From:
To: Community Affairs, Committee (SEN)
Subject: Additional information: Effective approaches to prevention, diagnosis and support for FASD - 10 March 2021
Date: Friday, 12 March 2021 1:58:35 PM
Attachments:

Good afternoon:

Please find attached additional information as per the transcript from 10 March 2021
P 24 *The Social and Economic Costs and harms of alcohol consumption in the Northern Territory* (full report attached)
P24 *Investigating the introduction of the alcohol minimum unit price in the Northern Territory (*Summary report attached)
P25 – questions about numbers diagnosed with FASD in youth detention and in the court process – This information is not available within current data collection systems.
P27 – progress report on transforming youth service systems (Full report attached)
P28 – Information about educational supports – Overview provided in the *Generational Change Impact Report* (attached)

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SOUTH AUSTRALIAN CENTRE FOR ECONOMIC STUDIES | THE UNIVERSITY of ADELAIDE

The social and economic costs and harms of alcohol consumption in the Northern Territory

February 2019

Prepared by
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Peter d'Abbs

The social and economic costs and harms of alcohol consumption in the Northern Territory

This report was commissioned by the Northern Territory Government. It was prepared as a partnership between Menzies School of Health Research and the South Australian Centre for Economic Studies based at the University of Adelaide.

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Acronyms

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
BITRE	Bureau of Infrastructure Transport and Regional Economics
DAGJ	NT Department of Attorney-General and Justice
DOH	NT Department of Health
DUMA	Drug Use Monitoring in Australia
FASD	Fetal Alcohol Spectrum Disorder
Menzies	Menzies School of Health Research
NDSHS	National Drug Strategy Household Survey
NDRI	National Drug Research Institute
NHMRC	National Health and Medical Research Council
NPV	Net Present Value
NT	Northern Territory
NTG	Northern Territory Government
OECD	Organisation for Economic Cooperation and Development
PAAF	Population Alcohol Attributable Fraction
SACES	South Australian Centre for Economic Studies
WHO	World Health Organisation

Executive Summary

The costs and harms of alcohol consumption in Australia are well documented, significant and have impacts across society including premature deaths, heavy use of the health system, high rates of crime (particularly violent crime and antisocial behaviour), child abuse and neglect, and road crashes (AIHW 2018a).

Historically, the per capita costs and harms of alcohol consumption in the Northern Territory (NT) have been the highest in the nation. The last time a comprehensive analysis of the nature of these costs was estimated was in 2009, based on consumption data from 2004/05 (SACES 2009; Skov et al 2010). At that time, the total social cost of alcohol in the NT in 2004/05 was estimated to be $642 million (SACES 2009). On a per capita basis, this was more than four times the comparable national level.

In an effort to provide a more robust study, an alternative quantitative methodology has been used which draws on new ways to estimate social costs. To ensure currency, the statistical analysis draws on data from 2015/16, unless specified otherwise.

While alcohol consumption in the NT appears to have decreased slightly over the past decade, this report shows that the costs and harms associated with alcohol consumption have not. Indeed, the scale of the harm has continued to increase.

At a population level it is now estimated that the total social cost of alcohol in 2015/16 was $1,386.8 million, with **tangible costs of $701.3 million**, and **intangible costs of $685.5 million** (excluding the lost quality of life due to addiction amongst dependent drinkers and the family members of dependent drinkers – the magnitudes of which are less certain but likely to be very substantial).

At an individual level the estimated total social cost of alcohol in 2015/16 was $3,832.19 in tangible costs per adult resident of the Northern Territory, with intangible costs imposing a further cost of $3,745.75 per adult. **This equates to a total estimated impact of $7,577.94 per adult** (excluding the costs of alcohol dependence to the dependent drinker and their family).

At a population level total costs of premature mortality equate to $785,537,761 including both tangible and intangible costs.

A summary of the tangible costs includes:

- **Total health costs equate to $100,177,195**
- **Total road crash costs equate to $57,626,900** (excluding mortality and hospital separations)
- **Total quantifiable costs of crime equate to $272,577,240**
- **Total child protection costs equate to $170,912,745**

The most significant intangible costs are:

- **Intangible costs of premature death of $652.5 million**
- **Intangible costs of permanent impairment from road crash injuries of $17.1 million**
- **Intangible costs of crime** (e.g. pain and suffering, reduced feeling of safety) **of $15.9 million**

In addition, the following estimations have been made regarding the impact of alcohol on the Northern Territory in 2015/16:

- There were an estimated 141.9 net premature deaths caused by alcohol.
- Crime caused by alcohol accounted for $75.9 million of police time while the total costs of alcohol attributable crime are just under $142 million.
- Alcohol is estimated to be responsible for between 4.5 per cent and 11 per cent of cases of child abuse and neglect, creating costs of $8 million to $20 million in increased child protection spending by the NT Government, and imposing lifetime costs of $62 million to $384 million on the victims of child abuse and neglect.
- Almost fifty per cent of road crash deaths, and twenty per cent of serious injury crashes are attributable to alcohol.

The 2004/05 estimate of $642 million, when adjusted for inflation over the intervening period using the Australian Bureau of Statistics(ABS) Consumer Price Index, is equivalent to $844.4 million in 2015/16[1]. The new estimate therefore represents an increase in real costs of 64.2 per cent.

However, the two figures are not directly comparable, partly because of changed understandings about the impact of alcohol and more sophisticated approaches to measurement, and partly because of a range of additional factors, including:

- Increases in the real costs of most NT Government (NTG) services impacted by alcohol, particularly police and prisons
- The inclusion of child protection costs in the current report (this was not included in the 2004/05 estimates)
- An increase in net deaths attributable to alcohol from 94.9 in 2004/05 to 141.9 in 2015/16
- Improved methodologies for valuing the intangible costs of death and disability.

[1] Australian Bureau of Statistics Consumer Price Index Calculator www.abs.gov.au/websitedbs/d3310114.nsf/home/Consumer+Price+Index+Inflation+Calculator .

Chapter 1: Introduction

1.1 Background

The costs and harms of alcohol consumption in Australia have been well documented by the Australian Institute of Health and Welfare (AIHW 2018a). While the National Health and Medical Research Council (NHMRC) are currently reviewing the *Australian Guidelines for to Reduce Health Risks from Drinking Alcohol* (NHMRC 2018), the latest global evidence suggests there is no safe level of alcohol consumption (Griswold et al. 2018). The negative effects on the health and wellbeing of our society far outweigh its benefits (AIHW 2018a; Griswold et al. 2018; Daube & Stafford 2016; Commonwealth Department of Health 2018). Harmful levels of alcohol consumption – both binge drinking and sustained high and moderate levels of drinking – increase the propensity for risk taking associated with violence, crime, road trauma, unsafe sex, alcohol poisoning, drinking while pregnant and a wide raft of anti-social behaviours (AIHW 2018a; Griswold et al. 2018; Daube & Stafford 2016; Department of Health 2018). Alcohol's harm also extends beyond the drinker to those around drinker and arguably the totality of this harm is more than that which accrues to the drinker. This harm includes family and domestic violence, child neglect, road fatalities, injuries, diminished industry productivity and other third party harms (Laslett et al. 2010).

The AIHW (2018a) reports that the proportion of people drinking in excess of the recommended Australian risk guidelines has been declining since 2010. Generally speaking, this is good news. However, there is reason to be cautious (Yusuf & Leeder 2015) with population demographics changing and the decline being marginal given current average per capita drinking levels are more than double those in the 1930s (Livingston & Wilkinson 2013). For example, we know that around one in three Australians continue to binge drink, and that alcohol also remains the most common principal drug of concern for which Australian's seek treatment (AIHW 2018a). Also, we know that alcohol is an addictive drug. Dependence to alcohol requires a broad range of therapeutic and treatment options to minimise harms to the individual, their family, and the broader community (Ritter & Stoove 2016). The significant impact of alcohol consumption on population health in Australia is also well documented (AIHW 2016, 2018a). That is, excessive alcohol consumption exacerbates health issues associated with chronic conditions such as diabetes, cardiovascular disease, mental illness and cancer (AIHW 2016). Furthermore, excessive alcohol consumption is positively associated pathological gambling (Grant et al. 2002; Kidman 2002), spending more money while gambling (Leino et al. 2017), and other psychiatric disorders (Petry et al. 2005).

The Northern Territory (NT) has the highest reported rates of alcohol consumption per capita in Australia, with correspondingly high rates of alcohol fuelled violence and crime (Skov et al. 2010; SACES 2009; Riley 2017). A recent report released by the NT Department of Attorney-General and Justice (DAGJ) indicates that the estimated per capita alcohol consumption in the NT for persons aged 15 or over in 2017 was 11.6 litres per person (DAGJ 2018). While this has decreased 14 per cent over the past seven years (DAGJ 2018), this still represents the highest consumption of alcohol for any state or territory in Australia.

To further enhance the alcohol harm minimisation response currently being implemented in the NT, Menzies School of Health Research (Menzies) was recently commissioned by the NTG to examine the social and economic costs and harms of alcohol consumption in the Northern Territory. This study was approached in partnership with the South Australian Centre for Economic Studies (SACES) and aims to replicate, and expand on, a similar study undertaken by SACES a decade ago (SACES 2009). Using data gathered from 2015/16, this report provides a current evidence-based account of alcohol consumption in the NT. It uses well-established methodologies, to quantify and explain the harms and costs of alcohol consumption in the NT. This robust approach provides unique insights into the potential levers for change in policy and practice settings across the NT. This project was granted

ethics approval through the DoH/Menzies Human Research Ethic Committee (18-3158), with reciprocal ethics approval obtained through the University of Adelaide Human Research Ethics Committee (18-33073).

1.2 Drinking and its Costs - Exploring the Connections

The relationship between alcohol use and the economic costs generated by drinking is a complex one, in which many factors mediate the relationship between drinking and its outcomes. The *logic* underpinning the relationship, however, is less complicated; it can be summarised as follows:

1. High levels of alcohol consumption in the NT contribute to high levels of a range of problems that governments are expected to address, either directly, or by paying non-government organisations to do so;
2. The unit costs of addressing these problems are higher in the NT than elsewhere in Australia.
3. Therefore, alcohol misuse in the NT gives rise to higher costs, particularly in relation to treatment and service costs, than it does in other jurisdictions.

This report uses quantitative approaches to explore the social and economic costs of alcohol to the Northern Territory and its people. The methodology is introduced and explained sequentially throughout the ensuing chapters. In each of the three broad areas of social cost outlined above, the costs are quantified to the extent possible.

The analysis presented in this report was led by Mr Steve Whetton from SACES and draws on the pioneering methodology adopted by Collins and Lapsley [27]. It has also been influenced by more sophisticated methodological adaptations for examining alcohol consumption. These new approaches are discussed in greater detail throughout the subsequent chapters.

Chapter 2: Quantifying the Impacts on Health

2.1 Attribution of harm

Alcohol is known to be a contributor (either wholly or partly) to a number of health conditions which can result in hospitalisation and/or premature death. There are also a smaller number of conditions for which there is some evidence that moderate consumption of alcohol may provide a protective effect, although the scale of these protective effects are increasingly being questioned (see for example, Stockwell et al. 2016, Naimi et al. 2017).

The net impact of alcohol on premature mortality and on morbidity, is an important component of the social cost calculation and this needs to be quantified.

The preferred approach to attributing some share of these harms (or some share of averted harm) to alcohol is through the use of what is known as attributable fractions (AF). These identify the proportion of the harm that is caused (or prevented) by exposure to the hazard. The AF can then be combined with deaths or hospital separations data to identify the notional fraction of each death caused or prevented by alcohol.

There are three broad sources for AFs from exposure to alcohol.

First, there are a small number of conditions which are by definition wholly caused by alcohol, such as alcohol poisoning, and alcoholic liver cirrhosis. These conditions are given an AF of 1.
Conditions wholly caused by consumption of alcohol are:

- Alcoholic liver cirrhosis;
- Alcoholic cardiomyopathy;
- Alcoholic beverage & other EtOH poisoning;
- Foetal alcohol syndrome disorder;
- Alcoholic psychosis;
- Alcohol dependence/abuse;
- Alcoholic polyneuropathy;
- Alcoholic gastritis; and
- Aspiration (not purely alcohol related by definition but English et al. 1995 report that in practice in Australia it is only used to code alcohol related cases).

The second source of AFs is sometimes referred to as the indirect method, calculates the AF specific to a population and time from the relative risk of exposure to the substance and the prevalence of exposure amongst the population of interest. Relative risk estimates are derived from analysis of case control or cohort studies and report the excess risk of developing the condition of interest (or dying from a particular cause) for those exposed to the risk factor after controlling for demographic factors. Combining this with the exposure to the risk factor of the population of interest gives a population specific estimate of the AF.

The method for calculating attributable fractions from relative risks was described by English et al. in 1995 and is still used today (English et al., 1995). The formula used to calculate the aetiological fraction (AF) for a condition with respect to a particular population where the risk varies by consumption is (World Health Organization, 2000):

$$AF = \frac{\sum_{i=1}^{n} P_i (RR_i - 1)}{\sum_{i=1}^{n} P_i (RR_i - 1) + 1}$$

Where -
i represents the consumption categories used;
P_i is the proportion of the population of interest who are in the particular consumption category i; and RR_i is the relative risk of a person in consumption category i acquiring the condition.
If the epidemiological data available is expressed in terms of odds ratios these need to be converted to a relative risk to allow the calculation of attributable fractions. This can be done using the following formula (Grant, 2014):

$$RR = \frac{OR}{1 - p_0 + (p_0 * OR)}$$

Where:
RR = relative risk for the risk factor in question;
OR = odds ratio for the risk factor in question;
p_0 = the baseline risk

The alternative approach to the indirect method, the direct method of calculating aetiological fractions is based on a study(ies) making a direct attribution on a case by case basis of the contribution of the substance use to the condition or injury, e.g., a study could analyse incident report data to identify the proportion of house fire injuries where the cause of ignition was a cigarette or discarded match. Direct attribution has important limitations such as variability in the criteria used to determine attribution, observer variation, and a failure to reflect the exposure patterns of the population to which it is being applied. It also reflects the consumption patterns at the time and place of the original study (although established methods exist to adjust AFs estimated by direct methods for differences in consumption behaviour – see below). Direct methods are generally only used when there are no estimates of the relative risk of the condition of interest.

2.2 Attributable fractions

2.2.1 Attributable fractions calculated from relative risks

Conditions partially caused or prevented by alcohol for which relative risk estimates exist are:

- Atrial fibrillation and flutter;
- Breast cancer;
- Cirrhosis and other chronic liver disease (excluding alcoholic liver cirrhosis);
- Colon and rectum cancer;
- Diabetes mellitus (protective effects at moderate levels of consumption, causative effect at higher levels of consumption);
- Epilepsy
- Hemorrhagic stroke
- Hypertensive heart disease
- Ischaemic heart disease (protective effects at moderate levels of consumption, causative effect at higher levels of consumption);

- Ischaemic stroke (protective effects at moderate levels of consumption, causative effect at higher levels of consumption);
- Larynx cancer
- Lip and oral cavity cancer
- Liver cancer due to alcohol use
- Lower respiratory infections
- Nasopharynx cancer
- Oesophageal cancer
- Other pharynx cancer
- Pancreatitis
- Self-harm
- Tuberculosis
- Unintentional injuries

The primary source of relative risk estimates for this analysis is the latest update of the global burden of disease study (Gakidou et al. 2017). The relative risks by age and consumption category are set out in Appendix A.

2.3 Alcohol consumption prevalence

The second requirement for an aetiological fraction calculation is the proportion of the population in each exposure category. Due to the potentially different levels of harm, prevalence estimates have been calculated separately for males and females and for Aboriginal and Torres Strait Islanders and the remainder of the Northern Territory population. As the global burden of disease study collated its relative risk estimates in terms of average daily consumption bands, Northern Territory prevalence needs to be expressed on a similar basis.

Overall alcohol consumption prevalence was extracted from a custom analysis of the 2016 National Drug Strategy Household Survey (NDSHS) unit record file (Hewitt 2017). The NDSHS does not directly collect data on average daily alcohol consumption, but this can be imputed by combining responses on the frequency of drinking and the average number of standard drinks consumed when drinking. This data was used to produce estimated consumption by gender and five-year age group for the Northern Territory population aged 12 and over.

Due to confidentiality restrictions (and the small sample size) it is not possible to undertake separate analysis of the alcohol consumption patterns of Northern Territory residents who are Aboriginal and Torres Strait Islanders and so an alternative prevalence measure is needed.

Our main measure of consumption by Aboriginal and Torres Strait Islanders in the NT will be the national consumption levels of Aboriginal and Torres Strait Islanders in the NDSHS, analysed on the same basis as the general NT population. To the extent that specific data exists it tends to suggest that, as is the case with the broader Northern Territory population, alcohol consumption rates amongst Aboriginal and Torres Strait Islanders in the Northern Territory are above the national average. This means our analysis is likely to somewhat understate alcohol attributable harms.

2.4 Directly derived attributable fractions

There are a small number of alcohol attributable conditions for which reliable relative risk based assessments of alcohol involvement do not exist, namely:

- Interpersonal violence;
- Transport injuries
- Oesophageal varices; and
- Gastro-intestinal haemorrhage.

The most significant of these is interpersonal violence, where relative risk estimates based on the consumption of the perpetrator cannot be readily applied to deaths or hospital separations data as those are coded on the age and gender of the victim of the crime. Nationally attributable fractions derived from the Australian Institute of Criminology's Drug Use Monitoring in Australia (DUMA) survey are typically used to identify the proportion of crime attributable to use of specific substances (Coghlan et al., 2015). Unfortunately the DUMA survey has not had a collection site in the Northern Territory since 2010. The NT Department of Attorney-General and Justice (DAGJ) undertake their own analysis of the influence of substance use on offending coding offences where charges were laid and offences where convictions were recorded based on substance involvement coded as alcohol, drugs, other (typically petrol sniffing), combinations of these substances, and no substance use. For the purposes of this deaths analysis we have used the proportion or homicides where alcohol was identified as being involved in the offence (e.g. excluding cases where alcohol was identified in conjunction with one or more other substances).

The proportion of transport injuries attributable to alcohol in the NT is taken from assessments made by NT police as to whether alcohol was the primary cause of the crash (Road Safety NT 2018), which conclude that on average over 2015 and 2016 47.9 per cent of crashes involving a fatality (and 19.9 per cent of crashes involving a serious injury) were attributable to alcohol.

In the case of oesophageal varices, following Ridolfo and Stevenson in using the attributable fractions derived for cirrhosis (2001, p.44).

Ridolfo and Stevenson identify an attributable fraction of 0.47 for alcohol's role in gastro-intestinal haemorrhage (*Ibid,* p. 44). This was modified to reflect Norther Territory specific drinking prevalence by age group, gender and Aboriginal and Torres Strait Islander identification using the approach set out below.

In general, estimates of harm attributable to substance use will not adjust the attributable fractions calculated by direct methods for local and current consumption patterns. However, WHO sets out an approach which can be used where either local consumption patterns differ notably from those in the reference population from which the directly derived attributable fraction was calculated, or where a study is attempting to assess the impact of a change in consumption patterns (WHO, 2000). In these cases the use of attributable fractions estimated by direct methods has the potential to under- or over-state the level of substance attributable harm. In the case of the Northern Territory with its above average risky consumption of alcohol, the use of directly derived attributable fractions is likely to underestimate the level of harm.

The formula used to adjust AFs estimated using direct methods is:

$$AF_x = \frac{((F * AF_{ref}) + AF_{ref})}{(((F * AF_{ref}) + AF_{ref}) + (1 - AF_{ref}))}$$

Where -
AF_x = the new attributable fraction for year x (the study year)
AF_{ref} = is the attributable fraction calculated using the direct method in some previous year, and
F = the change in exposure to the risk factor, expressed as:

$$F = \frac{(P_{ref} - P_x)}{(P_{ref} * -1)}$$

Where -
P_{ref} = the prevalence in the reference year of the original study, and
P_x = prevalence in the new target year x.

Chapter 3: Alcohol Attributable Premature Mortality

Data on the number of alcohol attributable deaths by age, gender and Aboriginal and Torres Strait Islander identification for conditions at least partially caused or prevented by alcohol were extracted by researchers at the NT Department of Health from the national mortality database (see Table 3.1). Extraction was based on the principal cause of death, coded using the ICD-10 classification structure.

Alcohol attributable deaths and deaths prevented by moderate alcohol consumption were calculated by applying the relevant attributable fraction to each death.

Total net alcohol attributable mortality in the Northern Territory is estimated to be 141.9 premature deaths, with an estimated 165.4 deaths caused by alcohol and 23.5 deaths prevented by moderate alcohol consumption.

Table 3.1 Alcohol attributable mortality, caused and prevented, by age group, gender and identification as Aboriginal or Torres Strait Islander

	0 - 11	12 - 17	18 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70+	All ages
Male - Not Aboriginal or Torres Strait Islander.										
Caused	0.0	0.0	6.8	5.7	5.2	7.4	12.9	15.7	10.2	63.9
Prevented	0.0	0.0	0.0	-0.1	0.0	-0.6	-0.9	-1.4	-3.6	-6.5
Total	**0.0**	**0.0**	**6.8**	**5.5**	**5.2**	**6.9**	**12.0**	**14.3**	**6.6**	**57.3**
Female - Not Aboriginal or Torres Strait Islander										
Caused	0.0	0.0	0.1	0.7	0.4	0.9	4.8	3.0	2.7	12.6
Prevented	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2
Total	**0.0**	**0.0**	**0.1**	**0.7**	**0.4**	**0.9**	**4.8**	**3.0**	**2.5**	**12.4**
Male - Aboriginal or Torres Strait Islander										
Caused	1.0	0.0	3.3	3.6	11.7	14.9	16.6	5.2	7.2	63.5
Prevented	0.0	0.0	-0.2	-0.1	-1.2	-1.7	-1.9	-0.8	-1.1	-7.0
Total	**1.0**	**0.0**	**3.1**	**3.5**	**10.5**	**13.2**	**14.7**	**4.3**	**6.1**	**56.5**
Female - Not Aboriginal or Torres Strait Islander										
Caused	0.5	1.0	1.7	0.8	5.1	10.1	4.7	1.1	0.5	25.5
Prevented	0.0	0.0	0.0	-0.2	-1.0	-1.4	-2.3	-3.3	-1.6	-9.9
Total	**0.5**	**1.0**	**1.7**	**0.6**	**4.1**	**8.7**	**2.4**	**-2.2**	**-1.1**	**15.6**
All NT population										
Caused	1.4	1.0	12.0	10.7	22.3	33.4	39.1	24.9	20.5	165.4
Prevented	0.0	0.0	-0.2	-0.4	-2.1	-3.7	-5.1	-5.5	-6.4	-23.5
Total	**1.4**	**1.0**	**11.8**	**10.3**	**20.2**	**29.7**	**34.0**	**19.3**	**14.1**	**141.9**

Source: NT Department of Health, 2018, Gakidou et al. 2017, Hewitt, 2017, calculations by the authors

Males account for a majority of the deaths, 113.8 net deaths compared to 28.1 net deaths caused amongst women.

Alcohol attributable net mortality is most common in the age range 50 to 59 years, with those aged 40 to 49 years experiencing the second highest share of premature mortality.

Road crash deaths (vehicle) were the most common cause of alcohol attributable death in the Northern Territory in 2015/16, accounting for 30.6 deaths. The next most common causes of alcohol

attributable death are alcoholic liver cirrhosis (22 deaths), self harm (16.0 deaths) and Nasopharynx cancer (10.8 deaths). Most deaths prevented by moderate alcohol use were ischaemic heart disease, with an estimated 17.2 deaths prevented in 2015/16, with 6.1 premature deaths from diabetes estimated to be prevented by alcohol use.

3.2 Tangible Costs of Premature Mortality

There are two broad forms of social cost (as opposed to private cost) that arise as a result of premature mortality: tangible costs (the present value of lost expected lifetime labour in paid employment not captured by the substance user, costs to employers of workplace disruption, the lifetime value of lost labour in the household, and a net cost saving from the present value of avoided lifetime medical expenditure by government), and the intangible cost of premature mortality. Productivity impacts are calculated per year for some period into the future and so require the number of deaths in the reference year to be converted into a years of life lost estimate, whereas intangible costs are calculated directly from the number of deaths that occur in the reference year.

No costs have been included for funerals and associated expenses as it has been assumed that the cost of these remain constant in real terms and so there is no net cost (or net saving) from them having occurred prematurely.

Estimates related to lifetime costs or savings are calculated as present values of future benefits or costs assessed over a 30 year horizon using a real discount rate of 7 per cent as recommended in Australian Government guidance (Department of Finance and Administration, 2006; Department of the Prime Minister and Cabinet, 2016).

3.2.1 Potential Years of Life Lost

Many of the tangible costs of premature mortality are age and gender specific. In order to support these calculations we have calculated the potential years of life lost (PYLL) for each of the mortality age group categories by gender and Aboriginal and Torres Strait Islander identification using the expected years of life remaining in the Australian Bureau of Statistic's life tables (Australian Bureau of Statistics, 2018a, 2013).

Within the age categories used in the prevalence data it was assumed for the purposes of the PYLL calculation that all deaths occurred in the mid-point year (i.e. 27 for deaths amongst those aged 25 to 29). Deaths amongst those aged 70+ years were assumed to occur at 77 years old.

3.2.2 Workplace costs

The workplace costs of a premature death are the present value of expected future economic output from the deceased individual (excluding the income that they would have received through wages which is a private cost), together with the cost to employers of filling a job vacancy.

The impact of a smaller labour force on Gross Domestic Product (GDP) due to alcohol attributable deaths in 2015/16 is calculated as a present value over a 30 year timeframe (to align with Commonwealth Department of Finance guidance) using a real discount rate of 7 per cent. Cost of filling job vacancies all occur in 2015/16, the year in which the premature death occurs.

The age and gender specific probability that an individual will be in employment in each of the following 30 years is taken from analysis of 2016 Census of Population and Housing (Australian Bureau of Statistics, 2017a). This was then applied to the potential years of life lost data by age

group and gender to identify the expected number of years of *employment* lost in each financial year.

For the age and gender profile of the alcohol attributable deaths the greatest impact on the labour force occurred in in 2015/16 at 61.4 employee years. The impact on the labour force is estimated to be lower in each subsequent year, reaching 3.2 employee years by 2044/45.

Data is not available on the way in which the economic output attributable to labour varies across the workforce, or how the economic impact of those who die prematurely from smoking attributable causes differs from the average. As such it has been assumed that the economic output of those in work would have equalled the population mean. Gross State Product (GSP) per employee is calculated from current price estimates of GSP for the Northern Territory in June 2016 from the ABS state accounts and average employment in the Northern Territory over that year (Australian Bureau of Statistics, 2018b, c) and is $181,524 in 2015/16 (in 2015/16 values). GSP per employee is assumed to grow at its long-run average real growth rate of 1.5 per cent thereafter.

The value of lost GSP in 2015/16 due to net premature alcohol attributable mortality which occurs in 2015/16 is $13.8 million. The total present value cost to GSP of premature net alcohol attributable mortality which occurs in 2015/16 assessed over 30 years is **$160.7 million** in 2015/16 values.

Slightly over half of this lost GSP would have accrued to the deceased person as wages. Wages are generally considered a purely private benefit and are excluded as such from social cost studies. However a proportion of premature mortality by drinkers occurs amongst those who are dependent alcohol users or alcohol abusers. It is arguable that the assumptions underpinning the exclusion of wages from a social cost study do not apply to dependent users are they are not making rational choices on the quantity of alcohol they consume fully cognisant of the potential consequences (Whetton et al. 2016). Indeed this argument can be extended further to assert that given the information gaps in the understanding of the potential health consequences of alcohol and the prevalence of time inconsistent preferences that few if any heavy drinkers are doing so fully rationally, optimising over their lifetime welfare give the full range of potential health impacts arising from their consumption level.

A somewhat dated estimate from Degenhardt et al. (2000) suggests that around 4.1 per cent of the Australian population was a dependent drinker and a further 1.9 per cent met the criteria for alcohol abuse in DSM-IV. This suggests that around 35 per cent of those drinking at harmful levels may have a degree of alcohol dependence (the 2016 National Drug Strategy Household Survey reports that 17.1 per cent of the population drinks at a level that exceeds the current guidelines for risks of lifetime harm, AIHW 2017a).

In this analysis the central estimate will exclude the wages share of the GSP impact for non-dependent used from the tangible cost calculation, but include it for the estimated proportion of dependent alcohol users/alcohol abusers.

The lower bound estimate will exclude *all* GSP that would have been paid to the decedent as wages (e.g. essentially follow the rational addiction hypothesis that consumption levels by dependent users represent rational optimising choices, (Becker and Murphy 1988). The upper bound estimate includes all of the potential GSP impact, including the wages share of GSP on the assumption that one or more of the assumptions required for fully rational optimising consumption choices are missing for all of those drinking at risk of harm.

This gives a central estimate of the value of lost economic output of $104.3 million, with a lower bound of $73.8 million and an upper bound of $160.7 million.

In addition employers face one-off costs to recruit new employees to replace deceased workers, and to train those new workers. The estimated cost of this was $6,422 per prematurely deceased employee in 2006 values (Bureau of Infrastructure Transport and Regional Economics - BITRE, 2009). Converting to 2015/16 values using the change in the CPI (Australian Bureau of Statistics, 2018d) and applying the estimate of 61.4 fewer employees in 2015/16, gives a total cost of **$0.6 million**.

3.2.3 Reductions in labour in the household

Collins and Lapsley based their estimates of production losses in the household sector on the ABS publication Unpaid Work and the Australian Economy 1997 (Australian Bureau of Statistics, 1997; Collins and Lapsley, 2008). This remains the best available source of data on unpaid work in the household despite now being very dated. Under the definitions used in the report, a household activity is considered unpaid work if an economic agent other than the household itself could have supplied an equivalent service. Such services include domestic activities, childcare, purchasing of goods and services, and volunteer and community work. These are all services that would be lost by the community in the event of the death or severe illness of the person supplying them, and are therefore counted as a component of social cost (Collins and Lapsley, 2008).

The ABS report details two broad approaches that can be taken to valuing unpaid household labour, individual function replacement cost and the opportunity cost of time. Within these broad approaches unpaid household labour can be valued by the cost of hiring specialists to undertake each task, by the cost of hiring a housekeeper to undertake all unpaid labour in the household, or by a hybrid of the two; and opportunity cost can be measured based on pre-tax or post-tax income. We prefer individual function replacement costs, as using opportunity cost applies a zero value to work undertaken by individuals not in the labour force and therefore tends to systematically understate the value of work undertaken by women who have lower employment rates. This is also the approach taken by Collins and Lapsley in their study (Collins and Lapsley, 2008).

The total value of male unpaid labour in the household is estimated at $82 billion in 2007 values and female unpaid labour is valued at $154 billion. Converting these to per adult estimates using the population data in ABS (Australian Bureau of Statistics, 1997) and to 2015/16 values using the CPI (Australian Bureau of Statistics, 2018d) gives values of unpaid household work of $ 19,612.60 per adult male and $35,016.20 per adult female. It was assumed that the value of unpaid labour in the household for those aged less than 15 and those aged over 75 years old was zero, and the value of household labour of those aged 15 to 24 was discounted by 50 per cent. The estimated number of potential years of life lost in these age ranges was calculated from the PYLL data for each year of the 30 year analysis period.

Our central estimate is that there were 126.4 net years of life lost to alcohol in the relevant age ranges in 2015/16, with this value falling over the remainder of the analysis period. Assessing the present value of lost labour in the household over a 30 year timeframe gives an estimated cost to the Northern Territory of **$41.7 million**.

3.2.4 Avoided Health Care Costs

Whilst premature mortality attributable to substance use (in this case alcohol) inflicts many costs on society there is a small partially offsetting cost saving to society from the reduction in expected lifetime healthcare costs, which these individuals would have incurred in future years had they lived to their expected age at death rather than died prematurely due to alcohol attributable causes.

As with the costs of lost economic output, the 'years of life lost' (YLLs) for each premature death were calculated using age, gender and Aboriginal and Torres Strait Islander specific estimates for years of life remaining from the Australian Bureau of Statistics' life (2018a, 2013).

Annual expected healthcare costs averted in 2015/16 were calculated for each expected year of life remaining for those who died prematurely of an alcohol attributable cause by combining the estimated years of life lost by age at 2015/16 with data on average total health care expenditure per person (Australian Institute of Health and Welfare 2017b) and the distribution of healthcare expenditure by age group and gender (Australian Institute of Health and Welfare, 2010, p.14). These costs were projected out over a 30 year analysis period by 'ageing' the cohort by 1 year in each period and applying the age specific healthcare cost for the new age, together with the average real rate of per capita healthcare inflation over the five years to 2015/16 (Australian Institute of Health and Welfare 2017b). Where the expected years of life remaining for the age as at 2013/14 indicated that an average individual of that age would only be alive for a fraction of a year, that fraction was applied to the cost estimate. Where the expected years of life estimate suggested that an average individual of that age would not be alive then a cost of $0 was used.

The estimated total net present value of healthcare costs avoided due to net premature alcohol attributable mortality (over 30 years using a 7 per cent real discount rate for savings experienced after 2015/16) was a **saving of $13.5 million**.

3.3 Intangible Costs of Premature Mortality

Much of the cost to society arising from premature mortality relates to intangible costs, e.g. those costs which relate to factors that cannot be traded or transferred. Valuation of the intangible costs of premature mortality is usually done using a parameter known as the Value of a Statistical Life (VoSL).

It is important to note that the concept being assessed is ***not*** the value of one or more of the individual lives lost premature due to the health condition or hazard in question. Rather the concept is based on society's average willingness to pay to reduce the risk of premature death by 1 case. Estimates of this value are generally derived from individual's direct market behaviour, such as willingness to pay for products that produce a small reduction of risk, e.g. additional safety features on cars, or the increase in wage demanded to take a job that has a higher risk of premature mortality.

Current guidance for cost benefit analyses undertaken for the Australian Government recommend using an alternative estimate of the value of a statistical life, that developed by Abelson (2008). Abelson (2008) recommends using a value of a statistical life of $3 to $4 million in 2006/07 values. Abelson's (2008) recommended value was not derived from a meta-analysis of valuation studies. Rather, whilst it took note of a range of published meta-analyses of both wage premium studies, product market, and willingness to pay approaches to valuing a statistical life it was most strongly influenced by the values recommended by the UK government and the European Union member countries in their internal guidance on undertaking cost benefit analyses. Taking the mid-point of the range identified by Abelson, $3.5 million, and converting this to 2015/16 values using the growth in current price GDP per capita over the intervening period gives a 2015/16 estimate of $4.6 million.

Internationally, much higher values are often identified in research studies, for example Viscusi and Aldy (Viscusi and Aldy, 2003) undertook a meta-analysis of studies which used wage differentials and of those which looked at price premia paid for increased safety features in goods purchased and

found the mean of the studies was US$6.7 million in 2000 prices. US government agencies typically use values of this magnitude, for example the US Department of Transport used a value of a statistical life of US$9.1 million in 2013 (US Department of Transportation, 2015) This was derived by averaging 15 hedonic wage studies[2] which were identified as being undertaken using good practice approaches. The US Environment Protection Authority also adopts a similar approach, albeit using a slightly different value derived from a slightly different set of studies. Converting the US Department of Transport VoSL estimate to Australian dollars using Purchasing Power Parity exchange rates (OECD, 2016), and then to 2015/16 values using the growth in per capita current prices GDP (Australian Bureau of Statistics, 2018b) from 2012/13 to 2015/16 gives a value of a statistical life of $13.6 million. This value is used as our upper bound estimates.

A final approach that can be taken is to measure intangible costs not in terms of the value of a statistical life but rather through the value of a statistical life ***year***. This has the effect of giving greater weight to premature deaths amongst the young and much lower weight to deaths amongst the old. This is an approach taken in drug approval processes in many jurisdictions such as Australia and the UK but is not generally taken in other approaches to distribution of resources such as assessing the costs and benefits of transport safety or environmental improvements.

Values of a statistical life year are derived from the value of a statistical life by treating the Value of a Statistical Life as the equivalent as the present value of an annuity over the expected years of life remaining, using the following formula:

$$\text{VoSLY} = VoSL \times \frac{(1-(1+g)/(1+r))}{(1-(\frac{1+g}{1+r})^{years})}$$

Where

VoSL = the value of a statistical life being used, in this case from Abelson, 2008 converted to 2014/15 values ;

g = the annual escalation factor used for the VoSL, in this case the expected per capita growth rate in GDP of 1.5 per cent per annum

r = the discount rate used, in this case 7 per cent real per annum; and

years = the number of years of healthy life remaining assumed to be implicit in the VoSL calculation, in this case following Abelson 2008 we have used 40 years.

This value of a statistical life year is applied to the estimated potential years of life lost calculated from the mortality data. Unlike the tangible cost estimates costs are included for each expected year of life remaining even where that occurs more than thirty years in the future. These annual costs are then converted to a present value estimate using a real discount rate of 7 per cent.

Using the Abelson (2008) value of a statistical life converted to 2015/16 values as the basis for a VoSLY gives an estimated value of a life year of $286,553 in 2015/16.

Where the deceased persons are younger on average, with potential years of life remaining greater than the reference value used, a VoSLY approach will generate higher values that a VoSL (unless artificially truncated based on a specified analysis period) and where the deceased persons are older on average a VoSLY approach will generate lower vales than a VoSL.

[2] Hedonic wage studies estimate the wage premium demand by workers for more dangerous occupations (using official statistics on rates of workplace fatality by occupation). They do this by starting with occupational wage premia, control for other observable elements of 'job quality' and required skill levels, and combine these job quality adjusted occupational wage premia with the difference in annual mortality rates between industries to calculate the implicit value placed on a premature death.

In order to ensure consistency with other estimates, we will use the Abelson values for our main estimates, which gives an expected intangible cost of net alcohol attributable premature mortality in 2015/16 of **$652.5 million**.

If, instead, the value of a statistical life estimate used by the US Department of Transport (US Department of Transportation, 2015) were to be used, then the estimated intangible cost of net alcohol attributable premature mortality in 2015/16 would be $1,933.3 million.

Finally, if intangible costs of premature mortality are valued based on potential years of life lost, then the intangible cost of net alcohol attributable premature mortality in 2015/16 would have an expected present value of $585.4 million.

3.4 Total Costs of Net Premature Mortality

Our central estimate of the cost of the estimated 141.9 net alcohol attributable premature deaths (165.4 deaths caused and -23.5 deaths prevented) in 2015/16 is **$785.5 million**, with net tangible costs of **$133.0 million** and intangible costs of **$652.5 million** if the Abelson (2008) value of a statistical life is used (see Table 3.2).

The upper bound estimates are calculated using the higher estimate of a value of a statistical life sourced from the US Department of Transport (US Department of Transportation, 2015) and the full impact on lost economic output. Using this value of a statistical life gives total expected net costs from premature mortality of $2,122.7 million, with net tangible costs of $189.5 million and intangible costs of $1,933.3 million. The lower bound estimate is calculated using potential years of life lost, rather than a set cost per case of premature mortality, with years of life lost valued using a VoSLY derived from Abelson's (Abelson, 2008) value of a statistical life, and excludes any impact to economic output which would be expected to flow to the drinker through wages. Using this approach gives total expected net costs from premature mortality of $687.9 million, with net tangible costs of $102.6 million and intangible costs of $585.4 million.

Table 3.2: Social cost of net alcohol attributable premature mortality, $ 2015/16

Costs	Central estimate Abelson VoSL [1] ($)	Lower bound estimate Abelson VoSLY [3]($)	Upper bound estimate US DoT VoSL [2]($)
Tangible costs			
NPV of lost economic output (non-employee)	104,281,863	73,794,170	160,684,094
Recruitment/training costs to employers	600,580	600,580	600,580
NPV of value of lost unpaid household work	41,660,664	41,660,664	41,660,664
NPV of healthcare costs avoided	-13,495,296	-13,495,296	-13,495,296
Total net tangible costs	***133,047,811***	***102,560,118***	***189,450,042***
Intangible costs	.		.
Value of statistical life	652,489,951	585,374,426	1,933,250,310
Total cost	**785,537,761**	**687,934,544**	**2,122,700,352**

Notes: VoSL = Value of a statistical life: [1] (Abelson, 2008): [2] (US Department of Transportation, 2015); [3] VoSLY = Value of a statistical life year, based on the Abelson value of a statistical life

Source: NT Department of Health, Gakidou et al. 2017, Hewitt, 2017, Abelson 2008, US Department of Transportation 2015, calculations by the authors

Chapter 4: Hospital Morbidity

4.1 Method

The health conditions caused (wholly or partially) or partially prevented by alcohol are set out in Chapter 2. Relative risks for all conditions other than interpersonal violence are the same between mortality and morbidity, with these relative risks converted to attributable fractions using age group, gender and Aboriginal and Torres Strait Islander specific prevalence estimates. The attributable fraction used for interpersonal violence in the hospital morbidity analysis is the proportion of all violent crimes other than homicide, attributed to alcohol in the NT DAGJ data, which is 47.0 per cent (compared to the AF used for homicide of 37.5).

Hospital separations for all conditions potentially caused or prevented by alcohol consumption were extracted from NT DOH data systems. Conditions are defined by ICD-10 codes as listed in Appendix A. Extracted data also included the age, gender and Aboriginal or Torres Strait Islander identification of the individual to who the separation relates, and the broad type of treatment delivered during the episode. In the case of 'accident' separations, coding was undertaken based on the secondary code which indicated the mechanism of injury (e.g. road crash, aspiration etc.). Data was extracted by staff of the NT DOH.

The separations data were coded to age groups to match to grouping of relative risk estimates in the global burden of disease study (Gakidou et al. 2017). For accidental injury separations such as unintentional injuries those aged less than 12 years old who would not themselves be the drinker were assigned an attributable fraction equal to the average of the aged 12+ population.

Applying the relevant attributable fractions by five year age group, gender, and Aboriginal and Torres Strait Islander identification to the hospital separations identifies the fraction of each hospital separation that is ***alcohol attributable***. Where a net protective effect from alcohol exists for a demographic group the calculated alcohol attributable hospital separations are negative.

Each hospital separation has an AR-DRG code recorded which identifies the type of treatment delivered. These AR-DRG codes can be used to identify the average cost of hospital separations by linking them to data from the Independent Hospital Pricing Authority (Independent Hospital Pricing Authority, 2015) on the 'costweight' for that treatment (that is the cost of that episode as a proportion of the average cost of a hospital separation), and then multiplying that costweight by the average cost of an acuity adjusted hospital separation.

In 2015/16 the average cost of an acuity adjusted hospital separation in the Northern Territory was $6,698 (Independent Hospital Pricing Authority, 2018). To illustrate the approach, separations with the AR-DRG 'A06A: Tracheostomy and/or Ventilation >=96hours, Major Complexity' have an average costweight of 29.9951, and an expected average cost of $200,907.2 per separation (e.g. $6,698 times 29.9951). These individual costs are then summed across all of the separations with that principal diagnosis to give the total cost attributable to alcohol (or the total cost saved).

4.2 Results

Total costs of net alcohol attributable hospital separations in the Northern Territory in 2015/16 were $13.7 million (Table 4.1). Conditions caused by alcohol consumption cost $15.4 million with prevented conditions saving $1.7 million is hospital separation costs.

Sixty five per cent of the costs ($8.9 million) relate to hospital separations by males. Those identified as Aboriginal and Torres Strait Islanders are overrepresented in the hospital separations data

accounting for 60 per cent of alcohol attributable hospital separation costs (a notably higher degree of overrepresentation than is seen in the deaths data).

Table 4.1 Alcohol attributable mortality, caused and prevented, by age group, gender and identification as Aboriginal or Torres Strait Islander

	0 - 11	12 - 17	18 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70+	All ages
Male - Not Aboriginal or Torres Strait Islander.										
Caused	12.4	65.4	324.4	308.3	448.9	636.3	1,024.5	909.5	606.1	4,335.7
Prevented	0.0	0.0	0.0	0.0	-10.5	-36.4	-64.5	-63.2	-73.6	-248.3
Total	**12.4**	**65.4**	**324.4**	**308.3**	**438.4**	**599.9**	**960.0**	**846.3**	**532.4**	**4,087.4**
Female - Not Aboriginal or Torres Strait Islander										
Caused	14.6	8.3	122.0	94.7	191.4	498.4	475.4	149.2	119.3	1,673.4
Prevented	0.0	0.0	0.0	0.0	-15.4	-26.9	-46.4	-61.9	-105.5	-256.1
Total	**14.6**	**8.3**	**122.0**	**94.7**	**176.0**	**471.5**	**428.9**	**87.4**	**13.8**	**1,417.3**
Male - Aboriginal or Torres Strait Islander										
Caused	155.2	134.4	390.6	351.5	820.6	1,516.7	1,326.4	257.3	132.5	5,085.2
Prevented	0.0	-0.3	-1.4	-10.4	-49.3	-70.3	-50.5	-33.5	-11.7	-227.4
Total	**155.2**	**134.0**	**389.3**	**341.1**	**771.3**	**1,446.4**	**1,275.9**	**223.7**	**120.9**	**4,857.8**
Female - Not Aboriginal or Torres Strait Islander										
Caused	82.7	147.4	393.4	469.0	1,490.0	1,145.6	416.4	126.8	36.0	4,307.4
Prevented	0.0	-0.2	-5.1	-82.5	-235.9	-373.6	-137.4	-118.2	-8.2	-961.0
Total	**82.7**	**147.2**	**388.3**	**386.5**	**1,254.1**	**772.0**	**279.0**	**8.6**	**27.8**	**3,346.3**
All NT population										
Caused	264.9	355.5	1,230.4	1,223.5	2,951.0	3,797.0	3,242.7	1,442.8	893.9	15,401.7
Prevented	0.0	-0.5	-6.4	-92.9	-311.2	-507.2	-298.8	-276.7	-199.0	-1,692.7
Total	**264.9**	**355.0**	**1,224.0**	**1,130.6**	**2,639.8**	**3,289.8**	**2,943.9**	**1,166.1**	**695.0**	**13,708.9**

Source: NT Department of Health, Gakidou 2017, Hewitt, 2017, calculations by the authors

Interpersonal violence accounts for the largest share of costs at $3.5 million, followed by alcohol dependence/abuse at $2.8 million (see Table 4.2). Alcoholic liver cirrhosis at $1.5 million and transport injuries at $1.0 million are the only other conditions with costs of more than one million dollars.

Ischaemic heart disease and diabetes mellitus are reasonably even in terms of their contribution to avoided costs at $0.8 million and $0.7 million respectively.

Table 4.2 Alcohol attributable hospital separations in 2015-16, caused and prevented, by gender and Aboriginal and Torres Strait Islander identification, $ 2015-16

	Not identified as Aboriginal and Torres Strait Islander		Aboriginal and Torres Strait Islander		Total
	Male ($)	Female ($)	Male ($)	Female ($)	Population ($)
Tuberculosis	67,836.40	51,578.36	67,269.63	42,158.06	228,842.45
Lip and oral cavity cancer	508,268.19	127,063.32	215,527.15	11,615.68	862,474.34
Nasopharynx cancer	200,648.92		30,542.98	7,662.31	238,854.21
Other pharynx cancer	45,484.25		19,817.71		65,301.96

Oesophageal cancer	92,888.57	6,815.46	48,254.20		147,958.23
Colon and rectum cancer	174,303.42	37,977.81	24,214.18	6,242.63	242,738.03
Liver cancer due to alcohol use	20,673.08	2,920.09	11,400.90	6,242.59	41,236.65
Larynx cancer	58,988.19	5,722.76	23,489.25	977.60	89,177.81
Breast cancer	2,195.34	105,172.93	7,932.76	49,240.60	164,541.62
Diabetes mellitus	-13,786.46	-19,843.64	-35,808.04	-617,116.86	-686,555.01
Alcohol dependence/abuse	362,337.03	249,759.71	1,206,561.56	1,013,223.10	2,831,881.40
Alcoholic psychosis	59,103.16	21,461.73	30,948.78	14,385.29	125,898.95
Epilepsy	50,966.96	25,281.11	210,316.22	74,742.13	361,306.43
Hypertensive heart disease				2,356.85	2,356.85
Ischaemic heart disease	-234,497.95	-135,796.05	-191,545.58	-258,429.36	-820,268.93
Alcoholic cardiomyopathy	65,075.76		56,648.34	5,047.61	126,771.71
Atrial fibrillation and flutter	134,062.58	38,720.49	40,239.02	26,362.71	239,384.80
Haemorrhagic stroke	83,247.11	19,633.71	52,870.65	49,687.87	205,439.33
Ischaemic stroke	69,164.33	-100,433.30	17,242.49	-85,477.30	-99,503.77
Oesophageal varices	13,706.94	21,973.46	81,698.45	32,659.80	150,038.66
Lower respiratory infections	156,878.73	33,765.60	216,364.43	125,000.30	532,009.06
Gastro-intestinal haemorrhage	74,509.58	3,865.89	34,188.28	12,328.99	124,892.74
Alcoholic gastritis	70,724.19	12,408.71	272,640.73	32,187.91	387,961.54
Alcoholic liver cirrhosis	289,382.43	369,435.59	168,072.92	634,937.65	1,461,828.59
Cirrhosis and other chronic liver diseases due	68,185.62	10,694.90	48,934.06	20,460.81	148,275.39
Pancreatitis	270,863.91	63,015.97	328,688.64	123,348.77	785,917.29
FASD			56,500.31	13,679.99	70,180.30
Transport injuries	442,594.20	182,846.71	291,284.47	108,490.36	1,025,215.74
Occupational and machine injuries	149,949.58		83,993.98	52,470.36	286,413.91
Drowning		14,343.01			14,343.01
Aspiration	39,496.77	61,599.72	97,447.19	20,223.94	218,767.62
Alcoholic beverage & other EtOH poisoning	116,851.30	8,473.64	5,649.09	8,323.60	139,297.63
Self-harm	115,440.88	119,769.02	109,585.59	80,551.27	425,346.77

Interpersonal violence	491,325.46	79,089.85	1,186,720.10	1,718,280.19	3,475,415.60
Burns and scalds	40,555.90		40,145.25	14,480.76	95,181.92
Total	**4,087,424.35**	**1,417,316.54**	**4,857,835.72**	**3,346,346.23**	**13,708,922.84**

Source: NT Department of Health, Gakidou 2017, Hewitt, 2017, calculations by the authors

Chapter 5: Other Health Costs

Alcohol misuse places significant demands on hospitals in the NT. In 2017, Springer et al examined the characteristics of frequent users of inpatient hospital services in the NT by analysing all inpatient episodes in the five NT public hospitals between 2005 and 2013 (Springer et al., 2017). Frequent use was defined as having four or more inpatient episodes in any 365-day period during this time. Patients could therefore record multiple frequent use years. From a total of 105,371 patients (who accounted for 358,660 inpatient episodes), 13.6per cent were frequent users in at least one year, and they accounted for nearly half (46.6per cent) of all episodes. Aboriginal and Torres Strait Islander patients were more likely to be frequent users (21.7 per cent) than non-Aboriginal patients (10.0 per cent).

Patients with at least one inpatient episode in which the primary diagnosis was a condition that was wholly or partially attributable to alcohol or, in cases of injury or poisoning, in which an alcohol-related external cause was recorded, were marked with an alcohol-related risk flag. Similar procedures were used to apply mental health and pregnancy-related flags.

Having an alcohol-related risk flag was strongly associated with frequent use. Among Aboriginal patients who recorded one frequent use year, 36.8 per cent had an alcohol-related flag; the percentage climbed to 61.9 per cent among those who had two or more frequent use years in the nine-year period under review. While acknowledging that many conditions necessitate frequent attendance at hospitals, the study concluded that the 'single most avoidable factor associated with frequent us, particularly for Aboriginal people, was damage arising from alcohol misuse' (Springer, et al., 2017, p. 2).

In another recent study, Quilty et al (2016) analysed all adult presentations at the Katherine Hospital Emergency Department between 1 January 2012 and 31 December 2012, excluding presentations for chronic health conditions. They compared 'frequent attenders – defined as those who presented six or more times during the 12-month period – with those who presented once only. The study found that frequent attenders were significantly more likely than occasional attenders to be Aboriginal, homeless or in unstable living environments, and to have alcohol as a contributing factor to the presentations (Quilty et al., 2016).

