



ELSEVIER

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Child Abuse & Neglect

journal homepage: www.elsevier.com/locate/chiabuneg

Pathways of Care: A longitudinal study of children in care in Australia

Introductory article for special issue on Pathways of Care Longitudinal Study

Judith Cashmore^{a, *}, Fred Wulczyn^b, Pathways of Care Longitudinal Study (POCLS Team)^c

^a School of Education and Social Work, University of Sydney, Australia

^b Center for State Child Welfare Data, Chapin Hall Center for Children, University of Chicago, United States of America

^c Pathways of Care Longitudinal Study (POCLS Team) – NSW Department of Communities and Justice, Australia (Merran Butler (Chief Investigator); Marina Paxman (Project Manager); Joanna Hopkins (Data Manager); Albert Zhou; Dr Nafisa Asif; Dr Proshanta Dey; Sharon Burke; Jennifer Lau; Toulia Kypros)

ARTICLE INFO

Keywords:

Longitudinal study
Out-of-home care
Trajectories
Outcome measures
Child development
Socio-emotional well-being
Placement type and stability
Administrative data

ABSTRACT

The Pathways of Care Longitudinal Study (POCLS) is the first large-scale prospective longitudinal study of children and young people in out-of-home care in Australia. It includes a cohort of all 4126 children and young people (age 0 to 17 years) who entered out-of-home care for the first time over an 18-month period from May 2010 to October 2011 in New South Wales, with a focus on 2828 of these children with final court orders. It involved interviews with participating caregivers for children on final orders and standardised assessments for the children in their care as well as interviews for 7–17 year-olds, together with linked administrative data from a range of agencies for all 4126 children. Data for the interview cohort includes information on children's development, permanency and wellbeing while in care, tracking their physical health, socio-emotional wellbeing and cognitive development, as well as their experiences in care, and after they exit care to return home, or to guardianship and adoption. POCLS currently includes data from five waves of interviews with caregivers and the children in their care. This special issue includes articles that present findings from a range of analyses across various domains from the first four waves of the study. This introductory article outlines the Australian context of the study, its conceptual framework, design and methodology. Using a range of analytical approaches, the nine articles expose an array of issues, including children's developmental, socio-emotional and academic outcomes and trajectories (including reunification), associated with factors such as placement type, stability, pre-care maltreatment, disability, and age at entry to care, and caregiver stress.

This special issue presents a series of articles that report findings from the first three or four waves (first 10 years) of the *Pathways of Care Longitudinal Study* (POCLS) later referred to as the *Pathways of Care* study (abbreviated to POCLS). This is the first large-scale

* Corresponding author.

E-mail address: judith.cashmore@sydney.edu.au (J. Cashmore).

<https://doi.org/10.1016/j.chiabu.2023.106586>

Received 27 November 2023; Accepted 27 November 2023

Available online 20 January 2024

0145-2134/Crown Copyright © 2023 Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

prospective longitudinal study of children and young people in out-of-home care in Australia, in the most populous state, New South Wales. It included a cohort of all 4126 children and young people who entered out-of-home care for the first time between May 2010 and October 2011 in New South Wales, with a focus on those with final orders. In Australia, as elsewhere in the world, the decision to remove a child from their parents and to place them in out-of-home care is a life-altering decision with impacts on the child, the family, and the community. Few public child welfare agencies, however, are in a position to answer the many questions about evidence for children's development, wellbeing and pathways through the care system and beyond.

The aim of the *Pathways of Care* study was to provide significant new knowledge that would inform policy and practice to improve the outcomes of children and young people in out-of-home care in relation to their permanency, safety and wellbeing. When children enter out-of-home care, the government and non-government agencies entrusted with case management responsibilities have a duty to provide 'care' that protects and promotes the development of these children. The study focused on understanding the pathways for children on final court orders into, through and from care and the factors that influence their physical health, socio-emotional wellbeing and cognitive/learning development during their time in out-of-home care and after they leave care to return home (reunification/restoration), or via a guardianship order, adoption or by ageing out of care at age 18 years. The particular focus was on policy and practice implications and what interventions improve children's experiences and outcomes. What factors influence children's experiences of out-of-home care and their developmental outcomes? What difference does the age at which children enter care, the type and duration of care placements, the relationships they have with their carers and family members, and the services they receive, make to their trajectories, experiences and outcomes?

The authors in this special issue include researchers in the POCLS scientific working group who have been involved with the study since its inception (Cashmore, Delfabbro, Katz, and Wulczyn) and those who have been involved more recently in analysing the POCLS dataset to answer particular research questions (Asif, Cheng, Fernandez, Hu, Lima, Luu, Maclean, Newton, O'Donnell, Ryder, Suomi, Wade and their co-authors).

1. Context

The value of prospective longitudinal studies such as *Pathways of Care* alongside others such as the US National Survey of Child and Adolescent Well-being (NSCAW) is the capacity to offer an understanding of trajectories, developmental changes and possible causal associations, not possible with cross-sectional or point-in-time data. Such longitudinal data involving children in out-of-home care can also address contentious questions concerning the impact of removal and subsequent time in out-of-home care on children's outcomes, taking account of children's experiences, vulnerabilities and their child protection and family background prior to entering care (Baldwin et al., 2019; Barth et al., 2021; Berger, Bruch, Johnson, James, & Rubin, 2009; Doyle, 2007, 2013; Wakefield & Wildeman, 2022; Wulczyn, Barth, Yuan, Harden, & Landsverk, 2005). As Rutter (1994) pointed out, "causal inferences are strengthened when it is possible to show consistent dose-response relationships" such as the cumulative effect of adversity before children enter care, as well as children's time and experiences while in out-of-home care.

Such large-scale prospective longitudinal studies involving children, families and carers come of course with substantial challenges. They have significant design and ethical challenges in relation to recruitment, consents and access to sensitive data, and the selection and design of appropriate measures. They are very expensive to conduct and substantial resources are required to keep track of children and their carers and families to minimise attrition and missing data. Analysing and integrating longitudinal data with linked administrative data, as in *Pathways of Care*, also requires sophisticated statistical methods and analytical skills (Chikwava et al., 2021; White & Wu, 2014; Wulczyn et al., 2021).

It is also important to take into account the local context. While international research is valuable, as Barth et al. (2021) point out, place does matter – and the Australian context has its own unique mix of cultural diversity and geographic distribution of the population as well as differences in policy context, community resources and service provision. Like other Western countries with a colonial background, First Nations children in Australia (Aboriginal and Torres Strait Islander) are heavily over-represented in child protection and out-of-home care, reflecting the legacy of past policies of forced removal and the intergenerational effects of previous forced separations from family and culture (the "Stolen Generations"). This erosion of community and familial capacity over time continues to have a profound and adverse impact on Aboriginal communities and children (Human Rights and Equal Opportunity Commission, 1997). One of the key objectives of *Pathways of Care* is to develop an effective evidence-base for policy and practice and Aboriginal-led solutions.

