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IPART Out-of-Home Care Review: Cost of Caring

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Contents

Executive Summary

Children in foster care often face unique and complex challenges, including including health, developmental, and socio-cultural challenges. These factors contribute to higher costs of care compared to children in permanent family settings or those outside the foster care system. To ensure foster children receive appropriate and holistic support, the Independent Pricing and Regulatory Tribunal (IPART) commissioned an independent review to assess the adequacy of the foster care allowance in New South Wales (NSW).

The foster care allowance, adjusted over time using an indexation rate, has not had its expenditure weights updated since 2002. Economic and social changes over the past two decades likely shifted household spending patterns, raising concerns that the current allowance no longer reflects the true cost of caring for foster children.

This study was designed to:

1. Identify the minimum set of goods and services required to provide quality foster care to children in out-of-home care.
2. Estimate the average weekly cost to carers of providing these goods and services.
3. Examine significant variations in weekly costs based on factors such as the child's age and geographic location.

Methodology

To provide robust and evidence-based recommendations, this study employed a multi-faceted approach that included:

- A thorough review of previous studies and academic literature.
- Consultations with foster carers and IPART representatives to incorporate practical insights.
- Longitudinal data analysis using the Household Income and Labour Dynamics in Australia (HILDA) Survey.
- Integration of primary and secondary data, including results from a foster carer survey.
- Formal econometric evaluation by subject matter experts from the Melbourne Institute: Applied Economic and Social Research.

Key Findings

1. **Higher Costs of Foster Care**: A comprehensive review of existing literature indicates that children in foster care incur 30–60% higher costs than other children, depending on their age. There was significant evidence from the empirical literature that health costs, in particular, are much higher for foster children than other children

2. **Confirming Necessary Expenditures**: A carer-validated basket of goods and services was developed, covering key expenditure categories such as housing, food, health, transport, and education.
3. **Cost Variations by Age and Location**:
    - Households with children in foster care aged 5–13 years face 42% higher expenditures compared to similar households.
    - Costs increase as children grow older, with older children requiring additional resources.
    - Households in major cities reported the highest expenditures, followed by those in regional and remote areas.

Recommendations

The findings highlight that the current NSW foster care allowance underestimates the true cost of providing quality care, especially for older children and those in high-cost regions. Two approaches for adjusting the fortnightly allowance were developed in this study. Approach I, which adjusts the 2022 allowance using a "budget allocation index" to account for changing household spending patterns from 2006-2022, is the recommended approach. This adjustment would ensure that the allowance aligns with contemporary household spending patterns and adequately meets the needs of children in foster care.

By addressing the gaps in the current allowance structure, these changes will better support carers and ensure children in foster care have access to the resources they need for their health, development, and overall well-being.

1. Project context

1.1 Background

The Independent Pricing and Regulatory Tribunal (IPART) regulates key markets and New South Wales (NSW) Government services to ensure effective social, environmental and economic outcomes. They undertake independent investigations into issues the Government refers to them across several industries. They conduct consultations and reviews, and balance community needs with the sustainability of service providers.

IPART received Terms of Reference (IPART, 2024a) in May 2024 set out by the NSW Department of Communities and Justice (DCJ) to complete an independent review into the efficient costs and benchmark pricing of the NSW out-of-home care system. IPART published initial findings in their Interim Report (IPART, 2024b) in early September 2024. During IPART's initial consultation and analysis, a need to consider the current cost of providing care for children placed with a carer in a family-home setting (i.e. foster care[1]) was identified.

In NSW, a foster carer is provided a fortnightly care allowance. The Cost of Caring Report published in 2002 by the Social Policy Research Centre at the University of New South Wales (McHugh, 2002) outlined a blueprint for foster care allowances across Australia, inclusive of weighted expenditure compositions across different spending categories that are necessary for quality foster care in each state, on average. These categories consisted of housing, energy, food, clothing and footwear, household goods and services, health, transport, leisure, and personal care. Although the foster care allowance has been adjusted by an indexation rate set by NSW Treasury and applied by DCJ, the weights on the expenditure compositions have remained the same. Over the past two decades, significant economic changes have influenced consumer spending patterns and associated costs. It is highly likely that the indexation rate which has been applied is not sufficient to account for these compositional shifts. This consideration leads to IPART's concern that the current care allowance no longer accurately reflects the true cost of caring for children. In their interim report, IPART wrote that "changes in prevailing community standards and consumption options that occur over time are not adequately captured by [price] indexation" (IPART, 2024b, p. 106, para. 1).

1.2 Project scope

IPART has engaged the Melbourne Institute: Applied Economic & Social Research (MI) to provide the following services:

- For each category of children for which results differ materially:
  - Identify the minimum set of goods and services required to provide children in out-of-home care in NSW with quality care;
  - Identify the average weekly cost to carers of procuring these goods and services in a cost-effective way, consistent with the way a typical family would undertake purchasing decisions; and

[1] We use the term foster care to include home-based care provided by relatives and kin as well as foster carers.

    - Identify any significant variation in the weekly cost within each category and what is driving that variation (e.g. sibling groups, geographical location).
- Attend workshops with foster carers conducted by IPART to ensure the lived experiences of foster carers is captured in the report

2. Our approach

To develop a comprehensive review of the cost of foster children, we undertook the following:

- Fortnightly discussions with IPART team members
- Workshops with carers of foster children
- Literature reviews
- Survey development and developing empirical methodology
- Survey implementation, data collection and data cleaning.
- Gaining access to the Household Income and Labour Dynamics in Australia (HILDA) survey data and HILDA data processing
- Data analysis and reporting

In addition to the main sections of this report, additional details pertaining to each of these steps can be found in Appendix A.

3. Literature review on the extra cost of foster children

This section presents a review of studies on the extra costs of foster children in the United Kingdom (U.K), Australia, and United States (U.S). These are presented below. A comprehensive academic literature review was also conducted on the extra health burdens for foster children and is briefly discussed in Section 3.4; a more detailed overview is presented in Appendix B.

3.1 United Kingdom

Oldfield (1997)'s *The Adequacy of Foster Care Allowances* is a landmark study on the sufficiency of foster care allowances in the U.K. The research sought to determine whether these allowances adequately covered the costs of raising foster children, employing both qualitative and quantitative methodologies to evaluate the economic and social dimensions of foster care payments.

To estimate the additional costs of fostering, Oldfield (1997) began by creating a baseline budget for children not in care. These expert-constructed, modest-but-adequate[2] household budgets — tailored to different family types — were developed using behavioural evidence, recommended standards, and feedback from consumers and academics. Foster carers were then presented with these budgets during in-depth interviews, which consisted of various items

[2] The modest-but-adequate standard of living refers to the "full opportunity to participate in contemporary society and the basic options it offers. It is moderate in the sense of lying both well above the requirements of survival and decency and well below the levels of luxury as generally understood". (Watts 1980, p.vii)

across various expenditure categories (See Section 4.4 for information on the expenditure categories). The interviews were conducted with 32 foster families in North Yorkshire, representing a collective 243 years of fostering experience and 542 fostered children. Based on their feedback, additional items were added to the budget, or the frequency of existing items was adjusted. The resulting budget was normalised (i.e., averaged across carers), as not all foster carers encountered the same additional expenses associated with fostering. The advantage of this method was that each item suggested by foster carers was included in the final budget. For example, if 20% of carers indicated that they required a larger car, then 20% of the extra cost of a larger car would be included in the final foster care budget.

Recognising age-related cost variations, Oldfield (1997) adopted age brackets defined by the UK's Family Budget Unit (FBU): 0–4, 5–10, and 11–16. The study revealed that fostering a child incurred additional costs of 62%, 54%, and 51%, on average, for the 0–4, 5–10, and 11–16 age groups, respectively. To address these disparities, increases of 71%, 56%, and 19% in basic foster care allowances were recommended for these age brackets. While Oldfield (1997)'s findings exposed systemic disparities and called for reforms, the study faced criticism for relying on self-reported data, which may introduce bias, and for its small sample size relative to the diversity of the U.K foster care system.

3.2. Australia

McHugh (2002)'s *The Cost of Caring* study provides a comprehensive analysis of the additional costs associated with children in foster care in Australia. To estimate the costs of fostering, McHugh (2002) utilised benchmarks developed by the Budget Standards Unit (BSU) at the Social Policy Research Centre (SPRC) at the University of New South Wales (Saunders, 1998). These benchmarks outlined the standard costs of raising children not in foster care, based on detailed budget standards tailored to Australian families and adjusted to reflect typical expenditure patterns of the time.

McHugh (2002)'s analysis included a focus group methodology similar to Oldfield (1997)'s in-depth interviews approach. Foster carers participated in workshops where baseline estimates for the cost[3] of caring for a typical child were presented. Carers provided feedback by agreeing or disagreeing with these figures, leading to adjusted estimates that reflected the true additional costs of caring for foster children. The study examined costs across various expenditure categories (See Section 4.4), using age brackets derived from the BSU benchmarks: "Child aged 1," "Girl aged 3," "Girl aged 6," "Boy aged 10," "Boy aged 14," and "Girl aged 14."

