

How Australia can invest in children and return more

A new look at the \$15b cost of late action

Report Partners



Acknowledgements

***How Australia can invest in children and return more* is a project undertaken by a partnership between CoLab – *Collaborate for Kids* (a partnership between Telethon Kids Institute and the Minderoo Foundation), The Front Project, the UK's Early Intervention Foundation, and Woodside Energy.**

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CoLab is a partnership between the Telethon Kids Institute and the Minderoo Foundation. Its mission is to combine evidence with policy and practice to improve the development and learning of children experiencing adversity. CoLab does this by collaborating with families, clinicians, educators, policy makers, practitioners and researchers. It is located within the Telethon Kids Institute.

The Early Intervention Foundation (EIF) was established in 2013. It is an independent UK charity with a mission to ensure effective early intervention is available and used to improve the lives of children and young people at risk of poor outcomes.

The Front Project is an independent national enterprise working to improve quality and create positive change in Australia's early childhood education system. It works with government, business, and the early education sector to improve outcomes for children and in turn increase the short- and long-term gains for Australia.

Minderoo Foundation is a modern philanthropic organisation taking on tough, persistent issues with the potential to drive real social change. Its *Thrive By Five* initiative is focused on partnerships with research institutions, investments at a community level, and engagement with policy makers to help build the case for system-level change so that all Australian kids have the best start to life.

Woodside Energy is an Australian company, operating 6% of global liquefied natural gas supply. Headquartered in Perth, Western Australia, it is the largest Australian natural gas producer. The Woodside Development Fund, launched in 2014, is a 10-year commitment to supporting programs and organisations working to decrease developmental vulnerability and improve outcomes for children aged birth to eight years.

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Statement from the partners

We are a group of organisations from the not-for-profit, research, philanthropy and business sectors. We are aligned around a shared view that children are the foundation of a cohesive society, a strong economy and a prosperous Australia. We have produced a report, the first of its kind in Australia, that highlights the human and economic cost to Australia of late intervention.

We realise there is a new urgency to embrace the potential returns on investment that come with early intervention. We have an ageing population, a declining tax base, increased intergenerational disadvantage and growing social issues in many of our communities.

We hold the view that:

- Every child in every family shapes our nation's future
- A person's wellbeing is influenced by their experiences in childhood and adolescence, so it is important that all children have a good start in life
- Families raise children, but we all have a responsibility to step in when children and their families are experiencing adversity
- Investments in children are investments in human capital and human potential that benefit everyone and lead to intergenerational change.
- No one sector, organisation or initiative can meet the challenge of creating large scale, positive change for all children

We produced this report because Australia needs a solid economic analysis to enable more effective decisions about how to support young Australians. We wanted to raise awareness of the ongoing costs of not investing wisely in children and young people and create momentum to develop a collective plan to achieve lasting change.

What needs to happen

As a partnership and drawing from our experience, we want Australia to commit to action to:

- reduce the number of children needing late intervention, and
- equip all children so they can thrive through a happy, healthy and productive life.

We are asking all Australian government, philanthropic, business and community leaders to:

- Commit to evidence-based early intervention that supports children and builds the capabilities they need to thrive
- Prioritise investment in programs and approaches proven to have successful outcomes
- Support innovation and grow the evidence-base where there are knowledge gaps
- Consider the long-term impacts of funding and investment decisions
- Ensure services and systems are responsive to the needs and priorities of local communities
- Be accountable for delivering impact and changing outcomes for children and young people

The opportunity exists to achieve life-changing results for Australia's children and young people through better, smarter and more effective investments. We can, at the same time, benefit our entire economy and community. We have everything to gain.

Executive Summary

Background

The number of children and young people experiencing serious issues in Australia is alarming and increasing. The purpose of this report is to:

- reveal how much Australian governments spend every year because children and young people have reached crisis point
- highlight the opportunity of earlier and wiser investment in children to improve the lives of young Australians while reducing pressure on government budgets.

Five organisations from the business, philanthropy, not-for-profit and research sectors have come together to identify and explain the human and economic cost to Australia of not stepping in early to support children and young people experiencing difficulties.

We believe there is a missed opportunity to prevent or reduce the severity of the difficulties children and young people are experiencing before they become harder and more expensive to resolve – resulting in children and young people being hospitalised for mental health difficulties, presenting at homelessness services, or entering the child protection system.

We find that Australia spends \$15.2bn every year because children and young people experience serious issues that require crisis services.

Yet the opportunity exists to prevent the suffering of young Australians presenting to these services while, at the same time, reducing pressure on government budgets.

Key Findings



The cost to government of late intervention in Australia is \$15.2bn each year. This equates to \$607 for every Australian, or \$1,912 per child and young person.



Some children and young people are struggling with serious issues

- 124,000 children and young people received support from specialist homelessness service in 2017/18
- 45,000 children were in out-of-home care in 2017/18
- 44,000 days where mental health beds in hospitals were occupied by children and young people in 2016/17



Greatest costs

- Services for children in out-of-home care (39%)
- Police, court and health costs of youth crime (18%)
- Welfare payments for unemployed young people (13%)



Issues likely to drive future budget pressures

1. Youth unemployment
2. Youth hospitalisation for mental health issues
3. Children and young people in out-of-home care

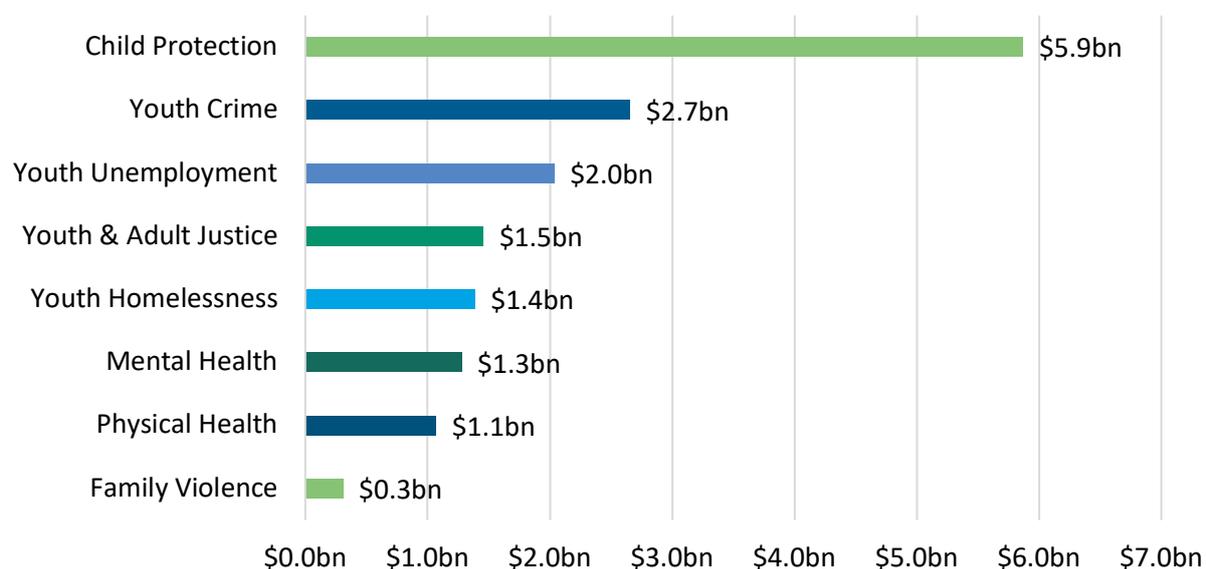


More children and young people are experiencing serious issues in areas with higher social and economic disadvantage, including high unemployment, low education, and less affordable housing

Our analysis was led by the Early Intervention Foundation and replicates their method and approach to measuring the cost of late intervention in the United Kingdom (UK) (EIF, 2015, 2016 & 2018). Our report calculates annual expenditure on the acute, statutory and essential benefits and services provided by government that become necessary once children or young people are experiencing serious issues. It is one of the first national reports that calculates spending by Commonwealth and state and territory governments across multiple issues and portfolios, including health, justice, human services and welfare. Specifically, it focuses on the issues faced by children and young people:

- that result in distress for themselves, their families and their community
- that incur significant costs for the Commonwealth, state and territory governments; and
- where it is clear that, by providing effective support earlier, there is the opportunity to change pathways or outcomes for children and young people.

ANNUAL COST OF LATE INTERVENTION IN AUSTRALIA BY ISSUE (2018-19 PRICES, \$BN)¹



While some issues experienced by children and young people have remained consistent over the last decade, others have seen significant change.

- **Youth unemployment:** the proportion of young people who are unemployed has risen from 9% to 10.5% and, although it has started to fall, this percentage is significantly above the national unemployment rate.
- **Youth hospitalisation for mental health issues:** child and adolescent mental-health-related hospital admissions increased by 25% between 2008-09 and 2014-15, and more recent data continues this upward trend.

¹ This chart presents spending on each issue experienced by children and young people. The total figure of \$15.2bn accounts for double counting.

- **Children and young people in out-of-home care:** the number of children in out-of-home care has increased by 34% over the past 10 years, a significantly faster rate than the 11% growth in the size of the 0-24 years population.
- **Child and youth obesity:** there has been a 17% increase in the obesity rate of children and young people aged 2-17 since 2011-12.

Smart investments in early intervention can make a difference

Supporting children and young people is a social and economic priority. Early intervention can improve the lives of children and young people and strengthen our communities, while reducing pressure on government budgets, enabling more efficient and effective spending, and boosting workforce skills and capabilities.

Stepping in early to provide evidence-based support for children and young people can make a significant difference in children's lives and reduce demand for high-intensity and crisis services over time. Early intervention works by:

- preventing problems occurring in the first place
- tackling problems holistically and assertively when they first arise, before they get more difficult to resolve
- fostering the strengths and skills that ensure children and young people have the best opportunity to thrive and can participate in, and contribute to, their communities.

It is neither possible nor desirable to eliminate all spending on late intervention. There will always be a need, so there must be resources in place to respond effectively and help children and young people overcome challenging times throughout their lives. However, the number of children and young people reaching crisis or significant difficulties demonstrates the system is not preventing issues from escalating, nor adequately responding when they first need help.

The issues that result in children and young people presenting to late intervention services are interlinked, and many have the same root causes. To be successful, early intervention initiatives need to tackle these root causes and work holistically to address all the challenges that children and young people are facing.

Actions to strengthen data and impact

This report shows that targeted and wise investments in evidence-based early intervention can change outcomes for Australian children and young people, while reducing budgetary pressures and ultimately strengthening our economy.

Governments need access to good data and strong evidence to direct investments in ways that deliver real impacts for children and young people, reduce demand for high-intensity and crisis services, and translate into reduced pressure on budgets.

In this report, we have highlighted the value of understanding where Australian governments are spending, and where some of the emerging pressures and challenges lie. The report also provides a baseline analysis of late intervention spending in Australia. However, it also draws attention to the limitations of existing data – particularly the challenge of showing where government investments are flowing and with what impact.

Increasing clarity and transparency around Australia's spending on children and young people across issues, portfolios, and levels of government is pivotal for understanding the right points at which to intervene early, and to assess the effectiveness of current investments. This includes assessing the balance of government investment across prevention, early intervention, and late intervention services. Governments are taking steps to address this challenge, but there is more to be done.

Our key recommendations are to prioritise investment in effective early interventions and accelerate the development of data and evidence needed to make wise, targeted and impactful early investments.

To achieve this, Australia needs to leverage the value of data, grow and link evidence, and apply data-driven decision-making.

Use data and information more effectively

- Create a national early intervention dataset to map pathways and trajectories of children and young people, and an early intervention data strategy to fill data gaps
- Build the capability to track and forecast the impact of investment in early intervention across portfolios and across a child's life
- Increase the value and usefulness of data by making it more accessible to policy makers, researchers, communities and philanthropy.

Actively grow the evidence base

- Establish an investment fund that addresses evidence gaps around effective early intervention for children
- Embed clear requirements for evidence in decision-making across service delivery and report publicly on outcomes.

Strengthen how governments currently make decisions and manage finances, and how they are held accountable

- Build systems and tools that enable cross-portfolio and longer-term impacts and savings to be identified, enable these impacts to be considered in budget processes, and incentivise cross-portfolio investments
- Report spending and outcomes for children and young people across portfolios and levels of government.

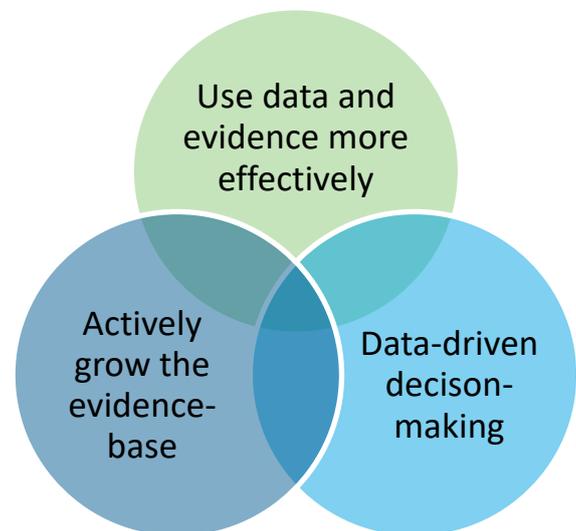


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1. Introduction

The number of children and young people experiencing serious issues in Australia is alarming and increasing. Five organisations from the business, philanthropy, not-for-profit and research sectors have come together to identify and explain the human and economic cost to Australia of not stepping in early to support children and young people experiencing difficulties.

We believe there is a missed opportunity to prevent or reduce the severity of issues children and young people are experiencing before issues become harder and more expensive to resolve – and children and young people are hospitalised for mental health difficulties, present at a homelessness service, or enter the child protection system.

Our analysis reveals that the total cost of services for children and young people experiencing serious issues is \$15.2bn every year. Yet the opportunity exists to prevent the suffering of young Australians presenting to these services while, at the same time, reducing pressure on government budgets.

Research shows that it is possible to reduce the number of children and young people who experience serious issues, reach crisis point, and need expensive, high-intensity services. Governments and communities can step in early to prevent issues or tackle them head-on before they get worse. To do this effectively, they need to be guided by data on the children and areas that most need support, and by rigorous evidence about what makes a difference, so they can make smart investment decisions.

The contribution of this report

This report highlights how much Australia is spending on late intervention, in order to demonstrate the considerable social and economic opportunities of improving the way we provide support to children and young people.

Issues facing children and young people included in the analysis

- **Mental health** – includes a range of mental health services, such as mental health care plans, specialised mental health services, hospital admissions, alcohol- and drug-related hospital admissions, and mental-health-related prescriptions.
- **Youth homelessness** – includes homelessness services and indirect costs, including police, court and health.
- **Physical health** – includes potentially preventable hospitalisations for issues such as asthma, diabetes complications, and dental issues, and obesity and child injury costs.
- **Family violence** – includes only the costs directly related to children and young people in relation to police and justice costs, education and child protection.
- **Justice** – includes youth justice costs for detention, community-based support and justice conferencing, and detention and community support costs for young adults aged 12-24.
- **Unemployed young people** – includes Youth Allowance (Other), Newstart Allowance, Commonwealth Rent Assistance, and Special Benefit.
- **Youth crime** – includes hospital, court and police costs associated with youth offenders.
- **Child protection** – includes out-of-home care, intensive family support services, and family support services funded by child protection departments.

See Appendix A for a detailed outline of the specific elements, including data sources and assumptions.

Late intervention refers to the acute, statutory and essential benefits and services provided by government that become necessary once children or young people are experiencing significant and serious issues or crises.

Although it is neither possible nor desirable to eliminate all late intervention expenditure, it is very clear there are better options than generating significant costs by not supporting children and young people when they first need help.

We have calculated annual expenditure on the acute, statutory and essential benefits and services provided by government that become necessary once children or young people are experiencing significant and serious issues or crises.

Our focus was on the issues faced by children and young people where:

- there is distress and harm to themselves and/or the community
- there are significant government costs
- it is clear earlier intervention could change their pathways or outcomes.