1.1. Alignment with other longitudinal studies

The focus on cognitive, social-emotional, and physical well-being is a pragmatic choice, and intended to align with other longitudinal studies in the field, in particular *Growing Up in Australia and Footprints in Time* and the Australian Temperament Project in Australia¹ and the US National Survey of Child and Adolescent Well-being (NSCAW). *Growing Up in Australia*, the Longitudinal Study of Australia's Children (LSAC) and *Footprints in Time*, the Longitudinal Study of Indigenous Children in Australia (LSIC) follow the development of a birth and a pre-school cohort of children in both the general population and Aboriginal and/or Torres Strait Islander

¹ The Australian Temperament Project is a study of emotional development from infancy to adulthood and into the next generation over 30 years (15 waves) based on a representative sample of over 2,000 Australian children born in the state of Victoria, between September 1982 and January 1983: <https://www.melbournechildrens.com/atp/>.

population from urban and rural areas across all states and territories in Australia. These government-funded studies began in 2003, collecting information from two cohorts of young children (under 12 months of age, and 4 to 5 years old), their carers and teachers, as well as linked administrative data. They have a multi-disciplinary base, and examine a broad range of research questions about development and wellbeing over the life course in relation to parenting, child and parent health, family, relationships, culture, childcare and education.²

The *National Survey of Child and Adolescent Well-Being* (NSCAW) is a large-scale nationally representative longitudinal survey of children and families in the US, who were subjects of investigation by Child Protective Services. The aim of NSCAW is to examine the associations between child and family well-being outcomes and their experience with the child welfare system taking into account family characteristics, community environment, and other factors (Biemer et al., 2009). It “includes first-hand reports from children, parents, and other caregivers, as well as reports from caseworkers and teachers”. It comprises three cohorts: “NSCAW I, the landmark study, was launched in 1997 and continued through 2007; NSCAW II was initiated in 2006 and completed in 2014; and NSCAW III which began in 2015 and is ongoing.”³ Like *Growing up in Australia* (LSAC), *Footprints in Time* (LSIC) and the *Pathways of Care* study, NSCAW is government funded.

There are several reasons for aligning *Pathways of Care* measures with these studies. The fit with LSAC and LSIC is important because it provides an Australian counterfactual that is otherwise missing from the study. LSAC and LSIC provides a sense of how children in the general population of Australia are faring which can be compared with POCLS children in the out-of-home care system. The fit with NSCAW allows for an international comparison of the way that child welfare systems respond to the needs of vulnerable children. This is an area that future analyses can focus on though these comparisons are not the focus of this special issue.

1.2. Child protection and out-of-home care in Australia

In Australia, child protection legislation, policy, and practice come under the jurisdiction of the six states and two territories. The basis for mandatory reporting, investigation, and possible intervention when a child is defined as being “in need of care and protection” or “at risk” is broadly similar across jurisdictions. The overall approach tends to be forensic, based on “risk-focused paradigms” concerned with identifying parental incapacity and “failings” (Connolly, 2013; Duerr Berrick et al., 2023) in line with other English speaking common law countries and the United States. In all jurisdictions, removing children from their families and placing them in out-of-home care is “a measure of last resort” and the aim is to return children to their families when it is considered safe to do so.

Nationally, 45,393 children were in out-of-home care as of June 30, 2022, a rate of 8.0 per 1000 children (Australian Institute of Health and Welfare (AIHW), 2023, Table 5.10). Infants under 12 months of age are the most likely to enter care with rates of entry generally decreasing with the age of the child. The two most common out-of-home care placements for children in Australia are relative or kinship care (54.0 % nationally, 53.6 % in NSW) and foster care (34.9.1 % nationally, 39.4 % in NSW) (Australian Institute of Health and Welfare (AIHW), 2023). A minority of children and young people (8.5 % nationally, 4.6 % in NSW) are in residential care, which is mainly used for children and adolescents with ‘complex needs’ and difficult and challenging behaviors. While adoption from care is more common in New South Wales than in the other states and territories, it is still much more uncommon than in the US and UK. Only 171 children in 2019–20 and 100 in 2020–21 were adopted from care in Australia, and nearly all of these (169 in 2019–20 and 96 in 2020–21) occurred in New South Wales, reflecting this state’s permanency options of guardianship, adoption and long-term care for children when restoration/reunification is determined to be unsafe or inappropriate (Australian Institute of Health and Welfare (AIHW), 2021, p. 16; Wright et al., 2021). Long-term guardianship orders (to age 18), generally to relatives or former carers, is a preferred ‘permanency’ option for children who cannot be restored to their parent/s; children on these orders are considered to have left out-of-home care (Wright et al., 2022).

First Nations children are heavily over-represented in out-of-home care across Australia, and in New South Wales at 11.2 times the rate of non-Aboriginal children (57.3 children per 1000 in care compared with 5.1 per 1000; Australian Institute of Health and Welfare (AIHW), 2023, Table S5.10); and this rate has increased from 51 per 1000 in 2017. A number of inquiries and reviews in several states and territories in Australia have outlined the cumulative disadvantage and intergenerational trauma over more than two centuries as a result of English colonisation of Australia as well as the processes and policies that lead to such high rates of over-representation of First Nations children in the child protection and out-of-home care systems (Davis, 2019; Human Rights and Equal Opportunity Commission, 1997).

2. Theoretical underpinnings and conceptual overview

The *Pathways of Care* study is underpinned by a theoretical framework that encompasses bio-ecological, human capital and life-course developmental perspectives, adapted to fit the particular context of children entering out-of-home care across the age range from birth to 17 years (NSW Department of Communities and Justice, 2020; Wilczyn & Huhr, 2018).

The bio-ecological and human capital perspectives conceptualise children’s development as a complex process influenced by their interactions with multiple layers of the environment surrounding them – from the most immediate or proximal (their family and home) to community and school settings and then broader societal and cultural values and systems, including policies, laws, and customs

² See <https://growingupinaustralia.gov.au/>; <https://www.dss.gov.au/about-the-department/longitudinal-studies/footprints-in-time-lsic-longitudinal-study-of-indigenous-children-overview>.

³ <https://www.acf.hhs.gov/opre/project/national-survey-child-and-adolescent-well-being-nscaw-1997-2014-and-2015-2024>.

(Bronfenbrenner & Morris, 2006). It is the dynamic interaction between the child's individual characteristics (e.g., pre-natal experiences, genetics, age, gender, culture, disability) and their environmental context (e.g., parents, family, caregivers, neighbourhood, and community) that shape development (Sameroff, 2009). The most proximal risk and protective factors involve the home or setting in which the child is living, and in particular, the nature of the caregiver/child relationship as well as the child's relationship with their family and the way in which the carers' relationship with the child's parents influence and frame the child's relationships (Rutter, 2000; Wulczyn & Huhr, 2018; Wulczyn et al., 2021).

Community context is a second level of influence on children's development. Children grow up through time and within place. The place may change, if children move from one placement or household to another and/or from one school to another. Indeed, with 'restoration' or reunification as a primary goal, the 'community' context may well change. For Aboriginal children and children from culturally and linguistically diverse backgrounds (CALD), the cultural community is particularly important (Krakouer et al., 2018). When Aboriginal children are placed in out-of-home care, those decisions should by law be in accordance with the Aboriginal and Torres Strait Islander Child Placement Principle (ATSICPP) (s 13 of the NSW *Children and Young Persons (Care and Protection) Act 1998*) with similar provisions in the other state and territory jurisdictions). The aim is to keep children connected to their families, communities, culture and country, and to ensure the participation of Aboriginal and Torres Strait Islander people in decisions about their children's care and protection. However, the failures in supporting reunification, in identifying and assessing relative and kinship carers, and the inadequate involvement of Aboriginal people and organisations in decision-making are well documented (Davis, 2019; Secretariat of National Aboriginal and Islander Child Care (SNAICC), 2018, 2021).

