

RAISING OUR CHILDREN: GUIDING YOUNG VICTORIANS IN CARE INTO ADULTHOOD.



Socioeconomic Cost Benefit Analysis by Deloitte Access Economics

April 2016

Report commissioned by Anglicare Victoria

**BETTER
TOMORROWS**

Contents

Glossary.....	i
Executive Summary.....	i
1 Introduction	1
1.1 A case for change.....	1
1.2 The Victorian System	2
1.3 Victorian care leaver outcomes	3
1.4 Extension of care: international experience	4
1.5 This study	6
2 Methodology.....	8
2.2 Estimating model inputs	10
2.3 Model limitations and interpretation	11
3 Model inputs	12
3.1 Program structure and costs	12
3.2 Program uptake	13
3.3 Employment and education	13
3.4 Homelessness and housing support	18
3.5 Hospitalisations	20
3.6 Justice	22
3.7 Alcohol and/or drug dependence	25
4 Model outputs	29
4.1 The base model	29
4.2 Sensitivity analysis	31
5 Discussion of other potential benefits	33
5.1 Mental health	33
5.2 Physical health outcomes	34
5.3 Intergenerational disadvantage	35
5.4 Civic participation and social connectedness	36
5.5 Disability adjusted life years	36
6 Conclusion	38
Appendix A : References	39
Appendix B : Summary of key assumptions	46
Appendix C : Number of children in OOHC	49
Appendix D : Modelling results	51
Appendix E : Australian-wide analysis	56

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To supplement the Victorian-specific findings of this report, we have also investigated the impact of implementing an extended care program in other states and territories in Australia.⁵⁶

Limitation of our work	65
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Tables

Table 1.1 : Children discharged from out-of-home care, by age group, states and territories, 2013–14	3
Table 3.1 Wage and welfare assumptions	15
Table 4.1 Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), per 18yo child in OOHC in 2015	29
Table 4.2 : Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), per 18yo child in OOHC in 2015, total for 524 care leavers	30
Table 4.3 Present value (\$2015) of costs and benefits over 40 years (uptake rate 50%), per 18yo child in OOHC in 2015	31
Table 4.4 Present value (\$2015) of costs and benefits over 40 years (uptake rate 80% in year 1, falling to 50% in year 2, and to 25% in year 3), per 18yo child in OOHC in 2015	32
Table 4.5 Present value (\$2015) of costs and benefits over 20 years (uptake rate 24.95%), per 18yo child in OOHC in 2015	32
Table B.2 Base model assumptions and source	47
Table C.1 : Children aged 0–17 in out-of-home care, states and territories, 30 June 2010 to 30 June 2014 (number and number per 1,000)	49
Table C.2 : Children aged 0–17 in out-of-home care, by type of placement, states and territories, 30 June 2014	50
Table D.1 Base model. Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), per 18yo child in OOHC in 2015	51
Table D.2 Sensitivity analysis. Present value (\$2015) of costs and benefits over 40 years (uptake rate 50%), per 18yo child in OOHC in 2015	52
Table D.3 Sensitivity analysis. Present value (\$2015) of costs and benefits over 40 years (uptake rate 80% in year 1, 50% in year 2, 25% in year 3), per 18yo child in OOHC in 2015	53
Table D.4 Sensitivity analysis. Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%) per 18yo child in OOHC in 2015, break-even analysis	54
Table D.5 Sensitivity analysis. Present value (\$2015) of costs and benefits over 20 years (uptake rate 24.95%) per 18yo child in OOHC in 2015	55
Table E.1 : Model inputs per state (\$2015)	57
Table E.2 : Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; Victoria	58
Table E.3 : Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; New South Wales	59

Table E.4 : Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; Queensland	59
Table E.5 : Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; South Australia	60
Table E.6 : Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; Western Australia	61
Table E.7 : Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; Tasmania	61
Table E.8 : Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; Northern Territory.	62
Table E.9 : Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; Australian Capital Territory	63
Table E.10 : Benefit to cost ratios for each state, ranked in descending order	63

Figures

Figure 2.1 Model structure, program versus base case.....	8
Figure 2.2 Model structure.....	9
Figure 3.1 Wage and welfare model assumptions	16
Figure 3.2 Homelessness and housing support model assumptions	19
Figure 3.3 : Hospitalisation modelling assumptions	21
Figure 3.4 : Justice system model assumptions	25
Figure 3.5 Alcohol and drug dependency model assumptions	27
Figure B.1 Illustration of model assumptions	46

Glossary

ABS	Australian Bureau of Statistics
AB12	Assembly Bill 12
AHURI	Australian Housing and Urban Research Institute Limited
AIC	Australian Institute of Criminology
AIHW	Australian Institute of Health and Welfare
AOD	alcohol and other drugs
ASFA	<i>Adoption and Safe Families Act</i>
AWOTE	average weekly ordinary time earnings
CAS	Children's Aid Societies
CCSY	Continued Care and Support for Youth agreement
CPI	consumer price index
CSO	Community Service Organisation
DAE	Deloitte Access Economics
DALY	disability adjusted life years
NCVER	National Centre for Vocational Education Research
NPV	net present value
NSW	New South Wales
OOHC	Out of home care
UK	United Kingdom
USA	United States of America
VET	Vocational Education and Training

Acknowledgments:

This study was undertaken with the support of the Louis & Lesley Nelken Trust Fund, managed by Equity Trustees, and the Collier Charitable Fund.

Executive Summary

Context

While parents have the primary responsibility for raising their children and providing support, the *National Framework for Protecting Australia's Children 2009-2020*¹ notes that where the home environment is not safe enough for children, children are to be placed in the care of the state; in out-of-home care (OOHC). OOHC involves the placement of a child or young person with alternate caregivers who have legal custody of the child until the 18 years of age².

OOHC can be arranged either formally or informally. Informal care refers to arrangements made without intervention by statutory authorities or courts, and formal care occurs following a child protection intervention (either by voluntary agreement or a care and protection court order)³. The majority of children placed in OOHC are subject to child protection intervention⁴.

In Australia, state and territory governments have a statutory responsibility for ensuring children are protected from harm caused by abuse and neglect. In Victoria, this responsibility is exercised by the Department of Health and Human Services (the Department). A key function of the Department's child protection role is providing OOHC to children and adolescents in need. For the vast majority of children, OOHC is provided either through a kinship care or foster care model. The latest figures from the Australian Institute of Health and Welfare (AIHW) reports that at 30 June 2014 there were 7,710 children in OOHC (both residential and non-residential) in Victoria and 43,009 children in OOHC across Australia.

A vast body of literature documents the multitude of inter-related, relatively poor life outcomes experienced by an inordinately high proportion of care leavers. The relative disadvantage experienced by this group spans from a number of confluent factors including a history of abuse or neglect, ongoing poor health, ongoing poor mental health, substance abuse, homelessness, poverty, unemployment and violence⁵. Traditional support structures – family, friendship circles and community – are more likely to be broken for this cohort, limiting 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 out of home care (OOHC) and those resident in traditional care structures is poignantly highlighted in the abrupt and instituted 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 care-giver. Indeed, where operational, current care leaving programs that seek to equip individuals for the exit from care at the age of 18 commence at the age of 15⁶. For this reason, for a young person in OOHC, the process of leaving care has commenced well before adulthood.

¹ Council of Australian Governments (2009)

² Council of Australian Governments (2009)

³ Australian Institute of Health and Welfare (2015)

⁴ Australian Institute of Health and Welfare (2015)

⁵ See for example: Mendes, Johnson, Moslehuddin, (2011) Osborn, & Bromfield, (2007)

⁶ Department of Human Services (2012)

A review of Australian research, including a report by the Victorian Ombudsman, found evidence that some young people had little or no preparation for leaving care, and no leaving-care plan⁷.

By contrast, young people in the general population are now more likely to continue to live with their parents well into their mid-20s, entering and exiting the family home several times as they pursue various personal development opportunities. Driven by the increasing uptake of post-schooling education, delayed marriage, the rising cost of housing and the increasing accessibility of travel, at present, almost 50% of people aged between 18 and 24 are still living with one or both parents⁸.

While parents are increasingly providing support for their children well into their 20s, there are few supports available through governments to assist the young people for whom the State has assumed guardianship to make their transition to independent adulthood beyond the age of 18. The few disparate supports which *are* available to this population are broadly considered to be insufficient to substitute for the more holistic, flexible model of care provided to young adults in the general population⁹. Further, fragmentation between these currently available supports sees a number of young people move straight from the child protection system directly to welfare, the justice system or into homelessness supports¹⁰.

There have been a number of calls to consider the extension of care, including in the findings of the Victorian 2012 Vulnerable Children's Inquiry¹¹. However, such reform is yet to be either trialled or instituted comprehensively in any jurisdiction in Australia. Given the growing evidence reporting on poorer outcomes experienced by young people leaving care at age 18 years compared with those aged 21 years, it is timely and topical to re-open the discussion of extending care.

International developments

A number of jurisdictions outside of Australia that have implemented policies and programs to extend support for young people aged 18 years and older. In the United Kingdom (UK), a publically funded program termed '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 California, state and federal funding provides for a flexible care model provided to young people in OOHC to the age of 21. Comparable programs are also available in other states across the United States.

Outcomes for young people participating in such programs have been investigated across a number of studies and evaluations. These studies have reported that extended care supports:

- a higher level of engagement with **education** and improved **employment prospects**¹²;
- improved **housing stability** and lower long-term reliance on public housing programs¹³;

⁷ Mendes et al (2011).

⁸ ABS 'Australian Social Trends' 4102.0, June (2009)

⁹ Mendes et al (2011)

¹⁰ Mendes et al (2012).

¹¹ Cummins et al (2012).

¹² Courtney, M. (2015)

¹³ Munro et al (2010)

- improved **physical and mental health outcomes** driven by improved access to care and early intervention¹⁴;
- reduced incidence of **alcohol and drug dependency**¹⁵;
- reduced interaction with the **justice system** including a reduced likelihood of incarceration¹⁶; and,
- improved levels of **civic participation and social integration**¹⁷.

The findings in these studies are aligned with findings in literature which considers the value of investing in youth as they navigate the pivotal developmental phase into adulthood between 16 and 24. As the AIHW (2011) reports, “tackling health and wellbeing issues when they occur in adolescence is socially and economically more effective than dealing with enduring problems in adulthood”¹⁸.

In sum, research finds that investing in the health and wellbeing of young people not only affects their immediate quality of life and productivity, but also shapes the future health of the whole population and, in a broader social sense, the health of society¹⁹.

The current study

The objective of the current study is to consider the potential benefits that could flow – both to the individual and to the public – from introducing a program of support for Victorian children in all forms of OOHC that gives them the option to extend such care from the age of 18 to the age of 21.

Noting that no extended care program has been operational or studied in an Australian context on an ongoing basis, 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, our model considers the economic 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. Outcomes in each of these life domains were considered in the modelling on the basis that studies had reported that extended support impacted upon them. It is important to note that economic impacts consider the opportunity cost of expended resources.

In summary, the model is constructed to allow for the following:

- The user inputs a number of assumptions including:
 - the annual cost of the program;
 - program uptake rate if the program were offered;
 - the probability of outcomes occurring in each of the life domains with and without extended care;
 - the annual cost (for example welfare cost) or benefit (for example, income) associated with each outcome;

¹⁴ Courtney et al (2007); O’Connell, Boat, & Warner (2009)

¹⁵ Courtney et al (2007).

¹⁶ Washington State Institute for Public Policy. (2010)

¹⁷ Mason and Gibson (2004)

¹⁸ Australian Institute of Health and Welfare (2011)

¹⁹ Eckersley, R (2008)

- the nominal growth rate for costs/benefits over time; and,
 - the discount rate.
- Using these inputs, the model calculates the *expected* lifetime stream of costs/benefits over a 40 year period. The expected value is calculated by multiplying the monetary value of an outcome by the probability that the outcome will occur.
 - Each of the cost/benefit streams are returned to present value utilising the discount rate.
 - The benefit to cost ratio is calculated by dividing the difference in costs between offering the program and not offering the program by the difference in benefits. The benefit to cost ratio can be interpreted as the expected dollar of value returned per dollar invested in the program.

Central to the calculation of model outputs is the assumed program uptake rate. This study assumes an uptake rate of 25% in line with the uptake of the ‘Staying Put’ program in the UK. It is assumed that the program will be made available to all children in OOHC irrespective of whether they are in residential or non-residential care at age 18. It is assumed that individuals who enter the program remain engaged in the program for the full three years (from 18 to 21). Recognising that there is some likely level of attrition, the sensitivity analysis relaxes the assumption of 100% program completion.

Other key assumptions draw upon findings from literature to quantify the direction and magnitude of potential impact from introducing an extended care model similar to those introduced and studied overseas. For example:

- **Education and employment.** Extended support can provide financial and personal support to encourage a higher level of engagement with education. A study in the UK reported that engagement in education more than doubled within a sample of individuals participating in the ‘Staying Put’ program. Related to this, education is linked in literature to improved employment outcomes including a higher probability of employment and higher lifetime earnings.
 - The model assumes that for every 100 young people aged 18 in OOHC who complete the program, nine will enter and complete post-schooling education, compared with 3.6 for 100 people who don’t have extended support. Though this may appear low, this represents an improvement in education outcomes by a factor of 2.5.
 - Completing post-schooling education is assumed to relate to expected annual wage that is \$14,525 higher than for individuals who do not complete education.
 - Further, the model assumes that completing education reduces the probability of becoming unemployed by 39%.
- **Homelessness and housing.** Extending care to 21 has been found to prevent homelessness among foster care leavers leaving home at 18.²⁰ It is theorised that this effect is driven in part by the increased preparedness for adulthood that an extra three years in care brings to the child.²¹
 - The model assumes that for every 100 young people aged 18 in OOHC who complete the program 20 fewer people will remain reliant on modelled housing support costs than if they had not entered the program.
- **Justice.** Studies reported that justice system interaction for individuals leaving care aged 21 was lower than for individuals who left care aged 18. It has been hypothesised that extended care to former foster youth during the transition to adulthood may help reduce the risk of arrest, by

²⁰ It may be possible that this protective effect extends beyond 21, but was not captured in the Midwest Evaluation due to both recall and selection bias in their data collection surveys.

²¹ Dworsky & Courtney, (2010a).

maintaining the individual's tie to a social institution in the form of continued involvement in programs and/or relationships with agents of the child welfare system.²²

- The model assumes that for every 100 young people aged 18 in OOHC who complete the program, 10 will engage with the justice system in any given year compared with 16 if they did not receive extended support.

Key findings

The modelling results show that under the assumed program cost and program uptake rate (25%), **the benefit to cost ratio of the program is 1.84**. That is, a dollar invested in the program is associated with an expected return of \$1.84 in either savings or increased income.

Looking at benefits and costs which accrue primarily²³ to government – a pertinent statistic given the program outlay is assumed to be from public funds – **the benefit cost ratio of public spend is approximately 1.60**.

The care leaver population at June 2014 was estimated to be 524 young people. Multiplied over the 2015 care leaver population of 524, modelling results suggest the expected program cost for this group would be equivalent to \$10.5 million. Multiplying expected benefits over the care leaver population of 524 reveals that expected benefits of program roll-out would be \$19.3 million.

As Chart i shows, the greatest benefits are seen to exist in the estimated savings to housing supports, justice costs, and alcohol and other drug (AOD) costs. There are also saved costs that relate to Commonwealth spending, namely, the reduction in welfare costs and a proportionate reduction in hospital funding costs.

