



**HOME
STRETCH**



A FEDERAL AND STATE COST BENEFIT ANALYSIS

EXTENDING CARE TO 21 YEARS

DELOITTE ACCESS ECONOMICS COST BENEFIT ANALYSIS

JULY 2018

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Glossary

Acronym	Full name
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AIC	Australian Institute of Criminology
AIHW	Australian Institute of Health and Welfare
AOD	alcohol and other drugs
AWOTE	average weekly ordinary time earnings
CLAN	Care Leavers Australasia Network
CPI	consumer price index
DALYs	disability adjusted life years
MBS	Medicare Benefits Schedule
NCVER	National Centre for Vocational Education Research
NSW	New South Wales
NT	Northern Territory
OOHC	out-of-home care
PBS	Pharmaceutical Benefits Scheme
SA	South Australia
UK	United Kingdom
USA	United States of America
VET	Vocational Education and Training
WA	Western Australia

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Executive summary

While parents have the primary responsibility for raising their children and providing support, the *National Framework for Protecting Australia’s Children 2009-2020* (Council of Australian Governments, 2009) states that where the home environment is not safe enough for children, children are to be placed in the care of the state, termed out-of-home care (OOHC). In these cases, a child or young person is placed with alternate caregivers who have legal custody of the child until 18 years of age.

According to figures from the Australian Institute of Health and Welfare (AIHW, 2018), the total number of children in OOHC in Australia was 47,915 children at 30 June 2017, a rate of 8.7 children in care per 1,000 children. Aboriginal and Torres Strait Islander children are more likely to be in OOHC. At 30 June 2017, 17,664 Aboriginal and Torres Strait Islander children were in out-of-home care, a rate of 58.7 per 1,000 children, which is 10 times the rate for non-Aboriginal and Torres Strait Islander children.

There are different types of OOHC in Australia. The majority of children (93%) are in home-based care, which includes foster care, relative/kinship care and third-party parental care. Home-based care is where the child is placed in the home of a carer who is reimbursed (or who has been offered but declined reimbursement) for expenses for the care of the child. Another 5% of children are in residential care, where they are looked after by paid staff. The remainder are in other types of care – such as family group homes, independent living or boarding schools (AIHW, 2018).

In Australia, access to OOHC ends when the young person turns 18 years of age, except in a few specific cases¹. The objectives of this report are:

- to quantify the cost of higher use of government services by care leavers to provide an estimate of how much young people who exit care at 18 years of age are currently costing governments; and
- to consider the potential financial benefits that may be realised over a forty-year period – both to the individual and to the public – from introducing a program of support for Australian children in OOHC, which extends from the age of 18 to the age of 21. An estimate is also provided of the quantum of public expenditure on such a program which, in the long-run, would see the public investment as net-neutral.

This builds on previous work undertaken for Anglicare Victoria, on the socio-economic costs and benefits of extending OOHC in Victoria (Deloitte Access Economics, 2016).

Children in OOHC experience relatively poorer life outcomes

A vast body of literature documents the relatively poor life outcomes experienced by those leaving out of home care. The relative disadvantage experienced by this group spans from a number of interrelated factors including a history of abuse or neglect, ongoing poor physical and mental health, substance abuse, homelessness, poverty, unemployment and violence. Some examples of the relative disadvantage of care leavers compared to the general population of young people are shown in Table i.

Table i: Comparison of outcomes for care leavers compared to the general population for selected indicators

Indicator	General population	Care leavers
Completed Year 12	79%	35%
Undertaking post-school education	42%	11%
Unemployment rate	9.7%	29%
Experienced homelessness	1% of 19-24 year olds were homeless on census night	35% experience homelessness in the first year of leaving care

Sources: ABS, 2017. McDowell, 2009. Harvey et al., 2015. Parliament of Australia, Community Affairs References Committee, 2015.

Notes: The data on educational attainment for the general population use the rates for 20 to 24 year olds.

¹ OOHC in the ACT includes some young people aged 18 years and over to facilitate completion of schooling.

Traditional support structures – family, friendship circles and community – are more likely to be broken for those exiting out of home care. This limits the social support individuals can leverage to break the cycle of disadvantage which, if left unaddressed, has the potential to span several generations.

International experience

A number of jurisdictions outside of Australia have implemented policies and programs to extend support for young people aged 18 years and older. Some examples of programs operating overseas are:

- In England, the publicly funded program, *Staying Put*, provides for eligible young people who are in foster care at age 18 to voluntarily continue support provided by their foster carer to age 21.
- Ontario, Canada operates a model which provides a fixed sum of money to support independent living for young people in care aged 18 to 21 under its Continued Care and Support for Youth program.
- In the United States, the *Fostering Connections to Success and Increasing Adoptions Act* of 2008 was signed in late 2008 to allow states to receive federal funding (Title IV-E) for foster care extension up to 21 years of age. Forty-five states and the District of Columbia have extended foster care beyond the age of 18 years, either under this act or as a state-initiated program (Juvenile Law Centre, 2018).
- In Scotland, from April 2015, young persons in foster, kinship or residential care are eligible to remain in their current care placement until they turn 21 through the *Continuing Care* program.

Evaluations of these programs have reported benefits including improved education and employment outcomes, reduced engagement with the justice system, improved physical and mental health outcomes and improved housing stability. For example, the Midwest evaluation in Illinois, Iowa and Wisconsin undertaken by Mark Courtney with a number of collaborators, has been measuring the outcomes of extended foster care since 2006 when the young people involved were 19 years of age. The Midwest evaluation has measured reductions in hospitalisations, alcohol and drug use, crime and teenage pregnancy.

Extending care to the age of 21 in Australia

In Australia, the South Australian and Tasmanian Governments² have committed to providing young people in state care the option of accessing formal care and support beyond the age of 18. There are currently few targeted government supports available to assist in making the transition to independent adulthood and a number of young people move straight from the child protection system directly into welfare, the justice system or homelessness supports.

As discussed above, care leavers have relatively poorer life outcomes, which persists beyond childhood. These poorer outcomes tend to lead to increased use of government services such as health, housing and employment services, a higher need for welfare payments and reduced taxation receipts. As a result, the care leaver cohort tends to cost governments (Commonwealth, and state and territory) more than other groups. As a result, there are significant gains to be made by all levels of government from policy action in this space.

Methodology

Financial impact of higher government service use by care leavers

The purpose of this part of the analysis is to estimate the current cost to governments of providing services to care leavers once they have left care to assess the larger financial impact of care leavers as a result of their higher level of use of government services. The cost to governments is calculated over a four-year and a ten-year period for care leavers who are 18, 19 or 20 in 2018-19, in the base case where no program is offered. This time period is used to provide an indication of the shorter term financial impact of care leavers on government budgets. These costs are not relative to any other group, that is, they do not calculate costs such as unemployment or forgone taxes relative to the broader population where there is a base level of unemployment and labour market participation.

Costs and benefits are attributed to the Commonwealth Government, state and territory governments, and care leavers. Table ii outlines the overall attribution of costs in each life domain. This attribution has been

² Extending OOH to the age of 21 was election commitment for the recently elected South Australian and Tasmanian Governments, more details can be found here: https://www.stevenmarshall.com.au/foster_care, and here: <https://www.tas.liberal.org.au/sites/default/files/Children%20and%20families.pdf>.

used to calculate both the financial impact of care leavers and the results for the socioeconomic cost benefit analysis.

Table ii: Attribution of costs and benefits

Outcome	Commonwealth Government	State Government	Care leavers
Housing and homelessness	31%	69%	0%
Hospitalisations	43%	57%	0%
Other mental health care	56%	44%	0%
Smoking	100%	0%	0%
Crime	0%	100%	0%
Alcohol and drugs	39%	61%	0%
Early pregnancy	100%	0%	0%
Unemployment	100%	0%	0%
Increased wages	0%	0%	100%
Increased taxes	100%	0%	0%

Source: Deloitte Access Economics analysis. Note: The data sources used to estimate the costs for each outcome and hence some categories do not include costs borne outside government, although these do exist. For this reason, the benefit cost ratio of extending care is considered conservative.

Socioeconomic cost benefit analysis

The model compares two scenarios – one in which the program is offered on a voluntary basis, and one in which the program is not offered (base case). The model structure is based on previous analysis conducted for Anglicare Victoria, with the addition of new cost categories for teen parenthood, unemployment services and non-hospital health costs that were not considered in the original analysis.

The modelled outcomes for care leavers differ on the basis of whether an individual participates in the program or does not participate in the program. The model estimates the financial costs and benefits of the outcomes experienced by care leavers across seven life domains: teen parenthood; education and employment; housing; hospitalisation; the non-hospital costs of mental illness and smoking; interaction with the justice system; and alcohol and drug dependency. We have only quantified financial benefits and have not quantified other benefits, such as wellbeing. Thus the results provide a conservative estimate of the benefits of extended care.

The probability of experiencing benefits (e.g. a higher wage) or avoiding costs (e.g. reduced justice system costs) is dependent upon program participation. It is assumed that the individuals who choose not take up the program have the same outcomes as individuals who were never offered the program in the first place. The main model inputs are the probabilities associated with each pathway and the annualised value in 2018-19 dollars of each outcome. Individuals are assumed to remain on the same pathway for the whole of the period of analysis. The inputs also include any costs associated with a particular pathway, such as the cost of education. Using these inputs, the model calculates the expected value of each pathway.

Our analysis found that young people who stay in care until the age of 21 experienced the following outcomes relative to those who leave care at 18 years of age:

- Rate of teen pregnancy reduced from 16.6% to 10.2%;
- Educational engagement increased from 4.5% to 10.4%, for non-parents;
- Homelessness halved from 39% to 19.5%;
- Hospitalisation rates reduced from 29.2% to 19.2%.
- Rate of mental illness reduced from 54.4% to 30.8%;
- Rate of smoking reduced from 56.8% to 24.5%;
- Interaction with the criminal justice system reduced from 16.3% to 10.4%; and
- Alcohol and drug dependence rates reduced from 15.8% to 2.5%.

Results

Financial impact of higher government service use by care leavers

The financial impact on the Commonwealth Government includes housing and homelessness costs, hospitalisations, non-hospital health costs, costs of drug and alcohol dependency, welfare payments and services associated with unemployment, welfare payments to teen parents, and forgone tax revenue. Some of these costs are shared with state and territory governments, as detailed in Table ii.

Results of financial impact of higher government service use by care leavers

The financial impact of the current cohort of care leavers aged 18 to 21 years due to higher usage of government services is estimated to be **\$1.8 billion for the Commonwealth Government and \$0.6 billion for the state and territory governments** over the next 10 years, giving a total impact of \$2.4 billion. This equates to an average cost of \$345,204 per care leaver over the next ten years, or an average of \$34,520 per care leaver annually (see Table iii).

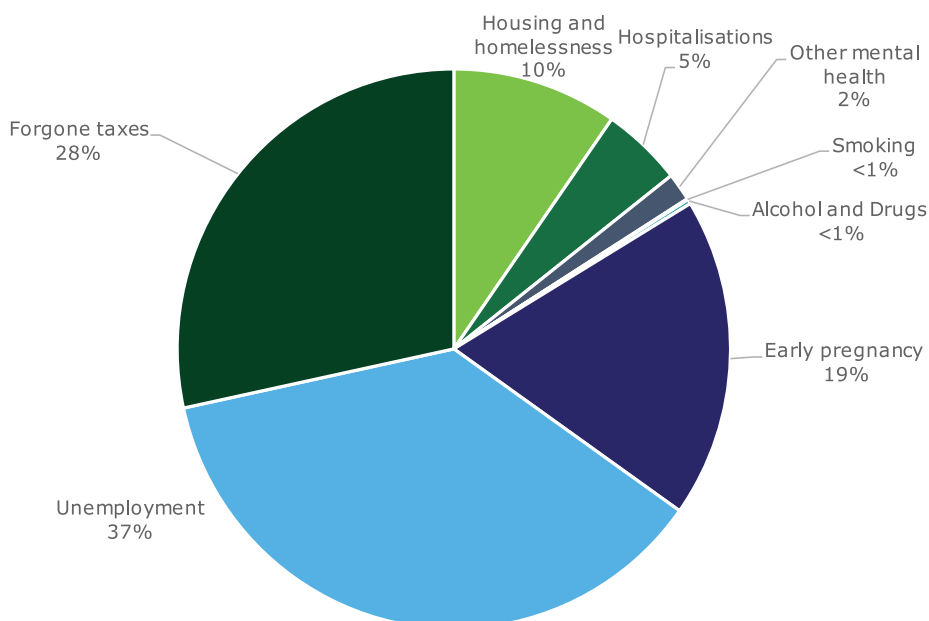
Table iii: Average financial impact to Commonwealth and state and territory governments, per care leaver

Cost	Ten years (\$)	Four years (\$)	Average annual cost over ten years (\$)
Cost to Commonwealth	259,872	102,162	25,987
Cost to states and territories	85,332	32,910	8,533
Total	345,204	135,072	34,520

Source: Deloitte Access Economics analysis. Note: These program costs are not relative to any other population group. As such, they provide an estimate to the total cost of government services used by this cohort for the selected areas where this cohort tends to experience relatively poorer outcomes.

Costs to the Commonwealth are dominated by forgone taxes, and welfare payments related to unemployment and early pregnancy, as shown in Chart i. Housing and homelessness support and hospitalisation costs are also significant.

Chart i: Financial impact of care leavers for the Commonwealth Government for each life domain (% of total)



Source: Deloitte Access Economics analysis.

Socioeconomic cost benefit analysis

The modelling results consider the benefits of a voluntary model of extended care to the age of 21, with an uptake rate of 24.95% which is based on figures from the Department of Education in the United Kingdom on the rate of uptake of the *Staying Put* program (Children and Young People Now, 2015). The costs represent the cost of providing extended care to the age of 21, as well as additional costs that arise as a result of the policy, such as increased costs for education. The benefits include avoided costs, such as lower welfare payments, as well as financial benefits, such as increased wages.

The socioeconomic cost benefit analysis takes a 40-year perspective of an individual’s life (that is, it looks at outcomes for care leavers from age 18 to age 57). This longer-term perspective is justified on the basis that investments made in youth are likely to materialise over a longer-term basis (with a lag). The model assumes that all participants who elect to take up the program in the first year remain in the program over the entire three-year period.

Results of socioeconomic cost benefit analysis

The analysis revealed a **benefit cost ratio of 2.0**, indicating that every \$1 spent on the program would be expected to generate a return on \$2. Table iv provides a summary of the results.

Table v: Present value (\$2018-19) of costs and benefits over 40 years, for an 18-year-old participating in extended care

	Difference between program offered/not offered (\$)
Total costs	111,964
Total benefits	221,261
Net benefits	109,296
Benefit to cost ratio	2.0

Source: Deloitte Access Economics analysis. Note: Costs and benefits for a representative care leaver who receives extended care.

In 2017-18, there are estimated to be 2,454 children in OOHC care aged 17, turning 18 in 2018-19, the first year of analysis. As such, the 24.95% assumption implies that 612 of these young people would have adopted the program if it had been available. Costs and benefits are calculated over 40 years and are present value figures in 2018-19 dollars. Table v provides a summary of the results for this cohort with access to extended care.

Table v: Present value (\$2018-19) of costs and benefits over 40 years, for the 18-year-old population in OOHC in 2018-19

	Difference between program offered/not offered (\$ million)
Total costs	68.6
Total benefits	135.5
Net benefits	66.9
Benefit to cost ratio	2.0

Source: Deloitte Access Economics analysis. Note: Discount rate used is 7% and uptake rate is 24.95%.

The calculation of costs and benefits in this analysis has focused on financial costs and savings. However, there are other benefits that may accrue from extending OOHC to the age of 21. The analysis has also been limited to seven life domains, and there are potentially other areas where this additional support may lead to better outcomes for young people remaining in care.

Intangible and other benefits that may also accrue from the policy include:

- **improved wellbeing** – given that extending care to age 21 is considered protective against risks of hospitalisation, alcohol and drug use, and mental health issues, compared with leaving OOHC at age 18, it is expected that care leavers would experience improved wellbeing, which is an important outcome from social policy interventions.
- **improved physical health outcomes** – the difference in physical health outcomes between 18-year-old care leavers and those who stay in care to age 21 is likely to extend beyond the modelled differences in hospitalisation costs, smoking rates, and alcohol and drug dependency. Young people who remain in care longer may experience physical health benefits as a result of improved education and employment outcomes associated with remaining in care longer than people who leave care at 18 years (Raman et al., 2005).
- **better outcomes for the children of care leavers and civic participation** – the modelling for this project only considers the impacts on the individual receiving extended OOHC and the costs avoided by governments as a result of that individual's receipt of OOHC support. In light of the link between higher employment and income, improved education and reduced criminal activity from extending care to 21 years, together with the link between higher parental income and child outcomes, extending care beyond 18 years could reduce the intergenerational disadvantage experienced by the children of care leavers, in addition to the care leaver themselves (Mayer, 2002).
- **social connectedness** – by offering the possibility of extended care with associated greater potential stability in accommodation and care arrangements, children may experience greater continued connection to individuals where they had forged positive relationships, leading to greater improved emotional wellbeing and social benefits for young people in extended care (Department of Families, Housing, Community Services and Indigenous Affairs & National Framework Implementation Working Group, 2011).

Conclusions

Care leavers represent a small but highly disadvantaged group of young people, who on average experience poor life outcomes across a range of domains. As a consequence, providing services and support to this cohort requires significant government investment for all levels of government.

Currently, young people are no longer able to access OOHC once they turn 18 years of age and they are expected to operate as adults, while a majority of their peers remain living in the family home. International experience suggests that extending OOHC to the age of 21 can lead to substantial improvements in the life outcomes of these young people. Our analysis shows that across the lifetime of these young people the costs of extending care to 21 years of age will be more than recouped through the reduction in the value and volume of other government services they require.

While state and territory governments have responsibility for OOHC and associated policies until children turn 18, the Commonwealth Government shares the cost of providing services to this cohort and would share the benefits from extending care to the age of 21. Thus, it is a worthwhile investment for the Commonwealth Government to support state and territory governments to extend care to the age of 21, as over time the Commonwealth Government will pay less for services to support this cohort.

1 Introduction

Children who have been in out-of-home care experience relatively poor life outcomes compared to those who have not been in out-of-home care. This includes lower educational attainment, higher unemployment, increased risk of homelessness, poorer health and increased contact with the criminal justice system.

As a result of this relative disadvantage, young people exiting out-of-home care (OOHC) – referred to in the report as care leavers – require more services and cost governments more over their lifetime. This report seeks to quantify the financial impact of the higher use of government services by the current cohort of care leavers.

In Australia, access to OOHC ends when the young person turns 18 years of age, except in a few specific cases³. International experience has shown that extending access to care to the age of 21 can improve the life outcomes of young people in care. This report also seeks to estimate the socio-economic costs and benefits of extending the age of exit from OOHC from the age of 18 to the age of 21.