The study revealed significant disparities between the direct costs of foster children and children not in foster care. The extra costs of foster children were approximately 9% for "Child Age 1", 49% for "Girl Age 3", 42% for "Girl Age 6", 40% for "Boy Age 10", 38% for "Boy Age 14" and 33% for "Girl Age 14". McHugh (2002) proposed several policy recommendations to address these disparities, including updating allowances to reflect age-

[3] Similar to Oldfield (1997), McHugh (2002) identified indirect costs as an important area, however, did not account for them. It was recommended as a possible area for future research.

specific and needs-based costs[4], and recognising the extra demands placed on foster carers, such as liaising with schools, healthcare providers, and caseworkers.

The findings of McHugh (2002)'s study have had a significant impact on Australian foster care policy, influencing reforms aimed at improving the equity and sustainability of support for foster families. By advocating for policies that align government reimbursements with the actual costs of fostering, McHugh (2002) has been pivotal in promoting fairer and more effective support for carers.

3.3 United States

Daining and coauthors conducted the first comprehensive study on the additional costs of caring for foster children in the United States (Daining et al., 2007). This landmark study utilised data from the U.S. Consumer Expenditure Survey (CES)[5] to estimate the typical costs of raising children in middle-income U.S. families. The CES dataset included 1,213 families with at least one child during the survey year. For their analysis, data from 2002 to 2004 was selected to reflect spending patterns at the time, with figures adjusted by inflation to the price level of the second half of 2006 using the Consumer Price Index (CPI). To ensure consistency, no more than two children were included per family for expenditure analysis across all categories, except those already summarised by the Bureau of Labor Statistics (BLS). The study focused on families which closely represented the broader population.

The expenditure data from these families served as a baseline and was adjusted upward to account for the additional costs associated with foster children[6]. These adjustment rates were based on rates outlined in McHugh (2002). Consequently, the estimated extra costs for foster children mirrored those calculated in McHugh (2002). The study's primary outcome was the development of the Foster Care Minimum Adequate Rates for Children (MARC), which was a set of recommended reimbursement rates for foster care based on the extra cost of foster children. These rates were adjusted for cost-of-living variations across all 50 states and the District of Columbia to account for regional economic differences.

The study also recognised that children's needs — and the associated costs — vary significantly with age. Using CES-defined categories, children were divided into three age groups: 0–4 years, 5–13 years, and 14–18 years. These groupings align with the reporting practices of most U.S states, which typically publish foster care rates for children aged 2, 9, and 16, representing the midpoints of these age groups.

The study revealed significant inadequacies in existing foster care reimbursement rates. Only Arizona and the District of Columbia had rates that met or exceeded the Foster Care MARC across all age groups. It was determined that, on average across states, U.S. foster care rates

[4] NSW, for example, used a flat rate of $175 across all age groups until 2006

[5] The CES is a national survey implemented by the U.S Department of Labors Bureau of Labor Statistics (BLS). Akin to Australia's HILDA survey, the CES captures household spending habits, family earnings, and household characteristics over time.

[6] A similar approach is taken in this study, as we use the HILDA survey to form our baseline of children not in care

needed to increase by 29% for 2-year-olds, 41% for 9-year-olds, and 39% for 16-year-olds to meet the Foster Care MARC, as these were the extra costs of foster children.

A follow-up study (Ahn et al., 2018) reassessed state-specific foster care rates, accounting for inflation and tracking changes over time. This updated analysis found that, on average, foster care rates still needed to increase by 35%, 45%, and 44% for children aged 2, 9, and 16, respectively, to reach the 2016 Foster Care MARC. Similar to the previous study, only 4 out of 50 states provided reimbursement rates that met or exceeded the adequate costs in 2016.

3.4 The academic literature

A broad desktop review was conducted using Google Scholar to identify academic studies on the additional costs associated with foster children. The initial search used the keywords "Foster Care" AND "Cost," which yielded several high-quality articles. The snowball technique[7] was then employed to expand and refine the review.

In total, we reviewed 10 articles focusing on the additional health burdens faced by foster children. The body of literature on health-related costs was abundant, reflecting significant academic interest and dedicated funding in this independent research area. Beyond health, we further conducted an extensive search across 25 pages of Google Scholar results but did not identify studies addressing other specific costs, such as furniture, cleaning, housing, food, or other costs. These costs are likely captured within broader "total cost" studies, rather than forming their own distinct literature base.

Notably, the primary studies addressing these broader costs were already discussed in Sections 3.1–3.3, which aligns with the lack of additional findings from our search.

A detailed summary of our review of high-quality studies on health-related costs is presented in Appendix B.

4. Literature review on the needs of foster children

This section begins with a brief categorisation of the needs of foster children by analysing a recent systematic review by Steenbakkers et al. (2018). How this categorisation aligns with Section 8 of the NSW *Children and Young Persons (Care and Protection) Act 1998* (Care and Protection Act) is described thereafter. Proceeding this, we define quality care in NSW and the basket of goods & services required for quality care. We then conclude by providing insights on the basket of goods and services from a survey with foster carers and the carer workshops that we attended.

4.1 Categorising the needs of foster children

Steenbakkers et al. (2018) conducted a systematic review of the needs of children in foster care and approaches to addressing them. From 2,471 peer-reviewed empirical studies on foster

[7] The snowball technique involves identifying several high-quality articles and then searching the references of those articles to identify more, and employing this method continuously.

children in Western countries[8], the review identified four distinct categories of needs. Ultimately, 64 articles met the selection criteria (See Appendix C.1 for the review's selection criteria and Appendix C.2 for the characteristics of the studies included in the review).

The review highlights that on average foster children face unique challenges compared to other children. This includes a higher prevalence of behavioural and emotional difficulties (Oswald et al., 2010; Smith et al., 2007), cognitive limitations (Jacobsen et al., 2013), estrangement from biological parents (Schofield & Beek, 2005), and the lingering effects of trauma (Greeson et al., 2011).

The four needs categories identified are summarised below in Table 1

Table 1 Needs of children in foster care

Needs category	*N*	Description
Medical	21	Needs regarding physical health, physical development and treatment and identification of medical conditions
Belongingness	17	Needs regarding relationships with others, such as foster parents and peers, and related constructs, such as attachment and permanency
Psychological	43	Needs about (individual) psychological phenomena such as self-esteem, mental health, autonomy and coping
Self-actualisation	14	Needs about learning, education, leisure and employment

Note. N= 95 is the number of needs categories identified across the 64 studies included in this review, as multiple categories per article were possible.

4.2 The NSW Care and Protection Act

The needs identified in Table 1 correspond to the instruments set out in Section 8 of the NSW Care and Protection Act which forms the foundation of the out-of-home care system in NSW (See Appendix C.3 for an outline of Section 8). They both share an understanding that foster children require a multidimensional approach to their care, addressing physical, emotional, psychological, and developmental needs. This alignment highlights the categories' relevance to the practical legislative framework governing child welfare in NSW.

The connection between the needs identified in Table 1 to the NSW Care and Protection Act is outlined below

1. **Medical Needs and Safety, Welfare, and Well-Being (Section 8(a) & 8(b)):**
    - The "Medical" category addresses physical health, development, and the treatment of medical conditions. This aligns with the Act's commitment to ensuring children's safety, welfare, and well-being, which includes fostering environments that support health and developmental needs.
2. **Belongingness and Stable, Nurturing Environments (Section 8(a1)):**

[8] The countries in the final sample of 64 studies were the USA (39), Australia (8), Canada (6), UK (5), Netherlands (3), Sweden (1), Ireland (1) and Multiple (1). This information is also outlined in Appendix C.2.

- The "Belongingness" category emphasises relationships, attachment, and permanency, which reflect the Act's focus on providing long-term, safe, stable, and nurturing environments that prioritise the child's sense of belonging and emotional security.

3. **Psychological Needs and Mental Health Support (Section 8(b)):**

    - The "Psychological" category addresses mental health, self-esteem, autonomy, and coping mechanisms, directly aligning with the Act's aim to foster self-respect, dignity, and well-being through stable care environments and services.

4. **Self-Actualisation and Developmental Needs (Section 8(b)):**

    - The "Self-Actualization" category, covering education, leisure, and employment, corresponds to the Act's focus on promoting developmental needs, dignity, and opportunities for children to grow into their potential.

4.3 Defining quality foster care in NSW

In NSW, quality foster care is considered care that is in line with community expectations and satisfies the standards set out in the Office of the Children's Guardian's (OCG) NSW Child Safe Standards for Permanent Care (OCG, 2015). Those standards include:

- Providing a positive care environment – children and young people receive appropriate care in a safe environment;
- Child protection and child safety – children and young people are safe and protected from harm;
- Identity – children and young people have a positive sense of identity
- Emotional and social development – children and young people are cared for in placements that meet their emotional, social and behavioural needs;
- Health – children and young people are healthy and have access to health and support services; and
- Education – children and young people educational outcomes match those of the general population.

4.4 The basket of goods and services required for quality foster care

In addition to reviewing Oldfield (1997), McHugh (2002), and Daining et al. (2007) for the extra costs of foster children in Sections 3.1-3.3, we also conducted a separate review of these studies on the basket of goods and services required for quality foster care.

The key finding from this review is that the Australian study by McHugh (2002) is likely the most comprehensive and methodologically robust in identifying a basket of goods and services necessary for quality foster care in NSW (and perhaps across all three broader jurisdictions). Compared to the U.S. study (Daining et al., 2007), the basket identified by McHugh (2002) is more exhaustive, covering a broader range of categories and items. Additionally, the U.K. study by Oldfield (1997) was conducted prior to McHugh (2002) and directly influenced McHugh (2002)'s methodology by providing a validated framework for identifying necessary goods and

services. Where necessary, adjustments to Oldfield (1997) were made by McHugh (2002) to suit the Australian context.