Beyond the child's care placement, home, and community, there are a range of services that provide contextual layers around children as they develop (Wulczyn, 2020). In some cases, the place these other services occupy is a matter of institutional structures that 'organise' the life course. Childcare and schools, for example, introduce a certain regularity to the life course within cohorts. Sporting and cultural agencies provide other places for children's activity and for connecting with community and with other children outside school. The need for, access to, and utilization of other services are more situational and a function of the child's 'needs'. These other services include those delivered in an effort to ameliorate the problems in the home of the parent (i.e., for reunification) or services to reinforce the care a child receives while in out-of-home care and once the child has been returned home. These services include trauma-focused interventions to help children adjust to their placement outside their family home as well those that manage and support routine physical health and dental care. In addition, there are basic child welfare services – what caseworkers and the agencies do to implement the care plan for a child, and the 'effort' by child welfare agencies to craft suitable caregiving contexts for children, regardless of who those carers might be (Akin et al., 2021; Eastman et al., 2019). At a broader level, other attributes of place and the social structural domain include poverty, employment and educational levels, as well measures of social capital (Wulczyn et al., 2021).

A life course development perspective also underpins the Pathways of Care study, with its focus on the 'person-in-interaction-with environment' and the 'person-over-time' as the fundamental unit of analysis (Elder, 1994, 1998; Lawrence & Dodds, 2016; Wulczyn & Huhr, 2018). 'Pathways' constitute one of the main concepts of the life-course perspective which encapsulate children's development over time, influenced by context and a range of decisions that affect children's lives (Elder, 1994, 1998; Wulczyn et al., 2005). The 'pathways of care' reference in the name of the study refers to the sequence of placement living arrangements and service events that combine to shape a child's pathway through the child protection system, in out-of-home care and after leaving care (via reunification, guardianship, adoption or ageing out at 18 years).

White and Wu (2014) provide a useful delineation of the four main concepts of the life course perspective and apply them to child welfare research: trajectories, pathways, transition points and cumulative advantage/disadvantage. 'Trajectories' are defined as "changes or patterns in a continuously measured trait or state over time" and may refer to "permanency trajectories" in relation to children's pattern of placements in care and "wellbeing trajectories" associated with, for example, children's physical or mental health, and educational achievement (p. 147). A 'pathway' refers to "a set of interrelated trajectories, and pathways are often defined or marked by roles and role transitions". The pathway from childhood to adulthood may, for example, be 'normative' or "full of detours and unexpected reversals" (Robins & Rutter, 1990, p. xiii). For children who enter out-of-home care, their lives are characterised by numerous transitions and changes that may include being removed from their parents and their family home; being separated from their siblings and from extended family, their neighbourhood, school, friends, community and cultural connections; being placed with foster or kinship carers; changing placements, and possibly a change in their legal status and living arrangements via guardianship or adoption (White & Wu, 2014). Transitions that involve significant change in trajectories and pathways may constitute 'turning points' which may have either positive or negative outcomes (Taussig et al., 2022).

Of significant interest to researchers, policymakers and practitioners is the question of whether entry to care constitutes a turning point for children, and one that is positive or negative in relation to children's short and longer-term socio-emotional wellbeing, physical and mental health and educational trajectories – after taking into account their experiences prior to entering care. As Rutter (1994, 2000), and others have pointed out, early adverse experiences can predispose children to risk at a later age, and the cumulative effect of adverse experiences, particularly in the absence of positive childhood experiences, increases the likelihood of poor outcomes for children and young people (Bethel et al., 2019; White & Wu, 2014). The findings to date in relation to the impact of foster and kinship care on children's outcomes are mixed, with some indicating positive 'effects' (for those who remained in stable care: Barth et al., 2020; Fernandez, 2008, 2019; Gross & Baron, 2022; Sinclair, Baker, Wilson, & Gibbs, 2005; Taussig et al., 2001), some reporting negligible differences (Berger et al., 2009), and some with negative 'effects' (Doyle, 2007, 2013; Goemans et al., 2015; Goemans et al., 2016). These are largely derived from systematic reviews and cross-sectional analyses. Unlike large-scale longitudinal studies, these analyses are generally not able to take account of children's experiences prior to entering care. It is hardly surprising that children in care fare more poorly than children in the general population given their pre-care experiences and the circumstances that brought

them into the child protection and out-of-home care system (Barth et al., 2021; Cashmore, 2014; Goemans, van Geel, van Beem, & Vedder, 2016). Comparisons between children who remain in care and those who return home also need to take into account the type and severity of abuse and neglect that children experienced before entering care (Jackson et al., 2014). It is also important to include and take into account children's first-hand accounts of their experiences in care.

3. Research questions

The overall research questions that the Pathways of Care study aimed to address are as follows, but there are a large number of more detailed research questions that are emerging as the data are analysed further.

- What are the developmental pathways of the children during their time in out-of-home care or post restoration?
- What are the placement, assessment, service intervention and case planning pathways for the children during their time in out-of-home care or following their return home (post restoration)?
- How are children's outcomes affected by their experience in out-of-home care (including the characteristics and stability of their placements)? To what extent are their outcomes affected by their developmental status when they entered care?
- In what ways are assessments and service interventions (including service models and methods of delivery) associated with children's outcomes?
- In what ways do the characteristics of the child, carer, home/family and community affect children's developmental pathways, and how do these differ from similarly situated children in the general population?
- How does contact between children in out-of-home care and their birth parents, siblings and/or extended family influence their outcomes?

4. Method

4.1. The study design

The Pathways of Care study is a longitudinal study of a cohort of all children from birth to 17 years of age who entered out-of-home care in New South Wales (NSW), Australia for the first time during the 18-month period from May 2010 to October 2011. The **population cohort** of 4126 children includes children aged 0–17 years in all placement types, across metropolitan, regional, rural and remote locations in NSW. This provides a comprehensive picture of children entering out-of-home care during this period and of the issues facing various groups of children (e.g., Aboriginal, culturally and linguistically diverse (CALD), children with high needs, experiencing different types of maltreatment, and in different placement types). The restriction to first-time entries to care means that the children's experiences, developmental pathways and outcomes are not confounded by prior experience in care at their entry to care. Any subsequent exits from care or re-entry and pathways through and out of care are followed. Administrative record linkage data from a range of agencies are available for this population cohort.

The children who received final Children's Court care and protection orders by 30 April 2013 comprise the **'final orders' cohort**; the 1298 children who did not receive final orders⁴ by 30 April 2013 comprise the **'no final orders' cohort**. The caregivers of the 2828 children in the final orders cohort were invited to participate in the interview study. The children whose caregivers agreed to participate in face-to-face interviews comprise the **interview cohort**.⁵ This cohort included 1798 children and their caregivers in wave 1 with additional children at subsequent waves if their caregivers agreed to participate later or when the children changed placements or exited care to restoration, guardianship, or adoption. Five waves of interviews with caregivers and with the children in their care have now been completed and wave six is expected to be completed by the end of 2023. Participation across waves has been high, with 1285 children participating in interviews at Wave 1 representing 72 % of those who agreed to participate; 1200 (67 %) at Wave 2; 1033 (58 %) at Wave 3; 962 (54 %) at Wave 4; and 862 at Wave 5.⁶ By the end of wave 5, 1521 children and young people and their caregivers had participated in at least one wave and 623 participated in all 5 waves (**'tracked sample'**).⁷

⁴ Following an application by the statutory department, the Children's Court may allocate, by final order, all or some aspects of parental responsibility (PR) for a child to another party if it is satisfied that it is not in the best interests of the child (in relation to their safety, welfare and well-being) to remain with their parents or other persons having parental responsibility. Children on final orders may stay in long-term care (kinship or foster care) or exit care to restoration, to guardianship, to adoption, or age-out of care at 18 years of age.