The modelling results have been calculated on the basis that program provision costs \$27,833 per year, per program participant. Of note, this top down program costing is considered to be a reasonable estimate of the potential program cost on the basis of bottom-up costing recently undertaken by Anglicare Victoria. Anglicare Victoria calculated the potential per child expense of case worker support, carer reimbursement and program operational costs to estimate that the per child program cost would be equivalent to approximately²⁴ \$28,000 per year²⁵.

The positive benefit cost ratios represented in the modelling results suggest that this total could in fact **increase to \$51,312** per year, per program participant before costs began to exceed benefits.

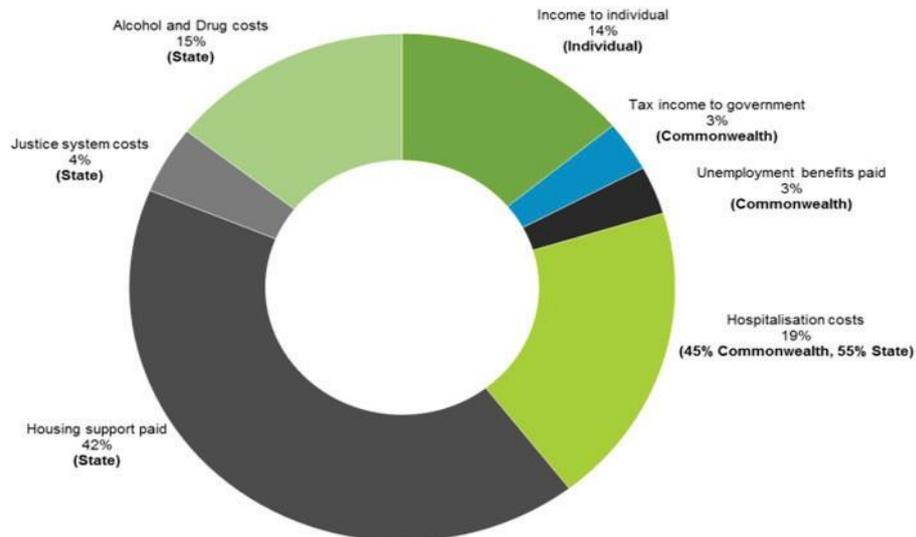
²² Lee, Courtney & Tajima. (2014)

²³ Noting that a small proportion of estimated AOD cost savings will also flow to society

²⁴ Note that the \$28,000 per year program cost calculated by Anglicare excludes residential care which is typically more expensive to provide compared to other types of OOHC, such as foster care. In 2014, the AIHW (2015) reported children in residential care made up 5.5% of the total population of children in OOHC in Australia, and 6.7% in Victoria.

²⁵ Anglicare Victoria (2014).

Chart i Distribution of benefits



Sensitivity analysis was conducted on these results to understand how the modelling responded to changes in key input parameters. A central assumption is that 25% of eligible individuals will take up the option of the extended program and that all 25% will remain in the program voluntarily for three years.

Sensitivity analysis was applied to consider a different uptake pattern such that the initial uptake (for one year) is 80%, then drops to 50% in the second year, and finally sees 25% complete three years of the program. **In this instance the benefit to cost ratio was estimated to be 2.53.**

Sensitivity analysis was also conducted to determine whether the program would provide a positive return in a shorter time frame (20 rather than 40 years). **It was estimated that the benefit to cost ratio over a 20 year period would be 1.25.**

It should be noted that, in reality, socio-economic returns are likely to be higher than those estimated by the model, as a number of potential benefits including improved mental and physical health outcomes, and improved community engagement, could not be quantified due to lack of data. Such benefits are additional to those included in the model and as such qualitatively serve to increase the return to investment.

Key additional areas of such benefit include:

- **Mental health** – The duration and severity of mental illness may be improved by extension of exit age due to the reduction of disruption to young people’s lives. Currently, youth in care start to be prepared from the age of 15 to exit the system by 18.²⁶ It is therefore plausible that many in the system start to become disengaged during their formative adolescent years aged 15-17, which has been identified as an issue especially toward the start of exit planning.²⁷ This hampers access to effective treatment as young people may experience uncertainty and disruption during this period and therefore delay treatment. Early intervention has also been identified to be important in

²⁶ Mendes, Johnson, & Moslehuddin. (2011)

²⁷ Victorian Department of Human Services. (2012)

preventing the progression of mental illness and mitigating collateral effects on social, educational and vocational outcomes.²⁸

- **Physical health outcomes** – The difference in physical health outcomes between 18 year old care leavers and those who stay in care to age 21 have not been extensively researched; however it has been postulated that 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.²⁹ 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 prevent future ill health.
- **Intergenerational disadvantage** – By encouraging continued education, extended care raises the probability of employment and the average income of care leavers, plus reduces the probability of criminal activity. 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 beyond 18 years could reduce the intergenerational disadvantage experienced by care leavers and their own children.³⁰ Relatedly, research has linked adolescent mothers’ lower educational outcomes to lower outcomes also for their own children³¹. It has been reported that staying in care beyond the age of 18 years may mitigate the risk of becoming pregnant, and therefore extending care may be one way to help reduce teenage pregnancy among the care leaver population.³²
- **Social connectedness** – 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 itself.³³ Researchers have identified the pivotal role that stability and connectedness play in establishing better outcomes of children in foster care³⁴. It is postulated that, by offering the possibility of extended care, with associated greater potential stability in accommodation and care arrangements, children may experience continued connection to individuals where they had forged positive relationships, leading to improved emotional wellbeing and social benefits for young people in extended care.³⁵
- **Disability Adjusted Life Years** – A commonly included method within cost benefit analyses for health policies or programs is the estimation of disability adjusted life years (DALYs).³⁶ Each DALY saved is very valuable, with the Department of the Prime Minister and Cabinet valuing a DALY averted (a year of healthy life saved) at \$182,000 in 2014.³⁷ The modelling for this project has not considered DALYs in the calculation of benefits and has instead focussed on financial costs and savings. 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.

Together, these results and accompanying research put forward a sound socio-economic case for consideration of public investment in the future of young people in OOHC, beyond the age of 18.

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28 McGorry, P., Parker, A. & Purcell, R. (2006)

29 Hannusek & Woessman (2010); Johnston, G (2004); Levin, B (2003)

30 Mayer (2002)

31 Tang et al (2014)

32 Dworsky & Courtney (2010b)

33 Osborn & Bromfield (2007)

34 Tilbury & Osmond (2006)

35 Department of Families, Housing, Community Services & Indigenous Affairs with National Framework Implementation Working Group (2010)

36 Access Economics, with the Australian Safety and Compensation Council (2008)

37 Department of Prime Minister and Cabinet (2014)

1 Introduction

Anglicare Victoria commissioned Deloitte Access Economics to complete a study of the socio-economic costs and benefits of extending care exit from the age of 18 to the age of 21 in Victoria. This paper provides an overview of the study methodology and its findings.

1.1 A case for change

While parents have the primary responsibility for raising their children and providing support, the *National Framework for Protecting Australia's Children 2009-2020*³⁸ notes that where the home environment is not safe enough for children, children are to be placed in the care of the state; in out-of-home care (OOHC). OOHC involves the placement of a child or young person with alternate caregivers who have legal custody of the child until the 18 years of age.³⁹

In Australia, state and territory governments have a statutory responsibility for ensuring children are protected from harm caused by abuse and neglect. In Victoria, this responsibility is exercised by the Department of Health and Human Services (the Department). A key function of the Department's child protection role is providing OOHC to children and adolescents in need. For the vast majority of children, OOHC is provided either through a kinship care or foster care model. The latest figures from the Australian Institute of Health and Welfare (AIHW) report that at 30 June 2014 there were 7,710 children in OOHC (both residential and non-residential) in Victoria.

A vast body of literature documents the multitude of inter-related, relatively poor life outcomes experienced by an inordinately high proportion of care leavers. The relative disadvantage experienced by this group spans from a number of confluent factors including a history of abuse or neglect, ongoing poor physical and mental health, substance abuse, homelessness, poverty, unemployment and violence.⁴⁰ Traditional support structures – family, friendship circles and community – are more likely to be broken for this cohort, limiting 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 resident in traditional care structures is poignantly highlighted in the abrupt and instituted 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 care-giver. A number of Australian studies have considered the relative impact of models for preparing youth for departure from state care – typically reporting mixed approaches and mixed results.⁴¹ The question remains, however, 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, staying in place rather

³⁸ Council of Australian Governments (2009)

³⁹ Council of Australian Governments (2009)

⁴⁰ See for example: Mendes, P, Johnson, G., Moslehuddin, B (2011); CLAN (2008); Osborn, A. and Bromfield, L (2007)

⁴¹ See for example: Owen, L., & Lunken, T. (2000); Raman, S., Inder, B., & Forbes, C. (2005). ;Ombudsman Victoria. (2010); London, Z. (2004); CREATE Foundation. (2010a).

than experiencing the disruption of moving and the discontinuity of immediate rather than gradual independence.

There is no jurisdiction in Australia which provides children in state care the option of accessing formal care and support beyond the age of 18. Internationally, however, there are examples of jurisdictions which have extended care to the age of 21.⁴² Such studies have reported benefits extending beyond the individual, to social and economic benefits experienced by the community and the state. Reported benefits include reduced engagement in crime and higher rates of participation in education and employment.

There have been a number of calls to consider extension of care, including in the findings of the Victorian 2012 Vulnerable Children's Inquiry⁴³. However, such reform is yet to be either trialled or instituted anywhere in Australia. Given this overarching policy focus, and the growing evidence reporting on poor outcomes experienced by young people leaving care at age 18 years compared with those aged 21 years, it is timely and topical to re-open the discussion of extending care.

1.2 The Victorian System

State government departments have a statutory responsibility for ensuring children are protected from harm caused by abuse and neglect. In Victoria, this responsibility is exercised by the Department of Health and Human Services (the Department), which receives reports of suspected child abuse and neglect from the general public and professionals and, where appropriate, further investigates these. One key function of the Department's child protection role is providing OOHC to children and adolescents in need.

In Victoria, and equally, across all states and territories in Australia, upon reaching 18 years of age, children in OOHC are legally recognised as independent and are required to leave OOHC and accommodation arrangements. This is in contrast to young people outside of the OOHC system in Australia where the age at which youth leave home has steadily been increasing over time. Currently, almost 50% of people aged between 18 and 24 are still living with one or both parents⁴⁴.

Table 1.1 displays the number of children discharged from OOHC by age group.

⁴² See for example: Courtney, M.E., Dworsky, A., Peters, C.M., Pollack, H. (2009); Keller, T.E., Cusick, G.R., and Courtney, M.E. (2008) Munro, E., Lushley, C., National Care Advisory Service, Maskell-Graham, D., Ward, H with Holmes L (2012),

⁴³ Cummins, Scott and Scales (2012).

⁴⁴ ABS 'Australian Social Trends' 4102.0, June (2009)

Table 1.1: Children discharged from out-of-home care, by age group, states and territories, 2013–14

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Number									
<1	95	177	62	47	21	9	5	22	438
1–4	335	552	283	166	76	42	37	49	1,540
5–9	365	462	287	165	88	59	33	35	1,494
10–14	513	490	322	232	95	49	45	66	1,812
15–17	1,159	806	566	207	205	61	59	61	3,124
Unknown	0	0	0	0	0	0	0	1	1
Total	2,467	2,487	1,520	817	485	220	179	234	8,409
Proportion (%)									
<1	3.9	7.1	4.1	5.8	4.3	4.1	2.8	9.4	5.2
1–4	13.6	22.2	18.6	20.3	15.7	19.1	20.7	21.0	18.3
5–9	14.8	18.6	18.9	20.2	18.1	26.8	18.4	15.0	17.8
10–14	20.8	19.7	21.2	28.4	19.6	22.3	25.1	28.3	21.6
15–17	47.0	32.4	37.2	25.3	42.3	27.7	33.0	26.2	37.2
Total	100.0								

Source: Australian Institute of Health and Welfare 2015. Note: (1) The data for children exiting care include those who left care and had not returned in less than 60 days. Where a child exits care more than once during the year, the last discharge is counted. (2) Children who were discharged from care on their 18th birthday are included in the 15–17 age category. (3) Percentages exclude children of unknown age. (4) Percentages may not add to 100 due to rounding.

Care leaving programs which are in place to equip individuals for the exit from care at the age of 18 commence at the age of 15⁴⁵. In this way, the process of exit has commenced even before a young person has become an adult. Further, a review of Australian research, including a report by the Victorian Ombudsman found evidence that some young people had little or no preparation for leaving care, and no leaving-care plan⁴⁶.

It should be noted that in Victoria, the *Children, Youth and Families Act (2005)* includes legislative responsibility to provide leaving care and after-care support for young people up to 21 years of age⁴⁷. The Act requires that the Victorian Government assist care leavers with finances, housing, education, training, employment, legal advice, access to health services, and counselling support. However, such supports are broadly considered to be insufficient to substitute for the extension to a more holistic, flexible model of care⁴⁸. Further, fragmentation between these supports sees a number of children redirect directly from child protection to the justice system or into homelessness supports⁴⁹.

1.3 Victorian care leaver outcomes

As reported above, young people in OOHC in Victoria receive legal protection and formal assistance from the government until they are 18 years old. At the age of 18, there is a substantial decrease in formal support for this group. A Victorian study reported findings from a survey of 60 young adults who

⁴⁵ Department of Human Services (2012).

⁴⁶ Mendes, Johnston and Moslehuddin (2011).

⁴⁷ Department of Human Services Victoria. (2008).

⁴⁸ Mendes, Johnston, & Moslehuddin (2011).

⁴⁹ Mendes, P; Snow, P; Baidawi, S (2012).

had been in care and found that they were experiencing significant disadvantage in a number of areas compared with the general population⁵⁰:

- only a small percentage of care leavers surveyed were engaged with fulltime **employment or education**, and their average incomes were very low;
- low average incomes were associated with frequent problems with debt and **housing instability**;
- more than a third of the cohort had accessed **drug and alcohol** treatment services in the past 12 months;
- the cohort were vastly over-represented in the **justice system** in terms of spending time in correctional services; and
half of those surveyed had sought help from a **mental health** professional in the six months before interview.

1.4 Extension of care: international experience

There are a number of international jurisdictions that have implemented policies and programs to extend care for young people aged 18 years and older. The types of care provided differ between each jurisdiction in terms of the care provided and the eligibility requirements for accessing this care.

United Kingdom

The United Kingdom (UK) has extended care provisions intended to model the role of a parent. These 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 the UK 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 years⁵¹.

To be eligible for entering into a 'Staying Put' arrangement, a young person must⁵²:

- be looked after by a local authority (in partnership with their foster carer);
- be aged 16 or 17 years of age; and
- have been in foster care a total of at least 13 weeks since the age of 14 years.

In 2015, figures released by the UK Department for Education found that a quarter of young people (1,370 of 5,490) in foster care who turned 18 since the 'Staying Put' legislation was introduced remained with their foster carers⁵³. 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 carers⁵⁴.

An evaluation of the pilot of the 'Staying Put: 18+ Family Placement Programme' for young people remaining in extended care, interviewed 32 young people at the age of 19, of which 21 had 'stayed put'. The paper looked at outcomes in education, employment and training, and housing.

⁵⁰ Forbes, Inder and Raman (2006).

⁵¹ The Children's Partnership 2015.

⁵² The Children's Partnership 2015

⁵³ Children and Young People Now 2015.

⁵⁴ Children and Young People Now 2015.

- **Education/employment:**
 - It was found that 55% of those who had stayed put were enrolled in full-time education, compared to 22% of those who had exited care. 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'.