The basket identified by McHugh (2002) included the following expenditure categories[9]

- Housing
- Energy
- Food
- Clothing
- Household goods and services
- Health
- Transport
- Leisure
- Personal care

As Sections 4.5 outlines below, this basket was tested for suitability with foster carers in our study, with 100% of carers agreeing that it met their expectations. Furthermore, this basket also broadly aligns with the needs categorisation identified in Table 1, as it collectively supports medical, belongingness, psychological, and self-actualisation needs.

4.5 Insights on the basket from a survey with foster carers

To validate the completeness of the expenditure categories by McHugh (2002) and gather foster carers' live experiences about expenditure levels, we conducted an online survey as part of this study among foster carers, facilitated by IPART. The expenditure categories included in the survey to the carers were based on those defined by McHugh (2002), operationalised through the expenditure categories available in our HILDA survey. The operationalisation through HILDA was necessary for our econometric analysis (See Section 5).

By the end of the survey period, we had received a total of 75 responses, out of which 71 were from caregivers who had children in their care at the time of the survey. Specifically, the survey first asked carers to specify their typical weekly expenditures and provide their opinions on whether these expenses were essential for providing quality care, covering the following categories: 1) Rent; 2) Mortgage; 3) Groceries; 4) Transport (e.g. public transport and motor vehicle fuel); 5) Recreation (e.g. meals eaten out and extracurricular activities); 6) Medical (e.g. doctors, paediatricians, mental health practitioners, dentists, opticians, physiotherapists, chiropractors and any other health practitioner); 7) Medication (e.g. prescribed medication, topical medicines and other pharmaceuticals).

Secondly, for a list of categories that many Australians frequently spend money on but are not typically weekly expenses, the survey asked the carers to specify the frequency and amount they spent on these items, as well as their opinions on whether such expenditures were essential for providing quality care. These categories include: 1) Energy (i.e. total cost of electricity after

[9] The specific items within categories tended to be extensive and varied across different age groups and genders. For simplicity, the complete item lists are not discussed in this report, as we were able to verify that these categories are exhaustive for our sample without going into such detail (See Section 4.5).

any applicable rebates, gas bills and other heating fuel such as firewood or heating oil); 2) Water (i.e. water bills); 3) Clothing and footwear (for all household members); 4) Motor vehicle repairs and maintenance (i.e. regular servicing and motor vehicle insurance); 5) Housing costs (i.e. home and contents insurance, repairs, renovations and maintenance to your home); 6) Furniture and appliances (i.e. purchase costs, maintenance/repair); 7) Phone and internet (i.e. mobile and landline phone, home internet costs, streaming subscriptions); 8) Private health insurance; 9) Education (i.e. school fees including school camps or sports, uniforms, laptops or technology, university costs, private tutoring and other education providers).

Table 2 presents the frequency of responses from caregivers on whether they believed expenditures in certain categories were essential for providing quality care. Only responses from caregivers that answered each respective question were recorded. The responses, while subject to potential bias due to vested interest, suggest an endorsement of the expenditure categories by the caregivers surveyed.

Table 2 Essential categories for providing quality care

	Yes	No	Total
Rent	16	4	20
Mortgage	30	2	32
Grocery	47	1	48
Transport	45	1	46
Recreation	43	2	45
Medical	39	0	39
Medication	43	0	43
Energy	42	1	43
Water	40	1	41
Clothing and footwear	40	1	41
Motor vehicle repairs & maintenance	37	1	38
Housing	35	1	36
Furniture and appliances	34	1	35
Phone and internet	36	0	36
Private health insurance	22	4	26
Education	36	1	37

The survey also allowed respondents to openly suggest expense categories that they believed were not covered by these categories. No uncategorised expenses were identified, with one responding carer explicitly commenting that the categories covered in the survey “just about covers it”, reinforcing the validity of the categories analysed in our study.

The broad expenditure categories surveyed are consistent with those in McHugh (2002), for instance, medical, medication and private health insurance (PHI) all belonging to the Health category. While private health insurance was not explicitly considered by McHugh (2002), where it is deemed appropriate and necessary to meet the pressing health needs of foster children, private health insurance coverage for these children should be considered.

In addition to expenditure information, the survey also collected limited demographic data, subject to privacy constraints, such as the number of adults and children in the household, both those in care and those not in care, along with their ages. This demographic information is utilised in our data analysis discussed in Section 5.

4.6 Insights on the basket from workshops with carers

The expenditures outlined in this section have been identified in the foster carer workshops as possible reasons why certain expenditures may be higher for children in foster care than children not in foster care. These expenses were described by affected carers as highly costly and were perceived to be unaccounted for in the foster care allowance that they receive.

1. **Children with special requirements**
   Foster children often present with a range of unique requirements – both physical and psychological. Trauma is incredibly common (e.g. See Appendix B) and requires support from medical specialists (e.g., mental health practitioners, behaviour coaches, nutritionists). Children also often present with neurodivergent characteristics (e.g., autism spectrum disorder (ASD) and attention deficit hyperactivity disorder (ADHD)), which adds additional costs to carers such as medical appointments and reduced productivity. Children with special requirements may also need to be in private or specialist schooling systems, which adds additional costs.

   "My child is autistic and 5 therapists support that he should be in private school, but DCJ does not comply with therapeutic advice, and he remains in public school" – Carer comment

   "My child has special dietary needs and has much higher costs" – Carer comment

   "I had to leave full-time employment as my child has ADHD and can only attend school two days a week" – Carer comment
2. **Regional Location**
   Families that live in regional locations typically rely more on a private motor vehicle and thus have to spend more on fuel and transportation than families that live in relatively urban locations, where there is better access to public transportation. Key services are often also scant, resulting in families having to make alternative arrangements to obtain them, which results in additional costs. For example, there is a significant shortage of medical specialists in rural areas (Yong et al., 2018), leading families to have to travel far to obtain quality care. Given that foster children often present with a high need for medical specialists (See Appendix B), this adds significant costs.

   "We had to fly a medical specialist into town as there was none available" – Carer comment

"I travelled 1100km in a week to get the kids to medical appointments and sporting activities" – Carer comment

5. Econometric analysis

This section presents our econometric analysis methodology and results from analysing data collected from both the foster carer survey and the HILDA survey. Based on the results, options for the adjustments to the current allowance to foster carers in NSW are recommended and discussed.

5.1 Methodology

In this study, the technique of quantile regression (Koenker, 2005) is employed to analyse the household expenditure data collected from the foster carer survey and the HILDA survey from 2001 (the earliest wave) to 2022 (the latest wave) for care allowance adjustment recommendations. By employing quantile regression in the analysis, we can gain a more robust understanding of the factors influencing care costs and allowance.

Quantile regression is a type of statistical analysis that looks at different points (like the 25th percentile, median, or 75th percentile) of the distribution of a variable (the response variable) instead of just looking at the average value like in regular regression analysis.

It helps us understand the relationship between the response variable and the predictor variables (the factors that might influence the response variable) in a more complete way by estimating these different points of the distribution.

The main idea is to estimate these different points of the response variable's distribution, given the values of the predictor variables.

Quantile regression is more robust to outliers (extreme values that are very different from the rest of the data) and non-normal distributions (when the data doesn't follow a bell-shaped curve) compared to regular regression techniques like ordinary least squares (OLS) regression (Kutner et al., 2005). OLS regression can be heavily influenced by these extreme values, which is a problem when analysing survey data that often contains outliers or skewed distributions.

Quantile regression can also handle censored and truncated data (data that has been limited or cut off in some way) more effectively than OLS regression. This is important when dealing with survey data, where some responses may be censored or truncated due to the way the survey was designed or how the data was collected.

The results from quantile regression allow us to understand how a change in one variable affects different levels or points of the distribution of the outcome variable. This is important because many variables in real-world data are not perfectly normal/symmetric distributions. Quantile regression can examine different points (such as the median) across the distribution, so it is less sensitive to outlier values which can severely bias the results. This can give us more insightful information about the relationships between variables, especially when the data is skewed or when the effects differ across different groups or segments. Traditional regression

methods focus on the average or mean effect, but quantile regression looks at effects across the entire distribution - like the median, the 25th percentile, the 75th percentile etc. Instead of just a single number summarizing the average effect, quantile regression gives us a richer picture of how the effect changes at different points across the distribution.

5.1.1 Foster carer survey

Since the foster carer survey was a one-time event conducted in the fourth quarter of 2024[10], the weekly and quarterly expenditures reported by the respondents may be subject to seasonal effects. To adjust for seasonal effects, we first converted weekly expenditures to corresponding quarterly expenditures. We then utilised the quarterly Consumer Price Index (CPI) published by the Australian Bureau of Statistics to impute respondents' quarterly expenditures for the first, second, and third quarters of 2024, from which we were able to calculate the annual expenditures for all categories.

Quantile regression is used to model the household annual expenditure for each consumption category, including grocery, rent, mortgage, transport, recreation, medical expenses, medication, energy, clothing and footwear, motor vehicle repairs and maintenance, housing (including water bills), furniture and appliances, phone and internet, private health insurance, education, and the total household expenditure across all these categories. The estimated coefficients from the regression can be interpreted as how the annual expenditure of a household changes in percentages.

