain a better understanding of the relative risk of appearing in police records (either as a victim or a person of interest), we estimated a linear probability model in which the outcome is a binary indicator of contact with

police as a person of interest (or a victim) post care exit, and the main predictor variable is exiting care as missing.

Estimates obtained from the model, in which the outcome is a binary indicator of contact with police as a victim, suggest that missing in care at final exit significantly increases the risk of contact with police as a victim (Table 4, Panel A, and Table A 2 (column 1) for full estimation results). For the entire sample (column (1)), the estimated coefficient on 'ever missing' is 4.6 percentage points (ppt) (standard error (SE) 1.6, $p < .01$). Relative to the base risk of victimhood before going missing of 59%, this implies an increase in relative risk by 7.5%, equivalent to an additional 1 in 13 youth. Heterogeneity analysis by gender reveals that this estimate is only statistically significant for boys (column (3)). Ever missing increases their risk of victimhood by 8.2%. For girls the risk increases only by 3.4%.

Estimates from a similar model, but where the outcome is contact with police as person of interest show that 'ever missing' significantly increases the risk of police contact (Table 4, Panel B, and Table A 2 (column 2) for full estimation results). The estimated coefficient on 'ever missing' is 5.3 ppt (SE 1.4, $p < .01$). Relative to the baseline risk of contact with police as a person of interest (22.7%), this implies an increase in risk of 23.3%, which is equivalent to an additional one in four youth. The increased risk was estimated to be larger for girls (34.0%) than boys (16.5%), relative to their baseline risks. For girls, this implied an additional one in three youth.

Table 4 Additional risk of missing in care on contact with police records, by gender

	Pooled Sample	Female	Male
	(1)	(2)	(3)
Panel A: Probability of Police Contact as Victim			
Ever missing	0.044***	0.021	0.047*
	(0.016)	(0.020)	(0.027)
Mean risk	0.590	0.611	0.570
Risk change %[a]	7.5	3.4	8.2
Panel B: Probability of Police Contact as Person of Interest			
Ever missing	0.053***	0.067***	0.042**
	(0.014)	(0.020)	(0.018)
Mean risk	0.227	0.197	0.255
Risk change %[a]	23.3	34.0	16.5
Obs. missing	444	322	444
Observations	32,530	15935	16595

Note: [a] Risk change % reports the relative risk increase in the outcome, relative to the mean risk of the outcome in the sample (= (Estimated Coefficient / Mean risk) × 100)). This table reports estimation results of a regression model in which the outcome variable is the probability of having a police record as Victim (Panel A), a police record as Person of Interest (Panel B). Each panel reports estimates from a different regression model. The control variables are age, female, Aboriginal status, and year and district fixed effects, and whether the child had contact with other administrative systems before exit. The sample spans all care exits between 2010 and 2019. Full estimation results for column (1) are reported in Appendix Table A 2. Clustered standard errors in parentheses. $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

3.3.2. Relationship between missing in care and complex service use clustering

So far, we have shown that 'ever missing' is significantly associated with the risk of contact with police over and above the risk of contact with the police system during care, especially for girls. Youth missing in care also have high levels of contact with other service systems before and after missing in care, indicating their vulnerability and complex service needs.

To capture the intensity and variety of service use, k-means cluster analysis was applied to group the children. This method helps address high dimensionality, which occurs when there

are many different service-use combinations relative to the number of children in the dataset. This cluster analysis allows us to do two things: first, to describe and highlight the variety in risk profiles of sub-groups of youth, with some having little such contact and others with higher contact with some or all service systems; second, to gauge the additional risk of being in a high service use / vulnerability cluster due to 'ever missing' in care.

This analysis revealed the emergence of four clusters of service usage combinations. **Cluster A** is disproportionately populated by children who exited the care system as missing. In Cluster A, 4% of all children in care were recorded missing, compared with 1.3% in **Cluster B,** and only 0.5% and 0.6%, respectively in **Cluster C**, and **Cluster D**.

