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From Infancy to Young Adulthood Health status in the Northern Territory, 2006

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Summary

This report provides an overview of the health and wellbeing of young people in the Northern Territory. It is the second in a series and like the previous report released in 1998, includes both health outcome indicators and information on key determinants of health and wellbeing. The availability of information has improved substantially over the past eight years, which has allowed the inclusion of new and expanded information. In this report there is a continued focus on the difference in outcomes between Indigenous and non-Indigenous Territorians. In addition this second report is able to provide improved trend information so that current data can be compared with information in the first report.

The information in the report is provided in seven sections spanning a range from the characteristics of the Northern Territory population through to information on morbidity and mortality. Highlights of each section are summarised in the following paragraphs.

Population characteristics

- The NT population remains the youngest of any state or territory, with a median age of 29.0 years compared to 35.2 years nationally.
- The NT has a far greater proportion of Indigenous people (29%) than any other state or territory.
- The Indigenous population has a far greater proportion (55%) aged under 25 years than the non-Indigenous (35%) population. The majority of the Indigenous population (81.2%) live in remote or very remote locations.
- The comparatively poor life expectancy for NT Indigenous people remained relatively stable for twenty years from 1981 to 2000, until the period from 2001 to 2003 when there was a substantial improvement for Indigenous women. Life expectancy for non-Indigenous Territorians has continued to steadily improve and is similar to the Australian figure.

Social environment

- From the 2001 census, of families with children there were a much greater proportion of Indigenous one-parent families (23.5%) than non-Indigenous one-parent families (11.2%).
- Across the Territory 68.9% of people speak English as their main language, compared to 80.0% in Australia. In remote areas of the NT, 74% of Indigenous people speak a main language other than English.
- Between 1996 and 2001, the unemployment rate among 15 to 24 year old Indigenous people improved from 23.3% to 18.7% and for non-Indigenous improved from 10.4% to 8.7%. More than half the employed young Indigenous people worked under a Community Development Employment Program.
- From surveys of housing in remote NT communities, only 50% of housing met at least four of five recommended requirements for healthy living practices. The major deficit in housing was the capacity to adequately prepare and store food.

Mothers and Babies

- Across the NT, 30.7% of Indigenous mothers were teenagers, compared with 5.4% of non-Indigenous mothers. Almost 60% of Indigenous teenage mothers were less than 18 years, compared to 31.7% of non-Indigenous teenage mothers.
- The proportion of low birthweight Indigenous babies has steadily fallen through the period 1986 to 2002. In 2002, 14.0% of Indigenous babies and 5.8% of non-Indigenous babies were low birthweight
- In 2002, 35.4% of Indigenous women and 20.3% of non-Indigenous women were recorded as smoking tobacco during early pregnancy. Significant proportions of both populations also consumed alcohol.

Nutritional and behavioural determinants

- Exclusive breastfeeding is recommended for all infants for the first six months of life, with national targets of 90% breastfed at hospital discharge and 80% breastfed at age

six months. Across the Territory 92.7% of infants commenced breastfeeding. However the proportion fell steadily with only 73.3% still breastfed at 3 months and 59.3% at six months. These rates include NT infants who are not exclusively breastfed, but are still below the national targets.

- The Growth Assessment and Action (GAA) program promotes the nutrition of young children in remote Indigenous communities. During the period 1999 to 2004 there was a general reduction in the proportion of malnourished children across the remote communities of the Territory.
- Population surveys of non-Indigenous children have highlighted that only a minority of children eat the recommended amount of vegetables. Data are not available for Indigenous children in remote communities, however the higher cost of fresh vegetables and fruit are expected to exacerbate access to a recommended intake.
- In mid-2001, a new vaccine was introduced to prevent Invasive Pneumococcal Disease in high-risk children. Within three years of introduction the rate of infection halved, and the disease was absent in high-risk children aged from 12 to 23 months.

Childcare and Safety

- Information on childcare usage by non-Indigenous children became available for the first time in 2004. Overall 55% of children had used some form of childcare in the week prior to the survey. Of the childcare users 28% used formal childcare, 36% informal care and 9% of children used both services
- Across the NT in 2003/04, there were almost 1400 episodes of supported accommodation assistance for adults with children, and 750 episodes of support for young people aged less than 25 years. Domestic violence was the leading reason for the need for supported accommodation.
- During the two years of 2002/03 and 2003/04 there were 363 episodes of youth detention in the NT. Indigenous youth aged 13 to 17 were detained at seven times the rate of non-Indigenous youth.

Morbidity and Mortality

- Otitis media remains common in Indigenous children. A 2005 study in remote communities reported that 91% of children had clinical evidence of otitis media and that only 20% of children were likely to have normal hearing.
- Data from the NT school dental program have demonstrated that oral hygiene problems are more common in NT Indigenous children, with 53.9% of 12 year old children having no diseased teeth compared with 68.8% of NT non-Indigenous children. The comparable national rate is 64.9%. NT Indigenous 12 year old children are also twice as likely to have untreated decayed teeth than NT non-Indigenous children
- The common reasons for hospital admission vary with age. For NT children aged from 1 month to 4 years the most common reason for admission was a respiratory disease, while for males aged from 5 to 24 years and females from 5 to 14 the most common reason was injury and poisoning. For females aged from 15 to 24 the most common reason for admission was a pregnancy related condition.
- An outstanding area of improvement has been the continuing decline in Indigenous infant mortality, which has dropped by 50% in the past twenty years to a rate of 16.0 deaths per 1000 livebirths in the period from 2001 to 2003.
- Injury and poisoning was the leading cause of death for young people across all age groups from 1 to 24 years.

The report provides a range of information – some is encouraging while other indicators highlight areas that require continued focus. Of sentinel importance are the improvements for Indigenous children – improving infant mortality, improving birthweight and reduction in malnutrition. These improvements offer encouragement of the benefits from sustained effort to close the inequalities in health and wellbeing between Northern Territory children. An important function of this report is to generate questions for further and more in-depth analysis to improve our understanding of the critical points at which both the government and non-government agencies can intervene to assist families to provide optimal outcomes for Territory children.

1 Introduction

1.1 Background

This report provides an overview of the health and wellbeing of children and young people in the Northern Territory. The first “Infancy to Young Adulthood” was released in 1998, and presented baseline data for a selected group of indicators. The first report has been used to inform policy and program development for child and youth health in the Territory. This second report updates the information in the 1998 report, and where practical has used the same indicators to allow measurement of change against the baseline data. The second report also introduces many new indicators for which information was not previously available.

An important objective of the report is to inform not only health professionals but also the wider community. To this end, the report is arranged so that each indicator is presented on a single page, including a graph, table and explanatory comments. A list of references and useful publications is available at the end of the report.

1.2 Monitoring child and youth health

Understanding the factors that affect the physical and emotional wellbeing and development of children is complex because of the interacting influences on a child from their family, other carers, their school, and their local and wider communities. This complexity is recognised in the World Health Organisation’s (WHO) definition of health as ‘a state of complete physical and social well-being and not merely the absence of disease or infirmity’. This definition recognises that health is a holistic concept that incorporates both physiological competence and the functional ability to perform tasks of daily living and to carry out social roles. Functional ability includes cultural, social and psychological dimensions that are related to education, employment, access to economic resources and social support. A consequence of this broad definition of health is that it acknowledges that responsibility for health requires a partnership between families, individuals and social organisations including both government and non-government organisations.

Despite the virtue of emphasising health as a positive experience at an individual level, the WHO definition has been criticised as too broad to enable adequate interpretation at a population level. Descriptions of the health of populations have generally relied on the negative aspects of health with a focus on morbidity and mortality. However, most children and young people in the developed world experience low levels of physiological and functional impairment and traditional indicators of morbidity and mortality are no longer adequate to describe their health. Information on their perceptions of life and wellbeing, and the quality of their lives is needed to provide a more complete picture of their health status and health needs.

The emerging importance of this type of information has led to the increasing requirement for special purpose surveys of children and young people. In the Northern Territory, the Department of Health and Community Services has recently undertaken a telephone survey with the parents and carers of 2000 Territory children. The survey collected comprehensive information on non-Indigenous children complementing information on NT Indigenous children collected in the Australian Bureau of Statistics, National Aboriginal and Torres Strait Islander Health Survey.

1.3 Framework and indicators

The project team has modelled this report on the same framework used and described in detail in the first report. The framework places children and young people within the broader demographic, family and community environment. These influences are incorporated into the report under the broad chapter headings of population characteristics, social environment, mothers and babies, nutrition and behavioural determinants, childcare and safety, and health status (morbidity and mortality).

Within each chapter, the indicators were selected for their relevance for the Northern Territory, their availability at the Territory level, and where possible availability at the national level. The general availability of information allows comparison between the Territory and national performance. Each indicator appears on a separate page and generally consists of:

- a data table for the Northern Territory Indigenous and non-Indigenous populations, and Australian data,
- a graph of the data, and
- several paragraphs of commentary that highlight the key features of the information and the relevance of this and related information.

Population characteristics

This chapter provides background information on the population of the Northern Territory by age, sex and Indigenous status. An understanding of the structures of the different population groups is important in understanding the patterns of disease, ill-health and disabling conditions, as well as the determinants of health that affect a population. The indicators in this section include population size and age distribution, geographic distribution, country of birth, fertility and life expectancy.

Social environment

The dependence of children on adults for their everyday emotional and physical needs means that the social environment in which they live is vital to their wellbeing. This section includes indicators such as family structure, education, employment, economic resources and housing.

Mothers and babies

A critical influence on human development is the in-utero environment. There are also significant risks to both the mother and infant from pregnancies in younger teenagers. This section includes information on teenage mothers, and indicators of smoking and alcohol consumption during pregnancy.

Nutrition and behavioural determinants

The reasons why individuals choose healthy lifestyles (for example, taking their children to be immunised or avoiding harmful substance abuse) are complex and involve both individual and structural factors. Individual factors include knowledge, attitudes and beliefs about particular health behaviours. To understand how these factors impinge on behaviour requires an appreciation of the individual's concepts of health and wellbeing, their attitudes to change and their ability to translate these attitudes into sustainable action. Health behaviour is also influenced by the structural factors in the social and physical environment including; the availability and accessibility of resources, social support and social networks – factors over which individuals may have little control. Indicators in this section include breastfeeding, vegetable and fruit consumption, weight and growth, physical activity and measures of tobacco and alcohol consumption.

Community support and safety

Children have a right to live in a physically and emotionally safe environment. This section includes indicators of both the positive and negative aspects of community support including measures of childcare availability, child protection, accommodation support, bullying and juvenile detention.

Morbidity and mortality

Health status indicators used in this report are included as two chapters - morbidity and mortality. Data were obtained from a wide range of sources including the Northern Territory Department of Health and Community Services (DHCS) Centre for Disease Control, the national Communicable Disease Network, the DHCS Hospital Morbidity dataset and mortality data obtained from the NT Registrar of Births, Deaths and Marriages through the Australian Bureau of Statistics.

1.4 Limitations of the report

The report draws together a wide array of indicators from many sources and different agencies. Inherent with such a collection are both the technical limitations of indicators and the more general limitation of summarising the complex characteristics and variety within a population.

From a technical perspective there are limitations related to each individual indicator. These include issues of completeness, representativeness and accuracy. Identification of Indigenous status is a particular challenge and although NT collections are generally regarded as the most reliable among all Australian states and territories, there are variations between data sources. More generally there are inconsistencies between indicators. A prominent example is the application of geographic classifications. Different agencies rely on differing classifications, even though each may use similar terms such as urban and remote. Some indicators rely on a standard national classification, while in other cases the indicators are reported on varying administrative boundaries.

This report presents a total of 67 separate indicators. Despite the extent and variety of the information the report does not provide a complete picture of the health of Territory children and young people. Since the first report in 1998, there have been substantial improvements in the availability of information, however there are still significant gaps including health behaviours and details of children and young people in remote Aboriginal communities. Strategies are in place for the continued improvement of this key information.

2 Population characteristics

Population

- Population estimates, Northern Territory and Australia 2003
- Age distribution, Northern Territory and Australia
- Geographic distribution of the Northern Territory population, 2001

Fertility

- Age-specific and total fertility rates, Northern Territory and Australia

Mortality

- Life expectancy at birth, Northern Territory and Australia 2001-2003

Migration

- Country of birth, Northern Territory residents, 2001

2.1 Population estimates, Northern Territory and Australia 2003

Age group (years)	NT Indigenous			NT non-Indigenous			Australia		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	3 479	3 329	6 808	5 471	5 161	10 632	648 266	616 395	1 264 661
5-9	3 564	3 204	6 768	5 240	4 894	10 134	686 149	650 156	1 336 305
10-14	3 408	3 079	6 487	4 944	4 675	9 619	706 517	671 927	1 378 444
15-19	2 951	2 923	5 874	4 592	4 146	8 738	703 874	672 913	1 376 787
20-24	2 776	2 554	5 330	5 706	4 745	10 451	700 428	676 408	1 376 836
25-29	2 502	2 427	4 929	6 394	5 862	12 256	683 150	678 633	1 361 783
30-34	2 274	2 360	4 634	7 101	6 754	13 855	751 904	765 313	1 517 217
35-39	1 855	1 954	3 809	6 894	5 907	12 801	724 527	734 000	1 458 527
40-44	1 578	1 632	3 210	6 880	5 920	12 800	762 199	769 261	1 531 460
45-49	1 181	1 294	2 475	5 894	5 338	11 232	694 878	705 606	1 400 484
50-54	885	991	1 876	5 756	4 734	10 490	652 802	656 972	1 309 774
55-59	669	739	1 408	4 350	3 186	7 536	583 508	570 437	1 153 945
60-64	526	646	1 172	2 896	1 830	4 726	439 155	430 450	869 605
65-69	303	418	721	1 573	1 016	2 589	354 970	365 102	720 072
70-74	184	252	436	1 031	729	1 760	301 236	328 641	629 877
75-over	311	333	644	1 010	1 148	2 158	478 079	717 613	1 195 692
Total	28 446	28 135	56 581	75 732	66 045	141 777	9 871 642	10 009 827	19 881 469

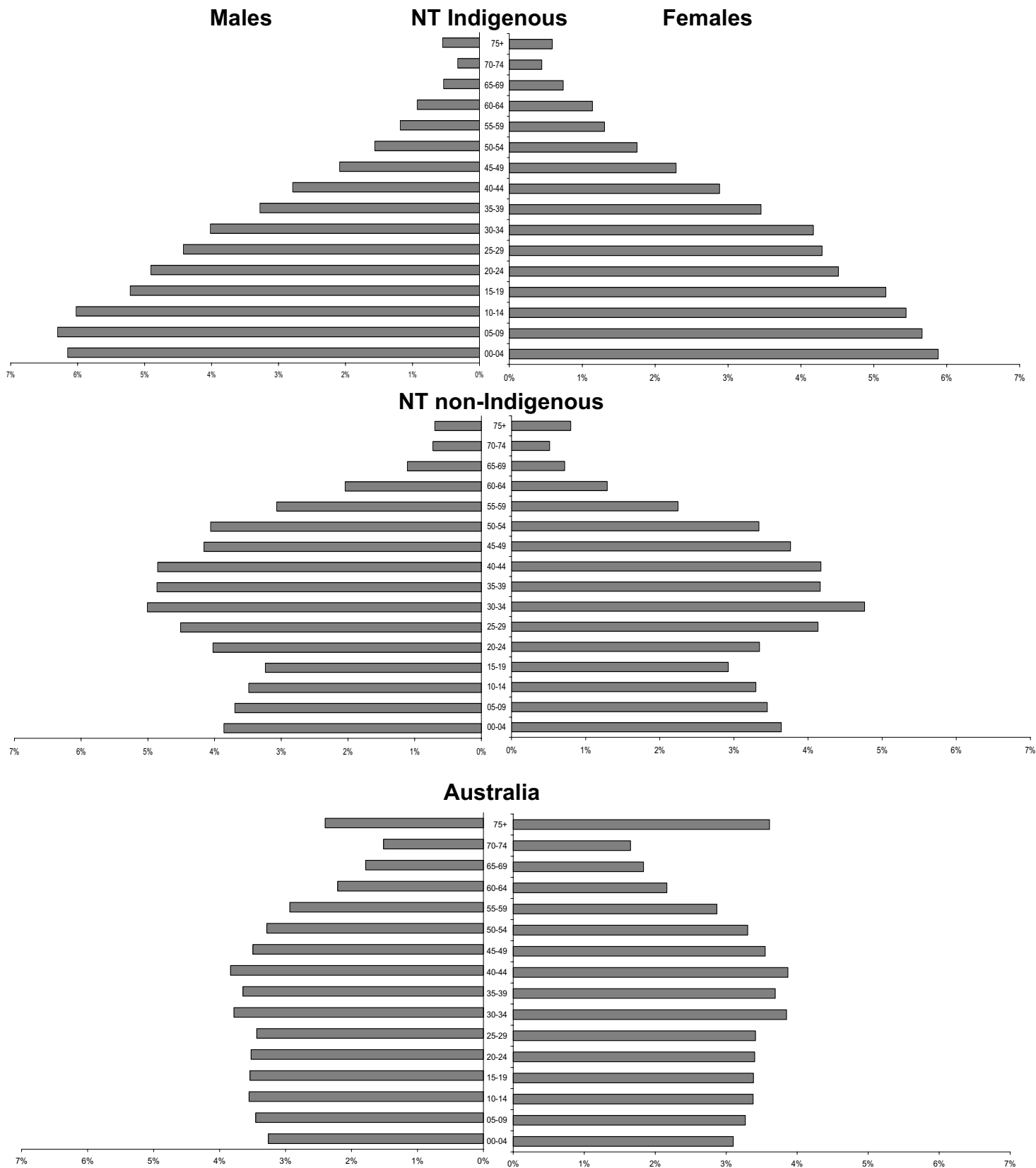
Sources: 1. NT — NT resident population estimated by age sex, Indigenous status and health district (2003, unpublished), NT

Government: <http://internal.health.nt.gov.au/healthplan/epi/epi.htm>

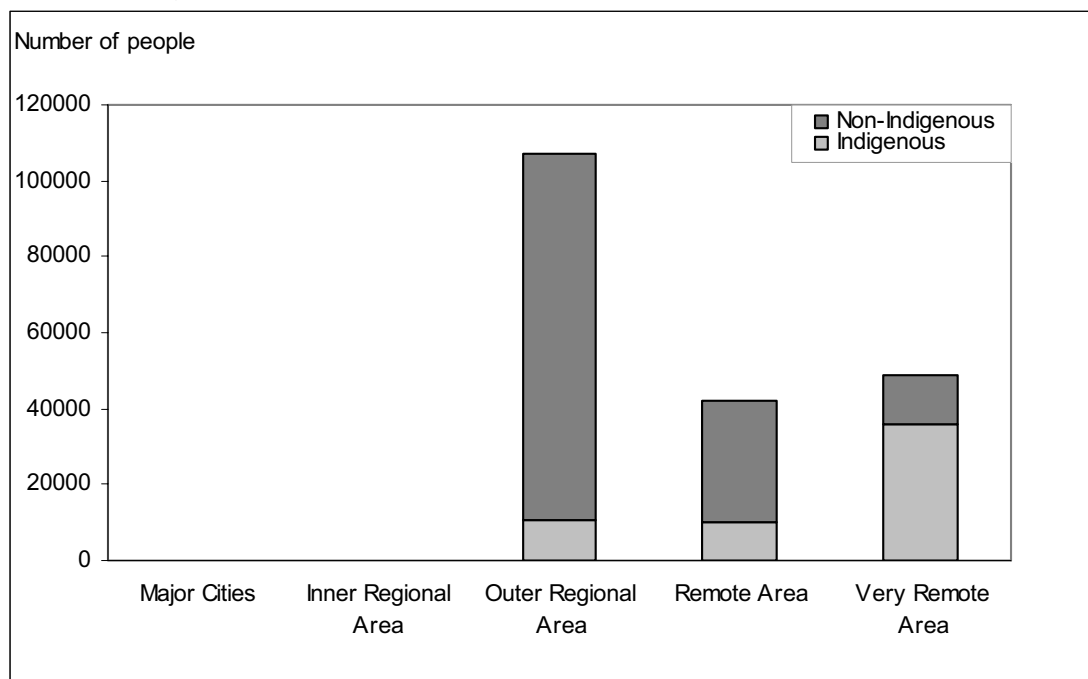
2. Australia — Australian Bureau of Statistics (ABS), population by age and sex, Australian States and Territories, Cat. No.3201.0. June 2003

- Demographic information is vital for an understanding of the patterns of disease, disability and death in a population, and for an understanding of the factors that determine these patterns. The information is also necessary for the efficient planning of health services for a community. The factors that affect the size and structure of a population are fertility, mortality and migration.
- The Northern Territory population in mid-2003 was estimated as 198 358, an increase of 16 515 people from mid-1996. Indigenous people (56 581) made up 29% of the NT population compared with less than 4% in other States.
- The NT has the youngest population of all States and Territories in Australia. In June 2000, the NT population had a median age of 29.0 years, compared with 35.2 years nationally.
- In 2003, Territorians aged under 25 years made up 41% of the total NT population compared with 44% in 1996. The Indigenous population had a higher proportion of people under 25 years of age (55%) than the non-Indigenous population (35%).
- The youth dependency ratio is a measure of the proportion of children aged 0–14 years who are dependent on adults of working age (15–64 years). The ratio for the NT Indigenous population was 100 adults of working age for each 58 children, compared with 29 children in the non-Indigenous population.
- In 2003, 8.7% of the total population migrated into the Northern Territory while in the same year 10.2% of the population migrated out of the Territory.¹
- The difference between the age structures of the NT Indigenous, NT non-Indigenous and general Australian populations are highlighted in the population pyramids on the following page. These differences are a result of the relatively high level of fertility and mortality in the Indigenous population, and the relatively high level of interstate migration in the non-Indigenous population.

2.2 Age distribution, Northern Territory and Australia



2.3 Geographic distribution of the Northern Territory population, 2001



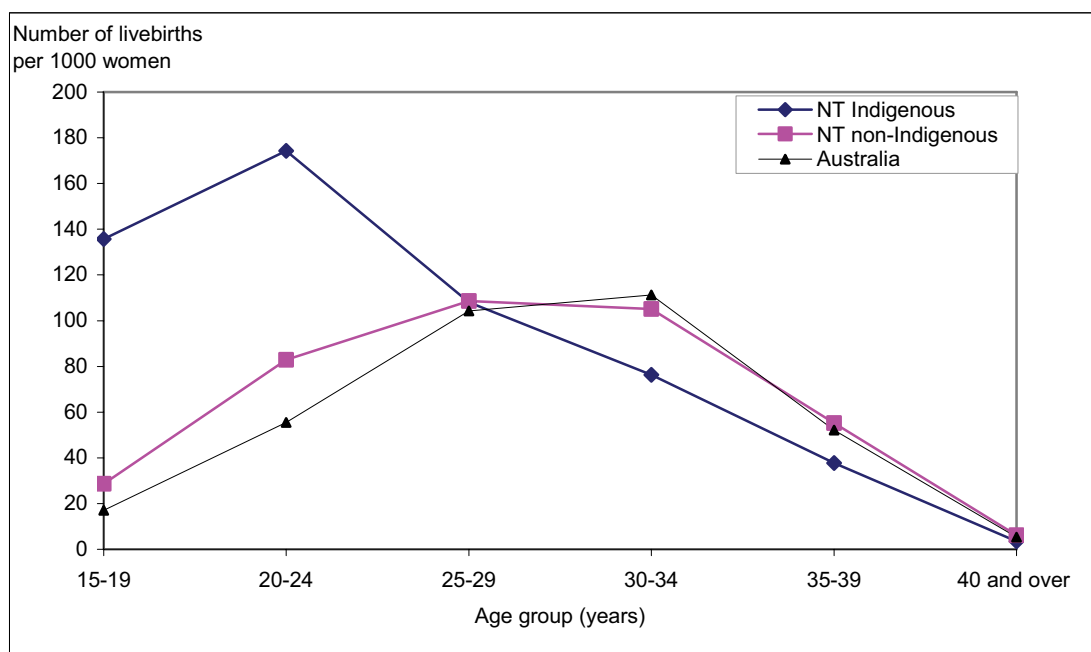
Remoteness area	Indigenous		Non-Indigenous		Total	
	Persons	%	Persons	%	Persons	%
Major Cities	-	-	-	-	-	-
Inner Regional Area	-	-	-	-	-	-
Outer Regional Area	10 687	18.8	96 155	68.2	106 842	54.0
Remote Area	10 085	17.7	31 824	22.6	41 909	21.2
Very Remote Area	36 103	63.5	12 914	9.2	49 017	24.8
Northern Territory	56 875	100.0	140 893	100.0	197 768	100.0

Note: The Outer Regional area includes Darwin, Palmerston and Litchfield Shire; and the Remote area includes Katherine and Alice Springs.

Source: Australian Bureau of Statistics. Estimated Resident Population 2001 (revised) by age, sex and Indigenous status, ABS, Canberra (unpublished), 2001.

- The geographic distribution of the Australian population has been classified using a number of methods. The most common, current method is the Australian Remoteness Index for Areas (ARIA+), which describes five major categories - Highly Accessible, Accessible, Moderately Accessible, Remote and Very Remote.^{2,3}
- Based on the ARIA+ classification, there were no NT residents living in either of the Highly Accessible (corresponding to major cities) or Accessible (inner regional) categories.
- In 2001, 54.0% of NT residents lived in an Outer Regional Area, with the balance in either a Remote Area (21.2%) or Very Remote Area (24.8%).
- Of the NT Indigenous population, only 18.8% residents lived in an Outer Regional Area while 81.2% lived in a Remote or Very Remote Area.
- In contrast, 68.2% of the NT non-Indigenous lived in the Outer Regional Area and 31.8% of lived in a Remote or Very Remote Area.

2.4 Fertility, Northern Territory and Australia



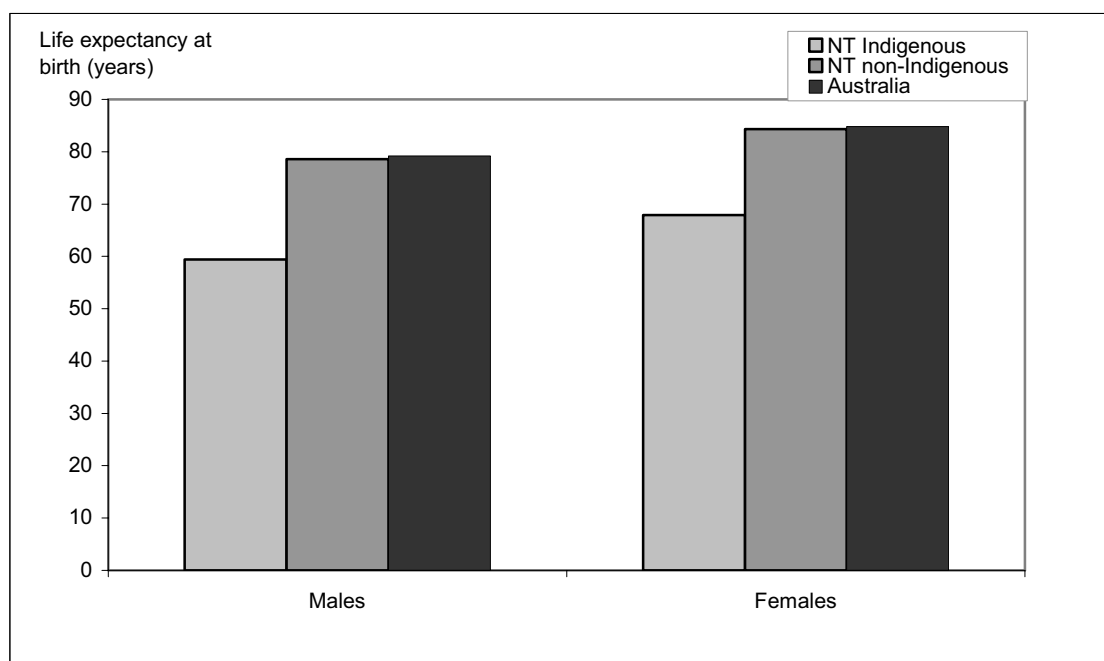
Age-specific fertility rates, 1995 & 2001								Total fertility rates, 1995 and 2001	
	Under 15	15-19	20-24	25-29	30-34	35-39	40 & over		
NT Indigenous	1995	6.5	141.6	170.7	117.1	56.3	24.8	1.6	2.6
	2001	7.2	135.7	174.3	108.0	76.3	37.8	5.6	2.7
NT non-Indigenous	1995	0.2	38.5	97.2	120.5	98.8	40.0	9.2	2.0
	2001	0.2	28.7	82.9	108.7	105.1	55.2	11.3	2.0
Australia	1995	0.0	20.5	66.7	121.6	106.1	42.5	7.4	1.8
	2001	0.0	17.1	55.5	104.2	111.2	52.2	9.7	1.8

Note: The rates are calculated as the number of livebirths per 1000 women. The numerators for the NT rates were obtained by applying the proportion of births by Indigenous status obtained from the NT Midwives Collection to the total number of births registered with the NT Registrar of Births, Deaths and Marriages and reported by the ABS. The denominators were the ABS estimated mid-year female population at the various ages.

Sources: 1. Northern Territory Midwives collection: NT Department of Health and Community Service, 1986-2002 (unpublished data).
2. Australia - Australian Bureau of Statistics (ABS), 2003. Births Australia, 2002. Cat No. 3301.0

- Fertility is a measure of the reproductive capacity of a population. Measures of fertility include the age-specific fertility rate (number of livebirths per thousand women), and the total fertility rate (the hypothetical total number of livebirths a woman would have in her lifetime at current age-specific rates).
- There has been little change in the total fertility rate for either NT Indigenous or NT non-Indigenous women between 1995 and 2001. Between 1996 and 2001, age-specific fertility rates for NT Indigenous women has remained highest in women aged 15 to 29, however during this period there has also been a marked increase in age-specific fertility rate in Indigenous women aged over 30 years.
- NT Indigenous women aged less than 15 years were more than 30 times likely to give birth than non-Indigenous women of the same age. Infants born to young mothers are at greater risk of complications during pregnancy and labour and of stillbirth and infant death.

