Outcomes for children with disability in out-of-home care: Evidence from the pathways of care longitudinal study in Australia

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ABSTRACT

Background: Children with disability are over-represented in out-of-home care (OOHC) in Australia and internationally. Yet we know little about their circumstances, placement types, support needs, and the outcomes of their trajectories and wellbeing through care.
Objective: We examine the wellbeing and outcomes of children with and without disabilities in OOHC.
Participants and setting: We use panel data from waves 1–4 of the Pathways of Care Longitudinal Study (POCLS) collected between June 2011 and November 2018 by the New South Wales (NSW) Department of Communities and Justice (DCJ), Australia. The POCLS sampling framework covers all children aged 0–17 years who entered OOHC in NSW for the first time between May 2010 and October 2011 ($n = 4126$). A subset of these children ($n = 2828$) had final Children's Court orders by 30 April 2013. Among these, caregivers of 1789 children agreed to participate in the interview component of the POCLS.
Methods: We employ a random effects estimator to analyse the panel data. This is standard practice to exploit a panel database when some of the key explanatory variables are time invariant.
Results: Children with disability have poorer wellbeing than children without disability across the three domains of physical health, socio-emotional wellbeing, and cognitive ability. However, children with disability have fewer difficulties at school and better school bonding. The type of placements – namely relative/kinship care, restoration/adoption/guardianship, foster care and residential care – have little or limited association with wellbeing of children with disability.
Conclusions: Children with disability tend to have lower levels of wellbeing in OOHC than children without disability, and this is driven mainly by their disability status rather than care factors.

1. Introduction

Children and young people (children) with disability are over-represented in the child protection system and in out-of-home care (OOHC) in Australia (Create Foundation, 2012; Walsh et al., 2018) and internationally (Blakeslee et al., 2013; Hill, 2012; Hill et al., 2015; Sainero et al., 2013). However, there is limited information about their circumstances, placement types, support needs, and their

trajectories and wellbeing as they progress through care (Mitchell, 2014; Hill et al., 2015, Walsh et al., 2018; Hindmarsh et al., 2021). This generates an important knowledge gap: namely, whether certain forms of placement in OOHC help to improve the wellbeing of children with disability relative to children without disability.

Among the significant challenges in researching this cohort of children, one is the presence of different definitions and understandings of disability, and a paucity of data that allows longitudinal studies of sufficient sample size. Multiple years of observing the same individual are essential to disentangle (and statistically control for) the effect of disability, which may appear and/or evolve over time, from other influences of wellbeing among different groups of children – for instance those experiencing different OOHC placement types. As a result of these definitional and data limitations, few studies examine the trajectories of children with disabilities in OOHC, including those with different levels of impairment, different types of disability, and in different care contexts (Esposito, 2015). This study aims to address this gap.

1.1. Context

According to the United Nations Convention on the Rights of Persons with Disabilities (CRPD), children with disability are entitled to support and services to meet their needs, and to make decisions about their care (United Nations, 2006). They can face a number of additional challenges in OOHC over and above comparable children without disability, including lack of access to supports and services, stigma, discrimination and lack of support for decision-making (Geenen et al., 2007). They may require additional services and supports, but the invisibility of children with disability in care may prevent them from receiving adequate of appropriate services and supports. Early intervention can improve the wellbeing for children with disability, and therefore early identification is critical. However, children may not identify or be identified as someone with disability – due to stigma, shame, trauma (Jones et al., 2012; Maclean et al., 2017; Walsh et al., 2018), bullying or having a different understanding of disability. Further, staff in child protection and OOHC may not be trained to identify disability and the supports required, which may only manifest in behavioural issues and broken placements.

1.2. Measuring disability

There are two approaches to defining disability. One, based on the medical model, relies on identifying the degree of impairment experienced by a child, and whether supports are required. The other, referred to as the social model of disability, recognizes that society and its social barriers cause people to be disabled, not their physical or mental impairments. Societal and structural barriers to participation can include physical barriers, as well as attitudes and behaviours such as excluding people with disability from employment, discrimination, bullying and lack of funding for support (Commonwealth of Australia, 2021). Removing such barriers will enable people with disability to participate fully in society and to maximize their potential (Degener, 2017). Research founded in the social model of disability can aid and broaden the understanding of this particularly vulnerable group of people in Australia (Powell et al., 2021).

The inconsistency of definition globally not only affects the data used in research, but makes it difficult to compare prevalence rates and to understand the factors associated with different outcomes for children with disabilities in OOHC (Create Foundation, 2012). In addition to the inconsistency and the lack of definition, disability status is often not recorded in OOHC data collection, and therefore the prevalence of children with disability is likely to be under-counted (Australian Institute of Health and Welfare, 2021).

1.3. What do we know?

There is little understanding of the outcomes for children with disability in OOHC and what influences their outcomes (Walsh et al., 2018). A review by Walsh et al. (2018) was inconclusive; finding that some studies indicated difficulties in the placements of children with disability, resulting in negative wellbeing and health outcomes, while others found that once children are placed in permanent care, there appears to be little difference between children with disability compared to those without disability on measures such as placement stability and restoration. Pritchett et al. (2013) conducted a systematic review and meta-analysis of 77 studies examining outcomes of children in OOHC. While children with disability were not the focus of the review, they found where outcomes were different for children with disability, they were more likely to be negative (Pritchett et al., 2013). The same review also found children with disability were more likely to re-enter and remain in care longer than children without disability, a finding consistent across other studies (Baker, 2011; Slayter, 2016; Walsh et al., 2018; Welch et al., 2015). A US study examining foster care outcomes for children with intellectual disability (Slayter, 2016) found that children with intellectual disability were more likely to experience adoption disruption and longer periods in foster care. However, the study only examines outcomes for children with intellectual disability and the analysis involves cross-sectional data only. Slayter identifies the need for longitudinal quantitative and qualitative data to track the outcomes of children with disability in and/or transitioning out of care (Slayter, 2016).

A body of research suggests poorer outcomes for children with disability living in OOHC compared to those without a disability across varying care and child protection systems in Australia, the UK, and the USA. However, a lack of longitudinal analysis has meant that it has been difficult to examine the trajectories of children with disability in OOHC and how their wellbeing changes as they progress through the care system while being able to control for other influences that may affect the observed outcomes of interest. In these studies, 'outcomes' generally refer to measures of wellbeing at different stages of their trajectory through the care system, but it is important to note that wellbeing can change over time and that measures at any specific point of time may not reflect the longer-term wellbeing of the young person.