Cluster A – High risk and high levels of service use (*n* = 446, 58.2% of children recorded missing): Youth in Cluster A engaged intensely with all services. Almost all had contact with Police as a Person of Interest (97.5%), Police as a Victim (90.8%), had attended the Emergency Department (96%), and been charged with a crime, either in the juvenile or adult system (93.5%). More than four in five had a hospitalisation (86.5%), and 71% were homeless at least once. The majority of the 766 children missing at care exit were classified into this cluster (*n* = 446, 58.2%).

Cluster B – High risk but lower risk of system contacts in health, justice, housing (*n* = 117, 26.2% of children recorded missing): Children in Cluster B resemble children in Cluster A but they had substantially lower risk of hospitalisation, lower levels of housing needs, and reduced exposure to the justice system, albeit still high at over 50%. Of 766 children missing in care, 117 are in Cluster B (26.2%).

Cluster C – High usage of health care and high risk of contact with police (*n* = 73, 9.5% of children recorded missing): Children in Cluster C had high levels of health care needs. More than 85% of children had an Emergency Department presentation or a hospital admission. They were at elevated risk of contact with police, both as person of interest (57.5%) and victim (76.7%), but they were less likely to have been charged with a crime. They had not used housing services. Of 766 children missing in care, 73 are in Cluster C (9.5%).

Cluster D – Low risk of service usage (*n* = 130, 17.0% of children recorded missing): Youth in Cluster D had the lowest usage of services. Few had records in police data as a victim (11.5%) or been charged with a crime in the juvenile or adult system, social housing and homelessness, and hospitals (all <10%, exact numbers suppressed due to small sample

sizes). The only exception is that 27.7% of them had at least one police record as a person of interest. Of the 766 children missing in care, 130 are in Cluster D (17.0%).

The most salient service usage cluster from a policy perspective is **Cluster A**. The youth in this cluster not only had an extremely high risk of contact with all the services, but also a high count of appearances in each of these systems. These young people experienced serious and complex needs (health, housing) and safety risks both to themselves (victimhood) and to others (contact with police or justice system).

Next, the analysis explored whether going missing in care contributed significantly to an elevated risk of being in **Cluster A**, while controlling for individual characteristics, pre-exit risk of contact with these systems, and district and time fixed effects (see Equation (2)). In this model, the outcome is a binary indicator that takes the value '1' if the person is in Cluster A, and '0' otherwise. Table 5 reports the estimated coefficient on 'ever missing', standard errors, the mean risk of Cluster A, and the relative risk increase in per cent.

Missing in care significantly increases the risk of **Cluster A** by 12.2 ppt (SE 1.8, $p <$ .01). Relative to the baseline risk of being in Cluster A (13.8%), this implies a risk increase of 87.7%, or an additional nine in ten youth. Heterogeneity analysis demonstrate that boys and girls are affected by missing in care in the same ways. For both the estimated relationship is statistically significant ($p < .001$) and large in magnitude. Relative to their baseline risk, missing in care increases the risk of Cluster A for girls by 75.9% and for boys by 91.1%.

Table 5 Additional risk of high services use needs for missing in care, by gender

	Pooled sample (1)	Female (2)	Male (3)
Ever missing	0.121***	0.107***	0.125***
	(0.018)	(0.024)	(0.026)
Mean risk	0.138	0.141	0.136
Risk change %[a]	87.7	75.9	91.1
Obs. Missing	444	322	444
Observations	32,530	15935	16595

Note: [a] Risk change % reports the relative risk increase in the outcome, relative to the mean risk of the outcome in the sample (= (Estimated Coefficient / Mean risk) × 100)). This table reports estimation results of a regression model in which the outcome variable is the probability of being in the high service use cluster post care exit. Each panel reports estimates from a different regression model. The control variables are age, female, Aboriginal status, and year and district fixed effects, and whether the child had contact with other administrative systems before exit. The sample spans all care exits between 2010 and 2019. Full estimation results for column (1) are reported in Table A 2. Clustered standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

4. Discussion and limitations

This study examined the service usage of children and young people in New South Wales who were recorded as missing as their reason for exiting from out-of-home care. Analysing linked administrative data from the NSW Human Services Dataset and drawing on insights from sector professionals, the study identifies risk factors, patterns of service contact, and opportunities for system reform.