2.5 Life expectancy at birth, Northern Territory and Australia, 2001-2003



Years	Males			Females		
	NT Indigenous	NT non-Indigenous	Australia	NT Indigenous	NT non-Indigenous	Australia
1981-1985	57.9	70.4	72.3	63.5	80.2	79.7
1986-1990	56.2	71.8	73.8	63.2	84.4	80.9
1991-1995	58.6	72.7	75.6	64.4	81.8	82.3
1996-2000	59.4	76.1	77.3	65.0	84.0	83.5
2001-2003	59.4	78.6	79.2	67.9	84.3	84.8

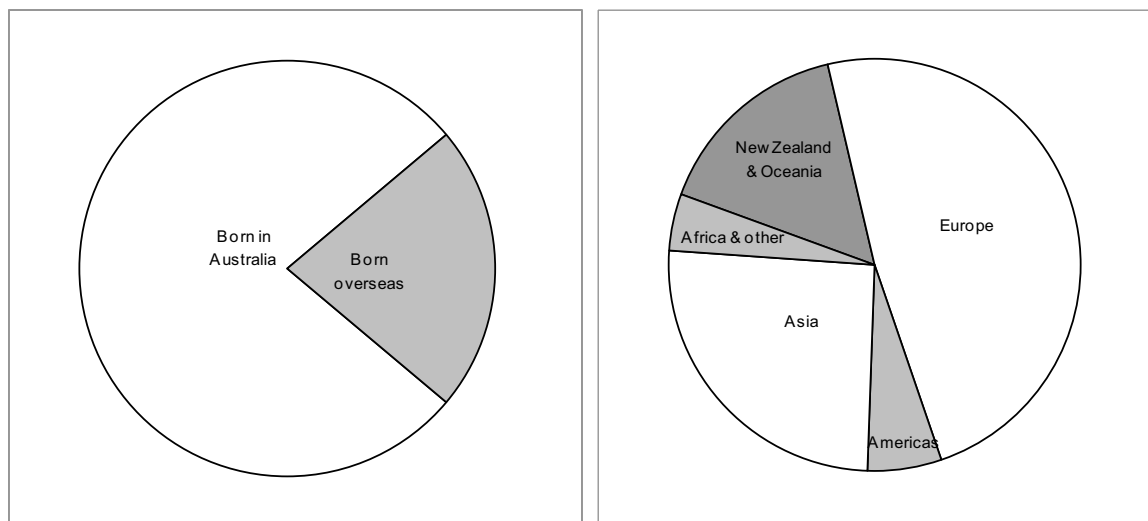
Note: Data from 2001-2003 is presented in the graph.

Sources: 1. Li SQ & Guthridge SL. Mortality in the Northern Territory 1981-2000. Part 1: Key indicators and overview. Department of Health and Community Services, Darwin, 2004.

2. Australian and NT data for 2001-2003: ABS death registration data (unpublished).

- Life expectancy at birth is the average time that a newborn child can expect to live if that child were to experience current mortality conditions for the rest of his or her life.
- Through the period 1981–2003, NT non-Indigenous females have had a life expectancy at birth, broadly similar to all Australian females.
- By contrast, through the same period the life expectancy at birth for NT non-Indigenous males has consistently lagged behind that of all Australian males by between 0.6 and 2.9 years.
- In the most recent three-year period from 2001-2003, the life expectancy at birth for Indigenous NT females was 67.9 years. There has been some recent improvement but the figure remains 16.4 years less than the life expectancy of NT non-Indigenous females (84.3).
- For the same three-year period, there was a 19.2 years gap between the life expectancy for NT Indigenous males (59.4) and NT non-Indigenous males (78.6). This gap has increased from 12.5 years in the five-year period from 1981–1985.

2.6 Country of birth, Northern Territory residents 2001



Country or region of birth	Northern Territory (%)		Australia (%)	
	1996	2001	1996	2001
Australia	78.7	77.9	74.5	72.6
New Zealand & Oceania	2.3	2.3	2.1	2.4
United Kingdom & Ireland	4.8	4.1	3.6	5.8
Other Europe	3.2	2.9	8.9	5.6
Asia	3.9	3.7	4.8	5.2
Americas	0.8	0.9	0.8	0.9
Africa	0.4	0.6	0.8	1.9
Overseas, other	0.1	0.1	0.1	0.1
Not stated	5.8	7.6	3.5	5.5
Total	100.0	100.0	100.0	100.0

Source: 1. NT data- ABS 1996 & 2001 Census, selected social and housing characteristics for Statistical Local Areas NT, Cat.No.2015.7.

2. Australia data- ABS 1996 & 2001 Census, selected social and housing characteristics. Cat. No. 2015.0.

- Country of birth is often used as a proxy for identifying different ethnic groups who may have differing cultural values and practices. These groups may require specialised services and support systems.
- Between 1996 and 2001, there was little change in the proportion of Australian-born people living in the NT. In 1996 the proportion of Australian-born Territory residents was 79% compared with 78% in 2001.
- Of those born overseas, almost half (46%) were born in the United Kingdom, Ireland or New Zealand.
- Of Territory residents born in a non-English speaking country, the most common countries of birth were the Philippines, Indonesia, Greece and Germany.

3 Social environment

Family structure

- Family structure, Northern Territory and Australia 2001

Communication

- Main language spoken at home, Northern Territory residents 2001

Education

- Educational attainment, Northern Territory and Australia 2001
- Pre-school enrolment by Indigenous status and gender, Northern Territory locations
- Performance of NT students in the Year 3 literacy assessment, 2001 to 2005

Employment

- Labour force participation and employment, Northern Territory and Australia 2001
- Labour force participation and employment for young people, Northern Territory and Australia 2001

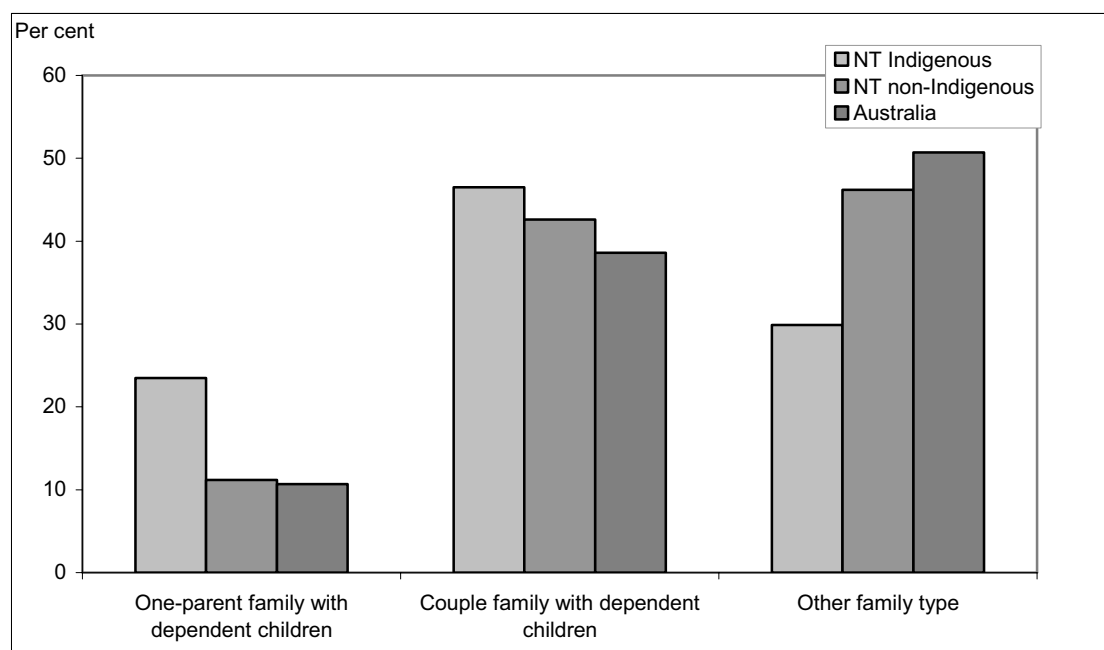
Economic resources

- Average weekly family income, 2001

Housing

- Household occupancy, Northern Territory and Australia
- Percentage of dwellings meeting five healthy living practices

3.1 Family structure, Northern Territory and Australia 2001



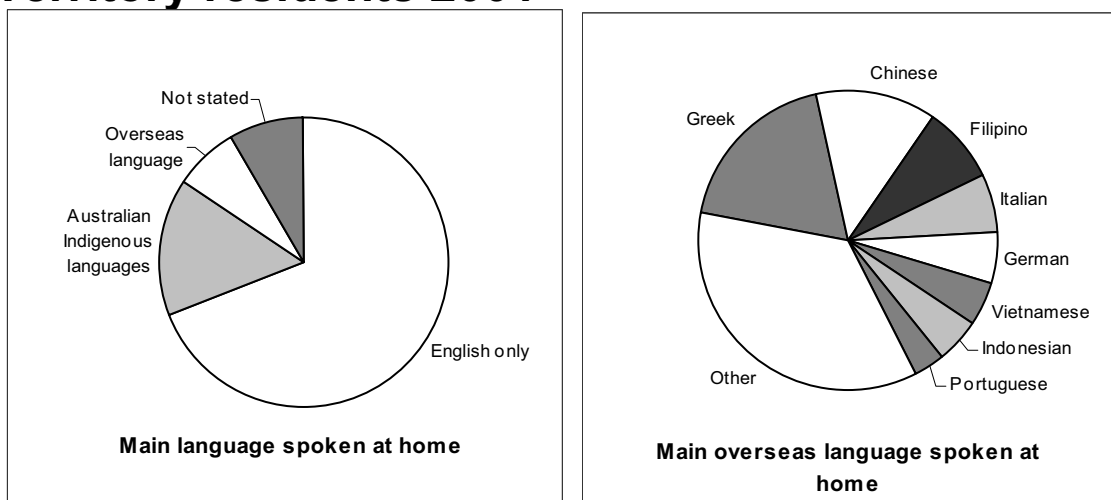
	NT Indigenous		NT non-Indigenous		Australia	
	1996	2001	1996	2001	1996	2001
	Per cent					
One-parent family with dependent children	24.8	23.5	10.8	11.2	14.5	10.7
Couple family with dependent children	47.6	46.5	46.8	42.6	40.6	38.6
Other family type	27.6	29.9	42.4	46.2	45.0	50.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Other family type includes one-person or couple family without dependent children and any other type family not otherwise specified.

Source: 1. NT data- ABS 1996 & 2001 Census, selected social and housing characteristics for Statistical Local Areas NT. Cat.No.2015.7.
2. Australia data- ABS 1996 & 2001 Census, selected social and housing characteristics. Cat. No. 2015.0.

- The structure of a family can influence the level of resources and availability of social supports necessary for healthy family functioning. The AIHW has reported that children in one-parent families have greater risk of a lower health status and use health services more frequently than children in two parent families.⁴
- From ABS 2001 census data, the proportion of one-parent NT Indigenous families (23.5%) was just over twice the proportion for the non-Indigenous population (11.2%).
- Between the 1996 and 2001 censuses, there was a marginal increase of 0.4% in the proportion of one-parent NT non-Indigenous families and a more significant decrease of 1.3% to 23.5% in the proportion of NT Indigenous one-parent families.
- In 2001, there was a modest difference in the proportion of couple families with dependents between NT Indigenous (46.5%), NT non-Indigenous (42.6%) and Australian (38.6%) populations.
- Caution must be exercised when interpreting information that highlights differences between Indigenous and non-Indigenous families because of the culturally different meanings attached to the concepts of family unit, family relationships and family responsibilities.

3.2 Main language spoken at home, Northern Territory residents 2001

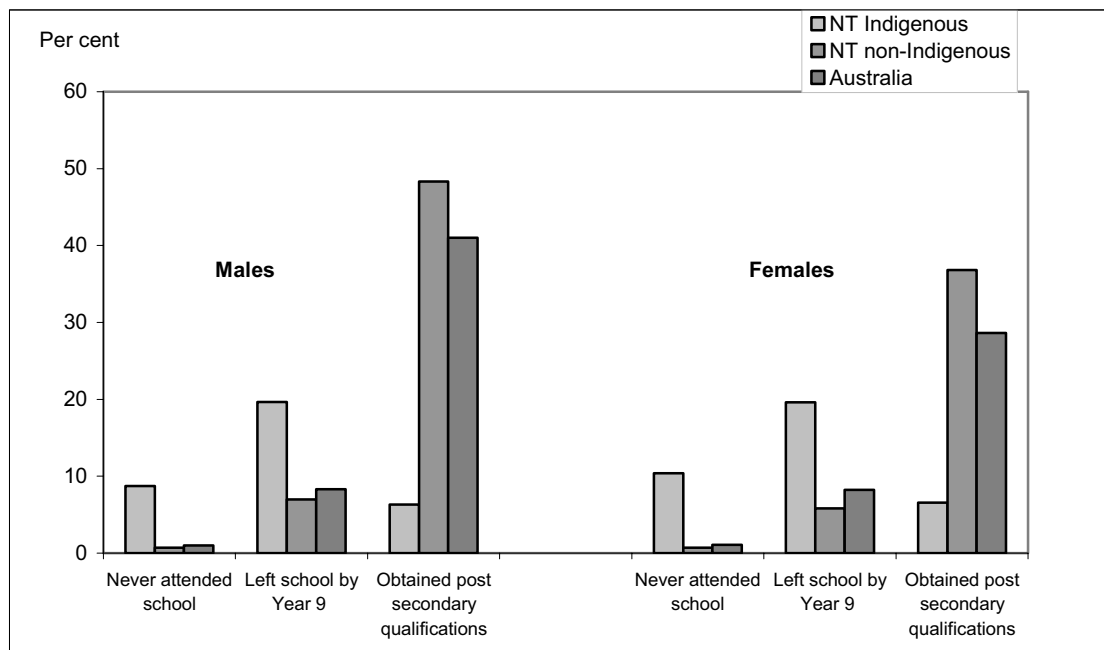


Main language spoken at home	Northern Territory (%)		Australia (%)	
	1996	2001	1996	2001
English only	70.6	68.9	81.9	80.0
Australian Indigenous language	15.0	15.4	0.3	0.3
Overseas language	8.2	7.4	14.8	14.9
Not stated	6.1	8.3	3.0	4.8
Total	100.0	100.0	100.0	100.0

Source: 1. NT data- ABS 1996 & 2001 Census, selected social and housing characteristics for Statistical Local Areas NT, Cat.No.2015.7.
 2. Australia data- ABS 1996 & 2001 Census, selected social and housing characteristics. Cat. No. 2015.0.

- In Australia, those whose main language is not English can experience communication barriers that may disadvantage their personal, economic and social development. Communication difficulties may also reduce the use of health services.
- The ABS 2001 Census reports, 68.9% of people in the Northern Territory spoke English as their main language at home compared with 80.0% for the total Australian population. Seven percent of NT residents mainly used an overseas-based language at home compared with 14.9% for the whole of Australia.
- In the 2001 census, 15.4% of all NT residents aged five years and over reported speaking an Indigenous language compared with 0.3% for Australia.
- The ABS Aboriginal and Torres Strait Islander Social Survey (NATSISS, 2002), estimated that 63.0% of NT Indigenous people aged 13 years and over spoke an Indigenous language as their main form of language communication.⁵
- Indigenous people who reside in rural and remote areas are more likely to speak an Indigenous language than those who reside in an urban area. The ABS National Aboriginal and Torres Strait Islander Survey reported that 74.0% of NT Indigenous people who resided in rural areas spoke an Indigenous language as their main language spoken at home, compared with 8% of those residing in non-remote areas.⁵

3.3 Educational attainment, Northern Territory and Australia 2001



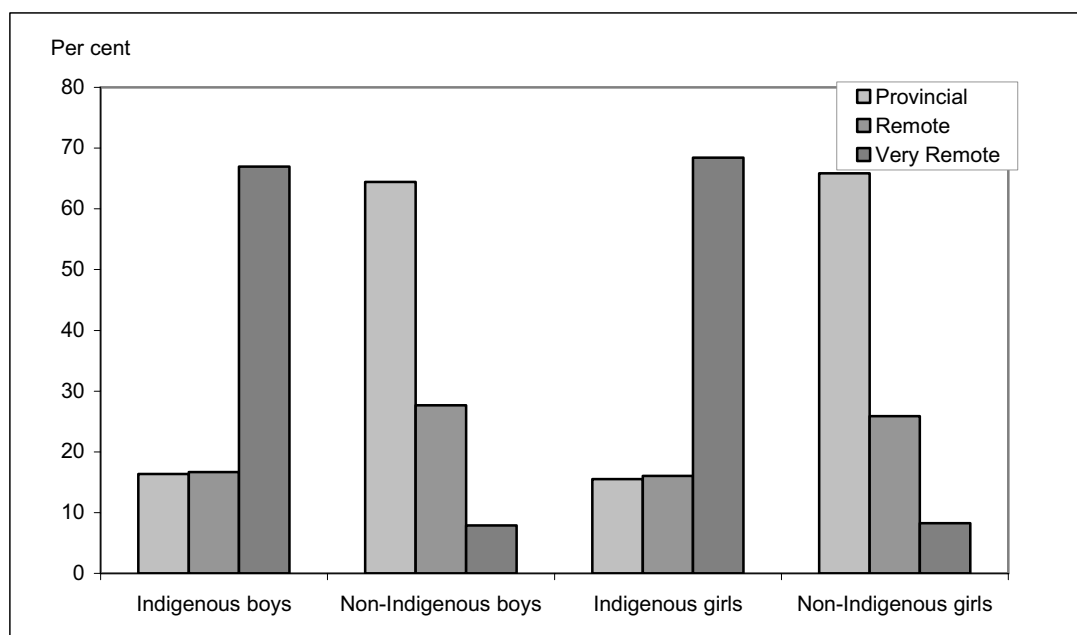
	NT Indigenous (%)	NT non-Indigenous (%)	Australia (%)
Males			
Never attended school	8.7	0.7	1.0
Attended school and left school by Year 9	19.7	7.0	8.3
Obtained post secondary qualifications	6.3	48.3	41.0
Females			
Never attended school	10.4	0.7	1.1
Attended school and left school by Year 9	19.6	5.8	8.2
Obtained post secondary qualifications	6.5	36.8	28.6

Note: The data are reported for the population, aged 15 years and over.

Source: 1. NT data- ABS 1996 & 2001 Census, selected social and housing characteristics for Statistical Local Areas NT, Cat.No.2015.7.
 2. Australia data- ABS 1996 & 2001 Census, selected social and housing characteristics. Cat. No. 2015.0.

- Education directly influences health status and health behaviours. In addition to improving employment opportunities, education contributes to the development of skills necessary for parents to promote healthy behaviours in their children, and for the children to maintain these behaviours.
- The ABS 2001 Census reports that only a small proportion (0.7%) of NT non-Indigenous people had not received some school education. By contrast, 8.7% of the NT Indigenous population had never attended school.
- NT non-Indigenous males were 7.7 times more likely to have obtained a post-secondary school qualification than NT Indigenous males. NT non-Indigenous females were 5.7 times more likely to have obtained a post-secondary school qualification than Indigenous females
- The ABS National Aboriginal and Torres Strait Islander Social Survey (2002), estimates that the proportion of NT Indigenous people (aged 15 years and over) with a non-school qualification (eg. from university, TAFE, etc.) more than doubled between 1994 and 2002, from 6.0% to 13.0%.^{5,6}
- Although a greater proportion of NT non-Indigenous males (7.0%) than NT non-Indigenous females (5.8%) left school by Year 9, males (48.3%) were much more likely to have obtained post-secondary qualifications than females (36.8%).

3.4 Pre-school enrolment by Indigenous status and gender, Northern Territory locations



Year		Boys				Girls			
		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
2003	Provincial	116	14.8	711	67.6	105	14.0	612	67.3
	Remote	139	17.8	276	26.2	125	16.7	237	26.1
	Very remote	528	67.4	65	6.2	518	69.3	60	6.6
	Total	783	100.0	1 052	100.0	748	100.0	909	100.0
2004	Provincial	128	16.2	679	60.5	123	16.6	616	63.2
	Remote	137	17.4	327	29.1	114	15.4	250	25.7
	Very remote	524	66.4	116	10.3	504	68.0	108	11.1
	Total	789	100.0	1 122	100.0	741	100.0	974	100.0
2005	Provincial	145	18.0	702	65.5	116	16.0	640	67.2
	Remote	121	15.0	295	27.5	116	16.0	247	25.9
	Very remote	541	67.0	75	7.0	494	68.0	66	6.9
	Total	807	100.0	1 072	100.0	726	100.0	953	100.0
Total		2 379		3 246		2 215		2 836	

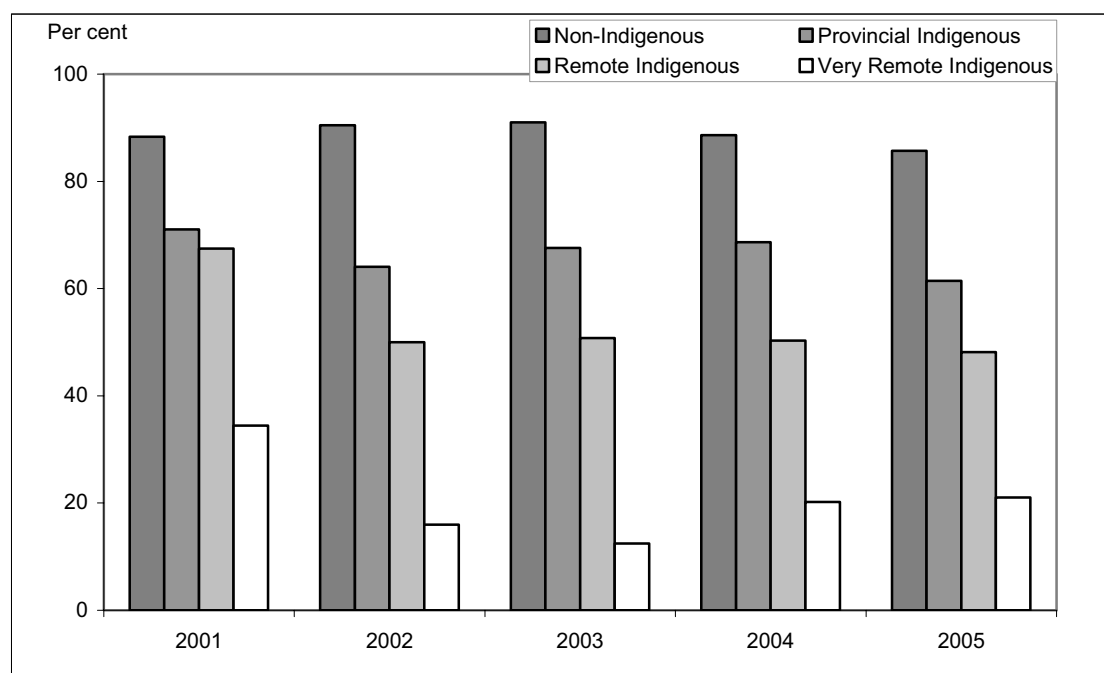
Note: A number of geographic classifications are included in this report. The NT education department uses a classification in which "Provincial" refers to the Darwin and Palmerston area.

Source: Northern Territory Department of Employment, Education and Training 2003–2005 (unpublished data).

- The proportion of children enrolled in the different locations is generally consistent with the distribution of Indigenous and non-Indigenous populations across these locations.

Indigenous children form the majority of pre-school enrolments in very remote locations and non-Indigenous children are the majority in Provincial locations.

3.5 Northern Territory students achieving Year 3 literacy benchmark by Indigenous status and location, 2001 to 2005



	2001	2002	2003	2004	2005
Per cent of NT students achieving Year 3 literacy benchmark					
Non-Indigenous	88	90	91	89	86
Provincial Indigenous	71	64	68	69	61
Remote Indigenous	67	50	51	50	48
Very Remote Indigenous	34	16	12	20	21

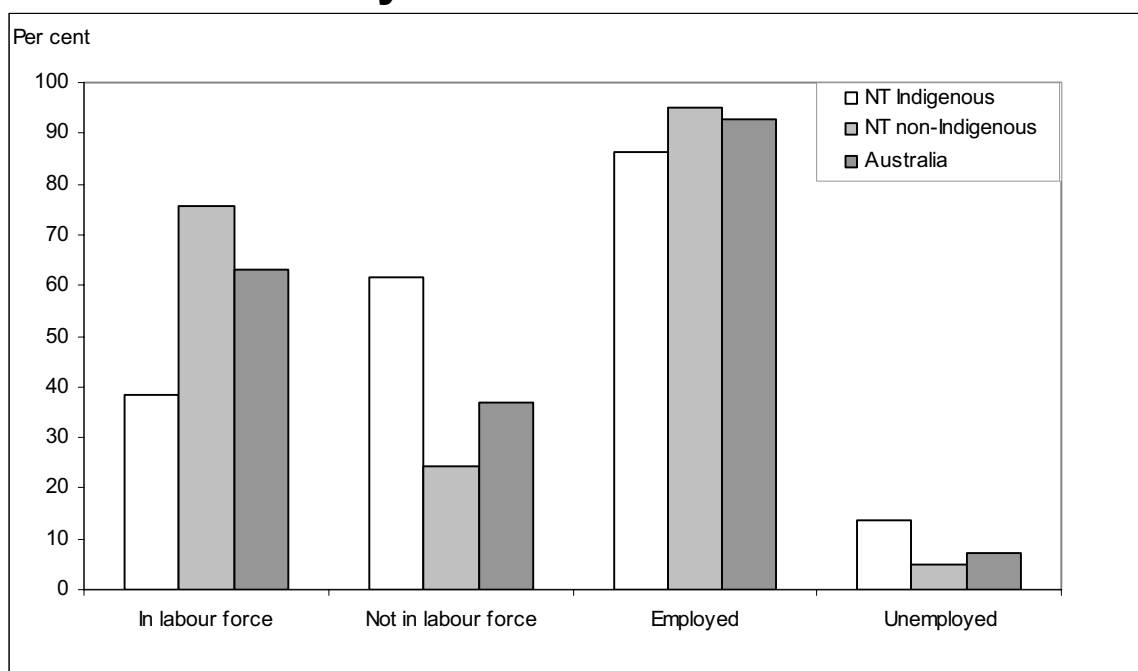
Notes: 1. A number of geographic classifications are included in this report. The NT education department uses a classification in which "Provincial" refers to the Darwin and Palmerston area.

2. The data in this table includes both public and private schools of the Northern Territory.

Source: Northern Territory Department of Employment, Education and Training 2001–2005 (unpublished data).

- Each year, NT students in Years 3, 5 and 7 participate in a national assessment under the Multilevel Assessment Program (MAP). The assessment includes separate testing of numeracy, literacy, writing and spelling. The result presented in the graph and table are expressed as the percentage of children who achieve the minimum level of achievement or national benchmark.
- Approximately 90% of non-Indigenous children across all schools in the Northern Territory achieved the benchmark for Year 3 literacy during the five years from 2001 to 2005.
- For Indigenous students there is a clear gradient in educational attainment. In the Provincial schools in Darwin, and Palmerston, between 61% and 71% of children achieved the benchmark across the five years of data. For students in remote locations this proportion fell as low as 48% in 2005. In the same year only 21% of Indigenous students from Very Remote locations achieved the national benchmark.

3.6 Labour force participation and employment, Northern Territory and Australia 2001



	NT Indigenous (%)		NT non-Indigenous (%)		Australia (%)	
	1996	2001	1996	2001	1996	2001
Labour force participation						
In labour force (%)	42.3	38.5	74.7	75.5	61.9	63.0
Not in labour force (%)	57.7	61.5	25.3	24.5	38.1	37.0
Employment						
Employed (%)	82.4	86.5	94.1	95.1	90.8	92.6
Unemployed (%)	17.6	13.5	5.9	4.9	9.2	7.4

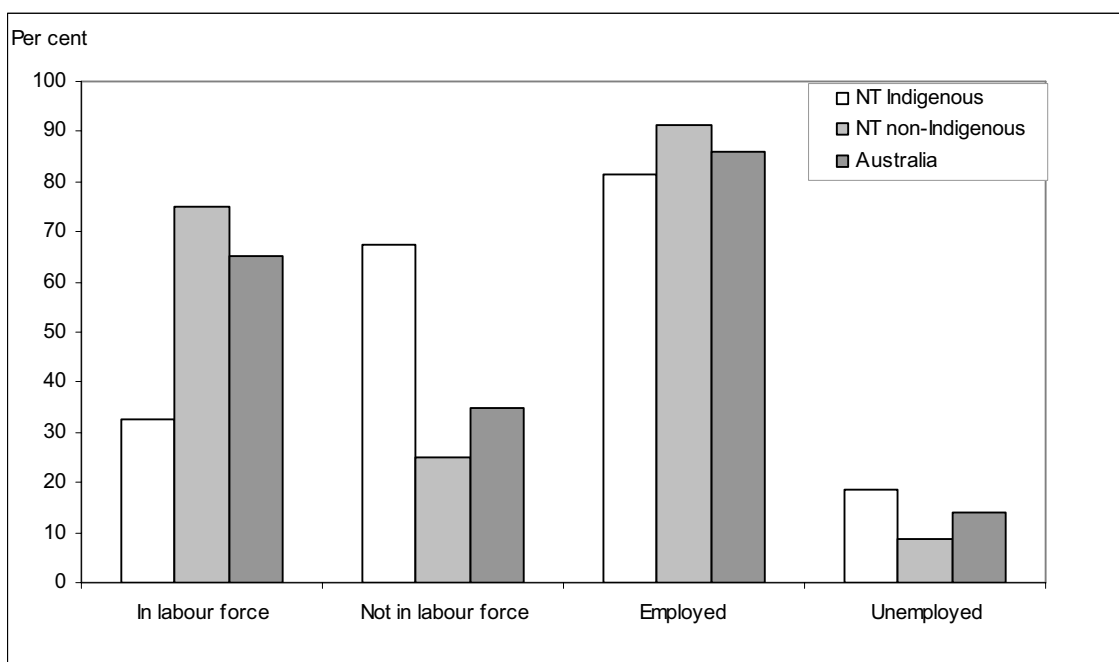
Note: These data exclude respondents who did not state their Indigenous status or labour force status.

Sources: 1. NT data- ABS 1996 & 2001 Census, selected social and housing characteristics for Statistical Local Areas NT, Cat.No.2015.7.

2. Australia data- ABS 1996 & 2001 Census, selected social and housing characteristics. Cat. No. 2015.0.

- For most people, access to financial resources is highly influenced by their ability to participate in the labour force. Employment is influenced by both willingness to work and the availability of work opportunities.
- There is substantial evidence that unemployed people are at greater risk of ill health. In addition to the direct impact on the worker, unemployment may result in stress and social isolation for the family and consequently have a negative impact on the wellbeing of children.
- Between 1996 and 2001, the labour force participation rate declined from 42.3% to 38.5% for the NT Indigenous population, and increased from 74.7% to 75.5% for the NT non-Indigenous population. In contrast, over the same period there has been a reduction in unemployment rates for both populations. The NT Indigenous unemployment rate improved from 17.6% in 1996 to 13.5% in 2001, and the non-Indigenous rate improved from 5.8% to 4.9%. Despite the substantial improvement, the 2001 Indigenous unemployment rate remained 2.7 times higher than the corresponding non-Indigenous rate.
- In 2001, every 100 NT Indigenous working adults aged 15–64 years supported 174 Indigenous children aged 0–14 years. The corresponding ratio for the non-Indigenous population was 100 working adults supporting 46 children.