1.4. Present study

The present study aimed to understand the wellbeing trajectories of children with disability in OOHC in NSW, Australia, compared to children who do not have a disability. Specifically, analysis examined: the physical health, socio-emotional and cognitive outcomes, the key factors associated with these differential outcomes, how these compared to children in the POCLS cohort without disability, and whether they varied for different sub-populations of children with disability.

2. Methods

2.1. Data and sample

We use unweighted panel data from waves 1–4 of the Pathways of Care Longitudinal Study (POCLS) collected by the NSW Department of Communities and Justice (DCJ). POCLS is the first large-scale prospective longitudinal study of children in OOHC in Australia, collecting data on child, caregivers and placement characteristics, as well as data related to child developmental domains, including physical health, socio-emotional wellbeing and cognitive ability (Asif et al., 2023). POCLS data is also linked to child protection data, OOHC placements, and health records held by multiple government agencies. The POCLS sampling framework covers all children aged 0–17 years who entered OOHC in NSW for the first time between May 2010 and October 2011 ($n = 4126$). A subset of these children ($n = 2828$) had final Children's Court orders by 30 April 2013. Among these, caregivers of 1789 children agreed to participate in the interview component of the POCLS. POCLS has had high levels of sample retention with 1285 children and carers interviewed in Wave 1 (June 2011–August 2013), 1200 in Wave 2 (April 2013–March 2015), 1033 in Wave 3 (October 2014–July 2016) and 961 in Wave 4 (May 2017–November 2018), suggesting an attrition rate of <10 %.

2.2. Measures

2.2.1. Disability

We use three alternative measures of disability that are available in POCLS, and compare the characteristics of children with and without disability in these three groups (Table 1).

The main measure is a dichotomous variable of disability, reported as a disability 'flag' (yes = 1, no = 0) in the administrative child protection dataset.[1] We refer to this indicator as the 'administrative indicator'.

Administrative data current as of 30 June 2019 was used to identify the disability status of children who participated at each wave from Wave 1 to 4 based on the assumption that the disability status does not change during this period.

As an additional check, we employ two alternative measures of disability collected by POLCS. The first is a dichotomous measure of disability based on the questions adapted from the Australian Bureau of Statistics (ABS) population census, which ask whether the child had a specific limitation or restriction in the core activities of self-care, mobility and/or communication (yes = 1, no = 0) in Wave 4. We refer to this indicator as the 'ABS indicator'. The second alternative measure of disability is a dichotomous variable based on a question in the POCLS survey, which asks the carer whether the child had any severe illness and/or disability (yes = 1, no = 0) in Waves 1 and 2. We refer to this indicator as 'carer's indicator'.

2.3. Measures of wellbeing outcomes

We employ measures of child wellbeing in three domains: physical health and development, socio-emotional wellbeing, and cognitive ability. Note that some of these measures, which are appliable for specific age groups, have not been administered to the entire sample of POCLS.

2.3.1. Physical health and development

Physical health and development is measured by the *Ages and Stages Questionnaire* (ASQ-3) in Waves 1–3. The ASQ-3 was designed as a screening tool for infants and young children who are at risk of developmental delays (Squires & Bricker, 2009). The ASQ-3 uses 21 questions designed to be completed by caregivers of children aged between 1 and 66 months to assess five developmental domains of functioning: communication (babbling, vocalising, listening and understanding), gross motor (arm, body and leg movements), fine motor (hand and finger movements), problem solving (leaning and playing with toys) and personal-social skills (social play and play with toys and other children). Higher raw scores indicate better performance in the domains. In later analysis, we use standardised cut-off points of raw scores which differ by age and domain (1 = referral for professional support required (reference group); 2 = clinical

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[1] This information is recorded at any point in time starting from when DCJ receives the 'first risk of significant harm (ROSH) report' for the child through to field assessment, ongoing case management and into and beyond their time in OOHC. According to the New South Wales *Interagency Guidelines*, risk of significant harm means '… the concern is sufficiently serious to warrant a response by a statutory authority (such as NSW Police Force or Community Services) irrespective of a family's consent. What is significant is not minor or trivial and may reasonably be expected to produce a substantial and demonstrably adverse impact on the child or young person's safety, welfare or wellbeing, or in the case of an unborn child, after the child's birth. The significance can result from a single act or omission or an accumulation of these'. For more information, see https://reporter.childstory.nsw.gov.au/s/article/Significant-harm-policy-definition.

Table 1
Descriptive statistics.

	Administrative indicator (Wave 1 statistics)		ABS indicator (Wave 4 statistics)		Carer's indicator (Wave 1 statistics)	
	Without disability	With disability	Without disability	With disability	Without disability/severe illness	With disability/severe illness
Age	5.18	5.42	9.90	8.42***	5.40	6.79***
Males	48 %	59 %***	48 %	60 %***	49 %	54 %***
Aboriginal	38 %	39 %	40 %	38 %	40 %	33 %
Culturally and linguistically diverse (CALD) background	15 %	12 %	15 %	14 %	14 %	11 %
Health (self-rated health status on a 6-point scale: 1 = very poor; 2 = poor; 3 = fair; 4 = good; 5 = very good; 6 = excellent)	5.44	5.15***	5.44	5.15***	5.47	5.00***
Number of Risk of Significant Harm (ROSH) reports	11.37	12.40	10.57	8.66	11.61	14.71
Any assistance required?						
Self-care				23 %		
Movement				12 %		
Communication				64 %		
Total placements	3.43	3.81***	3.25	3.14	3.51	3.79***
Placement months	11.68	12.32	69.39	70.46	12.23	11.95
Placement type						
Restoration/adoption/guardianship	–	–	27 %	21 %*	–	–
Foster care	49 %	63 %***	41 %	53 %***	51 %	53 %*
Relative/kinship care	50 %	32 %***	30 %	25 %	48 %	39 %***
Residential care	1 %	5 %***	2 %	2 %	1 %	8 %***
N=						
Wave 1	1054	231			971	192
Wave 2						
Wave 3						
Wave 4			762	199		

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$ indicate the presence of statistically significant differences in medians in a 2-tail Kruskal-Wallis test between the groups with and without disability.

follow-up required; 3 = monitoring required; 4 = typical range).

2.3.2. Socio-emotional wellbeing

Socio-emotional wellbeing is measured through six instruments.[2] The short form *School Aged Temperament Inventory* (SATI), completed by carers of children aged 8–17 in Waves 1–4, assesses three dimensions of temperament: negative reactivity, task persistence, and approach/withdrawal (McClowry, 1995). Higher SATI scores reflect higher negative reactivity, higher persistence, and a higher degree of introversion.