In summary, between 2000 and 2019, a total of 1,684 episodes were identified in which a child or young person was recorded as 'missing' as the stated reason for exiting from out-of-home care, representing 0.5% of all 317,622 recorded care episodes. For the purposes of this report, an episode is defined as a period of care, with a distinct entry and exit date. Episodes which ended in 'missing' involved 1,149 unique children, each of whom experienced at least one missing event. Most children (67%) went missing once. Female children were

overrepresented in the group of children in care who went missing. There has been a downward trend in missing episodes recorded since 2010.

When restricting the analysis to children who entered care since 2010, a policy-relevant period for understanding today's practice, three key risk factors were identified: age, type of placement before exiting care, and the stability of placements during out-of-home care. Children who entered care at older ages (10 years and older) were more likely to be recorded as having an exit as 'missing'. Two in three who were 'never missing' entered care before the age of 6 whereas two in three children who were missing at least once entered care at age 10 or later. The average age at which young people exit care is 15.7 years for those ever missing and 9 years for those never missing.

Compared with children in foster care, there was significantly greater risk of 'going missing' for children placed in residential care (2.8x), hotel or alternative care arrangements (2.0x) and independent living (1.8x). Youth refuges were associated with the greatest risk, by a factor of almost 15 times relative to youth in the most common placement type (foster care). Children in kinship care and in the care of their parents were not significantly different in their risk of missing at exit from those in foster care. These findings are consistent with previous research identifying placement in residential and less home-like care settings as being associated with elevated risk of missing episodes (McFarlane, 2021; Commission for Children and Young People, 2021). Qualitative research has found that children and young people in these types of placements who self-place can feel unsafe, have basic unmet needs and feel relationally disconnected (Venables, 2025).

In line with previous studies (e.g., Chor et al., 2022; Crosland & Dunlap, 2015), children who 'went missing' on average had significantly higher instability in their placements while in care, than those who never went missing, with:

- more planned moves from one set of carers to another (77% versus 67%, $p < 0.01$),
- more disruptions whereby their placement ended unexpectedly (52% versus 11.9%, $p < 0.01$),
- a greater number of changes in the circumstances of the carer necessitating a move to another placement (24.3% versus 15.2%, $p < 0$ .01), and
- relationship breakdown when the relationship between carer and child deteriorates to the point that the placement is no longer viable (16.5% versus 3.9%, $p <0.01$).

- Missing children were also significantly more likely to self-restore to their families (17.8% versus 3.9%, p <0.01).

Most children re-entered care following an exit as missing, with the majority returning within three months (52%). About one in four (23%) did not re-enter out-of-home care. However, most children missing-in-care quickly present elsewhere in public services. More than one in two children appeared in other administrative records within a week**.** Nine in ten were observed within three months. Almost all (97%) were observed in at least one other system at some point in time (e.g., police, health care, hospital, school, justice).

Service usage indicates that children who go missing were already vulnerable in care. Relative to children who do not exit care as missing, they had significantly more contact with other service systems before exiting care: on average 10.2 times the amount of contact with juvenile justice systems, 6.9 times with adult justice, 4.1 times with police as person of interest, 1.6 times with police as a victim of crime and 2.8 times with homelessness services. These patterns align with earlier research showing that children who go missing from care often experience overlapping forms of disadvantage, including justice system involvement, homelessness, and increased exposure to exploitation and harm (McFarlane, 2021; Sastre-Gomez et al., 2026).

