Avoidable Costs

Better outcomes and better value for public money

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CENTRE FOR POLICY DEVELOPMENT

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The Centre for Policy Development (CPD) is an independent, not-for-profit policy institute with staff in Sydney, Melbourne, Canberra and Jakarta.

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ACKNOWLEDGEMENT OF COUNTRY

The Centre for Policy Development acknowledges and pays respect to Elders, both past and present, and all generations of Aboriginal and Torres Strait Islander peoples as Traditional Custodians of the land.

Prior to colonial settlement, Aboriginal and Torres Strait Islander peoples stewarded a thriving social and economic society in harmony with the natural environment. Guided by a holistic view of self, community and country and a commitment to the prevention of harms to people and place, the world's oldest continuous culture flourished for thousands of years.

CPD acknowledges that these holistic, long-term and preventative ways of working are continually expressed within Aboriginal and Torres Strait Islander worldviews and are the foundation needed for a wellbeing government and a wellbeing economy. This work acknowledges this wisdom, seeks to learn from it and bring it to life in the current structures and processes that guide good government in Australia.

Executive summary

Prevention is better than cure: this is such a well-acknowledged principle that it has become a cliché. Yet, our governments consistently find themselves responding to harms that could have been prevented – responses that are often inadequate to address the scale of the problem. The current approach to our economy and systems of governance fails to safeguard much of what we value, including our health, safety, social connections, prosperity, and the resilience and sustainability of our natural environment.

The nominal amounts of government spending on prevention and early intervention is often the first to be cut because their benefits are long-term, while political and budgetary cycles incentivise short-term wins. As a result, there is an ever-increasing demand for downstream responsive services such as acute healthcare, criminal justice, and disaster response, causing government spending to balloon. This cycle of repeatedly using public resources to address harms that could have been prevented – known as 'failure demand' – is not only unsustainable, it's avoidable.

While the human and ecological costs are the greatest cause of concern, this paper focuses on the substantial fiscal costs of intervening late. To demonstrate the avoidable cost to governments of failure demand, this paper examines three examples:

1 **Childhood poverty**, which costs Australian governments at least $16 billion annually;

2 **Preventable disease**, responsible for $18–29 billion in annual health expenditure;

3 **Chemical contamination**, where governments face escalating costs from clean-up and long-term harm, and the legacy of thousands of contaminated sites that will never be rehabilitated.

In an increasingly tight fiscal environment, this paper offers a practical way forward. We propose that governments embed avoidable cost analysis in fiscal and policy processes to better target investment and improve long-term outcomes. **As a central recommendation, we call for the establishment of an Avoidable Costs Unit within the Commonwealth Treasury, and within each state and territory treasury.** These units would support line agencies to model failure demand, identify avoidable costs, and build the internal capacity needed for upstream, preventative budgeting. This would also help to build an understanding of how the economic system itself creates failure demand that can only be addressed through fundamental shifts towards a wellbeing economy.

These shifts towards long-term preventative thinking are not without challenges. But as demonstrated in sectors like infrastructure and defence, governments are capable of long-term planning and investment when the institutional supports exist. The same approach can and should be applied to the systems that shape people's lives and wellbeing and the wellbeing of our natural environment.

Encouragingly, models already exist in Australia and globally – such as Victoria's Early Intervention Investment Framework – that show how avoided costs can be identified and used to guide decision-making. The opportunity now is to bring this approach to other jurisdictions and take it further than early intervention, to prevention and economic system change.

Australia's governments can move beyond the cycle of failure demand and focus on building systems that enable societies and the environment to thrive. By looking upstream and embedding avoidable cost analysis into budgeting and policy design, governments can deliver better value for public money – and, more importantly, better outcomes for people and planet.

Introduction

Government spending in Australia is projected to increase substantially in the coming decades.[1] An ageing population and the rising costs of healthcare services loom large and place substantial pressure on the budget. The independent Parliamentary Budget Office's (PBO) fiscal and sustainability outlook highlights additional risks, including disability programs, defence and climate change. Its report, however, relies on past trends continuing,[2] and does not fully account for the escalating impacts of the increasingly uncertain and volatile world, so the fiscal outlook is likely to be worse than reported by the PBO.

Even under these conservative scenarios, reducing demand for acute services becomes not only prudent but essential. And while governments will always need to respond to immediate, unavoidable challenges – and to bear the costs that come with them – the need to address root causes and take proactive measures to prevent harm must be prioritised. Rather than reacting to harms after they occur, governments must ask the question "What can be done to prevent this from happening?" and embed into both policy and service delivery the creation of circumstances that enable people to thrive.

The barriers to embedding upstream thinking into government processes are considerable:

- **The task is considered too complicated**, and short-term election cycles incentivise quick wins at the expense of long-term, holistic change.[3]
- **Departments are often siloed in their decision-making and budgeting**, while prevention often requires levers being deployed in one department to produce positive outcomes that fall under another department.[4]
- **Fiscal assessment methods** and government unwillingness to raise additional revenue leads to relatively low investment in prevention. This in turn leads to higher demand for critical services, which intensifies pressures on the government budget.
- **Policies that pursue growth** and increased economic activity often have harmful externalities that increase demand for reactive spending on critical services.
- **Measurement** for upstream policy can be complex and results are not seen immediately. Upstream action also focuses on the whole population rather than the individual, complicating tracking and assessment.
- **Inertia and resistance to change** is a feature of all bureaucracy, government and non-government. Effective systemic change requires a suite of considered and well-championed initiatives that expand capability and shift mindsets.[5]

Addressing these barriers requires a fundamental shift in government thinking and processes. Governments will need to adopt a more comprehensive long-term approach to policy evaluation and costings, incorporating avoidable costs and the potential savings achieved by reducing harm. Civil society can also play a critical role in this shift. By rigorously calculating avoided fiscal costs and clearly distinguishing them from broader economic benefits, NGOs can help policymakers and the public better understand the tangible fiscal benefits of preventative policies.

This focus on avoided costs is more than a budget exercise. It can lead to better quality of life for Australians as well as a thriving natural environment, which should be the ultimate goal of public spending. The fact that a significant portion of government spending is directed to addressing problems after they arise highlights why investing in prevention is such a fiscally sound decision for governments, alongside the social and environmental outcomes that can be attained.

> ***Rather than reacting to harms after they occur, governments must ask the question "What can be done to prevent this from happening?***

Box 1 | **UPSTREAM APPROACHES**

Upstream approaches address the root causes of problems before they manifest. While closely related, early intervention differs in that it takes a proactive approach to minimising or eliminating the impact of adverse outcomes – but is not the furthest upstream we can possibly go. Upstream thinking involves a more comprehensive, system-based approach that seeks to understand the economic, social and institutional structures underlying these problems. In contrast, early intervention efforts tend to be more specific and targeted (see Figure 1).[6] Importantly, there is no hard line between upstream, midstream or downstream, this is a continuum, with grey areas in between and with some initiatives having impacts spread throughout the continuum.

Upstream – tackling the root causes before problems occur

An upstream approach necessitates a systemic focus on the social, economic, political, institutional and environmental structures that shape outcomes downstream. It requires attention to the distribution of power and resources, the contexts in which individuals live, and the degree of control and autonomy they can exercise. These structures can either support or thwart individual, collective and environmental wellbeing. Shifting the focus to system-level interventions encourages cross-sectoral collaboration and is more likely to generate sustainable and equitable outcomes.[7]

Midstream – intervening once risks appear

Midstream interventions focus on early intervention strategies through targeted policies and programs. At this level, efforts aim to mitigate the impact of structural inequalities that originate upstream. Midstream actions attempt to interrupt the transmission of harm before it requires intensive, individualised, and often more costly responses.

Downstream – dealing with the consequences after problems occur

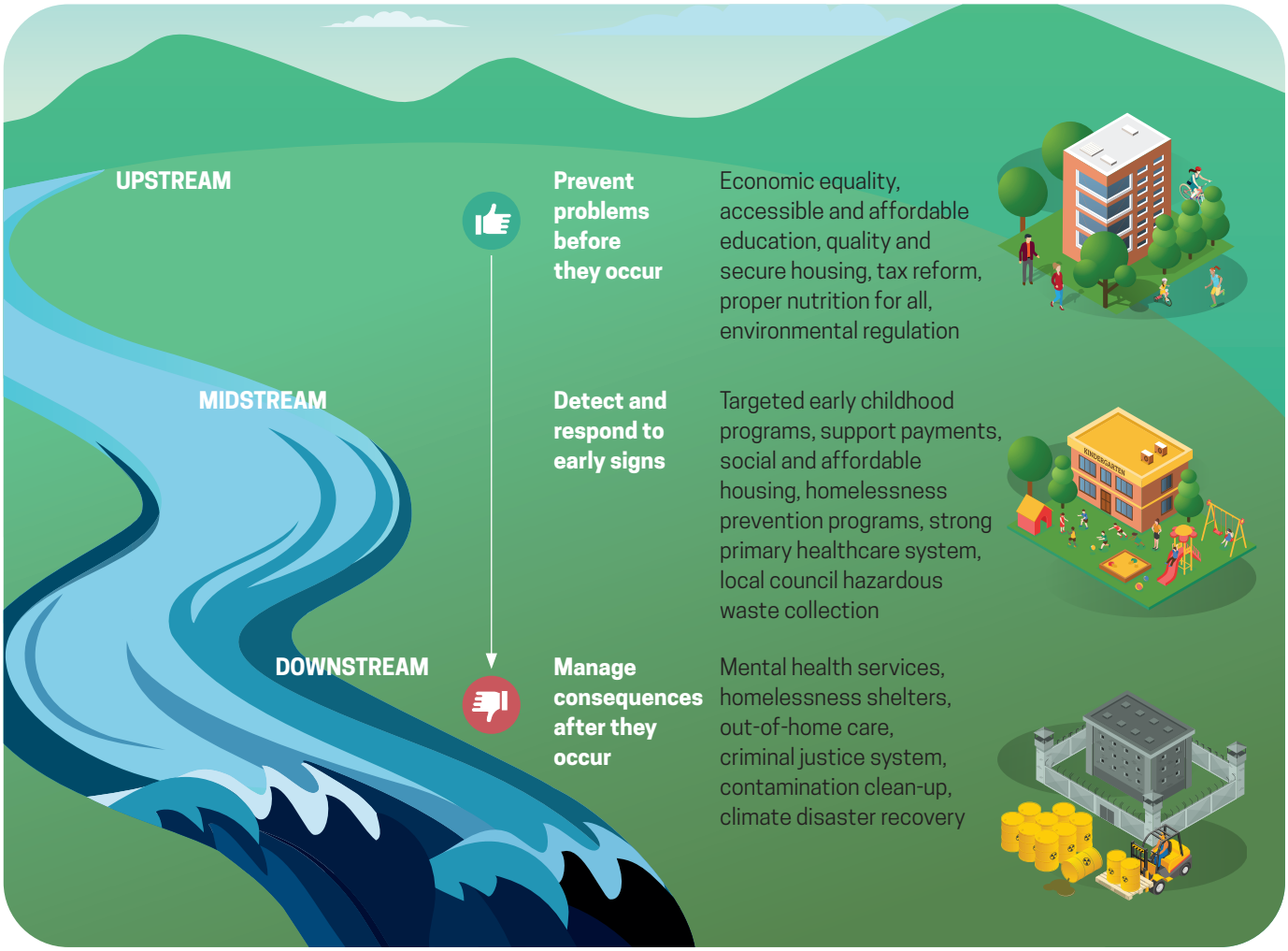
Downstream responses are concerned with addressing the immediate consequences of systemic failures, often after significant harm has occurred. Much of the current practice and investment is concentrated at this level, responding reactively rather than proactively. This approach is commonly likened to stationing an ambulance at the bottom of a cliff: interventions treat symptoms rather than address causes. Downstream responses are costly to individuals, communities, and governments. In failing to address root causes, downstream approaches allow original problems to persist and recur, trapping systems in cycles of reactive intervention. This pattern aligns with the 'fixes that fail' archetype described in systems thinking, where short-term solutions ultimately reinforce the underlying issues they intend to resolve.[8]