In addition to the costs of hospital separations there are a number of other medical system and health related costs that can be partially attributable to alcohol. Previous studies such as Collins and Lapsley (2008) and South Australian Centre for Economic Studies (2009) tended to include a relatively broad range of costs, extrapolating from the attribution of hospital costs.

Better information on the drivers of non-hospital healthcare has led us to take a slightly more conservative approach in this report. We recognise that there are some data gaps that contribute to uncertainty about the appropriate substance attribution for these costs. As such, these should be viewed cautiously.

We have assumed that in general allied health spending such as physiotherapy and dentistry (except where included in the estimate of post injury costs for road crashes) will not be driven to any substantial degree by alcohol attributable diseases.

Substance use treatment costs are assessed in Section 12.1.

This leaves the following areas of other healthcare costs for inclusion in this analysis:

- Ambulance costs,

- Primary healthcare costs, including GP visits;
- Nursing home costs; and
- Absenteeism from work.

Unfortunately there is no direct equivalent to the coding by condition in the hospital separations data that would allow them to be straightforwardly attributed to alcohol, and therefore attribution of these costs will necessarily be more uncertain.

5.1 Ambulance costs

The proportion of ambulance costs attributable to alcohol is likely to be broadly similar to that of hospital separations. As such the proportion of hospital separation costs attributable to alcohol should provide a reasonable proxy for the proportion of ambulance costs that can be attributed to alcohol.

In 2015/16, total expenditure on hospital separations in the Northern Territory was $564.3 million. Alcohol attributable hospital separations are estimated to have had a total cost of $13.7 million, giving a cost share of 2.4 per cent.

Total ambulance expenditures (including user cost of capital) in the Northern Territory in 2015/16 were $28.1 million (SCRGSP 2017, Table 11A.16). Applying the cost share from the hospital separations data this suggests that the alcohol attributable cost of ambulances was **$682,038.55**.

5.2 Primary healthcare

There are a number of reasons for seeing a GP or other primary care physician which are largely unrelated to those for which patients are admitted to hospital. Reviewing data from the BEACH survey (Britt et al. 2016) there appears to be at least 19.4 per cent of GP visits that should be excluded from the calculation as wholly or largely unrelated to the conditions that result in hospital separations (prescriptions, general check-ups and administrative visits).

The AIHW estimates that total spending on primary healthcare in the Northern Territory is $875 million.

Adjusting this down to reflect the excluded reasons for encounter from the BEACH data gives in scope costs of $705.3 million.

Applying the cost share from the hospital separations data this suggests that the alcohol attributable cost of primary healthcare was **$17,132,758.88**.

5.3 Aged care costs

Data from the AIHW suggests that 53 per cent of nursing home residents suffer from some form of dementia (AIHW 2011). We have assumed that those with dementia would be in nursing home care regardless of other conditions and so have excluded them from the calculation of alcohol attribution.

Aged care spending in the Northern Territory is estimated to be $98.4 million in 2015/16 (SCRGS 2017, Table 14A.3).

Discounting this to expenditure on patients who do not have dementia gives potentially in scope costs of $46.6 million

Applying the cost share from the hospital separations data this suggests that the alcohol attributable cost of aged care is $1,132,900.67.

5.4 Workforce Costs

There are a number of ways in which the risky consumption of alcohol imposes costs on society through reduced economic output in the workplace, although most of these sources of cost are included in other Chapters of this report. Workplace costs include:

- Lost economic output due to premature mortality – included as part of the costs of premature alcohol attributable mortality;
- Lost economic output due to permanent impairment as a result of alcohol attributable injuries– costs related to road crash injuries included as part of the costs of road crash injuries, other accident costs cannot be quantified with the available data;
- Lost economic output due to time away from work as a result of alcohol attributable injury – included as part of the costs of premature alcohol attributable mortality;
- Lost economic output due to employees imprisoned for alcohol attributable crime – included as part of the costs of crime;
- Costs to business of recruiting replacement staff – included in premature mortality, alcohol attributable crime and road crash costs; and
- Lost economic output due to days absent due to alcohol linked illness and injury.

The national drug strategy household survey 2016 includes a question on the number of days lost from work or study due to your own or another person's alcohol use.

In total for the Northern Territory, once weighted up to the whole population of the Northern Territory aged 12+, the NDSHS data suggests that 21,294 working days were lost in the three months leading up to the survey (Hewitt 2017, analysis by the authors). Assuming that the rate of days lost to alcohol attributable causes is constant through the year, and that the average number of available working days was 229, this is equivalent to losing just under 372 employee years to absenteeism caused by alcohol use over the course of 2015/16.

Data is not available on the way in which the economic output attributable to labour varies across the workforce, or how the economic impact of those who die prematurely from smoking attributable causes differs from the average. As such it has been assumed that the economic output of those in work would have equalled the population mean. Gross state product per employee is calculated from current price estimates of GSP for the Northern Territory in June 2016 from the ABS state accounts and average employment in the Northern Territory over that year (Australian Bureau of Statistics, 2018b, c) and is $181,524in 2015/16 (in 2015/16 values). GSP per employee is assumed to grow at its long-run average real growth rate of 1.5per cent thereafter.

Applying this cost to the estimated number of employee years lost to alcohol attributable absenteeism gives a total cost of $67,520,574.35.

Chapter 6: Road Crash Costs

The approach taken in this chapter broadly follows that developed in Whetton et al. (2016) which was developed to assess the social costs of methamphetamine attributable road crash costs in Australia, with some minor modifications to address differences in the available data.

Driving under the influence of any of a number of intoxicating substances can increase the rates at which transport crashes occur. The increase in risk arises from impairment to the cognitive and psychomotor skills necessary to drive safely including reductions in attentiveness, poor judgement and/or increased impulsiveness, reduce lane control, increased reaction times, loss of consciousness and other impairments to fine and gross motor skills (Drummer et al., 2003a; Verstraete and Legrand, 2014). Evidence from crash studies suggests that alcohol and cannabis are the substances that cause the greatest number of road crash fatalities and hospitalisations, due to their greater population consumption prevalence and also to the nature of their effect on cognitive and psychomotor skills (Ch'ng et al., 2007; Drummer et al., 2003b; Verstraete and Legrand, 2014).

The tangible and intangible costs of premature mortality due to alcohol attributable transport accidents are included in the broader estimates of premature mortality costs (see Chapter 3). For the other forms of harm it is first necessary to quantify their overall frequency, then identify the proportion that can be attributed to alcohol, and finally to identify a unit cost for that form of harm.

6.1 Road crash frequency

Although data on fatalities and serious injury crashes are readily available, the lack of a requirement to report lower severity crashes means that the latter are typically undercounted, or not included at all, in published road crash statistics. Therefore estimates have been used in this report, as outlined below.

Data on the number of fatal road crashes and serious injury road crashes were taken from the Northern Territory Road Injury Statistical Summary (Road Safety NT, 2018). As this publication reports data on a calendar year basis estimates for the 2015/16 financial year were produced by averaging the data for 2015 and 2016.

Estimates for the frequency of lower severity crashes were derived by calculating the national ratio between non-hospitalised injury crashes and hospital injury crashes and that between non-injury crashes and hospitalised injury crashes in the national data (BITRE, 2009) and applying this to the number of serious injury crashes in the Northern Territory. The Bureau of Infrastructure, Transport and Regional Economics (BITRE) estimates that for every serious injury crash there were 7.4 'not hospitalised injury' and 17.2 non-injury crashes.

Averaging over 2015 and 2016 there were 47 road crash fatalities (arising from 41 accidents) and 515.5 serious injury accidents (from 384.5 crashes). Applying the national ratios to Northern Territory data suggest that there would be 3,804.9 'not hospitalised injuries (from 2,838 crashes), and 6,615.4 non-injury crashes. See Table 6.1 below.

Table 6.1: Average number of road crashes by severity of injury, 2015 and 2016

	Number of crashes	No. of persons injured by severity
Actual data		
Fatalities	41	47
Serious injury	384.5	515.5

Estimated from national ratios of accident severity		
Not hospitalised injury	2,838.0	3,804.9
Property damage only crashes	6,615.4	
Total	**9,878.9**	**4,367.4**

Source: Road Safety NT, 2018, BITRE, 2009

6.2 Alcohol attribution

Attribution of transport crash harms to alcohol require (ideally place specific) observation that identify the extent to which those intoxicated by alcohol are at fault in road crashes. Nationally this is estimated to have been 30 per cent of road crash fatalities and 9 per cent of serious injury crashes (Vissers, Houwing, and Wegman, 2017). Rates are expected to be higher in the Northern Territory given that the rate of risky alcohol consumption are significantly higher than the national average (AIHW 2017). Rates of driving whilst intoxicated also appear to be significantly higher in the Northern Territory, for example Devlin and Fitzharris (2013) report that over the period 2000 to 2006 51 per cent of drivers of fatal single vehicle crashes had a blood alcohol content above 0.05, whereas in the Northern Territory it was 71 per cent of drivers.

The two most promising approaches to identifying the degree to which road crash costs can be attributed to alcohol are: (1) using the assessments made by NT police as to whether alcohol was the primary cause of the crash (Road Safety NT 2018); and (2) factoring up the national estimates of alcohol attribution for road crashes (Vissers, Houwing, and Wegman, 2017) to reflect the higher prevalence of drunk driving in the Northern Territory (Devlin and Fitzharris, 2013).

The approach taken to the latter method is that set out in WHO (2000) for adjusting directly derived attributable fractions for differences in risk exposure (see Section 2.4 for details).

Attributable fractions derived using the two approaches are set out in Table 6.2. As it involves direct assessment of Northern Territory crash records the NT police attribution will be used as our central estimate, and the factoring up of national attributable fractions will act as a lower bound.

Table 6.2: Estimated alcohol attributable fractions for road crashes in the Northern Territory

	NT police attribution	Adjusted national estimates
Fatalities	0.479	0.393
Serious injury crashes	0.199	0.130

Source: Road Safety NT, 2018, Vissers, Houwing, and Wegman, 2017, Devlin and Fitzharris, 2013, calculations by the authors

Applying these attributable fractions to the estimated road crash frequency for the Northern Territory (and assuming that accidents with a severity lower than 'serious injury' have an alcohol attribution that matches that of serious injury crashes), we estimate that a total of 1,964 road crashes in the Northern Territory are attributable to alcohol, as were 868 road crash injuries.

Table 6.3: Estimated average number of alcohol attributable road crashes by severity of injury, 2015 and 2016

	Number of crashes	No. of persons injured by severity
Fatalities	19.6	22.5
Serious injury	76.5	102.5

Not hospitalised injury	564.3	756.5
Property damage only crashes	1,315.4	
Total	**1,964.3**	**868.4**

Source: Road Safety NT, 2018, BITRE, 2009, calculations by the authors

6.3 Costs of Road Crash Accidents

There are a range of harms and costs that can arise from transport accidents including:

- Premature mortality;
- Hospital separations;
- Permanent disability;
- Non-hospital medical costs;
- Damage to property;
- Costs of insurance administration; and
- Intangible costs on non-fatal accidents.

The tangible and intangible costs of premature mortality, and of hospital separations, due to alcohol attributable transport accidents are included in the broader estimates of premature mortality costs (see Chapters 3 and 4 respectively) and so are not assessed in this Chapter.

6.4 Tangible costs of disability caused by road crashes

There are two broad approaches that could be taken to the other costs of road crashes severe enough to result in a hospital separation, calculating the costs of each specific form of harm individually (e.g. outpatient medical care, lost lifetime output in the workplace, lifetime value of lost household labour, modifications to dwellings and vehicles to adjust for impairment, long-term care costs over the lifetime), or to use compensation payments for these injuries where such long-term costs should be "capitalised" into a single lump sum payment in the study year.

Due to uncertainties around the extent to which lump sum compensation payments fully capture long term care costs, we have adopted the former approach in this study.

The BITRE (2009) estimate that serious injury road crashes will lead to some degree of permanent impairment in around 15 per cent of cases, with the degree of permanent impairment varying significantly from 'profound limitations' to 'mild limitations'.

Applying these frequencies to the estimated 102.5 alcohol attributable serious injury accidents in the NT in 2015/16 suggest just over 15 persons would be expected to have an on-going disability due to alcohol attributable road crashes (see Table 6.4).

Average unit costs of disability by severity are taken from BITRE (2009) and these, updated to 2015/16 values using the CPI (ABS, 2018d) are also shown in Table 6.4.

Table 6.4: Estimated frequency and on-going costs of permanent impairment due to alcohol attributable road crashes in the Northern Territory

Severity of impairment	Proportion of serious injury accidents	Estimated no. alcohol attributable in NT	Equipment purchase & dwelling modification	Annual care (annual) $	Equipment maintenance (annual) $	On-going medical (annual) $

			(one-off) $			
Profound limitations	0.022	2.3	49,966.1	271,591.2	1,169.4	7,136.8
Severe limitations	0.019	1.9	49,966.1	72,185.7	1,169.4	7,136.8
Moderate limitations	0.058	5.9	18,129.5	22,795.5	424.3	4,282.1
Mild limitations	0.049	5.1	9,064.7	0.0	212.2	2,569.2

Source: BITRE, 2009, Road Safety NT, 2018, ABS 2018d, calculations by the authors

In addition to these costs relating to dealing specifically with the impairment arising from road crashes, disabilities also impact on the probability of employment. The extent of the impact on employment will vary depending on the severity of the impairment, and the extent to which the injured individual's form of employment (or skill set and aptitudes) are amenable to modification to adjust for the impairment. Estimates presented by BITRE suggest that the reduction in employment probability ranges from 85 per cent for those with profound limitations to a 30 per cent reduction in the probability of employment for those with mild limitations.

The estimated years of potential workforce participation were allocated between gender and age group using national data from BITRE (2009). These age specific disability rates for then "aged forward" over the 30 year analysis period using life tables to estimate if someone of that age and gender would still be expected to be alive in that year. These were then multiplied by age and gender specific employment probabilities for the Northern Territory from the ABS's 2016 Census (ABS 2017a) to give the estimated lost years of employment. Gross state product per employee is calculated from current price estimates of GSP for the Northern Territory in June 2016 from the ABS state accounts and average employment in the Northern Territory over that year (ABS, 2018b, c) and is $181,524in 2015/16 (in 2015/16 values). GSP per employee is assumed to grow at its long-run average real growth rate of 1.5 per cent thereafter. Multiplied by the lost employee years for each year if the analysis period and converted to present values using a real discount rate of 7 per cent this gives a total cost of lost economic output of $12.2 million.

Permanent impairment also reduces the potential for individuals to contribute to unpaid household labour. It was assumed that the impact of impairment on the ability to contribute (unadjusted for labour force status) was used as the basis for the calculation.

The estimated value of household labour per adult estimates was calculated using the approach set out in Section 3.2.3 using the population data in ABS (1997) and to 2015/16 values using the CPI (ABS, 2017d) gives values of unpaid household work of $ 19,612.60 per adult male and $35,016.20 per adult female. It was assumed that the value of unpaid labour in the household for those aged less than 15 and those aged over 75 years old was zero, and the value of household labour of those aged 15 to 24 was discounted by 50 per cent.

Applying these estimates to the age structure of the injured population over the 30 year analysis period and converting to present values using a 7 per cent real discount rate gives an estimated cost of lost labour in the household of just under $2.7 million.

As many of these costs are long term, the total costs have been calculated as net present values over the expected remaining life of those injured (to a maximum of 30 years), discounting future costs at 7 per cent. It has been assumed that costs increase on average at the rate of inflation over the analysis period (e.g. constant in real terms. These net present values are shown in Table 7.5, with the total tangible cost of permanent alcohol attributable impairment occurring in 2015/16 estimated to be just under $30 million (see Table 6.5).

Table 6.5: Tangible costs of permanent impairment due to alcohol attributable road crashes in the Northern Territory

Cost type	Value ($)
Equipment costs	452,886
On-going support worker costs	13,696,406
On-going medical costs	905,731
Lost economic output from reduced employment	12,237,730
Lost value of household labour	2,696,032
Total	**29,988,785**

Source: BITRE, 2009, Road Safety NT, 2018, ABS 2018d, calculations by the authors

6.5 Workplace costs of road crashes

BITRE (2009) estimated that road crash injuries created workplace disruption costs (including temporary replacement costs for temporarily impaired workers, and the costs of recruitment and training to replace those unable to return to their previous employment) to employers of $77.7 million in 2006. Converting to a 'per fatality and serious injury crash' cost based on their estimate of crash frequency, and to 2015/16 values using the CPI (ABS, 2018d) gives an average cost of workforce disruption per crash resulting in a serious injury of $3,148.09.

We estimate that there were 102.5 serious injuries resulting from alcohol attributable road crashes in the Northern Territory in 2015/16, giving a total cost of $322,679.43

6.6 Intangible costs of alcohol attributable road crashes

In addition to the tangible cost of road crashes, they also impose intangible costs due to pain and suffering. In theory at least some intangible costs are likely to arise from almost any road crash, however we were only able to identify reliable parameter estimates for the disability adjusted life years (DALYs) lost from permanent impairment.

A DALY represents the equivalent of a full year of life lost prematurely. In the context of injury or illness these are typically expressed as a cost weight representing the estimated average loss of quality of life as a fraction of a health year of life. Cost weights range from 0 (full health) to 1 (equivalent to death).

These lost DALYs then need to be converted to a monetary value for inclusion in a social cost study. Valuing DALYs is not without controversy (Baker et al., 2010; Dolan, 2010; Donaldson et al., 2011; Miller and Hendrie, 2011). The most straightforward approach (used, for example, in Moore 2007 and Nicosia et al., 2009) is to assume the value of a DALY equals that of a statistical life year. The value of a statistical life year is typically calculated by making an assumption of the average years of life remaining for the individual's whose behaviours gave rise to the value of a statistical life estimate (typically assumed to be 40 years) and then annualise using the same approach used to calculate the annual payment for an annuity of a given total value, e.g.:

$$VoSLY_{t=1} = VoSL \times \frac{(1-(1+g)/(1+r))}{(1-(\frac{1+g}{1+r})^{years})}$$

Where

VoSL = estimated value of a statistical life
g = annual escalation factor for VoSLY, typically the long-run real growth rate in per capita GDP
r = the discount rate being used, in Australian studies this usually a real annual rate of 7 per cent
years = assumed average years of life remaining at the time of the study for the sample used to derive the VoSL estimate

The limitation of this simple approach is that research has shown that the value of a life year can be contextual, e.g. it can depend heavily on factors such as age, current health state, expected years of life remaining, ability to pay, and individual views on optimal distribution of resources through the life cycle (Baker et al., 2010; Dolan, 2010; Donaldson et al., 2011). The prospective expressed willingness to accept less years of life in exchange for avoiding various health conditions or impairments also often appears too high given the degree of adaption observed in individuals with those forms of impairment (Dolan, 2010).

For this reason some researchers maintain that it is only possible to obtain reliable estimates of DALYs in case and context specific studies that can capture the full context when estimating values. However such studies are typically very time intensive and require substantial resources to implement and it is impractical to undertake new quantification for each situation in which loss of quality of life needs to be valued. There is also the concern that in adopting study specific values for a DALY any observed differences in valuation between different contexts or forms of impairment may be driven by the sampling error in the study rather than reflecting any underlying difference in the valuation. For these reasons a VoSLY estimate derived from the value used for a statistical life (see Section 4.3) has been used in this study to value lost DALYs.

DALYs lost per year from the permanent impairment arising from a road crash range from 0.63 for profound impairment to 0.09 for mild impairment. Estimates of the number of cases of permanent impairment arising from alcohol attributable road crashes is calculated using the approach set out in Section 6.4. These were allocated between gender and age group using national data from BITRE (2009). These age specific disability rates for then "aged forward" over the 30 year analysis period using life tables to estimate if someone of that age and gender would still be expected to be alive in that year.

The VoSLY was increased at a real rate of 1.5 per cent per annum reflecting the long run average rate of increase in per capita national income, with future values discounted back to present values using a real discount rate of 7 per cent per annum.

The estimated present value of the intangible costs of road crash injury related impairment is $17,071,766.35.

6.7 Costs of road crash property damage

BITRE (2009) estimates that the average cost of property damage to vehicles as a result of road crashes ranges from $3,779 for cars to $15,171 for trucks. Converting to 2015/16 values using the CPI and calculating a weighted average based on the relative frequency of different vehicle types being involved in a road crash gives an average property damage cost per crash of $4,269.90.

Applying this average per vehicle cost to our estimate of 1,964.3 road crashes gives an estimated cost of alcohol attributable property damage of $8,387,296.70.

6.8 Costs of legal fees and insurance administration from road crashes

The costs of insurance administration for claims related to road accidents were estimated by BITRE to be $257.5 million in 2006, with legal actions costing a further $231.3 million (BITRE, 2009). Combining these two cost items, converting them to 2015/16 values using the change in the CPI from June 2006 to June 2016 (ABS, 2018d), and dividing them by the estimated number of road crashes in 2006 (BITRE 2009) gives a per accident cost of $945.06.

Multiplying this by the estimated number of alcohol attributable road crashes in the Northern Territory in 2015/16 gives a total cost of $1,856,373.29

6.9 Summary of costs

Excluding the costs of premature mortality and hospital separations due to road crashes to avoid double counting as they are included in the calculations set out in Chapters 4 and 5 respectively, alcohol attributable road crashes cost the Northern Territory $57.6 million in 2015/16.

The most significant single cost item is the loss of quality of life, followed by on-going support worker costs for those with long-term disabilities, and lost economic output from lower rates of workforce participation by those injured in road crashes.

Table 6.6: Summary of road crash costs in the Northern Territory attributable to alcohol in 2015/16

Cost item	Cost ($)
Premature mortality	included in Chapter 2
Hospital separations	included in Chapter 3
Tangible costs of permanent disability	
Equipment costs	452,886.16
On-going support worker costs	13,696,405.79
On-going medical costs	905,731.24
Lost economic output from reduced employment	12,237,729.77
Lost value of household labour	2,696,031.62
Costs of workforce disruption	322,679.43
Costs of property damage	8,387,296.70
Costs of insurance administration and legal costs	1,856,373.29
Lost quality of life due to road crashes (intangible cost)	17,071,766.35
Total road crash costs (excl mortality and hospital separations)	**57,626,900.35**

Chapter 7: Alcohol Attributable Crime

Excessive alcohol consumption is linked to increased rates of crime (Dingwall, 2013)..

The costs of alcohol attributable crime can be substantial, for example at the national level Collins and Lapsley (2008) estimated the cost of alcohol attributable crime in 2004/05 at $1,424 million (in 2004/05 dollars), excluding any healthcare costs or costs related to premature mortality. Following Collins and Lapsley's methodology, SACES (2009) estimated the cost of alcohol attributable crime to the Northern Territory in 2004/05 at $91.4 million.

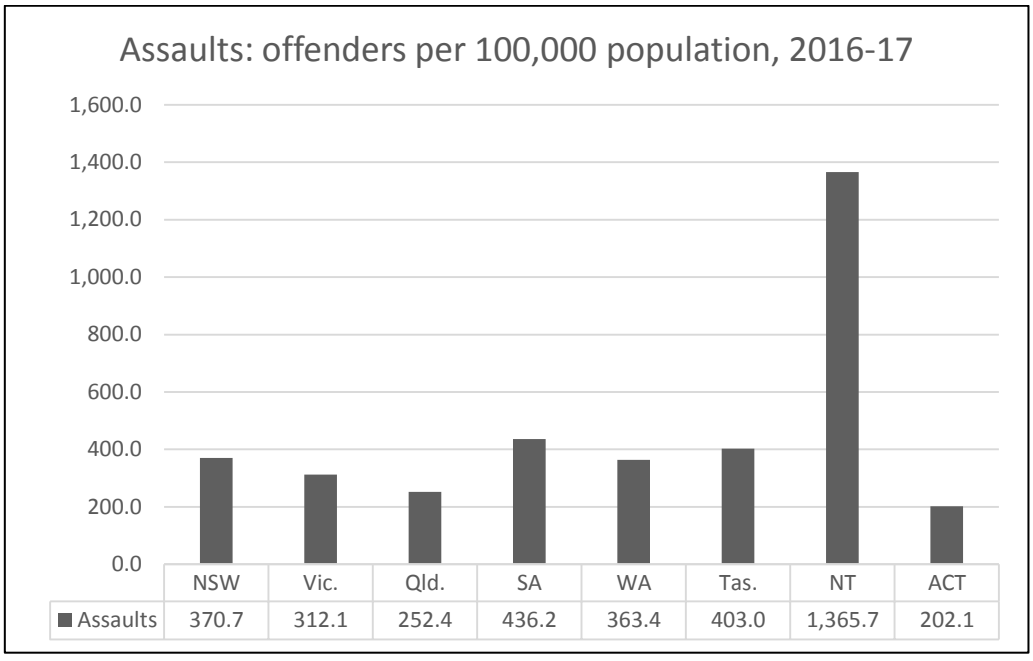
We will largely follow a slightly revised methodology that was used in Whetton et al. (2016) to assess the costs of methamphetamine attributable crime. This requires several pieces of information:

- The proportion of crime, by most serious offence, attributable to alcohol;
- The share of police time spent on crime related matters;
- Criminal court costs;
- The costs of detention by most serious offence; and
- The costs of crime by type of offence.

7.1 Scale of alcohol attributable crime in the Northern Territory

Assault rates are far higher in the NT than elsewhere in Australia. In 2016-17, as Figure 7.1 shows, the number of recorded offenders with a principle offence of assault in the NT was 1365.7 per 100,000 population, almost four times the national rate of 343.6 offenders per 100,000, and far higher than any other jurisdiction (ABS, 2018e). Among Aboriginal and Torres Strait Islander residents of the NT, the offender rate for 'Acts intended to cause injury' in 2016-17 was 4081.7 per 100,000 population, more than 16 times the non-Indigenous rate of 248.7 per 100,000. (ABS, 2018f).

Figure 7.1: Assault offenders per 100,000 population, 2016-17



Source: Australian Bureau of Statistics, 4519.0 - Recorded Crime - Offenders, 2016-17

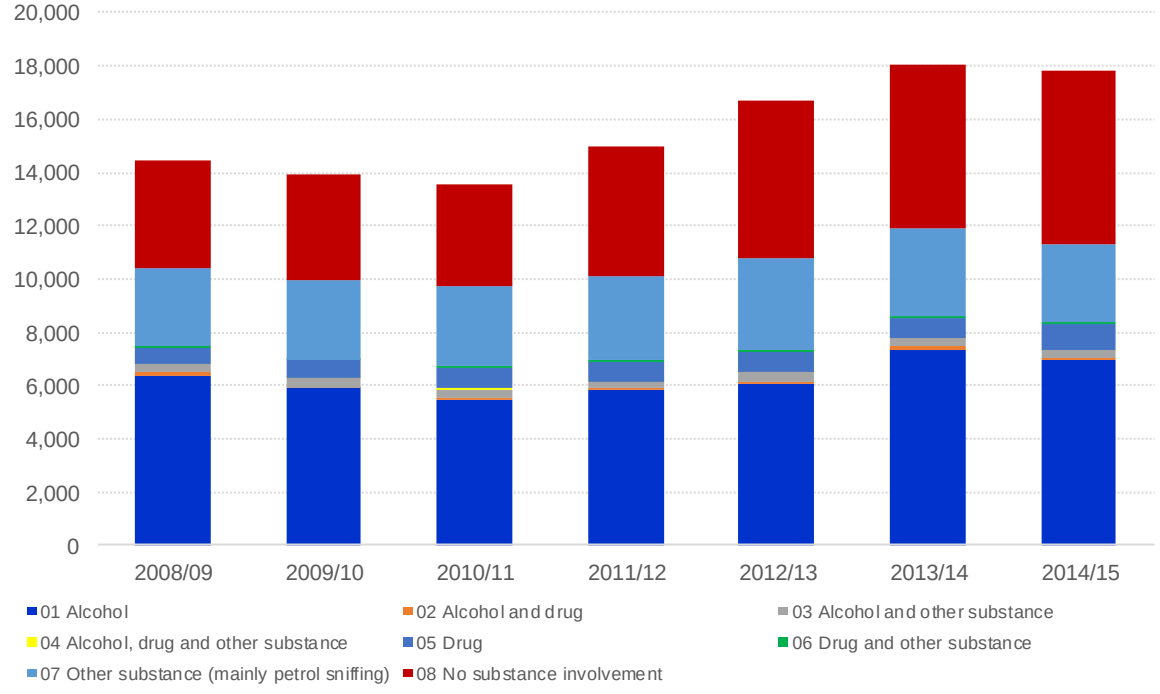
Historically the proportion of crime attributable to substance use in Australia is calculated by deriving equivalents to attributable fractions from the Drug Use Monitoring in Australia survey,

which surveys those in police detention in selected watch houses. Substance use attribution is calculated by combining data from survey responses around self-reported attribution of offending behaviour to a specific substance, how recent the last use of that substance was, and whether they attribute offending to any other substance. This approach was used in Collins and Lapsley's national calculations for alcohol, smoking and drugs in 2004/05 (2009), in SACES's calculations for the costs of alcohol in the NT in 2004/05 (2009), and in a recent national analysis of the costs of methamphetamine use Australia (Whetton et al. 2016).

Due to funding cuts the DUMA survey is no longer undertaking in the Northern Territory and an alternative source of substance use attribution is needed. Fortunately data is collected by the NT Department of Attorney General and Justice which identifies attribution of court episodes to substance use. Offenders can be coded to alcohol, drugs, other substances (mainly petrol sniffing), combination of these substances, or to no substance, with the data also coded to the most serious offence.

Figure 7.2 and Table 7.1 show the contribution of the various substances to crime in the Northern Territory over the eight most recent years for which data is available. In each of the years alcohol alone is the largest single substance attributed to the offence, with no substance involvement the second largest and 'Other substances (petrol sniffing)' the third most common attribution. All other substances account for a very small share to total offenders.

Figure 7.2: Substance attribution of offending over time, charged persons, Northern Territory, 2008/09 to 2014/15.



Source: NT Department of the Attorney-General and Justice

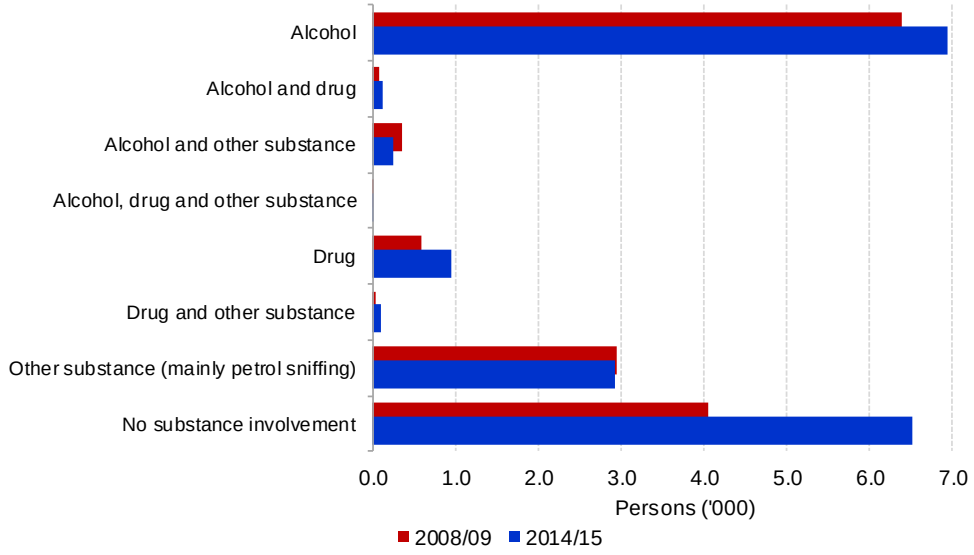
Table 7.1: Type of substance(s) involved in offending over time, charged persons, Northern Territory

Substance involved	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
01 Alcohol	6,395	5,873	5,443	5,807	6,063	7,340	6,940
02 Alcohol and drug	78	65	91	81	105	129	125
03 Alcohol and other substance	345	325	335	255	366	331	255
04 Alcohol, drug and other substance	11	11	7	5	12	8	12
05 Drug	580	658	783	711	710	742	942
06 Drug and other substance	38	53	61	69	70	80	102
07 Other substance (mainly petrol sniffing)	2,942	2,995	3,021	3,169	3,427	3,244	2,919
08 No substance involvement	4,057	3,961	3,782	4,905	5,963	6,209	6,524
Total	14,446	13,941	13,523	15,002	16,716	18,083	17,819

Source: NT Department of the Attorney-General and Justice

The proportion of offences with no substance attribution has increased steadily since the start of the 2010s, with the share of charged persons whose offence was attributed to alcohol and 'Other substances (petrol sniffing)' falling slightly (although the absolute number of offences attributed to each of these substances has increased over the period as the total number of offences has increased). This is also the case for the substance attribution of those convicted of an offence, shown in Figure 7.3 which compares the number of convicted persons whose offending is attributed to one or more substances (or no substance) between 2008/09 and 2014/15.

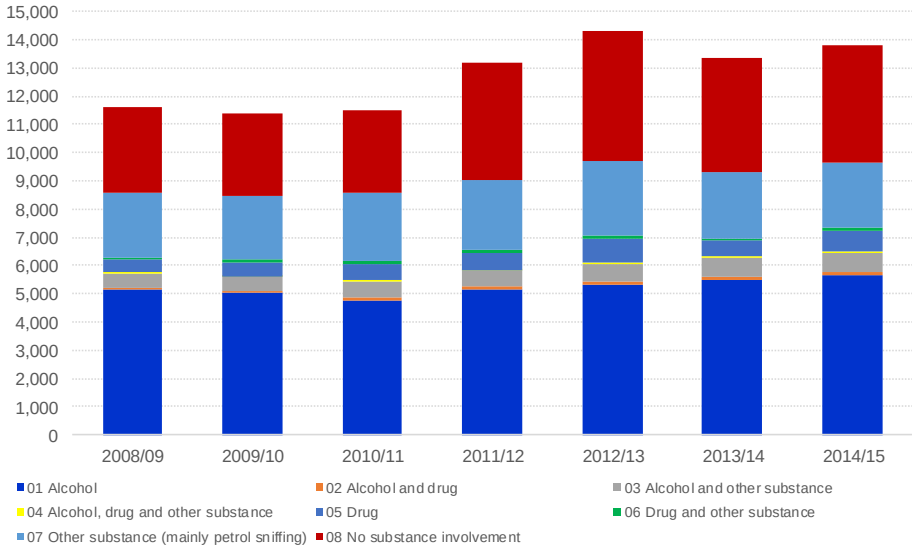
Figure 7.3: Type of substance involved for charged persons



Source: NT Department of the Attorney-General and Justice

A similar pattern can be seen amongst convicted persons, although unlike for charged persons the decline in alcohol attribution over the first two years then levels out, and whilst there is still an increase in the proportion with no substance involvement it is not as significant as that seen in the 'charged person' data (see Figure 7.4 and Table 7.2).

Figure 7.4: Substance attribution of offending over time, charged persons, Northern Territory, 2008/09 to 2014/15.



Source: Data provided by the Department of the Attorney-General and Justice

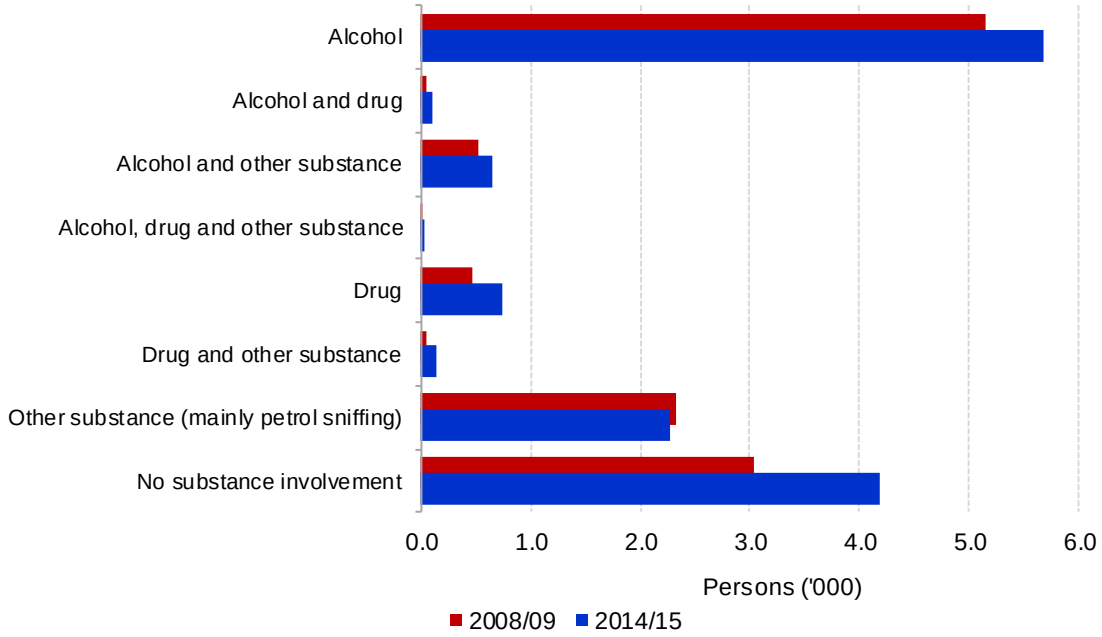
Table 7.2: Type of substance(s) involved in offending over time, convicted persons, Northern Territory

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
01 Alcohol	5,161	5,011	4,761	5,173	5,313	5,489	5,678
02 Alcohol and drug	48	68	82	78	98	100	109
03 Alcohol and other substance	525	494	614	572	666	685	657
04 Alcohol, drug and other substance	13	19	14	22	31	35	29
05 Drug	459	540	590	617	823	564	734
06 Drug and other substance	53	58	77	91	125	98	135
07 Other substance (mainly petrol sniffing)	2,331	2,249	2,434	2,448	2,631	2,352	2,279
08 No substance involvement	3,031	2,925	2,953	4,214	4,641	4,031	4,180
Total	**11,621**	**11,364**	**11,525**	**13,215**	**14,328**	**13,354**	**13,801**

Source: Data provided by the Department of the Attorney-General and Justice

This lower growth rate for the share of offending without substance involvement can be seen more clearly in Figure 7.5 which compares convicted persons by substance involvement between 2008/09 and 2014/15.

Figure 7.5: Type of substance involved for convicted persons



Source: Data provided by the Department of the Attorney-General and Justice

For the purposes of calculating the costs of alcohol attributable crime it is not the total number of offences that are of interest, but rather then proportion of each most serious offence category that is attributable to alcohol. These proportions, which are similar to the alcohol attributable fractions reported in the deaths and hospitalisations chapters, are shown in Tables 7.3 (charged persons) and 8.4 (convicted persons). Amongst charged persons in 2014/15 the most serious offence category with the greatest alcohol involvement is 'Homicide and related offences' with 56 per cent of charged persons attributed to alcohol. 'Public order offences' (53 per cent) and 'Acts intended to cause injury' (48.5 per cent) have the next highest levels of alcohol involvement. Illicit drug offences have no alcohol attribution, and only 1.4 per cent of those charged with 'Deception and related offences' have their offending attributable to alcohol.

The pattern of alcohol attribution is slightly different for those convicted, with 'Public order offences' having the highest alcohol attribution at 56 per cent. 'Offences against justice procedures' (54 per cent) and 'Dangerous or negligent acts endangering a person' (49 per cent) are the most serious offence categories that have the next highest levels of alcohol attribution.

Having identified the proportion of crime (by most serious offence) that can be attributed to alcohol it is then necessary to identify the relevant cost items to apply these fractions to in order to identify the costs to the Northern Territory. There are:

- police costs;
- court costs;
- corrections costs; and
- costs to victims of crime.

Following the broader approach in the analysis costs directly incurred by the drinker themselves are excluded from the calculation as a private rather than a social cost. Medical costs, and costs arising as a result of premature mortality, are not included in this Chapter as they have been included in the cost calculations in Chapters 4 and 3 respectively. This analysis of alcohol attributable crime costs closely follows the approach set out in Whetton et al. (2016) which was developed to assess the social costs of methamphetamine attributable crime in Australia.

Table 7.3: Proportion of offending attributable to substance used by substance and most serious offence, charged persons, 2014/15

	Alcohol (per cent)	Alcohol & drug (per cent)	Alcohol & other substance (per cent)	Alcohol, drug & oth substance (per cent)	Drug (per cent)	Drug & oth substance (per cent)	Other (petrol sniffing) (per cent)	No substance involvement (per cent)	Total (no. of persons)
Homicide and Related Offences	55.6	0.0	0.0	0.0	5.6	0.0	22.2	16.7	18
Acts Intended to Cause Injury	48.5	0.7	1.0	0.0	1.0	0.2	16.7	32.0	3,033
Sexual Assault and Related Offences	20.5	0.7	0.0	0.0	1.3	1.3	20.5	55.6	151
Dangerous or Negligent Acts Endangering Persons	36.3	1.2	0.4	0.8	5.6	1.6	18.1	35.9	248
Abduction and Related Offences	21.4	0.0	0.0	0.0	2.4	0.0	28.6	47.6	42
Robbery, Extortion and Related Offences	23.1	0.0	0.0	0.0	7.7	3.8	17.3	48.1	52
Unlawful Entry with Intent/Burglary, Break and Enter	24.6	0.3	1.1	0.0	2.6	0.9	26.0	44.5	699
Theft and Related Offences	19.4	0.1	1.2	0.0	3.5	0.7	28.4	46.7	739
Deception and Related Offences	1.4	0.0	0.0	0.0	2.8	1.4	18.1	76.4	72
Illicit Drug Offences	0.0	4.4	0.0	0.1	88.7	6.0	0.3	0.5	794
Weapons and Explosives Offences	25.5	1.0	0.3	0.0	3.6	0.7	29.1	39.7	302
Property Damage and Environmental Pollution	28.3	0.3	1.0	0.0	1.5	0.5	26.7	41.7	607
Public Order Offences	53.1	2.5	1.9	0.1	1.3	0.5	14.9	25.8	800
Road Traffic and Motor Vehicle Regulatory Offences	41.9	0.5	1.4	0.1	1.1	0.2	12.7	42.1	4,807
Offences Against Justice Procedures, Govt Sec.& Ops.	43.6	0.3	2.2	0.1	0.8	0.2	16.9	36.0	5,296
Miscellaneous Offences	3.2	0.0	0.0	0.0	11.6	0.0	17.9	67.4	95
Others	1.6	0.0	1.6	0.0	4.7	0.0	26.6	65.6	64

Source: Data provided by the Department of the Attorney-General and Justice

Table 7.4: Proportion of offending attributable to substance used by substance and most serious offence, convicted persons, 2014/15

	Alcohol (per cent)	Alcohol & drug (per cent)	Alcohol & other substance (per cent)	Alcohol, drug & oth substance (per cent)	Drug (per cent)	Drug & oth substance (per cent)	Other (petrol sniffing) (per cent)	No substance involvement (per cent)	Total (no. of persons)
01 Homicide and Related Offences	37.5	0.0	0.0	0.0	4.2	0.0	25.0	33.3	37.5
02 Acts Intended to Cause Injury	48.4	0.4	6.2	0.2	1.1	0.5	19.1	24.1	48.4
03 Sexual Assault and Related Offences	20.3	1.5	0.0	0.0	1.5	0.8	22.6	53.4	20.3
04 Dangerous or Negligent Acts Endangering Persons	49.0	2.0	4.6	0.2	3.3	1.6	15.7	23.7	49.0
05 Abduction and Related Offences	28.3	0.0	5.0	0.0	3.3	1.7	23.3	38.3	28.3
06 Robbery, Extortion and Related Offences	30.2	0.0	2.3	0.0	2.3	0.0	23.3	41.9	30.2
07 Unlawful Entry with Intent/Burglary, Break and Enter	24.9	0.5	8.0	0.2	1.3	2.4	31.3	31.5	24.9
08 Theft and Related Offences	22.1	0.2	5.4	0.5	0.7	1.3	31.7	38.1	22.1

09 Deception and Related Offences	3.1	0.0	1.0	0.0	3.1	0.0	29.9	62.9	3.1
10 Illicit Drug Offences	0.0	4.7	0.0	0.9	83.6	9.4	0.7	0.6	0.0
11 Weapons and Explosives Offences	22.0	2.4	3.5	1.1	7.3	1.6	23.6	38.5	22.0
12 Property Damage and Environmental Pollution	34.7	0.0	4.8	0.3	0.8	0.5	23.0	36.0	34.7
13 Public Order Offences	56.0	1.2	4.9	0.0	0.4	0.4	15.5	21.6	56.0
14 Road Traffic and Motor Vehicle Regulatory Offences	42.0	0.4	3.3	0.0	0.6	0.0	12.9	40.8	42.0
15 Offences Against Justice Procedures, Govt Sec.& Ops.	54.0	0.5	6.5	0.2	1.1	0.3	13.4	23.9	54.0
16 Miscellaneous Offences	1.3	0.0	0.0	0.0	6.3	2.5	17.5	72.5	1.3
99 Others	0.0	0.0	0.0	0.0	7.4	0.0	25.9	66.7	0.0

Source: Data provided by the Department of the Attorney-General and Justice

7.2 Police Costs

Real expenditure on police service costs in the Northern Territory was $283.8 million in 2015/16 (SCRGSP 2017), or $306.8 million if the user cost of capital is included[3]. However only those costs related to crime or maintenance of public order are potentially attributable to alcohol and so these costs need to be scaled down appropriately as they include a number of forms of activity which are not related to activity to avert crime or identify those responsible for crimes.

Smith et al. (2014) estimate that approximately 80 per cent of police costs are spent on activities related to crime, based on 2011 data from the NSW police service. It is difficult to ascertain this accurately for the NT,. But an alternative estimate can be derived from WA Police 2014 Annual Report (WA Police, 2014) in which expenditure was allocated between activity types (with administrative overhead costs allocated between activity types based on their share of operational expenditure). For the purposes of this calculation, "Intelligence and protective services", "Response to, and investigation of, offences" and "Services to the Judicial Process" are assumed to be crime related activities, with "Crime Prevention and Public Disorder", "Community Support (non-offence)"; "Emergency Management" and "Traffic Law Enforcement and Management" were classed as non-crime activities. Excluding time allocated to these activity types gives an estimate of 64 per cent of police time being crime related.

Our central estimate combines the more conservative allocation of police costs to crime derived from the WA data with the cost of police services including the user cost of capital, giving a total cost of $195.7 million in 2015/16. As a lower bound estimate of the cost we have combined the WA activity costing with the police service cost ***excluding*** user cost of capital ($181.0 million), and our upper bound estimate is based on the Smith et al. (2014) estimate of the proportion of police time allocated to crime with the police service cost including user costs of capital ($245.5 million).

As different offence types have different alcohol attributable fractions the cost of police time allocated to crime needs to be split between principal offence types. Simply allocating costs based on the number of offenders processed by police will produce an inaccurate estimate as the amount of police time spent on frequent, but relatively straightforward, cases such as driving offences is much lower per person charged that in offences that typically involve more intensive investigations such as murder or major fraud. One approach to weighting the raw numbers would be to use data on the total police custody hours by offence category, however, this also has the potential to be influenced by variations in the time taken to arrange bail or to be transferred to remand which can be influenced by the socioeconomic status of the person in police custody. Instead, we use court data on the average length of a trial (ABS, 2017b) as a reasonable proxy for the average complexity of cases by offence category and use this to calculate a complexity weight for offence types. Police costs are allocate between principal offence categories based on this ***weighted*** frequency of individuals charged.

Allocating police costs between offence categories on this basis, and then applying the alcohol attributable fractions for charged persons derived from the data set out in Table 7.5 gives a central estimate of total alcohol attributable police cost of **$75.9 million,** with a lower bound of **$70.2** million and an upper bound of **$95.2 million**.

[3] Any costs incurred by the Australian Federal Police have been excluded as there is no reliable way to estimate the alcohol attribution on the AFP's activities.

Table 7.5: Allocation of police costs to alcohol attributable crime

Principal offence category	Number of charged persons	Weighted share of police time on crime (%)	Alcohol attributable fraction	Alcohol attributable police costs ($'000)
01 Homicide and Related Offences	18	0.5	0.556	528.9
02 Acts Intended to Cause Injury	3,033	18.5	0.485	17,543.5
03 Sexual Assault and Related Offences	151	1.3	0.205	508.0
04 Dangerous or Negligent Acts Endangering Persons	248	1.2	0.363	871.5
05 Abduction and Related Offences	42	0.3	0.214	114.0
06 Robbery, Extortion and Related Offences	52	0.8	0.231	344.1
07 Unlawful Entry with Intent/Burglary, Break and Enter	699	5.6	0.246	2,690.5
08 Theft and Related Offences	739	4.8	0.194	1,810.8
09 Deception and Related Offences	72	0.5	0.014	12.3
10 Illicit Drug Offences	794	4.4	0.000	0.0
11 Weapons and Explosives Offences	302	2.0	0.255	975.1
12 Property Damage and Environmental Pollution	607	3.1	0.283	1,729.6
13 Public Order Offences	800	5.9	0.531	6,173.2
14 Road Traffic and Motor Vehicle Regulatory Offences	4,807	11.0	0.419	9,001.2
15 Offences Against Justice Procedures, etc.	5,296	39.3	0.436	33,524.3
16 Miscellaneous Offences	95	0.6	0.032	38.0
99 Others	64	0.4	0.016	12.6
Total (central estimate)	**17,819**	**100.0**		**75,877.7**
Lower Bound Total				**70,190.1**
Upper Bound Total				**95,169.0**

Source: NT Department of the Attorney-General and Justice, SCRGSP 2017, ABS 2017b, WA Police 2014, Smith et al. 2014, calculations by the authors

7.3 Court Costs

Total recurrent expenditure on criminal courts in the Northern Territory was $13.2 million for higher courts and $15.4 million for Magistrates courts in 2015/16 (SCRGSP, 2017).

Offender based attributable fractions calculated by the NT DAGJ for 2014/15 were used to assess the court costs attributable to alcohol (see Table 7.3). As with police costs, these court costs need to be allocated between offence categories (based on the alleged perpetrator's most serious offence (MSO)) so that the relevant attributable fraction can be applied to them.

The dataset on persons charged did not identify the level of the court and so Australian data on the number of cases finalised and the mean duration of the case from the ABS publication 'Criminal Courts 2015-16, Cat No. 4513.0' (2017b) was used to estimate the number of 'defendant days' for each offence category by level of court (higher or magistrates). These totals were used to allocate Northern Territory offences between higher courts and magistrates courts, and within each level of court to allocate costs between offence categories.

