

Northern Territory  
Child Deaths Review and Prevention Committee  
Annual Report 2015-2016



# Northern Territory Child Deaths Review and Prevention Committee

The NT Child Deaths Review and Prevention Committee respects the beliefs of Aboriginal and Torres Strait Islander people and advises there is information in this report regarding deceased Aboriginal and Torres Strait Islander children.

Office of the Children's Commissioner, Northern Territory  
PO Box 40598  
Casuarina NT 0811  
Telephone 08 8999 6076  
Facsimile 08 8999 6072  
E-mail [childrenscommissioner@nt.gov.au](mailto:childrenscommissioner@nt.gov.au)

[www.childrenscommissioner.nt.gov.au](http://www.childrenscommissioner.nt.gov.au)

© Office of the Children's Commissioner, Northern Territory Government, 2016

This work is copyright belonging to the Northern Territory of Australia and is subject to conditions of the *Copyright Act* 1968 and the Northern Territory copyright policy.

The information in this report may be freely copied and distributed for non-profit purposes such as study, research, services management and public information subject to the inclusion of an acknowledgement of the Child Deaths Review and Prevention Committee, Northern Territory as the source.

ISSN 1837-3852

Printed by: Uniprint

## **Suggested citation**

CDRPC (2015). *Annual Report 2015-2016, Northern Territory Child Deaths Review and Prevention Committee*, Office of the Children's Commissioner, Darwin.

This report is available in electronic format at: [www.childrenscommissioner.nt.gov.au](http://www.childrenscommissioner.nt.gov.au)

The Honourable Natasha Fyles MLA  
Attorney-General and Minister for Justice  
Parliament House  
DARWIN NT 0800

Dear Minister

I am pleased to provide you with the Annual Report of the Northern Territory Child Deaths Review and Prevention Committee for 2015–2016, in accordance with section 213 of the *Care and Protection of Children Act 2007*.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Gwynne', with a stylized flourish at the end.

Ms Colleen Gwynne  
Convenor  
NT Child Deaths Review and Prevention Committee  
31 October 2016



# Contents

Contents.....	i
List of tables .....	iii
List of figures .....	iii
List of appendices.....	iii
Northern Territory Child Deaths Review and Prevention Committee.....	iv
Glossary of terms.....	vi
Definitions.....	vii
Foreword.....	1
<b>Executive summary.....</b>	<b>2</b>
Background and overview of the Committee activities.....	2
Issues relating to child deaths data in the NT .....	2
Child deaths in the NT, 2011-15 .....	3
2015 snapshot.....	3
2011-15 aggregate snapshot.....	3
<b>CHAPTER 1 - Introduction.....</b>	<b>5</b>
Introduction .....	5
Functions of the Committee .....	5
The Child Deaths Register.....	5
Activities of the Committee .....	6
Research.....	6
National representation and engagement.....	7
<b>CHAPTER 2 - Issues relating to child death data in the Northern Territory.....</b>	<b>8</b>
Sources of data on child deaths.....	8
Australian Bureau of Statistics.....	8
Registry of Births, Deaths and Marriages .....	8
The National Coroner's Information System.....	8
Office of the NT Coroner .....	8
Other sources of data .....	9
Confidentiality of information.....	9
Coding cause of death .....	9
Calendar year reporting .....	9
<b>CHAPTER 3 - Child deaths in the Northern Territory.....</b>	<b>10</b>
Child deaths rates.....	10
Child deaths in 2015 .....	10
Child deaths by age group, NT, 2015.....	10
Child deaths by age group and gender, NT, 2015.....	11
Child deaths, 2011-15.....	12
Child deaths by year, gender and age group, NT, 2011-15.....	12
Child deaths by year, Aboriginal status and age group, NT, 2011-15.....	13
Child deaths by usual residence, age group, gender and Aboriginal status, NT, 2011-15 .....	14
Child death rates by year, NT, 2011-15.....	14

Child death rates by age group, NT, 2011-15.....	16
Child death rates by age group and gender, NT, 2011-15.....	16
Infant deaths, 2011-15.....	17
Infant deaths by gender and Aboriginal status, NT, 2011-15.....	17
Perinatal deaths by type, Aboriginal status and year, NT, 2011-15.....	18
Post neonatal infancy by Aboriginal status and year, NT, 2011-15.....	18
Deaths of children with a family involvement in child protection services, 2011-15	19
Characteristics of child death by known to DCF status, NT, 2011-15.....	20
<b>CHAPTER 4 - Underlying causes of child deaths in the Northern Territory, 2011-15.....</b>	<b>21</b>
Underlying cause of death by ICD-10 chapter and year, NT, 2011-15.....	21
Underlying cause of death by ICD-10 chapter, gender and Aboriginal status, NT, 2011-15.....	22
Underlying cause of death by ICD-10 chapter and gender, and chapter and Aboriginal status, NT, 2011-15.....	23
Underlying cause of death by ICD-10 chapter and usual residence, NT, 2011-15.....	25
Underlying cause of death by ICD-10 chapter and age group, NT, 2011-15....	27
<b>References.....</b>	<b>28</b>
<b>Appendices.....</b>	<b>29</b>

## List of tables

Table 1: Number of child deaths by age group and gender, NT, 2015.....	11
Table 2: Child deaths by year, gender and age group, NT, 2011-15.....	12
Table 3: Child deaths by year, Aboriginal status and age group, NT, 2011-15 .....	13
Table 4: Child deaths by usual residence, age group, gender and Aboriginal status, NT, 2011-15.....	14
Table 5: Child death rates by year, NT, 2011-15.....	15
Table 6: Child death rates by age group, NT, 2011-15.....	16
Table 7: Child death rates by age group and gender, NT, 2011-15 .....	16
Table 8: Infant deaths by gender and Aboriginal status, NT, 2011-15 .....	17
Table 9: Perinatal deaths by type, Aboriginal status and year, NT, 2011-15.....	18
Table 10: Post neonatal infancy by Aboriginal status and year, NT, 2011-15 .....	18
Table 11: Characteristics of child death by known to DCF status, NT, 2011-15.....	20
Table 12: Underlying cause of death by ICD-10 chapter and year, NT, 2011-15.....	21
Table 13: Underlying cause of death by ICD-10 chapter, gender and Aboriginal status, NT, 2011-15.....	22
Table 14: Underlying cause of death by ICD-10 chapter and usual residence, NT, 2011-15.....	25
Table 15: Underlying cause of death by ICD-10 chapter and age group, NT, 2011-15.....	27

## List of figures

Figure 1: Number of child deaths by age group, NT, 2015.....	10
Figure 2: Child death rates by year, NT, 2011-15 .....	15
Figure 3: Underlying cause of death by ICD-10 chapter and gender, NT, 2011-15.....	23
Figure 4: Underlying cause of death by ICD-10 chapter and Aboriginal status, NT, 2011-15.....	24
Figure 5: Underlying cause of death by ICD-10 chapter and usual residence, NT, 2011-15.....	26

## List of appendices

Appendix 1: Infant mortality rate by Aboriginal status and year, NT, 2002–2014.....	29
Appendix 2: Table of underlying cause of child deaths by ICD-10 chapters, NT, 2011-15.....	30

## Northern Territory Child Deaths Review and Prevention Committee

### *Members as at 30 June 2016*

**Ms Colleen Gwynne**

Convenor, NT Child Deaths Review and Prevention Committee  
Children's Commissioner, NT

**Ms Victoria Pollifrone**

**Deputy Convenor**

Manager, Children and Families  
Commonwealth Department Social Services, NT Office

**Ms Vicki Baylis**

Executive Director, School Support Services  
Department of Education, NT

**Detective Superintendent Kristopher Evans**

Officer in Charge of Sex Crimes Unit, Child Abuse Taskforce  
NT Police, Darwin, NT

**Ms Priscilla Collins**

CEO, North Australian Aboriginal Justice Agency (NAAJA)  
Darwin, NT

**Dr Steven Guthridge**

Director, Health Gains Planning  
Department of Health, NT

**Dr Charles Kilburn**

Co-Director, Women Children and Youth Division,  
Royal Darwin Hospital, Department of Health, NT

**Associate Professor Robert Parker**

Director of Psychiatry, Top End Mental Health Services,  
Department of Health, NT

**Ms Leonie Warburton**

Senior Manager, Quality and Practice Integrity  
Department of Children and Families, NT

**Mr Peter Pangquee**

Principal, Aboriginal and Torres Strait Islander Health Practitioner Advisor  
Department of Health, NT

**Ms Annette Flaherty**

Senior Lecturer  
Centre for Remote Health, NT

**Dr Annie Whybourne**

Acting Co-Director (Medical), Women Children and Youth Division  
Senior Specialist Paediatrician, Royal Darwin Hospital

**Professor Gary Robinson**

Director, Centre for Child Development and Education  
Menzies School of Health Research



## ***Advisor to the Committee***

### **Professor Jeremy Oats**

Chair, Victorian Consultative Council on Obstetric and Paediatric Mortality and Morbidity  
Medical Co-Director Northern Territory Integrated Maternity Services  
Professorial Fellow Department of Obstetrics and Gynaecology, University of Melbourne.

## ***Committee secretariat***

Ms Marg Sullivan, Executive Assistant, Office of the Children's Commissioner  
Ms Helena Gibbons, Consultant

## Glossary of terms

<b>ABS</b>	Australian Bureau of Statistics
<b>AGD</b>	Department of the Attorney-General and Justice, NT
<b>AIFS</b>	Australian Institute of Family Studies
<b>ANZCDR&amp;PG</b>	Australia and New Zealand Child Death Review and Prevention Group
<b>ASGC</b>	ABS Australian Standard Geographical Classification
<b>BDM</b>	Northern Territory Office of the Registrar of Births, Deaths and Marriages
<b>CDR</b>	Child Deaths Register
<b>CDRPC</b>	Child Deaths Review and Prevention Committee
<b>COD</b>	Cause of Death
<b>Committee</b>	Child Deaths Review and Prevention Committee
<b>Coroner</b>	Office of the NT Coroner
<b>DCF</b>	Department of Children and Families, NT
<b>DoH</b>	Department of Health, NT
<b>ICD-10 AM</b>	International Statistical Classification of Diseases and Related Health Problems, Tenth Revision – Australian Modified
<b>LGA</b>	Northern Territory Local Government Areas
<b>Menzies</b>	Menzies School of Health Research
<b>NCIS</b>	National Coronial Information System
<b>NSW</b>	New South Wales
<b>NT</b>	Northern Territory
<b>Qld</b>	Queensland
<b>Register</b>	Child Deaths Register
<b>SUDI</b>	Sudden Unexpected Death in Infancy
<b>SIDS</b>	Sudden Infant Death Syndrome
<b>the Act</b>	<i>Care and Protection of Children Act 2007</i>
<b>UCOD</b>	Underlying Cause of Death
<b>WHO</b>	World Health Organisation

## Definitions

### Aboriginal

The following definition is provided for the term Aboriginal in section 13 of the Act:

Aboriginal means: (a) a descendant of the Aboriginal peoples of Australia; or (b) a descendant of the Indigenous inhabitants of the Torres Strait Islands.