Failure demand and avoidable costs

Failure demand refers to the demand for goods and services that arises when economic systems unintentionally harm people and the environment rather than effectively meet their needs (See Box 2 for the origins of the term failure demand). This includes, but is not restricted to, what economists would call externalities. Failure demand generates avoidable costs, incurred in the efforts to alleviate and repair the harm caused.

The way the economy currently operates generates a considerable amount of failure demand, leading to substantial government spending to ameliorate its effects. For example, governments around the world incur avoidable costs stemming from how the economy impacts the environment. These costs range from expenses related to climate change induced weather events – damaging infrastructure, ecosystems, and people's overall health – to efforts to restore biodiversity and reverse species loss. International case studies have highlighted a recurring pattern of spending to address issues we perpetuate.[12] In Australia, between 2005–2022, the federal government spent $23.99 billion on disaster recovery and relief, with "direct costs from extreme weather events estimated to grow by 5.13 per cent each year (before inflation) and reach $35.24 billion (in 2022 dollars) by 2050."[13] A failure to appropriately account for this cost in federal budgets, results in reduced incentives for adaptation spending.[14]

FIGURE 1 | Managing issues upstream avoids expensive consequences downstream



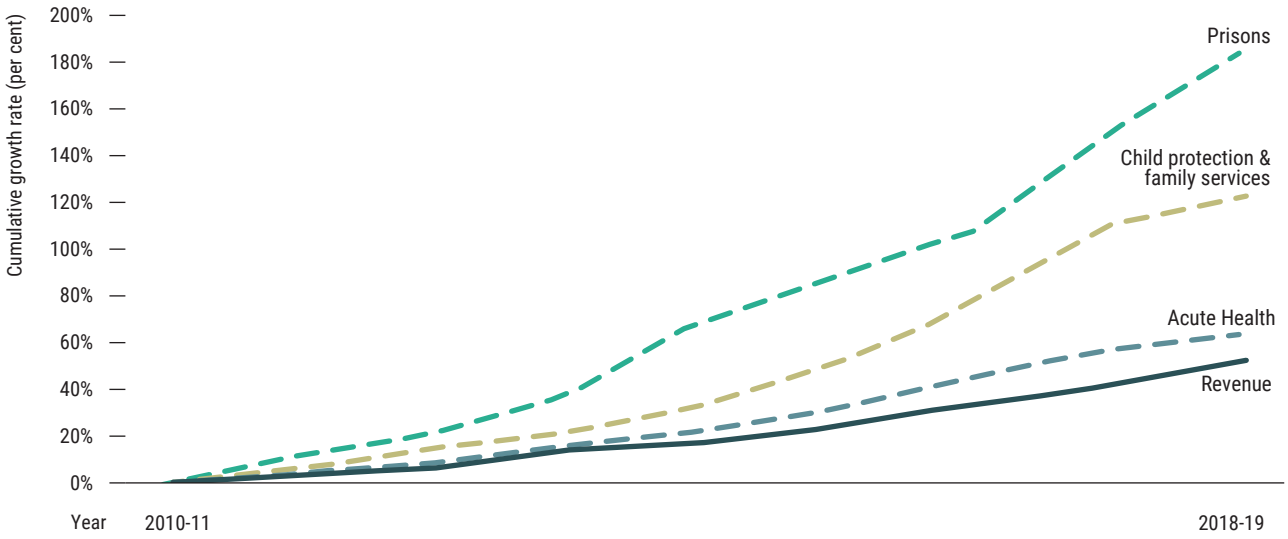
Box 2 | ORIGINS OF THE TERM 'FAILURE DEMAND'

In 1992, occupational psychologist John Seddon identified the concept of failure demand: demand that is driven by a failure to do the right thing by a customer.[9] Based on his work in call centres, Seddon warned that a rise in demand for a service could often be a reflection of a problem, rather than a sign of success. He pointed out, for example, that lots of people calling a telephone helpline doesn't mean you have a good helpline: it indicates that there's a failure somewhere else in the business.

The concept of failure demand has been subsequently applied in the context of social policy. A 2011 report for the Scottish Government warned that demand for public services was on the rise, due in part to "failure up to now to tackle the causes of disadvantage and vulnerability, with the result that huge sums have to be expended dealing with their consequences".[10] In *The Economics of Arrival*, Katherine Trebeck and Jeremy Williams describe failure demand as reactive spending as a response to the consequences and not the actual causes of inequalities, with the logic that growth is required in order to pay for fixing the harm done in the creation of growth.[11]

Failure demand is a similar concept to 'defensive expenditure' used by ecological economists to refer to the money spent repairing or minimising harm done to the environment.

FIGURE 2 I Victoria's historical output costs on acute services compared to growth in state revenue (pre-COVID)



SOURCE: *The Victorian Department of Treasury and Finance*[18]

From a social perspective, across Australia, there is a growing demand for acute services such as hospitals, prisons, family violence and homelessness services. In every state and federal budget in the last decade the growth in funding for these services has outpaced revenue growth[15] (See Figure 2 for spending on service delivery vs revenue in Victoria). In 2021–22 Australian governments spent $21 billion on the criminal justice system, including $6 billion on prisons.[16] Australian states spent a combined $5.24 billion on child protection, out-of-home care (OOHC) and family support services in 2016–17 – a cost that continues to rise.[17] Taken together, the growth in these costs is rising much faster than the revenue needed to fund them.

Australia is experiencing record levels of economic inequality[19] – a major driver of failure demand. The adverse effects of poverty on health outcomes are well known, but alongside the effects of poverty itself, a greater gap between rich and poor increases rates of ill health[20], poor mental health[21] and mortality inequality among middle-aged males and females in the 45-54 age group due to diabetes and cancer.[22] British epidemiologists have found that "a wide range of social problems are worse in more unequal societies, including more teenage births, lower levels of child wellbeing and educational attainment, higher levels of violence, more people in prison and less social mobility".[23] As governments attempt to respond to these patterns (failure demand), they are incurring costs that would be avoidable if the gap between rich and poor was reduced (avoidable costs).

This paper focuses on the direct fiscal cost to government of addressing needs that arise due to our current economic, social and institutional structures. It examines the financial burden that failure demand places on government budgets in three key areas: childhood poverty, health and inadequate regulation of hazardous chemicals. Through these Australian examples, the paper highlights the impact of failure demand on public finances and makes the case for preventative, whole-of-government approaches to policy and service delivery.

Box 3 | COST TO GOVERNMENT VS ECONOMIC COSTS

Fiscal costs to government are not the same as economic costs, though the two concepts are often conflated.[24] **Economic costs** relate to reduced or increased economic activity in the economy as a whole (usually measured in changes to GDP) – when a policy is represented as being worth "X-billion dollars to the economy" this is what it is referring to. By contrast, **fiscal costs** relate to direct expenditure by governments.

The New South Wales Council of Social Services (NCOSS) report, *Lasting Impacts: The Economic Costs of Child Poverty in NSW* estimates child poverty costs the NSW economy $60 billion per year. This figure includes both direct fiscal costs and economic costs. The report estimates economic costs of $21 billion due to reduced labour market participation, lower paid jobs and reduced worker productivity, and an estimated $34 billion due to poorer physical and mental health and the resulting lower quality of life and life expectancy. Direct government spending on the increased cost of delivering government services due to child poverty amounts to $4 billion.[25]

The size of the economy will have an impact on government revenue and activities, but it is not a simple relationship to calculate. Increased economic activity may bring in increased tax revenue but also increase the amount governments need to spend. For example, if a new product or activity pollutes the environment then the government may have to spend more on healthcare and cleanup or restoration.

When we talk about avoidable costs in this paper, we are referring specifically to the *public spending* that would not be needed if different economic, structural, and systemic choices were made.