⁵ Children who returned to the care of their parent/s at the time of the Wave 1 interview were not invited to participate in the Wave 1 interview for practical and ethical reasons but joined the study at Wave 2. The data used for this study relies on linked placement and child protective services records. Children with 'respite placement only' records ($n = 57$) were dropped from the analysis.

⁶ At each wave, a proportion of the study population did not respond, failed to provide information for various reasons, or provided insufficient or incomplete information. To take account of missing data and reduce bias due to non-response, a range of weights have been prepared for the POCLS data. More information about the weightings is available in Technical Reports 2, 3, 6, 7 and 19. Available at: <https://www.facs.nsw.gov.au/search?q=weighting>.

⁷ By the end of Wave 5, 350 (31 December 2020) young people in the interview cohort had reached 18 years of age and therefore 'aged out' of care. Commencing at Wave 6, the 18+ year cohort will be included in the data collection to track the longer-term outcomes of young people during early adulthood.

4.1.1. Comparison groups

Pathways of Care provides a number of comparison groups that allow an analysis of children's development, experiences and placement pathways in and out of care as well as their service needs. These groups include: (i) the 'No final orders' and 'Final orders' cohorts determined according to whether the child had received a final Children's Court order by 30 April 2013; (ii) children with different care and legal arrangements such as those who have left care by being reunified with their parents compared with those who are on guardianship orders or have been adopted and/or those who have remained in care; and (iii) children from different cultural backgrounds including children who identify as Aboriginal, children from culturally and linguistically diverse backgrounds, and other Australian children; (iv) children with a disability; and (v) children from different geographic locations (city, regional, rural and remote). Depending on the research question, *Pathways of Care* allows comparisons to be made within a cohort and between cohorts.

4.2. Developmental domains: Interview cohort measures and questions

Fig. 1 provides a conceptual overview of the various factors and influences on children's development and outcomes in out-of-home, and after exiting care. The developmental domains include children's safety, physical health, socio-emotional wellbeing and cognitive/learning ability. These developmental outcomes over time were affected by:

- Characteristics of the children (gender, disability, age on entry into care, and cultural background) and their child protection history (parental risk factors, the type, severity and chronicity of maltreatment) on entry to care;
- Characteristics of the caregivers and placement – relative/kinship, foster or residential placements, guardians, adoptive parents; parenting style, warmth, experience, carer health, resources, stress level, support, and relationship with the child's birth parents, family, and community;
- Socio-cultural context (neighbourhood, peers, childcare, school) and system response: access to and uptake of services (interventions), type of court order and different pathways into, through and out of the out-of-home care system, including movement between different living arrangements and placement stability;
- The interactions between child characteristics, socio-cultural context, and the characteristics of the care provided (characteristics of the carer/placement, casework support, and the services/interventions).

Fig. 2 presents the data collection domains and measurement framework for the Pathways of Care study; the y axis represents the child's living arrangements/legal status.

4.2.1. Child measures

Children aged three years and older completed activities administered by the interviewer to measure their language development and non-verbal reasoning using the Peabody Picture Vocabulary Test (PPVT-IV; [Dunn & Dunn, 2007](#)) and the Matrix Reasoning Test, Wechsler Intelligence Scale for Children (WISC-IV). Children aged 7–12 years old were invited to participate in an interview which included qualitative and quantitative questions about school, friends, feelings, behaviour, casework, support and where children are living. Children and young people were able to select the order in which they responded to the different topics or modules.

Children and young people aged 7 to 17 years were also asked to complete several scales and activities related to their socio-emotional wellbeing.⁸ An activity adapted from the Kvebaek Family Sculpture Technique was used to measure children's views of how close they feel to the people they are living with and the people in their birth family and others they are not living with whom they nominated as being important in their lives (e.g., friends, teachers, and community members) (see [Taylor & Cashmore, 2022](#) for more details).

4.2.2. Caregiver measures

Caregivers (foster and kinship carers, guardians, adoptive parents and birth parents, depending on the child's legal status and placement) provided detailed information about the 'study child' in their care in relation to their physical health, socio-emotional wellbeing, cognitive development, temperament, activities and friends, education and work, services and supports, casework, and contact and relationships with their birth family. Caregivers also responded to a series of measures and rating scales concerning their relationship with the child, and parenting style,⁹ the Difficult Behaviour Self-Efficacy Scale (DBSES) ([Hastings & Brown, 2002](#)); social cohesion (Social Cohesion and Trust Scale: ([Sampson, Raudenbush, & Earls, 1997](#)) and satisfaction with the level of support they received from services (Satisfaction with Foster Parenting Inventory (SFPI) – Social Service Support Satisfaction Scale ([Stockdale, Crase, Lekies, Yates, & Gillis-Arnold, 1997](#)) as well as their own psychological distress as measured by the Kessler K10 ([Furukawa,](#)

⁸ Emotional Responsiveness Scale from the Parenting Style Inventory II (adapted version) for children 7–17 years to compare with the caregiver's responses; Short Mood & Feeling Questionnaire and School Problems and Bonding Scales for children 12–17 years.

⁹ Parenting – Warmth: [Paterson & Sanson, 1999](#); Parenting – Hostility: [Zubrick et al., 2014](#); Emotional Responsiveness Scale from the Parenting Style Inventory II, adapted version (PSI-II): [Darling & Toyokawa, 1997](#).

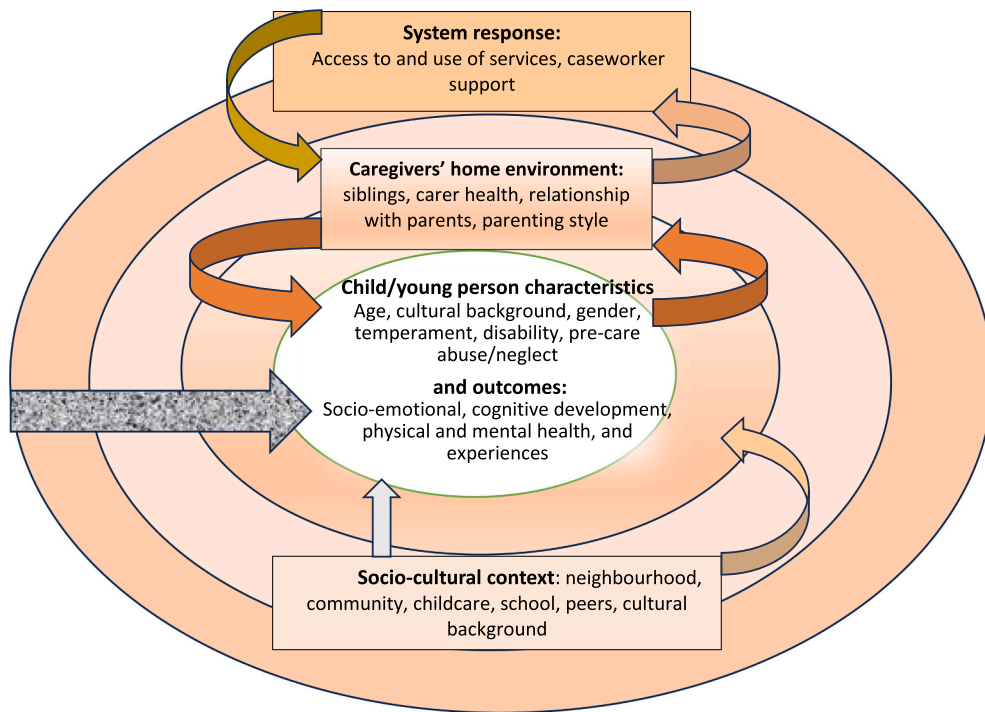
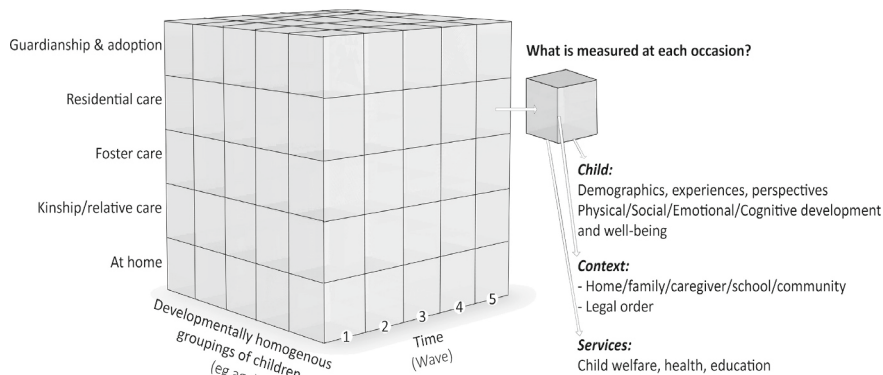