Throughout this report the term Aboriginal will be used for people of either Aboriginal or Torres Strait Islander descent except where specific reference is being made to publications that use other terminology, for example, the ABS which often uses the term Indigenous.

### Cause of death (COD)

All those diseases, morbid conditions, or injuries which either resulted in or contributed to death and the circumstances of the accident or violence which produced such injuries.<sup>1</sup>

### Child

Section 13 of the Act defines child as (a) a person aged seventeen years and under; or (b) a person apparently less than 18 years of age if age cannot be proved.

### Child death

Section 208 of the Act defines child death as (a) the death of a child who usually resided in the Territory (whether the death occurred in the Territory or not); or (b) a stillbirth as defined in the *Births, Deaths and Marriages Registration Act* that occurred in the Territory.

### Greater Darwin

Greater Darwin incorporates the City of Darwin, the City of Palmerston and the Litchfield Shire.

### Congenital malformations

Congenital malformations, including deformities and chromosomal abnormalities, are physical and mental conditions present at birth that are either hereditary or caused by environmental factors.

### Infancy

The infancy period extends from birth to 12 months of age. An infant death is the death of a live born child under 1 year of age.<sup>2</sup>

### Neonatal

The neonatal period extends from birth to 28 days of age. A neonatal death is the death of a live born baby within 28 days of birth.<sup>3</sup>

---

<sup>1</sup> World Health Organisation (2008), *ICD-10 International Statistical Classification of Diseases and Related Health Problems, 10<sup>th</sup> Revision, Volume 2 Instruction Manual*, 33-34.

<sup>2</sup> Abeywardana, S. & Sullivan, E.A. (2008). *Congenital anomalies in Australia 2002–2003. Birth anomalies series no. 3. Cat. no. PER 41. Sydney: Australian Institute of Health and Welfare National Perinatal Statistics Unit.*

<sup>3</sup> Laws, P.J. & Hilder, L. (2008). *Australia's mothers and babies 2006. Perinatal statistics series no. 22. Cat. no. PER 46. Sydney: Australian Institute of Health and Welfare National Perinatal Statistics Unit.*

## **Perinatal**

The perinatal period extends from 20 weeks gestation to 28 days following birth. A perinatal death is a fetal death (of at least 20 weeks gestation or at least 400 grams birthweight<sup>4</sup>) or a neonatal death (of a live born baby within 28 days from birth).

## **Post-neonatal**

The post-neonatal period is the period from 28 days to 1 year of age.

## **Rest of the NT**

Rest of the NT incorporates those areas outside the City of Darwin, the City of Palmerston and the Litchfield Shire.

## **Stillbirth (fetal death)**

In accordance with section 4 of the *Births Deaths and Marriages Registration Act*, a stillbirth means the birth of a still-born child, which is defined as a child of at least 20 weeks gestation or with a body mass of at least 400 grams at birth that exhibits no sign of respiration or heartbeat, or other sign of life, after birth.<sup>5</sup>

## **Sudden unexpected death in infancy (SUDI)**

SUDI (also described as Sudden Unexpected Infant Death, SUID), is a term used for all unexpected infant deaths, whether the explanation is immediate, determinable after a thorough examination, or remains unknown. At one point all unexplained SUDI deaths were labelled as Sudden Infant Death Syndrome, SIDS.

## **Underlying cause of death (UCOD)**

(a) the disease or injury which initiated the train of morbid events leading directly to death; or  
(b) the circumstances of the accident or violence, which produced the fatal injury (WHO).<sup>6</sup>

In Australia, the perinatal period commences at the 20<sup>th</sup> completed week of gestation and ends 28 completed days after birth. Perinatal deaths are a combination of stillbirths and neonatal deaths (as defined in the NT *Births, Deaths and Marriages Registration Act*).

---

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

<sup>6</sup> op cit.

## Foreword

This is the eighth Annual Report of the Northern Territory Child Deaths Review and Prevention Committee. The report is based on information provided to the Committee on the 38 deaths of children whose usual place of residence is the NT and of 35 stillbirths that occurred during the calendar year 2015. The report also provides summary information on 242 child and infant deaths that occurred in the five-year period 2011-15.

The death of any child is a tragedy and the members of the Committee extend their sincere condolences to the family, friends and communities of the children and young people cited in this report. In highlighting the circumstances relating to these deaths and by conducting research based on identified patterns and trends, the Committee's objective is to effect change that will prevent and reduce child deaths, accidents and diseases in the NT.

In addition to providing an analysis of the child and infant deaths that occurred during 2015 and the preceding four years, this report provides information on injury related child deaths released by the NT Child Deaths Review and Prevention Committee and tabled in Parliament.



Ms Colleen Gwynne  
Convenor  
NT Child Deaths Review and Prevention Committee  
31 October 2016

## Executive summary

### Background and overview of the Committee activities

The Committee is established pursuant to Part 3.3 of the *Care and Protection of Children Act* (the Act). The purpose of the child deaths review process undertaken by the Committee is to assist in the prevention and reduction of child deaths in the Northern Territory. It achieves this through:

- (a) maintaining a database on child deaths;
- (b) conducting research about child deaths, diseases and accidents involving children; and
- (c) contributing to the development of appropriate policy to deal with such deaths, diseases and accidents.

The Committee's specific functions are set out in the Act (see Appendix 1).

Some of the activities that the Committee has undertaken this reporting year include:

- (d) action on issues arising from the on-going quality assurance of the Child Deaths Register (the Register);
- (e) the finalisation of one literature review.

### Issues relating to child deaths data in the NT

Chapter 2 examines contextual factors and sources of data for the work of the Committee. This includes data obtained from national bodies such as the Australian Bureau of Statistics (ABS) and the National Coroners Information System (NCIS), which provide data on child deaths and demographics.

The primary source of data on child deaths is obtained from the Office of the Registrar of Births, Deaths and Marriages (BDM) which also provides data on stillbirths in the NT. Other sources such as medical records from the Department of Health (DoH) and documents held by the Office of the NT Coroner provide additional detail relating to individual deaths.

Other issues include the following:

- Although this is the Committee's 2015-16 Annual Report, the focus is on child deaths for the calendar year 2015 with a further overview of calendar years 2011-15.
- Presentation of data is based on the actual year of death rather than the year of registration of the death which is used by some other agencies (e.g. ABS);
- ICD-10-AM codes are used for classifying the cause of death in line with the practice of most other similar committees within Australia;
- For all child deaths that involved a review by the NT Coroner, the delivery of coronial findings follows a thorough coronial investigation to determine a cause of death before it is reported to BDM. This may take months, possibly years to complete these investigations, hence the delay in reporting these deaths;
- The need to obtain additional data beyond that supplied by BDM;
- The need to canvas other jurisdictions including BDM registries in other states and territories, for information on the deaths of NT children that occurred interstate.

## Child deaths in the NT, 2011-15

Chapters 3 and 4 provide data on the deaths of children whose usual place of residence is the NT. The data for 2015 is current but it is important to view data aggregated over five years when determining trends or interpreting changes.

### 2015 snapshot

- **38** deaths of children whose usual place of residence is in the NT,
  - 20** (52.6%) were male; **18** (47.4%) were female;
  - 29** (76.3%) were Aboriginal; **9** (23.7%) were non-Aboriginal
  - 25** (65.8%) were from outside the Greater Darwin area.
- **23** (60%) of the 38 were infant deaths; **3** (8%) were 1 to 4 year olds, **1** (3%) was a 5 to 9 year old, **6** (16%) were 10 to 14 year olds and **5** (13%) were 15 to 17 year olds.
- Of the **23** infant deaths, **12** (51.2%) were male and **11** (47.8%) were female; **17** (73.9%) were Aboriginal and **6** (26.1%) were non-Aboriginal.
- Of the **23** infant deaths, **15** (65.2%) were neonatal (under 1 month old) deaths, of which **11** (73.3%) were Aboriginal and **4** (26.7%) were non-Aboriginal.
- In addition, **35** stillbirths were registered as having occurred in the NT: **16** (45.7%) were male and **19** (52.3%) female; **15** (42.9%) were Aboriginal and **20** (57.1%), non-Aboriginal.
- There were **50** perinatal (35 stillbirths + 15 neonatal) deaths registered in the NT; **26** (52%) were Aboriginal and **24** (48%) were non-Aboriginal.

### 2011-15 aggregate snapshot

- **242** deaths of children who were usually resident in the NT:
  - 128** (52.9%) were male and **114** (47.1%) were female;
  - 180** (74.4%) were Aboriginal and **62** (25.6%) were non-Aboriginal
  - 171** (71%) were from outside the urban Greater Darwin area.
- **129** (53.3%) were infants; **31** (12.8%) were 1 to 4 years old, **13** (5.4%) were 5 to 9 years old, **30** (12.4%) were 10 to 14 years old and **39** (16.1%) were 15 to 17 years old.
- Of the **129** infant deaths, **69** (53.5%) were male and **60** (46.5%) were female; **94** (72.9%) were Aboriginal and **35** (37.1%) were non-Aboriginal.
- Of the **129** infant deaths, **86** were neonates, under one month of age of which **62** (72.1%) were Aboriginal and **24** (27.9%), non-Aboriginal.
- In addition, **162** stillbirths were registered in the NT: **87** (53.7%) were male and **75** (46.3%) female. **81** (50%) were Aboriginal and **81** (50%) were non-Aboriginal.
- There were therefore **248** perinatal (162 stillbirths + 86 neonatal) deaths, registered in the NT, **143** (57.7%) were Aboriginal and **105** (42.3%) were non-Aboriginal.
- The child death rate for the NT was **76.5** per 100,000 children, comprising rates of **138** and **33** per 100,000 for Aboriginal and non-Aboriginal children respectively. This gives a rate ratio of **4.18**; the death rate of NT Aboriginal children compared with NT non-Aboriginal children.
- The infant death rate for the NT was **683.95** deaths per 100,000 infants comprising rates of **1,479** and **284** per 100,000 infants for Aboriginal and non-Aboriginals infants respectively, a rate ratio of **5.2**.