United States of America, California

In the United States of America (USA), each state is responsible for establishing specific foster care practices and managing individual cases. However, the federal government strongly influences state child welfare policies through funding statutes, such as *Adoption and Safe Families Act (ASFA) 1997* which is the primary law controlling placements in the foster care system⁵⁵. Federal funding accounts for about half of the funding spent on child welfare in the United States, although the portion received by each state differs significantly.

California 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 (AB12) to optionally extended foster care to the age of 21 years, and provides assistance for housing, healthcare, food and support programs⁵⁶. To be eligible for this support, a young person must be living in an approved placement on their 18th birthday, have a signed mutual agreement with a case worker, and be:

- attending high school,
- enrolled in a college or vocational program,
- employed at least 80 hours a month, or
- participating in a program aimed at gaining employment, or unable to work/attend school because of a medical condition.

Qualitative research was undertaken between 2011 and 2012 on the implementation of the AB12. When asked about the capacity to implement extended care as envisioned in the AB12, one welfare agency suggested that the uptake rate to receive support had been higher than anticipated (no quantitative figure was provided as part of this research)⁵⁷.

Following the introduction of AB12 in 2010, a longitudinal study (CalYOUTH) was started in 2012, to evaluate the impact of the legislation extending care to the age of 21 on outcomes for foster youth. The study will have data collection waves between 2012 and 2017 in order to analyse the foster youth outcomes resultant of the legislation. As such, relevant further and more comprehensive research and analysis is expected to be available by 2018⁵⁸.

⁵⁵ Atkinson, Melinda 2008.

⁵⁶ Mosely and Courtney 2012.

⁵⁷ Courtney, M. E., Dworsky, A., & Napolitano, L. (2013).

⁵⁸ Courtney, M. E., Charles, P., Okpych, N. J., Napolitano, L. & Halsted, K. (2015).

However, a study evaluating youth in extended care in San Bernardino, California, analysed their educational and employment outcomes⁵⁹.

- **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. By contrast, after two or more years in care, 85.7% were then attending college or vocational training.

- **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.

Furthermore, focus groups in California with 39 youth in care, all of whom were aged 18, found favourable impressions of the extended care arrangements, on a qualitative basis⁶⁰. The majority of the youth who were interviewed commented that the education, employment and training criterion attached to the option of remaining in care was beneficial for their future prospects, and that this would likely reduce rates of alcohol and drug dependence, and crime, as there would be less time to engage in such activity outside of work or education.

1.5 This study

The objective of the current study is to consider the potential 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 Victorian children in OOHC which extends from the age of 18 to the age of 21. An estimate is provided of the quantum of public expenditure on such a program which, in the long-run, would see the public investment as net-neutral.

Noting that no extended care program has been operational or studied in an Australian context, 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.

A number of benefits qualitatively described in literature could not be included in the model, owing to lack of requisite quantitative data. These benefits are qualitatively discussed at the end of the report and should be taken as additional to those included in the model.

This report is structured as follows:

- **Chapter 2. Methodology.** An overview of the model structure and its limitations

⁵⁹ Netzel, K. S. & Tardanico, M. B. (2014).

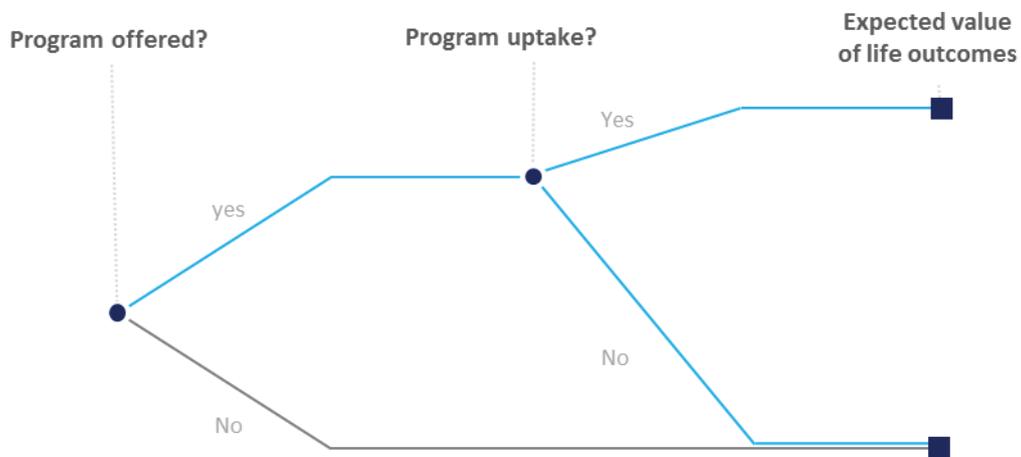
⁶⁰ Courtney, M. E., Dworsky, A., & Napolitano, L. (2013).

- **Chapter 3. Model inputs.** Key modelling assumptions and the literature which has informed them.
- **Chapter 4. Model outputs.** Model outputs and their interpretation/implications
- **Chapter 5. Discussion.** A broader qualitative discussion of potential impacts that could not be included in the model.

2 Methodology

The model is designed to quantify the net benefits of offering children in OOHC the option to extend support to the age of 21 compared against the current context where this support is not available. As such, 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).

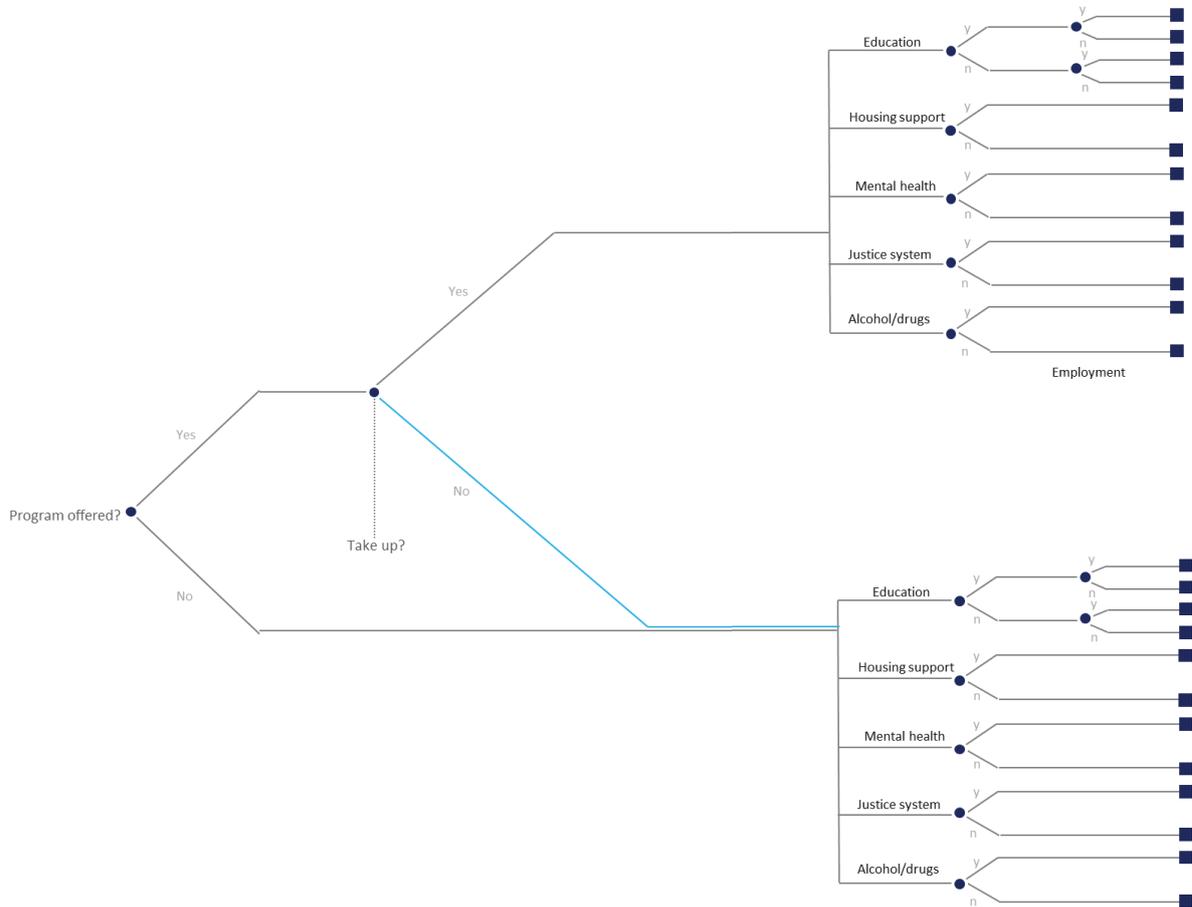
Figure 2.1 Model structure, program versus base case



Outcomes differ on the basis of whether an individual participates in the program or does not participate in the program. The model allows for the estimation of monetary outcomes (costs/savings) across five life domains: education and employment; housing; hospital spending; interaction with the justice system; and, alcohol and drug dependency. 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 take up the program have the same outcomes as individuals who were never offered the program in the first place.

Figure 2.2 Model structure



The model takes a forty year perspective of an individual’s life. 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 associated with extended care over the young person’s lifetime, there is an upfront public funding cost.

The main model inputs are the probabilities associated with each arm, and the annualised value in 2015 dollars of each outcome. The user must also input any costs associated with a particular pathway, such as the cost of education. Using these key inputs, the model calculates the expected value of each arm.

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 $0.5 \times 100 = 50$.

A benefit-to-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-to-cost ratio provides a measure of the level of return that can be expected for every dollar invested in a program.

Comparing the value of outcomes under the scenario where the program is offered against the value of outcomes where the program is not offered, the model calculates the maximum public spend which would, in present value terms, equalise program funding and long-term program benefits. That is, the model estimates the per child spend that would leave public expenditure neutral in present value terms.

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 (\$2015). It is calculated to account for the fact that the value of money which is expended 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 discount rate of 7%.⁶¹ Costs are inflated annually over time using a consumer price index (CPI) rate of 2.5%, except for wage and welfare costs which are inflated by average weekly ordinary time earnings (AWOTE) growth of 2.1% per annum, housing costs which are inflated by 2.25% per annum based on the national housing group within the CPI, and health costs which are inflated by 5.26% based on the health group within the CPI.⁶²

2.2 Estimating model inputs

Model inputs were estimated using a series of assumptions informed by available literature.

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 leaver population to an 18 year old 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 or, if not, in linking outcomes to each group, confounding factors such as differences in initial socioeconomic or health state are controlled to the extent possible. This is also important in the sources studies in the literature from which the outcome effect sizes are based, as well as ensuring that the target population in Australia is a similar population to that in the source studies. 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. Apart from such model input limitations, there are other model limitations noted in the next section.

A detailed description of modelling inputs and their sources is provided in Chapter 3.

⁶¹ Harrison, M (2010)

⁶² Australian Government: Commonwealth Superannuation Corporation. (2015).

2.3 Model limitations and interpretation

As is the case with most all socio-economic modelling exercises, the model presented in this paper presents a stylised representation of reality. The interaction between child protection and adult outcomes *is* complex and individualised. There is not a set path that individuals will pursue based upon decisions made as a teenager. The model, however, necessarily makes this simplifying assumption.

The model considers outcomes within five life domains. In reality, the impact of extended child protection is likely to span many more life domains and result in a far broader range of tangible and non-tangible outcomes. For example, the model considers outcomes relating to mental health but does not consider impacts relating to health more broadly. Literature finds, however, that support in earlier years can impact upon lifestyle choices which impact propensity to develop chronic health conditions.⁶³ Such chronic health conditions will have financial health system impacts and will further impact the individual's quality of life. It is important that such impacts are considered *qualitatively* alongside the quantitative outputs of the model.

Further, the model assumes that the five life domains that are considered 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 an immutable 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. Further, they are best considered alongside a qualitative discussion of outcomes that are not captured by the model.

⁶³ Osilla, K. et al(2014).

3 Model inputs

The model inputs were estimated using a series of assumptions informed by available literature. The model inputs and the rationale for their utilisation in the modelling exercise are provided in this chapter.

3.1 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 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 2015 (adjusted for inflation to \$27,833.45).⁶⁴ This is 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 utilisation of available data. It is not employed on the basis that these international models are the best model for the Victorian context. Indeed, the optimal model would need to be determined with careful consideration of the needs of the Victorian OOHC population. It should be noted, however, that the model outputs – importantly, the type and magnitude of expected benefits – will be sensitive to the cost of the program implemented.

However, of note, this top down program costing is considered to be a reasonable estimate of the potential program cost on the basis of bottom-up costing recently undertaken by Anglicare Victoria. Anglicare Victoria calculated the potential per child expense of case worker support, carer reimbursement and program operational costs to estimate that the per child annual program cost would be equivalent to \$28,076.⁶⁵ Note that this program cost calculation excludes residential care which is typically more expensive to provide compared with other types of OOHC, such as foster care. In 2014, children in residential care made up 5.5% of the total population of children in OOHC in Australia, and 6.7% in Victoria.⁶⁶

⁶⁴ Productivity Commission (2016)

⁶⁵ Anglicare Victoria (2014).

⁶⁶ AIHW (2015)

3.2 Program uptake

Program participation is assumed to be voluntary. As such, 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'.

The uptake rate in this study is derived from figures released by the UK Department of Education reporting on the rate of uptake of the 'Staying Put' program. The UK Department of Education reported that 24.95% of eligible individuals entered the 'Staying Put' program.⁶⁷

Our study adopts this same uptake rate as a basis for modelling calculations. It is considered, however, that this rate may underestimate the likely participation rate should the policy be introduced with limited entry criteria and commensurately funded in Victoria. This is because participation in the UK 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 outcomes.

3.3 Employment and education

Academic literature has long confirmed the conventional theory that sustained engagement in formal education is directly related to the realisation of positive life outcomes for individuals and societies.^{68,69,70} The Australian Social Inclusion Board (2010) found that participating in education assists individuals in finding sustained employment; participate in community activities and to improve their wellbeing. Education also provides a pathway out of disadvantage, particularly for people in low socio-economic groups.⁷¹

While acknowledging that the returns to education materialise in multiple facets of life, for tractability, the modelling in this study focuses on the relationship between education and employment outcomes. Studies find that young people who do not complete school and/or continue to further education are more likely to become unemployed, stay unemployed for extended periods of time, or gain employment in lower paid jobs.^{72,73,74} 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 life.

Probability with and without intervention

⁶⁷ Children and Young People Now (2015)

⁶⁸ Johnston, G (2004)

⁶⁹ Levin, B (2003)

⁷⁰ Hannusek and Woessman (2010)

⁷¹ Australian Social Inclusion Board (2010)

⁷² OECD (2001)

⁷³ Levin, B (2003)

⁷⁴ Rumberger, R and Lamb, S (2003)

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 0.11 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 expected rate of Vocational Education and Training (VET) course completion in Victoria (33.1%) to equal 0.036.⁷⁵

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. Munroe et al (2010) surveyed 206 young people who were eligible to participate in the 'Staying Put' study in the UK. Munroe et al (2010) reported that for the 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 21.⁷⁶

The model assumes that a child exiting care at 21 has a probability of $0.036 \times 2.5 = 0.09$ of pursuing (and completing) further education.

The model treats the probability of employment as conditional on participation in education. It is noted that studies have found that employment outcomes can improve for individuals who receive extended support irrespective of education. For example, where extended support allows individuals to form and sustain professional networks in young adulthood.⁷⁷ Such pathways are not included in the current modelling exercise.