1.1 Out-of-home care in Australia

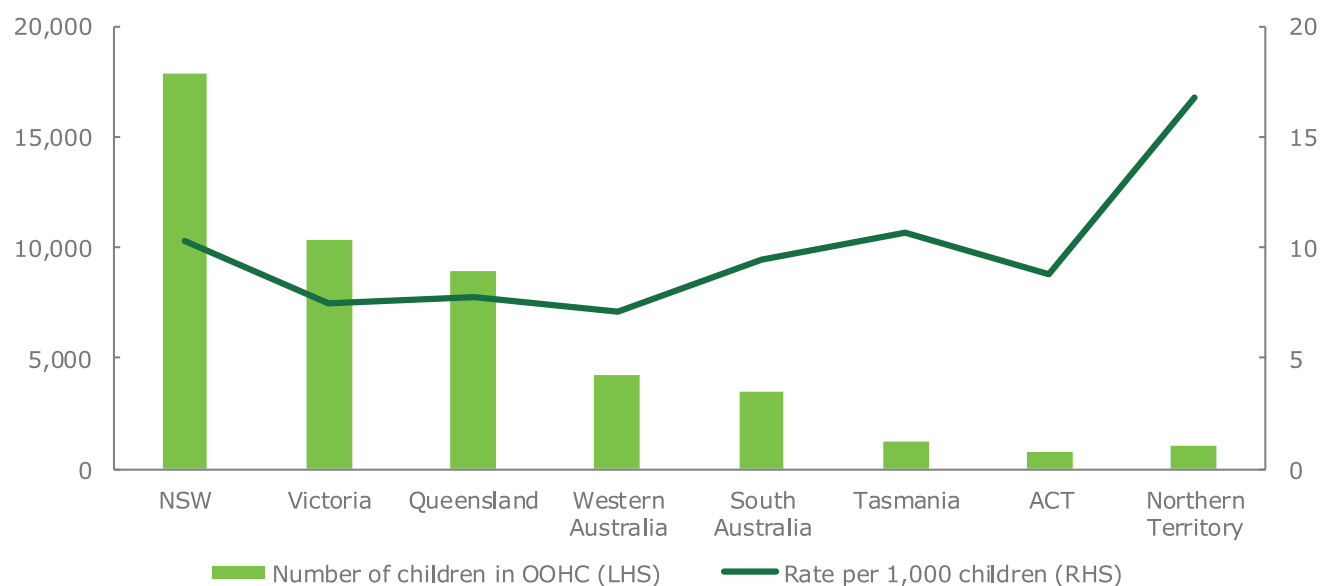
While parents have the primary responsibility for raising their children and providing support, the *National Framework for Protecting Australia's Children 2009-2020* (Council of Australian Governments, 2009) states that where the home environment is not safe enough for children, children are to be placed in the care of the state, termed out-of-home care (OOHC). In these cases, a child or young person is placed with alternate caregivers who have legal custody of the child until 18 years of age.

In Australia, state and territory governments have a statutory responsibility for ensuring children are protected from harm caused by abuse and neglect. In cases where the home environment is not safe, children may be placed in OOHC, which involves the placement of a child or young person with alternate caregivers who have legal custody of the child until 18 years of age. The majority of children placed in OOHC are subject to child protection intervention (Australian Institute of Health and Welfare (AIHW), 2018a).

In Australia, as at 30 June 2017 there were 47,915 children in OOHC – a rate of 8.7 per 1,000 children (AIHW, 2018). Chart 1.1 shows the number of children in OOHC and the rate per 1,000 children by jurisdiction. The Northern Territory has the highest rate of children in OOHC, which is primarily driven by the higher proportion of Aboriginal and Torres Strait Islander people who live there. At 30 June 2017, 17,664 Aboriginal and Torres Strait Islander children were in out-of-home care, a rate of 58.7 per 1,000 children, which is 10 times the rate for non-Aboriginal and Torres Strait Islander children. In all jurisdictions, the rate of Aboriginal and Torres Strait Islander children in OOHC is higher than for non-Aboriginal and Torres Strait Islander children.

³ OOHC in the ACT includes some young people aged 18 years and over to facilitate completion of schooling.

Chart 1.1: Number and rate of children in OOHC by jurisdiction as at 30 June 2017



Source: AIHW, 2018a. Note: NSW data exclude children on 'Guardianship Orders'. WA data exclude children on third-party parental responsibility orders and include children in boarding schools. The Tasmanian data exclude children not under care and protection orders placed with relatives who receive financial support from the Supported Extended Family or Relatives Allowance programs. Out-of-home care data for the ACT includes some young people 18 years and over whose carers receive a payment to facilitate completion of schooling.

There are different types of OOHC in Australia. The majority of children (93%) are in home-based care, also known as foster care, where they are placed in the home of a carer who is reimbursed (or who has been offered but declined reimbursement) for expenses for the care of the child. Another 5% of children are in residential care, where they are looked after by paid staff. The remainder are in other types of care – such as family group homes, independent living or boarding schools (AIHW, 2018). Table 1.1 shows the number of children in different types of care by state and territory.

Table 1.1: Number and proportion of children in different types of OOHC by jurisdiction as at 30 June 2017

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Number									
Home-based care	17,066	9,820	8,236	3,870	2,896	1,127	758	896	44,669
Residential care	599	441	705	148	388	61	42	120	2,504
Family group homes	23	0	0	176	0	10	0	0	209
Independent living	76	47	0	0	38	5	0	1	167
Other/unknown	115	4	0	38	162	2	3	42	366
Total	17,879	10,312	8,941	4,232	3,484	1,205	803	1,059	47,915
Proportion (%)									
Home-based care	95%	95%	92%	91%	83%	94%	94%	85%	93%
Residential care	3%	4%	8%	3%	11%	5%	5%	11%	5%
Family group homes	0%	0%	0%	4%	0%	1%	0%	0%	0%
Independent living	0%	0%	0%	0%	1%	0%	0%	0%	0%
Other/unknown	1%	0%	0%	1%	5%	0%	0%	4%	1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: AIHW, 2018a.

Upon reaching 18 years of age, children in OOHC are legally recognised as independent and are required to leave OOHC accommodation arrangements. Table 1.2 displays the number of children discharged from OOHC by age group.

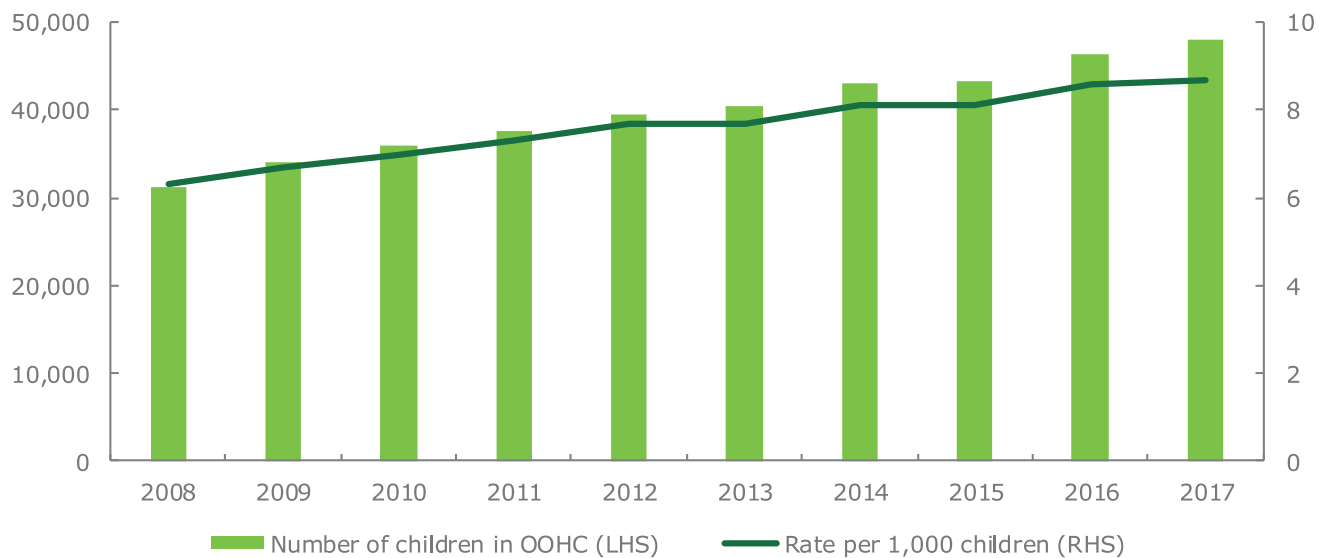
Table 1.2: Children discharged from OOHC by age group and jurisdiction 2016-17

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Number									
<1	127	194	124	43	25	8	8	18	547
1-4	450	709	441	221	91	40	24	57	2,033
5-9	522	661	465	209	103	24	38	52	2,074
10-14	553	594	473	207	86	30	28	69	2,040
15-17	1,195	729	639	243	178	56	42	78	3,160
Total	2,847	2,887	2,142	923	483	158	140	274	9,854
Proportion (%)									
<1	4%	7%	6%	5%	5%	5%	6%	7%	6%
1-4	16%	25%	21%	24%	19%	25%	17%	21%	21%
5-9	18%	23%	22%	23%	21%	15%	27%	19%	21%
10-14	19%	21%	22%	22%	18%	19%	20%	25%	21%
15-17	42%	25%	30%	26%	37%	35%	30%	28%	32%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: AIHW, 2018a.

The number and rate of children in OOHC has increased steadily over the last ten years (see Chart 1.2).

Chart 1.2: Number of children in OOHC as at 30 June of each year



Sources: AIHW, 2013a and AIHW, 2018a.

1.1.2 Outcomes for care leavers

A vast body of literature documents the relatively poor life outcomes experienced by those leaving out of home care. The relative disadvantage experienced by this group spans from a number of interrelated factors including a history of abuse or neglect, ongoing poor physical and mental health, substance abuse, homelessness, poverty, unemployment and violence.⁴

Table 1.3: Comparison of outcomes for care leavers compared to the general population for selected indicators

Indicator	General population	Care leavers
Completed Year 12	79%	35%
Undertaking post-school education	42%	11%
Unemployment rate	9.7%	29%
Experienced homelessness	1% of 19-24 year olds were homeless on census night	35% experience homelessness in the first year of leaving care

Sources: ABS, 2017. McDowell, 2009. Harvey et al., 2015. Parliament of Australia, Community Affairs References Committee, 2015.

Notes: The data on educational attainment for the general population use the rates for 20 to 24 year olds.

Traditional support structures – family, friendship circles and community – are more likely to be broken for those exiting out of home care. This limits the social support individuals can leverage to break the cycle of disadvantage which, if left unaddressed, has the potential to span several generations.

The disparities in care-pathways between children in OOHC and those in traditional care structures is highlighted in the abrupt end of formal state care at the age of 16-18 years. The state, as the effective parent, ceases to provide ongoing financial, social and emotional support as a caregiver. In contrast, for children who live with their parents or guardians, almost 50% of people aged between 18 and 24 are still living with one or both parents (ABS, 2014).

Thus the key question for policy makers is whether young people aged 15 to 18 – who have already faced challenging life circumstances – have sufficiently developed independent living skills at an age where their peers are afforded the option to continue growing while under care, allowing for development of gradual rather than immediate independence.

1.2 International experience: extending care to the age of 21

Internationally, however, there are examples of countries which have extended care and support to the age of 21 (or in some cases beyond), including the United States of America (USA), the United Kingdom, Canada and New Zealand. Studies of these programs have reported benefits including improved education and employment outcomes, reduced engagement with the justice system; improved physical and mental health outcomes and improved housing stability.

1.2.1 United States of America

In the USA, the *Fostering Connections to Success and Increasing Adoptions Act* of 2008 was signed in late 2008 to allow states to receive federal funding (Title IV-E) for foster care extension up to 21 years of age.

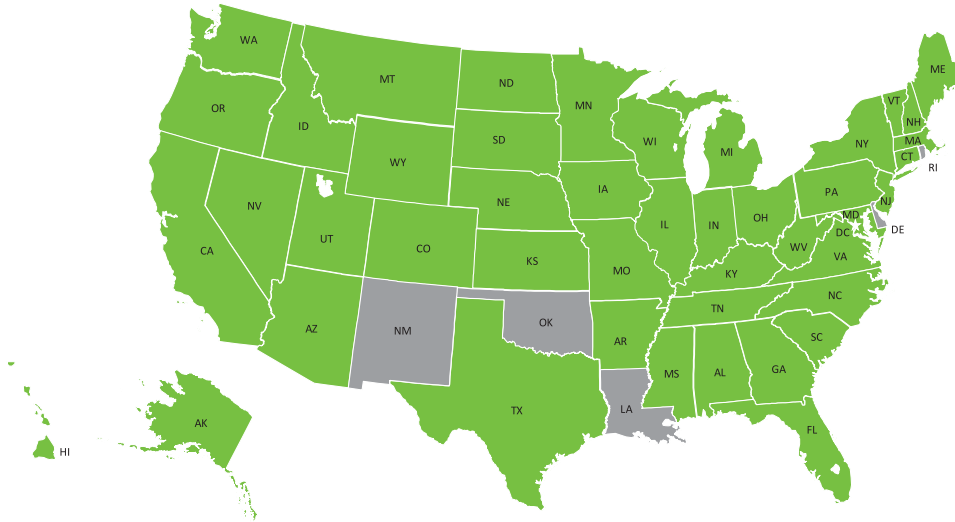
This Act allows states the option to continue providing federal government reimbursable foster care, adoption, or guardianship assistance payments to young people aged 19, 20 and 21 years. As each state is responsible for establishing specific foster care practices and managing individual cases, there is flexibility for states to design their programs according to the needs of their youth.

Funding is borne through a 50-50 split between the state and the federal government, in accordance with the latter's commitment to matching state funds through the Fostering Connections Act. Eligibility for funding is dependent on the youth's participation in education or employment.

⁴ See for example: Mendes, P, Johnson, G., Moslehuddin, B (2011); Care Leavers Australasia Network (2008); and Osborn, A. and Bromfield, L (2007).

Forty-five states and the District of Columbia have extended foster care beyond the age of 18 years, either under this act or as a state-initiated program (Juvenile Law Centre, 2018). For the majority of states, care is extended to the age of 21 (Juvenile Law Centre, 2018). Some states also provide other extended services to youth beyond the age of 18, such as transitional living services, housing and educational assistance (National Conference of State Legislatures, 2017).

Figure 1.1: States that have introduced extended care



Source: Juvenile Law Centre, 2018.

California, in particular, was one of the first states to extend care and receive financial incentives under the Fostering Connections Act. In 2010, California passed Assembly Bill 12 to optionally extended foster care to the age of 21 years, and provides assistance for housing, healthcare, food and support programs (Mosely and Courtney, 2012). Findings from the California model suggested a high uptake rate for support, and improved education and employment outcomes (Courtney et al., 2013 and Netzel & Tardanico, 2014).

- **Education.** Among the sample of 426 youth (aged 18 to 22), 66.4% had completed Year 12 or equivalent and 50.5% were engaged in college or vocational training at the time. It is to be noted that the duration of being in extended care was found to be a statistically significant positive factor in educational outcomes, with 68.4% of youth not attending college or participating in vocational training during the first 6 months of their stay.
- **Employment.** Across the sample, 19.7% were working 80 hours or more per month. This figure increased to 31.0% for those who had been in extended care for two or more years. Overall, duration in care was found to have a statistically significant positive effect on employment outcomes for youth in care.

A number of estimates used within our model were derived from studies that observed foster youth who had received care extensions through the Fostering Connections Act (see Chapter 3 for more details). They are shown in Table 1.4.

Table 1.4: Summary of estimates based on the extended care programs in the USA that were used in the model

Study name; setting	Finding from study	Input used in model
Courtney & Dworsky (2010) Based on the Midwest evaluation; Illinois, Iowa and Wisconsin	An additional year of foster care was linked to a 38% reduction in parenthood at 19	Early parenthood. 38% was taken as the effect size for the reduction in the probability of teen pregnancy upon being in OOHC till 21

Study name; setting	Finding from study	Input used in model
Courtney & Dworsky (2007) Based on the Midwest evaluation; Illinois, Iowa and Wisconsin	At 21 years of age, 19.2% of the Illinois foster youth population ⁵ had at least one hospitalisation episode in the previous year	Hospitalisation. The probability of hospitalisation for a child leaving OOHC at 21 is 19.2%
Courtney & Dworsky (2006) Based on the Midwest evaluation; Illinois, Iowa and Wisconsin	29.2% of young people who had left care aged 19 and below had experienced at least a single admission in the previous year	Hospitalisation. The probability of hospitalisation for a child leaving OOHC at 21 is 29.2%
Washington State Institute for Public Policy Population studied included those with care extensions to 21; USA	Proportion of individuals leaving care at the age of 18 who were arrested within the following two years was 16.3%, compared to 10.4% of those who had chosen to stay on until a later age, up to 21	Crime. The probability of crime for a child leaving OOHC at 21 is 16.3%, while that of a child leaving at 18 is 10.4%
Courtney et al (2011) Based on the Midwest evaluation; Illinois, Iowa and Wisconsin	25% of care leavers were soon arrested after exit, 22% of care leavers had engaged in medium criminal activity, 4% were engaged in violent crime	Crime. Used the probabilities of crime as weights in calculating the annual cost of crime to the Commonwealth government
Courtney et al (2007) Based on the Midwest evaluation; Illinois, Iowa and Wisconsin	Proportion of individuals leaving care at the age of 18 with alcohol and/or drug dependency, measured at age 21, was 15.8%	Probability of alcohol or drug dependence for a child exiting care at the age of 18 is 15.8%
Narendorf and Millen (2010) Population studied included those with care extensions past 18; USA	Those in foster care at 19 had a 52.5% lower rate of having a recent episode of drunkenness, and a 60% lower rate of marijuana use	Smoking. The difference between the probabilities of 'risky behaviour' for care leavers at 18 and 21 was 56.25%
Pecora et al (2005) Northwest Foster Care Alumni Study; Oregon and Washington	54.4% of foster care alumni had at least one mental health problem	Mental illness. The probability of being affected by mental illness for a child leaving OOHC at 18 is 54.4%
Kessler et al (2008) Population included those with care extensions past 18; Oregon and Washington	Those in an 'enhanced' foster care program reported 44.7% less 12-month mental health disorders than those from the public program	Mental illness. The probability of mental illness for a OOHC care leaver at 21 is 44.7% less than the probability at 18

1.2.2 United Kingdom

England has extended care provisions intended to model the role of a parent. This assist youth in care until they are 21 or 24 where the young person is in school or training. The *Children and Families Act 2014* legislates a duty for local authorities in England to support a 'Staying Put' arrangement, which is a voluntary, opt-in model whereby a young person, when they reach 18 years of age, makes an agreement with their foster carer to remain living with that person up to the age of 21 years (The Children's Partnership, 2015). Eligibility for the program is dependent on age (16 or 17 years old), a minimum time of 14 weeks spent in foster care since age 14, and be in a care arrangement that includes not just their foster carer but a local authority too.