Following their exit from care, children who exited as missing had significantly higher risk of exposure to other service systems relative to those who are never recorded as missing, Children who went missing from care were more likely to appear in juvenile justice (2.3x), adult justice (4.3x), as a police person of interest (2.9x), as a victim of crime (2x), in homelessness services (2.8x) and in social housing (1.7x). Girls were more likely to end up in police records as person of interest post missing (34.0%) than boys (16.0%), and less likely to appear in records as victim. These findings extend earlier research demonstrating that missing episodes are associated with ongoing system contact and heightened risks of criminalisation, victimisation, and other social harms for young people in care (Colvin et al., 2018; McFarlane, 2021).

Most children who were missing in care had high service contact after their missing incident. Cluster analysis identified a dominant risk profile among children who have gone missing (nine of ten children), characterised by complex and multiple service needs across services (health, housing), risk to their own safety (victimhood), and risk to others (police and justice involvement). Girls and boys were equally likely to be in the high-risk service use

cluster post missing. These findings support emerging evidence that missing episodes are often indicators of broader cumulative vulnerability and unmet relational, emotional, and material needs rather than isolated incidents (Sastre-Gomez et al., 2026; Venables, 2025). The high levels of justice and police contact identified in this study also raise concerns regarding the potential criminalisation of children in care noted in earlier Australian research (Colvin et al., 2018).

Limitations of the study include limitations on the scope of what we were able to study in relation to the conditions laid out in the existing data sharing agreement and what was feasible within the given timeframe to abide by Indigenous Data Sovereignty principles. Thus, this study could not delve into the quantitative analysis of the 'missing in care' experiences of Aboriginal children. The data sharing agreement allowed for analysis of data of all children in out-of-home care, including Aboriginal children but our access to Aboriginal status was provided on the condition that we were not to analyse and report on Aboriginal children and youth as a discrete cohort. Aboriginality was included as a control variable in the regression modelling and tested for significance. Within these limitations, we can say that Aboriginal children are significantly different in their risk of missing-in-care.

Consultation with Aboriginal community leaders indicated that it would be important to study the experiences of Aboriginal children missing in care as a distinct group. We therefore recommend that future research led by an Aboriginal research team with expertise in child protection advances this analysis.

Other limitations include the fact that our estimates may under-report the extent to which youth go missing in care. We used a strict definition of missing-in-care, a flag reported by a social worker in the exit file. It is possible that this field in the data was inconsistently entered. In particular, it is unclear the extent to which non-governmental organisations with casework responsibility for children in out-of-home care have consistently entered this data. The Audit Office of NSW (2024) has noted that NGOs typically have their own management information systems and must duplicate data entry using DCJ's current ChildStory database, which can result in data errors.

5. Policy conclusions

The findings of this study are highly relevant to policy reforms in out-of-home care currently underway in New South Wales (NSW Department of Communities and Justice, 2025), which aim to improve the stability of care and life outcomes for children in care. Our analysis suggests that policymakers should consider strengthening the networks of relationships around vulnerable young people, which aligns with the philosophy of the reform efforts. Young people may leave their placements seeking connection and belonging. Throughout all the systems they encounter, there must be relational practice to build trust. For Aboriginal young people, this work is best led by Aboriginal community-controlled organisations that can provide cultural support and mentoring.

Another important implication is the need for better integrated service delivery models. Enhanced collaboration between child protection agencies, police, education providers, health care services and Aboriginal organisations is needed to improve prevention and intervention for missing children in care. Schools are at the frontline of safeguarding children at risk of leaving their placements, as they are the primary contact point for all families with children of compulsory school age. The already active role of educators in early identification and reporting of children at risk of going missing could be further boosted by additional funding for training opportunities and service integration strategies.