3.7 Labour force participation and employment for young people, Northern Territory and Australia 2001



	NT Indigenous (%)		NT non-Indigenous (%)		Australia (%)	
	1996	2001	1996	2001	1996	2001
Labour force participation						
In labour force	39.5	32.5	74.9	75.1	65.2	65.2
Not in labour force	60.5	67.5	25.1	24.9	34.8	34.8
Employment						
Regular employment	38.1	32.3	89.6	91	84.3	85.8
Employed under CDEP	38.6	49.0	0.0	0.3	0.0	0.4
Total employed	76.7	81.3	89.6	91.3	84.3	86.2
Unemployed	23.3	18.7	10.4	8.7	15.7	13.8

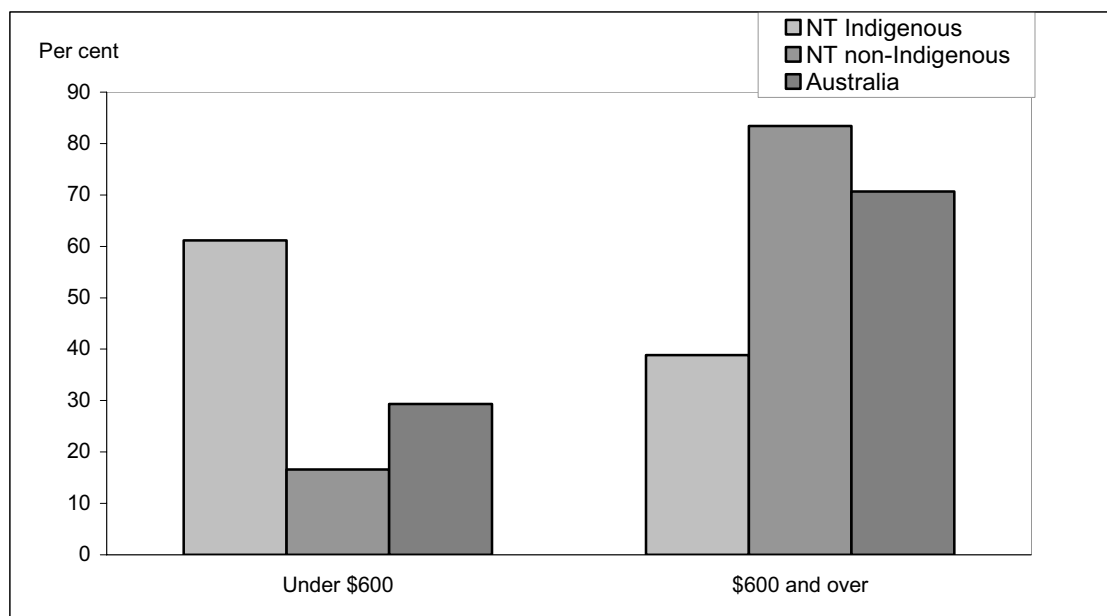
Note: These data exclude respondents who did not state their Indigenous status or labour force status.

Sources: 1.NT data- ABS 1996 & 2001Census, selected social and housing characteristics for Statistical Local Areas NT, Cat.No.2015.7.

2.Australia data- ABS 1996 & 2001 Census, selected social and housing characteristics. Cat. No. 2015.0.

- Transition into the workforce most often occurs between 15 and 24 years of age. This can be a vulnerable period in life and youth unemployment has been associated with poor physical and emotional health, low self confidence, depression and an increased prevalence of attempted suicide.^{7,8} Labour force participation rates tends to be lower, and the unemployment rates higher in this age group, than the corresponding rates for the general population.
- In 2001, 81.3% of the NT Indigenous labour force aged 15 to 24 were employed. This proportion was made up of 32.3% in regular employment and 49.0% employed under the Community Development Employment Program (CDEP).
- The rate of employment for young non-Indigenous Territorians remained consistently higher than the Indigenous rate and was 91.3% in 2001.
- The unemployment rate among 15–24 year old NT Indigenous population improved from 23.3% in 1996 to 18.7% in 2001. This remained more than twice the rate for the corresponding NT non-Indigenous population that also improved from 10.4% in 1996 to 8.7% in 2001.

3.8 Average weekly family income, Northern Territory and Australia 2001



Weekly income (\$)	NT Indigenous (%)		NT non-Indigenous (%)		Australia (%)	
	1996	2001	1996	2001	1996	2001
	Per cent					
0–199	13.4	7.6	2.3	1.4	3.3	1.8
200–599	55.0	53.5	19.5	15.2	36.4	27.5
600–999	19.9	21.2	29.9	20.2	28.1	24.2
1000 and over	11.8	17.7	48.4	63.2	32.2	46.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: These data exclude respondents who did not state their Indigenous status or labour force status.

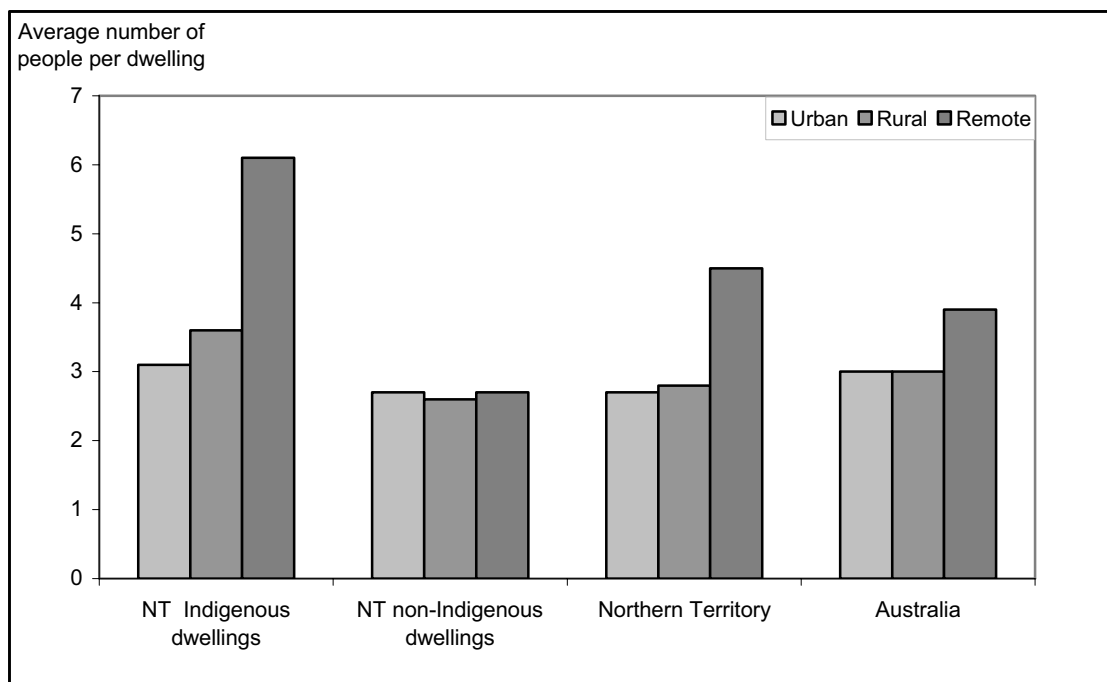
Sources: 1. NT data- ABS 1996 & 2001 Census, selected social and housing characteristics for Statistical Local Areas NT,

Cat.No.2015.7.

2. Australia data- ABS 1996 & 2001 Census, selected social and housing characteristics. Cat. No. 2015.0.

- Family income is probably the single most important determinant of socio-economic status, and reflects the level of resources available to families to help meet the needs of their children. Australian children in families with lower income have been shown to have more serious chronic illnesses and lower adoption of health promoting practices such as immunisation and breastfeeding.⁹
- The Institute of Applied Economic and Social Research has calculated that to avoid poverty in 1997, a family unit comprised of a single working parent with two dependent children required a weekly income of at least \$368, and a couple family (with one adult working) and two children required at least \$445 per week. Using the 1996 Census data and 1996 prices, the NT non-Indigenous estimated average weekly family income rose by 15% from \$978 in 1996 to \$1123 in 2001. In contrast, the NT Indigenous family income rose in real terms by only 3% from \$429 in 1996 to \$441 in 2001.¹⁰
- In 2001, 61.1% of Indigenous families had an income of less than \$600 per week, compared with 16.6% of NT non-Indigenous families. At the other end of the scale, only 17.7% of NT Indigenous families had an income of greater than \$1000 per week compared with 63.2% of non-Indigenous families.

3.9 Household occupancy, Northern Territory and Australia

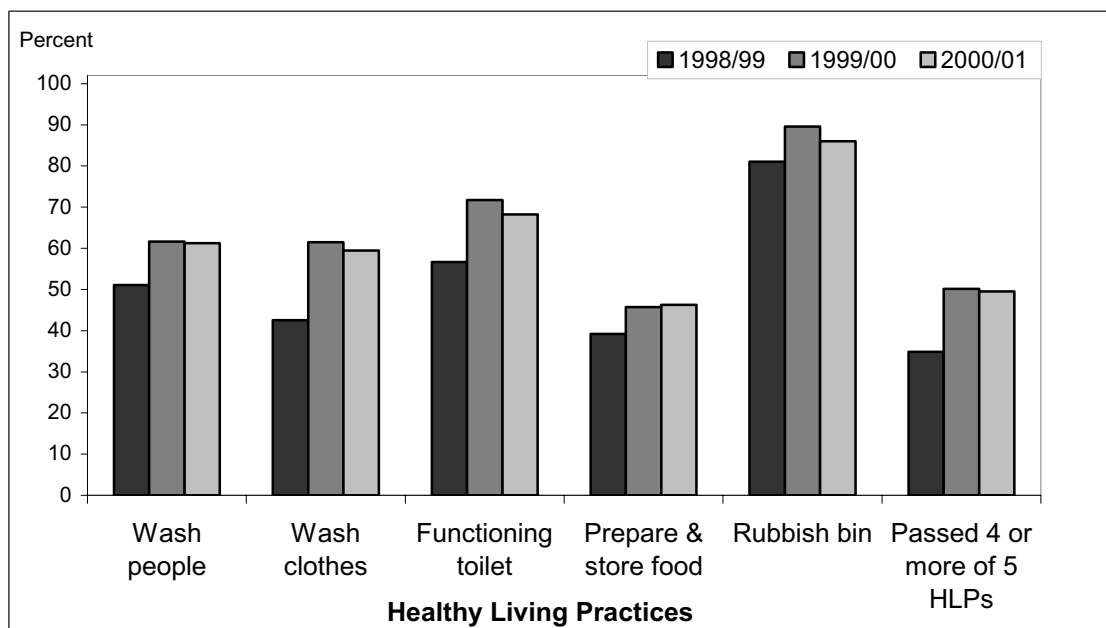


	NT Indigenous dwellings	NT non-Indigenous dwellings	Northern Territory	Australia
Urban	3.1	2.7	2.7	3.0
Rural	3.6	2.6	2.8	3.0
Remote	6.1	2.7	4.5	3.9

Note: A number of geographic classifications are included in this report. In this data, "Urban" refers to the Darwin Urban area; "Rural" includes the rural area of Darwin, plus the towns of Katherine and Alice Springs, and "Remote" contains the balance of NT dwellings. Source: Stevens M and Bailie R. Menzies School of Health Research and Department of Community Development, Sport and Cultural Affairs, Environmental Health Survey (unpublished data) 2002.

- Adequate housing is required to meet basic human need for shelter and has a direct impact on health and welfare. To understand information on the adequacy of housing, the AIHW has highlighted the need to include dimensions of homelessness, overcrowding, physical adequacy, lack of utilities and services to housing, affordability and security of tenure. The impact of these dimensions on different communities will vary according to cultural values and expectations.
- As data on all these dimensions are not readily available, emphasis has been placed on overcrowding, with the related issues of lack of privacy, stress on interpersonal relationships and stress on the infrastructure necessary for healthy household functioning. For this report, information on overcrowding has been presented as the average number of persons per dwelling.¹¹
 - According to both the 1996 and 2001 ABS censuses, there was no difference in the average number of persons per dwelling between the NT non-Indigenous and the Australian populations.
 - In 1996, there were 5.4 persons per dwelling for the NT Indigenous population compared with 2.7 for the non-Indigenous population, a ratio of 2 to 1. By 2001 there was some reduction in household occupancy but an Indigenous rate of 4.6 and a corresponding non-Indigenous rate of 2.6, giving a ratio of 1.8 to 1.

3.10 Percentage of dwellings meeting five healthy living practices



Survey year	Proportion of dwellings meeting healthy living practices					Dwellings surveyed	Communities surveyed
	Zero	One	Two	Three	Four or more		
1998/99	7.9	17.9	20.7	18.7	34.9	2 658	229
1999/00	4.1	9.4	14.6	21.8	50.2	2 354	129
2000/01	6.4	10.0	12.6	21.5	49.5	2 261	181
Difference between 2000/01 to 1998/99	-1.5	-7.9	-8.0	2.8	14.7	-	-

Note: Surveys were conducted during financial years.

Source: Stevens M and Bailie R. Menzies School of Health Research and Department of Community Development, Sport and Cultural Affairs, Environmental Health Survey (unpublished data) 2002.

- Lack of utilities and physical inadequacies of health hardware are major barriers to improving health in Indigenous communities. Pholeros et al (1993) defined nine healthy living practices, which relate to health hardware in and around dwellings. Reporting of the state of facilities to support healthy living practices is widely used by both federal and state governments to assess the condition of Indigenous housing, particularly in rural and remote areas. Within the Northern Territory results have been recorded for five of the healthy living practices in three annual surveys between 1998/99 and 2000/01 as part of the NT Department of Community Development, Sport and Cultural Affairs Environmental Health Survey.¹¹
- In all three surveys, less than 50% of dwellings had functioning facilities for the preparation and storage of food. Overall approximately 50% of dwellings had functioning facilities for four or five of the five healthy living practices.
- The data suggest that between 1998/99 and 1999/00 there were significant improvements in the proportion of dwellings meeting the criteria for five healthy living practices, but that there was no additional improvement between 1999/2000 and 2000/01. The differences may be a limitation of the survey methodology, in which only a minority of houses were re-assessed in consecutive years. As an example only 946 dwellings (40%) were surveyed in the consecutive surveys of 1999/00 and 2000/01. The comparisons across years should therefore only be considered as a supportive and not a conclusive indication of improvement.

4 Mothers and babies

Teenage mothers

- Teenage mothers by district, 2000 to 2002

Birthweight

- Birthweight trends by Indigenous status

Smoking during pregnancy

- Smoking in the first and third trimesters of pregnancy

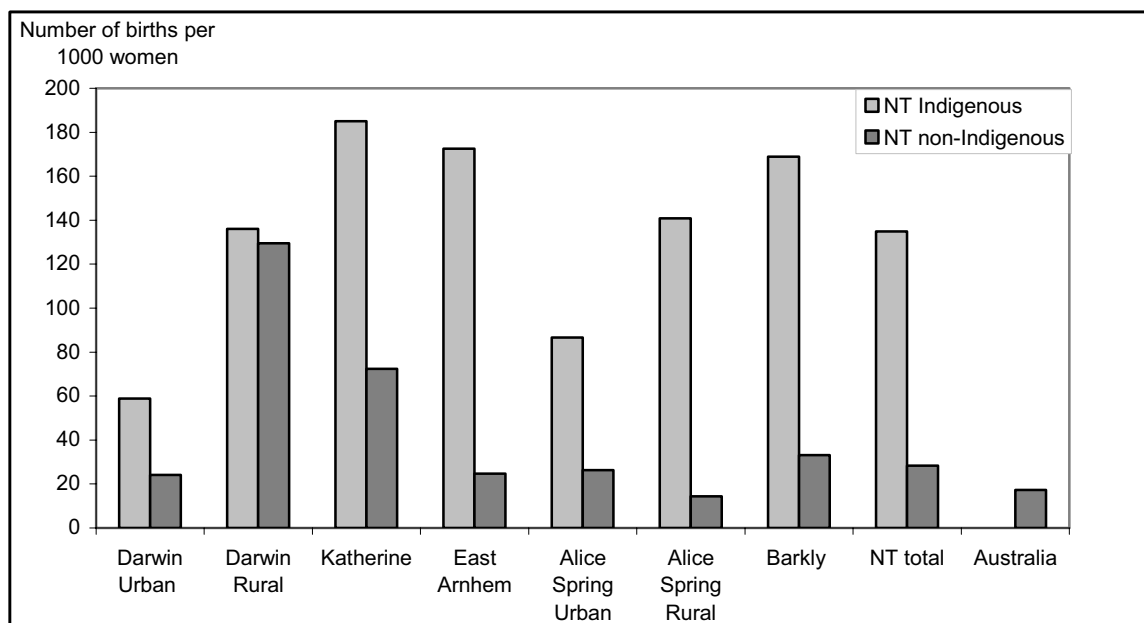
Alcohol during pregnancy

- Alcohol consumption in the first and third trimesters of pregnancy

Substance use and birthweight

- Birthweight, smoking and alcohol consumption

4.1 Teenage mothers by Northern Territory health district, 2000 to 2002



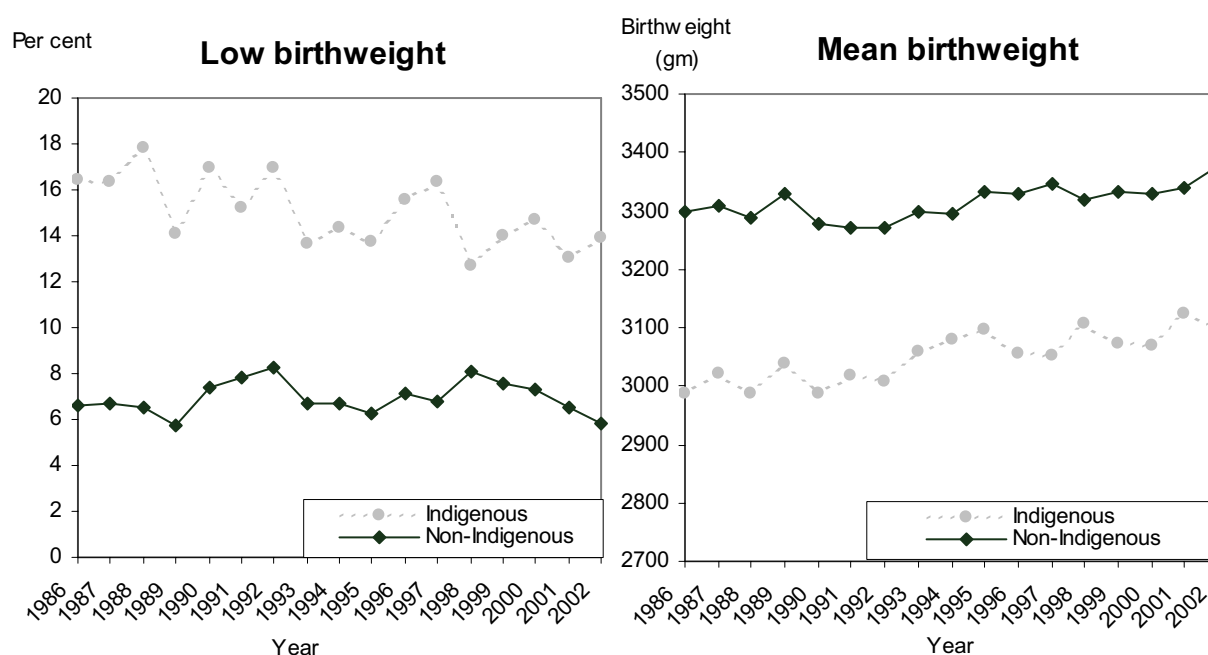
	Darwin Urban	Darwin Rural	Katherine	East Arnhem	Alice Springs Urban	Alice Springs Rural	Barkly	NT total	Australia
Rate of teenage mothers per 1000 women aged 15-19 years									
NT Indigenous	58.9	136.1	185.0	172.6	86.7	140.9	168.9	134.9	
NT non-Indigenous	24.2	129.5	72.4	24.7	26.3	14.4	33.2	28.4	17.3
Proportion of teenage mothers among all mothers (%)									
NT Indigenous	18.4	29.8	35.5	32.4	21.5	37.3	34.9	30.7	
NT non-Indigenous	4.9	7.9	10.1	3.2	5.4	2.2	7.7	5.4	4.9
Proportion of teenage mothers aged less than 18 years among all teenage mothers (%)									
NT Indigenous	46.9	55.2	54.5	61.4	60.6	63.0	53.3	57.3	
NT non-Indigenous	29.2	50.0	42.9	25.0	25.9	50.0	28.6	31.7	n/a

Sources: 1. Midwives Collection, Northern Territory Department of Health and Community Services 2000-2002 (unpublished data).

2. ABS: Births, Australia. 2002. Cat no. 3301.0

- Bearing children at a very early age can be detrimental to the health of both the baby and mother. Teenage mothers are more likely to experience complications during pregnancy, during delivery and after delivery. The babies of teenage mothers are more likely to be born prematurely, experience complications during delivery and to have low birthweight.
- At 134.9 births per thousand, NT teenage women gave birth at a rate almost five times that of NT non-Indigenous teenage women (28.4). The NT non-Indigenous rate for teenage women was 1.6 times higher than the rate for all teenage Australians (17.3).
- The teenage pregnancy rate was higher for Indigenous women than non-Indigenous women in all NT health districts.
- Non-Indigenous women in Darwin Rural district had a higher non-Indigenous teenage pregnancy rate than other districts.
- The health risk of teenage motherhood increases with younger age. The proportion of teenage Indigenous mothers aged less than 18 (57.3%) was much greater than teenage non-Indigenous mothers (31.7%).

4.2 Birthweight trends by Indigenous status

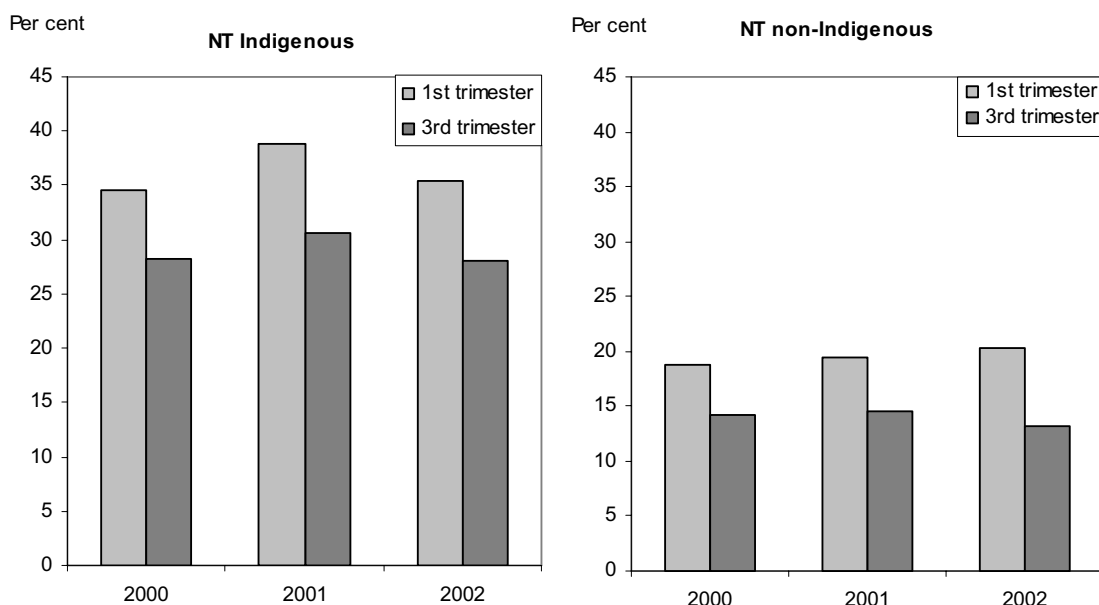


	Proportion of low birthweight infants (%)		Mean birthweight of infants (gm)		
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Difference
1986	16.4	6.6	2986	3298	- 312
1987	16.3	6.7	3020	3310	- 290
1988	17.9	6.5	2986	3289	- 303
1989	14.1	5.8	3038	3328	- 291
1990	17.0	7.4	2989	3276	- 288
1991	15.2	7.9	3017	3270	- 253
1992	16.9	8.2	3007	3270	- 263
1993	13.6	6.7	3059	3298	- 239
1994	14.4	6.7	3080	3295	- 215
1995	13.7	6.2	3098	3333	- 235
1996	15.5	7.2	3057	3329	- 272
1997	16.4	6.8	3051	3348	- 297
1998	12.7	8.1	3106	3319	- 213
1999	14.0	7.5	3072	3334	- 262
2000	14.7	7.3	3071	3330	- 259
2001	13.1	6.5	3125	3339	- 214
2002	14.0	5.8	3101	3376	- 275

Source: Northern Territory Midwives collection: NT Department of Health and Community Service, 1986–2002 (unpublished data).

- Birthweight is an important indicator of both the immediate health of the newborn and of the long-term risk of adult chronic disease. Low birthweight infants (less than 2500 grams) have a much higher risk of poor health.
- The proportion of NT Indigenous infants with a low birthweight has improved from about 16–18% in the late 1980s to 13–15% through the period from 1998 to 2002.
- The proportion of NT Indigenous infants with low birthweight has remained about twice the proportion of NT non-Indigenous infants.
- There has been a general increase in mean birthweight in both Indigenous and non-Indigenous infants. There has been a gradual narrowing in the gap between the two populations by an average of 3.3 grams per year.

4.3 Smoking in the first and third trimesters of pregnancy

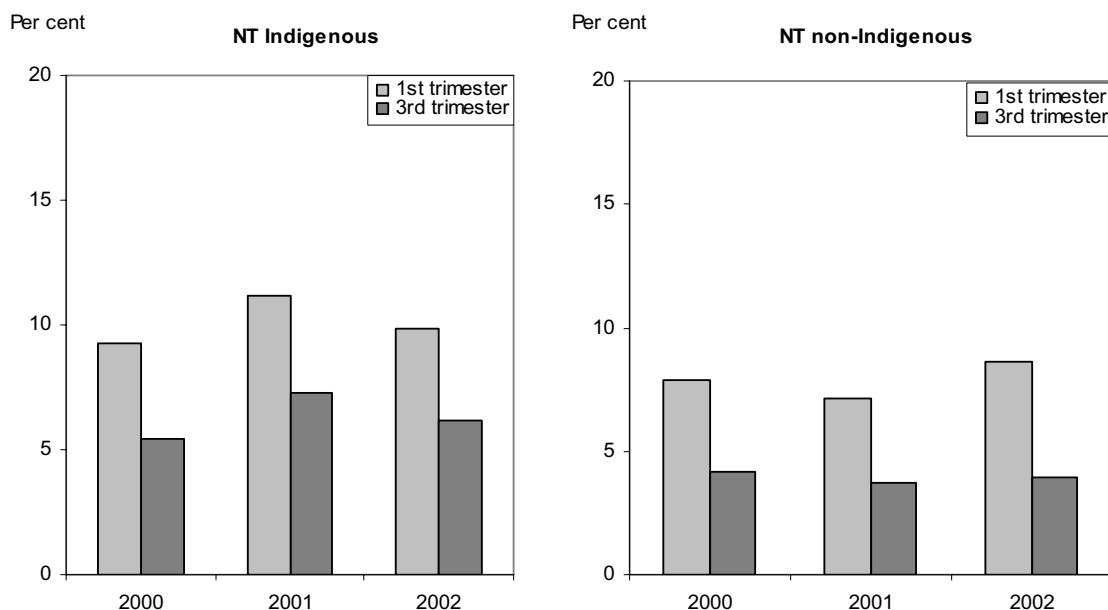


	Indigenous			Non-Indigenous		
	2000	2001	2002	2000	2001	2002
Proportion of antenatal women (%)						
1st trimester						
Smoker	34.6	38.9	35.4	18.8	19.4	20.3
Non-smoker	45.2	42.4	43.4	71.5	74.5	72.2
Unknown	20.2	18.7	21.1	9.7	6.1	7.5
3rd trimester						
Smoker	28.2	30.6	28.1	14.2	14.5	13.2
Non-smoker	46.5	43.1	43.1	69.4	70.9	65.7
Unknown	25.4	26.3	28.9	16.4	14.6	21.1

Source: Stewart ML, Li SQ. Northern Territory Midwives Collection: Mothers and Babies 2000-2002. Department of Health and Community Services, 2005.

- Smoking during pregnancy is harmful to the unborn child and increases the risk of intrauterine growth retardation, premature birth and low birthweight.
- Information on smoking in pregnancy is available from the NT Midwives Collection, and was reported for the first time in the 2000–2002 report.
- In 2002, the known rate of smoking in first trimester was 35.4% in Indigenous women and 20.3% in non-Indigenous women. There were a substantial proportion of women of unknown status and the true rates of smoking are likely to be higher in both groups.
- The smoking rates decreased during pregnancy and in 2002, the third trimester rates were 28.1% for Indigenous and 13.2% for non-Indigenous women. Again there are a significant proportion of women for whom smoking status was unknown and the results should therefore be interpreted with caution.

4.4 Alcohol consumption in the first and third trimesters of pregnancy

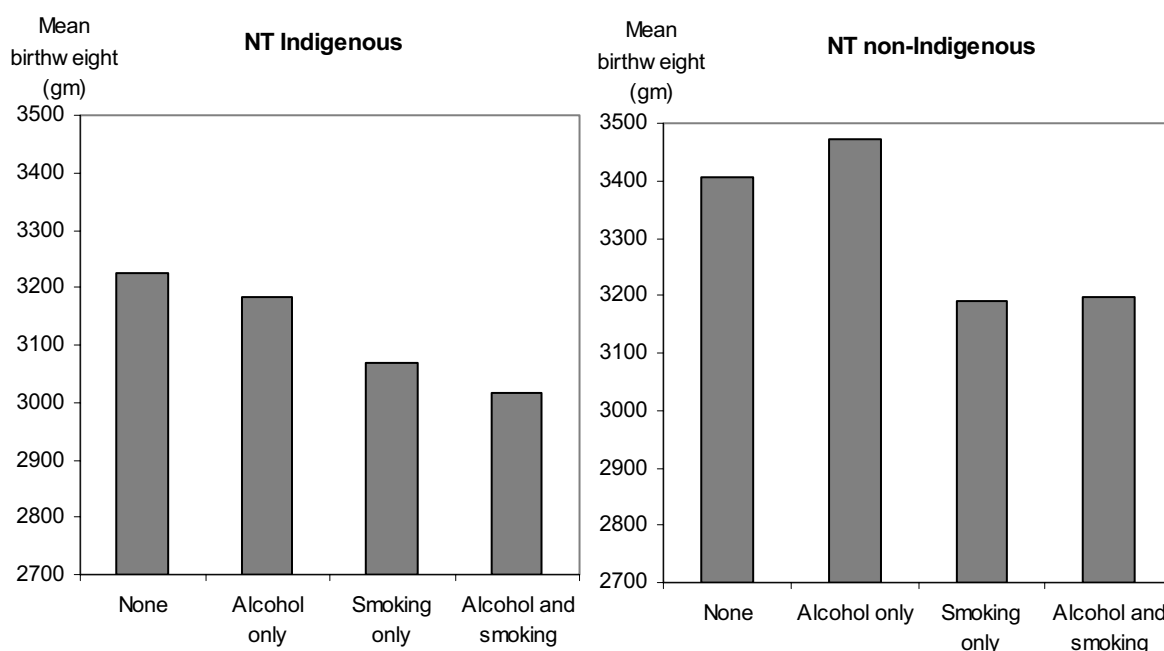


	Indigenous			Non-Indigenous		
	2000	2001	2002	2000	2001	2002
Proportion of antenatal women (%)						
1st trimester						
Consumed alcohol	9.3	11.2	9.8	7.9	7.1	8.6
Did not consume alcohol	67.8	66.5	65.2	79.4	84.0	81.1
Unknown	22.9	22.3	24.9	12.8	9.3	10.3
3rd trimester						
Consumed alcohol	5.4	7.3	6.2	4.2	3.7	3.9
Did not consume alcohol	66.4	63.5	60.9	76.4	81.0	72.5
Unknown	28.2	29.2	32.9	19.4	15.3	23.6

Source: Stewart ML, Li SQ. Northern Territory Midwives Collection: Mothers and Babies 2000-2002. Department of Health and Community Services, 2005.