Applying the relevant attributable fractions gives an estimate of total criminal court costs attributable to alcohol of $3.8 million for higher courts, and $5.2 million for magistrates courts, giving total alcohol attributable court system costs of **$9.0 million** (see Table 7.6)**.**

Table 7.6: Court system costs attributable to alcohol

	Estimated NT cases at level	Estimated NT Total defendant weeks	Alcohol attributable defendant weeks	Alcohol attributable court expenditure ($'000)
Higher courts				
01 Homicide & related offences	15.5	858.1	429.1	254.7
02 Acts intended to cause injury	143.7	6,509.4	3,253.6	1,931.7
03 Sexual assault & related offences	88.5	4,301.3	769.1	456.6
04 Dangerous or negligent acts endangering persons	3.5	148.3	160.9	95.5
05 Abduction, harassment & other offences against the person	2.9	137.0	55.4	32.9
06 Robbery, extortion & related offences	44.8	1,572.9	393.2	233.5
07 Unlawful entry with intent/burglary, break & enter	92.5	3,348.4	747.3	443.7
08 Theft & related offences	6.4	306.2	51.0	30.3
09 Fraud, deception & related offences	2.3	126.0	5.3	3.1
10 Illicit drug offences	65.3	2,710.4	0.0	0.0
11 Prohibited & regulated weapons & explosives offences	6.1	260.6	69.9	41.5
12 Property damage & environmental pollution	9.9	416.9	93.4	55.5
13 Public order offences	2.2	94.3	33.6	19.9
14 Traffic & vehicle regulatory offences	0.5	14.2	4.9	2.9
15 Offences against justice procedures etc.	31.9	1,381.4	355.5	211.1
16 Miscellaneous offences	0.9	44.1	0.5	0.3
TOTAL higher courts	**0.0**	**22,229.4**	**6,422.7**	**3,813.1**
Magistrates court				
01 Homicide & related offences	2.5	52.8	26.4	1.8
02 Acts intended to cause injury	2,889.3	58,364.0	29,172.4	2,009.7
03 Sexual assault & related offences	62.5	1,787.4	319.6	22.0
04 Dangerous or negligent acts endangering persons	244.5	3,862.9	4,190.0	288.7
05 Abduction, harassment & other offences against the person	39.1	719.6	291.3	20.1
06 Robbery, extortion & related offences	7.2	189.0	47.3	3.3
07 Unlawful entry with intent/burglary, break & enter	606.5	15,708.4	3,505.7	241.5
08 Theft & related offences	732.6	11,209.3	1,865.7	128.5
09 Fraud, deception & related offences	69.7	1,443.8	60.2	4.1
10 Illicit drug offences	728.7	7,651.2	0.0	0.0
11 Prohibited & regulated weapons & explosives offences	295.9	5,237.6	1,404.8	96.8
12 Property damage & environmental pollution	597.1	7,881.7	1,765.9	121.7
13 Public order offences	797.8	7,339.7	2,614.8	180.1

14 Traffic & vehicle regulatory offences	4,806.5	44,700.2	15,613.0	1,075.6
15 Offences against justice procedures, etc.	5,264.1	56,325.8	14,496.2	998.7
16 Miscellaneous offences	94.1	1,063.9	11.2	0.8
TOTAL Magistrates court	**0.0**	**223,537.3**	**75,384.3**	**5,193.3**
TOTAL all levels				**9,006.4**

Source: NT Department of the Attorney-General and Justice, SCRGSP 2017, ABS 2017b, calculations by the authors

The costs of legal representation is not included in these court system cost estimates. To the extent that these costs are borne by the drinker themselves they are generally regarded as a private cost and so excluded from social cost calculations. However, costs borne by the NT Government and Australian Government in prosecuting offenders, and in funding legal aid (through the Northern Territory Legal Aid Commission and through Aboriginal Legal Aid Services) are social costs and should be included.

In 2015/16 the Northern Territory Director of Public Prosecutions had a total operating budget of $11.5 million (Director of Public Prosecutions, 2016). It was assumed that the proportion of these expenditures attributable to alcohol was the same as the proportion of court system costs; 37.1 per cent of the total costs. This gives an estimated alcohol attributable expenditure by the DPP of **$4,262,294.**

Unfortunately data limitations prevent spending by legal aid organisations from being reliably split between functions and so it is not possible to reliably attribute a specific share of legal aid costs to alcohol.

7.4 Correction System Costs

Conceptually there are two ways that the correction costs arising from alcohol attributable crime could be calculated. The first is to calculate the net present value of all future corrections costs related to those convicted of alcohol attributable crime in 2015/16. The second approach is to calculate the corrections system related costs attributable to alcohol incurred due to imprisonment in 2015/16, regardless of when the offence itself occurred.

As rates of alcohol attributable crime and related imprisonment can vary year to year, we have taken the former approach.

7.4.1 Estimating the unit costs of imprisonment

The on-going net recurrent costs (including depreciation of capital items) of corrections facilities in the Northern Territory cost society a total of $191.8 million in 2015/16 (SCRGSP2017). Divided by the average daily number of prisoners, the per prisoner cost is $115,252.

There are other less direct costs and offsetting benefits associated with imprisonment, with researchers at the AIC identifying the following additional forms of cost and offsetting savings (Morgan and Althorpe, 2014):

Costs

- Lost productivity of prisoners (paid work);
- Lost productivity of prisoners (unpaid work);
- Workplace disruption and costs of recruiting replacement employees;

- Lost potential lifetime economic output as ex-prisoners have a lower employment participation rate post release;
- Increased risk of homelessness post release;
- Prison assaults (on both staff and prisoners);
- Additional government payments as a result of household income falling due to imprisonment of a member of the household who was in work;
- Health impacts of imprisonment such as transmission of blood borne viruses;
- Cost of out of home care for children whose custodial parent is imprisoned and who cannot be placed with another member of the immediate family; and,
- Childcare and parenting support costs.

Offsetting savings

- Reduced government payments;
- Incapacitation effect of imprisonment (e.g. it is more difficult for imprisoned offenders to commit additional crime (excluding prison assaults));
- Value of work completed in prison;
- Reduction in illicit drug use by prisoners (although it should be noted that although rates of drug use are likely to fall during imprisonment, the harms per user arising from use may actually increase, for example through increased sharing of needles);
- Reduction in alcohol use (and therefore associated harms) by prisoners; and,
- Reduction in access to welfare services by prisoners.

Unfortunately many of these costs cannot be accurately quantified from the available data, with the estimate of the net costs of imprisonment restricted to the following (with the method used to quantify the text set out in the discussion that follows):

- Net recurrent costs of corrections facilities: **$115,252** per detainee year;
- Lost productivity of prisoners in paid work: **$30,982**/male prisoner and **$13,883**/female prisoner per detainee year;
- Workplace disruption and costs of recruiting replacement employees **$2,925**/male prisoner and **$1,311**/female prisoner per detainee year;
- Lost productivity of prisoners in unpaid household work: **$19,613**/male prisoner and **$35,016/**female prisoner per detainee year;
- Prison assaults (on both staff and prisoners): **$52** per detainee year; and,
- Reduced government payments (offsetting saving): **-$2,848**/male prisoner and **-$3,363**/female prisoner per detainee year.

7.4.1.1 Lost productivity of prisoners in paid work

A proportion of offenders were in paid work at the time that they were arrested. For these individuals there is a social cost from the loss of the economic output that would have been produced had they remained in the labour force. Gross domestic product per employee is calculated from current price estimates of GDP for June 2014 from the ABS national accounts and employment numbers (ABS, 2018b, c) and was $138,083 in 2013/14. For the purposes of this calculation benefits of paid work captured by the individual have been excluded as they are a private not a social cost.

The average labour share of GDP over the past 20 years has been 54 per cent, and so only 46 per cent of the lost economic output per employee has been included as a cost in this analysis.

Data from the 2013/14 Victorian crime statistics (Victoria Police, 2014) indicates that 37 per cent of male adult alleged offenders and 17 per cent of female adult alleged offenders were in employment when they were arrested. We have assumed that these employment rates are representative of those arrested for methamphetamine attributable offences. These parameters give an estimated annual loss to economic output of **$30,982** per male prisoner and **$13,883** per female prisoner.

7.4.1.2 Workplace disruption and costs of recruiting replacement employees

Employers face one-off costs to recruit new employees to replace imprisoned workers, and to train those new workers. We have assumed these costs match the costs estimated by the Bureau of Infrastructure, Transport and Regional Economics for replacing deceased employees, namely $6,422 in 2006 values (BITRE, 2009). Converting to 2013/14 values using the change in the CPI (ABS, 2018d) gives a cost per imprisoned employee of $7,685. Applying the employment shares for alleged offenders (Victoria Police, 2014) gives an estimated average cost to employers of replacing imprisoned workers of **$2,925** per male prisoner and **$1,311** per female prisoner.

7.4.1.3 Lost productivity of prisoners in unpaid household work

The estimated value of labour in the household lost due to imprisonment is calculated on the same basis as that lost due to premature mortality (see Section 3.2.3) and are valued on an individual function replacement basis using data from the ABS publication Unpaid Work and the Australian Economy 1997 following the approach first used in Collins and Lapsley (2008), updating the costs using the change in the CPI (ABS, 1997, 2018d). Values used for per capita household labour are **$19,613** per adult male and **$35,016** per adult female.

7.4.1.4 Prison assaults

Data from the Review of Government Services Provision (SCRGSP, 2017) estimates that in 2015/16, 0.06 per cent of prisoners in the Norther Territory were the victim of a serious assault and 3.3 per cent were the victim of an assault, with 0.06 per cent having committed an assault on a prison guard (and no serious assaults having been committed against prison guards; all of these rates are well below the national average). The estimated cost per assault was taken from Smith et al.'s estimates of the costs of crime in Australia (see Table 8.11) with serious assaults assumed to be equivalent to assaults requiring hospitalisation and other assaults costed at the average cost of the other assault categories reported in Smith et al. weighted based on their relative frequency amongst assaults (Smith et al., 2014). For assaults on prisoners, the productivity costs were not included. Medical costs outside of hospital have been excluded for prisoners as it has been assumed that they are included in the overall recurrent costs of prisons. The estimated cost per assault on prisoners was $26,882 serious assaults and $1,055 for other assaults, and the costs per assault on a prison guard was $1,751 for assaults. Applying the relative frequencies to these unit costs, the estimated annual cost per prisoner year from assault in prison is **$52.**

7.4.1.5 Reduced government payments (offsetting saving)

Prisoners are not eligible for government income support payments whilst in detention, so to the extent that detainees were unemployed and on income support benefits at the time of their offence there will be a cost saving for the Australian Government. We have not been able to identify data on the proportion of offenders who were in receipt of income support benefits at the time of their imprisonment, however the 2013/14 Victorian crime statistics (Victoria Police, 2014) reports that 21

per cent of male alleged offenders and 25 per cent of female alleged offenders were unemployed at the time of their arrest (with the remainder being employed or not in the labour force). The annual value of Newstart allowance for singles in 2015/16 was $13,499 (Centrelink, 2017). Assuming that these proportions are representative of prisoners detained for an alcohol attributable offence at the time of their arrest, and that all unemployed alleged offenders were in receipt of Newstart allowance at the time of their offence this gives average offsetting savings of **-$2,848**/male prisoner and **-$3,363**/female prisoner. These estimates are likely to overstate the potential cost savings, as not all of those who are unemployed are eligible for Newstart allowance (in which case there would be no offsetting benefit) and of those eligible some would have a partner who was also in receipt of income support benefits (in which case the cost saving would be the difference between two persons in receipt of the couples Newstart allowance and one person in receipt of the single Newstart allowance). On the other hand at least some unemployed prisoners would have been in receipt of a more generous benefit such as the Disability Support Pension, and for those individuals the offsetting saving will be underestimated.

Combining the six sources of cost and offsetting benefit from imprisonment that were able to be quantified gives a total estimated net annual cost of imprisonment of $165,976 for male prisoners and $162,152 for female prisoners. It is not known whether the net costs would be higher or lower if all of the unquantifiable costs were able to be quantified.

7.4.1.6 Estimating the total costs of alcohol attributable imprisonment in the Northern Territory

The estimated total cost of alcohol attributable imprisonment in 2015/16 is calculated by applying the estimated unit cost of imprisonment to the proportion of persons convicted in the NT whose offending was attributable to alcohol, and whose conviction resulted in imprisonment.
Alcohol attributable convictions are taken from the NT DAGJ data shown at Table 7.4.

The proportion of these offenders expected to have received a custodial sentence is assumed to be the same as the for the NT as a whole, with the data on the proportion of prisoners coded by most serious offence who receive a custodial sentence table from the ABS publication "Prisoners in Australia". Combined with the number of alcohol attributable convictions this gives the expected number of persons by most serious offence sentenced to a period of custody for an alcohol attributable offence.

Average length of sentences were taken from the estimated length of time to serve for those serving a custodial sentence in the NT by most serious offence from the ABS publication "Prisoners in Australia" (ABS 2017c). This expected inflow to custody in 2015/16 is shown in Table 7.7.

Table 7.7: Alcohol attributable admissions to custody 2015/16

Most serious offence	Alcohol attributable convictions (no. of persons)	Sentenced to custody (per cent)	Expected persons with custodial sentence	Mean expected time to serve
01 Homicide & related offences	9	79.4	7.1	13.5
02 Acts intended to cause injury	1,516	22.5	341.7	1.3
03 Sexual assault & related offences	27	48.2	13.0	5.5
04 Dangerous or negligent acts endangering persons	269	12.1	32.6	1.4
05 Abduction, harassment & other offences against the person	17	16.5	2.8	3.1

06 Robbery, extortion & related offences	13	59.0	7.7	2.9
07 Unlawful entry with intent/burglary, break & enter	156	35.3	55.1	1.3
08 Theft & related offences	123	9.5	11.7	1.3
09 Fraud, deception & related offences	3	15.0	0.5	1.5
10 Illicit drug offences	0	8.8	0.0	2.7
11 Prohibited & regulated weapons & explosives offences	81	14.6	11.8	0.0
12 Property damage & environmental pollution	136	6.2	8.5	1.0
13 Public order offences	285	2.1	6.0	0.6
14 Traffic & vehicle regulatory offences	1,679	1.0	17.1	0.4
15 Offences against justice procedures, etc.	1,363	8.2	111.8	1.0
16 Miscellaneous offences	1	1.4	0.0	0.0

Source: NT Department of the Attorney-General and Justice, ABS 2017c, calculations by the authors

These average lengths of time served were applied to each case where a custodial sentence was expected, and the per prisoner year cost was applied for each year (or, in fractional form, for each partial year) of the expected sentence. Lost value of potential economic output was expected to grow at 1.5 per cent in real terms (its long run rate), with all other costs and offsetting savings expected to remain constant in real terms. Net present values were calculated by discounting at a real rate of 7 per cent per annum. The net present value of each of the quantifiable cost items is shown in Table 7.8.

Table 7.8: Alcohol attributable cost of imprisonment in the Northern Territory 2015/16

Cost item	Net present value ($)
Cost of imprisonment	98,585,505.42
Value of lost economic output	25,783,470.18
Additional recruitment costs	2,414,353.61
Value of lost labour in household	17,616,794.13
Cost of prison assault	44,555.11
Offsetting saving in reduced benefit payments	-2,464,277.31
Total net costs	**141,980,401.14**

Source: NT Department of the Attorney-General and Justice, ABS 2017c, 2018b,c, SCRGSP 2017, Victoria Police 2014, Centrelink 2017, Smith et al. 2014, calculations by the authors

The cost of imprisonment accounts for the majority of the costs of alcohol attributable custody episodes, with a net present value of costs over the entire period of imprisonment of $98.6 million for those imprisoned in 2015/16. The value of lost economic output and the value of lost labour in the household are the other substantial quantifiable cost items, accounting for 30 per cent of the total net costs together. In total, the net expected costs of alcohol attributable imprisonment for those convicted in 2015/16 is estimated to be $142.0 million

7.5 Community-Based Correction Costs

The cost of community corrections relating to alcohol attributable offending was estimated from ABS data on the number of community service orders by most serious offence issued by the criminal

courts in 2015-16 (ABS, 2017b) and data on the total cost of the community corrections system (SCRGSP, 2017).

For each most serious offence category, the share of community correction orders issued for that offence category was calculated, and the relevant alcohol attributable fraction was applied to it, giving the proportion of total community correction orders issued for alcohol attributable offences of that type. The weighted share of alcohol attributable community correction orders is estimated to be 33.4 per cent

Multiplying this share by the total cost of community corrections activity in the Northern Territory in 2015/16 gives an estimated total cost of alcohol attributable community correction orders of **$7,026,162.38**.

7.6 Costs to Victims of Crime

As well as the costs arising from the investigation of crime, the administration of justice and the detention of offenders, there are also substantial costs incurred by the victims of crime. Administrative data from police and courts authorities are generally poor guides as to the extent of crime victimisation, as many victims do not report the offence to the police. Nationally reporting rates in 2015/16 for selected crimes varied widely, ranging from 30 per cent for sexual assault to 93 per cent for motor vehicle theft (Australian Bureau of Statistics, 2017d).

The most comprehensive assessment of the prevalence of crime victimisation in Australia is provided by the ABS's survey "Crime Victimisation, Australia" (Australian Bureau of Statistics, 2017b). The number of persons reporting that they had been a victim of crime, by offence type, is set out in Table 7.9. It should be noted that the totals cannot be summed to provide an overall number of persons who have been a victim of crime in the reference year as not all crimes are in scope, and some individuals would have been the victim of more than one type of crime. It is also important to note that not all crimes are included in the survey of crime victimisation and for those types of crime costs to victims cannot be calculated.

This table reports the number of victims of crime, not the number of offences. As some victims of crime will have had more than one occasion in the year in which they were the victim of a particular crime type, these data understate the cost of crime to victims.

Table 7.9: Number of victims of selected crimes in Northern Territory by whether the crime was reported, 2015/16

	Told police about the most recent incident	Did not tell police about the most recent incident	Total	Estimated alcohol attributable cases
Physical assault	4,900	2,200[a]	7,200	3,483.9
Face-to-face threatened assault	2,800	3,500	6,600	3,193.6
Non face-to-face threatened assault	[b]	[b]	[b]	
Robbery	[b]	[b]	[b]	102.0[c]
Sexual assault	[b]	[b]	[b]	23.2[c]

Notes: [a] estimate has a standard error of between 25 per cent and 50 per cent and so should be treated with caution

[b] estimate has a standard error of more than 50 per cent and is considered too unreliable for general use by the ABS

[c] estimate calculated from NT Department of Attorney General and Justice data on charged persons whose alleged offence was attributable to alcohol, adjusted for underreporting

Source: ABS, 2017d, NT Department of the Attorney-General and Justice, calculations by the authors

Unfortunately, at the NT level, the standard errors for reported sexual assault and for reported robbery are above 50 per cent which is regarded by the ABS as too high for general use. As an alternative in those cases we have used the NT DAGJ data on persons charged with an offence as a proxy for victims who reported the crime to police, and adjusted using the national rates of underreporting to get a total estimate of victims of crime.

Data on victims of property crime are collected by the ABS on a household basis. Again not all categories of property crime are included in the data, but Table 7.10 outlines the estimated number of households reporting that they were victims key forms of property crime at least once in the year before the survey.

Table 7.10: Number of households reporting property crime in Northern Territory by whether the crime was reported, 2015/16

	Told police about the most recent incident	Did not tell police about the most recent incident	Total	Estimated alcohol attributable cases
Break and enter	4,000	1,500	5,300	1,304.1
Attempted break and enter	1,200	1,700	2,700	664.4
Motor vehicle theft	1,000 [a]	[b]	900 [a]	174.2
Theft from a motor vehicle	1,100	1,100	2,100	406.4
Malicious property damage	3,000	2,100	5,200	1,473.5
Other theft	600 [a]	900 [a]	1,600	309.6

Notes: a estimate has a standard error of between 25 per cent and 50 per cent and so should be treated with caution

b estimate has a standard error of more than 50 per cent and is considered too unreliable for general use by the ABS

Source: ABS, 2017d

These data provide the population estimate from which we estimate the number of victims of alcohol attributable crime in the NT, and the cost to victims of that crime. The number of victims of alcohol attributable crime was calculated by applying relevant alcohol attributable fractions derived from the NT DAGJ data as set out in Table 7.3.

The most comprehensive set of estimates of the costs of crime have been compiled by researchers at the Australian Institute of Criminology (Smith et al., 2014). Drawing together information from a range of Australian and international sources on the costs of various types of personal and household crime, they distinguish between medical costs, lost output, property loss, property damage, and intangible cost (e.g. pain and suffering). Although not all forms of crime are in scope, the analysis covers the majority of the crime types included in the ABS victims of crime survey. Costs of the various forms of personal crime are subdivided by the severity of medical impact on the victim.

In almost all cases the parameter values chosen by Smith et al. are consistent with the ranges adopted in comparable international exercises, however the intangible cost estimate adopted for sexual assault is at the lower end of comparable studies (Smith et al., 2014). Smith et al. did not derive a specific estimate for the intangible cost of sexual assault but rather based it on the intangible cost used for assault where the victim was injured, with treatment other than hospitalisation for sexual assault where the victim sustained physical injuries, and assault where the victim was injured and no treatment was required for sexual assault where the victim did not sustain physical injuries (Smith et al., 2014). In contrast, Dolan et al. (2005) derive estimates of intangible costs from estimates of the quality of life impact of sexual assault, expressed in terms of disability

adjusted life years (DALY) using a value of 0.56 lost DALYs for rape and 0.16 lost DALYs for other sexual assault compared to a lost DALY of 0.19 for assault resulting in serious injury (roughly equivalent to the assault – hospitalised category used by Smith (2014)).

As it is more closely aligned to the approach taken to intangible costs in other areas of this report we have used the Dolan et al. (2005) estimates of the intangible costs of sexual assault in place of those derived by Smith et al (2014).

Unit costs for each cost category were converted to 2015/16 values using the change in current price Gross State Product (GSP) per capita (ABS, 2018b) from June 2011 to June 2016 for intangible costs and lost output, and the CPI for medical costs, property loss and property damage (ABS, 2018d). Table 7.11 sets out the unit costs to victims of personal crime while Table 9.12 reports the unit costs for household crime.

Table 7.11: Unit costs to victims of personal crime from Smith et al. converted to 2015/16 values

	Medical costs ($)	Lost output ($)	Intangible costs ($)
Assault			
Hospitalised	12,699	34,970	14,183
Injured, treatment other than hospital	755	2,923	3,031
injured no treatment		725	725
no injury		43	433
Sexual assault			
Injury	1,040	6,929	41,658
No injury	0	57	10,974
Robbery			
Hospitalised	12,699	34,970	13,988
Injured, treatment other than hospital	755	2,923	3,069
injured no treatment		731	725
no injury		43	433

Sources: (Australian Bureau of Statistics, 2018b, d; Smith et al., 2014, Dolan et al. 2005), calculations by the authors

Table 7.12: Unit costs to victims of property crime from Smith et al. converted to 2015/16 values

	Property loss & property damage ($)	Lost output ($)	Intangible costs($)
Burglary [a]			
Completed	1,911	87	1,135
Attempted	234	57	756
Motor vehicle theft	4,345	174	2,472
Theft from a vehicle [b]	1,135	63	822
Malicious property damage	621	47	1,346
Other theft	559	10	250

Note: [a] The unit cost used for burglary is that for burglaries of private residences, as we do not have an estimate for the number of victims of burglaries of commercial properties.
[b] These costs are the average for thefts from private and from commercial vehicles.

Sources: NT Department of the Attorney-General and Justice; ABS, 2018b, d; Smith et al., 2014, calculations by the authors

Applying the unit costs outlined in Tables 7.11 and 7.12 to the estimated number of victims of alcohol attributable crime in the Northern Territory gives a total estimated cost to victims of personal crime of **$24.6 million** (Table 7.13), and a cost of property crime of **$9.8 million**.

The costs of premature deaths due to alcohol attributable homicide are not included in these victim of crime cost estimates as they are included in the calculation of alcohol attributable premature deaths (Chapter 3). If they were included then the victim of crime costs attributable to alcohol would be $54.7 million higher than these estimates.

Table 7.13: Estimated total costs to victims of alcohol attributable personal crimes in the Northern Territory by offence type and severity, 2015/16

Offence	No. of alcohol attributable victims	Medical costs ($)	Lost output ($)	Intangible costs ($)	Total Costs ($)
Assault					
Hospitalised	142	1,804,842.3	4,970,037.0	2,015,711.6	8,790,590.9
Injured, treatment other than hospital	1,229	928,080.7	3,591,503.2	3,724,521.8	8,244,105.7
injured no treatment	2,113	0.0	1,532,884.2	1,532,884.2	3,065,768.5
no injury	3,194	0.0	138,304.6	1,383,046.3	1,521,350.9
Total	6,678	2,732,923.1	10,232,729.1	8,656,163.9	21,621,816.0
Sexual assault	.	.	.	.	.
Injury	45	47,139.1	314,060.6	1,888,140.4	2,249,340.1
No injury	57	0.0	3,250.6	621,650.6	624,901.2
Total	102	47,139.1	317,311.2	2,509,791.0	2,874,241.3
Robbery	.	.	.	.	.
Hospitalised	1	10,316.6	28,409.0	11,363.6	50,089.1
Injured, not hospitalised	3	2,393.3	9,261.5	9,724.6	21,379.3
injured no treatment	4	0.0	3,027.8	3,005.4	6,033.2
no injury	15	0.0	653.4	6,533.7	7,187.1
Total	23	12,709.8	41,351.6	30,627.2	84,688.6
All Personal Crime	.	.	.	.	.
Total	6,803	2,792,772.0	10,591,391.8	11,196,582.2	24,580,746.0

Sources: NT Department of the Attorney-General and Justice; ABS, 2018b, d; Smith et al., 2014, Dolan et al. 2005), calculations by the authors

Table 7.14: Central estimate of total costs to victims of household crimes in Australia by offence type and severity, 2013/14

Offence	Number of MA attributable cases	Costs of property loss & property damage ($)	Cost of lost output ($)	Intangible costs ($)	Total Costs ($)
Burglary					
Completed	1,304	2,492,812.0	112,956.5	1,479,729.7	4,085,498.2
Attempted	664	155,649.2	38,122.8	502,070.2	695,842.2
Total burglaries	1,969	2,648,461.3	151,079.3	1,981,799.9	4,781,340.5
Motor vehicle theft	174	756,716.8	30,356.7	430,461.2	1,217,534.6
Theft from a vehicle	406	461,325.9	25,517.2	333,923.2	820,766.3
Malicious property damage	1,473	914,305.0	68,597.1	1,983,890.9	2,966,793.0
Other theft	70	38,970.2	678.8	17,422.1	57,071.1
Total	4,092.2	4,819,779.1	276,229.0	4,747,497.4	9,843,505.5

Sources: NT Department of the Attorney-General and Justice; Australian Bureau of Statistics, 2018b, d; Smith et al., 2014, calculations by the authors

7.7 Total costs of alcohol attributable crime

The total quantifiable cost of alcohol attributable crime in the Northern Territory in 2015/16 (not including the cost of homicide to the victim) is estimated to be $272.6 million. The most significant cost item is the net quantifiable cost of imprisonment which accounts for just over half of the total, with police costs accounting for just over a quarter of the costs.

If the costs of premature mortality resulting from alcohol attributable homicide were included in the cost of crime estimates rather than the deaths estimates then victim of crime costs would become the second most significant form of cost.

Table 7.15: Summary of alcohol attributable costs of crime, Northern Territory, 2015/16

Cost area	Cost ($)
Police costs	75,877,717.61
Random breath testing (alcohol)	n.q.
Court system costs	9,006,412.83
Director of Public Prosecutions	4,262,294.14
Legal aid costs	n.q.
Net quantifiable social costs of imprisonment	141,980,401.14
Community correction costs	7,026,162.38
Australian Federal Police costs	n.q.
Victim of crime costs - personal crime	24,580,745.98
Victim of crime costs - property crime	9,843,505.48
Total quantifiable costs	**272,577,239.56**

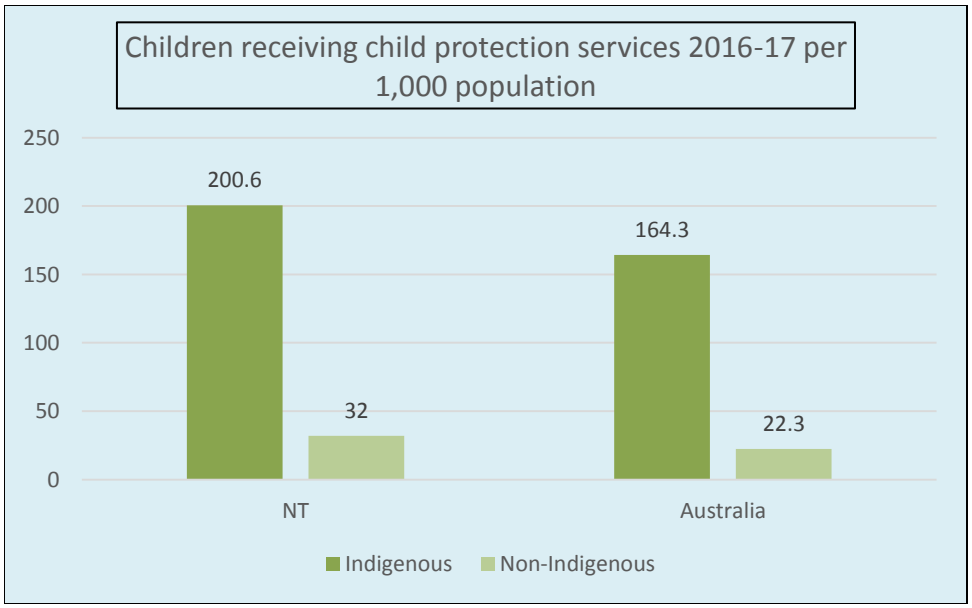
Chapter 8: Child protection costs

Child abuse and neglect are substantial public health issues in Australia, with national estimates of total costs lifetime costs in the order of $9.1 billion (Kezelman et al. 2016) to $13.7 billion (Taylor et al. 2007). The causal factors responsible for child abuse are varied, and most cases of child abuse substantiation have multiple factors of concern identified, however substance use is commonly identified as one of the causes of concern, with alcohol being the most commonly identified form of substance misuse.

8.1 Child abuse prevalence

In 2016-17 the number of children in the NT receiving child protection services - defined as being subject of one or more of (1) an investigation of a notification (2) a care and protection order and (3) out-of-home care was 6,525, a rate of 104.1 per 1,000 children aged 0-17. This was more than three times the national rate of 30.8 per 1,000 children (Australian Institute of Health and Welfare, 2018). Rates of children receiving child protection services are significantly higher than the national average for both non-Indigenous and Indigenous residents of the NT. Rates of child protection services for non-Indigenous children are 43.5 per cent higher than the national average and rates for Indigenous children are 22.1 per cent above the national average (see Figure 8.1). The significantly higher rate of child protection services than the national average is therefore driven by a combination of higher rates amongst both non-Indigenous and Indigenous families in the NT, as well as a higher share of the population who are Indigenous.

Figure 8.1: Rates of children receiving child protection services per 1,000 population aged 0-17, 2016-17, NT & Australia



Source: (Australian Institute of Health and Welfare, 2018)

Given that some cases of child abuse are unreported, its prevalence is likely to be even higher than these levels. McCarthy et al. (2016), drawing on national estimates of lifetime prevalence of child abuse and maltreatment in Australia (21.9 per cent of females and 12.9 per cent of males, Norman et al., 2012, Moore et al., 2015, both cited in McCarthy et al. 2016) and data from international studies on the relationship between lifetime and annual prevalence of child abuse (Finkelhor, Turner, Shattuck and Hamby, 2013, cited in McCarthy et al. 2016), estimated that the annual prevalence of child maltreatment and abuse in Australia was 4.6 per cent of those aged 0 to 17 years old.

Applying this national prevalence estimate to the population of the Northern Territory aged 0 to 17 would suggest that there were 2,882.8 cases of child maltreatment and neglect in the NT in 2015/16. However, whilst having 1.2 per cent of the national population aged 0 to 17 years, the Northern Territory recorded 2.9 per cent of substantiated cases of child abuse or neglect in Australia, and 5.9 per cent of total reports of child abuse and neglect (SCRGS 2017, data summarised in Table 8.1 below). If the prevalence is adjusted up in line with the excess rate of substantiations in the Northern Territory, then this would imply that there were 7,265.9 cases of child maltreatment and neglect in the Northern Territory in 2015/16.

Table 8.1: Reports and substantiations of child abuse and neglect by State/Territory, 2015/16 numbers

	NSW	*Vic*	*Qld*	*WA*	*SA*	*Tas*	*ACT*	*NT*
Investigations finalised by 31 August								
Substantiated	30,266	14,888	6,104	4,582	1,857	868	627	1,797
Not substantiated	52,258	12,400	12,228	6,028	2,103	339	1,537	3,473
Total finalised	*82,524*	*27,288*	*18,332*	*10,610*	*3,960*	*1,207*	*2,164*	*5,270*
Investigations in process	464	1138	2830	1249	682	216	448	363
Investigation closed - no outcome possible	1,264	–	1,419	796	217	86	231	2,229
Total investigations	84,252	28,426	22,581	12,655	4,859	1,509	2,843	7,862
Dealt with by other means	55,747	78,636	..	5,376	16,565	10,005	12,016	12,603
Total reported cases	**139,999**	**107,062**	**22,581**	**18,031**	**21,424**	**11,514**	**14,859**	**20,465**

Source: SCRGS 2017, Table 16A.6

8.2 Alcohol attribution

The child protection system in the NT has been the subject of several inquiries in recent years, including a comprehensive inquiry commissioned in 2009 and a Royal Commission into the detention and protection of children in 2017 (Bamblett et al., 2010; Royal Commission and Board of Inquiry into the Protection and Dentention of Children in the Northern Territory, 2017). These and other investigations have depicted a system struggling with inadequate resources to meet a rising tide of demand, to which alcohol and other substance misuse makes a constant contribution. As the 2010 report stated:

> Alcohol misuse has effects far broader than child wellbeing and its effects are widely documented. Its association with violence is well known, it consumes money that might otherwise be spent on food or other resources for children and families, it decreases ability to care for children when inebriated, and drinkers, while disinhibited, may consume food which might otherwise be intended for children. Drinking while pregnant is associated with the Fetal alcohol spectrum disorder and child cognitive impairment. Alcohol misuse has a strong correlation with violence. There are clear implications for child protection (Bamblett, et al., 2010, p. 114).

The report of the 2017 Royal Commission and Board of Inquiry into the Protection and Detention of Children in the NT made it clear that the situation had not improved. The report stated, that the child protection system in the NT was working with many families that were experiencing dysfunction and lacked resources to care for their children:

> During community visits, the Commission heard about families who are struggling to provide their children with a nurturing, safe environment in which they can grow up and thrive, due to their own problems with alcohol and substance misuse, poor mental health, gambling addiction, domestic violence and food security. These problems often co-occur (Royal Commission and Board of Inquiry into the Protection and Dentention of Children in the Northern Territory, 2017, Vol. 3A, p.199).

However, although alcohol is a frequently identified factor in child protection cases, other factors also play a role. It is therefore necessary to try and attribute some share of child abuse and neglect, and government actions in terms of child protection, to alcohol.

One potential source of an attributable fraction is a study which undertook a detailed review of 467 cases representing children's first entry into care in South Australia in 2005. The case review identified all of the factors that were mentioned in the case file as having contributed to the decision to place the child in care. No weighting or precedence of the factors could be identified. The study findings suggests that about 70 per cent of decisions to take a child into care (n=328) involved parental substance use as one of the factors of concern. Amongst those cases in which substance use was noted, alcohol was a factor of concern in 77 per cent of the cases (Jeffreys et al., 2009).

Table 8.2: Factors influencing decision to take a child into care in South Australia for the first time by whether substance use was noted in the case file, 2006

Factor influencing decision to take into care	Substance use not noted		Substance noted		All cases	
	% with factor	# of times with factor	# of times with factor	% with factor	# of times with factor	% with factor
Alcohol use	-	-	253.5	77.3	253.5	11.1
Cannabis use	-	-	174.8	53.3	174.8	7.6
Amphetamine use	-	-	166.3	50.7	166.3	7.3
Heroin use	-	-	39.4	12.0	39.4	1.7
Prescription drug use	-	-	35.1	10.7	35.1	1.5
Intravenous substance use	-	-	13.1	4.0	13.1	0.6
Methadone use	-	-	8.9	2.7	8.9	0.4
Ecstasy use	-	-	4.3	1.3	4.3	0.2
Inhalant use	-	-	4.3	1.3	4.3	0.2
Parental mental health	54.2	75.3	214.2	65.3	289.5	12.7
Domestic violence	16.7	23.2	227.3	69.3	250.5	11.0
Homelessness	8.3	11.5	91.8	28.0	103.4	4.5
Financial difficulties	0.0	0.0	96.1	29.3	96.1	4.2
Parental incarceration	4.2	5.8	83.0	25.3	88.8	3.9
Housing instability	8.3	11.5	78.7	24.0	90.3	3.9
Transience	0.0	0.0	74.5	22.7	74.5	3.3
Criminal activity	0.0	0.0	65.6	20.0	65.6	2.9
Abandonment	4.2	5.8	56.7	17.3	62.6	2.7
Social isolation	20.8	28.9	39.4	12.0	68.3	3.0
Parent abused as a child	0.0	0.0	43.6	13.3	43.6	1.9
Family breakdown	12.5	17.4	43.6	13.3	61.0	2.7
Parental intellect. Disability	25.0	34.8	8.9	2.7	43.6	1.9
Child behaviours	16.7	23.2	13.1	4.0	36.3	1.6

Parent/child conflict	16.7	23.2	13.1	4.0	36.3	1.6
Parent hospitalisation	12.5	17.4	13.1	4.0	30.5	1.3
Other jurisdiction CP involvement	4.2	5.8	13.1	4.0	19.0	0.8
Parent ex-guardianship of the Minister	12.5	17.4	4.3	1.3	21.6	0.9
Young parents	8.3	11.5	8.9	2.7	20.4	0.9
Parental death	0.0	0.0	13.1	4.0	13.1	0.6
Adolescent at risk	4.2	5.8	4.3	1.3	10.1	0.4
New arrivals	4.2	5.8	4.3	1.3	10.1	0.4
Support to relative carers	4.2	5.8	4.3	1.3	10.1	0.4
Unaccompanied minor, refugee program	8.0	11.1	0.0	0.0	11.1	0.5
Child disability	4.2	5.8	4.3	1.3	10.1	0.4
Child mental health	0.0	0.0	4.3	1.3	4.3	0.2
Child intellectual disability	0.0	0.0	3.3	1.0	3.3	0.1
Previous CP history	4.2	5.8	0.0	0.0	5.8	0.3
recovery order	4.2	5.8	0.0	0.0	5.8	0.3
Total number of factors					**2,285.4**	**100.0**

Source: Jeffreys et al., 2009, calculations by the authors

If it is assumed that each of the factors contributed an equal weight to the decision to take to child into care, and that none of the factors were caused by another factor[4], then the share of total factors can be used to identify the role of alcohol in care decisions.

Weighted up to the whole sample, there were an estimated 253.5 cases in which alcohol use was one of the factors contributing to the removal of a child into care for the first time, out of a total of 2,285.4 factors identified in the case review, or 11.1 per cent of the unweighted factors (see Table 8.2 above).

The second source an estimated attributable fraction for alcohol misuse in child protection interventions was Laslett et al. (2010) who analysed Victorian child protection case records over the period 2001 to 2005. They identified an odds ratio for reports being substantiated where alcohol abuse is recorded as a factor of 1.23. Converting the odds ratio to a relative risk, using the approach set out in Grant (2014) and then combing that relative risk with the prevalence of 33.2 per cent in the Victorian child protection population gives an alcohol attributable fraction of 0.045.

The prevalence of risky alcohol consumption in the Northern Territory in 2014/15 is significantly higher than in either South Australia or Victoria in 2001 to 2005, and as such prevalence estimates derived from these other jurisdictions are likely to understate the proportion of child abuse cases in the Northern Territory that are attributable to alcohol, although it could be that the higher risk is reflected in the disproportionate number of total cases of child abuse and neglect.

Due to this uncertainty this analysis has not adjusted the attributable fractions to reflect the higher rates of risky alcohol consumption amongst Northern Territory residents aged 18-54.[5] The cost estimates should, however, be regarded as conservative.

Applying these relative risk estimates to the two estimates of cases of child abuse gives an estimated number of alcohol attributable child abuse cases of between 130 and 806 (Table 8.3).

[4] These assumptions are unlikely to be correct, but we do not know in which direction any difference from them is likely to skew the estimates.

[5] Undertaking this calculation would suggest an attributable fraction of 0.109 to 0.269 compared to our main estimates of 0.045 to 0.113.

Table 8.3: Estimated cases of alcohol attributable child abuse and neglect in the Northern Territory, 2015/16.

	Estimated total cases	Alcohol attributable, RR=0.045	Alcohol attributable, RR=0.111
Low estimate	2,882.8	130.4	319.8
High estimate	7,265.9	328.7	806.1

Source: McCarthy et al. 2016; SCRGS 2017, Jeffreys et al., 2009; Laslett et al. 2010, calculations by the authors

8.4 Costs of child abuse and maltreatment

There are two main sources of costs from child abuse and neglect. The first is the cost to the Northern Territory of operating its child protection systems. The second consists of the costs arising from the impacts on the victims of the abuse, including the intangible costs.

8.4.1 Child protection system costs

Data from the review of government services provision identifies the total cost of the Northern Territory's child protection system, including Child protection, out-of-home care, intensive family support services and family support services, as $184,592,637.

Applying the attributable fractions calculated in Table 9.3 suggests that the alcohol attributable costs of the child protection system are between $8,352,007 and $20,479,017.

8.4.2 Costs arising from the abuse victim

McCarthy et al. (2016) identify a large number of costs that arise as a result of the impacts child abuse has on victims of child abuse. These costs have been converted from 2014/15 to 2015/16 costs using the change in the CPI (ABS 2018d). Some of these costs are captured in other sections of this report, and so it will be a proportion of their estimated per person costs that is included in the estimated total cost of child abuse reported in this section.

McCarthy et al. (2016) estimate that the total tangible per victim costs of the impacts of child abuse and neglect on its victims are $178,242 with intangible costs of $332,121. Removing any costs that should (at least in theory) be picked up in other sections of this report leaves total per person costs of $476,037 (Table 8.4).

Table 8.4: Estimated cost per person arising from impacts on victims of child abuse and neglect in the Northern Territory, 2015/16.

Type of cost	Best cost estimate ($)
Tangible costs	.
Health system - short term[a]	36.37
Health system - long term	63,122.36
Special education	3,757.05
Criminal justice system costs - short term[a]	4,149.03
Criminal justice system costs - long term	13,150.20
Housing and homelessness costs	882.94
Child protection system[a]	15,653.55
Productivity losses	48,403.27

Deadweight losses	29,087.63
Total tangible	***178,242.40***
Intangible costs	0.00
Lost quality of life and lifespan	317,634.29
Premature mortality as direct result of abuse or neglect[a]	14,486.73
Total intangible	***332,121.03***
Total costs per person	**510,363.43**
Total costs per person excluding those reported in other sections	**476,037.75**

Note a Costs included elsewhere in this report and so excluded from the total applied to the prevalence estimate.

Source: McCarthy et al. 2016; ABS 2018d, calculations by the authors

These costs broadly align with other attempts to quantify the costs of child abuse (Kezelman et al. 2015, Taylor et al., 2008) increasing our confidence in their accuracy.

Multiplying these per person costs by the estimated number of alcohol attributable cases of child abuse and neglect gives an estimated range of the costs arising from the impacts on victims of $62 million to $384 million. Our central estimate is $156.5 million (Table 8.5).

Table 8.5: Total alcohol attributable costs of the impacts on victims of child abuse

	Alcohol attributable, RR=0.045 ($)	Alcohol attributable, RR=0.111 ($)
Low estimate of total child abuse cases	62,090,975.04	152,246,287.42
High estimate of total child abuse cases	156,497,233.35	383,729,241.72

Source: McCarthy et al. 2016; SCRGS 2017, Jeffreys et al., 2009; Laslett et al. 2010, ABS 2018d, calculations by the authors

8.4.3 Total costs

Combining the upper and lower bounds of the alcohol attributable costs of the child protection system (using the average of the upper and lower bound as a central estimate) with the costs of the impacts to victims gives an estimated total cost of $170.9 million in 2015/16, with lower and upper bounds of $70.4 million to $404 million (Table 8.6)

Table 8.6: Total costs of alcohol attributable child abuse and neglect, Northern Territory, 2015/16

	Central estimate ($)	lower bound ($)	upper bound ($)
Child protection system costs	14,415,511.97	8,352,007.33	20,479,016.61
Costs of impact on victims not included elsewhere	156,497,233.35	62,090,975.04	383,729,241.72
Total	**170,912,745.31**	**70,442,982.37**	**404,208,258.32**

8.5 FASD and child protection

In this study we do not attempt to calculate the costs of Fetal Alcohol Spectrum Disorder (FASD), largely because prevalence and other required data are not available. The contribution of FASD to the high cost burden of child protection in the NT, however, has been the subject of some investigation in recent years.

Until recently, the acronym 'FASD' covered a range of adverse consequences of prenatal exposure to alcohol, and included diagnoses of Fetal Alcohol Syndrome (FAS), Partial Fetal Alcohol Syndrome (pFAS), Alcohol Related Neurodevelopmental Disorders (ARND), Alcohol Related Birth Defects

(ARBD), Static Encephalopathy/Alcohol Exposed (SE/AE) and Neurobehavioral Disorder/Alcohol Exposed (ND/AE) (Legislative Assembly of the Northern Territory Select Committee on Action to Prevent Foetal Alcohol Spectrum Disorder, 2015, p21). However, a review of the Australian FASD Diagnostic Instrument in 2015 saw FASD introduced as a diagnostic term, rather than a broader collective term (Bower & Elliott 2016). A FASD diagnosis was subsequently divided into one of two sub-categories (i) FASD with three sentinel facial features; and (ii) FASD with less than three sentinel facial features (Bower and Elliott 2016). FASD with three sentinel facial features replaced the diagnosis of FAS, but without a requirement for growth impairment (Bower and Elliott 2016). FASD with less than three sentinel facial features encompasses the previous categories of pFAS and ND/AE (Bower and Elliott 2016).

The 2009 inquiry into child protection in the NT drew attention to the inter-generational impact of alcohol and other drug misuse, stating that parental substance abuse was 'associated with children having a greater likelihood of abuse and neglect and poorer trajectories within the child protection system. Child abuse and neglect is more likely to be renotified and children more likely to enter care when a parent has a substance use problem' (Bamblett, et al. 2010, p. 180).

A study conducted in 2014 by the NT Department of Children and Families and FASD Consultant Prue Walker found that parental alcohol or other drug use was the main reason for the substantiation of child neglect following investigations (Northern Territory Department of Children and Families, 2014). The study was based on a sample of files of 230 children who were involved in the child protection system between 2011 and 2012, either as the subject of completed child protection investigations between 1 January and 31 December 2011 (180 children), or who were in residential, foster or kinship care as at 7 July 2012 (50 children). Indigenous children made up 81 per cent of the sample (Northern Territory Department of Children and Families, 2014, Attachment A).

In the absence of accepted definitions of safe levels of maternal alcohol consumption during pregnancy, and incomplete recording of parents' alcohol consumption on files, the study adopted a criterion of 'concerning' alcohol use by parents or carers, which was defined to include cases where:

- parental alcohol use was reported as a reason for the report to child protection;
- parental criminal histories included alcohol-related offences;
- alcohol use appeared to impact on parenting capacity (children being left unattended, lack of supervision);
- children were placed at risk due to issues including alcohol use by parents (exposed to alcohol-related violence, being dropped);
- parents had been referred to alcohol treatment;
- an alcohol-related harm substantiation was recorded;
- extended family members had identified parenting as affected by alcohol use;
- parents had been asked to modify their alcohol use or to establish safety plans around their drinking;
- long term alcohol use had impacted on care of other children;
- children had been placed with others by their parents due to alcohol use;
- previous reports of alcohol-related harm to children (Northern Territory Department of Children and Families, 2014, Attachment A).

The study found that 57 per cent of children who were subject to investigations, and 86 per cent of children on protection orders, had been exposed to concerning alcohol use by one or both parents. Children who had been exposed to concerning maternal alcohol use had three times as many previous reports to child protection as other children. In the total sample, 21 per cent were found to have definitely or probably been exposed to alcohol in utero or after birth. Among fetally exposed children, 23 per cent had behavioural problems compared with 13 per cent of non-exposed children, while 10 per cent had a speech delay and 15 per cent a developmental delay.

The prevalence of FASD is notoriously difficult to quantify in part because, apart from FAS, it is difficult to diagnose, and in part because of inadequate screening in many clinical settings. International estimates suggest that FASD occurs in around 10 per 1000 live births, FAS in 0.5 – 2.0 per 1000 live births (Legislative Assembly of the Northern Territory Select Committee on Action to Prevent Foetal Alcohol Spectrum Disorder, 2015). The only prevalence study conducted to date in the NT was by Harris and Bucens, who examined medical records and associated documents relating to children born at Royal Darwin Hospital between 1990 and 2000. They estimated the prevalence of FAS in the Top End of the NT at between 0.68 and 1.7 per 1000 live births. Among Indigenous children, the rate was estimated at between 1.87 and 4.7 per 1000 live births, a rate comparable to other indigenous populations (Harris & Bucens, 2003).

An inquiry conducted in 2015 by an NT parliamentary committee on action to prevent FASD in 2015 noted that FASD generated significant economic costs in the health, law enforcement and education sectors.

> The poor health outcomes associated with FASD result in high costs to the community and to individuals, families, and carers affected by FASD. Costs to individuals with FASD include loss of productivity (income), reduced quality of life and reduced longevity. Some of these costs are also incurred by families and carers of individuals with FASD. Community or social costs include direct costs to the government, such as the provision of health care and accommodation, and indirect governmental costs, such as the provision of special education and employment services, community services, income support, and justice services (Legislative Assembly of the Northern Territory Select Committee on Action to Prevent Foetal Alcohol Spectrum Disorder, 2015, Para 4.3).

As the Committee also noted, individuals with FASD are more likely to come into contact with law enforcement agencies as a result of parental neglect, substance use disorders, difficulties at school and in workplaces, homelessness and mental health problems. In 2011, in collaboration Angyinginyi Health Service in Tennant Creek, staff at Barkly Youth Services screened 220 participants in several youth programs in Tennant Creek. Over 70 per cent were found to exhibit one or more indicators of FASD. Almost all of those who did so had had some level of involvement with police and the courts and showed recidivism over the subsequent three years. Most of them also engaged in volatile substance abuse. In a submission to the Select Committee on Action to Prevent FASD, Barkly Youth Services reported that those who recorded positive indicators for FASD were far more likely than others to experience incarceration, and to require out of home care and other services (Barkly Youth Services, 2014). This is consistent with a recent prevalence study among youth detainees in Western Australia, which indicated that 36 per cent had a FASD diagnosis, and 89 per cent had at least one domain of severe neurodevelopmental impairment (Bower et al 2018).

In December 2018, the NT Government released a whole-of-government strategy for dealing with FASD (Northern Territory Department of Health, 2018).

Chapter 9: Costs of Alcohol Dependence

Alcohol dependence imposes significant costs on the dependent drinker, their family and society as a whole. As far as we are aware there are no recent population prevalence estimates for alcohol dependence in the Northern Territory.

A somewhat dated estimate from Degenhardt et al. (2000) estimated that around 4.1 per cent of the Australian population was a dependent drinker and a further 1.9 per cent met the criteria for alcohol abuse in DSM-IV.

A slightly more recent estimate from Slade et al. (2009) estimated that 1.4 per cent of Australians aged 16 years and over had alcohol dependence, with a further 2.9 per cent classifiable as 'harmful use'.

Rates of risky drinking in the Northern Territory are much higher than the Australian average and so these Australian averages would need to be scaled up to reflect local drinking patterns. Adjusting these estimated prevalences using the approach set out at the end of Section 2.4 gives an estimated prevalence of dependent users in the Northern Territory of between 2.2 per cent and 4.6 per cent.

Table 9.1: Estimated prevalence and numbers of dependent alcohol users in the Northern Territory, prevalence based on population 16 years and older

Source of national estimate	Metric	Dependent use	Problem use
Degenhardt et al. 2000	Estimated prevalence in NT	0.064	0.030
.	Estimated number of persons in NT	12,101.1	5,681.1
Slade et al. 2009	prevalence	0.022	0.046
.	number	4,198.5	8,619.9

Source: Degenhardt et al., 2000; Slade et al. 2009

There are three broad areas of costs of alcohol dependence that can be quantified, the costs of alcohol treatment services; the costs of dependency to the dependent user themselves; and the costs of dependency to the family members of the dependent drinker.

9.1 Alcohol treatment costs

Data from the national minimum dataset for substance use services shows that in the Northern Territory 48 per cent of drug treatment episodes have alcohol recorded as the principal drug of concern (AIHW 2017c).

Total spending on drug and alcohol treatment services in 2015/16 appropriated through the Northern Territory Government was $40.9 million (NT Treasury 2017). Assuming that costs are distributed between substances of concern on the same basis as treatment episodes then the total cost of alcohol attributable treatment services is $**19,649,001**

9.2 Intangible cost to the drinker

Substance use disorders, particularly dependence, have typically been identified as sources of significant quality of life loss for the dependent user.