The *Child Behaviour Checklist* (CBCL), completed by carers of children aged 3–17 in Waves 1–4, focuses on two composite syndrome profiles; internalising and externalising (Achenbach & Rescorla, 2000, 2001). Internalising includes the anxious-depressed, withdrawn-depressed, and somatic complaints syndrome scales. Externalising captures problems in relation to external behaviours including rule breaking and aggressive behaviours scales. The CBCL Total Problem Score is the sum of all items including internalising, externalising, other syndromes, and other behavioural problems. Higher scores in CBCL indicate more problematic behaviours.

The *School Problems Scale* (SPS), completed by children aged 12–17, focuses on the academic and social progress at school in Waves 1–4 (Prior et al., 2000). The scale consists of four items. Lower mean scores indicate fewer problems at school. The School Bonding Scale (SBS), completed by children aged 7–17 in Waves 1–4, measures the extent to which children are settling in and forming relationships at school (Simons et al., 1991). The scale consists of four items. Lower mean scores across the items indicate better school bonding. The Short Mood and Feelings Questionnaire (SMFQ), completed by children aged 6–17 in Waves 2–4, is a brief measure of depression (Angold et al., 1995). Higher mean scores across the items indicate a higher chance of depression experienced within past 2 weeks. The Self Report Delinquency Scale (SRDS), completed by children aged 10–17 in Waves 2–4, is used to assess self-reported levels of anti-social behaviour in (Moffitt & Silva, 1988). A higher score indicates higher chance of antisocial behaviour.

2.3.3. Cognitive ability

Cognitive ability is measured using two instruments. The *Peabody Picture Vocabulary Test* (PPVT-IV), completed by children aged 3–17 years in Waves 1–4, is used to measure receptive language skills and vocabulary acquisition over time among (Dunn & Dunn,

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[2] We use these instruments across children with and without disability. However, this does not mean that better outcomes as measured by these instruments are necessary conditions for children to achieve higher wellbeing. For instance, a child with Autism Spectrum Disorder (ASD) may exhibit behaviours like persistent behaviour, introversion and reduced social activity that for a neurotypical child suggest lower wellbeing, but an ASD child is entirely happy with.

2007). A higher score indicates better vocabulary. The *Matrix Reasoning Test* from Wechsler Intelligence Scale for Children (WISC-IV), completed by children aged 6–16 years in Waves 1–4, is designed to measure logical reasoning or fluid intelligence among (Wechsler, 2003). A higher score indicates better logical reasoning.

A detailed manual for each measure and their psychometric properties is available from New South Wales Department of Communities and Justice (2020). All measures have been validated by the POCLS project team and/or other sources.

2.4. Analytic approach

To examine the relationships between placement types, disability status and child outcomes, we estimate the following function in the form of

$$y_{it} = \alpha + \beta disa_i + \gamma placement_{it} + \delta disa_i \times placement_{it} + \theta X_{it} + \sigma_t + c_i + u_{it} \tag{1}$$

where y_{it} is one of the outcome variables pertaining to domains of physical health and development, socio-emotional wellbeing, and cognitive ability for child i in wave t.

Independent variables are defined as follows: $disa_i$ is a dichotomous measure of disability and $placement_{it}$ is a categorical variable for the types of placement or other outcomes, namely relative/kinship care (as the reference group), restoration/adoption/guardianship, foster care and residential care. The coefficient for the interaction term $disa_i \times placement_{it}$ captures whether individual types of placement are associated with the wellbeing outcomes among children with disability.

X_{it} is a vector of control variables, including age at the time of interview, gender, carer-rated health status, total number of placements, months in current placement, Aboriginal and culturally and linguistically diverse (CALD) backgrounds; σ_t is time (wave) fixed-effects that affect all individuals in the same way; c_i is an individual-specific effect; and u_{it} is an idiosyncratic error term. As disability status was recorded only once or twice in the POCLS dataset, we employ a random effects estimator, which enables one to use variables that are constant over waves of data collection.

Our estimation approach is standard in quantitative analyses of longitudinal data when a key independent variable is time-invariant (e.g. Wooldridge, 2015): its main advantage is that the estimates can be interpreted as the effect of the variable of interest (disability) on the chosen outcome keeping all other variables constant. This approach does not require any pre- or post-estimation adjustment (Kaufman, 2017) or interventions that may lead to fallacy (Westreich & Greenland, 2013).

3. Results

3.1. System outcomes

Table 1 presents the summary statistics for the outcome and independent variables across children with and without disability.[3] This shows that children with and without disability had similar care experiences, although children with disability were much more likely to be in residential care. For both groups, however, residential care accounted for a small proportion of children.

3.1.1. Wellbeing outcomes

We first present the results on physical health and development. Across the Ages and Stages Questionnaire (ASQ-3) outcomes, the results in models 1–5 in Table 2 show that children with disability have poorer communication, gross motor, fine motor, problem solving and person-social skills than those without disability.

Table 3 presents the results based on the School Aged Temperament Inventory (SATI). Models 1 and 2 in Table 3 shows that children with disability have stronger negative reactivity and poorer task persistence compared to children without a disability. Model 2 shows that, children with disability in residential care have stronger persistence compared to children without a disability. Model 4 shows that, among those aged 14 and above, having disability is associated with a lower level of introversion and those children with disability who were restored or adopted have a higher level of introversion compared to children without a disability.

In terms of socio-emotional wellbeing, the results in Table 4 show that children with disability have higher Child Behaviour Checklist (CBCL) Total Problem scores (model 1), Internalising Problems (model 2), and Externalising Problems scores compared to children without disability (model 3). Model 2 shows that children with disability in residential care have lower internalising scores compared to children in relative/kinship care compared to children without a disability. Model 3 shows that children with disability in foster care or residential care are more likely to have lower externalising scores compared to children without a disability.

Table 5 presents the results on the remaining measures of socio-emotional wellbeing. Model 1 shows that children with disability have lower school problem scores, which means that they have fewer problems at school than children without disability. Model 2 shows that children with disability have lower School Bonding Scale score, which means that they have better school bonding than

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[3] Data tables provide direct comparisons between the POCLS Aboriginal and non-Aboriginal cohorts. Interpretation of the data should consider the factors associated with the over-representation of Aboriginal children in child protection and OOHC including the legacy of past policies of forced removal and the intergenerational effects of previous forced separations from family and culture. This erosion of community and familial capacity over time needs to be considered in any reform efforts as it continues to have a profoundly adverse effect on child development. The implications for policy and practice should highlight strengths, develop Aboriginal-led solutions and ensure that better outcomes are achieved for Aboriginal people.