Childhood poverty: The cost of investing late

Child poverty is complex, multidimensional and has long-lasting implications into adulthood that are often passed on to future generations. Individuals who experience childhood poverty are more likely to earn lower incomes and require ongoing government support than those not exposed to poverty during their upbringing. The inequitable distribution of poverty in the population also means that the impacts of child poverty can concentrate intergenerational disadvantage in specific communities and demographics.[26]

The impact of poverty on children

Income poverty in Australia affects one in six Australian children, or 761,000 children,[27] with profound implications for their development and wellbeing.[28] The first five years are crucial for cognitive, emotional and physical growth and growing up in poverty during this period can delay cognitive abilities, harm mental and physical health and reduce educational outcomes. There is a strong correlation between child poverty and poor social determinants of health, leading to long-term negative health consequences.[29]

Box 4 | DEFINING POVERTY

This paper acknowledges the complexity of poverty and the ongoing debate around its measurement. Despite the lack of an official Australian poverty measure, this paper utilises the OECD and ABS definition of poverty of earning 50% or less of the median household income of the total population.[30] Monetary and multidimensional poverty measures are widely recognised as correlated and complementary rather than distinct.[31]

The effects of poverty on a child's life are wide ranging and include:

- **Physical health**: Children experiencing or vulnerable to poverty utilise more inpatient and emergency department services. This results in higher costs for public hospitals for the first five years of life. Additionally, vulnerable children use fewer specialists, pathology, and diagnostic imaging services compared to non-vulnerable children, resulting in delays in diagnosis and care for chronic conditions, leading to more expensive treatment later.[32]
- **Mental health**: Socioeconomic disadvantage is strongly associated with poorer mental health outcomes in children. Nineteen percent of children in the lowest socioeconomic areas (SEA) experience mental health issues compared with 12% in the highest SEAs, resulting in higher rates of depression, anxiety, and poor emotional regulation, all of which limit future opportunities for the child.[33]
- **Educational outcomes**: Children living in poverty face delays in language development.[34] In Australia, by age 15, disadvantaged students are 2-3 years behind in literacy and numeracy. Only 70% of low socioeconomic status (SES) students complete Year 12, compared to 83% of their peers,[35] with early school leavers costing the economy in increased social support.[36] The Program for International Student Assessment (PISA) data highlights that disadvantaged students globally are six times more likely to be low performers compared to their advantaged peers.[37]
- **Food insecurity and nutrition**: Lower income levels often lead to inadequate access to meals and nutritious food. During periods of food insecurity and increases in cost of living, many families often rely on charity assistance programs. In Australia, the three largest suppliers, Foodbank, OzHarvest and SecondBite, have formed a new collaboration, asking the government for additional funding. These are direct costs to government and an example of failure demand. Additionally, global research shows that available food tends to be highly processed, lacking essential nutritional value which can result in health issues such as obesity and developmental delays, which in turn may contribute to behavioural problems.[38]

The impact of child poverty into adulthood

Children who grow up in poverty and socioeconomic disadvantage often continue to experience poverty in adulthood, leading poverty to perpetuate itself into successive generations. The impact that growing up in poverty has on a child's ability to access and fully participate in quality education affects their future employment opportunities and income levels. As a result, when they become parents, their children are more likely to start living in economic hardship and will likely experience the same outcomes, perpetuating the intergenerational cycle of disadvantage. Even one year of poverty in childhood is linked to poorer socioeconomic outcomes in early adulthood, with children from households experiencing multiple years of income poverty becoming 2.4 times less likely to obtain a university degree, 1.8 times less likely to secure full-time employment, and earn 23% less in hourly wages. They are also 3.3 times more likely to face poverty in adulthood, with poorer general and mental health, and more likely to live in social housing or experience financial stress.[39] For adults who have grown up in impoverished and deprived conditions during childhood, there tends to be a lifetime of challenges.[40] Addressing childhood poverty is not only a moral imperative but also a fiscal necessity, as its long-term impacts lead to substantial avoidable costs.

Previous research on the avoidable costs of child poverty

The costs of child poverty are difficult to put a precise figure on, but are enormous. Beyond the very real human impact, they include both fiscal costs to government of delivering services and broader economic impacts. Research on child poverty often models the long-term effects of poverty into adulthood and factors in the future economic costs of insecure employment, reduced tax revenue, lost earnings, and anticipated public expenditures on social services such as education, policing, criminal justice, healthcare, child homelessness, maltreatment, and incarceration. For example, studies from the UK and US demonstrate that the combined economic and fiscal costs to government of child poverty is equivalent to 1.7%-5.4% of GDP.[41, 42, 43] However, this paper focuses only on the direct fiscal costs to government.

> ***Addressing childhood poverty is not only a moral imperative but also a fiscal necessity, as its long-term impacts lead to substantial avoidable costs.***

Currently, there is limited research nationally on the direct fiscal costs to government of child poverty in Australia. In 2015, the *Technical Report on Late Intervention* looked at the annual state and federal government spending on crisis services for children and young people across health, justice, human services and welfare. It found that governments in Australia spend $15.2 billion annually on crisis services for children and young people. This equates to $607 for every Australian or $1,912 for every child and young person.[44]

A recent report by Impact Economics and Policy for the NSW Council of Social Services (NCOSS) estimates that child poverty costs NSW $60 billion annually- around 7.8% of Gross State Product. This total cost includes **both** direct costs to the government and forecast costs to the economy and costs related to diminished health and life expectancy due to child poverty.[45] This report informs our modelling of direct fiscal costs below.

This limited evidence-based research highlights the need for more comprehensive, national research into the direct costs of child poverty in Australia to inform longer term, preventive policy responses.

Modelling the direct costs to government of failure demand caused by child poverty

As noted, our modelling utilised the NCOSS report finding that child poverty results in $4 billion in fiscal costs for additional government service provision such as child protection services, greater use of health services, legal system costs, homelessness services, and extra educational services in NSW.[46] Sixty percent of this $4 billion cost is borne by the Australian Government and 40% by the NSW Government. Of all children living in poverty in Australia, approximately 29% are in NSW. If we assume that similar costs apply to children in poverty across the country, then the total cost in additional services to respond to child poverty across Australia would be approximately $13.6 billion annually.[47]

To complement the above study that looked at the cost of the provision of services, we used data from the Household, Income and Labour Dynamics in Australia survey (HILDA) to develop a model that examined the impact of an individual experiencing childhood poverty on future government direct transfers to that individual (such as unemployment benefits, disability support payments and single parent payments). We included a number of control variables to account for certain groups being more likely to receive benefits. These control variables help us make better comparisons by taking into account other factors, like family background or education level, that could also influence whether someone receives government payments. This means the analysis is better able to isolate the specific impact of growing up in poverty, separate from the many other childhood factors that may lead to increased benefits.

This modelling estimates total additional government transfers to adults between the ages of 25 and 60. Details of the modelling can be found in the appendix.

MODEL OUTPUT

The breakdown of extra transfer payments made to adults who experienced poverty as a child is shown in Table 1. The bulk of the extra money transferred to individuals who grew up in poverty goes to Newstart/Job Seeker, Family Tax Benefit A, and Carer payment.

The modelling estimated that an **additional $2.68 billion annually is transferred to adults as a result of experiencing poverty when they were children.** While monetary poverty alone is unlikely to be the entire explanation for this demand, the number will still be an underestimate as the data did not allow us to estimate transfers to those over 60, and the impact of child poverty on age pension payments is likely very substantial given the large proportion of the population who receive it, as well as the impact of child poverty on lifelong earnings and therefore on superannuation balances.

Putting together the extrapolated figures on the provision of government services from the Impact Economics and NCOSS study in NSW and our own modelled figures on support payments, we conservatively estimate that the impact of child poverty on government expenditure is **over $16 billion annually**. This figure roughly breaks down to **$11 billion for the Australian Government and $5 billion annually for the states and territories**. These figures do not capture the economic costs associated with child poverty, but instead estimate the direct fiscal costs to government based on their existing efforts to respond to the additional needs of adults that arise out of their experience of poverty in childhood.

Australian governments spend at least $16 billion per year as a result of childhood poverty

TABLE 1 | Results of modelling using HILDA data showing the breakdown of additional transfer payments to adults who experienced poverty when they were children

	Percentage	Weekly per person ($)	Annual per person ($)	Annual budget ($ billions)
Family Tax Benefit Part A	40.60%	9.98	518.96	1.09
Newstart/JobSeeker	25.07%	6.16	320.32	0.67
Carer payment	17.60%	4.33	225.16	0.47
Bonus payments	9.26%	2.28	118.56	0.25
Family Tax Benefit Part B	5.19%	1.28	66.56	0.14
Youth allowance - JobSeeker	3.40%	0.84	43.68	0.09
Partner allowance	1.04%	0.26	13.52	0.03
Single income family supplement	-2.20%	-0.54	-28.08	-0.06
Total		**24.59**	**1278.68**	**2.68**

Prevention in practice

There are numerous organisations, non-profit, government and for-profit, that work to alleviate childhood poverty. However, the importance of addressing urgent needs and the limited power that non-profit organisations and charities have to affect economic systems change means that they mostly deliver services at crisis points, downstream from the causes. Taking a preventative approach can reduce child poverty instead of simply addressing its impacts. **For policies to be more effective, they must address the many dimensions that exacerbate poverty such as insecure and low paid work, low social security payments, insecure housing, a poorly designed personal income tax system, insufficient public school funding, cost of living increases and inadequate access to mental health care.**

A key challenge in addressing childhood poverty is the misconception that doing so is not economically viable. In 2021, the Australian Early Years Catalyst coalition engaged with more than 300 people nationwide with knowledge of the early years system to identify the dynamics influencing early childhood development outcomes. Their research identified a key barrier: the widespread belief among participants that "prevention doesn't make economic sense".[48] However, as laid out below, the evidence shows that increasing income support payments and providing support for basic needs is one of the most effective interventions that can cost less than the long-term fiscal burden of inaction, ultimately saving the government money while improving children's outcomes.