Inclusion of intangible costs to dependent substance users is somewhat controversial in social cost studies as, by definition, costs to the consumer are excluded as private costs (they are, however,

included in cost benefit analyses but this also includes the private benefits of increased utility from consuming the substance in question).

However, the treatment of costs incurred by ***dependent*** users as a result of their dependency as a purely internal cost relies on the assumption that the decision to consume the substance in that quantity is perfectly rational and that in deciding how much to consume the dependent user has fully taken into account all of the potential negative consequences including the exact risk that they may form a dependence on the substance (Becker and Murphy, 1998). This set of assumptions is not borne out in empirical work with substance users (c.f. Gruber and Köszegi, 2001; Kenkel, 1991; Khwaja et al., 2007; Smith et al., 2008; US Department of Health and Human Services, 1994; Angeletos et al., 2001; Laibson, 2001; Akerlof, 1991; and Suranovic et al., 1999). As such it is reasonable to contend that the behaviour once dependency has developed, to the extent that it differs from pre-dependency behaviour, is not a rational utility maximising choice by the consumer, and as such these consequences should be included as social costs.

In the current WHO estimates of disability weights for conditions for use in burden of disease calculations (Mathers and Stevens 2013) the disability weight for alcohol use is estimated to be:

- Alcohol use disorder: 0.111
- Mild alcohol dependence: 0.259
- Moderate alcohol dependence: 0.388
- Severe alcohol dependence: 0.549

Assuming that mild dependence is twice as prevalent as the other forms of dependence, and applying the estimated numbers of dependent drinkers from Table 9.2 gives an estimated number of years of healthy life lost to disability due to alcohol dependence in the Northern Territory of between 1,527 and 4,402. Valuing this intangible cost using the value of a statistical life year estimates derived from Abelson (2008) gives and estimated intangible cost of dependent alcohol use to the drinker themselves of between $437.6 million and $1,261.3 million, with intangible costs to those with alcohol problem use disorders of between $180.7 million and $274.2 million.

Table 9.2: Estimated intangible costs of dependent alcohol users in the Northern Territory, prevalence based on population 16 years and older, DALYs and $

Source of national estimate	Metric	Dependent use	Problem use
Degenhardt et al. 2000	Number of YLD	4,401.8	630.6
.	Value of lost DALYs ($)	1,261,341,421.7	180,699,746.1
Slade et al. 2009	Number of YLD	1,527.2	956.8
.	Value of lost DALYs ($)	437,625,864.0	274,177,261.0

Source: Degenhardt et al., 2000; Slade et al. 2009; Mathers and Stevens 2013; Abelson 2008, ABS 2018b, calculations by the authors

9.3 Intangible costs to the family of dependent users

The approach to quantifying the intangible costs of dependence to the family members of dependent alcohol users is closely based on the methodology developed as part of a project assessing the social costs of methamphetamine use in Australia (Whetton et al., 2016), with some minor adjustments for differences in data availability.

There is extensive evidence that substance dependency imposes costs not only on the dependent user themselves but also on their family and friends, particularly those who are resident with the dependent user. Harms include (Casswell et al., 2011; Homer et al., 2008; Laslett et al., 2010; Miller and Hendrie, 2008; Orford, 2015; Orford et al., 2013):

- Domestic violence;
- Emotional abuse/coercive control;
- Financial stress;
- Decreased mental and physical wellbeing;
- Need to provide care to the dependent user;
- Decreased quality of family relationships;
- Alienation from social networks and the wider community; and
- Feelings of guilt or inadequacy at being unable to prevent the substance dependency.

Specific risks and harms to the children of dependent substance users include (Arria et al., 2012; Orford, 2015):

- Increased rates of neglect and abuse;
- An increased risk of developing a substance use disorder as an adult;
- Increased rates of depression and suicidal ideation;
- Increased rates of illicit drug use amongst adolescents;
- Increased rates of early conduct and behavioural problems;
- Increased stress from living with tension and worry and uncertainty and often with denial and secrecy;
- Increased rates of school failure;
- Feelings of embarrassment at being seen with the dependent parent in public;
- Decreased levels of monitoring and supervision;
- Poorer quality parent–child interactions, and lower perception of parental warmth; and
- Inconsistent discipline.

No specific data is available on the household structure of dependent alcohol users, however Degenhardt et al.'s analysis suggests that the demographic profile of dependant drinkers is very similar to that of drinkers who consume alcohol at risky levels (2000). Therefore for the purposes of this analysis we will use the demographic profile of risky drinkers as a proxy for that of dependent drinkers.

Analysis of the NDSHS 2016 unit record file (Hewitt 2017) reports that 60 per cent of risky (lifetime) drinkers in the Northern Territory, and that 9 per cent have 1 dependent child, 17 per cent have 2 dependent children and 8 per cent have 3 dependent children. If we assume that those with 3+ children have three children, then the average number of dependent children per dependent drinker is 0.67.

Applying these proportions to the estimated number of dependent drinkers in the Northern Territory suggests that there are between 3,409 and 7,261 persons in the Northern Territory whose spouse or partner is a dependent drinkers, and between 3,806 and 8,108 children in the Northern Territory with at least one of the responsible adults in their household having an alcohol dependence problem.

The next uncertainty is what value to use for the average quality of life impact on these resident family members. Although there have been many studies identifying the range of adverse impacts (see the dot points above) these findings have not been presenting in a way that is amenable to

direct costing of the impacts. Instead, we follow Mortimer and Segal (2006) in assuming the quality of life impact on resident family members matches that of dependent drinkers. In this case this implies an average disability weight of 0.364, giving estimated DALYs lost of between 1,240 and 2,641 for spouses/defactos and between 1,385 and 2,949 lost DALYs amongst the children of dependent drinkers.

Valuing these lost DALYs using the VoSLY derived from Abelson (2008) gives total intangible costs of between $355.3 million and $758.8 million for spouses/defacto partners and between $396.7 million and $845.1 million for dependent children.

Table 9.3: Years of life lost to disability and intangible costs of alcohol dependence for resident family members, numbers and $

Affected group	Metric	Lower bound	Upper bound
Spouses/defacto partners	Number	3,408.6	7,260.7
	YLD	1,239.9	2,641.1
	Cost ($)	355,294,771.1	756,804,853.0
Dependent children	Number	3,806.3	8,107.7
	YLD	1,384.5	2,949.2
	Cost ($)	396,745,827.8	845,098,752.6

Source: Degenhardt et al., 2000; Slade et al. 2009; Mathers and Stevens 2013; Hewitt 2017; Abelson 2008, ABS 2018b, calculations by the authors

Chapter 10: Summary & Conclusions

10.1 Total Social and Economic Costs and Their Incidence

The total quantifiable costs of alcohol to the Northern Territory and its population are very substantial, with the most likely total tangible costs of $701.3 million and total intangible costs (excluding the intangible cost of addiction to dependent drinkers and the intangible costs incurred by the family members of dependent drinkers) of $685.5 million, giving a total cost of $1,386.8 million (see Table 10.1). Allowing for the known uncertainties in the calculation, tangible costs are expected to be in the range of $580.6 million to $1,026.3 million and intangible costs (excluding the intangible costs arising from dependence) are expected to be in the range of $602.4 million to $3,576,806,428.

Alcohol attributable crime is the most significant source of tangible costs, with estimated total costs of $272.6 million in 2015/16, followed by child protection with estimated tangible costs of $170.9 million.

The intangible costs of premature death is the largest component of the intangible costs at $652.5 million.

Table 10.1 Total quantifiable costs of alcohol in the Northern Territory in 2015/16 values by source of cost

	Most likely estimate ($)	Lower bound ($)	Upper bound ($)
COSTS OF PREMATURE MORTALITY	.	.	.
Tangible costs	.		.
NPV of lost economic output (non-employee)	104,281,863	73,794,170	160,684,094
Recruitment/training costs to employers	600,580	600,580	600,580
NPV of value of lost unpaid household work	41,660,664	41,660,664	41,660,664
NPV of healthcare costs avoided	-13,495,296	-13,495,296	-13,495,296
total tangible	133,047,811	102,560,118	189,450,042
Intangible costs	.		.
Value of statistical life	652,489,951	585,374,426	1,933,250,310
Total cost of premature mortality	**785,537,761**	**687,934,544**	**2,122,700,352**
HEALTH COSTS	.	.	.
Hospital separations caused	15,401,657	15,401,657	15,401,657
Hospital separations caused	-1,692,735	-1,692,735	-1,692,735
Net hospital separations costs	13,708,923	13,708,923	13,708,923
Alcohol attributable ambulance costs	682,039	682,039	682,039
Alcohol attributable primary healthcare costs	17,132,759	17,132,759	17,132,759
Alcohol attributable aged care costs	1,132,901	1,132,901	1,132,901
Alcohol attributable absenteeism	67,520,574	67,520,574	67,520,574
Total health costs	**100,177,195**	**100,177,195**	**100,177,195**
ROAD CRASH COSTS	.	.	.
Tangible costs of permanent disability	.	.	.
Equipment costs	452,886	452,886	452,886
On-going support worker costs	13,696,406	13,696,406	13,696,406
On-going medical costs	905,731	905,731	905,731
Lost economic output from reduced employment	12,237,730	12,237,730	12,237,730
Lost value of household labour	2,696,032	2,696,032	2,696,032
Costs of workforce disruption	322,679	322,679	322,679
Costs of property damage	8,387,297	8,387,297	8,387,297
Costs of insurance administration and legal costs	1,856,373	1,856,373	1,856,373
Lost quality of life due to road crashes (intangible cost)	17,071,766	17,071,766	17,071,766
Total road crash costs (excl mortality and hospital separations)	**57,626,900**	**57,626,900**	**57,626,900**
COSTS OF CRIME	.	.	.
Police costs	75,877,718	70,190,087	95,168,964
Random breath testing (alcohol)	n.q.	n.q.	n.q.
Australian Federal Police costs	n.q.	n.q.	n.q.
Court system costs	9,006,413	9,006,413	9,006,413
Director of Public Prosecutions	4,262,294	4,262,294	4,262,294

Legal aid costs	n.q.	n.q.	n.q.
Net quantifiable social costs of imprisonment	141,980,401	141,980,401	141,980,401
Community correction costs	7,026,162	7,026,162	7,026,162
Victim of crime costs - personal crime	24,580,746	24,580,746	24,580,746
Victim of crime costs - property crime	9,843,505	9,843,505	9,843,505
Total quantifiable costs of crime	**272,577,240**	**266,889,609**	**291,868,486**
CHILD PROTECTION			
Child protection system cost	14,415,512	8,352,007	20,479,017
Lifetime costs to victims of child abuse	156,497,233	62,090,975	383,729,242
Total child protection costs	**170,912,745**	**70,442,982**	**404,208,258**
TOTAL EXCLUDING COSTS OF DEPENDENT DRINKERS	.	.	.
Tangible costs	701,326,045	580,625,039	1,026,259,116
Intangible costs	685,505,796	602,446,192	1,950,322,076
Total Costs	1,386,831,842	1,183,071,231	2,976,581,192

In addition to the total costs, it is also interesting to understand which groups in society are facing the costs, this is known as the incidence of the costs. The costs can initially fall on one or more of four broad community groups:

- consumers of the substance (although as a social cost study many of these own costs have been excluded),
- other individuals,
- businesses, and
- government.

For instance, in relation to alcohol consumption the incidence of the costs may fall as follows:

- Drinkers - the physical and psychological pain of premature death and alcohol-related illnesses or injury etc.;
- Other individuals – impact of crime, impact of child abuse etc.;
- Business - production losses resulting from smoking-related mortality and absenteeism and damage to or theft of property;
- Government - funding of criminal justice system costs and healthcare.

Public finance literature makes the distinction between the legal (or impact) incidence and the economic (or effective) incidence of a cost. Legal incidence refers to a legal requirement to pay the cost. Economic incidence refers to who ultimately bears the cost after all the economic responses to its initial imposition have been worked through. For example, business may be able to pass on the costs of productivity losses to consumers in the form of higher prices or to workers in the form of lower wages. The same issue arise in regards to the incidence of social costs.

The International Guidelines for Estimating the Cost of Substance Abuse (Single et al, 2001) note the inherent difficulty of estimating the economic incidence of a social cost, which involves following the various paths of possible cost shifting between community groups, and conclude that incidence analysis should be confined to examining the initial burden of consumption costs among the community groups. In line with this view, Collins and Lapsley restricted their analysis to estimation of the impact incidence on households, business and government (Collins and Lapsley 2008, p. 12). We follow that approach in this report.

Table 10.2 illustrates the distribution of the estimated social costs of alcohol use between different groups of stakeholders in the community. In this analysis households are treated as one group, abstracting away from the question as to whether the cost burden is imposed on drinkers themselves or on others. In assigning this incidence a number of assumptions have needed to be

made about the proportion of cost items falling on various stakeholders, and so even ignoring the likely difference between initial incidence and final incidence, the calculation is only and approximation.

The bulk of the impacts of alcohol falls on households due to the preponderance of intangible costs in the total, all of which fall on households.

Looking at tangible costs, the greatest share fall on the Northern Territory which bore a tangible cost from alcohol of $228.0 million in 2015/16, largely through increased expenses. Businesses also faced a substantial burden from alcohol, $211 million, although the majority of this burden arises through reduced potential income due reductions in the workforce.

Table 10.2 Initial incidence of costs of alcohol in the Northern Territory, $2015/16

	NT Government ($)	Australian Government ($)	Business ($)	Households ($)
COSTS OF PREMATURE MORTALITY	.	.	.	.
NPV of lost economic output (non-employee)	1,805,320	14,149,805	88,326,738	.
Recruitment/training costs to employers	.	.	600,580	
NPV of value of lost unpaid household work	.	.	.	41,660,664
NPV of healthcare costs avoided	-6,747,648	-6,747,648	.	.
Value of statistical life	.		.	652,489,951
HEALTH COSTS	.	.	.	.
Hospital separations caused	7,700,829	7,700,829	.	.
Hospital separations caused	-846,367	-846,367	.	.
Net hospital separations costs	6,854,461	6,854,461	.	.
Alcohol attributable ambulance costs	682,039		.	.
Alcohol attributable primary healthcare costs	.	11,992,931	.	5,139,828
Alcohol attributable aged care costs	.	849,676	.	283,225
Alcohol attributable absenteeism	.	.	67,520,574	.
ROAD CRASH COSTS	.	.	.	.
Tangible costs of permanent disability	.	.	.	.
Equipment costs	226,443	226,443	.	.
On-going support worker costs	6,848,203	6,848,203	.	.
On-going medical costs	452,866	452,866	.	.
Lost economic output from reduced employment	211,859	1,660,514	10,365,357	.
Lost value of household labour	.	.	.	2,696,032
Costs of workforce disruption	.	.	322,679	
Costs of property damage	.	.	1,677,459	6,709,837
Costs of insurance administration and legal costs	.	.	371,275	1,485,099
Lost quality of life due to road crashes (intangible cost)	.	.	.	17,071,766
COSTS OF CRIME	.	.	.	.
Police costs	75,877,718			
Court system costs	9,006,413	.	.	.
Director of Public Prosecutions	4,262,294	.	.	.
Net quantifiable social costs of imprisonment	99,045,233	1,034,232	24,252,953	17,647,983
Community correction costs	7,026,162	.	.	.
Victim of crime costs - personal crime	3,687,112	3,687,112	.	17,206,522
Victim of crime costs - property crime	1,476,526	1,476,526	1,968,701	4,921,753
CHILD PROTECTION	.	.	.	.
Child protection system cost	.	14,415,512	.	.
Lifetime costs to victims of child abuse	17,323,341	12,157,423	15,818,745	111,197,724

TOTAL				
Tangible costs	228,038,342	69,058,055	211,225,062	193,004,586
Intangible costs	0	0	0	685,505,796
Total Costs	228,038,342	69,058,055	211,225,062	878,510,383

In addition to these costs, it is estimated that there are very substantial costs arising from alcohol dependence. However because of uncertainty about the number of dependent alcohol users in the NT and on the extent to which some of the intangible costs of dependence are picked up in other cost items included in this analysis, they have been excluded from the cost summary reported above. If they were included then the estimated total intangible costs of alcohol would increase substantially (see Table 10.3).

Table 10.3 Total quantifiable costs of alcohol in the Northern Territory in 2015/16 values if intangible costs of dependence are included

	Most likely estimate ($)	Lower bound ($)	Upper bound ($)
TOTAL EXCLUDING COSTS OF DEPENDENT DRINKERS	.	.	.
Tangible costs	701,326,045	580,625,039	1,026,259,116
Intangible costs	685,505,796	602,446,192	1,950,322,076
Total Costs	1,386,831,842	1,183,071,231	2,976,581,192
INTANGIBLE COSTS OF ALCOHOL DEPENDENCE/ABUSE			
Intangible cost to drinker - dependent drinker	849,483,643	437,625,864	1,261,341,422
Intangible cost to drinker - alcohol use disorder	227,438,504	180,699,746	274,177,261
Intangible cost to spouse/defacto of dependent drinker	556,049,812	355,294,771	756,804,853
Intangible cost to dependent child of dependent drinker	620,922,290	396,745,828	845,098,753
TOTAL INCLUDING COSTS OF DEPENDENCE TO DRINKER	.	.	.
Tangible costs	692,689,379	556,044,293	1,001,678,370
Intangible costs	2,948,036,712	1,997,393,147	5,112,325,110
Total Costs	**3,640,726,091**	**2,553,437,440**	**6,114,003,480**

An earlier study of the cost of alcohol-related harms in the NT, based on 2004/05 consumption levels, estimated the total cost at $642 million (SACES 2009). The 2004/05 estimate, when adjusted for inflation over the intervening period using the Australian Bureau of Statistics Consumer Price Index, is equivalent to $844.4 million in 2015/16[6]. The new estimate therefore represents an increase in real costs of 64.2 per cent. However, the two figures are not directly comparable, partly because of changed understandings about the impact of alcohol and more sophisticated approaches to measurement, and partly because of a range of additional factors, including:

- Increases in the costs of most NT Government (NTG) services impacted by alcohol, particularly police and prisons
- The inclusion of child protection costs in the current report (this was not included in 2009)
- An increase in net deaths attributable to alcohol from 94.9 in 2004/05 to 141.9 in 2015/16
- Improved methodologies for valuing the intangible costs of death and disability.

10.3 Study Limitations

This study has aimed to estimate the social and economic costs and harms of alcohol consumption in the NT. While the report is methodologically robust, there are certain areas of interest and impact in relation to alcohol consumption where it is difficult to accurately apportion costs.

For example, the lack of good quality prevalence data associated with FASD (partially indicative of contestation in relation to diagnostic tools) has meant that this has not been included in the quantitative analysis. Similarly, the lack of good quality data about the impact of alcohol consumption on homelessness in the NT has made it difficult to ascertain the likely social and

[6] Australian Bureau of Statistics Consumer Price Index Calculator www.abs.gov.au/websitedbs/d3310114.nsf/home/Consumer+Price+Index+Inflation+Calculator .

economic costs associated with people affected by alcohol seeking supported accommodation options, public housing or alternative shelter and hostel-style accommodation. In addition, Emergency Department (ED) alcohol-related presentation data, has not been included. This means that significant costs associated with ED presentations and addressing FASD, and homelessness and long-grassing, have not adequately been incorporated into the figures presented in this report. Yet, these are all emerging areas of public policy interest in the NT, where the need for further investment and action has already been noted (Quilty et al 2016; Department of Health 2018). This includes investing in better quality data and research that helps to guide such actions, a concept which was reaffirmed in the recent Riley Review [17].

Another study limitation is that no Aboriginal researchers were directly involved in the planning and analysis of this report. Ideally, this would have occurred given that approximately 30 per cent of the NT population identify as Aboriginal or Torres Strait Islander. This would have potentially enabled a more culturally nuanced investigation of the social and economic harms of alcohol consumption experienced by the Aboriginal population of the NT. That said, the findings presented in this report are consistent with other NT and national studies relating to the impact of alcohol consumption on Aboriginal and Torres Strait Islander communities (Symons et al 2012; Gray et al 2014).

In addition, the research team were located in three different states (NT, QLD & SA), making it difficult to analyse the findings collectively. The report has, however, been finalised with input from all authors.

10.4 Conclusion

This report has presented an overview of the social and economic costs and harms of alcohol consumption in the NT. It has achieved this through the analysis and presentation of a broad array of quantitative data. It is estimated that the total social cost of alcohol in the NT is estimated to be $1,386.8 million, with tangible costs of $701.3 million, and intangible costs of $685.5 million (excluding the lost quality of life due to addiction amongst dependent drinkers and the family members of dependent drinkers – the magnitudes of which are less certain but likely to be very substantial).

At an individual level the estimated total social cost of alcohol in 2015/16 was $3,832.19 in tangible costs per adult resident of the Northern Territory, with intangible costs imposing a further cost of $3,745.75 per adult. This equates to a total estimated impact of $7,577.94 per adult (excluding the costs of alcohol dependence to the dependent drinker and their family).

While alcohol consumption in the NT may have declined slightly over the past few years, the social costs and harms of alcohol have not. We have presented data throughout this report which explains why this is the case. We have also explained the complex relationships between drinking and alcohol-related harms. In doing so, we have shown that the harmful use of alcohol is a multi-faceted issue. It therefore requires a multi-faceted response, including the integration of related service system responses, particularly those relating to health, justice, child protection and police sectors.

It is clear that further work needs to be done to reduce the costs and harms of alcohol in the NT. The Northern Territory Government's (NTG) response to the recent independent review of alcohol policies and legislation in the NT released in October 2017 (NTG 2018a), and the parallel release of an *Alcohol Harm Minimisation Action Plan 2018-2019* (NTG 2018b), is a good start. This has included the establishment of a new Liquor Commission Act 2018 (NTG 2018c); and provisions to be the first jurisdiction in Australia to implement a Minimum Unit Price (MUP) on alcohol. In addition, the NTG had already (re)introduced the Banned Drinker Register (BDR) in September 2017. These recent investments in alcohol policy and legislation development are considered to be innovative, but

require ongoing monitoring and evaluation in relation to assessing their overall effectiveness (Smith et al. 2019).

That is, the alcohol harm minimisation approach currently being adopted by the NTG provides a useful foundation from which to build additional and sustained evidence-based responses. These need to span policy, program and service delivery contexts if significant improvements are to be achieved. For this to be successful, such investment will need to reflect strong cross-sectoral collaboration; focus on preventive efforts; be targeted towards the people at greatest risk; involve significant service system redesign; and embrace innovative approaches that tackle alcohol issues at the grass roots. This report indicates that a longer-term outlook is required to adequately support the health and safety of the NT community from the harms of alcohol.

Appendix A

Appendix A Relative risk estimates for alcohol consumption (relative to abstention) by sex, age group and consumption level

Condition	Consumption level	Sex	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55-59 years	60-64 years	65-69 years	70-74 years	75-79 years	80-84 years	85+ years
Tuberculosis	72 g/day	Both	3.507	3.507	3.507	3.507	3.507	3.507	3.507	3.507	3.507	3.507	3.507	3.507	3.507	3.507	3.507
Tuberculosis	60 g/day	Both	2.994	2.994	2.994	2.994	2.994	2.994	2.994	2.994	2.994	2.994	2.994	2.994	2.994	2.994	2.994
Tuberculosis	48 g/day	Both	2.535	2.535	2.535	2.535	2.535	2.535	2.535	2.535	2.535	2.535	2.535	2.535	2.535	2.535	2.535
Tuberculosis	36 g/day	Both	2.058	2.058	2.058	2.058	2.058	2.058	2.058	2.058	2.058	2.058	2.058	2.058	2.058	2.058	2.058
Tuberculosis	24 g/day	Both	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531
Tuberculosis	12 g/day	Both	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101	1.101
Lower respiratory infections	72 g/day	Both	1.357	1.357	1.357	1.357	1.357	1.357	1.357	1.357	1.357	1.357	1.357	1.357	1.357	1.357	1.357
Lower respiratory infections	60 g/day	Both	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226	1.226
Lower respiratory infections	48 g/day	Both	1.127	1.127	1.127	1.127	1.127	1.127	1.127	1.127	1.127	1.127	1.127	1.127	1.127	1.127	1.127
Lower respiratory infections	36 g/day	Both	1.064	1.064	1.064	1.064	1.064	1.064	1.064	1.064	1.064	1.064	1.064	1.064	1.064	1.064	1.064
Lower respiratory infections	24 g/day	Both	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026
Lower respiratory infections	12 g/day	Both	1.013	1.013	1.013	1.013	1.013	1.013	1.013	1.013	1.013	1.013	1.013	1.013	1.013	1.013	1.013
Oesophageal cancer	72 g/day	Both	2.669	2.669	2.669	2.669	2.669	2.669	2.669	2.669	2.669	2.669	2.669	2.669	2.669	2.669	2.669
Oesophageal cancer	60 g/day	Both	2.452	2.452	2.452	2.452	2.452	2.452	2.452	2.452	2.452	2.452	2.452	2.452	2.452	2.452	2.452
Oesophageal cancer	48 g/day	Both	2.202	2.202	2.202	2.202	2.202	2.202	2.202	2.202	2.202	2.202	2.202	2.202	2.202	2.202	2.202
Oesophageal cancer	36 g/day	Both	1.815	1.815	1.815	1.815	1.815	1.815	1.815	1.815	1.815	1.815	1.815	1.815	1.815	1.815	1.815

Condition	Consumption level	Sex	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55-59 years	60-64 years	65-69 years	70-74 years	75-79 years	80-84 years	85+ years
Oesophageal cancer	24 g/day	Both	1.466	1.466	1.466	1.466	1.466	1.466	1.466	1.466	1.466	1.466	1.466	1.466	1.466	1.466	1.466
Oesophageal cancer	12 g/day	Both	1.212	1.212	1.212	1.212	1.212	1.212	1.212	1.212	1.212	1.212	1.212	1.212	1.212	1.212	1.212
Liver cancer	72 g/day	Both	1.424	1.424	1.424	1.424	1.424	1.424	1.424	1.424	1.424	1.424	1.424	1.424	1.424	1.424	1.424
Liver cancer	60 g/day	Both	1.372	1.372	1.372	1.372	1.372	1.372	1.372	1.372	1.372	1.372	1.372	1.372	1.372	1.372	1.372
Liver cancer	48 g/day	Both	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
Liver cancer	36 g/day	Both	1.225	1.225	1.225	1.225	1.225	1.225	1.225	1.225	1.225	1.225	1.225	1.225	1.225	1.225	1.225
Liver cancer	24 g/day	Both	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Liver cancer	12 g/day	Both	1.067	1.067	1.067	1.067	1.067	1.067	1.067	1.067	1.067	1.067	1.067	1.067	1.067	1.067	1.067
Larynx cancer	72 g/day	Both	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461
Larynx cancer	60 g/day	Both	2.144	2.144	2.144	2.144	2.144	2.144	2.144	2.144	2.144	2.144	2.144	2.144	2.144	2.144	2.144
Larynx cancer	48 g/day	Both	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.813	1.813
Larynx cancer	36 g/day	Both	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531	1.531
Larynx cancer	24 g/day	Both	1.304	1.304	1.304	1.304	1.304	1.304	1.304	1.304	1.304	1.304	1.304	1.304	1.304	1.304	1.304
Larynx cancer	12 g/day	Both	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12
Breast cancer	72 g/day	Both	1.476	1.476	1.476	1.476	1.476	1.476	1.476	1.476	1.476	1.476	1.476	1.476	1.476	1.476	1.476
Breast cancer	60 g/day	Both	1.452	1.452	1.452	1.452	1.452	1.452	1.452	1.452	1.452	1.452	1.452	1.452	1.452	1.452	1.452
Breast cancer	48 g/day	Both	1.443	1.443	1.443	1.443	1.443	1.443	1.443	1.443	1.443	1.443	1.443	1.443	1.443	1.443	1.443
Breast cancer	36 g/day	Both	1.433	1.433	1.433	1.433	1.433	1.433	1.433	1.433	1.433	1.433	1.433	1.433	1.433	1.433	1.433
Breast cancer	24 g/day	Both	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329
Breast cancer	12 g/day	Both	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
Colon and rectum cancer	72 g/day	Both	1.616	1.616	1.616	1.616	1.616	1.616	1.616	1.616	1.616	1.616	1.616	1.616	1.616	1.616	1.616
Colon and rectum cancer	60 g/day	Both	1.468	1.468	1.468	1.468	1.468	1.468	1.468	1.468	1.468	1.468	1.468	1.468	1.468	1.468	1.468
Colon and rectum	48 g/day	Both	1.323	1.323	1.323	1.323	1.323	1.323	1.323	1.323	1.323	1.323	1.323	1.323	1.323	1.323	1.323

Condition	Consumption level	Sex	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55-59 years	60-64 years	65-69 years	70-74 years	75-79 years	80-84 years	85+ years
cancer																	
Colon and rectum cancer	36 g/day	Both	1.237	1.237	1.237	1.237	1.237	1.237	1.237	1.237	1.237	1.237	1.237	1.237	1.237	1.237	1.237
Colon and rectum cancer	24 g/day	Both	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156	1.156
Colon and rectum cancer	12 g/day	Both	1.078	1.078	1.078	1.078	1.078	1.078	1.078	1.078	1.078	1.078	1.078	1.078	1.078	1.078	1.078
Lip and oral cavity cancer	72 g/day	Both	4.858	4.858	4.858	4.858	4.858	4.858	4.858	4.858	4.858	4.858	4.858	4.858	4.858	4.858	4.858
Lip and oral cavity cancer	60 g/day	Both	3.766	3.766	3.766	3.766	3.766	3.766	3.766	3.766	3.766	3.766	3.766	3.766	3.766	3.766	3.766
Lip and oral cavity cancer	48 g/day	Both	2.991	2.991	2.991	2.991	2.991	2.991	2.991	2.991	2.991	2.991	2.991	2.991	2.991	2.991	2.991
Lip and oral cavity cancer	36 g/day	Both	2.311	2.311	2.311	2.311	2.311	2.311	2.311	2.311	2.311	2.311	2.311	2.311	2.311	2.311	2.311
Lip and oral cavity cancer	24 g/day	Both	1.738	1.738	1.738	1.738	1.738	1.738	1.738	1.738	1.738	1.738	1.738	1.738	1.738	1.738	1.738
Lip and oral cavity cancer	12 g/day	Both	1.293	1.293	1.293	1.293	1.293	1.293	1.293	1.293	1.293	1.293	1.293	1.293	1.293	1.293	1.293
Nasopharynx cancer	72 g/day	Both	4.545	4.545	4.545	4.545	4.545	4.545	4.545	4.545	4.545	4.545	4.545	4.545	4.545	4.545	4.545
Nasopharynx cancer	60 g/day	Both	3.803	3.803	3.803	3.803	3.803	3.803	3.803	3.803	3.803	3.803	3.803	3.803	3.803	3.803	3.803
Nasopharynx cancer	48 g/day	Both	3.062	3.062	3.062	3.062	3.062	3.062	3.062	3.062	3.062	3.062	3.062	3.062	3.062	3.062	3.062
Nasopharynx cancer	36 g/day	Both	2.385	2.385	2.385	2.385	2.385	2.385	2.385	2.385	2.385	2.385	2.385	2.385	2.385	2.385	2.385
Nasopharynx cancer	24 g/day	Both	1.839	1.839	1.839	1.839	1.839	1.839	1.839	1.839	1.839	1.839	1.839	1.839	1.839	1.839	1.839
Nasopharynx cancer	12 g/day	Both	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371
Other pharynx cancer	72 g/day	Both	4.764	4.764	4.764	4.764	4.764	4.764	4.764	4.764	4.764	4.764	4.764	4.764	4.764	4.764	4.764
Other pharynx cancer	60 g/day	Both	3.972	3.972	3.972	3.972	3.972	3.972	3.972	3.972	3.972	3.972	3.972	3.972	3.972	3.972	3.972

Condition	Consumption level	Sex	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55-59 years	60-64 years	65-69 years	70-74 years	75-79 years	80-84 years	85+ years
Other pharynx cancer	48 g/day	Both	3.199	3.199	3.199	3.199	3.199	3.199	3.199	3.199	3.199	3.199	3.199	3.199	3.199	3.199	3.199
Other pharynx cancer	36 g/day	Both	2.519	2.519	2.519	2.519	2.519	2.519	2.519	2.519	2.519	2.519	2.519	2.519	2.519	2.519	2.519
Other pharynx cancer	24 g/day	Both	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943	1.943
Other pharynx cancer	12 g/day	Both	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472
Ischaemic heart disease	72 g/day	Male	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091	1.091
Ischaemic heart disease	60 g/day	Male	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993
Ischaemic heart disease	48 g/day	Male	0.906	0.906	0.906	0.906	0.906	0.906	0.906	0.906	0.906	0.906	0.906	0.906	0.906	0.906	0.906
Ischaemic heart disease	36 g/day	Male	0.871	0.871	0.871	0.871	0.871	0.871	0.871	0.871	0.871	0.871	0.871	0.871	0.871	0.871	0.871
Ischaemic heart disease	24 g/day	Male	0.857	0.857	0.857	0.857	0.857	0.857	0.857	0.857	0.857	0.857	0.857	0.857	0.857	0.857	0.857
Ischaemic heart disease	12 g/day	Male	0.865	0.865	0.865	0.865	0.865	0.865	0.865	0.865	0.865	0.865	0.865	0.865	0.865	0.865	0.865
Ischaemic heart disease	72 g/day	Female	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107
Ischaemic heart disease	60 g/day	Female	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012
Ischaemic heart disease	48 g/day	Female	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932
Ischaemic heart disease	36 g/day	Female	0.882	0.882	0.882	0.882	0.882	0.882	0.882	0.882	0.882	0.882	0.882	0.882	0.882	0.882	0.882
Ischaemic heart disease	24 g/day	Female	0.846	0.846	0.846	0.846	0.846	0.846	0.846	0.846	0.846	0.846	0.846	0.846	0.846	0.846	0.846
Ischaemic heart disease	12 g/day	Female	0.823	0.823	0.823	0.823	0.823	0.823	0.823	0.823	0.823	0.823	0.823	0.823	0.823	0.823	0.823

Condition	Consumption level	Sex	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55-59 years	60-64 years	65-69 years	70-74 years	75-79 years	80-84 years	85+ years
Ischaemic stroke	72 g/day	Male	1.451	1.451	1.451	1.451	1.451	1.451	1.451	1.451	1.451	1.451	1.451	1.451	1.451	1.451	1.451
Ischaemic stroke	60 g/day	Male	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312
Ischaemic stroke	48 g/day	Male	1.159	1.159	1.159	1.159	1.159	1.159	1.159	1.159	1.159	1.159	1.159	1.159	1.159	1.159	1.159
Ischaemic stroke	36 g/day	Male	1.057	1.057	1.057	1.057	1.057	1.057	1.057	1.057	1.057	1.057	1.057	1.057	1.057	1.057	1.057
Ischaemic stroke	24 g/day	Male	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Ischaemic stroke	12 g/day	Male	0.938	0.938	0.938	0.938	0.938	0.938	0.938	0.938	0.938	0.938	0.938	0.938	0.938	0.938	0.938
Ischaemic stroke	72 g/day	Female	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43
Ischaemic stroke	60 g/day	Female	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Ischaemic stroke	48 g/day	Female	1.145	1.145	1.145	1.145	1.145	1.145	1.145	1.145	1.145	1.145	1.145	1.145	1.145	1.145	1.145
Ischaemic stroke	36 g/day	Female	0.985	0.985	0.985	0.985	0.985	0.985	0.985	0.985	0.985	0.985	0.985	0.985	0.985	0.985	0.985
Ischaemic stroke	24 g/day	Female	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Ischaemic stroke	12 g/day	Female	0.824	0.824	0.824	0.824	0.824	0.824	0.824	0.824	0.824	0.824	0.824	0.824	0.824	0.824	0.824
Haemorrhagic stroke	72 g/day	Male	1.971	1.971	1.971	1.971	1.971	1.971	1.971	1.971	1.971	1.971	1.971	1.971	1.971	1.971	1.971
Haemorrhagic stroke	60 g/day	Male	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705
Haemorrhagic stroke	48 g/day	Male	1.458	1.458	1.458	1.458	1.458	1.458	1.458	1.458	1.458	1.458	1.458	1.458	1.458	1.458	1.458
Haemorrhagic stroke	36 g/day	Male	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
Haemorrhagic stroke	24 g/day	Male	1.162	1.162	1.162	1.162	1.162	1.162	1.162	1.162	1.162	1.162	1.162	1.162	1.162	1.162	1.162
Haemorrhagic stroke	12 g/day	Male	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068
Haemorrhagic stroke	72 g/day	Female	2.276	2.276	2.276	2.276	2.276	2.276	2.276	2.276	2.276	2.276	2.276	2.276	2.276	2.276	2.276
Haemorrhagic stroke	60 g/day	Female	1.964	1.964	1.964	1.964	1.964	1.964	1.964	1.964	1.964	1.964	1.964	1.964	1.964	1.964	1.964
Haemorrhagic stroke	48 g/day	Female	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614
Haemorrhagic stroke	36 g/day	Female	1.337	1.337	1.337	1.337	1.337	1.337	1.337	1.337	1.337	1.337	1.337	1.337	1.337	1.337	1.337
Haemorrhagic stroke	24 g/day	Female	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Haemorrhagic stroke	12 g/day	Female	1.031	1.031	1.031	1.031	1.031	1.031	1.031	1.031	1.031	1.031	1.031	1.031	1.031	1.031	1.031
Hypertensive heart	72 g/day	Both	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86

Condition	Consumption level	Sex	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55-59 years	60-64 years	65-69 years	70-74 years	75-79 years	80-84 years	85+ years
disease																	
Hypertensive heart disease	60 g/day	Both	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705	1.705
Hypertensive heart disease	48 g/day	Both	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614	1.614
Hypertensive heart disease	36 g/day	Both	1.479	1.479	1.479	1.479	1.479	1.479	1.479	1.479	1.479	1.479	1.479	1.479	1.479	1.479	1.479
Hypertensive heart disease	24 g/day	Both	1.315	1.315	1.315	1.315	1.315	1.315	1.315	1.315	1.315	1.315	1.315	1.315	1.315	1.315	1.315
Hypertensive heart disease	12 g/day	Both	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046	1.046
Atrial fibrillation and flutter	72 g/day	Both	1.535	1.535	1.535	1.535	1.535	1.535	1.535	1.535	1.535	1.535	1.535	1.535	1.535	1.535	1.535
Atrial fibrillation and flutter	60 g/day	Both	1.411	1.411	1.411	1.411	1.411	1.411	1.411	1.411	1.411	1.411	1.411	1.411	1.411	1.411	1.411
Atrial fibrillation and flutter	48 g/day	Both	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312
Atrial fibrillation and flutter	36 g/day	Both	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214	1.214
Atrial fibrillation and flutter	24 g/day	Both	1.131	1.131	1.131	1.131	1.131	1.131	1.131	1.131	1.131	1.131	1.131	1.131	1.131	1.131	1.131
Atrial fibrillation and flutter	12 g/day	Both	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066
Cirrhosis and other chronic liver diseases	72 g/day	Both	9.427	9.427	9.427	9.427	9.427	9.427	9.427	9.427	9.427	9.427	9.427	9.427	9.427	9.427	9.427
Cirrhosis and other chronic liver diseases	60 g/day	Both	6.274	6.274	6.274	6.274	6.274	6.274	6.274	6.274	6.274	6.274	6.274	6.274	6.274	6.274	6.274
Cirrhosis and other chronic liver diseases	48 g/day	Both	4.673	4.673	4.673	4.673	4.673	4.673	4.673	4.673	4.673	4.673	4.673	4.673	4.673	4.673	4.673

Condition	Consumption level	Sex	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55-59 years	60-64 years	65-69 years	70-74 years	75-79 years	80-84 years	85+ years
Cirrhosis and other chronic liver diseases	36 g/day	Both	3.274	3.274	3.274	3.274	3.274	3.274	3.274	3.274	3.274	3.274	3.274	3.274	3.274	3.274	3.274
Cirrhosis and other chronic liver diseases	24 g/day	Both	2.055	2.055	2.055	2.055	2.055	2.055	2.055	2.055	2.055	2.055	2.055	2.055	2.055	2.055	2.055
Cirrhosis and other chronic liver diseases	12 g/day	Both	1.243	1.243	1.243	1.243	1.243	1.243	1.243	1.243	1.243	1.243	1.243	1.243	1.243	1.243	1.243
Pancreatitis	72 g/day	Both	3.298	3.298	3.298	3.298	3.298	3.298	3.298	3.298	3.298	3.298	3.298	3.298	3.298	3.298	3.298
Pancreatitis	60 g/day	Both	2.217	2.217	2.217	2.217	2.217	2.217	2.217	2.217	2.217	2.217	2.217	2.217	2.217	2.217	2.217
Pancreatitis	48 g/day	Both	1.717	1.717	1.717	1.717	1.717	1.717	1.717	1.717	1.717	1.717	1.717	1.717	1.717	1.717	1.717
Pancreatitis	36 g/day	Both	1.471	1.471	1.471	1.471	1.471	1.471	1.471	1.471	1.471	1.471	1.471	1.471	1.471	1.471	1.471
Pancreatitis	24 g/day	Both	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228	1.228
Pancreatitis	12 g/day	Both	1.073	1.073	1.073	1.073	1.073	1.073	1.073	1.073	1.073	1.073	1.073	1.073	1.073	1.073	1.073
Epilepsy	72 g/day	Both	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48	2.48
Epilepsy	60 g/day	Both	2.186	2.186	2.186	2.186	2.186	2.186	2.186	2.186	2.186	2.186	2.186	2.186	2.186	2.186	2.186
Epilepsy	48 g/day	Both	1.872	1.872	1.872	1.872	1.872	1.872	1.872	1.872	1.872	1.872	1.872	1.872	1.872	1.872	1.872
Epilepsy	36 g/day	Both	1.585	1.585	1.585	1.585	1.585	1.585	1.585	1.585	1.585	1.585	1.585	1.585	1.585	1.585	1.585
Epilepsy	24 g/day	Both	1.353	1.353	1.353	1.353	1.353	1.353	1.353	1.353	1.353	1.353	1.353	1.353	1.353	1.353	1.353
Epilepsy	12 g/day	Both	1.177	1.177	1.177	1.177	1.177	1.177	1.177	1.177	1.177	1.177	1.177	1.177	1.177	1.177	1.177
Diabetes mellitus	72 g/day	Male	1.198	1.198	1.198	1.198	1.198	1.198	1.198	1.198	1.198	1.198	1.198	1.198	1.198	1.198	1.198
Diabetes mellitus	60 g/day	Male	1.165	1.165	1.165	1.165	1.165	1.165	1.165	1.165	1.165	1.165	1.165	1.165	1.165	1.165	1.165
Diabetes mellitus	48 g/day	Male	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084
Diabetes mellitus	36 g/day	Male	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Diabetes mellitus	24 g/day	Male	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932	0.932
Diabetes mellitus	12 g/day	Male	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921
Diabetes mellitus	72 g/day	Female	1.172	1.172	1.172	1.172	1.172	1.172	1.172	1.172	1.172	1.172	1.172	1.172	1.172	1.172	1.172

Condition	Consumption level	Sex	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55-59 years	60-64 years	65-69 years	70-74 years	75-79 years	80-84 years	85+ years
Diabetes mellitus	60 g/day	Female	1.074	1.074	1.074	1.074	1.074	1.074	1.074	1.074	1.074	1.074	1.074	1.074	1.074	1.074	1.074
Diabetes mellitus	48 g/day	Female	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945
Diabetes mellitus	36 g/day	Female	0.836	0.836	0.836	0.836	0.836	0.836	0.836	0.836	0.836	0.836	0.836	0.836	0.836	0.836	0.836
Diabetes mellitus	24 g/day	Female	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Diabetes mellitus	12 g/day	Female	0.733	0.733	0.733	0.733	0.733	0.733	0.733	0.733	0.733	0.733	0.733	0.733	0.733	0.733	0.733
Unintentional injuries	72 g/day	Both	1.266	1.266	1.266	1.266	1.266	1.266	1.266	1.266	1.266	1.266	1.266	1.266	1.266	1.266	1.266
Unintentional injuries	60 g/day	Both	1.221	1.221	1.221	1.221	1.221	1.221	1.221	1.221	1.221	1.221	1.221	1.221	1.221	1.221	1.221
Unintentional injuries	48 g/day	Both	1.182	1.182	1.182	1.182	1.182	1.182	1.182	1.182	1.182	1.182	1.182	1.182	1.182	1.182	1.182
Unintentional injuries	36 g/day	Both	1.168	1.168	1.168	1.168	1.168	1.168	1.168	1.168	1.168	1.168	1.168	1.168	1.168	1.168	1.168
Unintentional injuries	24 g/day	Both	1.154	1.154	1.154	1.154	1.154	1.154	1.154	1.154	1.154	1.154	1.154	1.154	1.154	1.154	1.154
Unintentional injuries	12 g/day	Both	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Self-harm	72 g/day	Both	1.927	1.927	1.927	1.927	1.927	1.927	1.927	1.927	1.927	1.927	1.927	1.927	1.927	1.927	1.927
Self-harm	60 g/day	Both	1.734	1.734	1.734	1.734	1.734	1.734	1.734	1.734	1.734	1.734	1.734	1.734	1.734	1.734	1.734
Self-harm	48 g/day	Both	1.545	1.545	1.545	1.545	1.545	1.545	1.545	1.545	1.545	1.545	1.545	1.545	1.545	1.545	1.545
Self-harm	36 g/day	Both	1.376	1.376	1.376	1.376	1.376	1.376	1.376	1.376	1.376	1.376	1.376	1.376	1.376	1.376	1.376
Self-harm	24 g/day	Both	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23
Self-harm	12 g/day	Both	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107

Source: Gakidou et al. 2017

References

Abelson, P. (2008). *Establishing a monetary value for lives saved: Issues and controversies, Working Papers in Cost-Benefit Analysis*. Office of Best Practice Regulation, Department of Finance and Deregulation.

ABS. (1997). *Unpaid Work and the Australian Economy, 5240*. Canberra, ABS.

ABS. (2013). *Life Tables for Aboriginal and Torres Strait Islander Australians, 2010–2012, cat. no. 3302.055.003*

ABS. (2017a). 'Tablebuilder Database, 2016 Census of Population and Housing', Data by place of usual residence. Canberra, ABS.

ABS. (2017b). *Criminal Courts, Australia, 2015–16, cat. no. 4513.0.*

ABS. (2017c). *Prisoners in Australia, cat. no. 4517.0*

ABS. (2018a). *Life Tables, States, Territories and Australia, 2015-2017, cat. no. 3302.055.001*

ABS. (2018b). *Australian National Accounts: National Income, Expenditure and Product, September 2018, cat. no. 5206.0*

ABS. (2018c). *Labour Force, Australia, Dec 2018, cat. no. 6202.0*

ABS. (2018d). *Consumer Price Index, Australia, December 2018, cat. no. 6401.0*

ABS. (2018e). *4510.0 - Recorded Crime - Victims, Australia, 2017*. Canberra. www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4510.02017?OpenDocument (retrieved 20 December 2018).

ABS. (2018f). *4519.0 - Recorded Crime - Offenders, 2016-17*. Canberra. www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4519.02016-17?OpenDocument (retrieved 20 December 2018).

AIHW. (2010). *Health system expenditure on disease and injury in Australia, 2004-05, Health and Welfare Expenditure Series No. 36. HSE 87*. Canberra, AIHW.

AIHW. (2011). *Dementia among aged care residents: first information from the Aged Care Funding Instrument. Aged care statistics series no. 32. Cat. no. AGE 63*. Canberra: AIHW.

AIHW. (2016). *Evidence for chronic disease risk factors*. Cat. No. WEB 166. Canberra: Australian Government.

AIHW (2017a). *National Drug Strategy Household Survey 2016: detailed findings. Drug Statistics series no. 31. Cat. no. PHE 214.* Canberra, AIHW.

AIHW. (2017b). *Health expenditure Australia 2015–16. Health and welfare expenditure series no. 58. Cat. no. HWE 68*. Canberra: AIHW.

AIHW (2017c). *Alcohol and other drug treatment services in Australia 2015–16. Drug treatment series no. 29. Cat. no. HSE 187*. Canberra, AIHW.

AIHW. (2018a). *Alcohol, tobacco and other drugs in Australia*. Cat. No. PHE 221. Canberra: Australian Government.

AIHW. (2018b). *Child protection Australia 2016–17. Child welfare series no. 68. Cat. no. CWS 63*. Canberra. https://www.aihw.gov.au/getmedia/66c7c364-592a-458c-9ab0-f90022e25368/aihw-cws-63.pdf.aspx?inline=true (retrieved 27 November 2018).

Akerlof, G. (1991). Procrastination and obedience. *American Economic Review*. 81 (2), 1-19.

Angeletos, G.-M., Laibson, D., Repetto, A., Tobacman, J. & Weinberg, S. (2001). The hyperbolic consumption model: Calibration, simulation, and empirical evaluation. *Journal of Economic Perspectives*. 15 (3), 47-68.

Arria, A., Mericle, A., Meyers, K. & Winters, K. (2012). Parental substance use impairment, parenting and substance use disorder risk. *Journal of Substance Abuse Treatment*. 43 (1), e114-122.

Bamblett, B., Bath, H., & Roseby, R. (2010). *Growing them Strong, Together: Promoting the safety and wellbeing of the Northern Territory's children, Report of the Board of Inquiry into the Child Protection System in the Northern Territory*. Darwin, Northern Territory Government.

Banks, K. (2016). Tributes flow for Dale Walkinshaw remembered as hard working apprentice, *NT News*, 27 September. Retrieved from https://www.ntnews.com.au/news/northern-territory/tributes-flow-for-dale-walkinshaw-remembered-as-hard-working-apprentice/news-story/75a9e3a1626f72c98976a812dcb4615a

Baker, R., Bateman, I., Donaldson, C., Jones-Lee, M., Lancsar, E., Loomes, G., Mason, H., Odejar, M., Pinto Prades, J., Robinson, A., Ryan, M., Shackley, P., Smith, R., Sugden, R. & Wildman, J. (2010). Weighting and Valuing Quality-Adjusted Life-Years Using Stated Preference Methods: Preliminary Results from the Social Value of a QALY Project. *Health Technology Assessment*. 14 (27), 1-161.

Barkly Youth Services. (2014). *Submission to the Select Committee on Action to Prevent Foetal Alcohol Spectrum Disorder*. Tennant Creek, NT. https://parliament.nt.gov.au/__data/assets/pdf_file/0019/363232/Submission_Number_26A_Barkly_Youth_Services.pdf (retrieved 23 January 2018).

Becker, G. & Murphy, K. (1988). A theory of rational addiction. *Journal of Political Economy.* 96 (4), 675-700.

BITRE. (2009). *Road crash costs in Australia 2006, Report 118.* Canberra: BITRE.

Bower, C. & Elliott, E. (2016) (on behalf of the Steering Group). Report to the Australian Government Department of Health: *Australian Guide to the diagnosis of Fetal Alcohol Spectrum Disorder (FASD)*.

Bower, C., Watkins, R., Mutch, R. et al. (2018). Fetal alcohol spectrum disorder and youth justice: a prevlance study among young people sentenced to detention in Western Australia. *BMJ Open*. 8, e019605.

Britt H, Miller GC, Henderson J, Bayram C, Harrison C, Valenti L, Pan Y, Charles J, Pollack AJ, Wong C, Gordon J. (2016). *General practice activity in Australia 2015–16. General practice series no. 40.* Sydney, Sydney University Press.

Casswell, S., You, R. & Huckle, T. (2011). Alcohol's harm to others: Reduced wellbeing and health status for those with heavy drinkers in their lives. *Addiction*. 106 (6), 1087-1094.

Centrelink. (2016). 'A Guide to Australian Government payments'.

Ch'ng, C., Fitzgerald, M., Gerostamoulos, J., Cameron, P., Bui, D., Drummer, O., Potter, J. & Odell, M. (2007). Drug use in motor vehicle drivers presenting to an Australian, adult major trauma centre. *Emergency Medicine Australasia*. 19 (4), 359-365.

Coghlan, S., Gannoni, A., Goldsmid, S., Patterson, E., Willis, M. (2015). *Drug use monitoring in Australia: 2013–14 report on drug use among police detainees, Monitoring Reports, 27*. Canberra, AIC.

