Exploring outcomes for young people who have experienced out-of-home care

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Suggested Citation: Lima, F., Maclean, M., & O'Donnell, M. (2018). *Exploring outcomes for children who have experienced out-of-home care*. Perth: Telethon Kids Institute.

Acknowledgements

This report was commissioned by the Department of Communities and prepared by Fernando Lima, Dr Miriam Maclean and Dr Melissa O'Donnell, with assistance from Kaija Pay (Department of Communities). We would like to thank the Western Australian Data Linkage Branch for linking the data, the government agencies for providing the data, and the people of Western Australia for the use of their de-identified administrative data. This paper does not necessarily reflect the views of the government departments involved in this research and any errors of omission or commission are the responsibility of the researcher.

The cover page image was provided by Christian Spies and we would also like to acknowledge Sam Burrow who assisted with editing and formatting the report.

GOVERNMENT OF WESTERN AUSTRALIA

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Department of **Communities**
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Department of **Education**
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Mental Health Commission
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Executive summary

Children who are, or have been, in out-of-home care have faced significant and complex issues during their lives, and are considered one of the most vulnerable and disadvantaged groups in society. Once this group leaves care, they may not have the same support as other children during the transition to independent adult life. The emotional effect of experiencing abuse or neglect, as well as time in care, places these children at higher risk of disadvantage and increased susceptibility to negative outcomes.

In the last 10 years there have been significant changes in the Western Australian community and the care system which has put pressure on the care sector's ability to consistently deliver stable and supportive care for these vulnerable children. In light of this pressure, the former Department for Child Protection and Family Support commenced a suite of out-of-home care reforms. One of these is the *Outcomes Framework for Children in Out-of-Home Care in Western Australia* to monitor performance of the care system. The *Framework's* Outcome Area Six, Future Life Opportunities, aims for children to leave care equipped with resources to live productive lives, reach their full potential and contribute to the community.

Due to limited evidence in Western Australia about life outcomes for children who have experienced out-of-home care, the Department of Communities commissioned a study with Telethon Kids Institute, using linked data, to quantify selected outcomes for children who have been in care, and compare these with other children.

The study

Physical and mental health, school achievement, justice involvement and child protection contact were explored for three cohorts of children born between 1 January 1990 and 30 June 1995:

- a Care group - children who had a period in care[1] (2,003);
- a Maltreatment group - children with at least one substantiated maltreatment allegation but no time in care (2,761); and
- a Control group - children with no child protection contact, matched to the Care group on age, socioeconomic characteristics at birth, gender and Aboriginality (9,955).

Linked data was obtained to 30 June 2013 from the following sources: Midwives Notifications (births), Hospital Morbidity Data Collection (all public and private hospital separations), Death Registrations, Mental Health Information System (public and private inpatient episodes, and public-only outpatients), Western Australian Certificate of Education (secondary school certificate and vocational education and training qualifications), Justice (community-bases sentences, juvenile detentions and adult imprisonments) and Child Protection and Family Support[2].

It should be noted that there was a different degree of follow-up depending on the child's year of birth – children ranged from 18 to 23 years of age by the end of the follow-up period[3]. Additionally, the size of the cohorts were slightly smaller at follow-up due to the exclusion of data for those children who died before reaching 18 (Care group 1,985, Maltreatment group 2,738, Control group 9,801).

[1] A period in care is defined as more than one day's duration.

[2] This study only uses outcome data available through the Western Australian data linkage system. As a result, there are a range of life outcomes that could not be explored such as tertiary education, employment, income support and housing. In addition, mental health outpatient outcomes do not include contacts with private practitioners.

[3] Linked data was obtained to 30 June 2013. This means that depending on year of birth, children have a different number of years of follow-up. The oldest children in the study had reached the age of 23 while some had only just turned 18 by mid-2013. Children in the Care group with a health record indicating they had given birth, were followed in the child protection data until December 2016.

The Care group included children with wide-ranging periods in care, from two days up to 18 years. More than half of these children (54%) were in care for two years or less, more than half (53%) left care before the age of 13, and two-thirds (65%) had left care before turning 15.

Results

Overall, the Care group had poorer outcomes in most areas compared to the Maltreatment and Control groups. Some of the results were consistent with previous research that young people who have been in care have poorer outcomes, with the literature indicating that trauma related to past maltreatment, adverse family circumstances and disadvantage all have an effect. This study did not attempt to examine the effect of different care experiences on outcomes, and the children in this study were in care for varying lengths of time.

Physical health

- Overall hospital admission rates for the Care group (0.38 per person-year) were twice the rate of the Control group (0.19). Rates for the Maltreatment group (0.29) were one and a half times that of the Control group.
- The most prevalent adult hospitalisations for young people who had been in contact with child protection (Care and Maltreatment groups) were related to pregnancy and birth (15% of Care group versus 18% of Maltreatment group), injury and poisoning (13% of Care group versus 12% of Maltreatment group), and mental and behavioural disorders (9% of Care group versus 5% of Maltreatment group).

Mortality

- Even though the overall proportion of deaths were similar for the three cohorts, the overall mortality rate was higher for the Control group compared to the Care or Maltreatment group, due to a larger proportion of deaths before the age of 18 years in the Control group.
- When deaths were restricted to those aged 18 years and older, the mortality rates for the Care group and Maltreatment group were similar (10 and 10.9 deaths per 10,000 person-year respectively), and both were much higher than the Control group (3.7 deaths per 10,000 person-year).

Mental health

- The Care group was almost three times more likely to have a mental health service contact as adults (27%) than those within the Control group (9%).
- A larger proportion of Aboriginal youth had a mental health related contact compared to non-Aboriginal youth in all three cohorts.
- The most common adult mental health diagnoses across the three cohorts were for substance-related and stress-related disorders.
- Self-harm for the Care group (4%) was higher than the Maltreatment group (3%) and more than four times higher than the Control group (1%).

Education

- Young people from the Control group were almost three times more likely to achieve WACE (46%) than the Care group (18%), and two times more likely compared to the Maltreatment group (22%).
- There were significant differences in WACE achievement between Aboriginal and non-Aboriginal young people across the three cohorts. Young males and Aboriginal youth were the groups with the lowest proportion of WACE achievement.
- Young people from the Care group were less likely to be university-bound (4%), compared to the Maltreatment (7%) and Control groups (25%).
- There was a very low proportion of Aboriginal youth likely to be university-bound in the Care and Maltreatment groups compared to the Control group.

Justice

- Thirty-eight percent of young people from the Care group had at least one community-based sentence between the age of 10 and the end of the follow-up period (juvenile and/or adult). This is higher than the Maltreatment group (25%) and the Control group (11%).
- Twenty percent of the young people from the Care group had at least one juvenile detention and/or adult imprisonment between the ages of 10 and the end of the follow-up period. This represented a much higher proportion of detention/imprisonments compared to the two other groups.

Juvenile community-based sentences

- The Care group was more likely to have a juvenile community-based sentence (37%), compared with the Maltreatment group (24%) and the Control group (11%). Young males and Aboriginal youth were the most prevalent among those sentenced.
- The most common offence was unlawful entry with intent/burglary, break and enter.

Juvenile detention

- Nineteen percent of the Care group had a juvenile detention, which was two and a half times that of the Maltreatment group (8%) and almost seven times the Control group (3%).
- The proportion of males with a juvenile detention in the Care group was close to two times higher than the Maltreatment group, and almost six times higher than those in the Control group.
- Aboriginal youth were more likely to have a juvenile detention compared with non-Aboriginal youth in all three cohorts, however there was a higher proportion of young Aboriginal people detained in the Care group (35%) than the other two groups (21% of the Maltreatment group and 9% of the Control group).

Adult community-based sentences

- The prevalence for young people with an adult community-based sentence was much lower compared with juvenile community-based sentences for all three cohorts.
- The Care group was three times more likely to have an adult community-based sentence (7%) compared to those with no child protection involvement (2%).
- Young males and Aboriginal youth were more likely to have an adult community-based sentence than any other group across the three cohorts.
- The proportion of females with an adult community-based sentence was much higher for the Care group (5%) than the Control group (1%).

Adult imprisonment

- Adult imprisonment was much lower than juvenile detentions for all three cohorts. Five percent of the Care group had at least one adult imprisonment within the follow-up period, compared with 4% of the Maltreatment group and 1% of the Control group.
- In all three cohorts, young males and Aboriginal youth were more likely to have an adult imprisonment than any other group.

Children of cohort

Pregnancy

- Delivery related admissions were seen among 25% of females in the Care group, compared to 24% of females in the Maltreatment group and 11% in the Control group.

Children of Care group

- More than 28% of females in the Care group were found to have had a child over the follow-up period, using pregnancy-related admissions data in conjunction with manual review of these women's records in the child protection system up to the end of 2016.
- These mothers had 513 children identified in the child protection client system, an average of two children per person. However, they most commonly had only one child (47%).
- Of the 513 children born to a mother who had a period in out-of-home care:
  - three out of every four had a notification of maltreatment;
  - two out of every three were the subject of an investigation;
  - two out of every five had a substantiated maltreatment allegation, and
  - one in four had an out-of-home care placement.
- Comparison with the Maltreatment and Control groups was not possible as data were not available.

Co-occurring 'poor' outcomes in the Care group

- Additional analysis was undertaken to consider the proportion of the Care group who had experienced at least one of the following 'poor' outcomes:
  - hospital admission for mental and behavioural disorders;
  - hospital admission associated with drugs and alcohol;
  - mental health service contacts; and/or
  - adult community-based sentence or imprisonment.
- Sixty-eight percent of the Care group had none of the above outcomes ('better' outcomes group), while 32% had at least one of the above.
- More than half of the young people from the Care group with 'poor' outcomes were female (56%), and 41% were Aboriginal youth. Conversely, the 'better' outcomes group had more males than females, and the proportion of Aboriginal young people was only 24%.
- The 'poor' outcomes group had a greater proportion of young people born in an area of higher socioeconomic disadvantage compared to the rest of the Care group.
- Young people who entered care between the ages of 10 and 14 were the most prevalent among the 'poor' outcomes group, at 30%, compared to 20% of the rest of the Care group.

Statistical analysis

- Multiple logistic regression modelling was used to explore the odds of having poorer outcomes among the Care group. The main results were:
  - Aboriginal young people in the Care group had two times higher odds of having 'poor' outcomes compared to non-Aboriginal youth;
  - the odds of having 'poor' outcomes was 1.4 times higher for females compared to males;
  - those who were born in the least disadvantaged quintile (quintile 5) were half as likely to have 'poor' outcomes compared to those born in the highest quintile of disadvantage (quintile 1);
  - young people who entered care for the first time after the age of 10 had 1.8 times higher odds of having 'poor' outcomes compared to those who entered care under the age of 10;
  - young people who spent more than two years in out-of-home care had 1.3 times higher odds of having 'poor' outcomes compared to those who spent less than two years in care.

- and, finally, having more than five distinct placements was associated with 1.6 times higher odds of having 'poor' outcomes than having less than five distinct placements.

Conclusion

The findings of this study are consistent with existing literature. Young people in this study who had experienced maltreatment and been in care were more likely to have adverse outcomes in the areas of physical health, mental health, education and justice. This was true when compared to a matched group of young people with no child protection contact, and was also the case for most outcomes compared to young people who had experienced maltreatment but did not enter care. Aboriginal children with child protection involvement were even more likely to have poorer outcomes in this study.

Internationally, young people who have been maltreated are recognised as a vulnerable and disadvantaged group who require support to ameliorate and overcome adverse childhood environments. Children who enter care are particularly vulnerable. They will have experienced severe or chronic abuse or neglect, along with other adversities such as living in highly disadvantaged neighbourhoods, parental mental health, substance issues, or domestic violence. This is in addition to in-care experiences such as placement instability and relationship and schooling disruption.

A significant proportion of the Care group was in care for less than two years, and left care before turning 15, when formal leaving care services take effect. This indicates that earlier planning and support for their reunification with family, and post-reunification support, is essential.

Maltreated children, whether or not they require a period in out-of-home care, are an at-risk group of young people. The challenges faced by these young people are complex and multifactorial, and cannot be solved by one sector only, nor at a single point of contact.

While the Department of Communities has a lead role in promoting the safety and wellbeing of young people at risk, this responsibility is shared with other government agencies, the community services sector and the broader community.

Further analysis of outcomes by time spent in care, age on leaving care, main or final placement type could be undertaken to further explore the Care group's outcomes. Repeat analysis of these cohorts when more follow-up time has elapsed would also be beneficial, as would the acquisition of additional data sets such as income support, tertiary education, housing and employment outcomes.

Research into outcomes of a future cohort of children, who have been in care under more contemporary policies, would enable comparison with the results of this study and a better measure of the effectiveness of policies introduced or enhanced in more recent years.

Infographic

The following infographic provides a short, visual summary of selected study findings.

EXPLORING OUTCOMES FOR CHILDREN WHO HAVE EXPERIENCED OUT-OF-HOME CARE

Children who experience out-of-home care are among the most vulnerable and disadvantaged groups in society

Evidence is needed to quantify the outcomes for children who have been in the WA out-of-home care system and **guide the implementation of out-of-home care reforms.**

To learn more about the life outcomes of children who have experienced out-of-home care, **the Department of Communities commissioned Telethon Kids Institute to conduct a study.**

The study

The study used linked data, **to investigate selected life outcomes for children who have been in care**, and to compare these outcomes with other children.

Linked data from health, education, corrective and child protection services was collected and analysed **for 3 groups of children** born between 1 January 1990 and 30 June 1995:

2,003 kids	2,761 kids	9,955 kids
Care group	**Maltreatment group**	**Control group**
1 or more periods in care (of more than 1 day)	1 or more maltreatment allegations but no time in care	Matched but with no child protection contact

Data was collected from birth **until 18-23 years** of age (i.e. age at 30 June 2013).

The Care group **included children with wide-ranging periods in care**, from two days up to 18 years:

- **54%** half were in care for **two years** or less
- **53%** half left care **before the age of 13**
- **65%** two-thirds had left care **before turning 15**.

The findings

Overall, **the Care group had poorer outcomes** in most areas of physical health, mental health, education and justice compared to the Maltreatment and Control groups.

Aboriginal children with child protection involvement **were particularly likely to have poor outcomes** in this study.

Selected outcomes

Hospital admission rates were:

- **2x higher** for the Care group than for the Control group
- **1.5x higher** for the Maltreatment group than for the Control group.

Contact with a mental health service as an adult was:

- **3x more likely** for the Care group than for the Control group
- **2.5x more likely** for the Maltreatment group than for the Control group.

Adult **death rates** (18+) were **about 3x higher** for both the Care group and the Maltreatment group than for the Control group.

The Care group was:

- **2.5x less likely to achieve WACE** and **6x less likely to be university bound** than the Control group.

The Maltreatment group was:

- **2x less likely to achieve WACE** and **3.5x less likely to be university bound** than the Control group.

Juvenile and/or adult **community-based sentences** were:

- **3.5x more likely** for the Care group than for the Control group
- **2x more likely** for the Maltreatment group than for the Control group.

Delivery-related hospital admissions were **2x higher** for both the Care and the Maltreatment group than for the Control group.

Of **children born to a mother** who had a period **in out-of-home care**:

- **40%** had a substantiated maltreatment allegation
- **25%** had an out-of-home care placement.

Conclusions

The findings show that **young people who have been in care are at high risk of a range of poor outcomes**, even compared to other children who have experienced adversities.

It is clear that **the challenges** faced by children who experience out-of-home care **are complex and cannot be solved by one sector alone.**

Background

In Australia, there is estimated to be 54,025 children in out-of-home care, a rate of 10.2 per 1,000 children (Australian Institute of Health and Welfare, 2016). In Western Australia (WA) this rate is lower at 6.7 per 1,000 children. Out-of-home care is defined as the provision of care arrangements outside the family home to children who are in need of protection and care (Department for Child Protection and Family Support, 2015). The provision of care involves the placement of children who cannot live with their families, due to abuse or neglect, with other caregivers on a short or long-term basis. Children who have been maltreated and require out-of-home care have faced significant and complex issues during their lives, and they are considered one of the most vulnerable and disadvantaged groups in society.

In 2014-15, WA had nine percent of all children in care in Australia. As at 30 June 2015, 37% had been continuously in care for less than two years, 32% between two and five years and the remaining 31% for five years or more. Of all children discharged from care in WA in 2014-15, 78% were under 15 years of age and 22% were 15 or older (AIHW, 2016).

Out-of-home care and support services are generally provided to children until they reach the age of 18 years. Once this group leave out-of-home care, they may not have the support that other young people typically have from their families in the transition to an independent adult life. Osborn & Bromfield (2007) have shown that this transition also occurs earlier and in a more abrupt manner than other young people the same age, due to the cessation of most government support after they reach 18 years of age. The lack of an ongoing, stable and supportive placement, emotional support, and a flexible and gradual process toward independent living make it much more difficult to integrate with society, find employment or develop supportive networks.

Young people who have experienced out-of-home care are at higher risk of socioeconomic disadvantage, social exclusion and marginalisation than other children (Stein, 2006). They are more likely to have lower levels of education, experience homelessness, be young parents and have higher levels of unemployment, offending behaviour and mental health problems (Stein, 2006). Importantly, young people who have been in out-of-home care have been shown to more frequently experience significant personal problems, including use or abuse of drugs and alcohol. The emotional effects of having experienced abuse or neglect in their lives can lead these young people towards psychological disruption, depression and even suicide (Mendes, 2009a).

However, these negative outcomes may not necessarily apply to everyone. Young people who have been in out-of-home care are a heterogeneous group, with different backgrounds and experiences, but the past experience of abuse or neglect, together with the in-care experience, does make them more susceptible to negative outcomes (Mendes, Johnson and Moslehuddin, 2011).

Given young people who have been in care are more vulnerable to negative outcomes, it is important that they are effectively prepared and supported during their transition out of care. Mendes, Johnson and Moslehuddin (2011) reported that there is an association between receiving a good preparation for leaving care and children's outcomes after leaving care. Similarly, it is important that children, young people and their families have access to support and community services both during and after care or following reunification.

In the last 10 years there have been significant changes in the Western Australian community and the care system, such as population growth and the increasingly complex behaviour of children entering care. This has put pressure on the care sector's ability to consistently deliver stable and supportive care for these vulnerable children. In light of this pressure, the former Department for Child Protection and Family Support (CPFS) commenced a suite of out-of-home care reforms, as outlined in their report *Building a Better Future Out-of-Home Care Reform in Western Australia* (Department for Child Protection and Family Support, 2016).

Due to limited evidence in WA regarding life outcomes for children who have experienced out-of-home care, CPFS commissioned this study to quantify the outcomes for children who have been in the WA out-of-home care system. The findings will be essential to guide and support the implementation of out-of-home care reforms, and results will provide baseline data for the future evaluation of these reforms in WA.