As placement type and stability turned out to be a strong and significant predictor of missing-in-care, effective evidence-based strategies to improve placement options and bolster stability are crucial. Investment should be made in trauma-informed, culturally safe, and community-led alternatives to the institutional arrangements most associated with young people going missing from care. An annual review of the health, safety and well-being of children in care that includes a focus on monitoring all incidents of going missing from care would promote accountability and drive practice improvements.

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Table A 1 Full estimation results for predictors of the risk of missing in care

	(1) **Pooled 2000–2019**	(2) **Pooled 2000–2019 + provider**	(3) **Pooled 2010–2019**
Entered out-of-home care: (base: Age 0)			
Entered Age 1-3	-0.0004 (0.0008)	-0.0004 (0.0008)	-0.0006 (0.0009)
Entered Age 4-5	-0.0027*** (0.0008)	-0.0027*** (0.0008)	-0.0022** (0.0009)
Entered Age 6-9	-0.0048*** (0.0010)	-0.0048*** (0.0010)	-0.0037*** (0.0011)
Entered Age 10+	0.0032*** (0.0011)	0.0031*** (0.0011)	0.0014 (0.0012)
Age exited out-of-home care	0.0010*** (0.0001)	0.0011*** (0.0001)	0.0010*** (0.0001)
Female	0.0023*** (0.0005)	0.0023*** (0.0005)	0.0018*** (0.0006)
Aboriginal status	0.0024*** (0.0006)	0.0024*** (0.0006)	0.0025*** (0.0006)
Placement purpose (Transition) to Adoption	0.0047** (0.0023)	0.0045* (0.0023)	0.0004 (0.0032)
Assessment	0.0054*** (0.0011)	0.0052*** (0.0011)	0.0064*** (0.0018)
Emergency/Temporary	0.0055*** (0.0004)	0.0052*** (0.0004)	0.0047*** (0.0005)
Purpose: Missing	-0.0032*** (0.0009)	-0.0030*** (0.0009)	-0.0030*** (0.0009)

	(1) **Pooled 2000–2019**	(2) **Pooled 2000–2019 + provider**	(3) **Pooled 2010–2019**
Purpose: Other	0.0087***	0.0086***	0.0090***
	(0.0008)	(0.0008)	(0.0010)
Pending Court Decision	0.0047***	0.0046***	0.0030***
	(0.0007)	(0.0007)	(0.0009)
(Transition) to Permanent Care	0.0034***	0.0034***	0.0025***
	(0.0005)	(0.0005)	(0.0005)
Respite Care (base)			
Transition to Independence	0.0007	0.0006	-0.0010
	(0.0016)	(0.0016)	(0.0019)
Transition to Restoration	0.0032***	0.0032***	0.0008
	(0.0009)	(0.0009)	(0.0012)
Other	-0.0016	-0.0021*	-0.0023
	(0.0012)	(0.0013)	(0.0015)
Placement type Base: Foster care			
Kinship care	-0.0003	-0.0008*	-0.0000
	(0.0004)	(0.0005)	(0.0005)
Residential care	0.0080***	0.0085***	0.0079***
	(0.0009)	(0.0009)	(0.0010)
Parents	-0.0041***	-0.0051	-0.0050
	(0.0008)	(0.0119)	(0.0109)
Hotel/ACAs	0.0053***	0.0044***	0.0042***
	(0.0013)	(0.0013)	(0.0013)
Independent living	0.0080***	0.0075***	0.0037*
	(0.0014)	(0.0015)	(0.0019)
Youth refuge	0.0580***	0.0569***	0.0612***
	(0.0012)	(0.0018)	(0.0020)