In Scotland specifically, under new provisions in Part 11 of the *Children and Young People (Scotland) Act 2014* and from April 2015, young persons in foster, kinship or residential care are eligible to remain in their current care placement until they turn 21. This is called Continuing Care. We note that being a relatively recent development, the outcomes of children the Continuing Care initiative have yet to be studied.

⁵ The Illinois sample of foster care leavers included those who had received foster care extensions to 21 years of age.

For the Staying Put program, the Department for Education found in 2015 that a quarter of young people (1,370 of 5,490) in foster care who turned 18 since the 'Staying Put' legislation was introduced had remained with their foster carers (Children and Young People Now, 2015). It was suggested this uptake rate may have been lower than if less stringent entry criteria were adopted and/or more adequate funding had been provided to local authorities to support foster carers (Children and Young People Now, 2015).

An evaluation of the pilot of the *Staying Put: 18+ Family Placement Programme* for young people remaining in extended care had found that at 19 years of age:

- **Education.** 55% of those who had stayed put were enrolled in full-time education, compared to 22% of those who had exited care.⁶ Additionally, 25% of young people who had 'stayed put' were engaged in full time training and employment, in contrast to 22% of those who had left care.
- **Housing.** Across the sample, 41% of young people had taken a direct housing pathway, which involved moving straight from care to stable independent living in council or privately rented property. Of these individuals, 67% were those who had 'stayed put'.

1.2.3 Canada

Ontario is the only province that currently offers extended funding and social support past 18. While this does not include foster care arrangements, youth who are 18 years of age and transitioning from care are eligible to receive financial supports of \$850 per month as well as guidance up to the age of 21. These supports are intended to help youth meet their goals in transitioning to adulthood, and are offered subject to meeting employment and education eligibility criteria (Ministry of Children and Youth Services, 2018).

In Ontario, a 2012 cost benefit study '25 is the new 21' showed that for every \$1 the province of Ontario spends supporting its youth by extending foster care and support to age 25, Ontario and Canada will save or earn an estimated \$1.36 over the working lifetime of that person (Provincial Advocate for Children and Youth, 2012). Noting that the benefit cost ratios for Canada only reflect benefits in terms of improved educational outcomes (employment and social support) and reduced incarceration rates. Hence, the true benefit from an extension program is likely to be larger.

1.2.4 New Zealand

New Zealand committed to extending care as part of a broader set of reforms to the care and protection system. As of July 2019, young people in care will be able to remain with or return to living with a caregiver until the age of 21. Care leavers may also receive extended support up to 25 years of age. Provisions for extended care include financial assistance to meet the 'necessary costs' of the ongoing living arrangement and monitoring against specific care standards (Ministry of Social Development, 2018).

Providing extended care until the age of 21 and additional support until the age of 21 is designed to provide 'stepped-down support' that allows for advice and assistance to taper off as young people become more independent (Office of the Minister of Social Development, 2016).

1.3 Extending care to the age of 21 in Australia

In Australia, the South Australian and Tasmanian Governments⁷ have committed to providing young people in state care the option of accessing formal care and support beyond the age of 18. There are currently few targeted government supports available to assist in making the transition to independent adulthood and a number of young people move straight from the child protection system directly into welfare, the justice system or homelessness supports.

1.3.1 Role of the Commonwealth Government

While state and territory governments are responsible for OOHC and associated policies for children up to the age of 18, the Commonwealth is concerned about the treatment of young people in and leaving care and

⁶ Differences in education between the two groups may be driven by selection bias, in that to be eligible for the program, participants had to be in either education and employment, and thus the analysis may not control for confounding factors that may bias the results.

⁷ Extending OOHC to the age of 21 was election commitment for the recently elected South Australian and Tasmanian Governments, more details can be found here: https://www.stevenmarshall.com.au/foster_care, and here: <https://www.tas.liberal.org.au/sites/default/files/Children%20and%20families.pdf>.

provides a leadership role in protecting children. As a signatory to the United Nations' *Convention on the Rights of the Child*, Australia has a responsibility to protect children, provide the services necessary for them to develop and achieve positive outcomes, and enable them to participate in the wider community. In 2011, the Department of Families, Housing, Community Services and Indigenous Affairs together with the National Framework Implementation Working Group released *An outline of National Standards for out-of-home care*, which is a priority project under the *National Framework for Protecting Australia's Children 2009-2020*. In 2015, the Senate's Community Affairs Reference Committee undertook an inquiry into OOHC in Australia. The Committee concluded that:

'Governments of all levels have a responsibility to ensure that all children and young people removed from their families and placed in out-of-home care are provided with safe and nurturing living arrangements.'
Parliament of Australia, Community Affairs References Committee (2015, p.275).

The Commonwealth Government also currently provides a payment of up to \$1,500 called the Transition to Independent Living Allowance to help young people aged between 12 and 25 years of age to cover some costs as they leave out-of-home care (Department of Social Services, 2018).

As discussed above, care leavers have relatively poorer life outcomes, which persists beyond childhood. These poorer outcomes tend to lead to increased use of government services such as health, housing and employment services, a higher need for welfare payments and reduced taxation receipts. As a result, the care leaver cohort tends to cost governments (Commonwealth, and state and territory) more than other groups.

Extending OOHC to the age of 21 has been shown internationally to improve life outcomes for young people, which should lead to a reduction in government service usage. As a result, there are significant gains to be made by all levels of government from policy action in this space. Thus, it is a worthwhile investment for the Commonwealth Government to support state and territory governments to extend care to the age of 21, as over time the Commonwealth Government will pay less for services to support this cohort.

1.4 This study

The objectives of this report are:

- to quantify the cost of higher use of government services by care leavers to provide an estimate of how much young people who exit care at 18 years of age are currently costing governments; and
- to consider the potential financial benefits that may be realised over a forty-year period – both to the individual and to the public – from introducing a program of support for Australian children in OOHC, which extends from the age of 18 to the age of 21. An estimate is also provided of the quantum of public expenditure on such a program which, in the long-run, would see the public investment as net-neutral.

This builds on previous work undertaken for Anglicare Victoria, on the socio-economic costs and benefits of extending OOHC in Victoria (Deloitte Access Economics, 2016). Noting that no extended care program is operational in Australia, the paper draws upon international research to determine the marginal impact of providing extended care to young people in OOHC across several life domains. Specifically, the model considers the financial impacts of improved access to education and, relatedly, employment; improved housing stability; reduced interaction with the justice system; improved access to healthcare; and reduced incidence of alcohol and/or drug dependence.

This report is structured as follows:

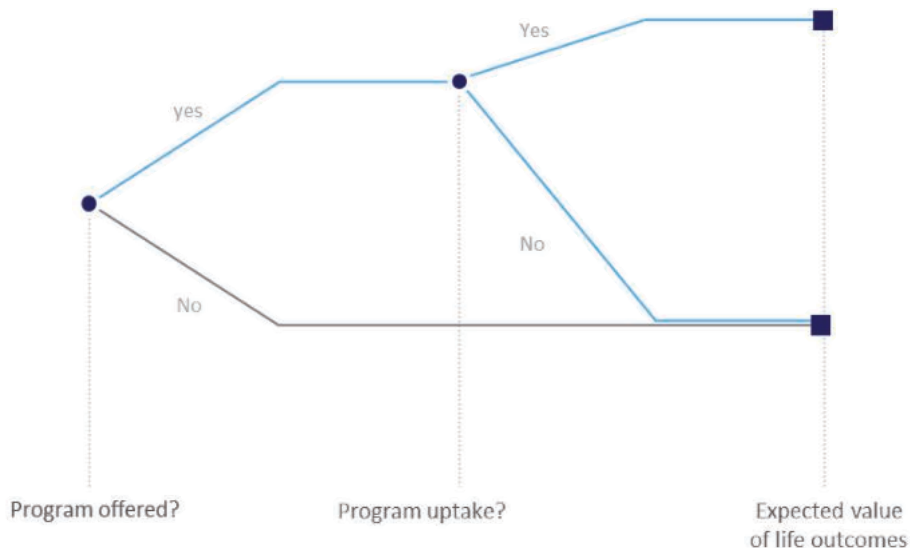
- **Chapter 2. Methodology.** An overview of the model structure and its limitations
- **Chapter 3. Model inputs.** Key modelling assumptions and the literature which has informed them.
- **Chapter 4. Results.** Model outputs and their interpretation/implications
- **Chapter 5. Conclusions.** What the results of this further analysis suggest should be done to help care leavers.

2 Methodology

Our modelling is designed to quantify the total cost to governments of children leaving care at the age of 18, and to estimate the net benefits of offering children in OOHC the option to receive extended support to the age of 21.

The model compares two scenarios – one in which the program is offered on a voluntary basis, and one in which the program is not offered (base case). The model structure is based on previous analysis conducted by Deloitte Access Economics for Anglicare Victoria (Deloitte Access Economics, 2016), with the addition of new cost categories for teen parenthood, unemployment services and non-hospital health costs that were not considered in the original analysis.

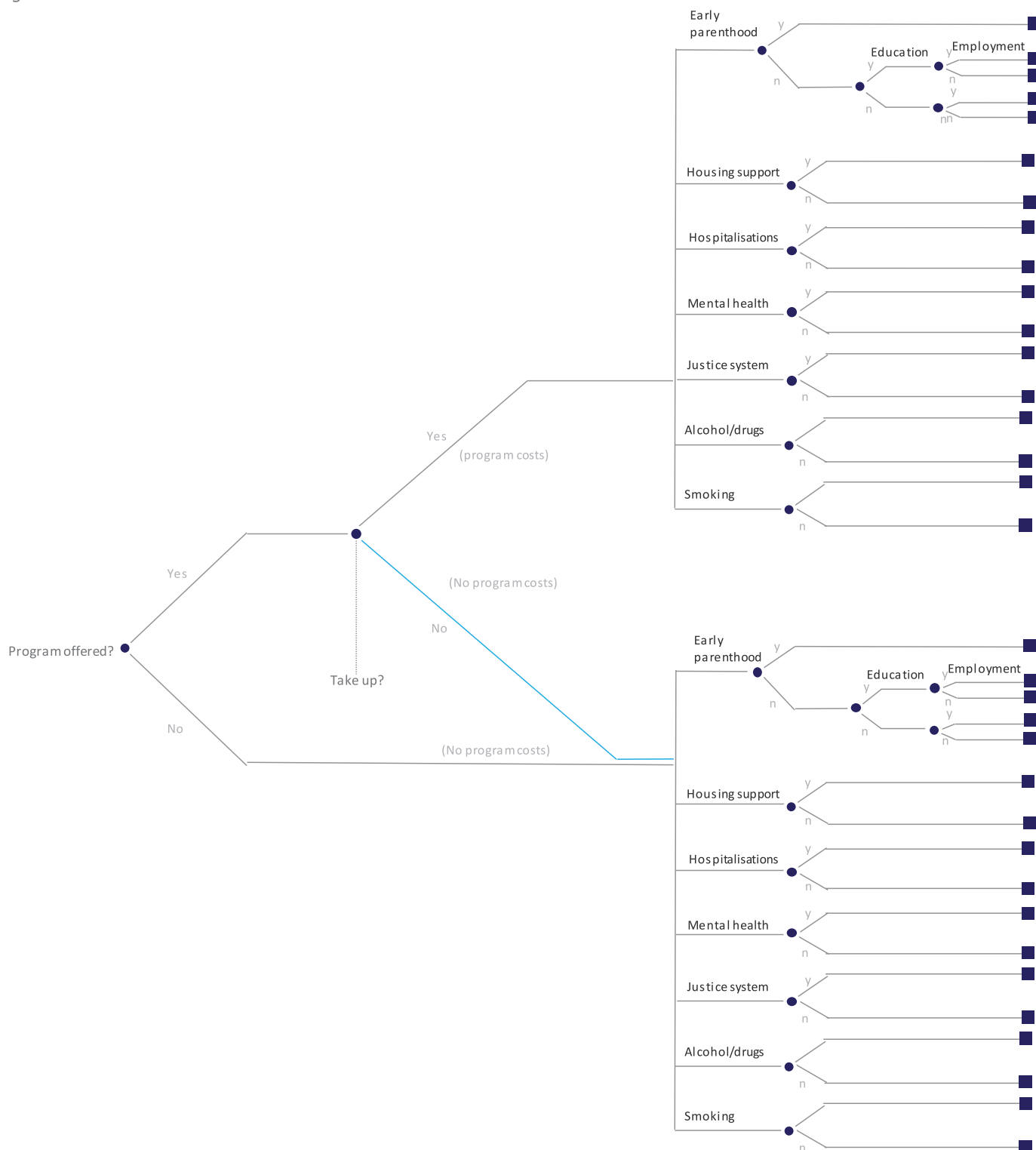
Figure 2.1: Model structure overview, program versus base case



Outcomes differ on the basis of whether an individual participates in the program or does not participate in the program, and are estimated based on international experience as summarised in section 1.2. The model allows for the estimation of monetary outcomes (costs/savings) across seven life domains: teen parenthood; education and employment; housing; hospitalisation; the non-hospital costs of mental illness and smoking; interaction with the justice system; and alcohol and drug dependency (detailed assumptions for each category are provided in Chapter 3).

The probability of experiencing benefits (e.g. a higher wage) or avoiding costs (e.g. reduced justice system costs) is dependent upon program participation (Figure 2.2). It is assumed that the individuals who choose not to take up the program have the same outcomes as individuals who were never offered the program in the first place. The implicit assumption is there is no characteristic difference between those who choose the program and those who do not, except for their choice.

Figure 2.2: Model structure



The main model inputs are the probabilities associated with each pathway and the annualised value in 2018-19 dollars of each outcome. Individuals are assumed to remain on the same pathway for the whole of the period of analysis. The inputs also include any costs associated with a particular pathway, such as the cost of education. Using these inputs, the model calculates the expected value of each pathway.

Expected value weights the value of possible outcomes by the probability that they will occur. For example, a 50% chance of the present value of \$100 in savings is equivalent to $0.5 \times 100 = \$50$.

2.2 Model outputs

There are two key outputs from the model. The first is the cost of care leavers to the Commonwealth Government over a ten-year period. The second output is a socioeconomic cost benefit analysis, and is an update of the previous analysis undertaken for Anglicare Victoria.

Financial impact of higher government service use by care leavers

The purpose of this part of the analysis is to estimate the current cost to governments of providing services to care leavers once they have left care to assess the larger financial impact of care leavers as a result of the higher level of use of government services. The cost to governments is calculated over a four-year and a ten-year period for care leavers who are 18, 19 or 20 in 2018-19, in the base case where no program is offered. This time period is used to provide an indication of the shorter term financial impact of care leavers on government budgets. These costs are not relative to any other group, that is, they do not calculate costs such as unemployment or forgone taxes relative to the broader population where there is a base level of unemployment and labour market participation. Reflecting the fact that different costs grow at different rates, wage, housing and health costs are indexed to their real inflation rate, with all costs presented in \$2018-19 terms.

Because the cost to governments of a care leaver is not constant over their life, the cost for the corresponding age of each cohort is included in each financial year. This means that the costs to governments from 2018-19 to 2027-18 include the costs of current 18 year olds until they are 27, current 19 year olds until they are 28 and current 19 year olds until they are 29.

The results are presented as costs to the Commonwealth Government and combined state and territory governments. Section 3.10 provides further detail on how costs are apportioned between the Commonwealth Government, state and territory governments and care leavers.

Socioeconomic cost benefit analysis

The socioeconomic cost benefit analysis takes a 40-year perspective of an individual's life (that is, looks at outcomes for care leavers from age 18 to age 57). This longer-term perspective is justified on the basis that investments made in youth are likely to materialise over a longer-term basis (with a lag). It is assumed that individuals are a part of the program for a three-year period. This means that to unlock the benefits of extended care over the young person's lifetime, there is an upfront public funding cost.

A benefit cost ratio is calculated by comparing the relative present value of costs and benefits for the scenario where a program is offered against a scenario where the program is not offered. The benefit cost ratio provides a measure of the level of return that can be expected for every dollar invested in a program. The model also calculates the maximum spend that would, in present value terms, equalise spending on the program and long-term program benefits.

Cost benefit analysis and present value

Present value is the total of a stream of outcomes that occur over time and is expressed in terms of the value of a dollar today (\$2018-19). It is calculated to account for the fact that the value of money that is spent or saved in the future is not equivalent to the value of that same amount if it were realised today. To calculate the present value of outcomes, this study employs a nominal discount rate of 7%.

Costs are inflated annually using price indexes. Wage are inflated by average weekly ordinary time earnings (AWOTE) growth of 4.1% per annum in nominal terms (ABS, 2017a), housing costs are inflated by 3.8% per annum based on the national housing group within the Consumer Price Index (CPI), and health costs are inflated by 4.1% based on the health group within the CPI (ABS, 2018). All other costs are inflated by CPI of 2.5%, in line with the Reserve Bank of Australia's inflation target.

2.3 Population of interest

The eligible population for extended OOHC are young people aged 17 who are discharged from care on their 18th birthday. To determine the eligible population, we used the data on the number of children in OOHC by age group (Table 2.1).

Table 2.1: Children in out-of-home care aged 15 to 17 years of age by jurisdiction, 2012-13 to 2016-17

Year	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
2012-13	2,588	1,312	1,045	326	394	139	83	112	5,999
2013-14	2,738	1,421	1,067	356	356	151	83	129	6,301
2014-15	2,582	1,406	1,150	394	364	154	81	151	6,282
2015-16	2,547	1,629	1,195	430	409	155	100	163	6,628
2016-17	2,591	1,773	1,318	432	476	175	105	174	7,044

Sources: AIHW, 2014, 2015, 2016, 2017 and 2018a. Note: The Tasmanian data exclude children not under care and protection orders placed with relatives for whom a financial contribution is made under the Supported Extended Family or Relatives Allowance programs. Out-of-home care data for the ACT includes some young people 18 years and over whose carers receive a full carer payment. This is generally to facilitate completion of schooling without change to the placement. These young people have been included in the 15–17 age group.

The data were not available for individual age groups. To determine the number of 17 year olds in care, we divided the number of children in care who were aged 15-17 by three. To project the number of children in care for 2017-18 and 2018-19, which is needed for the analysis, we used a straight-line projection of the number of 15- to 17-year olds in care over the last five years. The eligible population used for the analysis is shown in Table 2.2.

Table 2.2: Children in out-of-home care aged 17 years of age by jurisdiction, 2016-17 to 2018-19

Year	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
2015-16	849	543	398	143	136	52	33	54	2,209
2016-17	864	591	439	144	159	58	35	58	2,348
2017-18	865	638	466	155	167	62	37	65	2,454

Source: Deloitte Access Economics analysis based on AIHW data.

2.4 Program uptake rates

Program participation is assumed to be voluntary. It is assumed that every eligible individual for the program will have some probability of choosing to enter the program and, conversely, of choosing to not enter the program. The average probability of an individual choosing to enter the program is termed the 'uptake rate'.