Methodology

The purpose of this study is to explore the outcomes for young people who have reached at least 18 years of age and have had a period of care, and compare these outcomes to those of other demographically similar children in WA.

Three cohorts were selected, one exposure group and two associated control groups:

- *Care group (exposure cohort)* - the Care group included all children born in WA between 1 January 1990 and 30 June 1995 who have had a period in care greater than one day.
- *Maltreatment group* - the first control group consisted of all children born in WA between 1 January 1990 and 30 June 1995 who had ever had a substantiated maltreatment allegation but had never been in care.
- *Control group* - the second control group contained children born between 1 January 1990 and 30 June 1995 who had NO contact with WA child protection services. These were matched at a 5:1 ratio of controls to the Care group, matched on socioeconomic characteristics at birth, year of birth, gender and Aboriginality. The purpose of this matching was to provide a suitable comparison group with similar demographic characteristics to the Care group.

Quantitative analysis was undertaken using linked data from the Department of Communities (formerly Child Protection and Family Support) and the Departments of Health, Education, and Justice (formerly Corrective Services). A thorough process of validation and data cleaning was applied to every dataset to ensure the quality of the outputs, any errors of omission or commission are the responsibility of the researcher. The datasets used were as follows.

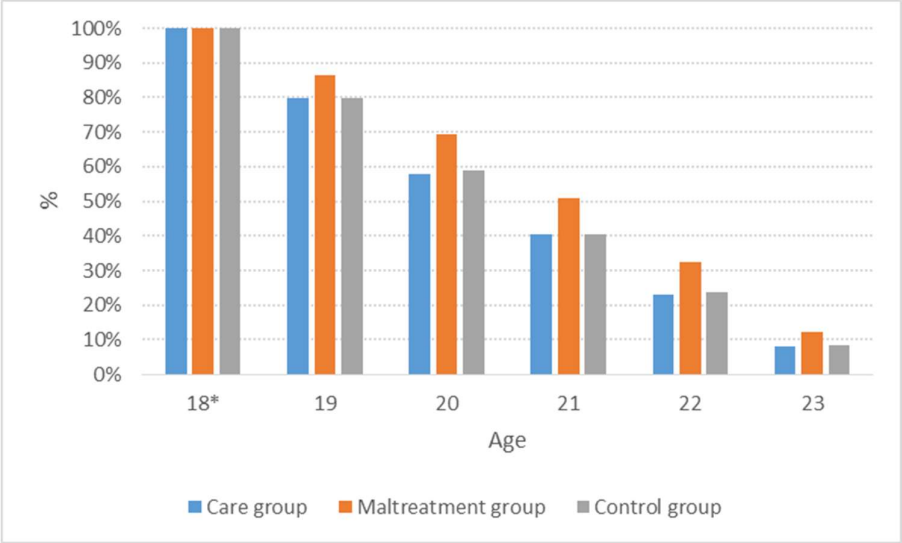
Dataset	Description	Data availability
Birth Registrations	Contains all births registered in WA, including information about mother, father and baby (e.g. birth weight, gestation period, parents' occupation, parents' Aboriginal status, parents' age, parents' place of birth).	From 1990 onwards.
Midwives Notifications	Includes births of at least 20 weeks gestation, or at least 400 grams in weight if gestational age is not known, including information on birth events, birth outcomes and associated childbearing matters.	From 1990 to 2013.
Hospital Morbidity Data Collection (HMDC)	Contains information of all admitted patient hospital visits, including all hospitals (public and private) in WA. (e.g. admission age, gender, Aboriginal status, marital status, employment status, admission/separation date, length of stay).	From January 1990 to June 2013.

Deaths Registrations	Includes information of all deaths in WA (e.g. date of deaths, cause of death, age, sex, Aboriginal status).	From January 1990 to September 2013.
Mental Health Information System (MHIS)	Contains data regarding the use of mental health services, from outpatient clinics and hospital visits. Includes information on psychiatric episodes of inpatients (public and private) and outpatients (public only).	From January 1990 to June 2013.
Western Australia Certificate of Education (WACE)	A secondary school certificate recognised nationally in the *Australian Qualification Framework.* It denotes that children meet the standards of senior secondary schooling. The WACE dataset contains information about the number of children who achieve the requirements of the WACE, as well as student achievement of vocational education and training qualifications, and those likely to attend university (based on their study of at least four Australian Tertiary Admissions Rank courses).	From 2007 to 2013.
Justice Dataset (formerly Corrective Services)	Includes information about the prison population, youth detentions and adult imprisonment, and juvenile and adult community-based sentences.	From 2000 to June 2013.
Child Protection and Family Support	Combination of datasets provided by CPFS. These included data on notifications, child maltreatment allegations, substantiations of child maltreatment, periods of care and child placements.	From January 1990 to December 2013*

*Data provided by CPFS from their client system for children of mothers who had a period in care was to December 2016.

Given the availability of information, the chosen follow-up period was to 30 June 2013, to maximise comparability between outcomes and enable all young people in the analysis to reach at least 18 years of age. Figure 1 below shows the percentage of each cohort by age at 30 June 2013, using the number of 18 year-olds as the reference group.

Figure 1. Proportion of young people followed up by age.



*Those who reached 18 years of age by the end of follow-up (100%) were used as the reference group.
Source: Appendix A Table 1.

This means that depending on year of birth, children have different number of years of follow-up. The oldest children in the study were followed up to the age of 23, which represented only 8% of the Care group and 12% of the Maltreatment group. These differences were balanced by using relative ratios (as percentages or rates) which accounted for the overall quantity of young people in each age group and provided comparable results.

This study only uses outcome data that was available through the WA data linkage system. As a result, there are a range of life outcomes that could not be explored such as tertiary education, employment, income support and housing. In addition, mental health outpatients' outcomes did not capture contacts with GPs or private practitioners.

A descriptive approach to analysis has been taken in this report to compare outcomes between the three cohorts. All values are displayed as percentages and significance of percentage differences were tested, but have not been adjusted by confounders, with the exception of Section 7 which includes modelling to analyse the adjusted effect of some of the care variables for the Care group only.

Cohort characteristics

Demographics

There were 139,051 births in WA between January 1990 and June 1995. Of this group:

- 2,003 children had been in out-of-home care – the Care group;
- 2,761 children had had at least one substantiated maltreatment allegation, but had never been in care – Maltreatment group; and
- 129,537 children had no contact with CPFS, from which 9,955 children were selected into the Control group. This group is not representative of the entire WA population, but rather was selected to be representative of children with similar demographic characteristics (socioeconomic status, gender and ethnicity) as the Care group.

The demographics of each cohort are shown in Table 1. Not all young people survived to at least 18 years of age. Eighteen children in the Care group, 23 in the Maltreatment group and 154 in the Control group died before the age of 18.

The proportion of children by year of birth was similar for the Care and Control groups as the latter were matched on this variable (with a higher number of children born between 1992 and 1994). The Maltreatment group differed, with a higher proportion of children born between 1990 and 1992. The Maltreatment group had a greater proportion of females (59%) compared to the Care and Control groups (50%), and a slightly smaller proportion of Aboriginal people (26% versus 30%). These differences were partially accounted for by presenting disaggregated results and comparing results in percentages and rates, rather than absolute values. However, these differences in year of birth, gender and Aboriginality should be taken into consideration when interpreting outcomes.

Aboriginal young people were over-represented in all three cohorts when compared with the proportion of Aboriginal people in the state of Western Australia. According to the 2016 census (ABS, 2018) only 3% of the WA population were Aboriginal and Torres Strait Islander, compared to 30% of the Care group.

Differences in socioeconomic disadvantage were minor between cohorts. However, within each cohort there was a greater proportion of highly disadvantaged children[4], with around 58% of the children falling into the quintiles of highest disadvantage (1 and 2). All three cohorts were also more disadvantaged compared to the overall WA population, which in 1996 had 38% of its population in the first two quintiles (high disadvantage) and 41% in the lower disadvantage quintiles (4 and 5).

Finally, 58% of children in each cohort were born to a mother aged between 20 and 29 years. More than 22% of the Care and Maltreatment groups were born to mothers under 20 years old, compared to only 11% of the Control group.

[4] There was an overall statistically significant difference between the proportion of children with low and high disadvantage groups across the three cohorts (p= 0.000859, 95% confidence interval). However, there was a non-statistically significant difference in socioeconomic disadvantage between groups (p=0.2235, 95% confidence interval)

Table 1. Demographics.

	Care group		Maltreatment group		Control group	
	N	**%**	**N**	**%**	**N**	**%**
N	2,003	-	2,761	-	9,955	-
N surviving to at least 18 years	1,985	99.1%	2,738	99.2%	9,801	98.5%
Year of birth						
1990	280	14.0%	571	20.7%	1,400	14.1%
1991	322	16.1%	514	18.6%	1,610	16.2%
1992	345	17.2%	549	19.9%	1,720	17.3%
1993	392	19.6%	477	17.3%	1,956	19.6%
1994	437	21.8%	447	16.2%	2,155	21.6%
1995	227	11.3%	203	7.4%	1,114	11.2%
*Gender**						
Male	994	49.6%	1,128	40.9%	4,932	49.5%
Female	1,009	50.4%	1,633	59.1%	5,023	50.5%
*Aboriginality**						
Non-Aboriginal	1,403	70.0%	2,047	74.1%	7,000	70.3%
Aboriginal	600	30.0%	714	25.9%	2,955	29.7%
*Socioeconomic disadvantage***						
1 (high disadvantage)	696	34.8%	1,025	37.3%	3,480	35.0%
2	458	22.9%	589	21.4%	2,281	22.9%
3	321	16.1%	445	16.2%	1,605	16.1%
4	341	17.1%	441	16.1%	1,705	17.1%
5 (low disadvantage)	183	9.2%	247	9.0%	884	8.9%
*Maternal age****						
<20 years	459	22.9%	618	22.4%	1,074	10.8%
20-29 years	1,172	58.5%	1,589	57.6%	5,685	57.1%
30-39 years	351	17.5%	529	19.2%	3,088	31.0%
>39 years	21	1.0%	25	0.9%	108	1.1%

*The Maltreatment group differs from the other groups on gender distribution and Aboriginality as this group was not matched, and this should be taken into account when interpreting the outcomes.

**There were four children in the Care group and 14 in the Maltreatment group with no records for socioeconomic status.

***The Care and Control groups differ on maternal age as this was not matched for in control selection.

Note: See Appendix A Table 2 for Demographics for young people who surviving to at least 18 years.

Children in care

The Care group consisted of 2,003 children who had a period in care. Eighteen (1%) died before turning 18 years old, leaving 1,985 who reached adulthood. Close to 45% (897) of children in the Care group had their first placement before the age of 5, and 27% between the ages of 5 and 9.

Table 2. Child protection profile of the Care group.

	Care group	
	N	**%**
N	2,003	-
Deaths before 18 y/o	18	0.9%
Age at first entry to care		
<1	242	12.1%
1-4	655	32.7%
5-9	540	27.0%
10-14	469	23.4%
15-17	97	4.8%
*Periods of care**	3,334	1.7 (avg./c.)
*Number of placements**	9,183	4.6 (avg./c.)
Time in care		
under 12 months	928	46.3%
under 30 days	*510*	*54.9%*
30 days to 12 months	*418*	*45.1%*
12 months to 2 years	157	7.8%
2 years to 5 years	348	17.4%
more than 5 years	570	28.5%
Leave care age		
After 13	946	47.2%
Began care before 13	*547*	*57.8%*
Began care after 13	*399*	*42.2%*
Before 13	1,057	52.8%
After 15	691	34.5%
Before 15	1,312	65.5%
*Number of substantiations***	2,659	1.9 (avg./c.)**
*Maltreatment type (at first substantiation)***		
Emotional abuse	146	7.3%
Neglect	649	32.4%
Physical Abuse	426	21.3%
Sexual abuse	204	10.2%
Non-classified	5	0.2%

*Includes number and average per child in the cohort (avg./c.).
**There were 573 children with no recorded maltreatment type.

The Care group had an average of 1.7 periods of care per child with five total placements and three distinct placements. More than half of the Care group (54%, 1,085) were in care for less than 2 years, one quarter (510) were only in care for less than 30 days, and 28% were in out-of-home care for more than 5 years. A total of 1,057 (53%) left care before the age of 13, while the remaining 47% left care after becoming teenagers. Table 2 also shows the number and percentage of children who left out-of-home care by the age of 15 (65%), before the age at which leaving care plans are required.

The Care group had an average of two substantiations per child. Neglect (32%) was the most prevalent maltreatment type, followed by physical abuse (21%).

Maltreated children

The Maltreatment group consisted of 2,761 children with at least one substantiated maltreatment allegation, but no period in care. A total of 23 (0.8%) died before reaching 18 years of age. As shown in Table 3, close to 38% of these children had their first substantiation by the age of 4 years. Overall, age at first substantiation for the Maltreatment group was similar to the Care group.

The Maltreatment group had an average of 1.2 substantiated maltreatment allegations per child, which was slightly lower compared to the Care group. The most common maltreatment type at first substantiation was sexual abuse (41%) followed by physical abuse (31%). This differs substantially from the Care group where the most common maltreatment type at first substantiation was neglect (32%), and sexual abuse was the first substantiation for only 10% of the Care group.

Table 3. Child protection profile of the Maltreatment group.

	Maltreatment group	
	N	**%**
N	2,761	-
Deaths before 18 y/o	23	0.8%
Age at first substantiation		
<1	281	10.2%
1-4	782	28.3%
5-9	762	27.6%
10-14	799	28.9%
15-17	137	5.0%
*Number of substantiations**	3,212	1.2 (avg./c.)
Maltreatment type (at first substantiation)		
Emotional abuse	157	5.7%
Neglect	615	22.3%
Physical Abuse	850	30.8%
Sexual abuse	1,137	41.2%
Non-classified	<5	0.1%

*Includes number and average per child in the cohort (av./c.).

Cohort outcomes

This section presents the outcomes for cohorts, exploring hospitalisations, mental health contacts, mortality, educational achievement and justice involvement.

Selected outcomes were explored both pre- and post-adulthood to provide additional context. Table 4 summarises the main sections of this report and the age groups analysed in each section.

Table 4. Main sections by age group included in the analysis.

	Analysis by age group	
	Under 18 y/o	**18 y/o and older**
Physical Health	✓	✓
Mental Health		✓
Mortality		✓
Education (WACE)	✓	✓
Justice involvement	✓	✓
Children of cohort	✓	✓

Note that the cohort sizes differ (Table 5) as post-adulthood outcomes are only for those individuals who survived to at least 18 years of age.

Table 5. Number of young people by cohort.

	Care group	**Maltreatment group**	**Control group**
Total N	2,003	2,761	9,955
N surviving to at least 18 years	1,985	2,738	9,801

Physical health

The Hospital Morbidity Data Collection (HMDC) provides information on all hospital separations, both public and private. The HMDC is one of the largest data collections managed by the WA Department of Health, and provides valuable information for planning, allocating and evaluating health services in WA (Department of Health, 2014). The Hospital Morbidity Data Collection uses the term hospital separation to record the cessation of treatment or care and the information collected is at the time of discharge, however for ease of understanding the term hospital admission has been used in this section.

Hospital admission[5] were analysed for each cohort, describing frequencies, proportion and rates of hospital admissions within the follow-up period by gender, age group and Aboriginality. Admission rates were calculated as the average number of admissions per person-year, which accounted for the number of hospitalisations a person had on average in one year[6]. Overall outcomes are summarised in Table 6 below.

[5] According to the WA Department of Health an admitted patient is one who "undergoes a hospital's admission process (documented) to receive treatment and/or care for a period of time (minimum 4 hours for medical admissions)" (Department of Health, 2012).

[6] The admission rate per person-year was calculated as the average per year of the total number of admissions divided by the total number of people in the cohort.

Table 6. Summary of findings. Physical health outcomes. (Number and percentage of young people.)

		Care group		Maltreatment group		Control group	
		N	%	N	%	N	%
N with admissions							
	Under 18	1,833	91.5%	2,436	88.2%	7,876	79.1%
	18 and older	794	40.0%	1,128	41.2%	2,769	28.3%
*Admission rate (overall) **			0.38		0.29		0.19
Prevalent Diagnostic groups							
Pregnancy and birth**							
	Under 18	194	9.7%	295	10.7%	431	4.3%
	18 and older	307	15.5%	481	17.6%	760	7.8%
Injury and poisoning							
	Under 18	914	45.6%	1048	38.0%	2433	24.4%
	18 and older	255	12.8%	334	12.2%	646	6.6%
Mental health and behavioural disorders							
	Under 18	310	15.5%	220	8.0%	227	2.3%
	18 and older	178	9.0%	144	5.3%	192	2.0%
Diseases of the circulatory, respiratory and digestive system							
	Under 18	1,104	55.1%	1,421	51.5%	4,493	45.1%
	18 and older	153	7.7%	263	9.6%	950	9.7%

*Average admission rate per year-person.

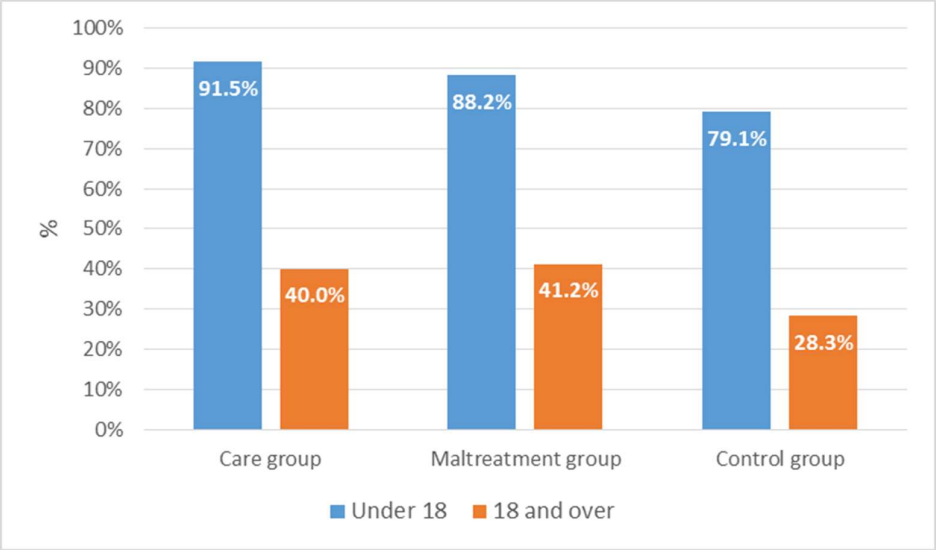
**Proportions are based on entire cohort and not just females.