The 2015 survey results reported by the Australian Bureau of Statistics (ABS)⁷⁸ state that the average probability of employment for VET certificate holders is 0.58. 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, however, conservative compared with NCVER (2014) estimates of employment in the six months following graduation from a VET course (78%).⁷⁹

The same survey reports that for individuals who complete year 12, the probability of employment is 0.41. 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 12.⁸⁰ Accordingly, it is assumed that the weighted probability of employment for individuals who do not pursue VET is $(0.41 \times 0.35) + (0.26 \times 0.65) = 0.313$.

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.

⁷⁵ NCVER. (2015).

⁷⁶ Courtney et al 2007.

⁷⁷ Caspi et al (1998).

⁷⁸ Australia Bureau of Statistics (ABS) (2015).

⁷⁹ National Centre for Vocational Education Research (2014)

⁸⁰ McDowell 2009.

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 2005 ABS Report 'Education and Training Experience in Australia'⁸¹ and inflated using AWOTE growth rates to 2015 dollars, and thereafter. The average wage figure was cross-checked and found to be comparable to NCVET estimates of annual salaries for post-VET graduates.^{82,83}
- **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.⁸⁴ A single annual cost of education, derived from a survey of the Victorian government's contribution to 19 VET Certificate-level courses is included in the model adjusted by the inputted probability of entering education.⁸⁵
- Individuals who do not pursue VET are not further 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 AWOTE. The wage/welfare outcome assumptions and their sources are summarised in Table 3.1.

Table 3.1 Wage and welfare assumptions

Pathway	Assumption	Source
VET qualification; employed (\$2015)	\$62,014.09	ABS (2005) ⁸⁶
No VET qualification; employed (\$2015)	\$47,488.95	ABS (2005) ⁸⁷
VET qualification; unemployed	\$13,604	Department of Human Services (2016) ⁸⁸
No VET qualification; unemployed	\$13,604	Department of Human Services (2016) ⁸⁹
VET course (single year)	\$3,433.74	Derived using Victoria Polytechnic. (2016) ⁹⁰

⁸¹ Australia Bureau of Statistics (ABS) (2008).

⁸² National Centre for Vocational Education Research. (2015).

⁸³ Australian Bureau of Statistics (2005).

⁸⁴ Harvey et al 2015.

⁸⁵ Victoria Polytechnic. (2016).

⁸⁶ Australia Bureau of Statistics (ABS) (2008).

⁸⁷ Australia Bureau of Statistics (ABS) (2008).

⁸⁸ Department of Human Services 2016.

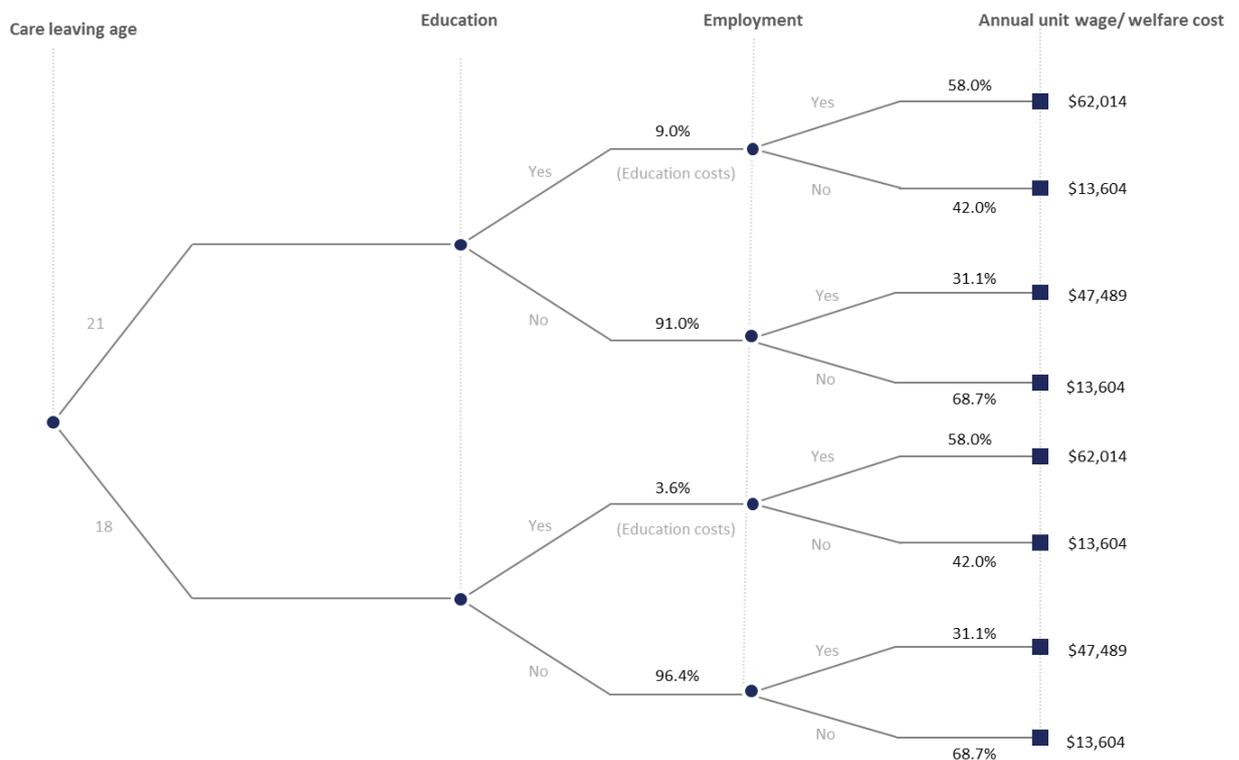
⁸⁹ Department of Human Services 2016

⁹⁰ Victoria Polytechnic. (2016).

Summary of assumptions

Figure 3.1 provides a summary of cost and probability assumptions used in this study.

Figure 3.1 Wage and welfare model assumptions



- Education and employment outcomes are modelled together, with the probability of employment taken to be conditional on participation in education.
- The probability of pursuing further (VET) education at 21 is estimated at 9%, whereas the probability at 18 is 3.6%.
- The probability of being employed having received VET education is 58%, while the probability of employment having received education below VET level is 31.1%.
- The cost of VET education is \$3,433.74, while the annual earnings for an individual with VET qualification is \$62,014.09. Earnings for the individual with education attainment below VET-level are estimated at \$47,489 per annum.
- Those who are unemployed regardless of qualification level are estimated to receive unemployment benefits of \$13,604 annually.

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3.4 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.⁹¹

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 also links to poor mental health outcomes, unemployment and alcohol and/or drug dependence.

Probability with and without intervention

The Forbes et al. (2006) study 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%.⁹² While this prevalence rate was found for a sample study in 2006, it is considered to be stable for the current model.

In order to estimate the proportion of individuals who exit care at the age of 21, who would subsequently become reliant on public housing support, data from the evaluation of the UK 'Staying Put' program was used.⁹³ In the UK, of those who were able to directly enter stable housing, 67% had 'stayed put' until a later age in the system, compared to 33% who had left the system at 18. Hence, 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.⁹⁴ 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 the strong similarities between the UK and Australian populations.

Monetary assumptions

Given the often complex housing outcomes of care leavers across their lifetime, the following assumption was made in order to estimate the impact of the proposed intervention on homelessness and housing support related costs:

⁹¹ Johnson, G., Natalier, K., Mendes, P., Liddiard, M., Thoresen, S., Hollows, A. & Bailey, N. (2010).

⁹² Forbes, C., Inder, B. & Raman, S. (2006).

⁹³ Munro, E. R., Lushey, C., Maskell-Graham, D., Ward, H. & Holmes, L. (2010).

⁹⁴ Dworsky, A., & Courtney, M. (2010).

- Pathway and cost weighting.** It is assumed that if an individual who is leaving care experiences housing instability, they will be eligible for, and reliant on, public housing support. This cost is considered in two parts: firstly, for daily general homelessness support to access or maintain social housing tenancy, and secondly, for daily support to help Indigenous people access or maintain social housing tenancy. These costs were annualised and weighted by the proportion of Indigenous and non-Indigenous children among those in care in Victoria (16.98% Indigenous, 83.02% non-Indigenous).⁹⁵

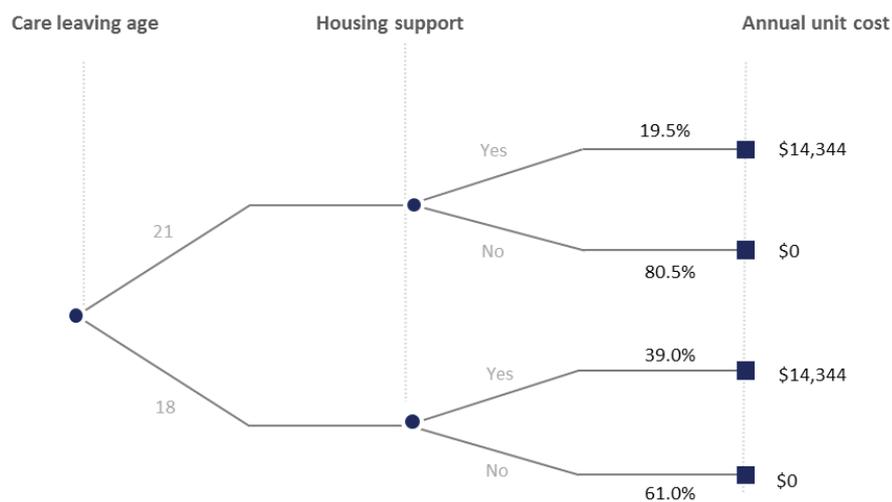
Separate Indigenous and non-Indigenous costs need to be considered as there is a significant difference between the two values, with the cost of Indigenous housing support close to four times that of general housing support. Furthermore, Indigenous children are significantly overrepresented in the out of home care system, with 62.7 of every 1000 Indigenous children in care, compared to 5.1 per 1000 non-Indigenous children in care, in Victoria. This is therefore likely to substantially impact end outcomes for the total care population.

The weighted annual unit cost of housing support by state government⁹⁶ was estimated to be \$12,300.66 in 2011 dollars, as per research conducted by Zaretsky and Flatau for AHURI.⁹⁷ The cost was inflated forward from 2011 to 2015 dollars using the 2.25% growth rate of the national housing group within CPI to \$14,344.46.

Summary of assumptions

Figure 3.2 provides a summary of cost and probability assumptions used in this study.

Figure 3.2 Homelessness and housing support model assumptions



⁹⁵ Australian Institute of Health and Welfare. (2015).

⁹⁶ Averaged across all State and Territory Governments except South Australia and the Northern Territory

⁹⁷ Zaretsky, K. & Flatau, P. (2015).

- The probability of homelessness if exiting care at 18 is 39%, estimated from a Victorian study of care leavers. The probability of homelessness if exiting care at 21 is 19.5%, derived using UK estimates that show a later exit age halves the probability of homelessness (as compared to exiting at 18).
- The cost of housing support is estimated at \$14,344.46. 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.

3.5 Hospitalisations

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. Research to understand the causal link between extended care and reduced hospitalisation rates revealed three potential drivers: better access and more appropriate use of primary care, delayed pregnancy (owing to improved family planning) and reduced rates of injury.^{98 99 100 101 102 103}

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.¹⁰⁴

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.¹⁰⁵ 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 for an 18 year old care leaver population on average.

We do also acknowledge that the Midwest study had found hospitalisation rates in Wisconsin (no care extension) at age 21 to be similar to the rate in Illinois (care extension offered till 21).¹⁰⁶ However, after considering the whole body of evidence, our approach in modelling some reduction in hospitalisation is believed to be a reasonable assumption – particularly as other healthcare costs which are noted in the discussion section of this paper (Chapter 5) have not been included in our model.

⁹⁸ Szilagy, M.A., Rosen, D.S., Rubin, D. & Zlotnik, S. (2015).

⁹⁹ Guttmacher Institute. (2011).

¹⁰⁰ Australian Institute of Health and Welfare. (2008).

¹⁰¹ Guttmacher Institute. (2011).

¹⁰² Courtney et al (2007)..

¹⁰³ Joseph McDowall (2009).

¹⁰⁴ Courtney et al (2007).

¹⁰⁵ Courtney and Dworsky (2006).

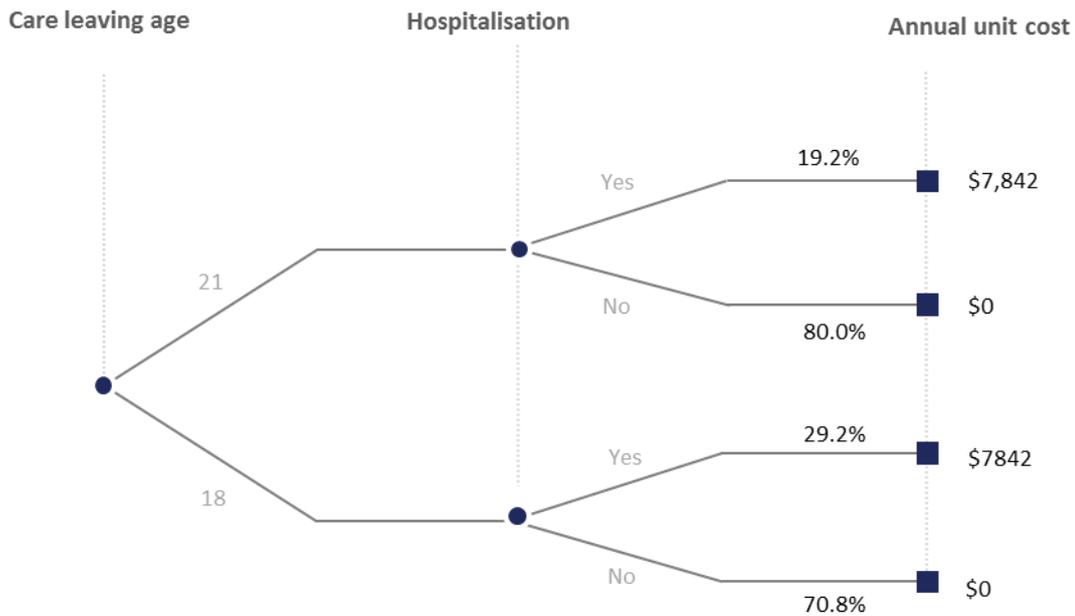
¹⁰⁶ Courtney, M., Dworsky, A., Cusick, G. R., Havlicek, J., Perez, A. & Keller, T. (2007).

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 over a third of all individuals who reported hospitalisation during a year were likely to have had one or more hospital admissions in the year.¹⁰⁷ As such, the modelled number of hospitalisations avoided is $1*0.63+2*0.37=1.37$.
- 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 Collection¹⁰⁸. Multiplied by the average number of separations per year for the sample population (1.37), the annual cost of hospitalisation was estimated at \$7,842.32. This cost was inflated to 2015 using the national CPI growth for the health group, and thereafter.

Figure 3.3: Hospitalisation modelling assumptions



¹⁰⁷ Courtney et al (2007).

¹⁰⁸ Independent Hospital Pricing Authority. (2013).

- The risk of hospitalisation if exiting care at 18 is 29.2%, while this risk is estimated at 19.2% if exiting at 21.
- The cost of hospitalisation is estimated at \$5,725.05, which is derived from the average number hospitalisation episodes avoided and average cost per acute hospitalisation episode in Victoria

3.6 Justice

Researchers in Australia and overseas have reported on the over-representation of care leavers in the justice system. It is thought that a confluence of factors may lead to this over-representation including inadequate accommodation or homelessness upon leaving care, poor educational experiences, underlying anger and resentment towards the state care system, and the absence of effective legal advocacy and support¹⁰⁹.