This study uses an uptake rate of 24.95% of eligible individuals, which is based on figures from the Department of Education in the United Kingdom on the rate of uptake of the *Staying Put* program (Children and Young People Now, 2015). This is the same as the uptake rate that was used in our previous analysis (Deloitte Access Economics, 2016). Participants are assumed to remain in care until 21 for the purposes of the model, as the evidence on outcomes from the overseas programs did not distinguish whether the participants had stayed in care for one, two or three years.

This rate may underestimate the likely participation rate depending on the policy settings used to implement the program in Australia. This is because participation in the English program required that participants meet one of a number of other criteria such as conditional participation in education and or training.

To provide an appropriate range for the benefits calculation, the paper tests this assumption by applying a 50% uptake rate to test the sensitivity of the results to the program uptake rates.

2.5 Estimating model inputs

Model inputs were estimated using a series of assumptions informed by the literature. A detailed description of modelling inputs and their sources is provided in Chapter 3.

The base case was developed drawing upon research conducted, where possible in Australia, studying outcomes for care leavers. Where this research was not available, outcomes were estimated by considering outcomes for care leavers aged 18 in the UK or USA.

Outcomes for care leavers aged 21 were estimated by drawing upon research from jurisdictions in which comparable programs are currently available (see Chapter 3). Studies which compared a 21-year-old care leaver population to an 18-year-old care leaver population were considered first. The differential between the populations was applied to the Australian base case to maximise relevance to the Australian policy setting.

It is important to ensure that the children in the program group have similar demographic and other characteristics to those who opt out to control for differences in initial socioeconomic or health states. It is also important to ensure that the target population in Australia is a similar population to that in the studies from which effect sizes are sourced. We have done this as far as possible, noting that in some cases the target group in the literature was children in one form of OOHC (e.g. foster care), rather than all forms, and that there were also other factors in some cases where full matching or control was not known or not possible due to data limitations.

2.1 Model limitations and interpretation

As is the case with all modelling exercises, the model presented in this paper presents a stylised representation of reality. The interaction between young people's care experiences and adult outcomes is complex and individualised. There is no set pathway that individuals will pursue based on outcomes realised as teenagers or young adults, however the model necessarily makes the simplifying assumption that outcomes will remain constant for an individual throughout the period of analysis. We have also assumed that government policy settings will not change for the period of analysis, with the exception of the policy intervention to extend OOHC until the age of 21.

The model only considers outcomes within seven life domains. In reality, the impact of extended out of home care is likely to span many more life domains and result in a far broader range of tangible and non-tangible outcomes. There are also numerous other complicating considerations relevant to this population group. For example, children in OOHC may experience fragmented relationships with next of kin due to the physical separation brought about (and often legally required) through the OOHC arrangements, as well as because of the source of family abuse or neglect itself. Many have also not been able to forge lasting friendships due in part to unstable living and schooling arrangements. As a result, OOHC and foster youth have a higher rate of disengagement with key societal institutions such as the family, education, business (employment) and the wider community; these institutions exert a stabilising effect on the wellbeing of both the individual and society in general. It is important that such impacts are considered qualitatively alongside the quantitative outputs of the model.

The model also does not quantify the impact of foster care on the next generation. Extending care and the resulting improvements in the life outcomes of these care leavers may also have flow-on impacts to their children. While not quantified, these potential benefits are discussed qualitatively in section 4.3.

Further, the model assumes that, with the exception of early parenthood, education and employment, life domains are independent, that is, they do not interact with one another. This assumption is unlikely to hold in reality. For example, the propensity to develop an alcohol or drug dependency is strongly related to employment outcomes. Alcohol and drug dependency is also likely to make an individual more likely to commit crime. For tractability and due to data limitations, these interactions are not explicitly modelled; however, they should be considered in the interpretation of modelling results.

The modelled results are not a description of future outcomes. Rather, they are a construct, derived from the best available evidence, to allow decision makers to weigh a representation of the lifetime benefits of extended care against immediate program costs. The modelled results must be considered with reference to the nature of underlying assumptions. In addition, there are other potential intangible benefits, such as improved wellbeing, that have not been quantified in the analysis, but nonetheless are important considerations for determining whether to fund social services.

3 Model inputs

The model inputs were estimated using a series of assumptions informed by available literature. This chapter provides an overview of the model inputs and the rationale for their use in the analysis.

For each of the model inputs, we have set out the approach that we have taken to estimate the base case and the intervention, that is extending OOHC to the age of 21. This chapter also explains how we have estimated the cost of extending care and the attribution of the costs and benefits between governments and care leavers.

3.1 Homelessness and housing support

Australian and international out of home care systems have seen a high correlation between being in care and experiencing both immediate and long-term housing instability, including homelessness. The range of housing outcomes generally entered into by care leavers includes homelessness, public housing services, and independent private housing rental, usually with government rental assistance (Johnson et al., 2010). Most care leavers experience long-term housing instability as they often lack strong social connections with their original families, foster carers, friends and/or support workers. This makes it more difficult for such individuals to seek appropriate advice, borrow money or request temporary accommodation when independent housing means break down. Housing instability can lead to poor mental health outcomes, unemployment and alcohol and/or drug dependence. Key findings in the box below are derived in subsequent sections.

- The probability of homelessness if exiting care at 18 is 39.0%, estimated from a Victorian study of care leavers. The probability of homelessness if exiting care at 21 is 19.5%, derived using English estimates that show a later exit age halves the probability of homelessness (compared to exiting at 18).
- The cost of housing support is estimated at \$19,599. Acknowledging the difference in housing support costs between the Indigenous and general population, this figure represents an annualised cost that is weighted by the proportion of Indigenous and non-Indigenous children among those in care in Victoria.

3.1.1 Probability with and without intervention

A study by Forbes et al. (2006) of Victorian care leavers found that the proportion of individuals leaving care at the age of 18 who are reliant on housing support was 39%. While this prevalence rate was found for a sample study in 2006, it is considered to be appropriate for the current model since there is no evidence of either an increase or decrease subsequently.

Data from the evaluation of the *Staying Put* program has been used to estimate the proportion of individuals exiting care at the age of 21 who subsequently become reliant on public housing support. In England, of those who were able to directly enter stable housing, 67% had remained in stable housing until a later age in the system, compared to 33% who had left the system at 18 (Munro et al., 2010). As a result, the public housing support reliance rate for those exiting care at 21 is considered to be half that of those exiting at 18. The model therefore assumes that 19.5% of those who leave care at 21 would be reliant on public housing support.

We note that the Midwest study suggests that extending foster care delays, rather than reduces, homelessness (Dworsky & Courtney, 2010). However due to the lack of longitudinal research measuring this effect, there is still no conclusive evidence of whether lowered homelessness rates are sustained with time or simply delayed to a later time. In light of this, we have chosen to use the 'Staying Put' study's homelessness estimates in our model based on pertinent similarities between the English and Australian populations.

3.1.2 Monetary assumptions

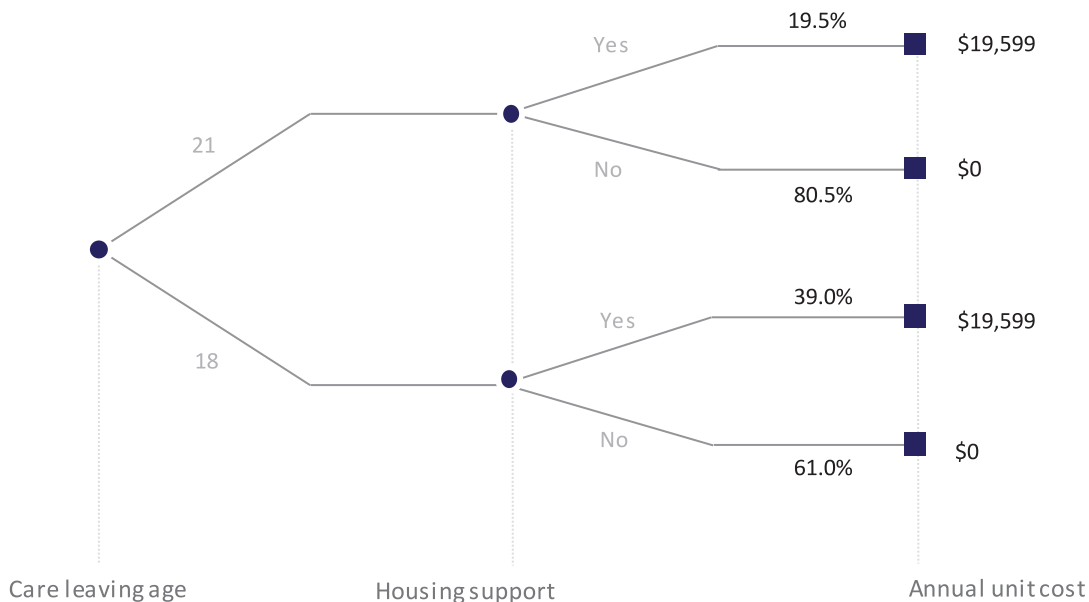
The average annual unit cost of housing support by state and territory governments was estimated to be \$12,301 in 2011 dollars, as per research conducted by (Zaretsky & Flatau, 2015). The cost was inflated to \$19,599 in 2018-19 dollars. While housing support are administered by state and territory governments, the Commonwealth Government provides some of the funding for housing and homelessness. The attribution between different levels of government is discussed in Section 3.10.

These costs were annualised and weighted by the proportion of Indigenous and non-Indigenous children in care for each state and territory. These costs were then weighted by the number of care leavers from each State and territory to achieve a national weighted average cost of providing housing and homelessness support. Separate Indigenous and non-Indigenous costs need to be considered as there is a significant difference between the two values, with the cost of Indigenous housing support close to four times that of general housing support. As Indigenous children are also substantially overrepresented in the out of home care system, this is likely to substantially impact costs for the overall care leaver population.

3.1.3 Summary of assumptions

Figure 3.1 provides a summary of cost and probability assumptions used in this study, as derived above.

Figure 3.1: Housing and homelessness support model assumptions



3.2 Employment and education

Education is directly related to the realisation of positive life outcomes for individuals and societies. While the returns to education materialise in multiple facets of life, the modelling in this study focuses on the relationship between education and employment outcomes. Studies find that young people with lower levels of education are more likely to become unemployed and stay unemployed for extended periods of time. If they are employed, they are likely to be employed in lower paid jobs (Rumberger & Lamb, 2003). As such, these individuals are likely to earn lower wages, rely more heavily on welfare payments and accumulate lower levels of wealth across the span of their lives. The box below summarises key probabilities and financial flows estimated in the subsequent sections.

- Education and employment outcomes are modelled together, with the probability of employment being affected by participation in education.
- The probability of pursuing further (VET) education or higher levels after leaving care at 21 is estimated at 10.4%, whereas the probability after leaving care at 18 is 4.5%. These numbers are adjusted to account for non-early parents only.
- The probability of being employed having received VET education or beyond is 58%, while the probability of employment having received education below VET level is 31.3%. The cost of VET education is \$3,774.
- The annual earnings for an individual with VET qualification is \$68,155. Earnings for the individual with education attainment below VET-level are estimated at \$52,192 per annum.
- Those who are unemployed regardless of qualification level are estimated to receive unemployment benefits of \$14,510 annually, plus employment services of \$2,428 per annum.

3.2.1 Probability with and without intervention

Harvey et al (2015) found that within a sample of Australian care leavers, 11% had pursued further education beyond school. As such, the model in this paper assumes that a child exiting care at 18 has a probability of 11% of pursuing further education. Using the most recent National Centre for Vocational Education Research (NCVER) (2013) report, the base case probability of further education was adjusted for the weighted average expected rate of Vocational Education and Training (VET) course completion (34%) to equal 3.74%.

No studies were found that compared education outcomes for individuals who remained in care until age 21 with individuals who exited care at 18 or younger. In England, Munroe et al. (2010) reported that for young people who continued to remain in care at 19, the probability of pursuing education was 55%, compared with 22% for those who left care before 18 years of age. That is, extending care more than doubled the probability of continuing in education. This finding is comparable to the Midwest study which reported that youth who extended foster care to the age of 21 were more than twice as likely to have completed at least a single year of college by age 21 (Courtney et al., 2007). The model assumes that a child exiting care at 21 has a probability of $0.0374 \times 2.5 = 9.3\%$ of pursuing (and completing) further education.

The model adjusts the probability of education to account for the fact that a proportion of those who do not go on to education are early parents, a group considered separately in the model. Excluding the 16.6% probability of early parenthood, the probability of completing VET education becomes $3.7\% / 83.4\% = 0.05$ (4.5%) for those who leave care at 18. For people leaving care at 21, the probability of completing VET education becomes $9\% / 10.2 = 10.4\%$.

The 2016 analysis estimated that the average probability of employment for VET certificates at 58% based on ABS surveys. We employ this assumption in our analysis, however, caveat that the ABS survey was cross-sectional, and as such, does not provide a measure of sustained employment. The figure is conservative compared with NCVER (2014) estimates of employment in the six months following graduation from a VET course (78%) (NCVER, 2015).

The same survey reports that for individuals who complete year 12, the probability of employment is 41%. For individuals who do not complete year 12, the probability falls to 0.26. McDowell (2009) found that 35.3% of care leavers in Australia complete year 12. Accordingly, it is assumed that the weighted probability of employment for individuals who do not pursue VET is $(41\% \times 35\%) + (26\% \times 65\%) = 31.3\%$.

3.2.2 Monetary assumptions

The relationship between education and employment is clearly not standardised across individuals – the lifetime earnings of an individual is dependent upon a number of factors in addition to education. However, in order to incorporate this relationship into the model presented in this paper, a number of simplifying assumptions have been made:

- **Employment pathway.** In practice, individuals drop in and out of the workforce, change jobs and change the trajectory of their pay-scale as a result of these decisions. In this model, it is assumed that once an individual enters employment or unemployment, they remain in that state and at that wage inflated by AWOTE until they are 40. A wage differential is applied for individuals who enter employment after further education versus individuals who enter employment with no post-schooling education. Annual wage costs

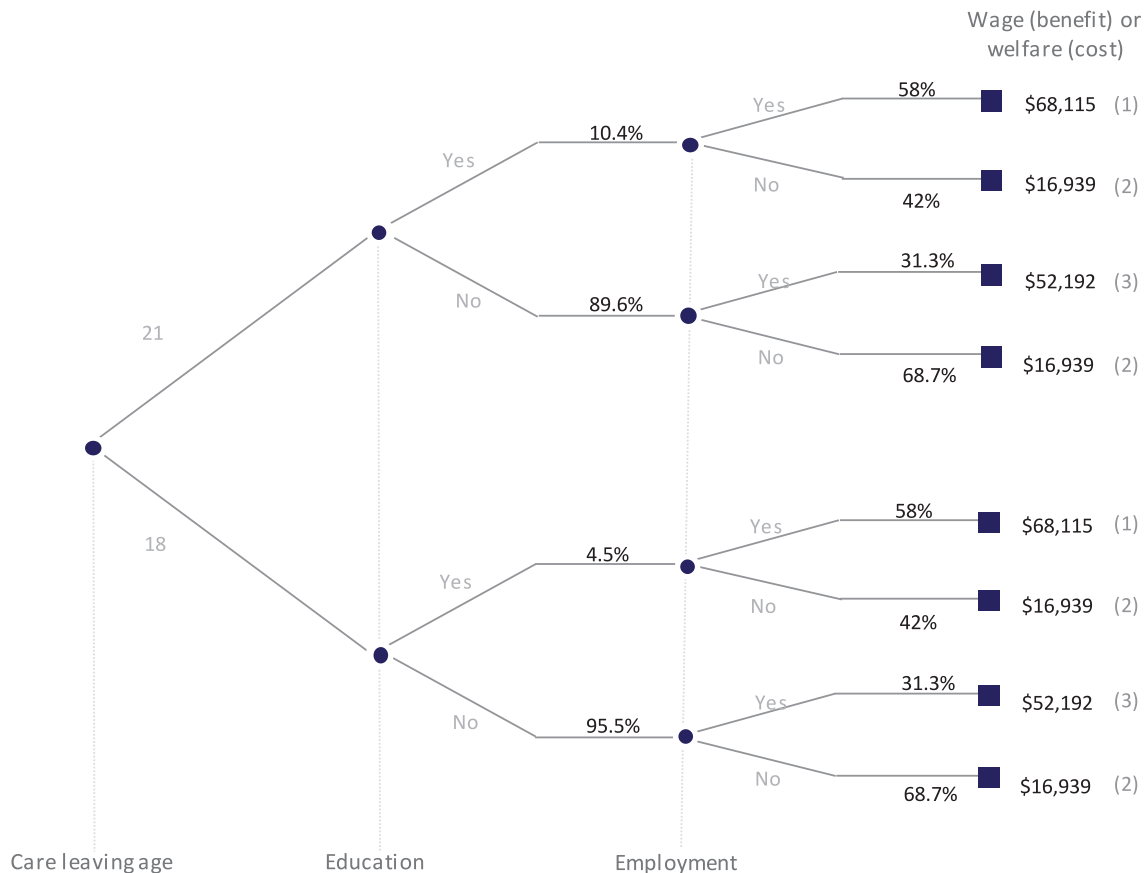
were calculated from the ABS Report 'Education and Training Experience in Australia' and inflated using AWOTE growth rates to 2018-19 dollars (ABS, 2005). This is comparable to NCVET estimates of annual salaries for post-VET graduates (National Centre for Vocational Education Research, 2015).

- Cost and duration of education.** It is assumed that individuals who pursue education post-schooling will engage in a VET course for a single year. This is considered a reasonable assumption as a recent study found that the majority of care leavers (90%) enrolled in institutions of higher learning were doing so in vocational institutions (Harvey et al., 2015). A national weighted average annual cost of education for a VET Certificate-level course is included in the model (Victoria Polytechnic, 2016). Individuals who do not pursue VET are not disaggregated. That is, no distinction is made in the model between those who complete year 12 and those who would not have completed schooling.
- Welfare payment for unemployment.** The welfare payment that individuals received if unemployed varies by circumstance. The model assumes that all individuals who are unemployed receive the maximum rate of Newstart Allowance, inflated over time using CPI.
- Unemployment services.** In addition to welfare payments, governments spend money providing services to unemployed people, for example through the Jobactive program. Annual costs of providing employment services have been estimated using the average of 'partial outcome' payments for Stream C jobseekers (the most disadvantaged stream) who have been unemployed for less than 24 months and 24-59 months, plus administration fees, totalling \$2,428. The use of partial outcome payments reflects that the model assumes that this group remains in a state of unemployment.

3.2.3 Summary of assumptions

Figure 3.2 provides a summary of assumptions used in the education and employment section of this study.

Figure 3.2: Wage and welfare modelling assumptions



Notes: (1) This amount represents the average annual wage received by the care leaver after having completed one year of VET. The model also includes the cost of one year of VET per person, which is an average of \$3,958. (2) This amount represents the average annual cost of unemployment benefits (Newstart). (3) This amount represents the average annual wage received by the care leaver who has not completed any post-school study.