Table 2

Children with disability and outcomes measured by the Ages and Stages Questionnaire (ASQ).

	(1)	(2)	(3)	(4)	(5)
	Communication	Gross motor	Fine motor	Problem solving	Personal-social
(Ref: Relative/kinship care)					
Restoration/adoption/guardianship	−0.895**	−0.0815	−0.0701	−0.0939	−0.0592
	(−1.999)	(−0.884)	(−0.118)	(−0.783)	(−0.602)
Foster care	0.118	−0.00412	−0.0618	0.114*	0.0233
	(0.536)	(−0.076)	(−0.265)	(1.940)	(0.470)
Residential care	–	–	–	–	–
Disability	−2.694***	−0.935***	−2.688***	−0.981***	−0.903***
	(−5.929)	(−5.057)	(−6.234)	(−5.064)	(−5.360)
Restoration/adoption/guardianship × Disability	−0.653	−0.152	−1.177	−0.647	0.377
	(−0.450)	(−0.274)	(−1.072)	(−1.529)	(0.667)
Foster care × Disability	−0.225	0.0912	0.395	0.182	0.115
	(−0.437)	(0.402)	(0.775)	(0.808)	(0.580)
Residential care × Disability	–	–	–	–	–
Age	0.129	0.0665**	0.244**	0.121***	0.0509**
	(1.505)	(2.408)	(2.573)	(4.320)	(2.046)
Male	−0.464**	−0.0401	−0.128	−0.100*	−0.172***
	(−2.416)	(−0.729)	(−0.631)	(−1.775)	(−3.424)
Health	0.452***	0.180***	0.515***	0.159***	0.103***
	(4.234)	(4.648)	(4.575)	(4.221)	(3.040)
Total number of ROSH reports	−0.0174	0.00281	−0.000119	−0.00725	−0.00145
	(−0.821)	(0.439)	(−0.005)	(−1.201)	(−0.276)
Total number of placements	−0.123**	−0.0488**	−0.152**	−0.0507***	−0.0169
	(−2.291)	(−2.360)	(−2.465)	(−2.689)	(−1.074)
Months in current placement	0.0229**	0.00545*	0.0234*	0.00760***	0.00588**
	(2.267)	(1.778)	(1.952)	(2.593)	(2.209)
Aboriginal	0.191	0.0292	0.0873	0.0167	0.0488
	(0.968)	(0.514)	(0.419)	(0.282)	(0.929)
CALD backgrounds	0.183	−0.00657	−0.00165	−0.0572	0.00177
	(0.665)	(−0.086)	(−0.006)	(−0.681)	(0.024)
Wave 2	0.200	0.122*	0.393*	−0.0202	0.0936
	(0.878)	(1.907)	(1.647)	(−0.307)	(1.614)
Wave 3	−0.0216	0.00274	−0.0602	−0.206*	−0.103
	(−0.055)	(0.022)	(−0.127)	(−1.689)	(−0.941)
Observations	1699	1701	1701	1701	1699

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Robust z-statistics in parentheses. Health indicates self-rated health status on a 6-point scale from very poor (1) to excellent (6). ROSH indicates the Number of Risk of Significant Harm. See Table 1 for more information.

those without disability. Model 3 shows that children with disability have higher short mood and feeling score, which means that they have a higher probability of experiencing depression (over the last 2 weeks from the reporting date) than school children without disability. Model 4 shows that children with disability have higher Self Report Delinquency Scale score, which means that they have a higher probability of engaging in antisocial behaviour than school children without disability. Model 4 also shows that restored/adopted/under guardianship children with disability have a lower probability of engaging in antisocial behaviour than children with disability in relative/kinship care.

Turning to cognitive and language development. Model 1 in Table 6 show that children with disability have lower scores in the Peabody Picture Vocabulary Test. Model 2 suggests that children with disability have lower scores in the Matrix Reasoning Test from Wechsler Intelligence Scale for Children compared to children without a disability.

The results also provide estimates for other independent variables. Since we use a random effect estimator, the coefficients for other independent variables include both within-person and between-person effects. In other words, the coefficients represent the *average* correlation between an independent variable and outcome variable across waves and between individuals.

In general, older age is associated with better outcomes. For example, an older age is associated with better skills in the communication, gross motor, problem solving and personal-social areas (ASQ results in Table 2); with better task persistence and lower negative reactivity and introversion among those aged under 14 years (SATI results in Table 3); with lower scores in both internalising and externalising (CBCL results in Table 4); with few school problems and better school bonding and relationship between children and their carers (Table 5); with better results in the vocabulary and reasoning tests (Table 6).

Compared to females, males have lower scores in communication, fine motor and personal-social skills (Table 2). Males also have lower negative reactivity and lower task persistence but a higher degree of introversion (Table 3). Males are likely to be less internalising or more externalising (Table 4). Males tend to have fewer school problems, better school bonding, a higher chance of depression, and a higher chance of having antisocial behaviour (Table 5). We do not find gender to be related to the results in the vocabulary and reasoning tests (Table 6).

Table 3

Children with disability and outcomes measured by School Aged Temperament Inventory (SATI).