Hospital admissions

Around 86% of all young people in the study had at least one hospital admission between January 1990 and June 2013. Of the young people from the Care group, 91% had at least one hospitalisation before turning 18 years old, but only 40% had an admission between 18 and the end of the follow-up period (June 2013). The Maltreatment group was similar, with 88% having had a hospitalisation before 18 years old, and 41% after 18 years old. In comparison, hospitalisations in the Control group were lower both before 18 years of age (79%) and after 18 (28%)[7].

[7] There was a statistically significant difference between the proportion of young people aged 18 and older with at least one hospital admission between the Care group and the Control group (p= 0.000, 95% confidence interval). However, the difference between the Care and Maltreatment group was not statistically significant (p=0.4082, 95% confidence interval)

Figure 2. Proportion of young people with any hospital admissions by age and cohort group.



Source: Table 6.

About half of the Aboriginal youth from the Care group and the Maltreatment group were admitted to hospital after the age of 18 (48% and 50% respectively) compared to 36% of the Control group[8] (Table 7).

Table 7. Number and proportion of young people who had at least one hospitalisation at the age of 18 years or older, by gender and Aboriginality.

	Care group (N=1,985)		Maltreatment group (N=2,738)		Control group (N=9,801)	
	N	**%**	**N**	**%**	**N**	**%**
Total	794	40.0%	1,128	41.2%	2,769	28.3%
*Aboriginality**						
Non-Aboriginal	507	36.4%	775	38.2%	1,740	25.0%
Aboriginal	287	48.4%	353	49.8%	1,029	36.1%
*Gender**						
Males	295	30.1%	330	29.7%	1,067	22.0%
Females	499	49.7%	798	49.0%	1,702	34.4%

*Proportions by gender and Aboriginality were calculated from each group total in the cohort population (e.g. 30.1% of males from the total number of males in the cohort). Totals can be found in Appendix A Table 2, Demographics section.

For all three cohorts the proportion of females with at least one hospital admission after turning 18 was higher than males.

The overall mean admission rate per year was 0.38 for the Care group. The Maltreatment group had a lower overall rate at 0.29, and Control group was half the rate of the Care group, at 0.19. This means that the Care group was twice as likely to have a hospitalisation compared to the Control group.

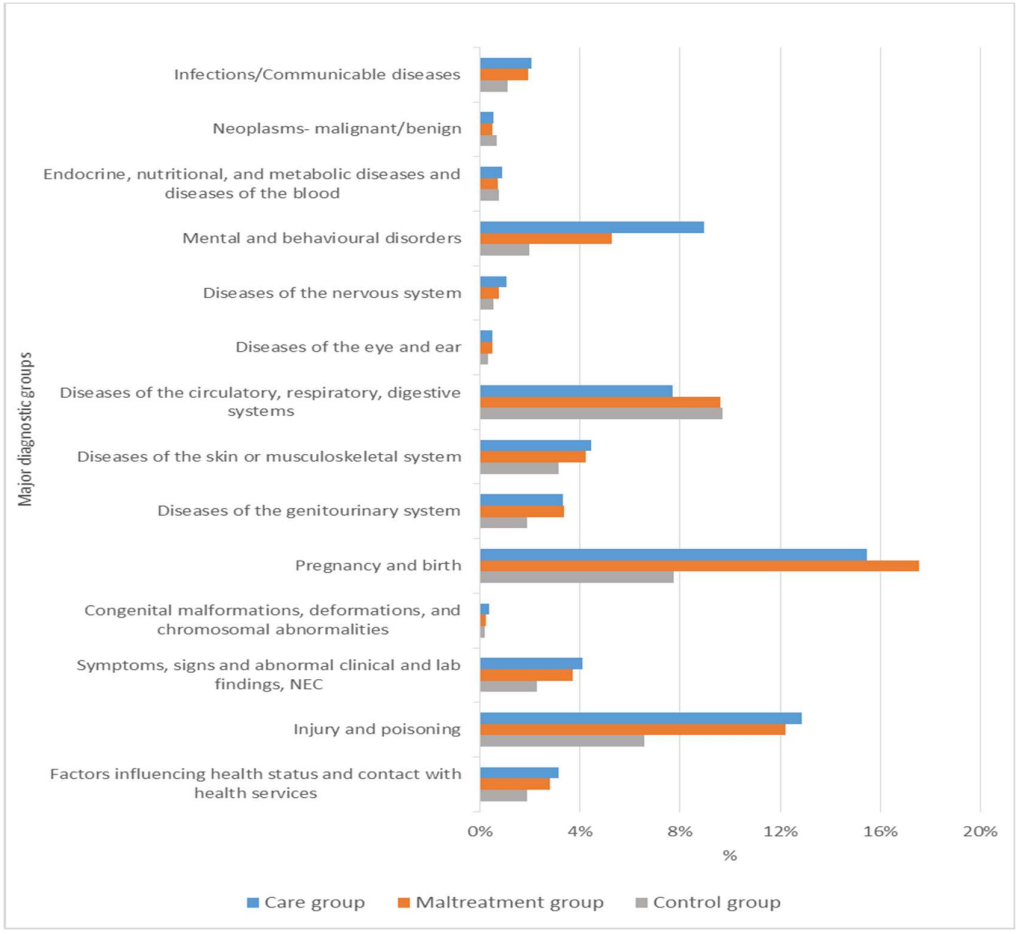
[8] There was no statistically significant difference between the proportion of Aboriginal young people aged 18 and older with at least one hospital admission between the Care group and the Maltreatment group (p= 0.6175, 95% confidence interval).

Figure 3 shows the proportion of people who had at least one hospitalisation after they reached 18 years of age, by major diagnostic groups. Grouping was performed using the International Classification of Diseases, 10th edition, Australian Modification (ICD-10-AM). The four most prevalent categories were pregnancy and birth, injuries, mental health disorders and diseases of the circulatory, respiratory and digestive system.

Pregnancy and birth was the main reason young people aged 18 years and older were admitted to hospital in both the Care and Maltreatment groups. Almost one-third of females in both the Care group (31% of females; 15% of entire cohort) and Maltreatment group (30% of females; 18% of entire cohort) had at least one pregnancy-related admission, twice that of the Control group (15% of females; 8% of entire cohort)[9]. This outcome is further analysed in section 7.

Admissions for injuries and poisoning were also more common for the Care group and Maltreatment group (13% and 12% respectively), at almost twice that of the Control group (7%).

Figure 3. Percentage of young people with hospital admissions by major diagnostic groups (ICD-10-AM), 18 years and older.



Note: Proportions are based on entire cohort 18 years and over. Totals by cohort do not add up because the same people can have more than one diagnosis.
Source: Appendix A Table 3.

[9] There was no statistically significant difference between the proportion of young females aged 18 years and older with at least one pregnancy related hospitalisation between the Care group and the Maltreatment group (p= 0.5585, 95% confidence interval).

Nine per cent of the Care group had hospitalisations as adults for mental health and behavioural disorders (e.g. mood disorders; stress-related disorders; and disorders of psychological development), compared with 5% of the Maltreatment group and 2% of the Control group.

Diseases of the circulatory, respiratory and digestive system was the fourth most prevalent diagnostic group for all cohorts, representing 8% of the Care group. This was lower than the Maltreatment group and was the most prevalent diagnostic group in the Control group (10%).

The literature indicates that, given their past experience of abuse or neglect, young people who have been in care are often more predisposed towards depression and even suicide, and occasionally more likely to use or abuse drugs and alcohol compared with other young people (Mendes, 2009). This is explored in Table 8 which shows the number of young people aged 18 years and older who have had at least one hospitalisation related to injuries and poisoning and their external causes, and alcohol and drugs (which includes a number of conditions related to substance use including: mental and behavioural disorders due to use of substances; admissions associated with alcohol or drug intoxication; and disorders caused primarily by alcohol and drug use).

Although the numbers are small, the proportion of people with an alcohol related admission was one percentage point higher in the Care group (3%) than in the Maltreatment group (2%) and more than four times higher than the Control group. Drug-related hospitalisations were also more common within the Care group compared to the Maltreatment group, however these differences were not statistically significant[10].

For injury and poisoning related hospital admissions the highest external cause was for accidents. Around 7% of the Care and Maltreatment group had these admissions while the Control group had a much lower proportion (4%).

There were 86 people in the Care group with at least one undetermined intent (injury/poisoning) hospitalisation after 18 years of age, which represents 4% of the Care group. This proportion was the same as the Maltreatment group, but almost three times higher than Control group (1%).

[10] There was a statistically significant difference between the proportion of young people aged 18 years and older with at least one alcohol related hospitalisation between the Care group and the Maltreatment group (p= 0.0082, 95% confidence interval). However, the difference between the Care and Maltreatment group regarding the percentage of young people with drug related admissions was not statistically significant (p=0.0868, 95% confidence interval).

Table 8. Number and proportion of young people with hospital admissions related to alcohol and drugs and injury and poisoning, 18 years old and over.

	Care group (N=1,985)		Maltreatment group (N=2,738)		Control group (N=9,801)	
	N	%	N	%	N	%
Alcohol and drugs						
Alcohol related	53	2.7%	43	1.6%	63	0.6%
Drug related	26	1.3%	22	0.8%	26	0.3%
Injury and poisoning**						
Accident	149	7.5%	199	7.3%	444	4.5%
Self-harm	44	2.2%	49	1.8%	49	0.5%
Undetermined Intent	86	4.3%	117	4.3%	144	1.5%
Assault	10	0.5%	7	0.3%	9	0.1%

*Totals by cohort do not add up because the same people can have admissions with different diagnosis.
**Hospitalisations related to external causes of injury and poisoning.

Finally, self-harm admissions were identified in 2% of young people from the Care group, 2% for the Maltreatment group and close to zero for the Control group. Again, although small numbers, the proportion of people admitted for self-harm was similar for both groups who had contact with the child protection system but about four times higher than among young people who had never had contact with child protection.

Mortality

This section analyses the number, proportions and rates of mortality among the three groups by gender, Aboriginality and main cause of death. This information was sourced from the Death Registration dataset, which contains all deaths registered in WA, including date of death, age, gender, ethnicity and cause of death. Cause of death data was provided by the National Coronial Information System and the Victorian Department of Justice and Regulation. Mortality rates per 10,000 person year describes the number of deaths that occurred on average in one year over a standard population of 10,000 people, which provides better comparison between groups.

There were 30 deaths among young people in the Care group (<2%). Overall, the proportion of deaths were similar between groups, with the Control group showing a slightly higher percentage of deaths (2%). However, the mortality rate for the Care group (6.3) was lower than the Maltreatment group (7.7), and less than half that of the Control group (13.9).

Table 9. Number of deaths and mortality by total cohorts, 18 years and older, by gender and Aboriginality.

	Care group		Maltreatment group		Control group	
	N	**%**	**N**	**%**	**N**	**%**
N	2,003	-	2,761	-	9,955	-
Deaths (overall)						
N	30	1.5%	41	1.5%	176	1.8%
Mortality rate*		6.31 mp/y		7.67 mp/y		13.90 mp/y
N 18 and older	1,985		2,738		9,801	
Deaths 18 and older						
N	12	0.6%	18	0.7%	22	0.2%
Mortality rate*		10.07 mp/y		10.96 mp/y		3.74 mp/y
Gender						
Males	5	41.7%	13	72.2%	15	68.2%
Females	7	58.3%	5	27.8%	7	31.8%
Aboriginality						
Non-Aboriginal	<5	33.3%	9	50.0%	8	36.4%
Aboriginal	8	66.7%	9	50.0%	14	63.6%

*Mortality rates per 10,000 person year (mp/y), account for the number of deaths that occurred on average in one year over a standard population of 10,000 people.

Almost 60% of Control group deaths were infant deaths (children aged under 1 year), which represented, on average, an infant mortality rate of 103.4 deaths per 10,000 children under the age of 1 who were born between January 1990 and June 1995. In comparison, the Care group had no infant deaths, and the Maltreatment group had an infant mortality rate of 21.7 children per 10,000 children born under the age of 1. Given the significant differences in infant mortality rates between the Control and Care group, further research is recommended to explain these outcomes in more depth.

Only 0.2% of those in the Control group died after turning 18, compared to 0.6% and 0.7% of those in the Care and Maltreatment groups, respectively. The Care group mortality rate for 18 years and older was similar to the Maltreatment group, however both were almost three times higher than the Control group.

The proportion of female adult deaths in the Maltreatment (28%) and Control (32%) groups was much lower than the proportion of male adult deaths (72% and 68% respectively). However, the opposite was true for the Care group, where 58% of adult deaths were female and 42% male.

Aboriginal and non-Aboriginal deaths were evenly distributed within the Maltreatment group. However, the Care and Control groups had a higher percentage of Aboriginal than non-Aboriginal deaths.

Cause of death data was missing for many cases in the Mortality dataset. Occasionally the quality of causes of death coding can be affected by changes in the way information is reported, and by lags in completion of coronial cases and the processing of findings (ABS, 2016). However, cause of death

data was present for 40% of the deaths for people aged 18 years and older. Where cause of death was available, the main cause of death was suicide, which represented one third (33%) of deaths in the Care group, 28% of deaths in the Maltreatment group, and 18% of deaths in the Control group. This is consistent with national data - in 2014, the main cause of death in Australia for the age group 15-24 was suicides, representing 31% of all deaths in this group (AIHW, 2017a).

Mental health

The Mental Health Information System (MHIS) collects information on people who are treated by Mental Health Services (MHS). They can be either inpatient (public and private), or outpatient/clinic (public only) contacts[11].

The MHIS is a patient-based system which collects information regarding patient demographics, clinical data (diagnosis and outcomes measures), service utilisation and administration (admission and discharge dates). The inpatient data is sourced from acute general hospitals and community residential facilities. Outpatient information is provided for designated psychiatric clinics, triage services, community mental health centres, psychiatric day centres, outreach programs and rehabilitation programs.

Overall findings are summarised below and described in detail in the next sections.

Table 10. Summary of findings. Mental health (MH) outcomes, 18 years and older. (Number and percentage of young people.)

	Care Group (N=1,985)		Maltreatment group (N=2,738)		Control group (N=9,801)	
	N	%	N	%	N	%
MH related contact	536	27.0%	652	23.8%	914	9.3%
Most prevalent MH diagnostics						
Substance-related disorder	164	8.3%	145	5.3%	232	2.4%
Stress-related disorder	96	4.8%	96	3.5%	113	1.2%
Mood disorder	56	2.8%	69	2.5%	68	0.7%
Self-harm related contact	82	4.1%	78	2.8%	87	0.9%

Mental health contacts

All mental health contacts by young people aged 18 years and older are described here, including the number and percentage of people with any contact with the WA MHS, by gender, Aboriginality and diagnostic type.

Of the 1,985 people over 18 who had ever had a period in care, 27% (536) had at least one mental health contact. This was three percentage points higher than the Maltreatment group (24%), and almost three times the proportion of those in the Control group (9%)[12].

[11] As defined in the *WA Mental Health Act*, "a person has a mental illness if a person has a condition that is characterised by a disturbance of thought, mood, volition, perception, orientation or memory; and significantly impairs (temporarily or permanently) the person's judgment or behaviour" (Mental Health Act 2014).

[12] There was a statistically significant difference between the proportion of young people aged 18 and older with at least one MH related contact between the Care group and the Control group (p= 0.000, 95% confidence interval), as well as between the Care and Maltreatment groups (p=0.0116, 95% confidence interval).

Table 11. Number and proportion of young people who had a mental health (MH) related contact after reaching the age of 18, by gender and Aboriginality.

	Care Group (N=1,985)		Maltreatment group (N=2,738)		Control group (N=9,801)	
	N	%	N	%	N	%
MH related contact	536	27.0%	652	23.8%	914	9.3%
*Aboriginality**						
Non-Aboriginal	330	23.7%	388	19.1%	361	5.2%
Aboriginal	206	34.7%	264	37.2%	553	19.4%
*Gender**						
Male	202	20.6%	200	18.0%	391	8.1%
Female	334	33.3%	452	27.8%	523	10.6%

*Proportions by gender and Aboriginality were calculated from each group total in the cohort population (e.g. 20.6% of males from the total number of males in the cohort). Totals can be found in Appendix A Table 2, Demographics section.

The proportion of Aboriginal youth over 18 years with a mental health contact was higher than non-Aboriginal youth in all three cohorts. Close to 35% of Aboriginal youth from the Care group, and 37% of the Maltreatment group, had at least one mental health contact after the age of 18, compared with 24% and 19% of non-Aboriginal youth. This is consistent with the literature, Aboriginal people experience higher rates of mental health issues than other Australians, with higher rates of suicide, self-harm and psychological distress (AIHW, 2017b). Mental health issues are a considerable burden for the Aboriginal population which has been impacted by the history of the stolen generation, intergenerational transmission of trauma and systematic discrimination and racism (Shepherd et al., 2012; Twizeyemariya et al., 2017).

Aboriginal young people from both the Care and Maltreatment groups were almost twice as likely to have a mental health contact as Aboriginal youth from the Control group. While the proportion of Aboriginal youth accessing mental health services from the Maltreatment group was higher than the Care group, the opposite was true for non-Aboriginal youth.

The Care group had a higher proportion of females with mental health related contacts compared to the other two cohorts, being five percentage points higher than the Maltreatment group females and three times higher than the Control group[13]. The proportion of males with a mental health related contact was similar between the Care and Maltreatment groups, but more than double that of the Control group.

Table 12 shows the child protection profile of those in the Care group with a mental health contact. They do not differ from the overall Care group in relation to time in care or first maltreatment type (see Table 2 earlier in the report).

[13] There was a statistically significant difference between the proportion of females with a MH related contact after the age of 18 when comparing the Care and Maltreatment group (p=0.0028, 95% confidence interval). However, there was no statistically significant difference between male MH related contacts between the same groups.

Table 12. Number and proportion of young people who had a mental health related contact after reaching the age of 18, by length of time in care, age at entering care and maltreatment type.

	Care group (N=536)		Maltreatment group (N=652)	
	N	%	N	%
Time in care				
under 12 month	241	45.0%	-	-
12 months to 2 years	40	7.5%	-	-
2 years to 5 years	93	17.4%	-	-
more than 5 years	162	30.2%	-	-
Age at entering care				
<1	40	7.5%	-	-
1-4	162	30.2%	-	-
5-9	139	25.9%	-	-
10-14	164	30.6%	-	-
15-17	31	5.8%	-	-
*Maltreatment type (at first substantiation)**				
Emotional abuse	32	6.0%	25	3.8%
Neglect	190	35.4%	151	23.2%
Physical Abuse	112	20.9%	197	30.2%
Sexual abuse	62	11.6%	278	42.6%
Non-classified	140	26.1%	<5	0.2%

*There were 139 young people from the Care group who had a period of care but did not have a substantiation. They were included among the Non-classified Maltreatment type.