3.3 Early parenthood

Teenage parents in general are a group that is associated with broader disadvantage than their peers – largely due to their younger age, reduced access to education, employment and social support (AIHW, 2018c). At a time where many would be grappling with periods of rapid biological, psychological and social change, teenage parents are also having to look after the needs of their young children (Price-Robertson, 2010).

Teenage mothers are reported to be at risk of social stigma, with teen motherhood potentially affecting social determinants of health that include access to education, employment and social support (having a baby at a young age often disrupts education and increases the barriers to finding and keeping a job) (AIHW, 2018c and Department of Social Services, 2016).

There are also indications of intergenerational disadvantage to this group. Teenage mothers are 2.2 times more likely to have a child placed in foster care than those who delay child bearing until age 21 (National Campaign to Prevent Teen and Unplanned Pregnancy, 2006). Children born to teenage parents are at risk of lower health and wellbeing outcomes, in addition to being in poorer socio-economic positions (Lipman et al., 2011 and Price-Robertson, 2010). For teenage mothers ageing out of foster care, it is expected that their challenges and the intergenerational impacts would be more pronounced.

The presence of intergenerational impacts from teenage parenthood can mean that the broader costs to the Commonwealth government are likely to be multiplicative and potentially very large. However, due to difficulty in establishing causal pathways between teenage parenthood and its effects on the next generation, we restrict analysis of the impacts of teen parenthood only in relation to the first generation (that is, the teenage parents in foster care). The box below summarises key findings derived in subsequent sections.

- The cost of early parenthood is modelled based on the impact on education and employment outcomes.
- The probability of becoming a parent after leaving care at 21 is estimated at 10.2%, whereas the probability after leaving care at 18 is 16.6%. These numbers are adjusted to account for both male and female care leavers.
- Those care leavers who become care leavers are assumed not to participate in employment or education and are estimated to receive government benefits. The welfare payments received vary annually depending on the age of any children, however the annual benefit is of \$32,616.
- Those who do not become parents follow the education and employment pathways discussed in Section 3.2.

3.3.1 Probability with and without intervention

To derive the probability of early parenthood at 21 with the OOHC extension, an estimate of the protective effect of extended care on the likelihood of early parenthood was applied to the probability of early parenthood for 21 year olds who left OOHC at 18.

- It is assumed that receiving a care extension would result in a 38% reduction in the likelihood of pregnancy, compared to those who did not receive a care extension. Based on data from the Midwest study, Courtney and Dworsky (2006) reported that those who stayed on in care till 19 had a reduced likelihood of parenthood of 38% compared to those who had left at 18.
- The probability of parenthood for a 21-year-old (who left OOHC at 18) is assumed to be 34%. This is based on a longitudinal study of the Australian care leaver population that reported 57% of the female care leaver population had become parents by 23 years of age (Cashmore, 2006). It is assumed that the parenthood experience of a 23-year-old and a 21-year-old (both who had aged out of OOHC at 18) would be reasonably similar.
- 48.4% of children in OOHC were female in 2016-17 (AIHW, 2018).

The probability of early parenthood at 21 with the OOHC extension was thus derived to be $(0.34 \times (1 - 0.38) \times 0.484) \times 100 = 10.2\%$.

3.3.2 Monetary assumptions

The cost of teenage parenthood to the Australian government is estimated through the average amount received by a teenage parent in social support payments.

The cost of teenage parenthood is estimated based on the expected costs that early parenthood presents to the Australian government, rather than adult parenthood which is expected to be associated with lower costs (due to higher earning capacities of older parents, and lower access to social support funding).

As such, it is assumed that the costs included in the early parenthood calculations would be limited to the support payment types afforded to a teenage parent that would not be afforded to an older parent who is likely to be in a better socio-economic position. As literature shows that a high percentage of mothers in foster care reside with their children (and fathers in foster care are less likely to live with their children), it is assumed that payments are made to a single mother (Courtney et al., 2011). Research also shows that the average age of having a first child among the foster care group is 19, thus costs of early parenthood have been applied from age 19 (Carpenter, 2001). In the year that a care leaver turns 18, costs are the same as for the education and employment stream. Hence it is assumed that teenage mothers in care between the ages of 18 and 21 would have only 1 child for the duration of the OOH extension.

The social support payments included in the cost calculations are:

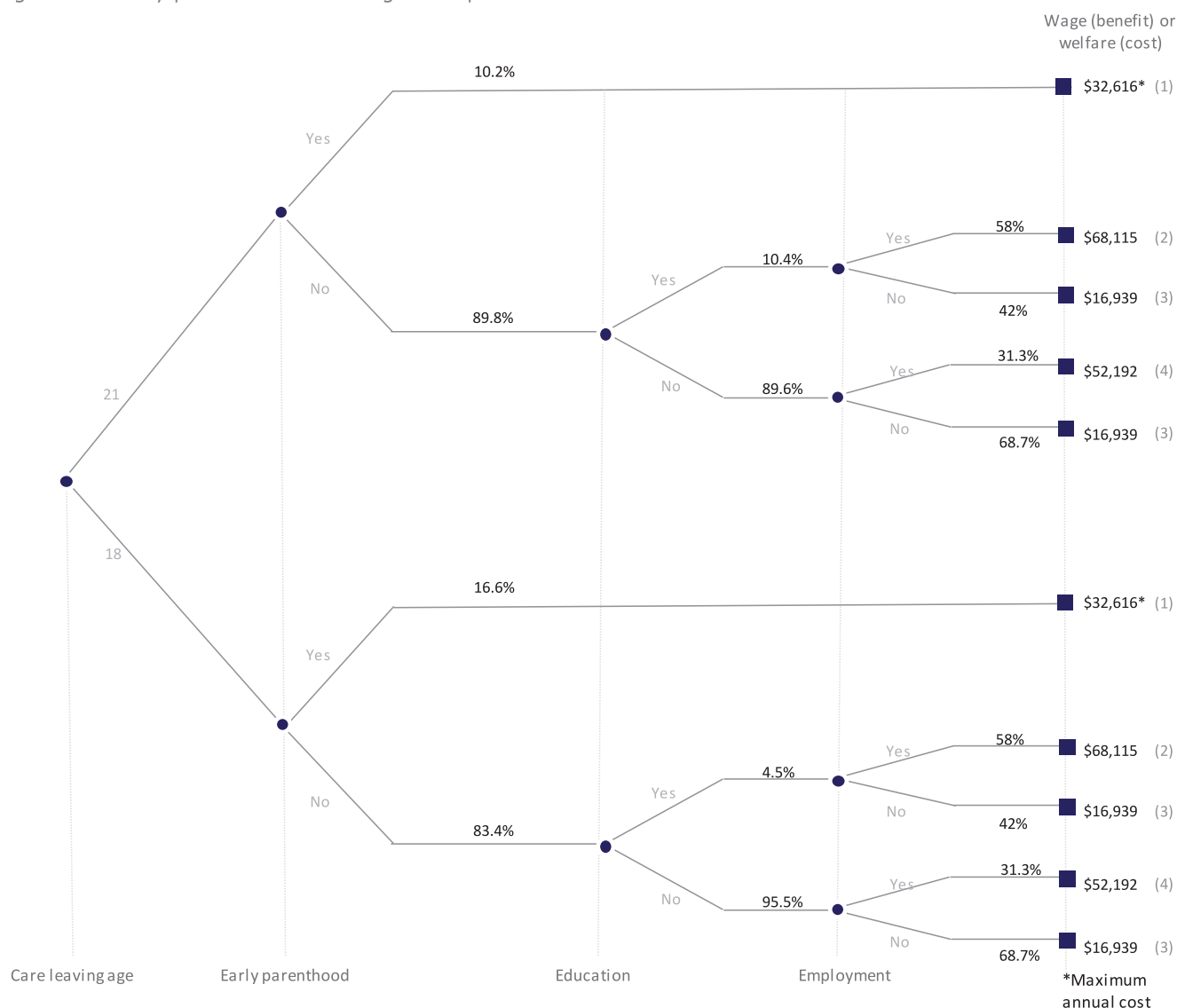
- Parenting payments (taking the maximum amount for a single parent): \$762.40 per fortnight;
- Pharmaceutical allowance: \$6.20 fortnightly per child, up till the child is 8 years old;
- Newborn Upfront payment \$540 per child;
- Newborn Supplement: \$1,618.89 for the first child, and \$540.54 for each subsequent child;
- Newstart allowances: base rate, and additional payment based on having dependents; and
- Family Tax Benefit: A (rate 1 & 2), B (rate 2).

As such, the cost of early parenthood to the Commonwealth government (per teen parent) varies annually, and decreases over time. The maximum annual cost is estimated to be \$32,616, in the year a child is born and comprises parenting payments, pharmaceutical allowance, newborn supplement and Family Tax Benefits A and B. The average annual cost during the years a child is 2-17 years old is \$26,566 and comprises parenting payment or Newstart (single with dependent children) and Family Tax Benefits A and B. After this, costs reverse to the base rate of Newstart (\$14,510 annually). The cost of providing unemployment services is included when the newstart allowance is received. Further information on these payments is at Appendix A.

3.3.3 Summary of assumptions

Figure 3.3 provides a summary of assumptions used in the early parenthood section of this study, together with education and employment probabilities and financial flows derived in the next section.

Figure 3.3: Early parenthood modelling assumptions



Notes: (1) This amount represents the cost of payments to a parent in the year their child is born, this reduces over time as described in Section 3.1.2 as the government support is lower for older children. (2) This amount represents the average annual wage received by the care leaver after having completed one year of VET. The model also includes the cost of one year of VET per person, which is an average of \$3,958. (3) This amount represents the average annual cost of unemployment benefits (Newstart). (4) This amount represents the average annual wage received by the care leaver who has not completed any post-school study.

3.4 Hospitalisations

We have used the same approach for estimating hospitalisations for care leavers as was used in our previous analysis (Deloitte Access Economics, 2016). The Midwest study reported a lower proportion of hospitalisations over a one-year period among 21 year olds exposed to extended care compared with 19 year olds who were no longer in care (Courtney et al., 2007). The causal link between extended care and reduced hospitalisation rates is due to three potential drivers: better access and more appropriate use of primary care, delayed pregnancy (owing to improved family planning) and reduced rates of injury. The key findings summarised in the box below are derived in the subsequent sections.

- The rate of hospitalised is estimated to be 29.2% for young people who left care at the age of 18, which is reduced to 19.2% for young people who remain in care until the age of 21.
- The average number of hospital stays per person per year was estimated to be 1.37.
- The estimated annual cost of hospitalisation saved is \$9,062.

3.4.1 Probability with and without intervention

The Midwest evaluation reported that, at 21 years of age, 19.2% of the Illinois foster youth population had at least one hospitalisation episode in the previous year (Courtney et al., 2007).

Another study conducted in Illinois reported that 29.2% of young people who had left care aged 19 and below had experienced at least a single admission in the previous year (Courtney and Dworsky, 2006). Although the population surveyed comprised youth who experienced a year more of care than our modelled population, it also included those who had left care prior to 18. These effects are likely to work in opposite directions, so it is considered that 29.2% is a reasonable assumption to use in our model to represent the risk of hospitalisation on average for the 18-year-old care leaver population.

3.4.2 Monetary assumptions

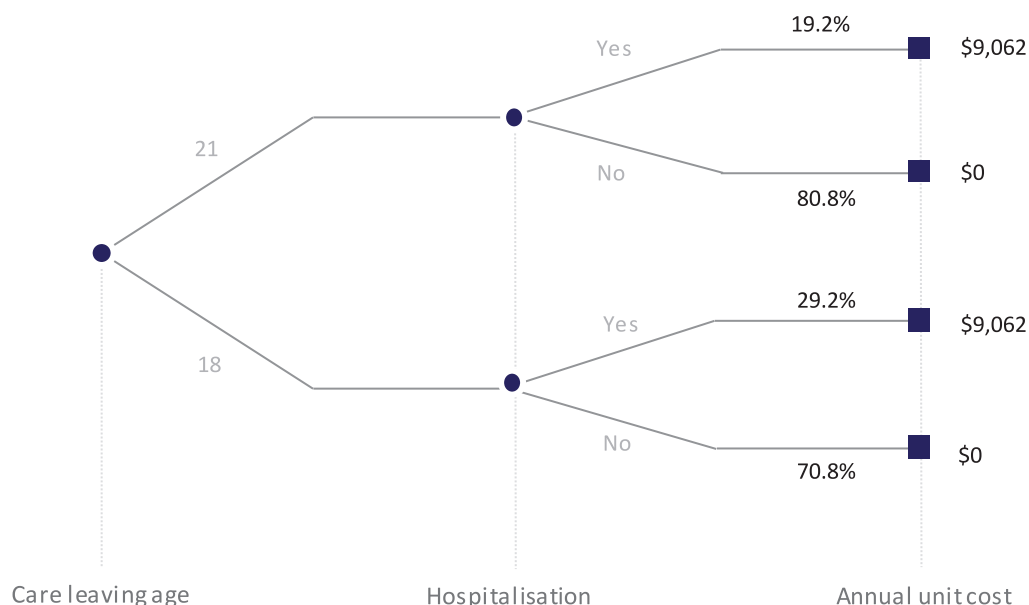
In order to estimate the cost incurred by hospitalisations, the following assumptions were employed to model the impact of the proposed intervention on hospital care costs:

- **Number of hospitalisations avoided.** The Midwest study found that at least one third of all individuals who reported hospitalisation during a year more than one hospital admission in the year (Courtney et al., 2007). The modelled number of hospitalisations avoided is $1 \times 0.63 + 2 \times 0.37 = 1.37$.
- **Hospitalisation cost.** The average cost of admitted acute care in a public hospital, weighted by case complexity, was \$5,725.05 in 2015 dollars nationally per separation, based on the 2012-13 National Hospital Care Data Collection (Independent Hospital Pricing Authority, 2013). Multiplied by the average number of separations per year for the sample population (1.37), the annual cost of hospitalisation was estimated at \$9,062, after inflating to 2018-19 using the national CPI growth for the health group during this period (4.0%). The same index was used to inflate health costs over the projection period.

3.4.3 Summary of assumptions

Figure 3.4 provides a summary of the assumptions used to estimate the cost of hospitalisations for care leavers in the base case and for those who are able to access extended OOHC, as derived above.

Figure 3.4: Hospitalisation modelling assumptions



3.5 Mental health costs

As children and young people in OOHC are generally placed in the system due to violence, neglect or abuse in their family environment, there is a high likelihood of mental illness among this population. This is explained by the a large body of evidence supporting the belief that having an unstable and damaging family experience at a young age is strongly related to a range of mental illnesses, including post-traumatic stress disorder,

depression and anxiety.⁸ In addition, foster youth with mental illnesses are also associated with other sub-optimal social outcomes – being an over-represented group among those affected by homelessness, and those incarcerated (Fowler et al., 2009 and Cusick, 2012). The key findings summarised in the box below are derived in the subsequent sections.

- The rate of mental illness is estimated to be 54.4% for young people who left care at the age of 18, which is reduced to 30.8% for young people who remain in care until the age of 21.
- The estimated annual cost of mental illness saved is \$1,279 from reduced government spending on mental health (noting that care provided in hospitals is modelled separately).

3.5.1 Probability with and without intervention

Due to a lack of Australian prevalence data for mental illness specific to the care leaver population, an assumption of 54.4% for the probability of mental illness was based upon a 2005 observational study in the USA on foster care alumni who had reported at least one mental health problem (Pecora, 2011). This was taken to be a reasonable assumption based upon the similarities between the prevalence rates for the general populations in the USA and Australia - 22% for the study in the USA, and 20% for Australia in 2007 (ABS, 2007).

To derive the probability of mental illness for those receiving OOHC till 21, an estimated effect size for the impact that extended-OOHC has on mental illness rates was applied to the probability of mental illness for care leavers at 18. A study in the USA had found that youth who received an 'enhanced' foster program (the Casey Program) reported 44.7% less 12-month mental health disorders than those from the public program (Kessler et al., 2008).

This was even after controlling for variables that include time in care, number of placements, duration per placement, and adverse prior events. As the Casey Program is associated with increased funding, support, greater placement stability for its youth, the estimate of 44.7% for an effect size is reasonably applied to the extended OOHC context.

Applying the 44.7% reduction to the 54.4% probability of mental illness among 18 year old care leavers, the probability for mental illness among 21 year old care leavers is assumed to be 31% ($0.544 \times (1 - 0.447) = 0.31$).

3.5.2 Monetary assumptions

Acknowledging that the costs of mental illness is likely to also be represented in the costs of hospitalisation, crime and homelessness, only the non-hospital health costs of mental illnesses are considered here.

The cost of mental illness to government was estimated using 2015-16 mental health expenditure reported by the AIHW (2018b). Expenditure on hospitals, veterans, research, private health insurance rebates and advisory bodies was excluded. The total non-hospital cost to government was thus found to be \$4.9 billion in 2015-16.

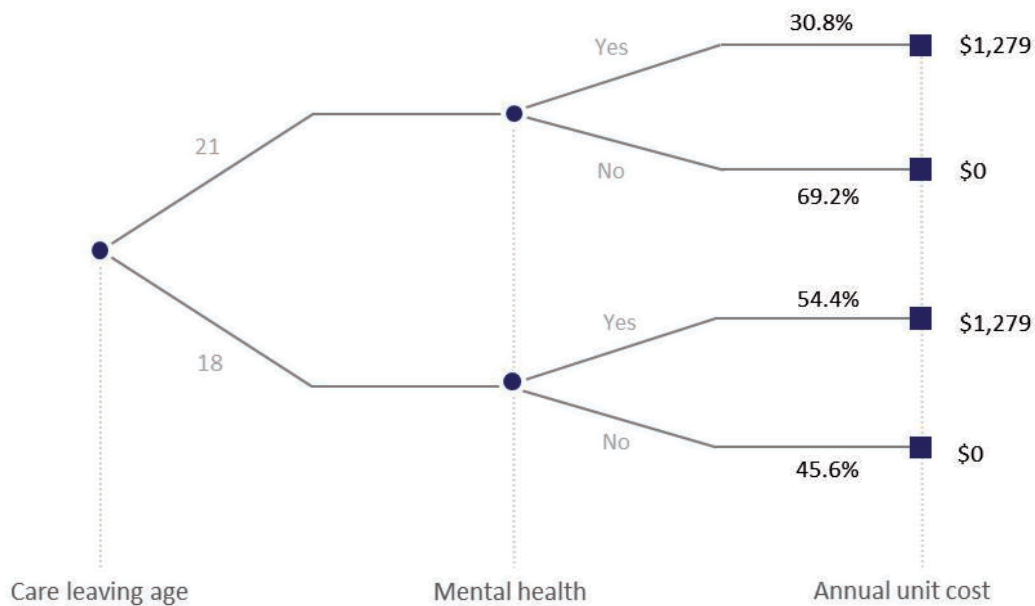
To calculate an annual cost of mental illness per affected individual, an estimate of the population with mental illness in 2015-16 was required. To do this, the mental illness prevalence rates of 13.9% for the 4 to 17 year age group and 20% for the '18 and above' age groups was applied to the population numbers from the corresponding age groups in 2016 to get an estimate of 4.36 million people living with mental illness in 2016. The annual cost of mental illness to the Commonwealth government per affected individual in 2016 was thus found to be \$1,141 in 2015-16, and \$1,279 in 2018-19 dollar terms.