- Consumption of alcohol during pregnancy is harmful to the unborn child and can result in fetal alcohol syndrome (FAS) and fetal alcohol spectrum disorder (FASD), with a variety of physical and intellectual problems depending on the developmental stage of the foetus when exposed to alcohol.
- Information on alcohol consumption during pregnancy is available from the NT Midwives Collection, and was reported for the first time in the 2000–02 report.¹²
- In 2002, the known rate of alcohol consumption in the first trimester of pregnancy was 9.8% in Indigenous women and 8.6% in non-Indigenous women. The rate declined in third trimester to 6.2% and 3.9% respectively. There were a substantial proportion of women of unknown status and the true rates of alcohol consumption are likely to be higher in both groups.
- This data does not provide information on the level of alcohol consumption. The risk of harm to the foetus increases with level and frequency of alcohol consumption. However, there is no known safe level of alcohol consumption and all pregnant women should be advised not to drink alcohol.

4.5 Birthweight, smoking and alcohol



	NT Indigenous	NT non-Indigenous
	Mean birthweight of infants (gm)	
Consumed neither alcohol nor smoked	3224	3405
Alcohol only	3183	3471
Smoking only	3070	3192
Alcohol and smoking	3015	3199

Source: Stewart ML, Li SQ. Northern Territory Midwives Collection: Mothers and Babies 2000-2002. Department of Health and Community Services, 2005.

- This graph presents the mean birthweight of NT Indigenous and non-Indigenous infants according to whether the mother smoked or consumed alcohol in the first trimester of pregnancy. The harmful effects of smoking and alcohol on the child are described on the preceding pages.
- There is a lower mean birthweight of babies for both Indigenous and non-Indigenous women who smoke during pregnancy. The effect on mean birthweight is increased for Indigenous women who also consume alcohol. There is little difference in birthweight of babies between non-Indigenous mothers who smoke compared with those who both smoke and consume alcohol.
- The effect of alcohol alone is less clear with a small reduction in the mean birthweight of babies to Indigenous mothers and an increase in birthweight of babies to non-Indigenous mothers. The reasons for these changes are unknown, however there are factors such as socio-economic conditions that will also have an effect on birthweight. The data does not provide detail on the level of alcohol consumption.

5 Nutrition and behavioural determinants

Breastfeeding

- Breastfeeding rates for infants

Growth

- Undernutrition in children from NT urban and remote areas, 2004
- Trends in the proportion of underweight children from remote Indigenous communities, 1999 to 2004
- Overweight and obesity in 4 to 6 year old children

Anaemia

- Anaemia in children from remote Indigenous communities

Nutrition

- Vegetable and fruit consumption by non-Indigenous children, 2004
- Fast food consumption by 1 to 12 year old non-Indigenous children, 2004

Physical activity

- Physical activity levels in non-Indigenous children, 2004
- Television viewing by non-Indigenous children, 2004

Immunisation

- Vaccination coverage for 0–6 year old children, 2003 to 2005
- Incidence of invasive pneumococcal disease in young children, 1999 to 2004

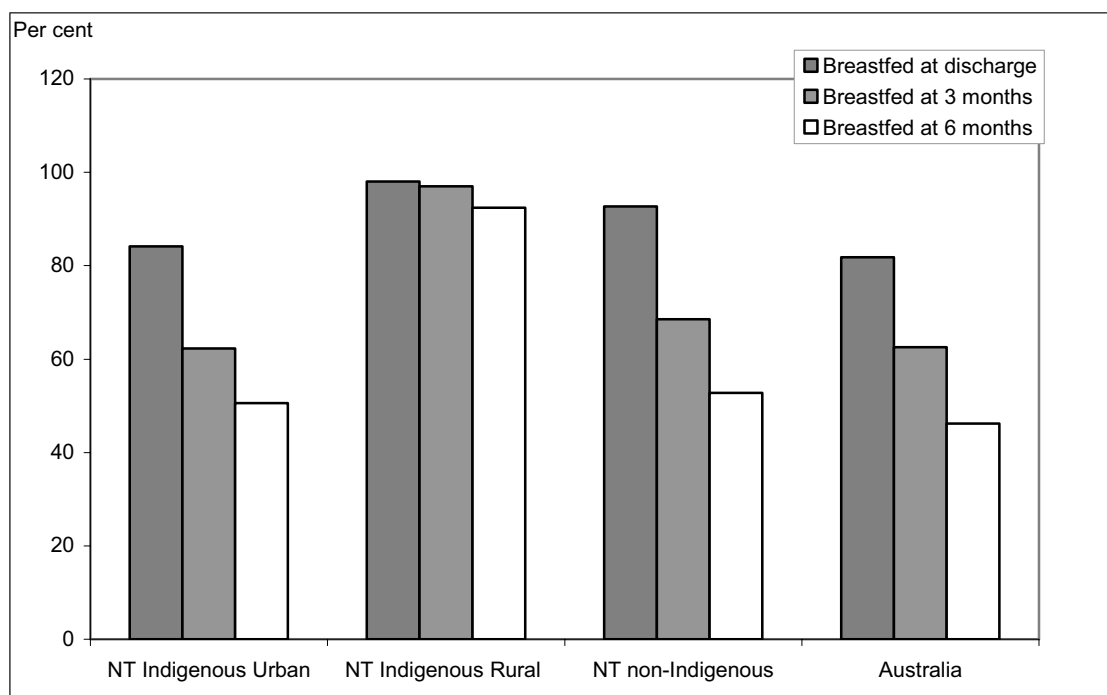
Smoking

- Smoking prevalence in young people

Alcohol

- Risky and high risk alcohol consumption in young people

5.1 Breastfeeding rates for infants



	Breastfed at hospital discharge after birth (%)	Breastfed at 3 months of age (%)	Breastfed at 6 months of age (%)
NT Indigenous			
Urban	84.1	62.3	50.6
Rural	98.0	97.0	92.4
NT non-Indigenous	92.7	68.5	52.8
Overall NT	92.7	73.3	59.3
Australia	81.8	62.6	46.2

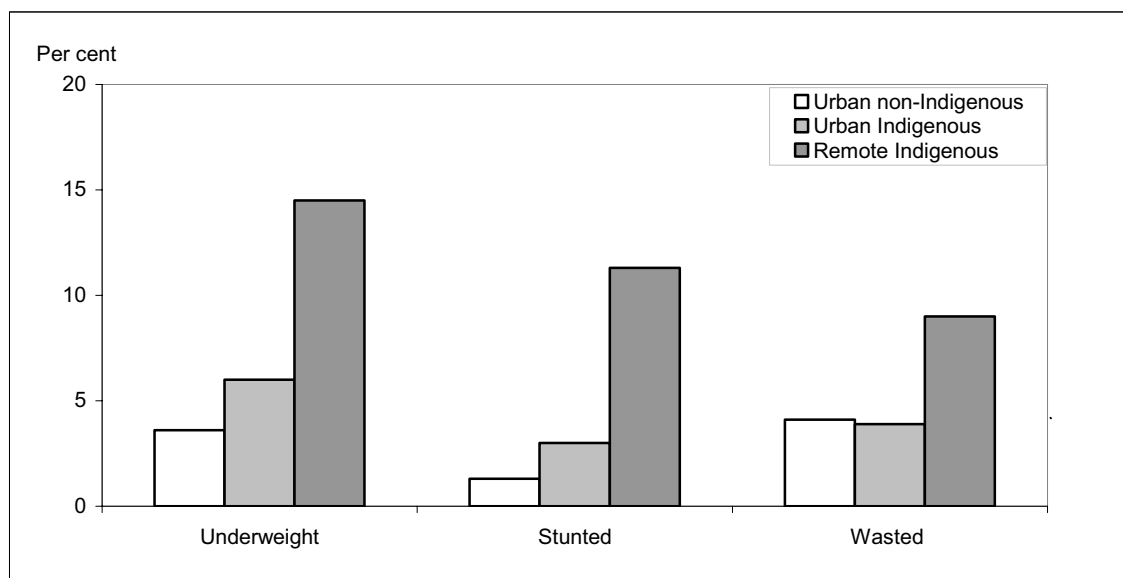
Note: In this graph and table, NT data includes "exclusive", "mixed" and "predominant" breastfeeding at each age. The data for Australia includes 'exclusive' and "partial" breastfeeding, and was collected between 1992 and 1995.

Sources: 1. NT chart audit for the period July to September 2003, Nutrition and Physical Activity Program, DHCS (unpublished).

2. Australia: AIHW. Australia's children, their health and wellbeing, 2002.

- Breastfeeding is the best method for feeding infants. Breastfeeding provides all of the infant's nutritional requirements for the first six months of life and in addition provides immunological, and psychological benefits. For children, the benefits include lower rates of respiratory illness and improved cognitive development. For mothers, breastfeeding assists in various ways, with both immediate benefits of child bonding and pregnancy spacing and longer term benefits of protection against ovarian cancer and breast cancer.¹³
- National targets for breastfeeding are: that greater than 90% of infants are breastfed at hospital discharge and 80% are breastfed at six months of age. Exclusive breastfeeding is recommended to six months of age.¹³
- Overall, 92.7% of Northern Territory infants were breastfed at hospital discharge after birth, but there was some variation between groups. The proportions for both NT non-Indigenous (92.7%) and NT Indigenous infants from rural areas (98.0%) exceeded the national target. The proportion for urban Indigenous infants (84.1%) was below the national target.
- Breastfeeding rates in the NT were consistently highest for Indigenous infants in rural areas and lowest for Indigenous infants in urban areas.
- The available breastfeeding data comes from intermittent surveys, in which there have been inconsistent definitions and methodology. These differences make comparison of the rates of "exclusive" breastfeeding difficult.

5.2 Undernutrition in children from NT urban and remote areas, 2004



	Urban non-Indigenous			Urban Indigenous			Remote Indigenous		
	Number	Cases	Per cent	Number	Cases	Per cent	Number	Cases	Per cent
Underweight	3 553	128	3.6	564	34	6.0	3 158	457	14.5
Stunted	3 300	43	1.3	499	15	3.0	3 155	358	11.3
Wasted	3 132	128	4.1	466	18	3.9	3 122	282	9.0

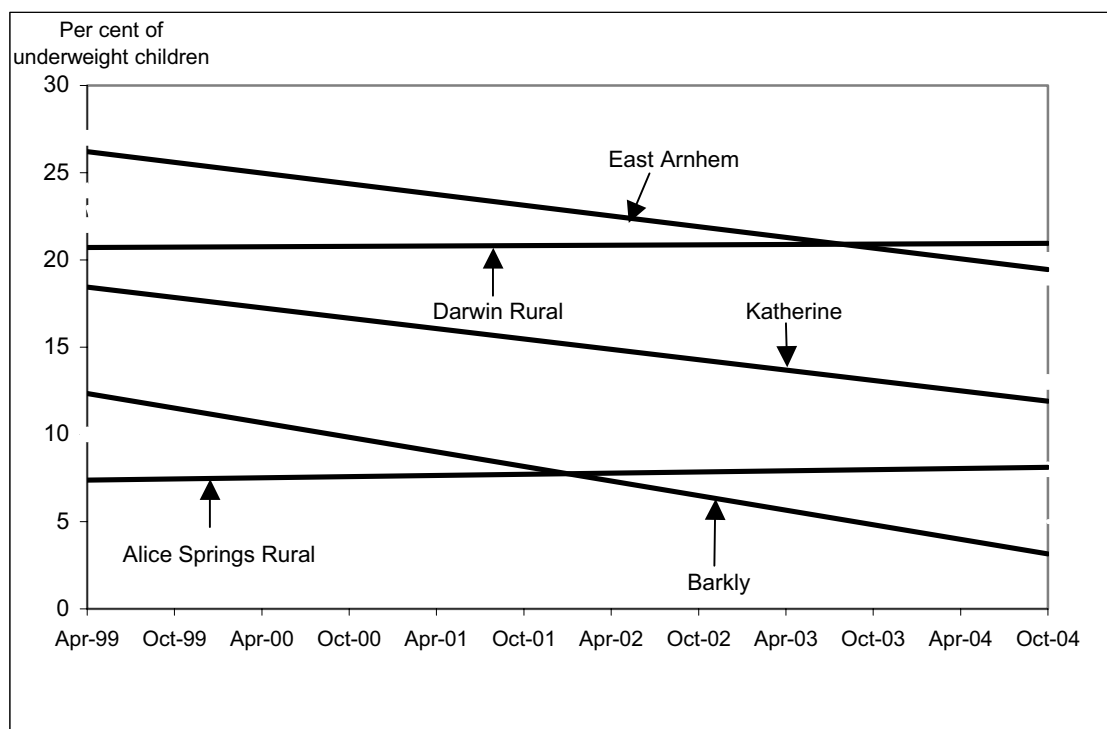
Note: The following definitions apply: underweight is a weight more than two standard deviations (2SD) below the median weight for age; stunting is a height of more than 2SD below the median height for age; and, wasting is a weight more than 2SD below the median weight for height.

Sources: 1. Data for NT urban Indigenous and urban non-Indigenous children: DHCS Community Care Information System (2004).

2. Data for NT remote Indigenous children: DHCS Growth Assessment and Action database (2004)

- Adequate nutrition is necessary to achieve good health. Undernutrition in children is associated with an increased susceptibility to infections and delayed motor and intellectual development.
- The internationally accepted measures of undernutrition are “underweight” (lighter than expected for age), “stunting” (shortness) and “wasting” (thinness).¹⁴ Wasting may occur as a result of inadequate food intake and/or illness. Stunting is a result of a slowing of skeletal growth in children, and indicates chronic undernutrition or chronic illness.
- Indigenous children in remote communities experience high levels of underweight (14.5%), stunting (11.3%) and wasting (9.0%).
- Urban non-Indigenous children have rates of underweight (3.6%), stunting (1.3%) and wasting (4.1%) which are similar to the expected prevalence (2.3%) in a healthy population profile.
- Urban Indigenous children have higher rates of underweight (6.0%) and stunting (3.0%), and similar rate of wasting (3.9%), compared with urban non-Indigenous children. However these rates may not be representative of all urban Indigenous children, as those not attending NT government providers are not reported.
- Urban growth data are available from routine child health checks at DHCS Community Care Centres and represent approximately 49% of the urban non-Indigenous and 30% of the Indigenous urban under 5 year old child population.
- Data from remote areas include the routine growth measurements of children from 76 communities with coverage of 79% of resident children measured in April 2004. Remote area non-Indigenous children are not reported as numbers are small.

5.3 Trends in the proportion of underweight children from remote Indigenous communities, 1999 to 2004



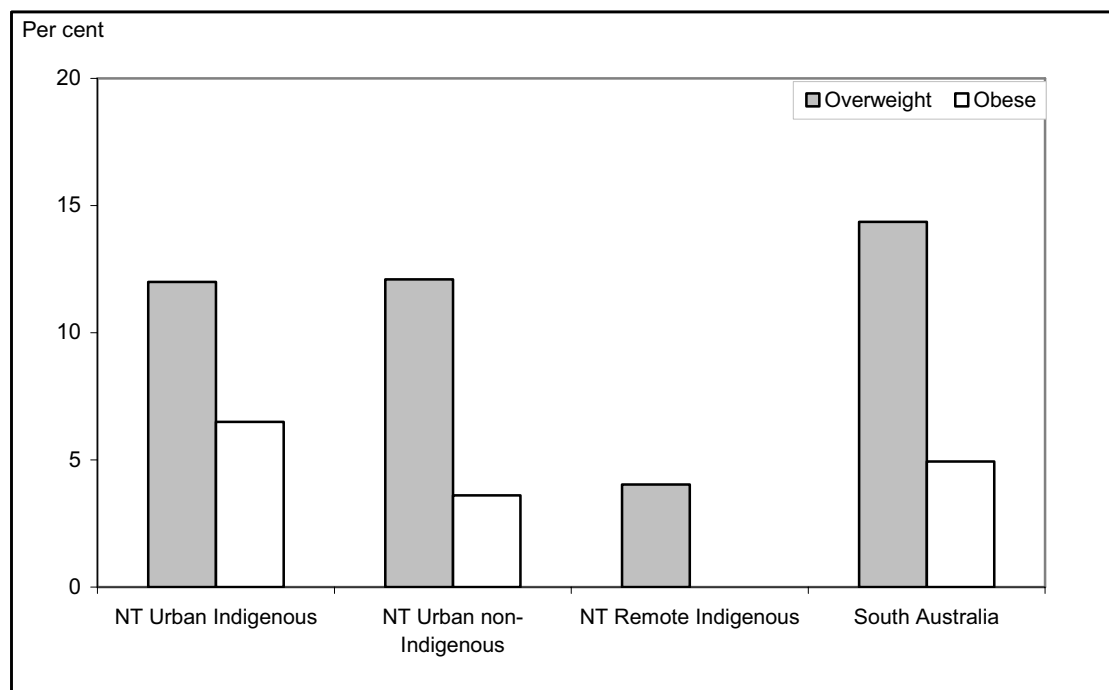
Notes: 1. The graph presents trend lines from the original data. The underlying data graph is hidden for presentational purposes.

2. Underweight is defined as a weight that is more than two standard deviations below the median weight for age.

Source: Data from DHCS Growth Assessment and Action database 1999-2004 (unpublished data).

- The Growth Assessment and Action (GAA) program commenced in 1998 and has included regular monitoring of nutritional status of remote area children aged from 0 to 5 years, with further assessment and intervention for those children who are not thriving. The program includes community and NT level reporting of nutritional status.
- Most remote NT communities have had more than 80% participation of children in the program and therefore the reported proportions are a good indication of nutritional status. The proportion of underweight children in remote communities was higher than in urban communities (see Indicator 5.2), however there was great variation between remote areas with higher rates of underweight children in the three Top End districts (East Arnhem, Darwin Rural and Katherine) than the two Central Australian districts (Alice Springs Rural and Barkly).
- During the period from 1999 to 2004, the proportion of children who were underweight decreased in East Arnhem, Katherine and Barkly districts. In Darwin Rural the high proportion of children who were underweight remained relatively constant. The results for Alice Springs Rural also remained relatively constant but at a level close to the expected prevalence in a healthy population.

5.4 Overweight and obesity in 4 to 6 year old children



	Overweight			Obese		
	Number	Cases	Per cent	Number	Cases	Per cent
Urban Indigenous	291	35	12.0	291	19	6.5
Urban non-Indigenous	1551	187	12.1	1551	56	3.6
Remote Indigenous	570	23	4.0	570	0	0.0
South Australia	10 345	1486	14.4	10 345	511	4.9

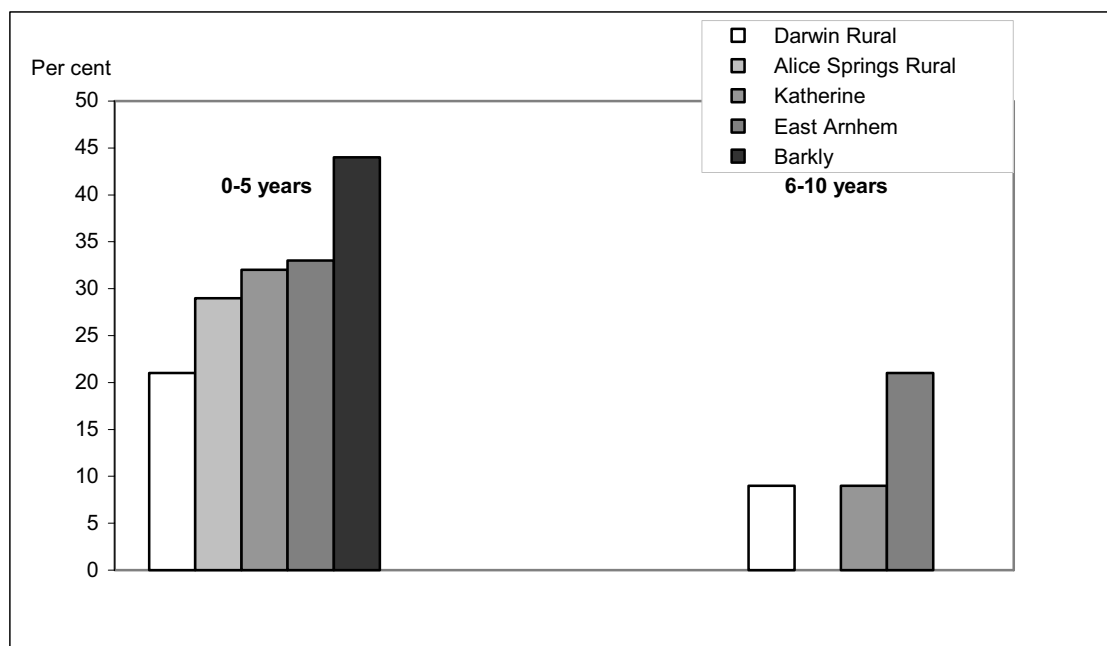
Sources: 1. Data for urban Indigenous and urban non-Indigenous from DHCS Community Care Information System (2004)

2. Data for remote Indigenous from Healthy School-Age Kids program, 2004, DHCS.

3. Data for South Australia obtained from Cole TJ, et al. BMJ 2000; 320: 1240-3.

- Between 1985 and 1995 there was a three-fold increase in the proportion of Australian children who were obese. Since that time the proportion has continued to increase and there are now an estimated 1.5 million young people under the age of 18 in Australia who are overweight or obese.¹⁴
- Childhood overweight is associated with increased risk factors for heart disease such as raised blood pressure, blood cholesterol and blood sugar. The most significant long-term consequence of obesity in childhood is its persistence into adulthood.¹⁵
- Recent national data are not available and there is no national monitoring system for overweight and obesity. South Australia has monitored overweight and obesity from height and weight measurements taken during routine school entry health checks. Of specific concern is the increase in overweight and obesity in 4 year old children from the mid-to-late 1990s.¹⁶
- In 2004, the proportion of Northern Territory urban Indigenous and non-Indigenous children who were overweight was slightly lower (12%) than reported for South Australian children (14.4%).
- The proportion of urban Northern Territory Indigenous children who were obese was 6.5% compared to 3.6% of urban Northern Territory non-Indigenous children and 4.9% of South Australian children.

5.5 Anaemia in children from remote Indigenous communities by Northern Territory health district



	Darwin Rural	Alice Springs Rural	Katherine	East Arnhem	Barkly
0-5 years					
Number measured	1907	1056	1675	1107	272
Cases	441	330	568	380	119
Per cent	23.1	31.3	33.9	34.3	43.8
6-10 years					
Number measured	217	not available	97	377	not available
Cases	20		9	81	
Per cent	9.2		9.3	21.5	

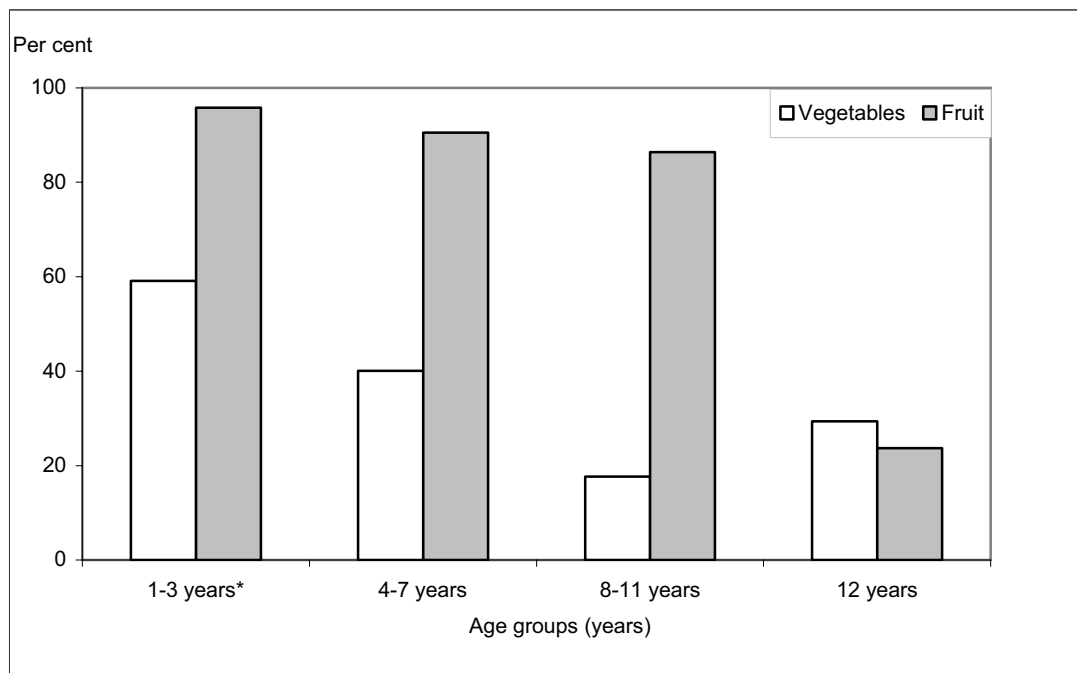
Note: Anaemia refers to a haemoglobin level of less than 110g/L, assessed by finger prick blood using a portable Haemoglobinometer.

Sources: 1. Data for 0 to 5 year olds are from the DHCS Growth Assessment and Action (GAA) program, 2004.

2. Data for 6 to 10 year olds are from DHCS Healthy School Aged Kids (HSAK) program, 2003

- Anaemia in children is commonly a result of iron deficiency and has been associated with poor cognitive and motor development, and behavioural problems. There is also evidence that anaemia may lead to impaired immune function.¹⁰
- Anaemia may occur because of infections, chronic illness, blood loss, inadequate diet or hookworm and is often associated with malnutrition. Anaemia can be managed by giving iron and treating hookworm (in areas where hookworm is endemic). However anaemia is likely to recur if the diet is low in iron or if health problems persist.
- The coverage for haemoglobin measurements within the Growth Assessment and Action Program was lower than for growth measurements, and was 68% for resident children. Measurement of haemoglobin is included in The Healthy School Aged Kids program. The program has been implemented throughout remote NT communities and includes health promotion activities and an annual health check.
- Rates of anaemia were high in children throughout NT remote communities. For children aged 5 years and under, the rates ranged from 23.1% in Darwin Rural district to 43.8% in the Barkly district. For the small proportion of 6 to 10 year old children assessed, anaemia rates were lower than younger children.

5.6 Vegetable and fruit consumption by non-Indigenous children, 2004



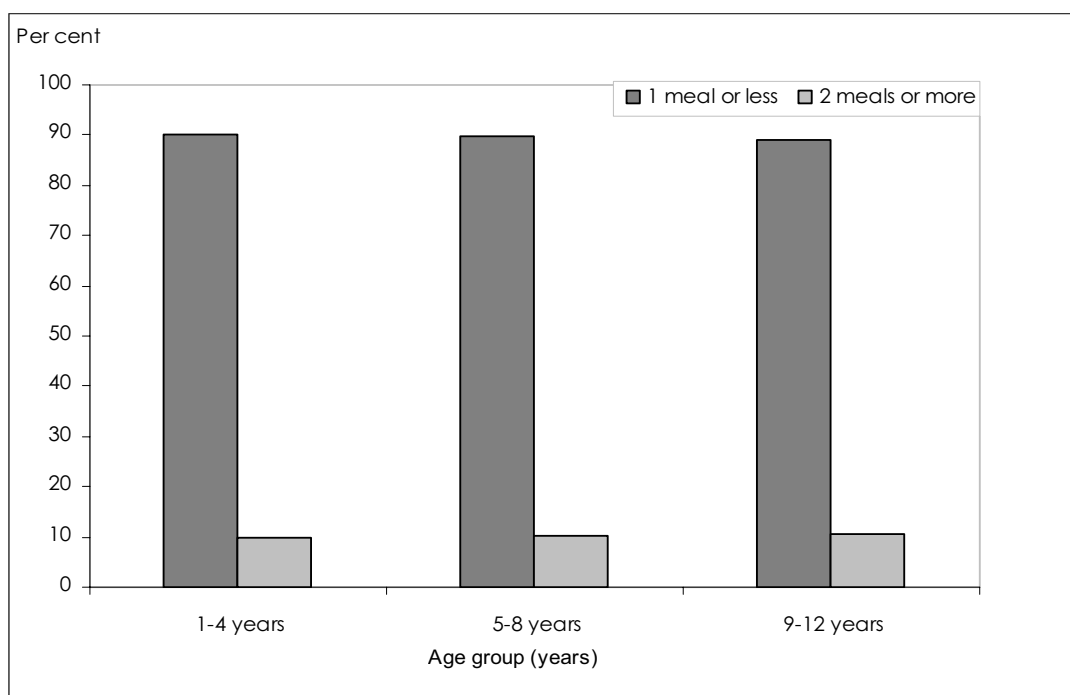
	Eats recommended serves of vegetables			Eats recommended serves of fruit		
	Number	Per cent	95% CI	Number	Per cent	95% CI
1-3 years*	335	59.1	(54.4—63.7)	544	95.8	(94.0—97.6)
4-7 years	221	40.1	(34.8—45.4)	498	90.5	(87.2—93.7)
8-11 years	95	17.7	(14.3—21.1)	463	86.4	(82.9—89.8)
12 years	36	29.4	(20.6—38.3)	29	23.7	(15.1—32.3)

Note: * There are no national recommendations for children aged from 1 to 3 years. Numbers in the table refer to the number of children who had at least one serve of both vegetables and fruit.