	(1) **Pooled 2000–2019**	(2) **Pooled 2000–2019 + provider**	(3) **Pooled 2010–2019**
Juvenile justice	-0.0397***	-0.0409***	-0.0406***
	(0.0023)	(0.0026)	(0.0026)
Non-related person	-0.0005	-0.0010	-0.0064**
	(0.0013)	(0.0013)	(0.0029)
Self-placed not authorised	0.0058***	0.0048**	0.0028
	(0.0018)	(0.0020)	(0.0019)
Absent location unknown	0.0211***	0.0208***	0.0167***
	(0.0036)	(0.0037)	(0.0034)
Provider Base: DCJ NSW			
NGO		-0.0014***	-0.0016***
		(0.0004)	(0.0005)
Other | Unspecified		0.0007	0.0017
		(0.0014)	(0.0014)
Parents		0.0004	0.0031
		(0.0120)	(0.0109)
Constant	-0.0048***	-0.0043***	-0.0048***
	(0.0010)	(0.0010)	(0.0011)
Proportion missing	0.0053	0.0053	0.0044
Number of episodes with missing	1684	1683	949
Number of episodes	317622	317520	215907
Number of individuals	47812	47800	32530
R-squared between	0.0495	0.0495	0.0492
R-squared within	0.0085	0.0085	0.0087
R-squared overall	0.0325	0.0326	0.0315

Note: Regression model is a random effects linear probability model with repeated individual observations over time. The outcome variable is whether the child was recorded as missing (CYP missing) at exit from care (=1 if yes, =0 if no). The model controls for individual characteristics pre-missing or pre-exit from care, district and end of placement year fixed effects (gender, Aboriginal status, age at entry, provider and placement purpose indicators, district and exit year fixed effects). Data spans care episodes from 2010 to 2019. [a] × base = estimate + base share missing / base share missing. Clustered standard errors (by individual) in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

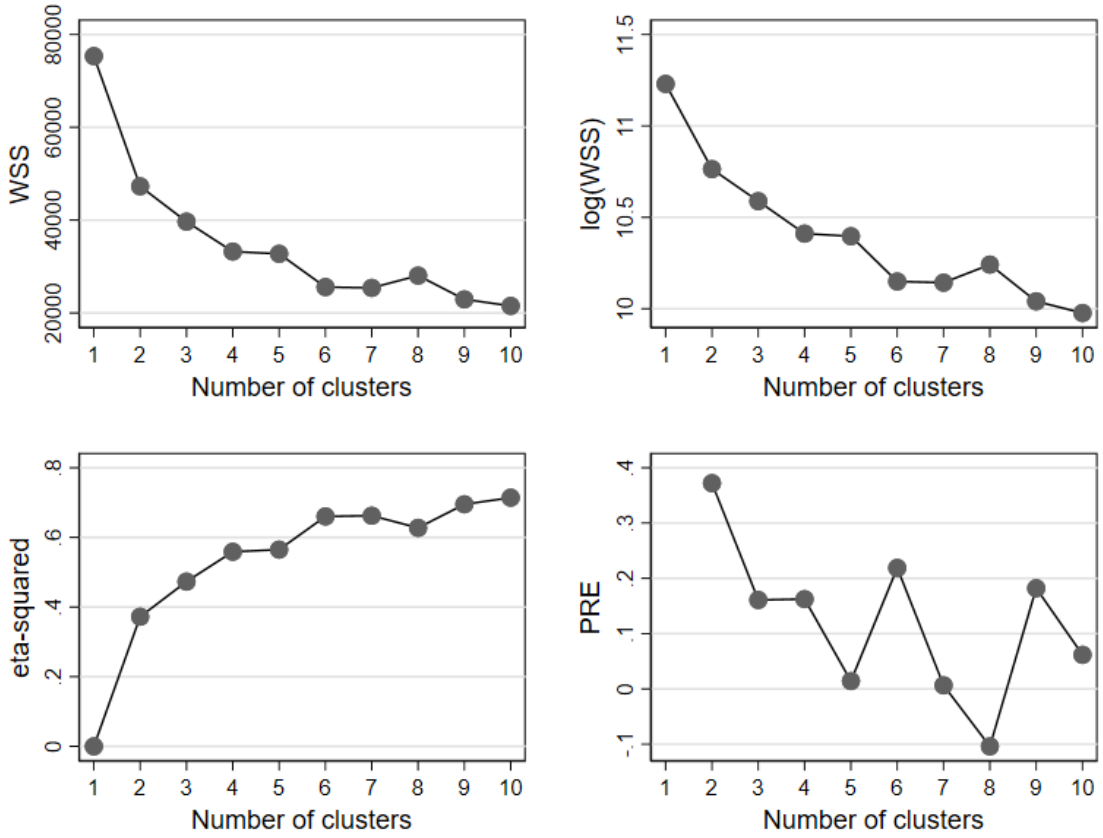
Table A 2 Full estimation results: Factors associated with risk of vulnerability post care exit