In the US, a comparison of a nationally representative population sample of youth, with a sample of mostly 25- and 26-year-old former foster youth, who have aged out of care, found higher rates of arrest after turning 18 (42% vs. 5% for women and 68% vs. 22% for men)¹¹⁰.

A number of Australian studies have found a significant correlation between living in OOHC and criminal behaviour, for example:

- Research by the Victorian Department of Human Services in 2011 found that 9% of a sample of 151 care leavers in Victoria (aged 16 to 21) had spent time in custody since leaving care¹¹¹. Of those who had been incarcerated since leaving care, 69% had been incarcerated once, 8% had been incarcerated twice, 8% were incarcerated three times and 15% were incarcerated four times.
- Another survey of 60 care leavers in Victoria found that almost 50% had some type of involvement with the police or justice system, and 12% had spent time in detention in the twelve months after exiting care¹¹². This included a range of matters such as being charged with an offence, being served an intervention order, being evicted from a residence, and being a victim of domestic violence.

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 of these individuals to participate fully in society¹¹³.

Probability with and without intervention

To estimate the proportion of care leavers interacting with the justice system, the proportion of arrests were considered, given that arrests are the principal point of entry into the criminal justice system, at which point legal and correctional costs are incurred.

¹⁰⁹ Community Affairs References Committee, cited in Mendes (2009).

¹¹⁰ Courtney, M. E., Dworsky, A., Brown, A., Cary, C., Love, K., & Vorhies, V. (2011).

¹¹¹ Department of Human Services. (2011).

¹¹² Forbes, Inder and Raman (2006).

¹¹³ Lee, J. S., Courtney, M. E., & Tajima, E. (2014)

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 had chosen to stay on until a later age, up to 21.¹¹⁴

The Midwest study found comparable outcomes, however 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.

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.

Monetary assumptions

To estimate the cost of a particular crime, the frequency with which the crime occurs needs to be established. A major difficulty in attempting to assess the costs of crime is the ‘unknown’ frequency of many types of crimes¹¹⁵.

Research undertaken by the Australian Institute of Criminology (AIC) estimated the costs of crime by calculating the number of crimes that came to the attention of the authorities for 2011 plus those not recorded officially (using ABS crime victimisation survey data, also for 2011) ¹¹⁶. A dollar figure was applied to each event of crime based on actual losses, intangible losses, and loss of output caused through the criminal conduct. Added to these costs were costs of preventing and responding to crime in the community including maintenance of the criminal justice system (police, prosecution, courts and correctional agencies).

To estimate the costs of crime and interaction with the justice system for care leavers, the following assumptions were made:

- **Type of crime.** Following initial entry and interaction with the criminal justice system, the model considers three levels of criminal outcomes as possible for care leavers: low, medium and high. These levels are based on the types of crime committed by care leavers as reported in Midwest evaluation of former foster care youth¹¹⁷.
 - Low criminal involvement here refers to arrests, and it was found in the Midwest study that 25% of care leavers were soon arrested after exit.
 - Medium criminal involvement refers to all convictions, across all types of crime, as well as imprisonment for property- and drug-related criminal offences. It was found that 22% of care leavers had engaged in medium criminal activity.

¹¹⁴ Washington State Institute for Public Policy. (2010).

¹¹⁵ Australian Institute of Criminology (2014).

¹¹⁶ Australian Institute of Criminology (2014).

¹¹⁷ Courtney, M. E., Dworsky, A., Brown, A., Colleen, C., Love, K. & Vorhies, V. (2011).

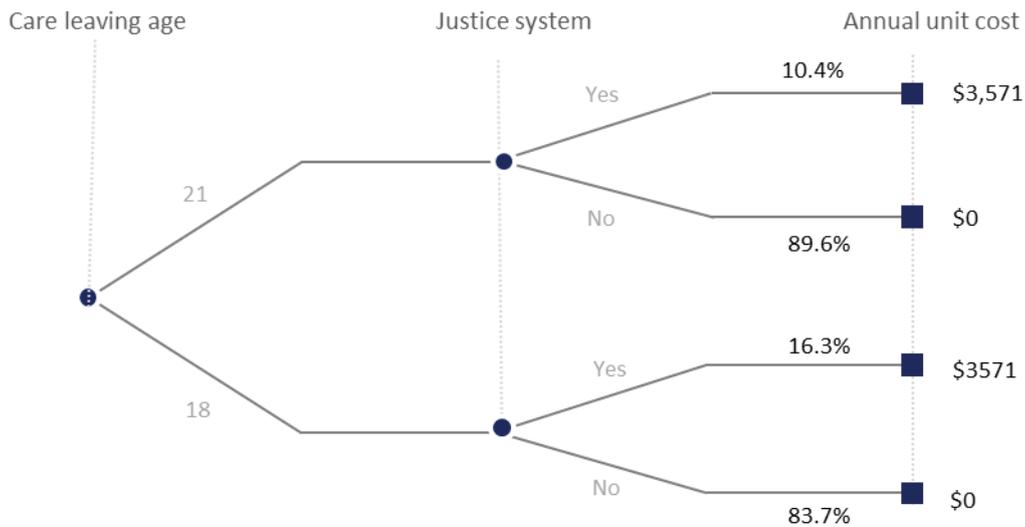
- High criminal involvement refers to imprisonment for violent crime, which applied to 4% of care leavers.
- **Cost of crime.** A weighted average unit cost was calculated based on the likelihood of committing a crime within any given year, and, if a crime was committed the probable severity of that crime. AIC costs were utilised to determine the cost of a low, medium or high crime and inflated from 2011 to 2015 using CPI, and thereafter. The costs included in this weighted average for each level of crime were as follows:
 - Low criminal involvement included thefts from vehicles, shop theft, other theft, and criminal damage, plus costs of justice (petty crime involving only police and administrative costs) – summing the AIC estimated costs for each of these types of crime plus justice costs, equates to \$3,207.91 per year in 2015 dollars.
 - Medium criminal involvement included robbery, burglary, theft of vehicle and assault, plus costs of justice (police, legal aid, prosecution and court costs) – summing the AIC estimated costs for each of these types of crime plus justice costs, equates to \$7,510.06 per year in 2015 dollars.
 - High criminal involvement included homicide and sexual assault, plus costs of justice (police, legal aid, prosecution, court costs, and corrective services) summing the AIC estimated costs for each of these types of crime plus justice costs, equates to \$80,268.44 per year in 2015 dollars.
 - The weighted average was calculated by multiplying the probability that for any given year, the proportion of care leavers expected to interact with the justice system within a given year is 40% (355 of 590 care leavers surveyed as part of the Midwest evaluation¹¹⁸). Of these 40% a young person committing a particular type of crime (categorised as the levels described above in ‘types of crime’) by the cost of that level of crime. The multiplied figures were then summed to provide one figure: the weighted average of \$3,570.88 in 2015 dollars.
- **Pathway.** 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 that ever enter the justice system, the average weighted annual unit cost would be incurred.

¹¹⁸ Courtney, M. E., Dworsky, A., Brown, A., Cary, C., Love, K., & Vorhies, V. (2011).

Summary of assumptions

Figure 3.4 provides a summary of cost and probability assumptions used in this study.

Figure 3.4: Justice system model assumptions



- The probability of arrests for 18 year old care leaver is 16.3%, while those leaving at 21 have a 10.4% probability
- The cost of crime is estimated at \$3,570.88 annually. This figure was derived by weighting the propensity and costs of criminal involvement across different severity levels.

3.7 Alcohol and/or drug dependence

Calculating the lifetime cost of alcohol and/or drug dependency is complicated by a number of factors. First, the dependency pathway is highly individualised – contingent upon factors such as the substance of abuse, timing and frequency of treatment interventions and, the individual’s health, social and economic status. As such, the severity of episodes and frequency of relapse over a forty year period is not readily standardised.^{119,120}

Relatedly, alcohol and/or drug dependency can be associated with a multitude of inter-related costs – spanning costs of healthcare, and societal costs. The model utilises an average cost per case of alcohol and/or drug dependency to society to determine a standardised cost per person.

¹¹⁹ Best, D. W. & Lubman, D. I. (2012).

¹²⁰ Moos, R. H. & Moos, B. S. (2006).

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%.^{121,122} 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.¹²³ 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.¹²⁴ 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 early (before year 10).¹²⁵

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%.

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 AOD associated costs:

- **AOD pathway.** It is 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 are 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 weighted annual unit cost of alcohol and/or drug dependency is estimated to be \$7,867.73. This was based on the total annual cost of alcohol and illicit drugs to society (considered separately) as reported by the Australian Institute of Health and Welfare (2011) to be \$15.3 billion and \$8.2 billion, respectively, in 2004-05 terms¹²⁶. The values were inflated forward to 2015 terms using growth in national CPI. This aggregate cost was then calculated on a per affected person basis, with a more detailed description below.

¹²¹ Courtney, M., Dworsky, A., Cusick, G. R., Havlicek, J., Perez, A. & Keller, T. (2007).

¹²² 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.

¹²³ Best, D. W. & Lubman, D. I. (2012).

¹²⁴ Best, D. W. & Lubman, D. I. (2012).

¹²⁵ ABS. (2015).

¹²⁶ Australian Institute of Health and Welfare. (2011).

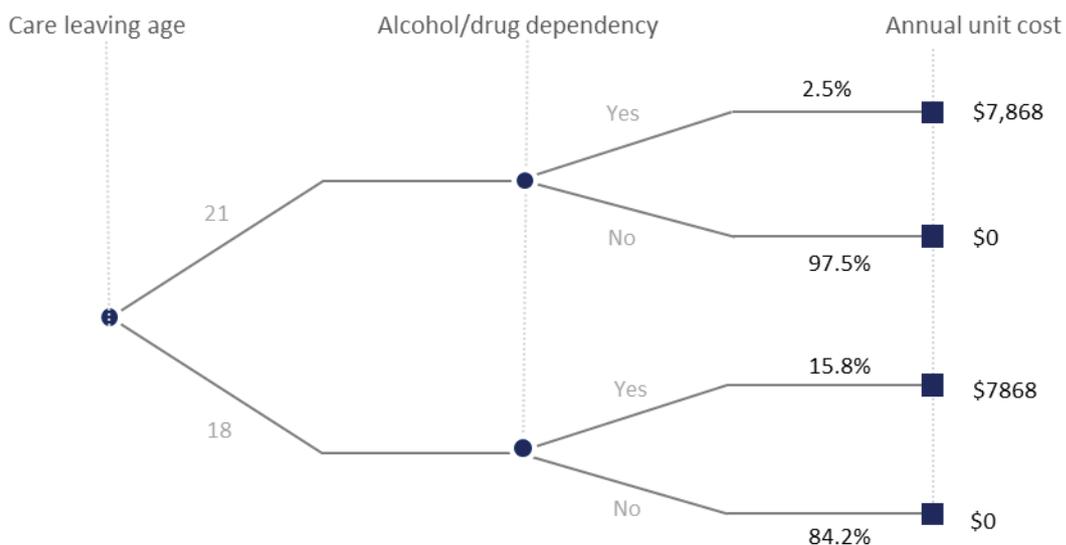
According to the 2013 National Drug Strategy Household Survey, the proportion of those aged 12 and over who had single-occasion or lifetime risky alcohol consumption behaviour¹²⁷ was 16.4%, and those aged 14 and over who used illicit drugs and/or pharmaceuticals for non-medical purposes on a weekly basis was 5.2%¹²⁸. These prevalence rates were considered to be representative of alcohol and drug dependency, respectively. Using these rates, the total number of alcohol and drug dependent persons was calculated, in order to derive a unit cost of alcohol and illicit drugs incurred by society, found to be \$6,088.68 and \$10,586.61 respectively.

To estimate the general alcohol and/or other drug dependency cost, a weighted average of these costs was calculated, based on the relative proportions of those who were alcohol dependent only, drug dependent only, or dependent on both, of those who had alcohol and/or other drug dependency. These proportions were drawn from the 2001-02 US National Epidemiologic Survey on Alcohol and Related Conditions, which found that 8.5% had an alcohol disorder, 2% had a drug disorder, and 1.1% had both alcohol and drug disorders.¹²⁹ The relevant weights were therefore derived as 0.73 for alcohol-only, 0.17 for drug-only and 0.1 for both alcohol and drugs. These were considered to be appropriate for the purposes of the model, as risky alcohol consumption behaviour was more than three times as likely as weekly drug use. Further, given that 12.2% of daily drinkers in Australia used cannabis at least once in the past year, and 10.3% of daily drinkers had used other illicit drugs at least once, it is reasonable that there is not a high rate of co-dependency in Australia¹³⁰.

Summary of assumptions

Figure 3.5 provides a summary of cost and probability assumptions used in this study.

Figure 3.5 Alcohol and drug dependency model assumptions



¹²⁷ Risky alcohol consumption is defined as more than 5 standard drinks per episode.

¹²⁸ Australian Institute of Health and Welfare. (2015).

¹²⁹ National Institute on Alcohol Abuse and Alcoholism. (2008).

¹³⁰ Australian Institute of Health and Welfare. (2011).

- The probability of alcohol or drug dependence for a child exiting care at the age of 18 is 15.8%. At 21, this probability has been estimated to be 2.5%.
- The weighted annual unit cost of alcohol and/or drug dependency is estimated to be \$7,867.73. Weights used in the calculation were the cost of alcohol and illicit drugs to society, and the proportions of people with different alcohol and drug dependency combination types.

4 Model outputs

4.1 The base model

The primary modelling results put forward in this paper consider the benefits of a voluntary model of extended care. The model assumes that all participants who elect to take up the program in the first year do not drop-out of the program over the three year period. The uptake rate is assumed to be 24.95% of 18 year olds who are in any form of OOHC.

In 2015, there were 524 children in OOHC care aged 18 (the care leaver population). As such, this assumption implies that 131 of these young people would have adopted the program if it had been available. Inputs are as described in Chapter 3 and tabled in Appendix B.

Table 4.1 provides a summary of model outcomes.

Table 4.1 Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), per 18yo child in OOHC in 2015

	Program not offered	Program offered	Difference between program offered/not offered
Total costs	124	20,139	20,015
Total benefits	56,520	93,381	36,861
Net benefits	56,396	73,242	16,846
Benefit to cost ratio			1.84

The expected expenditure per 18 year old child in OOHC to extend support to the age of 21 is \$20,009 over a three year period. It should be noted that this \$20,009 is not the same as the \$27,000 input which relates to a single year program cost for an individual. This \$20,009 is the *expected cost* of the program over a three year period per care leaver given an uptake rate of 25%.

Multiplied over the 2015 care leaver population of 524 (Table 4.2),¹³¹ this equals \$10.5 million. Multiplying expected benefits over the care leaver population of 524 reveals that expected benefits of program roll-out would be \$19.3 million.