Source: Carson BE et al. Growing up in the Territory: parent survey. Department of Health and Community Services, Darwin, 2006

- Consumption of a wide variety of healthy foods is essential for the growth and development of children. Regular consumption of vegetables and fruit help protect against a number of diseases including cancer, cardiovascular disease, type 2 diabetes, and cataract and macular degeneration of the eye.
- National recommendations for serves of fruit and vegetables are; children aged 4 to 7 years – 1 fruit and 2 vegetable; children aged 8 to 11 years – 1 fruit and 3 vegetable; children aged 12 to 18 years – 3 fruit and 4 vegetable.^{17,18}
- Information on fruit and vegetable consumption in NT non-Indigenous children highlighted the proportions of children who were not meeting national recommendations for vegetable consumption. Nearly two thirds of 4 to 7 year old children, over 80% of 8 to 11 year old children and over 70% of 12 year old children were not consuming recommended amounts of vegetables.
- The proportion of children not meeting the recommended servings for fruit consumption rose steadily by age, until the age of 12 years when over three quarters of children were not consuming recommended amounts of fruit.
- Corresponding data are not available for NT Indigenous children. However, one could expect that fruit and vegetable consumption would be lower in remote Indigenous communities as there is less access to affordable produce. On average, in 2005 the cost of a defined “healthy basket of food” was 32% higher when purchased in a remote community store than a supermarket in Darwin.¹⁹

5.7 Fast food consumption by 1 to 12 year old non-Indigenous children, 2004

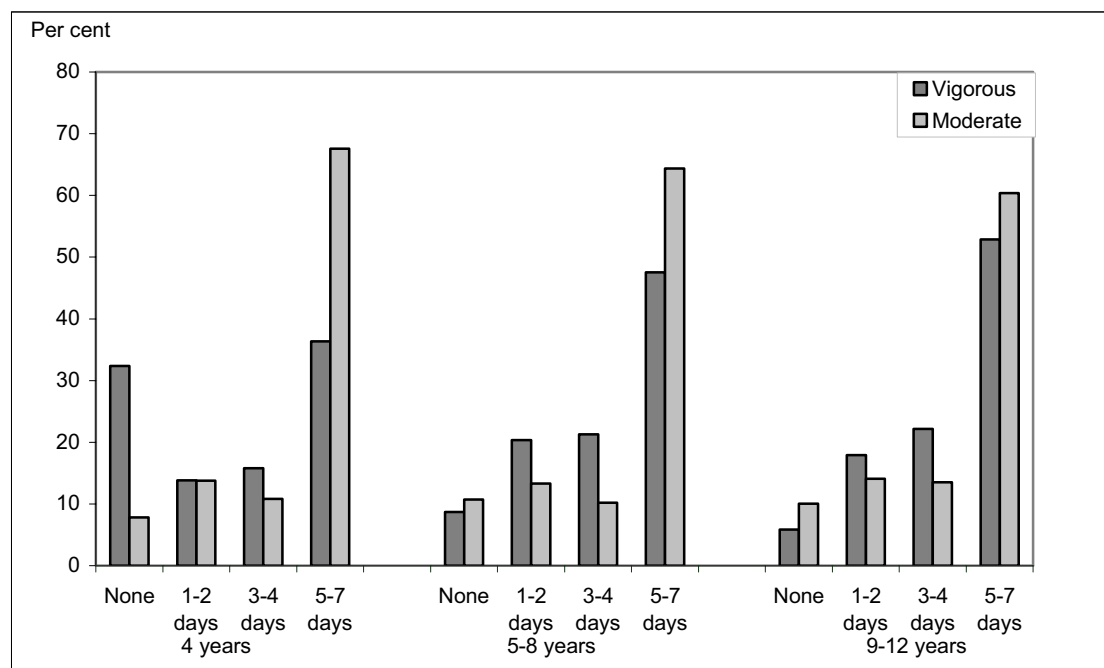


Fast food meals per week	Number	Per cent	95% CI
1-4 years			
1 meal or less	501	90.1	(86.8—93.4)
2 meals or more	55	9.9	(6.6—13.2)
5-8 years			
1 meal or less	493	89.8	(86.6—92.9)
2 meals or more	56	10.1	(7.0—13.2)
Unknown	1	0.1	(0.0—0.3)
9-12 years			
1 meal or less	466	89.1	(86.2—91.1)
2 meals or more	56	10.8	(7.9—13.6)
Unknown	1	0.2	(0.0—0.5)
Total	1629	100.0	

Source: Carson BE et al. Growing up in the Territory: parent survey. Department of Health and Community Services, Darwin, 2006.

- Information on fast food consumption has been reported for NT non-Indigenous children. In the survey parents were asked how many times in a week their child has meals or snacks such as burgers, pizza, chicken or chips from a takeaway shops. These foods are high in fat and salt and generally of poorer nutritional value than home cooked meals.¹⁹
- The respondents reported that 90.1% of 1 to 4 year old children consumed takeaway food once or fewer times each week and 9.9% consumed takeaway food two or more times a week.
- Of the 5 to 8 year old children 89.8% consumed takeaway food once or fewer times each week and 10.1% consumed takeaway food more than once. Similar proportions were reported for 9 to 12 year old children.
- The proportion of boys (89.3%) and girls (90.1%) consuming one takeaway meal or less each week was similar.

5.8 Physical activity levels in NT non-Indigenous children, 2004



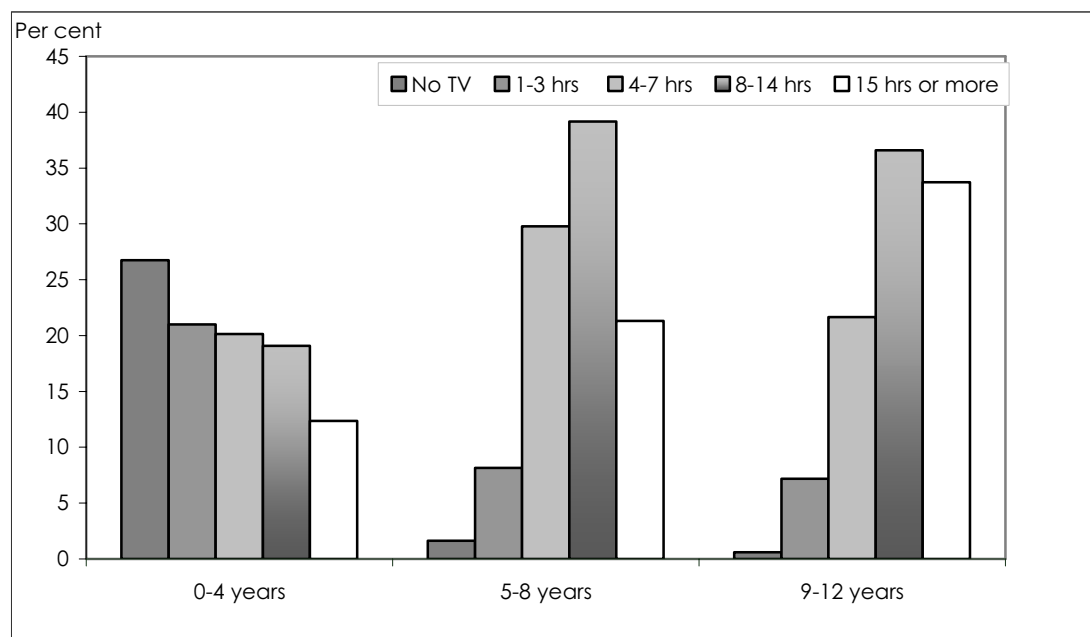
	Vigorous exercise			Moderate exercise		
	Number	Per cent	95% CI	Number	Per cent	95% CI
4 years						
None	44	32.4	(21.5—43.2)	11	7.8	(1.9—13.7)
1-2 days	19	13.8	(5.4—22.3)	19	13.8	(5.6—21.9)
3-4 days	21	15.8	(7.4—24.3)	15	10.8	(3.5—18.2)
5-7 days	49	36.4	(25.0—47.7)	91	67.6	(56.6—78.5)
Unknown	2	1.7	(-0.8—4.1)			
5 to 8 years						
None	48	8.7	(5.7—11.7)	59	10.7	(7.2—14.2)
1-2 days	112	20.4	(16.1—24.7)	73	13.3	(10.0—16.7)
3-4 days	117	21.3	(17.2—25.5)	56	10.2	(7.0—13.4)
5-7 days	261	47.5	(42.3—52.8)	354	64.4	(59.3—69.4)
Unknown	12	2.1	(0.8—3.4)	8	1.4	(0.3—2.5)
9 to 12 years						
None	31	5.8	(3.7—7.9)	52	10.0	(7.1—12.9)
1-2 days	94	17.9	(14.2—21.7)	74	14.1	(10.8—17.4)
3-4 days	116	22.2	(18.2—26.1)	71	13.5	(10.4—16.6)
5-7 days	276	52.8	(48.0—57.7)	316	60.4	(55.7—65.0)
Unknown	6	1.2	(0.2—2.2)	10	2.0	(0.9—3.0)
Total	1202			1207		

Source: Carson BE et al. Growing up in the Territory: parent survey. Department of Health and Community Services, Darwin, 2006.

- Information on physical activity levels has been reported for NT non-Indigenous children aged from 4 to 12 years.²⁰
- Moderate activity is defined as activity that increases the heart rate, such as brisk walking, but does not make a person 'huff and puff'. Vigorous activity refers to a level of effort that results in a significant increase in heart and breathing rate, for example running, skipping or cycling uphill.
- From the parent interviews, a small proportion (7.8%) of 4 year old children had not engaged in moderate activity for at least 30 minutes in the week preceding the survey, while at the other end of the scale 67.6% had participated

- in at least 30 minutes of moderate activity on 5 to 7 days in the week.
- For the older age groups of 5 to 8 and 9 to 12 years of age, there was a small but statistically not significant, reduction in the pattern of moderate exercise compared to the 4 year old children.
 - For vigorous activity, parents reported a substantial proportion of 4 year old children (32.4%) had not participated in any vigorous activity for at least 20 minutes in the week preceding the survey. At the other end of the ranking there was similar proportion (36.4%) who participated in at least 20 minutes of vigorous activity on 5 to 7 days.
 - For 5 to 8 year old there was a smaller proportion of children (8.7%) not participating in any vigorous exercise in the preceding week, with 47.5% participating in vigorous exercise from 5 to 7 days in the week.
 - The older children, aged from 9 to 12 years were reported to be again more active. Only 5.8% of this age group had had no vigorous exercise and 52.8% had been involved in at least 20 minutes of exercise on 5 to 7 days in the preceding week.
 - National physical activity guidelines for 5 to 12 year old children were released in late 2004.²¹ The guidelines recommend that children should have at least 60 minutes of moderate to vigorous exercise every day. Though these guidelines are difficult to directly compare with the physical activity categories that were used in the NT survey, the outcomes of the survey indicate that only a minority of NT children were meeting the new guidelines.

5.9 Television viewing by non-Indigenous children, 2004



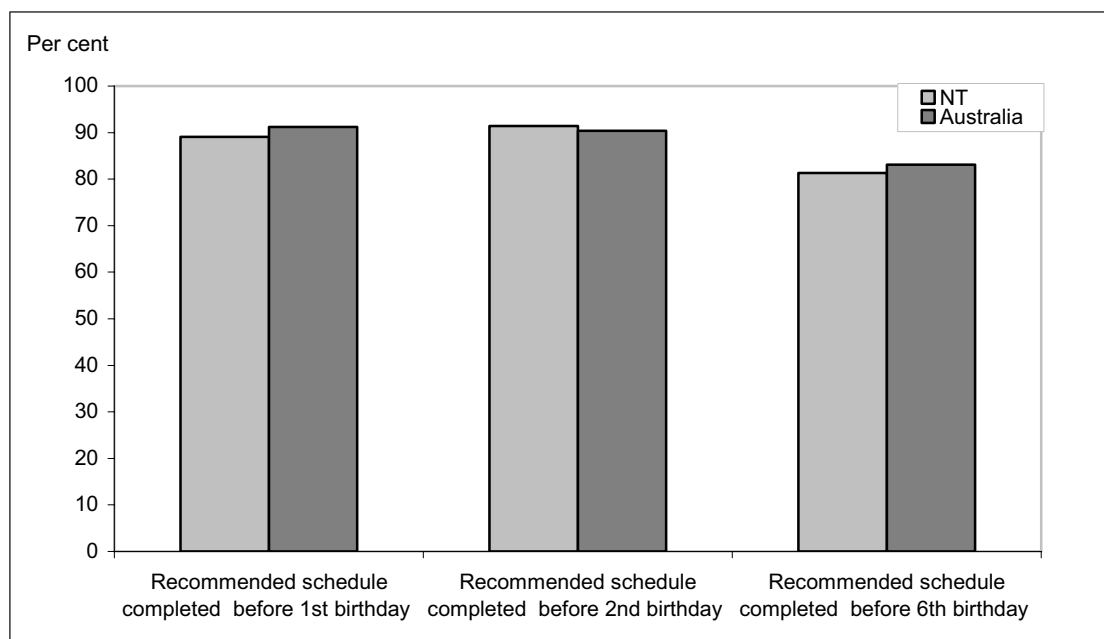
Television viewing each week (hours)	Number	Per cent	Confidence interval (95%)
0-4 years			
Does not watch TV	188	26.8	(22.9—30.6)
1-3 hours	148	21.0	(17.3—24.7)
4-7 hours	142	20.1	(16.5—23.8)
8-14 hours	134	19.1	(15.6—22.6)
15 hours or more	87	12.4	(9.3—15.4)
Unknown	5	0.7	(0.0—1.3)
5-8 years			
Does not watch TV	9	1.6	(0.0—3.3)
1-3 hours	45	8.1	(5.3—11.0)
4-7 hours	164	29.8	(25.0—34.5)
8-14 hours	215	39.2	(34.0—44.3)
15 hours or more	117	21.3	(17.1—25.5)
9-12 years			
Does not watch TV	3	0.6	(0.0—1.3)
1-3 hours	38	7.2	(4.5—9.8)
4-7 hours	113	21.7	(17.6—25.7)
8-14 hours	191	36.6	(31.9—41.2)
15 hours or more	176	33.7	(29.2—38.2)
Unknown	1	0.3	(0.0—0.6)
Total	1775	100.0	

Source: Carson BE et al. Growing up in the Territory: parent survey. Department of Health and Community Services, Darwin, 2006.

- National physical activity recommendations for 5 to 12 year old children state that 'children should not spend more than two hours a day using electronic media for entertainment, particularly during daylight hours.²¹
- Information on television viewing (including computer games and

internet) has been reported for NT non-Indigenous children aged from 0 to 12 years. One fifth (21.3%) of 5 to 8 year old children and one third (33.7%) of 9 to 12 year old children exceeded the national recommendations.

5.10 Vaccination coverage for 0 to 6 year old children, 2003 to 2005

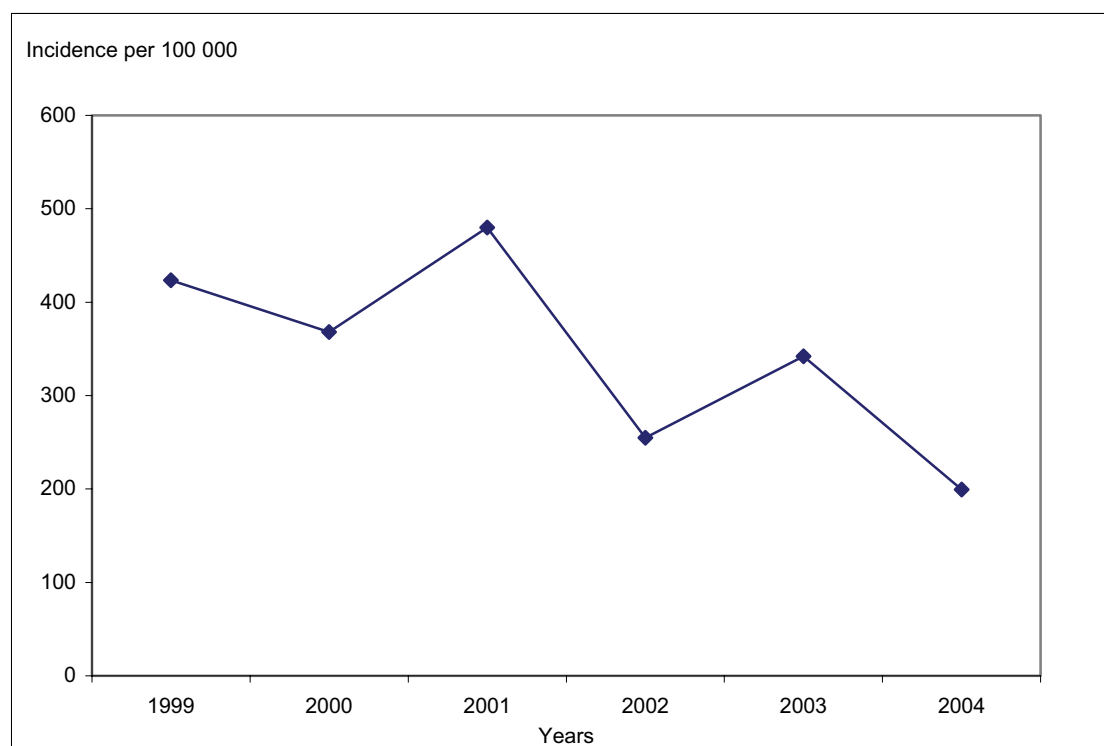


Vaccination coverage	Recommended schedule completed before 1st birthday (%)	Recommended schedule completed before 2nd birthday (%)	Recommended schedule completed before 6th birthday (%)
2003			
NT	89.1	91.4	81.3
Australia	91.2	90.4	83.1
2004			
NT	89.8	93.8	86.7
Australia	91.2	91.7	83.6
2005			
NT	91.5	94.2	83.8
Australia	90.9	91.9	83.6

Source: Australian Department of Health and Aging, Australian Childhood Immunisation Register (ACIR), 2003, 2004 and 2005.

- Immunisation against diphtheria, tetanus, pertussis (whooping cough), Haemophilus influenza type B, hepatitis B, measles, mumps and rubella is an effective public health intervention against these diseases.
- The level of immunisation coverage reflects several factors, including; parental understanding of issues related to immunisation, parent's commitment to having their children fully immunised, the promotion of immunisation by health service providers, access to health services, the flow of data from immunisation provider to the local immunisation register and the influence of the media. The Australian Institute of Health and Welfare has reported that children were less likely to be fully immunised if they lived in single parent or low income families, lived with unemployed parents, with parents born overseas or those children whose parents did not speak English at home.²²
- The Australian Childhood Immunisation Register (ACIR) publishes immunisation coverage rates for three different ages for each State and Territory. The NT has similar rates to the national rates for all age groups. In 2005, 91.5% of NT children had completed age appropriate vaccines before their 1st birthday, 94.2% before their 2nd birthday and 83.8% before their 6th birthday.

5.11 Incidence of invasive pneumococcal disease in young children, 1999 to 2004



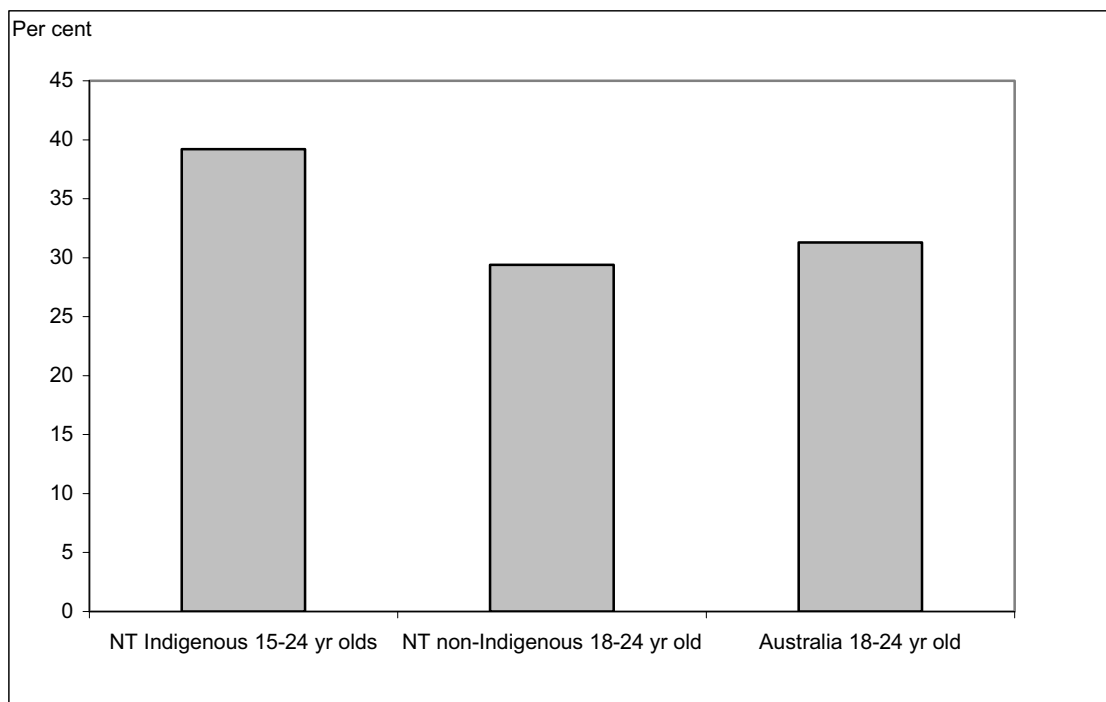
	Number of cases per 100 000 children			
	0 to 5 months	6 to 11 months	12 to 17 months	18 to 23 months
1999	225.8	564.5	677.4	225.8
2000	113.2	566.1	566.1	226.4
2001	225.9	677.7	790.7	225.9
2002	113.3	226.6	453.2	226.6
2003	342.0	569.9	455.9	0.0
2004	228.0	455.9	0.0	0.0

Note: The data presented are for those children aged under 2 years and eligible for the vaccine program.

Source: Centre for Disease Control, DHCS, 1999-2004.

- The childhood pneumococcal vaccine (7vPCV) was introduced into the childhood vaccination schedule for high-risk NT children in June 2001. High-risk children include all NT Indigenous children and non-Indigenous in Central Australia, who are less than 2 years of age.
- The graph shows the effect of the vaccination program on rates of invasive pneumococcal disease (IPD) for this age group, with a decline in the rate of disease after the introduction of the vaccine in mid 2001.
- The decrease in rates is mainly in the 1 to 2 year old age groups and indicates that the children under 1 year of age are not getting full benefit from the vaccine program. Ensuring that children are given their vaccines on time may improve the rates in this younger age group.
- In January 2005, 7vPCV was introduced into the Australian Standard Vaccination Schedule for all children under the age of 2 years.

5.12 Smoking prevalence in young people



	NT Indigenous 15 to 24 years (%)	NT non-Indigenous 18 to 24 years (%)	Australia 18 to 24 years (%)
Current smoker	39.2	29.4	31.3

Note: Prevalence is estimated for current daily smokers.

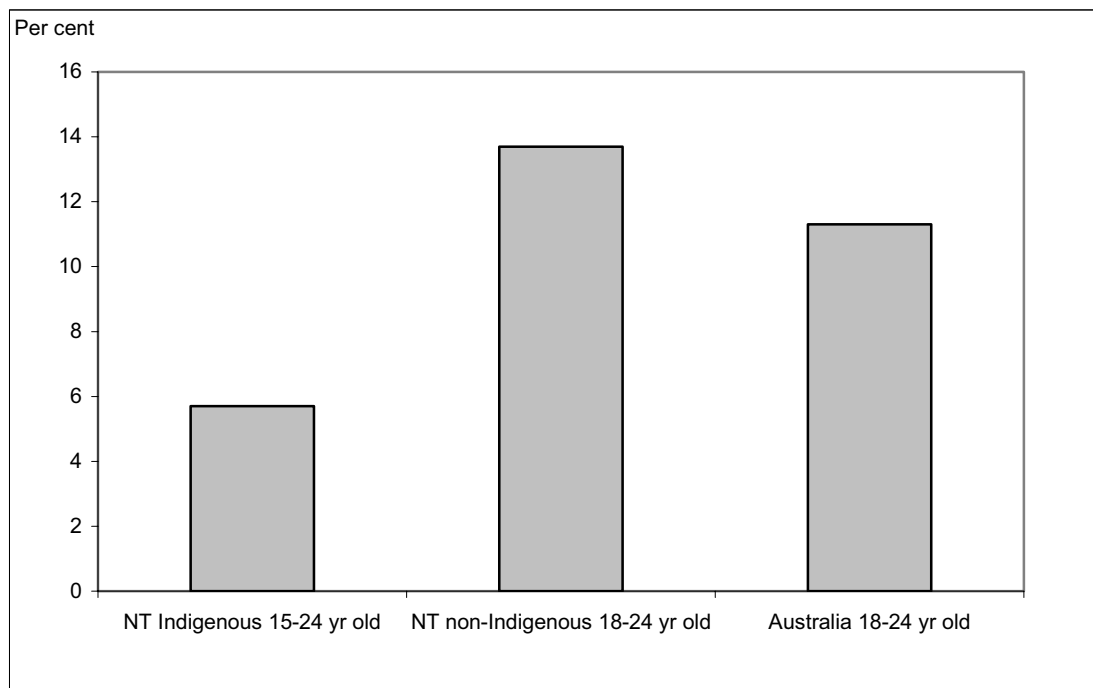
Sources: 1. NT Indigenous data (15-24 years) – National Aboriginal & Torres Strait Islander Social Survey 2002. Cat. no. 4714.0

2. NT non-Indigenous data (18-24 years) – Northern Territory Health and Wellbeing Survey 2000 (unpublished data).

3. Australia data (18-24 years) – ABS National Health Survey 2001. Cat. No. 4364.0

- Smoking is the single most important modifiable cause of preventable disease, disability and premature death in the NT.²³ The association of smoking with cancer, respiratory diseases, heart disease and stroke is well known. In addition, there is an increased risk of low birthweight babies among pregnant women who smoke, of sudden infant death syndrome among babies who are exposed to tobacco smoke in utero and after birth, and of respiratory infections and asthma in exposed children and young people. According to a 1998 report, one in five adult deaths in the NT is due to cigarette smoking.²³
 - Data from a recent survey reports that almost 40% of the NT Indigenous population aged 15 to 24 years were current daily smokers.
 - Data are also available for the non-Indigenous population aged from 18 to 24 years, with almost 30% of this group reported as current daily smokers compared with a slightly higher level for all Australian young people of the same age (31.3%).

5.13 Risky and high risk alcohol consumption in young people



Population groups	12 to 14 years (%)	18 to 24 years (%)
NT Indigenous	not available	5.7
NT non-Indigenous	20.0 ¹	13.7
Australia	23.0	11.3

Note: NT data for children aged 12-14 years, includes 90% non-Indigenous secondary students and 10% Indigenous students.

Sources: 1. NT Indigenous data (15-24 years) – National Aboriginal & Torres Strait Islander Social Survey 2002. Cat. no.4714.0

2. NT non-Indigenous data (18-24 years) – Northern Territory Health and Wellbeing Survey 2000.

3. Australian data (18-24 years) – ABS National Health Survey 2001. Cat. No. 4364.0

4. NT non-Indigenous data (12-14 years) – Crundall I & Watson C. (1999) Australian Secondary School Alcohol and Drug Survey: Northern Territory Findings. DHCS 2002.

5. Australia data (12-14 years) – Al-Yaman F, Bryant M & Sargeant H. 2002. Australia's children: their health and wellbeing 2002. Cat. No. PHE 36. Canberra: AIHW

- Alcohol is a widely used drug which when misused is a leading contributor to ill-health and disability. It is a cause of road traffic accidents, and is associated with an increased risk of heart disease, stroke, brain and liver damage and some cancers. Alcohol is also often implicated in cases of domestic violence and family breakdown that in turn can impact on the physical and mental development of children and young people.²⁴
- Drinking alcohol is a prominent part of youth culture, and is associated with unsafe behaviour. Young people who cannot legally drink, may drink in physical and social environments that lie outside their control.
- Young people tend to drink less frequently but drink more in a single sitting. Much drinking in earlier years is opportunistic, and access is therefore an important factor.²⁵
- Data on the use of alcohol by young people are available from a range of surveys, and confirms that a smaller proportion of young Indigenous people drink alcohol than their non-Indigenous peers. However other sources indicate that the Indigenous people who drink alcohol are more likely to do so at harmful and dangerous levels.²⁵ One modifying factor on the prevalence of alcohol consumption is that there is less drinking in remote Aboriginal communities where alcohol is less readily available.

6 Community support and safety

Childcare services

- Government provided childcare places, 2004
- Access to childcare services for non-Indigenous children, 2004

Child maltreatment

- Substantiated cases of child maltreatment, 2001 to 2003

Bullying

- Bullying among 4 to 12 year old non-Indigenous children, 2004

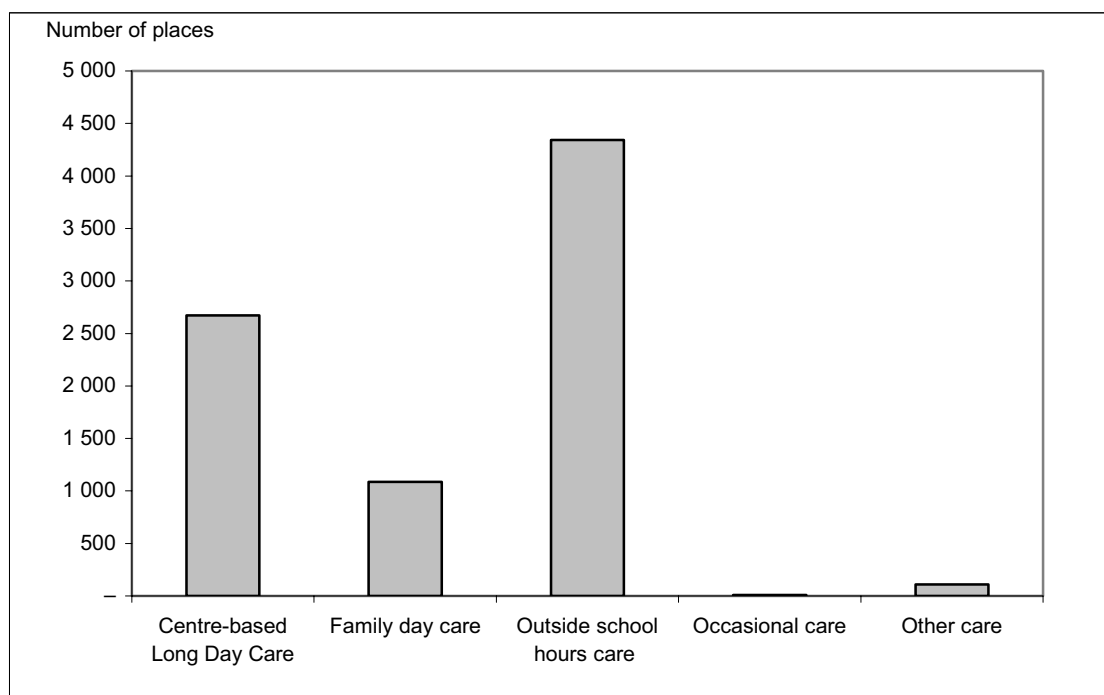
Supported accommodation

- Supported accommodation services, 2003/04

Juvenile justice

- Youth detention commencements, 2002/03 and 2003/04

6.1 Government provided childcare places, 2004

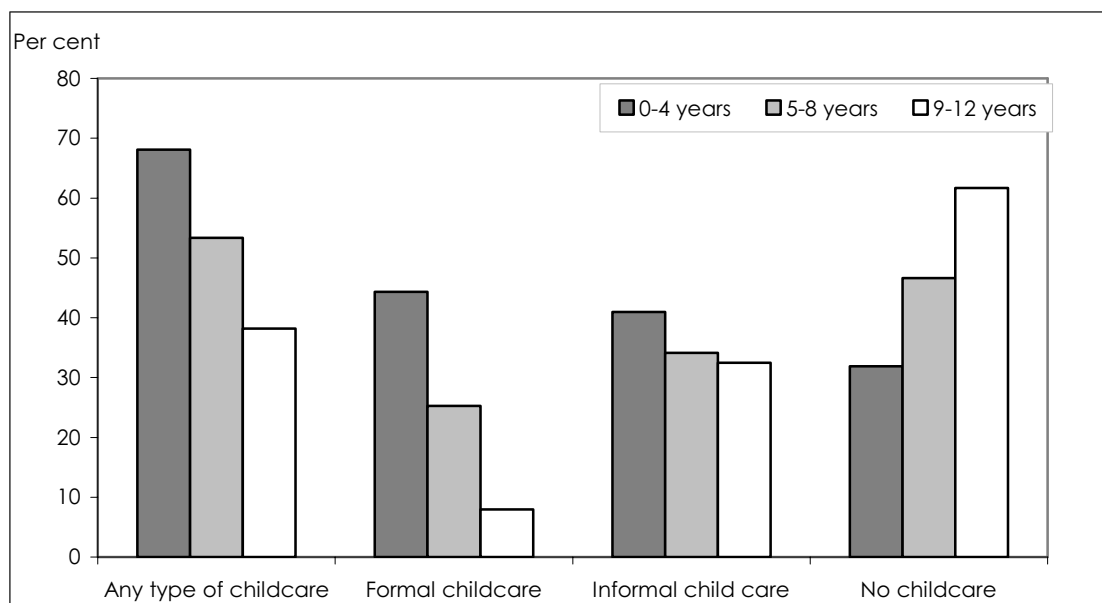


	All government provided childcare places	Average hours of attendance per week
Centre-based long day care	2 672	28.6
Family day care	1 085	26.1
Vacation care		3.9
Outside school hours care	4 343	11.5
Occasional care	10	17.0
Other care	110	10.4
Total	8 220	

Source: Australian, State and Territory Governments. Report on Government Services 2004 (unpublished data).