- A breakdown of child deaths by usual residence shows that the number of child deaths in the Rest of the NT (70.7%) is disproportionately higher than deaths in Greater Darwin (29.3%) even though the population is similar in these two areas.
- Of the **242** child deaths, **62** (25.6%) were from families known to the Department of Children and Families (DCF).
- Of the **227** child deaths for which detailed information is available, the most common causes of death (in **72** or 31.7% of deaths) occurred within the 'external causes of morbidity and mortality' category; these deaths are considered to be preventable. The second most common cause of death (**71** or 31.3% of deaths) were those classified in the 'certain conditions originating in the perinatal period' category.



## CHAPTER 1 - Introduction

### Introduction

This is the Child Deaths Review and Prevention Committee's (CDRPC or Committee) eighth annual report. It provides information related to the deaths of 38 children under the age of 18 years whose usual place of residence is in the Northern Territory (NT) and 35 stillbirths registered in 2015. The report also includes information on child deaths and stillbirths from 2011 to 2015 for comparative and historical purposes.

### Functions of the Committee

The Committee's functions are:

- to establish and maintain the Child Deaths Register;
- to conduct or sponsor research into child deaths, diseases and accidents involving children and other related matters (such as childhood morbidity and mortality), whether alone or with others;
- to make recommendations on the research into child deaths, diseases and accidents;
- to monitor the implementation of the recommendations;
- to raise public awareness in relation to:
  - (i) the death rates of children;
  - (ii) the causes and nature of child deaths and diseases and accidents involving children;
  - (iii) the prevention or reduction of child deaths, diseases and accidents;
- to contribute to any national database on child deaths in Australia;
- to enter into an arrangement for sharing of information with anyone in Australia who has functions similar to those of this Committee;
- to perform any other functions as directed by the Minister in relation to the object of this legislative provision.

At the end of each financial year the Committee is required to prepare a report about the operation of the Committee during that financial year. Should the Committee conduct or sponsor research about issues identified as being relevant to child deaths in the NT, the resulting report must also be presented to the Minister. The Minister is required to table the Committee's Annual Report and research report/s in the Legislative Assembly.

The Committee is required by legislation to conduct at least three meetings a year. For the financial year 2015-16 the Committee held three meetings and has therefore fulfilled this statutory requirement.

### The Child Deaths Register

Under the *Care and Protection of Children Act*, there is a statutory obligation for the CDRPC to establish and maintain a Child Deaths Register (the Register). The Register contains information relating to the deaths of children and young people under the age of 18 years whose usual place of residence is the NT. Section 208 of the Act defines a child death as:

- a) the death of a child who usually resided in the Territory (whether the death occurred in the Territory or not); or
- b) a stillbirth as defined in the *Births, Deaths and Marriages Registration Act* that occurred in the Territory.

The Register contains information related to date of birth, date of death, date of registration, age, gender, Aboriginal and Torres Strait Islander status, place of birth, place of death, usual

place of residence and family details. Information is also gathered in relation to the underlying causes of deaths and external factors which may have contributed to the death. Information in the Register is predominantly sourced from data held by a number of NT government agencies, including the Department of the Attorney-General and Justice (AGD), Registry of Births Deaths and Marriages (BDM), Office of the NT Coroner, Department of Health (DoH) and Department of Children and Families (DCF). Information is also provided by government funded health clinics and private medical centres.

Information relating to the deaths interstate of children whose usual place of residence is the NT, is sourced either from child death registers of other jurisdictions or the respective state or territory BDMs. Due to a number of legislative impediments preventing some jurisdictions sharing identifiable information relating to child deaths, including children whose usual place of residence is in the Northern Territory, it is not possible to report on these deaths.

## **Activities of the Committee**

### **Research**

A function of the CDRPC is to conduct or sponsor research aimed at preventing and reducing child deaths in the NT.

### **Literature Review**

*Prevention of unintentional injury and death in childhood: A selective review of evidence on unintentional injury, parental supervision and prevention of deaths among Northern Territory children.*

A literature review was carried out on injury related child deaths by the NT Child Deaths Review and Prevention Committee and deemed in Parliament on 27 June 2016. Current rates of injury among the NT's children are a matter of great concern.

Recent data show that the rate of injury deaths amongst children in the NT between 2001 and 2013 was five times the rate for the rest of Australia over that period. Moreover, child injury deaths have recently increased in the NT in contrast to declining rates across the rest of the country.

Rates are highest for Aboriginal children and are significantly higher in remote regions than in urban centres. The NT is the only jurisdiction in Australia where the rate of child injury deaths is greater for girls than boys. Hospitalisations and deaths caused by injury range from assault – in which the NT has the highest rates of hospitalisation of any Australian jurisdiction – as well as drownings, motor vehicle related injuries, poisoning, burns, play-related deaths and many other causes.

The focus of the report is on the sensitive issue of parental supervision in relation to childhood injury deaths. Factors attributed to inadequate supervision of children need to be better understood in order to target strategies for prevention through monitoring and education. Current services and policies do not adequately address childhood injury as a consequence of poor parental or family supervision. Evidence suggests that delivery of injury prevention counselling through primary health care is inadequate and unsystematic and can be improved. Safety practices are often poorly understood and access to and use of safety equipment and resources is low in many communities.

According to Professor Gary Robinson of the Menzies School of Health Research, the lead author of the report, childhood injury and deaths caused by injury have been a hidden problem in the NT that has not received the attention it deserves.

The report recommends a strengthening of injury prevention counselling and education in primary health care, and targeted education among high risk groups relating to specific risks such as use of car seat restraints along with community education to reduce the incidence of childhood injury.

### **National representation and engagement**

The CDRPC has representation on the Australian and New Zealand Child Deaths Review and Prevention Group (ANZCDR&PG), which comprises representatives from all the Australian jurisdictions and New Zealand.

The aim of the ANZCDR&PG is to identify, address and potentially decrease the number of infant and children deaths by the sharing of information across jurisdictions and working collaboratively to improve national and international reporting.

## CHAPTER 2 - Issues relating to child death data in the Northern Territory

### Sources of data on child deaths

#### Australian Bureau of Statistics

The Australian Bureau of Statistics (ABS) publishes a series of reports and tables on deaths that occur in all Australian jurisdictions.

There are a number of other limitations with the ABS data, which include: the time lag between the recorded date of death with the NT BDM Registry and the publication of the ABS reports, only the medical causes of death are recorded and not the related risks such as the social factors that may have contributed to the deaths. The ABS child death tables do not provide data for each individual year of age so 15, 16 and 17 year olds, for example, are included in the 15-19 age grouping.

#### Registry of Births, Deaths and Marriages

The Department of the Attorney-General and Justice's (AGD) Registry of Births, Deaths and Marriages provides details of all child deaths occurring in the NT such as name, residence, date of birth, age, gender, Aboriginal or Torres Strait Islander status, date and place of death and where available the cause of death.

The Registry of Births, Deaths and Marriages also provides information relating to stillbirths in the NT including date and place of birth, gestation age and gestation weight.

#### The National Coroner's Information System

The Committee obtains information such as Coronial Findings, Autopsy Reports, Toxicology Reports and Police Reports related to reportable deaths in the NT from the National Coroner's Information System (NCIS).

#### Office of the NT Coroner

The Office of the NT Coroner provides information to NCIS related to deaths of children deemed to be reportable under provisions contained in the *Coroner's Act*.

A reportable death is defined as a death that:

- appears to have been unexpected, unnatural or violent;
- appears to have resulted, directly or indirectly from an accident or injury;
- occurred during an anaesthetic or as a result of an anaesthetic and is not due to natural causes;
- occurred when a person was held in, or immediately before death, was held in care or custody;
- was caused or contributed to by injuries sustained while the person was held in custody;
- is of a person whose identity is unknown;
- and in certain other circumstances.

The death of a child that is considered to have occurred whilst being in care or custody includes those circumstances:

- where the child or young person is deemed to be 'in care' in accordance with provisions contained in the *Care and Protection of Children Act*; or
- where the child or young person is an involuntary patient under the *Mental Health and Related Services Act*, whether in hospital or temporarily removed from hospital; or
- if the young person's death occurs in a detention centre approved under the *Youth Justice Act*.

### **Other sources of data**

Doctor issued death certificates and other relevant information required by the Committee is provided by the Department of Health (DoH) and other health service providers.

### **Confidentiality of information**

The *Care and Protection of Children Act* contains provisions that help ensure the confidentiality of information obtained by the Committee in the exercising of its statutory responsibilities. It is an offence under the Act for a person to disclose, or use information obtained as part of the performance of their functions.

The Act allows for the disclosure of information for the purposes of research; as part of an inquiry or investigation conducted by Police or a Coroner; to a court or tribunal, or where otherwise required or authorised by law.

### **Coding cause of death**

The Committee uses the International Statistical Classification of Diseases and Related Health Problems, (ICD-10 which was developed by the World Health Organisation, WHO) to code the underlying and multiple causes of death. The ICD-10 is designed to promote international compatibility in the collection, processing, classification and presentation of morbidity and mortality statistics. ICD-10-AM (Australian Modified) 9<sup>th</sup> Edition has been modified to ensure that the classification is current and appropriate for Australian clinical practice whilst ensuring that international compatibility is maintained.

### **Calendar year reporting**

The Committee has elected to report on child deaths based on the calendar year as opposed to the financial year. The majority of other Australian jurisdictions use the same reporting period.

## CHAPTER 3 - Child deaths in the Northern Territory

This chapter provides statistical data related to child deaths in the calendar year 2015 and for the period 2011-15. The data includes demographic details relating to age, gender, Aboriginal status, and underlying cause of death and whether the child and/or a sibling is known to the child protection system. Updated data is used in the present report so there may be some variations in the data reported for previous years.