Adapting a similar approach to the UK, this is one of the first national reports on spending across multiple issues and areas of government expenditure in Australia. While other reports look at spending in particular areas or on specific issues, we cover multiple areas of children and young people's wellbeing across the portfolios of health, justice, police, human services and welfare.

The report provides a baseline analysis of late intervention spending in Australia and highlights the opportunity to improve outcomes for children while reducing financial pressures on governments. Shifting from a focus on meeting the overwhelming demand for late intervention services to a significant reduction in demand over the next 10-20 years will require governments to work differently – with a comprehensive and coordinated long-term vision for transitioning to a system focused on early rather than late intervention. This report did not set out to outline the roadmap for this generational change, but to highlight the imperative for action.

The report uses publicly available Australian data to calculate annual government expenditure on late intervention services for children and young people aged 0-24. It provides a conservative estimate because:

- costs are only included where reliable and robust data sources are available
- only direct spending by government is included, not the wider social and economic costs of the issues experienced by children and young people
- only the costs incurred during childhood and adolescence are shown, with no modelling of the lifetime costs associated with many of the issues highlighted
- where assumptions have been made, they have been in the lower boundary to avoid overestimation.

The analysis calculates spending on each issue in isolation. The limitations of publicly available data mean it is not possible to calculate the number of children and young people using multiple services.

Report structure

The report outlines the methodology and approach to the analysis, steps out the findings, and outlines key conclusions and actions.

- **Introduction:** background and context
- **The case for early intervention:** defining early and late intervention
- **Methodology and approach:** scope, data sources, method and caveats
- **Spending on late intervention in Australia:** total spend on late intervention and analysis of the distribution of expenditure across issues, departments, and between the Commonwealth and states and territories
- **Trends over time:** analysis of changes in prevalence over time for selected issues
- **Variations between states and territories:** overview of different patterns and drivers of expenditure between states and territories
- **Conclusion and actions:** highlighting the importance of realising the value of data and evidence and embedding them in government decision-making
- **Appendix A:** detailed account of the methodology for calculating each issue.

2. The case for early intervention

Early intervention prevents problems occurring or tackles them head-on before they are more difficult to resolve. It can foster personal strengths and skills in children and young people so they have the best opportunity to thrive, be prepared for adult life, and participate in and contribute to their communities (EIF, 2019).

Early intervention is powerful because what happens during childhood and adolescence builds the foundation for life outcomes. Research shows that early experiences strongly influence people's health and wellbeing, education, social participation and inclusion, peer and family relationships, and civic and economic engagement (Irwin, Siddiqi & Hertzman, 2007; Frances, Conti & Heckman, 2014).

Failing to intervene at an early stage can mean these problems disrupt development and become more serious, damaging and difficult to address. This increases the likelihood that expensive late intervention services will be needed (EIF, 2018; Fox et al., 2015; House of Commons Science and Technology Committee, 2018; Moore et al., 2017; Baldry, 2012). Currently, support is not available to all children and young people when difficulties arise, and too many present to late intervention services as a result.

Early intervention can take many forms. It might involve:

- specialist support for a child around language development, or to help them manage emotions and behaviour following trauma or at the onset of depression and anxiety
- intensive, wrap-around services to prevent a family from becoming homeless or to prevent children from entering out-of-home care
- supporting a young person to build their confidence, friendships and positive relationships with trusted adults.

Early intervention matters for children, families, the community, government and the economy

Improving the effectiveness of support provided to children and young people facing difficulties is a social and an economic priority. Early intervention benefits children and young people, their families and communities, government and the economy.

- **Early intervention can improve children and young people's lives and strengthens our communities.** Poor mental health, learning challenges, anger and violence in the home, and disengagement from school cause huge levels of distress and suffering to many children and young people, as well as to their families and communities. Preventing emerging difficulties or responding to them early with well-evidenced support and services can prevent this.
- **Early intervention can reduce pressure on government budgets and enable more efficient and effective spending.** Effective early intervention requires investment up-front that can, over time, reduce demand and restrict growth in expensive tertiary services.
- **Early intervention can boost workforce skills and capabilities and build the economy.** A competitive economy and prosperous society require a skilled, capable and confident workforce. Australia cannot afford to lose the skills and talents of whole segments of our community by failing to provide children and young people with the support they need to achieve their full potential.

Investing in early intervention does not mean late intervention services will no longer be needed. There will always be a need for high-intensity and crisis services for some children and young people.

However, preventing or tackling problems early will reduce the number of children and young people experiencing challenges, and the severity of issues for some of those that do. It will help to stem the growth in the number of children experiencing difficulties and reduce demand for late intervention services over time.

In turn, this will allow for better management of existing pressures and demands on services, more effective responses, and for frontline practitioners to focus on the most vital and high-impact work (EIF, 2018). Early intervention does not necessarily deliver immediate service use reductions or short-term savings; its impacts are seen over time.

We know a lot about what makes a difference

There is strong and consistent evidence about:

- the types of experiences and environments that support positive, healthy development for children and young people (including stable housing, warm and responsive parenting, engagement and a sense of belonging at school)
- the risk factors that threaten their development and increase the likelihood of poorer adult outcomes (including abuse, neglect, trauma, harsh parenting, poor peer relationships) (Toumbourou et al., 2014).

We also know that many of these factors are malleable and can be changed, with protective factors often providing a counterbalance for potential risks. For example, research shows:

- a strong home learning environment reduces the impact of poverty on children’s school achievement
- parental mental health and wellbeing can be a protective factor for behavioural problems or struggling at school

good early language and social and emotional skills predict achievement and belonging at school (Comerford, 2015; EIF, 2018).

However, research also shows that for many children and young people, risk factors are multiple and cumulative, and it is the snowball effect of multiple challenges and traumas that often escalate to serious issues like homelessness, crime or hospitalisation for mental health (Toumbourou, Hall, Varco & Leung, 2014). For example, poverty, crime, disengagement from education and substance abuse are all correlated (Hancock & Zubrick, 2015), as are family violence, homelessness and child protection issues (CFCA, 2017; AIHW, 2012; Johnstone & Gibson, 2010).

To be successful, early intervention initiatives need to tackle the root causes of these issues and work holistically to address all the challenges that children and young people are facing.

“It always comes back to the question: do we know [if early intervention] works? We know that if you deliver high-quality services to people who need them—the right features of quality, delivered at the right time—they can be transformative in most circumstances [...] the question is not whether it works; the question is when it works and how to make it work more.”

Professor Leon Feinstein, Director of Evidence, Office of the Children’s Commissioner (UK)

Several highly effective, proven programs are making a lasting difference, including the Australian programs referenced below. They have been rigorously evaluated and shown to have substantial and sustained impacts on important physical, cognitive, behavioural, and social and emotional outcomes for children and young people (EIF, 2019; WSIPP, 2019).

Yet while we know a significant amount, there are gaps in the Australian evidence base and in our understanding of how to deliver effective models and practices at scale, for all children and young people who would benefit. We are still learning about which strategies or combinations of supports are the most effective, available, accessible and appropriate at the point they are most needed. This is why any commitment to improving outcomes for children and young people by increasing our focus on early intervention must be accompanied by a commitment to growing the evidence base on what works.

Place-based approaches that engage with communities in designing and delivering services and respond flexibly to local needs are among the most promising approaches (Moore, 2015; Moore et al, 2014).

Australian evidence on effective approaches

- **Early childhood education:** two recent Australian studies have demonstrated the impact of high-quality early childhood education. A PwC report, commissioned by The Front Project, has demonstrated that Australian universal early childhood education programs produce a return on investment of 1:2, and deliver \$4.75bn of benefits to children, families, government and business (PwC, 2019). A study of an intensive, high-quality early childhood educating program for highly vulnerable children found significant impacts on children's cognitive and social and emotional skills. The study found a 7 point increase in IQ, a 5 point increase in resilience, and a 30% decrease in clinically-significant social and emotional issues – which put this highly disadvantaged cohort nearly in line with population norms (Tseng et al, 2019).
- **Sustained nurse home visiting:** a 2019 Australian study found that mothers experiencing adversity benefit from increasing the number of visits from maternal and child health nurses. Researchers found that when the children turned two, they had more regular bed times, safer home environments, and more opportunities to learn, and experienced warmer and less hostile parenting (Goldfeld et al, 2019).
- **Justice reinvestment:** the Maranguka Justice Reinvestment project, in Bourke NSW, works with the community to reduce offending and reoffending. For children and young people, the initiative has achieved a 31% increase in Year 12 student retention rates and a 38% reduction in charges across the top five juvenile offence categories (KPMG, 2018).

3. Methodology and approach

For this report, we have used the methodology established by the EIF for estimating expenditure on late intervention in the United Kingdom (ref). The model has been adapted for an Australian context, including consideration of the distribution of spending and service delivery between the Commonwealth and states and territories, and accounting for differences in data availability.

The figures we produced represent the annual short-run fiscal cost of late intervention.

- **Short-run costs:** generally incurred during childhood or early adulthood. We included costs incurred by children and young people aged 0-24, with 25 being the age by which most additional government support provided on the transition into adulthood is typically withdrawn.
- **Fiscal costs:** financial costs incurred by the government, whether paid for at state and territory or Commonwealth level.
- **Late intervention:** costs incurred in dealing with issues that are potentially preventable through early action.

Scope and data sources

The report examines nine key issues experienced by children and young people. We identified the areas of expenditure in consultation with stakeholders following a data and evidence review. The issues are those for which public, reliable and recent Australian data on prevalence and expenditure is available, and where robust and defensible assumptions could be made (see Appendix A for sourcing details).

The issues covered, and the categories of expenditure included, are outlined in Table 1. For some issues, the categories of expenditure reflect problems with data availability and it is likely not all are included. Some data was not accessible, up-to-date, broken down by age or by state and territory, or was not nationally consistent. We did not include this data in the analysis. It was not possible to consistently disaggregate and report the data by geography (urban, regional or remote) or by demographics (socio-economic status, cultural background or Aboriginal and Torres Strait Islander – see the case study). While incidence rates were reported with this granularity in some collections, spending generally was not.

TABLE 1: ISSUES AND CATEGORIES OF EXPENDITURE INCLUDED

Issue	Categories of expenditure included
Child Protection	Protective intervention services Out-of-home care services Intensive family support services Family support services
Youth Justice (10-17 years)	Detention-based youth justice services Community-based youth justice services Group youth justice conferencing
Adult Justice (18-24 years)	Detention/incarceration Community support
Youth unemployment	Youth Allowance (Other) Newstart Allowance Commonwealth Rent Assistance Special Benefit
Youth Homelessness	Health (Primary Care) Health (Secondary Care) Police

	Courts Homelessness Services
Family Violence	Youth crime – policing and justice Child education Child protection
Youth Crime	Health Courts Police
Physical Health	Potentially preventable hospitalisations Obesity – Prescriptions Obesity – Healthcare Child Injury
Mental Health and Substance Misuse	Pharmaceutical Benefits Scheme (PBS) – mental health prescriptions Specialised mental health care services Non-specialised hospital admissions Medicare Benefits Schedule (MBS) – mental health services Alcohol-related hospital admissions Drug-related hospital admissions

Similarly, some important issues facing children and young people are not included because there is no appropriate data available. For example, in the UK analysis, exclusion or persistent absence from school is a significant area of expenditure, but there is no Australian data on rates of persistent truancy, exclusions and disengagement; the programs that address this and their cost; or the wider social costs such as youth crime associated with disengagement from school.

This significant data gap urgently needs to be addressed so we can understand the full impact of educational failure on schools and wider government resourcing (PC, 2016). Interestingly, despite these data limitations, late intervention spending is reported more comprehensively than early intervention spending (for which this kind of analysis would not be possible).

Methodology

Appendix A provides a detailed account of the methodology used for estimating the costs of each item, including an outline of all data sources, calculations and assumptions.

Data sources: the report draws on a range of publicly available data sources. Where possible, we have relied on nationally recognised datasets on spending and incidence, including the Productivity Commission’s Report on Government Services (RoGS) and publications from the Australian Institute of Health and Welfare (AIHW).² Where this has not been possible, we have used academic reports and publications and reports from reputable organisations.

Data availability: we have used mostly 2017/18 figures. Where this was not available, we have used the most recent figures and made no attempt to project likely growth over time.

Peer review: Our data analysis was peer reviewed by relevant experts in each field. They advised on the appropriateness of the data sources, any caveats and limitations, the assumptions, the availability of alternative or complementary data sources, and the accuracy of our calculations.

² More detail on specific RoGS and AIHW collections is outlined in the appendix, noting that each collection includes additional statements on data quality and limitations.

Case Study: 2017 Indigenous Expenditure Report (PC, 2017)

The Productivity Commission's *Indigenous Expenditure Report 2017* aims to provide governments with a better understanding of the level and patterns of expenditure on services which support Indigenous Australians. Its focus is on-the-ground services in areas such as education, justice, health, housing, community services, and employment, and it is intended to track change over time.

The report identifies spending across more than 150 expenditure categories, and includes direct expenditure on Indigenous-specific programs and mainstream expenditure by share of the population.

However, the report highlights limitations in fully understanding patterns of expenditure and identifies data quality and methodological challenges that are yet to be resolved. It notes that estimates are influenced by the quality of the data, by how well the expenditure aligns with government cost centres and administrative portfolios, and by inconsistencies in how expenditure is categorised between the states and territories.

The report was also not able to link spending with outcomes for Indigenous people, or to track the relationships between expenditure, portfolios and outcomes. The report notes that in order to align spending and outcome, it would be necessary to consider how:

- expenditure in one year may take many years to show its impact on individuals or group
- expenditure in one area can influence multiple outcomes (for example, expenditure on education may influence outcomes in employment, economic sustainability and health)
- expenditure from multiple areas can influence a single outcome (for example, improvements in housing, water supply and sanitation may influence health outcomes).

Measuring costs: in general, we used two methods to calculate the cost of late intervention.

- **Reported spending:** where reliable data was available on the actual spending reported by government on late intervention services, this was our preferred approach.
- **Unit cost:** this approach required combining estimates of the average cost of providing a service per incidence with data on the total number of service users. For instance, to calculate the cost of hospital admissions, estimates typically combine assumptions on the number of children and young people being hospitalised for a particular condition, the average length of hospitalisation for that condition, and the cost per hospital stay.

Current prices: all costs were converted to 2018/19 prices to allow for comparison of expenditure on a consistent basis.

Double-counting: several cost items had overlapping fiscal impacts. For example, the costs associated with youth homelessness have overlapping impacts with youth crime and criminal justice. As these crime costs were also captured under the total costs associated with youth crime and policing, we excluded them when adding up the total costs to Australia, to avoid double-counting.

Caveats: the combined figures for total spending represent a conservative estimate of the total costs of late intervention spending in Australia.

- Costs incurred later in adulthood that could have been mediated in childhood were not included. Although there are well-evidenced links between the failure to intervene in childhood and sustained later-life costs in the justice system, health and other services, it is challenging to definitively attribute links between these downstream impacts and any missed early intervention opportunities.
- Cost items were only included where there was reliable and robust data on service use and spending. We identified several significant evidence gaps, particularly on issues such as education spending, where we could not find reliable data on how much states and territories spend on supporting children to remain in education, and teaching children who are excluded from mainstream education settings.
- Figures reflect only government fiscal costs. There are many wider social and economic consequences, such as lower school attainment, adverse labour market outcomes, and adverse wellbeing impacts from poor health outcomes. If these were quantified, they would significantly increase the overall costs of not intervening. We made a strategic decision to focus on the most immediate direct impacts to the funders of services.
- Where there is uncertainty around the assumptions we used, we consistently erred on the side of caution to avoid overestimation. Reliable data on the plausible ranges for all inputs was not available, so we could not indicate what the upper bound costs might be.

It should also be noted that the calculations of current spending do not represent an estimate of the total amount that can be feasibly saved. Cutting the incidence of some negative social outcomes by a certain fraction will not lead to a direct reduction in costs by the same amount, although there is a clear opportunity to make generational investments that reduce demand for crisis services and deliver substantial savings.

4. Spending on late intervention in Australia

This section presents the key findings from the analysis, covering:

- total spending on late intervention
- spending by the issues experienced by children and young people
- spending by area of government (portfolio or department)
- spending by level of government (Commonwealth and state and territory).