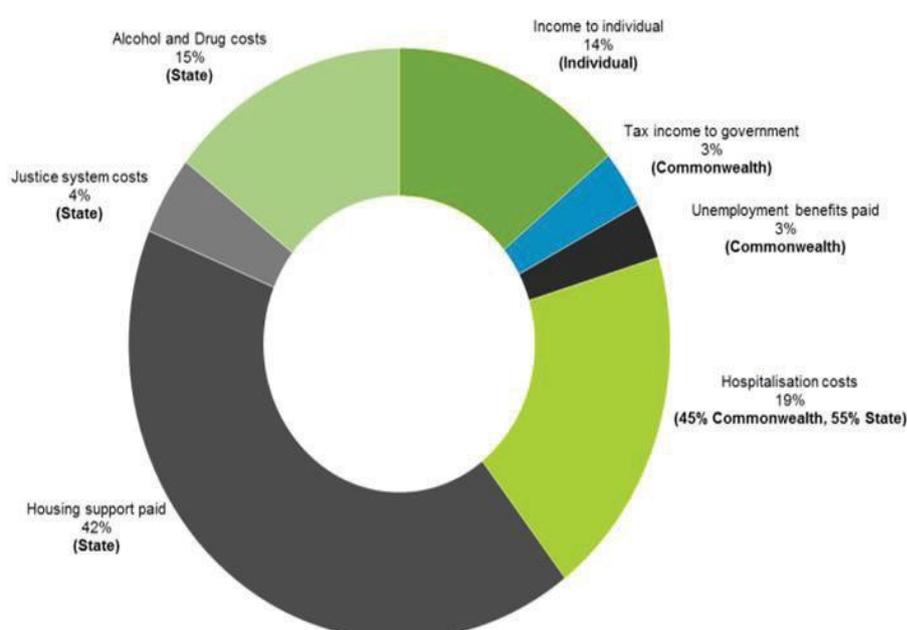
¹³¹ Australian Institute of Health and Welfare (2014)

Table 4.2: Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), per 18yo child in OOHC in 2015, total for 524 care leavers

	Program not offered	Program offered	Difference between program offered/not offered
Total costs	64,774	10,552,839	10,488,065
Total benefits	29,616,338	48,931,489	19,315,151
Net benefits	29,551,564	38,378,649	8,827,086
Benefit to cost ratio			1.84

As noted in Chapter 3, the benefits are comprised of increased revenue (to the individual and to the government through increased wages and hence taxation) and, reduced government expenditure across a number of portfolios (savings). As Chart 4.1 shows, the greatest benefits are seen to exist in the estimated savings to housing supports, justice costs and AOD costs. There are also saved costs that relate to Commonwealth expenditure, namely, the reduction in welfare costs and a proportion of hospital funding. It should further be noted that some components of housing support and alcohol and drug support is provided through federally funded grant funding.

Chart 4.1 Distribution of benefits



The modelling results find that under the assumed program cost and program uptake rate (25%), the benefit to cost ratio of the program is 1.84. That is, a dollar invested in the program is associated with an expected return of \$1.84 in either savings or increased income.

Looking at benefits and costs which primarily accrue to Government – a pertinent statistic given the program outlay is assumed to be from public funds – the benefit cost ratio of public spend is approximately 1.60.

4.2 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. Appendix D tables all results in further detail.

Overall, the finding that the program delivers positive returns was shown to be robust to variation in these assumptions, with the BCR ranging between 1.25 and 2.5 under variations to the key assumptions on program uptake, as outlined below.

Program uptake

The base model presented in this paper assumes that 24.95% of eligible individuals adopt the program where it is offered. It is noted, however, that uptake reported in the Midwest evaluation is higher (80%). To test the sensitivity of conclusions to the assumed uptake of 24.95%, the model was re-run, utilising a higher uptake rate of 50%.

Table 4.3 provides a summary of outcomes from this sensitivity analysis. As this change provides for a proportional impact in both costs and benefits, the benefit to cost ratio is not sensitive to the assumption.

Table 4.3 Present value (\$2015) of costs and benefits over 40 years (uptake rate 50%), per 18yo child in OOHC in 2015

	Program not offered	Program offered	Difference between program offered/not offered
Total costs	124	40,235	40,111
Total benefits	56,520	130,031	73,511
Net benefits	56,396	89,796	33,400
Benefit to cost ratio			1.83

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.

Naturally, 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 4.4 provides a summary of outcomes from this sensitivity analysis. The initially high uptake rate in this scenario drives the model to produce a higher benefit to cost ratio than in the base model.

Table 4.4 Present value (\$2015) of costs and benefits over 40 years (uptake rate 80% in year 1, falling to 50% in year 2, and to 25% in year 3), per 18yo child in OOHC in 2015

	Program not offered	Program offered	Difference between program offered/not offered
Total costs	124	35,758	35,634
Total benefits	56,520	146,639	90,119
Net benefits	56,396	110,881	54,485
Benefit to cost ratio			2.53

Program cost

The base model in this analysis assumes that the cost of the program is \$27,833 annually per program participant.¹³² 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 \$51,312 per program participant before the program became net negative.

Timeframe of analysis

The base model adopts a forty 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 time frame.

Table 4.5 provides a summary of outcomes from this sensitivity analysis. The benefit to cost ratio is lower than the base model however is still net positive.

Table 4.5 Present value (\$2015) of costs and benefits over 20 years (uptake rate 24.95%), per 18yo child in OOHC in 2015

	Program not offered	Program offered	Difference between program offered/not offered
Total costs	124	20,179	20,056
Total benefits	19,699	44,753	25,055
Net benefits	19,575	24,574	25,008
Benefit to cost ratio			1.25

¹³² Productivity Commission (2016). 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 2015 (adjusted for inflation to \$27,833.45)

5 Discussion of other potential benefits

A number of potential benefits of extended care were found in literature but were unable to be modelled on account of a lack of available data. These potential benefits are discussed in this chapter and should be considered as additional to the benefits modelled Chapter 4.

5.1 Mental health

Children and young people in OOHC are generally placed in the system due to violence, neglect or abuse in their family environment¹³³. There is extensive literature which shows that there is a strong relationship between an unstable and damaging family experience for young people, and a range of mental illnesses, including post-traumatic stress disorder, depression and anxiety¹³⁴. As the causative factors usually occur during childhood, the prevalence rates of mental illness among youth in OOHC are unlikely to change in light of an extension to care services until the age of 21; however, for the reasons outlined below, the duration and severity of illness may be improved by extension of exit age.

Currently, youth in care start to be prepared from the age of 15 to exit the system by 18¹³⁵. It is therefore plausible that many in the system start to become disengaged during their formative adolescent years aged 15-17, which has been identified as an issue especially toward the start of exit planning¹³⁶. This hampers access to effective treatment as young people may experience uncertainty and disruption during this period and therefore not seek appropriate mental healthcare to the extent they may with greater stability. Delayed treatment is likely to then have implications for future intensive access of the general healthcare system and mental health services, due to the increased likelihood of comorbidity and more chronic illness¹³⁷.

There is substantial qualitative literature which highlights the benefits of early intervention for mental, emotional and behavioural disorders among youth, including lower treatment costs across their lifetime, attributable in part to less intensive use of general and mental health services¹³⁸.

Early intervention has also been identified to be important in preventing the progression of the illness and mitigating collateral effects on social, educational and vocational outcomes¹³⁹. Cost-benefit analyses of early intervention for mental health of adolescents found benefit-cost ratios between 3 and 28; however, these studies accounted for the direct effect of lower recurrent healthcare expenditure, as well as indirect effects of lower crime, higher productivity and reduced substance abuse.

Overall, there is a lack of data available to quantify the difference in mental illness costs for young people who leave care at age 18 compared to at age 21, aside from the substance abuse costs modelled

¹³³ Department of Families, Housing, Community Services and Indigenous Affairs (2011).

¹³⁴ Australian Institute of Family Studies. (2014).

¹³⁵ Mendes, P., Johnson, G. & Moslehuddin, B. (2011).

¹³⁶ Victorian Department of Human Services. (2012)..

¹³⁷ Grant, R. & Brito, A. (2010).

¹³⁸ O'Connell, M. E., Boat, T. & Warner, K.E. (2009).

¹³⁹ McGorry, P., Parker, A. & Purcell, R. (2006).

and the potential overlap with hospitalisation costs modelled. Hence, any improvement in other mental health outcomes and associated cost savings was not able to be modelled.

5.2 Physical health outcomes

In addition to poorer mental health outcomes, research suggests that young people in OOHC have been found to experience poorer physical health outcomes compared with the general population¹⁴⁰. 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.¹⁴¹

The difference in physical health outcomes between 18 year old care leavers and those who stay in care to age 21 have not been extensively researched; however, available research does suggest that it is likely they extend beyond the modelled differences in hospitalisation costs. It has been postulated that 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, due to the pathways outlined below.¹⁴²

As noted above, sustained engagement in high quality education is directly related to the realisation of more positive life outcomes for individuals and societies.^{143,144,145} 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 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, AOD treatment programs). 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 run¹⁴⁶.

In sum, 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.

¹⁴⁰ Courtney, M. E., Dworsky, A., Brown, A., Cary, C., Love, K., & Vorhies, V. (2011).

¹⁴¹ Joseph McDowall, CREATE Foundation (2009).

¹⁴² Raman, S., Inder, B., & Forbes, C. (2005).

¹⁴³ Johnston, G (2004)

¹⁴⁴ Levin, B (2003)

¹⁴⁵ Hannusek and Woessman (2010)

¹⁴⁶ Vos T, Carter R, Barendregt J, Mihalopoulos C, Veerman JL, Magnus A, Cobiac L, Bertram MY, Wallace AL, ACE-Prevention Team (2010).

5.3 Intergenerational disadvantage

The modelling for this project considers a subset of impacts on the individual receiving extended OOHC and, to some extent, costs avoided by the community as a result of that individual's receipt of OOHC support. The model does not, however, 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.¹⁴⁷

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.¹⁴⁸ 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.¹⁴⁹

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 care leavers and their own children.

Teenage pregnancy

There is also growing research to indicate that intergenerational impacts of teenage pregnancy exist¹⁵⁰. Mothers who have experienced teenage pregnancy have been found to experience lower educational status and worse employment outcomes relative to those who have not experienced pregnancy¹⁵¹. Moreover, the educational disadvantage perpetuates with the next generation – research has linked adolescent mothers' relatively lower educational outcomes to lower outcomes also for their own children¹⁵², and also found that children born to teen mothers experience lower life satisfaction and personal income levels in adulthood.¹⁵³

Furthermore, it has been shown that 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, continuing the intergenerational cycle of poorer outcomes for young people in OOHC care when compared with the general population.¹⁵⁴

¹⁴⁷ Mayer S.E. (2002).

¹⁴⁸ Mendes, P; Snow, P; Baidawi, S (2012).

¹⁴⁹ Pager M. (2003).

¹⁵⁰ Bradbury B (2011)

¹⁵¹ Dworsky A, Courtney M (2010),

152 Tang et al (2014).

153 Lipman et al (2011).

¹⁵⁴ National Campaign to Prevent Teen and Unplanned Pregnancy, (2006)

Researchers using data from the Midwest evaluation reported that staying in care beyond the age of 18 years may mitigate the risk of becoming pregnant, and suggested that allowing young people to remain in foster care beyond age 18 may be one way to help reduce teenage pregnancy among this population¹⁵⁵.

5.4 Civic participation and social connectedness

As discussed throughout this report, children in OOHC are less likely to reach educational milestones, be employed, and more likely to experience behavioural problems and depression. 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 itself¹⁵⁶. Many have also not been able to forge lasting friendships due in part to unstable living and schooling arrangements¹⁵⁷. 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 – all of which exert a stabilising effect on the wellbeing of both the individual and society in general.

Many researchers have now identified the pivotal role that stability and connectedness play in establishing better outcomes of children in foster care¹⁵⁸. It is believed that connectedness facilitates access to opportunities and resources and provides a sense of belonging that strengthens a child's resilience.^{159,160} A 2004 Australian study by Mason and Gibson 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.¹⁶¹

It is postulated that, 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 care¹⁶².

5.5 Disability adjusted life years

A commonly included method within cost benefit analyses for health policies or programs is the estimation of disability adjusted life years (DALYs)¹⁶³. DALYs are a globally accepted metric that allows researchers and policymakers to compare different populations and health conditions across time. A

¹⁵⁵ Dworsky A, Courtney M (2010),

¹⁵⁶ Osborn, A. and Bromfield, L (2007)

¹⁵⁷ Tilbury et al (2015)

¹⁵⁸ See for example: Tilbury, C., & Osmond, J., (2006)

¹⁵⁹ Placing children in out-of-home care

¹⁶⁰ Bowes, J. M. and Hayes, A. (2004)

¹⁶¹ Mason and Gibson (2004).

¹⁶² Department of Families, Housing, Community Services and Indigenous Affairs together with the National Framework Implementation Working Group (2010).

¹⁶³ Access Economics, with the Australian Safety and Compensation Council (2008).

DALY is the sum of years of life lost and years lived with disability, or a health condition, that reduces quality of life – such a liver disease¹⁶⁴. One DALY equals one lost year of healthy life.

Specifically for the benefits modelled in this project, DALYs could be estimated and added for the reduction in health burden or disease associated with lower alcohol and drug consumption, reduced hospitalisation and reduced mental health issues.

The modelling for this project has not considered DALYs in the calculation of benefits, and has instead focused on financial costs and savings. Given that extending care to age 21 is considered protective for risk of hospitalisation, alcohol and drug use, and mental health issues, compared with leaving OOHC at age 18, it is expected that the DALYs benefits would accrue to a greater extent for extending 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. However, each DALY saved is very valuable, with the Department of the Prime Minister and Cabinet valuing a DALY averted (a year of healthy life saved) at \$182,000 in 2014.¹⁶⁵

¹⁶⁴ Access Economics with the Australian Safety and Compensation Council (2008).

¹⁶⁵ Department of Prime Minister and Cabinet (2014)

6 Conclusion

The overarching objective of OOHC is for all children to have access to stable and safe home environments that afford children in the child protection system equitable development opportunities to children who are not in the child protection system.

However, in Victoria, and equally, across all states and territories in Australia, upon reaching 18 years of age, children in OOHC are legally recognised as “independent” and are required to be exited from their care and accommodation arrangements. By contrast, young people in the general population are now, more than ever, more likely to continue to live with their parents well into their mid-20s, entering and exiting the family home several times as they pursue various development opportunities.

There have been a number of calls to action for considering the extension of care, including in the findings of the Victorian 2012 Vulnerable Children’s Inquiry. However, such reform is yet to be either trialled or instituted comprehensively in any jurisdiction in Australia.

The current study considered the potential benefits that could flow – both to the individual and to the public – from introducing a program of support for Victorian children in all forms of OOHC that gives them the option to extend such care from the age of 18 to the age of 21.

Drawing 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.

The modelling results find that under the assumed program cost and program uptake rate (25%), the benefit to cost ratio of the program is 1.84. That is, a dollar invested in the program is associated with an expected return of \$1.84 in either savings or increased income.

Owing to data limitations and the intangible nature of some potential benefits, the modelling was not able to account for all benefits canvassed in literature. As such, a number of benefits including implications for the sustainment of intergenerational cycles of disadvantage, social connectedness and the burden of disease. Such benefits are additional to those included in the model and as such qualitatively serve to increase the return to investment.

Together, these results and accompanying research put forward a sound socioeconomic case for consideration of public investment in the future of young people in OOHC, beyond the age of 18.