3.5.3 Summary of assumptions

Figure 3.5 provides a summary of the assumptions used to estimate the cost of mental illness for care leavers in the base case and for those who are able to access extended OOHC, as derived above.

⁸ See for example: Australian Institute of Family Studies, 2014; and Department of Families, Housing, Community Services and Indigenous Affairs, 2011.

Figure 3.5: Mental health modelling assumptions



3.6 Costs of crime

Researchers in Australia and overseas have reported on the over-representation of care leavers in the justice system.⁹ A number of factors may lead to this over-representation including homelessness, poor education, underlying anger and resentment towards the state care system, and the absence of effective legal advocacy and support (Parliament of Australia, Community Affairs References Committee, 2005).

It has been suggested that reducing arrests may make a significant difference in the lives of these former foster youth, since an arrest in early adulthood may have long-term consequences on the ability to participate fully in society (Lee et al., 2014). The box presents key findings derived in subsequent sections.

- The rate of interaction with the criminal justice system is estimated to be 16.3% for young people who left care at the age of 18, which is reduced to 10.4% for young people who remain in care until the age of 21.
- The estimated annual cost of crime is \$5,392.

3.6.1 Probability with and without intervention

The proportion of care leavers arrested in the two years following their exit from care was used to estimate the proportion of care leavers interacting with the justice system, based on the assumption that arrests are the principal point of entry into the criminal justice system.

The Washington State Institute for Public Policy study found that the proportion of individuals leaving care at the age of 18 who were arrested within the following two years was 16.3%, compared to 10.4% of those who left care at 21 (Washington State Institute for Public Policy, 2010).

While the Midwest study found comparable outcomes, it also reported that the benefit was more likely to be realised in females than males. It was estimated in the Midwest study that 18-year-old care leavers were approximately twice as likely to be arrested as those who had stayed in foster care until a later age, with 22% of women being arrested after leaving care at 18, compared to 10.5% of women who had remained longer in care.

⁹ See for example: Department of Human Services, 2011; and Forbes, Inder and Raman, 2006.

We apply the more conservative estimates of the Washington State Institute study – that is, we assume that they apply across the population irrespective of gender.

3.6.2 Monetary assumptions

The cost of crime was estimated using data from the Australian Institute of Criminology (AIC, 2014). It includes police costs, prosecution costs, court costs, corrective services and legal aid. As this estimate does not include medical costs for victims, victims’ compensation or intangible costs such as pain and suffering, it is a conservative estimate of the total cost of crime.

Cost of crime

A weighted average unit cost was calculated using AIC data for low, medium and high criminal involvement incidents:

- The cost of a **low criminal involvement** incident, including thefts from vehicles, shop theft, other theft, and criminal damage, was estimated to be \$1,913 per incident in 2011-12 dollars.
- The cost of a **medium criminal involvement** incident, including robbery, burglary, vehicle theft and assault, was estimated to be \$4,280 per incident in 2011-12 dollars.
- The cost of a **high criminal involvement**, including homicide and sexual assault, was estimated to be \$63,816 per incident in 2011-12 dollars.

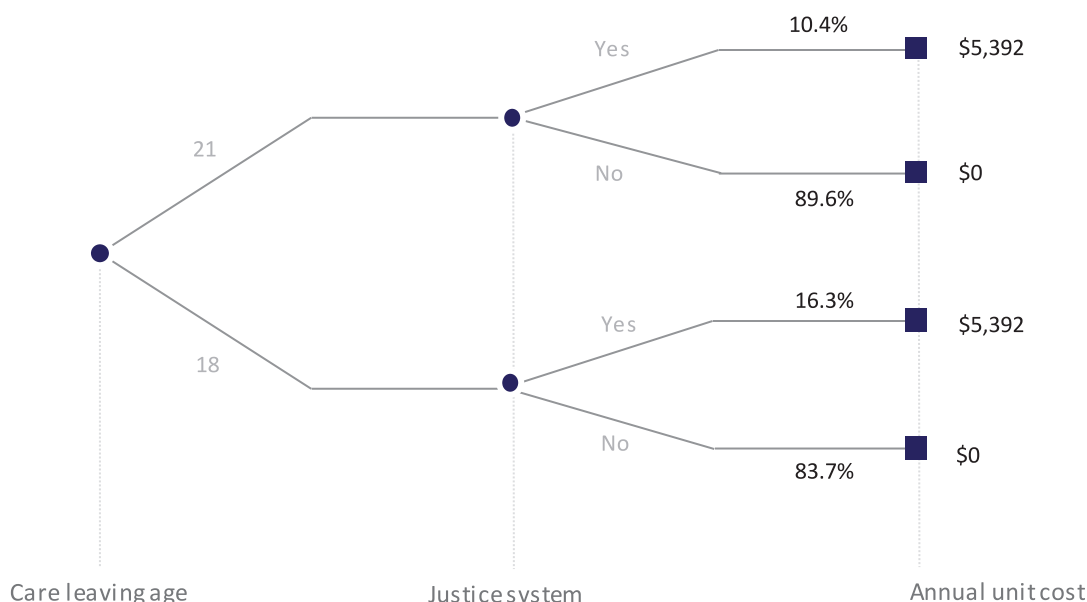
The weighted average cost per incident was calculated by multiplying the share¹⁰ of young people committing each type of crime (categorised as the levels described above) by the cost of that level of crime. The weighted average cost of crime is \$4,676 per incident, inflated to \$5,392 in 2018-19 dollars.

It is acknowledged that the type of crime and the number of times a young person interacts with the justice system over a lifetime will realistically vary for each individual. The model assumes that for any given year, of the individuals who ever enter the justice system, the average weighted annual unit cost would be incurred.

3.6.3 Summary of assumptions

Figure 3.6 provides a summary of the assumptions used to estimate the costs of crime, as derived above.

Figure 3.6: Cost of crime modelling assumptions



3.7 Alcohol and drug dependence

We have also used the same approach for estimating the costs of alcohol and drug dependence for care leavers as was used in our previous analysis (Deloitte Access Economics, 2016), adjusted to include only

¹⁰ The proportions of each type of crime committed are: low (63%), medium (33%) and high (3%) 5,391 (AIC, 2014)

financial costs to governments. The model uses an average cost per case of alcohol and/or drug dependency to society to determine a standardised cost per person. Key findings are presented in the box below, derived in subsequent sections.

- The prevalence of alcohol and/or drug dependency is estimated to be 15.8% for young people who left care at the age of 18, which is reduced to 2.5% for young people who remain in care until the age of 21.
- The weighted annual unit cost of alcohol and/or drug dependency is estimated to be \$1,013.

3.7.1 Probability with and without intervention

The Midwest study estimated that the proportion of individuals leaving care at the age of 18 with alcohol and/or drug dependency, measured at age 21, was 15.8% (Courtney et al, 2007).¹¹ As a comparable statistic was not found to be available in an Australian sample, it is assumed that the probability of alcohol or drug dependence for a child exiting care at the age of 18 is 0.158.

No research was found that isolated the impact of extended care on alcohol and/or drug dependency for youth in the years after they left care (Best and Lubman, 2012). As such, a proxy for the effect of additional care on the probability of alcohol and/or drug dependency was employed.

Research indicates that the strength of social engagement and social networks in youth impacts upon the propensity to engage in risky behaviours including alcohol/drug abuse into adulthood. Participation in formal education is one mechanism for fostering improved social engagement and the formation of social networks (Best and Lubman, 2012). The 2014-15 National Health Survey found that youth who complete year 12 are 84.4% less likely to abuse alcohol in adulthood than youth who leave school before year 10 (ABS, 2015).

The reduction in alcohol and drug dependency owing to engagement with education (a reduction of 84.4%) is used to calculate the impact of extended support on the likelihood of alcohol and drug dependency. Applying an 84.4% decrease to the probability of alcohol or drug abuse in the absence of extended care, it is assumed the likelihood of dependency under the scenario of extended care is 2.5%.

3.7.2 Monetary assumptions

Owing to the complexities in estimating lifetime costs for alcohol and/or drug dependency, the following simplifying assumption is employed to model the impact of the proposed intervention on alcohol and other drug (AOD) associated costs:

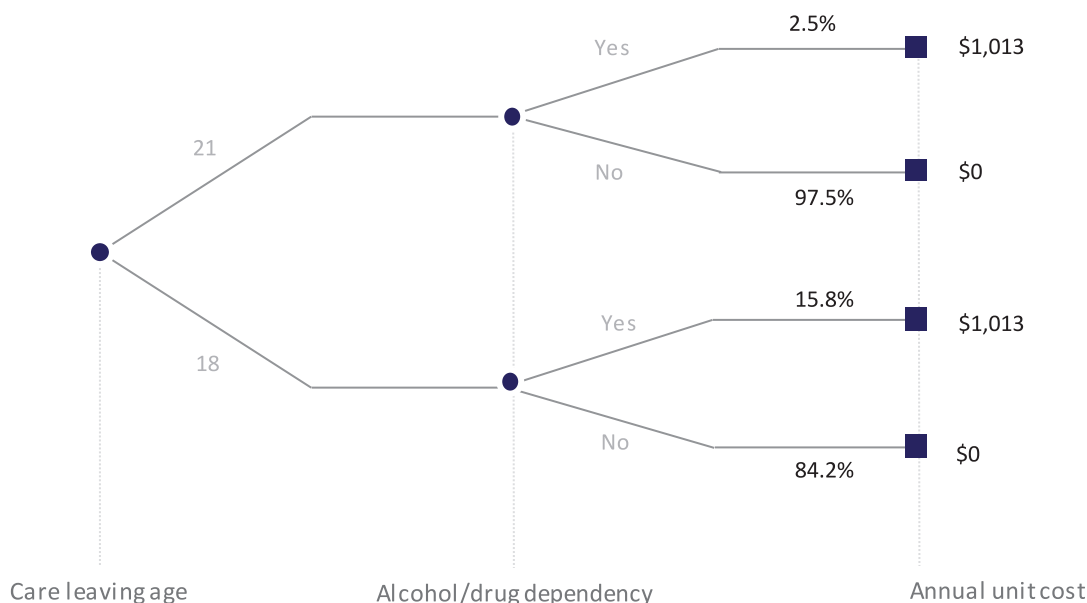
- **AOD pathway.** It was assumed that the cost imposed on society due to alcohol and/or other drug dependency by an individual is constant across their lifetime. The implication of this assumption is that where the true nature of costs is likely to be episodic – with peaks and troughs following episodes of relapse over an individual’s life – the model considers a continuous, constant cost burden.
- **Average cost of AOD:** The annual cost of drug and alcohol dependency was estimated to be \$852 per person in 2012-13 dollars, inflated to \$1013 in 2018-19 dollars. This is based on estimates from Ritter et al. (2014) and includes alcohol and drug specific treatment (and grants to treatment organisations), as well as allied health and pharmaceutical costs. Expenditure on services delivered in hospitals and expenditure by individuals and philanthropists is excluded. Per person costs are calculated based on the prevalence rate of 5% cited by Ritter et al. (2014).
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3.7.3 Summary of assumptions

Figure 3.7 provides a summary of the assumptions used to estimate the cost of alcohol and drug dependency for care leavers in the base case and for those who are able to access extended OOHHC, as derived above.

¹¹ Please note, prevalence rates in the study were calculated on the basis of sex. As such, a weighted average of the two rates has been calculated, based on the proportion of females and males in the study.

Figure 3.7: Alcohol and drug dependency modelling assumptions



3.8 Smoking

While making the transition to adulthood is already difficult for many in the general population, the path out of foster care and into independence presents additional challenges – putting foster youth at high risk of turning to tobacco use as a way in which to cope with stress (Braciszewski, & Colby, 2015). Some of the short term health consequences among young people include respiratory and non-respiratory effects, addiction to nicotine and the risk of other drug use that is a further detriment to health and wellbeing (Department of Health and Human Services, 2017). Key findings in the box below are derived in subsequent sections.

- The rate of smoking is estimated to be 56.8% for young people who left care at the age of 18, which is reduced to 24.5% for young people who remain in care until the age of 21.
- The estimated annual cost of smoking is \$28.

3.8.1 Probability with and without intervention

To calculate the probability of smoking among 18-year-old care leavers, an estimate from a Victorian study by Corrales (2015) was used. Corrales (2015) had shown that among the youth placed in OOHC with Anglicare Victoria, 56.8% were smoking by the age of 17.

For the probability of smoking among 21-year-old care leavers, an estimate of the effect size of extended foster care 'risky behaviour' was applied to the probability of 18-year-old care leavers. This is due to the lack of data on the effects of extended care on smoking specifically. To calculate the effect size of 'risky behaviour', data was used from a study comparing recent drunk episodes and marijuana use among foster children who were in extended care against those who had left at 18 years of age.

Narendorf and Millen (2010) found that among 19 year olds who have experienced foster care:

- those still in foster care had a 52.5% lower rate of having a recent episode of drunkenness (21% for those in care, against 40% for those who had left care); and
- those still in foster care had a 60% lower rate of marijuana use (15% for those in care, against 25% for those who had left care).

Taking the average effect size for a care extension on 'risky behaviour' to be the average between the two above effect sizes, it is estimated that care extension would result in a 56.25% reduction in 'risky behaviour'. Applying this to the probability of smoking among 18-year-old care leavers, it is estimated that the probability of smoking for those in OOHC till 21 years of age is 24.85% ($0.568 * (1 - 0.5625) = 0.2485$).

3.8.2 Monetary assumptions

Acknowledging that the costs of smoking is likely to also be represented in the costs of hospitalisation, crime and homelessness, only the non-hospital health costs to the Commonwealth government attributed to tobacco use are considered here.

The cost of smoking to the federal government was sourced from data reported in Collins and Lapsley 2004, which is currently still the most widely reported source for tobacco cost estimates in Australia (Greenhalgh et al., 2017). The report found that the non-medical costs to the federal government in 2004 amounted to \$54.5 million (\$2004), comprising of costs attributed to medical (non-hospital) expenditure, nursing homes, pharmaceuticals, ambulances and fires.

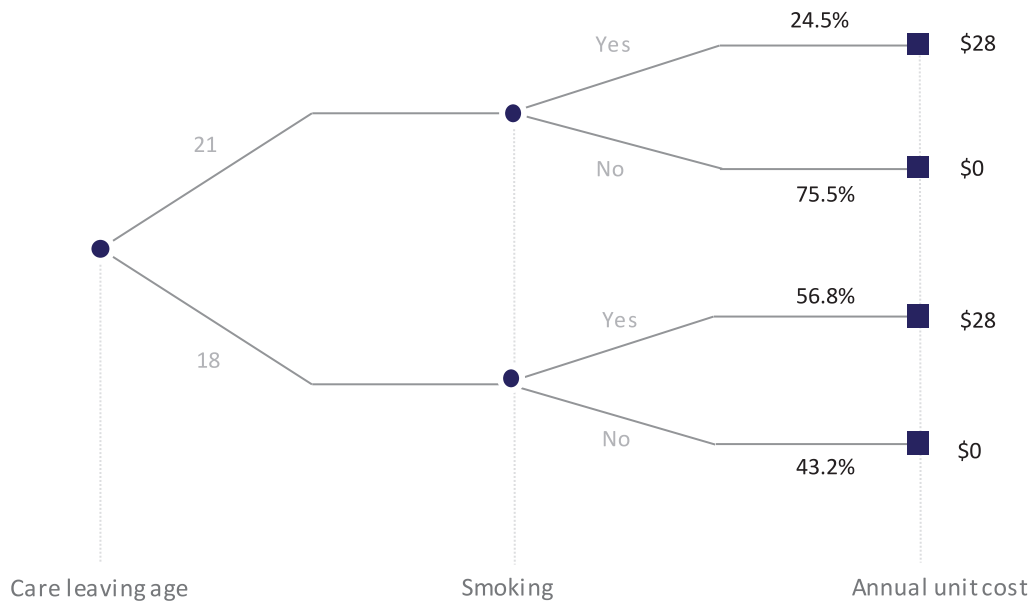
To calculate an annual cost of smoking (to the Commonwealth government) per smoker, an estimate of the population of smokers for 2004 was required. To do this, the adult smoking rate of 23.3% as reported through the *National Health Survey 2004-05* was applied to the Australian population estimates for those in the 18 and above group in 2005 (ABS, 2006). This assumes that the impacts of smoking on the health of individuals (and hence the cost to government) is incurred after the age of 18. In Australia, the average age that people start smoking is approximately 16 years (Greenhalgh et al., 2017). Thus, it is a reasonable assumption that health consequences come into effect in the long term and are not experienced within the first two years.

The annual cost of smoking to the Commonwealth government (per smoker) in 2005 was found to be \$28 in 2004 (\$54.5 million/3.58 million smokers=\$15.22 in 2004). This value was brought up to 2018-19 dollars using the health CPI, resulting in a final estimate of \$27.90.

3.8.3 Summary of assumptions

Figure 3.4 provides a summary of the assumptions used to estimate the cost of hospitalisations for care leavers in the base case and for those who are able to access extended OOHC, as derived above.

Figure 3.8: Smoking modelling assumptions



3.9 Program structure and costs

As discussed in Chapter 1, the way in which programs that extend support beyond the age of 21 are designed is highly varied across settings. Programs differ in the care which is provided – from blocks of financial support, to specified care arrangements. Programs also differ in who care is offered to – for example, whether residential care is included or not included. Conditions may be attached to participation such as the need to be enrolled in training or participating in education. Programs may also vary in whether participants can exit and re-enter care over time. Each of these structural elements of a program will significantly impact how much the program costs and what outcomes can be expected.

It is assumed for our analysis that young people across all care types will receive support under this model. However, the annual cost per young person participating in the program is assumed to be equivalent to the average cost per child to receive foster care in 2016-17 (Table 3.1).

Table 3.1: Average cost of non-residential OOHC per person in care by jurisdiction, 2016-17

NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Weighted average
\$37,918	\$32,455	\$35,055	\$48,005	\$35,252	\$33,096	\$70,333	\$52,534	\$37,165

Source: Productivity Commission, 2018, Table 16A.33. Note: The Productivity Commission does not report non-residential OOHC costs for NSW, QLD and the NT. The average cost for residential OOHC and all types of OOHC are published. To estimate the non-residential OOHC costs, we have calculated the proportionate difference between the expenditures on "all out of home care services" for NSW, QLD and the NT against those for the other jurisdictions, and applied that to the other jurisdiction's average cost of program per child.