### Child deaths rates

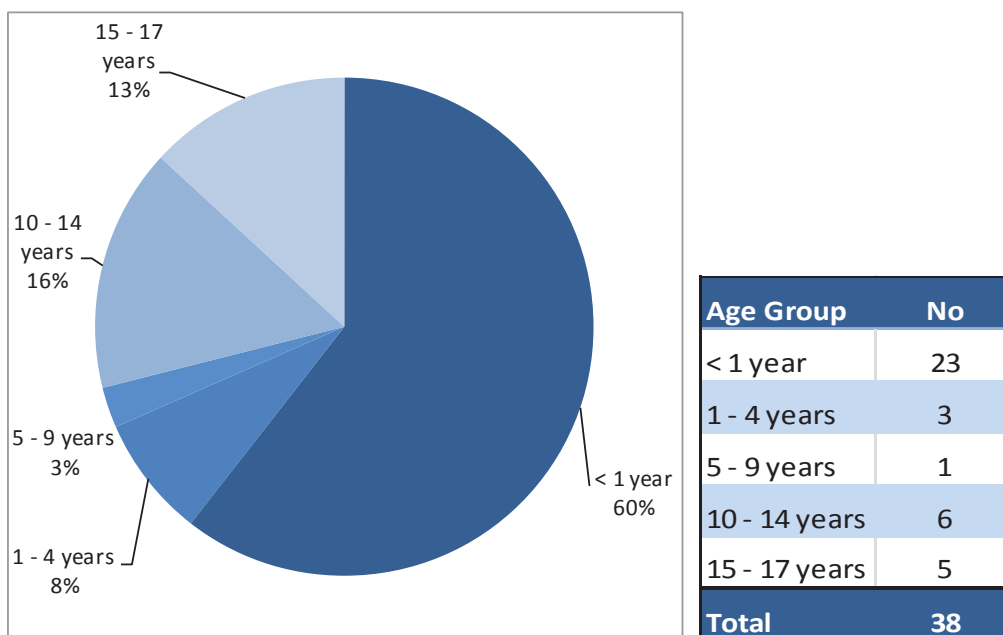
A child death rate is a measure that adjusts the number of deaths for differences in the population size. Child death rates are reported as the number of deaths per 100,000 population of children, with the exception of the number of deaths in infancy which are reported per 1000 live births. Both child death rates and infant death rates are standard units of measurement. Rates within age groups are reported, as age-group specific rates (number of deaths per 100,000 populations).

### Child deaths in 2015

#### Child deaths by age group, NT, 2015

There were 38 child deaths registered in 2015. The highest number of deaths (23 or 60%) occurred during infancy, with 3 (8%) deaths in the 1 to 4 year age group, 1 (3%) in the 5 to 9 years age group, 6 (16%) 10 to 14 years and 5 (13%) in the 15 to 17 years age group.

**Figure 1: Number of child deaths by age group, NT, 2015**



**Child deaths by age group and gender, NT, 2015**

Females accounted for 18 (47.4%) of the child deaths with 20 (52.6%) being males. There was no significant difference between male (20) and female (18) deaths in any age group.

**Table 1: Number of child deaths by age group and gender, NT, 2015**

Age Group	Female	Male	Total
< 1 year	11	12	23
1 - 4 years	1	2	3
5 - 9 years		1	1
10 - 14 years	3	3	6
15 - 17 years	3	2	5
<b>Total</b>	<b>18</b>	<b>20</b>	<b>38</b>

Source: NT Child Deaths Register

## Child deaths, 2011-15

Between 1 January 2011 and 31 December 2015, a total of 242 deaths of children normally resident in the NT were registered in the NT.

### Child deaths by year, gender and age group, NT, 2011-15

The majority of child deaths over the five year period occurred during infancy (129 deaths or 53.3% of all child deaths). The age group with the second largest number of deaths was the 15-17 years age group (39 or 16.1%), while the 5-9 years age group had the fewest number of deaths (13, 5.4%).

Males made up 51.8% of all children in the NT population (ABS 2015), and accounted for similar proportion 52.9% of all child deaths over these years.

**Table 2: Child deaths by year, gender and age group, NT, 2011-15**

Year and Gender		< 1 year	1 - 4 years	5 - 9 years	10 - 14 years	15 - 17 years
2011	Female	11	5	2	2	3
	Male	26	3	2	3	5
	<b>Subtotal</b>	<b>37</b>	<b>8</b>	<b>4</b>	<b>5</b>	<b>8</b>
2012	Female	13	2	3	2	2
	Male	10	4	1	3	6
	<b>Subtotal</b>	<b>23</b>	<b>6</b>	<b>4</b>	<b>5</b>	<b>8</b>
2013	Female	17	3		4	5
	Male	11	4	1	2	5
	<b>Subtotal</b>	<b>28</b>	<b>7</b>	<b>1</b>	<b>6</b>	<b>10</b>
2014	Female	8	4	1	4	5
	Male	10	3	2	4	3
	<b>Subtotal</b>	<b>18</b>	<b>7</b>	<b>3</b>	<b>8</b>	<b>8</b>
2015	Female	11	1		3	3
	Male	12	2	1	3	2
	<b>Subtotal</b>	<b>23</b>	<b>3</b>	<b>1</b>	<b>6</b>	<b>5</b>
Total	Female	60	15	6	15	18
	Male	69	16	7	15	21
	<b>Total</b>	<b>129</b>	<b>31</b>	<b>13</b>	<b>30</b>	<b>39</b>

Source: NT Child Deaths Register,

Totals may differ from last year's report due to late registrations and interstate deaths



### Child deaths by year, Aboriginal status and age group, NT, 2011-15

In all years, from 2011 to 2015, the number of deaths of Aboriginal children was substantially greater than the number for non-Aboriginal children. During this period there was a total of 180 deaths of Aboriginal children, or 74.4% of all child deaths, which is much greater than the proportion of Aboriginal children (41%) in the total NT population for these age groups. Twenty-nine (76.3%) of the child deaths were of Aboriginal children and nine (23.7%) were non-Aboriginal children.

**Table 3: Child deaths by year, Aboriginal status and age group, NT, 2011-15**

Year and Aboriginal Status		< 1 year	1 - 4 years	5 - 9 years	10 - 14 years	15 - 17 years	Total (%)
2011	Aboriginal	28	6	4	4	8	50 (80.6)
	Non-Aboriginal	9	2		1		12 (19.4)
	<b>Subtotal</b>	<b>37</b>	<b>8</b>	<b>4</b>	<b>5</b>	<b>8</b>	<b>62 (100)</b>
2012	Aboriginal	16	5	3	5	7	36 (78.3)
	Non-Aboriginal	7	1	1		1	10 (21.7)
	<b>Subtotal</b>	<b>23</b>	<b>6</b>	<b>4</b>	<b>5</b>	<b>8</b>	<b>46 (100)</b>
2013	Aboriginal	19	5	1	3	6	34 (65.4)
	Non-Aboriginal	9	2		3	4	18 (34.6)
	<b>Subtotal</b>	<b>28</b>	<b>7</b>	<b>1</b>	<b>6</b>	<b>10</b>	<b>52 (100)</b>
2014	Aboriginal	14	5	2	4	6	31 (70.4)
	Non-Aboriginal	4	2	1	4	2	13 (29.6)
	<b>Subtotal</b>	<b>18</b>	<b>7</b>	<b>3</b>	<b>8</b>	<b>8</b>	<b>44 (100)</b>
2015	Aboriginal	17	2	1	5	4	29 (76.3)
	Non-Aboriginal	6	1		1	1	9 (23.7)
	<b>Subtotal</b>	<b>23</b>	<b>3</b>	<b>1</b>	<b>6</b>	<b>5</b>	<b>38 (100)</b>
Total	Aboriginal	94	23	11	21	31	180 (74.4)
	Non-Aboriginal	35	8	2	9	8	62 (25.6)
	<b>Total</b>	<b>129</b>	<b>31</b>	<b>13</b>	<b>30</b>	<b>39</b>	<b>242 (100)</b>

Source: NT Child Deaths Register,

Totals may differ from last year's report due to late registrations and interstate deaths

## Child deaths by usual residence, age group, gender and Aboriginal status, NT, 2011-15

Usual residence refers to the child's usual place of residence as recorded in the BDM register and reported by the parents or next of kin. For the purposes of this report, usual residence has been classified as either Greater Darwin or the Rest of the NT.

In the five year period from 2011 to 2015, the majority of child deaths (171 or 70.7%) occurred among children living outside Greater Darwin region, even though the proportion of NT child population are similar between Greater Darwin and the rest of NT. This difference was driven by the larger number of deaths of Aboriginal children most of whom are living outside the Greater Darwin area.

**Table 4: Child deaths by usual residence, age group, gender and Aboriginal status, NT, 2011-15**

Age Group	Usual Residence	
	Greater Darwin No. (%)	Rest of NT No. (%)
< 1 year	39 (54.9)	90 (52.6)
1 - 4 years	11 (15.5)	20 (11.7)
5 - 9 years	5 (7)	8 (4.7)
10 - 14 years	6 (8.5)	24 (14)
15 - 17 years	10 (14.1)	29 (17)
<b>Total</b>	<b>71 (100)</b>	<b>171 (100)</b>
Aboriginal Status		
Aboriginal	28 (39.4)	152 (88.9)
Non-Aboriginal	43 (60.6)	19 (11.1)
<b>Total</b>	<b>71 (100)</b>	<b>171 (100)</b>
Death Rates		
Child Deaths	29.3%	70.7%
Child Population	51.5%	48.5%

Source: NT Child Deaths Register  
NT population aged less than 18 years old (ABS 3235.0, 2015)

## Child death rates by year, NT, 2011-15

In this report, population numbers for the denominator are based on ABS Estimated Resident Population data for single years – for children aged 0-17 years in the NT (ABS Cat. 3101.0, 2014). Given the relatively small number of deaths each year in the NT, aggregating data across five years provides a more reliable indicator of the underlying rates.

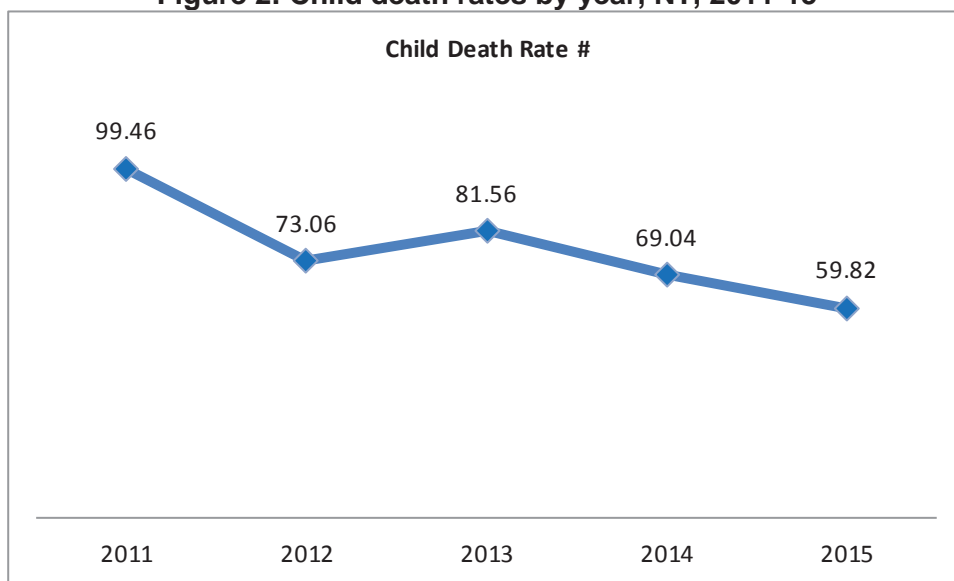
For the five year period from 2011 to 2015, there were a total of 242 deaths of NT children. The annualised death rate for this period was 76.5 deaths per 100,000 children. The annual rates are presented in Table 5 and Figure 2. There is significant year to year variation in the number of deaths and associated death rates. While there is the suggestion that annual NT death rates are falling, as presented in Figure 2, there may be additional deaths in recent years that have not yet been reported

**Table 5: Child death rates by year, NT, 2011-15**

Year	Number of Deaths	Rate #
2011	62	99.5
2012	46	73.1
2013	52	81.6
2014	44	69.0
2015	38	59.8
<b>Total</b>	<b>242</b>	<b>76.5</b>

Source: NT Child Deaths Register and ABS 3101, June 2015  
# per 100,000 children

**Figure 2: Child death rates by year, NT, 2011-15**



Source: NT Child Deaths Register, and ABS 3101, June 2015  
# per 100,000 children

### Child death rates by age group, NT, 2011-15

Annualised age group specific death rates for the five year period are shown in Table 9. The infant death rate of 658.8 deaths per 100,000 infants reflects the large number of deaths, most in the neonatal period, that occur in this age group and were the majority of all NT child deaths. The second highest death rate is for the 15 to 17 years age group (80.6 deaths per 100,000 population) and lowest death rate is among those aged 5 to 9 years (14.6 deaths per 100,000 population).