	(1) **Risk of police contact as victim**	(2) **Risk of police contact as Person of Interest**	(3) **Risk of high-service use group (Cluster A)**
Ever Missing	0.046***	0.054***	0.122***
	(0.016)	(0.014)	(0.018)
Age at exit	0.017***	0.030***	0.013***
	(0.001)	(0.001)	(0.000)
Female	0.066***	-0.052***	0.012***
	(0.005)	(0.004)	(0.003)
Aboriginal status	0.030***	0.050***	0.038***
	(0.005)	(0.004)	(0.004)
B4 exit: victim	0.109***	0.036***	0.020***
	(0.006)	(0.004)	(0.003)
B4 exit: Juvenile	0.037***	0.081***	0.140***
Justice	(0.014)	(0.012)	(0.016)
B4 exit: Justice	0.050***	0.079***	0.095***
	(0.012)	(0.011)	(0.013)
B4 exit: Police	0.107***	0.232***	0.141***
PoI	(0.009)	(0.009)	(0.008)
B4 exit: ED	0.020***	0.000	-0.001
	(0.006)	(0.005)	(0.004)
B4 exit: Hospital	0.029***	0.007	-0.001
	(0.007)	(0.006)	(0.006)

	(1)	(2)	(3)
	Risk of police contact as victim	**Risk of police contact as Person of Interest**	**Risk of high-service use group (Cluster A)**
Entered out-of-home care			
Base: Age 0			
Entered Age 1-3	0.014*	-0.013***	-0.010***
	(0.007)	(0.005)	(0.004)
Entered Age 4-5	0.014*	-0.030***	-0.022***
	(0.007)	(0.006)	(0.004)
Entered Age 6-9	0.042***	0.004	-0.009
	(0.010)	(0.008)	(0.007)
Entered Age 10+	0.088***	0.045***	0.048***
	(0.010)	(0.009)	(0.008)
Constant	0.156***	0.118***	0.041***
	(0.013)	(0.010)	(0.009)
Year Fixed Effects	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes
Mean risk before (B4) exit	0.590	0.227	0.138
Observation if missing	766	766	766
Observation if missing & Police victim	566	627	446
Observations	32,530	32,530	32,530

Note: Table reports estimation results of a regression model in which the outcome variable is Probability of having a police record as a Victim (1), as a Person of Interest (2) and being in the high-risk cluster (3). Each Model controls for year and district fixed effects (suppressed). Control variables include whether the child had contact with other administrative systems before exit. The sample spans all care exits between 2010 and 2019. Clustered standard errors in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure B 1 Choice of number of clusters



Note: We used STATA kmeans clustering command over eight binary outcomes: Risk of being seen in other administrative data systems post out of home care exit. (1) Police – Person of interest; (2) Police – Victim; (3) Health: Emergency department; (4) Health: Hospitalisation; (5) Housing: Social housing; (6) Housing: Homelessness; (7) Justice: Juvenile courts; (8) Justice: Adult courts. For all children whose placement ended between 2010 and 2019.

Sample size: 32,530 children including 766 children who were missing at least once from care.

Reported are within sum of squares WSS, the log of WSS, eta squared and the proportional reduction of error (PRE) coefficient.