The average cost at a national level was estimated by calculating a weighted average of the costs based on the number of children in OOHC by jurisdiction. The 2016-17 cost was inflated using CPI to 2018-19 dollars, to give an average program cost of \$38,867 in 2018-19 dollars, which was used in the analysis.

The average cost of non-residential OOHC was used to reflect the level of support which is provided in the international programs from which this paper derives its impact estimates (studies from the UK, USA and Canada). This assumption is employed to allow for the use of available international data, not on the basis that these international models are the best model for the Australian context. Indeed, the optimal model would need to be determined with careful consideration of the needs of the Australian OOHC population.

The Commonwealth Government also makes some payments that may be affected by extending eligible for OOHC to the age of 21. For example, the Commonwealth Government currently provides a payment of up to \$1,500 called the Transition to Independent Living Allowance to help young people aged between 12 and 25 years of age to cover some costs as they leave out-of-home care (Department of Social Services, 2018). The payment is for young people who are leaving or have already left formal OOHC, and for young people who continue to live with their foster carers after their care order expires.

Extending OOHC until 21 years of age may impact the rate of some payments paid to young people, if they remain in foster care until the age of 21 resulting in lower costs for the Commonwealth Government. For example, youth allowance is paid at a different rate depending on whether the recipient is living at home or away from home – \$224.10 per fortnight compared to \$445.80 per fortnight (Department of Human Services, 2018). Whether or not a foster carer is receiving a payment for providing foster care also impacts on the rate of ABSTUDY that is paid – \$293.60 per fortnight for a dependent aged 18-21 years where a foster care allowance is paid compared to \$445.90 per fortnight if there is no foster care allowance (Department of Human Services, 2018).

3.10 Attribution of costs to government, care leavers and society

Costs and benefits are attributed to the Commonwealth Government, state and territory governments, and care leavers. Table 3.2 outlines the overall attribution of costs in each life domain.

Table 3.2: Attribution of costs and benefits

Outcome	Commonwealth Government	State Government	Care leavers
Housing and homelessness	31%	69%	0%
Hospitalisations	43%	57%	0%
Other mental health care	56%	44%	0%
Smoking	100%	0%	0%
Crime	0%	100%	0%
Alcohol and drugs	39%	61%	0%
Early pregnancy	100%	0%	0%
Unemployment	100%	0%	0%
Increased wages	0%	0%	100%
Increased taxes	100%	0%	0%

Source: Deloitte Access Economics analysis. Note: The data sources used to estimate the costs for each outcome and hence some categories do not include costs borne outside government, although these do exist. For this reason, the benefit cost ratio of extending care is considered conservative.

The majority of costs and benefits included in the modelling are financial costs borne by government. Even in areas where the States and Territories have policy responsibility, there is often a significant contribution from the Commonwealth Government in terms of specific purpose payments made to states and territories.

Broader costs that are not captured by the model would likely be spread more widely. For example, the wellbeing costs resulting from poor health and housing outcomes not captured in this report would be borne by care leavers.

The Commonwealth, state and territory governments have shared responsibility for funding housing and homelessness services. Using the total state and territory expenditure on social housing and homelessness in 2016-17 (Productivity Commission, 2018) less payments made by the Commonwealth under the National Affordable Housing Specific Purpose Payment and the National Partnership on homelessness (Australian Government, 2017), we have estimated that the Commonwealth bears 31% of housing and homelessness costs and state and territory governments bear the remaining 69%.

The cost of hospitalisations is apportioned 43% to the Commonwealth Government and 57% to state and territory governments, based on their shares of government funding for public hospitals in 2015-16 (AIHW, 2017). We assume that care leavers requiring hospitalisation are treated in public hospitals, do not have private health insurance and do not make individual contributions towards the cost of their treatment.

Other mental health costs are attributed 56% to the Commonwealth Government and 44% to state and territory governments, reflecting the share of expenditure by each level of government in the included categories (AIHW, 2017). The costs of smoking included in the model relate to Commonwealth Government expenditure on health only, and includes the costs of medical care (excluding hospital costs) and pharmaceuticals.

The costs of crime are attributed to state and territory governments. While the Commonwealth Government contributes approximately 40% of government funding for legal aid, legal aid only makes up approximately 2% of overall costs. As a result, for simplicity, all costs of crime are attributed to state and territory governments.

The costs of drug and alcohol dependency is attributed 39% to the Commonwealth and 61% to state and territory governments. This is based on analysis of the relative contributions of both levels of government by Ritter et al. (2014).

The cost of teen parenthood and the costs of unemployment are attributed to the Commonwealth Government, as the costs included in the model are welfare payments and Commonwealth employment services. The benefits of education, realised in the form of improved employment outcomes and higher wages, are attributed to care leavers and the Commonwealth Government. Wages (less taxes) are a benefit to care leavers and taxes are a benefit to Government. As the model only includes personal income tax, increased tax revenues are attributed to the Commonwealth Government.

4 Results

The financial impact of the current cohort of care leavers aged 18 to 21 years due to higher usage of government services is estimated to be \$1.8 billion for the Commonwealth Government and \$0.6 billion for the state and territory governments over the next 10 years, giving a total impact of \$2.4 billion. Introducing a policy across Australia to extend OOHC to the age of 21 is estimated to generate a return of \$2 for every \$1 spent to extend access to care.

4.1 Financial impact of higher government service use by care leavers

The cohort of care leavers who are 18, 19 or 20 in 2018-19 will have a financial impact on the Commonwealth Government budget of \$1.8 billion over the next 10 years as a result of a greater reliance on government services. State and territory Governments bear a further \$598 million of government services, bringing the total financial impact for governments to \$2.4 billion.

The financial impact for the Commonwealth Government includes housing and homelessness costs, hospitalisations, non-hospital health costs, costs of drug and alcohol dependency, welfare payments and services associated with unemployment, welfare payments to teen parents, and forgone tax revenue. Some of these costs are shared with state and territory governments.

Table 4.1 provides a summary the total estimated financial impact of care leavers over the next ten years, including the allocation between the Commonwealth government and the state and territory governments.

Table 4.1: Financial impact to governments of care leavers by life domain over 10 years (\$2018-19)

Cost	Cost to Commonwealth (\$ million)	Cost to States (\$ million)	Total cost to Governments (\$ million)
Education	-	0.3	0.3
Housing and homelessness	176	392	568
Hospitalisations	86	114	199
Other mental health	29	23	52
Smoking	1	-	1
Alcohol and Drugs	5	7	12
Crime	-	62	62
Early pregnancy	337	-	337
Unemployment	670	-	670
Forgone taxes	517	-	517
Total	1,822	598	2,420

Source: Deloitte Access Economics analysis. Note: These program costs are not relative to any other population group. As such, they provide an estimate to the total cost of government services used by this cohort for the selected areas where this cohort tends to experience relatively poorer outcomes.

Table 4.2 provides a summary the total estimated financial impact of care leavers over the next four years.

Table 4.2: Costs to governments of care leavers by life domain over 4 years (\$2018-19)

Cost	Cost to Commonwealth (\$ million)	Cost to States (\$ million)	Total cost to Governments (\$ million)
Education	-	0.3	0.3
Housing and homelessness	68	151	219
Hospitalisations	33	43	76
Other mental health	11	9	20
Smoking	0.5	-	0.5
Alcohol and Drugs	2	3	5
Crime	-	25	25
Early pregnancy	137	-	137
Unemployment	268	-	268
Forgone taxes	197	-	197
Total	716	231	947

Source: Deloitte Access Economics analysis. Note: These program costs are not relative to any other population group. As such, they provide an estimate to the total cost of government services used by this cohort for the selected areas where this cohort tends to experience relatively poorer outcomes.

In 2017-18, there were 2,454 children in OOHC care aged 17, in 2016-17 there were 2,348 children in OOHC care aged 17 and in 2015-16 there were 2,209 children in OOHC care aged 17. This group makes up the current cohort of 7,011 care leavers aged 18, 19 and 20 years. Using the estimate of the total financial impact, the impact per care leaver over ten years is estimated to be \$345,204, or \$34,520 per care leaver annually (see Table 4.3).

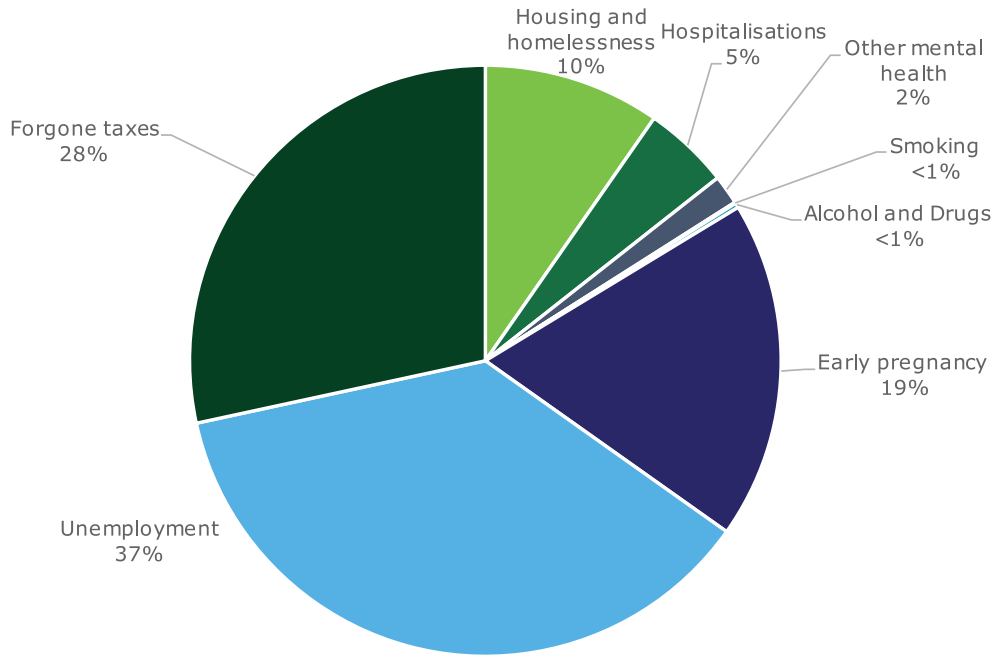
Table 4.3: Average costs to Commonwealth and state and territory governments, per care leaver

Cost	Ten years (\$)	Four years (\$)	Average annual cost over ten years (\$)
Cost to Commonwealth	259,872	102,162	25,987
Cost to states and territories	85,332	32,910	8,533
Total	345,204	135,072	34,520

Source: Deloitte Access Economics analysis. Note: These program costs are not relative to any other population group. As such, they provide an estimate to the total cost of government services used by this cohort for the selected areas where this cohort tends to experience relatively poorer outcomes.

Costs to the Commonwealth are dominated by the cost of providing welfare payments to care leavers who are unemployed and early parents, as shown in Chart 4.1. Forgone taxes, housing and homelessness support and hospitalisations are also significant.

Chart 4.1: Share of total costs to the Commonwealth of life domains



Source: Deloitte Access Economics.

4.2 Socioeconomic cost benefit analysis

The modelling results consider the benefits of a voluntary model of extended care, with an uptake rate of 24.95%. The model assumes that all participants who elect to take up the program in the first year remain in the program over the entire three-year period. Other inputs are described in detail in Chapter 3. Detailed results are at Appendix A.

Table 4.4 provides a summary of the results per eligible 18-year-old.

Table 4.4: Present value (\$2018-19) of costs and benefits over 40 years, per 18-year-old participating in extended care

	Difference between program offered/not offered (\$)
Total costs	111,964
Total benefits	221,261
Net benefits	109,296
Benefit to cost ratio	2.0

Source: Deloitte Access Economics analysis. Note: Discount rate used is 7%.

In 2017-18, there were 2,454 children in OOHC care aged 17, who would be 18 in 2018-19, the first year of analysis. As such, this assumption implies that 613 of these young people would have adopted the program if it had been available. Costs and benefits are calculated over 40 years and are present value figures in 2018-19 dollars. Table 4.5 provides a summary of the results for the cohort of 18 year olds in 2018-19, who are assumed to have access to extended care. Multiplying expected costs and benefits over the care leaver population of 2,454 reveals that expected net benefits of program roll-out would be \$66.9 million.

Table 4.5: Present value (\$2018-19) of costs and benefits over 40 years, for the 18-year-old population in OOHC in 2018-19

	Difference between program offered/not offered (\$ million)
Total costs	68.6
Total benefits	135.5
Net benefits	66.9
Benefit to cost ratio	2.0

Source: Deloitte Access Economics analysis. Note: Discount rate used is 7% and uptake rate is 24.95%.

4.3 Intangible and other benefits

The calculation of costs and benefits in this analysis has focused on financial costs and savings. However, there are other benefits that may accrue from extending OOHC to the age of 21. The analysis has also been limited to seven life domains (teen parenthood; education and employment; housing; hospitalisation; the non-hospital costs of mental illness and smoking; interaction with the justice system; and alcohol and drug dependency), and there are potentially other areas where this additional support may lead to better outcomes for young people remaining in care.

Intangible and other benefits that may also accrue from the policy are: improved wellbeing; improved physical health outcomes; better outcomes for the children of care leavers and civic participation and social connectedness.

4.3.1 Improved wellbeing

A commonly included method within cost benefit or cost effectiveness analyses for health policies or programs is the estimation of disability adjusted life years (DALYs). DALYs are a globally accepted metric that allows researchers and policymakers to compare different populations and health conditions across time. A DALY is the sum of years of life lost and years lived with disability, or a health condition, that reduces quality of life. One DALY equals one lost year of healthy life. The Department of Prime Minister and Cabinet (2014) valued a DALY averted (a year of healthy life saved) at \$182,000 in 2014.

Given that extending care to age 21 is considered protective against risks of hospitalisation, alcohol and drug use, and mental health issues, compared with leaving OOHC at age 18, it is expected that DALY benefits would accrue to a greater extent for extended care. This means that the overall benefit of extending care estimated in the current model is conservative, since the value of these DALYs saved has not been included (with the exception of some intangible 'pain and suffering' costs included in the costs of drug and alcohol dependence).

4.3.2 Improved physical health outcomes

Young people in OOHC have been found to experience poorer physical health outcomes compared with the general population (Courtney et al., 2011). The main physical health challenges for care leavers have been identified as higher rates of illness and disability, higher rates of teenage pregnancy, risk-taking behaviour and self-harm and poor access to dental, optical and aural health services (McDowall, 2009).

The difference in physical health outcomes between 18-year-old care leavers and those who stay in care to age 21 is likely to extend beyond the modelled differences in hospitalisation costs, smoking rates, and alcohol and drug dependency. Young people who remain in care longer may experience physical health benefits as a result of improved education and employment outcomes associated with remaining in care longer than people who leave care at 18 years (Raman et al., 2005).

As noted above, sustained engagement in high quality education is directly related to the realisation of more positive life outcomes for individuals and societies.¹² As care leavers at 21 were found to experience higher levels of education and employment, the higher expected future earnings associated with this population presents an increased ability to afford private health insurance or make out of pocket payments for health

¹² See for example: Johnston, 2004; Levin, 2003; and Hannusek and Woessman, 2010.

services. Higher income may facilitate quicker access to elective medical services and high-demand procedures which typically involve long waiting periods (e.g. some organ transplant surgeries).

Lower formal education engagement rates among OOHC youth also raises the possibility of lower health literacy levels within the population. By increasing the time spent both in formal schooling and with an adult carer exerting a positive influence, extended care could also potentially increase levels of awareness, and usage, of healthcare services that monitor and prevent future ill health (e.g. blood pressure and weight monitoring). As is the case with all preventative healthcare measures, although there can be short term costs of these services and actions, typically they lead to higher cost savings in the long run (Vos et al., 2010).

By improving education and thus potentially prevention and early intervention activities and reducing risk factors (e.g. alcohol and other drugs), extending care to 21 years could also potentially reduce the incidence of costly lifestyle-related diseases like certain respiratory, cardiac and liver illnesses.

4.3.3 Impact on children of care leavers

The modelling for this project only considers the impacts on the individual receiving extended OOHC and the costs avoided by governments as a result of that individual's receipt of OOHC support. The model does not account for intergenerational impacts of extending care. Intergenerational benefits of extended care are realised if and to the extent that these flow-on impacts serve to permanently alter the course of not only the individual participant's prospects, but the prospects of their children.

By encouraging continued education, extended care raises the probability of employment and the average income of care leavers. Given that children's outcomes (health, education, income) have been found to be significantly associated with their parents' earnings and socio-economic status, extending OOHC may bring future benefits to the children of those receiving extended care and support (Mayer, 2002).

The same may be said of the impact of reducing the incidence of criminal activity through extended care, since having a history of conviction has been linked with a reduced probability of securing employment (Mendes et al., 2012). Furthermore, the penalty for having a history of conviction may be especially severe for certain minority groups and thus also have a negative impact on disposable income (Pager, 2003).

In light of the link between higher employment/income and both improved education and reduced criminal activity from extending care to 21 years, together with the link between higher parental income and child outcomes, extending care beyond 18 years could reduce the intergenerational disadvantage experienced by the children of care leavers, in addition to the care leaver themselves.

4.3.4 Increased civic participation and social connectedness

Children in OOHC are less likely to reach educational milestones, be employed, and more likely to experience mental illness. They may also experience fragmented relationships with next of kin due to the physical separation brought about (and often legally required) through the OOHC arrangements, as well as because of the source of family abuse itself (Osborn and Bromfield, 2007). Many have also not been able to forge lasting friendships due in part to unstable living and schooling arrangements (Tilbury et al., 2015). As a result, OOHC and foster youth have a higher rate of disengagement with key societal institutions such as the family, education, business (employment) and the wider community.

Many researchers have now identified the pivotal role that stability and connectedness play in establishing better outcomes of children in foster care (Tilbury & Osmond, 2006). It is believed that connectedness facilitates access to opportunities and resources and provides a sense of belonging that strengthens a child's resilience (Bowes & Hayes, 2004). An Australian study by Mason and Gibson (2004) surveyed children, young people, carers and workers in NSW who identified that the child's 'connections with others' was the overarching factor that impacted on their wellbeing.

By offering the possibility of extended care with associated greater potential stability in accommodation and care arrangements, children may experience greater continued connection to individuals where they had forged positive relationships, leading to greater improved emotional wellbeing and social benefits for young people in extended care (Department of Families, Housing, Community Services and Indigenous Affairs & National Framework Implementation Working Group, 2011).

4.4 Sensitivity analysis

The modelling is reliant on a number of assumptions including those which relate to program uptake, program cost and timing. This section considers the sensitivity of the findings to these key assumptions. Sensitivity analysis was conducted for the socioeconomic cost benefit analysis only.

4.4.1 Program uptake

The base model presented in this paper assumes that 24.95% of eligible individuals adopt the program where it is offered. However, uptake rates vary in the literature, for example, the uptake rate reported in the Midwest evaluation was 80%. To test the sensitivity of the results to this assumption, the model was also run using an uptake rate of 50%, with results presented in Table 4.6. This change provides for a proportional impact in both costs and benefits, the benefit to cost ratio is not sensitive to the assumption.