	(1)	(2)	(3)	(4)
	Negative reactivity	Task persistence	Approach/withdrawal (aged <14)	Approach/withdrawal (aged ≥14)
(Ref: Relative/kinship care)				
Restoration/adoption/guardianship	−0.0448	0.108	0.0966	0.0289
	(−0.481)	(1.019)	(0.990)	(0.133)
Foster care	−0.0582	−0.0635	−0.0484	−0.204
	(−0.681)	(−0.756)	(−0.637)	(−1.085)
Residential care	0.0605	−0.836***	0.121	7.89e-05
	(0.314)	(−5.239)	(0.335)	(0.000)
Disability	0.424**	−0.544***	0.0898	−0.531*
	(2.448)	(−3.855)	(0.471)	(−1.658)
Restoration/adoption/guardianship × Disability	−0.0246	−0.387	−0.322	1.027**
	(−0.084)	(−1.501)	(−0.919)	(2.201)
Foster care × Disability	−0.119	0.101	0.0498	0.538
	(−0.545)	(0.535)	(0.203)	(1.186)
Residential care × Disability	−0.122	0.533**	−0.638	0.530
	(−0.410)	(1.983)	(−1.388)	(1.121)
Age	−0.0383***	0.0405***	−0.0625***	0.00508
	(−3.357)	(3.415)	(−4.171)	(0.105)
Male	−0.141*	−0.322***	0.132**	0.434***
	(−1.959)	(−4.745)	(1.975)	(3.162)
Health	−0.123***	0.163***	0.103***	0.0579
	(−3.585)	(4.313)	(2.721)	(0.910)
Total number of ROSH reports	0.00393	−0.00914***	0.00630*	−0.00320
	(1.058)	(−2.699)	(1.697)	(−0.057)
Total number of placements	0.0567***	−0.0224*	0.0102	−0.0303
	(3.664)	(−1.702)	(0.752)	(−1.065)
Months in current placement	−0.00212	0.00305	0.00121	−0.00445
	(−1.189)	(1.531)	(0.587)	(−1.302)
Aboriginal	−0.0425	0.0188	−0.0115	0.0572
	(−0.579)	(0.272)	(−0.166)	(0.412)
CALD backgrounds	−0.318***	0.252***	0.0239	0.146
	(−3.116)	(2.658)	(0.268)	(0.881)
Wave 2	0.0119	−0.0112	0.0144	0.181
	(0.196)	(−0.160)	(0.219)	(1.255)
Wave 3	0.101	−0.0347	−0.0596	0.237
	(1.215)	(−0.381)	(−0.676)	(1.200)
Wave 4	0.0909	−0.158	−0.166	0.472*
	(0.798)	(−1.226)	(−1.237)	(1.932)
Constant	3.902***	1.915***	3.446***	2.688***
	(15.831)	(7.010)	(12.889)	(2.930)
Observations	1480	1394	1169	309

Robust z-statistics in parentheses.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

Children with better health status have better skills in all the areas in ASQ (Table 2). Better health is associated with lower negative reactivity and better task persistence but higher introversion (Table 3). Among the outcomes measured by the CBCL, children with better health have better outcomes in all areas (Table 4). Nonetheless, children with better health have a higher school problem score, lower school bonding, a lower chance of depression and less antisocial behaviour and a better relationship with their carers (Table 5). Children with better health have better performance in vocabulary and reasoning tests (Table 6).

Those with a higher number of placements have poorer skill outcomes related to communication, gross motor, fine motor and problem solving in ASQ (Table 2); have stronger negative reactivity and poorer task persistence (Table 3); have higher scores on the Total Problems, Internalising Problems and Externalising Problem scales but lower competence score (Table 4); have less school problems but more antisocial behaviour (Table 5).

Children who have spent a longer time in the current placement have better outcomes across all skill areas in ASQ (Table 2). A longer duration in the current placement is associated with a lower degree of internalising (Table 4).

Some Aboriginal children in OOHC have lower Internalising Problems scores (Table 4); lower school bonding and more anti-social behaviour (Table 5); and lower performance in vocabulary and reasoning tests (Table 6). Interpretation of these results should consider the factors associated with the over-representation of Aboriginal children in child protection and OOHC including the legacy of past policies of forced removal and the intergenerational effects of previous forced separations from family and culture.

Finally, children from a CALD background have a lower degree of negative reactivity and stronger task persistence (Table 3); lower scores in total problem, internalising and externalising (Table 4); more school problems (Table 4); and poor performance in the

Table 4
Children with disability and outcomes measured by Child Behaviour Checklist (CBCL).

	(1)	(2)	(3)
	Total Problem Scale	Internalising	Externalising
(Ref: Relative/kinship care)			
Restoration/adoption/guardianship	−0.156	0.489	0.236
	(−0.110)	(1.215)	(0.429)
Foster care	2.960**	0.140	1.501***
	(2.130)	(0.385)	(2.734)
Residential care	10.46**	3.777**	6.113***
	(2.100)	(2.508)	(2.872)
Disability	20.87***	3.686***	7.031***
	(6.240)	(3.889)	(5.349)
Restoration/adoption/guardianship × Disability	−2.084	−1.096	−1.878
	(−0.603)	(−0.909)	(−1.304)
Foster care × Disability	−5.047	−0.630	−2.997**
	(−1.324)	(−0.567)	(−1.986)
Residential care × Disability	−14.56*	−3.155	−6.464*
	(−1.861)	(−1.448)	(−1.752)
Age	0.0636	−0.126***	−0.117*
	(0.379)	(−2.677)	(−1.768)
Male	1.219	−0.562*	1.305***
	(0.965)	(−1.683)	(2.607)
Health	−5.603***	−1.796***	−1.688***
	(−9.634)	(−9.858)	(−7.252)
Total number of ROSH reports	0.336***	0.0342	0.107***
	(3.847)	(1.472)	(−7.392)
Total number of placements	2.173***	0.407***	0.803***
	(6.859)	(4.762)	(6.792)
Months in current placement	−0.0460	−0.0184*	−0.0131
	(−1.224)	(−1.805)	(−0.875)
Aboriginal	−0.998	−0.661**	0.466
	(−0.781)	(−2.000)	(0.917)
CALD backgrounds	−5.613***	−0.716*	−2.204***
	(−3.485)	(−1.654)	(−3.454)
Wave 2	−4.348***	−1.223***	−1.153***
	(−4.225)	(−3.855)	(−2.866)
Wave 3	−2.305	−0.656	−0.382
	(−1.457)	(−1.433)	(−0.612)
Wave 4	−1.897	−1.369**	−1.095
	(−0.770)	(−2.052)	(−1.085)
Constant	57.55***	18.07***	18.88***
	(14.841)	(15.262)	(12.374)
Observations	3603	3599	3601

Robust z-statistics in parentheses.

*** $p < 0.01$.
** $p < 0.05$.
* $p < 0.1$.

vocabulary test but better performance in the reasoning test (Table 6).

Table 7 provides a summary of the negative and positive outcomes across different measures for children with disability. Our estimates so far contain the interaction terms between disability status and placement types in the full sample. For comparison, Table 8 provides, as a sample, the results for the CBCL total problem score without the interaction terms within the full sample and subsamples. In general, the results in model 1 in Table 8 are consistent with those from model 1 in Table 4 that disability is associated with a higher Total Problem Scale score. The results from models 2 and 3 based on subsamples with, and without disability, respectively, are also consistent with the results from the full sample in model 1 of Table 4 and model 1 of Table 8, suggesting that disability is the most significant predictor of the difference in Total Problem Scale score between these two groups.