Collins, D.J., Lapsley, H.M. (2008). *The Costs of Tobacco, Alcohol and Illicit Drug Abuse to Australian Society in 2004/05, National Drug Strategy Monograph Series No. 64*. Canberra, Commonwealth of Australia.

Commonwealth Department of Health. (2018) *Consultation Draft National Alcohol Strategy 2017-2026*. Canberra: Commonwealth of Australia, 2018 [updated 2018 Nov 11]. Available at: http://www.health.gov.au/internet/main/publishing.nsf/Content/55E4796388E9EDE5CA25808F00035035/$File/Consultation%20Draft%20National%20Alcohol%20Strategy%202018-2026.pdf

Commonwealth Grants Commission. (2018). *Report on GST Revenue Sharing Relativities, 2018 Update*. Canberra. https://www.cgc.gov.au/inquiries/2018-update (retrieved 8 January 2018).

Commonwealth Grants Commission. (2015). *Report on GST Revenue Sharing Relativities 2015 Review – Volume 1*. Canberra. www.cgc.gov.au (retrieved 16 December 2018).

DAGJ (2018). *Northern Territory Wholesale Alcohol Supply 2010 to 2017*. Darwin, Northern Territory Government.

Daube, M. & Stafford, J. (2016). Alcohol and tax – time for real reform. *Medical Journal of Australia*. 204 (6), 218-219.

Degenhardt, L., Hall, W., Teesson, M., & Lynskey, M. (2000). *Alcohol use disorders in Australia: Findings from the National Survey of Mental Health and Well-Being (NDARC Technical Report No. 97).*

Department of Finance and Administration (2006). *Handbook of Cost–Benefit Analysis, Financial Management Reference Material No. 6*. Canberra, Commonwealth of Australia.

Department of Health (2018). *Addressing Fetal Alcohol Spectrum Disorder (FASD) in the Northern Territory 2018-2024*. Darwin, Northern Territory Government.

Department of the Prime Minister and Cabinet (2016). *Cost-Benefit Analysis: Guidance Note*. Canberra, Office of Best Practice Regulation, Australian Government.

Devlin, A., & Fitzharris, M. (2013). 'An analysis of single-vehicle fatality crashes in Australia at various Blood Alcohol Concentrations', Proceedings of the 2013 Australasian Road Safety Research, Policing & Education Conference 28th – 30th August, Brisbane, Queensland.

Dingwall, G. (2013). *Alcohol and crime* (ebook). London: Willan.

Director of Public Prosecutions, Northern Territory. (2016). 'Twenty-Sixth Annual Report'.

Dolan, P. (2010). 'Thinking about it: Thoughts about health and valuing QALYs'. *Health Economics.* 20 (12), 1407–1416.

Dolan, P., Loomes, G., Peasgood, T. & Tsuchiya, A. (2005). Estimating the intangible victim costs of violent crime. *British Journal of Criminology.* 45 (6), 958-976.

Donaldson, C., Baker, R., Mason, H., Jones-Lee, M., Lancsar, E., Wildman, J., Bateman, I., Loomes, G., Robinson, A., Sugden, R., Pinto Prades, J., Ryan, M., Shackley, P. & Smith, R. (2011). The social value of a QALY: Raising the bar or barring the raise? *BMC Health Services Research.* 11 (8), 1-8.

Drummer, O., Gerostamoulos, J., Batziris, H., Chu, M., Caplehorn, J., Robertson, M. & Swann, P. (2003a). The incidence of drugs in drivers killed in Australian road traffic crashes. *Forensic Science International*. 134 (2-3), 154-162.

Drummer, O., Gerostamoulos, J., Batziris, H., Chu, M., Caplehorn, J., Robertson, M. & Swann, P. (2003b). The involvement of drugs in drivers of motor vehicles killed in Australian road traffic crashes. *Accident Analysis and Prevention*. 36 (2), 239-248.

English, D., Holman, C., Milne, E., Winter, M., Hulse, G., Codde, J., Bower, C., Corti, B., de Klerk, N., Knuiman, M., Kurinczuk, J., Lewin, G. & Ryan, G. (1995). *The Quantification of Drug Caused Morbidity and Mortality in Australia*, 1995 edition. Canberra, Commonwealth Department of Human Services and Health.

Gakidou, E., Afshin, A., Abajobir, A., Abate, K., Abbafati, C., Abbas, K. et al. (2017). Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet*. 390 (10100): 1345–1422.

Grant, J., Kushner, M., & Kim, S. (2002). Pathological gambling and alcohol use disorder. *Alcohol Research & Health,* 26 (2), 143-150.

Grant, R. (2014). Converting an odds ratio to a range of plausible relative risks for better communication of research findings. *British Medical Journal*. 348 (f7540), e1-7.

Gray, D., Stearne, A., Bonson, M., Wilkes, E, Butt, J. & Wilson, M. (2014). *Review of the Aboriginal and Torres Strait Islander alcohol, tobacco and other drugs treatment service sector: Harnessing god intentions*. Perth, National Drug Research Institute.

Griswold, M., Fullman, N., Hawley, C., Arian, N., Zimsen, S., Tymeson, H. et al. (2018). Alcohol use and burden for 195 countries and territories, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet*. 392 (10152), 1015-1035.

Gruber, J. & Köszegi, B. (2001). Is addiction 'rational'? Theory and evidence. *Quarterly Journal of Economics*. 116 (4), 1261-1303.

Harris, K. & Bucens, I. (2003). Prevalence of fetal alcohol syndrome in the Top End of the Northern Territory. *Journal of Paediatriac & Child Health.* 39 (7), 528-533.

Henley, G. & Harrison, J. (2018). *Trends in injury deaths, Australia, 1999–00 to 2014–15. Injury research and statistics series no. 112. Cat. no. INJCAT 192*. Canberra. www.aihw.gov.au/reports/injury/trends-injury-deaths-1999-00-to-2014-15/contents/table-of-contents (retrieved 19 November 2018).

Hewitt, M. (2017). *National Drug Strategy Household Survey 2016*, doi:10.4225/87/JUDY2Y, ADA Dataverse, V3.

Homer, J.F., Drummond, M., French, M. (2008). Economic evaluation of adolescent addiction programs: Methodologic challenges and recommendations. *Journal of Adolescent Health*. 43 (6), 529-539.

Independent Hospital Pricing Authority. (2015). *National Efficient Price Determination, 2015-16.*

Independent Hospital Pricing Authority. (2018). *National Hospital Cost Data Collection, Public Hospitals Cost Report, Round 20 (Financial year 2015-16).*

Jeffreys, H., Hirte, C., Rogers, N. & Wilson, R. (2009). *Parental Substance Misuse and Children's Entry into Alternative Care in South Australia*. Adelaide, Department of Families and Communities , Government of South Australia.

Kenkel, D. (1991). Health behavior, health knowledge and schooling. *Journal of Political Economy*. 99 (2), 287-305.

Kezelman, C., Hossack, N., Stavropoulos, P. & Burley, P. (2015). *The Cost of Unresolved Childhood Trauma and Abuse in Adults in Australia*. Sydney, Adults Surviving Child Abuse and Pegasus Economics.

Khwaja, A., Sloan, F. & Chung, S. (2007). The relationship between individual expectations and behaviors: mortality expectations and smoking decisions. *Journal of Risk and Uncertainty*. 35 (2), 179-201.

Kidman, R. (2002). The perfect match? Co-occurring problem drinking and gambling. *Weekly Addiction Gambling Education Report.* 7 (20), 1-4.

Laibson, D. (2001). A cue-theory of consumption. *Quarterly Journal of Economics*. 116 (1), 81-119.

Laslett, A., Catalano, P., Chikritzhs, T., Dale, C., Doran, C., Ferris, J. et al. (2010). *The range and magnitude of harms to others.* Fitzroy, Victoria, AER Centre for Alcohol Policy Research, Turning Point Alcohol and Drug Centre, Eastern Health.

Laslett, A., Dietze, P. & Room, R. (2013). Carer Drinking and More Serious Child Protection Case Outcomes', *British Journal of Social Work*. 43 (7), 1384–1402.

Legislative Assembly of the Northern Territory Select Committee on Action to Prevent Foetal Alcohol Spectrum Disorder. (2015). *The Preventable Disability*. Darwin. https://parliament.nt.gov.au/__data/assets/pdf_file/0005/363254/Final_FASD_Report.pdf (retrieved 20 December 2018).

Leino, T., Molde, H., Griffiths, M. D., Mentzoni, R. A., Sagoe, D., & Pallesen, S. (2017). Gambling behavior in alcohol-serving and non-alcohol-serving-venues: a study of electronic gaming machine players using account records. *Addiction Research & Theory.* 25 (3), 201-207.

Livingston, M. & Wilkinson, C. (2013). Per-capita alcohol consumption and all-cause male mortality data, 1911-2006. *Alcohol and Alcoholism*. 48 (2), 196-201.

Mathers, C. & Stevens, G. (2013). *WHO Methods and Data Sources for Global Burden of Disease Estimates 2000-2011, Global Health Estimates Technical Paper WHO/HIS/HSI/GHE/2013.4*. Geneva, WHO.

McCarthy, M., Taylor, P., Norman, R., Pezzullo, L., Tucci, J. and Goddard, C. (2016). The lifetime economic and social costs of child maltreatment in Australia. *Children and Youth Services Review*, 71, 217–226.

McDermott, K., Brearley, M., Hudson, S., Ward, L., & Read, D. (2017). Characteristics of trauma mortality in the Northern Territory, Australia. *Injury Epidemiology.* 4(15), e1-10.

Miller, T. & Hendrie, D. (2008). *Substance Abuse Prevention Dollars and Cents: A Cost-Benefit Analysis, US Department of Health and Human Services Pub. No. (SMA) 07-4298*. Rockville,

MD, Center for Substance Abuse Prevention, Substance Abuse and Mental Health Services Administration.

Miller, T. & Hendrie, D. (2011). Economic evaluation of interventions (641-666). In: G., L., Baker, S.P. (Eds.), *Injury Research: Theories, Methods, and Approaches*. Springer, New York.

Moore, T. (2007a). *Working estimates of the social costs per gram and per user for cannabis, cocaine, opiates and amphetamines, Drug Policy Modelling Project Monograph Series*. Sydney, NDARC.

Morgan, A. & Althorpe, L. (2014). *Short-term Cost-benefit Model for Imprisonment and Community Corrections in Victoria: Female Prisoners and Offenders, Consultancy report for Corrections Victoria*. Canberra, AIC.

Mortimer, D. & Segal, L. (2006). Economic evaluation of interventions for problem drinking and alcohol dependence: Do within-family external effects make a difference? *Alcohol and Alcoholism*. 41 (1), 92-98.

Naimi, T., S., Stockwell, T., R., Zhao, J., Xuan, Z., Dangardt, F., Saitz, R., Liang, W. and Chikritzhs, T., N. (2017). Selection biases in observational studies affect associations between 'moderate' alcohol consumption and mortality. *Addiction.* 112 (2), 207–214.

NHMRC (2018). *Australian Guidelines for to Reduce Health Risks from Drinking Alcohol,* 2009. [updated 2018 Nov 12]. Available at: https://nhmrc.gov.au/about-us/news-centre/revision-australian-guidelines-reduce-health-risks-drinking-alcohol-2009

Nicosia, N., Pacula, R.L., Kilmer, B., Lundberg, R. & Chiesa, J. (2009). *The economic cost of methamphetamine use in the United States, 2005, Monograph 829*. Santa Monica, CA, RAND Corporation.

Northern Territory Coroners Court. (2009). Inquest into the death of Danny Gumana [2009] NTMC 044. Darwin.

Northern Territory Coroners Court. (2017a). Inquest into the death of Baby S [2017] NTLC 014. Darwin.

Northern Territory Coroners Court. (2017b). Inquest into the death of Dale Scott Walkinshaw NTLC 026. Darwin.

Northern Territory Coroners Court. (2018). Inquest into the death of Addison Japaljarri Anthony. Darwin.

Northern Territory Department of Children and Families. (2014). *Submission to Select Committee on Action to Prevent Foetal Alcohol Spectrum Disorder (Submission no. 14)*. Darwin, Northern Territory Government.

Northern Territory Department of Health. (2018). *Addressing Fetal Alcohol Spectrum Disorder (FASD) in the Northern Territory 2018-2024*. Darwin, Northern Territory Government. https://digitallibrary.health.nt.gov.au/prodjspui/handle/10137/7232 (retrieved 24 January 2019).

Northern Territory Department of Treasury. (2017). *2016/17 Budget, Budget Paper No. 3, Agency Budget Statements 2016/17*.

Northern Territory Government. (2018a). *Northern Territory Government response to the alcohol policies and legislation review Final Report*. Darwin, Northern Territory Government.

Northern Territory Government. (2018b). *Alcohol Harm Minimisation Action Plan 2018-2019*. Darwin, Northern Territory Government.

Northern Territory Government. (2018c). *Northern Territory of Australia Liquor Commission Act 2018*. Darwin, 28 February 2018.

OECD. (2016). *Purchasing power parities (PPP) (indicator*). https://data.oecd.org/conversion/purchasing-power-parities-ppp.htm. accessed on 30 June 2016.

Orford, J. (2015). *Addiction in the Family: Adult and child family members affected by their relatives' excessive substance use or gambling, Addictions and Lifestyles in Contemporary Europe – Reframing Addictions Policy,* Policy Brief No. 6.

Orford, J., Velleman, R., Natera, G., Templeton, L. & Copello, A. (2013). Addiction in the family is a major but neglected contributor to the global burden of adult ill-health. *Social Science and Medicine*. 78, 70-77.

Petry, N., Stinson, F., & Grant, B. (2005). Comorbidity of DSM-IV pathological gambling and other psychiatric disorders: results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Journal of Clinical Psychiatry.* 66 (5), 564-574.

Quilty, S., Shannon, G., Yao, A., Sargent, W., & McVeigh, M. F. (2016). Factors contributing to frequent attendance to the emergency department of a remote Northern Territory hospital. *Medical Journal of Australia.* 204 (3), 111.e111-111.e117.

Ridolfo, B., Stevenson, C. (2001). *The Quantification of Drug-Caused Mortality and Morbidity in Australia, 1998, No. PHE 29*. Canberra, Australian Institute of Health and Welfare.

Riley, T. (2017). *Alcohol Policies and Legislation Review: Final Report*. Darwin, Northern Territory Government.

Ritter, A. & Stoove, M. (2016). Alcohol and other drug treatment policy in Australia. *Medical Journal of Australia*. 204 (2), 138.

Road Safety NT. (2018). *Northern Territory 2018 Road Injury Statistical Summary*, available at: https://roadsafety.nt.gov.au/research-and-statistics/lives-lost-nt-roads

Roberts, J. (2018). *First progress report on the evaluation of the Katherine Individual Support Program*. Darwin, Menzies School of Health Research.

Royal Commissionn and Board of Inquiry into the Protection and Dentention of Children in the Northern Territory. (2017). *Report of the Royal Commissionn and Board of Inquiry into the Protection and Dentention of Children in the Northern Territory (Four volumes)*. Darwin. https://childdetentionnt.royalcommission.gov.au/Pages/Report.aspx (retrieved 21 December 2018).

Russell, D., Zhao, Y., Guthridge, S., Ramjam, M., Jones, M. P., Humphreys, J. & Wakerman, J. (2017). Patterns of resident health workforce turnover and retention in remote communities of the Northern Territory of Australia, 2013–2015. *Human Resources for Health.* 15 (52), e1-12.

SACES. (2009). *Harms from and costs of alcohol consumption in the Northern Territory: Final Report*. Adelaide, Adelaide and Flinders Universities.

Single, E., Collins, D., Easton, B., Harwood, H., Lapsley, H., Kopp, P. and Wilson, E. (2001). 'International Guidelines for Estimating the Costs of Substance Abuse—2001 Edition'.

Skov, S., Chikritzhs, T., Li, S., Pircher, S. & Whetton, S. (2010). How much is too much? Alcohol consumption and related harms in the NT. *Medical Journal of Australia*. 193 (5), 269-272.

Slade, T., Johnston, A., Teesson, M., Whiteford, H., Burgess, P., Pirkis, J. & Saw, S. (2009). *The Mental Health of Australians 2: Report on the 2007 National Survey of Mental Health and Wellbeing*. Canberra, Department of Health and Ageing.

Smith, J. (2018). *12 Month Evaluation of the Banned Drinker Register in the Northern Territory: Part 1 – A descriptive analysis of administrative data*. Darwin, Menzies School of Health Research.

Smith, J., Livingston, M., Miller, P., Stevens, M., Griffiths, K., Judd, J. & Thorn, M. (2019). Emerging alcohol policy innovation in the Northern Territory, Australia. *Health Promotion Journal of Australia*. 30 (1), 1-4.

Smith, R., Jorma, P., Sweeney, J. & Fuller, G. (2014). *Counting the costs of crime in Australia: A 2011 estimate, Research and Public Policy Series 129.* Canberra, Australian Institute of Criminology.

Smith, V., Taylor, D., Sloan, F., Johnson, F. & Desvousges, W. (2008). Do smokers respond to health shocks? *Review of Economics and Statistics.* 83 (4), 675-687.

Springer, A. M., Condon, J. R., Li, S. Q. & Guthridge, S. (2017). Frequent use of hospital inpatient services during a nine year period: a retrospective cohort study. *BMC Health Services Research.* 17 (348), e1-9.

Steering Committee for the Review of Government Service Provision (SCRGSP). (2017). *Report on Government Services*. Canberra, Productivity Commission.

Stockwell, T., R., Zhao, J., Panwar, S., Roemer, A., Naimi, T., S. and Chikritzhs, T., N. (2016). Do "moderate" drinkers have reduced mortality risk? A systematic review and meta-analysis of alcohol consumption and all-cause mortality. *Journal of Studies on Alcohol and Drugs. 77* (2), 185-198.

Suranovic, S., Goldfarb, R., Leonar, T. (1999). An economic theory of cigarette addiction. *Journal of Health Economics*. 18 (1), 1-29.

Symons, M., Gray, D., Chiritzhs, T., Skov, S., Saggers, S., Boffa, J. & Low, J. (2012). *A longitudinal study of influences of alcohol consumption and related harm in Central Australia: with a particular emphasis on the role of floor price*. Perth, National Drug Research Institute.

Taylor, P., Moore, P., Pezzullo, L., Tucci, J., Goddard, C. and De Bortoli, L. (2008). *The Cost of Child Abuse in Australia*. Melbourne, Australian Childhood Foundation and Child Abuse Prevention Research Australia.

US Department of Health and Human Services. (1994). *Preventing Tobacco Use Among Young People: A Report of the Surgeon General*. Atlanta, US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.

US Department of Transportation (2015). *Revised Departmental Guidance 2014: Treatment of the Value of Preventing Fatalities and Injuries in Preparing Economic Analyses Guidance on Treatment of the Economic Value of a Statistical Life (VSL)*. Washington, DC, Office of the Secretary of Transportation.

Verstraete, A., Legrand, S. (2014). *Drug use, Impaired Driving and Traffic Accidents*. Luxembourg, Publications Office of the European Union, European Monitoring Centre for Drugs and Drug Addiction.

Victoria Police. (2014). *Crime Statistics 2013/2014*. Melbourne, Victoria Police.

Viscusi, W., Aldy, J. (2003). The value of a statistical life: A critical review of market estimates throughout the World. *Journal of Risk and Uncertainty*. 27 (1), 5-76.

Vissers, L., Houwing, S. and Wegman, F. (2017), *Alcohol-Related Road Casualties in Official Crash Statistics*, International Traffic Safety Data and Analysis Group Research Report, OECD/ITF.

WA Police (2014). *Annual Report 2014*. Perth, WA, Western Australian Police Service.

Whetton, S., Shanahan, M., Cartwright, K., Duraisingam, V., Ferrante, A., Gray, D., Kaye, S., Kostadinov, V., McKetin, R., Pidd, K., Roche, A., Tait, R.J. & Allsop, S. (2016). *The Social Costs of Methamphetamine in Australia 2013/14*, In R. Tait & S. Allsop, S. (eds.), Perth, National Drug Research Institute, Curtin University.

WHO (2000). *International Guide for Monitoring Alcohol Consumption and Related Harm*. Geneva, WHO, Department of Mental Health and Substance Dependence.

Yusuf, F. & Leeder, S. (2015). Making sense of alcohol consumption data in Australia. *Medical Journal of Australia*. 203 (3), 128-130.

NORTHERN TERRITORY GOVERNMENT

SAFE, THRIVING AND CONNECTED:
GENERATIONAL CHANGE FOR CHILDREN AND FAMILIES

2020 Generational Change Impact Report

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The Reform Management Office has been established to coordinate a whole-of-government reforms in response to the Royal Commission into the Protection and Detention of Children in the Northern Territory's findings and recommendations, working closely with all stakeholders including Aboriginal organisations, non-government organisations and the Commonwealth Government.

All photos courtesy Northern Territory Government

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Introduction

In November 2017 the Royal Commission into the Protection and Detention of Children in the Northern Territory (RCPDCNT) handed down its 227 recommendations.

The Northern Territory Government responded with its *Safe, Thriving and Connected: Generational Change for Children and Families* plan released in April 2018. It represented a $229.6 million investment in relevant programs and services over five years.

Safe, Thriving and Connected describes a series of reforms to better support children, young people and families experiencing vulnerability as well as deliver the Royal Commission's recommendations.

In December 2017 the Royal Commission into Institutional Responses to Child Sexual Abuse (RCIRCSA) delivered its final report. There are 189 relevant recommendations from the RCIRCSA.

The *Generational Change Reform Program* is a single reform approach which encompasses three significant and inter-related reform programs:

- *Safe, Thriving and Connected: Generational Change for Children and Families (2018-2023)* – the formal response to the Royal Commission into the Protection and Detention of Children in the Northern Territory
- *Starting Early for a Better Future:* Early Childhood Development in the Northern Territory (2018-2028)
- Responses to the recommendations from the Royal Commission into Institutional Responses to Child Sexual Abuse (2017)

Working with communities, Aboriginal controlled community organisations, community sector organisations, the Commonwealth and local governments, the *Generational Change Reform Program* seeks to co-ordinate programs and services and jointly deliver workable results.

An important component to the success of the reform is the ongoing collaboration between key government agencies. Each department has a crucial role, delivering programs and projects which enhance and complement the work of other agencies.

Working together is also vital to successful relationships with the public, the Aboriginal sector and other non-government organisations – significant stakeholders and contributors to the reform.

Departments have worked hard to also address any replicated efforts – to deliver effectively and efficiently with a coordinated approach across government.

This report outlines the achievements, successful collaborations, ongoing challenges and outcomes of the *Generational Change Reform Program*.

It marks the culmination of two years delivering projects all aimed at keeping Territory families *Safe, Thriving and Connected*. Although many of the initiatives are implemented and have led to ongoing services, systems and programs, there remains a need to be responsive to the needs of Territory children and their families.

Embedding the *Generational Change Reform Program* will ensure the considered, consultative and collaborative approach will continue to be delivered. It will provide a combined and focused effort and continuity for all stakeholders.

We are heading in the right direction and we will continue to work hard to improve the long term outlook for Territory children, young people, families and communities.

How to Read this Report

The *Generational Change Reform Program* consists of six portfolios – Putting Children and Families at the Centre, Improving Care and Protection, Improving Youth Justice, Strengthening Governance and Systems, Preventing Child Sexual Abuse and Supporting Survivors and Victims.

These portfolios address and extend beyond the recommendations of the Royal Commissions and focus on delivering desirable outcomes for families. Each portfolio consists of a number of programs which represent vital areas of reform. In turn, the programs contain specific initiatives designed to help deliver complete programs.

For example, the portfolio of Improving Youth Justice consists of three programs – Police and Young People, Getting Kids Back on Track, and Youth Detention that Works. The program Police and Young People consists of two specific initiatives – Custody Notification and Police Youth Division. While the program Youth Detention that Works consists of three specific initiatives – Youth Detention Operations, Youth Detention Infrastructure, and Youth Detention Services and Programs.

The Generational Change Reform Schema which provides the full listing of the *Generational Change Reform Program* is on page 11 of this report.

Status tables under each program provide a brief description of the relevant initiatives to that program and their status. Where an initiative is said to be "underway" it is not yet fully realised as a normal operation but it is on track to being fully implemented. A "completed" initiative refers to the completion of the intent of the initiative and transition to business as usual. For example, although construction may not be complete on a new youth justice facility in Darwin, the project is now part of the core work of Territory Families.

Government agencies mentioned are according to the timeframe this report covers.

Acronyms Used in this Report

ACCO	Aboriginal Community Controlled Organisation
AMSANT	Aboriginal Medical Services Alliance Northern Territory
APONT	Aboriginal Peak Organisations Northern Territory
CMSA	Client Management System Alignment
FaFT	Families as First Teachers
NAAJA	North Australian Aboriginal Justice Agency
NTCOSS	NT Council of Social Services
OOHC	out-of-home care
PHC	Primary Health Care
RCPDCNT	Royal Commission into the Protection and Detention of Children in the Northern Territory
RCIRCSA	Royal Commission into Institutional Responses to Child Sexual Abuse

Executive Summary

The *Generational Change Reform Program* has had an active and productive two years with many initiatives transitioning into agency programs and business as usual. The emerging data demonstrates positive changes in many indicators, but as with most reforms in social services, the outcomes and impacts of changes will not be fully realised for some time.

Productivity Commission[1] figures show a downward trend for all child protection substantiations since 2016/17 (30.5 in 16/17 to 18.8 in 18/19). The figures also show the number of Northern Territory children in out-of-home-care has steadied[2] and a decline in the rate of Aboriginal young people in detention[3].

The timeframes for delivery may have been relatively short, but the difference made under the change reform program to the Northern Territory's child protection and youth justice systems, has been meaningful. A lot has changed for the better over two years.

In 2018 the Northern Territory Government committed $229.6 million in new funding over five years to "reform and improve services for children, young people and families experiencing vulnerability".

That funding includes allocations of:

- $11.4 million over four years to establish the coordination hubs and expand the number of Child and Family Centres to 17
- $22.9 million over four years to improve youth detention operations and reduce recidivism
- $71.4 million to replace Don Dale and Alice Springs Youth Detention Centres
- $9.9 million over four years to divert young people from crime and stop future offending
- $5.2 million over four years to support care leavers to access and secure housing.

From the Family and Children Enquiry Service (FACES) hotline and a new practice framework in Signs of Safety through to establishing new Child and Families Centres, a new Police Youth Division, and youth work camps – a number of initiatives have been introduced and embedded across the Northern Territory Government and in communities, all part of the *Generational Change Reform Program*.

The environment and systems now operating across the Northern Territory include better partnerships across government agencies, stakeholders and communities, increased service delivery, greater involvement of organisations, and, most importantly more family participation and connection in programs designed to build resilience.

As outlined in this report, there has been significant progress in improving the child protection and youth justice measures, and strengthening the services that prevent families from entering both systems. As well, the collaboration and coordination across government has led to less replication and a more focussed approach on services and targeted programs.

The work of the *Generational Change Reform Program* has also complemented other major government strategies and plans including the *Alcohol Harm Minimisation Action Plan*, *Closing the Gap*, the *Child and Adolescent Health and Wellbeing Plan*, *NT Aboriginal Affairs Strategy*, Local Decision Making and the development of a Treaty for the Northern Territory.

The reform is reported against six portfolios. Key achievements so far under each portfolio include the following.

1 *Productivity Commission 2020 Report on Government Services*
2 *Table 16A2, Productivity Commission 2020 Report on Government Services*
3 *Table 17A5, Productivity Commission 2020 Report on Government Services*

Putting Children and Families at the Centre

- The opening of two new Child and Family Centres in Tennant Creek and Katherine and the contracted partnership with Aboriginal Organisations to establish centres in Kalkarindji and Darwin's Northern Suburbs. All established through partnering with local Aboriginal leaders and Aboriginal Community Controlled Organisations.
- Funding to seven communities with a total of 32 local initiatives aimed at enhancing family and children services through the Child and Family Community Fund.
- Expanded the Healthy Under 5 Kids: Partnering with Families program across the Northern Territory including the development of eLearning tools to support remote practitioners.
- Funding provided to four Aboriginal Community Controlled Organisations to implement and provide the Maternal Early Childhood Sustained Home Visiting (MECSH) program to improve parenting outcomes and ensure children are ready to start school.
- Established Families as First Teachers: Stay Play Learn programs in 15 communities, including the recruitment of community hearing workers who provide ear and hearing health promotion.
- Partnering with the Menzies School of Health Research (Menzies) for the 'Hearing for Learning' Program Joint Venture initiative research project.
- Amended the *Care and Protection of Children Act 2007* to provide for early support for families, reduce the number of children in out-of-home care and improve court orders and the legal process to better protect children.

Improving Care and Protection

- Embedded the Signs of Safety practice framework focussing on holistic family safety assessments and support.
- An almost 80 percent increase in intensive family support over two years.
- Implementation and operation of the new Housing for Young People's Program in Darwin with arrangements underway for a similar service to be established in Alice Springs and Katherine.
- Partnered with Aboriginal organisations to introduce the Aboriginal Carers Growing Up Aboriginal Children grants.
- An increase in the proportion of Aboriginal children in care with relatives/kin or other Aboriginal carers.
- Collaborated with Tangentyere Council to develop *Children, Safe, Family Together* – a comprehensive culturally safe Aboriginal kinship care services model, which has been recognised nationally.
- Launched the new Intensive Therapeutic Residential Care (ITRC) model for up to 100 young people, funded at $200 million over five years.

"There's actually been significant improvement throughout the (child protection) sector for the first time in decades."

National Association for the Prevention of Child Abuse and Neglect, National Manager Prevention Strategies Lesley Taylor *(Northern Territory News, 8 Sept 2020)*

Improving Youth Justice

- The opening of the new $3.53 million Palmerston Youth Drop-in Centre - $7.42 million in grant funding has been provided for this service over five years.
- Invested $4.54 million across five years to develop new short and long-term youth intervention work camps at Seven Emu Station near Borroloola.
- The first Back on Track youth bush camps held for young people who have a high risk of offending and re-offending. The bush camps were operated by Creating a Safe, Supportive Environment (CASSE) and MacDonnell Regional Council Youth Services (MacYouth) and include specialist case management to change behaviour.
- Finalised designs for new youth justice facilities in Darwin and Alice Springs.
- Released the Tennant Creek Youth Action Plan – developed with a local youth action group, the plan reflects the voices of young Tennant Creek residents and their aspirations for the future of their community.
- Released the Back on Track: Cutting Youth Crime Plan to tackle youth crime by investing in programs that provide early intervention and prevention, diversion, consequences, rehabilitation and alternatives to detention.
- Passed amendments to the *Youth Justice & Related Legislation Amendment Act*. The amendments give police and the courts more discretion to choose the right consequences for young offenders, remove barriers to youth diversion programs, improve the application of bail and ensure consistency in young people's access to legal assistance, information, and privacy.
- Community Youth Diversion grants of $3.155 million provided to non-government organisations in Alice Springs, Katherine, Ngukurr and Darwin to establish local programs that change the behaviour of young people and divert them away from the youth justice system.
- A new Aboriginal Elders and Mentors Program launched at the Alice Springs and Darwin youth detention centres. Developed in partnership with North Australia Aboriginal Justice Agency (NAAJA), the program brings strong Aboriginal role models into the youth detention centres.
- Renewed Community Youth Diversion (CYD) programs in more than 12 remote communities across the Top End and Central Australia providing $3.155 million in grants to new service providers.

Strengthening Governance and Systems

- Delivered the first Story of Our Children and Young People publication – a significant outline of data across almost 100 measures. The publication supports outcomes-based monitoring and evaluation across the Territory, split across regional boundaries. Planning for the next version is underway.
- Through the Children and Families Tripartite Forum, began the development of a 10-Year Generational Strategy for Children and Families in the Northern Territory. The Forum also provided guidance on the Productivity Commission's study into expenditure for children in the Northern Territory.
- Increased the resources of the Office of the Children's Commission by $580,000 per annum (from July 2018).
- Increased the uptake of Local Decision Making principles by agencies. For example, the establishment of more Community Led Schools and Local Engagement and Decision Making Committees.
- Continued development of the project to deliver a new client information system and data brokerage service for child protection and youth justice. The government has allocated $66.9 million over five years for the project which will also provide cross-government data integration.
- Improvements to the complaints system, encouraging more feedback, particularly from children in care.
- Began co-developing the Coordinated Funding Framework with the Commonwealth Government in partnership with the Children and Families Tripartite Forum.

Preventing Child Sexual Abuse

- Signed up to the National Standards for Working with Children Check and Child Safe Standards and Principles.
- Implemented a sexual abuse prevention education program for children in care.
- Amended *Teacher Registration Act 2004* to expand the Teachers Registration Board's power to take disciplinary actions and increase transparency in decision making.

Supporting Survivors and Victims

- Became a full participant in the National Redress Scheme.
- The Northern Territory Redress Coordination team continued to investigate and process claims relating to Northern Territory institutions.
- Continued to support victim offender conferencing.
- Launched the first Northern Territory Sexual Violence Prevention and Response Framework 2020-2028.
- Introduced the Safe, Respected and Free from Violence Prevention Grant program to fund violence prevention activities across the Northern Territory.

"Some of the child protection and out-of-home care data suggests that those reforms are beginning to have a discernible positive impact on the wellbeing of children in the Northern Territory."

Office of the Children's Commissioner
Annual Report 2018-19.

Investing in Generational Change

In response to the Royal Commission into the Prevention and Detention of Children in the Northern Territory, the Northern Territory Government has been investing in generational change for children, families and communities.

In 2018, the new funding allocated included:

$229.6 MILLION	in new funding over five years to reform and improve services for children, young people and families experiencing vulnerability. Including:

$11.4 MILLION	over four years to establish the coordination hubs and expand the number of Child and Family Centres to seventeen	$5.7 MILLION	over four years to work with families and introduce family group conferencing
$1.2 MILLION	over three years to operate the Youth and Children's Court in Alice Springs	$5.2 MILLION	over four years to support Care Leavers to access and secure housing
$2.8 MILLION	over four years to improve care and protection practice	$5.4 MILLION	over four years to transform out-of-home care
$9.9 MILLION	over four years to divert young people from crime and stop future offending	$12.9 MILLION	over four years to effectively and constructively engage young people
$22.9 MILLION	over four years to improve youth detention operations and reduce recidivism	$71.4 MILLION	to replace Don Dale and Alice Springs Youth Detention Centres
$2.5 MILLION	over four years to expand the oversight of child protection and youth justice systems	$8.9 MILLION	over four years to empower local decision making and community-led reform
$2.5 MILLION	over four years to build the evidence base for approaches and evaluate what's working	$66.9 MILLION	over five years to develop a new platform to manage cases and share information

It built on the 2017-18 investment which included:

$18.2 MILLION	per year invested in strengthening youth diversion and bail support	$1.1 MILLION	over ten years invested in improving housing in remote Aboriginal communities
$1.75 MILLION	per year for after-hours services for young people in Alice Springs and Tennant Creek	$4 MILLION	per year supporting Families as First Teachers sites across the Territory
$32 MILLION	over four years for early intervention and support for school students with challenging behaviours, disabilities and mental illness	$92 MILLION	over four years invested to strengthen schools and support services for students
$15.5 MILLION	per year to provide specialised services to tackle alcohol misuse and dependence	$3 MILLION	per year invested in Family Enhanced Support Services for earlier, better support to families
$5 MILLION	per year to support increased police resourcing and recruitment	$1 MILLION	per year to expand the Nurse Home Visiting Program

Generational Change Reform Schema

1. Putting Children and Families at the Centre

1.1 Prevention and Early Support	1.2 Work with Families and Children	1.3 A Legal System for Families	1.4 Support Transition and Restoration
Ready to Learn	Family Group Conferencing	Representation and Advocacy	Supported Accommodation for Care Leavers
Getting it Right for Life	Preserve Contact with Family	A Single Act for Children	Transition from Detention and Through-Care
Family Support Services	Respect Children's Voices	Training for the Legal Profession	Transition from Out-of-Home Care
Children and Family Centres		Youth and Children's Court	
		Youth Parole	

2. Improving Care and Protection

2.1 Care and Protection Practice	2.2 Children in the Child Protection and Youth Justice Systems	2.3 Transforming Out of Home Care
Reporting and Investigation	Meeting the needs of Children in Care who are involved with Youth Justice	Foster and Kinship Care and Aboriginal Out-of-Home Care
Clinical Practice and Case Management		Trauma Informed and Therapeutic Care
Care and Protection Orders	Responding to complex behaviour in Out-of-Home Care	Out-of-Home Care Governance and Oversight

3. Improving Youth Justice

3.1 Police and Young People	3.2 Keep Children out of Detention	3.3 Youth Detention that Works
Custody Notification	Youth Engagement Grants	Youth Detention Operations
		Youth Detention Infrastructure
Police Youth Division	Youth Justice Programs	Youth Detention Services and Programs

4. Strengthening Governance and Systems

4.1 Advocacy, Accountability and Quality Improvement	4.2 Managing and Sharing Information	4.3 Community-led Responses	4.4 Evidence-based Practice	4.5 Coordinated Effort Towards Better Outcomes
Commission for Children and Young People	Information Management and Sharing	Local Decision Making	Research and Evaluation	Operational Coordination and Service Integration
				Strategic Coordination
Internal Accountability and Complaints			Reporting and Monitoring	Developing Workforce Capacity

5. Preventing Child Sexual Abuse

5.1 Child Safe Organisations	5.2 Sexual Health and Harm
National Child Safe Standards	Problematic and Harmful Sexual Behaviours
Foster and Kinship Carer Register	Online Safety
Working with Children Checks	Child and Community Education
Teacher Registration	Children in Out of Home Care

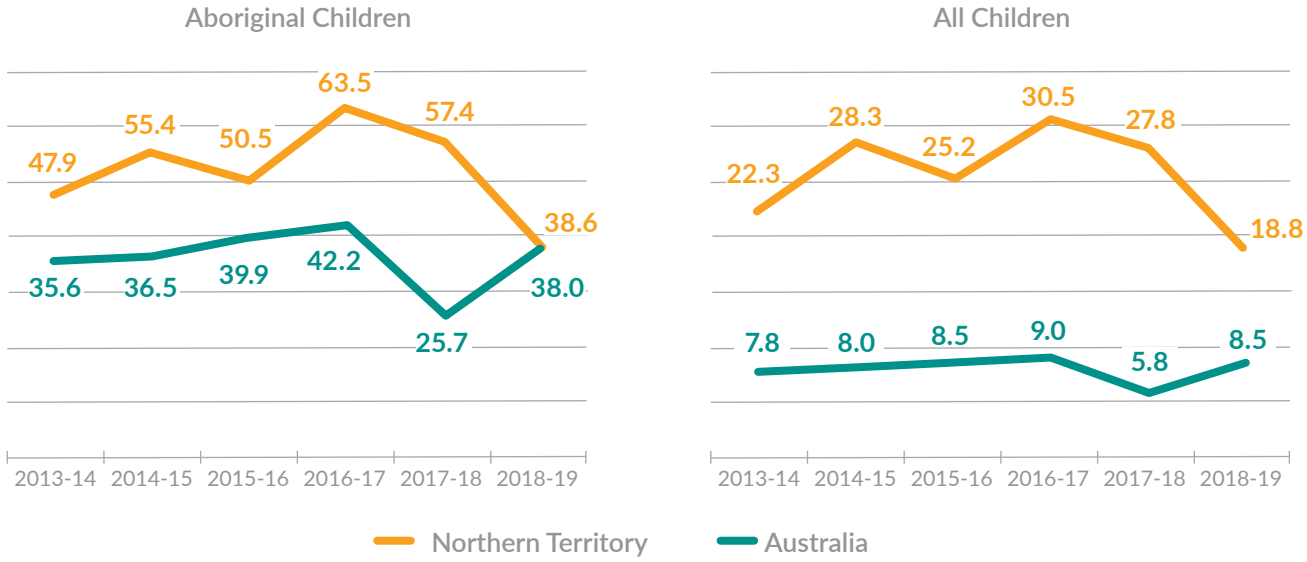
6. Supporting Survivors and Victims

6.1 Redress and Civil Claims	6.2 Support and Professional Care	6.3 Supporting Survivors and Victims through the Justice System
National Redress Scheme	Community Support Services	Limitation Periods
Civil Claims	Counselling and Psychological Care	Police and Survivors and Victims
Liability and Non-Delegable Duty	Institutional Support	Survivors and Victims in Court
	Sexual Assault Services	

Outcomes of the Reforms

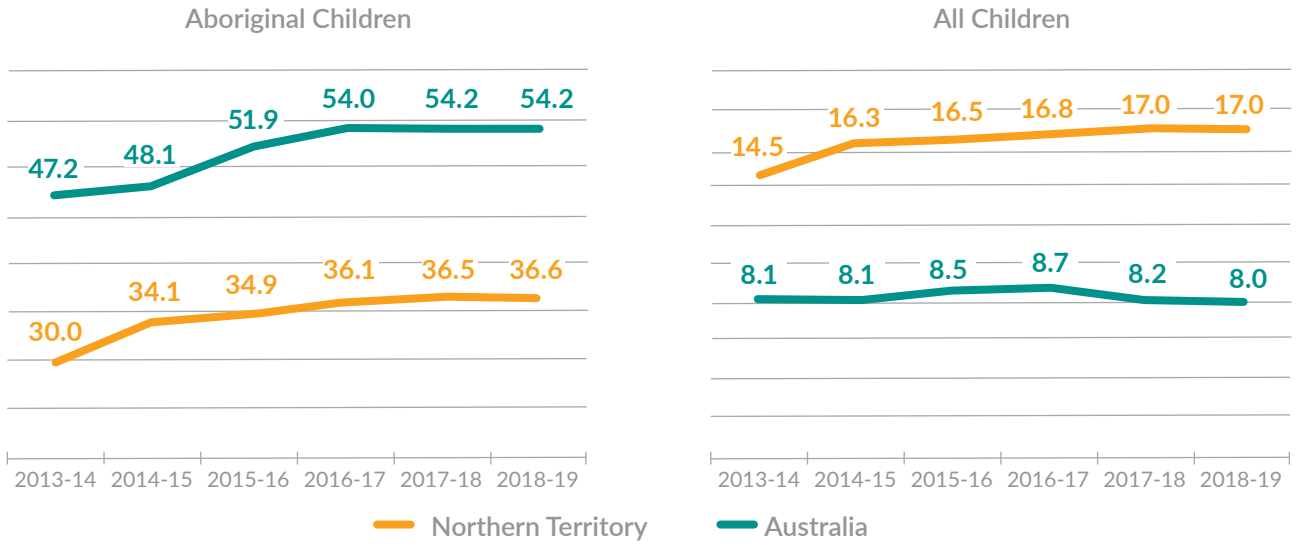
Care and Protection

Children subject to child protection substantiation per 1,000 children
Source: Report on Government Services 2020 - Table 16A1



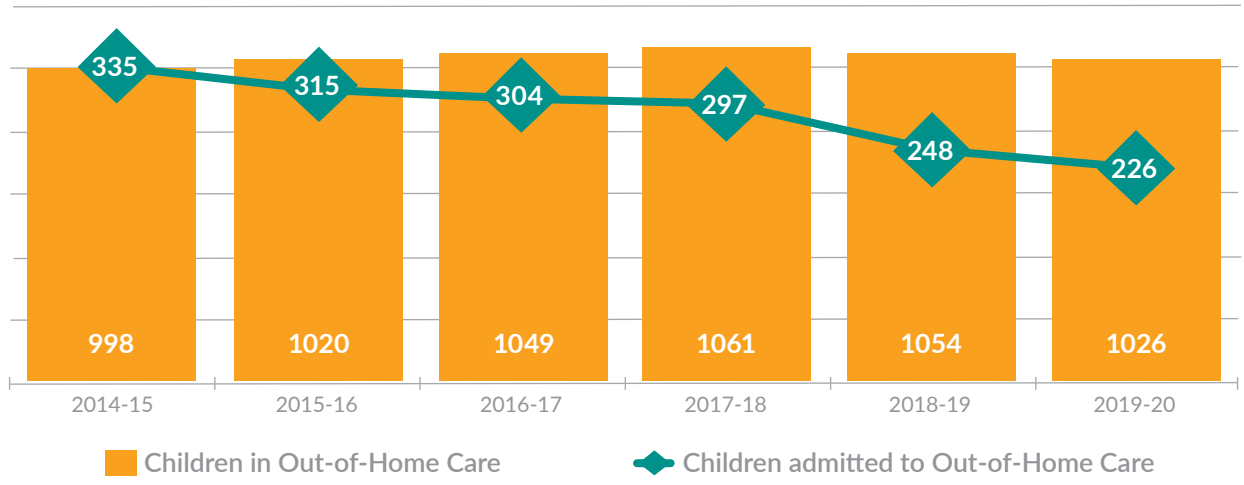
Since 2016-17, there has been a significant decrease in the number of children subject to substantiation for child abuse and neglect in the Northern Territory. Between 2016-17 and 2018-19, there was a 39% decrease in the rate of Aboriginal children substantiated, with the NT rate for Aboriginal children now comparable to the Australian rate.

Children in Out of Home Care at 30 June per 1,000 children
Source: Report on Government Services 2020 - Table 16A2



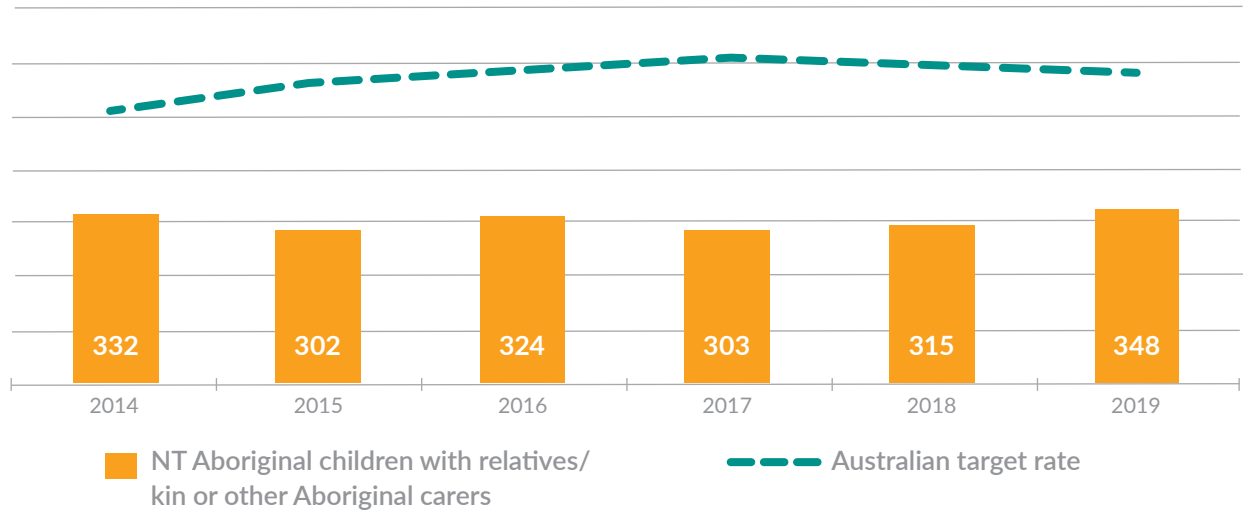
The proportion of Aboriginal Children in out-of-home care in the Northern Territory continues to be well below the Australian rate. However given the disproportionate representation of Aboriginal children in out-of-home care around Australia and the size of the Aboriginal population in the NT, the NT continues to have the highest rate of children in out-of-home care in Australia.

Children in Out-of-Home Care and Children Admitted to Out-of-Home Care
Source: Territory Families Annual Report 2019-20



The overall number of children in out-of-home care has decreased since 2017-18 and reflects a significant reduction in the number of children admitted to out-of-home care each year. Between 2015-16 and 2019-20, the number of children admitted to out-of-home care each year in the NT decreased by 28%.

Aboriginal children in care with relatives/kin or other Aboriginal carers
Source: Report on Government Services 2020 - Table 16A21

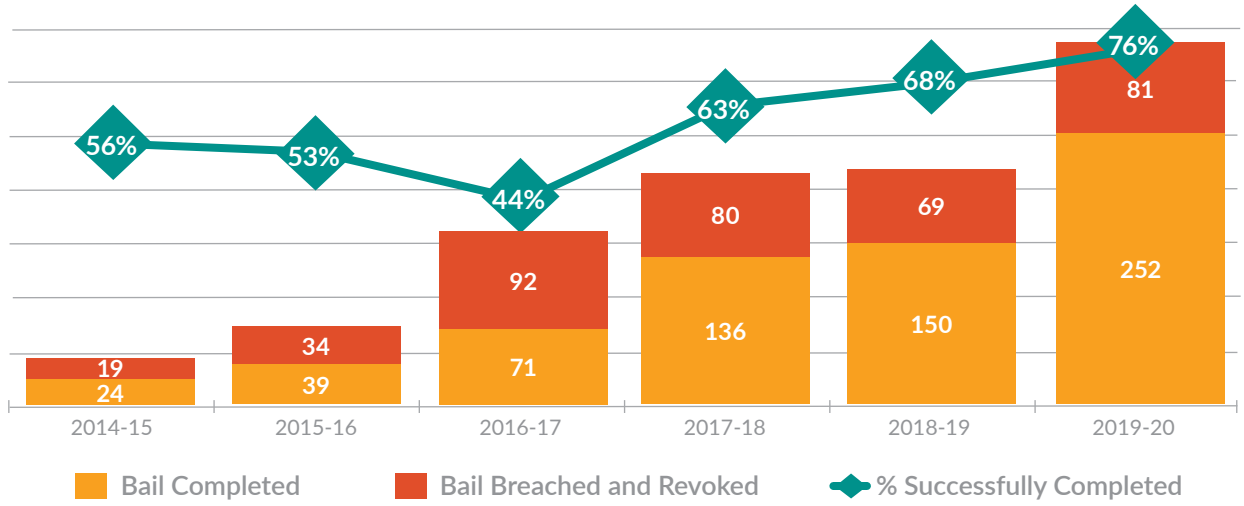


Since 2017, the number of Aboriginal children placed with Aboriginal carers has increased by 14% in the Northern Territory, however the total proportion remains well below the Australian average rate. During 2020, the Northern Territory Government has expanded partnerships with Aboriginal Community Controlled Organisations to engage and support Aboriginal carers through the Aboriginal Carers Growing up Aboriginal Children program.

Youth Justice

Bail Orders for Young People in the Northern Territory

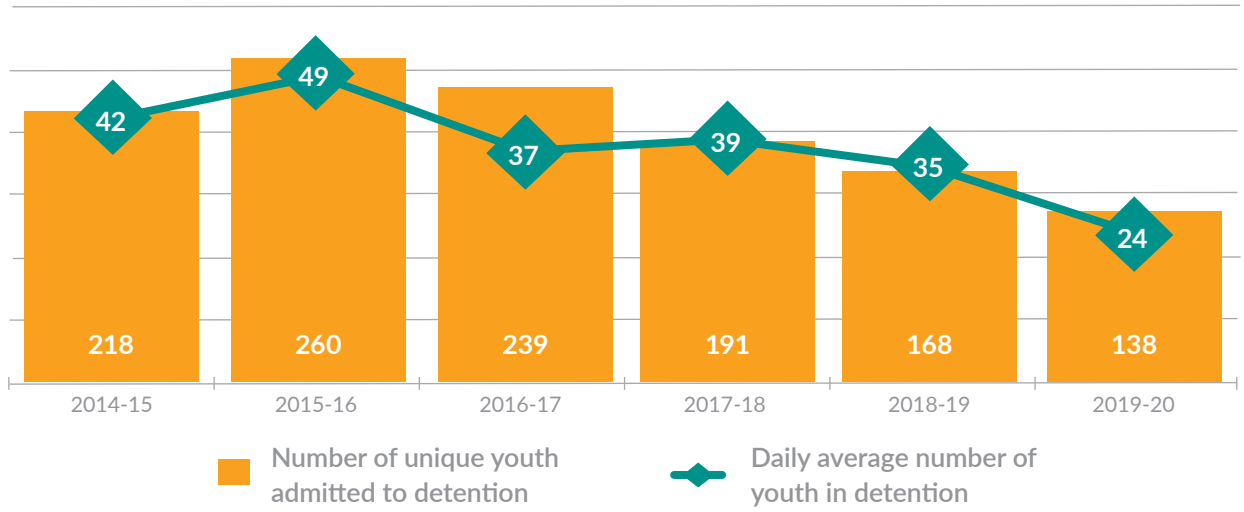
Source: Territory Families Annual Report 2019-20



Since 2015-16, the number of bail orders for young people in the Northern Territory has increased more than 3 fold. Over the same period the proportion of young people successfully completing bail has also increased from 53% of bail orders in 2015-16 to 76% of orders in 2019-20.