Table 4.6: Present value (\$2018-19) of costs and benefits over 40 years, for the 18-year-old population in OOHC in 2018-19

	Difference between program offered/not offered (\$ million)
Total costs	137.4
Total benefits	271.5
Net benefits	134.1
Benefit to cost ratio	2.0

Source: Deloitte Access Economics analysis. Note: Discount rate used is 7% and uptake rate is 50%.

The base model assumes that individuals who adopt the program at 18 remain in extended care until the age of 21. That is, it assumes a 0% attrition rate. As a voluntary program, individuals will have the opportunity to leave – and, depending on the program design, re-enter – at various points between these ages. The model was re-estimated assuming an initially high uptake rate (80%) and then allowing for year-on-year attrition such that 50% participated in two years of the program and only 25% of individuals participated in three years of the program. It cannot be assumed that an individual who completes the program for a single year will receive the same benefits as an individual who remains in the program for three years. No analysis was found which allowed for the estimation of the marginal benefit attributable to every additional year of program participation. As such, the model assumes that benefits decline in a linear manner according to years of program participation. Table 4.7 summarise the results of this scenario.

Table 4.7: Present value (\$2018-19) of costs and benefits over 40 years, for the 18-year-old population in OOHC in 2018-19

	Difference between program offered/not offered (\$ million)
Total costs	144.1
Total benefits	303.5
Net benefits	159.4
Benefit to cost ratio	2.1

Source: Deloitte Access Economics analysis. Note: Discount rate used is 7%. Uptake rate is 80% in year 1, 50% in year 2 and 25% in year 3

4.4.2 Program cost

The base model in this analysis assumes that the cost of the program is \$38,867 annually per program participant. The positive benefit to cost ratio suggests, however, that it is possible for this cost to rise before the program is net-negative.

Break-even analysis revealed that the program could cost \$78,879 per program participant per year before the program had a benefit cost ratio below 1.

4.4.3 Timeframe for analysis

The base model adopts a 40-year time perspective on the basis that evidence provides that investments in the development of young people can have impacts well into adulthood. To test the sensitivity of the modelling results to this timeframe, the model was re-calculated on a 20-year timeframe.

Table 4.8 provides a summary of outcomes from this sensitivity analysis. The benefit to cost ratio is lower than the base model however still indicates positive returns to investment.

Table 4.8: Present value (\$2018-19) of costs and benefits over 20 years, for the 18-year-old population in OOHC in 2018-19

Difference between program offered/not offered (\$ million)	
Total costs	68.6
Total benefits	94.6
Net benefits	26.0
Benefit to cost ratio	1.4

Source: Deloitte Access Economics analysis. Note: Uptake rate is 24.95%. Discount rate used is 7%. Note: numbers may not add due to rounding.

4.4.4 Discount rate

The base model uses a nominal discount rate of 7%. Sensitivity analysis was conducted using discount rates of 10% and 4% (Table 4.9). The benefit to cost ratio differs from that in the base model, while remaining a net positive in both scenarios (3.0 to 1.4).

Table 4.9: Present value (\$2018-19) of costs and benefits over 40 years, for the 18-year-old population in OOHC in 2018-19

Difference between program offered/not offered (\$ million)		
	4% discount rate	10% discount rate
Total costs	70.5	66.8
Total benefits	212.8	96.3
Net benefits	142.3	29.6
Benefit to cost ratio	3.0	1.4

Source: Deloitte Access Economics analysis. Note: Uptake rate is 24.95%. Note: numbers may not add due to rounding.

Conclusions

Care leavers represent a small but highly disadvantaged group of young people, who on average experience poor life outcomes across a range of domains. As a consequence, providing services and support to this cohort requires significant government investment for all levels of government.

Currently, young people are no longer able to access OOHC once they turn 18 years of age and they are expected to operate as adults, while a majority of their peers remain living in the family home. International experience suggests that extending OOHC to the age of 21 can lead to substantial improvements in the life outcomes of these young people, and our analysis shows that across the lifetime of these young people the costs of additional care will be more than recouped through the reduction in other government services they require.

While the state and territory governments have responsibility for OOHC and associated policies until children turn 18, the Commonwealth Government is also bearing the long-term costs of this cohort and thus would also benefit from extending care to the age of 21. Thus, it is a worthwhile investment for the Commonwealth Government to support state and territory governments to extend care to the age of 21, as over time the Commonwealth Government will pay less for services to support this cohort.

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Appendix A – model assumptions

Table A.1: Base model assumptions and sources

Variable	Assumption (Costs are annual and have been inflated to 2018-19 dollars)	Source
Program uptake		
Program uptake rate	0.2495	UK Department of Education; Children and Young People Now (2015)
Employment and Education		
VET qualification; wage	\$68,155	ABS (2005)
No VET qualification; Employed (\$2015)	\$52,192	ABS (2005)
Newstart base rate	\$14,510	Department of Human Services (2018)
VET course (one year)	\$3,958	Derived using, Victoria Polytechnic. (2016)
Pr. Further education (Age 18, non-parent)	0.045	Harvey et al (2015)
Pr. Further education (Age 21, non-parent)	0.104	Derived using Harvey et al (2015), and Munro et al (2010)
Pr. Employment (with VET)	0.580	ABS Education and Work (2015)
Pr. Employment (No VET)	0.313	Derived using ABS Education and Work (2015), and McDowell (2009)
Average income tax rate (VET)	22%	Deloitte Access Economics
Average income tax rate (No VET)	18%	Deloitte Access Economics
Early parenthood		
Parenting payment	\$20,268	Department of Human Services (2018)
Newborn supplement	\$2,208	Department of Human Services (2018)
Newstart (single, dependent children)	\$15,696	Department of Human Services (2018)
Newstart (base rate)	\$14,510	Department of Human Services (2018)
FTB A (per child aged 0-12)	\$5,628	Department of Human Services (2018)
FTB A (per child aged 12-19)	\$7,095	Department of Human Services (2018)
FTB B (Youngest child under 5)	\$4,512	Department of Human Services (2018)
FTB B (Youngest child 5-19)	\$3,262	Department of Human Services (2018)
Pr. Early parenthood (Age 18)	0.166 Probability adjusted for the fact that 48.4% of children in OOHC are female	(Cashmore & Paxman, 2007)

Variable	Assumption (Costs are annual and have been inflated to 2018-19 dollars)	Source
Pr. Early parenthood (Age 18)	0.102 Probability adjusted for the fact that 48.4% of children in OOHC are female	(Courtney & Dworsky, 2006)
Housing and homelessness support		
Housing support	\$19,599	Derived using Zaretsky and Flatau (2015), and AIHW Child Protection Australia 2013-14 (2015)
Pr. Housing Support (Age 18)	0.390	Forbes et al (2006)
Pr. Housing Support (Age 21)	0.195	Derived using Forbes et al (2006), and Munro et al (2010)
Hospitalisation		
Cost of Hospitalisation episode	\$9,062	IHPA Independent Hospital Pricing Authority (2013) National Hospital Care Data Collection 2012-13
Pr. Hospitalisation episode (Age 18)	0.292	Courtney et al (2006)
Pr. Hospitalisation episode (Age 21)	0.192	Courtney et al (2007)
Other mental health costs		
Other mental health costs	\$1,279	(AIHW, 2015)
Pr. Other mental health costs (Age 18)	0.544	(ABS, 2007)
Pr. Other mental health costs (Age 21)	0.301	(Kessler et al., 2008)
Smoking		
Smoking costs	\$28	Collins and Lapsley (2004)
Pr. Smoking (Age 18)	0.586	Corrales (2015)
Pr. Smoking (Age 21)	0.0248	Narendorf and Millen (2010)
Justice		
Cost to Justice system	\$5,392	Derived using Australian Institute of Criminology (2014) and Courtney et al (2011)
Pr. Justice (Age 18)	0.163	Washington State Institute for Public Policy (2010)
Pr. Justice (Age 21)	0.104	Washington State Institute for Public Policy (2010)
Alcohol and drug (AoD) dependence		
Cost of AoD dependency	\$1,013	AIHW (2011)
Pr. AoD dependency (Age 18)	0.158	Courtney et al (2007)
Pr. AoD dependency (Age 21)	0.025	Derived using Courtney et al (2007), and ABS National Health Survey 2014-15 (2015)

Appendix B – detailed results

Table B.1: Base model. Present value (\$2018-19) of costs and benefits over 40 years, for the 18-year-old population in OOHC in 2018-19, uptake rate 24.95%, discount rate 7% nominal

Cost/benefit category	Program not offered	Program offered	Difference in cost/benefit	% change
Costs				
Program costs	-	68,422,960	68,422,960	-
Costs of Education	346,376	476,008	129,631	37%
Total costs	346,376	68,898,967	68,552,591	
Outcomes				
Housing and homelessness	-440,665,857	-378,881,506	61,784,351	-14%
Hospitalisation	-159,634,257	-142,884,600	16,749,657	-10%
Other mental health costs	-41,974,799	-36,605,278	5,369,522	-13%
Smoking	-956,030	-809,466	146,564	-15%
Alcohol and Drugs	-9,655,743	-7,504,418	2,151,325	-22%
Crime	-42,058,157	-39,002,997	3,055,160	-7%
Early pregnancy	-198,873,335	-179,722,181	19,151,153	-10%
Unemployment	-457,384,015	-463,180,080	-5,796,065	1%
Wages*	704,825,961	730,566,083	25,740,122	4%
Taxes*	158,200,769	165,320,830	7,120,061	5%
Total	-488,175,465	-352,703,614	135,471,851	
Net benefits	-488,521,841	-421,602,581	66,919,260	

Source: Deloitte Access Economics analysis. Note: Negative numbers represent costs, positive number represent benefits, that is, a number becoming less negative indicated a reduction in costs. The costs of unemployment increase under extended care as the reduced likelihood of early pregnancy increases the number of people (or proportion of a representative care leaver) in the education and employment pathway. As the reduction in early parenthood is greater than the increase in unemployment and the cost of being unemployed is less than the cost of being an early parent, there is a net benefit when these pathways are considered together

Table B.2: Present value (\$2018-19) of costs and benefits over 40 years, for the 18-year-old population in OOHC in 2018-19, uptake rate 50%, discount rate 7% nominal

Cost/benefit category	Program not offered	Program offered	Difference in cost/benefit	% change
Costs				
Program costs	-	137,120,159	137,120,159	-
Costs of Education	346,376	606,158	259,782	75%
Total costs	346,376	137,726,318	137,379,942	
Outcomes				
Housing and homelessness	-440,665,857	-316,849,523	123,816,334	-28%
Hospitalisation	-159,634,257	-126,067,811	33,566,446	-21%
Other mental health costs	-41,974,799	-31,214,234	10,760,565	-26%
Smoking	-956,030	-662,314	293,716	-31%
Alcohol and Drugs	-9,655,743	-5,344,470	4,311,273	
Crime	-42,058,157	-35,935,592	6,122,565	-15%
Early pregnancy	-198,873,335	-160,494,270	38,379,065	-19%
Unemployment	-457,384,015	-468,999,375	-11,615,360	3%
Wages*	704,825,961	756,409,372	51,583,411	7%
Taxes*	158,200,769	172,469,428	14,268,659	9%
Total	-488,175,465	-216,688,790	271,486,675	
Net benefits	-488,521,841	-354,415,108	134,106,733	

Source: Deloitte Access Economics analysis. Note: Negative numbers represent costs, positive number represent benefits, that is, a number becoming less negative indicated a reduction in costs. The costs of unemployment increase under extended care as the reduced likelihood of early pregnancy increases the number of people (or proportion of a representative care leaver) in the education and employment pathway. As the reduction in early parenthood is greater than the increase in unemployment and the cost of being unemployed is less than the cost of being an early parent, there is a net benefit when these pathways are considered together

Table B.3: Present value (\$2018-19) of costs and benefits over 40 years, for the 18-year-old population in OOHC in 2018-19, uptake rate 80% in year 1, 50% in year 2, 25% in year 3, discount rate 7% nominal

Cost/benefit category	Program not offered	Program offered	Difference in cost/benefit	% change
Costs				
Program costs	-	143,856,662	143,856,662	-
Costs of Education	346,376	614,818	268,442	78%
Total costs	346,376	144,471,480	144,125,104	
Outcomes				
Housing and homelessness	-440,665,857	-309,154,472	131,511,385	-30%
Hospitalisation	-159,634,257	-124,075,564	35,558,693	-22%
Other mental health costs	-41,974,799	-30,563,464	11,411,336	-27%
Smoking	-956,030	-644,302	311,729	-33%
Alcohol and Drugs	-9,655,743	-5,162,886	4,492,858	
Crime	-42,058,157	-33,567,399	8,490,758	-20%
Early pregnancy	-198,873,335	-159,214,968	39,658,367	-20%
Unemployment	-457,384,015	-486,065,844	-28,681,829	6%
Wages*	704,825,961	784,782,442	79,956,481	11%
Taxes*	158,200,769	179,003,511	20,802,742	13%
Total	-488,175,465	-184,662,944	303,512,520	
Net benefits	-488,521,841	-329,134,425	159,387,416	

Source: Deloitte Access Economics analysis. Note: Negative numbers represent costs, positive number represent benefits, that is, a number becoming less negative indicated a reduction in costs. The costs of unemployment increase under extended care as the reduced likelihood of early pregnancy increases the number of people (or proportion of a representative care leaver) in the education and employment pathway. As the reduction in early parenthood is greater than the increase in unemployment and the cost of being unemployed is less than the cost of being an early parent, there is a net benefit when these pathways are considered together

Table B.4: Base model. Present value (\$2018-19) of costs and benefits over 20 years, for the 18-year-old population in OOHC in 2018-19, uptake rate 24.95%, discount rate 7% nominal

Cost/benefit category	Program not offered	Program offered	Difference in cost/benefit	% change
Costs				
Program costs	-	68,422,960	68,422,960	-
Costs of Education	346,376	476,008	129,631	37%
Total costs	346,376	68,898,967	68,552,591	
Outcomes				
Housing and homelessness	-285,342,803	-242,935,003	42,407,800	-15%
Hospitalisation	-101,246,948	-89,486,207	11,760,741	-12%
Other mental health costs	-26,622,233	-22,965,154	3,657,079	-14%
Smoking	-606,356	-508,866	97,490	-16%
Alcohol and Drugs	-6,124,090	-4,792,633	1,331,457	
Crime	-29,554,787	-25,898,502	3,656,286	-12%
Early pregnancy	-158,985,838	-143,675,780	15,310,057	-10%
Unemployment	-321,247,427	-325,252,037	-4,004,610	1%
Wages*	446,167,386	462,128,394	15,961,007	4%
Taxes*	100,094,156	104,507,202	4,413,045	4%
Total	-383,468,938	-288,878,587	94,590,352	
Net benefits	-383,815,315	-357,777,554	26,037,761	

Source: Deloitte Access Economics analysis. Note: Negative numbers represent costs, positive number represent benefits, that is, a number becoming less negative indicated a reduction in costs. The costs of unemployment increase under extended care as the reduced likelihood of early pregnancy increases the number of people (or proportion of a representative care leaver) in the education and employment pathway. As the reduction in early parenthood is greater than the increase in unemployment and the cost of being unemployed is less than the cost of being an early parent, there is a net benefit when these pathways are considered together

Table B.5: Present value (\$2018-19) of costs and benefits over 40 years, for the 18-year-old population in OOHC in 2018-19, uptake rate 24.95%, discount rate 4% nominal

Cost/benefit category	Program not offered	Program offered	Difference in cost/benefit	% change
Costs				
Program costs	-	70,361,852	70,361,852	-
Costs of Education	346,376	476,008	129,631	37%
Total costs	346,376	70,837,860	70,491,484	
Outcomes				
Housing and homelessness	-722,431,334	-625,302,053	97,129,280	-13%
Hospitalisation	-264,521,403	-238,720,584	25,800,819	-10%
Other mental health costs	-69,554,199	-61,088,746	8,465,453	-12%
Smoking	-1,584,187	-1,349,110	235,077	-15%
Alcohol and Drugs	-16,000,017	-12,435,740	3,564,277	-22%
Crime	-65,872,610	-62,392,904	3,479,706	-5%
Early pregnancy	-290,992,086	-262,970,059	28,022,027	-10%
Unemployment	-716,675,589	-725,883,734	-9,208,145	1%
Wages*	1,169,481,042	1,212,788,397	43,307,355	4%
Taxes*	262,583,671	274,566,623	11,982,953	5%
Total	-715,566,712	-502,787,910	212,778,803	
Net benefits	-715,913,088	-573,625,769	142,287,319	

Source: Deloitte Access Economics analysis. Note: Negative numbers represent costs, positive number represent benefits, that is, a number becoming less negative indicated a reduction in costs. The costs of unemployment increase under extended care as the reduced likelihood of early pregnancy increases the number of people (or proportion of a representative care leaver) in the education and employment pathway. As the reduction in early parenthood is greater than the increase in unemployment and the cost of being unemployed is less than the cost of being an early parent, there is a net benefit when these pathways are considered together

Table B.6: Base model. Present value (\$2018-19) of costs and benefits over 40 years, for the 18-year-old population in OOHC in 2018-19, uptake rate 25%, discount rate 10% nominal

Cost/benefit category	Program not offered	Program offered	Difference in cost/benefit	% change
Costs				
Program costs	-	66,623,427	66,623,427	-
Costs of Education	346,376	476,008	129,631	37%
Total costs	346,376	67,099,434	66,753,058	
Outcomes				
Housing and homelessness	-299,835,465	-255,800,384	44,035,081	-15%
Hospitalisation	-107,620,612	-95,397,921	12,222,691	-11%
Other mental health costs	-28,298,147	-24,472,410	3,825,737	-14%
Smoking	-644,527	-542,010	102,517	-16%
Alcohol and Drugs	-6,509,612	-5,055,803	1,453,808	-22%
Crime	-29,732,037	-27,028,682	2,703,354	-9%
Early pregnancy	-148,122,875	-133,858,902	14,263,973	-10%
Unemployment	-323,177,318	-327,207,325	-4,030,006	1%
Wages*	474,403,022	491,431,535	17,028,513	4%
Taxes*	106,437,179	111,145,727	4,708,548	4%
Total	-363,100,392	-266,786,176	96,314,216	
Net benefits	-363,446,768	-333,885,610	29,561,158	

Source: Deloitte Access Economics analysis. Note: Negative numbers represent costs, positive number represent benefits, that is, a number becoming less negative indicated a reduction in costs. The costs of unemployment increase under extended care as the reduced likelihood of early pregnancy increases the number of people (or proportion of a representative care leaver) in the education and employment pathway. As the reduction in early parenthood is greater than the increase in unemployment and the cost of being unemployed is less than the cost of being an early parent, there is a net benefit when these pathways are considered together

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