The control variables include:

- the number of children in care aged 0 to 4 years in the household;
- the number of children in care aged 5 to 13 years in the household;
- the number of children in care aged 14 to 15 years in the household;
- the number of children in care aged 16 to 17 years in the household;
- the number of children not in care in the household;
- the number of adults in the household;
- the age of the oldest primary caregivers in the household.

5.1.2 HILDA survey

We examine the household expenditures reported in HILDA for the same set of categories as in the foster carer survey. Similarly, quantile regression is employed to model household annual expenditures across all categories and the total expenditure.

The control variables in the regression include:

- the age of the household head;
- variables indicating household remoteness (major cities, regional areas, and remote areas);

[10] Throughout this report, year refers to the calendar year.

- variables representing household deciles based on their location's Socio-Economic Indexes for Areas (SEIFA) index, which measures household socioeconomic status at a small-area level;
- the number of children aged 0 to 4 years;
- the number of children aged 5 to 13 years;
- the number of children aged 14 to 15 years;
- the number of children aged 16 to 17 years;
- the number of children aged adults aged 18 years and over.

For each variable above, to see how the effect of a variable changes over time, we multiply that variable with the survey year to create a new variable and this new variable is also included in the regression.

5.2 Data

The foster carer survey received responses from a total of 75 foster carers. The HILDA survey began in 2001 (the earliest wave), and the latest wave at the time when this research was conducted was 2022. In both the foster carer survey and the HILDA survey analyses, the household expenditure for the following expenditure categories were studied: grocery, rent, mortgage, transport, recreation, medical expenses, medication, energy, clothing and footwear, motor vehicle repairs and maintenance, housing (including water bills), furniture and appliances, phone and internet, private health insurance, education.

To gain a more detailed understanding of the broader Health category, discussed in Section 4, the sub-categories, namely medical expenses, medication, and private health insurance, were individually studied.

The household annual expenditure information was surveyed for all expenditure categories in HILDA only from 2006 onwards. For the years prior to 2006, i.e., 2001 - 2005, the individual household annual expenditure on all categories, except for the category of Private Health Insurance (PHI), was imputed from their expenditures in 2006 using an annual category-specific NSW CPI derived from the ABS quarterly category-specific NSW CPI.

For the sole exception of PHI, since ABS only publishes CPI for PHI from 2006 onwards, similar imputation could not be carried out for PHI expenditure before 2006. Therefore, we only report results for PHI expenditure for years from 2006 onwards. Consequently, we report results for the total annual household expenditure only for years from 2006 onwards, as it is the sum of expenditures across all categories, including PHI.

All the control variables in our regression can be observed for all years from 2001 to 2022. Hence, our analysis sample from HILDA consisted of a total of 53,517 observations from NSW from 2001 to 2002.

The annual category-specific CPI, e.g. for grocery, for a particular year was derived by summarising all four quarterly CPIs from ABS on "Food and non-alcoholic beverages" of the year, with the calculated 2022 annual category-specific CPI for grocery set as 100. For example, for the years 2021 and 2022, the quarterly CPIs are as shown below in Table 3. The quarterly

numbers are summed up for each year, resulting in 410 for 2021 and 426 for 2022. This practice can be interpreted as if one had 410 dollars in 2021, it would become 426 dollars in 2022. The sums are then rebased to 2022 by dividing 410 and 426 respectively by 426, resulting in 96.24 and 100 respectively for 2021 and 2022.

Table 3 An example of the yearly CPI

	2021	2022
Q1	101	105
Q2	102	106
Q3	103	107
Q4	104	108
Sum	410	426
Yearly CPI	96.24	100

Similarly, missing values of expenditure categories for a household's annual expenditures were imputed using the corresponding annual category-specific CPI based on the household's observed non-missing values in other years.

For the category of PHI, since the ABS only published CPI for PHI from 2006 onwards, we were unable to impute household annual expenditure on PHI for years earlier than 2006. As a result, we are restricted to only model household annual expenditures on PHI from 2006 onwards, and the same restriction applies to models of the total expenditure.

To ensure comparability between the results from the foster carer survey and the HILDA survey, which is only available up to 2022, all expenditures collected from the foster care survey were converted to 2022 dollars using the annual category-specific NSW CPIs we derived. For our analysis using HILDA, in addition to using expenditures measured in nominal dollars, we also analyse expenditures converted to 2022 dollars using the annual category-specific NSW CPIs we derived.

5.3 Results

Due to space limitations, only the results related to the household total expenditure are reported in this section, which are used for recommendations for carer allowance adjustments.

5.3.1 Foster carer survey

Using the coefficient estimates from our quantile regressions and the foster carer survey expenditure data in 2022 dollars[11], we were able to predict category-specific expenses in 2022 for a couple household from the foster care survey respectively with:

- 1 child aged 0 to 4 years;
- 1 child aged 5 to 13 years;

[11] Throughout the report, 2022 dollars refers to being converted to 2022 dollars using the annual category-specific NSW CPIs we derived

- 1 child aged 14 to 15 years;
- 1 child aged 16 to 17 years.

Table 4 shows the estimated total amount of money that a household is expected to spend every two weeks, along with a range of values (called a 95% confidence interval) that provides a reasonable level of certainty about where the true value of the household's two-weekly spending is likely to fall. These estimates and ranges are calculated based on the predicted annual total expenditure for the household.

Table 4 Predicted Total Expenditure per fortnight in 2022: Couple Household with Children in Care in Foster Carer Survey

	Prediction	95% Confidence Interval	
1 child in care aged 0 to 4 only, no other children	$2,083.36	$1,481.89	$2,684.83
1 child aged 5 to 13 only, no other children	$2,875.80	$2,310.85	$3,440.76
1 child aged 14 to 15 only, no other children	$2,202.34	$1,399.78	$3,004.89
1 child aged 16 to 17 only, no other children	$2,057.10	$1,043.12	$3,071.08

5.3.2 HILDA survey

Analysis of the expenditure measured in 2022 dollars

In our HILDA analysis, we first estimated the quantile regression using real expenditures measured in 2022 dollars. Table 5 presents the predicted total expenditures per fortnight (calculated from the predicted annul total expenditures) for a couple household with and without children in 2006 to 2022. For households with children, predictions were made for those with:

a) 1 child aged 0 to 4 years;
b) 1 child aged 5 to 13 years;
c) 1 child aged 14 to 15 years;
d) 1 child aged 16 to 17 years.

Comparing results in Table 4 and Table 5, couple households with children in care aged 0 to 4, 5 to 13, 14 to 15 and 16 to 17 in the foster care survey in Table 4 are respectively 8.6%, 42.0%, 1.2% higher and 1.5% lower than their counterparts in the HILDA survey in Table 5. However, the 95% confidence intervals for the point predictions in the foster care survey in Table 4 suggest that only the total expenditure of a couple household with 1 child aged 5 to 13 is statistically significantly higher than their counterparts in HILDA survey. For a couple household with a child in all other age bands, the predicted total expenditures between the two surveys are not statistically significantly different. It is noteworthy that out of the total 71 caregivers with children in their care at the time of the foster care survey, households with children aged 5 to 13 constituted a large proportion (about 80%) of the sample. As such, the results and statistical inferences from this group in the foster care survey would be the most accurate. The predicted 42% higher expenditure for this group than a similar ordinary household is also in line with the findings from our literature review in Section 3.

Table 5 Predicted Total Expenditure per fortnight measured in 2022 dollars: NSW Couple Household with and without Children in HILDA

	No children	1 child aged 0 to 4	1 child aged 5 to 13	1 child aged 14 to 15	1 child aged 16 to 17
2006	$1,380.01	$1,556.09	$1,604.75	$1,673.12	$1,646.33
2007	$1,400.66	$1,576.58	$1,628.28	$1,700.84	$1,670.96
2008	$1,421.60	$1,597.34	$1,652.15	$1,729.03	$1,695.95
2009	$1,442.87	$1,618.37	$1,676.38	$1,757.68	$1,721.31
2010	$1,464.45	$1,639.69	$1,700.96	$1,786.80	$1,747.05
2011	$1,486.35	$1,661.28	$1,725.90	$1,816.41	$1,773.18
2012	$1,508.58	$1,683.16	$1,751.21	$1,846.51	$1,799.70
2013	$1,531.15	$1,705.32	$1,776.89	$1,877.11	$1,826.61
2014	$1,554.05	$1,727.78	$1,802.94	$1,908.21	$1,853.93
2015	$1,577.29	$1,750.53	$1,829.38	$1,939.83	$1,881.66
2016	$1,600.88	$1,773.59	$1,856.20	$1,971.97	$1,909.80
2017	$1,624.83	$1,796.94	$1,883.42	$2,004.65	$1,938.36
2018	$1,649.13	$1,820.61	$1,911.04	$2,037.87	$1,967.35
2019	$1,673.80	$1,844.58	$1,939.06	$2,071.63	$1,996.77
2020	$1,698.83	$1,868.87	$1,967.49	$2,105.96	$2,026.63
2021	$1,724.24	$1,893.48	$1,996.34	$2,140.86	$2,056.94
2022	$1,750.03	$1,918.42	$2,025.61	$2,176.33	$2,087.70

Table 6 presents an index derived from the predicted total real expenditures in Table 5. The index rescales the predicted real expenditures in each column of Table 5 by using the predicted expenditures in 2006 as the base year, so that all expenditures across all child age profiles in 2006 are set to 100. Since it is derived from real expenditures, this index reflects changes in household budget allocations over time, as captured by the HILDA survey data.