The largest areas of spending are for services for children involved in child protection, policing and courts, health costs associated with youth crime, and welfare payments for young people disengaged from the workforce. While child protection accounts for nearly 40% of the total cost of late intervention, there is significant spending on other issues, such as preventable health issues (\$1.1bn per year), youth mental health (\$1.3bn), and youth homelessness (\$1.4bn per year).

Australia spends \$15.2bn on late intervention each year

The results of our analysis show Australia spends \$15.2bn a year on late intervention. This is equivalent to \$607 for every person in Australia, or \$1,912 per child or young person.

In 2018-19, government spent a total of \$235bn on social services for the whole population, with children and young people aged 0-17 making up 22% of the total population and 6.4% of the total expenditure on social services (ABS, 2018; ROGS, 2019).

The issues that cost the most are child protection, youth crime, and unemployed youth

Figure 1 shows total spending by each of the nine issue areas identified. The largest spending areas include: child protection; youth crime (including police and court costs); and 16-24-year-olds who are unemployed.

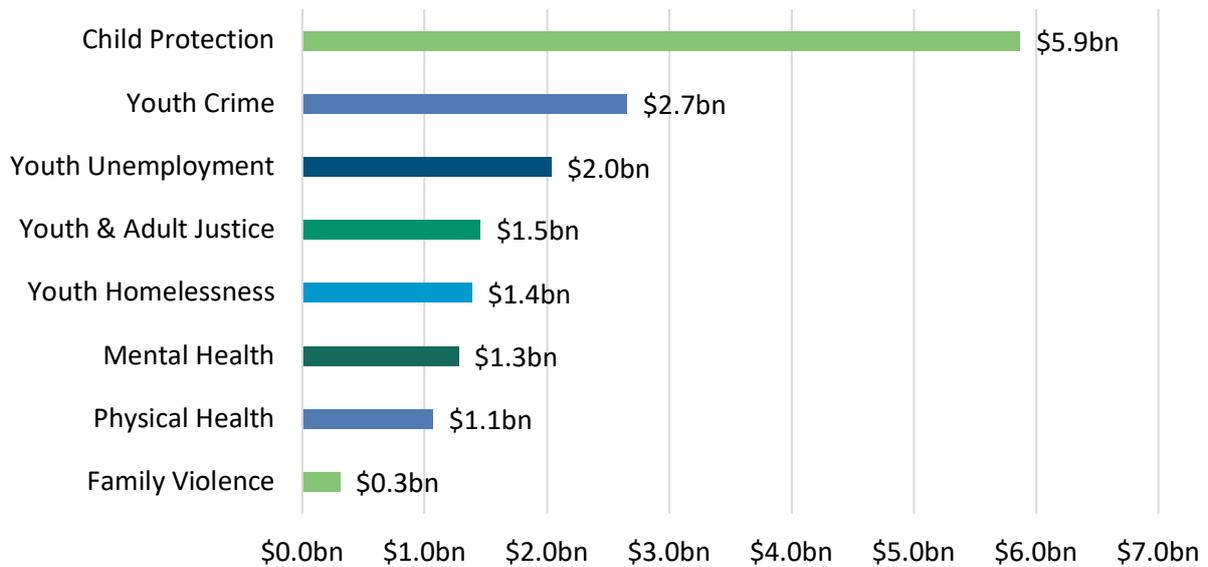
Spending on these issues is:

- \$5.9bn (39%) on child protection
- \$2.7bn (18%) on youth crime
- \$2bn (13%) on youth unemployment.

Family violence costs are the lowest area of spending, at around \$300m per year, although we have only included a very narrow set of costs related to children and young people who are directly exposed to family violence.³

³ The full government costs will be much larger than this, when taking into account the adult-related costs to police services and the justice system, health spending, and increases in benefits expenditure. Our analysis shows this could be in the region of \$2.2bn per annum. See Appendix 1 for the full methodology.

FIGURE 1: ANNUAL COST OF LATE INTERVENTION IN AUSTRALIA BY ISSUE (2018-19 PRICES, \$BN)⁴



Departments of child safety, health and justice carry the largest costs

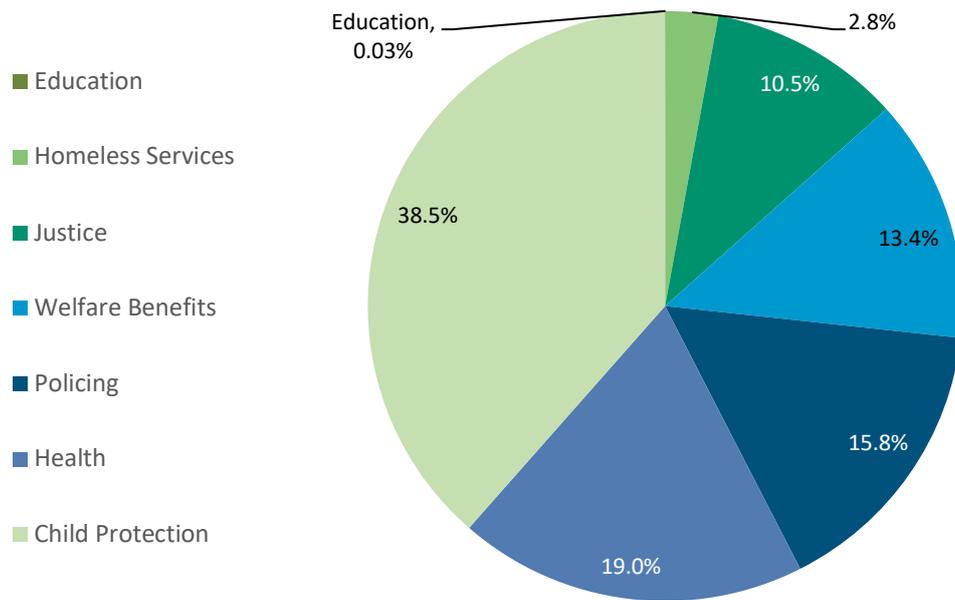
Figure 2 shows the cost of late intervention by the portfolio, department or area of government affected. As you would expect, nearly three quarters of the expenditure is borne by child protection, police and welfare, reflecting the high-cost issues of child protection, youth crime and justice, and youth unemployment.⁵

Interestingly, physical and mental health account for 13.8% of the total spend, but because so many of the issues experienced by children and young people have health impacts, 19% of the total costs are carried by health departments. This highlights the fact that the costs of the issues experienced by children and young people are shared across portfolios.

⁴ Totals not adjusted for double counting. Based on EIF calculations of the estimated cost of late intervention by issue. See annex for details on the methodology and underlying sources

⁵ Education costs are shown to be relatively insignificant but, as noted previously, this reflects a lack of publicly available data on the number of children persistently absent or excluded from school, and expenditure on addressing these issues.

FIGURE 2: COST OF LATE INTERVENTION IN AUSTRALIA BY AREA OF GOVERNMENT (2018-19 PRICES, \$BN)⁶



Late intervention costs are shared across departments

Table 2 breaks down the total spending further, subdividing each issue by the area of government responsible for the expenditure. Some costs are borne directly by one department, while others are spread across multiple departments.

- **The youth homelessness spend (nearly \$1.4bn)** comprises \$428m of health costs; \$174m of justice costs; \$352m of police costs; and \$432m of homelessness service costs.
- **The youth crime spend (\$2.65bn)** comprises \$114m of health costs; \$141m of justice costs; and \$2,400m in policing costs.⁷

The fact that one issue experienced by children or young people generates costs across departments is unsurprising, but this is not currently reflected or fully accounted for in the way government tracks spending or makes decisions about where to invest and where savings are likely to be realised. Similarly, effective early intervention often has benefits across different areas of a child’s life – and generates savings to multiple departments. The agency investing early to improve outcomes will not be the only one to directly benefit from a reduction in service demand.

Currently, it is difficult to account for how investments in early intervention are realised by multiple departments. These mis-alignments create disincentives to invest in early intervention, as the costs and savings are not fully accounted for. This means decisions need to be taken with a focus on the collective benefits that can be achieved, not just the savings that accrue to those making the spending decision.

⁶ Based on EIF calculations of the estimated late intervention cost by area of government. See annex for details on the methodology and underlying sources.

⁷ This analysis only accounts for some of the immediate service delivery costs associated with the issues experienced by children and young people, where data is available. It does not include the health impacts of unemployment, or the longer-term mental health costs of young people who have experienced trauma, for example.

TABLE 2: GOVERNMENT SPENDING ON ISSUES EXPERIENCED BY CHILDREN AND YOUNG PEOPLE BY AREA OF GOVERNMENT (2017-18 PRICES, \$M)

	Health	Justice	Policing	Education	Child Protection	Community	Welfare	Total
Child Protection					\$5,870 (37%)			\$5,870 (37%)
Youth Justice (10-17)		\$847 (5%)						\$847 (5%)
Adult Justice (18-24)		\$609 (4%)						\$609 (4%)
Young People NEET							\$2,034 (13%)	\$2,034 (13%)
Youth Homelessness	\$428 (3%)	\$174 (1%)	\$352 (2%)			\$433 (3%)		\$1,386 (9%)
Family violence		\$110 (0.7%)	\$110 (0.7%)	\$5 (0.0%)	\$82 (0.5%)			\$307 (2%)
Youth Crime	\$114 (0.7%)	\$141 (0.9%)	\$2,400 (15%)					\$2,655 (17%)
Physical Health	\$1,069 (7%)							\$1,069 (7%)
Mental Health & Substance Misuse	\$1,278 (8%)							\$1,278 (8%)
TOTAL SPEND (Inc. double-counting)	\$2,888 (18%)	\$1,882 (12%)	\$2,862 (18%)	\$5 (0.0%)	\$5,952 (37%)	\$433 (3%)	\$2,034 (13%)	\$16,055 (100%)
<i>Double-counting of costs</i>	<i>\$0</i>	<i>\$284,053</i>	<i>\$461,643</i>	<i>\$0</i>	<i>\$82,304</i>	<i>\$0</i>	<i>\$0</i>	<i>\$828,000</i>
NET TOTAL	\$2,888 (19%)	\$1,598 (10%)	\$2,400 (16%)	\$5 (0.0%)	\$5,870 (39%)	\$433 (3%)	\$2,034 (13%)	\$15,227 (100%)

The states and territories cover most of the cost

The figures are also divided into whether states and territories are responsible for the costs of service delivery or whether they are funded directly by the Commonwealth.⁸ Table 3 and Figure 3 show where these costs fall.

- **Direct Commonwealth expenditure:** welfare benefit expenditure and certain aspects of healthcare expenditure, particularly spending through the Medicare Benefits Schedule (MBS) and Pharmaceutical Benefits Scheme (PBS).
- **Direct state and territory expenditure:** child protection, justice and police, homelessness services, hospitals and acute health services, education and community services.

Across all areas of spending, the majority of costs are borne by the states and territories, given their primary responsibility for service delivery. The exception is for welfare benefits, where the full cost is borne by the Commonwealth.

TABLE 3: DIRECT SPENDING BY LEVEL OF GOVERNMENT (\$BN)⁹

Area of Spend	State & Territory	Commonwealth	Total
Health	\$2,232,854	\$655,334	\$2,888,188
Justice (youth and adult)	\$1,597,558	\$0	\$1,597,558
Policing	\$2,399,892	\$0	\$2,399,892
Education	\$4,958	\$0	\$4,958
Child Protection	\$5,869,547	\$0	\$5,869,547
Community	\$432,736	\$0	\$432,736
Welfare	\$0	\$2,034,479	\$2,034,479
TOTAL	\$12,537,545	\$2,689,812	\$15,227,358

⁸ State and territory funding comes via the Commonwealth, through specific purpose payments (the largest being for health and education) and general revenue assistance (GST revenue distributed by the Commonwealth Grants Commission) (Budget Review, 2012-13). It is described in this report as state and territory funding (consistent with the Productivity Commission approach in the Indigenous Expenditure Report 2017, for example).

⁹ Based on EIF calculations of the estimated late intervention. See annex for details on the methodology and underlying sources.

FIGURE 3: DIRECT SPENDING BY LEVEL OF GOVERNMENT¹⁰



The proportion of late intervention spending borne directly by the Commonwealth varies slightly between states, largely driven by rates of youth unemployment and the proportion of children and young people in youth justice and child protection systems.

¹⁰ Based on EIF calculations of the estimated direct spending by level of government. See annex for details on the methodology and underlying sources.

5. Trends over time

This section shows the ten-year trends for key issues experienced by children and young people, where comparable data was available, and highlights consistency in some areas of late intervention spending and significant variation in others.

- **Youth unemployment:** the proportion of unemployed young people has risen from 9% to 10.5%, and although it has since started to fall, it is still significantly above the national unemployment rate.
- **Youth hospitalisation for mental health issues:** child and adolescent mental-health-related hospital admissions increased by 25% between 2008-09 and 2014-15, and more recent data continues this upward trend.
- **Children and young people in out-of-home care:** the number children in out-of-home care has risen 34% over the past 10 years – a significantly faster rate than the 11% growth in the size of the 0-24-years population.
- **Child and youth obesity:** there has been a 17% increase in the obesity rate for children and young people aged 2-17 since 2011-12.

Scope of the analysis

Our report provides a baseline figure for total annual expenditure on late intervention. We have not attempted to estimate changes in spending over time. Rather, we present data from the last decade for selected issues experienced by children and young people that highlight some future trends likely to generate additional pressure for government budgets.

Understanding these trends in spending and outcomes will enable government to identify whether its policy settings and investments are improving the lives of children and young people, reducing demand for crisis services, and reducing budgetary pressures, or if alternative approaches and investments are needed. Yet limitations in the publicly available data mean it is very challenging to map spending changes and to understand causes of and reasons for change.¹¹ Tackling this information gap should be a priority for governments.

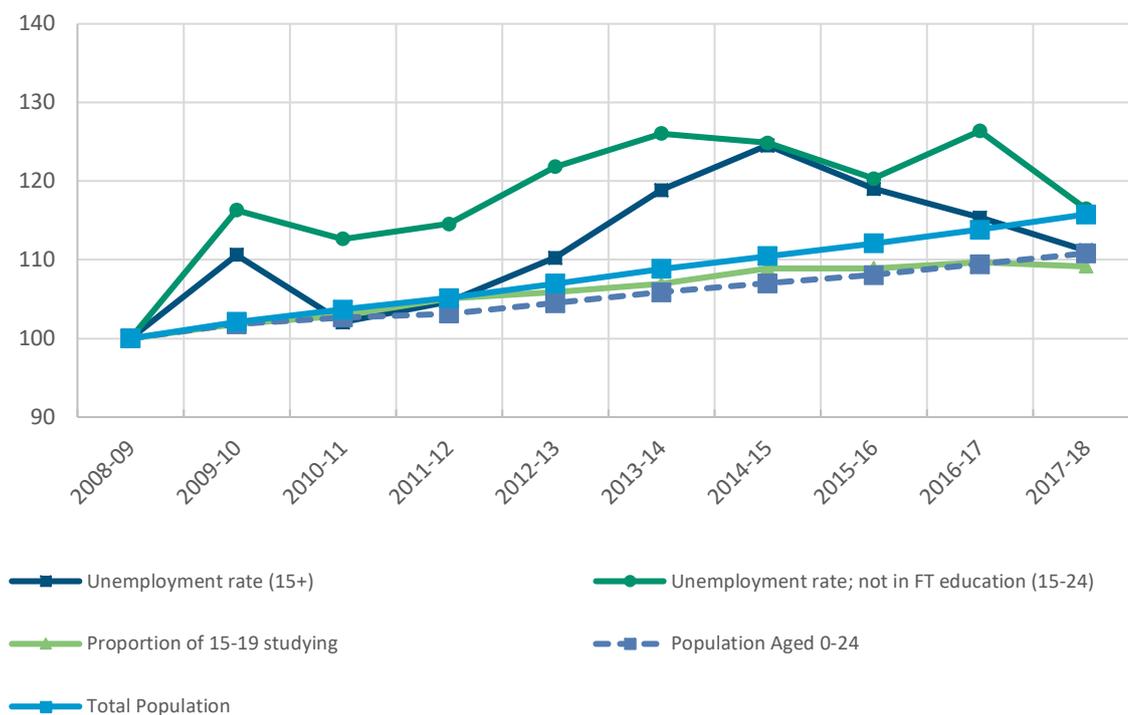
The analysis highlights four key areas of spending where comparable data is available – youth unemployment, child protection, health and mental health, and youth justice. It also indicates changes in prevalence rates over the last decade.¹² We have standardised all figures in the charts to allow for comparing trends (i.e. for each series, the initial starting value is set to 100 and the preceding data compares how the figures have moved relative to this baseline).¹³

¹¹ There are a number of underlying drivers of late intervention spending. Real changes in the proportion of children presenting at crisis services (over and above population growth) can be influenced by government through policy and investment decisions, as well as broader social and economic conditions. Changes in demographics (i.e. changes in the birth rate population share of children and young people) can also impact total spending.