**Table 6: Child death rates by age group, NT, 2011-15**

Age Group	Number of Deaths	Rate
< 1 year	129	658.8
1 - 4 years	31	41.4
5 - 9 years	13	14.6
10 - 14 years	30	35.6
15 - 17 years	39	80.6
<b>Total</b>	<b>242</b>	<b>76.5</b>

Source: NT Child Deaths Register and ABS Cat 3101, June 2015  
# per 100,000 children

### Child death rates by age group and gender, NT, 2011-15

Of the total of 242 deaths, 128 (52.9%) were male and 114 (47.1%) were female. The respective rates were 78.1 for males and 74.8 for females for an overall rate of 76.4 per 100,000 children. The annualised infant death rate across the 5 year period was 690.9 per 100,000 infants (6.9 per 1,000) for males and 625.3 (6.2 per 1,000) for females. Rates were higher for males in most age groups.

**Table 7: Child death rates by age group and gender, NT, 2011-15**

Age Group	Male		Female	
	Number of Deaths	Rate #	Number of Deaths	Rate #
< 1 year	69	690.9	60	625.3
1 - 4 years	16	41.4	15	41.3
5 - 9 years	7	15.3	6	13.9
10 - 14 years	15	34.5	15	36.7
15 - 17 years	21	81.1	18	80.0
<b>Total</b>	<b>128</b>	<b>78.1</b>	<b>114</b>	<b>74.8</b>

Source: NT Child Deaths Register and ABS Cat 3101, June 2015  
# per 100,000 children

Some totals may differ from last year's report due to late registration and interstate deaths.

## Infant deaths, 2011-15

### Infant deaths by gender and Aboriginal status, NT, 2011-15

There were 129 infant deaths between 2011 and 2015 in the NT, with a slight majority (53.5%) of the total being males. A substantial majority (72.9%) were Aboriginal children.

**Table 8: Infant deaths by gender and Aboriginal status, NT, 2011-15**

Aboriginal Status	Female	Male	Total
Aboriginal	37	57	94
Non-Aboriginal	23	12	35
<b>Total</b>	<b>60</b>	<b>69</b>	<b>129</b>
Percentage	46.50	53.50	100

Source: NT Child Deaths Register

### Perinatal deaths by type, Aboriginal status and year, NT, 2011-15

Compared to other child age groups there is a substantially greater risk of death in the perinatal period and the Committee specifically monitors this period. Perinatal deaths are the combination of stillbirths and neonatal deaths. Table 6 presents the number of stillbirths and neonatal deaths in the NT Aboriginal and non-Aboriginal populations over the past five years. There was a total of 162 (65.3%) stillbirths and 86 (34.6%) neonatal deaths. Of all stillbirths, there were equal numbers of Aboriginal and non-Aboriginal babies (both 81). The majority of stillborn babies (90 or 57.3%) were male. In the same period there was a total of 86 neonatal deaths. The majority of neonatal deaths (72.1%) were of Aboriginal children, and again a small majority were male babies (46 deaths or 53.5% of all neonatal deaths).

**Table 9: Perinatal deaths by type, Aboriginal status and year, NT, 2011-15**

Year	2011	2012	2013	2014	2015	Total (%)
<b>Aboriginal Status</b>						
<b>Type of Death</b>						
<b>Aboriginal</b>						
Neonatal	17	7	15	12	11	62.0
StillBirth	15	13	27	11	15	81.0
<b>Subtotal</b>	<b>32</b>	<b>20</b>	<b>42</b>	<b>23</b>	<b>26</b>	<b>(57.7)</b>
<b>Non-Aboriginal</b>						
Neonatal	7	4	5	4	4	24.0
StillBirth	13	13	17	18	20	81.0
<b>Subtotal</b>	<b>20</b>	<b>17</b>	<b>22</b>	<b>22</b>	<b>24</b>	<b>(42.3)</b>
<b>Total</b>	<b>52</b>	<b>37</b>	<b>64</b>	<b>45</b>	<b>50</b>	<b>(100)</b>

Source: NT Child Deaths Register

Individual totals may differ from last year's report due to late registration or interstate deaths

### Post neonatal infancy by Aboriginal status and year, NT, 2011-15

Table 10 presents post-neonatal infant deaths over the recent five year period by Aboriginal status. Of the total number of deaths in this age group the majority were of Aboriginal children ( 72.7%) which is substantially greater than the proportion of Aboriginal children in this age group (approximately 40%) in the total NT population.

**Table 10: Post neonatal infancy by Aboriginal status and year, NT, 2011-15**

Year	2011	2012	2013	2014	2015	Total
<b>Post Neonatal</b>						
Aboriginal	11	9	4	2	6	32
Non-Aboriginal	3	3	4		2	12
<b>Total</b>	<b>14</b>	<b>12</b>	<b>8</b>	<b>2</b>	<b>8</b>	<b>44</b>

Source: NT Child Deaths Register

## **Deaths of children with a family involvement in child protection services, 2011-15**

Children involved with the child protection system are considered to be a particularly vulnerable subgroup of the population. Given that the risk is often associated with families, it is prudent that child death committees consider the 'child protection' history of children who have died as well as that of their siblings, as an indicator of vulnerability.

A child is considered to be 'known' to the child protection system if an 'action' has been taken under Chapter 2 of the *Care and Protection of Children Act* to safeguard the wellbeing of the child. This 'action' by DCF can involve; receiving a child abuse notification, the assessing of child abuse notifications, child protection investigations, the undertaking of protective assessments, the provision of family support services, the taking out of statutory child protection orders, or the placement of a child into care.

The death of a child who is in the care of the Chief Executive Officer of DCF is required by law to be referred to the Office of the NT Coroner for him/her to make a finding on the child's death. In the present reporting period 2011-15 there have been 8 deaths of children who were on statutory orders. Of the total deaths, 2012 and 2014 each recorded 1 death and 2011, 2013, and 2015 each recorded 2 deaths. One death is yet to go to inquest, but of those deaths reviewed by the Coroner no adverse findings were related to the quality of care.

### Characteristics of child death by known to DCF status, NT, 2011-15

Many of the children known to child protection services originate from families characterised by dysfunction, including domestic and family violence, alcohol, drug and volatile substance abuse, mental illness, and involvement with the criminal justice system.

Of the 242 recorded child deaths in the NT between 1 January 2011 up to 31 December 2015, 62 (26%) children were 'known' and 180 (74%) were 'not known' to the Department of Children and Families (DCF) within the three years prior to their death.

Of the 62 child deaths known to DCF, 26 had siblings who at some time also had involvement in the child protection system.

Of the 62 deaths of children known to DCF, 21 (8.7%) were in the <1 year age group; 2.5% in the 1 to 4 age range; 2.1% in 5 to 9 age range; 5.8% in the 10 to 14 age range; and 6.6% in the 15 to 17 year age range. The age distribution of this group is very different to deaths of children not known to DCF, most of which occurred in infancy.

Of the deaths of children involved in the child protection system, 55 (22.7%) were Aboriginal and 7 (2.9%) were non-Aboriginal.

**Table 11: Characteristics of child death by known to DCF status, NT, 2011-15**

Child Characteristics	Known to DCF	Not known to DCF
	Number (%)	Number (%)
<b>Gender</b>		
Female	26 (41.9)	88 (48.9)
Male	36 (58.1)	92 (51.1)
<b>Total</b>	<b>62 (100)</b>	<b>180 (100)</b>
<b>Aboriginal Status</b>		
Aboriginal	55 (88.7)	125 (69.4)
Non-Aboriginal	7 (11.3)	55 (30.6)
<b>Total</b>	<b>62 (100)</b>	<b>180 (100)</b>
<b>Location</b>		
Greater Darwin	14 (22.6)	57 (31.7)
Rest of NT	48 (77.4)	123 (68.3)
<b>Total</b>	<b>62 (100)</b>	<b>180 (100)</b>
<b>Age Group</b>		
< 1 year	21 (33.9)	108 (60.0)
1 - 4 years	6 (9.7)	25 (13.9)
5 - 9 years	5 (8.1)	8 (4.4)
10 - 14 years	14 (22.6)	16 (8.9)
15 - 17 years	16 (25.8)	23 (12.8)
<b>Total</b>	<b>62 (100)</b>	<b>180 (100)</b>

Source: NT Child Deaths Register



## CHAPTER 4 - Underlying causes of child deaths in the Northern Territory, 2011-15

This section provides information about the UCOD for 227 of the 242 child deaths in this five year reporting period. At the time of this report, 1 death still requires cause of death coding and 14 are awaiting the outcome of coronial investigations. One of these deaths is from 2011, 1 from 2013, 2 from 2014 and the remaining 11 are from 2015.

### Underlying cause of death by ICD-10 chapter and year, NT, 2011-15

Tables 12 to 15 provide a comparative breakdown of the UCOD by reporting years, gender and Aboriginal status, usual residence and age groups.

Table 12 details the underlying cause of death for children, which has been classified using the standard international coding system at broad chapter level. Of the total of 242 deaths the greatest number of deaths were from external causes (78 deaths) and 'conditions originating in the perinatal period' (70 deaths).