Based on the results in model 1 in Table 8 where the outcome variable is the CBCL Total Problem Scale scores, Table 9 presents the relative importance of each independent variable in contributing to the overall R^2 (Luchman, 2021) The first row presents the general dominance statistics. The second row presents a standardised version of the general dominance statistics that were normalised to sum to 100 % by dividing by the overall R^2. The third row presents the rankings of the general dominance statistics. The findings suggest that disability is ranked as the most dominant contributor to the overall R^2, contributing 34 % of the 19 % of the variance in dependent variable explained by the independent variable.

3.2. Alternative definitions of disability

We use alternative measures of disability to check if the results presented in the baseline model vary depending on the definition

Table 5

Children with disability and outcomes measured by School Problem, School Bonding, Short Mood and Feeling, and Self-Report Delinquency instruments.

	(1)	(2)	(3)	(4)
	School Problem	School Bonding	Short Mood and Feeling	Self-Report Delinquency
(Ref: Relative/kinship care)				
Restoration/adoption/guardianship	−0.0458	−0.0220	2.052*	0.250
	(−0.938)	(−0.365)	(1.778)	(1.534)
Foster care	−0.0898**	−0.0634	0.136	0.0592
	(−2.112)	(−1.364)	(0.166)	(0.465)
Residential care	−0.400**	−0.497***	0.272	0.405
	(−2.122)	(−2.678)	(0.147)	(0.808)
Disability	−0.256***	−0.235**	3.426*	0.507**
	(−2.969)	(−2.434)	(1.725)	(2.081)
Restoration/adoption/guardianship × Disability	−0.195	0.124	−2.169	−0.710*
	(−1.085)	(0.624)	(−0.662)	(−1.820)
Foster care × Disability	0.169	0.270**	−2.125	−0.558
	(1.416)	(2.154)	(−0.877)	(−1.557)
Residential care × Disability	−0.326	0.0872	−0.284	−0.343
	(−0.878)	(0.234)	(−0.074)	(−0.476)
Age	−0.0184***	−0.0390***	0.0626	0.0264
	(−2.729)	(−5.162)	(0.299)	(1.089)
Male	−0.112***	−0.206***	−3.163***	0.318***
	(−3.009)	(−4.920)	(−4.038)	(2.895)
Health	0.0413*	0.0429*	−1.114**	−0.291***
	(1.809)	(1.702)	(−2.508)	(−3.722)
Total number of ROSH reports	−0.00308	0.00152	−0.00442	−0.00135
	(−1.459)	(0.661)	(−0.149)	(−0.263)
Total number of placements	−0.0222**	0.00135	0.0869	0.0771***
	(−2.552)	(1.126)	(0.660)	(2.858)
Months in current placement	8.97e-05	0.0606	−0.00172	−0.000539
	(0.082)	(1.426)	(−0.074)	(−0.172)
Aboriginal	−0.0124	0.140**	0.332	0.216*
	(−0.319)	(2.504)	(0.418)	(1.728)
CALD backgrounds	0.116**	0.0308	−1.011	−0.158
	(2.279)	(0.597)	(−1.324)	(−1.199)
Wave 2	−0.0263	0.114*	0.490	−0.108
	(−0.578)	(1.753)	(0.424)	(−0.597)
Wave 3	0.0385	−0.0254	−0.205	−0.197
	(0.653)	(−0.300)	(−0.233)	(−1.473)
Wave 4	−0.00693	−0.0220		
	(−0.091)	(−0.365)		
Constant	4.365***	4.441***	10.88**	2.688***
	(28.382)	(26.503)	(2.236)	(2.930)
Observations	1569	1573	347	624

Robust *z*-statistics in parentheses.
*** $p < 0.01$.
** $p < 0.05$.
* $p < 0.1$.

applied. Since the two alternative measures are not available in every wave of POCLS, we present results where estimates could be obtained.

Tables in Appendix A present the results on wellbeing outcomes based on the ABS definition of disability. Table A1 presents the results on the School Aged Temperament Inventory (SATI). Models 1 and 2 show that having disability is associated with higher negative reactivity and lower persistence, respectively. Model 3 shows that, among those aged below 14, children with disability have lower introversion compared to children without a disability. Model 3 also shows that, among those aged below 14, those children with disability who are in foster care have a higher level of introversion compared to children without a disability. The results in model 4 are different from those in Table 3 that only children with disability and in restoration/adoption/guardianship have a higher level of introversion compared to children without a disability.

Table A2 presents the results on Child Behaviour Checklist (CBCL). Models 1 and 4 in Table A2 shows that, consistent with the results in models 1 and 4 in Table 4 using the administrative definition, children with disability have a higher total problem score. Different from the results in Table 4, the results using the ABS definition do not show that children with disability have significantly higher internalising and externalising levels than children without a disability.

Models 1 and 2 in Table A3 show children with disability have lower School Problem scores (i.e., fewer problems at school) and School Bonding scale score (i.e., better school bonding) than children without disability, respectively. Models 3 and 4 in Table A3 do not show that the disability status is associated with school problems, school bonding, short mood and feeling, Self Report Delinquency Scale, and child-carer relationship scores, respectively. These results are different from those in Table 5 where the disability status is

Table 6

Children with disability and outcomes measured by Peabody Picture Vocabulary Test and Matrix Reasoning Test from Wechsler Intelligence Scale for Children.

	(1) Peabody Picture Vocabulary Test	(2) Matrix Reasoning Test
(Ref: Relative/kindship care)		
Restoration/adoption/guardianship	0.621	−0.732**
	(0.398)	(−2.030)
Foster care	−2.173*	−0.234
	(−1.829)	(−0.750)
Residential care	−7.506	−1.452
	(−1.404)	(−1.352)
Disability	−16.07***	−3.175***
	(−4.895)	(−4.246)
Restoration/adoption/guardianship × Disability	−11.09	−0.274
	(−0.758)	(−0.231)
Foster care × Disability	−1.290	−0.326
	(−0.332)	(−0.352)
Residential care × Disability	−5.334	−1.374
	(−0.708)	(−0.686)
Age	10.45***	1.334***
	(55.911)	(29.393)
Male	0.673	−0.227
	(0.567)	(−0.823)
Health	1.568**	0.252*
	(2.468)	(1.893)
Total number of ROSH reports	0.134	−0.0187
	(1.549)	(−1.013)
Total number of placements	0.104	0.0544
	(0.367)	(0.852)
Months in current placement	0.0416	0.00393
	(0.816)	(0.473)
Aboriginal	−4.686***	−0.942***
	(−3.987)	(−3.352)
CALD backgrounds	−5.561***	0.849**
	(−3.299)	(2.233)
Wave 2	1.102	0.412
	(1.098)	(1.446)
Wave 3	3.559**	0.212
	(1.970)	(0.570)
Constant	15.07***	1.559*
	(3.886)	(1.689)
Observations	2226	1963

Robust z-statistics in parentheses.
  *** $p < 0.01$.
  ** $p < 0.05$.
  * $p < 0.1$.