¹² This only includes a limited number of measures to provide an overview of indicative trends and is not intended to provide a complete picture of the variation in spend over time.

¹³ Charts based on our own calculations, based on the underlying data sources referenced and used elsewhere in this report.

FIGURE 4: TEN-YEAR TREND EMPLOYMENT AND DEMOGRAPHICS (INDEX 2008-09 = 100)¹⁴



- Youth unemployment:** there has been an upward trend in youth unemployment since 2008-09. The proportion of young people unemployed and not in full time education was 10.5% in 2017-18, higher than in 2008-09, where it was 9%. Youth unemployment figures have been volatile in recent years, peaking at 11.4% in 2016-17 before falling back again, although remaining higher than they were a decade ago. Youth unemployment rates have traditionally moved in line with the national rate, but in the past five years, they have remained high, while the national rate has dropped significantly.¹⁵ The national data masks substantial state and regional variation (Brotherhood of St Laurence, 2018).¹⁶
- Population growth:** there has been a slight trend upwards in the size of the 0-24-year-old population in Australia, growing by around 11% since June 2007. The growth in the size of the youth population will put upward pressure on late intervention costs across all categories of spending.

¹⁴ Population estimates as at June (ABS, 2019). Based on EIF calculations of the ten-year trend in employment and demographics. See annex for details on the methodology and underlying sources.

¹⁵ This appears to reflect changes in the number of unemployed young people (not shown), rather than simply changes in the composition of unemployed young people looking for work due to steady increases in the proportion of young people in full-time education.

¹⁶ At a regional level, there is a pattern of youth unemployment rates in outer suburbs and rural areas being disproportionately high due to a variety of factors, including higher numbers of early school leavers, slowdown in manufacturing and mining industry and low labour mobility (Brotherhood of St Laurence, 2018; Financial Review, 2017)

FIGURE 5: TEN-YEAR TREND CHILD PROTECTION (INDEX 2008-09 = 100)¹⁷

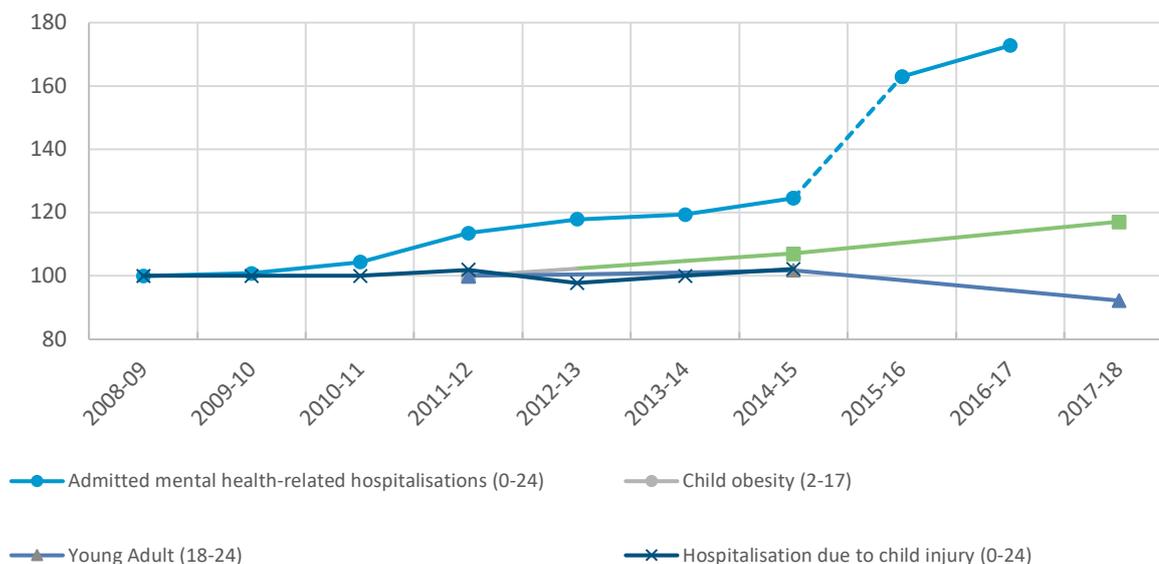


- More children in child protection:** the number of children in out-of-home care and under care and protection orders has increased at similar rates, by 34% and 59% over the past 10 years respectively. This is below the growth in real spend, but a significantly faster rate than growth in the 0-24-year-old population, which has grown by 11% in the same timeframe.
- Spending increases:** real expenditure on all child protection services (excluding family support services¹⁸) increased by 77% in real terms from 2008/09 to 2017/18. It is challenging to disentangle how much of this increase can be attributed to overall growth in the number of children in out-of-home care and the effects of policy decisions.
- Investment in family support:** in contrast, the number of children receiving intensive family support services (which primarily aim to prevent imminent separation of children from their families) more than doubled between 2008/9 and 2017/18. This is likely to increase short-term costs but lead to fewer children and reduced costs for out-of-home care over time.

¹⁷ No. children in the child protection system as at 30 June; expenditure on children in care excluding family support services (real prices) (RoGS, ABS). Based on EIF calculations of the estimated ten-year trends in child protection. See annex for details on the methodology and underlying sources.

¹⁸ Support service expenditure is excluded as no comparable national level data exists over the period.

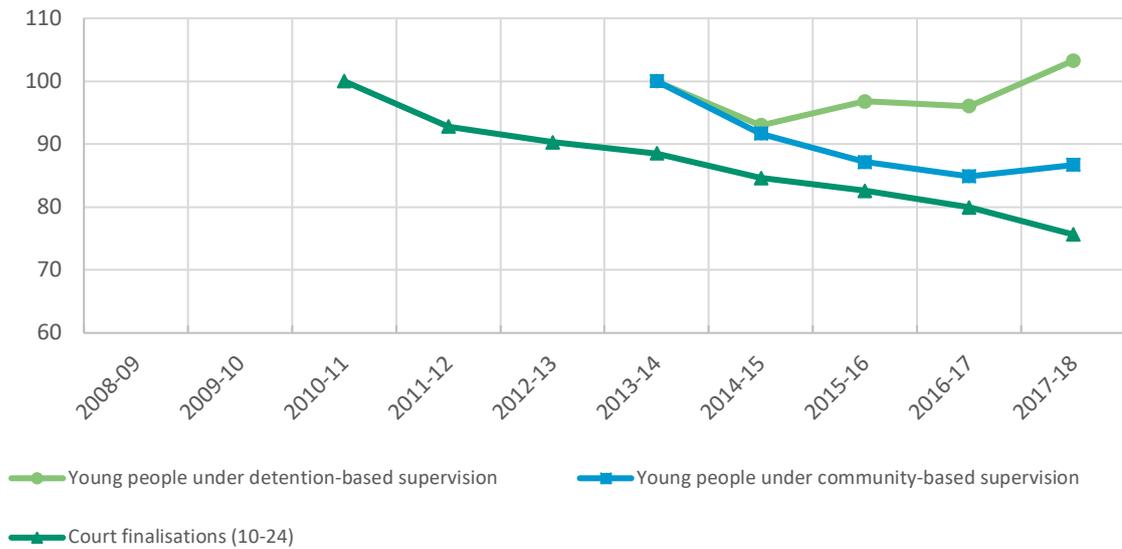
FIGURE 6: TEN-YEAR TREND HEALTH AND MENTAL HEALTH (INDEX 2008-09 = 100)¹⁹



- Increase in youth mental health hospitalisations:** there has been a significant increase in the number of child and adolescent mental health-related hospital admissions, which rose 25% from 2008/09 to 2014/15 (the last year in which data is comparable). In the following years, the trend in youth-related mental health hospitalisations trended upwards. It is not clear if this growth reflects an increase in mental health-related problems or changes in the rate of diagnosis and the pattern of service use. However, the increase in hospitalisation is consistent with findings in recent national health surveys (Black Dog Institute, 2017; AIFS, 2015) which have also pointed towards increases in the prevalence of certain mental health disorders among children and adolescents, accompanied by increases in service use (Department of Health, 2015).
- Child injury has stayed consistent:** the number of child injury-related hospitalisations remained constant over the same period.
- Childhood obesity is trending upwards:** obesity rates among 18 to 24-year-olds have seen a slight decline since 2011/12, while obesity rates among the younger population (ages 2 to 17) have increased at a faster rate, with a 7% increase between 2011/12 and 2014/15 and a further 9% rise over the subsequent three-year period. The increase among the younger-aged population may point to further adult-related increases in obesity and related health costs in the future.

¹⁹ Mental health separations not comparable from 2016/17 onwards; Obesity - proportion of persons with BMI of 30.00 or more (AIHW, National Health Survey). Based on EIF calculations of the estimated ten-year trend for health and mental health. See annex for details on the methodology and underlying sources.

FIGURE 7: TEN-YEAR TREND YOUTH JUSTICE (INDEX 2008-09 = 100)²⁰



- **Decrease in young people in court:** the number of young people attending court steadily decreased between 2010/11 and 2017/18 overall, particularly for defendants aged 10 to 19 years. The average number of young people under community-based supervision every day declined between 2013/14 and 2017/18.
- **Increase in young people in detention:** the average daily number of young people subject to detention-based supervision rose overall between 2013/14 and 2017/18, although it was subject to fluctuations. This expansion of the costliest component of the youth justice system could be a potential driver of increases in youth justice-related late intervention expenditure.

²⁰ Average daily number of young people aged 10-17 subject to detention or community-based supervision; Number of defendants finalised, aged 10-24; source(s): RoGS, ABS. Based on EIF calculations of the estimated ten-year trend youth justice. See annex for details on the methodology and underlying sources.

6. Variation in late intervention spending by state and territory

This section presents the distribution of late intervention spending by state and territory. The analysis highlights:

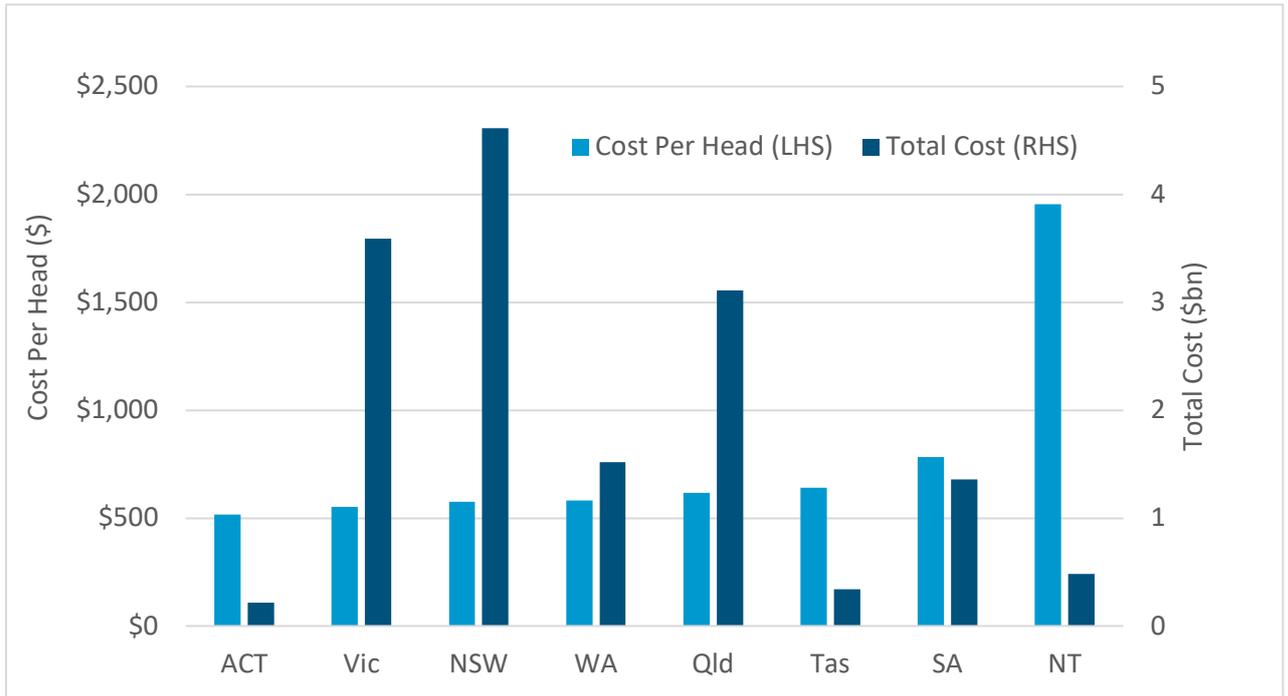
- **Correlation between disadvantage and children experiencing serious issues:** spending is highest in the states and territories with higher levels of social and economic disadvantage and high unemployment rates. This reinforces the established link between early experiences of social and economic disadvantage, and poorer life trajectories.
- **Slight differences in spending patterns between states and territories:** child protection is the single largest proportionate area of spend for all states and territories (37%), yet there is considerable variation in justice costs (from 43% in the NT to 28% in the ACT). Similarly, youth unemployment is the second most expensive issue in WA and Tasmania but is the seventh for the ACT.

The largest states spend the most overall while smaller states and territories spend more as a proportion of the population

Figure 8 shows expenditure figures by each state and territory. This includes overall late intervention spend figures and spending as a proportion of the total population.

- The states with the highest overall late expenditure include New South Wales (\$4.6bn), Victoria (\$3.6bn) and Queensland (\$3.1bn) – the three states with the largest populations.
- The smaller states are spending more per head of population on late intervention services, with the Northern Territory spending \$1,953 per head, South Australia \$782 per head and Tasmania \$642 per head.

FIGURE 8: TOTAL LATE INTERVENTION SPEND AND SPEND PER HEAD, BY STATE AND TERRITORY (2018-19, PRICES)²¹

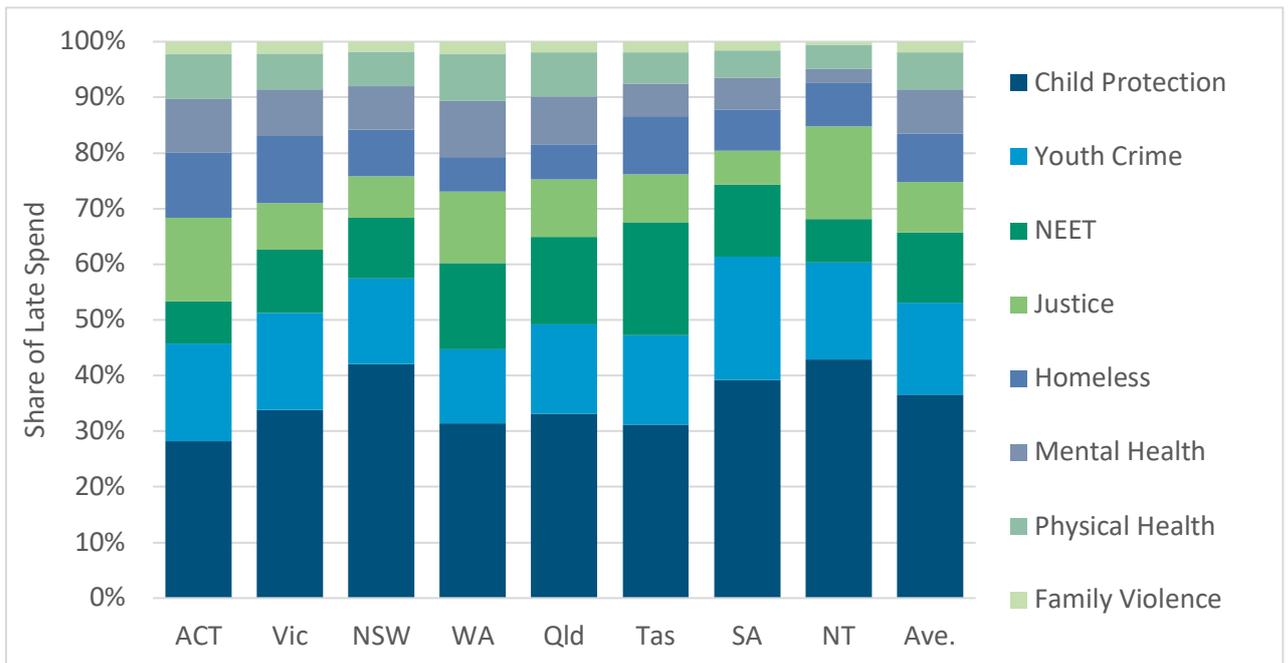


States have different patterns of spending

Figure 9 shows how the balance of spend between states and territories varies. The figures show a broadly similar pattern in terms of expenditure, with child protection expenditure representing the single largest proportionate area of spend, at an average of 37% across all states and territories. However, there is considerable variation in justice costs, ranging from a high of 43% in the Northern Territory to a low of 28% in the ACT. Some of the greatest relative variability across states and territories is around youth unemployment: while in Tasmania and Western Australia it represents the second most expensive issue, in the ACT it ranks seventh.