Fig. 1. Conceptual overview of influences on children's development and outcomes in out-of-home care.



* Adapted from: Wulczyn & Huhr, 2018; Wulczyn, Parolini, & Huhr (2021).

Fig. 2. Pathways of care data collection domains and measurement framework over time*.

* Adapted from: Wulczyn & Huhr, 2018; Wulczyn et al. (2021).

Kessler, Slade, & Andrews, 2003; Kessler et al., 2002). They also completed various standardised measures of children's socio-emotional wellbeing for children of different ages and development¹⁰ and cognitive and language development.¹¹

Caregivers also provided demographic information about themselves, their experience and training as a caregiver, casework support, informal support network, relationship with their partner, finances and housing, and neighbourhood.

¹⁰ Ages and Stages Questionnaire (ASQ-3) for children 9–66 months; Brief Infant Toddler Social Emotional Assessment (BITSEA) for children 12–35 months (in Wave 1 only); Child Behaviour Checklist (CBCL) caregiver and parent report for children 1.5–17 years; Abbreviated Temperament Scales, adapted from the Revised Infant Temperament Questionnaire, the Toddler Temperament Questionnaire and the Childhood Temperament Questionnaire for Children and the School Aged Temperament Inventory (short form) for children 9 months–17 years.

¹¹ Communication and Symbolic Behaviour Scale Infant and Toddler Checklist (CSBS ITC) for children 9–23 months old; MacArthur Communicative Development Inventories (MCDI-III) — Short form for children 24–29 months old, and MCDI-III for children 30–35 months old.

4.2.3. Caseworkers

Caseworkers (both in the statutory department and funded service providers) nominated as knowing the child best were asked to complete an online survey for children in the 'final orders' cohort ($n = 2828$). This included children who were no longer in care. If no one in the agency knew the child well, a caseworker completed a short version of the survey using the child's case file notes and administrative data. Participation in the survey was voluntary. Caseworkers for 1625 (57 %) of the 'final orders' cohort completed the surveys during Wave 3 (May 2015 to April 2016).

The survey included 10 modules concerned with the child's casework and care plan, placements with the agency, the caseworkers' involvement and relationship with the child, the child's involvement in case planning and review, the child's contact with their parents, siblings and other family members, the child's needs and issues and how well the current placement meets the child's needs. For Aboriginal children, caseworkers were asked whether and how the child's placement was aligned with Aboriginal and Torres Strait Islander Placement Principles and to what extent the child's cultural needs were being met.

4.2.4. Childcare, preschool or school-teacher survey

Teachers provide an important, independent perspective on the child's cognitive and social development and behaviour in the school environment; they can also provide a normative perspective on the child's progress (POCLS Technical report 2, p. 52). From Wave 2, caregivers who agreed to take part in a face-to-face interview ($n = 1789$) were asked to provide consent for the child's childcare teacher or school-teacher to be invited to complete an online survey. With consent, the data collection agency contacted the school principal of government and non-government schools, or the childcare centre director to identify the teacher who knew the child best to invite the teacher to complete the survey. Ideally the teacher would have known the study child for at least 2 months. Like the caseworker survey, teacher participation was voluntary. Childcare and school-teachers for 771 (43 %) of the children in the interview cohort completed the online survey during Waves 2–4. The online survey included questions about the child's socio-emotional wellbeing, behaviors, school attendance, progress with schoolwork, extra activities and friends, and education plans. This survey may be run again to capture the experiences of the infant cohort in secondary school.

4.3. Linked administrative data

Pathways of Care also includes an extensive administrative dataset for children in the population cohort ($N = 4126$) who entered out-of-home care during the specified 18-month period. This dataset includes administrative information from a number of government agencies, largely collected for service delivery purposes, not research purposes. It included information on child protection reports and out-of-home care placements for the child; substantial information about the child's and parents' health including information about the perinatal period, presentations to emergency departments and admissions to public hospitals in NSW, mental health day programs, psychiatric outpatients and outreach services (home visits); Medicare Benefits Scheme (MBS) and Pharmaceutical Benefits Scheme (PBS) for children; children's contact with the juvenile justice system including offending and custodial sentences; children's attendance at school including suspensions; children's development in their first year of full-time school using the Australian Early Development Census (AEDC)¹² and their educational performance using the National Assessment Program – Literacy and Numeracy (NAPLAN).¹³

4.4. Ethics

Ethics approval from the University of New South Wales Human Research Ethics Committee [HC10335, HC 16542]; Aboriginal Health and Medical Research Council of NSW Ethics Committee [HREC 766/10], NSW Department of Education and Communities State Education Research Approval Process (SERAP Ref 2,012,260); and NSW Population & Health Services Research Ethics Committee [HREC/14/CIPHS/74]. Indigenous Data Sovereignty and Governance (IDS and IDG) principles were incorporated in the design, collection, analysis, dissemination and management of all data related to Indigenous Australians as required by the Department of Communities and Justice (Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS), 2020; Davis, 2016; Walter et al., 2021).

4.5. Data collection

The first wave of data collection for the interview cohort was conducted between June 2011 and August 2013 with subsequent waves conducted at about 18–24 month intervals (Wave 2 April 2013 – March 2015; Wave 3 October 2014 – July 2016; Wave 4 May 2017 – November 2018; Wave 5 April 2019 – December 2020). Wave 6 data collection began in 2023.

Caregivers and children and young people aged 7–12 years old completed a Computer-Assisted Personal Interview (CAPI) with a trained interviewer employed by I-view, an independent social research organisation. Caregivers also complete a Computer-Assisted

¹² The Australian Early Development Census (AEDC) is a national Australian government assessment conducted at three yearly intervals years since 2009 "to examine how children have developed by the time they start school". <https://www.education.gov.au/early-childhood/early-childhood-data-and-reports/australian-early-development-census-aedc>.

¹³ The National Assessment Program – Literacy and Numeracy (NAPLAN) is an annual assessment for students in Years 3, 5, 7 and 9. See <https://www.nap.edu.au/naplan>.

Self Interview (CASI) to allow for more sensitive questions (about the child's behaviour (BITSEA/CBCL), caregiver's general and mental health, their relationship with their partner, and the Kessler (K10) Mental Health and Wellbeing standardised measure) as well as a shift in mode of responding. Children and young people completed an Audio Computer-Assisted Self Interview (ACASI) allowing for privacy and standardisation in the interview with voice recording to assist those who had difficulty reading and understanding written concepts without additional aids.