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Appendix B: Summary of key assumptions

Figure B.1 Illustration of model assumptions

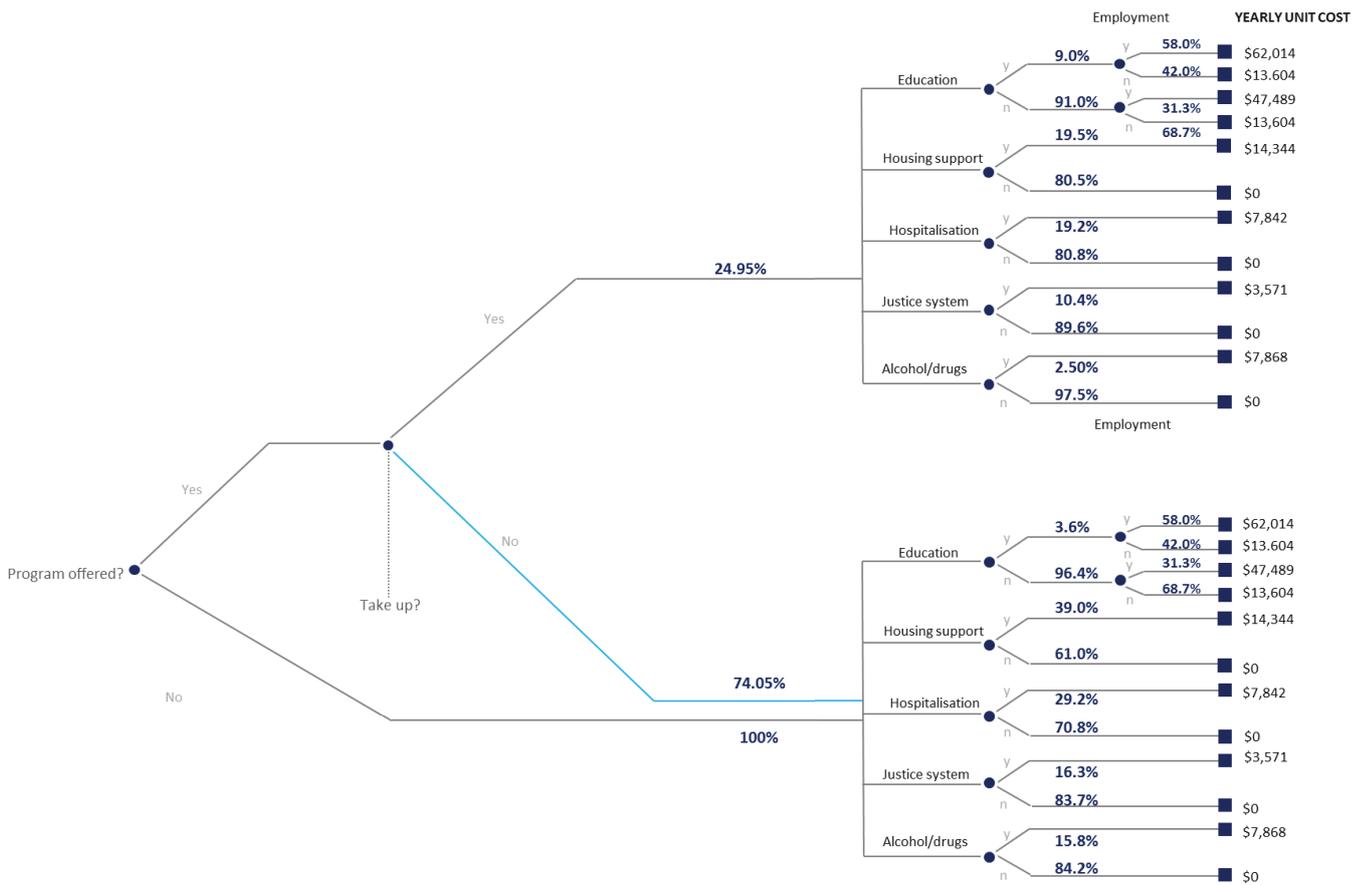


Table B.2 Base model assumptions and source

Variable	Assumption	Source
Program Uptake		
Program Uptake Rate	0.2495	UK Department of Education; Children and Young People Now (2015)
Employment & Education		
VET qualification; Employed (\$2015)	\$62,014	ABS (2005)
No VET qualification; Employed (\$2015)	\$47,489	ABS (2005)
VET qualification; Unemployed	\$13,604	Department of Human Services (2016)
No VET qualification; Unemployed	\$13,604	Department of Human Services (2016)
VET course (one year)	\$3,433	Derived using, Victoria Polytechnic. (2016)
Pr. Further education (Age 18)	0.036	Harvey et al (2015)
Pr. Further education (Age 21)	0.09	Derived using Harvey et al (2015), and Munro et al (2010)
Pr. Employment (with VET)	0.58	ABS Education and Work (2015)
Pr. Employment (No VET)	0.313	Derived using ABS Education and Work (2015), and McDowell (2019)
Homelessness & Housing Support		
Housing support	\$14,344.46	Derived using Zaretsky and Flatau (2015), and AIHW Child Protection Australia 2013-14 (2015)
Pr. Housing Support (Age 18)	0.39	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	\$7,842	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)
Justice		
Cost to Justice system	\$3,571	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/or Drug Dependence		
Cost of AoD dependency	\$7,868	AIHW (2011)
Pr. AoD dependency (Age 18)	0.158	Courtney et al (2007)
Pr. AoD dependency (Age 21)	0.03	Derived using Courtney et al (2007), and ABS National Health Survey 2014-15 (2015)

Appendix C: Number of children in OOHC

Table C.1 shows that at 30 June 2014, there were 7,710 Victorians aged 0 -17 years recorded as living in OOHC. Across the nation, Victoria currently has the lowest rates of children living in OOHC at 6.0 per 1,000 children. This compares with the Australian average rate of 8.1 per 1,000 children and the Northern Territory where the rate is 14.3 per 1,000 children. The number of children in OOHC per 1,000 children in Victoria has increased faster than the national average from 4.5 to 6.0 over five years, compared 7.1 to 8.1 for Australia.

Table C.1: Children aged 0–17 in out-of-home care, states and territories, 30 June 2010 to 30 June 2014 (number and number per 1,000)

Year	NSW	Victoria	Qld	WA ^(a)	SA ^(b)	Tas	ACT	NT	Total
Number									
2010	16,175	5,469	7,350	2,737	2,188	893	532	551	35,895
2011	16,740	5,678	7,602	3,120	2,368	966	540	634	37,648
2012	17,192	6,207	7,999	3,400	2,548	1,009	566	700	39,621
2013	17,422	6,542	8,136	3,425	2,657	1,067	558	742	40,549
2014	18,192	7,710	8,185	3,723	2,631	1,054	606	908	43,009
Number per 1,000 children^(c)									
2010	9.9	4.5	6.9	5.1	6.2	7.6	6.7	8.8	7.1
2011	10.2	4.6	7.1	5.7	6.7	8.3	6.7	10.2	7.4
2012	10.4	5.0	7.3	6.1	7.2	8.7	6.9	11.1	7.7
2013	10.4	5.2	7.4	5.9	7.4	9.3	6.7	11.6	7.7
2014	10.8	6.0	7.3	6.3	7.3	9.2	7.1	14.3	8.1

Source: Australian Institute of Health and Welfare 2015. Note (a) Data for 2009–10 for Western Australia are not comparable with other years due to the introduction of a new client information system in March 2010. Proxy data were provided for that year. (b) South Australia could only provide the number of children in out-of-home care where the Department is making a financial contribution to the care of a child. (c) Rates were calculated using revised population estimates based on the 2011 Census and should not be compared with rates calculated using populations or projections based on previous Censuses, including those published in previous editions of Child protection Australia.

Of the Victorian children in OOHC, 1,308 were identified as Indigenous. The rate of Indigenous children in care was 62.7 per 1,000 Indigenous children. This is much higher than the rate of non-Indigenous children at 5.0 per 1,000, and the state average of 6.0 per 1,000 children.

The vast majority of Victorian children in OOHC at 30 June 2014 were in home-based care – 7,145 or 92.7% of the total number of children in OOHC in Victoria. Of these 7,145 children, 515 were in residential care, 49 were in independent living, and one child's OOHC type was unknown. There were no children recorded as living in a family group home (Table C.2). For the children placed in home-based care 3,877 were living with relatives or kin, 2,132 were living in foster care and a further 1,136 were living in other home-based care (Table C.2).

Table C.2: Children aged 0–17 in out-of-home care, by type of placement, states and territories, 30 June 2014

Type of placement	NSW	Vic ^(a)	Qld	WA	SA	Tas ^(b)	ACT	NT ^(c)	Total
Number									
<i>Foster care^(d)</i>	7,550	2,132	4,223	1,549	1,114	401	213	472	17,654
<i>Relatives/kin^(d)</i>	10,044	3,877	3,306	1,821	1,162	302	318	17	20,847
<i>Other home-based care</i>	0	1,136	0	0	0	255	36	261	1,688
Total home-based care	17,594	7,145	7,529	3,370	2,276	958	567	750	40,189
Family group homes	14	0	0	185	n.a.	29	0	9	237
Residential care	507	515	656	168	334	48	38	90	2,356
Independent living	66	49	0	0	21	1	0	5	142
Other/unknown	11	1	0	0	n.a.	18	1	54	85
Total	18,192	7,710	8,185	3,723	2,631	1,054	606	908	43,009
Proportion (%)^{(e)(f)}									
<i>Foster care</i>	41.5	27.7	51.6	41.6	42.3	38	35.1	52	41
<i>Relatives/kin</i>	55.2	50.3	40.4	48.9	44.2	28.7	52.5	1.9	48.5
<i>Other home-based care</i>	0	14.7	0	0	0	24.2	5.9	28.7	3.9
Total home-based care	96.7	92.7	92	90.5	86.5	90.9	93.6	82.6	93.4
Family group homes	0.1	0	0	5	..	2.8	0	1	0.6
Residential care	2.8	6.7	8	4.5	12.7	4.6	6.3	9.9	5.5
Independent living	0.4	0.6	0	0	0.8	0.1	0	0.6	0.3
Other/unknown	0.1	..	0	0	..	1.7	0.2	5.9	0.2
Total	100	100	100	100	100	100	100	100	100

Source: Australian Institute of Health and Welfare 2015. Note (1) Data(a) In Victoria, the 'foster care' category includes children in permanent care placements. These placements are different to foster care as they involve granting permanent guardianship and custody of a child to a third party via a permanent care order. Unlike adoptions, permanent care orders do not change the legal status of the child and they expire when the child turns 18 or marries. (b) In Tasmania, children under third-party guardianship orders are counted under 'Other home-based care' living arrangements. (c) In the Northern Territory's client information system, the majority of children in a relative/kinship placement are captured in the 'foster care' placement type. Approximately 45% of children in the 'foster care' placement type are placed in a relative/kinship household. (d) Where a child is placed with a relative who is also fully registered to provide foster care for other children, they are counted in the 'foster care' category for Victoria and Western Australia, whereas they are counted in the 'relatives/kin' category in Queensland and South Australia. Relatives/kin in some jurisdictions undergo assessment, registration and review processes similar to foster carers under the national definition, and are considered as (relative) foster carers in local practice, policy and reporting. (e) Percentages include children with 'other/unknown' living arrangements. (f) Percentages in the table may not add to 100 due to rounding.

Appendix D: Modelling results

Table D.1 Base model. Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), per 18yo child in OOHC in 2015

Cost/benefit category	Program not offered	Program offered	Difference in cost/benefit	% change	Payer/receiver
Costs					
Program cost	-	19,969	19,969		Government
Cost of education	124	170	46	27%	Government
Total costs	124	20,139	20,015		
Benefits					
Income to individual	410,197	415,364	5,167	1%	Individual
Tax income to government	93,112	94,285	1,173	1%	Government
Unemployment benefits paid*	-233,188	-232,054	1,134	0%	Government
Housing support paid*	-107,237	-91,857	15,380	-14%	Government
Hospitalisation costs*	-70,032	-62,939	7,093	-10%	Government
Justice system costs*	-11,654	-10,064	1,589	-14%	Government
Alcohol and Drug costs*	-24,679	-19,354	5,324	-22%	Government and society
Total benefits	56,520	93,381	36,861		
Net benefits	56,396	73,242	16,846		

Note. Where benefits relate to costs *saved* a benefit is where there are fewer costs, that is, where a number is less negative. Please note that presented figures have been rounded.

Table D.2 Sensitivity analysis. Present value (\$2015) of costs and benefits over 40 years (uptake rate 50%), per 18yo child in OOHC in 2015

Cost/benefit category	Program not offered	Program offered	Difference in cost/benefit	% change	Payer/receiver
Costs					
Program cost	-	40,018	40,018		Government
Cost of education	124	216	93	27%	Government
Total costs	124	40,235	40,111		
Benefits					
Income to individual	410,197	420,552	10,355	3%	Individual
Tax income to government	93,112	95,463	2,351	3%	Government
Unemployment benefits paid*	-233,188	-230,915	2,273	-1%	Government
Housing support paid*	-107,237	-76,416	30,822	-29%	Government
Hospitalisation costs*	-70,032	-55,818	14,214	-20%	Government
Justice system costs*	-11,654	-8,827	2,826	-24%	Government
Alcohol and Drug costs*	-24,679	-14,009	10,670	-43%	Government and society
Total benefits	56,520	130,031	73,511		
Net benefits	56,396	89,796	33,400		

Note. Where benefits relate to costs saved a benefit is where there are fewer costs, that is, where a number is less negative. Please note that presented figures have been rounded.

Table D.3 Sensitivity analysis. Present value (\$2015) of costs and benefits over 40 years (uptake rate 80% in year 1, 50% in year 2, 25% in year 3), per 18yo child in OOHC in 2015

Cost/benefit category	Program not offered	Program offered	Difference in cost/benefit	% change	Payer/receiver
Costs					
Program cost		35,486	35,486		Government
Cost of education	123.61	272	148	55%	Government
Total costs	123.61	35,758.02	35,634.41	100%	
Income to individual					
Income to individual	410,197.01	426,765.54	16,568.53	4%	Individual
Tax income to government					
Tax income to government	93,112.21	96,873.16	3,760.95	4%	Government
Unemployment benefits paid*					
Unemployment benefits paid*	- 233,188.20	-229,550.62	3,637.58	-2%	Government
Housing support paid*					
Housing support paid*	-107,237.25	-81,183.95	26,053.30	-32%	Government
Hospitalisation costs*					
Hospitalisation costs*	- 70,031.91	- 42,950.57	27,081.34	-63%	Government
Justice system costs*					
Justice system costs*	- 11,653.59	- 8,372.78	3,280.81	-39%	Government
Alcohol and Drug costs*					
Alcohol and Drug costs*	- 24,678.54	-14,941.90	9,736.64	-65%	Government and society
Total benefits	56,519.73	146,638.86	90,119.13		
Net benefits	56,396.11	110,880.84			

Note. Where benefits relate to costs saved a benefit is where there are fewer costs, that is, where a number is less negative. Please note that presented figures have been rounded.

Table D.4 Sensitivity analysis. Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%) per 18yo child in OOHC in 2015, break-even analysis

Cost/benefit category	Program not offered	Program offered	Difference in cost/benefit	% change	Payer/receiver
Costs					
Program cost	-	36,815	36,815		Government
Cost of education	124	170	46	27%	Government
Total costs	124	36,985	36,861		
Income to individual					
Income to individual	410,197	415,364	5,167	1%	Individual
Tax income to government					
Tax income to government	93,112	94,285	1,173	1%	Government
Unemployment benefits paid*					
Unemployment benefits paid*	-233,188	-232,054	1,134	0%	Government
Housing support paid*					
Housing support paid*	-107,237	-91,857	15,380	-14%	Government
Hospitalisation costs*					
Hospitalisation costs*	-70,032	-62,939	7,093	-10%	Government
Justice system costs*					
Justice system costs*	-11,654	-10,064	1,589	-14%	Government
Alcohol and Drug costs*					
Alcohol and Drug costs*	-24,679	-19,354	5,324	-22%	Government and society
Total benefits	56,520	93,381	36,861		
Net benefits	56,396	56,396	0		

Note. Where benefits relate to costs *saved* a benefit is where there are fewer costs, that is, where a number is less negative. Please note that presented figures have been rounded.