- The availability of childcare is a crucial issue for parents whose children are of pre-school and primary school age. Childcare for younger children is usually needed throughout the day, while childcare for school-age children is often required to bridge the gap between parents' working hours and formal school hours.
- Formal childcare is government regulated and takes place away from the child's home. The main types of formal care are long day care, family day care, outside school hour care, occasional care and pre-school.
- Based on the Report on Government Services (ROGS) 2004, around half of all government provided childcare places are outside school hours care places and nearly one-third are long day care places.²⁶

6.2 Access to childcare services for non-Indigenous children, 2004

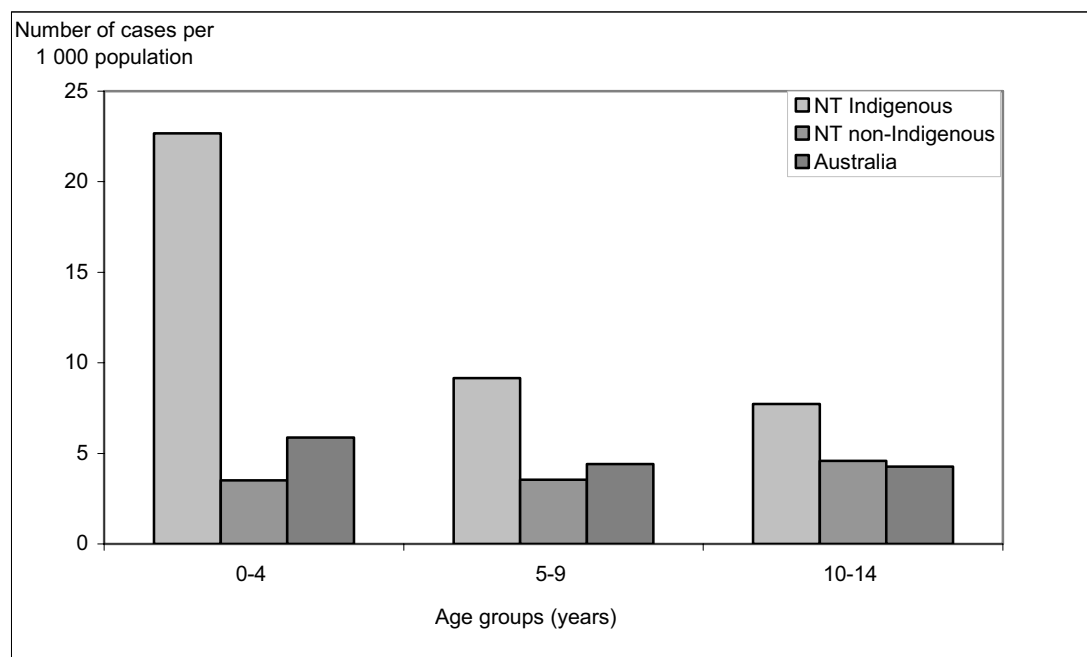


Hours of care	Number	Per cent	Confidence interval (95%)
Darwin area			
no care	817	68.0	(64.6—71.5)
less than 5 hours	38	3.1	(1.8—4.5)
5-9 hours	72	6.0	(4.3—7.7)
10-19 hours	117	9.7	(7.6—11.8)
20-29 hours	42	3.5	(2.2—4.9)
30-34 hours	30	2.5	(1.3—3.7)
35-39 hours	20	1.6	(0.7—2.5)
40-44 hours	38	3.2	(1.8—4.6)
45 hours or more	27	2.3	(1.3—3.3)
NT balance			
no care	466	81.2	(78.4—84.0)
less than 5 hours	14	2.4	(1.4—3.4)
5-9 hours	26	4.5	(3.0—5.9)
10-19 hours	24	4.2	(2.8—5.7)
20-29 hours	20	3.4	(2.1—4.8)
30-34 hours	6	1.0	(0.3—1.8)
35-39 hours	3	0.5	(0.0—1.0)
40-44 hours	10	1.7	(0.8—2.6)
45 hours or more	5	0.9	(0.3—1.5)
Total	1775	100.0	

Note: A number of geographic classifications are used in this report. In this data, Darwin area includes Palmerston and Litchfield Shire
 Source: Carson BE et al Growing up in the Territory: parent survey. Department of Health and Community Services, Darwin, 2006.

- Childcare information for non-Indigenous children was collected in a NT household telephone survey conducted in 2004.²⁰
- Overall 55% of non-Indigenous children aged 12 years and under had used formal and/or informal childcare in the week prior to the survey. Of the childcare users, 28% used formal childcare and 36% used informal care while 9% used both services.
- More Darwin area children (32.0%) had used formal childcare than children (18.8%) living in the balance of the NT.

6.3 Substantiated cases of child maltreatment, 2001 to 2003



Age group (years)	Emotional	Physical	Neglect	Sexual	Total annual average	
	Number of cases per 1 000 children				Number	Rate
NT Indigenous						
0-4	2.3	9.0	10.7	0.7	135	22.7
5-9	1.0	3.9	3.0	1.3	59	9.2
10-14	0.4	3.6	2.0	1.7	46	7.7
15-17	0.0	1.0	0.2	0.9	7	2.2
Total	1.0	4.8	4.5	1.2	246	11.5
NT non-Indigenous						
0-4	0.6	1.2	1.7	0.0	33	3.5
5-9	0.8	1.3	1.1	0.4	35	3.5
10-14	0.6	2.6	0.7	0.7	41	4.6
15-17	0.2	1.0	0.1	0.2	7	1.5
Total	0.6	1.6	1.0	0.3	116	3.5
Australia						
0-4	1.9	1.5	1.5	0.9	7 318	5.9
5-9	1.2	1.2	1.2	0.8	5 009	4.4
10-14	1.0	1.3	1.1	0.8	5 871	4.3
15-17	0.3	0.5	0.4	0.3	1 260	1.6
Total	1.2	1.2	1.1	0.8	20 208	4.3

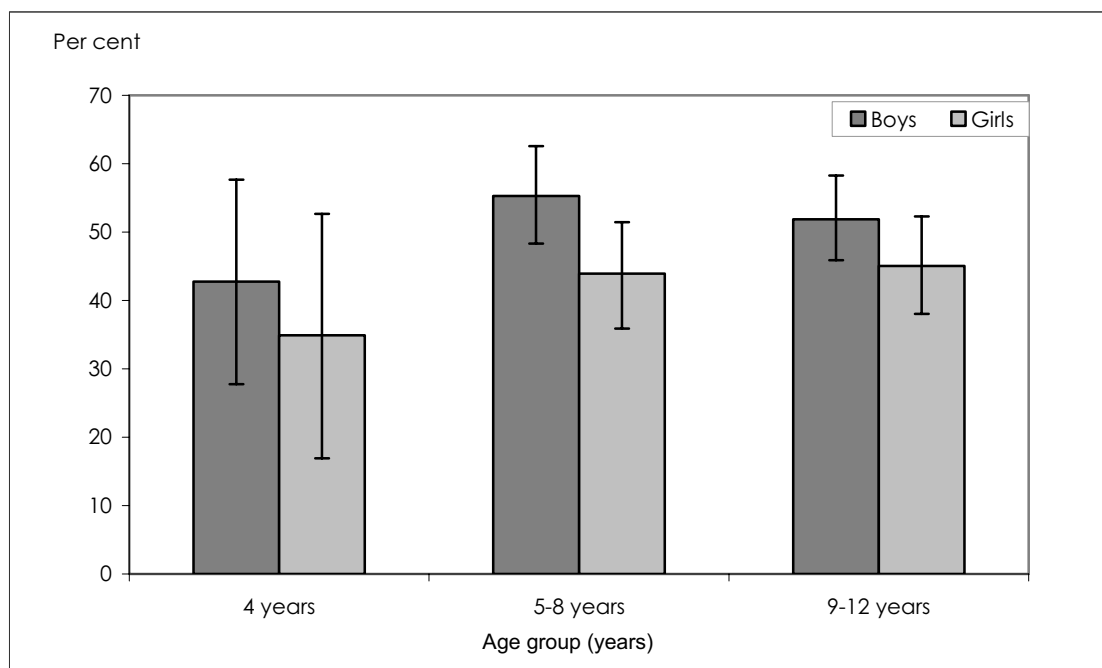
Sources: 1. NT— Department of Health and Community Services administrative data for 2001, 2002 and 2003 (unpublished).

2. Australia — Australian Institute of Health and Welfare, special request for the period 2002 and 2003 (unpublished).

- The Australian Institute of Health and Welfare describes child maltreatment as occurring when a person, having the care of a child, inflicts or allows to be inflicted on the child a physical injury or deprivation which may create a substantial risk of death, disfigurement, or the impairment of either physical health and development, or emotional health and development. Child maltreatment includes four types; sexual, physical, emotional and neglect.
- Where the standard of care for a child falls below that considered acceptable by a community or where those who are responsible for the welfare of a child fail

- to protect the child from serious harm, interventions may be necessary for the health and welfare of the child.
- The Australian Institute of Health and Welfare has reported that high unemployment, economic stress, one parent families, poor environmental living conditions, and lack of access to support services are among major factors associated with child maltreatment. Children who live in communities that have a high prevalence of these factors may be at higher risk of maltreatment.²⁷
 - Suspected cases of child maltreatment are usually notified to a government agency to investigate whether these notifications can be substantiated. Comparison of the level of substantiated cases of child maltreatment between States and Territories is difficult because there are neither standard national legislation nor standard processes to act on notifications and proven cases of child maltreatment.²⁷
 - Changes in the level of notifications of child abuse are strongly influenced by campaigns at national or territory level or individual cases that receive extensive media attention.
 - In the Northern Territory the reporting of child abuse, including neglect is mandatory. Cases of suspected child abuse are brought to the notice of authorities through various avenues that include self-disclosure, community members, teachers and health care professionals. Approximately 40–50% of all investigated NT cases of child maltreatment are substantiated. Although care needs to be exercised when comparing rates of child maltreatment across states and territories, Northern Territory non-Indigenous children (3.5 per 1000) were less likely to have experienced substantiated child maltreatment than Australian children as a whole (4.3 per 1000).
 - In the period from 2001 to 2003, NT Indigenous children aged from 0 to 17 years were 3.3 times more likely to have been involved in substantiated cases of maltreatment than NT non-Indigenous children. This is higher than the 1.7 times ratio reported in the 1995–97 period.
 - Rates of substantiated cases of maltreatment were highest in the 0–4 year age group for NT Indigenous children (22.7 per 1000) and in the 10–14 year age group (4.6 per 1000) for NT non-Indigenous children.
 - NT Indigenous children in the 0–4 year age group were 6.5 times more likely to have been involved in substantiated cases of maltreatment than NT non-Indigenous children.
 - When analysed by type of maltreatment, neglect was the leading type of maltreatment among both NT Indigenous and NT non-Indigenous children.

6.4 Bullying among 4 to 12 year old non-Indigenous children, 2004

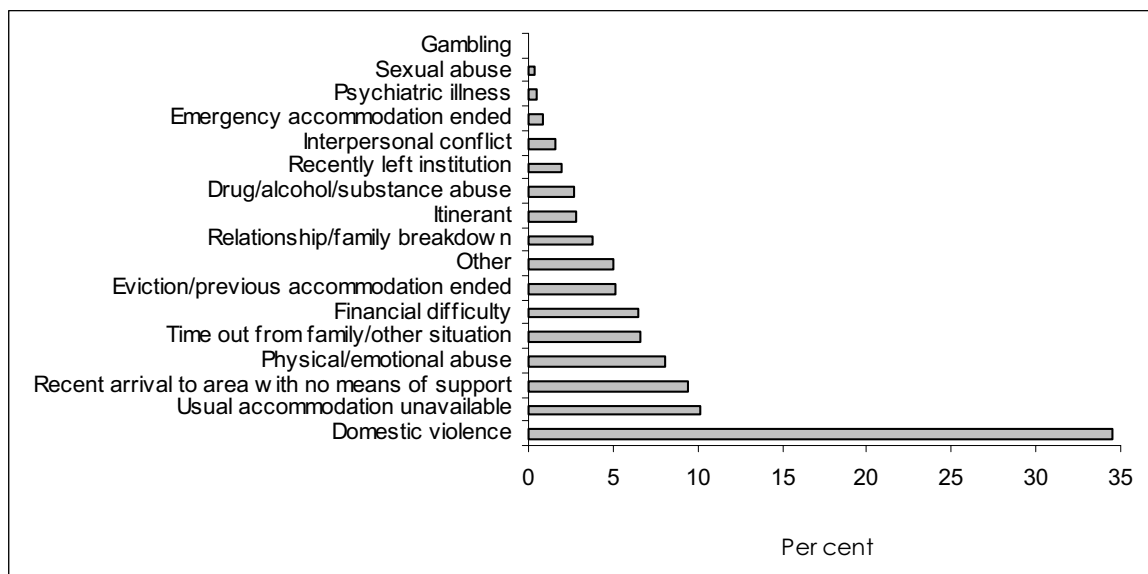


Been bullied at school	Number	Per cent	Confidence interval (95%)
Boys			
Yes	327	52.4	(47.8—57.0)
No	286	45.9	(41.3—50.5)
Unknown	10	1.6	(0.4—2.7)
Refused	1	0.1	(-0.1—0.4)
Girls			
Yes	254	43.4	(38.4—48.4)
No	321	54.8	(49.8—59.9)
Unknown	10	1.8	(0.3—3.3)
Total	1208	100.0	

Source: Carson BE et al Growing up in the Territory: parent survey. Department of Health and Community Services, Darwin, 2006.

- Information on bullying in school age children was collected in a NT household telephone survey conducted in 2004.²⁰
- Nearly half (48.1%) of Northern Territory non-Indigenous children were reported to have been bullied and nearly one fifth (17.1%) of children were reported to have bullied other children during the 12 months before the survey.
- In the same group, there was a gender difference in reported bullying, with boys (52.4%) more likely than girls (43.4%) to have been bullied and boys (22.0%) also more likely than girls (11.9%) to bully others.
- Although the proportion of non-Indigenous children who had been bullied was similar in the two survey areas of Darwin (49.2%) and the balance of the NT (45.7%), there was a greater and opposite difference in those who were reported to have acted as bullies in the Darwin area (15.1%) and NT balance (21.4%).
- Within the same survey there was a small sample of mainly urban Indigenous children. The results for this group were similar to the non-Indigenous children, with almost half (48.3%) reported as having been bullied and one-fifth (18.9%) reported to have bullied others.

6.5 Supported accommodation services, 2003/04



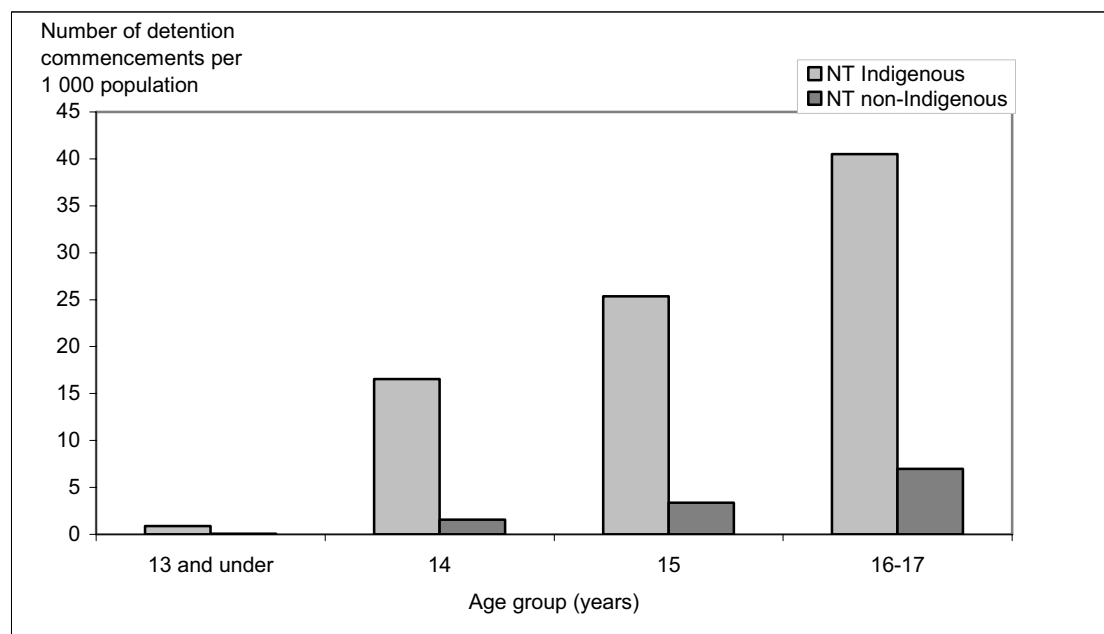
Principal reason for seeking accommodation support	Female	Male	Female with	Male with	Couple with
	<25yrs	<25yrs	children	children	children
Percentage of the total within each client group					
Domestic violence	31.2%	***	58.0%	29.9%	4.9%
Usual accommodation unavailable	12.6%	19.1%	8.1%	***	16.1%
Eviction/previous accommodation ended	10.0%	7.2%	2.5%	***	17.6%
Physical/emotional abuse	9.4%	***	11.6%	***	***
Financial difficulty	8.1%	12.8%	3.0%	23.0%	12.5%
Time out from family/other situation	6.9%	7.7%	5.4%	—	11.6%
Relationship/family breakdown	6.2%	11.5%	2.9%	18.2%	5.8%
Interpersonal conflict	3.5%	7.6%	0.5%	—	***
Recent arrival to area with no means of support	3.4%	15.2%	3.7%	***	14.2%
Drug/alcohol/substance abuse	1.4%	1.7%	0.5%	—	5.9%
Other	5.4%	14.6%	3.6%	0.0%	3.2%
Total number	500	250	1250	<25	100

Note: The "Other" category included recently left institution, emergency accommodation, psychiatric illness, sexual abuse, gambling, itinerant and other reasons not mentioned above. *** small numbers are not included to protect confidentiality

Source: AIHW 'Homeless people in SAAP: SAAP National data collection annual report 2003–04 Northern Territory Supplementary table' (Cat. No. Hou 121), AIHW.

- During 2003/04, domestic violence (35%) was the leading reason for people seeking assistance from the Supported Accommodation Assistance Program (SAAP). More than half of the women with children and nearly one third of young women (less than 25 years) required SAAP support as a result of domestic violence.
- The most common reason for men aged less than 25 years seeking support was "usual accommodation unavailable". This was the second most common reason for young women.
- Domestic violence and financial difficulty were the leading reasons that men with children sought assistance.

6.6 Youth detention commencements, 2002/03 and 2003/04



	Age at commencement of detention (years)				Total
	13 & under	14	15	16-17	
Number of episodes of detention					
NT Indigenous	30	39	54	176	299
NT non-Indigenous	4	5	11	44	64
Number of episodes of detention per 1000 population					
NT Indigenous	0.9	16.5	25.4	40.5	3.5
NT non-Indigenous	0.1	1.6	3.4	7.0	0.5

Notes: 1. Detention commencements represent the number of episodes not individuals.

2. Data are presented for the combined period of the 2002/03 and 2003/04 financial years.

Source: Northern Territory Department of Justice. NT Crime Prevention program 2004 (unpublished data).

- The factors that contribute to delinquency in young people not only reflect an inability to conform to societal norms and expectations but also factors such as breakdown of family and social supports, economic deprivation, lack of self-esteem and lack of opportunities. Being in custody in a juvenile detention centre has wide social consequences for the individual, their family and community. Young people who have been in detention may be further disadvantaged in their education and in their future opportunities to secure employment. In addition, juvenile delinquency has been associated with adult criminal behaviour.²⁸
- There were 363 episodes of youth detention in the NT in the two financial years 2002/03 and 2003/04.
- Indigenous youths aged 13–17 years were 35% of the NT age cohort, however accounted for 82% of all youth detentions, during the two-year period. Their rate of detention (3.5 per 1000) was 7.0 times the rate for non-Indigenous youths (0.5 per 1000).
- The difference between Indigenous and non-Indigenous rates of detention varied with age. For those aged 13 and under the rate ratio was 9.0, which was different to those aged 14 years (10.3), 15 years (7.5) and 16–17 years (5.8).

7 Morbidity

Rheumatic fever and rheumatic heart disease

- Acute rheumatic fever and rheumatic heart disease, Northern Territory regions

Enteric disease

- Enteric disease notifications

Sexually transmissible infections

- Sexually transmissible infection notifications

Disability

- Otitis media in Indigenous children
- Disability in non-Indigenous children, 2004

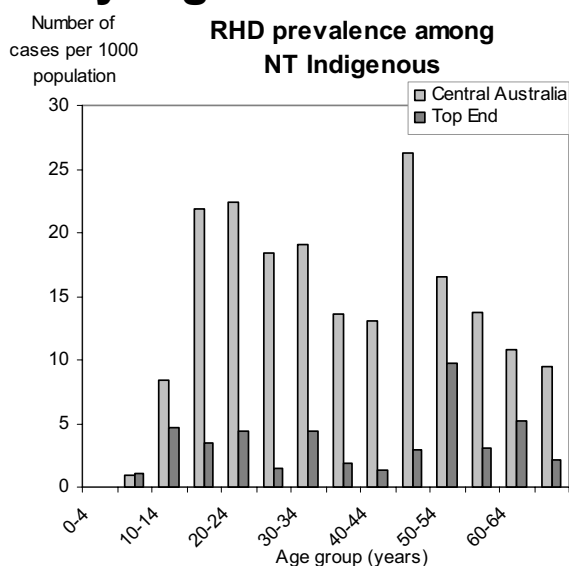
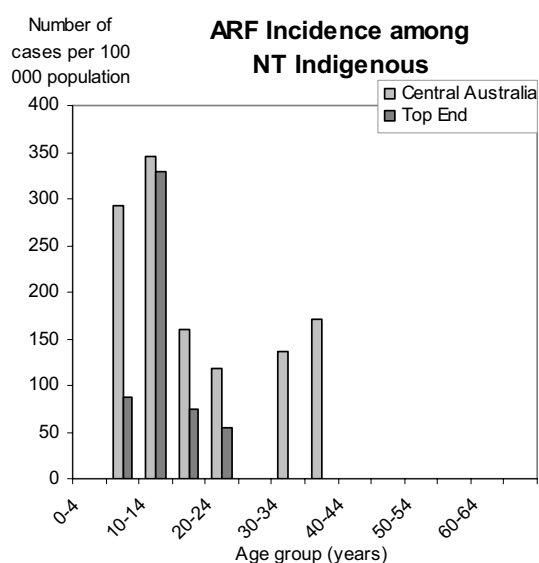
Dental care

- Oral health in five year old children, 2000
- Oral health in twelve year old children, 2000

Hospital admissions

- Hospital admission rates for children and young adults by age group
- Principal diagnosis for hospital admission (postneonates)
- Common conditions present at hospital admission (postneonates)
- Principal diagnosis for hospital admission (1–4 year olds)
- Common conditions present at hospital admission (1–4 year olds)
- Principal diagnosis for hospital admission (5–14 year olds)
- Common conditions present at hospital admission (5–14 year olds)
- Principal diagnosis for hospital admission (15–24 yr old males)
- Common conditions present at hospital admission (15–24 yr old males)
- Principal diagnosis for hospital admission (15–24 yr old females)
- Common conditions present at hospital admission (15–24yr old females)

7.1 Acute rheumatic fever and rheumatic heart disease, Northern Territory regions



Age (year)	Central Australia				Top End			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
Acute rheumatic fever annual incidence (per 100 000 population)								
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	0	0.0	0	0.0	0	0.0	0	0.0
5-9	6	293.1	0	0.0	4	86.7	0	0.0
10-14	7	346.0	0	0.0	15	330.0	0	0.0
15-19	3	159.7	0	0.0	3	74.9	0	0.1
20-24	2	117.9	0	0.0	2	54.6	0	0.0
All ages	22	120.8	0	0.0	24	62.1	1	0.0
Rheumatic heart disease prevalence (per 1 000 population)								
	Number	Prevalence	Number	Prevalence	Number	Prevalence	Number	Prevalence
0-4	0	0.0	0	0.0	0	0.0	0	0.0
5-9	2	1.0	0	0.0	5	1.1	0	0.0
10-14	17	8.4	0	0.0	21	4.6	0	0.0
15-19	41	21.8	1	0.6	14	3.5	1	0.1
20-24	38	22.4	0	0.0	16	4.4	0	0.0
All ages	239	13.1	13	0.5	108	2.8	17	0.1

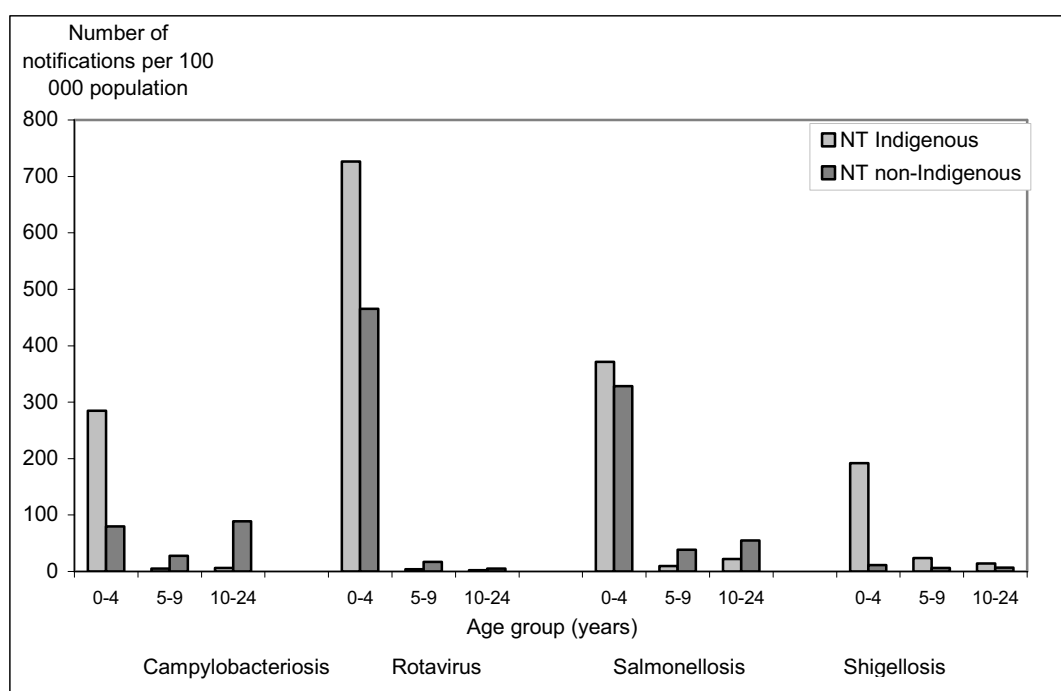
Notes: 1. Acute Rheumatic Fever (ARF) incidence is expressed as the number of new cases per 100 000 population per year.

2. The Rheumatic Heart Disease (RHD) prevalence is expressed as the number of cases per 1 000 population.

Source: Northern Territory Department of Health and Community Services. Centre for Disease Control 2004 (unpublished data).

- The NT Indigenous population has both a higher incidence of Acute Rheumatic Fever (ARF) and higher prevalence of Rheumatic Heart Disease (RHD) than the NT non-Indigenous population.
- The NT Indigenous population of Central Australia had both a much higher ARF incidence and higher RHD prevalence than the NT Indigenous population of the Top End.
- In 2004, the overall incidence of ARF for NT Indigenous people was 120.8 per 100 000 for Central Australia and 62.1 per 100 000 for the Top End. These rates were higher than the reported rate for Indigenous people from north Queensland (54 per 100 000).²⁹
- The incidence of ARF for NT Indigenous young people (0–24 years) was much higher than the incidence for the general NT population with a peak rate in the 5 to 14 years age groups. The RHD prevalence increased with age.