Data were collected via face-to-face interviews in Waves 1 to 4, and part of Wave 5. The COVID-19 pandemic required a change in mode part way through Wave 5 to telephone interviewing. This provided the opportunity to add questions on the impact of the pandemic on children and young people in care and their caregivers but some of the standardised measures could not be collected.

4.6. Knowledge translation

Knowledge translation was an important goal of the overall Pathways of Care work to ensure policy and practice could be evidence-informed. Its collaborative governance structure aimed to ensure the study was relevant to policy and practice and could inform a range of related work in staff training, learning initiatives, consultations, assessment model design, serious case reviews, and policy and practice mandates. The project team gathered priority policy questions from a range of stakeholders to ensure analyses were relevant and timely.

Examples of key factors associated with children's outcomes emerging from the research to date, and some covered in this *Special Issue*, include the importance of:

- Early developmental assessments, access to services and ongoing monitoring for all children entering out-of-home care to ensure positive long-term outcomes – moving away from a focus on children with special needs to an early intervention approach for all children;
- Forming an interagency team around the child on entry to care to provide consistent services and support for the child and a buffer if a support or service is interrupted or changes;
- Supporting family time (contact), particularly with birth parents and siblings, in building and maintaining family relationships and children's connection to their culture;
- Placement stability, noting caregiver satisfaction in their caring role and feeling supported by caseworkers in preventing placement breakdown;
- Tailored and flexible support for caregivers based on their circumstances (employed, multiple children, school age children) to improve carer's psychological wellbeing and caregiving.

5. The articles in this special issue

The articles in this special issue cover a range of issues, including children's developmental socio-emotional and academic outcomes and trajectories (including reunification), associated with factors such as placement type, stability, pre-care maltreatment, disability, and age at entry to care, family contact, and care-giver stress. They are mostly based on the Pathways of Care interview data, using a range of analytical approaches including regression (modified Poisson regression analysis, mixed effect modelling) and group-based trajectory modelling, cluster analysis and latent growth curve modelling. Several also included the linked administrative data, and one analysed qualitative data from Aboriginal parents and children about their experiences of the children being returned to the care of their parents (Newton et al., 2023). Four articles analysed children's placement stability and trajectories (Asif, Breen, & Wells, 2023; Hu et al., 2023; Suomi et al., 2023; Wade, 2023). Three articles focus on particular groups of children. Lima et al. (2023) analysed the health and developmental needs of infants entering care (Lima, Taplin, Maclean, & O'Donnell, 2023). Cheng et al. (2023) examined the trajectories of children with disability in the interview cohort over the first four waves and as identified in the administrative data (Cheng, Tani, & Katz, 2023). Newton et al. (2023) focused on the 1018 Aboriginal children in the final orders cohort and in particular, the 155 (15.2 %) who exited care by being returned to the care of their parents by wave 4 (Newton et al., 2023). The youngest children (who entered care under the age of 2 years) were the least likely to be restored. Finally, Ryder et al. (2022) focused on the wellbeing and concerns of carers and the importance of consistent caseworker support for caregiver health, wellbeing and caregiving (Ryder, Zurynski, & Mitchell, 2022).

6. Future directions

The articles in this special issue represent the first tranche of analyses from a very extensive set of data from interviews with carers and children, standardised assessments of children's cognitive development and socio-emotional wellbeing, carers' health, parenting style and stressors, surveys with caseworkers and teachers and a very large linked administrative dataset from various educational, health and child protection services. Data from wave 6 will include children who entered care as babies and would have entered secondary school from 2023. Those who were of school-age in 2010–11 and remained in care until age 18 have now aged-out of care; the follow-up after-care study of these young people is about to proceed. Many children and young people have exited care via guardianship and by returning home, and a relatively small number via adoption. Further funded studies are underway with a focus on the pathways and outcomes for Aboriginal children, mostly by Aboriginal researchers.

Further analyses will need to include weighting and address more thoroughly the representativeness and significance of the findings for particular groups and sub-groups of children, exploring the complex interaction of factors at different levels. As Tarren-

Sweeney (2017) pointed out, rather than ask about group mean scores and general effects of out-of-home care and changes over time, it is more meaningful to focus on more specific questions such as:

“... what are the systemic and interpersonal characteristics of care that promote and sustain children's psychological development throughout childhood, and what characteristics are developmentally harmful?” and “for which children is care therapeutic, and for which children is it not?” (p. 1)

Tarren-Sweeney (2017) also points to other important and meaningful distinctions in “distinguishing between statistical significance, clinical significance, and a level of change that is perceptible to children and/or families, and/or that has developmental and social meaning” (p. 4). These are some of the challenges for future analyses and mining these very rich and extensive datasets, as well as translating and disseminating these findings for practitioners and policy-makers.

Data availability

The authors do not have permission to share data.

Acknowledgements

We wish to extend our thanks to all the children, young people and caregivers who participated in interviews; childcare teachers, school-teachers and caseworkers who participated in on-line surveys; AbSec (NSW Child, Family and Community Peak Aboriginal Corporation), CREATE Foundation and Connecting Carers for assisting during the study design stage and supporting participants and the data custodians in the relevant New South Wales (NSW) and Commonwealth government departments.

Funded by the New South Wales Department of Communities and Justice.

Study design by NSW Department of Communities and Justice, Family and Community Services Insights, Analysis and Research (FACSIAR); Australian Institute of Family Studies; Professor Judy Cashmore, University of Sydney; Professor Paul Delfabbro, University of Adelaide; Professor Jacqueline Goodnow; Professor Ilan Katz, University of New South Wales; Dr Fred Wulczyn, Chapin Hall Center for Children, University of Chicago.

Study data collection by Ipsos Social Research. Data management and data storage by Sax Institute Secure Unified Research Environment (SURE).

Expert advice and support provided by members of the POCLS Working Group and POCLS Advisory Group; Aboriginal Governance Panel including AbSec (NSW Child, Family and Community Peak Aboriginal Corporation); CREATE Foundation; My Forever Family NSW; and Dr Alan Taylor (Macquarie University).

Comments and feedback from the co-editor of the special issue, Dr Jennifer Fraser, and colleague Professor Amy Conley Wright, and Merran Butler were constructive.