**Table 12: Underlying cause of death by ICD-10 chapter and year, NT, 2011-15**

ICD-10-AM Chapter No.	Code prefix	ICD-10-AM Chapter Descriptions	2011 (%)	2012 (%)	2013 (%)	2014 (%)	2015 (%)	Total (%)
1	A and B	Certain infectious and parasitic diseases	2	-	-	1	-	3 (1.2)
2	C and D	Neoplasms	2	1	-	2	1	6 (2.5)
4	E	Endocrine, nutritional and metabolic diseases	-	-	1	-	1	2 (0.8)
6	G	Diseases of the nervous system	5	3	1	1	-	10 (4.1)
8	H	Diseases of the ear and mastoid process	-	1	-	-	-	1 (0.4)
9	I	Diseases of the circulatory system	1	-	-	-	-	1 (0.4)
10	J	Diseases of the respiratory system	2	2	3	-	-	7 (2.9)
16	P	Certain conditions originating in the perinatal period	19	8	17	16	10	70 (28.9)
17	Q	Congenital malformations, deformations and chromosomal abnormalities	4	3	4	1	6	18 (7.4)
18	R	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	11	11	3	4	2	31 (12.8)
20	U-Y	External causes of morbidity and mortality	15	17	22	17	7	78 (32.2)
	Not yet coded	Awaiting coronial findings and/or cause of death*	1	-	1	2	11	15 (6.2)
	Total	Total	<b>62</b>	<b>46</b>	<b>52</b>	<b>44</b>	<b>2</b>	<b>242 (100)</b>

Source: NT Child Deaths Register

Proportions may differ from last year's report due to updated numbers, late registrations etc.

\*includes 14 deaths which are still open coronial cases and 1 requiring ICD-10-AM coding

### Underlying cause of death by ICD-10 chapter, gender and Aboriginal status, NT, 2011-15

Table 13 presents the underlying cause of all deaths of children during the five year reporting period, by sex and by Indigenous status. For all sub-groups the leading coded causes of death were "deaths from external causes" and "certain conditions originating in the perinatal period".

Table 13 shows the UCOD by gender and Aboriginal status for the past five years. Overall, there were more male deaths (128) than female (114) and significantly more Aboriginal (180) than non-Aboriginal (62).

**Table 13: Underlying cause of death by ICD-10 chapter, gender and Aboriginal status, NT, 2011-15**

ICD-10-AM Chapter Description	Gender		Aboriginal Status	
	Female	Male	Aboriginal	Non-Aboriginal
Certain infectious and parasitic diseases	1 (0.9)	2 (1.6)	2 (1.1)	1 (1.6)
Neoplasms	5 (4.4)	1 (0.8)	3 (1.7)	3 (4.8)
Endocrine, nutritional and metabolic diseases	-	2 (1.6)	1 (0.6)	1 (1.6)
Diseases of the nervous system	3 (2.6)	7 (5.5)	7 (3.9)	3 (4.8)
Diseases of the ear and mastoid process	-	1 (0.8)	1 (0.6)	-
Diseases of the circulatory system	-	1 (0.8)	1 (0.6)	-
Diseases of the respiratory system	4 (3.5)	3 (2.3)	6 (3.3)	1 (1.6)
Certain conditions originating in the perinatal period	29 (25.4)	41 (32.0)	50 (27.8)	20 (32.3)
Congenital malformations, deformations and chromosomal abnormalities	9 (7.9)	9 (7.0)	13 (7.2)	5 (8.1)
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	17 (14.9)	14 (10.9)	22 (12.2)	9 (14.5)
External causes of morbidity and mortality	35 (30.7)	43 (33.6)	62 (34.4)	16 (25.8)
Awaiting coronial findings and/or cause of death*	11 (9.6)	4 (3.1)	12 (6.7)	3 (4.8)
<b>Total</b>	<b>114</b> <b>(100)</b>	<b>128</b> <b>(100)</b>	<b>180</b> <b>(100)</b>	<b>62</b> <b>(100)</b>

Source: NT Child Deaths Register

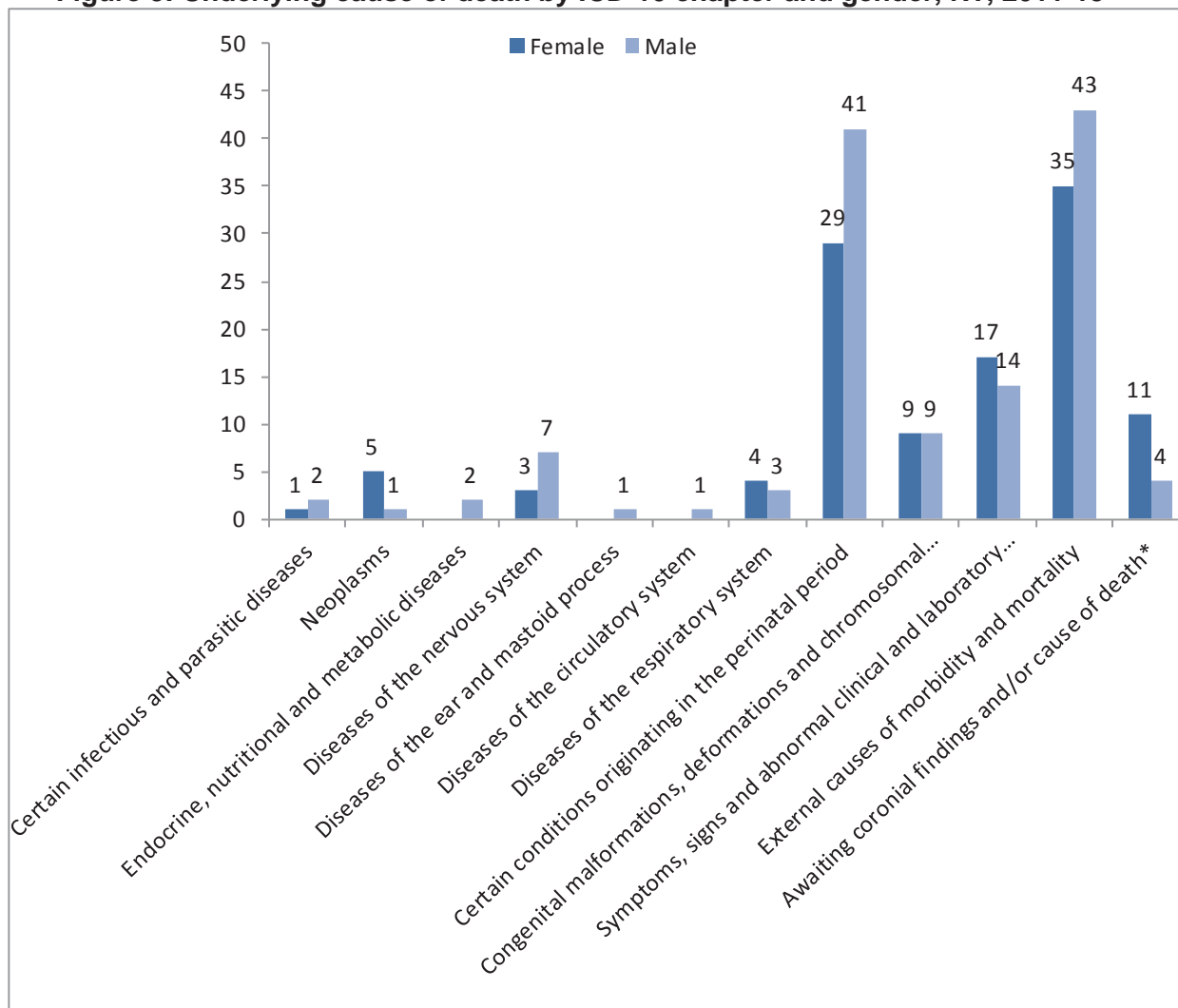
\*includes 14 deaths which are still open coronial cases and 1 requiring ICD-10-AM coding

Seventy-eight deaths were due to 'external causes' of which 62 deaths were of Aboriginal children and 16 deaths were of non-Aboriginal children. Of these, 25 Aboriginal and 4 non-Aboriginal deaths were the result of intentional self-harm, 16 Aboriginal and 2 non-Aboriginal children died from motor vehicle-related accidents; and 6 Aboriginal and 5 non-Aboriginal children died from drowning.

### Underlying cause of death by ICD-10 chapter and gender, and chapter and Aboriginal status, NT, 2011-15

Figures 3 and 4 provide a comparison by gender and Aboriginal status for each of the ICD-10-AM chapters. Males dominated in 7 of the 12 chapter categories, females dominated in 4 and both male and female were equally represented in 'Congenital malformations, deformations and chromosomal abnormalities'. Deaths of Aboriginal children were over-represented in 10 chapter categories apart from 'Endocrine, nutritional and metabolic diseases' and 'Neoplasms' where proportions of both Aboriginal and non-Aboriginals children were equally represented. With 24 cases still before the Coroner and one yet to be coded these comparisons could change.

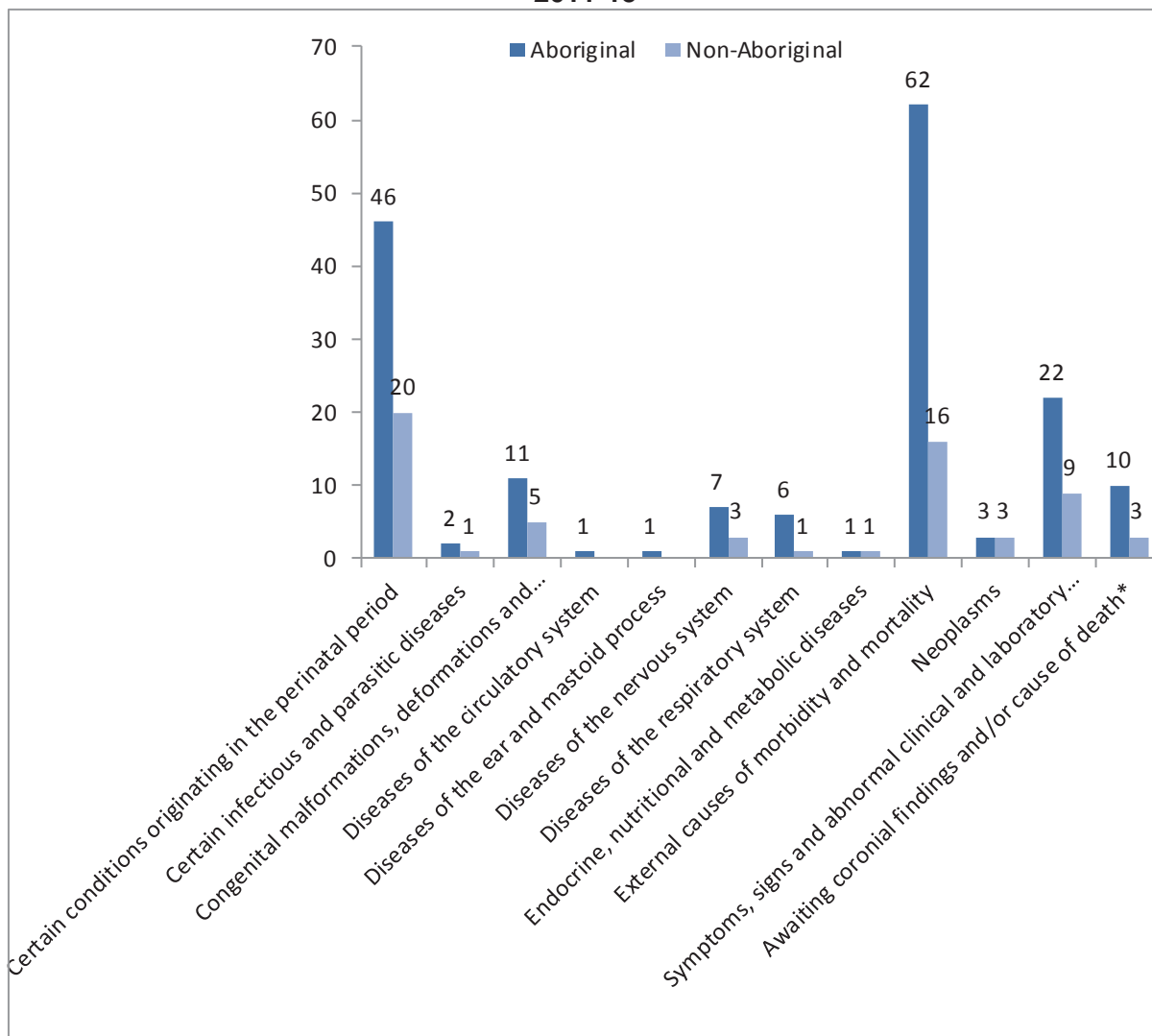
**Figure 3: Underlying cause of death by ICD-10 chapter and gender, NT, 2011-15**