THE MERITS OF INCREASING INCOME SUPPORT PAYMENTS IN AUSTRALIA

Targeted support through increased benefits has been shown to directly reduce child poverty, as demonstrated by the unexpected policy shifts required during the COVID-19 pandemic. The introduction of the Coronavirus Supplement of $275 per week significantly reduced poverty levels among those receiving income support. For example, for individuals in sole-parent families, including both adults and children, poverty was nearly halved, dropping from 34% to 19%. However, once these supports were withdrawn in 2021 and payments were reduced to below the poverty line, poverty levels rose again, climbing to 31%, back to pre-pandemic levels.[49,50] These results highlight the clear impact of increased government benefits on reducing child poverty.

> ***Addressing child poverty is far from straightforward, but the notion that it doesn't make economic sense is mistaken.***

Modelling by ANU's PolicyMod presents a compelling case for how a guaranteed minimum income (GMI) could eliminate childhood monetary poverty. The analysis found that an annual investment of **$2.8 billion** in the 2025/26 financial year, directed at couples with children and single parents, would be sufficient to lift these households above the poverty threshold (50% of median household income before housing costs as used in this paper). This would reduce poverty rates for couples with children from 5.1% to 0% and for single parents from 18.9% to 0%.[51]

PolicyMod's modelling compared two poverty alleviation scenarios: doubling the Family Tax Benefit ($24.5 billion cost) and implementing a Guaranteed Minimum Income for families with children ($2.8 billion cost), with the latter being more cost-effective.[52] It is noted that the GMI is calculated based on a household's 'poverty gap' which is then paid to that household as a non-taxable welfare payment. While not all contributors to childhood poverty and disadvantage can be easily overcome by increased income, we know that increases in support payments have a huge impact on child poverty levels.

Critically, this policy could pay for itself. According to our model (Table 1 above) the Commonwealth Government currently spends an additional **$2.68 billion annually** on support for adults who experienced poverty as children plus an estimated **$11 billion annually** on additional services (see *Model output* section above). However, savings from reducing or eliminating childhood poverty would take a long time to be fully realised as they accrue throughout the individual's life.

This analysis demonstrates that preventing childhood poverty could reduce the long-term impact on the budget, while also generating broader economic benefits, including higher education levels, increased productivity, and greater employment opportunities.

Addressing child poverty is far from straightforward, but the notion that it doesn't make economic sense is mistaken. Given the considerable avoidable costs child poverty generates and its potential transmission across generations, addressing child poverty is an investment that will yield significant long-term savings and benefits – an investment which we have a moral imperative to make.

By taking an upstream approach and making structural shifts in spending and budgeting to address the root causes of childhood poverty, governments can create the conditions for children to experience life-long benefits, including greater opportunities, improved health and wellbeing and the ability to thrive.

Health: The cost of siloed policymaking

Australia, and the rest of the world, is facing unprecedented increases in the costs of providing medical care. The federal health budget is $112.7 billion in 2024–25, and projected to increase by 8.9%, to $122.8 billion in 2027–28.[53]

The spend in 2022–23 for states and territories was $77.3 billion. In real terms, this was a 10% increase from the previous year (following an 11% increase from the year before).[54] Government spending on health is projected to increase as a proportion of GDP from 4.2% in 2022–23 ($100 billion) to 6.2% in 2062–63 ($350 billion).

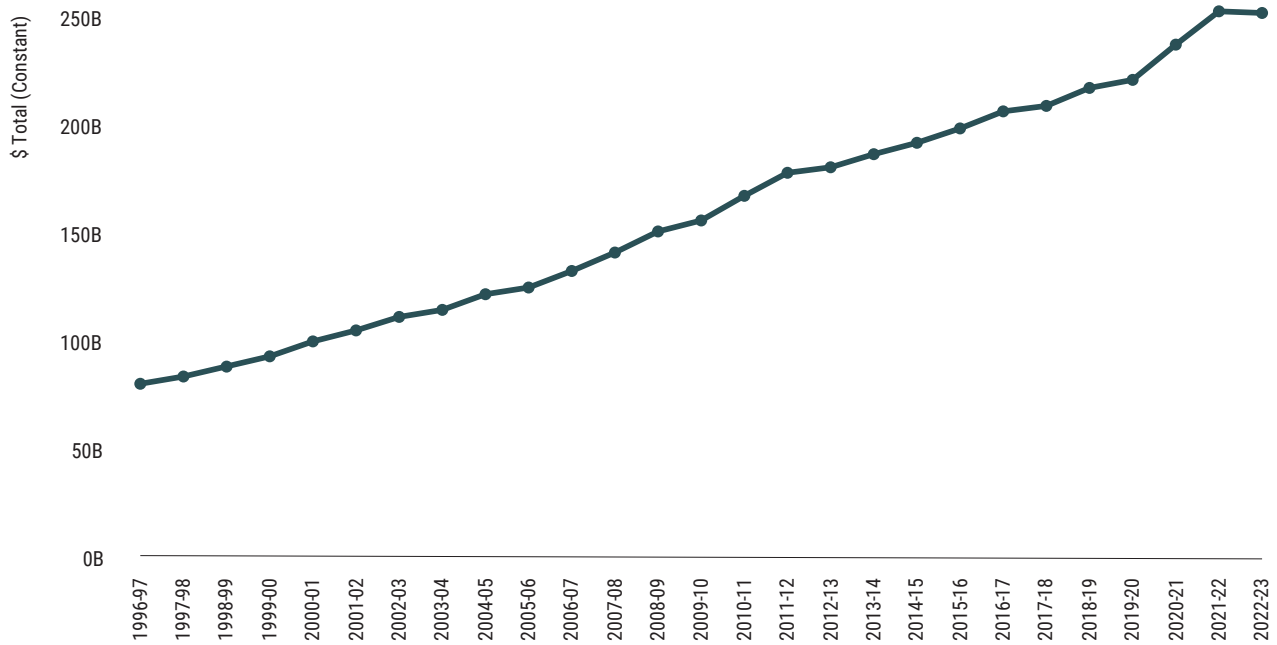
Despite record spending (Figure 3), demand across many areas of healthcare remains unmet, with lengthy wait times for GP and urgent care as one example.[55] A growing and ageing population accounts for 40% of the projected increase in demand.[56] Unless we adapt to a focus on helping the population age more healthily, meeting this demand will place a heavy financial burden on the government, while failing to meet it will result in significant health, economic and social burdens for individual Australians and their families.

The avoidable causes of ill health

A significant proportion of demand on Australia's health system could be avoided. Lifestyle factors such as smoking and being overweight are well-known contributors to disease burden,[58] but the deeper socioeconomic drivers behind these behaviours often receive less attention. Known as the social determinants of health (SDH), these factors – such as housing, income, employment, education, transport, urban design and social networks – account for 30–55% of health outcomes, according to the World Health Organization (WHO).[59]

The conditions in which people live and work significantly impact health and longevity.[60] For example, greater access to green spaces is linked to lower rates of asthma, better mental wellbeing, reduced cardiovascular disease risk, and healthier ageing.[61] Air pollution contributed to over 3,200 deaths in Australia in 2018 alone.[62] These environmental and social conditions shape health more powerfully than the healthcare system itself.

FIGURE 3 I Total government health expenditure – all levels of government



SOURCE: *Australian Institute of Health and Welfare*[57]

In Australia, widening income and wealth inequalities have led to increasing health disparities, with higher rates of infant mortality, avoidable mortality, and premature deaths among disadvantaged groups.[63] Loneliness, too, has emerged as a major health issue, affecting 1 in 4 Australians and costing an estimated $2.7 billion annually in healthcare costs.[64] Loneliness, in turn, is driven by our economic system and its focus on people as inputs in production, as well as by our urban design and housing affordability crisis.

These inequities are particularly stark for Aboriginal and Torres Strait Islander peoples. Over a third (35%) of the health gap between Indigenous and non-Indigenous Australians is attributed to social determinants such as employment, income, and education.[65] Despite decades of 'Closing the Gap' efforts, some indicators – such as out-of-home care rates and incarceration – have worsened.[66]

Recognising the critical importance of addressing SDH, international organisations like WHO and UN agencies, and Australian bodies such as VicHealth, the Australian Institute of Health and Welfare (AIHW) and state health departments, have called for action. WHO's new operational framework for monitoring equity in SDH provides a roadmap for more effective, accountable interventions.[67]

From midstream health interventions, upstream to the economy itself

While the social determinants of health (SDH) play the most crucial role in shaping health outcomes, the structure and effectiveness of Australia's primary health care system also significantly impacts health costs and wellbeing. Primary care deficiencies – such as gaps in after-hours services, underfunded chronic disease management, and the constraints of fee-for-service models – contribute to avoidable hospital admissions, emergency department pressures, and poorer long-term outcomes[68].

By strengthening primary health care through better integration of services, improved access to after-hours care, and enhanced chronic disease management programs, significant savings could be achieved. For example, effective management of diabetes in primary care settings could reduce diabetes-related hospitalisations by up to 40%, potentially saving hundreds of millions of dollars each year.[69] Additionally, investing in maternal and child health services and geriatric health programs within primary care can lead to better health outcomes and reduced long-term health costs.

> ***Typically, the power to intervene in the social determinants of health lies far beyond health initiatives.***

These improvements in primary health care, coupled with addressing broader social determinants of health, represent a multi-layered approach to reducing the fiscal burden on the Australian health system while improving population health outcomes.