Interestingly, young people who entered care between the ages of 10 and 14 years were more prevalent (31%) among those who had a mental health contact after the age of 18 than in the overall cohort (23%, Table 2). Conversely, those who entered care before the age of 1 were less prevalent (7%) among those who had a mental health related contact after reaching 18 years old, than in the overall cohort (12%, Table 2).

Mental health diagnoses

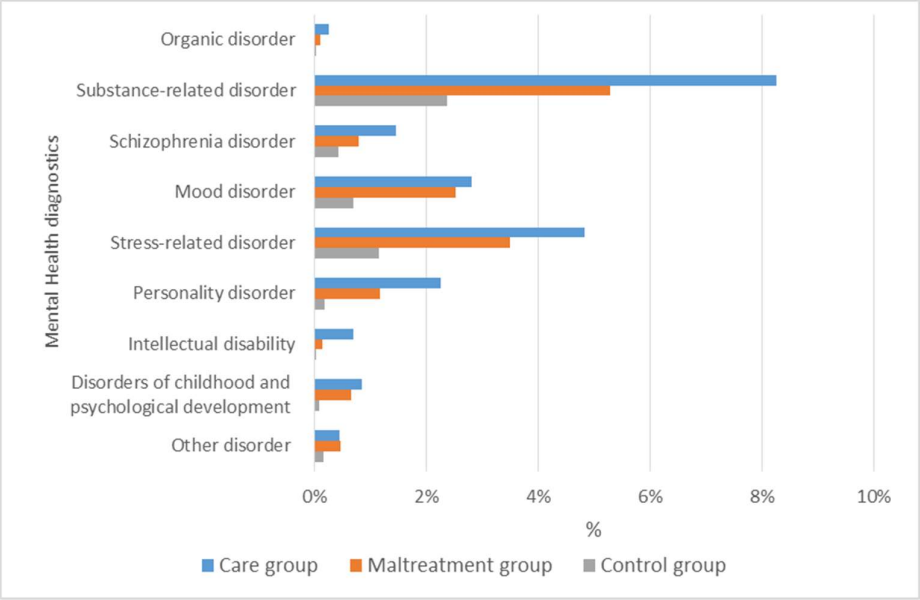
Almost 20% of young people in the Care group had at least one mental health diagnosis[14] since turning 18. This percentage was higher than the Maltreatment and Control groups (13% and 5% respectively).

Figure 4 displays the percentage of people over 18 years of age who had a mental health diagnosis, broken down by major mental health diagnostic categories (ICD-10-AM). The most common diagnosis was for substance-related disorders, which was seen in 8% of the Care group, 5% of the Maltreatment group, and 2% of the Control group.

The next most prevalent diagnosis was for stress-related disorders (which includes anxiety, phobias, obsessive-compulsive disorder, post-traumatic stress and adjustment disorders), with almost 5% of the Care group, 3% of the Maltreatment group, and 1% of the Control group being diagnosed.

[14]Includes outpatient contacts for public hospitals/clinics, as well as inpatient contacts for the public and private hospitals. GPs or private practitioner contacts not included.

Figure 4. Proportion of young people by major mental health diagnostic group (ICD-10-AM), 18 years and older.



Note: Totals by cohort do not add up because the same people can have more than one diagnosis.
Source: Appendix A Table 4.

Mood disorders were diagnosed in 3% of the Care group. The Maltreatment group had similar proportions at 2%, however the Control group was much lower at less than 1%.

More than 4% of the Care group had a self-harm related contact after the age of 18. This proportion was one percentage point higher than the Maltreatment group (3%) and four times higher than the Control group (1%)[15].

Table 13. Number and proportion of young people who had a self-harm contact at the age of 18 years and older, by gender and Aboriginality.

	Care Group (N=1,985)		Maltreatment group (N=2,738)		Control group (N=9,801)	
	N	**%**	**N**	**%**	**N**	**%**
Self-harm related contact	82	4.1%	78	2.8%	87	0.9%
*Aboriginality**						
Non-Aboriginal	53	3.8%	60	3.0%	44	0.6%
Aboriginal	29	4.9%	18	2.5%	43	1.5%
*Gender**						
Male	31	3.2%	27	2.4%	37	0.8%
Female	51	5.1%	51	3.1%	50	1.0%

*Proportions by gender and Aboriginality were calculated from each group total in the cohort population (e.g. 3.2% of males from the total number of males in the cohort). Totals can be found in Appendix A Table 2, Demographics section.

[15] There was a statistically significant difference between the proportion of young people aged 18 and older with at least one self-harm related contact between the Care group and the Control group (p= 0.000, 95% confidence interval), as well as between the Care and Maltreatment group (p=0.0133, 95% confidence interval).

Almost 5% of Aboriginal youth in the Care group had a self-harm related contact which was higher than non-Aboriginal youth from the same group (4%). The Maltreatment group was the only group showing a higher percentage of non-Aboriginal youth (3%) with a self-harm contact compared to Aboriginal youth (2%). Aboriginal young people in the Care group were almost twice as likely to have a self-harm related contact than Aboriginal youth in the Maltreatment group, and more than three times as likely compared to the Control group.

Self-harm related contacts were slightly higher for females than males for the three cohorts, which was expected given that the same pattern is seen in the WA population. More than 5% of the females from the Care group had at least one self-harm related contact after the age of 18 compared to 3% of males from the same cohort. The differences between the Care and Maltreatment groups in self-harm related contacts was significantly different for females but not for males.

Educational outcomes

The Western Australia Certificate of Education (WACE) "is a senior secondary certificate recognised nationally in the *Australian Qualifications Framework*, by universities and other tertiary institutions, industry and training providers" (School Curriculum and Standards Authority, 2018). The achievement of WACE signifies that the student reached the standard literacy and numeracy required in senior secondary schooling. This certificate is completed by most students in two years, but the School Curriculum and Standards Authority allows students to meet its requirements over their lifetime.

Other courses, units and qualifications can contribute towards WACE achievement, including: Australian Tertiary Admission Rank (ATAR); General; Foundation; vocational education and training (VET) industry specific courses; VET qualifications; and endorsed programs. The achievement of WACE is mandatory for all universities, and those students who aim to enrol in university must select to study at least four or more ATAR courses within their requirements to achieve WACE, and to be considered university-bound students.

This section presents the number and proportion of each cohort who achieved WACE, those who were likely to be university-bound and those who achieved vocational education and training (VET) qualifications among the groups.

Table 14. Summary of findings. Educational outcomes.

	Care Group (N=2,003)		Maltreatment group (N=2,761)		Control group (N=9,955)	
	N	%	N	%	N	%
Achieve WACE	356	17.8%	622	22.5%	4,619	46.4%
University-bound	89	4.4%	186	6.7%	2,467	24.8%
Achieve VET	268	13.4%	371	13.4%	1,825	18.3%

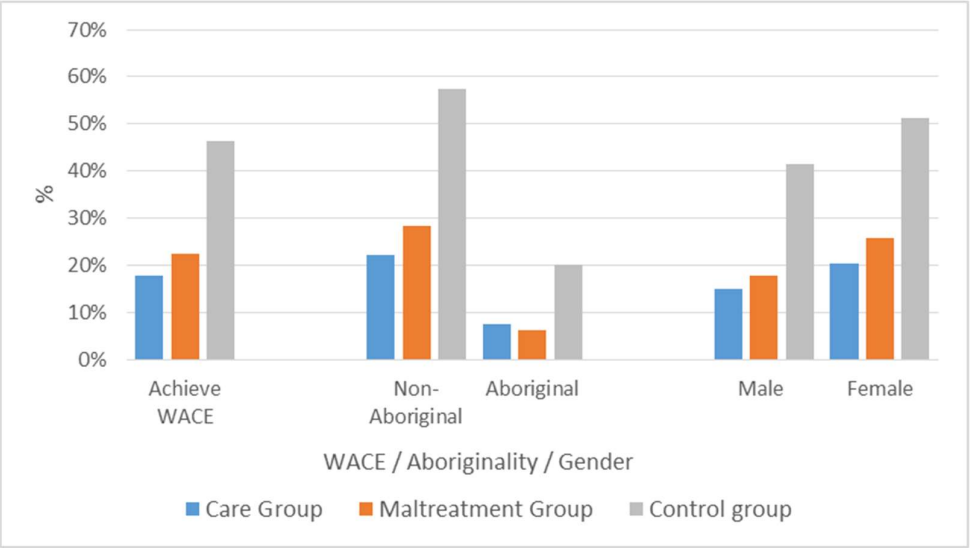
Western Australia Certificate of Education (WACE)

Of the 2,003 children born in WA between January 1990 and June 1995 who had a period of care, 18% (356) achieved WACE. Around 22% (622) of young people in the Maltreatment group achieved

WACE, which was almost five percentage points higher than the Care group[16], but much lower than the 46% (4,619) of young people in the Control group.

As displayed in Figure 5, there were large differences in WACE achievement between Aboriginal and non-Aboriginal youth in all three cohorts. Of the Care group, 22% of non-Aboriginal youth completed WACE, compared to 28% of non-Aboriginal youth from the Maltreatment group and 57% from the Control group. WACE achievement for Aboriginal youth was similar for the Care and Maltreatment groups, however both had a much lower WACE attainment than Aboriginal youth in the Control group (20%).

Figure 5. Percentage of young people who achieve WACE by Aboriginality and gender.



Source: Appendix A Table 5.

One fifth (20%) of females in the Care group achieved WACE which was higher than males (15%). On the other hand, 51% of Control group females achieved WACE as well as 41% of males, both much higher than the Care group.

University-bound

The Care and Maltreatment groups had a very small percentage of young people who were likely to be university-bound (enrolled in at least four ATAR courses) compared with the Control group. Only 4% (89) of the Care group were likely to attend university, and only 7% (186) of the Maltreatment group. Conversely, around 25% (2,467) of the Control group were likely to attend university.

Of the 89 young people who were likely to be university-bound from the Care group, 54% were females, and 46% males. The proportion of non-Aboriginal youth from the Care group who were likely to attend university was 6%, much higher than Aboriginal young people from the same cohort.

The Maltreatment group had a slightly higher percentage of non-Aboriginal students considered university-bound compared to the Care group, at 9% and 6% respectively[17]. However, both groups had a much lower proportion than non-Aboriginal youth from the Control group.

[16] There was a statistically significant difference between the proportion of children achieving WACE when comparing Care and Maltreatment groups (p= 0.0001, 95% confidence interval).

[17] There was a statistically significant difference between the proportion of Non-Aboriginal youth considered university-bound when comparing Care and Maltreatment groups (p= 0.0042, 95% confidence interval).

Overall, the three cohorts had a very low proportion of Aboriginal youth likely to attend university. The Care and Maltreatment group had under 1% of Aboriginal young people likely to be university-bound, compared to almost 4% of Aboriginal youth from the Control group.

Table 15. Number and percentage of young people who were likely to be university-bound, by Aboriginality and gender.

	Care group (N=2,003)		Maltreatment group (N=2,761)		Control group (N=9,955)	
	N	%	N	%	N	%
University-bound	89	4.4%	186	6.7%	2,467	24.8%
Aboriginality*						
Non-Aboriginal	88	6.3%	183	8.9%	2,355	33.6%
Aboriginal	<5	0.2%	<5	0.4%	112	3.8%
Gender*						
Male	41	4.1%	55	4.9%	1,026	20.8%
Female	48	4.8%	131	8.0%	1,441	28.7%

*Proportions by gender and Aboriginality were calculated from each group total in the cohort population (e.g. 4.1% of males from the total number of males within the cohort). Totals can be found in Table 1, Demographics section.

As displayed in Table 15, there were no significant differences between the percentage of males and females likely to be university-bound within the Care group. Conversely, females from the Maltreatment and Control groups were more likely to attend university than males.

Finally, while the proportion of males likely to attend university was similar for the Care and Maltreatment groups, the proportion of females likely to pursue a university education from the Maltreatment group was higher than the Care group.

Vocational education and training

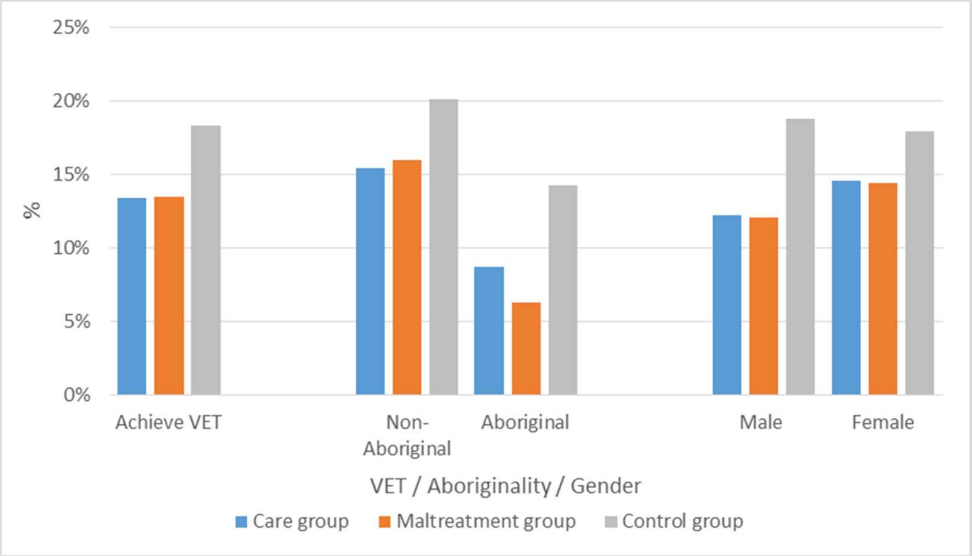
Thirteen per cent of young people from both the Care and Maltreatment groups achieved a vocational education and training (VET) qualification, compared to 18% of the Control group [18].

While the Care group (15%) and Maltreatment group (16%) had similar proportions of non-Aboriginal youth who achieved VET qualifications (Figure 6), the Care group had a higher ratio of Aboriginal youth who achieved VET (9% compared to 6% for Maltreatment group). On the other hand, the percentages of Aboriginal and non-Aboriginal youth in the Control group who achieved a VET qualification were much higher compared to the Care group, at 14% and 20% respectively.

Finally, a higher percentage of males and females in the Control group achieved a VET qualification than the Care group. However, while the Care and Maltreatment groups had a higher proportion of females than males who achieved VET qualifications, the Control group showed the opposite.

[18] There was no statistically significant difference between the proportion of young people who achieved a VET qualification between the Care group and the Maltreatment group (p= 0.9544, 95% confidence interval). However, the difference between the Care and Control groups was statistically significant (p=0.0000, 95% confidence interval)

Figure 6. Percentage of young people who achieved a VET qualification, by Aboriginality and gender



Source: Appendix A Table 6.

Justice outcomes

This section presents contact with Department of Justice in terms of community-based sentences, juvenile detentions and adult imprisonment. It does not include other types of justice contacts such as contact with the police and the courts. Although the study focused primarily on outcomes as adults, both juvenile and adult outcomes are described here to provide further context. Community-based sentences[19], juvenile detentions and adult imprisonments were explored for the three cohorts.

Juvenile offenders are treated differently to adult offenders, and for that reason they were analysed separately in this study. "In each Australian jurisdiction, except Queensland, a juvenile is defined as a person aged between 10 and 17 years of age, inclusive. Persons aged 15 to 19 years are more likely to be processed by police for the commission of a crime than are members of any other population group" (Richards, 2011).

Overall outcomes

Overall, 762 (38%) young people from the Care group had at least one community-based sentence between the ages of 10 and the end of the follow-up period (juvenile and/or adult). This is higher than both the Maltreatment group (25%; 695) and the Control group (11%; 1,135).

Twenty percent (401) of the young people from the Care group had at least one detention/imprisonment between the age of 10 and the end of the follow-up period (juvenile and/or adult). This represented a much higher proportion of detentions/imprisonments compared to the two other groups. The Maltreatment group had fewer than 9% (245) and the Control group had 3% (326) with a period in detention/imprisonment.

Length of time in care for young people with justice involvement did not differ significantly from the overall Care cohort. Over 52% (398) of the young people from the Care group who had a community-based sentence (juvenile and/or adult) had spent a year or more in out-of-home care,

[19] According to the definition from the WA Department of Justice "a community-based sentence means the young person can stay living in the community, in their usual home, and can continue to go to school, training or work. These community sentences typically imply the young person must meet regularly with their youth justice officer, attend certain programs to address their offending behaviour or undertake some community work." (Department of Justice, 2o16b).

compared with 364 (48%) who had spent less than 12 months in care. Of the 401 young people from the Care group with at least one detention/imprisonment, 225 (56%) had spent more than 12 months in out-of-home care and the remaining 176 (44%) less than one year.

Table 16 below shows juvenile and adult justice outcomes for the three cohorts. These are described in detail in the next sections.

Table 16. Summary of findings. Justice outcomes. (Number and percentage of young people).

	Care group		Maltreatment group		Control group	
	N	%	N	%	N	%
Juvenile community-based sentence	745	37.2%	661	23.9%	1,073	10.8%
Juvenile detention	387	19.3%	211	7.6%	287	2.9%
Adult community-based sentence*	146	7.4%	169	6.2%	226	2.3%
Adult imprisonment*	100	5.0%	98	3.6%	106	1.1%

*Proportions were calculated using the 18 year and older population for each cohort

Juvenile community-based sentences

Of the 2,003 young people from the Care group, 745 (37%) had at least one juvenile community-based sentence. In total, they had 7,787 juvenile community-based sentences which constitutes, on average, 10 sentences per person.

The proportion of young people with a juvenile community-based sentence in the Maltreatment group (24%) and Control group (11%) was much lower than the Care group. Furthermore, the average number of sentences for these groups were also much lower than the Care group, with an average 7 and 6 sentences per person, respectively.

Table 17. Number and percentage of young people who had any juvenile community-based sentence before 18 years of age, by gender and Aboriginality.

	Care group (N=2,003)		Maltreatment group (N=2,761)		Control group (N=9,955)	
	N	%	N	%	N	%
Sentences*	7,787	10.5 avg/p	4,836	7.3 avg/p	5,999	5.6 avg/p
People	745	37.2%	661	23.9%	1,073	10.8%
Gender**						
Males	460	46.3%	394	34.9%	766	15.5%
Females	285	28.2%	267	16.4%	307	6.1%
Aboriginality**						
Non-Aboriginal	381	27.2%	332	16.2%	292	4.2%
Aboriginal	364	60.7%	329	46.1%	781	26.4%

*Includes number of juvenile community-based sentences and average number of sentences per person (avg/p).
**Proportions by gender and Aboriginality were calculated from each group total in the cohort population (e.g. 46% of males from the total number of males in the cohort). Totals can be found in Table 1, Demographics section

More than 46% of males from the Care group had at least one community-based sentence between the ages of 10 and 17 years old, compared with just 28% of females from the same group. These were higher than both the Maltreatment and Control groups.