Source: NT Child Deaths Register

\*includes 14 deaths which are still open coronial cases and 1 requiring ICD-10-AM coding

**Figure 4: Underlying cause of death by ICD-10 chapter and Aboriginal status, NT, 2011-15**



Source: NT Child Deaths Register

\*includes 14 deaths which are still open coronial cases and 1 requiring ICD-10-AM coding

**Underlying cause of death by ICD-10 chapter and usual residence, NT, 2011-15**

Table 14 shows the UCOD by the usual residence of the deceased for the period 2011 - 2015 inclusive. Due to the small numbers of deaths, usual residence is categorised into the broader groupings of Greater Darwin area and the Rest of the NT to avoid the possibility of identifying individuals.

**Table 14: Underlying cause of death by ICD-10 chapter and usual residence, NT, 2011-15**

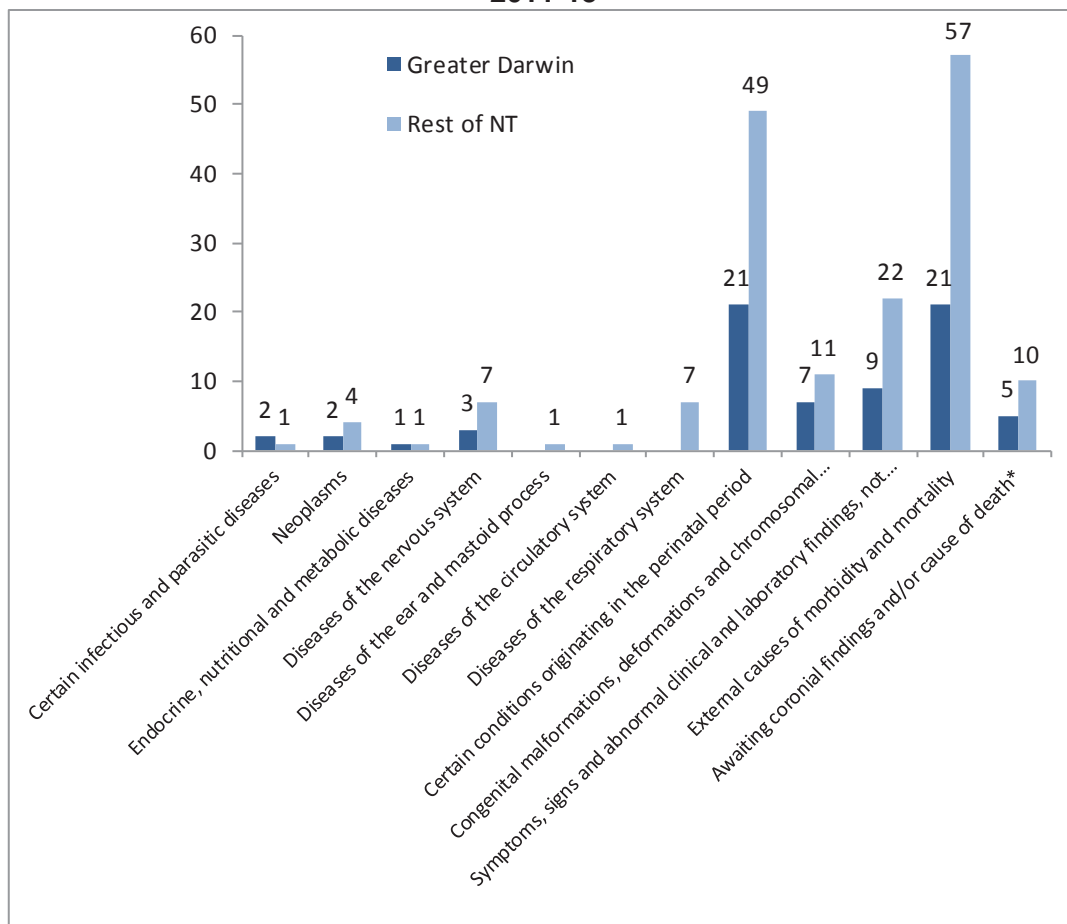
ICD-10-AM Chapter Description	Greater Darwin	Rest of NT
Certain infectious and parasitic diseases	2 (2.8)	1 (0.6)
Neoplasms	2 (2.8)	4 (2.3)
Endocrine, nutritional and metabolic diseases	1 (1.4)	1 (0.6)
Diseases of the nervous system	3 (4.2)	7 (4.1)
Diseases of the ear and mastoid process	-	1 (0.6)
Diseases of the circulatory system	-	1 (0.6)
Diseases of the respiratory system	-	7 (4.1)
Certain conditions originating in the perinatal period	21 (29.6)	49 (28.7)
Congenital malformations, deformations and chromosomal abnormalities	7 (9.9)	11 (6.4)
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	9 (12.7)	22 (12.9)
External causes of morbidity and mortality	21 (29.6)	57 (33.3)
Awaiting coronial findings and/or cause of death*	5 (7.0)	10 (5.8)
<b>Total</b>	<b>71 (100)</b>	<b>171 (100)</b>

Source: NT Child Deaths Register

\*includes 14 deaths which are still open coronial cases and 1 requiring ICD-10-AM coding

Of the 242 child deaths recorded, 171 (70.7%) were from the Rest of the NT. The distribution of the causes of death were generally similar between the two areas, with the apparent exception of "diseases of the respiratory system" for which there were no deaths in Greater Darwin but 7 deaths in the Rest of the NT. In both Greater Darwin and the Rest of the NT the leading causes of death were 'conditions originating in the perinatal period' (29.6% and 28.7% respectively) and external causes (29.6% and 33.3%). Figure 5 provides a graphic representation of the same information.

**Figure 5: Underlying cause of death by ICD-10 chapter and usual residence, NT, 2011-15**



Source: NT Child Deaths Register

\*includes 14 deaths which are still open coronial cases and 1 requiring ICD-10-AM coding

### Underlying cause of death by ICD-10 chapter and age group, NT, 2011-15

Table 15 presents coded causes of death distributed by age group. The largest number of deaths in children aged less than 1 year was from 'conditions originating in the perinatal period' (69 or 53.5%), followed by 'symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified' (29, 22.5%), which includes Sudden Infant Deaths (SIDS) and Sudden Unexpected Death in Infancy (SUDI). After the first year of life the leading cause of death for all age groups was external causes. The 'external causes' chapter includes accidents and injuries and contains many potentially preventable causes of death

**Table 15: Underlying cause of death by ICD-10 chapter and age group, NT, 2011-15**

ICD-10-AM Chapter Description	< 1 year	1 - 4 years	5 - 9 years	10 - 14 years	15 - 17 years
Certain infectious and parasitic diseases	1 (0.8)	1 (3.2)	-	-	1 (2.6)
Neoplasms	-	2 (6.5)	2 (15.4)	2 (6.7)	-
Endocrine, nutritional and metabolic diseases	-	2 (6.5)	-	-	-
Diseases of the nervous system	2 (1.6)	1 (3.2)	2 (15.4)	2 (6.7)	3 (7.7)
Diseases of the ear and mastoid process	-	1 (3.2)	-	-	-
Diseases of the circulatory system	-	1 (3.2)	-	-	-
Diseases of the respiratory system	5 (3.9)	1 (3.2)	-	-	1 (2.6)
Certain conditions originating in the perinatal period	69 (53.5)	1 (3.2)	-	-	-
Congenital malformations, deformations and chromosomal abnormalities	12 (9.3)	2 (6.5)	2 (15.4)	1 (3.3)	1 (2.6)
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	29 (22.5)	2 (6.5)	-	-	-
External causes of morbidity and mortality	2 (1.6)	17 (54.8)	7 (53.8)	22 (73.3)	30 (76.9)
Awaiting coronial findings and/or cause of death*	9 (7.0)	-	-	3 (10.0)	3 (7.7)
<b>Total</b>	<b>129 (100)</b>	<b>31 (100)</b>	<b>13 (100)</b>	<b>30 (100)</b>	<b>39 (100)</b>

Source: NT Child Deaths Register

Proportions may differ from last year's report due to updated numbers, late registrations etc.

\*includes 14 deaths which are still open coronial cases and 1 requiring ICD-10-AM coding

## References

Abeywardana, S. & Sullivan, E.A. (2008). *Congenital anomalies in Australia 2002–2003. Birth anomalies series no.3 Cat. no. PER 41*. Sydney: Australian Institute of Health and Welfare National Perinatal Statistics Unit.

Australian Bureau of Statistics (2014b). *Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026: Population Projection B. ABS Cat. No. 3238.0*, April 2014: Canberra.

Australian Bureau of Statistics (2014) *Australian Demographic Statistics, Dec 2013, 1971 to 2014, Cat No.3101.0*, June 2015: Canberra.

Australian Bureau of Statistics (2014). *Population by Age and Sex, Regions of Australia, Cat No. 3235.0*. Aug 2015: Canberra.