The results suggest that, arising from changes in budget allocation over time between 2006 and 2022, the increases in total expenditure range from 23% for a household with 1 child aged 0 to 4, to 30% for a household with 1 child aged 14 to 15. It is worth emphasising that these increases were purely driven by budget allocation changes, they could not be accounted for using CPI adjustments.

Table 6 Budget allocation changes over time in HILDA

	No children	1 child aged 0 to 4	1 child aged 5 to 13	1 child aged 14 to 15	1 child aged 16 to 17
2006	100.00	100.00	100.00	100.00	100.00
2007	101.50	101.32	101.47	101.66	101.50
2008	103.01	102.65	102.95	103.34	103.01
2009	104.55	104.00	104.46	105.05	104.55
2010	106.12	105.37	106.00	106.79	106.12
2011	107.71	106.76	107.55	108.56	107.70
2012	109.32	108.17	109.13	110.36	109.32
2013	110.95	109.59	110.73	112.19	110.95
2014	112.61	111.03	112.35	114.05	112.61
2015	114.30	112.50	114.00	115.94	114.29
2016	116.00	113.98	115.67	117.86	116.00
2017	117.74	115.48	117.37	119.82	117.74
2018	119.50	117.00	119.09	121.80	119.50
2019	121.29	118.54	120.83	123.82	121.29
2020	123.10	120.10	122.60	125.87	123.10
2021	124.94	121.68	124.40	127.96	124.94
2022	126.81	123.28	126.23	130.08	126.81

Analysis of the expenditure without adjusting for inflation

We further estimated the quantile regression using actual (i.e. nominal) expenditures without adjusting for inflation and present in Table 7 total expenditures per fortnight (calculated from the predicted annual total expenditures) for a couple household with and without children in 2006 to 2022. Similarly, for households with children, the same age bands for the child are used as before.

The results in Table 7 suggest that over the years, the predicted expenditure increases steadily for all household types, with households having older children generally having higher expenditures compared to those with younger children or no children.

Table 7 Predicted Total Expenditure per fortnight in nominal dollars: NSW Couple Household with and without Children in HILDA

	No children	1 child aged 0 to 4	1 child aged 5 to 13	1 child aged 14 to 15	1 child aged 16 to 17
2006	$1,003.03	$1,144.55	$1,180.08	$1,220.54	$1,206.67
2007	$1,039.20	$1,184.08	$1,221.32	$1,266.82	$1,250.56
2008	$1,076.67	$1,224.97	$1,263.99	$1,314.85	$1,296.04
2009	$1,115.50	$1,267.28	$1,308.16	$1,364.71	$1,343.18
2010	$1,155.72	$1,311.04	$1,353.87	$1,416.45	$1,392.03
2011	$1,197.40	$1,356.32	$1,401.17	$1,470.16	$1,442.65
2012	$1,240.58	$1,403.16	$1,450.13	$1,525.91	$1,495.12
2013	$1,285.31	$1,451.62	$1,500.80	$1,583.77	$1,549.50
2014	$1,331.66	$1,501.75	$1,553.25	$1,643.82	$1,605.86
2015	$1,379.68	$1,553.61	$1,607.52	$1,706.15	$1,664.26
2016	$1,429.43	$1,607.27	$1,663.69	$1,770.84	$1,724.79
2017	$1,480.98	$1,662.78	$1,721.82	$1,837.99	$1,787.52
2018	$1,534.38	$1,720.20	$1,781.99	$1,907.68	$1,852.53
2019	$1,589.71	$1,779.61	$1,844.25	$1,980.01	$1,919.91
2020	$1,647.04	$1,841.07	$1,908.69	$2,055.09	$1,989.73
2021	$1,706.43	$1,904.65	$1,975.39	$2,133.02	$2,062.10
2022	$1,767.97	$1,970.43	$2,044.41	$2,213.90	$2,137.10

Similarly, Table 8 presents an index derived from the predicted total nominal expenditures in Table 7. Since this index is based on changes in nominal expenditures, without having been adjusted for CPI, this index reflects changes arising from both household budget allocation decisions and the effects of inflation. Results in Table 8 suggest that the budget allocation index increases steadily over the years for household groups. The results also show that households with older children generally have higher budget allocation indices compared to those with younger children or no children, suggesting that the financial burden increases as children grow older.

Table 8 Budget allocation and inflation changes over time in HILDA

	No children	1 child aged 0 to 4	1 child aged 5 to 13	1 child aged 14 to 15	1 child aged 16 to 17
2006	100.00	100.00	100.00	100.00	100.00
2007	103.61	103.45	103.49	103.79	103.64
2008	107.34	107.03	107.11	107.73	107.41
2009	111.21	110.72	110.85	111.81	111.31
2010	115.22	114.55	114.73	116.05	115.36
2011	119.38	118.50	118.74	120.45	119.56
2012	123.68	122.59	122.88	125.02	123.90
2013	128.14	126.83	127.18	129.76	128.41
2014	132.76	131.21	131.62	134.68	133.08
2015	137.55	135.74	136.22	139.79	137.92
2016	142.51	140.43	140.98	145.09	142.94
2017	147.65	145.28	145.91	150.59	148.14
2018	152.98	150.29	151.01	156.30	153.52
2019	158.49	155.49	156.28	162.22	159.11
2020	164.21	160.86	161.74	168.38	164.89
2021	170.13	166.41	167.39	174.76	170.89
2022	176.26	172.16	173.24	181.39	177.11

Variation in the household expenditure by ages of children and household geographic locations

Age analysis

An analysis was conducted to understand if there are any spikes in costs across different ages (0-18). For this analysis, the quantile regression model was adjusted to respectively control for the number of children aged 1, 2, and so on, up to aged 17, and the regression was run respectively for 2019 and 2022, i.e. before and after COVID-19. Figure 1 presents the plot of the predicted total expense (in nominal dollars) per fortnight for a couple household with a child across different ages in NSW.

Our results indicate that:

- In 2022, cost spikes happened in children aged 3 and 9 years;
- In 2019, cost spikes happened in children aged 3, 6, 14 and 16 years;
- Cost spikes were more apparent in 2022 than in 2019.

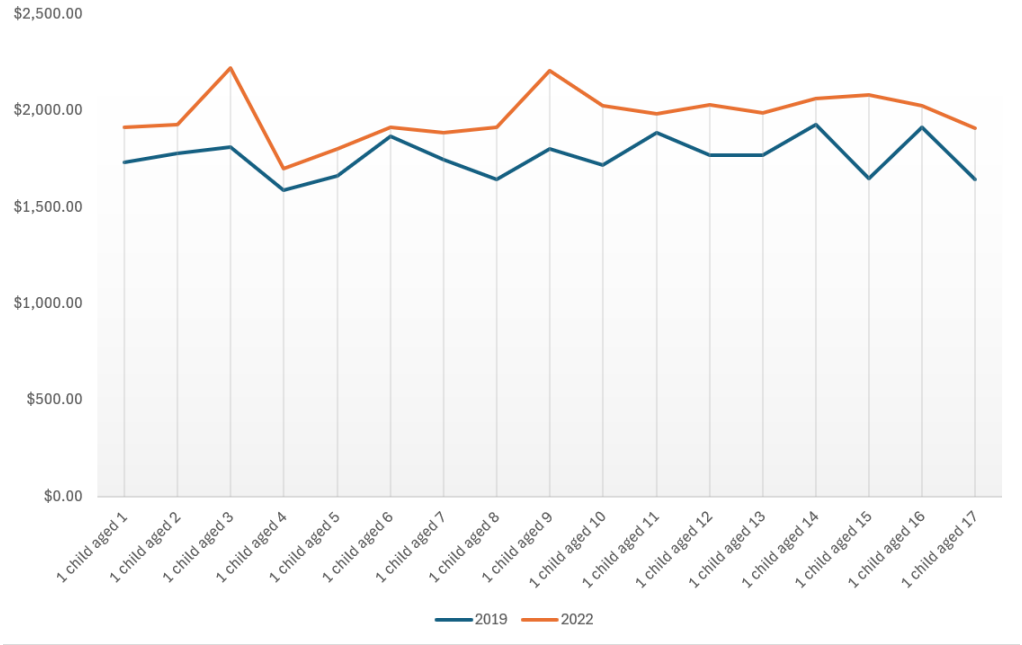

Figure 1 Predicted Total Expenditure (in nominal dollars) per fortnight in HILDA: Couple Household with Children

Geographic variation

To examine the geographic variation in expenditures, we have produced predicted expenditure per fortnight in nominal and 2022 dollars, respectively, for the following locations[12]:

- Major Cities
- Regional area
- Remote area

The results indicate that the predicted total fortnightly household expenditure in 2022 dollars increased over the years across all locations and household compositions. The total expenditure is highest for households in major cities, followed by regional areas, and lowest in remote areas.