Of the Aboriginal youth from the Care group, 61% had a juvenile community-based sentence, compared with 46% of Aboriginal youth from the Maltreatment group, and 26% Aboriginal youth from the Control group. In all cases these proportions were much higher than for non-Aboriginal youth.

The most common offence perpetrated by a juvenile who had a community-based sentence was unlawful entry with intent/burglary, break and enter (Appendix B, Figure 1). This was committed by 15% (301) of the Care group, 8% (214) of the Maltreatment group and almost 4% (361) of the Control group.

Among the Care group, theft (except motor vehicles) (14%), Property damage (9%), common assault (9%) and assault not resulting in serious injury (6%) were also prevalent. Overall the distribution of the most prevalent offences in the Care group is similar to that in the WA population.

Juvenile detentions

Young people in the Care group were more likely to have a juvenile detention compared with the other two groups. The Care group had more than two and a half times the percentage of young people with juvenile detention, at 19%, compared to the Maltreatment group (8%), and almost seven times the percentage of young people detained in the Control group (3%).

Young people with juvenile detentions in the Care group accounted for 2,281 detentions, a rate of 6 detentions per person. This was higher than the Maltreatment group where the average was 5, and the Control group with 4 detentions per person.

Table 18. Number and percentage of young people who had a period in juvenile detention under 18 years of age, by gender and Aboriginality.

	Care group (N=2,003)		Maltreatment group (N=2,761)		Control group (N=9,955)	
	N	%	N	%	N	%
Juvenile detentions*	2,281	5.9 avg/p	988	4.7 avg/p	1,049	3.7 avg/p
People	387	19.3%	211	7.6%	287	2.9%
Gender**						
Males	266	26.8%	152	13.5%	228	4.6%
Females	121	12.0%	59	3.6%	59	1.2%
Aboriginality**						
Non-Aboriginal	178	12.7%	59	2.9%	24	0.3%
Aboriginal	209	34.8%	152	21.3%	263	8.9%

*Includes number of juvenile detentions and average number of detentions per person (avg/p).
**Proportions by gender and Aboriginality were calculated from each group total in the cohort population (e.g. 26.8% of males from the total number of males within the cohort). Totals can be found in Table 1, Demographics section.

Of the young people from the Care group who had a detention, 266 were male (27% of males in the cohort), and 121 were female (12% of females in the cohort). This was close to two times higher than the percentage of males with any detention from the Maltreatment group, and three times greater than the percentage of females. The proportion of males and females with a juvenile detention from the Control group was much lower than the other two groups, with only 5% of males and 1% of females.

For all three cohorts, the proportion of Aboriginal young people who had a juvenile detention was higher than non-Aboriginal. The percentage of non-Aboriginal youth from the Care group with a juvenile detention was more than four times higher compared to the Maltreatment group and much higher than the Control group. Similarly, Aboriginal youth from the Care group were more likely to have a detention under the age of 18 years than the other two cohorts.

Unlawful entry with intent/burglary, break and enter was the most prevalent offence for all three cohorts (Appendix B, Figure 2). This offence type was seen in more than 8% (162) of the Care group, 3% (89) of the Maltreatment group, and 1% (102) of the Control group.

Adult community-based sentences

As defined by the WA Department of Justice, offenders in adult community corrections "are usually: serving community-based sentences (probation), completing custodial sentences under community supervision (parole), or on bail following conviction for an offence but waiting for a sentence" (Department of Justice, 2016a). Community-based sentences were introduced as sentencing options by the Sentencing Act 1995, and under the Department of Justice's supervision, are served in the community aiming to make imprisonment a sentence of last resort (Auditor General, 2001).

Seven percent (146) of the Care group had at least one adult community-based sentence between the ages of 18 and the end of the follow-up period. This accounted for 361 sentences, an average of 2.5 sentences per person. The Maltreatment and Control groups had smaller percentages than the Care group, reaching 6% and 2% respectively.

Ten per cent of the males in the Care group had an adult community-based sentence, slightly lower than the Maltreatment group (12%), but higher than the Control group (4%). However, the proportion of females was much higher in the Care group (5%), more than double the Maltreatment group (2%), and six times higher than the Control group (1%).

Table 19. Number and percentage of young people who had any adult community-based sentence at the age of 18 years and older, by gender and Aboriginality.

	Care Group (N=1,985)		Maltreatment group (N=2,738)		Control group (N=9,801)	
	N	**%**	**N**	**%**	**N**	**%**
Adult community-based sentence*	361	2.5 avg/p	442	2.6 avg/p	496	2.2 avg/p
People	146	7.4%	169	6.2%	226	2.3%
Gender**						
Males	95	9.7%	130	11.7%	185	3.8%
Females	51	5.1%	39	2.4%	41	0.8%
Aboriginality**						
Non-Aboriginal	56	4.0%	54	2.7%	30	0.4%
Aboriginal	90	15.2%	115	16.2%	196	6.9%

*Includes number of people with an adult community-based sentence and average number of sentences per person (avg/p) of each cohort.
**Proportions by gender and Aboriginality were calculated from each group total in the cohort population (e.g. 9.6% of males from the total number of males within the cohort). Totals can be found in Appendix A Table 2, Demographics section.

Seven per cent of the Aboriginal young people who had no contact with child protection had an adult community-based sentence. This was much lower compared to the 15% of Aboriginal youth in the Care group and 16% of the Maltreatment group. Similarly, less than 1% of non-Aboriginal youth from the Control group had an adult community-based sentence compared to 4% of non-Aboriginal youth in the Care group and 3% in the Maltreatment group.

The most common offences for the Care group were unlawful entry with intent/burglary, break and enter (2%), assault resulting in serious injury (2%) and assault not resulting in serious injury (1%) (Appendix B, Figure 3). For the Maltreatment and Control groups the most common offences were the same as the Care group.

Adult imprisonment

The number of young people who ever had an adult imprisonment was much lower than those who had a juvenile detention. About 5% of the Care group had imprisonments after they reached 18 years, compared with 4% of the Maltreatment group, and 1% of the Control group. The number of imprisonments was also much lower than the number of juvenile detentions.

Table 20. Number and percentage of young people who had a period of imprisonment at the age of 18 years and older, by gender and Aboriginality.

	Care Group (N=1,985)		Maltreatment group (N=2,738)		Control group (N=9,801)	
	N	%	N	%	N	%
Imprisonment*	293	2.9 avg/p	301	3.1 avg/p	280	2.6 avg/p
People	100	5.0%	98	3.6%	106	1.1%
Gender**						
Males	77	7.8%	93	8.4%	94	1.9%
Females	23	2.3%	5	0.3%	12	0.2%
Aboriginality**						
Non-Aboriginal	34	2.4%	27	1.3%	7	0.1%
Aboriginal	66	11.1%	71	10.0%	99	3.5%

*Includes number of adult imprisonments and average number of imprisonments per person (avg/p).
**Proportions by gender and Aboriginality were calculated from each group total in the cohort population (e.g. 7.8% of males from the total number of males within the cohort). Totals can be found in Appendix A Table 2, Demographics section.

Eight per cent of males from the Care group had an adult imprisonment, which was slightly lower than Maltreatment group but more than four times higher than the Control group. Additionally, 2% of females in the Care group had an imprisonment, and while this was lower than the percentage of males, it was still much higher than the other two groups.

Around 10% of the Aboriginal young people in Care and Maltreatment groups were imprisoned at least once between the age of 18 and the end of the follow-up period, compared to only 3% of Aboriginal youth from the Control group. Overall, the percentages of non-Aboriginal youth who had an adult imprisonment was lower than Aboriginal youth for the three cohorts. More than 2% of non-Aboriginal young people from the Care group had at least one adult imprisonment compared to 1% of non-Aboriginal youth from the Maltreatment group and less than 1% from the Control group.

Assault resulting in serious injury had the highest proportion of offenders within the Care group (2%) and Maltreatment group (2%) (Appendix B, Figure 4). Unlawful entry with intent/burglary, break and enter (2%), breach of bail (1%) and aggravated robbery' (1%) were the next three most common offences committed by young people in the Care group. Conversely, the Control group offenders' most common type of offence was unlawful entry with intent/burglary, break and enter (<1%).

Children of cohort

Pregnancy

This section analyses the pregnancy outcomes for females in the three cohorts. This outcome was explored as, according to Mendes (2009), young people leaving out-of-home care are overrepresented in Australian statistics of teenage pregnancy and parenthood. This may be attributed to a range of experiences before, during and after care. The lack of consistent and positive adult support, combined with lower levels of education, appear to be associated with early sexual activity and pregnancy (Mendes, 2009).

Table 21 displays the number and proportion of young females who had a delivery-related hospitalisation during the follow-up period. More than 25% (256) of the Care group females had at least one delivery admission, more than double that of the Control group (11%), but not significantly

different from the Maltreatment group (25%)[20]. Females aged 18 years and older were more likely to have a pregnancy admission than the under 18 year old group, for all three cohorts.

Table 21. Number and percentage of young females with a delivery related admission, by age group.

	Care group		Maltreatment group		Control group	
	N	%	N	%	N	%
Females of cohort	1,009	-	1,633	-	5,023	-
Under 18	1,009	-	1,633	-	5,023	-
18 and older**	1,004	-	1,627	-	4,949	-
Delivery	256	25.4%	400	24.5%	580	11.5%
Under 18	50	5.0%	81	5.0%	110	2.2%
18 and older	218	21.7%	339	20.8%	492	9.9%
Non-Aboriginal	149	14.8%	241	14.8%	168	3.3%
Aboriginal	107	10.6%	159	9.7%	412	8.2%

*Age group totals do not add up because the same people can have admissions before and after the age of 18 years

**Excludes females who died before reaching the age of 18.

Close to 40% of females who had delivery-related admissions from the Care and Maltreatment groups were Aboriginal, and represented around 10% of the total females in each group. On the other hand, over 70% of females for the Control group with a delivery-related hospitalisation were Aboriginal, and represented 8% of the total females in this group.

Children of Care group

To further investigate pregnancies within the population under study, the Department of Communities conducted a manual review of its child protection client system of 338[21] females in the Care group who had had a pregnancy-related admission. Due to resource limitations, mothers in the Maltreatment group were unable to be explored for this study.

Of the females from the Care group with a pregnancy admission within the follow-up period (Jan 1990 to June 2013), child protection records were identified indicating that 287 females had given birth at least once. This is higher than the 256 females with a delivery admission, most likely due to the fact that admissions data were available only to June 2013 while manual review was conducted of child protection records up to December 2016.

The 287 young mothers accounted for 28% of the females in the Care group. Over 44% (127) of mothers were Aboriginal, and represented 41% of the Aboriginal females from the Care group. The remaining 56% (160) were non-Aboriginal and accounted for 23% of the non-Aboriginal females from the Care group.

[20] There was no statistically significant difference between the proportion of females with at least one delivery hospitalisation between the Care group and the Maltreatment group for any age group (95% confidence interval). However, the difference between the Care and Control groups was statistically significant for all age groups (95% confidence interval)

[21] Note that 'Pregnancy and birth" related admissions described in section 6.1 included all females' admissions with a diagnosis related to "Pregnancy, childbirth and the puerperium" (ICD-10-AM codes O00-O99). With the purpose of a more in-depth analysis, section 7 included all females' admissions related to "Pregnancy, childbirth and the puerperium" and those related to "Persons encountering health services in circumstances related to reproduction" (ICD-10-AM codes Z30-Z39), for this reason the number of females with pregnancy related admissions is bigger in this section.

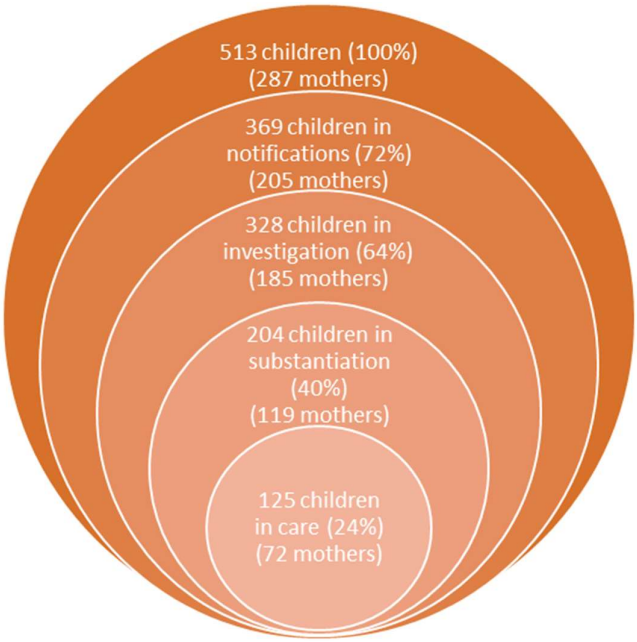
The Care group mothers had 513 children identified in the child protection client system up until December 2016, an average of two children each. However, having one child only was most common, 47% of this group, followed by 33% who had two children.

Table 22. Proportion of mothers from the Care group by number of children identified.

Number of children	Mothers of Care group	
	N	%
1	136	47.4%
2	96	33.4%
3	38	13.2%
4	14	4.9%
5	<5	1.0%

Further analysis was undertaken to determine whether these children received any child protection services themselves. Of the 513 children identified as being born to a mother from the Care group, almost three quarters (369) had at least one child protection notification. There were in total 1,036 notifications, which represented an average of three notifications per child. Almost nine out of ten notified children were also subject to an investigation. Children with at least one investigation represented 64% (328) of the children born to a mother who had a period in care, and they had an average of 2.4 investigations per child.[22]

Figure 7. Number and percentage of children, by level of child protection involvement.



Source: Appendix A Table 7.

Of the 328 investigated children, 204 were substantiated. Two of every five children born to a mother in the Care group had least one substantiation. They had a total of 281 substantiations, an average of one and a half substantiations each. Finally, 125 of these children had an out-of-home care placement, one child of every four born to a mother from the Care group. These children

[22] It is important to mention that some of these contacts may have been for pre-birth planning.

represented 61% of the children who had a substantiation, meaning that almost three out of five children with a substantiation were placed into care.

Care group: co-occurring 'poor' outcomes as adults

As a result of further investigation it became apparent that it was potentially the same young people experiencing multiple negative outcomes, and that there may be a proportion of the Care group who had 'poorer' outcomes compared to the rest. This section explores in more depth the Care group to identify any sub-group or cluster of young people at higher risk of poor outcomes as adults. For this purpose, four different outcomes were selected as 'poor outcomes':

- hospital admission for mental and behavioural disorder (18 and older), and/or
- hospital admission associated with drugs and alcohol (18 and older), and/or
- mental health service contact[23] (18 and older), and/or
- adult community-based sentence and/or imprisonment.

Young people from the Care group were considered to have poor outcomes if they had at least one of the four outcomes described above, after they turned 18 years of age. As a result, two groups were identified, the first group or 'Better outcomes' group contained 1,355 young people who had none of the outcomes described above, and represented 68% of the Care group. The second group or 'Poorer outcomes' group had 630 young people, who represented close to 32% of the Care group and had at least one of the outcomes mentioned above.

Table 23. Descriptive statistics of the Care group and clustered sub-groups.

	Care group		Better outcomes		Poorer outcomes	
	N	**%**	**N**	**%**	**N**	**%**
N	1,985	-	1,355	68.3%	630	31.7%
Gender						
Males	981	49.4%	705	52.0%	276	43.8%
Females	1,004	50.6%	650	48.0%	354	56.2%
Aboriginality						
Non-Aboriginal	1,392	70.1%	1,020	75.3%	372	59.0%
Aboriginal	593	29.9%	335	24.7%	258	41.0%
*Socioeconomic disadvantage***						
1 (high disadvantage)	686	34.6%	442	32.7%	244	38.8%
2	456	23.0%	322	23.8%	134	21.3%
3	321	16.2%	200	14.8%	121	19.2%
4	337	17.0%	248	18.3%	89	14.1%
5 (low disadvantage)	181	9.1%	140	10.4%	41	6.5%
Age at first entry to care						
<1	237	11.9%	192	14.2%	45	7.1%
1-4	650	32.7%	462	34.1%	188	29.8%
5-9	535	27.0%	367	27.1%	168	26.7%

[23] Includes outpatient contacts for public hospitals/clinics, as well as inpatient contacts for the public and private hospitals. GPs or private practitioner contacts not included.

10-14	466	23.5%	272	20.1%	194	30.8%
15-17	97	4.9%	62	4.6%	35	5.6%
Time in care						
under 12 months	925	46.6%	642	47.4%	283	44.9%
12 months to 2 years	157	7.9%	114	8.4%	43	6.8%
2 years to 5 years	342	17.2%	231	17.0%	111	17.6%
more than 5 years	561	28.3%	368	27.2%	193	30.6%
Maltreatment type (at first substantiation)						
Emotional abuse	143	7.2%	106	7.8%	37	5.9%
Neglect	644	32.4%	418	30.8%	226	35.9%
Physical abuse	424	21.4%	289	21.3%	135	21.4%
Sexual abuse	203	10.2%	135	10.0%	68	10.8%
Non classified	571	28.8%	407	30.0%	164	26.0%
Periods of care	3,307	1.66 (avg./c)	2,182	1.61 (avg./c.)	1,125	1.78 (avg./c.)
Number of distinct placements	9,117	4.59 (avg./c)	3,578	2.64 (avg./c.)	5,539	8.79 (avg./c.)
Poorer outcomes						
MH contact (18 and older)**	536	27.0%	0	-	536	85.1%
Mental and behaviour admission (18 and older)	178	9.0%	0	-	178	28.3%
Alcohol and drug related admission (18 and older)	74	3.7%	0	-	74	11.7%
Adult community-based sentence or imprisonment (18 and older)	175	8.8%	0	-	175	27.8%
Contacts with all of the above	21	1.1%	0	-	21	3.3%

*Missing data. There were 4 children with missing SES.
**Mental Health service contacts.
***P-values and significance are shown in section 8.2

More than half of the young people from the Care group with poor outcomes were females (56%), and 41% were Aboriginal youth. Conversely, the 'Better outcomes' group had more males than females, and the proportion of Aboriginal young people was only 24%.

The 'Poorer outcomes' group had a greater proportion of young people born in a more socioeconomically disadvantaged area compared to the rest of the Care group. Just over 60% of the 'Poorer outcomes' group were in the first two quintiles (most disadvantaged), versus 56% of the 'Better outcomes' group.