Table 7

Summary of positive and negative outcomes correlated with disability status.

	Positive outcomes among children with disability vs. children without disability	Negative outcomes among children with disability vs. children without disability
Age and Stage Questionnaire (ASQ-3)		Poorer communication, gross motor, fine motor, problem solving and person-social skills
School Aged Temperament Inventory (SATI)	A lower level of introversion	Stronger negative reactivity; poorer task persistence
Child Behaviour Checklist (CBCL)		Higher total problem score; more internalising; more externalising; and lower competence.
School Problems Scale (SPS)	Fewer problems at school	
School Bonding Scale (SBS)	Better school bonding	
Short Mood and Feelings Questionnaire (SMFQ)		Higher probability of depression
Self Report Delinquency Scale (SRDS)		Higher probability of anti-social behaviour
Emotional Responsiveness Scale from the Parenting Style Inventory II (PSI-II)	Non-significant	Non-significant
Peabody Picture Vocabulary Test (PPVT-IV)		Lower scores
Matrix Reasoning Test from Wechsler Intelligence Scale for Children (WISC-IV)		Lower scores

Table 8

Children with disability and outcomes measured by Child Behaviour Checklist (CBCL) – without interaction terms.

	(1)	(2)	(3)
	Total Problem Scale – full sample	Total Problem Scale – subsample with disability	Total Problem Scale – subsample without disability
(Ref: Relative/kinship care)			
Restoration/adoption/ guardianship	−0.386	−2.880	−0.149
	(−0.288)	(−0.791)	(−0.105)
Foster care	2.230*	−1.814	2.761**
	(1.702)	(−0.489)	(1.971)
Residential care	5.466	−6.870	10.77**
	(1.368)	(−1.020)	(2.103)
Disability	17.10***		
	(9.336)		
Age	0.0580	0.740	−0.106
	(0.344)	(1.575)	(−0.593)
Male	1.212	0.377	1.491
	(0.963)	(0.107)	(1.119)
Health	−5.654***	−5.460***	−5.695***
	(−9.731)	(−4.529)	(−8.573)
Total number of ROSH reports	0.331***	0.0492	0.386***
	(3.767)	(0.237)	(4.037)
Total number of placements	2.190***	1.805***	2.278***
	(6.899)	(2.608)	(6.314)
Months in current placement	−0.0438	−0.0559	−0.0466
	(−1.166)	(−0.758)	(−1.052)
Aboriginal	−0.841	−1.686	−0.500
	(−0.660)	(−0.478)	(−0.368)
CALD backgrounds	−5.486***	−7.815*	−4.693***
	(−3.412)	(−1.722)	(−2.726)
Wave 2	−4.304***	−4.980**	−4.142***
	(−4.185)	(−2.033)	(−3.604)
Wave 3	−2.315	−2.573	−2.080
	(−1.456)	(−0.663)	(−1.184)
Wave 4	−1.956	−4.867	−0.955
	(−0.789)	(−0.955)	(−0.332)
Constant	58.12***	76.23***	58.32***
	(14.956)	(8.011)	(13.539)
Observations	3603	684	2919

*** $p < 0.01$.
** $p < 0.05$.
* $p < 0.1$.

Table 9

Dominance statistics and rankings of independent variables – CBCL Total Problem Scale.

	Dominance Stat.	Standardised Dominance Stat.	Ranking
Restoration/adoption/guardianship	0.0025	0.0126	8
Foster care	0.0045	0.0227	7
Residential care	0.0092	0.0469	4
Disability	0.0673	0.3417	1
Age	0.0011	0.0054	11
Male	0.0016	0.0079	10
Health	0.0659	0.3349	2
Number of ROSH Reports	0.0002	0.0012	15
Total number of placements	0.0309	0.1568	3
Months in current placement	0.0047	0.0237	6
Aboriginal	0.0000	0.0000	14
CALD backgrounds	0.0056	000286	5
Wave 2	0.0022	0.0113	9
Wave 3	0.0004	0.0022	13
Wave 4	0.0010	0.0051	12
Observations	3603		
Overall fit statistic: overall R^2	0.1969		

Note: The overall R^2 is a measure of the goodness of fit of a model. It is a statistical measure of how well the regression predictions approximate the real data points. An R^2 of 0.20 indicates that 80 % of the variability in the outcome data cannot be explained by the model.

significantly associated with each of these outcomes except for child-carer relationship.

In Appendix B, we present the results based on the measure of severe illness and/or disability in the POCLS survey. Table B1 presents the results on the Age and Stage Questionnaire. The results in models 1–5 in Table B1 shows that children with disability have poorer communication, gross motor, fine motor, problem solving and person-social skills than those without disability. These findings are consistent with those in Table 2 based on the administrative definition. Models 2, 4 and 5 show that restored/adopted/under guardianship children with disability have poorer gross motor, problem solving and personal-social skills, respectively compared to children without disability.

Table B2 shows that children with disability have stronger negative reactivity (model 1), poorer task persistence (model 2), and a lower level of introversion among those under 14 compared to children without a disability (model 3). Model 2 shows that, consistent with the results in Table 3, children with disability in residential care have stronger persistence compared to children without a disability. Model 2 also suggests that restored/adopted/guardianship children with disability and children in foster care have lower persistence levels compared to children without a disability. Model 3 suggest that those restored/adopted/guardianship children under 14 with disability have a higher level of introversion compared to children without a disability.

Table B3 shows that having severe illnesses and/or disability is associated with a higher level of total problems (model 1), internalising (model 2) and externalising (model 3) and a lower level of competence (model 4) compared to children without a disability. These are consistent with the results in Table 4.

Table B4 shows that children with severe illnesses and/or disability have a lower level of school problems (model 1) and schooling bonding (model 2) compared to children without severe illness/disability. These are consistent with those results in models 1 and 2 in Table 5.

Table B5 shows that children with disability have lower scores in the Peabody Picture Vocabulary Test (model 1) and the Matrix Reasoning Test from Wechsler Intelligence Scale for Children (mode 2) compared to children without a disability. These are consistent with the results in Table 6.

In general, we find that the results based on the alternative measures of disability are consistent with those based on the administrative measure of disability.