The way the economy operates is a critical source of SDH. For example, secure, safe, and quality work is a key social determinant of health, as income inequality and insecure employment, such as casual and fixed-term work, are linked to poorer mental health and long-term negative effects on wellbeing.[70] Approximately 2.4 million Australians, or 20% of employees are in casual employment and 4.2% of employees are on a fixed term contract.[71] Overwork, job stress, and productivity-driven policies like cost-cutting, downsizing, and flexible labor markets increase demands and insecurity, contributing to anxiety, job dissatisfaction, burnout, and work-life conflict.[72] Mental health tends to decline after 39 hours of work per week.[73] Long working hours lead to increased levels of depression, anxiety, and poorer sleep quality, which are linked to chronic diseases such as cardiovascular disease, type 2 diabetes, and cancer.[74] Job insecurity is linked to psychological distress and reduced life satisfaction, with long-term negative effects on health and psychological wellbeing.[75, 76, 77]

Recognising that a high proportion of disease and ill health is avoidable by addressing SDH and improving primary healthcare, does not imply that prevention is easy or simple. When it comes to preventative health, a great deal of emphasis is put on a handful of 'lifestyle' factors that place the onus of change on the individual. While smoking and being overweight contribute disproportionately to the disease burden, these issues are often resistant to health-led interventions, given that they are often driven by wider economic circumstances.

For example, there is no strong evidence that health promotion campaigns focussing on individual behaviours have significantly impacted the percentage of people who are overweight, rates of physical exercise, or fruit and vegetable consumption. Putting the onus on personal responsibility, while ignoring the social, commercial and economic determinants of health may even widen

population health inequities, as it is those with more time and resources and conducive local environments who are able to eat well and exercise.[78] Much of this burden on individuals and on government expenditure, can only be reduced by looking outside of health service delivery, even beyond the primary care elements just discussed. Typically, the power to intervene in the social determinants of health lies far beyond health initiatives – rather it lies in the hands of housing and benefits policy, in urban planning and infrastructure design, education, regulation on marketing of foods and, more broadly, in the way that the economy operates and functions[79] and values health[80].

Health in All Policies (HiAP) is an approach to policymaking that recognises that population health is not merely a product of health sector programs but largely determined by policies that guide actions beyond the health sector.[81] Policy in every sector of government can potentially affect health and inequities in health. Using a HiAP approach aims to address policies such as those influencing transport, housing and urban planning, the environment, education, agriculture, finance, taxation and economic development so that they promote overall health and health equity.

Going even further would be the development of a Wellbeing in All Policy approach that would integrate health as just one of the dimensions. This is an approach taken by Earth4All in the integrated policy modeling conducted for a range of countries, including Austria, Kenya and Germany.[82]

Failure demand in the health system

There is no more obvious manifestation of failure demand than in health, where numerous health system, social, commercial and economic system failures cause poor health outcomes and increased demand for health services. In addition to the significant costs to individuals, families, communities and society of ill physical and mental health, failure demand in healthcare results in significant fiscal costs to governments at all levels. Within Australia in 2022–23 total government health expenditure was **$178.7 billion**,[83] the largest category of expenditure after transfer payments (age pension, jobseeker etc.). In this section we extrapolate costs from multiple Australian studies to estimate the avoidable costs created by failure demand within the health system.

The Australian Institute of Health and Welfare estimated that total government health spending attributable to potentially avoidable risk factors in 2018–19 was $24 billion.[84] The risk factors used in this estimate are a sub-set of all factors that make up the social determinants of health, meaning this is an underestimate of the avoidable costs. If we extrapolate this estimate to 2022–23 figures,[85] the cost of potentially avoidable health risk factors would be almost **$29 billion**.

In another study, the National Centre for Social and Economic Modelling (NATSEM) calculated the cost to government of inaction on social determinants of health to be $7.25 billion per year in 2008.[86] Extrapolating these costs to 2022–23 figures, we estimate about **$12 billion** dollars in avoidable costs from hospital visits, other medical services and the Pharmaceutical Benefits Scheme. Ill health also results in increased welfare support payments, adding $6.4 billion annually for a total of over **$18 billion** annually (Table 2).

Some of these costs could be prevented via a refocus on areas of the health system. The Australian Medical Association suggests at least $4.05 billion of hospital costs alone could be avoided through investing in primary health care for older people in the community.[92] It also found that integrated preventative care reduced ambulance arrivals, stays in the emergency department, emergency costs and hospitalisations by 23% to 38%.

> ***To understand the causes of avoidable disease, we need to look beyond the traditional remit of healthcare or even preventative medicine, to the upstream causes of ill health that are embedded in our economy and our social and environmental design.***

Australian governments spend between $18-29 billion a year on potentially preventable disease

However, healthcare reform typically saves on avoidable costs by intervening early once a medical condition has already presented, to prevent it from getting worse. It does not prevent the initial failure demand so much as holds back the tide on the ever-increasing growth of such a demand. To understand the causes of avoidable disease, we need to look beyond the traditional remit of healthcare or even preventative medicine, to the upstream causes of ill health that are embedded in our economy and our social and environmental design.

Prevention in practice

As outlined above, we conservatively estimate that Australian governments spend between **$18 billion and $29 billion** annually treating preventable diseases within the health system. This financial burden could be substantially reduced with greater emphasis on the social determinants of health. The National Preventive Health Strategy 2021–2030 represents an important step by outlining the vision, aims and principles, breaking down the specific determinants of health and root causes in Australia, and highlighting the need for multi-sector collaboration. The report comprehensively examines the social, environmental, commercial, biomedical, cultural, economic, digital and structural determinants of health.[93] Key recommendations have been identified and a blueprint for action is being finalised. However, experience tells us that translating strategic plans into action is the most challenging step.[94]

TABLE 2 | The extrapolated costs to Australian governments of inaction on social determinants of health

Expenditure type	2008 costs ($m)[87]	Growth	Extrapolated 2022–23 Costs ($m)
Hospital stays	$2,800	173%[88]	$10,930
Medicare services	$273	127%[89]	$619
PBS expenditure	$184.5	121%[90]	$410
Welfare payments	$4000	59%[91]	$6,400
Total	**$7,258**		**$18,359**

Box 5 | SINGAPORE'S LEADERSHIP IN PREVENTATIVE HEALTH – A HOLISTIC APPLICATION

Singapore is globally recognised for its high quality of life, long life expectancy and relatively low health costs as a share of GDP.[95,96] **The Healthier SG initiative**,[97] launched in 2023, addresses the challenges posed by its ageing population and rising chronic disease burdens on healthcare expenditure. It focuses on building an ecosystem for better health through the introduction of new policies and funding mechanisms that support a preventative approach. The launch of Healthier SG is the largest transformation of the care system and is framed as a move toward "health for all". The initiative recognises that population health is not only about achieving better outcomes but also about ensuring the outcomes are shared equitably across all of Singapore.[98]

A key principle is collaboration between general practitioners (GPs) and their patients along with building up the care sector to focus on and deliver preventative programs. Family doctors work with community partners, regional health managers, and other sectors to provide holistic, life-course care.

For example, after developing action plans with patients, GPs connect residents to community partners and programs to support their health and social needs. Some examples include the Eldercare Centres, the Arts for Aging Well program and national initiatives such as the National Steps Challenge, which rewards physical activity with redeemable points.[99] The initiative also supports social prescribing at a national level, enabling healthcare providers to refer individuals to community services to improve non-medical health and social connections including scripts for time in nature and participating in book clubs. [100]

By supporting seniors to age well in their communities, Healthier SG makes a strategic investment in prevention by reducing social isolation and delaying or preventing frailty and health decline.[101]

Further collaborative and holistic health programs include the **Health Promotion Board**. The Board reinforces and financially incentivises a healthier environment through setting higher standards for companies that make or sell harmful products – mandating nutrition labelling, reducing sugar in beverages and imposing health levies on alcohol and tobacco.[102] Early evidence points to positive results with reductions in number of hospital bed-days, decreased in-hospital mortality, ICU admission and readmissions.[103]

Urban design plays a vital role, with the **SG Green Plan** transforming Singapore into a "City in Nature", restoring nature in the urban environment for better health and wellbeing.[104] The **Park Connector Network** is in the process of linking neighbourhoods and workplaces via 500 kilometres of trails, encouraging physical activity into daily routines.[105] The **Housing and Development Board** integrates holistic wellbeing by designing spaces, including social housing, that foster health, social interaction and accessibility.[106]

Singapore's success provides a valuable model for improving health outcomes through collaborative, whole-of-government initiatives engaging multiple agencies, communities and urban designers. While Singapore's status as a city-state provides unique advantages for implementation, it still acts as an example of turning strategy into action – leveraging legislation, incentives and collaboration at a city-state level.

Singapore provides an example of how a comprehensive, multi-pronged, whole-of-government prevention program can be implemented while effectively reducing healthcare costs and improving population health outcomes (see Box 5). The Healthier SG Initiative illustrates the potential for creating an ecosystem for better health by integrating policies, financial incentives and community driven solutions to promote prevention at a broader systemic level. Collaboration across multiple sectors and agencies has been crucial to the successful implementation of this initiative.

As outlined above, there is a strong financial case for taking a 'health in all policies' approach and assessing the health impacts of policy decisions as standard. Factoring in avoidable costs relating to healthcare should be built into modelling for everything from access to GPs, to urban design, to transport and infrastructure planning, to spending on government benefits and community building initiatives. Importantly though, we must also address the economic determinants of health and work to create an economic system that delivers better outcomes for all Australians up front, avoiding the need for many midstream and downstream health interventions.

Chemicals in soil and water: The cost of inaction and delay

Manufactured chemicals are now ever-present in our lives and in the products that we use, from cleaning, to pest control, agriculture, construction, clothing, personal care and food packaging. These chemicals pervade our homes, household waste, discarded electronics, industrial and manufacturing byproducts, sewage systems, and even our bodies.

This section looks at the ongoing costs to governments of cleaning up and removing chemicals that were known to be a danger to human and environmental health decades before they were regulated. These costs are sometimes treated as isolated incidents, but in fact we see them arise again and again. This suggests a pattern of hesitancy in Australian governments to act, despite scientific evidence and advice, and despite action being taken by government counterparts around the world. We suggest that this delay is another form of failure demand, costing governments money and leading to poor social and environmental outcomes.