References

- Akin, B. A., Collins-Camargo, C., Strolin-Goltzman, J., Antle, B., Verbist, A. N., Palmer, A. N., & Krompf, A. (2021). Screening for trauma and behavioral health needs in child welfare: Practice implications for promoting placement stability. *Child Abuse & Neglect*, 122, Article 105323.
- Asif, N., Breen, C., & Wells, R. (2023). Influence of placement stability on developmental outcomes of children and young people in out-of-home care: Findings from the Pathways of Care Longitudinal Study. *Child Abuse & Neglect*, Article 106145.
- Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS). (2020). *AIATSIS code of ethics for Aboriginal and Torres Strait Islander research*. Canberra: AIATSIS.
- Australian Institute of Health and Welfare (AIHW). (2021). *Adoptions Australia 2020–21*. In *Child welfare series no. 76. Cat. no. CWS 85*. Canberra: AIHW.
- Australian Institute of Health and Welfare (AIHW). (2023). *Child protection Australia 2021–22*. Canberra: AIHW. <https://www.aihw.gov.au/getmedia/2cecb62-8c65-4031-a6df-5fec9422b0cf/child-protection-australia-2021-22.pdf?v=20230522104936&inline=true>.
- Baldwin, H., Biehal, N., Cusworth, L., Wade, J., Allgar, V., & Vostanis, P. (2019). Disentangling the effect of out-of-home care on child mental health. *Child Abuse & Neglect*, 88, 189–200.
- Barth, R. P., Berrick, J. D., Garcia, A., Drake, B., Jonson-Reid, M., Gyourko, J. R., & Greeson, J. (2021). Research to consider prior to effectively re-designing child welfare services. *Research on Social Work Practice*. <https://doi.org/10.1177/10497315211050000>
- Barth, R. P., Jonson-Reid, M., Greeson, J. K. P., Drake, B., Berrick, J. D., Garcia, A. R., & Gyourko, J. R. (2020). Outcomes following child welfare services: What are they and do they differ for Black children? *Journal of Public Child Welfare*, 14(5), 477–499. <https://doi.org/10.1080/15548732.2020.1814541>
- Berger, L. M., Bruch, S. K., Johnson, E. L., James, S., & Rubin, D. (2009). Estimating the ‘impact’ of out-of-home placement on child well-being: Approaching the problem of selection bias. *Child Development*, 80(6), 1856–1876. <https://doi.org/10.1111/j.1467-8624.2009.01372.x>
- Bethel, C., Jones, J., Gombjav, N., et al. (2019). Positive childhood experiences and adult mental and relational health in a statewide sample associations across adverse childhood experiences levels. *JAMA Pediatrics*, 173(11), 1110. <https://doi.org/10.1001/jamapediatrics.2019.3007>. and erratum: *JAMA Pediatrics*, 2019. doi:<https://doi.org/10.1001/jamapediatrics.2019.4124>.
- Biemer, P. P., Dowd, K. L., & Webb, M. B. (2009). Study design and methods. In M. B. Webb, K. Dowd, B. J. Harden, J. Landsverk, & M. Testa (Eds.), *Child welfare and child well-being: New perspectives from the National Survey of Child and Adolescent Well-being*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780195398465.001.0001>.
- Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In W. Damon, R. M. Lerner, & R. M. Lerner (Eds.), *Handbook of child psychology: Vol 1: Theoretical models of human development* (6th ed., pp. 793–828). New York, NY: Wiley.
- Cashmore, J. (2014). Children living away from home. In G. Melton, A. Ben-Arieh, J. Cashmore, G. S. Goodman, & N. K. Worley (Eds.), *The SAGE Handbook of Child Research* (pp. 316–338). Los Angeles, USA: Sage Publications.
- Cheng, Z., Tani, M., & Katz, I. (2023). Outcomes for children with disability in out-of-home care: evidence from the pathways of care longitudinal study in Australia. *Child Abuse & Neglect*, 143, Article 106246.
- Chikwava, F., Cordier, R., Ferrante, A., O'Donnell, M., Speyer, R., & Parsons, L. (2021). Research using population-based administration data integrated with longitudinal data in child protection settings: A systematic review. *PLoS One*, 16(3), Article e0249088. <https://doi.org/10.1371/journal.pone.0249088>