3.3. Dealing with differences between overlapping and non-overlapping groups of children with disability across definitions

Two insights clearly emerge (please see Appendix D for technical details). Firstly, physical disability is associated with better SPS scores while both physical and cognitive/psychological impairment are associated with worse CBCL Total Problem scores. For the CBCL score, the effect of cognitive/psychological impairment is double in magnitude relative to that of physical disability (25.1 points vs. 10.5). The second is that the interactions between the type of disability with the type of placement/other outcome yields hardly any coefficient statistically different from zero, implying that placement type has little effect on SPS/CBCL scores over time. One of the exceptions is that children with mental disability in residential care have better CBCL total scores than those without disability.

These results overall nevertheless caution against using a single indicator of disability, inviting instead to use multiple indicators to ensure that the coefficients provided are also accompanied by a measure of their robustness, and in particular to differentiate between different types of disability. The findings again indicate that disability is very diverse and it is difficult to generalise about the whole population of children with disability in OOHC.

4. Discussion

This study uses four waves (2011–2018) of POCLS panel data to examine the wellbeing of children with a disability in OOHC over four waves of data collection, across the three domains of physical health and development, socio-emotional wellbeing, and cognitive ability, and the factors that could influence these outcomes including placement type and placement stability. We find that children with disability in the POCLS cohort, they have poorer wellbeing than children without disability in OOHC on most measures, except for measures of problems and bonding at schools. We also find that the types of placements, namely relative/kinship care, restoration/ adoption/guardianship, foster care and residential care, have little or limited association with outcomes for children with disability. In other words, for this cohort, having disability is associated with poorer wellbeing for children in OOHC regardless of their placement arrangements, and that the placement type has little impact on their wellbeing trajectories. It is possible that this is due to a selection effect; that is, children with certain characteristics are more likely to be placed in particular placement arrangements. Nevertheless, the findings do suggest that the care arrangement has little impact on the outcomes for children with disability. Children in OOHC are an already disadvantaged cohort who face a range of adversities and challenges, and children with disability face additional challenges as they progress through the care system. Thus, it is not surprising that their wellbeing continues to be worse than that of children without disability through four waves of data collection.

We also checked the consistency of results against alternative measures of disability, using ABS population census data and a POCLS survey question on whether a child has severe disability and illness. In general, the results based on the two alternative measures are qualitatively consistent with our baseline results using the administrative flags of disability status, despite some estimates using the ABS and the carer measures not being statistically significant in predicting wellbeing outcomes.

4.1. Policy implications

Although the trajectories of children with disability in OOHC are similar in many ways to those of children without disability,

children with disability tend to have lower levels of wellbeing than children without disability, driven mainly by their disability status rather than care factors. The literature indicates that outcomes are likely to be driven by a range of factors which start early in life and include social structures, attitudes, lack of resources, environment and expectations. The implications of this analysis are that it is likely to be challenging to alter the trajectories of children with disability in OOHC, and to do so will require additional resources and early intervention at different levels including the child themselves, the care placement, school and other contexts in which the child is engaging. It is therefore important to ensure that children are assessed as early as possible and receive the supports they require at the earliest opportunity. Thus, caseworkers and carers need to be trained and supported to *identify* disability and the child's additional needs and have access to information about the range of supports available for children with disability in different contexts.

Equally important is information for carers who similarly should be aware of the supports available for the child and the family and how to access them. Support should be coordinated and there should be clear lines of communication between the different disciplines involved in the child's care, and a clear multi agency plan to support the child in the placement, in school and in the community (Create Foundation, 2012; Ziviani et al., 2013).

Assessment of the child's strengths and needs should be conducted regularly and work with the child should focus on strengthening the protective factors which are likely to support the child's trajectory through the care system. Children's needs change over time, so assessment should be ongoing.

This links to another key policy implication; that data collected about the disability of children in OOHC should be consistent and comprehensive while also being child focused, recognising that disability status can change and that children's privacy and rights to self-identify as having a disability should be respected.

Children with disability are a diverse group, with differing levels and types of impairments. Outcomes are associated with the type of impairment they experience. Thus, programs for these children should be designed to focus on their specific needs, which can change over time as the children progress through the care system.

Further research is required to better understand the diversity of outcomes among children with disability in care, and in particular to examine the protective factors which are associated with better outcomes for different groups of children with disability.

4.2. Limitations

A key limitation of this study is that the voice of children themselves is not included in the analysis. It is important that children with disability are involved in discussions about their needs and the supports they require. Children should also be consulted about the research that they are involved in, and although children have been consulted about the POCLS study overall and have been participants in the research, they were not consulted about this particular analysis, noting that many of the children were very young when the study began. Further research on the voice of children with a disability in OOHC is a priority.

With respect to the measure of disability, the data do not distinguish the type of disability being observed/experienced: this could be physical, intellectual, or a combination of the two. Each type is likely to influence (i) the sorting of children in OOHC, as perhaps the most severely affected by disability can only be accommodated in institutions, and (ii) the wellbeing that has been observed and reported in POLCS.

In addition, given that the study utilised administrative information or a one-off measure based on the ABS census to derive the three measures of disability, we necessarily assumed that the disability status of individuals does not change significantly over the four waves of data collection in order to apply the econometric models. This assumption is strong as disability likely changes over time. This limitation should be taken into consideration when interpreting the results of the study. Future data collection should prioritise the collection of multidimensional indicators of disability over time to better capture changes in disability status and provide a more complete understanding of the experiences of children with disability.

Future data collection efforts for children with disabilities should also focus on making the data more relevant and child-focused. This can be achieved by aligning services with the needs of children with disability and their carers, as well as improving the accessibility and usefulness of administrative data for professionals who work with them. It is crucial to involve carers and other individuals who have significant 'face time' with children with disability in the data collection and analysis process to ensure that their needs and perspectives are accurately represented in the data collection and research process. This will ultimately improve the effectiveness and relevance of policy making for improving the well-being of children with disabilities.

As we reflect on the current limitations of this study, we recognise the need for future research to address the over-representation of children with disabilities in residential care. While this is beyond the scope of our present study, it is an issue that raises important policy implications, aligned with the United Nations CRPD. For example, individuals who work directly with children in OOHC require not only more training and information but also *access to new resources*. It is crucial that children with disabilities are given equal opportunities to be placed with families when in OOHC, and that the system provides the necessary resources and support to carers to ensure this. To this end, further research is needed, with a specific focus on the experiences and challenges faced by children with disabilities in OOHC, taking into account the principles of the CRPD.

Data availability

The authors do not have permission to share data.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.chiabu.2023.106246.

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