Average annual percentage change in household expenditure

Table 9 and Table 10 present the average annual percentage change in household expenditure between 2006 and 2022, both in nominal dollars and in 2022 dollars (adjusted for inflation). In nominal dollars, the highest increases were seen for housing (around 5.3-6.2% annually), rent (4.2-4.5%), private health insurance (3.5-4.4%), and mortgage (3.1-3.7%). Categories with lowest nominal increases included clothing, motor repairs and maintenance, transport, and furniture and appliances. However, after adjusting for inflation using 2022 dollars, most expenditure categories showed a decrease or lower increase. The highest increases (adjusted for inflation) were for mortgage (2.2-2.6%), housing (1.5-2.4%), phone (2.2-3%), and clothing (0.5-1.8%), while notable decreases were observed for medical expenses (-2.5% to -3.3%) and medication (-2.8% to -3.3%). The total expenditure increase (adjusted for inflation) ranged

[12] Major cities correspond to cities defined by ABS; regional areas correspond to inner and outer regional areas defined by ABS; remote areas correspond to remote and very remote areas defined by ABS.

from 1.32% for households with one child aged 0-4 to 1.66% for those with one child aged 14-15.

Table 9 Average annual percentage change in household expenditure in nominal dollars

	no child	1 child aged 0-4	1 child aged 5-13	1 child aged 14-15	1 child aged 16-17
Groceries	1.97%	1.92%	2.00%	1.81%	1.84%
Rent	4.23%	4.24%	4.39%	4.21%	4.54%
Mortgage	3.18%	3.12%	3.65%	3.52%	3.56%
Transport	1.42%	0.89%	1.46%	1.50%	1.03%
Recreation	2.08%	1.82%	2.16%	2.07%	2.18%
Medical	1.47%	1.92%	1.34%	1.14%	1.83%
Medication	1.43%	1.18%	1.55%	1.12%	1.46%
Energy	3.37%	3.37%	3.60%	3.64%	3.72%
Clothing	0.70%	0.11%	0.29%	0.99%	1.32%
Motor repairs & maintenance	1.07%	0.92%	1.03%	1.46%	0.72%
Housing	5.71%	6.10%	6.12%	6.18%	5.32%
Furniture and appliances	1.42%	2.47%	1.04%	0.13%	0.33%
Phone	1.71%	1.61%	1.17%	1.58%	1.24%
Education	2.78%	4.14%	3.09%	3.78%	2.83%
Private Health Insurance	4.10%	4.37%	4.02%	3.88%	3.46%
Total Expenditure	3.61%	3.45%	3.49%	3.79%	3.64%

Table 10 Average annual percentage change in household expenditure in 2022 dollars

	no child	1 child aged 0-4	1 child aged 5-13	1 child aged 14-15	1 child aged 16-17
Groceries	-0.32%	-0.42%	-0.30%	-0.40%	-0.35%
Rent	0.55%	0.52%	0.77%	0.51%	0.91%
Mortgage	2.29%	1.94%	2.50%	2.57%	2.23%
Transport	0.09%	-0.46%	0.11%	0.17%	-0.37%
Recreation	1.43%	1.11%	1.51%	1.44%	1.57%
Medical	-2.94%	-2.52%	-3.09%	-3.31%	-2.46%
Medication	-2.91%	-3.16%	-2.78%	-3.28%	-2.94%
Energy	-0.35%	-0.34%	-0.14%	-0.15%	-0.04%
Clothing	1.15%	0.51%	0.71%	1.35%	1.76%
Motor repairs & maintenance	-0.28%	-0.39%	-0.36%	0.03%	-0.61%
Housing	2.00%	2.33%	2.36%	2.34%	1.47%
Furniture and appliances	0.73%	1.81%	0.38%	-0.58%	-0.40%
Phone	2.96%	2.83%	2.37%	2.70%	2.24%
Education	-1.96%	-0.68%	-1.76%	-0.99%	-1.73%
Private Health Insurance	1.89%	1.99%	1.86%	2.06%	1.05%
Total Expenditure	1.50%	1.32%	1.47%	1.66%	1.50%

5.4 Foster care allowance adjustments

Table 11 shows the historical fortnightly allowance amounts that were provided to foster carers in New South Wales, based on the information that is publicly available. We proposed two approaches to adjusting the regular fortnightly care allowance. The initial startup costs incurred by carers are not considered in this study.

Table 11 Historical actual allowance per fortnight in nominal dollars

	1 child aged 0 to 4	1 child aged 5 to 13	1 child aged 14 to 15	1 child aged 16 to 17
2006	$374.00	$420.00	$564.00	$564.00
2015	$455.00	$513.00	$688.00	$459.00
2017	$484.00	$546.00	$733.00	$488.00
2018	$494.00	$557.00	$748.00	$498.00
2019	$503.00	$567.00	$761.00	$507.00
2021	$512.00	$577.00	$774.00	$516.00
2022	$540.00	$609.00	$817.00	$544.00
2023	$564.00	$636.00	$854.00	$568.00
2024	$581.00	$656.00	$880.00	$586.00

Note: The data for 2007 – 2014, 2016 and 2020 are not available.

5.4.1 Approach I

Given the allowance have been adjusted for CPI, notwithstanding some other modifications or adjustments over the years since the 2002 review, the allowance in 2022 can be considered equivalent to the 2006 allowance converted to 2022 dollars using the annual category-specific NSW CPIs we derived. Thus, suppose an average couple household with a child in care, albeit having higher expenditure, makes similar budget allocation decisions and follows a comparable pattern to a similar couple family with a child not in care, it would mean that the household would be worse off by 23% to 30%, depending on the child's age band, than if the changes in budget allocation were accounted for. On this basis, it is valid to further adjust the 2022 allowance in Table 11 using the budget allocation index in 2022 shown in Table 3. This accommodates the effects of changing budget allocations from 2006 to 2022. After adjusting the 2022 allowance using the budget allocation index, we suggest using only the Sydney CPI to adjust the allowance for a finite period, say for the next five years, from 2023 to 2027, on the assumption that household budget allocations would remain relatively stable during the period. Table 12 presents the adjusted allowance in 2022. To illustrate the practice of predicting future years from 2022, the September quarter Sydney all-groups CPIs for 2002 to 2004 from the ABS were used to project the allowance for 2023 and 2024 for all child age groups.

Table 12 HILDA adjusted allowance per fortnight in nominal dollars: Approach I

	2022	2023	2024
1 child aged 0 to 4	$665.74	$703.01	$723.72
1 child aged 5 to 13	$768.72	$811.76	$835.67
1 child aged 14 to 15	$1,062.72	$1,122.22	$1,155.28
1 child aged 16 to 17	$689.84	$728.46	$749.92

5.4.2 Approach II

Since the index numbers presented in Table 8 capture both budget allocation and inflation changes, the percentage changes in the index from 2006 to 2022 for a couple family with a child aged 0 to 4, 5 to 13, and 14 to 17 can be directly applied to the 2006 allowance for the corresponding age groups in Table 11 to derive the adjusted allowance for households with a child in these three age groups in 2022. Note that, for households with a child in the age group 16 to 17 in 2006, the same allowance rate was applied as the rate for households with a child aged 14 to 15. In 2012, a major modification was made to this age group with the introduction of the Teenage Education Payment (TEP). TEP is a means-tested subsidy based on the household income and other eligibility requirements. The earliest year after this modification for which the allowance data was available is 2015. Therefore, for households with a child aged 16 to 17, the percentage changes in the index from 2015 to 2022 were used to calculate the adjusted allowance. The allowance for 2023 and 2024 for households with children in all age bands were similarly projected as in Approach I. Compared to the adjusted allowance derived from Approach I, the adjusted allowance in Approach II are slightly more conservative.

Table 13 HILDA adjusted allowance per fortnight: Approach II

	2022	2023	2024
1 child aged 0 to 4	$644	$680	$700
1 child aged 5 to 13	$728	$768	$791
1 child aged 14 to 15	$1,023	$1,080	$1,112
1 child aged 16 to 17	$589	$622	$641

Comparing the two approaches, the advantage of Approach II is that the adjustments for both budget allocation and inflation changes are based on the same ‘core’ basket of goods and services from the HILDA survey. In contrast, in Approach I, the adjustment for inflation is based on the general Consumer Price Index (CPI). The disadvantage of Approach II arises from the missing allowance history, especially for households with a child aged 16 to 17. Hence, the adjustment was applied arbitrarily from the year 2015, which might be difficult to justify. On the other hand, Approach I only requires input of the allowance from the year 2022, and the way Approach I adjusts for inflation is consistent with the recommended practice of using only the CPI to adjust allowance for a finite period. Based on these practical considerations, we recommend Approach I.

6. Summary

This report delivers a study of the household expenditure involved in providing quality foster care to children in out-of-home care in New South Wales between 2006 and 2022. The analysis was undertaken through an extensive literature review, a theoretical examination of foster children's needs, insights from a foster carer survey conducted for this project and carer workshops, as well as quantile regression analyses using data from both the foster carer survey and the HILDA survey.

The literature review showed that previous landmark studies in the United Kingdom, Australia, and United States consistently found the costs of caring for foster children were significantly higher than those for other children, often by 30-60% depending on the child's age. Academic research also highlighted the greater medical and psychological needs faced by many foster children.

Based on the seminal Australian study by McHugh (2002), a comprehensive basket of goods and services was defined as necessary for meeting foster children's needs across expenditure categories like housing, food, clothing, health, transport, and education. This basket was validated through the foster carer survey and workshops, which provided rich insights into carers' lived experiences and expenditures.