Youth Detention in the Northern Territory

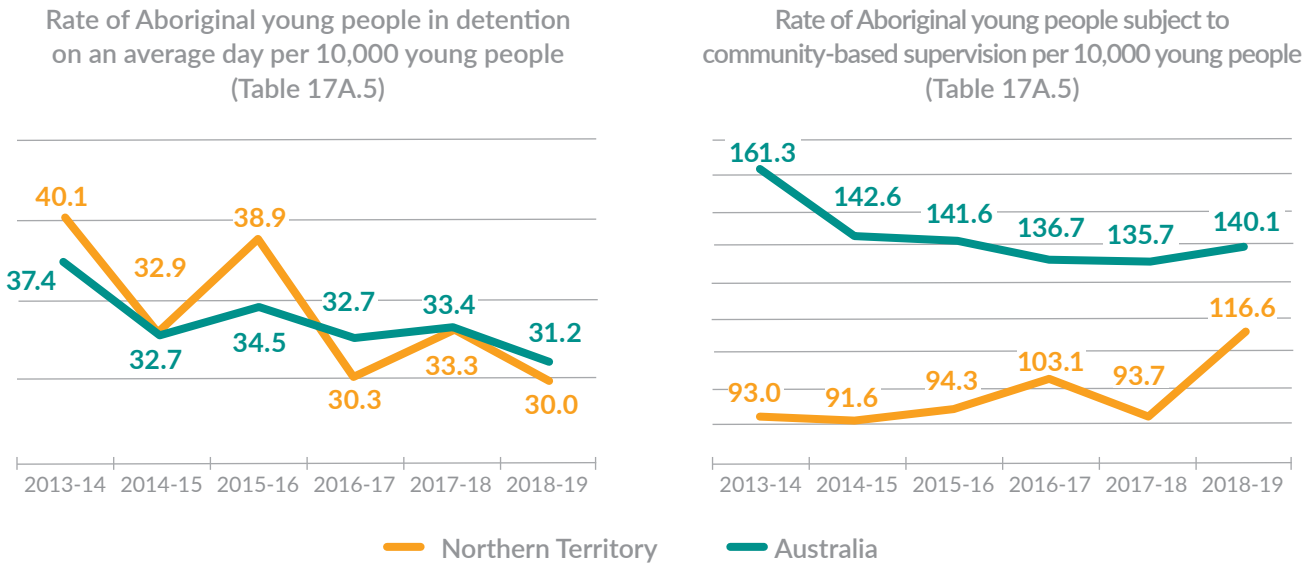
Source: Territory Families Annual Report 2019-20



Since 2015-16 there has been significant reductions in the number of young people admitted to detention each year, and the daily average of young people in detention. Between 2015-16 and 2019-20, the number of young people admitted to youth detention at least once during the year has decreased by 47% with 122 fewer young people admitted. Over the same period the daily average number of young people in detention has decreased by 51%.

Aboriginal young people in detention and subject to community-based supervision

Report on Government Services 2020 - Tables 17A5, 17A6



Considering the nationally comparable data reported in the Report on Government Services, the rate of Aboriginal young people in detention in the NT has been below the national rate for the last three years. In 2018-19, the Northern Territory also recorded a significant increase in the rate of Aboriginal young people subject to community based supervision as further alternative to detention programs were implemented.

Putting Children and Families at the Centre

This reform approach includes early intervention and prevention projects and programs designed to support families earlier and avoid issues escalating into crises. The portfolio also includes programs to reorientate the legal system towards a child and family centred approach, and actions to ensure that the voices of children and families are heard and respected.

Putting Children and Families at the Centre

The portfolio has four program areas: Prevention and Early Support, Work with Families and Children, A Legal System for Families, Support Transition and Restoration. These ensure initiatives are in-step with the aim to help Territory children and their families to be healthy, happy, safe and thriving.

1.1 Prevention and Early Support

Families and children are being helped in culturally secure ways to keep them strong and make communities safer.

Prevention is better than a cure and early support is vital to help ensure the health of the family unit and the broader community.

The sooner Territory families and children are on their way to thriving, the less intervention is needed in future years, and a healthier society is the result.

Initiatives range from assistance and intervention actions through to targeted strategies and dedicated structures.

The achievements and continued work in this area are an investment into the future.

1.1.1 Ready to Learn

All Northern Territory children are born ready to learn – we need to tap into their potential, create the ideal learning environment and help develop their love of learning.

The continued success of initiatives such as Families as First Teachers (FaFT) Stay Play Learn, Literacy for Parents and language, conversational reading and pre-numeracy programs, work towards creating a successful transition to "big" school.

The FaFT program has expanded across the Northern Territory with all 15 identified FaFT Stay Play Learn sites operational. The Stay Play Learn programs deliver quality early learning and build parents' capacity to engage with their children's early learning. They also provide a partnership between parents, schools and their communities to improve the home learning environment. Additionally, Community Hearing Workers have been employed in communities to work within the FaFT Program to provide ear and hearing health promotion to families.

Literacy for Parents programs build parenting capacity as well as providing further education for parents. It increases the family involvement in a child's early learning programs.

Under the Northern Territory Government's *Starting Early for a Better Future* reform a commitment was made to "expand a range of language, conversational reading and pre-numeracy programs for children and families throughout a range of services".

Initiatives aiming to meet that commitment as well as help create a better, more encouraging learning environment include The Little Scientist Program and the NT Preschool Maths Games. The Little Scientist Program is training for educators to gain confidence to deliver Science, Technology, Engineering and Mathematics (STEM) learnings to young children.

The NT Preschool Maths Games were the first in a suite of preschool games developed through a partnership with the University of Melbourne to enhance the STEM curriculum in Northern Territory preschools and early childhood services.

Responses from program participants have been positive and supportive.

Most of the initiatives instigated under the Ready to Learn banner have been introduced and are now ongoing programs.

Measuring the success of these initiatives is ongoing as is monitoring their progress to ensure they remain current and relevant.

Putting Children and Families at the Centre

Status of the Program

Initiative	Brief Description	Status
Families as First Teachers – Stay Play Learn programs	Using the Abecedarian Approach Australia to build parents' capacity to engage in their children's early learning	COMPLETED
FaFT – community hearing workers	Establish community hearing worker positions to work with the FaFT program	COMPLETED
Early Childhood Education and Care Quality	Education Department work with early childhood and care providers to improve the quality of services	COMPLETED
Language, conversational reading and pre-numeracy programs: Little Scientists, Reggio Emilia NT Pilot	Little Scientists helps early childhood educators support young children to explore Science Technology Engineering and Maths The Reggio Emilia approach values the child as central to their own learning. Based on the principles of respect, responsibility and community	COMPLETED
NT Remote Assistant Teacher Preschool Package	Tiered and scaffolded support for remote assistant teachers leading out of scope preschool programs	COMPLETED
Family involvement and child attendance in early learning programs: Literacy for Parents	Builds parenting capacity as well as supporting them to achieve age appropriate benchmarks in literacy	COMPLETED
Review of NT Early Childhood Transitioning Policy Package	Examining the impact of the package which supports the sector to provide families with inclusive and welcoming transition to school experiences	COMPLETED

1.1.2 Getting it Right for Life

In order to encourage a consistent healthy approach over a lifetime, it's important to "get it right for life". It's about ensuring all Territory children are born healthy, remain healthy and thrive.

Working towards success in this vital area of nurturing is not a short term proposition, but one that requires ongoing work within all programs which strive towards embedding a positive impact for children and families in the Northern Territory.

Initiatives under this program are as wide ranging as they are necessary – targeting important areas of child health and addressing the challenges in early childhood, hearing health and early intervention. The program also includes the NT Fetal Alcohol Spectrum Disorder Strategy – a nationally aligned strategy tackling lifelong damaging yet entirely preventable disease.

Addressing Fetal Alcohol Spectrum Disorder (FASD) in the Northern Territory 2018-2024 is a strategy which outlines a whole of government approach and includes a focus on prevention, education and reduction of the impact of FASD on families and the community. The strategy is an important element of the Generational Change Reform.

Another key initiative is the Healthy Under 5 Kids: Partnering with Families (HU5K-PF) program. This is a standardised universal child health and developmental screening program, which supports families with children 0-5 years old and promotes a partnership between the family and health professional to empower and build the confidence of parents and care givers.

Expansion of this program across the Northern Territory has continued and included developing eLearning tools to support remote practitioners to deliver the HU5K-PF program.

PROGRAM STUDY: *Helping families – helping communities*

From yarning circles through to reductions in drug use, the positive influence of the Maternal Early Childhood Sustained Home Visiting (MECSH) program continues across the Northern Territory.

MECSH is a sustained nurse home visiting program specifically targeted to improve outcomes for children and their families by building parents' capacity to provide safe, responsive care and a home environment that supports children's learning.

It is one of many initiatives operated through the Department of Health and helping address the Generational Change Reform area of Prevention and Early Support.

MECSH is operating through four Northern Territory Aboriginal Community Controlled Health Organisations (ACCHO) - Anyinginyi Health in the Barkly Region, Miwatj Health in East Arnhem, and Katherine West Health Board and Sunrise Health in the Big Rivers Region.

Among the many achievements of the program in the past 12 months:

- There has been an increase in newborn and four-month vaccination visits
- Local community workers are bringing a significant number of families into clinics for overdue immunisations and child health follow-ups
- Some mothers receiving MECSH visits are now attending child health visits more regularly
- At some of the yarning circles provided by MECSH staff, community members including the men have been talking about family violence
- One mother has reported reducing her substance use with the support of regular MECSH home-visits, and another MECSH mother, arriving back in community after having her baby, proudly informed the MECSH nurse that she had given up smoking.

The program is a proactive, positive approach. Besides the focus on the family unit, the program is proving to be valuable at a community level.

For example, at one location, MECSH program staff are collaborating with the local council and non-government organisations to facilitate family education picnics and cooking demonstrations.

And community men's groups are making bookcases and garden boxes out of recycled barge crates, building fire pits for community use and planning salad gardens – coming together because of the MECSH efforts.

The MECSH program will undergo a full independent evaluation by Menzies School of Health Research.

PROGRAM STUDY: *Partnering with Families*

The Healthy Under 5 Kids: Partnering with Families (HU5K-PF) program builds partnerships between families and health professionals. It provides the care and support needed to empower families to become confident parents and caregivers and aims to support optimal child health and development.

Testimony from one on-the-ground health professional:

"The roll out of the HU5K-PF program to remote communities in Central Australia has enabled clinicians to identify remote living children that have potential developmental delays, this has enabled early referral and intervention.

"In one remote community a family meets with me every time I visit the community, as they see my visit as a way of extra support. I have been able to liaise with appropriate services, the hospital or with the Children's Development Team to assist the family and to help explain things in a way they understand. Some times when I drive into community I see the mother in the distance smiling and waving, she comes to the clinic not long after so I can hold her baby and check him over.

"This young mum appears more confident within herself and her parenting skills. She has been empowered with knowledge to bring up her sons.

"In another community I have been able to build a relationship with a father. He visits the clinic every time he sees me in the community, he talks to me glowingly about his son and his hope for him for the future. He loves knowing his growth is tracking well and his blood is strong. This father is praised every visit for the tremendous job he is doing in bringing up his son and the way he is teaching him his own culture with special bush trips together.

"I have also heard other Remote Child and Family Health Nurses talk of similar experiences since the HU5K-PF program began in Central Australia. The introduction of the HU5K-PF program has helped to build relationships and engagement with families in remote communities."

From Borroloola to Minjilang – HU5K-PF positive impacts

A Borroloola HU5K-PF and Family Health Nurse, has set up a room in the library at Borroloola School, next door to the Families as First Teachers (FaFT) program. She attends at least once a week, joining in activities and completing HU5K-PF and Ages and Stages Questionnaire (ASQ) assessments. Families are invited to attend the Primary Health Clinic for immunisations or further treatment and future plans involve offering the NT Childhood Immunisations Schedule at FaFT. The new FaFT based child health program has been a successful collaboration between two organisations with similar goals– enhancing the growth and development of remote community children in their early years.

Minjilang twins Alexandra and Alexia, were the first remote children in the Top End to experience pain free Haemoglobin monitoring. With new Haemoglobin spot check monitoring capabilities, the non-invasive, portable and handheld devices allow for increased coverage and compliance with the Northern Territory's childhood anaemia reduction program. They have become part of the HU5K-PF service. A low red blood count can be easily and quickly identified and therefore treated earlier. This new point of care test equips our remote health teams significantly better to reduce the rates and impact of childhood anaemia.

Putting Children and Families at the Centre

Status of the Program

Initiative	Brief Description	Status
Maternal Early Childhood Sustained Home visiting (MECSH) program	A service delivery strategy aiming to provide a range of family supports provided by registered nurses	COMPLETED
Healthy Under 5 Kids: Partnering with Families (HU5K-PF) program	A universal standardised child and family health program for all families with children 0-5 years of age	COMPLETED
Family as First Teachers (FaFT) Hearing Health Partnership	Local community members work as part of the FaFT team to promote healthy hearing	COMPLETED
Hearing Health Joint Venture 'Hearing for Learning'	Focused on hearing health aiming to address services gaps in identified remote NT communities	COMPLETED
NDIS Early Childhood Early Intervention Scheme	Assisting the implementation of the National Disability Insurance Scheme's (NDIS) Early Childhood Early Intervention (ECEI) scheme in the Northern Territory	COMPLETED
NT FASD Strategy	A NT Fetal Alcohol Spectrum Disorder Plan aligned to the National Strategic FASD Action Plan	COMPLETED

1.1.3 Family Support Services

A series of reforms aimed at delivering services, with the community sector, to support families and parents to raise strong, healthy and safe children by providing support before, during and after contact with the care and protection system.

The government's commitment to expand the work around the dual pathways model saw the implementation of the Family Enhanced Support Service (FESS). This model supports vulnerable families, diverting them from entering the child protection system by referring them to support services.

The Family Support Services reforms have moved the action further and seen the implementation and embedding of several initiatives including the Family and Children Enquiry Service (FACES), an online reporter tool, the NT Council of Social Services service directory and an Early Intervention Family Support Model (designed by the Aboriginal Medical Services Alliance Northern Territory).

In 2019-20 Territory Families commenced 779 Family Support cases and 631 Strengthening Families cases to provide active support and intervention for families.[4]

For the same time frame, the Australian Institute of Health and Welfare Report highlighted a 79 percent increase in the number of families receiving intensive family support in the Northern Territory.

Work continues on collaborative funding and planning sessions between the Commonwealth and Northern Territory Government agencies for Family Support.

Status of the Program

Initiative	Brief Description	Status
Family Support Services	Relevant support services aimed at helping families avoid the child protection system	COMPLETED

4 *Territory Families Annual Report 2019-20*

Putting Children and Families at the Centre

1.1.4 Child and Family Centres

For children and families in community settings, connections are important.

They bond the community, help retain harmony and are vital for requesting and receiving important support services.

The Child and Family Centres provide a focal point to coordinate the delivery of support services for children and their families within a community.

The Government has committed to establishing 11 new centres and expanding the six existing centres.

Each centre is unique according to its location but all work to a common model developed in consultation with the Children and Families Tripartite Forum.

The centres are developed with local Aboriginal leaders and Aboriginal Community Controlled Organisations with local families encouraged to participate.

New centres established so far: Big Rivers (Kalano Association) and Tennant Creek (Julalikari). Work continues with Wadeye (Thamarrur Development Corporation), Kalkarindji (Gurindji Corporation), East Arnhem, Alice Springs and the northern suburbs of Darwin (CAAPS).

Expansions and planning for expansions have been underway for the six existing Child and Family Centres operating in Gunbalunya, Larapinta (Alice Springs), Maningrida, Ngukurr, Palmerston and Yuendumu.

Also connected to the Child and Family Centres is the Child and Family Community Fund which allocates up to $260,000 per year to communities with the Centres to fund priorities for families of children from birth to five years old.

After many requests, a flexible approach was used for the latest allocations (May/June 2020) under the fund. Priority was given to where funding needed to be reprioritised to support community resilience to COVID-19.

Establishing and expanding the centres and continuing the Child and Family Community Fund are embedded projects which continue to contribute positively towards the wellbeing of local children, their families and their communities.

Status of the Program

Initiative	Brief Description	Status
Establishment of 11 new centres	Child and Family Centres are a focal point for integrated services for children and their families	UNDERWAY
Child and Family Community Fund	For communities with centres with priorities for families of children from birth to five years old	UNDERWAY

PROGRAM STUDY: *Child and Family Centres Kick Off*

A place belonging to families – Marlungku-kari

Tennant Creek families have a new place to find support.

The new Child and Family Centre named in the Warumungu language as "a place belonging to families", is operated by Julalikari Council Aboriginal Corporation.

Open in late June, Marlungku-kari Child and Family Centre will assist families in Tennant Creek to access quality and culturally responsive programs and services that will address their needs.

Located in the Tennant Creek Primary School grounds off Thompson Street, next to the preschool and co-located with Families as First Teachers (FaFT), the Centre has been well received with local families showing interest in the programs.

The Northern Territory Government is investing $11.4 million over four years to establish 11 additional Aboriginal Community Controlled Child and Family Centres expanding the network of centres to 17 (six already exist).

With the opening of the Marlungku-kari Child and Family Centre, there are now eight centres in the Territory. The Big Rivers Child and Family Centre in Katherine operated by Kalano Community Association, opened in February this year.

The services and programs at each centre will be driven by the local community, as part of Local Decision Making principles, and are designed to help families and communities build their capacity to raise happy and healthy children.

Help flows around the Big Rivers.

Opened in February 2020 then closed for COVID-19 measures in April 2020, the Big Rivers Child and Family Centre has had a challenging beginning.

In a demonstration of versatility, the Big Rivers Child and Family Centre focus was redirected to providing assistance to community members needing to get home.

Operators the Kalano Community Association restarted the centre after a couple of months in lockdown to the delight of local families looking to access the support services offered by the centre.

Before the lockdown, the centre had been gaining momentum seeing 785 people, including 270 children, through its doors five weeks into operation.

Following its reopening in early June, the Centre saw a steady flow of client return with numbers increasing each week (as at 30 Jun 2020).

Community initiatives for community fund

The Child and Family Community Fund is open to on-the-ground initiatives in each community with a Child and Family Centre. The fund allocates up to $260,000 a year to fund priorities for families of children from birth to age five years.

The activities are chosen by the local community. Among those funded in 2019/20 include:

- A Baby Families and Schools together (Baby FAST) program at Ngukurr
- Trauma informed resources in Warlpiri language at Yuendumu
- Revitalising Yuendumu parks to be more child-friendly and functional
- Community Laundromat at Gunbalanya
- Gunbalanya Young Family Program
- Transport 25-35 seater bus for Big Rivers region.

Putting Children and Families at the Centre

CASE STUDY: *Working together for stronger families*

A mother in a remote community was struggling with excessive marijuana use and deteriorating mental health. The mother has primary care of her daughter, and her maternal grandmother reported concerns for both mother and child, requesting support to help her address her issues.

The grandmother developed a good rapport with the Territory Families case worker, welcoming her into the home to talk about her worries. During interactions with family, the local clinic continued to raise concerns for the wellbeing of the child, due to the mother's presentations at the clinic reporting thoughts of self-harm. The grandmother was identified as a strong support for her granddaughter and she was able to advocate on her behalf and encourage her to voluntarily attend and receive treatment from the Mental Health Unit, while the grandmother cared for the child. The worker assisted the grandmother to enrol the child at crèche while she received respite for a few hours a day. Upon the mother's exit from the Mental Health Unit she resumed care of her daughter, reduced her cannabis use, ended a violent relationship and made the decision to relocate back to her community of origin. Reports indicate there has been no further contact with the mother and child.

1.2 Work with Families and Children

Families are actively engaged as partners in improving outcomes for their children and their communities, and are involved in decisions affecting them.

The Work with Families and Children program is aimed at ensuring children and families are involved in the design and delivery of services, and services reflect their needs and preferences.

It's important for those who need the programs and services are informed and active in any decisions regarding their participation, to "own" their involvement and to know they are supported.

Projects and initiatives under this program range from measures to preserve contact with family (for incarcerated youth) through to deeper engagement of children on relevant policy issues. This work is involved and complex and continues to be delivered.

CASE STUDY: *Collaboration leads to family*

In a case involving three children from a Central Australian community being taken into provisional care in Alice Springs, Women's Safe House and Remote Family Support Service (RFSS) staff worked tirelessly on a solution for their care. Through close collaboration with the remote staff, they were able to locate the families of the children in community and lead a family meeting in community to discuss safety concerns. The RFSS worker put a safety plan in place that was supported by the Team Leader and the children were returned to the care of family.

Putting Children and Families at the Centre

1.2.1 Family Group Conferencing

Family Group Conferencing brings children, young people, families, service providers and child protection professionals together to discuss child safety and protection concerns. The discussions are aimed at developing and implementing agreed responses to ensure a child's safety and wellbeing.

The suggestion through the recommendations of the RCPDCNT was supported in principle by the Northern Territory Government.

A Family Group Conferencing service delivery model has been co-designed with the legal sector. Further consideration is required to ensure the co-designed model is relevant to current operations. This will occur through the Single Act.

Meanwhile, through the Signs of Safety Practice Framework, family conferencing has become a key feature in child protection case work. It is an embedded practice, under Signs of Safety, which offers many advantages including encouraging an important collaborative approach by all parties.

The Signs of Safety Practice Framework also encourages working relationships which give parents and families "a voice", empowering them to be at the centre of decision making.

Status of the Program

Initiative	Brief Description	Status
Family Group Conferencing	A mechanism to engage and empower families in decision making	BEHIND SCHEDULE

1.2.2 Preserve Contact with Family

For young detainees, preservation of contact with family and family support is an important element of rehabilitation.

To help address this, the Northern Territory Government committed to removing restrictions on contact with family in youth detention and introducing appropriate mechanisms and supports for detainees to maintain connection with family while in detention, such as communicating using video technology.

Initiatives in this program include a review of detainee security ratings, development of better remote telephony connections and encouraging and facilitating more face-to-face visits.

Meanwhile investments have been made in video conferencing at the current youth detention centres. As well, there are no restrictions on contact with family in youth detention, and visiting hours have been increased on weekends to strengthen and preserve family relationships.

This has an ongoing impact of enhancing the rehabilitation of young detainees.

Status of the Program

Initiative	Brief Description	Status
Detainee security ratings Remote telephony Face-to-face visits	All three measures are designed to maintain and encourage contact between detainees and their family – to provide a family friendly environment at detention centres and use technology to support contact	COMPLETED

Putting Children and Families at the Centre

1.2.3 Respect Children's Voices

To better understand the issues faced by children and young people it's important to actively listen to what they have to say. Creating an environment of trust as well as implementing mechanisms to enable better capture of children's voices are important elements in respecting their views.

The Northern Territory Government agreed with the RCPDCNT recommendations providing for a mechanism "to enable children and young people to participate in the development and implementation of policy relating to, and any rules of, (out-of-home care and youth detention) institutions".

The government has implemented a number of initiatives which are delivering positive outcomes and providing platforms for children and young people to be heard.

From the Youth Advisory Group at Darwin's youth detention facility and regular meetings between Territory Families' executives and young people in care through to funding the CREATE Foundation to support young people in care and care leavers to advocate for their rights – many strong and effective initiatives have been introduced and continue to provide a vital service.

Like many other initiatives undertaken through the *Generational Change Reform Program*, these are implemented and ongoing.

Status of the Program

Initiative	Brief Description	Status
Mechanisms for children to engage in policy/ legislation	A way to ensure children and young people in the care and protection and youth justice systems get a chance to express their views on policy and legislation	COMPLETED
Detainee representation	Providing a means for young detainees to be heard	COMPLETED
Child involvement in decision making	A way to ensure children in care are involved in their care and case planning	COMPLETED

CASE STUDY: *A simple request – instant action*

The Executive Leadership Group (ELG) of Territory Families has been listening very closely to local children in care. A least twice a year the ELG hosts a group of kids in care with the help of the CREATE Foundation.

The body representing the voices of children and young people with an out-of-home care experience, CREATE is a key stakeholder and contractor.

At one of the ELG and CREATE kids meetings many thoughts and ideas were put forward except for one shy 13-year-old who said he didn't have anything much to say.

As the meeting continued however, the young man found his voice and finally spoke up.

He told the meeting he had been in care a few times and every time he went to a carer "they know everything about me but I know nothing about them".

He simply asked if there was a way he could find out a little about his carer before being sent to live with them.

The ELG acted upon the genuine plea and as a result, those going into care now receive a carer profile before placement. A simple request fulfilled which speaks volumes.

Putting Children and Families at the Centre

1.3 A Legal System for Families

Children, young people and families involved in legal matters will be effectively engaged through a culturally appropriate and family-focussed legal system.

The legal system must be fair and accessible and never more so than those parts of the system dealing with children and families.

The Northern Territory Government is developing a child and family focussed legal system that acknowledges those in contact with, or at risk of being in contact with the child protection and youth justice systems often have complex and multifaceted needs.

This is not about completely changing or reinventing the system. It is about working towards a more trauma informed and culturally secure approach for challenged and vulnerable families.

Because of the complexity of the challenges in this area, it's important to work on reasonable changes in a steady timeframe. It is important work which should not be rushed. As well, there are a number of dependencies which influence the achievements aimed for under this program. Much is underway with more to be done.

1.3.1 Representation and Advocacy

The RCPDCNT made recommendations pertaining to adequate and available representation for young people in the justice system.

There is continuing work around the proposed Northern Territory Aboriginal Justice Agreement which will aim to:

- reduce reoffending and imprisonment rates of Aboriginal Territorians
- engage and support Aboriginal leadership
- improve justice responses and services to Aboriginal Territorians.

The Government funds the Responsible Adult Support Program and has issued guidelines for representing children.

Additionally, the government committed to ensuring children and young people are represented in contested legal matters and are supported by capable adults.

The Legislative Amendment Advisory Committee advised legislative changes were not necessary as ensuring proper representation and support occurs in practice.

Initiative	Brief Description	Status
Legislative reforms regarding representation Law and justice groups	Changes to ensure children and young people are represented in contested legal matters and are supported by capable adults	COMPLETED

Putting Children and Families at the Centre

1.3.2 A Single Act for Children

The Northern Territory Government committed to conduct "further consultation on the design and content of a Single Act for child safety and wellbeing".

There have been several necessary legislative amendments since 2017, providing for a range of measures including improved access to legal representation, protecting young people's rights while in detention, improved care planning and court orders, creating early intervention powers and obligations and better access to bail and diversionary programs.

The significant legislative changes also provided for:

- mandated early assessment, intervention and support to families with child safety concerns;
- reduction in the length of time young people are held in remand;
- improved access to legal assistance while in police custody;
- clarity on use of force, restraints, separation and searches;
- improvements to care planning requirements to ensure they are in language and involve cultural authority; and
- creation of "community youth justice officers".

The legislative reform program includes work towards a Single Act for Children while providing for necessary changes in the immediate future.

Status of the Program

Initiative	Brief Description	Status
Establish the Single Act for Children	A single piece of legislation to replace the Care and Protection of Children Act 2007 and the Youth Justice Act 2005	UNDERWAY

1.3.3 Training for the Legal Profession

The RCPDCNT recommended officers of the court, lawyers and judges should be trained in youth issues and expert advice sought in matters relating to children with complex needs. The recommendation was supported by the Northern Territory Government which acted with key stakeholders such as the Law Society NT, to implement appropriate training opportunities.

Training programs designed to further understanding and knowledge of children and young people's development and behaviour have been offered to local judicial staff and legal professionals.

Work continues on sourcing suitable training opportunities. The non-government sector continues to be a significant partner in this work and there are a number of mechanisms available for further input from key stakeholders.

The 2020 Conference Sub-committee was established with representatives from NAAJA, NT Legal Aid Commission (NTLAC), Solicitor for the NT (SFNT), Director of Public Prosecutions (DPP) and Attorney General's Department (AGD) (Courts). The conference was postponed from March 2020 to November 2020, with a focus is on practical skills for practitioners.

Committees have also been formed to tackle targeted training needs. For example, the Children's Court Training Executive Steering Committee consists of executive managers from NTLAC, NAAJA, the Law Society of the NT (LSNT), DPP and the Managing Judge of the Children's Court.

There is also a Youth Proceedings Education Committee which is planning to deliver specialised practitioner training.

Status of the Program

Initiative	Brief Description	Status
Training for the Legal Profession	Increase training opportunities for judicial staff to further their understanding and knowledge of children and young people's development and behaviour	UNDERWAY

Putting Children and Families at the Centre

1.3.4 Youth and Children's Court

This project centres around the establishment of a Youth and Children's Court in Alice Springs and the introduction of measures (in both Central Australia and the Top End), which ensure Aboriginal children and families are not disadvantaged in the court due to language or cultural barriers.

The Northern Territory Government committed $1.2 million over three years to operate the Youth and Children's Court in Alice Springs.

As a result of this project there has been greater involvement of the Department of Education's Youth Court Liaison Officer with improved information sharing; further involvement of local stakeholders through the Project Reference Group; and updating of youth services mapping specific to Central Australia.

As well, there are two dedicated Youth Justice Court Officers based in Darwin and one in Alice Springs.

The Chief Judge appointed a lead Children's Court Judge in Alice Springs in March 2020 and the court has started operating in a non-specific court room.

While there have been unavoidable delays in some aspects of the project, progress continues in a positive direction.

Status of the Program

Initiative	Brief Description	Status
Youth and Children's Court in Alice Springs	Establish a Youth and Children's Court in Alice Springs	UNDERWAY

1.3.5 Youth Parole

In the Northern Territory very few young people appear before the Parole Board. For example in 2019/20, there was only one young client for the Board. However, if a young person does appear before the Parole Board it is necessary to ensure there is the capacity and expertise available on the board to meet the requirements outlined in the RCPDCNT.

These include Aboriginal representation on the board and taking a therapeutic and collaborative approach when decisions are made.

It is not the usual practice of the Parole Board to have young people appear before it on a hearing although it has the power to make those arrangements if required.

There have been moves to implement practice reforms to improve the experiences of youths before the Parole Board if they appear, and engagement with the NAAJA to explore the newly funded youth through-care program in Central Australia.

Note: the impact of this reform may be limited due to the small number of youth parole matters. As at 31 May 2020 there was only one youth in detention with a non-parole period.

Status of the Program

Initiative	Brief Description	Status
Youth before the Parole Board	Ensure the Parole Board has the capacity and expertise to fulfil the requirements of the RCPDCNT	COMPLETED

Putting Children and Families at the Centre

1.4 Support Transition and Restoration

Children and families who have experienced vulnerability or crisis successfully transition from crisis to productive, rewarding lives.

It is important to support children and young people as they transition from out-of-home care and the youth justice system to help them on their journey to more positive lives.

To help address this need, the Northern Territory Government has implemented a number of measures aimed at supporting community re-integration by young people – the programs include Supported Accommodation for Care Leavers, Transition from Detention and Through-Care, Transition from Out-of-home care.

Working with young people and their families, community organisations and other agencies on possible solutions, this is integral to the successful impact of reforms.

1.4.1 Supported Accommodation for Care Leavers

The Northern Territory Government has been working to determine a new and effective way to implement better support for those young people leaving care.

The government allocated more than $5 million over four years from 2018-19 to establish a housing brokerage and support service for young care leavers.

The Housing for Young People's Program test and learn phase was conducted until June 2020. Following the commencement of service delivery in June 2019 with Mission Australia (for the tenancy component of the program) and Anglicare NT (for the support element), a total of 23 formal applications were received by the end of June 2020. The program has been expanded to include Katherine.

Mission Australia and Anglicare NT work with each individual to source appropriate housing and transition them into a tenancy under the program. The service will be available for young people who have left care up until they are 25 years old.

Evaluation of the program is ongoing although early indications are positive.

Status of the Program

Initiative	Brief Description	Status
Supported Accommodation for Care Leavers	Establish a housing brokerage and support service for young people leaving care	COMPLETED

CASE STUDY: *Housing helps young people*

Julie* entered into the Housing for Young People Program after leaving the residential care program mid-2019. Her property is immaculate at inspections, her payments are always up to date and she actively engages with the supports and workshops available. During her time in the program, so far she has completed a year of study towards her chosen career and her first round of placements for her degree. Mission Australia reports that Julie obtained part-time employment late last year and has continued to work to ensure she is well positioned to cope with her first rent increase at the one-year participation mark.

* not her real name

Putting Children and Families at the Centre

1.4.2 Transition from Detention and Through-Care

The Northern Territory Government supports the Commonwealth Government's investment in through-care in the Northern Territory for Aboriginal young people involved in the youth justice system.

The government pledged to work with the Commonwealth and the Aboriginal controlled community sector to ensure the through-care service is based on evidence and integrated with other Government and community sector services.

Territory Families has been working with the NAAJA to support implementation of the Commonwealth funded through-care program in Alice Springs and Darwin. This through-care service is provided to Aboriginal young people detained in the Alice Springs and Don Dale youth detention centres.

Through-care is the coordinated provision of support to a detainee until they are living safe and productive lives away from the youth justice system.

This project is also interlinked with the detention centre replacement project.

Other related initiatives are those conducted through the Department of Education including training programs delivered in the youth justice centres and aligned to mainstream schools.

Status of the Program

Initiative	Brief Description	Status
Through care case support NAAJA through care service	Work with the Commonwealth and the Aboriginal controlled community sector to ensure that through care service is based on evidence and integrated with other relevant services	UNDERWAY

1.4.3 Transition from Out-of-Home Care

Recognising the move from out-of-home care is a vulnerable time for young people, the Northern Territory Government has recognised the importance of strong support structures and committed to build on its efforts.

To help improve the outcomes around transition from out-of-home care in the Northern Territory, three additional Transition from Care Officers have been recruited. They are an integral part of a successful program to ensure Territory children and young people leaving care do so with quality care planning and advice.

The additional Transition from Care Officers were employed to support quality leaving care plans and case management systems by strengthening collaborative cross agency planning and prioritising cross agency responsiveness to young people transitioning from the care of the Chief Executive Officer. Along with Case Managers, the Transition from Care Officers have established formal leaving care planning meetings that prioritise young people and their views, developed referral pathways for young people and enhanced frontline workers' skills and knowledge of leaving care case management.

Status of the Program

Initiative	Brief Description	Status
Additional Transition from Care Officers	The recruitment of additional transition from care officers and improvement in the quality of care planning advice for young people transitioning from out-of-home care	COMPLETED

Improving Care and Protection

This reform portfolio includes the programs and projects designed at improving the child protection, family support and out-of-home care systems in the Northern Territory. It has a focus on working with Aboriginal families to keep their kids safe.

Improving Care and Protection

The portfolio has four program areas: Care and Protection Practice, Children in Child Protection and Youth Justice Systems, Transforming Out-of-Home Care and Justice Responses to Child Abuse. Initiatives under each program area are aimed at meeting an overall objective of improving the care and protection of children in the Northern Territory.

2.1 Care and Protection Practice

Children are protected from harm, and children and families entering the child protection system receive high quality responses informed by contemporary practice.

This program is about improving the mechanics of the systems and practices that will support positive outcomes for Territory children and their families.

Much of the work outlined through the Royal Commission had already been underway when the recommendations were made in the Commission's final report. Many of the initiatives about to be implemented or already embedded reach further than the RCPDCNT recommendations around systems improvements.

For example, improvements to the Central Intake Service were already underway and the role is more than just a reporting/notification system.

Also introduced in 2018 and now embedded is the Signs of Safety practice framework – a fundamental change which is focussed on working with families to keep their children safe. It centres on holistic family safety assessments and support and has moved child protection processes away from an incident and risk focussed response.

Signs of Safety encourages case workers to develop their engagement skills, be more transparent and responsive to meet the needs of children, young people and families.

2.1.1 Reporting and Investigation

The Northern Territory Government understands the need to raise public awareness about the process for raising legitimate concerns about a child's safety and wellbeing, and for an efficient and accurate assessment and response to these notifications.

The Government supported the RCPDCNT recommendations to improve the key factors in improving the reporting and investigation of child protection cases in the Northern Territory.

The Central Intake Service is often the first contact for professionals and the public with reports of concerns about children.

Following a service restructure in January 2019, it now provides three complementary services which respond to the needs of the community – family and parenting support, child protection and general enquiries.

The restructure has also allowed for the implementation of a call triage system to ensure that the most appropriate responses are provided to the issues raised by notifiers.

A dedicated Senior Practice Leader is also now co-located with the Central Intake Service. This role is building a stronger professional workforce through continual audits, practice forums and professional development training and is leading the Central Intake Service in the introduction of the Signs of Safety practice framework.

The design and procurement of an online reporting tool was allocated $50,000 in funding. The new online Professional Reporters Tool provides an understanding of mandatory reporting obligations, how to report, types of harm and recognising signs of harm and exploitation.

Territory Families is collaborating with partner agencies to incorporate child protection training as part of their induction programs. NAPCAN continues to provide mandatory reporting training for community notifiers across the Northern Territory.

The online tool includes a Professional Reporters Guide which was developed in consultation with internal and external stakeholders.

Improving Care and Protection

Status of the Program

Initiative	Brief Description	Status
Triage team Online reporting tool Professional reporters guide Senior Practice Leader	All aimed at improving the reporting and investigation of child protection cases in the Northern Territory. Includes an internal working group to screen intakes and identify appropriate action and development of a new mandatory reporter guide.	COMPLETED

2.1.2 Clinical Practice and Case Management

The Northern Territory Government committed an additional $2.4 million over four years from 2018-19 to establish a Clinical Practice Directorate in Territory Families, staffed with experienced practitioners to improve child protection practice and the professional delivery of statutory services.

The Clinical and Professional Practice Directorate has been established and is guided by the Clinical Governance Professional Practice Committee. It has implemented a number of initiatives including intensive practice sessions across the Territory; group supervision to new practitioners; and practice guidance where required.

More recent work includes developing and facilitating practice sessions to enhance domestic violence informed practice. For example, Domestic and Family Violence Awareness, Domestic and Family Sexual Violence (DFSV) high risk factors, mapping the perpetrator's pattern of coercive control etc.

Directorate staff also continue to provide mentoring to new staff, DFSV case mappings, Signs of Safety mappings (both internal and external), facilitate group supervision and provide other supports as requested.

Work has been ongoing towards increasing the allocation of workforce to remote communities. Territory Families has also entered into a collaboration with Charles Darwin University to offer up to 25 employment opportunities per annum to graduates of Social Work or Psychology.

Status of the Program

Initiative	Brief Description	Status
Clinical Practice Directorate Signs of Safety Domestic Violence Practice Reform project	Establish a Clinical Practice Directorate to improve child protection practice and professional delivery of statutory services. Enhance domestic violence informed practice.	COMPLETED

Improving Care and Protection

2.1.3 Care and Protection Orders

Improvements across care and protection legislation have been made including the introduction and passing of amendments to the *Care and Protection of Children Act 2007* in August 2019.

These provided for more autonomy for carers in the day-to-day decisions for the child in their care.

Complementing the law reform, a new policy and procedure regarding a Carer's Authority to Provide Consent has been approved, a guideline/checklist regarding Decision Making for Carers has been developed and the Carer's Handbook has been updated.

Status of the Program

Initiative	Brief Description	Status
Stage 2 law reform	Relevant and appropriate changes to the *Care and Protection of Children Act*	COMPLETED

Improving Care and Protection

2.2 Children in the Child Protection and Youth Justice Systems

Children and young people in care who are also engaged with the youth justice system are effectively case managed and helped to avoid future offending.

Too many children and young people in care become involved in the youth justice system. Their vulnerabilities mean they are at greater risk and there is an imperative to provide services and programs which address their needs and help them to address risky behaviour.

They are often referred to as "crossover youth". The following initiatives are designed to help stop that behaviour and find better pathways with and for these vulnerable young people.

2.2.1 Meeting the needs of children in care who are involved with Youth Justice

The RCPDCNT recommended the creation of a specialised unit for crossover youth and their issues.

The Northern Territory Government recognised the need for such a unit and acknowledged a higher risk of uncoordinated responses for crossover youth.

This program focusses on strengthening case continuity by building the capacity of child protection case management teams. The Crossover Case Management Unit has been working with at risk youth and their families to address the challenges facing them and coordinate responses with other agencies.

The Connected Youth Justice Framework has been completed and work is continuing to ensure alignment between funded providers.

Quality support work is a fundamental part of meeting the needs of "crossover youth". Since early 2019, the Crossover Case Management Unit has been at the frontline of working with the youth, their families and various government agencies.

It is challenging and complex work which is having a steadily positive impact.

Status of the Program

Initiative	Brief Description	Status
Continuity of case management Cross portfolio training and development	Build capacity of child protection management teams to strengthen case management continuity and to provide for the needs of "crossover" youths	COMPLETED

Improving Care and Protection

2.2.2 Responding to Complex Behaviour in Out-of-Home Care

Team work is often required to tackle the complex behaviour demonstrated by young people in care. The Northern Territory Government appreciates the value of joint approaches and committed to build on the existing efforts of agencies and develop and implement "a collaborative inter-agency approach between Territory Families, Northern Territory Police and out-of-home care service providers".

Relating directly to police responses and especially to situations where young people have escaped from out-of-home care, this program has seen the creation of a Protocol for Police Contact with Children Living in Therapeutic Residential Care.

The now established protocol mandates assessing each instance of police engagement to evaluate whether the engagement was warranted, and to determine whether the Therapeutic Residential Care services and Territory Families after-hours supports are being appropriately used.

This is a crucial factor in trying to keep children/youth in care out of the justice system.

Status of the Program

Initiative	Brief Description	Status
Police and Out-of-Home Care	A collaborative interagency approach to provide therapeutic and appropriate responses to children and young people who abscond from OOHC and engage in criminal behaviour	COMPLETED

Improving Care and Protection

2.3 Transforming Out-of-Home Care

Children who require out-of-home care are cared for in culturally secure, trauma-informed, therapeutic environments and by their families where possible.

Out-of-Home Care is the care of children aged 0–17 years old who are unable to live with their parents or primary caregivers. It involves the placement of a child with alternate caregivers on a short- or long-term basis.

Transforming Out-of-Home Care is a key program of initiatives many of which have already been implemented across the sector. It has been an essential focus of Territory Families which has been working with stakeholders to improve the system.

As well, the Northern Territory Government has invested $5.4 million over four years, specifically aimed at programs and projects which have helped transform out-of-home care in the Northern Territory.

Many of the initiatives also support the policy of prioritising children being placed with safe family members and increasing the number of Aboriginal family and foster carers in the Northern Territory.

PROGRAM STUDY: *Community of Practice*

Territory Families hosted the first Community of Practice meeting in July 2020 with partner organisations working to transform the out-of-home care system and increase the number of family and foster carers.

Six Aboriginal controlled organisations, the Foster Kinship Carers Association Northern Territory (FKCANT) and the CREATE Foundation attended the Community of Practice meeting in Darwin.

The Community of Practice provided an essential gathering of key organisations to share and reflect on their experiences in transforming the out-of-home care model, and implementing new initiatives to improve family finding, carer recruitment and assessments and ongoing support of carers and families.

Organisations attending the session included Kalano Community Association, Larrakia Nation, NPY Women's Council, NT Stolen Generation Aboriginal Corporation, Tangenteyre Council, and Yalu Aboriginal Corporation.

Tangentyere Council spoke about the importance of cultural knowledge and community connections in successful family finding. They also emphasised the importance of developing new and culturally appropriate ways to assess carers.

Larrakia Nation provided interesting and thorough case studies about carer assessment and placements, and the importance of early and continuous engagement with the child's family members to ensure a successful placement.

There was extensive discussion about sharing information between organisations, particularly given the transient nature of Northern Territory families.

The Community of Practice provided a valuable meeting for service providers and the Northern Territory Government to consider ways of working together and sharing solutions to similar challenges in family finding, foster and kinship carer recruitment, carer assessment and the provision of ongoing support to carers and families.

Improving Care and Protection

2.3.1 Foster and Kinship Care and Aboriginal Out-of-Home Care

Foster care is the temporary custody or guardianship of children whose parents/primary care givers are unable to look after them.

Kinship care is the care provided by relatives or a member of a child's social network when a child cannot live with their parents.

Aboriginal Out-of-Home Care is provided by Indigenous carers and can include, but is not limited to, kinship care.

These three options are the basis of the Northern Territory's out-of-home care system.

There has been a strong commitment to modernising and positively changing the system, not just from the Northern Territory Government but also sector organisations.

Already accomplished, several initiatives including the introduction of a grants program to improve support to kinship and foster carers, and the delivery of Aboriginal out-of-home care strategies in the Top End and Central Australia.

The extensive and ongoing work and commitment to improving and reforming the system continues to progress.

Relevant organisations have also received grants for the provision of services enabling more Aboriginal children currently in or entering care, to be placed with Aboriginal foster/family/kinship carers in the Northern Territory.

Detailed, region specific service planning has been undertaken for Aboriginal Carer Services, both in context of COVID-19 restrictions and future service delivery.

The impact of the improvements has been evident on the ground with the number of Aboriginal children in out-of-home care stabilising, up 0.1 per 1000 as at 30 June 2019[5]. The proportion of Aboriginal children in care with relatives/kin or other Aboriginal carers was up from 33.3 percent in 2018 to 36.9 percent in 2019[6].

Status of the Program

Initiative	Brief Description	Status
Out-of-Home System reform Aboriginal Out-of-Home Strategy Aboriginal Kinship and Foster Carer grants	A system which revises the structure of out of home care, increases Aboriginal kinship carers, increases Aboriginal children in care being supported by Aboriginal families	COMPLETED

5 *Table 16A2, Productivity Commission 2020 Report on Government Services*

6 *Table 16A21, Productivity Commission 2020 Report on Government Services*

Improving Care and Protection

2.3.2 Trauma Informed and Therapeutic Care

Trauma Informed Care is an approach which recognises and acknowledges trauma and its prevalence, alongside awareness and sensitivity to its dynamics, in all aspects of service delivery.

Therapeutic Residential Care is intensive and time-limited care for a child or young person in statutory care that responds to the complex impacts of abuse, neglect and separation from family. This is achieved through the creation of positive, safe, healing relationships and experiences informed by a sound understanding of trauma, damaged attachment, and developmental needs.

The Northern Territory Government has recognised the need to implement a trauma informed care approach and therapeutic residential care. Residential care is being redesigned as intensive therapeutic care which will support children and young people in out-of-home care with identified complex mental health, disability and emotional and behavioural issues.

As a move towards a model, current General Residential care contracts have been extended to facilitate implementation of Intensive Therapeutic Residential Care.

The program also includes further initiatives encouraging and promoting professional foster care. This includes updated guides for foster and kinship carers, and updated training for foster and kinship carers. Information sessions on Aboriginal Carer Services have been conducted at regional offices and the Aboriginal Translation and Interpreter Service is on board to translate the first carer training modules and documents into Warlpiri (with more languages to be considered).

Status of the Program

Initiative	Brief Description	Status
Intensive Therapeutic Care	Support to those with identified complex mental health, disability, emotional and behavioural issues	COMPLETED
Professional Foster care	Develop and establish a professional stream of foster care, to respond to the targeted therapeutic needs of children and to care for children with complex needs	UNDERWAY

Improving Care and Protection

2.3.3 Out-of-Home Care Governance and Oversight

Part of the transformation process for out-of-home care is the need to identify service solutions matched to the needs of children, the introduction of an accreditation scheme and development of specific measures to monitor the wellbeing of children in care.

The Northern Territory Government has continued to support the most effect solutions to the governance and oversight of out-of-home care. The Quality Assurance Program introduced in late 2018 continues to deliver on assessing the standard of care and care services. The program is expanding and providing valuable feedback to and from the out-of-home care sector.

Also underway, consultation with Territory Families regional staff and Aboriginal Carer Services providers has occurred to develop specific and clear grant agreements and service plans. These are measures which provide a solid grounding for better, improved out-of-home care.

Status of the Program

Initiative	Brief Description	Status
OOHC Quality Assurance Program	A Quality Assurance program across OOHC services	COMPLETED

Improving Youth Justice

The Improving Youth Justice reform portfolio includes the programs and projects designed to improve the youth justice system in the Northern Territory and ensure that there are effective interventions that provide appropriate consequences for young people who offend and work to stop future offending. The portfolio also includes a suite of measures to prevent young people from entering the youth justice system.

Improving Youth Justice

The portfolio has three key programs: Police and Young People, Keep Children out of Detention, and Youth Detention that Works.

3.1 Police and Young People

The community is safer through Police working effectively and engaging with young people, and focussing on practices that prevent offending.

Police are integral to a well-functioning, effective youth justice system. Their interactions with young people through their policing role is pivotal in determining a young person's future. Northern Territory Police have an ongoing commitment to work with the community and focus on improved and better approaches in youth justice. Providing specialised youth services, developing training packages, working with key stakeholders in both the government and non-government sectors – police have achieved much and continue to strive for better outcomes.

3.1.1 Custody Notification

The Custody Notification Service for Aboriginal and Torres Strait Islander people was a pre-existing Commonwealth and Northern Territory Government commitment. The service, operated by NAAJA, began operation in 2019.

The service requires police to notify a service representative as soon as a child or young person is arrested and brought into custody for an offence in the Northern Territory. It promotes the wellbeing of Aboriginal children and adults who are in custody by enabling the Custody Notification Service provided to refer them to health services, interpreters and legal assistance that are culturally secure.

Status of the Program

Initiative	Brief Description	Status
Custody Notification Scheme	Police to notify an appropriate lawyer as soon as a child or young person is brought into custody	COMPLETED

3.1.2 Police Youth Division

The Northern Territory Government recognises the benefit of Northern Territory Police engaging and working with young people, their families and their communities to promote pro-social behaviours and divert youth at risk of offending.

It has supported the Northern Territory Police Force establishment of a specialised unit to manage police services for young people who offend, are at risk of offending, or may be in need of care and protection.

Since the establishment of the Police Youth Division in 2019, there have been many achievements including: developing and implementing youth focussed education and training packages, updating policies and processes, building positive relationships, and enhancing school based policing.

The Division continues to evolve and remain alert to youth issues and changing circumstances.

CASE STUDY: *A simple example of youth diversion at work*

Charlie* was a 13 year old youth involved with a group of others in an aggravated assault. He was on a dangerous pathway and was not initially deemed suitable for Youth Diversion due to the nature of the offence. However, after work with the Police Youth Diversion Unit he was accepted and referred to non-government service providers.

Charlie participated in workshops run by No More Campaign workers, had weekly contact with his case worker and took part in a victim conference. Subsequently he gave the victim an apology letter and gift, both of which were well received.

The youth successfully completed the diversion program and victim conferencing and has not reoffended.

** not his real name*

Improving Youth Justice

CASE STUDY: *Diverting away from crime*

Darren* is a 17 year old who came to the attention of the Police Youth Diversion Unit because of an aggravated assault during a party in 2019. His was a complex case because a domestic violence order had been taken out at the time of the assault and was being dealt with separately. Darren thought he should attend court to deal with the matters together.

He had little trust in the justice system as he had been the victim of an aggravated assault earlier in 2019 and that process was still underway.

Unit officers explained the youth diversion process to him and what it involved. He responded positively to it and was soon undertaking the program. Darren:

- attended his appointments with his case worker
- attended sessions on one punch and peer pressure, responsible use of alcohol and a cyber-safety session by Northern Territory Police
- took part in a Family Conference accompanied by his mother where he took responsibility for what he had done.

Darren has changed his group of friends since the incident. Throughout his diversion he maintained full-time work in grounds maintenance sometimes travelling to Katherine for the week but still making time to attend case management sessions.