- Connolly, M. (2013). Care and protection: Australia and the international context. In R. Sheehan, & A. Borowski (Eds.), *Australia's Children's Courts today and tomorrow* (pp. 187–196). Springer Science and Business Media.
- Darling, N., & Toyokawa, T. (1997). *Construction and validation of the Parenting Style Inventory II*. The Pennsylvania State University: Internal publication.
- Davis, M. (2016). Data and the United Nations Declaration on the Rights of Indigenous Peoples. In T. Kukutai, & J. Taylor (Eds.), *Indigenous data sovereignty* (pp. 25–38). Canberra: ANU Press.
- Davis, M. (2019). *Family is culture: Independent review of Aboriginal children in out-of-home care*. Sydney: University of New South Wales.
- Doyle, J. J. (2007). Child protection outcomes: Measuring the effects of foster care. *The American Economic Review*, 97(5), 1583–1610. <https://doi.org/10.1257/aer.97.5.1583>
- Doyle, J. J. (2013). Causal effects of foster care: An instrumental-variables approach. *Children and Youth Services Review*, 35(7), 1143–1151. <https://doi.org/10.1016/j.childyouth.2011.03.014>
- Duerr Berrick, J., Gilbert, N., & Skivenes, M. (2023). Child protection systems: A global typology. In J. Duerr Berrick, N. Gilbert, & M. Skivenes (Eds.), *Child protection systems across the world*. Oxford Academic Books. <https://doi.org/10.1093/oxfordhb/9780197503546.001.0001>.
- Dunn, M., & Dunn, M. (2007). *Peabody Picture Vocabulary Test, 4th ed. (PPVT-4)*. Online at <http://psychcorp.pearsonassessments.com>.
- Eastman, C., Katz, I., & McHugh, M. (2019). *Service needs and uptake amongst children in out-of-home care and their carers. Pathways of Care Longitudinal Study: Outcomes of children and young people in out-of-home care*. Sydney: NSW Department of Family and Community Services.
- Elder, G. H. (1994). Time, human agency, and social change: Perspectives on the life course. *Social Psychology Quarterly*, 57(1), 4–15.
- Elder, G. H. (1998). The life course as developmental theory. *Child Development*, 69(1), 1–12. <https://doi.org/10.1111/j.1467-8624.1998.tb06128.x>
- Fernandez, E. (2008). Unravelling emotional, behavioural and educational outcomes in a longitudinal study of children in foster-care. *British Journal of Social Work*, 38, 1283–1301. <https://doi.org/10.1093/bjsw/bcm028>
- Fernandez, E. (2019). Working towards better education for children in care: Longitudinal analysis of the educational outcomes of a cohort of children in care in Australia. *Oxford Review of Education*, 45(4), 481–501. <https://doi.org/10.1080/03054985.2019.1612345>
- Furukawa, T. A., Kessler, R. C., Slade, T., & Andrews, G. (2003). The performance of the K6 and K10 screening scales for psychological distress in the Australian National Survey of Mental Health and Well-Being. *Psychological Medicine*, 33(2), 357–362.
- Goemans, A., van Geel, M., van Beem, M., & Vedder, P. (2016). Developmental outcomes of foster children: A meta-analytic comparison with children from the general population and children at risk who remained at home. *Child Maltreatment*, 21(3), 198–217.
- Goemans, A., van Geel, M. M., & Vedder, P. (2015). Over three decades of longitudinal research on the development of foster children: A meta-analysis. *Child Abuse & Neglect*, 42, 121–134.
- Gross, M., & Baron, E. J. (2022). Temporary stays and persistent gains: The causal effects of foster care. *American Economic Journal: Applied Economics*, 14(2), 170–199. <https://doi.org/10.1257/app.20200204>
- Hastings, R. P., & Brown, T. (2002). Behavioural knowledge, causal beliefs and self-efficacy as predictors of special educators' emotional reactions to challenging behaviours. *Journal of Intellectual Disability Research*, 46(2), 144–150.
- Hu, N., Gelaw, Y. A., Katz, I., Fernandez, E., Falster, K., Hanly, M., ... Lingam, R. (2023). Developmental trajectories of socio-emotional outcomes of children and young people in out-of-home care—Insights from data of Pathways of Care Longitudinal Study (POCLS). *Child Abuse & Neglect*, Article 106196.
- Human Rights and Equal Opportunity Commission. (1997). *Bringing them home: National Inquiry into the separation of Aboriginal and Torres Strait Islander children from their families*. Human Rights and Equal Opportunity Commission NSW.
- Jackson, Y., Gabrielli, J., Fleming, K., Tunno, A. M., & Makanui, P. K. (2014). Untangling the relative contribution of maltreatment severity and frequency to type of behavioral outcome in foster youth. *Child Abuse & Neglect*, 38(7), 1147–1159.
- Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L., ... Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in nonspecific psychological distress. *Psychological Medicine*, 32, 959–976.
- Krakouer, J., Wise, S., & Connolly, M. (2018). “We live and breathe through culture”: Conceptualising cultural connection for Indigenous Australian children in out-of-home care. *Australian Social Work*, 71(3), 265–276.
- Lawrence, J., & Dodds, A. (2016). Developmental science, child development and the law. In L. Young, M. A. Kenny, & G. Monahan (Eds.), *Children and the law in Australia* (pp. 83–102). Chatswood, NSW: LexisNexis Butterworths.
- Lima, F., Taplin, S., Maclean, M., & O'Donnell, M. (2023). Infants entering out-of-home care: Health, developmental needs and service provision. *Child Abuse & Neglect*, 106577.
- Newton, B. J., Katz, I., Gray, P., Frost, S., Gelaw, Y., Hu, N., ... Stephensen, J. (2023). Restoration from out-of-home care for Aboriginal children: Evidence from the pathways of care longitudinal study and experiences of parents and children. *Child Abuse & Neglect*, 106058.
- NSW Department of Communities and Justice. (2020). *Study design and data user guide. Pathways of Care Longitudinal Study: Outcomes of children and young people in out-of-home care*. Technical Report Number 2. Sydney: NSW Department of Communities and Justice.
- Paterson, G., & Sanson, A. (1999). The association of behavioural adjustment to temperament, parenting and family characteristics among 5-year-old children. *Social Development*, 8(3), 293–309.
- Robins, L., & Rutter, M. (Eds.). (1990). *Straight and devious pathways from childhood to adulthood*. Cambridge University Press UK.
- Rutter, M. (1994). Beyond longitudinal data: Causes, consequences, changes, and continuity. *Journal of Consulting and Clinical Psychology*, 62(5), 928–940.
- Rutter, M. (2000). Children in substitute care: Some conceptual considerations and research implications. *Children and Youth Services Review*, 22(9–10), 685–703. [https://doi.org/10.1016/s0190-7409\(00\)00116-x](https://doi.org/10.1016/s0190-7409(00)00116-x)
- Ryder, T., Zurynski, Y., & Mitchell, R. (2022). Exploring the impact of child and placement characteristics, carer resources, perceptions and life stressors on caregiving and well-being. *Child Abuse & Neglect*, 127, Article 105586.
- Sameroff, A. (2009). The transactional model. In A. Sameroff (Ed.), *The transactional model of development: How children and contexts shape each other* (pp. 3–21). American Psychological Association. <https://doi.org/10.1037/11877-001>.
- Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science*, 277(5328), 918–924.
- Secretariat of National Aboriginal and Islander Child Care (SNAICC). (2018). *The Aboriginal and Torres Strait Islander child placement principle: A guide to implementation*. Melbourne: SNAICC. https://www.snaicc.org.au/wp-content/uploads/2018/12/SNAICC-ATSICPP-resource_final-Dec2018.pdf.
- Secretariat of National Aboriginal and Islander Child Care (SNAICC). (2021). *The family matters report 2021*. Melbourne: SNAICC. <https://www.familymatters.org.au/the-family-matters-report-2021/>.
- Sinclair, I., Baker, C., Wilson, K., & Gibbs, I. (2005). *Foster children: Where they go and how they get on*. Jessica Kingsley Publishers.
- Stockdale, D. F., Crase, S. J., Lekies, K. S., Yates, A. M., & Gillis-Arnold, R. (1997). *Manual for foster parent research measures: Motivations for foster parenting inventory, attitudes toward foster parenting inventory, and satisfaction with foster parenting inventory*. Unpublished manuscript. In Department of Human Development and Family Studies. Ames, IA: Iowa State University.
- Suomi, A., Lucas, N., Pasalich, D., & McArthur, M. (2023). Contact with mothers for children in out-of-home-care: Group-based trajectory modelling from the Pathways of Care Longitudinal Study (POCLS). *Child Abuse & Neglect*.
- Tarren-Sweeney, M. (2017). Rates of meaningful change in the mental health of children in long-term out-of-home care: A seven- to nine-year prospective study. *Child Abuse & Neglect*, 72, 1–9.
- Taussig, H., Roberts, L., Scourfield, J., & Franz, C. (2022). “I’m glad that I was given a second chance to live”: The buffering impact of turning points in the lives of young people with foster care experience. *International Journal on Child Maltreatment*. <https://doi.org/10.1007/s42448-022-00129-6>. online.
- Taussig, H. N., Clyman, R. B., & Landsverk, J. (2001). Children who return home from foster care: A 6-year prospective study of behavioral health outcomes in adolescence. *Pediatrics*, 108(1), e10.
- Taylor, A., & Cashmore, J. (2022). *The adapted Kvebaek family sculpture technique and closeness measures: Data user guide*. Technical Report Number 18. Sydney: NSW Department of Communities and Justice (Report No.11) <https://www.facs.nsw.gov.au/download?file=837119>.

- Wade, C. (2023). Trajectories for children and young people who experience out-of-home care: Examining the influences of pre-care characteristics on later wellbeing and placement stability. *Child Abuse & Neglect*, Article 106398.
- Wakefield, S., & Wildeman, C. (2022). Are the average effects of foster care placement really close to zero? *Research on Social Work Practice*, 32(5), 499–503.
- Walter, M., Lovett, R., Maher, B., Williamson, B., Prehn, J., Bodkin-Andrews, G., & Lee, V. (2021). Indigenous data sovereignty in the era of big data and open data. *Australian Journal of Social Issues*, 56(2), 143–156.
- White, K. R., & Wu, Q. (2014). Application of the life course perspective in child welfare research. *Children and Youth Services Review*, 46, 146–154.
- Wright, A. C., Cashmore, J., Wise, S., & Tilbury, C. (2022). Comparative analysis of third-party permanency orders legislation in Australia. *Australian Journal of Social Issues*. <https://doi.org/10.1002/ajs4.237>
- Wright, A. C., Luu, B., & Cashmore, J. (2021). Adoption in Australia: Past, present and considerations for the future. *Australian Law Journal*, 95, 67–80.
- Wulczyn, F. (2020). Foster care in a life course perspective. *The Annals of the American Academy of Political and Social Science*, 692(1), 227–252. <https://doi.org/10.1177/0002716220976535>
- Wulczyn, F., Barth, R. P., Yuan, Y. T., Harden, B. J., & Landsverk, J. (2005). *Beyond common sense: Child welfare, child well-being, and the evidence for policy reform*. New Brunswick, NJ: Transaction Publishers.
- Wulczyn, F., & Huhr, S. (2018). *Human capital formation during childhood: Foundations of the Pathways of Care Longitudinal Study*. Technical Report Number 13. Sydney: NSW Department of Family and Community Services.
- Wulczyn, F., Parolini, A., & Huhr, S. (2021). Human capital and child protection: A research framework in the CRC context. *Child Abuse & Neglect*, 119(Part 1), Article 104610. <https://doi.org/10.1016/j.chiabu.2020.104610>
- Zubrick, S. R., Lucas, N., Westrupp, E. M., & Nicholson, J. M. (2014). *Parenting measures in the Longitudinal Study of Australian Children: Construct validity and measurement quality, Waves 1 to 4*. Canberra: Department of Social Services.