The pervasiveness of hazardous materials

While manufactured chemicals and materials can undoubtedly enhance quality of life in some circumstances, many have proven to be detrimental to human health and the environment, often with the full extent of their effects only becoming known after prolonged use. Various chemicals have been banned, restricted, or subjected to stringent management protocols due to their adverse environmental and health impacts. Notable cases of effective regulation or bans in Australia include the use of polychlorinated biphenyls (PCBs) in industrial electrical components, paints, and plastics;[107] lead in petrol and paints;[108] mercury in batteries and pharmaceuticals;[109] chlorofluorocarbons (CFCs) and hydrofluorocarbons in refrigeration and air conditioning;[110] and certain perfluoroalkyl substances (PFAS).[111] However, regulatory measures to prevent the release of these hazardous chemicals into the environment have typically been implemented long after their significant negative impacts were recognised (see Box 6).

Recent estimates suggest Australia contains more than 160,000 sites contaminated with harmful chemicals.[123] One of the worst contaminated sites in Victoria is the Kaniva waste dump, which includes 1.5 million litres of liquid chemical waste and over 50,000 acetylene gas cylinders buried across 1,400 acres in the Australian outback.[124] Arsenic and mercury are also a common contaminant of concern in historical gold mining regions of Australia, including within the c.16,322 goldmines that are spread across the Victorian goldfields.[125]

Contamination isn't just in the outback. More than 20% of gardens tested in suburban Melbourne, Sydney and Brisbane had levels of lead requiring further human health investigation.[126,127] All states and territories in Australia have laws that require appropriate management of environmental contamination. These laws require landowners or other responsible parties (such as government, the individuals or companies that caused contamination) to understand, manage and clean up contamination. In other words, laws necessitate that such entities spend money fixing the problems caused by the chemicals long after their use. Had these chemical pollutants been regulated early, the enormous cost of clean-up – and the impacts on human health – could have been prevented.

Current chemical regulation in Australia

There are 4 main regulatory authorities for chemicals in Australia – each focusing on a particular type of use:

- Australian Industrial Chemicals Introduction Scheme regulates industrial chemicals such as paints, adhesives, inks, plastics, glues, solvents, soaps and ingredients in cosmetics.
- Australian Pesticides and Veterinary Medicines Authority regulates agricultural and veterinary chemicals, such as pesticides, animal medicines, insect repellents, garden sprays and some pool chemicals.
- Therapeutic Goods Administration regulates medicines and products marketed as having therapeutic effects, such as skin-whitening lotions, complementary medicines and blood products
- Food Standards Australia and New Zealand regulates ingredients in food and food additives for human consumption, such as processing aids, colourings, vitamins and minerals.[128]

Box 6 | EXAMPLES OF HARMFUL REGULATORY DELAY

1. Asbestos

Despite reports about the contribution of asbestos to respiratory disease emerging as early as the 1930s, and workers' compensation laws coming into effect in 1942,[112] asbestos mining continued in Australia until 1983. Asbestos safety limits only began to emerge in the 1970s and 1980s, with bans first coming into effect in the 1980s. However, a full ban on its use in Australia was not imposed until 2003. Asbestos is still found in products and buildings built before 1990.[113] **It took 61 years to achieve full regulation between first recognition that asbestos was a problem (1942), and the comprehensive ban of asbestos use in 2003.** Roughly half of the time asbestos was used in Australia was a period when its use could have been avoided. The delay in regulation led to significant health impacts, with many workers and residents exposed to asbestos fibres over decades.

2. Paraquat

Paraquat is a highly toxic herbicide used to control weeds. It has been linked to severe health effects, including respiratory issues and Parkinson's disease. Despite being banned in over 50 countries, including the UK and EU in 2007, paraquat **is still used in Australia**. The Australian Pesticides and Veterinary Medicines Authority has been reviewing its use for over two decades[114,115] and, in August 2024, finally recommended tighter regulation.[116] However at the time of writing, this recommendation is yet to be acted upon.

3. Lead in petrol

Lead was added to petrol throughout the 20th century to improve engine performance. The environmental impacts of lead use as well as harmful human health effects, particularly on children's cognitive development, have been known since the industrial revolution.[117] Yet lead was still used in petrol in Australia for 70 years from 1932 until 2002. Lead is still causing damage today, as contaminated soil is moved during earthworks, releasing lead back into the atmosphere.[118]

4. DDT (Dichlorodiphenyltrichloroethane)

DDT was widely used as a pesticide in agriculture and for mosquito control. It was found to be highly persistent in the environment and harmful to wildlife, particularly birds. The environmental and health impacts of DDT were highlighted in the 1960s, particularly through Rachel Carson's book *Silent Spring.*[119] Despite this, DDT was not banned in Australia until 1987.[120,121]

5. Engineered stone

The cost of regulatory delay is not simply an historical problem, nor restricted to harmful chemicals. For example, engineered stone benchtops, the manufacturing of which has been linked to the devastating and fatal lung disease silicosis, were only banned in Australia in 2024, despite the health risks being known since 2010, with many lives lost in the intervening years.[122]

The avoidable ongoing cost of regulatory failure

In addition to the harms to people and the environment of dangerous unregulated or under-regulated chemicals, there are considerable costs imposed on governments created by the continuation of chemical use.

While in theory, polluters are responsible for clean-up costs, orphaned contaminated sites and illegal chemical dumps cost Australian governments many millions of dollars every year. For example, the Victorian government spent $48 million to investigate, manage, clean up and reduce risk to human and environmental health at a 1,400 acre illegal waste dump[129] and just assessing groundwater contamination in urban Adelaide cost the South Australian Government almost $1 million.[130] A joint private and public project at Barangaroo in Sydney, NSW required 150,000 tonnes of contaminated soil[131] to be cleaned up at a cost of over $400 million prior to the redevelopment of the area.[132] In Victoria, the government is spending at least $230 million to clean up 15 illegal toxic waste sites.[133]

These are just a few examples of clean-up costs to Australian governments. They demonstrate that the use of hazardous chemicals, historically and currently, results in large costs to government. It's important to note that these costs are a small fraction of what it would cost to clean up all contaminated sites, many of which are simply left contaminated at great social and environmental cost. These costs may have been avoided by stopping the use of these chemicals as soon as evidence of harm was available or by having suitable approaches to approving the use of chemicals in the first instance (i.e., precautionary regulation that mitigates the extent of contamination).

The cost of remediating Australia's approximately 160,000 contaminated sites is impossible to quantify, but a thorough clean-up would almost certainly amount to hundreds of billions of dollars. In reality, a complete remediation of all sites is unlikely, meaning the nation will instead bear the ongoing health consequences and land-use restrictions – costs that are equally challenging to estimate.

Chemical regulation in Australia does not take a precautionary approach, which would seek to understand the potential harm of chemicals before they are allowed to be used.[148] As a result, the regulatory failures result in people, government, environment and culture paying for the cost of harmful chemical use.[149]

Box 7 | PFAS – A CASE STUDY

PFAS (Per- and Polyfluoroalkyl Substances) are a group of synthetic chemicals used in various industrial applications, including firefighting foams and fast and processed food packaging as a waterproofing agent.[134] Despite growing evidence of their persistence in the environment and potential health risks, such as cancer and immune system disruption, the Australian Government has only recently started to phase out certain types of PFAS.[135] Toxic impacts of PFAS have been known to manufacturers since the 1970s.[136]

PFAS contamination has become a significant environmental and public health issue in Australia, leading to substantial financial costs. These costs arise from various sources, including legal settlements, remediation efforts, and ongoing monitoring and management.

PFAS contamination in Australia

PFAS contamination is widespread in Australia, particularly around military bases, airports, and industrial sites where firefighting foams have been used extensively.[137] The Australian Government established a PFAS Taskforce in 2024 to manage and mitigate PFAS contamination.[138] Despite these efforts, PFAS continue to pose significant health and environmental risks due to their persistence and bioaccumulative nature (meaning that they are difficult for the body to process as waste and therefore small exposures can accumulate in the body over time, eventually reaching dangerous levels).

Legal settlements

The Australian Government has faced multiple class action lawsuits due to PFAS contamination, particularly around defence bases where firefighting foams containing PFAS were used. The Department of Defence has already spent over $366 million on class action lawsuits.[139] In May 2023, the Commonwealth settled a class action for $132.7 million to compensate around 30,000 claimants affected by PFAS contamination.[140] This settlement followed a previous $212 million payout for property value loss and distress in areas like Katherine, Oakey and Williamtown.

Remediation and management costs

The cost of cleaning up PFAS contamination is highly variable and depends on the extent of contamination and the methods used. For instance, in the United States, removing PFAS from municipal wastewater can cost between $US2.7 million and $US18 million per pound of PFAS in the water. Some Australian examples illustrate the magnitude of the problem:

1. **Oakey, Queensland**: Oakey Beef Exports filed a legal action claiming costs of approximately $47 million for PFAS contamination, which includes $26.7 million for removing contaminated sludge and $15.9 million for sourcing alternative water.[141,142]
2. **Williamtown, New South Wales**: The clean-up and management efforts at Royal Australian Air Force Base Williamtown have involved significant costs, but specific figures for the total clean-up are not readily available. However, the community received part of a $212.5 million settlement with community members for property value loss and distress.[143,144]
3. **West Gate Tunnel Project, Melbourne**: The project faced a $3.3 billion cost overrun due to contaminated soil, including PFAS, which contributed to the total project cost reaching around $10 billion.[145]

The Australian Government has invested in various remediation technologies and ongoing monitoring to manage PFAS contamination, particularly in areas surrounding defence bases.[146] It has also been actively involved in researching the health effects of PFAS and developing guidelines for managing contamination.[147] However, it may be a case of too little, too late. The overall costs of cleaning up PFAS contamination in Australia are expected to be so prohibitively expensive that it will never be complete.