²¹ Based on EIF calculations of the estimated total late intervention spend and spend per head by state and territory. See annex for details on the methodology and underlying sources.

FIGURE 9: DISTRIBUTION OF LATE INTERVENTION SPENDING BY STATE AND TERRITORY²²



Costs of delivery vary

Figure 10 shows significant variation in unit costs for key aspects of service delivery across states and territories.

In some areas, the reason is clear (e.g. higher costs in the Northern Territory reflect its remoteness) but in others, it is not. The differences may reflect:

- the intensity of service use (e.g. the number of children in youth detention or out-of-home care)
- local variation in cost drivers, such as wages and rent
- the effectiveness of policy settings and service delivery models
- how much individual states and territories choose to invest in services.

Better understanding of the differences between states and territories in terms of their delivery costs, spending impacts and the effectiveness of their policy settings and service delivery models would help improve information-sharing between them and enable more effective and efficient investment.

²² Based on EIF calculations of the estimated late intervention spend by state and territory. See annex for details on the methodology and underlying sources

FIGURE 10: VARIATION IN SERVICE DELIVERY COSTS, BY STATE AND TERRITORY²³



Variations in social and economic conditions correlate with spending

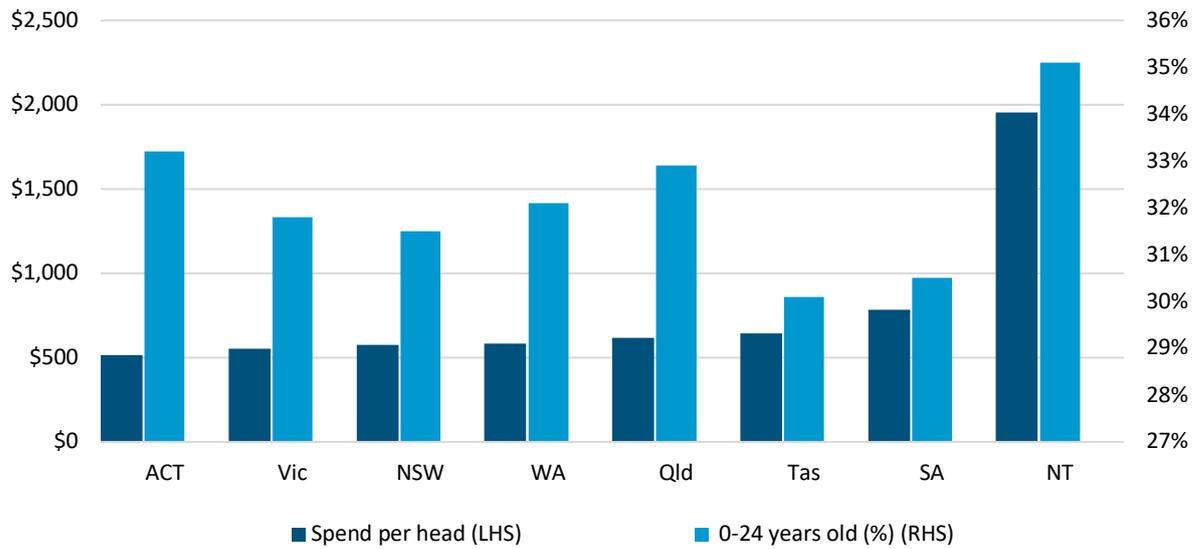
The variation in spending between the states and territories is also influenced by geography, demographics, and wider economic and social differences. The following diagrams show each state or territory's spending on late intervention relative to their total population (per head spending) with its:

- population age profile
- statewide social and economic disadvantage
- level of remoteness.

As expected, late intervention spending is highly correlated with all these factors.

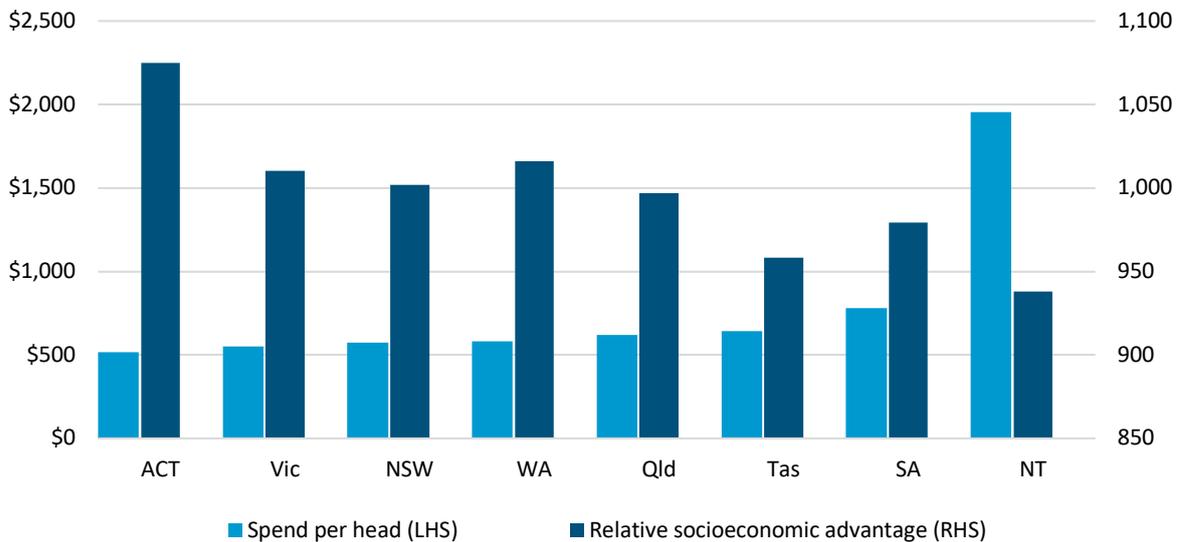
²³ Productivity Commission 2019 (Table 16A.23-16A.30; Table 7A.27; Table 17A.21); IHPA (2019). Based on EIF calculations of the estimated variation in service delivery costs, by state and territory. See annex for details on the methodology and underlying sources

FIGURE 11: SHARE OF THE POPULATION AGED 0-25 AND SPENDING PER HEAD²⁴



- The proportion of 0-24-year-olds as a share of the overall population varies between 30% and 35%, with the highest proportion of young people in the Northern Territory.
- A higher proportion of young people means a larger share of the overall budget is spent on them, which is reflected in a higher overall spend per head. For instance, the age profile of the Northern Territory contributes to their higher average spending per head.

FIGURE 12: RELATIVE SOCIAL AND ECONOMIC ADVANTAGE AND SPENDING PER PERSON²⁵

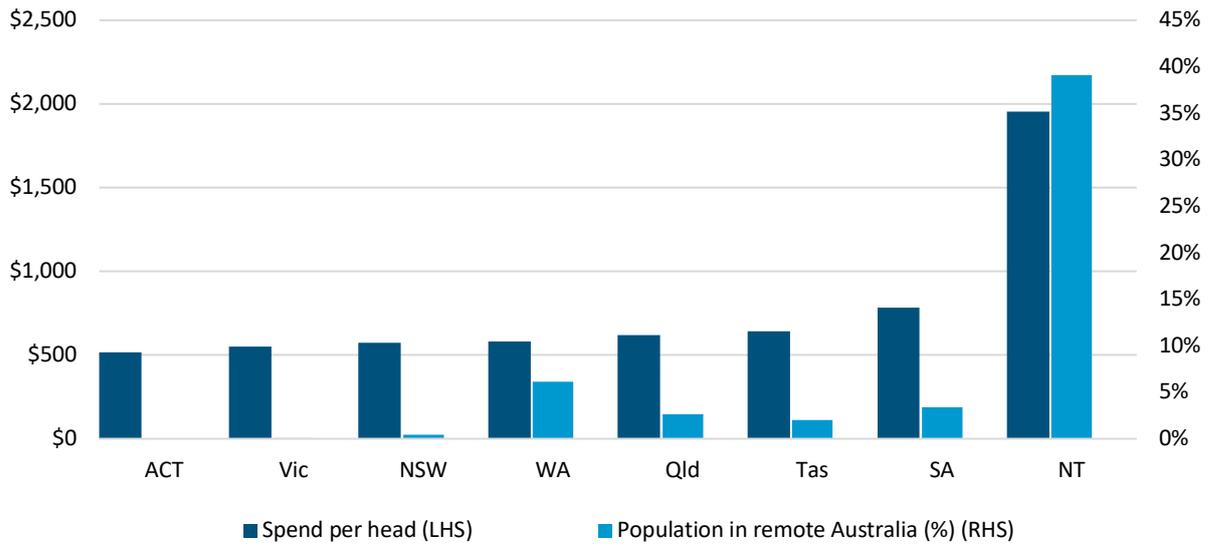


²⁴ Based on EIF calculations of the share of the population aged 0-25 and spending per head. See annex for details on the methodology and underlying sources.

²⁵ Based on EIF calculations of relative social and economic advantage and spending per person. See annex for details on the methodology and underlying sources.

- There is a strong correlation between community socio-economic disadvantage and the number and expense of children presenting to crisis services. States and territories with the lowest levels of social advantage (Northern Territory, South Australia and Tasmania) have the highest spending per head.
- The index of relative socio-economic disadvantage measures a range of factors, including income, educational qualifications, and housing (ABS, 2016). This strong correlation between late intervention spending and relative community-level disadvantage further demonstrates the impact of poverty and inequality on children’s opportunities and outcomes.

FIGURE 13: REMOTENESS AND SPENDING PER PERSON²⁶



- Remoteness affects the costs of delivering services in several ways, including: the relative scale of delivery efficiency (the more people use a service, the easier it is to drive down the per-head cost of service use), the cost of attracting and retaining a skilled workforce, and the nature and complexity of health and social issues.

²⁶ Based on EIF calculations of remoteness and spending per person. See annex for details on the methodology and underlying sources.

7. In summary

Our report reveals that Australian governments spend \$15.2bn each year on crisis and late intervention, and highlights the significant opportunity to invest early to:

- improve the lives of children and young people and strengthen our communities
- reduce pressure on government budgets and reap significant savings into the future.

We set out to calculate the annual costs of late intervention in Australia and made some important findings:

- The cost to government of late intervention is \$15.2bn each year. This equates to \$607 for every Australian or \$1,912 per child and young person
- The greatest costs are services for children in out-of-home care (39%); the police, court and health costs of youth crime (18%); and welfare payments for unemployed young people (13%)
- While it is to be expected that a large proportion of spending is on child protection and justice, other potentially preventable issues are also significant – government spends \$1bn per year on preventable health issues, \$1.4bn on youth homelessness, and \$1.3bn on youth mental health.
- While some issues experienced by children and young people have been constant over the last decade, others have seen significant change.
 - **Youth unemployment:** the proportion of young people unemployed has risen from 9% to 10.5%, and although this percentage has started to fall, it is still significantly above the national unemployment rate.
 - **Youth hospitalisation for mental health issues:** child and adolescent mental health-related hospital admissions increased by 25% between 2008-09 and 2014-15. More recent data continues this upward trend.
 - **Children and young people in out-of-home care:** the number of children in out-of-home care has risen 34% over the past 10 years – a significantly faster rate than the 11% growth in the size of the 0-24 years population.
 - **Child and youth obesity:** there has been a 17% increase in the obesity rate of children and young people aged 2-17 since 2011-12.
- More children and young people are experiencing crisis in states and territories with high levels of social and economic disadvantage, where incomes are low, housing is insecure, and education levels are lower. This reinforces the correlation between poverty and inequality, and poor outcomes for children.

Our report shows that wise investments in evidence-based early intervention can prevent issues from occurring, tackle them head-on before they get more difficult to resolve, and save money. The benefits of supporting children and young people before they reach crisis point (while reducing pressure on the budget) are obvious.

The risk of not acting is that the \$15.2bn cost keeps growing.

Smart investments in early intervention can make a difference

The challenge for government is knowing where to invest to achieve these benefits. What are the characteristics and circumstances of children in greatest need; where can government have the greatest impact; what kinds of support are most effective; and how can support be made accessible, connected and effective?

To make the kind of smart, targeted, efficient and impactful investments that will significantly reduce the conditions that create demand for crisis services, governments need to collect and use data and evidence differently.

Our analysis has highlighted the challenge of mapping Australia’s investment in children and young people, and understanding its effectiveness and impact. While we had access to transparent data on costs, numbers of children, and total spending for some issues, in other areas, detailed information was not readily accessible, up-to-date, broken down by age or state and territory, or nationally consistent. For some important issues, such as young people who have disengaged from school, it was not possible to include them in the analysis at all, because there was no public information on what government delivers or spends, or data on how many of them are impacted.

The issues that result in children and young people presenting at late intervention services are interlinked, and many have the same root causes. This means that effective early interventions can have significant flow-on effects across multiple pathways. For example, investments that support young people to stay engaged and complete school reduce demand for youth justice, police, courts and health services.

The data we drew on for this report did not allow us to consider these multiple complex pathways and relationships, or the more complex relationships between investments and impacts across portfolios. The New South Wales Government recently released a report that tracked, explored and forecast spending (see case study), which is a strong example of the kind of analysis that is needed and will make a real difference when embedded in decision-making on where investments should be placed (Taylor Fry, 2019). A number of jurisdictions are making progress on similar initiatives, but there is more work to be done. The consequences of not having a comprehensive understanding of how governments are investing in children, and with what impact, are far-reaching.

Case Study: 2019 *Forecasting Future Outcomes Report* (Taylor Fry, 2019)

NSW’s *Their Futures Matter* reform commits to using data and evidence to better understand, prioritise and evaluate support for children and young families with the highest needs. To achieve this, the reform brought together more than seven million records across 27 years, from ten government agencies and data sources. These included child protection, housing, justice, health, education, mental health, alcohol and other drugs, parental risks, and Commonwealth services.

Analysis of the data found:

- Seven per cent of NSW individuals who are aged under 25 will account for half the estimated cost of the state's social services by the time they are 40 years old
- Welfare is the largest component of future support costs (56%), followed by health services (25%) and justice costs (8%)
- Risk factors (e.g. ‘parent has interacted with the justice system’ or ‘mother smoked during pregnancy’) can be used to predict social outcomes and future support costs – groups with a higher number of risk factors are predicted to have higher future service costs and poorer social outcomes.

The goal of the reform is for government, in conjunction with agency partners, to design service solutions or enhance existing supports for the benefit of the priority groups.