He has not come to police attention since completing the diversion program.

** not his real name*

Status of the Program

Initiative	Brief Description	Status
Police youth division Training program Policy Development	Reforms to ensure police work effectively with young people in the youth justice system	COMPLETED

Improving Youth Justice

3.2 Getting Kids Back on Track

Children and young people who offend or at risk of offending are provided evidence-based interventions that stop continued offending before they end up in detention.

Addressing youth disadvantage includes the need to divert young people away from the justice system and keep them out of detention. Successful diversion programs must be well executed. And the success of the diversion programs must be based on proven methodologies.

The Northern Territory Government's investment in youth diversion includes strong partnerships with the non-government sector – an essential stakeholder in tackling issues relating to youth detention.

As the positive impact of these programs is realised, work continues in all areas of need in youth diversion.

PROGRAM STUDY: *A safe place to go*

Youth in Palmerston have a new venue to explore.

The Palmerston Youth Drop-In Centre provides an alternative "safe space" for young people in the region. An initiative under the Palmerston Youth Action Plan, the centre was a project developed under a partnership between the Northern Territory Government and the City of Palmerston Council.

The YMCA NT is operating and managing the Centre and working with the Larrakia Nation to deliver cultural activities and arrange for the transport of young people to a safe environment when the centre closes each day. $7.42 million in grant funding has been provided for this service over five years.

The centre caters for young people aged 10-17 years, providing leadership opportunities and ways young people can be involved in designing and delivering activities. It is fully supervised and includes security and monitoring systems to ensure the safety of young people, staff members, the community and businesses.

Activities include cooking classes, music lessons, sharing of cultural knowledge, sexual health and safe relationship education, positive peer group and recreational activities.

PROGRAM STUDY: *New work camps focus on practical learning*

Seven Emu Station, a property near Borroloola, is the latest location for at-risk young people to find a better pathway.

The Northern Territory Government has invested $4.54 million across five years to develop new short and long-term youth intervention work camps at the station. The Jarrdimba Bayamuku Aboriginal Corporation delivers the camps which provide intensive intervention to break the cycle of crime.

The camps build young people's cultural knowledge and identity, understanding of consequences, development of personal responsibility, work ethic and experience, and problem solving skills.

They focus on practical learning, Vocational Education Training and work programs such as land management, tourism, construction and managing an organic cattle station.

Young people attending are accompanied by support staff (eg case workers, youth workers and Elders) who work with and provide assistance to the Jarrdimba Bayamuku camp staff.

Improving Youth Justice

3.2.1 Youth Engagement Grants

The Northern Territory Government is investing $12.9 million over four years (from 2018-19) to provide programs to young people targeted at addressing the needs of at risk and vulnerable youth across the Northern Territory, and establishing three new Regional Youth Program Coordinators in Darwin/Northern Suburbs, Katherine and Tennant Creek.

Community Youth Diversion providers have beenselected with grant agreements in place for youth diversion programs.

One project through the grants scheme has been the Palmerston Youth Drop In Centre with the City of Palmerston Council. The centre will engage at risk young people between 10-17 years of age and provide them with a safe, inclusive space with supervised activities year-round.

The Youth Engagement Grants have also provided funding towards the development of Regional Youth Action Plans – strategies which are unique to their region aimed at empowering disengaged and vulnerable young people.

Plans have been completed or are well underway for Palmerston, Darwin, Katherine, Mparntwe/Alice Springs and East Arnhem.

Status of the Program

Initiative	Brief Description	Status
Regional Youth Grants	Aimed at funding organisations to provide programs addressing the needs of at risk and vulnerable youth	COMPLETED

3.2.2 Youth Justice Programs

Significant investment has been made into youth justice programs across government.

Partnering between agencies and with the non-government sector, the Northern Territory Government has recognised the importance of a cooperative effort to address the complex and unique issues influencing local youth particularly those in the justice system.

Funding has included:

- $12.9 million over four years to effectively and constructively engage young people
- $9.9 million over four years to divert young people from crime and stop future offending
- an additional $518,000 per year from 2018-19 to expand bail services including programs for young women in Darwin and young people with high risk complex needs
- an additional $506,000 per year from 2018-19 for electronic monitoring
- an additional $250,000 per year from 2018-19 to enable Victims of Crime NT to continue supporting victims involved in restorative justice processes with young people.

Youth justice programs implemented throughout the *Generational Change Reform* include the expansion of restorative youth justice conferencing through to the establishment of the Youth Services Directorate which provides oversight and management of community youth programs.

Through these programs, partnerships with organisations such as the Community Justice Centre, Jesuit Social Services, community and Aboriginal organisations and local councils have strengthened.

More recently the Back on Track Program has yielded some positive results – as a 30 June 2020 58 young people were in the Back on Track Program with a further five eligible youths waitlisted and two pending assessment/consent.[7]

Back on Track addresses at-risk behaviour, consequences and giving back to the community, life skills and cultural connection, and family capacity and responsibility. It also supports re-engagement with education, training and employment and empowers young people to make safe decisions for themselves, their families and the community as a whole.

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Improving Youth Justice

Another initiative is the Bail Support Program which supports youth on bail and other court orders including good behaviour orders and suspended sentences. The program continues to be monitored with continuous improvements in clinical oversight and case management where required.

More than 200 young people have received bail support services including supervision and accommodation since the service began.

In 2019-20, 252 young people completed bail orders, at a rate of 76 percent. Both the number and percentage of young people who have completed bail orders continues to rise from 2015-16 when there were 39 young people who completed bail orders and a completion rate of 53 percent.[8]

As well as expanding Restorative Youth Justice Conferencing (RYJC), improvements have been made to the service. A practice framework, guiding principles and service standards have been developed as part of the initiative.

74% of young people who undertook a youth justice conference in 2018-19 had not re-offended as at 30 June 2020.

Meanwhile Jesuit Social Services continue to provide coordination and convening services for court referred conferences with an expanded catchment scope negotiated to include Back on Track and Pre-sentence Conference convening in the Alice Springs and Tennant Creek regions.

Helping to address issues in communities, 11 new Community Youth Diversion providers have been selected and will help deliver services across six regions – Northern, Big Rivers, Barkly, Central, Central Desert and Greater Darwin.

The Youth Outreach and Re-Engagement Teams established in 2017 have grown to include more than 65 youth outreach officers based across the Northern Territory. Since the program began, an average of 450 young people have received case management support each year. This includes more than 250 young people on court-ordered supervision and about 200 young people participating in voluntary case management.

There are several programs completed or underway and many are now part of normal operations by agencies and the non-government sector.

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Improving Youth Justice

CASE STUDY: *Tennant Creek's Johnno* works towards a different pathway*

Johnno* is a local 14-year-old Indigenous youth living in Tennant Creek. He has been participating in the Saltbush Pathways to Success Program – a program offering support to young people to help them find a positive way forward.

Saltbush Pathways to Success customised their engagement with Johnno to develop his capability to participate in a mandated Group Conference.

For a month, Johnno was an active participant with Saltbush Pathways to Success in his preparations. In previous engagements, he would seem overwhelmed by the Group Conference process. However, with adequate support and preparation that adapted to his strengths and weaknesses, this saw to Saltbush Pathways to Success working with Johnno to:

- Recognise the impact his offending actions had upon the victims and the community
- Develop practical life skills and engage in educational focus activities
- Participate in mentoring sessions to develop self-confidence
- Developed a presentation on his response to the questions for the Group Conference
- Contributed to Saltbush's giving back to community activities in response to the COVID-19 emergency, by creating care packages on behalf of Barkly Regional Council, Youth Links.

Johnno presented at the Group Conference and was overwhelmed by the foreign setting and number of people. With the support of Saltbush as well as his other nominated support people, he developed an outcome plan and has since made progress by writing a letter of apology to his victim.

Johnno has committed to continuing his engagement within the community and the Saltbush Pathways to Success team are very proud of his efforts and participation in the program and look forward to celebrating his future successes.

** not his real name*

Status of the Program

Initiative	Brief Description	Status
Back on Track Bail Support	Programs offering young people sentencing options, alternatives to detention and bail support services	COMPLETED
Electronic Monitoring	Continue electronic monitoring of young people on bail	COMPLETED
Court Diversions and Restorative Justice Conferencing	Expand and improve Restorative Youth Justice and Victim Offender Conferencing	COMPLETED

Improving Youth Justice

3.3 Youth Detention that Works

Young people in detention are housed in secure therapeutic facilities that support their rehabilitation and receive the help, guidance and structure necessary to stop future offending.

A strong youth justice system includes ensuring detention facilities for young people who have committed offences enable the delivery of high quality therapeutic programs; education services; and interpersonal and life skill development opportunities. The facilities also offer training opportunities for young people to help divert them away from future criminal enterprise.

3.3.1 Youth Detention Operations

Effective youth detention is linked with the use of modern operating facilities with trauma informed care and the implementation of practical strategies.

Committed to providing appropriate services and recognising the importance of responding to young people in detention in a manner appropriate for their age, maturity level and needs, the Northern Territory Government has invested $22.9 million over five years from 2017-18 to improve youth detention operations and reduce recidivism.

While work is underway on the youth detention replacement project, a Youth Detention Program Model of Care has been drafted and forms a subset of the Youth Justice Framework.

The model of care is intended to set out the philosophy, practice and operational direction of services to young people while in a detention setting.

To deliver these strategies and programs at the youth detention centres, it's important to work well in partnership with communities, organisations and other government entities.

For example, social and emotional wellbeing services delivered by Aboriginal health organisations and the development of an Elders and Mentors Framework in partnership with NAAJA.

Already completed and in place has been a review of behaviour management strategies, recruitment of specialist staff and better training for Youth Justice Officers.

The issue of using adult correctional facilities for youth detention has also been resolved legislatively to no longer allow the temporary accommodation of youth detainees in custodial correctional facilities. Further legislative changes are planned to limit the length an adult facility can be declared a youth detention facility.

Other important changes include an emphasis on Youth Justice Officer recruitment resulting in a significant increase in female Youth Justice Officers, the inclusion of Aboriginal cultural competence and safety in the delivery of education programs, more individual assessments for new detainees to help inform future interactions with them, and improved staff training.

New Youth Justice Determinations have been also implemented. Among the changes – as a priority, young people are placed in the detention facility nearest to their usual place of residence. As well, when a young person is transferred long distances, their family and lawyer are consulted where possible.

The continuation of these improvement initiatives reflects the strong commitment the Northern Territory Government has to ensuring better, more constructive youth detention operations are in place.

Improving Youth Justice

Status of the Program

Initiative	Brief Description	Status
Youth Justice Operations	A Youth Justice Model of Care Framework to ensure the Northern Territory youth justice system provides quality care, supervision and guidance for all young people in detention	COMPLETED
Transfer to adult facilities	Changes to cease the temporary accommodation of youth detainees in custodial correctional facilities	COMPLETED

PROGRAM STUDY: *Playing a different tune*

Young detainees are tapping into positive creativity with a music education and training program that aims to engage people in creative arts and provide opportunities for them to express themselves.

The SoundED program is delivered several times a week at Don Dale Youth Detention Centre. Among some of the revealing compositions:

- Town I was raised in - delivered in spoken word by a detainee who talks about being away from his home town, of his ancestors and how his bad habits and bad decisions led to him being in detention. The haunting chorus is delivered by another young man singing in Yolngu Matha about his grandparents, how they miss him and that he wants to return to his country to be with them again.
- A group of young people sing and speak about bouncing back from adversities, getting better and how music and the Balanced Choice program has impacted their lives.

The Balanced Choice Program runs up to seven times a week at the Centre and aims to promote physical and mental health through the balance of body, mind and spirit.

Improving Youth Justice

3.3.2 Youth Detention Infrastructure

The key initiative of new youth justice facilities in Darwin and Alice Springs has progressed substantially in the last year. The Northern Territory Government has committed $71.4 million to replace the old youth justice facilities in both centres.

Both designs have now reached 100 percent completion through a co-design process which focussed on meeting functional requirements of all facility users and visitors, as well as ensuring design principles are focussed on outcomes for young people.

Local company Halikos Pty Ltd has been awarded the $55.1 million construction tender for the development of the new Youth Justice Centre in Darwin while Alice Springs company, Asbuild NT has been awarded the $13.1 million construction contract for the redevelopment of the Alice Springs Youth Detention Centre.

Consultation across both projects has been wide ranging including Aboriginal Controlled Organisations, service providers, staff, and importantly, young people in youth detention.

The investment in the facilities and the importance of their impact necessitates careful and steady planning and implementation.

While the new facilities are underway, the current detention centres have had the necessary enhancements to help improve the safety and wellbeing of young people in detention and the work environment for staff and other service providers at the centres.

Status of the Program

Initiative	Brief Description	Status
Construction of new Youth Justice Facilities	Replace the Don Dale Centre in Darwin and the Alice Springs Youth Detention Centre	UNDERWAY

3.3.3 Youth Detention Services and Programs

Improving and strengthening the provision of relevant and effective services and programs in youth detention facilities is integral to delivering an effective youth justice system.

The Northern Territory Government recognises education and training, health and wellbeing, support and intervention all play a vital role in successful rehabilitation. Coordinating such programs is a necessity to ensure synergies are not overlooked.

A memorandum of understanding between the Department of Education and Territory Families is providing a guiding framework for liaison between the two agencies in regards to the education of young people in detention. It provides senior executive oversight and a sharp focus on improving educational outcomes for young people.

There is improved access to information to allow identification of support needs and facilitate early intervention and improved communication between case management and Department of Education staff – when information is requested it is provided or justification is given if it cannot be accessed.

Differentiated literacy and numeracy classes have been established. Meeting the individual needs of detainees regarding their education is an important factor in their successful learning.

There is a wide range of education and training programs within youth detention in Darwin and Alice Springs which continue to deliver positive results.

Improving the health and wellbeing services at both Darwin and Alice Springs youth detention centres is an ongoing mission.

Improving Youth Justice

Health services in Alice Springs Youth Detention

Medical treatment services and general practitioners are available on site, with psychological counselling services sometimes available on site. Young people in detention require specialist mental health services.

Access to comprehensive medical assessment and treatment services are provided daily by Primary Health Care (PHC). General practitioners are available on site Monday to Friday, with psychological counselling services sometimes available on site provided by the Central Australian Congress Social and Emotional Wellbeing (SEWB) developmental psychologist.

Young people in detention require specialist mental health services. The required specialist mental health service is determined to be outside the scope of practice that can be provided by PHC medical practitioners. While acute mental health services have improved for young people more capacity is still required by specialist child and youth mental health service teams to contribute to the essential ongoing therapeutic assessments, care and management plans of youth in detention.

Health services in Darwin Youth Detention

The PHC service provision in the Don Dale Youth Detention Centre transitioned to Danila Dilba Health Service on 1 July 2020.

There are sufficient medical officers available and rostered and access to the delivery of PHC Services to young people in detention is provided daily. Mental health screening is incorporated within all clinical assessments including reception, health checks and all existing care plans. Medical treatment services, General Practitioner and PHC nursing staff brief intervention counselling services are readily available onsite.

Upon reception/new admission each young person is provided with a comprehensive medical and health assessment. Mental health screening is incorporated within all clinical assessments including reception, Day 5 health checks and all existing care plans within the Primary Care Information Service.

General Practitioner services include mental health screening and referral if required. Work continues to facilitate forensic mental health services.

Top End Mental Health Service has finalised an agreement for a new telehealth and visiting service by a Forensic adolescent psychiatrist which will be a significant improvement in services.

Status of the Program

Initiative	Brief Description	Status
Education and Training: Strengthening governance arrangements Access to information to allow identification of support needs and facilitate early intervention Differentiated learning pathways Building a skilled workforce	Programs aimed at improving the efficiency and effectiveness of delivering education and training to young detainees	COMPLETED
Health and Wellbeing: Alice Springs Youth Detention Centre	Improve health and wellbeing services for detainees at the Alice Springs Youth Detention Centre	UNDERWAY
Health and Wellbeing: Don Dale Youth Detention Centre	Improve health and wellbeing services for detainees at the Don Dale Youth Detention Centre	UNDERWAY

Strengthening Governance and Systems

The Strengthening Governance and Systems reform portfolio include programs and projects designed to increase scrutiny and accountability of services for children and families experiencing vulnerability and put in place strong systems and processes that ensure efficiency, coordination and efficacy.

Strengthening Governance and Systems

Making up the portfolio are the following programs: Advocacy, Accountability and Quality Improvement, Managing and Sharing Information, Community-Led Responses, Evidence-Based Practice and Coordinated Effort Towards Better Outcomes.

4.1 Advocacy, Accountability and Quality Improvement

Organisations and Departments working with families are held to account for ensuring that the services they provide reflect, or are on a monitored pathway towards best practice and are achieving desired outcomes.

For better outcomes and solid results the backbone of all programs, project and initiatives is a strong organisation focussed on delivering and working to constantly improve and build on a healthy, productive system.

It is not about creating more bureaucracy or processes and procedures. It is about ensuring there is the best effort employed with the most efficient way to work towards positive achievements.

Key to ensuring agencies and organisations are on target is an appropriate level of accountability and monitoring.

Improvements in this area are ongoing and long term.

4.1.1 Commission for Children and Young People

The Office of the Children's Commissioner is an independent office responsible for ensuring the wellbeing of vulnerable children.

Resources for the Office have been increased to significantly expand the capacity of the Office including enabling it to commence monitoring conditions at youth detention facilities. From July 2018, the operational budget of the Office was increased by $580,000 per year.

As well as dealing with complaints about services for vulnerable children, undertaking inquiries related to the care and protection of children, monitoring government relevant decisions and responses, and monitoring the administration of the *Care and Protection of Children Act 2007*, the Commissioner is also an advisor to the Northern Territory.

The Commissioner may be required to respond from a Northern Territory perspective to a range of national policy issues and also provides information and advice to government on matters relating to vulnerable children.

The new Commission for Children and Young People remains under consideration.

Status of the Program

Initiative	Brief Description	Status
Commission for Children and Young People	A new Commission for Children and Young People	UNDERWAY

Strengthening Governance and Systems

4.1.2 Internal Accountability and Complaints

The Northern Territory Government is committed to strengthening the processes and systems to receive and act on complaints from carers, clients and families.

Increased accountability will be progressed with the development of the Single Act for Children and Families. This work steadily continues.

Work is also continuing on the development of a framework for monitoring residential care facilities.

Territory Families has improved its complaints system to encourage more feedback, particularly from children. Children in care are also asked for their feedback about complaints processes and what steps can be taken to enhance the way the agency listens to and responds to their concerns. The intention is to improve their care experience by having a better understanding of their needs. Territory Families has created and distributed young people specific materials to promote awareness of the Territory Families complaints team as a point of contact if they are unhappy with the services they are receiving.

Status of the Program

Initiative	Brief Description	Status
Increased Accountability	Legislative amendments to introduce a test of recklessness in the consideration of immunity	COMPLETED
Internal Accountability and Complaints Management	Strengthen the process and systems to receive and act on complaints from carers, clients and families	COMPLETED

Strengthening Governance and Systems

4.2 Managing and Sharing Information

Best practice care and support for children, young people and families is enabled and underpinned by contemporary information management approaches and systems.

Up-to-date, relevant and clear information and knowledge is important to better manage the welfare and wellbeing of vulnerable children, young people and their families. Well defined, accessible and efficient information delivery services are necessary as are reliable data and information exchange mechanisms.

These changes and updates are projects which require detailed, considered mapping and which have long-lasting impacts across agencies and the broader sector.

4.2.1 Information Management and Sharing

This highly technical area is being addressed by multi-agency project teams. The Northern Territory Government is investing $66.9 million over five years (from 2017-18) to develop and implement a new client information system and data brokerage service for child protection and youth justice.

The Client Management System Alignment (CMSA) project will deliver an enhanced replacement to the current Community Care Information System and provide cross-Government data integration.

As well, a new data brokerage service will introduce a secure environment for agencies working with children and families experiencing vulnerability to access relevant and timely information about the children and families with whom they work.

The upgraded and replaced systems will equip workers with the data and information they need to assist vulnerable children and families, effectively and efficiently.

Progress around these projects has been challenging. Steady inroads are being made with market research activities underway.

Work already in place includes an information sharing webpage and guidelines and scoping on the compatibility between the child protection and youth justice data systems.

Status of the Program

Initiative	Brief Description	Status
CMSA system replacement Territory Families Data Brokerage	A new client information system and data brokerage service for child protection and youth justice	UNDERWAY
Establish an information exchange scheme	An information exchange scheme with nationally consistent provisions across info sharing, info access and roles and responsibilities for preventing, identifying and responding to child sexual abuse in institutional contexts	BEHIND SCHEDULE
Institutional Record Keeping principles	Five key principles relating to records and record keeping, "to a level that responds to the risk of child sexual abuse occurring within the institution"	UNDERWAY

Strengthening Governance and Systems

4.3 Community Led Responses

4.3.1 Local Decision Making

Local communities and Aboriginal controlled organisations have a central role in designing and delivering services, particularly in remote communities.

Local Decision Making (LDM) is a priority commitment of the Northern Territory Government and provides a pathway for communities and community representative bodies to have greater involvement, including control, over their identified needs and aspirations through the progressive transition of service delivery and decision making back to the local level.

The government has committed $8.9 million over four years to empower local decision making and community-led reform.

Currently, there are four signed LDM agreements in various stages of implementation, between the Northern Territory Government and:

- Anindilyakwa Land Council – signed 14 November 2018;
- Yugul Mangi Development Aboriginal Corporation – signed 28 May 2018;
- Jawoyn Association Aboriginal Corporation – signed 2 November 2018; and
- Gurindji Aboriginal Corporation – signed 19 November 2018.

In addition to these agreements, the Northern Territory Government has signed Statements of Commitment with four communities or community representative bodies to explore LDM opportunities, including:

- Kardu/West Daly (Thamarrurr) alliance – signed 13 November 2018;
- Yolŋu region – signed 30 May 2019;
- Blue Mud Bay and homelands (Djalkiripuyngu) – signed 26 July 2018; and
- Tangentyere Council Aboriginal Corporation – signed 4 July 2019.

Where there is no LDM agreement or Statement of Commitment in place, agencies have indicated how they are conducting their business in accordance with the LDM principles. Particular examples include:

- The Department of Corporate and Information Services is consulting with Alpurrurulam, Bulla and Belyuen residents to deliver telecommunication and/or broadband services in these communities. The Department is also working with key local stakeholders in West Daly, including Kardu Diminin and the Thamarrurr Development Corporation, around the proposed Wadeye Government Business Centre. This includes a community recommendation for an alternate location for the Centre, as well as building the capacity and capability of these organisations to develop and operate a commercial property.
- The Department of Education has established Community Led Schools in Gunbalanya, Yirrkala, Yuendumu, Lajamanu, Nyirripi and Willowra. The Department has also established Local Engagement and Decision Making committees in 17 schools and is working with 61 schools across the Northern Territory.
- The Department of Infrastructure, Planning and Logistics continues to work with Aboriginal corporations across the Northern Territory to undertake road maintenance contracts.

The new Child and Family Centres are being controlled by local communities and include local governance structures supported by LDM. Where possible, they are being operated by Aboriginal Community Controlled Organisations. As well, most of the site based negotiations for the Centres include Local Advisory Groups consisting of community leaders, representing the views of locals and guidance on relevant issues for the area.

Strengthening Governance and Systems

Treaty

The ongoing work around a Treaty matches the cooperative and collaborative approach underpinning the *Generational Change Reform Program*.

In late June 2020 the NT Treaty Commission, led by Professor Mick Dodson AM, released its *Treaty Discussion Paper*. The paper is designed to inform a Territory-wide community consultation process to assess whether a consensus or majority view exists with First Nations people on all or any of the matters raised in the paper.

The Discussion Paper focuses on three reasons for a treaty:

- To address Unfinished Business and provide justice to Aboriginal Territorians for past wrongs;
- Where there is genuine Aboriginal control and self-determination there are better outcomes; and
- Following High Court decisions, including the 2019 "Timber Creek Native Title" case, negotiation may be better than litigation for all parties.

The Commission has begun an 18 month consultation process and aims to collect submissions by 30 June 2021.

Status of the Program

Initiative	Brief Description	Status
LDM Agreement Regional Network Expansion ACCO Development	A group of initiatives designed to increase the role of local communities in designing and delivering services particularly in remote communities	COMPLETED

Strengthening Governance and Systems

4.4 Evidence Based Practice

Service models and practices are underpinned by research and evidence, and supported by comprehensive planning, monitoring and evaluation.

Good data and evidence are crucial tools to maintain the integrity of programs as well as measure the impact of services and initiatives. Understanding the impact of the reform agenda is critical to ensuring the reforms are making a difference.

Two main areas provide those measurements: Research and Evaluation, and Reporting and Monitoring.

Work under these programs is ongoing – there are many options relating to identifying need and filling the gaps.

The Northern Territory Government continues to work with external expert providers to identify research and evaluation gaps as well as future research and evaluation opportunities.

4.4.1 Research and Evaluation

The Northern Territory Government recognises good research and reliable evaluation is invaluable for progressing and resourcing effective initiatives.

The government has allocated up to $750,000 in 2018-19 and 2019-20 to commission further research in the Northern Territory to:

- carry out prevalence, needs, service mapping and service referral studies to gather information about the needs of children, families and subpopulations, and what services are currently available to meet those needs;
- understand the characteristics and needs of children and young people who have been in both out-of-home care and detention; and
- develop a tool appropriate for usage in the Northern Territory to identify young people for whom intensive support and intervention would be successful in avoiding involvement in the criminal justice system.

The most recent initiative activated is work with the Australian Institute of Family Studies to progress the evaluation of the Child and Family Centres.

All communities involved in the study have been engaged and ethics approval processes have commenced.

Menzies School of Health Research is progressing the research into the characteristics of children and young people in the child protection and youth justice systems.

Meanwhile, the Northern Territory Government has allocated $250,000 in 2020-21 to commission an evaluation to understand the impact of the reforms under the *Safe, Thriving and Connected: Generational Change for Children and Families* and *Starting Early for a Better Future* programs.

The evaluation would look at what has changed, what impact has occurred and whether it has been effective. It is anticipated this evaluation will support the development of future programs and services to improve outcomes for children and families in the Northern Territory.

The evaluation will not only provide an independent analysis into whether the initiatives and reforms have improved the outcomes for children and families in the Northern Territory, but will also capture recommendations from the Productivity Commission Study *Report into the Expenditure on Children in the Northern Territory* by looking into the systemic implementation of the overall program reform.

Status of the Program

Initiative	Brief Description	Status
RCPDNT identified research Evaluation design	Further research into full spectrum of child protection and detention in the NT. Design and implement monitoring and evaluation measures across programs.	UNDERWAY

Strengthening Governance and Systems

4.4.2 Reporting and Monitoring

The Northern Territory Government is continuing to make improvements to existing data in the warehouse and identify data collection solutions.

It includes steps to introduce additional data collection and reporting mechanisms to improve monitoring and reporting of children and families experiencing vulnerability.

Work is also continuing for datasets to be brought into the warehouse through the continued development of data management tools.

This includes full compliance with national minimum datasets for juvenile justice and child protection.

Over the last four years, the reform to the youth justice system has included a focussed effort to improve the collection and use of evidence on the performance of the system. Monitoring of data provides the opportunity for evaluation and improvement.

Data collection and reporting mechanisms continue to be improved with additional work mapped across government agencies to ensure relevant data projects are in sync.

For example, the government has launched an online data reporting form for service providers to use when reporting back to the department.

Another reporting and monitoring project, *The Story of Our Children and Young People* was released in November 2019, and is a comprehensive outline of Territory and regional data across all areas of child and youth wellbeing. For the first time, data across almost 100 measures is presented to Northern Territory Government regional boundaries, supporting outcomes based monitoring and evaluation across the Territory. The information was also presented in regional snapshots to support local engagement and understanding. Planning for the 2021 Story is underway, which will have the additional component of an interactive online data platform.

Status of the Program

Initiative	Brief Description	Status
National reporting Reporting Systems	Additional data collection and reporting mechanisms to improve monitoring and reporting of children and families experiencing vulnerability	COMPLETED

Strengthening Governance and Systems

4.5 Coordinated Effort Towards Better Outcomes

Government will work in partnership with local communities and the community sector to develop and successfully implement a long-term strategy to improve outcomes for children and young people.

To help address duplication across services and programs, it is important all stakeholders – jurisdictions, government and non-government – work together in a coordinated effort.

Not only does it help stop the waste of funding and resources, a coordinated approach is a strong signal to children, young people and their families that they are an important priority.

Effective coordination has been recognised as a basis to better outcomes in social services.

The Northern Territory Government continues to work tirelessly on coordinated approaches with other jurisdictions as well as internally between agencies and with non-government organisations. It is an ongoing effort and there is a need for vigilance as services and programs evolve and resource priorities change.

4.5.1 Operational Coordination and Service Integration

The Northern Territory continues to work with South Australia, Western Australia and Queensland on opportunities to share learnings and collaborate on initiatives, projects and programs that improve the lives of children and families.

Cross-border cooperation and coordination is an ongoing policy approach on child protection and youth justice matters.

In a related approach, the Northern Territory Government continues to work with the Commonwealth to improve education, housing and health services for Aboriginal people living in remote areas.

Another key initiative is the drafting of a Service Integration Framework – an outcome of the Early Childhood Integrated Services Strategic Forum. The framework should help provide for the re-establishment of the service integration element of the Families as First Teachers program.

It is a model for system change. It is about changing the conditions that are holding the problem in place and provides the roadmap to achieving large scale, transformative system shift and achieving generational change for children and families.

Status of the Program

Initiative	Brief Description	Status
Operational coordination	Coordination with other jurisdictions to improve cross-border cooperation and coordination on child protection matters	UNDERWAY
Early Childhood Integrated Services Framework	A systemic support framework for Early Childhood Integrated Services, through the Integrated Service Strategic Forum	Superseded by the 10-Year Generational Strategy for Children and Families

Strengthening Governance and Systems

4.5.2 Strategic Coordination

Key elements in encouraging strategic coordination across the sector are the functions of the Children and Families Tripartite Forum. The ongoing work of the Tripartite Forum provides a vital link to address an identified need for structured and sustained high level engagement across all stakeholders.

The Tripartite Forum membership is: the Northern Territory and Commonwealth governments with the community sector represented by APONT, NTCOSS and NAAJA.

The Tripartite Forum continued to meet during 2019/2020 and provided guidance to:

- The development of a 10-year Generational Strategy for Children and Families in the Northern Territory (Generational Strategy)
- A response to the Productivity Commission's study into Expenditure on Children in the Northern Territory final report
- Family and community decision making
- The importance of baseline data on the wellbeing of children as outlined in the Story of Our Children and Young People.

The Generational Strategy was conceived through the RCPDCNT.

The purpose and intent of the Generational Strategy is to capture whole of government child-focused actions.

A scoping paper on the Generational Strategy is being developed and a working group is being established to develop the draft Strategy.

In its deliberations over the Productivity Commission's final report, the Forum provided comment and feedback particularly in relation to:

- Development of community plans, with a preference for regional level plans informed by community level data, need and aspirations;
- Issues regarding data, how it is collected, used and whether or not is made publicly available;
- Review and evaluation mechanisms that include community voices and which are adequately resourced;
- The importance of investing in capacity building and infrastructure to support the delivery of effective services, including the provision of housing in remote communities for staff;
- Longer funding contracts that are supported by a relational contracting approach and which include transition to Aboriginal Community Controlled Organisations; and
- Increased oversight to report on progress, noting the potential impact of the Tripartite Forum and the need for increased resourcing for the secretariat body, the Reform Management Office.

The Northern Territory Government has also supported the intent of recommendations from the Productivity Commission study into *Expenditure on Children in the Northern Territory*.

The Forum continues to work on a Coordinated Funding Framework, setting policies for an agreed approach to the planning, funding and delivery of services for families and children in the Northern Territory.

The initiatives under Strategic Coordination will continue to provide valuable insight, guidance and support for services and programs for vulnerable children and families.

Strengthening Governance and Systems

Status of the Program

Initiative	Brief Description	Status
10-Year Generational Strategy	A 10 year plan to capture whole of government child-focussed actions and map them against a social outcomes framework	UNDERWAY
Ministerial Advisory Council	A Ministerial Advisory Council to provide specific advice on improving outcomes for NT children	COMPLETED
Story of Our Children	Also referred to as State of the Children report. Includes baseline data on the status against key indicators of child wellbeing	COMPLETED
Children and Families Tripartite Forum	A forum comprising NTG, Commonwealth Government and relevant Non-Government Organisations to develop a shared, generational strategy for children and families underpinned by robust evaluation and a coordinated funding framework	COMPLETED
Family Support Co-Funding Framework	A joint Commonwealth-Territory Co-ordinated Funding Framework	UNDERWAY
Productivity Commission report recommendations	Coordination of the response to the recommendations contained in the report *Expenditure on Children in the Northern Territory*	UNDERWAY

Strengthening Governance and Systems

4.5.3 Developing Workforce Capacity

Having a skilled workforce is essential for delivering reform. The workforce needs of the Northern Territory human services sector was identified in the industry-led Human Services Industry Plan. The industry partners who developed the plan were National Disability Services, AMSANT and NTCOSS. The Plan is aspirational and sets out a vision for the human services industry and what they see as their priorities in the coming ten years, it also articulates how they will achieve these priorities. This is an ongoing piece of work that will continue under the governance of the Northern Territory Government/Non-Government Partnership Group.

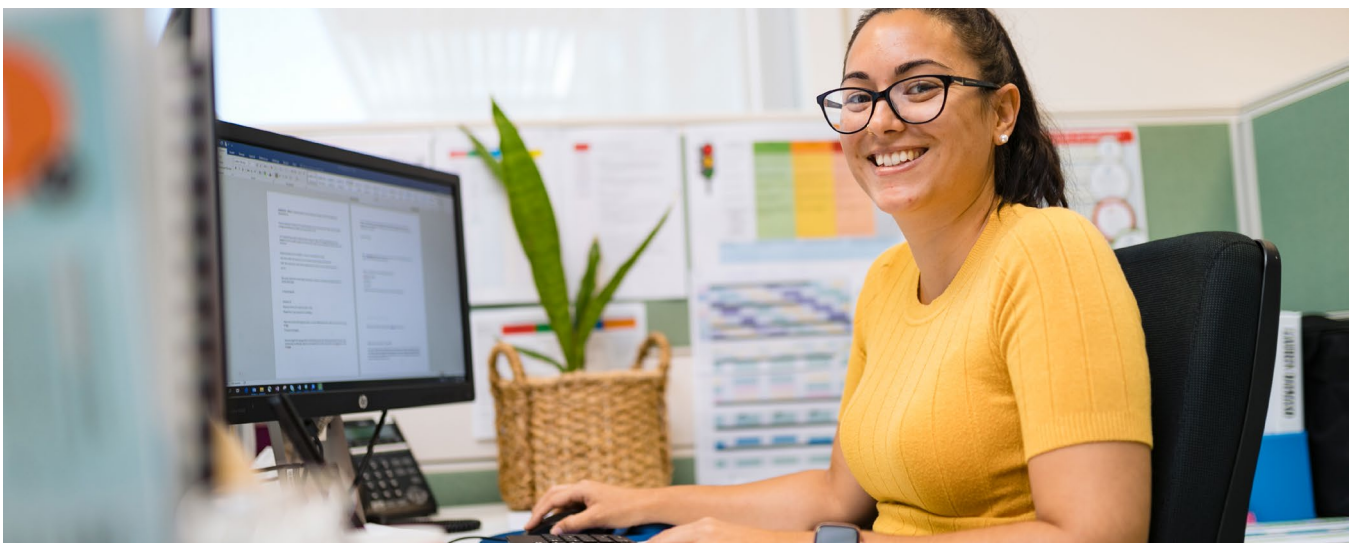
Developing an Aboriginal workforce across the Northern Territory Government is a key priority with actions across four key themes: Targets for Aboriginal Employment and Participation; Engagement and Support; Attraction and Retention of Aboriginal People; and Whole of Career Development to Build Capability and Careers.

Individual agencies continue to develop their own strategies to complement the Northern Territory Government's overarching priorities. For example, Territory Families has issued its Aboriginal Workforce Plan 2020-2024 with four key focus areas: Profile and Leadership; Recruitment; Induction and Development; Retention and Inclusion.

A positive and effective approach on Indigenous employment has seen the new Child and Families Centres delivered by a team of Aboriginal officers working with Aboriginal Community Controlled Organisations as well as other Northern Territory government entities.

Status of the Program

Initiative	Brief Description	Status
Human Services Workforce Strategy	Develop a strategy aimed at building workforce capacity in the human services area	COMPLETED



Preventing Child Sexual Abuse

The programs in Preventing Child Sexual Abuse recognise that all children deserve to be safe, happy, protected from harm and are designed to prevent and respond to the sexual exploitation of children and young people in the Northern Territory.

Preventing Child Sexual Abuse

Making up the portfolio are the following programs: Child Safe Organisations, Sexual Health and Harm.

5.1 Child Safe Organisations

The Northern Territory Government agreed to implement the National Standards for Working with Children Check and Child Safe Standards and Principles in 2018. It is progressing implementation of the National Standards in conjunction with the Commonwealth Government and key stakeholders.

Also under consideration, a nationally consistent foster and kinship carer register and nationally consistent teachers registration.

Northern Territory Government agencies are assisting Child Safe Organisations to implement the standards.

Many of the suggested changes are subject to legislative change and to be considered as part of the development of a Single Act for Children in the Northern Territory (legislation to ensure the safety and wellbeing of children are central in decisions and policy development).

Status of the Program

Initiative	Brief Description	Status
National Child Safe Standards Child Safe Standards	Adopt national child safe standards, legislate for the standards	UNDERWAY
Foster and Kinship Carer Register	Establish a carers register, consider appropriate legislative and administrative arrangements required for a carers register	UNDERWAY
Working with Children Checks	Encompassing 36 recommendations providing for updated, consistent and simplified approaches and legislation for Working with Children Checks	UNDERWAY
Teacher registration recommendations	Consider improvements to teacher registers, information sharing between authorities and nationally consistent provisions	UNDERWAY

Preventing Child Sexual Abuse

5.2 Sexual Health and Harm

The Sexual Health and Harm program consists of initiatives aimed at addressing problematic and harmful sexual behaviours, online safety, child and community education and the sexual health of children in care and detention.

It is a complex and complicated area which requires an informed and tolerant approach.

Some of the reform under this program is behind schedule. The nature of many changes suggested by the Royal Commission into Institutional Responses to Child Sexual Abuse (RCIRCSA) means there is need for further exploration with the Commonwealth and non-government stakeholders.

The Northern Territory Government has committed to supporting in principle most of the recommendations from the RCIRCSA and continues to build the data collection and consult with stakeholders, including the Aboriginal Health Forum.

The Northern Territory's first ever Sexual Violence Prevention and Response Framework has been developed and released. The Framework includes a priority action to review responses for children and young people engaged in harmful sexual behaviours and work with providers to strengthen responses and ensure a connected, coordinated and collaborative response.

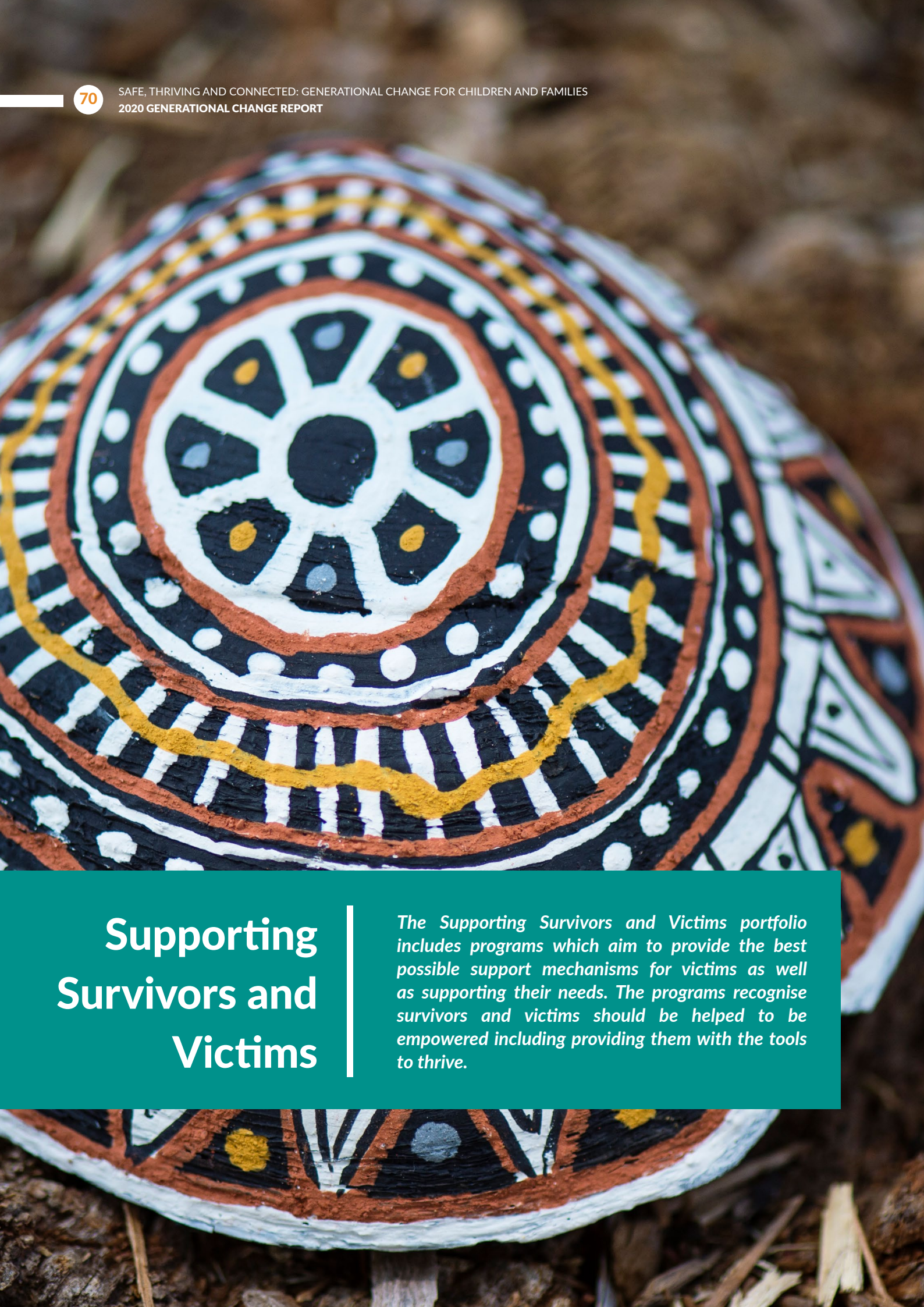
NT Health operates a network of specialised sexual health clinics – Clinic 34s – which provide discreet and confidential testing, treatment and management of sexually transmissible and blood borne viral infections.

In addition, NT Health released the first NT Sexually Transmissible Infections and Blood Borne Viruses Strategic and Operational Plan 2019-2023 last year, which will strengthen stakeholder coordination and collaboration toward improved sexual health outcomes for Territorians. The Sexual Health and Blood Borne Virus area along with Sexual Assault Referral Centres (SARC), review the STI in Children reporting guidelines and toolkit.

Preventing Child Sexual Abuse

Status of the Program

Initiative	Brief Description	Status
Problematic and Harmful Sexual Behaviours	National Office of Child Safety established a working group which has been delayed due to disruption from pandemic.	DELAYED
Clinical and Therapeutic Services for Child Sexual Abuse	Sexual Assault Referral Centres (SARC) provide forensic medical and some counselling services to adults and children.	ONGOING
Online Safety	Better online safety education, training, frameworks. Commonwealth-led	COMPLETED
Child and Community Education Sexual Health Taskforce	A multi-agency taskforce to oversee the delivery of new policies, programs, practices and campaigns to prevent and respond to the sexual exploitation of children and young people in the Northern Territory	UNDERWAY
Domestic, Family and Sexual Violence reduction	A sexual violence prevention and response framework as part of the first action plan of the Domestic, Family and Sexual Violence Reduction Framework	UNDERWAY
Children in Out-of-Home Care Sexual Health of Children in Care and Detention	Policies and procedures review, implement a sexual abuse prevention education campaign for children in care, review notifications, investigations, outcomes	COMPLETED



Supporting Survivors and Victims

The Supporting Survivors and Victims portfolio includes programs which aim to provide the best possible support mechanisms for victims as well as supporting their needs. The programs recognise survivors and victims should be helped to be empowered including providing them with the tools to thrive.

Supporting Survivors and Victims

Making up the portfolio are the following programs: Redress and Civil Claims, Support and Professional Care, Supporting Survivors and Victims through the Justice System.

6.1 Redress and Civil Claims

The Northern Territory Government is a full participant in the National Redress Scheme (a recommendation by the RCIRCSA). The scheme provides eligible survivors with a monetary payment, access to counselling and psychological care, and a direct personal response (apology from the responsible institution).

The NT Redress Coordination Team, along with Northern Territory Government agencies, continues to investigate and process claims relating to NT institutions both pre and post government.

This is ongoing work and will continue to progress the claims brought forward by survivors and victims.

The Northern Territory Government has undergone an open consultation process on the RCIRCSA recommendations on liability and a non-delegable duty of care. Government accepted the recommendations made as a result of that consultation and intend to present a Bill to implement those matters in the second half of 2021.

PROGRAM STUDY: *Helping to address pass wrongs through Redress*

The Northern Territory Government has been working with institutions based in the Northern Territory across claims relating to their operations both pre and post Self Government.

The claims range from cases in the 1930s through to 2009. Of the 37 claims submitted as at 30 June 2020, 19 involved female claimants and 18 were male. Sixteen of the claims have been deemed eligible, three are new and 18 are pending further investigation. Redress offers have been sent to six claimants with five accepting so far. The five redress amounts total almost $405,000.

Claims, investigations, offers are ongoing across the scheme.

Status of the Program

Initiative	Brief Description	Status
National Redress Scheme	To provide eligible survivors with a payment, access to counselling and a direct apology from the responsible institution (RC recs spread across the report)	COMPLETED
Civil Claims	Guidelines providing for responding to claims for compensation concerning allegations of child sexual abuse	COMPLETED
Liability and Non-Delegable Duty	Legislation providing for a non-delegable duty on institutions	UNDERWAY

Supporting Survivors and Victims

6.2 Support and Professional Care

To help survivors and victims, there is a need for access to good professional care from community support and sexual assault services through to counselling and psychological care.

The Sexual Assault Referral Centres (SARC) in Darwin and Alice Springs offer 24 hour access to medical, legal and counselling information. The SARC program is provided by Northern Territory Health Services and works with non-government organisations on services and issues relating to support for survivors and victims.

The extensive reach of the SARC program includes working with other specialist services to deliver the best possible assistance and advice on related matters, for example, domestic violence services.

As well, work has been done to encourage more institutional responsibility especially where a survivor has indicated a desire to engage with the institution.

This sensitive area requires strong commitment and a steady hand. The work of the SARC program continues to grow - including further consideration of the RCIRCSA recommendations relating to existing specialist sexual assault service gaps.

Status of the Program

Initiative	Brief Description	Status
Community Support Services	Fund dedicated community support services for victims and survivors in, to provide an integrated model of advocacy and support and counselling to children and adults who experienced childhood sexual abuse in institutional contexts	UNDERWAY
Counselling and Psychological Care	Support, facilitation, expansion of counselling and psychological care services by practitioners with appropriate capabilities to work with clients with complex trauma	COMPLETED
Institutional Support	Northern Territory institutions to offer a direct personal response to survivors	COMPLETED
Sexual Assault Services	Address existing specialist sexual assault service gaps by increasing funding	UNDERWAY

Supporting Survivors and Victims

6.3 Supporting Survivors and Victims through the Justice System

The Northern Territory Government offers various support mechanisms for survivors and victims. These include funding and in kind support for Victims of Crime NT as well as partnerships with specialist services to provide help to those in need.

RCIRCSA recommendations relating to the removal of limitation periods for damages, further specialist training for police, extended reporting channels (eg from prison), more thorough prerecording of witness's evidence and the establishment of a registered intermediary scheme are all under further consideration.

It is important the system is improved and positively progressed for the sake of survivors and victims. In order to make such changes, it's also important they are considered in the context of the unique Northern Territory environment.

More discussions and options are expected to be discussed by agencies and stakeholders while the Northern Territory Government considers the best approaches to move forward on the recommendations.

Status of the Program

Initiative	Brief Description	Status
Limitation Periods	Legislation to remove limitation period that applies to a claim for damages by a survivor of child sexual abuse in an institutional context	UNDERWAY
Police and Survivors and Victims	Broad changes to policing agencies to encourage reporting of allegations of child sexual abuse including further specialist training, relationship building, and a "guarantee of service"	UNDERWAY
Survivors and Victims in Court	Wide ranging measures including: prerecording of the entirety of a witness's evidence in child sexual abuse prosecutions, provision of qualified intermediaries to help in communicating with vulnerable witnesses, legislation review	UNDERWAY

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After you mate...

Investigating the introduction of the alcohol minimum unit price in the Northern Territory

SUMMARY REPORT

(February 2020)

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TABLES

FIGURES

LIST OF TERMS AND ACRONYMS USED IN THE REPORT

Acronym	Definition
BDR	Banned drinker register
CI	Confidence interval
ED	Emergency department
ITS	Interrupted time series
MUP	Minimum unit price
NDSHS	National Drug Strategy Household Survey
NT	Northern Territory
PALIs	Police auxiliary liquor inspectors

1 EXECUTIVE SUMMARY

Alcohol has been ranked as the most harmful drug in Australia based on estimated costs individuals and the community. The burden of alcohol-related harm is the most pronounced in the Northern Territory, with consumption and subsequent harm occurring at rates higher than other states.

Recently, minimum unit price (MUP) of alcohol was recommended for the Northern Territory as part of a suite of interventions from the 2017 Alcohol Policy and Legislation Review (Riley, Angus, Stedman, & Matthews, 2017). On 1 October 2018 the MUP in the Northern Territory was set at $1.30 per standard drink. The MUP was introduced as part of a suite of supply reduction interventions that also included a banned drinker register (BDR; introduced September 2017) and police auxiliary liquor inspectors (PALIs; initiated June 2018 in Alice Springs, Katherine, and Tennant Creek).

The goal of the MUP is to minimise the harms associated with high-alcohol, low-cost alcoholic beverages. Specific objectives of the initiative, as outlined in the Act, are to 1) Reduce harmful consumption[1] of alcoholic beverages; and 2) Have a minimal impact on moderate consumers.

1.1 TERRITORY WIDE

Our evaluation has found that introduction of the MUP legislation has been associated[2] with significant declines in:

- total alcohol wholesale supply per capita
- alcohol-related assault offences per 10,000 people
- protective custody episodes per 10,000 people
- alcohol-related ambulance attendances per 10,000 people
- alcohol-related emergency department (ED) presentations per 10,000 people
- Sobering Up Shelter admissions (excluding Darwin and Tennant Creek due to operational changes) per 10,000 people
- alcohol-related road traffic crashes (resulting in injury or fatality) per 10,000 people
- the number of child protection notifications, protection orders, and out-of-home care cases.

The introduction of the MUP legislation has been associated with no significant changes in:

- Number of liquor licences across the NT
- Tourism number and expenditure

[1] 'Harmful consumption' is a broad term that is intended to encompass many kinds of direct and indirect harms that flow to individuals and the Territory community as a result of alcohol consumption.

[2] Modelling was able to observe change in trends at and after October 2018. However, some changes coinciding with the introduction of MUP are continuations of trends to which the MUP has had an added effect, or coincided with other interventions that were implemented at a similar time meaning the independent impact of MUP was impossible to distinguish.

1.2 DARWIN AND PALMERSTON

In the greater Darwin area, cask wine and cider wholesale supply per capita declined after the date of MUP introduction. Additionally, there were significant decreases in the rate of alcohol-related assault offences, protective custody episodes, and alcohol-related ambulance attendances. There was also evidence of some decline in the rate of alcohol-related hospital admissions. While there was an initial increase in the rate of other substance use hospital admissions, this was followed by a gradual decline. Lastly, there were significant slope decreases in the rate of assault-related hospital admissions, and evidence of some decline in alcohol and other drug treatment episodes.