Those who first entered care between the ages of 10 and 14 were more prevalent among the 'Poorer outcomes' group, at 30% compared to 20% of the 'Better outcomes' group and 23% of the overall cohort. On the other hand, those who entered care within the ages of 1-4 years old were the most prevalent group among those with 'Better outcomes'.

Finally, the average number of distinct placements per child for those with 'Poorer outcomes' was more than three times higher than the 'Better outcomes' group and almost double the average of the total Care group. These results were in line with the literature highlighting the strong relationship between placement instability and poor outcomes.

Table 24 details the number of young people within the 'Poorer outcomes' group by co-occurrence of these outcomes. Consistent with table 23, the table below shows that only 3% of this group have experienced all four 'poor' outcomes. An alternative version of these data is shown in Appendix A Table 7.

Table 24. Number and percentage of young people by co-occurrence of 'Poorer outcomes' after 18 years of age.

		Alcohol and drugs admissions			
		A&D-No		A&D-Yes	
		Mental health admissions		Mental health admissions	
Adult community-based sentence or imprisonment	**Mental health contacts**	***MHA-No***	**MHA-Yes**	**MHA-No**	**MHA-Yes**
ACS-NO	**MHC-No**	-	12 (1.9%)	-	8 (1.3%)
	MHC-Yes	313 (49.7%)	79 (12.5%)	<5 (0.2%)	42 (6.7%)
ACS-Yes	**MHC-No**	71 (11.3%)	<5 (0.2%)	-	<5 (0.3%)
	MHC-Yes	67 (10.6%)	13 (2.1%)	-	21 (3.3%)

A&B=Alcohol and drugs admissions (No=Did not have; Yes=Had at least one)
MHA=Mental and behaviour admission (No=Did not have; Yes=Had at least one)
MHC= Mental health contact (No=Did not have; Yes=Had at least one)
ACS= Adult community-based sentence or imprisonment (No=Did not have; Yes=Had at least one)

One 'poorer outcome'
Two co-occurring 'poorer outcomes'
Three co-occurring 'poorer outcomes'
Four co-occurring 'poorer outcomes'

Some of the most prevalent co-occurrences or interactions of 'Poorer outcomes' are:

- almost half of the young people in this group had only mental health service contact;
- 12% had a mental health service contact and a mental health hospitalisation;
- 11% had only an adult community-based sentence or a imprisonment; and
- 11% had an adult community-based sentence or imprisonment and a mental health service contact.

Juvenile justice contacts

Given the high prevalence of juvenile community-based sentences and detentions in the Care group, juvenile justice contacts were analysed for the clustered groups defined above. A juvenile justice contact was defined in this section as a juvenile community-based sentence or detention.

As displayed in table 25 below, the proportion of young people with juvenile justice contacts was much higher for the 'Poorer outcomes' group compared to the 'Better outcomes' group. Overall, 60% of young people who had at least one of the four 'poorer outcomes' also had contact with juvenile justice, compared to almost 27% of those with 'Better outcomes'.

Table 25. Number and percentage of young people with a juvenile justice contact by cluster.

Age at first entry to care	Contacts with juvenile justice			
	'Poorer outcomes'		'Better outcomes'	
	N	%	N	%
<1	24	53.3%	32	16.7%
1-4	110	58.5%	99	21.4%
5-9	95	56.5%	98	26.7%
10-14	136	70.1%	120	44.1%
15-17	16	45.7%	14	22.6%
Total	381	60.5%	363	26.8%

When analysing by age at first entry to care, 70% of the young people from the 'Poorer outcomes' group who first entered care by the ages of 10-14 years had at least one juvenile justice contact, compared to 44% of the 'Better outcomes' group.

Statistical analysis

Multiple logistic regression modelling was used to explore the odds of having 'poorer outcomes' among the Care group. Each potential predictor was analysed separately to determine the univariate association with the outcome variable. The predictors included in the model were:

- Aboriginality;
- gender;
- socioeconomic disadvantage (quintiles, where quintile 1 grouped young people with higher disadvantage and quintile 5 young people with lower disadvantage);
- age at first entry to care (which was standardised as under 10 and more than 10 years old);
- time in care (less than 2 years and more than 2 years); and
- number of distinct placements (under and over 5 placements, which was the natural categorisation given the distribution of the variable).

Table 26 displays the odds ratios of having 'poorer outcomes' with a confidence interval of 95% ($p<0.05$). Four models were developed:

- Simple model: analyses of the univariate association of each predictor with the outcome variable using simple logistic regression modelling.
- Multiple model:
  - Model 1: Included all predictors in the model. This adjusted model shows the effect of one variable controlled for the other variables in the model.
  - Model 2 and 3: The variables 'time in care' and 'number of distinct placements' were correlated (multicollinearity). For this reason, two models were analysed to capture the effect of the two separate variables: Model 2 did not include the variable 'Number of distinct placements', and Model 3 did not include the 'Time in care' variable.

Table 26. Odd ratios of having 'poorer outcomes'.

	Simple model	Multiple model		
		Model 1	Model 2	Model 3
Aboriginality				
Non-Aboriginal**	1	1	1	1
Aboriginal	2.11 (1.73-2.58)*	1.98 (1.60-2.43)*	2.01 (1.64-2.48)*	1.97 (1.60-2.43)*
Gender (reference=Male)				
Male**	1	1	1	1
Female	1.39 (1.15-1.68)*	1.38 (1.13-1.68)*	1.36 (1.12-1.66)*	1.38 (1.14-1.68)*
Socioeconomic disadvantage (SES)				
SES 1 quintile	1.89 (1.29-2.76)*	1.66 (1.12-2.46)*	1.66 (1.12-2.46)*	1.65 (1.12-2.45)*
SES 2 quintile	1.42 (0.95-2.12)	1.33 (0.88-2.00)	1.33 (0.88-2.00)	1.33 (0.88-2.01)
SES 3 quintile	2.07 (1.36-3.13)*	1.95 (1.27-2.98)*	1.99 (1.30-3.04)*	1.94 (1.27-2.97)*
SES 4 quintile	1.23 (0.80-1.87)	1.23 (0.80-1.90)	1.25 (0.81-1.92)	1.23 (0.80-1.90)
SES 5 quintile**	1	1	1	1
Age at first entry to care				
Under 10 year old**	1	1	1	1
More than 10 years old	1.75 (1.42-2.14)*	1.81 (1.47-2.24)*	1.80 (1.46-2.22)*	1.80 (1.46-2.23)*
Time in care				
Less than 2 years**	1	1	1	-
More than 2 years	1.18 (0.97-1.42)	1.06 (0.84-1.33)	1.27 (1.04-1.55)*	-
Number of distinct placements				
Less than 5 placements**	1	1	-	1
More than 5 placements	1.53 (1.24-1.88)*	1.51 (1.18-1.94)*	-	1.56 (1.25-1.93)*

**Reference group
*Statistically significant

As shown in the table above, in the simple model all the variables were statistically significant predictors of having poorer outcomes, with the only exception of 'Time in care'. The variable socioeconomic disadvantage was statistically significant overall, however for those who were born in quintiles two and four there was not a statistically significant difference from those born in quintile five.

The multivariate model 'Model 1' showed collinearity between the variables 'Time in care' and 'Number of distinct placements'. Collinearity between variables can cause error in the regression coefficients, for this reason two different models were developed, one containing 'Time in care' as a predictor but not the 'Number of distinct placements', and the opposite for the other model.

Overall, for the multiple models, the odds ratios of having poorer outcomes for the predictors Aboriginality, gender, SES and 'Age at first entry to care' were similar to the univariate model. The key findings of the multiple model analysis were:

- Aboriginal young people in the Care group had two times higher odds of having 'poorer outcomes' compared to non-Aboriginal youth;
- the odds of having 'poorer outcomes' was 1.4 times higher for females compared to males;

- those who were born in the quintile of most disadvantage (quintile 1) had 1.65 times higher odds of having 'poorer outcomes' compared to those born in the quintile of least disadvantage (quintile 5);
- Model 2 (table 26) shows young people who spent more than 2 years in out-of-home care had 1.27 times higher odds of having 'poorer outcomes' compared to those who spent less than two years in care;
- and finally, the predictor 'Number of distinct placements' showed in Model 3 (table 26) that young people who had more than 5 distinct placements had 1.56 times higher odds of having 'poorer outcomes' compared to those with less than 5 placements.

In summary, young people aged 18 years and older who had a period of care, were identified as a highly disadvantaged group and more likely to have 'poorer outcomes' compared to the rest of the Care group if they: were Aboriginal; female; born in a more disadvantaged area; and first entered care after the age of 10.

Limitations

This study utilised descriptive statistics to explore outcomes for children born between January 1990 and June 1995 who have been in out-of-home care. With the exception of the last section, where a logistic regression analysis was developed to investigate possible clusters among those who had a period of care, this report did not include any inferential statistics or regression analysis to compare the outcomes of this group against other children. These analyses should be conducted in future research.

It is also important to mention that the justice data had records of community sentences with consecutive and overlapping start and end dates. Limited information did not allow us to determine if they corresponded to the same or a different offence. For this reason there could be a slight overestimation of the number of community service sentences, however this does not affect the number of people with community-based sentences. In addition, contact with the Department of Justice only includes community-based sentences, juvenile detention and adult imprisonment. It does not include contact with the police or the court system and therefore is likely to be an underestimate of overall contact with the justice system.

Only children with substantiated allegations and/or a period of out-of-home care were included in the Care and Maltreatment groups. There may be other children that have experienced maltreatment which was never reported to child protection.

Pregnancies among young people in the cohorts are only identified using the Hospital Morbidity Data Collection utilising diagnostic codes related to pregnancy, labour and delivery. Birth Registrations or Midwives Notification data were not available to verify the outcomes (e.g. live births) of the pregnancies/deliveries. However this gave an indication of the level of teenage pregnancies within the group via the hospital morbidity data. Child protection outcomes were only available for mothers who were formerly in out-of-home care, so there was no comparison on the child protection outcomes for other cohorts.

Discussion and conclusions

Overall

The main findings of this study are consistent with the existing international and national literature. Young people who have experienced maltreatment and been in out-of-home care are more likely to have adverse outcomes in the areas of physical health, mental health, education and justice. This was true when comparing those who have been in care to young people with no contact with child protection (matched by socioeconomic status, year of birth, gender and Aboriginality). It was also the case for most outcomes when compared to young people who had experienced maltreatment but did not enter care. Internationally, young people who have been in care are recognised as a vulnerable and disadvantaged group who require support to ameliorate and overcome adverse childhood environments.

Children who enter out-of-home care are a particularly vulnerable group. They will have experienced severe or chronic abuse or neglect, along with other adversities such as living in highly disadvantaged neighbourhoods, parental mental health, substance issues, or domestic violence. They are also more likely to have disabilities, and to be born to young or single parents, and parents with lower levels of education, which can increase the stressors faced by the family (Maclean, Taylor, & O'Donnell, 2016; O'Donnell et al., 2016). Consequently, it can be difficult to separate the effects of being in care from the effects of maltreatment and other adversities. The findings of this report are not intended to assess the effects of out-of-home care on children, but to describe the outcomes for care recipients and provide a comparison with other disadvantaged groups. The results show that young people who have been in care are at high risk of a range of poor outcomes, even compared to other children who have experienced adversities.

The challenges faced by these young people are complex, multifactorial and not easy to resolve. The Department of Communities has a number of initiatives aimed at supporting young people in care, and in the transition out of care, however given the prevalence of poor outcomes, further efforts may be required to increase the likelihood of positive outcomes. Meeting the needs of children with current or past experience of out-of-home care requires commitment from multiple government agencies.

Physical health/mortality

Results indicate that young people who have been maltreated and/or been in care are more likely to have poorer physical health outcomes than other young people. This is consistent with other research which has found that care recipients are overrepresented in statistics of early pregnancy and parenthood, more likely to use/abuse drugs and alcohol, and have mental health disorders (Mendes, Moslehuddin & Goddard, 2008).

During care it is essential that children have comprehensive health and mental health assessments. Research suggests that following care, families and young people may also need support to ensure regular medical checks and the development of a healthy lifestyle including support for health care costs. Sexual education, family planning and easier access to contraception are recommended to help reduce the higher rates of early pregnancies in and following care (Mendes, Moslehuddin & Goddard, 2008; DoH, 2017).

Mental health

Consistent with previous research young people who have been in care have a high rate of contact with mental health services and hospitalisation related to mental health problems (Horwitz et al., 2012; Vinnerljung, Hjern, & Lindblad, 2006). This is both a positive and negative outcome, indicating that while mental health issues appear more prevalent this finding may also suggest that care

recipients are having increased contact with services as a result of referrals for psychological services to receive treatment and support.

Research also indicates that young people involved in child protection may be at higher risk for mental health issues, as often parents who are involved in child protection are more likely to have mental health and substance-related issues (O'Donnell et al., 2015). This has the potential to increase their risk in two ways: firstly that they may be genetically predisposed to certain mental health issues; and secondly, that they have been exposed to adverse social experiences prior to care that increase their vulnerability to mental health issues (O'Donnell et al., 2015). Abuse and neglect can also have substantial effects on young people which will vary by the type of abuse, the severity, duration and frequency, the developmental age at which it occurs as well as who perpetrates the abuse (Kaplow & Widom, 2007).

Education

Results are consistent with the findings of a study in New South Wales that showed young people in out-of-home care generally had lower levels of achievement in the final years of high school than the Department of Education and Training's equity groups[24], yet were not classified as an equity group (Townsend, 2011).

For many children in care, educational difficulties begin early, with 31% of Year 3 students who had entered care in WA performing in the lowest 10% on the National Assessment Program Literacy and Numeracy (NAPLAN) tests between 2008 and 2010 (Maclean, Taylor, & O'Donnell, 2016). A report by the Australian Institute of Health and Welfare (AIHW, 2015b) found children in care were far less likely to achieve NAPLAN National Minimum Standards than children in the general population (between 13–39 percentage points lower across academic domains and year levels). Over time, children in the child protection system often have consistently low achievement from Year 3 to Year 9, or show declines (Maclean, 2016). Furthermore, Aboriginal young people who had a period of care had significantly poorer educational outcomes, lower than non-Aboriginal young people also in care, as well as when compared to Aboriginal young people not in care (Maclean, Taylor and O'Donnell, 2015; Townsend, 2011). The main factors identified as affecting these outcomes were related to their early experiences of abuse and neglect, social disadvantage, together with in care experiences, low school attendance and engagement (Maclean, Taylor and O'Donnell, 2015; Townsend, 2011). Townsend (2011) emphasised the importance of stability in placement, schooling and relationships in supporting children's education.

Justice

As this study indicates, young people in care have the highest proportion of justice involvement of the three cohorts examined. This is so for adult justice involvement but even more so for juvenile involvement. Previous research has found that young people with juvenile justice involvement who have also been in contact with child protection constitute a group with much higher disadvantage, complex needs and poorer outcomes compared to the overall juvenile justice population (Mendes, Baidawi & Snow, 2014). Offending behaviour of these young people can be related to the trauma they have experienced as well as a high rate of recognised neurodevelopmental impairment found in youth in detention (Bower et al, 2018). Consequently, Mendes et al also state that these complex needs cannot be solved by one sector only, and even less in a single point of time in these young

[24] Equity groups include students that: are from non-English speaking backgrounds; have a disability; are women in non-traditional areas; identify as Indigenous; are from low SES locations based on postcode of permanent home residence; and are from regional and remote locations based on permanent home residence.

people's lives, and the issues should be addressed with a holistic perspective (Mendes, Baidawi & Snow, 2014).

Aboriginal young people generally are over represented in the juvenile justice system and this over-representation is also mirrored in Aboriginal young people who have been involved with child protection and who have contact with juvenile justice. The current study shows that 60% of Aboriginal youth who had a period of care had at least one juvenile community-based sentence and 35% had at least one juvenile detention, compared to 27% and 13% of non-Aboriginal youth from the same group respectively. Doolan et al. (2012) found that the overrepresentation of Aboriginal young people in the juvenile justice system and youth detention cannot be attributed only to their greater socioeconomic disadvantage or to their past experience of maltreatment. The authors suggested that there are also other factors explaining Aboriginal young people's higher rate of involvement with the youth justice system. For example, it is possible that they may come to the attention of police due to discrimination; or they may have less parental monitoring or family supervision (Doolan et al., 2012). There are also systemic issues regarding the intersection between juvenile justice and child protection with research indicating that due to young people in care not having stable or secure accommodation, they are denied bail pending trial or receiving a non-custodial sentence in the community (Cashmore, 2011).

There are a number of challenges for young people who have had a period in care and who have contact with the juvenile justice system. Mendes, Baidawi & Snow (2014) have discussed factors which contribute to the over-representation of young people with a period of care in the justice system including trauma and substance misuse, school exclusion and family involvement in the justice system. They also highlighted where there are opportunities to reduce the poor outcomes for young people involved in the justice and care system. These include recognising and responding through early intervention to learning difficulties and challenging trauma-related behaviours of young people to enable greater educational engagement and placement stability with carers who are supported in managing behaviour. There are challenges in implementing a holistic approach across child protection and youth justice to ensure young people receive the necessary support, planning and provision of services for leaving care. There are a high number of young people with developmental disabilities in the justice and care system therefore they require extra supports to manage their transition to independence (Bower et al, 2018; Maclean et al., 2017). Mendes et al (2014) also highlight the need to develop effective diversionary options for young people that focus on early intervention for justice involved young people in care, as well as suitable housing options.

Early parenthood

The research literature indicates that care recipients are overrepresented in early pregnancies and parenthood. Similarly, the current study found that the proportion of young females in contact with child protection who had a delivery admission was more than double the proportion of those with no contacts. Almost 30% of young females who had a period of care were confirmed to have had a child during the follow-up period (<24 years of age). This finding is consistent with a 2006 Australian study by Disney and Associates which estimates that 24% of care leavers had children soon after leaving care (Mendes, 2009).

Cashmore and Paxman (2007) found that young mothers in care or those who have left out-of-home care were more disadvantaged than those who did not have children. They had double the number of placements of other young women with no children, they were more likely to move more often after leaving care, have had contact with juvenile justice, and less likely to have finished secondary education (Cashmore and Paxman, 2007).

There is a need to ensure sexual education and family planning is available to care leavers, along with mentoring and support for young parents, and strategies to engage young fathers in the parenting process. In many cases, care leavers miss out on this type of education due to low school attendance and/or engagement, not accessing basic information regarding safe sexual relationships and contraception methods (Mendes, 2009). Qualitative research has identified that relational difficulties or disconnectedness from family and a desire to be loved, along with uncertainty about life after exiting care, may also contribute to high pregnancy rates among this group (Pryce & Samuels, 2010). Counselling and family planning initiatives may therefore need to address emotional issues and motivation as well as increasing knowledge to avoid pregnancy.