Laws, P.J. & Hilder, L. (2008) *Australia's mothers and babies 2006. Perinatal statistics series no.22. Cat. no. PER 46*. Sydney: Australian Institute of Health and Welfare National Perinatal Statistics Unit.

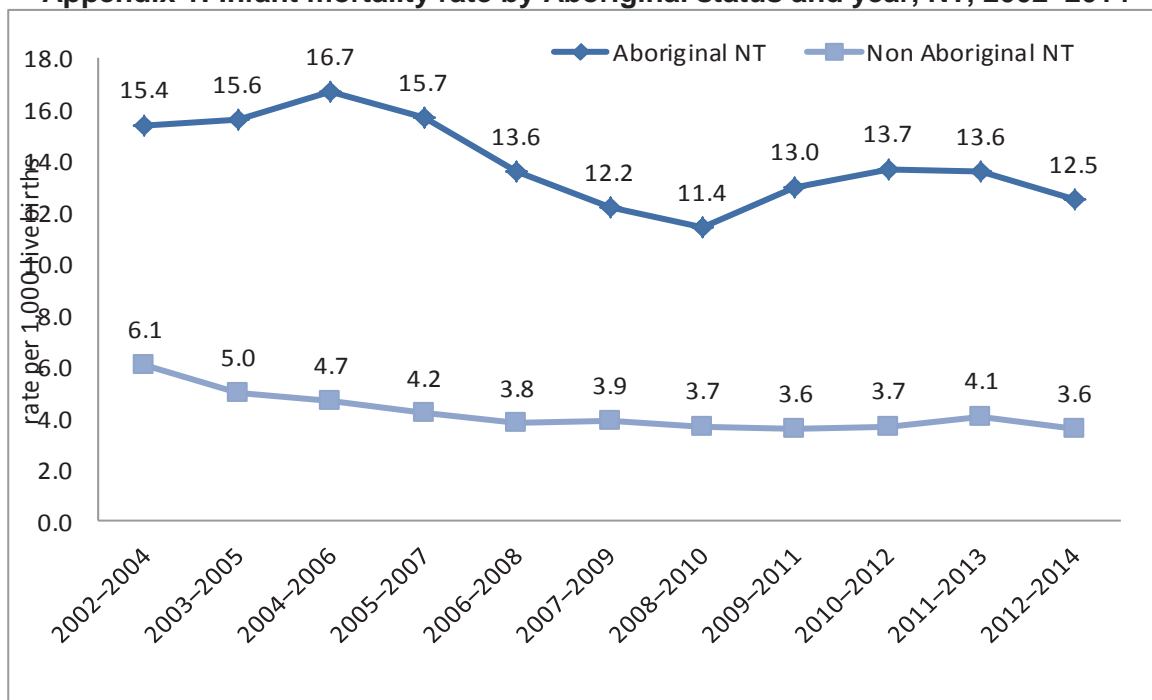
Northern Territory of Australia, *Births, Deaths and Marriages Registration Act* (as in force at 1 July 2010).

World Health Organisation (2008) *ICD-10 International Statistical Classification of Diseases and Related Health Problems, 10<sup>th</sup> Revision, Volume 2 Instruction Manual*, 33-34.



## Appendices

**Appendix 1: Infant mortality rate by Aboriginal status and year, NT, 2002–2014**



Source: ABS 33020D018\_2014  
 # Rates per 1000 live births

While single year Aboriginal rates may fluctuate due to small numbers, they are nevertheless a reliable indicator when viewed as a trend over many years. Appendix 1 shows the rate ratio of Aboriginal to non-Aboriginal infant mortality rates over the past two decades. The results show that on average, the Aboriginal rates are approximately 3 times greater than the non-Aboriginal rates.

**Appendix 2: Table of underlying cause of child deaths by ICD-10 chapters, NT,  
2011-15**

<b>Chapter 1: Certain infectious and parasitic diseases (A00-B99)</b>	<b>3</b>
Sepsis due to Pseudomonas	1
Staphylococcus aureus as the cause of diseases classified to other chapters	1
Viral carditis	1
<b>Chapter 2: Neoplasms (C00-D48)</b>	<b>6</b>
Malignant neoplasm of adrenal gland, unspecified	1
Malignant neoplasm of brain stem	1
Malignant neoplasm of kidney, except renal pelvis	2
Malignant neoplasm of lower lobe, bronchus or lung	1
Malignant neoplasm of ovary	1
<b>Chapter 4: Endocrine, nutritional and metabolic diseases (E00-E99)</b>	<b>2</b>
Disorders of copper metabolism	1
Other sphingolipidosis	1
<b>Chapter 6: Diseases of the nervous system (G00-G99)</b>	<b>10</b>
Bacterial meningitis, unspecified	1
Cerebral palsy, unspecified	3
Dyskinetic cerebral palsy	1
Encephalitis, myelitis and encephalomyelitis, unspecified	1
Epilepsy, unspecified, with intractable epilepsy	1
Localisation-related (focal)(partial) idiopathic epilepsy and epileptic syndromes with seizures of localised onset, without mention of intractable epilepsy	1
Muscular dystrophy	1
Spastic quadriplegic cerebral palsy	1
<b>Chapter 8: Diseases of the ear and mastoid process (H60-H95)</b>	<b>1</b>
Other chronic suppurative otitis media	1
<b>Chapter 9: Diseases of the circulatory system (I00-I99)</b>	<b>1</b>
Infective pericarditis	1
<b>Chapter 10: Diseases of the respiratory system (J00-J99)</b>	<b>7</b>
Bronchopneumonia, unspecified	2
Pneumonia due to Haemophilus influenzae	1
Pneumonia, unspecified	1
Respiratory disorder, unspecified	1
Viral pneumonia, unspecified	2
<b>Chapter 16: Certain conditions originating in the perinatal period (P00-P96)</b>	<b>70</b>
Disseminated intravascular coagulation of fetus and newborn	1
Extreme immaturity, 24 or more completed weeks but less than 28 completed weeks	3
Extreme immaturity, less than 24 completed weeks	1
Extremely low birth weight 499g or less	7
Extremely low birth weight 500 - 749g	4
Extremely low birth weight 750 - 999g	2

Fetus and newborn affected by chorioamnionitis	16
Fetus and newborn affected by incompetent cervix	2
Fetus and newborn affected by maternal hypertensive disorders	2
Fetus and newborn affected by maternal infectious and parasitic diseases	1
Fetus and newborn affected by multiple pregnancy	3
Fetus and newborn affected by other forms of placental separation and haemorrhage	3
Fetus and newborn affected by other malpresentation, malposition and disproportion during labour and delivery	1
Fetus and newborn affected by other specified complications of labour and delivery	1
Fetus and newborn affected by premature rupture of membranes	8
Intracerebral (nontraumatic) haemorrhage of fetus and newborn	1
Necrotising enterocolitis of fetus and newborn	4
Perinatal intestinal perforation	1
Prematurity, unspecified	2
Respiratory distress syndrome of newborn	1
Termination of pregnancy, affecting fetus and newborn	2
Unspecified intraventricular (nontraumatic) haemorrhage of fetus and newborn	4

#### **Chapter 17: Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)**

**18**

Agenesis of corpus callosum	1
Chromosomal abnormality, unspecified	2
Down syndrome, unspecified	1
Hydranencephaly	1
Hypoplasia and dysplasia of lung	1
Hypoplastic left heart syndrome	1
Microcephaly	2
Osteogenesis imperfecta	1
Other specified chromosome abnormalities	1
Other specified congenital malformation syndromes predominantly affecting facial appearance	1
Patent ductus arteriosus	2
Renal agenesis, unspecified	1
Sirenomelia syndrome	1
Tetralogy of Fallot	1
Tuberous sclerosis	1

#### **Chapter 18: Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)**

**31**

Other ill-defined and unspecified causes of mortality	23
Sudden infant death syndrome	2
Sudden infant death syndrome with mention of autopsy	6

#### **Chapter 20: External causes of morbidity and mortality (V00-V99)**

**78**

Accident to other private fixed-wing aircraft, injuring occupant	2
Accidental poisoning by and exposure to liquefied petroleum gas [LPG]	1
Accidental poisoning by and exposure to other specified gas and vapours	1
Assault by hanging, strangulation and suffocation, parent	2
Assault by knife, parent	2

Assault by sharp object, unspecified, spouse or domestic partner	1
Bitten or struck by crocodile or alligator	4
Car occupant injured in collision with car, pick-up truck or van, passenger, traffic accident, sedan	1
Car occupant injured in collision with fixed or stationary object, passenger, traffic accident, all-terrain four-wheel drive	2
Car occupant injured in collision with fixed or stationary object, passenger, traffic accident, sedan	2
Car occupant injured in collision with fixed or stationary object, while boarding or alighting, sedan	1
Car occupant injured in noncollision transport accident, driver, traffic accident, other specified car [automobile]	1
Car occupant injured in noncollision transport accident, passenger, traffic accident, sedan	2
Car occupant injured in noncollision transport accident, passenger, traffic accident, unspecified car [automobile]	1
Drowning and submersion following fall into natural water	3
Drowning and submersion following fall into swimming-pool	3
Drowning and submersion while in natural water	2
Drowning and submersion while in swimming-pool	1
Exposure to uncontrolled fire in building or structure	1
Inhalation and ingestion of food causing obstruction of respiratory tract	2
Inhalation and ingestion of other objects causing obstruction of respiratory tract, other specified object	1
Intentional self-harm by hanging	27
Occupant of pick-up truck or van injured in noncollision transport accident, driver, traffic accident	1
Occupant of pick-up truck or van injured in noncollision transport accident, person on outside of vehicle, nontraffic accident	1
Other accidental hanging and strangulation	3
Other specified drowning and submersion	2
Pedal cyclist injured in collision with car, pick-up truck or van, driver, traffic accident	1
Pedal cyclist injured in collision with fixed or stationary object, driver, nontraffic accident	1
Pedestrian injured in collision with car, pick-up truck or van, nontraffic accident	2
Pedestrian injured in collision with car, pick-up truck or van, traffic accident	1
Pedestrian injured in collision with heavy transport vehicle or bus, nontraffic accident	1
Striking against or struck by other objects	1
Struck by thrown, projected or falling object	1

<b>Not yet coded</b>	<b>15</b>
----------------------	-----------

Awaiting coronial findings	14
Awaiting cause of death coding	1

<b>Total</b>	<b>242</b>
--------------	------------

**PO Box 40598 CASUARINA NT 0811**  
**Level 5, NT House**  
**22 Mitchell Street, DARWIN NT 0800**

T 08 8999 6076  
F 08 8999 6072

[www.childrenscommissioner.nt.gov.au](http://www.childrenscommissioner.nt.gov.au)