Case Study: Victorian Data Reform Strategy (Victorian Government, 2018)

Victoria's *Data Reform Strategy* aims to guide better, data-based decisions. It identifies that 'data analytics offers new ways to improve government policy and service design, accurately model future programs, and save significant time and money. Done right, it can lead to more effective and efficient government, and better outcomes for Victoria and its citizens'. The strategic priorities are: incentivising better use of data, establishing data linkage and analytics capabilities, developing the capabilities of people to use and analyse data, and driving innovation.

Case Study: Priority Investment Approach to Welfare (Australian Government, 2019)

The Priority Investment Approach uses actuarial analysis to estimate Australia's overall future lifetime welfare costs and the cost of future welfare payments to various groups within the population. The findings of this analysis are helping to build a better understanding of specific groups and their transition pathways into and through the welfare system. This then enables the government to develop tailored responses that improve people's life chances and help to build the skills and experience people need to find work.

Case study: Target 120 (Western Australian Government, 2019)

Target 120 is an initiative of the Western Australia Government which aims to support up to 300 young people and their families through a collaborative, targeted and flexible early intervention program, providing young offenders and their families with co-ordinated and timely access to the services they need.

It aims to address the issues that increase a young person's likelihood of offending, including substance abuse, lack of housing, domestic violence, trauma, mental health issues, and poor attendance at school. For each young person and their family, a dedicated service worker will work in partnership with multiple agencies including police, health, education, child protection and justice, as well as non-government service providers. This will ensure that there is a co-ordinated and well-managed response to each young person and their family to get them back on track.

Uniquely, the program will also use data to inform and improve decision making. By sharing, linking and analysing data gathered across a number of agencies, vulnerable individuals and groups can be identified earlier, and their current and future needs better understood.

Data and evidence for smart decisions – key actions for government

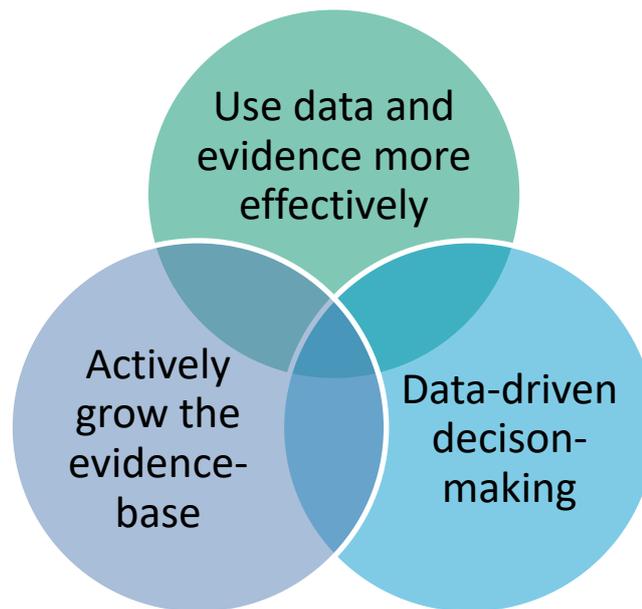
Our report highlights the opportunity to improve outcomes for children while reducing financial pressures on governments. Shifting from a focus on meeting the overwhelming demand for late intervention services to a significant reduction in demand over the next 10-20 years will require governments to work differently – with a comprehensive and coordinated long-term vision for transitioning to a system focused on early rather than late intervention. If there is no change to the way support is provided to children and young people experiencing or are at risk of having serious issues, the cost is only going to grow.

This report did not set out to provide the roadmap for this generational change. Rather, it shows the imperative for action. The actions below are focused on addressing the data and evidence priorities highlighted through this report.

Our key recommendations are to prioritise investment in effective early interventions and accelerate the development of data and evidence needed to make wise, targeted, and impactful early investments.

To achieve this, Australia needs to leverage the value of data, grow and link evidence and apply data-driven decision-making.

Governments are starting to improve how they collect and use data (see case studies) and are beginning to use modern data analytical techniques effectively. However, there needs to be significant work on improving data quality, consistency, connectedness and transparency, and embedding it systematically into decision-making processes. There are some necessary and achievable steps that governments can take.



Use data and information more effectively

The governments of Australia collect large amounts of data but using this information to inform decisions on resources and investment is inconsistent. Modern data technologies make more sophisticated analysis possible, but their potential is not being fully realised (Productivity Commission, 2016, 2017).

Key issues

Currently, the way data is collected and used by government does not always allow:

- identification of the individuals, cohorts or areas that are most in need of support and the type of support that would deliver the greatest benefits
- ongoing measurement of whether programs or services are delivering their intended impact and reducing downstream costs
- social investment approaches that leverage government and private sector capital to create additional value and focus on outcomes
- forecasting of the impacts of investments across portfolios and in the short-, medium- and long-term, which would enable more informed decisions about investment priorities.

Actions

Create a national early intervention dataset and an early intervention data strategy

- Establish and resource a national early intervention dataset on children's and young people's pathways and outcomes. This would bring together and link key data across portfolios and Commonwealth and state and territory governments. It should be supported by a national early intervention data strategy to address data gaps, privacy issues, and access for policy makers and researchers.

Build the capability to track and forecast the impact of investment in early intervention across portfolios and across a child's life

- Ensure central and agency data units have the resourcing and support to maximise the value of available data. Build capability within government to track and forecast the impact of investment in early intervention across portfolios and across a child's life.

Increase the value and usefulness of data by making it more accessible to policy makers, researchers, communities and philanthropy

- Increase the accessibility of data, in appropriate formats, to increase its value and utility and improve transparency.

Actively grow the evidence-base

While several programs and services for children and young people improve outcomes, there are still significant gaps in the evidence base about what works. There is not always a clear, evidence-based solution for all the challenges they face. Without this, the true benefits of early intervention will not be realised.

Key issues

There is a need to:

- build knowledge around what works, for whom, in what circumstances (in the way we have done, for example, with treatments for different cancers), and to understand what makes different approaches or programs more effective than others
- understand how to adapt, tailor and match programs to local or individual needs
- track how multiple services, supports and resources can work together to create good pathways for children and young people
- grow demand for using evidence within government – even when evidence-based programs or approaches exist, they are often not what is being funded or delivered.

Actions

Increase the supply of evidence

- Establish an investment fund for early intervention, tasked with identifying priority evidence gaps, funding innovation and scaling effective approaches, investing in rigorous evaluation, and reporting transparently on impact and outcomes.

Increase demand for evidence

- Embed clear requirements for evidence in decision-making on services, programs and grants and report publicly on whether government investment is delivering intended outcomes.

Support the use of evidence

- Resource the translation, dissemination and mobilisation of evidence for policy makers, practitioners and service delivery organisations.

Case Study: Youth Endowment Fund

The £200 million Youth Endowment Fund (YEF) was established from 2019 as part of the UK Government's *Serious Violence Strategy*, which aims to reduce serious violence including gun crime, knife crime and homicide. The strategy recognises the importance of early intervention to tackle root causes and provide young people with the skills and resilience they need to lead productive lives, free from violence.

The YEF will provide funding for the delivery and evaluation of early intervention approaches to tackling youth crime and antisocial behavior. The fund will also act as a centre of expertise, expanding the body of evidence and driving academic research to build understanding of the interventions and approaches that are most effective in tackling serious violence. In 2019 the YEF will:

- fund and evaluate promising approaches to preventing youth offending which have not yet gathered strong evidence of their impact
- fund a smaller number of programmes with good evidence of impact and which are ready for large-scale evaluation
- support partnerships in areas with high levels of youth crime to develop multi-stakeholder responses to preventing youth offending, evaluate and learn
- undertake a review of existing evidence on preventing youth offending, to identify the cohort of children and young people, and the desired outcomes, that the YEF will target.

The YEF will be led by Impetus, a UK charity focused on transforming the lives of disadvantaged young people, in partnership with the Early Intervention Foundation (EIF) and Social Investment Business.

Strengthen how governments currently make decisions, manage finances and are held accountable

Spending on children and young people is an investment in the future. Yet the way governments currently make decisions, manage finances and are held accountable limit our capacity for effective social investment.

These issues are in many ways a product of our Westminster system of government, and making fundamental changes will be complex. Nevertheless, expanding government's understanding of investment flows across portfolios, and how investments are delivering outcomes, is central to informing and enabling better decision-making and more effective use of resources.

Key issues with the current approach

- Incentivises short-term decisions rather than generational investments. This is a major barrier to providing effective early support to children and young people, as the benefits are typically realised over decades rather than over the four-year forward estimates period.
- Isolates decision-making, financing and accountability to single portfolios of government, and to a single level of government. This means there is limited capability to:
 - account for how investments in one portfolio or level of government deliver benefits to others
 - consider the cumulative impact of all government efforts to improve social and economic conditions
 - make joint investments that address root causes rather than symptoms.
- Creates limited transparency about where government is spending, where and how the benefits are being realised, and whether resources are being used efficiently.

Actions

Forecast impact

- Build systems and tools that enable cross-portfolio and longer-term impacts and savings to be identified, enable these impacts to be considered in budget processes, and incentivise cross-portfolio investments.

Report spending and outcomes for children and young people

- Begin regular reporting of expenditure on early and late intervention services for children, aligned with outcomes.

Appendix 1: Data, methodology and assumptions

This is a detailed overview of the data sources and methodologies we applied in deriving the cost estimates for the individual issue items set out in the report. Table A1 provides an overview of each issue item and the total spend estimates derived against each sub-issue.

TABLE A1: LIST OF ISSUE AREAS AND INDIVIDUAL PUBLIC SPENDING ITEMS INCLUDED

Area of Spending	Sub-issue	Double-Counting	Who pays?	Spend (\$'000's)
Child Protection				\$5,869,547
	of which:			
	A.01 Protective intervention services	No	State	\$1,431,777
	A.02 Out-of-home care services	No	State	\$3,432,481
	A.03 Intensive family support services	No	State	\$478,192
	A.04 Family support services	No	State	\$527,098
Youth Justice (10-17)				\$847,340
	of which:			
	B.01 Detention-based YJ services	No	State	\$512,101
	B.02 Community-based YJ services	No	State	\$286,991
	B.03 Group YJ conferencing	No	State	\$48,248
Adult Justice (18-24)				\$608,923
	of which:			
	C.01 Detention/incarceration	No	State	\$486,975
	C.02 Community support	No	State	\$121,947
Young People NEET				\$2,034,479
	of which:			
	D.01 Youth Allowance (other)	No	Commonwealth	\$863,966
	D.02 Newstart Allowance	No	Commonwealth	\$884,478
	D.03 Commonwealth Rent Assistance	No	Commonwealth	\$276,485
	D.04 Special Benefit	No	Commonwealth	\$9,549
Youth Homelessness				\$1,386,099
	of which:			
	E.01 Health (Primary Care)	No	Commonwealth	\$183,048
	E.02 Health (Secondary Care)	No	State	\$244,757
	E.03 Police	Yes	State	\$351,574
	E.04 Courts	Yes	State	\$173,984
	E.05 Homelessness Services	No	State	\$432,736
Family violence				\$307,400
	of which:			
	F.01 Youth crime - Policing	Yes	Commonwealth	\$110,069
	F.02 Youth crime - Justice	Yes	State	\$110,069
	F.03 Child education	No	State	\$4,958
	F.04 Child protection	Yes	State	\$82,304
Youth Crime				\$2,655,099
	of which:			
	G.01 Health	No	State	\$113,911
	G.02 Courts	No	State	\$141,296

G.03	Police	No	State	\$2,399,892
Physical Health				\$1,068,880
of which:				
H.01	PPH-Kidney and urinary tract infections	No	State	\$59,365
H.02	PPH-Ear, nose and throat infections	No	State	\$81,192
H.03	PPH-Diabetes complications	No	State	\$37,254
H.04	PPH-Dental conditions	No	State	\$55,284
H.05	PPH-Convulsions and epilepsy	No	State	\$64,132
H.06	PPH-Asthma	No	State	\$48,156
H.07	PPH-Other	No	State	\$24,133
H.08	Obesity - Prescriptions	No	Commonwealth	\$74,440
H.09	Obesity - Healthcare	No	State	\$190,551
H.10	Child Injury	No	State	\$434,372
Mental Health & Substance Misuse				\$1,277,591
of which:				
I.01	PBS - mental health prescriptions	No	Commonwealth	\$74,050
I.02	Specialised mental health care services	No	State	\$631,871
I.03	Non-specialised hospital admissions	No	State	\$247,875
I.04	MBS - mental health services	No	Commonwealth	\$303,797
I.05	Alcohol-related hospital admissions	No	Commonwealth	\$7,577
I.06	Drug-related hospital admissions	No	Commonwealth	\$12,421
Double-counting of costs				\$828,000
NET TOTAL COSTS				\$15,227,358

Estimation approach

This outlines each of the issues costed and the methodology and data sources we applied. We used two methodologies to derive cost estimates for each issue area.

- **Reported Spend:** where reliable data was available on the actual spend reported by government or agencies on late intervention services (e.g. on issues such as child protection), this was used as the preferred approach. For several issues, total figures for the amount spent on a given area were available. However, these often lacked the required age or territory breakdowns. To these figures, we applied a series of assumptions and adjustments to apportion the total spend figures to the required age and geographic level.
- **Unit cost:** this approach required combining estimates of the average cost of providing a service per incidence with data on the total number of service users. For instance, for the cost of hospital admissions, estimates typically combined assumptions on the incidence and separation rates for the relevant diagnosis and age range, along with assumptions for the average length of separations for relevant conditions, and assumptions for the average cost per separation across states and territories.

We drew on a range of data sources to populate the estimates. Where possible, we relied on high quality, nationally recognised datasets on spend and incidence. Where this was not possible, other academic reports and third sector publication were used. Original data sources include detail on the methods for the collection and analysis of data, including caveats and limitations.

For several issue areas there was the potential for estimates to include double-counting. For example, for family violence, costs were estimated specifically for the additional children protection expenditure (F.04)

that would also be captured within the total estimates for child protection (A.01 – A.04). To ensure the total aggregate expenditure estimates were not overinflated, the total amount of double-counting was deducted from the spending total. The estimates that were affected are in table A1.

Universal assumptions and price adjustments

Throughout the analysis, we used the most recent year's data where possible. This generally meant using cost, incidence and population data from 2017-18, although this varies by issue area depending on data availability. Because individual spend and cost sources were drawn from multiple years, we adjusted estimates to ensure comparability across years and control the effect of price inflation. All figures were converted to 2018-19 prices. Consistent with approaches adopted in other publications, government final consumption expenditure GDP deflators were used to adjust all categories of expenditure to constant prices (ABS, 2019d). Quarterly deflators were applied, taking the mid-point of the financial year (e.g. Dec 2018).

Costing of individual issue areas

A. Child protection

This is one of the more straightforward estimates for inclusion. Latest figures were taken from RoGS (Productivity Commission 2019a) for total state and territory spend on child protective services. This included: protective intervention service (A.01); out-of-home care services (A.02); intensive family support services (A.03); and family support services (A.04). Figures were consistent with 2017-18 volumes and prices. Data on child protection expenditure was supplied to us directly by individual states and territories.

As discussed, all prices were adjusted in line with GDP deflators to make them consistent with 2018-19 prices. While there are inevitably wider government impacts of children entering and exiting the care system, we assumed these would be picked up in other estimates included in the report (i.e. youth justice).

B. Youth justice (10-17-year-olds)

As with child protection services, youth justice spend is one of the more straightforward areas of spend where state and territory level data is more readily available. Again, we took the latest figures from RoGS (Productivity Commission 2019b). This included: detention-based youth justice services (B.01); community-based youth justice services (B.02); and group youth justice conferencing (B.03). Our figures do not include data on formal police cautioning, as we could not find a source.

The figures were consistent with 2017-18 volumes and prices and adjusted to 2018-19 prices using GDP deflators. We considered wider crime and policing costs elsewhere.

C. Adult justice (18-24-year-olds)

We agreed that the age range for inclusion should be 0-24 years. This meant the estimates for justice spend had to capture some of the spend on younger adults in the adult justice system. This required apportioning some of the total adult justice spend to this age group. We did this for spending on prisons (C.01) and adults involved with community corrections (C.02). As with the two previous issues, our starting point for analysis was total net reported spend for 2017-19 from RoGS table 8A.2 (Productivity Commission 2019c). As elsewhere, we adjusted figures to 2018-19 prices using GDP deflators.