7.2 Enteric disease notifications



Age group (years)	Campylobacteriosis		Rotavirus		Salmonellosis		Shigellosis	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Indigenous								
0-4	285	1388.2	726	3322.6	372	1675.9	191.9	930.5
5-9	5	24.3	4	19.4	9	38.8	23.8	111.7
10-14	0	0.0	0	0.0	9	46.2	4.8	20.5
15-19	1	6.1	0	0.0	7	28.1	5.7	28.1
20-24	5	30.9	2	12.4	5	24.8	3.5	18.6
NT non-Indigenous								
0-4	85	265.3	466	1452.0	328	1024.3	11.1	34.5
5-9	28	90.8	17	55.1	39	125.2	6.2	20.1
10-14	26	90.0	3	10.4	13	43.5	1.2	4.2
15-19	23	86.6	1	3.8	10	37.5	2.3	8.6
20-24	40	126.3	1	3.2	33	102.8	3.5	11.1
Australia								
0-4	n/a	235.1	n/a	n/a	n/a	196.2	n/a	12.1
5-9	n/a	100.1	n/a	n/a	n/a	46.0	n/a	3.2
10-14	n/a	70.4	n/a	n/a	n/a	26.3	n/a	1.0
15-19	n/a	92.9	n/a	n/a	n/a	28.0	n/a	1.3
20-24	n/a	148.5	n/a	n/a	n/a	36.1	n/a	2.0

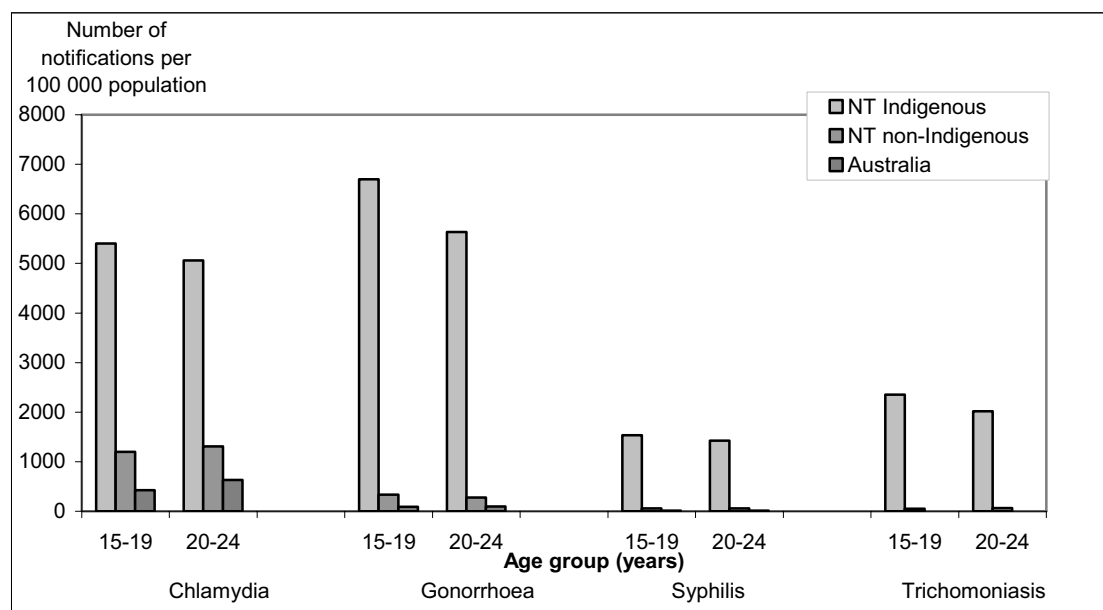
Note: Some national data are not available (n/a). Rotavirus infections are not notified nationally.

Sources: 1. NT: Centre for Disease Control, DHCS, 2001–03 (unpublished data)

2. Australia: Unpublished data from the Communicable Disease Network-Aust & NZ National Notifiable Diseases Surveillance System.

- The enteric diseases presented here include only those that are notifiable in the Northern Territory.
- Although not consistent across all age groups, there was generally a higher incidence of enteric diseases in the NT than Australia.
- NT Indigenous children generally had higher rates of enteric disease notifications than the NT non-Indigenous children.

7.3 Sexually transmissible infection notifications



Age group (years)	Chlamydia		Gonorrhoea		Syphilis		Trichomoniasis	
Number and rate (per 100 000 population) of notifications								
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
NT Indigenous								
15-19	960	5401.7	1190	6694.7	272	1532.0	418	2352.1
20-24	817	5057.9	910	5634.3	231	1427.0	326	2018.8
NT non-Indigenous								
15-19	317	1197.9	88	332.6	15	55.4	13	48.8
20-24	414	1306.3	89	279.6	18	58.1	21	65.6
Australia								
15-19	n/a	426.1	n/a	88.0	n/a	13.8	n/a	n/a
20-24	n/a	633.1	n/a	95.3	n/a	15.1	n/a	n/a

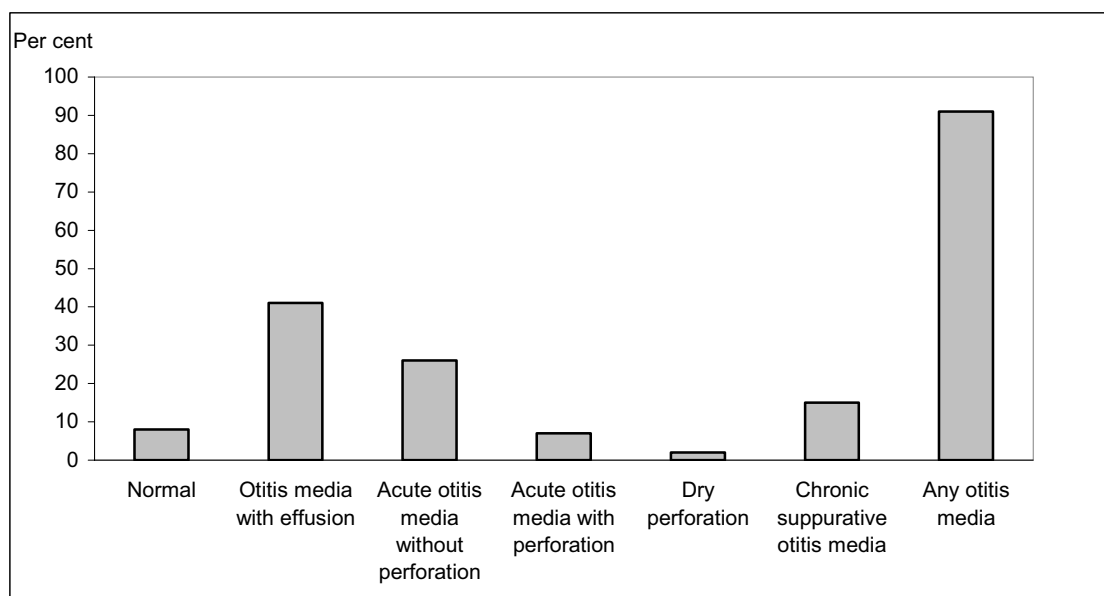
Note: Notification data for Trichomoniasis is not available (n/a) nationally.

Sources: 1. NT: Centre for Disease Control, DHCS, 2001–03 (unpublished data).

2. Australia: Communicable Disease Network-Aust NZ-National Notifiable Diseases Surveillance System, 2001–03 (unpublished data).

- Sexually transmissible infections (STIs), such as gonorrhoea, chlamydia, syphilis and trichomoniasis are significant causes of morbidity, with serious economic, social and health consequences.
 - All STIs are preventable and many are curable. If untreated, STIs can lead to severe health problems including pelvic inflammatory disease, infertility and cervical cancer. STIs during pregnancy may result in miscarriage, stillbirth, and life threatening complications for the newborn. Some
- STIs have also been shown to facilitate the transmission of the Human Immunodeficiency Virus (HIV).
- Indigenous young people aged 15–24 years have a significantly higher burden of bacterial STI disease than the Australian population of the same age. This may be due to increased number of partners, lack of experience in adopting safe sexual practices and/or difficulty accessing health services. Biological factors also make young people more vulnerable to STIs.

7.4 Otitis media in Indigenous children

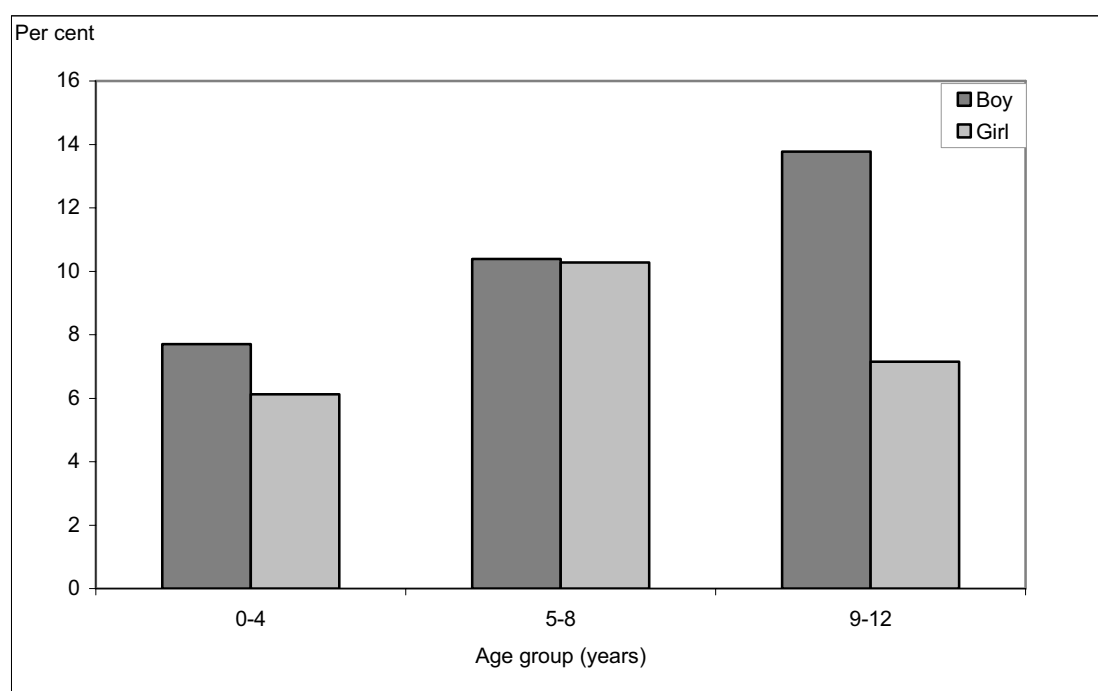


Diagnosis	Number	Per cent (95% CI)
Normal	53	8 (5-10)
Otitis media with effusion	291	41(37-45)
Acute otitis media without perforation	185	26 (23-30)
Acute otitis media with perforation	47	7 (4-9)
Dry perforation	15	2(1-3)
Chronic suppurative otitis media	107	15 (11-19)
Any otitis media	647	91(88-94)

Source: Morris PS, Leach AJ, Silberberg P. Otitis media in young Aboriginal children from remote communities in Northern and Central Australia: a cross-sectional survey. *BMC Pediatrics*. 2005;5:27.

- A recent study is the first comprehensive survey in over twenty years to document the prevalence of middle ear disease in young Aboriginal children from a range of remote communities in Northern and Central Australia.
- The study highlights that the rates of otitis media (all types) including tympanic membrane perforation and suppurative otitis media remain extremely high. The authors estimated that only 20% of children were likely to have normal hearing that did not require medical or audiological treatment.
- Otitis media in early childhood may lead to hearing loss, speech and language delay. The impact of severe or recurrent otitis media on hearing may contribute to poor educational and employment outcomes.
- Chronic suppurative otitis media is associated with poverty and over crowding. The WHO considers it to be a preventable disease with rate greater than 4% indicating concern.

7.5 Disability in non-Indigenous children, 2004

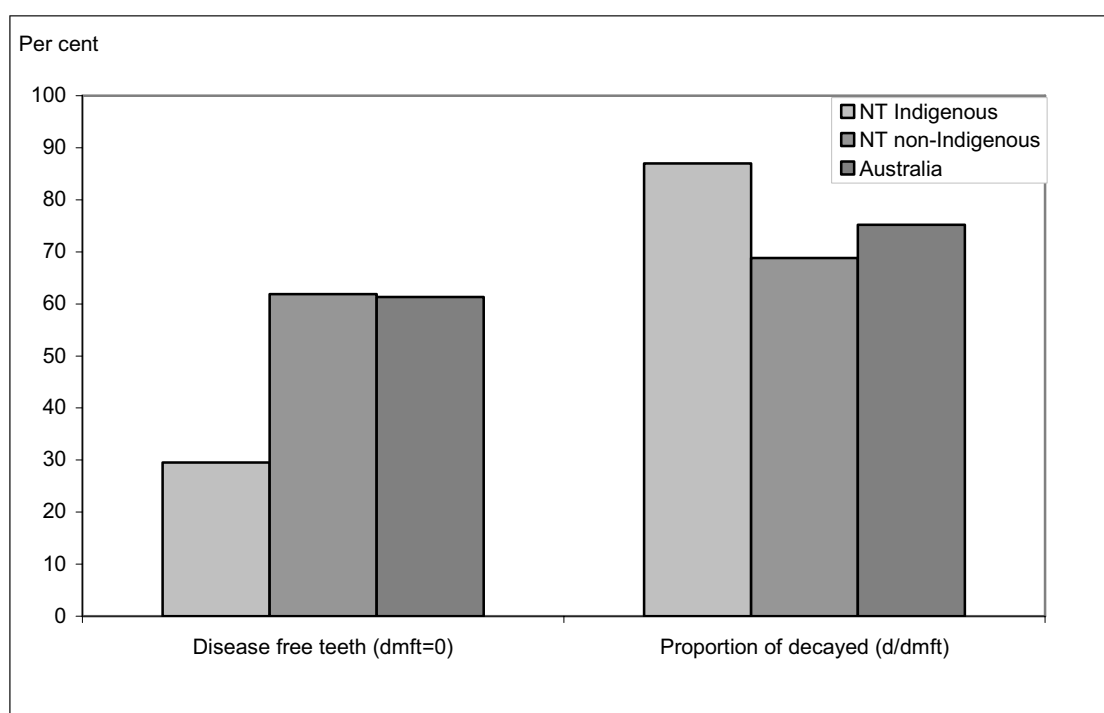


Reported disability	Number	Per cent	Confidence interval (95%)
0-4			
Yes	49	6.9	(4.5—9.4)
No	651	92.7	(90.2—95.2)
Unknown	3	0.4	(0.0—0.9)
5-8			
Yes	57	10.3	(7.0—13.7)
No	493	89.7	(86.3—93.0)
9-12			
Yes	55	10.6	(7.7—13.5)
No	468	89.4	(86.5—92.3)
Total	1775	100.0	

Source: Carson BE et al. Growing up in the Territory: parent survey. Department of Health and Community Services, Darwin, 2006

- Information on disability in NT non-Indigenous children was collected in a NT household telephone survey conducted in 2004.
- Nine percent of all children (9.1%) were described as having a disability, long-term illness or pain that put a burden on the carer or family.
- A disability was reported for 6.9% of 0 to 4 year old children, 10.3% of 5 to 8 year old children and 10.6% of 9 to 12 year old children.
- A disability was more common in boys than girls in the 0-4 years old and 9-12 years old age groups.
- Information on the prevalence of disability in the NT Indigenous population is not available. It is anticipated that the rates of disability are significantly higher than the non-Indigenous population, a result of the higher rates of precipitating factors including low birth weight, neonatal complications and injury.

7.6 Oral health in five year old children, 2000



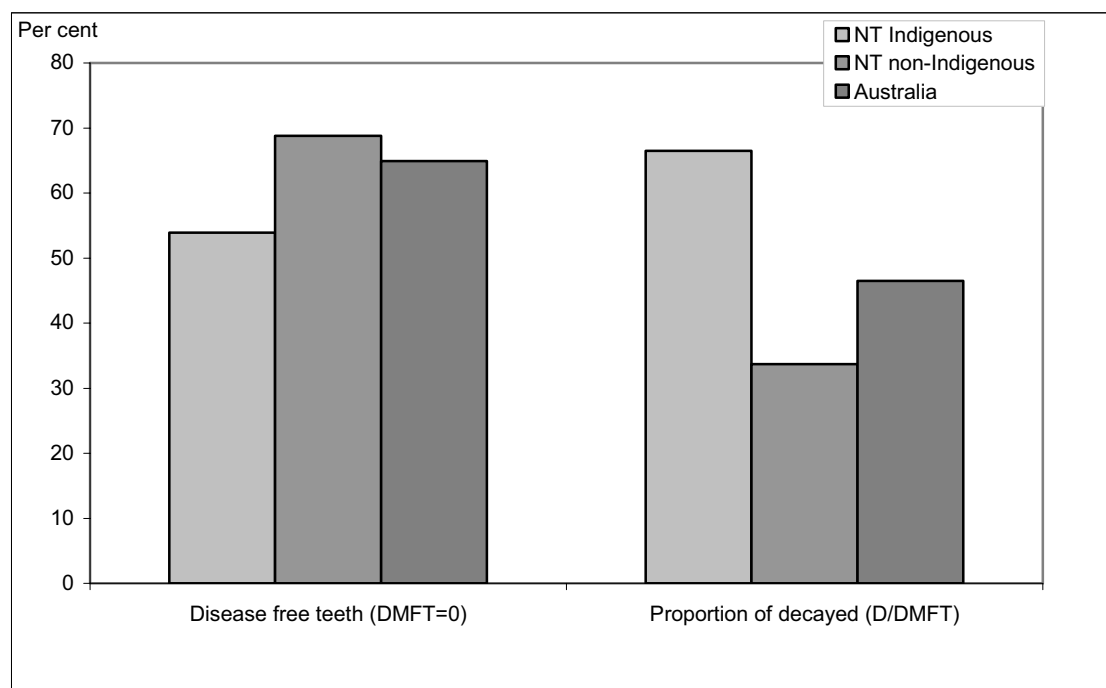
	NT Indigenous	NT non-Indigenous	Australia
Proportion of children with no diseased teeth (dmft=0)	29.5%	61.9%	61.3%
Proportion of untreated decayed teeth out of total decayed, missing and filled teeth (d/dmft)	87.0%	68.8%	75.2%
Average number of decayed, missing and filled teeth per five year old child (mean dmft)	3.4	1.4	1.5

Note: dmft is a dental classification and refers to decayed (d), missing (m) or filled (f) primary teeth.

Source: AIHW Child Dental Health Survey 2000 (unpublished data)

- Poor oral health, including both diseased gums and teeth can alter physical and emotional growth and development through factors such as mastication, nutritional intake, appearance and self esteem. There are also links between poor oral health and school attendance and with diseases such as heart disease, rheumatic fever and diabetes later in life.
- Intake of foods and drinks that have a high proportion of sugar and poor oral hygiene, are the major causes of oral disease in children.
- Data from the 2000 Child Dental Health Survey indicated little difference in the oral health status between 5 year old NT non-Indigenous children and corresponding Australian children, with 61%-62% of both groups having no history of carious teeth (dmft=0).
- NT Indigenous 5 five year old children have substantially poorer oral health than NT non-Indigenous and Australian children. Only 30% of the NT Indigenous 5 year olds had no dental caries compared with 62% for NT non-Indigenous five year olds.
- Of children with dental caries, 87% of the Indigenous children had untreated, decayed primary teeth compared with 69% for NT non-Indigenous children. The average number of decayed, missing or filled teeth (3.4) in NT Indigenous children was over twice the average for NT non-Indigenous children (1.4).

7.7 Oral health in twelve year old children, 2000



	NT Indigenous	NT non-Indigenous	Australia
Proportion of children with no diseased teeth (DMFT=0)	53.9%	68.8%	64.9%
Proportion of untreated decayed teeth out of total decayed, missing and filled teeth (D/DMFT)	66.5%	33.7%	46.5%
Average number of decayed, missing and filled teeth per twelve year old child (mean DMFT)	1.33	0.71	0.84

Note: DMFT is a dental classification and refers to decayed (D), missing (M) or filled (F) permanent teeth.

Source: AIHW Child Dental health Survey 2000 (unpublished data).

- Data from the 2000 Child Dental Health Survey indicated that NT non-Indigenous 12 year children have better oral health than corresponding Australian children. Compared with Australian children, a higher proportion of NT non-Indigenous 12 year olds had no history of dental caries. NT non-Indigenous children also had a substantially lower proportion of untreated dental caries, and a lower average number of decayed, missing or filled teeth.
- NT Indigenous 12 year old children have poorer oral health than the NT non-Indigenous group. A smaller proportion of the Indigenous children had no history of dental caries. NT Indigenous children also had twice the proportion of untreated decayed teeth and higher average number of decayed missing or filled teeth (1.33) compared with the NT non-Indigenous children.

Using hospital morbidity data: an explanation

It is difficult to obtain information on the level of ill-health in a population. However one commonly used source of information is hospital morbidity data, particularly information on the number of admissions to hospital, the reason or reasons for the admission and the duration of stay for each admission. A limitation of hospital data is that they are not a sensitive measure of the prevalence of a disease or condition in the general population, but reports only those individuals whose health problems are serious enough to require hospitalisation.

The reasons for admitting patients to hospital are best obtained at the time of discharge (also often called time of separation) from hospital. For example, at admission a patient may complain of chest pain which may initially be thought to be a heart related problem, but which after investigation may prove to be an ulcer. As the general public is usually more familiar with the term admission to hospital rather than separation from hospital, the term hospital admission is used throughout this report, but the causes of admission are consistent with those documented at the time that the patient left hospital.

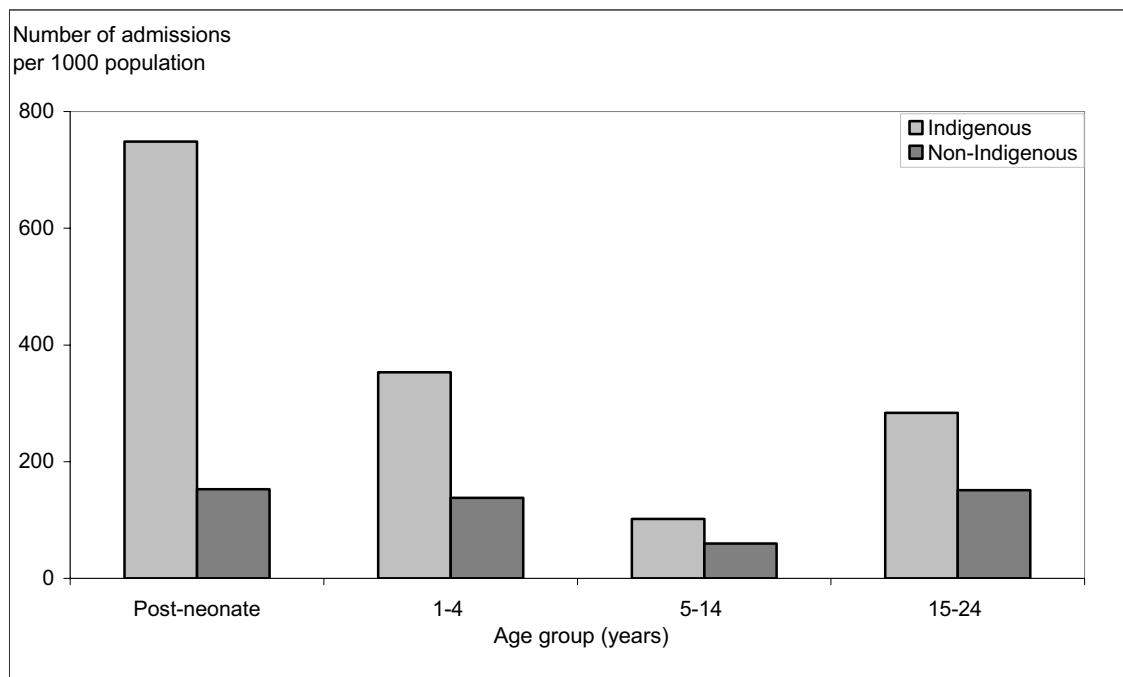
The NT Hospital Morbidity database contains NT public hospital information on episodes of hospitalisation rather than on individuals admitted to hospital. The database provides information on the principal diagnosis and often includes additional conditions (co-morbidities) present in the person admitted to hospital. For example, a child admitted to hospital as a result of severe bronchiolitis may concurrently have other conditions such as chronic undernutrition with failure to thrive and otitis media. An examination of these additional conditions together with the principal diagnosis can be used to put together a more complete picture of the health status of a patient at admission. Results of analyses using these data however, should be interpreted with caution because there is no uniform process for recording these additional conditions and completeness may vary between health professionals and hospitals. Furthermore,

as the data refer to episodes of hospitalisation it is likely that the data contains individuals who were admitted to hospital on more than one occasion for one or more conditions rather than providing information on the number of individuals diagnosed with a particular condition.

For this report, these conditions have been classified according to the tenth revision of the International Classification of Diseases (ICD10-CM). In addition to the more common analysis of admission by principal diagnosis, information on other conditions has also been presented in the report for a selected group of conditions. Details of the codes used for these analyses are included as the appendix to this report. The principal or main reason for a patient's admission to hospital was categorised into one of the 21 chapters in the International Classification of Diseases and is referred to as 'ICD chapter', giving a broad indication of the reason of hospitalisation. The selected conditions are a subjective list arrived at after consultation with local experts on conditions believed to be important in the Northern Territory. These included intestinal infectious diseases, acute bronchitis and bronchiolitis, pneumonia, scabies, rheumatic heart disease, malnutrition, acute upper respiratory tract infection, otitis media, urinary tract infection, injuries, asthma, skin infections, genitourinary diseases and mental disorders. In addition, information for young women in the 15–24 years age group is included for complications of pregnancy, labour and delivery, disorders of the female reproductive tract, complications of puerperium, and terminations of pregnancy.

Admission data are presented for 1993–97 and 1999–02 to allow comparison between the two periods. Information is presented for four age groups; infants in the post-neonatal period (4 to 51 weeks), 1–4 year-olds, 5–14 year olds and 15–24 year-olds. The different patterns evident between young men and women aged 15–24 years requires that data for these two groups are presented separately.

7.8 Hospital admission rates for children and young adults, by age group



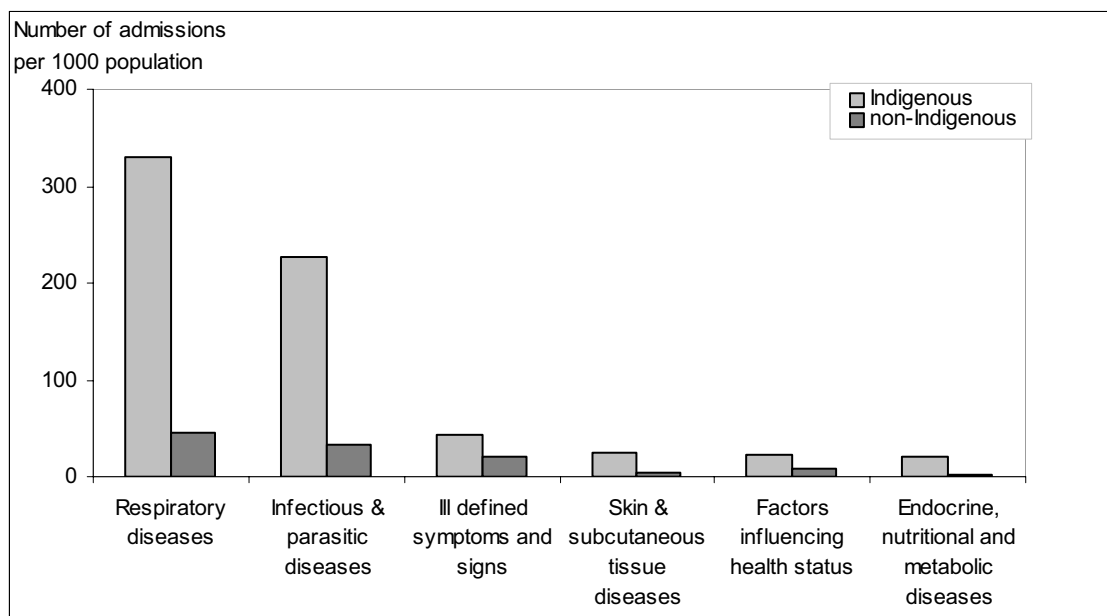
Age group (years)	Indigenous				Non-Indigenous			
	1993–97		1999–2002		1993–97		1999–2002	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Post-neonate	1 076	623.2	1 282	748.3	321	120.3	410	153.0
1–4	1 656	319.7	1 817	353.4	922	115.2	1 110	138.1
5–14	961	76.8	1 360	101.7	1 010	54.6	1 187	59.8
15–24	2 063	189.9	3 219	283.4	2 607	132.2	2 957	150.9
Total	5 757	190.1	7 678	243.1	4 859	99.4	5 663	112.9

Notes: 1. Rates were calculated as the number of admissions per 1000 population
 2. A post-neonate is aged from 28 days to 12 months of age
 3. The data excludes admissions related to normal births and renal dialysis
 4. In the table "Number" refers to the average number of hospital admissions for each year

Source: Hospital Morbidity Dataset, DHCS 1999–2002 (unpublished data).

- The capture of data on hospital care provides an important source of information on the more serious episodes of acute and chronic illnesses in a population. An important limitation of these data is that change over time may reflect variations in admission policy or increased resources and are not necessarily indicative of change in the health status of the population.
- Between the two periods of 1993–97 and 1999–2002 there was an increase in both the average number of admissions and the rate of admission for both Indigenous and non-Indigenous NT populations in all age groups.
- Although the hospital admission rates increased in both Indigenous and non-Indigenous groups, there was a greater increase for the Indigenous group with a rate ratio for all age groups of 1.91 in 1993–97 compared with 2.15 in 1999–2002.
- The lowest rate of admission to a public hospital in 1999–2002 was in young people aged 5–14 years with an Indigenous rate of 101.7 admissions per 1000 population, and a non-Indigenous rate of 59.8 admissions per 1000 population.

7.9 Principal diagnosis for hospital admission (post-neonates)



Reasons for admission by ICD-10 chapter	Indigenous		Non-Indigenous		Ratio
	Number	Rate	Number	Rate	
Respiratory diseases	2 261	329.9	475	44.3	7.4
Infectious and parasitic diseases	1 548	225.9	352	32.9	6.9
Ill defined symptoms and signs	303	44.2	212	19.8	2.2
Skin and subcutaneous tissue diseases	174	25.4	34	3.2	8.0
Factors influencing health status	159	23.2	91	8.5	2.7
Endocrine, nutritional and metabolic diseases	148	21.6	33	3.1	7.0
Genitourinary diseases	132	19.3	77	7.2	2.7
Nervous system and sense organ diseases	82	12.0	59	5.5	2.2
Injury and poisoning	74	10.8	59	5.5	2.0
Congenital malformations	68	9.9	89	8.3	1.2
Blood and blood-forming organs diseases	56	8.2	0	0.0	n/a
Conditions originating in perinatal period	54	7.9	37	3.5	2.3
Digestive diseases	36	5.3	100	9.3	0.6
Other	33	4.8	21	2.0	2.5
Total	5 128	748.3	1 639	153.0	4.9

Notes: 1. A post-neonate is aged from 28 days to 12 months of age.