Addressing the needs of care leavers who are young parents is essential given that they appear to be highly likely to be in contact with child protection for their own children. The current study found that almost a quarter of the children born to a mother who had a period of care were also placed in out-of-home care. This shows evidence of the inter-generational cycle of families in the care system and provides a critical point of intervention to prevent this cycle from continuing.

Being a young parent is inherently challenging, and a risk factor for child protection involvement (O'Donnell, Maclean, Sims, Brownell, Ekuma & Gilbert, 2016). This is exacerbated for young women who have been in care, who also often lack family support and positive parenting role models from their own parents (Pryce & Samuels, 2010), as well as experience mental health problems, and lack educational qualifications, as described in this report.

Extensive support including counselling, parenting education and social and practical support are required to enable these young women to become the parents they aspire to be rather than repeat cycles of maltreatment (Mendes, 2009; Pryce & Samuels, 2010). Young mothers have a greater risk for health issues during pregnancy and their babies have poorer birth outcomes which are also influenced by the fact that that younger mothers tend to come from more adverse backgrounds and are more likely to smoke during pregnancy (Hoffmann and Vidal, 2017). However research does indicate that pregnancy offers a unique motivation to lead a healthier lifestyle such as reduced drug use (Quinlivan and Evans, 2002). Outcomes for children of young parents tend to be poorer and therefore comprehensive interventions pre and post-birth are essential to support young parents to address issues of health, wellbeing, adversity, education/employment, and parenting (Hoffman and Vidal, 2017).

Co-occurring 'poor' outcomes in the Care group

Child maltreatment can lead to a large range of consequences in children and young people. Research suggests that different types of abuse and neglect are related to different adverse outcomes, and chronic and multiple incidents of maltreatment increase the risk of having severe consequences.

Longitudinal studies in Australia have suggested that young people leaving care are not a homogenous group, some doing well, and some doing better or worse than before leaving care (Cashmore & Paxman, 2007; Mendes, Johnson and Moslehuddin, 2011). Their outcomes after leaving care depend on a "complex interaction of factors" related to their experiences before, during care, and during their transition out of care.

It important to note that not all children or young people leaving care experience poor outcomes as adults. Many may have had a good in care experience, with supportive and stable placements and positive relationships that enabled them to overcome the traumatic experiences faced in the past (Mendes & Snow, 2016).

For this study, care recipients with mental health contacts and/or admissions, drug and alcohol admissions, and adult justice involvement were considered a more vulnerable group, at higher risk of persistent disadvantage. Close to one third of the young people from the Care group experienced at least one of these outcomes, and 3% had experienced all of them.

Conclusion

Children and young people who have been in out-of-home care are a highly vulnerable and disadvantaged group. Their pre-care histories often include abuse or neglect, along with high levels of social disadvantage (Maclean, Taylor & O'Donnell 2015). In-care experiences such as placement instability, relationship and schooling disruption may further increase the risk of negative after-care outcomes such as poor housing, social isolation, young parenting, mental health disorders and unemployment (Rahamim & Mendes, 2016). For many young people, the cumulative impact of adversities before entering care, while they are in care, or after leaving care affect their transition into adulthood (Beauchamp, 2014).

The impact of maltreatment and child protection involvement will vary for each young person. Young people in care will each have: different pre-care histories and social circumstances; type, severity, duration and frequency of abuse and neglect; care experiences including type of care, length of time in care, and number of placements (Gilbert et al, 2009; Maclean, Taylor, & O'Donnell, 2017). Consequently, the supports and services they need in order to successfully transition to adulthood will vary. Previous research indicates that young people who have not had stable care or who lack secure social networks after leaving care will be at risk of poor outcomes (Cashmore & Paxman, 2007). Our findings also indicate that young people who have had multiple placements are more likely to have poorer outcomes, having close to 1.5 times higher odds of having poorer outcomes than other children in care (refer to section 8.2).

In addition to the pre-care, during and post care risk factors mentioned above, Aboriginal children with child protection involvement are more likely to have poorer outcomes. Furthermore, Aboriginal children are over represented among young people involved with the child protection system in WA at a rate of eleven times higher than non-Aboriginal children. Once they leave care they suffer similar disadvantage to other children, but this is exacerbated due to intergenerational trauma arising from the consequences of past policies of child removals, resulting in even deeper disadvantage (Mendes, Saunders & Baidawi, 2016). Support for Aboriginal care leavers is essential and requires interagency and community engagement to ensure that support provided to Aboriginal care leavers is not only appropriate for young people's needs but is also culturally secure and safe.

In Western Australia, children are most likely to leave care between the ages of 10-14. In 2014-15 this was 28% of care leavers, with the majority (78%) of children leaving care in WA being under the age of 15 years[25]. Given the high proportion of young people leaving care earlier, before formal leaving care planning begins at the age of 15, planning and support for reunification with their family or carer is essential.

International research also supports the view that care leavers require support beyond the age of 18. The cessation of care, selected at the chronological age of 18 years, produces a large gap in support for this group who are often not ready by this age for the full responsibilities of an independent life. This is clear when statistics on the broader community show that 60% of young Australians aged 18-24 years of age live with their parents (AIHW, 2015a). The substantial reduction in formal support and the discretional governmental post-care support needs to shift towards ongoing programs directed to support this group in their transition to an adult life.

[25] Similarly, in this report, over 65% of children from the Care group left care before the age of 15.

The *National Framework for Protecting Australian's Children* reported that, in Australia in 2016, close to 30% of young people leaving care aged between 15 and 17 years didn't have a current and approved care plan (AIHW, 2017c). These results highlight the necessity of better leaving-care planning to ensure that young people's needs are addressed (McDowall, CREATE foundation 2013). Rahamim and Mendes (2016) suggest that young people leaving out-of-home care are in need of policies with a holistic approach, where the support is provided at a systemic level. They emphasised the need for collaborative work of all agencies to improve their support and address care leavers' needs in housing, education, employment and mental health (Rahamim & Mendes, 2016). Economic analysis does indicate that an investment in these young people will improve outcomes and reduce the costs associated with detrimental outcomes in the future (Deloitte, 2016).

Maltreated children, whether they have required a period in out-of-home care or not, are an at-risk group of young people. While the Department of Communities has a lead role in promoting the safety and wellbeing of young people at risk, in addition to its statutory services, this responsibility is shared with other government agencies, community services sector organisations and the broader community. Reduced fragmentation of funding and better coordination and delivery of services across government and with community sector organisations, particularly at the local level, may improve the life outcomes for this group.

Finally, further analysis of outcomes by time spent in care, age on leaving care, and main or final placement type is needed to explain the differences between the Care and Maltreatment groups. Repeat analysis of the Care group when more follow-up time has elapsed would also be beneficial, as would the acquisition of additional data sets such as income support, tertiary education, housing and employment outcomes. Furthermore, research into outcomes of a subsequent cohort of children, who have been in care under more contemporary policies, would enable comparison with the results of this study and a better measure of the effectiveness of policies introduced or enhanced in more recent years.

Acknowledgements

This report was prepared by Fernando Lima, Dr Miriam Maclean and Dr Melissa O'Donnell, with assistance from Kaija Pay (Department of Communities – Department for Child Protection and Family Support). We would like to thank the WA Data Linkage Branch for linking the data, the government agencies for providing the data, and the citizens of WA for the use of their de-identified administrative data. This paper does not necessarily reflect the views of the government departments involved in this research.

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Appendices

Appendix A: Additional tables

This section summarises the information contained in all the figures included in the report:

Section: Methodology

Table 1 (Figure 1). Proportion of young people followed up by age.

	Care group		Maltreatment group		Control group	
	N	%	N	%	N	%
18*	1985	100.0%	2738	100.0%	9801	100.0%
19	1582	79.7%	2364	86.3%	7867	80.3%
20	1151	58.0%	1895	69.2%	5752	58.7%
21	801	40.4%	1393	50.9%	3964	40.4%
22	456	23.0%	885	32.3%	2329	23.8%
23	160	8.1%	335	12.2%	811	8.3%

*Using 18 year olds as a reference group

Section: Demographics

Table 2. Demographics 18 years and older.

	Care group		Maltreatment group		Control group	
	N	%	N	%	N	%
N	1,985	-	2,738	-	9,801	-
Gender						
Male	981	49.4%	1,111	40.6%	4,852	49.5%
Female	1,004	50.6%	1,627	59.4%	4,949	50.5%
Aboriginality						
Non-Aboriginal	1,392	70.1%	2,029	74.1%	6,950	70.9%
Aboriginal	593	29.9%	709	25.9%	2,851	29.1%
*Socioeconomic disadvantage***						
1 (low disadvantage)	686	34.6%	1,019	37.4%	3,414	34.8%
2	456	23.0%	582	21.4%	2,252	23.0%
3	321	16.2%	441	16.2%	1,575	16.1%
4	337	17.0%	437	16.0%	1,683	17.2%
5 (high disadvantage)	181	9.1%	245	9.0%	877	8.9%
Maternal age						
<20 years	453	22.8%	612	22.4%	1,042	10.6%
20-29 years	1,160	58.4%	1,579	57.7%	5,595	57.1%
30-39 years	351	17.7%	522	19.1%	3,057	31.2%
>39 years	21	1.1%	25	0.9%	107	1.1%

*The Maltreatment group differs from the other groups on gender distribution and Aboriginality as this group was not matched, and this should be taken into account when interpreting the outcomes.

**There were four children in the Care group and 14 in the Maltreatment group with no records for socioeconomic status.

***The Care and Control groups differ on maternal age as this was not matched for in control selection.

Section: Physical Health

Table 3 (Figure 3). Percentage of young people with hospital admissions by major diagnostic groups (ICD-10-AM), 18 years and older.

Diagnostic groups (ICD-10-AM)	Care group		Maltreatment group		Control group	
	N	%	N	%	N	%
Infections/Communicable diseases	41	2.1%	53	1.9%	108	1.1%
Neoplasms- malignant/benign	11	0.6%	14	0.5%	67	0.7%
Endocrine, nutritional, and metabolic diseases and diseases of the blood	18	0.9%	20	0.7%	72	0.7%
Mental and behavioural disorders	178	9.0%	144	5.3%	192	2.0%
Diseases of the nervous system	21	1.1%	21	0.8%	53	0.5%
Diseases of the eye and ear	10	0.5%	14	0.5%	32	0.3%
Diseases of the circulatory, respiratory, digestive systems	153	7.7%	263	9.6%	950	9.7%
Diseases of the skin or musculoskeletal system	88	4.4%	116	4.2%	306	3.1%
Diseases of the genitourinary system	66	3.3%	92	3.4%	184	1.9%
Pregnancy, childbirth and the puerperium	307	15.5%	481	17.6%	760	7.8%
Congenital malformations, deformations, and chromosomal abnormalities	7	0.4%	6	0.2%	17	0.2%
Symptoms, signs and abnormal clinical and lab findings, not elsewhere classified	81	4.1%	102	3.7%	221	2.3%
Injury and poisoning	255	12.8%	334	12.2%	646	6.6%
Factors influencing health status and contact with health services	62	3.1%	77	2.8%	183	1.9%

Note: Totals by cohort do not add up because the same people can have more than one diagnosis.

Section: Mental health

Table 4 (Figure 4). Proportion of young people by major mental health diagnostic group**,** 18 years and older.

Major MH diagnosis	Care group		Maltreatment group		Control group	
	N	%	N	%	N	%
Organic disorder	5	0.3%	<5	0.1%	<5	0.0%
Substance-related disorder	164	8.3%	145	5.3%	232	2.4%
Schizophrenia disorder	29	1.5%	22	0.8%	42	0.4%
Mood disorder	56	2.8%	69	2.5%	68	0.7%
Stress-related disorder	96	4.8%	96	3.5%	113	1.2%
Personality disorder	45	2.3%	32	1.2%	18	0.2%
Intellectual disability	14	0.7%	<5	0.1%	<5	0.0%
Disorders of childhood and psychological development	17	0.9%	18	0.7%	8	0.1%
Other disorder	9	0.5%	13	0.5%	16	0.2%

Note: Totals by cohort do not add up because the same people can have more than one diagnosis.

Section: Education

Table 5 (Figure 5). Percentage of young people who achieve WACE by Aboriginality and gender.

	Care Group		Maltreatment Group		Control group	
	N	**%**	**N**	**%**	**N**	**%**
Achieve WACE	356	17.8%	622	22.5%	4,619	46.4%
Non-Aboriginal	311	22.2%	578	28.2%	4,027	57.5%
Aboriginal	45	7.50%	44	6.2%	592	20.0%
Male	149	15.0%	202	17.9%	2,047	41.5%
Female	207	20.5%	420	25.7%	2,572	51.2%

Table 6 (Figure 6). Percentage of young people who achieved a VET qualification, by Aboriginality and gender

	Care group		Maltreatment group		Control group	
	N	**%**	**N**	**%**	**N**	**%**
Achieve VET	268	13.4%	371	13.4%	1,825	18.3%
Non-Aboriginal	216	15.4%	326	15.9%	1,404	20.1%
Aboriginal	52	8.7%	45	6.3%	421	14.2%
Male	121	12.2%	136	12.1%	926	18.8%
Female	147	14.6%	235	14.4%	899	17.9%

Section: Children of cohort

Table 7 (Figure 7). Number and percentage of children, by level of child protection involvement.

	Children		Mothers	
	N	**%**	**N**	**%**
Total children	513	100%	287	100%
CP involvement				
Notifications	369	72%	205	71%
investigations	328	64%	185	64%
Substantiations	204	40%	119	41%
Out-of-home care	125	24%	72	25%

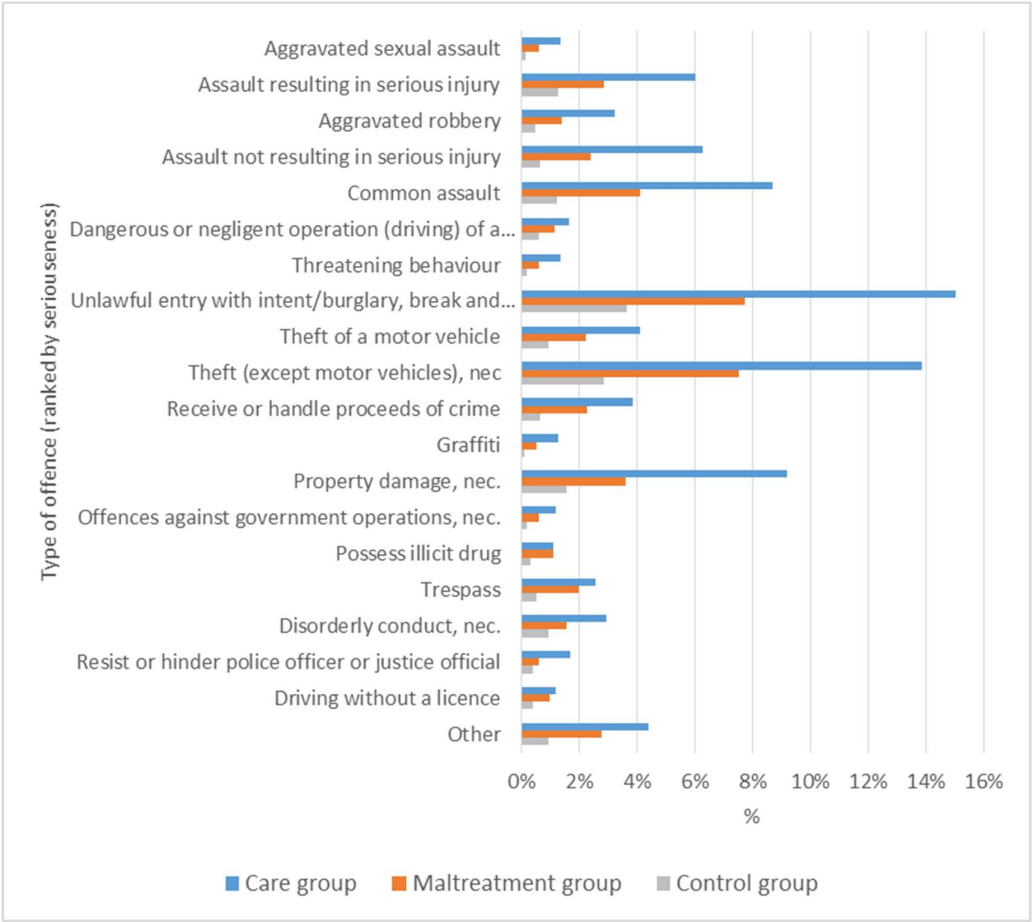
Table 8 (Table 24). Number and percentage of young people by co-occurrence of 'poorer outcomes' after 18 years of age.