For prison spend, total state and territory spend estimates were simply prorated by the proportion of prisoners under the age of 25 in each corresponding state or territory. We took the prisoner age profile from ABS data (2018a, table 21), which reflects the total prison population in 2018.

ABS data was also available for the age profile of adults receiving community-based corrections (2018b, table 4). However, this was only available at national level, with no state and territory breakdown. Therefore, the national age profile for community corrections was used to prorate community corrections spend in each state and territory. To account for potential variation in the age profile of the population receiving any type of corrections across states, national total figures were further weighted in line with

the age profile of the prison population within individual states. This meant states with a higher proportion of 18-24-year-olds in the overall prison population were apportioned a higher proportion of 18-24-year-old adults receiving community-based corrections.

D. Young people not in Education Employment or Training (NEET)

In this analysis, the costs of being NEET were captured through the additional Commonwealth benefits expenditure to those out of work and not in education, aged 16-24. This included spend on the following benefits:

- **Youth Allowance (Other)** Eligible to 16-21-year-olds who are not studying and looking for full time work (D.01)
- **Newstart Allowance** Eligible to 23-24-year-olds who are unemployed (D.02)
- **Commonwealth Rent Assistance (CRA)** Support for housing costs where eligibility is in conjunction with receipt of either Youth or Newstart Allowance and where recipients are aged 16-24 (D.03)
- **Special Benefit** for recipients aged 16-24 (D.04).

We found little or no aggregate level data on how much is spent on each of these items. Therefore, we applied a bottom-up methodology using number of benefit claimants and estimates of the average effective benefit rate.

Number of claimants

Department of Social Services (DSS) data on the number of benefits claims by type received and age of principal recipient is available at state and territory level with quarterly snapshot figures for activity in specific months (DSS 2014). This report used the average number of claimants by age and benefit type in each of the four quarters for 2017-18 to derive the average number of claimants across the year for the relevant age group.

For CRA, only those payments that arose from claims to Newstart or Youth Allowance were included. To do this, we prorated the total 16-24-year-old CRA claims by the ratio of 16-24-year-olds claiming Newstart or Youth Allowance as a proportion of all 16-24-year-old claims to any of the CRA passporting benefits.

TABLE A2: NEET COSTS – ESTIMATED NUMBER OF BENEFIT CLAIMANTS, 16-24 (2017-18)

	ACT	NSW	NT	QLD	SA	TAS	Vic	WA
Youth Allowance	739	24,817	2,050	22,108	8,052	3,635	17,277	11,443
Newstart Allowance	690	15,624	1,318	15,914	6,217	2,223	15,057	7,864
CRA	420	32,224	472	33,437	9,745	3,425	27,625	11,784
Special Benefit	6	255	6	189	56	18	223	93

Unit cost estimates

We could not find any publicly available data on the average annual rate claimed by benefit recipients. We therefore used a series of assumptions to convert published benefit rates and eligibility criteria into the average rates applicable to the relevant age group.

- **Youth and Newstart Allowances:** latest published figures for eligible fortnightly payments to individuals under different circumstances (e.g. whether living with their parents, a partner or with dependents) were our starting point (Department of Health, 2019a). These were grossed up to yield

the annual equivariant amounts. No publicly available data was found that breaks down the profile of claimants by the rate for which they are eligible. Therefore, we applied a series of assumptions derived from wider contextual data or data that was available in the same DSS publication e.g. the proportion of all claimants in a couple (regardless of age). DSS volume figures were also available, split by the proportion of claimants eligible for full, partial and zero-rated payments. For claimants receiving a partial rate, we assumed they received half the full eligible amount.

- **Commonwealth Rent Assistance:** for CRA, fortnightly payment amounts were available, split by passporting benefits (again, from the same DSS release) but not by age. Therefore, we used the average amount for those that qualify through Youth Allowance and applied it to the numbers claiming Newstart Allowance. This reflected the relatively younger age profile of Newstart Allowance claimants captured in this analysis.
- **Special Benefit:** this discretionary benefit is usually paid at the same rate as Youth or Newstart Allowance (DSS 2019). Therefore, the average rate estimated for these two payments was applied to the small number of Special Benefit recipients aged 16-24.

TABLE A3: NEET COSTS - ESTIMATED AVERAGE ANNUAL BENEFIT RATES

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA
CRA	\$2,321	\$2,321	\$2,321	\$2,321	\$2,321	\$2,321	\$2,321	\$2,321
Special Benefit	\$11,537	\$11,148	\$11,168	\$11,278	\$11,347	\$11,120	\$11,468	\$11,233
Youth Allowance	\$9,587	\$9,587	\$9,587	\$9,587	\$9,587	\$9,587	\$9,587	\$9,587
Newstart Allowance	\$13,627	\$13,627	\$13,627	\$13,627	\$13,627	\$13,627	\$13,627	\$13,627

E. Youth homelessness

For youth homelessness spend, we applied two approaches:

- for direct state and territory spend on homelessness services (E.05), the reported spend was apportioned to the appropriate age group
- for indirect costs, such as health (E.01 and E.02), policing (E.03) and courts (E.04), we used a bottom-up approach, applying assumptions about the additional unit costs of service use for homeless young people compared to unemployed young people.

Homelessness services (E.05)

RoGS data table 19A.1, provided figures for individual states' and territories' spend on homelessness services in 2017-18. As elsewhere, we applied GDP deflators to adjust values to 2018-19 prices (Productivity Commission, 2019d). The RoGS data only captured reoccurring government expenditure. It did not include any capital works expenditure or funding individual services raised themselves. This made any estimates using the RoGS data an underestimate of the actual spending on homelessness services. However, we could not find an alternative source that provided total expenditure.

The homelessness services figures were prorated using data from the AHIW specialist homelessness services demographics data cube to capture spend on children and young people aged 0-24 (AIHW 2019a). For each state and territory, estimates were produced from the AHIW data cube for the total number of support days for all people and those aged just 0-24. The relative ratio was applied to the total state-level homelessness service spend figures from RoGS to derive an estimate of spend for 0-24-year-olds. By using support days rather than simply numbers of individuals receiving support, we intended to better capture the intensity and duration of support experienced by different age groups.

Indirect costs (E.01-E.04)

Figures from Flateau et al provided estimates of the difference in average annual service use for young people accessing specialist homelessness services (aged 15-24) and unemployed young people in the same age range (Flateau et al. 2016). In addition, Flateau et. al. converted the estimates of service use into average annual cost figures. We used the difference in costs to represent the additional cost of a year spent homeless, reflecting the additional burden placed on healthcare services, courts and the police.

TABLE A4: HEALTH SERVICES AND JUSTICE COSTS, HOMELESS AND UNEMPLOYED GROUPS COMPARED

	General Population	Unemployed	Homeless
Primary healthcare	\$886	\$409	\$3,294
Secondary healthcare	\$1,387	\$1,353	\$5,211
Police	\$277	\$860	\$6,402
Justice	\$227	\$296	\$3,039
Total	\$2,778	\$2,917	\$17,945

To derive state and territory level total annual costs, we combined the unit cost with AHIW data. However, we used the total number of young people accessing specialist homelessness services in the age range 15-24 for individual states and territories, as opposed to the number of support days. A small adjustment was applied to account for children and young people who are treated in more than one state. As elsewhere, the figures were converted to 2018-19 prices using GDP deflators.

TABLE A5: ESTIMATED NUMBER OF YOUNG PEOPLE ACCESSING HOMELESSNESS SERVICES

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
0-24-year-olds	17,838	20,345	7,803	3,945	4,392	1,584	969	1,604
Total	71,628	116,872	41,118	23,739	19,641	6,508	4,026	9,285

F. Family violence

Our estimates of government costs relating to family violence were based largely on figures from the 2016 KPMG report *The Cost of Violence Against Women and their Children*, with updated estimates of the number of family violence incidents against women and where children are present (DSS 2016). The family violence figures included in the KPMG report are different to other areas of public spending as they reflect both the costs generated during childhood for those exposed to family violence and the costs generated by adult service use (e.g. adult health costs from those who experience abuse). To ensure consistency with the definitions used in our report, we included only those items relating to children or 'second generation' costs: youth crime (police and justice costs); education costs, including increased transfer between schools; and child protection, reflecting the additional likelihood of children being taken into care. In addition, KPMG's analysis included the costs to individuals, government and the wider economy.

As our report solely focuses on costs to government, these other items were excluded. The KPMG report did not state which price year was used, but we assumed they were reporting 2015-16 real values. In terms of number of family violence incidents, the original KPMG estimates used data from the Australian Personal Safety Survey - 2012 (ABS, 2013). This included estimates of all acts of violence committed against women. The KPMG report also incorporated data on the number of acts of stalking and emotional abuse.

TABLE A6: DERIVED CHILD DOMESTIC VIOLENCE UNIT COSTS

	Item Code	2015-16 Prices (\$m)	No. Children	Cost per person	Price Uplift	Spend per Head
Youth crime - Policing	F.01	\$111	438,394	\$253	3.02%	\$261
Youth crime - Justice	F.02	\$111	438,394	\$253	3.02%	\$261
Child education	F.03	\$5	438,394	\$11	3.02%	\$12
Child protection	F.04	\$83	438,394	\$189	3.02%	\$195

To estimate the effective unit costs, the total government cost figures (Table 2) were divided by the reported acts of partner violence used in the original KMPG analysis. We adjusted figures for emotional abuse and stalking to prevent overlap with women who experienced acts of physical or sexual violence. This provided average per-incident cost estimates per area of spend. Youth crime costs were not explicitly divided between policing and justice spend. Based on the description of activity included, we believed it was defensible to apportion half the total youth crime costs to policing and justice respectively.

To update these estimates with more recent prevalence estimates, we used the latest *Australian Personal Safety Survey - 2016* (ABS, 2017) data. Figures were provided for acts of sexual and physical violence at state and territory level, along with acts of emotional abuse and stalking. State-level data only reports the total number of acts against women by a current or former partner. This does not include separate breakdowns for acts of abuse where children were present. We applied a national-level assumption of 45% across all states to reflect the proportion of violence against women committed where a child was present.

Although we did not include costs that result from additional adult expenditure on services resulting from family violence (e.g. health costs resulting from abuse against women, the legal costs of persecuting perpetrators etc.) as they were outside the scope of this review, it is useful context to update them here. Table A7 shows the total estimated family violence costs by state and territory.

TABLE A7: TOTAL ESTIMATED FAMILY VIOLENCE COSTS (\$000'S, 2018-19 PRICES)

State	Youth crime	Education	Child protection	Health	Adult crime	Community services	Welfare	Total
WA	\$25,761	\$580	\$9,632	\$48,057	\$57,272	\$59,667	\$114,336	\$338,944
Vic	\$59,546	\$1,341	\$22,263	\$111,079	\$132,381	\$137,917	\$264,280	\$783,443
Tas	\$5,004	\$113	\$1,871	\$9,334	\$11,124	\$11,590	\$22,208	\$65,835
SA	\$15,669	\$353	\$5,858	\$29,231	\$34,836	\$36,293	\$69,545	\$206,163
Qld	\$45,567	\$1,026	\$17,036	\$85,002	\$101,302	\$105,539	\$202,237	\$599,519
NT	\$1,932	\$44	\$722	\$3,604	\$4,295	\$4,475	\$8,575	\$25,419
NSW	\$62,837	\$1,415	\$23,493	\$117,219	\$139,698	\$145,540	\$278,888	\$826,748
ACT	\$3,822	\$86	\$1,429	\$7,130	\$8,497	\$8,852	\$16,963	\$50,286
Total	\$220,138	\$4,958	\$82,304	\$410,656	\$489,406	\$509,872	\$977,032	\$2,896,357

G. Youth crime

Youth crime costs were derived using different approaches for the individual areas of spend.

Health costs (G.01-G.02)

Our health cost estimates were primarily derived from Australian Institute of Criminology (AIC) estimates, *Counting the Costs of Crime in Australia: A 2011 estimate*, using a unit-cost approach (AIC, 2014). The AIC report estimated the total health, policing, insurance and wider economic costs of crime. It did not state the price year that figures were reported in, but we assumed they were in 2011/12 prices. We attempted to separate out costs by whether they were funded at the state and territory level or by the Commonwealth. However, the AIC report did not provide enough detail to split the health costs by the type of health service funded and who pays. Most description of the services that are impacted appeared to relate to services that states would fund (e.g. hospital admissions, ambulance services) so we assumed all costs impacted at state and territory level.

TABLE A8: HEALTH COSTS BY CRIME TYPE, REPORTED IN AIC (2013)

Area of Spend	2011-12 Prices (\$m)
Homicide	\$10,100
Assault	\$320
Sexual assault	\$500
Robbery	\$481
Arson	\$2,742

Our estimates of the number of crimes committed were based on Australian Bureau of Statistics (ABS) data for the number of victims by crime type and broken down by state and territory (ABS, 2018c, *Recorded Crime - Victims, Australia*, table 6). This was true for criminal acts except for arson, where no disaggregated data is published. For arson, we found separate state and territory data by searching individual police force data, published on individual states' websites. We could find no data for the Northern Territory or the Australian Capital Territory, so figures were imputed from wider data and related crime categories.

We recognised that recorded crime is likely to undercount the true number of victims. RoGS data (Productivity Commission, 2019e, Chapter 6, Table 6A.13) provided us with estimates of the relative under-reporting of crime, by crime type, at state and territory level. We used this to inflate the raw ABS reported crime figures. To estimate the number of crimes committed by 10-24-year-olds, separate ABS data was applied, reflecting the national age profile of offenders (ABS 2019b, *Recorded Crime - Offenders*, Table 3). This was then applied to the state-level estimates of inflated crime to estimate the number of crimes committed by 10-24-year-olds.

These estimates were combined with relevant unit health costs to derive state and territory estimates. As these figures are relatively older than other sources of health data in this report, they were inflated in line with the AHIW Total Health Price Index (AHIW, 2018a, Table C2) to adjust to 2016-17 prices, the last year in the published series. From then onwards, we used GDP deflators to adjust prices to the 2018-19 price year.

Court costs (G.03)

For court cost estimates, we used a bottom-up approach. AB 2017/18 data on the total number of court finalisations, by state and territory, court type and age of defendant was used as the foundation (ABS, 2019c, table 2). This was split by Higher, Magistrates and Children's Courts.

RoGS figures provided state and territory breakdowns of the cost per court finalisation (Productivity Commission 2019b, Chapter 6, table 7A.27). Figures for the costs in Supreme Courts and District/Country Courts (which sit within the definition of the Higher Courts reported in the ABS data) were reported separately. A weighted average cost was derived for these two tiers. We assumed 2% of activity occurred in Higher Courts, as compared to 98% in District Courts. This was based on data from New South Wales, which showed that in 2017, there were 100 finalisations in the Supreme Court compared to 4,541

finalisations in the District Court (NSW Government, 2018). This did not apply to Tasmania, the Australian Capital Territory or the Northern Territory, as there is no District Court tier in these states.

The costs of court time vary by the type of crime committed, as do the prevalence rates by age of defendants. The duration and cost of trying a murder charge, for instance, is significantly greater than for a motoring offence. We used ABS data on the average number of weeks from initiation to finalisation by type of crime and court level to weight the average cost of finalisations by the profile of offences charged against 10-24-year-olds. This yielded an estimate of the average finalisation cost for each court level and state for the profile of crimes committed by 10-24-year-olds. These figures were combined with the number of 0-24-year-old finalisations to derive the total court costs by state and territory. As elsewhere, the relevant GDP deflators were applied to adjust figures to the 2018-19 price year.

Policing cost (G.04)

As noted under health-related youth crime costs, the AIC report on the costs of crime does not break down police costs by type of crime or age of offender, meaning this could not be the starting point for our approach in this analysis. Instead, we prorated total state and territory spend on policing by the number of offences committed by 10-24-year-olds and weighted this to reflect the difference in cost by type of crimes committed.

Number of offenders

ABS data provided figures for the number of offenders in 2017-18 by principal offence and state and territory (ABS, 2019d, Table 6). Total national figures for the age profile of offenders by primary offence were used to derive state and territory estimates of the number of offenders by type of crime.