Table D.5 Sensitivity analysis. Present value (\$2015) of costs and benefits over 20 years (uptake rate 24.95%) per 18yo child in OOHC in 2015

Cost/benefit category	Program not offered	Program offered	Difference in cost/benefit	% change	Payer/receiver
Costs					
Program cost	-	20,009	20,009		Government
Cost of education	124	170	46	27%	Government
Total costs	124	20,179	20,056		
Income to individual					
Income to individual	242,163	245,063	2,900	1%	Individual
Tax income to government					
Tax income to government	54,970	55,628	658	1%	Government
Unemployment benefits paid*					
Unemployment benefits paid*	-137,826	-137,122	704	-1%	Government
Housing support paid*					
Housing support paid*	-75,174	-63,771	11,403	-15%	Government
Hospitalisation costs*					
Hospitalisation costs*	-39,353	-34,873	4,480	-11%	Government
Justice system costs*					
Justice system costs*	-8,045	-6,862	1,182	-15%	Government
Alcohol and Drug costs*					
Alcohol and Drug costs*	-17,036	-13,309	3,726	-22%	Government and society
Total benefits	19,699	44,753	25,055		
Net benefits	19,575	24,574	25,008		

Note. Where benefits relate to costs *saved* a benefit is where there are fewer costs, that is, where a number is less negative. Please note that presented figures have been rounded.

Appendix E: Australian-wide analysis

To supplement the Victorian-specific findings of this report, we have also investigated the impact of implementing an extended care program in other states and territories in Australia.

To conduct this analysis, the same base model is utilised – that is, a consideration of the economic 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. Where Victoria-specific inputs were utilised in the base model, these were updated on a jurisdictional basis to ensure that the modelling results reflect the circumstances of the state/territory which is being considered.

State-specific model inputs

A number of inputs remain constant across all state/territory models. For example, the discount rate, the nominal growth rates for costs and benefits over time and many of the probability inputs which were determined through international literature. A subset, however, were updated to relate to the specific state/territory under consideration.

The following table provides a summary of the inputs which were updated on a jurisdictional basis. Owing to state based differences in reporting, it is possible that the inputs may reflect slightly differing estimation techniques; however, every effort has been made to ensure consistency with the Victorian approach.

In some cases where data was not reported for a selection of jurisdictions, we have used an index representing the difference in relative costs/price levels (eg. CPI) among the other jurisdictions compared to Victoria, as an approximation technique (as demonstrated in the case of the VET Course costs). This reduces the amount of variability in estimation methods as it uses the Victorian estimate as a base value for the calculations.

Table E.1: Model inputs per state (\$2015)

VIC	NSW	QLD	SA	WA	TAS	NT	ACT
Average cost of program (per child)^a							
\$27,833.45	\$28,105.40	\$28,047.61	\$48,736.25	\$37,173.94	\$24,475.52	\$52,351.66	\$36,478.67
VET course completion rate^b							
33.1%	34.0%	33.1%	38.0%	36.6%	25.7%	34.8%	40.8%
VET course fees (cost of education)^c							
\$3,433	\$3,583.39	\$3,473.49	\$3,470.60	\$3,522.66	\$3,412.75	\$3,438.78	\$3,343.34
Proportion of Indigenous children in care^d							
16.98%	35.84%	40.76%	29.91%	50.55%	22.01%	85.24%	25.08%
Cost of housing support^e							
\$14,344.46	\$18,184.96	\$19,421.01	\$16,695.10	\$21,882.56	\$14,709.10	\$30,602.47	\$15,481.04
No. of children exiting care^f							
524	854	474	145	190	66	52	34

^a Costs were sourced from *Productivity Commission (2016)* except for NSW, QLD, and NT which were not reported and have been approximated in our analysis. To do this, we have calculated the proportionate difference between the expenditures on “all out of home care services” for NSW/QLD/NT against VIC’s, and applied that to VIC’s average cost of program per child

^b All data in this category was sourced from *National Centre for Vocational Education Research (2014)*

^c To estimate the cost of course fees for all states other than VIC, the difference between the Education CPI levels of each state was calculated against VIC’s. This proportion was then applied to VIC’s average VET course fees estimate.

^d Data from all states were sourced from *Australian Institute of Health and Welfare (2015)*.

^e The same method used in the VIC calculations was applied to all states – i.e. a weighted average of the cost of housing support (*Zaretsky & Flatau 2015*) was calculated using each state-specific ratio between indigenous and non-indigenous children in care.

^f All numbers were sourced from *Australian Institute of Health and Welfare (2015)* and estimated using the same technique as applied in calculating Victoria’s estimate.

Model outputs

We summarise the model results for each state/territory at both the per-person, and care-leaver population levels. At the per-person level, the numbers represent the costs and benefits per 18 year old child in care. At the population level, the costs and benefits pertain to the total population of care leavers in each jurisdiction (as reported in Table E.1).

Victoria

The Victorian results are presented in the main body of this report, but have been replicated below in Table E.2 for ease of comparison with the results in the remainder of this chapter.

Table E.2: Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; Victoria

VIC (per person)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	124	20,139	20,015
Total benefits	56,520	93,381	36,861
Net benefits	56,396	73,242	16,846
Benefit to cost ratio	-	-	1.84
VIC (all care leavers: 524)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	64,774	10,552,839	10,488,065
Total benefits	29,616,338	48,931,489	19,315,151
Net benefits	29,551,564	38,378,649	8,827,086
Benefit to cost ratio	-	-	1.84

New South Wales

Table E.3 shows that under the assumed program cost and program uptake rate (25%), **the benefit to cost ratio of the program is 2.57**. That is, every dollar invested in the program is associated with an expected return of \$2.57 in either savings or increased income.

Looking at benefits and costs which accrue primarily to government – a pertinent statistic given the program outlay is assumed to be from public funds – **the benefit cost ratio of public expenditure is approximately 2.33**.

The care leaver population at June 2014 was estimated to be 854 young people – the highest across all states/territories in Australia, reflecting the proportionately larger population. Multiplied over the 2015 care leaver population of 854, modelling results suggest the **expected marginal (the difference between costs if the program is offered, and not offered) program cost for this group would be equivalent to \$17.3 million**. Multiplying expected benefits over the care leaver population of 854 reveals that **expected benefits of program roll-out would be \$44.4 million**.

Table E.3: Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; New South Wales

NSW (per person)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	134	20,346	20,212
Total benefits	28,585	80,620	52,034
Net benefits	28,451	60,274	31,823
Benefit to cost ratio	-	-	2.57
NSW (all care leavers: 854)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	114,452	17,375,152	17,260,700
Total benefits	24,411,913	68,849,204	44,437,291
Net benefits	24,297,461	51,474,052	27,176,591
Benefit to cost ratio	-	-	2.57

Queensland

Table E.4 shows that under the assumed program cost and program uptake rate (25%), **the benefit to cost ratio of the program is 2.69**. That is, every dollar invested in the program is associated with an expected return of \$2.69 in either savings or increased income.

Looking at benefits and costs which accrue primarily to government – a pertinent statistic given the program outlay is assumed to be from public funds – **the benefit cost ratio of public expenditure is approximately 2.44**.

The care leaver population at June 2014 was estimated to be 474 young people. Multiplied over the 2015 care leaver population of 474, modelling results suggest the **expected marginal program cost (the difference between costs if the program is offered, and not offered) for this group would be equivalent to \$9.6 million**. Multiplying expected benefits over the care leaver population of 474 reveals that **expected benefits of program roll-out would be \$25.7 million**.

Table E.4: Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; Queensland

QLD (per person)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	126	20,296	20,170
Total benefits	18,796	73,057	54,261
Net benefits	18,669	52,761	34,092
Benefit to cost ratio	-	-	2.69
QLD (all care leavers: 474)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	59,947	9,620,312	9,560,365
Total benefits	8,909,110	34,628,940	25,719,830
Net benefits	8,849,163	25,008,628	16,159,465

Benefit to cost ratio	-	-	2.69
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South Australia

Table E.5 shows that under the assumed program cost and program uptake rate (25%), **the benefit to cost ratio of the program is 1.4**. That is, every dollar invested in the program is associated with an expected return of \$1.40 in either savings or increased income.

Looking at benefits and costs which accrue primarily to government – a pertinent statistic given the program outlay is assumed to be from public funds – **the benefit cost ratio of public expenditure is approximately 1.27**.

The care leaver population at June 2014 was estimated to be 145 young people. Multiplied over the 2015 care leaver population of 145, modelling results suggest the **expected marginal program cost (the difference between costs if the program is offered, and not offered) for this group would be equivalent to \$5.1 million**. Multiplying expected benefits over the care leaver population of 145 reveals that **expected benefits of program roll-out would be \$7.1 million**.

Table E.5: Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; South Australia

SA (per person)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	145	35,153	35,008
Total benefits	42,164	91,071	48,906
Net benefits	42,019	55,917	13,898
Benefit to cost ratio	-	-	1.40
SA (all care leavers: 145)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	21,035	5,097,219	5,076,183
Total benefits	6,113,847	13,205,245	7,091,398
Net benefits	6,092,811	8,108,027	2,015,215
Benefit to cost ratio	-	-	1.40

Western Australia

Table E.6 shows that under the assumed program cost and program uptake rate (25%), **the benefit to cost ratio of the program is 2.17**. That is, every dollar invested in the program is associated with an expected return of \$2.17 in either savings or increased income.

Looking at benefits and costs which accrue primarily to government – a pertinent statistic given the program outlay is assumed to be from public funds – **the benefit cost ratio of public expenditure is approximately 1.99**.

The care leaver population at June 2014 was estimated to be 190 young people. Multiplied over the 2015 care leaver population of 190, modelling results suggest the **expected marginal program cost (the**

difference between costs if the program is offered, and not offered) for this group would be equivalent to \$5.1 million. Multiplying expected benefits over the care leaver population of 190 reveals that expected benefits of program roll-out would be \$11.0 million.

Table E.6: Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; Western Australia

WA (per person)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	142	26,856	26,715
Total benefits	2,529	60,420	57,890
Net benefits	2,388	33,563	31,176
Benefit to cost ratio	-	-	2.17
WA (all care leavers: 190)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	26,946	5,102,724	5,075,777
Total benefits	480,572	11,479,730	10,999,158
Net benefits	453,626	6,377,006	5,923,381
Benefit to cost ratio	-	-	2.17

Tasmania

Table E.7 shows that under the assumed program cost and program uptake rate (25%), **the benefit to cost ratio of the program is 2.69**. That is, every dollar invested in the program is associated with an expected return of \$2.69 in either savings or increased income.

Looking at benefits and costs which accrue primarily to government – a pertinent statistic given the program outlay is assumed to be from public funds – **the benefit cost ratio of public expenditure is approximately 2.36**.

The care leaver population at June 2014 was estimated to be 66 young people. Multiplied over the 2015 care leaver population of 66, modelling results suggest the **expected marginal program cost (the difference between costs if the program is offered, and not offered) for this group would be equivalent to \$1.2 million**. Multiplying expected benefits over the care leaver population of 66 reveals that **expected benefits of program roll-out would be \$3.1 million**.

Table E.7: Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; Tasmania

TAS (per person)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	96	17,709	17,613
Total benefits	49,505	96,926	47,421
Net benefits	49,409	79,217	29,808
Benefit to cost ratio	-	-	2.69

TAS (all care leavers: 66)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	6,368	1,168,814	1,162,446
Total benefits	3,267,342	6,397,135	3,129,793
Net benefits	3,260,974	5,228,321	1,967,347
Benefit to cost ratio	-	-	2.69

Northern Territory

Table E.8 shows that under the assumed program cost and program uptake rate (25%), **the benefit to cost ratio of the program is 1.94**. That is, every dollar invested in the program is associated with an expected return of \$1.94 in either savings or increased income.

Looking at benefits and costs which accrue primarily to government – a pertinent statistic given the program outlay is assumed to be from public funds – **the benefit cost ratio of public expenditure is approximately 1.81**.

The care leaver population at June 2014 was estimated to be 52 young people. Multiplied over the 2015 care leaver population of 52, modelling results suggest the **expected marginal program cost (the difference between costs if the program is offered, and not offered) for this group would be equivalent to \$2.0 million**. Multiplying expected benefits over the care leaver population of 52 reveals that **expected benefits of program roll-out would be \$3.8 million**.

Table E.8: Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; Northern Territory

NT (per person)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	132	37,736	37,605
Total benefits	-63,758	9,150	72,908
Net benefits	-63,890	-28,586	35,303
Benefit to cost ratio	-	-	1.94
NT (all care leavers: 52)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	6,845	1,962,290	1,955,445
Total benefits	-3,315,418	475,797	3,791,215
Net benefits	-3,322,263	-1,486,494	1,835,769
Benefit to cost ratio	-	-	1.94

Australian Capital Territory

Table E.9 shows that under the assumed program cost and program uptake rate (25%), **the benefit to cost ratio of the program is 1.77**. That is, every dollar invested in the program is associated with an expected return of \$1.77 in either savings or increased income.

Looking at benefits and costs which accrue primarily to government – a pertinent statistic given the program outlay is assumed to be from public funds – **the benefit cost ratio of public expenditure is approximately 1.61.**

The care leaver population at June 2014 was estimated to be 34 young people. Multiplied over the 2015 care leaver population of 34, modelling results suggest the **expected marginal program cost (the difference between costs if the program is offered, and not offered) for this group would be equivalent to \$0.9 million.** Multiplying expected benefits over the care leaver population of 34 reveals that **expected benefits of program roll-out would be \$1.6 million.**

Table E.9: Present value (\$2015) of costs and benefits over 40 years (uptake rate 24.95%), in 2015; Australian Capital Territory

ACT (per person)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	150	26,360	26,210
Total benefits	52,949	99,377	46,427
Net benefits	52,799	73,017	20,217
Benefit to cost ratio	-	-	1.77
ACT (all care leavers: 34)	Program not offered	Program offered	Difference between program offered/not offered
Total costs	5,102	896,232	891,130
Total benefits	1,800,279	3,378,801	1,578,522
Net benefits	1,795,177	2,482,569	687,392
Benefit to cost ratio	-	-	1.77

Discussion

An OOHC extension program would see a return to investment of between \$1.40 to \$2.69 per dollar spent (1.4 – 2.69 benefit cost ratio) in all Australian states.

Table E.10: Benefit to cost ratios for each state, ranked in descending order

State	BCR
QLD	2.69
TAS	2.69
NSW	2.57
WA	2.17
NT	1.94
VIC	1.84
ACT	1.77
SA	1.40

Half of the jurisdictions (WA, NSW, TAS and QLD) would at least double the monetary investment in benefits (2.17 to 2.69).

South Australia has the lowest benefit cost ratio at 1.40, driven predominately by the high cost of offering the program (\$48,736 annually). The assumed cost of the program is calculated as the average cost of providing a year of foster care support. Jurisdictional variations are driven by both supply and demand factors such as the complexity of cases, cost of placement per night, information finding activities, family support services, order seeking, rurality and the general cost of labour. It is important to note that the program cost is, however, an assumption and will be highly contingent on the program design. If, for example, South Australia were to design a program that was costed to be equivalent to the median program cost across all states and territories (\$32,292), the benefit to cost ratio would be expected to rise to 2.11.

We note that the cost of running an OOHC program in the Northern Territory was the highest at \$52,351.66 but this was offset by a large savings in reduced housing support as a benefit of care extension. The Northern Territory's cost of housing support at \$30,602 annually was significantly higher than the other jurisdictions due to the practice of remote location loading payments to foster care providers.

Overall, this broader state and territory analysis has revealed that the extension of support to the age of 21 would be expected to yield positive economic returns in all Australian jurisdictions.

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