Co-occurring outcomes	**N**	**%**
Mental health contact only	313	49.7
Mental health contact and mental health admission	79	12.5
Justice contact only	71	11.3
Justice contact and mental health contact	67	10.6
Mental health contact, mental health admission and alcohol and drug admission	42	6.7
Justice contact, mental health contact, mental health admission and alcohol and drug admission	21	3.3
Justice contact, mental health contact and mental health admission	13	2.1
Mental health admission only	12	1.9
Mental health admission and alcohol and drug admission	8	1.3
Mental health contact and alcohol and drug admission	<5	0.2
Justice contact and mental health admission	<5	0.2
Justice contact, mental health admission and alcohol and drug admission	<5	0.3
Total	630	100

Appendix B: Justice involvement. Type of offence

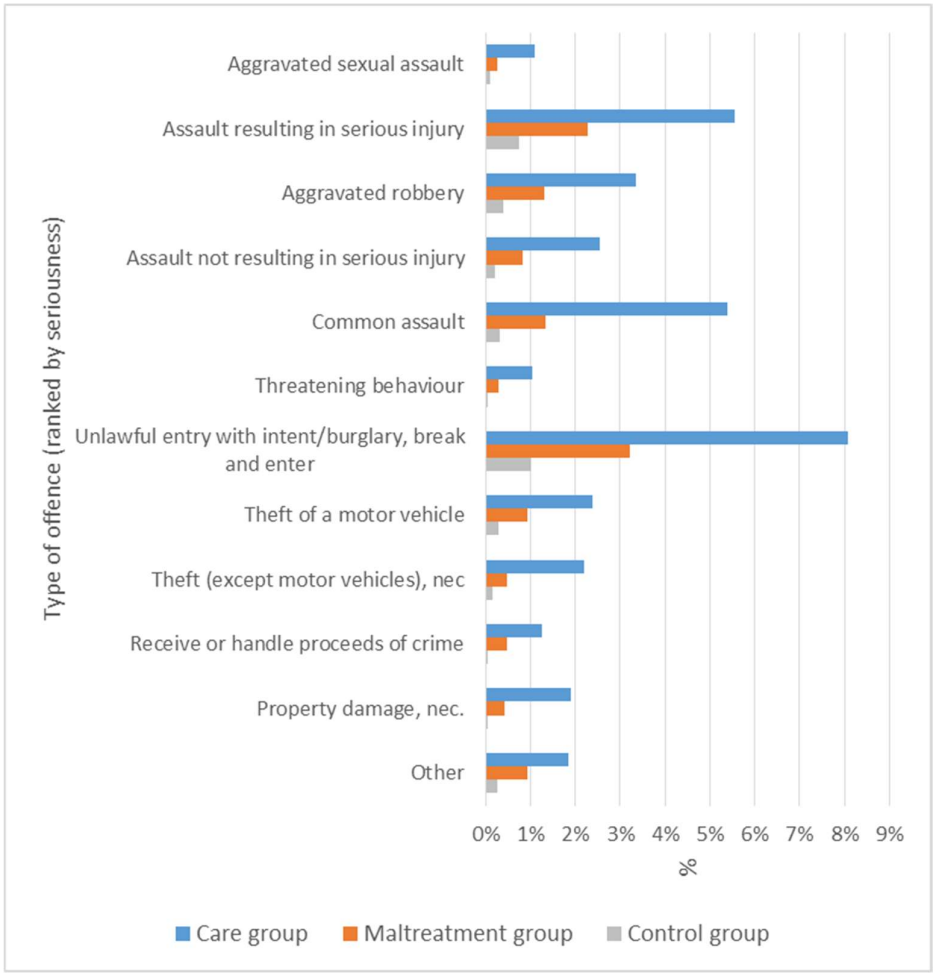
The figures below display the percentage of young offenders who had contact with the Department of Justice (juvenile community-based sentences, juvenile detention, adult community-based sentences and adult imprisonment, respectively) by type of offence, classified by the Australian Standard Offence Classification 2008 (ASOC 08), and ranked by seriousness of the offence according to the National Offence Index 2009 (NOI 09).

Figure 1. Percentage of young people who had a juvenile community-based sentence under 18 years of age, by type of offence* (ranked by seriousness).



*Includes only those types of offence which represented at least 1% of the Care group.
Note: Totals by cohort do not add up because the same people can be sentenced to more than one type of offence.

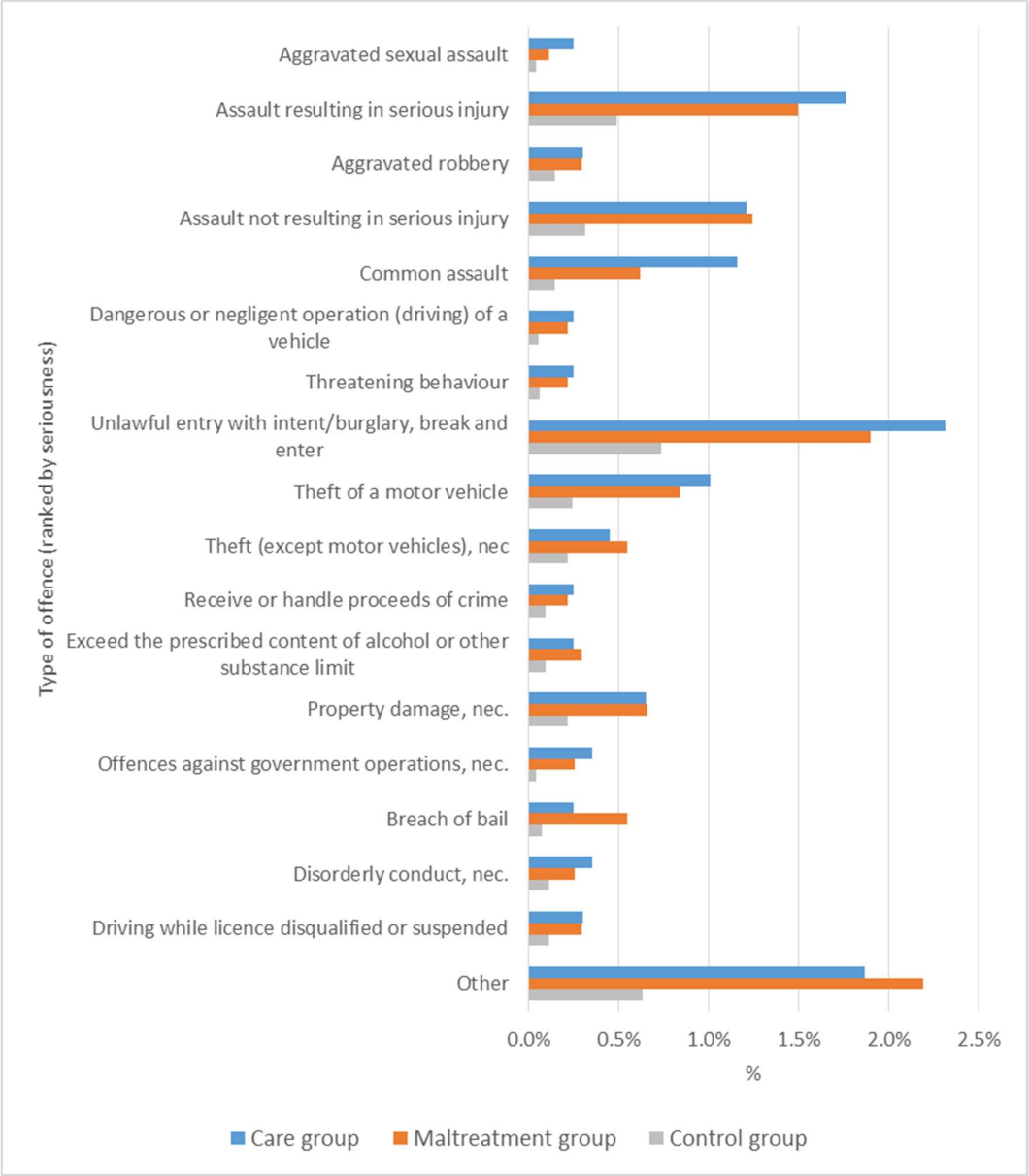
Figure 2. Percentage of young people who had a detention under 18 years of age by type of offence* (ranked by seriousness)



*Includes only those types of offence which represented at least 1% of the Care group.

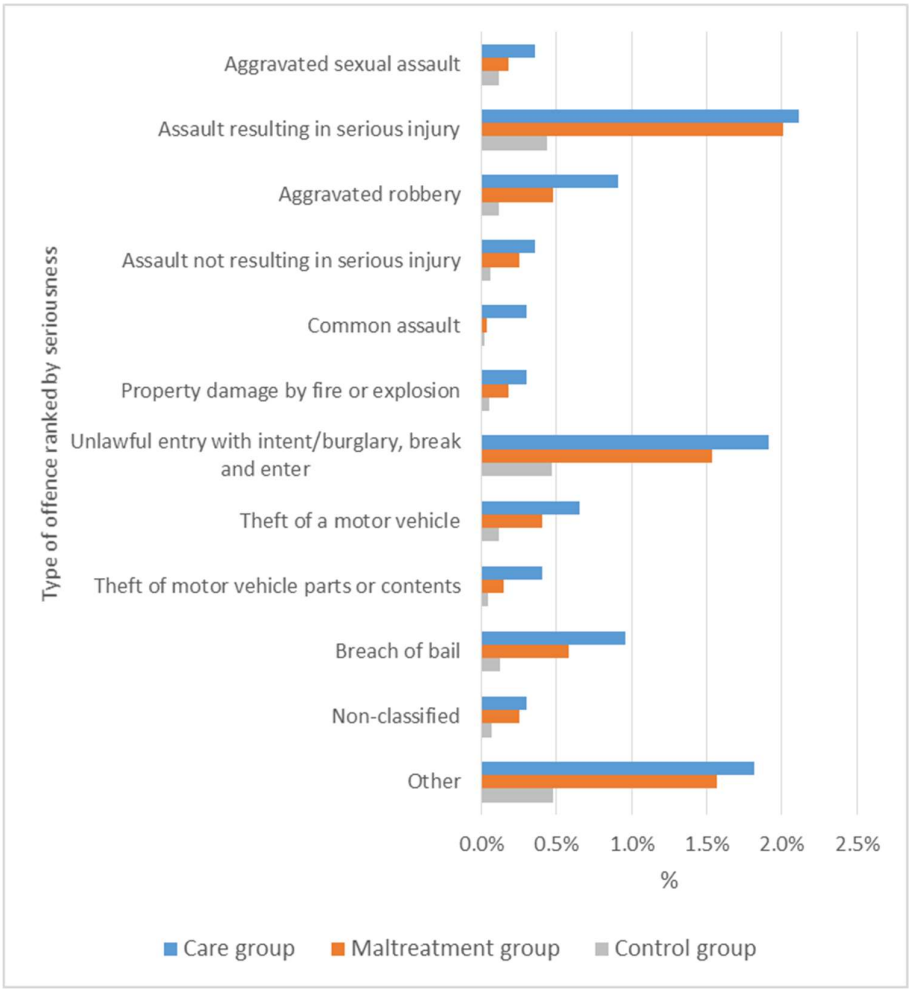
Note: Totals by cohort do not add up because the same people can be detained for more than one type of offence

Figure 3. Percentage of young people who had an adult community-based sentence at 18 years and older, by type of offence (ranked by seriousness).



Note: Totals by cohort do not add up because the same people can be sentenced to more than one type of offence

Figure 4. Percentage of young people with an imprisonment aged 18 years and older, by type of offence (ranked by seriousness).



Note: Totals by cohort do not add up because the same people can be imprisoned for to more than one type of offence

The tables below summarise the information in the figures above.

Table 1 (Figure 1). Percentage of young people who had a juvenile community-based sentence under 18 years of age, by type of offence (ranked by seriousness).

Type of offence	Care group		Maltreatment group		Control group	
	N	%	N	%	N	%
Aggravated sexual assault	27	1.3%	16	0.6%	15	0.2%
Assault resulting in serious injury	121	6.0%	79	2.9%	126	1.3%
Aggravated robbery	65	3.2%	38	1.4%	46	0.5%
Assault not resulting in serious injury	126	6.3%	66	2.4%	65	0.7%
Common assault	174	8.7%	113	4.1%	123	1.2%
Dangerous or negligent operation (driving) of a vehicle	33	1.6%	31	1.1%	58	0.6%
Threatening behaviour	27	1.3%	16	0.6%	17	0.2%
Unlawful entry with intent/burglary, break and enter	301	15.0%	214	7.8%	361	3.6%
Theft of a motor vehicle	82	4.1%	62	2.2%	95	1.0%

Theft (except motor vehicles), not elsewhere classified (nec)	278	13.9%	208	7.5%	286	2.9%
Receive or handle proceeds of crime	77	3.8%	63	2.3%	62	0.6%
Graffiti	25	1.2%	14	0.5%	11	0.1%
Property damage, nec.	184	9.2%	99	3.6%	157	1.6%
Offences against government operations, nec.	24	1.2%	17	0.6%	20	0.2%
Possess illicit drug	22	1.1%	30	1.1%	31	0.3%
Trespass	51	2.5%	55	2.0%	51	0.5%
Disorderly conduct, nec.	59	2.9%	43	1.6%	91	0.9%
Resist or hinder police officer or justice official	34	1.7%	17	0.6%	38	0.4%
Driving without a licence	24	1.2%	27	1.0%	40	0.4%
Other	88	4.4%	77	2.8%	95	1.0%

*Includes only those types of offence which represented at least 1% of the Care group.

Table 2 (Figure 2). Percentage of young people who had a detention under 18 years of age by type of offence (ranked by seriousness)

Type of offence	Care group		Maltreatment group		Control group	
	N	%	N	%	N	%
Aggravated sexual assault	22	1.1%	7	0.3%	11	0.1%
Assault resulting in serious injury	111	5.5%	63	2.3%	75	0.8%
Aggravated robbery	67	3.3%	36	1.3%	39	0.4%
Assault not resulting in serious injury	51	2.5%	23	0.8%	22	0.2%
Common assault	108	5.4%	37	1.3%	32	0.3%
Threatening behaviour	21	1.0%	8	0.3%	5	0.1%
Unlawful entry with intent/burglary, break and enter	162	8.1%	89	3.2%	102	1.0%
Theft of a motor vehicle	48	2.4%	26	0.9%	30	0.3%
Theft (except motor vehicles), nec	44	2.2%	13	0.5%	16	0.2%
Receive or handle proceeds of crime	25	1.2%	13	0.5%	<5	0.0%
Property damage, nec.	38	1.9%	12	0.4%	5	0.1%
Other	37	1.8%	26	0.9%	25	0.3%

*Includes only those types of offence which represented at least 1% of the Care group.

Table 3 (Figure 3). Percentage of young people who had an adult community-based sentence at 18 years and older, by type of offence (ranked by seriousness).

Type of offence	Care group		Maltreatment group		Control group	
	N	%	N	%	N	%
Aggravated sexual assault	5	0.3%	<5	0.1%	<5	0.04%
Assault resulting in serious injury	35	1.8%	41	1.5%	48	0.5%
Aggravated robbery	6	0.3%	8	0.3%	14	0.1%
Assault not resulting in serious injury	24	1.2%	34	1.2%	31	0.3%
Common assault	23	1.2%	17	0.6%	14	0.1%
Dangerous or negligent operation (driving) of a vehicle	5	0.3%	6	0.2%	5	0.1%
Threatening behaviour	5	0.3%	6	0.2%	6	0.1%
Unlawful entry with intent/burglary, break and enter	46	2.3%	52	1.9%	72	0.7%
Theft of a motor vehicle	20	1.0%	23	0.8%	24	0.2%
Theft (except motor vehicles), nec	9	0.5%	15	0.5%	21	0.2%

Receive or handle proceeds of crime	5	0.3%	6	0.2%	9	0.1%
Exceed the prescribed content of alcohol or other substance limit	5	0.3%	8	0.3%	9	0.1%
Property damage, nec.	13	0.7%	18	0.7%	21	0.2%
Offences against government operations, nec.	7	0.4%	7	0.3%	<5	0.0%
Breach of bail	5	0.3%	15	0.5%	7	0.1%
Disorderly conduct, nec.	7	0.4%	7	0.3%	11	0.1%
Driving while licence disqualified or suspended	6	0.3%	8	0.3%	11	0.1%
Other	37	1.9%	60	2.2%	62	0.6%

Table 4 (Figure 4). Percentage of young people with an imprisonment aged 18 years and older, by type of offence (ranked by seriousness).

Type of offence	**Care group**		**Maltreatment group**		**Control group**	
	N	**%**	**N**	**%**	**N**	**%**
Aggravated sexual assault	7	0.4%	5	0.2%	11	0.1%
Assault resulting in serious injury	42	2.1%	55	2.0%	43	0.4%
Aggravated robbery	18	0.9%	13	0.5%	11	0.1%
Assault not resulting in serious injury	7	0.4%	7	0.3%	6	0.1%
Common assault	6	0.3%	<5	0.0%	<5	0.0%
Property damage by fire or explosion	6	0.3%	5	0.2%	5	0.1%
Unlawful entry with intent/burglary, break and enter	38	1.9%	42	1.5%	46	0.5%
Theft of a motor vehicle	13	0.7%	11	0.4%	11	0.1%
Theft of motor vehicle parts or contents	8	0.4%	<5	0.1%	<5	0.0%
Breach of bail	19	1.0%	16	0.6%	12	0.1%
Non-classified	6	0.3%	7	0.3%	7	0.1%
Other	36	1.8%	43	1.6%	47	0.5%

Acronyms

AIHW: Australian Institute of Health and Welfare

ATAR: Australian Tertiary Admission Rank

CPFS: Department of Communities Child Protection and Family Support

HMDC: Hospital Morbidity Data Collection

ICD-10-AM: International Classification of Diseases, 10th edition, Australian Modification

MH: mental health

MHIS: Mental Health Information System

MHS: Mental Health Services

NAPLAN: National Assessment Program Literacy and Numeracy

NEC: not elsewhere classified

VET: vocational education and training

WA: Western Australia

WACE: Western Australian Certificate of Education

Glossary

Admission rate per person-year: this measure is calculated as the average per year of the total number of admissions divided by the total number of people in the cohort.

Admitted patient: a patient who undergoes a documented hospital admission process to receive treatment and/or care for a period of time (minimum 4 hours for medical admissions).

Care group: all children born in WA between 1 January 1990 and 30 June 1995 who had a period in care greater than one day.

Community-based sentence: these sentences allow the person to live in their usual home and continue attending school, training or work. They typically imply the person must meet regularly with a justice officer, attend certain programs to address their offending behaviour or undertake some community work.

Control group: children born between 1 January 1990 and 30 June 1995 who had no contact with WA child protection services. These were matched to the Care group (at a 5:1 ratio) on socioeconomic characteristics at birth, year of birth, gender and Aboriginality. The purpose of this matching was to provide a suitable comparison group with similar demographic characteristics to the Care group.

Hospital admission rates: the number of hospitalisations a person had on average in one year (calculated as the average number of admissions per person-year).

Infants: children aged under 1 year.

Juvenile: a person aged between 10 and 17 years of age, inclusive.

Maltreatment: types of substantiated maltreatment included neglect, emotional abuse, physical abuse, sexual abuse, and 'non-classified'.

Maltreatment group: all children born in WA between 1 January 1990 and 30 June 1995 who had a substantiated maltreatment allegation but had never been in care.

Mental health and behavioural disorders: include mood disorders, stress-related disorders, and disorders of psychological development.

Mental health service contact: includes outpatient contacts for public hospitals/clinics, as well as inpatient contacts for the public and private hospitals. GPs or private practitioner contacts not included.

Mental illness: a condition that is characterised by a disturbance of thought, mood, volition, perception, orientation or memory; and significantly impairs (temporarily or permanently) the person's judgment or behaviour.

Mortality rates per 10,000 person-year: this measure describes the number of deaths that occurred on average in one year over a standard population of 10,000 people, which provides better comparison between groups.

Out-of-home care: the provision of care arrangements outside the family home to children who are in need of protection and care.

'Poorer' outcomes: refers to one or more outcomes including hospital admission for mental and behavioural disorders, hospital admission associated with drugs and alcohol, mental health service contacts, and/or adult community-based sentence or imprisonment.

Stress-related disorders: includes anxiety, phobias, obsessive-compulsive disorder, post-traumatic stress and adjustment disorders.

University-bound: high-school students enrolled in at least four Australian Tertiary Admission Rank courses.