There was no discernible impact on the number and type of nightlife venues in Darwin, nor was there significant change to the volume of alcohol wholesale supply to nightlife venues in Darwin.

1.3 ALICE SPRINGS

In Alice Springs, there was a step decrease in overall wholesale supply of alcohol per capita. There were significant declines in the rate of police recorded alcohol-related assault offences, protective custody episodes, alcohol-related ambulance attendances, alcohol-related ED presentations, alcohol-related hospital admissions, and Sobering Up Shelter admissions.

1.4 KATHERINE

In Katherine, there was a significant decrease in the wholesale supply of cask wine and bottled wine per capita after the date of the MUP introduction and an increase in light beer. There were declines in the rate of alcohol-related assault offences, ambulance attendances, and hospital admissions.

1.5 TENNANT CREEK

In Tennant Creek, there was a decrease in the rate of alcohol-related ambulance attendances, and ED presentations, alongside a gradual increase in the supply of mid strength beer per capita.

1.6 CONCLUSIONS

The MUP has complemented the BDR and PALIs in the NT. These observational findings show that the introduction of the MUP coincided with significant reductions in harm in many communities adding to the impact of the existing supply reduction measures. These changes occurred in Darwin and the rest of the Northern Territory, suggesting that the MUP is likely to have made a unique contribution to reduced harm described above and added to regionally-specific policies like PALIs. The MUP achieved the goal of specifically targeting cask wine in many towns, but moderate drinking patterns show no change. Business reported that implementation of the legislation was straightforward and that turnover, including tourism, has improved or remained stable. This preliminary assessment describes some promising changes, and some challenges, but longer term patterns may vary due to other factors.

2 INTRODUCTION

As a part of a suite of interventions from the 2017 Alcohol Policies and Legislation Review (Riley et al., 2017; Smith et al., 2019), a minimum unit price (MUP) on alcohol was recommended for the Northern Territory. On 22 August 2018 amendments to the Northern Territory *Liquor Act 1978* (the Act)[3] were passed in the Northern Territory (NT) Legislative Assembly, introducing a MUP. On 1 October 2018 the MUP was set at $1.30 per standard drink contained in the alcohol product, where the meaning of 'a standard drink is the volume of a liquor product that contains 10 g of ethyl alcohol when measured at 20°C'. The legislative amendment prohibits selling alcohol below the price of $1.30 per standard drink (as compared to the $1.50 recommended by the Alcohol Policies and Legislation Review (Riley et al., 2017)), and imposes the minimum price as an automatic condition of a liquor licence. Following World Health Organization guidelines (World Health Organization, 2018) and public policy best practice (Babor et al., 2010), The MUP was introduced as part of a suite of interventions that also included a banned drinker register (BDR; introduced September 2017) and police auxiliary liquor inspectors (PALIs; initiated June 2018 in Alice Springs, Katherine, and Tennant Creek).

The goal of the MUP is to minimise the harms associated with high-alcohol, low-cost alcoholic beverages. Specific objectives of the initiative, as outlined in the Act, are to:

a) Reduce harmful consumption of alcoholic beverages; and
b) Have a minimal impact on moderate consumers.

'Harmful consumption' is a broad term that is intended to encompass many kinds of direct and indirect harms that flow to individuals and the Territory community as a result of alcohol consumption.

2.1 THE CURRENT STUDY

This project examines the initial effects of the introduction of the MUP on alcohol consumption rates, alcohol-related harm, and other indicators in the NT. It must be noted that it will be difficult to attribute any reductions in alcohol-related harm to any one individual policy initiative (i.e., MUP, BDR, PALIs), given the number of initiatives enacted in a relatively short time. Insofar as possible, however, this project will seek to determine the extent to which the minimum unit price has contributed to any observed short-term reductions in harms and consumption, while acknowledging the contribution of other measures across the NT. The project examines the impact of the MUP on particular groups of drinkers (e.g., risky drinkers as opposed to low-risk drinkers).

[3] Now superseded by the Northern Territory Liquor Act 2019

This study includes multiple data collection components and analysis of administrative data sources. Specifically, this mixed methods cross-sectional study data from five key sources:

1. Administrative data (e.g., health, police, treatment, and liquor licensing)
2. Population telephone survey
3. Key informant interviews
4. Price Monitoring
5. Monitoring sales of substitution commodities

2.1.1 PROJECT OBJECTIVES

The study has the following objectives:

1. To examine the extent to which MUP is achieving its objectives in the short-term, defined as;
    a. Reduce harmful consumption of alcoholic beverages; and
    b. Have a minimal impact on moderate consumers.
2. To examine the extent to which MUP may reduce negative outcomes associated with alcohol consumption.
3. To the extent that it is possible, identify the unique contribution of the MUP to the achievement of the intended outcomes. Alternatively, identify which initiatives in combination with the MUP can be credited with achieving improvements.

2.1.2 STUDY AREAS

The current project was undertaken across the Northern Territory, Australia. Results are presented for five geographic areas, where there is sufficient reportable data. The five study areas are composed of one or more regions defined by the Australian Bureau of Statistics (ABS) as a 'Statistical Area 2' (SA2; Australian Bureau of Statistics, 2010). The SA2s in each study area are based on that used for NT police statistics.

3 METHODS

Administrative data from eight agencies were used to track the potential impact of the MUP on alcohol consumption and related harms (see Table 1). De-identified monthly aggregate data were analysed from January 2013 (where available) to the latest available. January 2013 was chosen as the start of the study period in order to exclude the first time the BDR was in place during 2011-12.

Table 1 Administrative data sources

Agency	Datasets
Northern Territory Police and the Department of the Attorney-General and Justice	Police recorded alcohol-related assault offences, homicides, and protective custody episodes
St John Ambulance	Alcohol-related ambulance attendances
NT Department of Health	Emergency department presentations, hospital admissions, sobering up shelter admissions, and treatment episodes
Territory Families	Child protection (investigations of notifications, protection orders, out of home care)
NT Department of Infrastructure, Planning and Logistics	Alcohol-related road traffic crashes
Licencing Northern Territory	Licensing and wholesale alcohol supply
NT Department of Education	School attendance data
NT Department of Tourism and Culture	Tourism (number of visitors and expenditure)

4 RESULTS

4.1 ADMINISTRATIVE DATA

Interrupted time series (ITS) analysis was used to examine the changes to trends coinciding with the introduction of the MUP. We tested for both a step (immediate) and slope (gradual) change post October 2018 for each data series. ITS models were only conducted where there were a sufficient number of cases over the time period examined.

4.1.1 NORTHERN TERRITORY

As shown in Table 2 and Figure 1, there was a decline in total wholesale alcohol supply per capita across the Territory that coincided with introduction of the MUP. There were significant declines in supply of cask wine, mid-strength beer, and bottled wine beer per capita.

Table 2 Change in quarterly alcohol wholesale supply data, Northern Territory

	Step change	Slope change
Total alcohol	↓	–
Cask wine	↓	–
Bottled wine	↓	–
Fortified wine	–	↑
Cider	–	–
Spirits	–	–
Premixed	–	–
Full strength beer	–	–
Mid strength beer	↓	–
Light beer	–	–

Note: Models control for seasonality and number of people on the BDR at the end of each quarter. Step represents the immediate change post-MUP, slope represents gradual change post-MUP

↓ significant decrease, ↑ significant increase, – no significant change

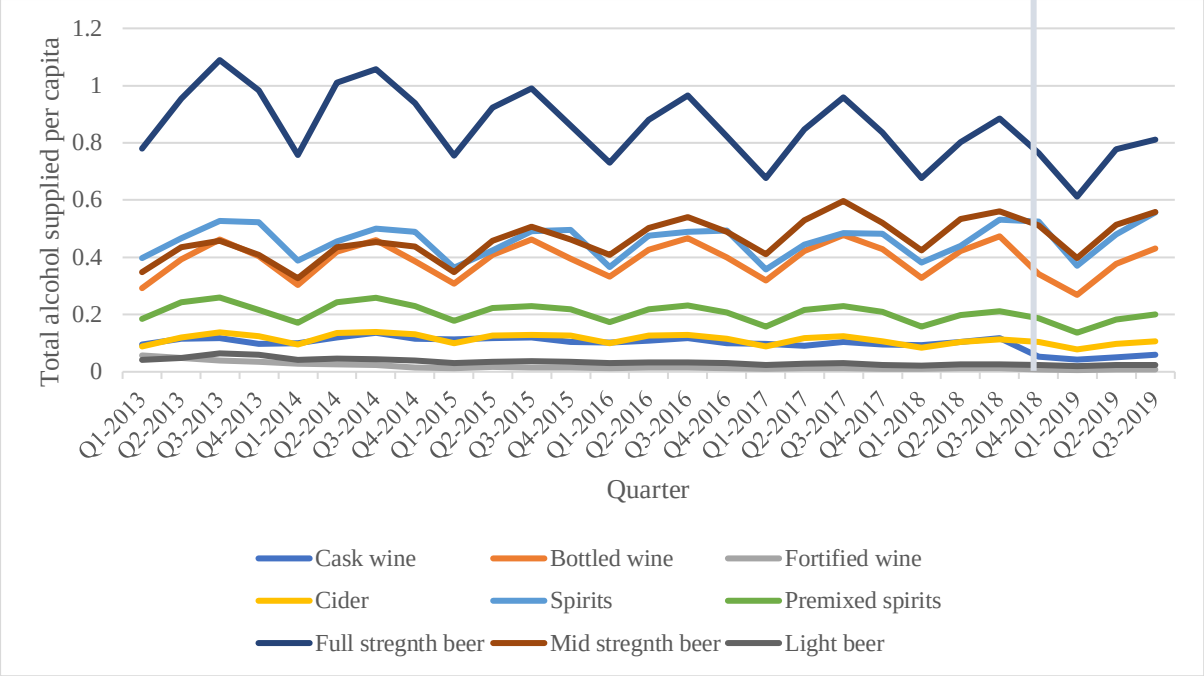


Figure 1 Alcohol wholesale supply per capita by beverage type, Northern Territory

Table 3 reports trends for the other outcomes across the Territory. As shown, there were significant declines in the rate of alcohol-related assault offences, protective custody episodes, and alcohol-related ambulance attendances after October 2018. There was also a decrease in the rate of alcohol-related emergency department (ED) presentations and hospital admissions. There was also an initial decline in the rate of Sobering Up Shelter admissions, followed by a gradual increase. There were also significant declines in the rate alcohol-related road traffic crashes. However, there was a gradual increase in the rate of treatment episodes. Finally, the child protection data showed declines in the number of investigations of notifications, protection orders, and out-of-home care cases.

Table 3 Change in monthly administrative data, Northern Territory

	Step change	Slope change
Police recorded alcohol-related assaults		
Offences	↓	–
Offenders	↓	–
Victims	↓	–
Protective custody episodes	↓	–
Ambulance attendances	↓	–
Emergency department presentations		
Alcohol-related	↓	–
Other substance use	↑	↓
Fracture of skull and facial bones	–	–
Fracture of forearm	–	–
Maltreatment syndromes	↓	–
Assault by sharp object	–	–
Hospital admissions		
Alcohol-related	↓	↓
Other substance use	↑	↓

	Step change	Slope change
Fracture of skull and facial bones	↓	–
Fracture of forearm	–	–
Toxic effect of alcohol	–	–
Maltreatment syndromes	–	–
Assault	–	–
Assault by sharp object	–	–
Sobering Up Shelters[a]	↓	↑
Treatment episodes	–	↓
Road traffic crashes (resulting in injury of fatality)	↓	–
Child protection cases[b]		
Investigations of notifications	↓	–
Protection orders	–	↓
Out-of-home care	–	↓

Note: Models control for seasonality and number of people on the BDR per month

Step represents the immediate change post-MUP, slope represents gradual change post-MUP

Data are per 10,000 population unless otherwise indicated

↓ significant decrease, ↑ significant increase, – no significant change

[a] *Alice Springs, Katherine, and Nhulunbuy only*

[b] *Count data*

4.1.2 DARWIN AND PALMERSTON

Table 4 shows that cask wine and cider wholesale supply per capita declined in the Darwin and Palmerston region after the introduction of MUP. While there was a small significant slope increase in the supply of fortified wine, the actual amount supplied per capita demonstrated a non-significant decrease. There was also a very small, but significant slope increase in spirits wholesale supply.

Table 4 Change in quarterly alcohol wholesale supply data, Darwin and Palmerston

	Step change	Slope change
Total alcohol	–	–
Cask wine	↓	–
Bottled wine	–	–
Fortified wine	–	↑
Cider	–	↓
Spirits	–	↑
Premixed	–	–
Full strength beer	–	–
Mid strength beer	–	–
Light beer	–	–

As reported in Table 5, there were significant decreases in the rate of alcohol-related assault offences, protective custody episodes, and alcohol-related ambulance attendances. There was also evidence of some decline in the rate of alcohol-related hospital admissions. While there was an initial increase in the rate of other substance use hospital admission, this was followed by a gradual decline. There were significant slope decreases in the rate of assault-related hospital admissions, however, there was

evidence of a gradual decrease in and non-government organisation and government alcohol and other drug treatment episodes.

Table 5 Change in monthly administrative data, Darwin and Palmerston

	Step change	Slope change
Police recorded alcohol-related assaults		
Offences	↓	–
Offenders	↓	–
Victims	–	–
Protective custody	–	↓
Ambulance attendances	–	↓
Emergency department presentations		
Alcohol-related	–	–
Other substance use	–	–
Fracture of skull and facial bones	–	–
Fracture of forearm	↑	–
Maltreatment syndromes	–	↓
Assault by sharp object	–	–
Hospital admissions		
Alcohol-related	–	↓
Other substance use	↑	↓
Fracture of skull and facial bones	↓	–
Fracture of forearm	–	↑
Assault	–	↓
Assault by sharp object	–	–
Treatment episodes	–	↓

Note: Models control for seasonality and number of people on the BDR per month
Step represents the immediate change post-MUP, slope represents gradual change post-MUP
Data are per 10,000 population
↓ significant decrease, ↑ significant increase, – no significant change

4.1.3 ALICE SPRINGS

As shown in Table 6, there was an overall step decrease in alcohol supply and bottled wine per capita in Alice Springs after the introduction of MUP. Cask wine sales per capita did not change significantly in line with expectations because of existing price restrictions.

Table 6 Change in quarterly alcohol wholesale supply data, Alice Springs

	Step change	Slope change
Total alcohol	↓	↑
Cask wine	–	–
Bottled wine	↓	–
Fortified wine	–	–
Cider	–	–
Spirits	–	–
Premixed	–	–
Full strength beer	–	↑
Mid strength beer	↓	↑
Light beer	–	–

Table 7 shows that there were significant declines in the rate of police recorded alcohol-related assault offences, protective custody episodes, alcohol-related ambulance attendances, alcohol-related ED presentations, hospital admissions, and Sobering Up Shelter admissions.

Table 7 Change in monthly administrative data, Alice Springs

	Step change	Slope change
Police recorded alcohol-related assaults		
Offences	↓	–
Offenders	↓	↑
Victims	↓	–
Protective custody	↓	–
Ambulance attendances	↓	–
Emergency department presentations		
Alcohol-related	↓	–
Other substance use	–	↓
Maltreatment syndromes	↓	–
Hospital admissions		
Alcohol-related	↓	–
Other substance use	–	–
Fracture of forearm	–	–
Assault	↓	–
Assault by sharp object	–	–
Sobering Up Shelters	↓	↑
Treatment episodes	–	–

Note: Models control for seasonality and number of people on the BDR per month
Step represents the immediate change post-MUP, slope represents gradual change post-MUP
Data are per 10,000 population
↓ significant decrease, ↑ significant increase, – no significant change

4.1.4 KATHERINE

Table 8 shows that there was a significant decrease in the wholesale supply of cask wine and bottled wine per capita in the Katherine region post-October 2018. There was a significant gradual increase in the supply of light beer.

Table 8 Change in quarterly alcohol wholesale supply data, Katherine

	Step change	Slope change
Total alcohol	–	–
Cask wine	↓	–
Bottled wine	↓	↑
Fortified wine	–	–
Cider	–	–
Spirits	–	–
Premixed	–	–
Full strength beer	–	–
Mid strength beer	–	–
Light beer	↑	–

As demonstrated in Table 9, there were gradual declines in the rate of alcohol-related assault offences and alcohol-related ambulance attendances in Katherine. There was also evidence for a significant decrease in the rate of alcohol-related hospital admissions.

Table 9 Change in monthly administrative data, Katherine

	Step change	Slope change
Police recorded alcohol-related assaults		
Offences	–	↓
Offenders	–	↓
Victims	–	↓
Protective custody	–	–
Ambulance attendances	↓	↓
Emergency department presentations		
Alcohol-related	–	–
Maltreatment syndromes	–	↓
Hospital admissions		
Alcohol-related	–	↓
Sobering Up Shelters	–	–
Treatment episodes	–	–

Note: Models control for seasonality and number of people on the BDR per month
Step represents the immediate change post-MUP, slope represents gradual change post-MUP
Data are per 10,000 population
↓ significant decrease, ↑ significant increase, – no significant change

4.1.5 TENNANT CREEK

As demonstrated in Table 10, there were indications of a gradual increase in the supply of mid strength beer per capita.

Table 10 Change in quarterly alcohol wholesale supply data, Tennant Creek

	Step change	Slope change
Total alcohol	–	–
Cask wine	–	–
Bottled wine	–	–
Fortified wine	–	–
Cider	–	–
Spirits	–	–
Premixed	–	–
Full strength beer	–	–
Mid strength beer	–	↑
Light beer	–	–

Table 11 reports that there was an initial decline in the rate of alcohol-related ambulance attendances, followed by a gradual increase. There was also a significant decrease in the rate of alcohol-related ED presentations.

Table 11 Change in monthly administrative data, Tennant Creek

	Step change	Slope change
Police recorded alcohol-related assaults		
Offences	–	–
Offenders	–	–
Victims	–	–
Protective custody	–	–
Ambulance attendances	↓	↑
Emergency department presentations		
Alcohol-related	↓	–
Maltreatment syndromes	–	–
Hospital admissions		
Alcohol-related	–	–
Treatment episodes	–	↓

Note: Models control for seasonality and number of people on the BDR per month
Step represents the immediate change post-MUP, slope represents gradual change post-MUP
Data are per 10,000 population
↓ significant decrease, ↑ significant increase, – no significant change

4.1.6 OTHER NORTHERN TERRITORY REGIONS

Table 12 shows that there were significant decreases in the wholesale supply of cask wine per capita through the rest of the Northern Territory. However, there was an increase in light beer, cider, and premixed drinks per capita supply.

Table 12 Change in quarterly alcohol wholesale supply data, Rest of Northern Territory

	Step change	Slope change
Total alcohol	–	–
Cask wine	↓	–
Bottled wine	–	–
Fortified wine	–	–
Cider	↑	–
Spirits	–	–
Premixed	↑	–
Full strength beer	↑	–
Mid strength beer	–	–
Light beer	↑	–

Data for the rest of the NT report on too small numbers across different sites to be reliably analysed.

4.1.7 PRICE MONITORING

This data is taken from a larger report on price monitoring in the NT (Mojica-Perez, Jiang, & Livingston, in press). As shown in Figure 2, before the MUP came into effect in October 2018 in the NT, cask wine was sold as the cheapest alcoholic beverage, at on average $0.70 per standard drink, followed by beer, cider, spirits, bottled wine, and pre-mix. Bottled wine had the largest number of distinct products (n=1,387), while cask wine had the least (n=19). After the introduction of the MUP,

there were non-significant increases in the overall mean price per standard drink of bottled wine, spirits, cider and pre-mix spirits and a significant jump in cask wine prices.

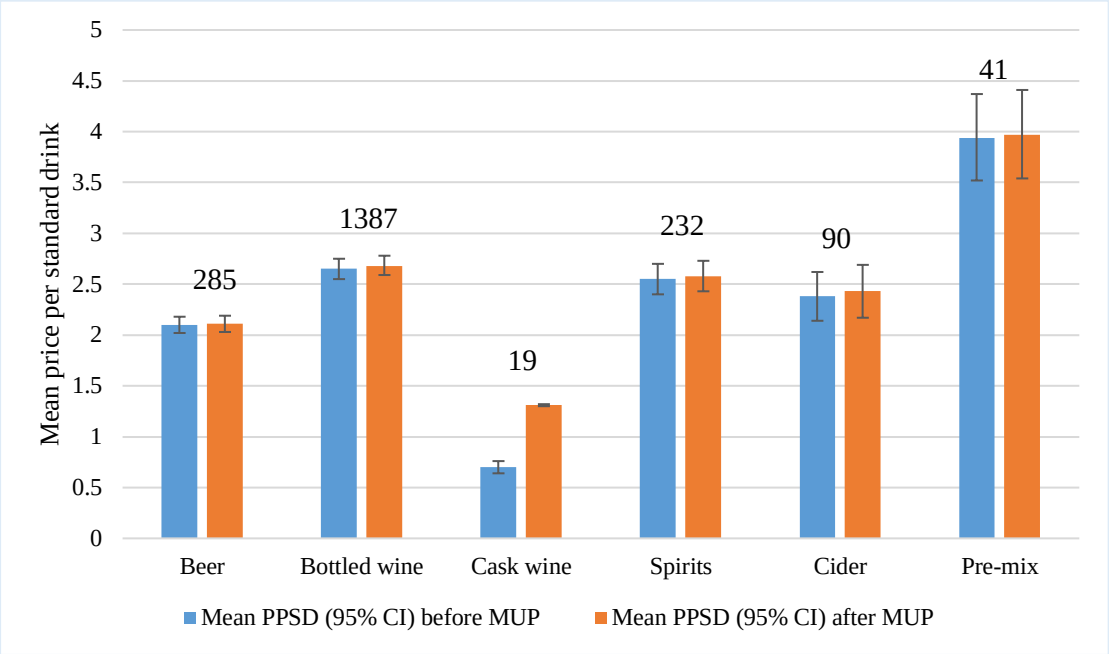


Figure 2 Mean price per standard drink (with 95% CIs) for each alcohol beverage type (n=2,054)

Note. Number above columns represents number of products included in estimate. Data from (Mojica-Perez et al., in press)

4.2 POPULATION TELEPHONE SURVEY

Table 13 presents comparisons between the 2019 survey data and the NT component of the 2016 National Drug Strategy Household Survey (NDSHS) for overall past-year drinking behaviour by key socio-demographic variables. Both samples have substantial limitations and are likely to under-represent problem and heavy drinkers.

Due to limitations in the NDSHS data, our regional comparisons are limited to Darwin versus the rest of the NT (i.e. Alice Springs cannot be separated out). There were no significant changes in drinking behaviour, although this may partly relate to the small sample sizes. There were suggestive increases in non-drinking for young adults and Indigenous respondents.

The data suggest reductions in episodic and binge drinking among Indigenous people, but confidence intervals are too large to be significant. Data suggest that heavy episodic and binge drinking increased non-significantly in Darwin and decreased non-significantly in the rest of the NT.

In Table 14, the overall prevalence of self-reported harms related to drinking are compared between 2016 and 2019. The prevalence of self-reported physical abuse fell by around half, from 12% in 2016 to 7% in 2019.

Table 13 Trends in drinking behaviour by sex, Indigenous status, age group, and location for the 2016 NDSHS and 2019 NT MUP survey

	Non-drinkers (%)		Non risky drinkers (<2 drinks per day) (%)		Risky drinkers (2-4 drinks per day) (%)		Heavy drinkers (4+ drinks per day) (%)	
	2016	2019	2016	2019	2016	2019	2016	2019
Men (n = 482)	18.8 (14.4, 24.2)	27.3 (18.4, 38.5)	41.1 (35.7, 46.7)	38.1 (31.4, 45.3)	19.7 (15.8, 24.4)	17.0 (13.0, 22.0)	20.3 (16.2, 25.2)	17.6 (13.5, 22.5)
Women (n = 518)	24.6 (20.3, 29.3)	27.7 (21.9, 34.5)	57.8 (52.7, 62.7)	56.0 (49.1, 62.6)	8.7 (6.5, 11.6)	7.9 (4.6, 13.1)	8.9 (6.2, 12.6)	8.4 (4.9, 14.2)
Indigenous (n = 81)	35.6 (23.8, 49.5)	47.6 (30.7, 65.1)	35.6 (25.1, 47.8)	35.4 (22.4, 50.9)	13.7 (7.2, 24.5)	5.9 (1.6, 19.6)	15.1 (8.1, 26.4)	11.1 (4.8, 23.8)
Non-Indigenous (n = 919)	19.1 (16.3, 22.4)	20.9 (17.8, 24.5)	51.1 (47.2, 55.0)	50.5 (46.5, 54.5)	14.8 (12.3, 17.7)	14.8 (12.1, 18.0)	15 (12.3, 18.1)	13.8 (11.3, 16.8)
18-34 years (n = 174)	21.7 (15.8, 29.2)	33.9 (22.0, 48.2)	49.3 (42.0, 56.6)	40.2 (30.5, 50.8)	15.2 (10.8, 21.1)	13.3 (8.0, 21.3)	13.7 (9.3, 19.8)	12.6 (7.5, 20.4)
35-49 years (n = 323)	20.1 (15.3, 26.1)	21.5 (16.0, 28.2)	54 (47.5, 60.3)	53.5 (46.3, 60.6)	14.9 (11.0, 19.9)	11.2 (8.0, 15.5)	11 (7.6, 15.7)	13.9 (9.5, 19.7)
50-64 years (n = 333)	19.8 (14.8, 25.8)	25.1 (19.2, 32.0)	44.7 (38.0, 51.5)	47.1 (40.5, 53.7)	12.5 (8.9, 17.5)	15.1 (11.1, 20.1)	23 (17.2, 30.1)	12.8 (9.2, 17.6)
65+ years (n = 170)	28.1 (20.8, 36.6)	26.5 (17.5, 38.1)	42.2 (33.8, 51.0)	51.5 (41.6, 61.2)	15.5 (10.4, 22.6)	8.1 (4.5, 14.3)	14.2 (9.2, 21.3)	13.9 (8.9, 21.1)
Darwin/Palmerston (n = 638)	18.9 (15.5, 22.8)	21.2 (17.5, 25.3)	49.4 (44.7, 54.1)	49.9 (45.3, 54.6)	16.9 (13.7, 20.6)	14.5 (11.5, 18.3)	14.9 (11.8, 18.6)	14.4 (11.4, 18)
Rest of the NT (n = 362)	25.4 (19.8, 32.1)	37.4 (25.7, 50.8)	48.2 (42.0, 54.6)	41.8 (32.0, 52.4)	11.2 (7.8, 15.8)	9.6 (5.4, 16.3)	15.2 (11.0, 20.6)	11.2 (6.5, 18.6)

Table 14 Prevalence of self-reported harms related to alcohol, 2016 NDSHS and 2019 NT MUP survey, with 95% confidence intervals in parentheses

	2016 NT NDSHS (%)	2019 NT MUP (%)
Verbally abused by someone affected by alcohol	31.8 (28.4, 35.3)	32.3 (28.0, 36.9)
Physically abused by someone affected by alcohol	12.2 (9.9, 14.9)	6.8 (4.7, 9.7)*
Injury requiring medical attention while under the influence of alcohol	3.2 (2.0, 5.0)	2.9 (1.7, 4.9)

*Note. * 95% confidence intervals do not overlap with 2016 confidence intervals*

4.3 KEY INFORMANT INTERVIEWS

Overall, key informants report strong impacts across the Territory from the three main policy supply reduction interventions (MUP, PALIs/POSIs and the BDR). However, most cultural behaviours, such as alcohol, takes time to change. Smoking trends took over 60 years to reach current levels. In this context, this one year point after the MUP implementation and two years since BDR, means that it is still early in the culture-change timeline and some of the apparent trends might change in the mid-term. It was also clear that the measures are having a different impact in different areas, especially because of the different laws and conditions in Darwin meaning that PALIs have not been implemented there. This ultimately means that alcohol is much more available at the population level. Key informants generally reported that the MUP was accepted by the NT community and that the vast majority of alcohol sales/customers are unaffected.

5 DISCUSSION

The data presented show that the trends for alcohol consumption and related harms are mostly demonstrating significant reductions, although there are some variables where there is no change. It is also clear from the range of data presented that at this one year point, while trends are mostly promising, more time is required to evaluate the impact of the MUP in the context of the other supply reduction measures.

These findings are broadly consistent with those from other countries where a MUP has been introduced, especially considering that this is a much smaller population, with substantially more complex problems over a much more geographically diverse area.

For all of the reported findings, it is worth considering these were achieved by the addition of successive elements (i.e., BDR, POSIs/PALIs, MUP). This is in line previous public health programmes such as those for anti-smoking and drink-driving where downward trends were continued and bolstered by adding interventions to achieve continued success. While specific interventions might begin a downward trend, it is reasonable to expect that all interventions have a limited effect/duration and that achieving a longer term trend, rather than a simple step effect, requires ongoing intervention. More people accessing treatment will also support downward long term trends.

5.1 CONSIDERATIONS FOR FUTURE RESEARCH

Throughout this report we have identified a range of issues where there is incomplete or missing data. Looking ahead to the three-year evaluation, there are a number of key questions to be addressed.

The survey methods used in this study and the NDSHS provide a baseline of drinking behaviour in the NT which provides important information for understanding the mid - long term impacts of the MUP.

As discussed above, while it is unlikely that the MUP is a major factor in displacement of drinkers, it is important to gather evidence to be confident this is the case. Such evidence should include quantitative data on people's movement within and out of the NT, as well as qualitative interviews with people attending services around the NT to assess how their behaviour has been impacted by the MUP. Quantitative data should ideally be drawn from social housing, Centrelink, and other agencies.

6 CONCLUSIONS

This report has documented a wide range of benefits to the community which have coincided with the implementation of the MUP in the NT. The MUP has complemented the BDR and PALIs in the NT, significantly adding to the impact of these measures to further reduce harm in many communities. The research found evidence of a sharp decline in the experience of physical abuse from people affected by alcohol, which is suggestive of improvements in alcohol-related violence since 2016. These changes occurred in Darwin and the rest of the Northern Territory, suggesting that the MUP is likely to have made a unique contribution to reduced harm and added to specific policies like PALIs.

The evaluation of each stand-alone policy initiative in a comprehensive response poses challenges in terms of the introduction of multiple policy initiatives concurrently and/or within quick succession. However, the methods used have allowed for an assessment of changes across a range of outcomes and the staggered implementation of different policy elements in different locations allows for some teasing out of differential impacts, if they exist.

Per capita alcohol wholesale supply data and surveys highlight that the MUP achieved its goal of specifically targeting cask wine in many towns. Most other beverages were not affected.

Business generally reported that implementation of the legislation was straight forward and that turnover/business has improved or remained stable. Tourism in the NT has not been affected by the MUP, nor has the supply to nightlife venues in Darwin, holding important information for other jurisdictions in terms of understanding the benefits of the legislation for the community.

This evaluation of one-year impact has highlighted the need for more in-depth data collection from a range of data sources, but has also highlighted that currently available data can paint a strong picture of the impacts across the Northern Territory.

7 REFERENCES

Australian Bureau of Statistics. (2010). *Australia Geography Standard (ASGS) Volume 1 - Northern Territory maps*. Canberra: ABS.

Babor, T., Caetano, R., Casswell, S., Edwards, G., Giesbrecht, N., Graham, K., . . . Rossow, I. (2010). *Alcohol: No Ordinary Commodity - Research and Public Policy* (2nd ed.). Oxford: Oxford University Press.

Mojica-Perez, Y., Jiang, H., & Livingston, M. (in press). *Estimating the effects of minimum unit price policy on prices of off-premise beverages in NT*. Melbourne: CAPR, La Trobe University.

Riley, T., Angus, P., Stedman, D., & Matthews, R. (2017). *Alcohol Policies and Legislation Review: FINAL REPORT*. Retrieved from https://alcoholreform.nt.gov.au/__data/assets/pdf_file/0005/453497/Alcohol-Policies-and-Legislation-Review-Final-Report.pdf

Smith, J. A., Livingston, M., Miller, P., Stevens, M., Griffiths, K., Judd, J. A., & Thorn, M. (2019). Emerging alcohol policy innovation in the Northern Territory, Australia. *Health Promotion Journal of Australia, 30*(1), 3-6. doi:10.1002/hpja.222

World Health Organization. (2018). Global Status Report on Alcohol 2018. Available at: https://www.who.int/substance_abuse/publications/global_alcohol_report/en/. Retrieved from http://www.who.int/substance_abuse/publications/global_alcohol_report/en/index.html

Transforming Out-of-Home Care in the Northern Territory

TERRITORY FAMILIES WE CARE

NORTHERN TERRITORY GOVERNMENT


Canon
EOS
5D

Message from the CEO

Every child deserves an upbringing where they are safe, connected with their culture and identity, and supported to thrive, learn, grow and reach their full potential.

While our top priority is to stop the need for children entering the out-of-home care system, we must also have an effective system in place for times when they do.

This is why we are transforming out-of-home care in the Northern Territory to provide a system and services that are focused on and responsive to the needs of children and young people in care, their families and carers.

To help us achieve this we have created a model that puts children and young people at the centre so they feel safe, secure and loved. We are delivering a system that prioritises and increases Aboriginal family/kin and foster carers and we are improving wrap around support services for carers, children and young people and their families.

There are more than 1000 children and young people in care, with about 300 new children and young people entering the system each year. About 90 per cent of children in care are Aboriginal which is why it is critical that the transformed model acknowledges this and incorporates identity, culture and language and recognises the need for connection to family and community.

Localised place-based care that is flexible and responsive is essential if we are going to meet the needs of Aboriginal children and young people, their families and carers and provide a culturally appropriate service that supports children, families, carers and communities.

Meaningful partnerships must be formed with Aboriginal organisations to support children and families, provide culturally respectful services and increase community connections by developing local solutions.

The new model of care will carefully match children with care-givers and make sure children remain in their local community connected to family, country and culture where possible.

Purchased home-based care will be phased-out in preference for family/kin and foster care.

We are committed to transforming the out-of-home care system in the Northern Territory so that children and young people in care have a positive experience and go on to achieve positive social, economic and health outcomes.

Transforming the out-of-home care model complements our broader reform program across both the child protection and youth justice systems to create generational change.

I am confident, that together, we will do all it takes to make sure that children, young people, families and communities in the Northern Territory are safe, thriving and connected.

KEN DAVIES

Chief Executive,
Territory Families

Transforming Out-of-Home Care

Change is needed to reform and improve the out-of-home care system in the Northern Territory as the current model is not meeting the needs of children and young people in care.

There are about 1080 children and young people in out-of-home care in the Northern Territory. There is also an over-representation of Aboriginal children and young people in the system with about 90 per cent of children and young people in care identified as being Aboriginal.

Recognising the need for change, Territory Families engaged Deloitte and worked with the sector to review the current model and develop a plan for the critical system changes required to improve out-of-home care in the Northern Territory.

We consulted widely as part of the review to ensure the voices and insights of care-givers, children and young people in care, families, Aboriginal organisations, Non-Government Organisations, peak bodies and service providers were captured and included in the reform approach.

The review design approach focused on six key areas including:

1. Service design
2. Service model and program description
3. Financial analysis
4. Procurement approach
5. Monitoring and evaluation
6. Implementation

Transforming out-of-home care is a significant, complex and multi-faceted reform package that will over time, completely change the way out-of-home care services are designed, funded, contracted and delivered.

It requires reforms to procurement approaches, development and capacity building of the out-of-home care sector, with a focus on the Aboriginal-led sector. There will need to be cultural change across Territory Families, Government, Non-Government Organisations and the community as well as training and development and policy, procedure and service development.

The key elements of the new model of out-of-home-care include:

- Enhancing collaboration with families and young people
- Partnering with community and government
- Establishing supportive systems to deliver out-of-home care services
- Prioritising family/kin care-givers and improved support for all family carers
- Services that are tailored to meet the needs of children and young people in care
- Therapeutic services that are designed to achieve positive outcomes for children and young people in care.

These reforms provide a new vision for the future experience of children and young people in care and identify the system changes required to achieve this. The reform program also delivers on a number of recommendations from the Royal Commission into the Protection and Detention of Children in the Northern Territory.

Our new model of service reform is ambitious in its scope including the establishment of new services, place-based service design, and extensive stakeholder collaboration and engagement.

But it is critical that we provide strong leadership and commitment to implementing the new service design through innovation and continuous improvement so that we can ensure the needs of children and young people in care are being met and that they have a positive experience where they feel safe, secure and loved.

Implementation of the new model will be staged over three years so we can better support families and carers, increase business and operational efficiencies, build service capacity and establish local, place-based services.

Snapshot

1,080 children and young people currently live in out-of-home care in the Northern Territory

90% of children and young people in care are Aboriginal

38% of Aboriginal children in care are placed with Aboriginal carers

294 Foster Carers in the Northern Territory

285 Kinship and Family Carers in the Northern Territory

Out-of-Home Care Reform in the Northern Territory

Children in out-of-home care placements

Average number of children in placement for 2018-2019

302	249	347	114	71	TOTAL 1083
Foster care	Kinship care	Purchase home-based care	Residential care	Other care	

New Service Model

Identity, community and culture are three overarching principles that inform our model of care - emphasising the importance of stability for children and young people.

The family is represented at the centre, alongside the child. The symbols with U and a nulla nulla are women while others are men and little ones are children.

The family is supported by the community - which is represented by the concentric circles.

The hands represent out of home care, which sits within the community.

Many people sitting closely represents intensive overarching support provided for families and children.

The snake tracks lead to reunification, family, community, permanency, identity and culture.

Our Vision

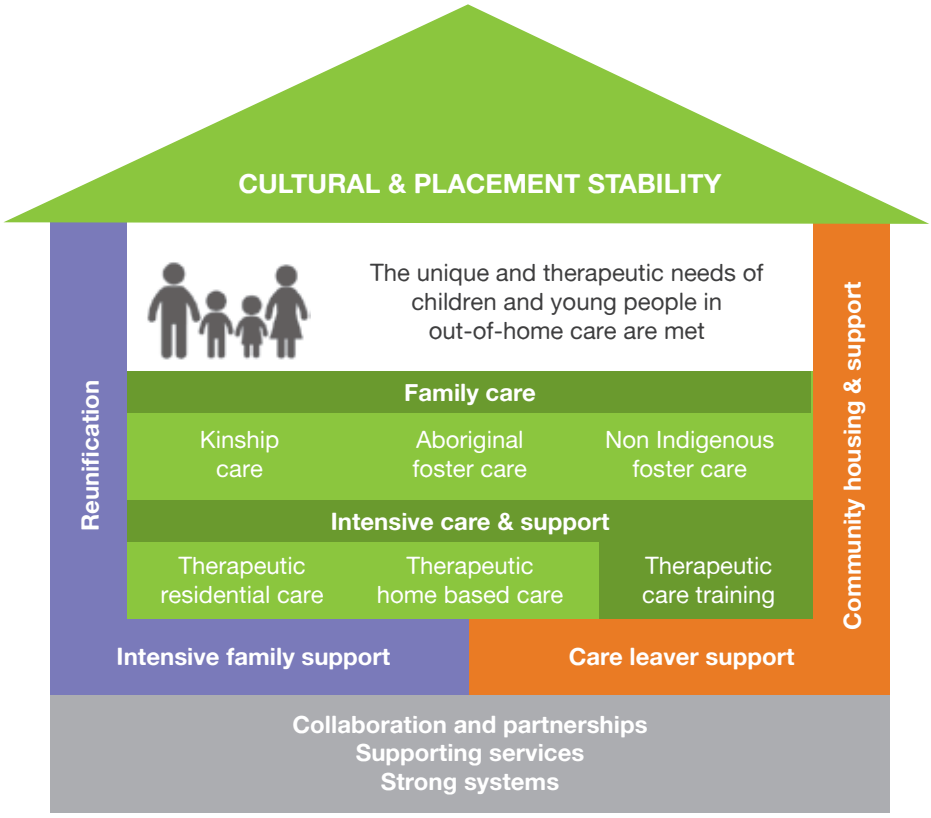
Our vision for out-of-home care is to have a system and services that are focused on and responsive to the needs of children and young people in care. A system that is culturally supportive for Aboriginal children, young people and their families, communities and care-givers. A future where care-givers, families and communities are well-supported to deliver care to, and meet the needs of children and young people in care.

Children and young people in care will:

- Be and feel loved, safe and cared for
- Be able to communicate their views and complaints
- Have meaningful contact with case workers
- Be matched in placements according to their needs
- Be supported to live well when leaving care and transitioning to independence
- Experience safe and stable placements
- Have positive relationships with family, care-givers and other adults
- Be connected to their family, culture and community
- Have access to the services required to address their needs including therapeutic services

The new model for out-of-home care services in the Northern Territory will aspire to meet both the unique and therapeutic needs of children and young people through a service model offering five care options including:

- Family care
- Aboriginal foster care
- Non-Indigenous foster care
- Therapeutic home-based care
- Intensive therapeutic residential care



The new model for out-of-home care can be depicted as a house. The model starts with a roof of cultural placement and stability protecting children and young people in care.

The walls of the house signal the entry points and exit points to care, reunification and community housing and support. These walls are connected by intensive family support and care leaver support, highlighting the need for continuous and ongoing support across a young person's life.

Within the house, family care options are supported by intensive care and training. The house stands on a foundation of collaboration and partnerships, supporting services and strong operating systems.

Enhancing Collaboration with Families and Young People

Transforming out-of-home care is designed to put children and young people at the centre so we are focused on and responsive to their needs, they feel supported and can experience safe, healthy and happy childhoods.

Listening, hearing and understanding the voices of children, families, care-givers and communities and responding to their needs is critical.

Out-of-home care reform initiatives will be more inclusive of children, families, care-givers and communities and provide them increased support to be more engaged in the decision-making and care planning of the children they look after. Children and young people in care will also have a central voice in their care planning.

Meaningful partnerships will be formed with Aboriginal organisations to engage and support families, provide culturally respectful service delivery and advice and increase community connections to develop local solutions.

Case management will include a holistic assessment and improved planning processes for young people and children to improve placement stability and develop a long-term approach to care for their on-going wellbeing.

We are also implementing new child protection practice management mechanisms including the Signs of Safety approach to enable case workers to enhance collaborative care planning and case management.

Signs of Safety is a solution-focused, safety-orientated approach to child protection. It works in partnership with families and children and their networks to increase safety and reduce risk and danger by focusing on strengths and solutions and integrating them with the family's expertise and cultural knowledge.

Partnering with Community and Government

Creating strong and meaningful partnerships with Aboriginal organisations to deliver support and services, particularly in remote communities is critical to the transformation of out-of-home care in the Northern Territory.

Under the new model Aboriginal communities and organisations must be engaged as partners to:

Facilitate communication and engagement with families of Aboriginal children and young people in care

Deliver recruitment and retention support services to Aboriginal family/kin and foster carers

Facilitate the development and implementation of cultural care plans

Build partnerships and collaborate with government, non-government service providers and communities to improve service planning, delivery and outcomes for children and young people in out-of-home care.

Under the new model we will partner with community organisations to:

- Implement care plans through coordinated service delivery at a regional level
- Work collaboratively across government, non-government and community services to advocate for the needs of children, young people and carers

Aboriginal organisations and community partners are often best placed to support children, young people, families and communities. They have strong community connections and networks, trusted relationships, intimate knowledge of community and can provide culturally respectful services.

Placed-based service delivery provides for a range of positive and effective outcomes that will improve the experience for children and young people in care and their families, care-givers and communities and result in children and young people feeling safe, secure and loved.


WE CARE
GOLDEN STATE
30
WARRIORS

Establishing Supportive Systems to Deliver Out-of-Home Care Services

The new out-of-home care model will improve outcomes for children, young people and families in the Northern Territory through early intervention and collaborative service design and implementation.

To achieve this, we will:

- Prioritise reunification and make sure this is accompanied with intensive family support services
- Identify individual needs early to provide timely access to services and de-escalate the need for intervention
- Make therapeutic services accessible by all children, young people, families and carers
- Increase service delivery in regional locations
- Partner with community organisations at a regional level to support carers to effectively implement care plans

As part of transforming the out-of-home care system we will enhance standards in service delivery through implementing legislation, increasing quality assurance, establishing standards and improved data collection.

To achieve this, we will:

- Build and address quality assurance standards into procurement contracts
- Implement practice support services to coach, mentor and assist case workers, carers and service providers to deliver high quality care
- Consider capability and data requirements in the service design

Prioritising Family and Foster Carers

Prioritising and increasing the number of Aboriginal family and foster cares is pivotal to transforming the out-of-home care system.

Data shows that only about one third of Aboriginal children in care are placed with Aboriginal carers. While the demand for out-of-home care is growing, the number of carers in the Northern Territory has declined in the last five years.

Robust evidence shows that children and young people benefit from remaining in home-based settings within their community and with people that are part of their kinship and family group.

Placing children and young people with family/kin and Aboriginal foster carers is our priority. The new out-of-home care model prioritises Aboriginal children being placed with Aboriginal carers so they are connected to their culture, family and country. It also has a strong focus on services being delivered by or in partnership with Aboriginal community organisations.

As part of the reform process, we are investing $5.4 million over four years to increase Aboriginal family care including $4.2 million to recruit and support Aboriginal family/kinship and foster carers through the Aboriginal Carers Growing up Aboriginal Children grants. Work is already underway across the Northern Territory to increase the number of children in out-of-home care placed with Aboriginal kinship and foster carers.

Key initiatives under this program include:

- Development of a comprehensive, culturally safe, Aboriginal family care service model by Tangentyere Council Aboriginal Corporation. The model will enable more Aboriginal children in care to be placed with family and Aboriginal foster carers so they can stay with family at home in culturally inclusive and appropriate settings. This model will provide a blueprint for implementation across the Northern Territory.
- Implementation of recruitment programs by Ngurratjuta/ Pmara Ntjarra Aboriginal Corporation (NPNAC) to attract and retain Aboriginal family/kin and foster carers and improve outcomes for Aboriginal children already in care in Central Australia while the broader service design is being developed.
- Development and implementation of recruitment strategies by Larrakia Nation Aboriginal Corporation to attract and retain Aboriginal family/kin and foster carers and improve outcomes for Aboriginal children already in care in the Top End while the broader service design is being developed.

As we work towards more children and young people staying at home with their families, it is essential that out-of-home care services are available in communities to meet their individual needs. This includes providing access to therapeutic support to children, young people, families and carers.

To do this, we are partnering with Aboriginal organisations to co-design and deliver services and develop local solutions to ensure effective outcomes and positive change to the lives of children in care in remote communities.

We are also engaging community organisations to facilitate and improve communication and contact with the families of children and young people in care and to develop and implement cultural care plans.

Tailoring Services that Meet the Needs of Children and Young People in Care

The new out-of-home care model will provide services that are able to meet the unique and varied needs of children and young people in care. This includes family care, therapeutic and intensive care services.

Localised care and support services will enable children and young people in care to maintain connection to identity, family, community and culture.

Under the new model, reunification of children and young people is prioritised because we know that children and young people do best when raised in a stable family setting.

Early intervention services, targeted for families, children and young people at risk and experiencing vulnerability will be provided earlier. Community organisations will work with families to provide intensive family support and coordinate services and engagement.

While our aim is to keep children with their families, sometimes it is not always possible. When children must be removed from their families to ensure their safety, our focus is on keeping siblings together and ensuring that children and young people experience positive relationships, care and connections with others.

Community organisations will work with children and young people in care to maintain their connection to family, community and culture. They will also work with families and communities to better engage them in the out-of-home care system.

Cultural and placement stability is central to the new out-of-home care service design and will be provided through:

- Early intervention services prior to care and during care
- Reunification services
- Place-based services that wrap around the child, rather than the child moving to access services
- Therapeutic care being available to all children and young people in care

Increasing Wrap-around Support for Carers, Children and Young People

Improved wrap-around support services will be provided to children, young people and care-givers through the new out-of-home care model to safeguard positive life outcomes for children and young people in care.

Family care, therapeutic care and intensive care services will assist:

- Family care-givers to manage the needs of children and young people in their care
- Families to better address the needs of children and young people in care through having greater involvement in decision-making and care planning
- Care-leavers to transition from care to independence or family

A support framework will be established to provide wrap-around support for family care-givers and children so they can have a safe, stable and loving home environment.

Wrap-around support services for family and care-givers will include 24/7 support, short breaks and shared care, home visits and solid communication and information sharing, ongoing training and professional development, adequate financial support and review and peer support networks.

Wrap-around support services for children and young people will be enhanced to provide them with access to 24/7 support and advocacy, better placement planning and matching, individual care plans, on-going assessment of needs, therapeutic support, increased connection to family, culture and community, financial support to pursue interests, care leaver plans and transition support.

Placed-based, localised services that wrap around the child within their family based care setting will be applied rather than moving the child around to access services.

The new model also provides increased support for young people making the transition to independence to ensure they understand how to access the support they need and achieve positive social, economic and health outcomes, in-line with their peers who have not been engaged in out-of-home care.

Care-leaver support and services will include:

- An ongoing relationship with their carer family and kin family
- On-going care and planning so the young person knows how they will be supported during the transition
- Universal support that is not tied to their education and employment status
- Recognition that young people in care have often experienced trauma and may require additional ongoing support to address the impacts

Providing Therapeutic, Trauma Informed Care for Every Child

Trauma informed care and specialised support will be available for every child and young person in out-of-home care who needs it.

The new model prioritises home-based care above all other forms of out-of-home care. Children and young people will have their needs met through home-based placements, preferably with family and in their community.

Care-givers will have greater involvement in the care planning and service delivery of therapeutic care. They will be provided with therapeutic care training so they are empowered and supported to provide high quality care that meets the needs of the child or young person they care for. Training and support will be delivered in regional and remote centres.

Specialised and intensive therapeutic home-based care will be provided for children with complex needs with services to be available in regional locations.

Early intervention and improved access to therapeutic support for children in care will reduce placement disruptions and breakdowns and enhance family relationships, increase emotional wellbeing, encourage greater participation in education and training and support children and young people to achieve better life outcomes.

It also aims to reduce the demand for crisis services by delivering therapeutic and trauma informed support to children and young people within their family environment by building the capacity for carers to meet the needs of children in the home.

The new model also includes therapeutic residential care which will provide time-limited services, delivered in home-like facilities that accommodate small groups of children and young people. Purchased home-based care does not feature in the new model. The transition will be carefully managed to ensure stability for children and young people.

Delivering the Changes

Transformation of the out-of-home care model will occur over three years to ensure a smooth transition that continues to deliver on-going care and service delivery to children, young people and families.

We have developed key milestones to make sure that we are accountable, transparent and deliver on our commitment to improve the out-of-home care system in the Northern Territory to provide better life outcomes for children and young people in care.

Procurement will be undertaken to acquire new services as part of the reform implementation process including family/kinship and foster care recruitment, retention and support and intensive therapeutic residential care services.

The procurement approach will focus on achieving:

- Local services
- Meaningful partnerships between service providers and aboriginal community controlled organisations
- Operational and scale efficiencies by bundling services together
- Improved contract and management efficiencies
- Better outcomes in service delivery and improved responsiveness

Roadmap to Program Delivery

Phase 1

June 2019 – December 2019

Establishing a new out-of-home care contract model, service mix and therapeutic approach

- Procurement and implementation of residential care services including the Intensive Therapeutic Residential Care Model
- Aboriginal-led Family Carer Scoping and Support Model finalised
- Specialised Assessment and Therapeutic Services Model developed
- Procurement of services started
- Family/kin carer assessment process finalised

Phase 2

January 2020 – December 2020

Embedding Aboriginal led service delivery and building service capacity

- Procurement and implementation of the Family Carer and Support Model
- Family and Foster Carer Online Training delivered
- Foster Care Service Model developed
- Foster Carer Assessment Model and Transition Plan developed
- Out-of-home care assessment tool finalised
- Aboriginal Family Carer Handbook released
- Procurement of family/kin Foster Carer Services

Phase 3

January 2021 – December 2021

Establishing a strong out-of-home care system

- Purchased home based cared phased out
- The NT Children in Care as our Priority Framework established
- Family and Foster Carer App developed
- CARE System delivered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