Cost of crimes

For these cost estimates, the starting point was RoGS data for the total spend at state/territory level on policing in 2017-18 (Productivity Commission 2019b, Chapter 6, Table 6 A1). Not all police time is spent on crime. Consistent with Tait et al. (2018), we assumed that 64% of this spend related directly to the costs of policing. This assumption derived from the *WA Police 2014 Annual Report*, which allocated expenditure between activity types.

It would be possible to simply prorate the total spend figures by the proportion of offenders in each state or territory who are aged 10-24. However, this would not reflect the variation in costs relating to different types of offences. We could not find any data relating to Australia on the costs of crimes to the police services by crime type. However, a United Kingdom report (Home Office, 2018) estimated the extent to which different types of crime differ in their impact on police costs. Using figures from this report gave higher weights to certain types of crime (e.g. homicide and other violent offences) compared to crimes requiring less resourcing (e.g. theft). The cost categories reported in the ABS data and those in the UK report did not align exactly, so we made some assumptions about how comparable the sorts of crimes costed are likely to be in terms of resourcing.

Total reported spend at state and territory level was therefore prorated by the weighted crime volumes by age to derive average spend estimates for the relevant age groups. As elsewhere, final estimates were adjusted in line with GDP deflators to ensure comparability.

H. Physical health

Physical health costs were derived from a series of bottom-up estimates.

Potentially Preventable Hospitalisations (H.01-H.07)

Potentially Preventable Hospitalisations (PPHs) are defined by AHIW as 'admission to hospital for a condition where the hospitalisation could have potentially been prevented through the provision of appropriate individualised preventative health interventions and early disease management usually

delivered in primary care and community-based care settings' (AIHW 2017). In our analysis, we captured the cost of PPHs relating to:

- kidney and urinary tract infections
- ear, nose and throat infections
- diabetes complications
- dental conditions
- convulsions and epilepsy
- asthma
- other, including: rheumatic heart disease; perforated/bleeding ulcer; pelvic inflammatory disease; nutritional deficiencies; and iron deficiency anaemia.

PPHs were only included where the derivation of the age profile of admissions could be obtained straightforwardly from published data about primary reasons for hospital admissions. These items are highly likely to capture issues that particularly affect young people. PPHs that were excluded included: angina; bronchiectasis; cellulitis; chronic obstructive pulmonary disease; congestive heart failure; gangrene; hypertension; other vaccine-preventable conditions; and pneumonia.

Number of PPHs

AHWP data on the number of PPHs was our starting point: *Potentially preventable hospitalisations in Australia by age groups and small geographic areas, 2016-17* (AIHW 2019b). These are published at state and territory level. However, only two age groups are reported: those under and over 65. In order to disaggregate data for the under 65s further, the age profiles for each PPH were separately calculated from published AHWP data on hospitalisations broken down by principal diagnosis (AIHW 2019c). We used AHWP's published list of codes for identifying potentially preventable hospitalisations to create a look-up between the principal diagnosis hospitalisations data and PPHs. We included only those PPHs where all the reasons for inclusions (based on ICD-10 codes) were exclusively for principal diagnosis. From this data, we were able to create national level estimates of the age profile of each PPH, including the under 25s, along with the number of same-day and overnight separations and the average length of separation by age. These profiles and averages were applied to the state and territory data on separations for each PPH to derive individual estimates for the total days that children and young people were hospitalised.

TABLE A9: ESTIMATED NUMBER OF PPHS – UNDER 25S

	Vic	NSW	ACT	NT	Qld	SA	Tas	WA
UTIs	5,349	7,735	350	608	6,609	1,719	409	2,813
Ear, nose and throat	8,334	12,600	487	894	9,733	2,723	657	3,630
Diabetes	3,445	4,501	190	319	3,790	1,375	358	1,675
Dental	8,116	10,006	454	440	7,010	3,336	856	4,861
Convulsions and epilepsy	6,079	9,634	445	741	6,616	1,968	575	2,618
Asthma	5,514	7,452	295	323	4,881	1,754	432	1,625
Other	2,788	2,583	106	1,025	2,640	648	124	1,116
Total	39,625	54,512	2,326	4,349	41,280	13,524	3,411	18,338

Cost of PPH hospitalisations

For each PPH, the same methodology was used to derive costs once PPH volumes were estimated for the under 25s. Independent Hospital Pricing Authority (IHPA) data provided state and territory level estimates of the costs per separation and per patient day for same-day and overnight separations (IHPA 2019). See the latest figures for 2016-17 (Appendix 10. *NHCDC Round 19 to 21 admitted acute overnight and same-day*).

TABLE A10: AVERAGE HOSPITALISATION COST PER DAY (2016-17)

	NSW	Vic	QLD	SA	WA	Tas	NT	ACT
Same-day	\$1,246	\$1,409	\$1,468	\$1,542	\$1,666	\$1,773	\$991	\$1,343
Overnight	\$2,032	\$2,220	\$2,617	\$2,352	\$3,352	\$2,239	\$2,590	\$2,486
Average	\$1,902	\$2,000	\$2,305	\$2,203	\$2,909	\$2,147	\$2,012	\$2,242

Per-patient day cost figures were combined with the total number of separations for the relevant age group (as estimated above), whether same-day or overnight, and the average length of stay, to derive total costs. As elsewhere, relevant GDP deflators were applied to adjust to the appropriate price year.

Obesity-related costs (H.08-H.09)

Our obesity-related health costs were derived from four studies that examined the average annual additional health costs incurred by obese children and young people. These studies used different assumptions and related to different age ranges. However, they were the only available source of unit costs for this issue we could identify. We applied the latest estimates of the number of children and young people who are overweight or obese to these costs.

Number of overweight and obese young people

Estimates from the *National Health Survey 2017-18* provide state and territory level breakdowns for the number of children and young people who are overweight or obese (ABS, 2018d). These were aggregated for the appropriate age range.

Unit cost assumptions

Unit cost assumptions were taken from four separate sources since no single paper reported costs consistently across all the age groups and types of expenditure that we were required for this report. Broadly speaking, all four papers reported estimates for either increased prescription costs relating to overweight and obese young people and/or the wider medical costs (e.g. increased use of hospitals or GP visits). The four sources and key figures we used were:

- Hayes et al (2016): used for overweight and obese children aged 2-4
- Black et al (2018): used for overweight and obese young people aged 6-17 and for the prescription costs of 18-24-year-olds
- Lee et al (2018): used for the healthcare costs of young people aged 18-24
- PWC (2015): used for the costs of obese people aged 18-24.

The individual unit cost assumptions were applied to the relevant state and territory estimates for the number of young people overweight or obese for the appropriate age group, to derive the total cost estimate by state. We assumed that all healthcare costs fell on states and territories and all prescription costs fell on the Commonwealth Government.

Child injury-related hospital admissions (H.10)

To estimate the cost of child injury admissions, we used a similar approach to that used for PPH admissions. It included all sources of child injury.

Number of child injury-related hospital admissions

The AIHW publication *Trends in hospitalised injury* (2018b) reported detailed breakdowns of the age profile of hospital separations due to injury at national level. These were aggregated and combined to provide an overall profile of child injury-related hospital admissions, with 2014-15 as the latest reported year. This data was combined with population estimates for 2014-15 to derive hospitalisation rates. These were then combined with population estimates for 2017 to provide total numbers of separations due to injury for the relevant age range.

Alone, this data does not reflect state and territory variation in injury-related admissions. For this, AIHW data on the total number of injury-related hospital admissions was incorporated. While not broken down by age, the data reflected which states have higher rates of injury-related separation (AIHW 2018c).²⁷ These figures were used to weight the overall volume estimates for children and young people, to give higher weights to states and territories with higher rates of overall injury-related separations.

Cost of hospital admissions

We applied total volume estimates by state and territory to average unit cost estimates for hospitalisations for same-day and overnight admissions. The proportion of injury-related admissions that were same-day or overnight was taken from the AIHW admitted patient care statistics. These relate to all ages of injury. The average length of separations for overnight patients was taken from the AIHW trends in injury publication, which reported average length of admissions by age (Table 2.6A). Combined with the IHPA cost data and same assumptions that we applied when deriving the PPH's estimates to separate out those costs that fall exclusively on government, we yielded total injury-related cost estimates that fall on the government. As elsewhere, we used GDP deflators to convert cost estimates into 2018-19 prices.

I. Mental health

Our estimates for mental health and substance misuse spend were based on different methods for each item.

Mental-health-related prescriptions (I.01)

The government contribution to mental health prescription costs was estimated using a bottom-up approach. We combined estimates of the number of prescriptions for the relevant age group and drugs by state and territory with estimates of the average government contribution through the Pharmaceutical Benefits Scheme (PBS).

Number of prescriptions

AIHW figures for the total number of PBS-funded mental-health-related prescriptions were broken down by class of prescribed drug and state and territory (2019d, table PBS.6). The figures we used in this report relate to 2016-17. More recent numbers were subsequently published, but the data was not broken down at state level by age of recipient. To derive an age profile, we used two additional sources. Firstly, we found data from 2011 for each drug type and the age breakdown of recipients (ABS, 2014). Secondly, data from 2016/17 provided national numbers of mental-health-related prescriptions, not disaggregated by drug type or state (AIHW 2018, table PBS.9). The 2011 ABS figures were used to apportion the total number of prescriptions in 2016/17 that went to 0-24-year-olds by drug type. This was then applied to state and territory data on total PBS drug prescriptions.

²⁷ Incorporating AIHW admitted patient care 2016–17: public same-day acute (Table 4.11); private, same-day acute (Table 4.12); public, overnight acute (Table 4.14); and; private, overnight acute (Table 4.15)

TABLE A11: ESTIMATED NUMBER OF MENTAL-HEALTH-RELATED PRESCRIPTIONS, AGED UNDER 25

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Antipsychotics	122,100	106,591	71,933	33,148	31,902	8,588	5,151	1,938
Anxiolytics	35,464	43,065	34,646	12,616	13,529	4,676	1,540	471
Hypnotics and sedatives	22,475	21,105	16,188	7,226	6,449	1,820	853	269
Antidepressants	533,987	462,049	415,515	200,587	146,122	55,524	29,426	8,301
Psychostimulants	272,894	137,304	177,187	129,117	29,944	16,107	14,657	6,111
Total	986,921	770,114	715,469	382,693	227,947	86,715	51,627	17,090

Government contribution

Our estimates for the average government contribution per drug prescription were derived from underlying published PBS and RPBS figures. Monthly data on total prescriptions funded via PBS is published by individual drug class and type and with the total cost and government contribution (DHS 2019b). We used this data to estimate the total amounts funded for the relevant mental-health-related drugs, using the individual drug codes to derive the average government contribution per mental health-related prescription in 2017-18 by drug type.

TABLE A12: AVERAGE ESTIMATED MENTAL HEALTH PRESCRIPTION COSTS

	Total Prescriptions	Total Gov. Contribution	Ave. Contribution
Antipsychotics	3,778,615	\$235,189,974	\$62.2
Anxiolytics	3,601,284	\$25,299,350	\$7.0
Hypnotics and sedatives	2,295,833	\$13,529,183	\$5.9
Antidepressants	26,435,259	\$175,436,344	\$6.6
Psychostimulants and nootropics	1,320,884	\$60,901,430	\$46.1

We applied these average contribution estimates to the total derived number of mental health-related prescriptions by state and territory for 0-24-year-olds to estimate the total spend for this age group at state level. As elsewhere, we applied GDP deflators to adjust figures to the relevant price year.

Specialist mental health care services (I.02)

State and territory spend figures on specialist mental health services (public psychiatric hospitals; specialised psychiatric units or wards in public acute hospitals; community mental health care services; and residential mental health services) are reported by AIHW (2019e, *Expenditure on mental health services 2016-17*, table EXP.11). State and territory figures for expenditure on child, adolescent and youth services were combined, and the relevant price adjustment was applied.

Non-specialist hospital admissions (I.03)

For hospital admissions relating to mental health issues with non-specialist treatment, a bottom-up approach was used, similar to that we applied elsewhere for the costs of hospital admissions.

Number of admission days

AHIW data provided the number of same-day (2019f, Table SD.12) and overnight separations (2019g, Table ON.3), without specialised psychiatric care at state and territory level. These figures were not provided with a relevant age breakdown at state or territory level. However, national figures of the average profile of same-day and overnight separations were provided in the same publication. We applied these distributions to the aggregate state and territory figures to estimate the number of 0-24 years mental health-related separations by state and territory.

To estimate the total number of hospital days, for same-day admissions, we assumed individuals were admitted for a single day. For overnight admissions, estimates of the average length of separations were available from Table ON.3. These were multiplied by the number of admissions to derive figures for the total number of patient days.

Cost of admissions

To estimate the cost of hospital separations, we used IHPA figures for 2016-17 for the average cost per patient day per separation, for overnight and same-day patients, by state and territory. These were applied to the relevant state and territory estimates for the number of patient days. GDP deflators were used to convert the combined figures to the relevant price year.

MBS-related mental health expenditure (I.04)

Total government expenditure on mental health services via the Medicare Benefits Schedule (MBS) was derived entirely from published Department of Health data. The Department publishes 2016/17 data at SA3 level for the total benefits paid for mental health services, by age group of recipients (Department of Health, 2018). This was aggregated to state and territory level and those aged 0-24. Latest published figures were for 2015-16 and, as elsewhere, the relevant GDP deflator price adjustment was applied to convert to 2018-19 equivalent prices.

TABLE A13: TOTAL MBS EXPENDITURE ON MENTAL-HEALTH-RELATED SERVICES (2015-16, \$000'S)

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA
0 to 4	\$28	\$1,565	\$11	\$879	\$337	\$56	\$1,477	\$325
5 to 11	\$701	\$17,155	\$155	\$14,597	\$4,039	\$1,103	\$20,353	\$4,992
12 to 17	\$1,477	\$27,297	\$247	\$18,704	\$6,028	\$1,924	\$25,079	\$7,187
18 to 24	\$2,388	\$43,135	\$479	\$28,217	\$9,380	\$3,091	\$40,279	\$12,203
Total	\$4,595	\$89,153	\$891	\$62,397	\$19,784	\$6,173	\$87,188	\$24,707

Drug- and alcohol-related hospital admissions (I.05 & I.06)

A bottom-up approach was used for this item, combining data on hospital admissions linked to drug and alcohol use with assumptions for the cost of hospital admissions.

Drug- and alcohol-related patient days

AHIW's principal diagnosis data cube was used to derive estimates of the number of 0-24-year-olds admitted to hospital due to drug- or alcohol-related conditions. The relevant data cube (2016-17, classified using AR-DRG version 8.0) contained data on the number of admitted patient days by age, for

same-day and overnight separations, with reasons for admissions including: 'Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorder' (AIHW, 2019h). This data was not available at state and territory level.

To derive state and territory level estimates, we firstly prorated total admissions for drug- and alcohol-related reasons for 0-24-year-olds to state and territory level by dividing them by the share of the overall population of 0-24-year-olds in each state. In the second step, we applied a further weighting to reflect the possibility that the likelihood of drug- and alcohol-related admissions could be disproportionately higher or lower. To do this, we used AIHW state-level figures for all admissions to hospital across all age groups for reasons of 'Injury, poisoning and certain other consequences of external causes' to give a higher weight to states with relatively higher admissions for injury and related factors, under which alcohol and drugs are a subcategory.

These figures were further separated by the proportion of admissions that took place in public and private hospitals respectively. Again, AIHW figures for total admissions to hospitals for injury at state and territory level were used, separated by admissions to public and private hospital. This 'injury' rate was applied to admissions relating to the use of drug and alcohol.

Cost of admissions

As elsewhere, the average IHPA figures for state and territory costs per patient day were applied to the same-day and overnight patient day estimates for admissions relating to drugs and alcohol. We used aggregate AIHW figures for the source of funding in public and private hospitals (Chapter 3, table 3.4) to prorate the total cost estimates, isolating only those costs that fell on states to fund (AIHW 2018c). These figures were disaggregated by age and applied for the proportion relating to 0-24-year-olds.

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