> ***Regulatory failures result in people, government, environment and culture paying for the cost of harmful chemical use.***

Prevention in practice

There are several examples Australia can learn from:

The **Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH)** regulation, implemented in 2007 in Europe, is one of the most comprehensive chemical regulatory frameworks globally. REACH shifts the burden of proof for the safety of chemicals from the government to manufacturers, internalising the environmental impact into production instead of externalising it to the environment and community. It requires manufacturers and importers to gather information on the properties of their chemical substances and submit this information to the European Chemicals Agency (ECHA). REACH also mandates the substitution of the most dangerous chemicals when safer alternatives are available.[150]

Canada's **Chemicals Management Plan (CMP)**, launched in 2006, aims to assess and manage the risks posed by chemicals to human health and the environment. The CMP prioritises chemicals for assessment based on their potential for exposure and inherent hazards. It has assessed thousands of substances and implemented risk management measures for those found to be harmful.[151,152]

POSSIBILITIES FOR IMPROVING CHEMICAL REGULATION IN AUSTRALIA

To address the challenges posed by chemical pollution and reduce future government expenditure, Australia can adopt several international best practices to enhance its regulatory framework:

1. **Adopt a precautionary principle**: Implementing a precautionary approach to chemical regulation can help prevent harm before it occurs. This involves rigorous risk assessments and the restriction of chemicals with uncertain safety profiles. These assessments should include calculations of second round fiscal effectss for governments, including increased demand for medical and other social services.[153]
2. **Strengthen regulatory frameworks**: Enhancing the existing regulatory frameworks to include comprehensive monitoring and reporting requirements for chemical pollutants can improve transparency and accountability. Australian authorities need to build the capacity to move quickly to restrict chemical use as soon as unacceptable levels of harmful impact are demonstrated.
3. **Strengthen and enforce the polluter pays principle**:[154] An important step in reducing the moral hazard associated with clean-up costs is ensuring that polluters are required to clean up any contamination that they create. In situations where the government will bear clean-up costs (or sites are simply left contaminated), there is little incentive for companies to spend the time and money avoiding contamination. In some circumstances this principle could be applied further upstream to the manufacturers of chemicals instead of only their users.
4. **Promote green chemistry**: Encouraging the development and use of safer, sustainable chemicals through incentives and research funding can reduce the reliance on hazardous substances.
5. **International collaboration**: Engaging in international collaborations and adopting globally recognised standards can help harmonise chemical regulations and facilitate the exchange of best practices.[155]
6. **Public awareness and education**: Increasing public awareness and education about the risks associated with chemical pollutants can empower communities to advocate for stronger regulations and make informed decisions.

By strengthening hazardous chemical regulations, the government can prevent future contamination at minimal public expense, thereby reducing future financial, health, and environmental burdens. More effective regulation could also prompt a rethink of our high speed extractive economic processes, where the pursuit of short-term profit often overrides consideration of long-term costs and benefits.

Avoiding avoidable costs

Embedding avoidable costs analysis

Governments have mechanisms – taxes, regulations, investment, and subsidies – to address many of the root causes of failure demand. However, calculating avoidable costs and attributing them to specific policy failures is complex. While some instances are clear-cut, in many cases it is difficult to determine how much of total spending results from late intervention. Moreover, the interventions needed to reduce these costs often take time to yield measurable outcomes, meaning short-term budget cycles can obscure long-term savings.

Despite these challenges, there are tools available to help governments with incorporating avoidable costs analysis into decision-making. In Sweden, Social Investment Funds run by a number of Swedish municipalities are used for preventive initiatives that will lead to lower future costs, with these savings being reinvested back into the funds.[156]

In Australia, the Early Intervention Investment Framework (EIIF), developed by the Victorian Department of Treasury and Finance is leading the way.[157] Introduced in 2021, EIIF is a budgeting tool that helps redirect government investment toward early intervention by requiring departments to estimate the avoided costs of reduced demand for acute services. Supported by Treasury and senior officials, EIIF was designed to foster cultural change, trust, and cross-portfolio collaboration. Programs like Journey to Social Inclusion (J2SI) have demonstrated its potential, showing a 90% reduction in homelessness and a 60% reduction in hospital bed stays among participants.[158]

This tool establishes a systematic way of directing government investment towards early intervention. Where a policy will clearly save the government money down the track through prevention, that policy can be funded by those savings.[159] **In its paper *Banking the Benefits*, CPD recommended that the Commonwealth budget rules be amended so that the costs and savings a policy is likely to generate due to its effect on demand for acute services be included in formal policy costings.**[160] Implementing this recommendation would enable the Commonwealth to build capability in this area and begin to provide analysis for preventative policy.

Essential to avoidable cost analysis is a shift to longer-term thinking. This is uncommon in social policy, which is often driven by short-term political pressures and reactive service needs. However, sectors like infrastructure and defence routinely plan over decades.

Infrastructure Australia is an independent statutory body that provides research, advice, and strategic planning to support the long-term development of nationally significant infrastructure across Australia. It maintains a national infrastructure priority list to guide long-term investment working with different sectors and jurisdictions. Its work is supported by research and forecasting from the Bureau of Infrastructure and Transport Research Economics.[161]

Similarly, the Australian Department of Defence embeds long-term thinking through structured planning processes, including the Defence Strategic Review, Force Structure Plan, and the Integrated Investment Program, which align capability development with strategic risks over 10–30 year horizons.[162]

These examples show that the Australian Government is capable of strategising, funding, and planning for the long term. Utilising long-term investment frameworks, scenario analysis, and institutional coordination – potentially facilitated by an Avoidable Costs Office in Treasury – could shift the focus from crisis response to prevention, resulting in better outcomes and greater public value.

Establishing an Avoidable Costs Unit

We recommend that an Avoidable Costs Unit be established within the Commonwealth Treasury, as well as within each state and territory treasury. The purpose of this unit would be to support more informed, preventative policymaking by developing the capacity to model failure demand and identify avoidable public expenditure as part of the policy development process. This unit could also track the actual savings that result from policies aimed at reducing avoidable costs. This not only ensures programs are effective but will also improve future modelling. The Australian Centre for Evaluation already has some of the capacity required to perform this work.

Similar to the team who administer the Victorian Department of Treasury and Finance's Early Intervention Investment Framework (EIIF), this unit would collaborate with line agencies to quantify avoidable costs associated with proposed policies. It would also play a capacity-building role, helping agencies to embed avoidable cost estimation into their own planning and evaluation processes over time.

The absence of avoidable costs calculations in current policy proposals and budgets partly explains the underfunding of prevention across portfolios. When savings from a policy proposal cannot be calculated and banked in the budget then the proposal is much less likely to be supported.

The centralised model of an Avoidable Costs Unit would ensure rigour and consistency without requiring every department to develop its own specialist capacity in fiscal modelling. It would support agencies to take a long-term view of investment, strengthen the case for preventative approaches, and align budget decision-making more closely with whole-of-government goals, including improved outcomes for communities and better value for public money.

Realising a sustainable future for people, planet and the budget

The case studies presented in this paper show that the current system necessitates significant government spending that could be avoided by considering the causes of harm and addressing them. There are further examples across every government portfolio.

Calls for investment in early intervention and prevention are often met with the response that there is insufficient budget or the intervention is too expensive. In fact, it can be argued that it is the business-as-usual approach to costing policies and making budget decisions that is unaffordable. The fiscal implications of failure demand are set to continue to grow over coming decades if we do not increase the focus on early intervention and prevention.

This paper shows how taking concrete steps towards avoiding the costs associated with failure demand is possible. Going further requires a whole-of-government approach set around shared goals and different ways of working.[163] Governments have many means available to address the causes of failure demand, including deploying policy instruments such as taxes, regulation, investment and subsidies, and there are tools that can help policymakers to analyse avoidable costs and actively use this analysis in decision-making.

By embedding avoidable cost analysis into fiscal decision-making through a dedicated Avoidable Costs Unit, Australia has an opportunity to lift people out of poverty, improve the health of the population and reduce harm to the environment while also improving the fiscal outlook of government budgets.

Maintaining fiscal sustainability is already challenging for Australian governments. If future economic or climate-related shocks are larger or more frequent than historical precedents (as they are likely to be), a fiscal crisis will be on our doorstep. Any government that wants to ensure financial stability needs to commit to the investments needed now to realise a sustainable future for people and planet.

Appendix: Modelling the impacts of child poverty on government budgets

Overview of modelling

This modelling exercise aimed to determine the additional spend in government benefits for those who grew up in poverty in Australia, compared to those who did not grow up in poverty. We extrapolate this modelling to estimate a total annual additional spend for this group in the total budget using population estimates.

Modelling methodology

This analysis uses data from the Household, Income and Labour Dynamics in Australia survey (HILDA) to develop a random effects model with total weekly benefits as the dependent variable, and whether an individual grew up in child poverty as the independent variable. We included a number of control variables to account for certain groups being more likely to receive benefits. These variables were separated into three categories – childhood household-level variables, current individual-level variables, and current household-level variables. In particular, we sought to control for circumstances of the individual as a child, as well as those as an adult, which may impact total benefits received as an adult.

The model was adjusted to ensure multicollinearity did not impact coefficient estimates. The average Variance Inflation Factor for the final model was 3.26, indicating that multicollinearity was not an issue. Variables measuring remoteness, parental education, linguistic diversity, parental mental health, sex, whether the individual grew up in a single-parent household, and whether at least one parent was born overseas were removed due to them not being significant in the model.

Variable derivations

TOTAL BENEFITS

Total benefits were calculated by summing the HILDA variable current weekly Australian public transfers, and the HILDA-derived family benefit variables calculated using the HILDA tax benefit model.[164]

CHILD HOUSEHOLD-LEVEL VARIABLES

Child poverty: Defined as family household income being 50% below the median for a given year between the ages of 0 and 15. Household costs were not taken into account.