Quantile regression analyses using both the foster care survey data and HILDA data allowed for robust modelling of household expenditures. The results indicated that foster households with a child aged 5-13 face total expenditures around 42% higher than similar households in HILDA. For other child age groups, expenditure differences were also higher, but not statistically significant after accounting for uncertainty and noise in the data.

Arising from our analysis, we recommend two approaches to adjusting the fortnightly foster care allowance based on the prediction from our quantile regression estimates. Both approaches account for changes in household budgets and inflation over time. The recommended adjustments range from $589 to $1,155 per fortnight depending on the child's age group.

References

Ahn, H., DePanfilis, D., Frick, K., & Barth, R. P. (2018). Estimating minimum adequate foster care costs for children in the United States. *Children and Youth Services Review*, *84*, 55-67.

Children and Young Persons (Care and Protection) Act 1998 (NSW). https://legislation.nsw.gov.au/view/html/inforce/current/act-1998-157#sec.8

Daining, C., Frick, K., Farber, J., & Levinthal, L. (2007). *Hitting the MARC: establishing foster care Minimum Adequate Rates for Children, technical report*.

DosReis, S., Yoon, Y., Rubin, D. M., Riddle, M. A., Noll, E., & Rothbard, A. (2011). Antipsychotic treatment among youth in foster care. *Pediatrics*, *128*(6), e1459-e1466.

Greeson, J. K., Briggs, E. C., Kisiel, C. L., Layne, C. M., Ake, G. S., Ko, S. J., Gerrity, E. T., Steinberg, A. M., Howard, M. L., & Pynoos, R. S. (2011). Complex trauma and mental health in children and adolescents placed in foster care. *Child welfare*, *90*(6), 91-108.

Halfon, N., Berkowitz, G., & Klee, L. (1992). Mental health service utilization by children in foster care in California. *Pediatrics*, *89*(6), 1238-1244.

Harman, J. S., Childs, G. E., & Kelleher, K. J. (2000). Mental health care utilization and expenditures by children in foster care. *Archives of pediatrics & adolescent medicine*, *154*(11), 1114-1117.

IPART. (2024a). *Final Terms of Reference - Review of out-of-home care costs and pricing - 21 May 2024*. https://www.ipart.nsw.gov.au/documents/terms-reference/final-terms-reference-review-out-home-care-costs-and-pricing-21-may-2024?timeline_id=17106

IPART. (2024b). *Out-of-home care costs and Pricing Interim Report*.

Jacobsen, H., Moe, V., Ivarsson, T., Wentzel-Larsen, T., & Smith, L. (2013). Cognitive development and social-emotional functioning in young foster children: A follow-up study from 2 to 3 years of age. *Child Psychiatry & human development*, *44*, 666-677.

Koenker, R. (2005). Quantile regression. *Cambridge Univ Pr*.

Kreider, A. R., Matone, M., Bellonci, C., Feudtner, C., Huang, Y.-S., Localio, R., & Rubin, D. M. (2014). Growth in the concurrent use of antipsychotics with other psychotropic medications in Medicaid-enrolled children. *Journal of the American Academy of Child & Adolescent Psychiatry*, *53*(9), 960-970. e962.

Kutner, M. H., Nachtsheim, C. J., Neter, J., & Li, W. (2005). *Applied linear statistical models*. McGraw-hill.

Lehmann, S., Havik, O. E., Havik, T., & Heiervang, E. R. (2013). Mental disorders in foster children: a study of prevalence, comorbidity and risk factors. *Child and adolescent psychiatry and mental health*, *7*, 1-12.

McHugh, M. (2002). *The costs of caring: A study of appropriate foster care payments for stable and adequate out of home care in Australia*. Social Policy Research Centre.

Minnis, H., Everett, K., Pelosi, A. J., Dunn, J., & Knapp, M. (2006). Children in foster care: Mental health, service use and costs. *European child & adolescent psychiatry*, *15*, 63-70.

Office of Children's Guardian. (2015). *NSW Child Safe Standards for Permanent Care*. https://ocg.nsw.gov.au/sites/default/files/2022-01/P_SOOHC_ChildSafeStandardsPermanentCare.pdf

Oldfield, N. (1997). *The adequacy of foster care allowances*. Routledge.

Oswald, S. H., Heil, K., & Goldbeck, L. (2010). History of maltreatment and mental health problems in foster children: A review of the literature. *Journal of pediatric psychology*, *35*(5), 462-472.

Schofield, G., & Beek, M. (2005). Providing a secure base: Parenting children in long-term foster family care. *Attachment & human development*, *7*(1), 3-26.

Scozzaro, C., & Janikowski, T. P. (2015). Mental health diagnosis, medication, treatment and placement milieu of children in foster care. *Journal of Child and Family Studies*, *24*, 2560-2567.

Smith, D. K., Johnson, A. B., Pears, K. C., Fisher, P. A., & DeGarmo, D. S. (2007). Child maltreatment and foster care: Unpacking the effects of prenatal and postnatal parental substance use. *Child maltreatment*, *12*(2), 150-160.

Steenbakkers, A., Van Der Steen, S., & Grietens, H. (2018). The needs of foster children and how to satisfy them: A systematic review of the literature. *Clinical child and family psychology review*, *21*, 1-12.

Takayama, J. I., Bergman, A. B., & Connell, F. A. (1994). Children in foster care in the state of Washington: Health care utilization and expenditures. *Jama*, *271*(23), 1850-1855.

Turney, K., & Wildeman, C. (2016). Mental and physical health of children in foster care. *Pediatrics*, *138*(5).

Yong, J., Scott, A., Gravelle, H., Sivey, P., & McGrail, M. (2018). Do rural incentives payments affect entries and exits of general practitioners? *Social Science & Medicine*, *214*, 197-205.

Zito, J. M., Safer, D. J., Sai, D., Gardner, J. F., Thomas, D., Coombes, P., Dubowski, M., & Mendez-Lewis, M. (2008). Psychotropic medication patterns among youth in foster care. *Pediatrics*, *121*(1), e157-e163.

Appendix A

To develop a comprehensive review and estimate of the extra cost of foster children in NSW and identify the goods and services required for quality care, we conducted a phased and multifaceted approach. This approach was continuously reviewed and approved through discussions with IPART team members in fortnightly meetings and email exchanges. Specifically, we undertook the following:

- Discussions with IPART team members
- Workshops with carers of foster children
- Literature reviews
- Survey development and developing empirical methodology
- Survey implementation, data collection and data cleaning.
- Gaining access to HILDA data and HILDA data processing

Details on each of these steps is provided below.

A.1. Discussions with IPART team members

On November 26th, 2024, an online workshop was facilitated by MI in order to comprehensively present the results of the survey and literature review to IPART. This meeting provided a valuable opportunity for MI to obtain feedback and also for IPART to ask questions about the results.

In addition to this workshop, the MI project team had fortnightly project meetings and continuous email or other communication exchanges with IPART to clarify and progress the project objectives.

A.2. Workshops with carers

Representatives from the MI project team attended 4 workshops with carers. These workshops were facilitated by IPART and involved two components: (a) direct questions to carers from IPART to gauge their experiences with specific components of the NSW out-of-home-care system, and (b) a platform for carers to mutually discuss their concerns and experiences. These workshops proved fruitful in generating information about the experiences of foster carers (particularly on the challenges they encounter), and the extra costs that these experiences may pose to them. These sections directly informed Section 4.3.4 “Insights on the basket from foster carer workshops”.

A.3. Literature reviews

A comprehensive sequence of literature reviews were conducted in order to (a) provide a theoretical overview of the needs of foster children, (b) align these needs to the NSW Care and Protection Act, (c) define quality care in NSW, (d) identify the basket of goods and services required for quality care, (e) to review the extra cost of foster children in Australia and comparable international jurisdictions (the U.S and U.K), and (f) to review the academic literature on the extra health burdens for children in out of home care.

A.4. Survey development and developing empirical methodology

The MI team had key meetings on survey development and empirical methodology. In these meetings, the MI team developed the empirical methodology and discussed all matters relating to survey development, such as what outcomes to include, how to measure outcomes, ordering of questions, and how to make sure the survey is consistent with the empirical methodology. Input was also gathered from IPART to ensure that the survey was tailored to foster carers for comprehension, and the survey was reviewed by IPART to ensure that it did not contain any inappropriate or sensitive material.

A.5. Survey implementation, data collection and data cleaning

The MI team implemented the survey in an online format through Qualtrics and distributed it through an anonymous survey link. IPART emailed the anonymous survey link to carers and carer reference groups. Carers were informed that they were allowed to distribute to survey to other NSW carers in their network, although a setting was implemented in Qualtrics so that each respondent could only complete the survey once. Raw data was collected through the Qualtrics platform, converted into an excel file, and imported into Stata, a statistical software package, for cleaning and analysis. A copy of the raw data, cleaned data (in Stata and excel format), and Stata code used to clean the data, was sent to IPART.

A.6 Gaining access to HILDA data and HILDA data processing

Access to the HILDA General Release 22 was granted by the Australian Government Department of Social Services, and the data was accessed via the ADA Dataverse. The Stata program PanelWhiz, developed by researchers at the Melbourne Institute, was used to clean and prepare the HILDA data for further analysis.

A.7. Data analysis and reporting

The analysis was conducted using Stata 18. The Stata command "qreg" was employed to estimate the quantile regressions. To generate predictions, the "margins" command was used, while the "esttab" command facilitated the exporting and reporting of results.