Parental stress: Measured using the Parental Distress subscale of the Parental Stress Index. Questions ask parents whether being a parent is harder than they thought, whether they feel worn or exhausted from meeting the needs of their children, whether they feel trapped by their responsibilities as parent, and whether they find that taking care of their child is much more work than pleasure. The scale was calculated through an average of the data items, with those in the top 20th percentile identified as having parental stress.[165] A flag of '1' indicated that either parent was identified as having parental stress when the individual was a child.

Someone in the household identified as having a long-term health condition, disability or impairment: Any family member identified as having disability when the individual was a child.

CURRENT INDIVIDUAL-LEVEL VARIABLES

Age: Age at enumeration as an adult.

Aboriginal and/or Torres Strait Islander: Whether individual identifies as Aboriginal and/or Torres Strait Islander at time of enumeration as an adult.

Current weekly gross wages & salary: Current imputed weekly gross wages and salary for all jobs.

Labour force status: Current labour force status, aggregated into four categories: employed full-time, employed part-time, unemployed, and not in labour force.

Highest level of education: Highest education level achieved, aggregated into five categories: post-graduate, undergraduate, certificate/diploma, year 12 certificate, and did not complete year 12.

CURRENT HOUSEHOLD-LEVEL VARIABLES

Long-term health condition, disability or impairment in household: Whether individual in current household has a long-term health condition, disability or impairment.

Household structure: Current household structure aggregated into five categories: couple without children, couple with children, lone parent, single person household, and living with other family/non-family.

Sample

We restricted our sample to those aged 25 and over (the cut-off for youth allowance), and those who do not live with their parents. Given that the first wave of HILDA commenced in 2001, our sample is further restricted to respondents for whom we have childhood data. This means that the total age range for our sample is 25-35, for which our sample size was 1,798 individuals with 8,943 observations. Given that some variables were missing, the total sample that was included in the modelling was 1,676 individuals with 8,331 observations.

TABLE A1 I Random effects model estimating relationship between total benefits received and whether an individual grew up in poverty

		Total benefits	Notes
Childhood household-level variables	Grew up in child poverty	24.59 (5.359)	***
	One or both parents exhibited parental stress	11.43 (4.407)	***
	Someone in the household identified as having long-term health condition, disability or impairment in household	12.46 (5.257)	**
Current individual-level variables	Age	1.365 (0.636)	**
	Aboriginal and/or Torres Strait Islander	43.40 (10.10)	***
	Current weekly gross wages & salary	-0.0211 (0.00271)	***
	Labour force status		
	Employed part-time	35.31 (4.616)	***
	Unemployed	158.6 (9.028)	***
	Not in labour force	194.4 (6.614)	***
	Highest level of education		
	Postgraduate qualifications	-8.450 (7.016)	
	Undergraduate qualifications	-9.365 (5.948)	
	Certificate/Diploma	3.445 (5.423)	
	Did not complete Year 12	37.32 (7.008)	***
Current household-level variables	Long-term health condition, disability or impairment in household	-18.26 (5.239)	***
	Household structure		
	Couple with children	44.19 (4.727)	***
	Lone parent	398.8 (8.506)	***
	Single person household	4.294 (4.400)	
	Living with other family/non-family	23.83 (8.909)	***
	Constant	-2.652 (18.99)	
Observations		8,331	
Sample size		1,676	

NOTE: *** significant at 1% level ** significant at 5% level * significant at 10% level. Base case is employed full-time, highest level of education is Year 12 certificate, and lives in a couple without children.

TABLE A2 I Payment types that make up additional benefits going to those who grew up in poverty

Payment type	Percentage
Family Tax Benefit Part A	40.60%
Newstart/JobSeeker	25.07%
Carer payment	17.60%
Bonus payments	9.26%
Family Tax Benefit Part B	5.19%
Youth allowance - JobSeeker	3.40%
Partner allowance	1.04%
Single income family supplement	-2.20%

Model output

The modelling illustrates that when examining all benefits, those who grew up in child poverty receive, on average, $24.59 per week more than those who did not grow up in child poverty (when controlling for a range of socio-demographic variables, Table A1). This equates to $1278.68 per year. The payments that make up this amount are largely from Family Tax Benefit A (40.6%), Newstart/Jobseeker (25.07%), and carer payments (17.6%) (see Table A2).[166]

Extrapolating findings to older population groups

This group represents a small proportion of the overall adult population. Given that our sample is restricted to those aged 25-35 (as we need child-reported data of whether an individual grew up in poverty), we needed to assess whether this figure can be extrapolated to those over 35. We firstly assessed the distribution of total benefits by age, and the profile of those receiving benefits for different age groups. If the distribution of benefits received and profile of those receiving benefits was similar for older age groups, then we assumed that the average additional benefits received by those in poverty is similar for older groups than those aged 25-35.

Figure A1 indicates a relatively similar level of total benefits received for those aged 36-59, while Table A3 shows a similar demographic profile for 25-35-year-olds and older age groups (with the exception of age, with this explained simply by the dip observed in Figure A1 from around age 40).

Given this, we make an assumption that the additional benefits received for those who grew up in poverty is similar for those aged 36-59 as for those aged 25-35. Given that the types of benefits received for those aged over 60 varies significantly from those who are working-age, we do not provide an estimate for those over 60.

FIGURE A1 I Average total benefits by age

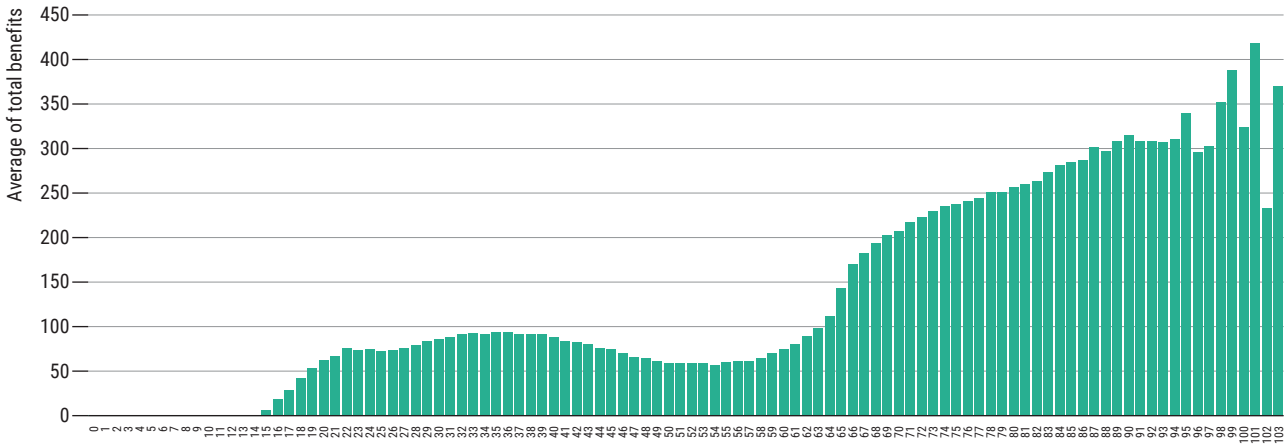


TABLE A3 I Random effects model for older age groups with total benefits received as dependent variable and socio-demographic variables as predictors

Variables		(1) Age 25-35	Notes	(2) Age 36-45	Notes	(3) Age 46-59	Notes
Current individual-level variables	Age	4.035	***	-0.980	***	-0.469	***
		(0.200)		(0.164)		(0.107)	
	Aboriginal and/or Torres Strait Islander	71.15	***	70.13	***	65.29	***
		(4.834)		(6.335)		(6.280)	
	Current weekly gross wages & salary	-0.0173	***	-0.00848	***	-0.00582	***
		(0.00105)		(0.000759)		(0.000635)	
	Labour force status						
	Employed part-time	36.26	***	30.50	***	20.91	***
		(1.712)		(1.570)		(1.274)	
	Unemployed	119.0	***	103.4	***	89.50	***
		(3.046)		(3.051)		(2.567)	
	Not in labour force	131.0	***	109.7	***	93.21	***
		(2.236)		(2.138)		(1.652)	
	Highest level of education						
	Postgraduate qualifications	-19.42	***	-23.86	***	-17.30	***
		(3.601)		(4.290)		(4.167)	
	Undergraduate qualifications	-18.79	***	-23.60	***	-17.86	***
		(2.924)		(4.026)		(4.188)	
	Certificate/Diploma	8.040	***	5.546		3.412	
		(2.627)		(3.426)		(3.445)	
	Did not complete Year 12	28.19	***	12.75	***	10.34	***
		(3.200)		(3.817)		(3.636)	
Current household-level variables	Long-term health condition, disability or impairment in household	-18.52	***	-19.40	***	-17.01	***
		(1.847)		(1.551)		(1.082)	
	Household structure						
	Couple with children	18.28	***	24.26	***	12.24	***
		(1.610)		(2.270)		(1.319)	
	Lone parent	222.5	***	206.6	***	98.28	***
		(2.746)		(2.998)		(2.102)	
	Single person household	7.467	***	15.13	***	34.16	***
		(2.094)		(2.847)		(1.863)	
	Living with other family/non-family	16.02	***	32.64	***	47.69	***
		(3.363)		(5.248)		(3.903)	
	Constant	-65.75	***	86.25	***	59.30	***
		(6.137)		(7.562)		(6.640)	
Observations		50,095		44,681		55,445	
Sample size		9,938		8,055		7,886	

NOTE: *** significant at 1% level ** significant at 5% level * significant at 10% level. Base case is employed full-time, highest level of education is Year 12 certificate, and lives in a couple without children.

Estimating budget costs

Using the data, we can calculate what the overall cost to the budget is for those aged 25 to 59 by calculating the total number of individuals in this age range who grew up in poverty. The HILDA data shows that 17.3% of our sample grew up in poverty, with ABS population data estimating that there were 12,153,051 individuals aged 25-59 in December 2023. This comes to 2,102,478 people aged 25-59 who grew up in poverty. Multiplying this number by the annual average additional spend for children who grew up in poverty ($1278.68) means that there is a $2.68 billion additional spend in benefits for this group.

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