Appendix B

Table B.1 - Overview of academic literature on the extra health burdens for foster children

Study	Journal	Jurisdiction	Health categories	Comparator group	Main results
(Turney & Wildeman, 2016)	*Pediatrics*	United States	Mental and physical health outcomes	Children not placed in or adopted from foster care, children across specific family types (e.g. single mother households), and children in economically disadvantaged families	Relative to an index of the comparator group, children placed in foster care were approximately: • 7 times as likely to have depression (14.2% vs 2%) • 6 times as likely to have behavioural problems (17.5% vs 2.9%) • 5 times as likely to have anxiety (14.2% vs 3.1%) • 3 times as likely to have ADD/ADHD (21.8% vs 7.4%), hearing problems (3.9% vs 1.2), and vision problems (3.4% vs 1.3%) • 2 times as likely to have learning disabilities (14.7% vs 7.6%), development delays (7.3% vs 3.4%), asthma (18% vs 8.7%), obesity (24.1% vs 15.7%), and speech problems (11.2% vs 4.7%) • More likely to be in fair or poor health (4.2% vs 3.1%) and have activity limitations (9.8% vs 4.8%)
(Takayama et al., 1994)	Journal of American Medical Association (JAMA)	United States	Healthcare service utilisation for mental and physical health	Children in the Aid to Families with Dependent Children (AFDC) program	Relative to the comparator group, children placed in foster care were approximately: • 13 times as likely to use supportive services of physical therapists or visiting nurses (13% vs 1%) • 8 times as likely to use mental health services (25% vs 3%) • 2 times as likely to use medical equipment or specialist services • 2 times as likely to become hospitalised
(Scozzaro & Janikowski, 2015)	Journal of Child Family Studies	United States	Mental Health Outcomes	N/A	Out of the 128 foster children on which diagnostic information was obtained: • 59% had a mental health diagnosis

(Lehmann et al., 2013)	Child Adolescent Psychiatry and Mental Health	United States	Mental Health Outcomes	N/A	Out of the 279 foster children of which diagnostic information was obtained: • 50.9% of children met the criteria for one or more DSM-IV disorders, with the three most common disorders grouped into 3 main diagnostic groups: Emotional disorders (24%), ADHD (19%) and behavioural disorders (21.5%). • 30.4% had disorders in 2 of the 3 diagnostic groups above, and 13% had disorders in all 3 groups , indicating that co-morbidity of disorders were high. • 19.4% of children had Reactive Attachment Disorder. • Exposure to violence, serious neglect, and the number of prior placements increased the risk for mental disorders
(Minnis et al., 2006)	European Child Adolescent Psychiatry	Scotland	Mental health and healthcare utilisation	Children in local schools not in foster care	Out of the 182 foster children for which information was obtained: • Over 90% had previously been abused or neglected • 60% had evidence of mental health problems including conduct problems, emotional problems, hyperactivity and problems with peer relations Additionally, when compared with 251 children from local schools, the children in foster care had: • Significantly higher symptom scores for Reactive Attachment Disorder. • Were attracting significantly higher levels of service support from a wide range of agencies.
(Harman et al., 2000)	Archives of Pediatric and Adolescent Medicine	United States	Mental healthcare utilisation	Children continuously eligible for Medicaid	Relative to the comparator group, children in foster care were: • 3 to 10 times more likely to receive a mental health diagnosis • Were 6.5 times more likely to have a mental health claim • Were 7.5 times more likely to be hospitalised for a mental health condition • Had annual mental health expenditures that were 11.5 times greater ($2082 vs $181)
(Halfon et al., 1992)	Pediatrics	United States	Mental Healthcare Utilisation	Children eligible for Medi-Cal-paid, California's	Despite accounting for only 4% of eligible Medi-Cal-paid users, children in foster care accounted for: • 47% of psychiatry visits

				medical payment system.	• 43% of Short/Doyle Medi-Cal inpatient hospitalisation in public hospitals and 27% of inpatient psychiatric hospitals • 10 to 20 times the utilisation of healthcare services relative to comparator group Additionally, for children in foster care, 75% of all diagnoses for billed service were accounted for by four diagnoses: • Adjustment disorders (28.6%), conduct disorders (20.5%), anxiety disorders (13.8%), and emotional disorders (11.9%)
(Kreider et al., 2014)	Journal of the American Academy of Child and Adolescent Psychology	United States	Medication Usage (second-generation antipsychotics)	Medicaid enrolled children based on different eligibility criteria	• Children eligible based on foster care were 3.5 to 10 times more likely to receive each psychotropic medication class than were income-eligible children
(DosReis et al., 2011)	American Journal of Public Health	United States	Mental health service utilisation and medication usage	Youth receiving supplemental security income or other types of aid	• The prevalence of mental disorders among youths enrolled in foster care (57%) was twice that of youths receiving Supplemental Security Income (26%) and nearly 15 times that of other youths receiving other types of aid (4%). • ADHD, Depression, developmental disorders were the most prevalent disorders. • Stimulants, antidepressants, and anticonvulsants were the most prevalent medications
(Zito et al., 2008)	Pediatrics	United States	Medication usage (Psychotropic medication)	N/A	• Of the foster children given psychotropic medication, 41.3% received at least 3 different classes of these drugs and 15.9% received at least 4 different classes, indicating highly potent medication usage. • Antidepressants (56.8%), ADHD (55.9%), antipsychotic agents (53.2%) were the most commonly used drugs

Appendix C

C.1 Selection criteria for articles in Steenbakkers et al (2018)

The selection criteria were communicated on pages 3 and 4 in Steenbakkers et al (2018) and involved three components. These are quoted below.

- "First, although there were no constraints on publication date, only peer-reviewed empirical articles were included that were conducted in western countries. The empirical study should focus on cases of children, thus excluding policy analyses or studies inquiring other people (such as professionals and other stakeholders) about the needs of children in foster care as a group."[13]
- "Second, the main target group had to be children living in family foster care between the ages of 6 and 18. Younger children were excluded because self-actualisation needs are less prominent for this age category. Articles covering a wide range of ages that also incorporated our target group of age 6–18 were included but needs specific for younger children will not be described. We chose to focus on family foster care because this reduced the amount of variation between countries and welfare systems. Moreover, differences were expected in belongingness needs between children growing up in a family environment compared to group or residential facilities. Articles that compared children in family foster care to other groups of children were included, as well as studies on children in out-of-home care of which at least 70% of the target group consisted of children in family foster care."
- "Third, the article had to focus on the needs of these children as directly stated in the title, abstract or keywords. This excluded articles that might pertain to the needs according to Maslow's hierarchy, but do not name it as such. In addition, articles regarding the needs of care leavers and adolescent mothers in care were excluded"
- "After this selection and deletion of duplicates, a total of 218 articles remained. The full texts of the remaining articles were read by three researchers who again decided whether an article met the inclusion criteria. Most articles that were excluded in this phase did not describe the needs of children, but only mentioned the terms 'needs' once or twice without further explanation. Other reasons articles were excluded because they were conducted in non-western countries, did not adequately describe the sample of participants, were not empirical examinations of child cases or focused on the needs of foster parents. This final selection process resulted in 64 articles for this review."

[13] The countries in the final sample of 64 studies were the USA (39), Australia (8), Canada (6), UK (5), Netherlands (3), Sweden (1), Ireland (1) and Multiple (1). This information is also outlined in Appendix C.2

C.2 Characteristics of articles in Steenbakkers et al (2018)

The characteristics of articles included in the systematic review are listed in Table B.2

Table C.2 - Characteristics of articles in Steenbakkers et al (2018)

Characteristic	***N***
Year of publication	
<1990	1
1990-1999	6
2000-2009	21
2010-2017	34
Country of conducted research	
USA	39
Australia	8
UK	5
Canada	6
The Netherlands	3
Sweden	1
Ireland	1
Multiple (meta-analysis)	1
Age-range	
6-12 years old	3
12-18 years old	12
6-18 years old	14
0-12 years old	5
0-18 years old	30
Method of need identification	
Standardised questionnaire(s)	23
Interview/survey foster children	20
Interview/survey professionals	11
Case files	18
Interview/survey foster parents	9
Child assessment	5
Open-ended questionnaire(s)	5
Other	2
Definition of needs	
No definition	52
Operational definition	10
Broad definition of high need children	1

C.3. Section 8 of the NSW Care and Protection Act

Section 8 of the NSW Care and Protection Act is presented below in Box C.3

Box C.3 – Section 8 of the NSW Care and Protection Act

Section 8 – Objects of the NSW Care and Protection Act

The objects of this Act are to provide—

(8a) that children and young persons receive such care and protection as is necessary for their safety, welfare and well-being, having regard to the capacity of their parents or other persons responsible for them, and

(8a1) recognition that the primary means of providing for the safety, welfare and well-being of children and young persons is by providing them with long-term, safe, nurturing, stable and secure environments through permanent placement in accordance with the permanent placement principles, and

(8b) that all institutions, services and facilities responsible for the care and protection of children and young persons provide an environment for them that is free of violence and exploitation and provide services that foster their health, developmental needs, spirituality, self-respect and dignity, and

(8c) that appropriate assistance is rendered to parents and other persons responsible for children and young persons in the performance of their child-rearing responsibilities in order to promote a safe and nurturing environment.

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