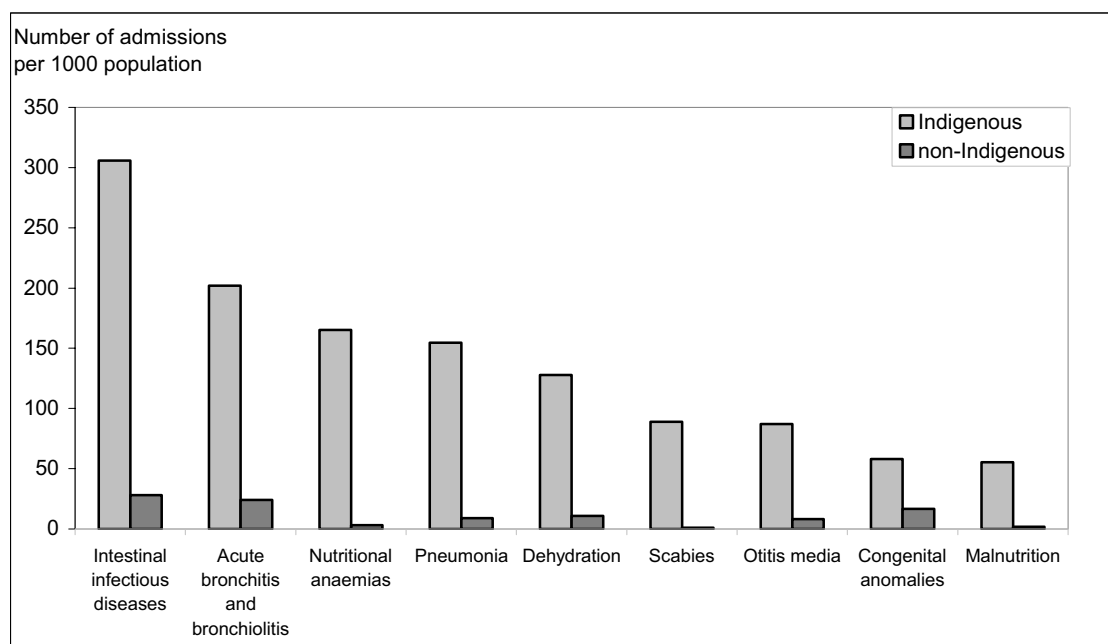
2. Principal diagnosis refers to the main diagnosis at time of discharge from hospital.

3. In the table "Number" refers to the average number of hospital admissions for each year

Source: Hospital Morbidity Dataset, DHCS 1999–2002 (unpublished data)

- Infants include all newborns who are less than one year of age. The infancy period can be broken up into the neonatal period (first four weeks after birth) and the post-neonatal period (from the fourth week to the end of the first year of life).
- A NT Indigenous post-neonate was five times more likely to be admitted to hospital than a NT non-Indigenous post-neonate. There was an annual average of 748 admissions for every 1000 NT Indigenous post-neonates, compared with the NT non-Indigenous rate of 153 admissions per 1000.
- With rate ratios around 7 to 8, diseases of the respiratory system, infectious and parasitic diseases, diseases of the skin and nutritional diseases carried the highest relative risk for admission for Indigenous children compared with non-Indigenous children.

7.10 Common conditions present at hospital admission (post-neonates)



Health conditions	Indigenous Number of hospital admissions per 1000 population	Non-Indigenous	Ratio
Intestinal infectious diseases	305.7	28.2	10.8
Acute bronchitis and bronchiolitis	202.0	24.1	8.4
Nutritional anaemias	165.2	3.3	50.6
Pneumonia	154.5	9.0	17.2
Dehydration	128.0	10.8	11.8
Scabies	89.0	1.0	86.7
Otitis media	87.1	8.1	10.7
Congenital anomalies	58.1	16.6	3.5
Malnutrition	55.3	1.9	29.6
Urinary tract infection	50.1	6.9	7.2
Acute upper respiratory tract infection	46.3	16.6	2.8
Conditions arising from perinatal period	44.2	8.7	5.1
Asthma	2.6	2.4	1.1

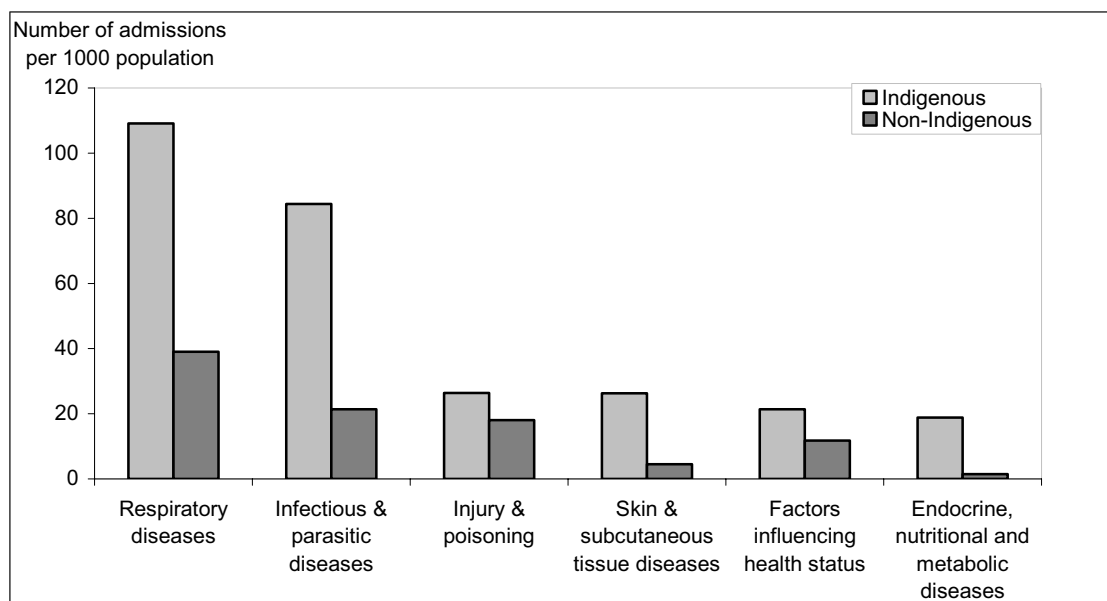
Notes: 1. Principal diagnosis and other conditions listed on the hospital dataset were all included in this table.

2. All admissions were coded to the tenth revision of the International Classification of Disease (ICD10)

Source: Hospital Morbidity Dataset, DHCS 1999–2002 (unpublished data)

- The average number of conditions associated with each admission for NT Indigenous post-neonates was 3.2 compared with 2.2 for NT non-Indigenous post-neonates. This difference is associated with an increase in the complexity of clinical management for Indigenous children.
- The more common hospital conditions for NT Indigenous post-neonates were intestinal infections (306 admissions in every 1000 population) and acute bronchitis and bronchiolitis (202 per 1000 population).
- NT Indigenous infants were almost 90 times more likely to be admitted to hospital with scabies, 50 times more likely to be admitted with nutritional anaemia and 30 times more likely to have had a diagnosis of malnutrition than NT non-Indigenous infants. These conditions are consistent with the relatively poor social and economic conditions of Indigenous households.

7.11 Principal diagnosis for hospital admission (1–4 year old children)



Reasons for admission by ICD-10 chapter	Indigenous		Non-Indigenous		Ratio
	Number	Rate	Number	Rate	
Respiratory diseases	2 244	109.1	1 255	39.0	2.8
Infectious and parasitic diseases	1 735	84.4	687	21.4	3.9
Injury and poisoning	542	26.4	581	18.1	1.5
Skin and subcutaneous tissue diseases	540	26.3	144	4.5	5.9
Factors influencing health status	338	16.4	234	7.3	2.3
Endocrine, nutritional and metabolic diseases	388	18.9	46	1.4	13.2
Ill defined symptoms and signs	439	21.4	377	11.7	1.8
Genitourinary diseases	290	14.1	152	4.7	3.0
Digestive diseases	254	12.4	364	11.3	1.1
Nervous system and sense organ diseases	233	11.3	322	10.0	1.1
Musculoskeletal diseases	93	4.5	48	1.5	3.0
Congenital malformations	89	4.3	129	4.0	1.1
Blood and blood-forming organs diseases	29	1.4	41	1.3	1.1
Circulatory diseases	26	1.3	5	0.2	8.1
Neoplasm	22	1.1	35	1.1	1.0
Other	4	0.2	19	0.6	0.3
Total	7 266	353.4	4 439	138.1	2.6

Notes: 1. Rates were calculated as the number of admissions per 1000 population aged from 1 to 4 years

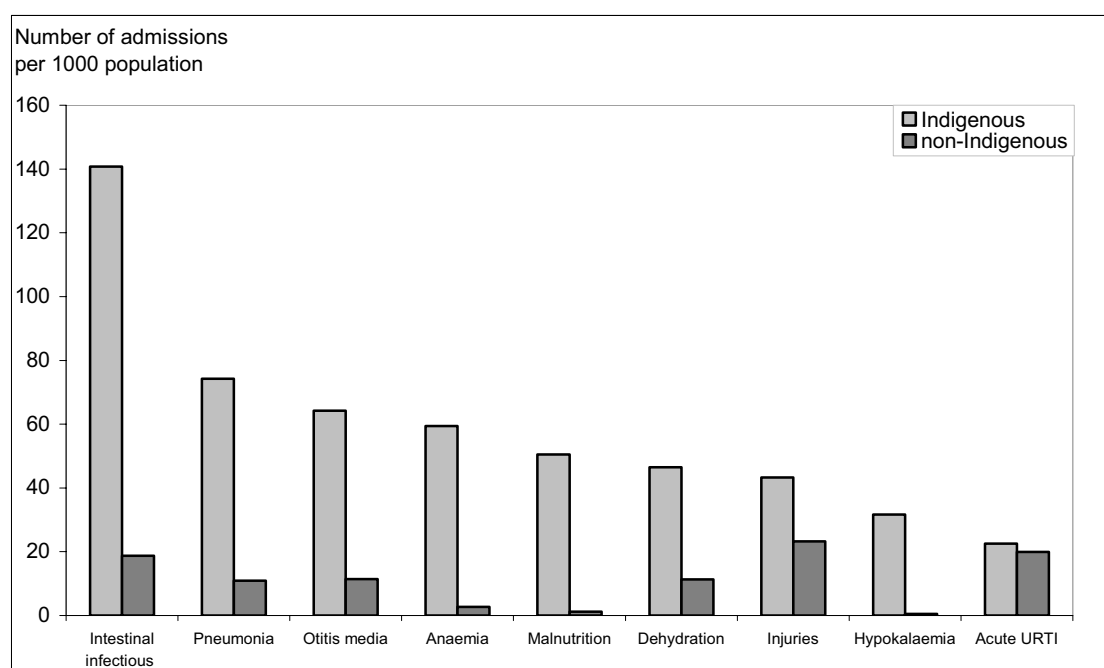
2. Principal diagnosis refers to the main diagnosis at time of discharge from hospital.

3. In the table "Number" refers to the average number of hospital admissions for each year

Source: Hospital Morbidity Dataset, DHCS 1999–2002 (unpublished data)

- There was an annual average of 11 705 NT public hospital admissions of children aged from 1 to 4 years between 1999 and 2002.
- The admission rate for Indigenous children (353 per 1000 population) was 2.6 times the rate for NT non-Indigenous children (138 per 1000 population).
- Diseases of the respiratory system and infectious and parasitic diseases were the two most common principal diagnoses for both groups of children.
- The conditions of greatest relative increase for Indigenous children were nutritional diseases (13.2), diseases of the circulatory system (8.1) and skin diseases (5.9).

7.12 Common conditions present at hospital admission (1–4 year old children)



Health conditions	Indigenous Number of hospital admissions per 1000 population	Non-Indigenous	Ratio
Intestinal infectious disease	140.8	18.7	7.5
Pneumonia	74.3	10.9	6.8
Otitis media	64.3	11.4	5.6
Anaemia	59.4	2.7	22.0
Malnutrition	50.5	1.2	42.7
Dehydration	46.4	11.3	4.1
Injuries	43.2	23.3	1.9
Hypokalaemia	31.7	0.5	67.9
Acute URTI	22.5	19.9	1.1
Scabies	19.8	0.2	106.1
Urinary tract infection	19.6	2.3	8.5
Asthma	16.0	14.4	1.1

Notes: 1. Principal diagnosis and other conditions listed on the hospital dataset were all included in this table.

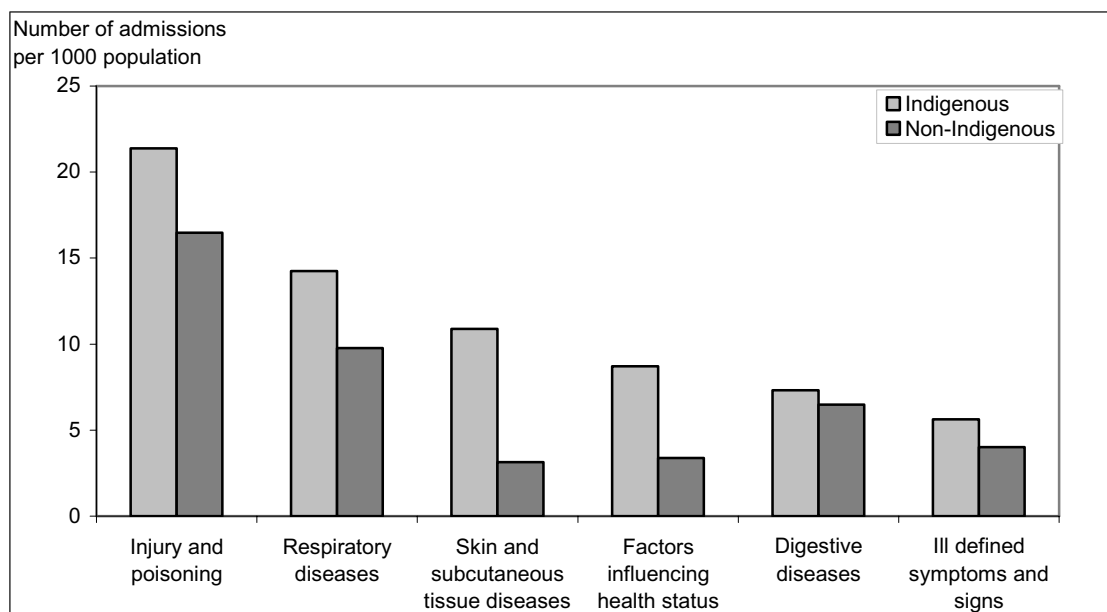
2. All admissions were coded to the tenth revision of the International Classification of Disease (ICD10)

3. Acute URTI refers to acute upper respiratory tract infection

Source: Hospital Morbidity Dataset, DHCS 1999–2002 (unpublished data)

- Intestinal infections were the major health conditions associated with admission of Indigenous children aged 1–4 years. The admission rate of 140.8 per 1000 was 7.5 times higher than the NT non-Indigenous rate (18.7 per 1000).
- Among NT non-Indigenous 1–4 year olds, injuries, acute upper respiratory infections, intestinal infections and asthma were the major conditions associated with children who had been admitted to hospital.
- NT Indigenous children in this age group were 106 times more likely to be diagnosed with scabies, 68 times more likely to be diagnosed with electrolyte imbalance (usually associated with severe gastroenteritis) and 43 times more likely to be diagnosed with malnutrition than NT non-Indigenous children of the same age.

7.13 Principal diagnosis for hospital admission (5–14 year old children)



Reasons for admission by ICD-10 chapter	Indigenous		Non-Indigenous		Ratio
	Number	Rate	Number	Rate	
Injury and poisoning	1 143	21.4	1 308	16.5	1.3
Respiratory diseases	762	14.3	776	9.8	1.5
Skin and subcutaneous tissue diseases	582	10.9	249	3.1	3.5
Factors influencing health status	466	8.7	269	3.4	2.6
Digestive diseases	391	7.3	515	6.5	1.1
Ill defined symptoms and signs	301	5.6	318	4.0	1.4
Nervous system & sense organ diseases	403	7.5	321	4.0	1.9
Musculoskeletal diseases	270	5.0	122	1.5	3.3
Infectious & parasitic diseases	267	5.0	297	3.7	1.3
Genitourinary diseases	248	4.6	189	2.4	1.9
Circulatory diseases	213	4.0	28	0.4	11.3
Pregnancy, childbirth and puerperium	186	3.5	28	0.4	9.9
Blood and blood-forming organs diseases	75	1.4	67	0.8	1.7
Congenital malformations	48	0.9	92	1.2	0.8
Endocrine, nutritional and metabolic diseases	39	0.7	75	0.9	0.8
Neoplasm	24	0.4	54	0.7	0.7
Mental disorders	21	0.4	40	0.5	0.8
Total	5 439	101.7	4 748	59.8	1.7

Notes: 1. Principal diagnosis refers to the main diagnosis at time of discharge from hospital.

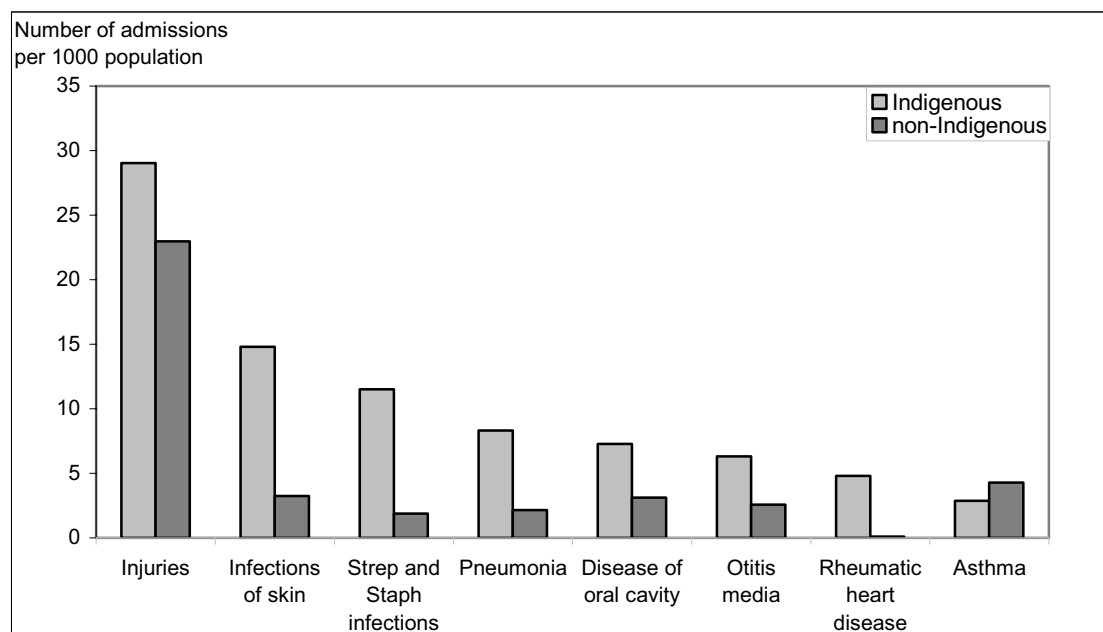
2. In the table "Number" refers to the average number of hospital admissions for each year

3. All admissions were coded to the tenth revision of the International Classification of Disease (ICD10)

Source: Hospital Morbidity Dataset, DHCS 1999–2002 (unpublished data)

- There was an annual average of 10 187 NT public hospital admissions of children aged from 5 to 14 years between 1999 and 2002.
- The rate of admission of NT Indigenous children (102 per 1000 population) was 1.7 times the rate of NT non-Indigenous children (60 per 1000) of the same age.
- Both Indigenous and non-Indigenous children were most commonly admitted with diagnoses of injury and poisoning, and diseases of the respiratory system.
- Indigenous children were at greatest relative risk of admission for diseases of the circulatory disease (11.3 times) and pregnancy related care (9.9 times).

7.14 Common conditions present at hospital admission (5–14 year old children)



Health conditions	Indigenous	Non-Indigenous	Ratio
	Number of hospital admissions per 1000 population		
Injuries	29.0	23.0	1.3
Infections of skin	14.8	3.2	4.6
Streptococcal and Staphylococcal infections	11.5	1.9	6.1
Pneumonia	8.3	2.2	3.8
Disease of oral cavity	7.3	3.1	2.3
Otitis media	6.3	2.6	2.4
Rheumatic heart disease	4.8	0.1	54.5
Asthma	2.9	4.3	0.7
Acute upper respiratory tract infection	2.6	3.4	0.8
Nutritional anaemia	2.4	0.1	19.3
Scabies	2.3	0.1	20.3
Urinary tract infection	2.2	0.2	10.8

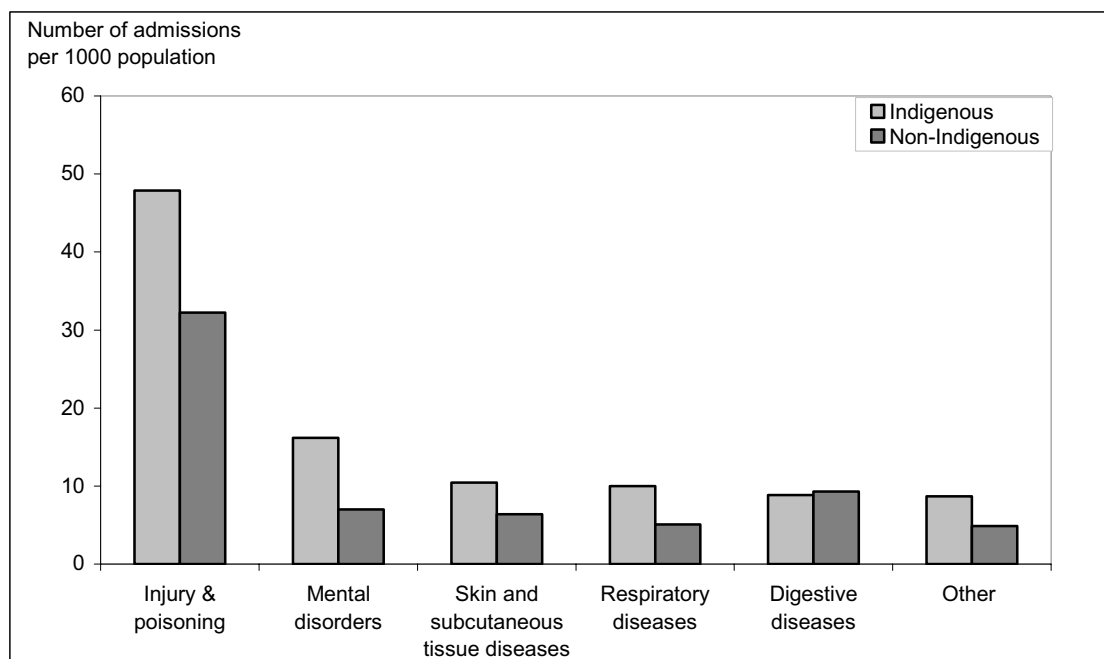
Notes: 1. Principal diagnosis and other conditions listed on the hospital dataset were all included in this table.

2. All admissions were coded to the tenth revision of the International Classification of Disease (ICD10)

Source: Hospital Morbidity Dataset, DHCS 1999–2002 (unpublished data)

- Injury was the most common condition associated with admission to hospital for both Indigenous (29.0 per 1000 children) and non-Indigenous children (23.0 per 1000 children).
- NT Indigenous children also had relatively high rates of admission for infectious diseases. These conditions are consistent with the relatively poor living conditions of NT Indigenous people. Some of these infections such as streptococcal infections are themselves risk factors for other debilitating conditions such as rheumatic heart disease.
- Asthma (4.3 per 1000 children) was the second most common condition (after injuries) associated with admission of NT non-Indigenous children.

7.15 Principal diagnosis for hospital admission (15–24 year old males)



Reasons for admission by ICD-10 chapter	Indigenous		Non-Indigenous		Ratio
	Number	Rate	Number	Rate	
Injury & poisoning	1 102	47.9	1 346	32.2	1.5
Mental disorders	372	16.2	292	7.0	2.3
Skin and subcutaneous tissue diseases	240	10.4	267	6.4	1.6
Respiratory diseases	230	10.0	212	5.1	2.0
Digestive diseases	204	8.9	388	9.3	1.0
Factors influencing health status	200	8.7	204	4.9	1.8
Ill defined symptoms and signs	117	5.1	146	3.5	1.5
Musculoskeletal diseases	103	4.5	190	4.6	1.0
Nervous system & sense organ diseases	90	3.9	99	2.4	1.6
Circulatory diseases	75	3.3	57	1.4	2.4
Genitourinary diseases	61	2.6	106	2.5	1.0
Infectious & parasitic diseases	58	2.5	102	2.4	1.0
Neoplasm	32	1.4	18	0.4	3.2
Other	45	2.0	59	1.4	1.4
Total	2 929	127.2	3 486	83.5	1.5

Notes: 1. Principal diagnosis refers to the main diagnosis at time of discharge from hospital.

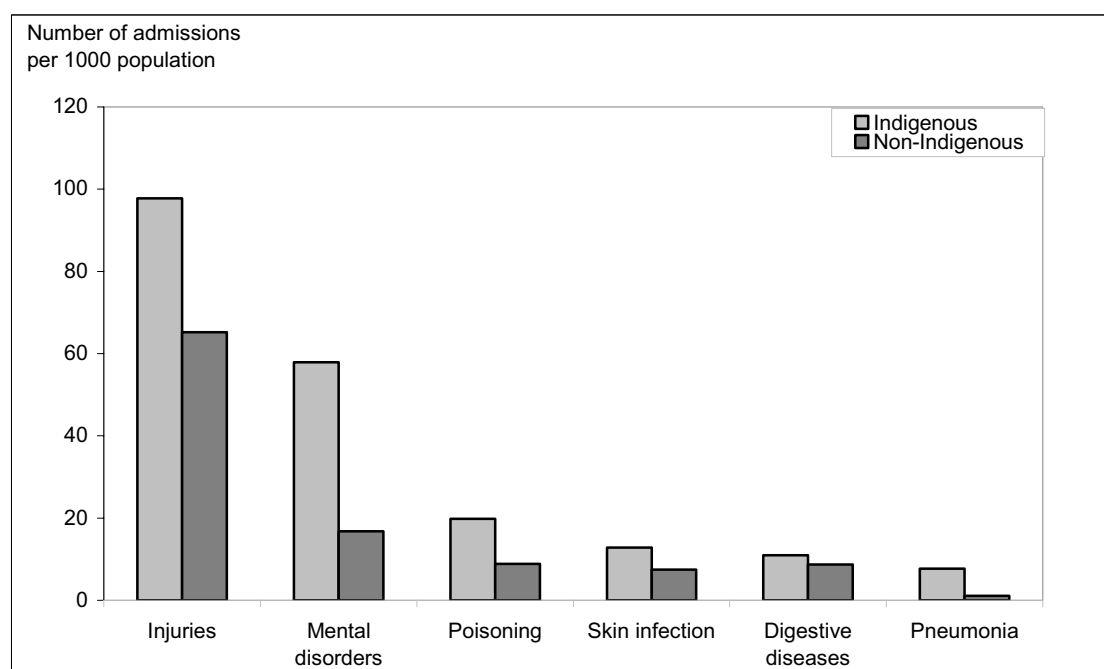
2. In the table "Number" refers to the average number of hospital admissions for each year

3. All admissions were coded to the tenth revision of the International Classification of Disease (ICD10)

Source: Hospital Morbidity Dataset, DHCS 1999–2002 (unpublished data)

- There was an annual average of 6 415 public hospital admissions for young men aged from 15 to 24 years between 1999 and 2002.
- Indigenous young men made up 46% of these admissions and with a rate of 127 per 1000 population, were 1.5 times more likely to be admitted than NT non-Indigenous young men (83.5 per 1000 population).
- Admissions for injury and poisoning and mental health disorders were the most common reasons for admission in Indigenous young men.
- Injury and poisoning was also the most common reason for admission for non-Indigenous young men. The second most common reason for admission was diseases of the digestive system.

7.16 Common conditions present at hospital admission (15–24 year old males)



Health conditions	Indigenous Number of hospital admissions per 1000 population	Non-Indigenous	Ratio
Injuries	97.8	65.2	1.5
Mental disorders	57.9	16.8	3.4
Poisoning	19.9	8.9	2.2
Skin infection	12.9	7.4	1.7
Digestive diseases	10.9	8.7	1.3
Pneumonia	7.7	1.1	7.0
Acute and chronic rheumatic heart disease	3.9	0.2	23.3
Asthma	0.9	1.7	0.5

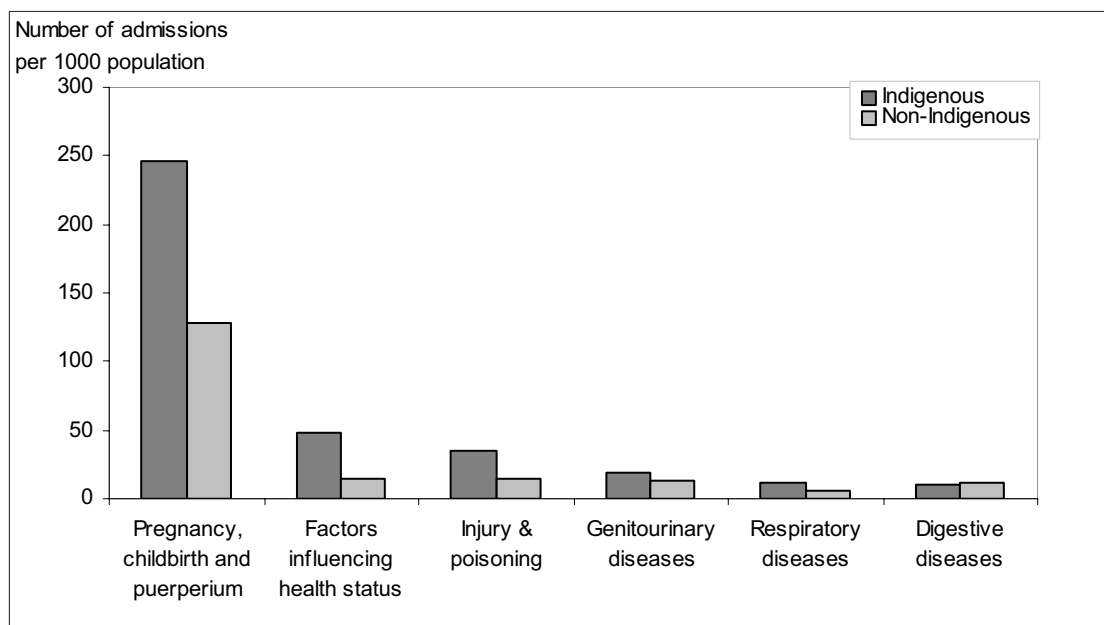
Notes: 1. Principal diagnosis and other conditions listed on the hospital dataset were all included in this table.

2. All admissions were coded to the tenth revision of the International Classification of Disease (ICD10)

Source: Hospital Morbidity Dataset, DHCS 1999–2002 (unpublished data)

- Injuries (97.8 per 1000 population) and mental disorders (57.9 per 1000 population) were the two most common diagnoses associated with hospital admission for NT Indigenous males in the 15 to 24 year old age group.
- Injuries (65.2 per 1000 population) and mental disorders (16.8 per 1000 population) were also the leading conditions associated with hospital admissions of young non-Indigenous males.
- There was a 23-fold relative difference in the rates of acute and chronic rheumatic heart disease between the two groups. This difference is consistent with the relatively poor living conditions of NT Indigenous people.
- Drivers aged 15–24 years have a much higher road crash risk than older, more experienced drivers. Between 1999 and 2004, 16 to 20 year olds comprised 6.3% of all drivers in the NT but were the drivers in 18% of all crashes and 19% of crashes involving a fatality. Nearly 50% of all road fatalities involve alcohol or the lack of wearing a seatbelt.³⁰

7.17 Principal diagnosis for hospital admission (15–24 year old females)



Reasons for admission by ICD-10 chapter	Indigenous		Non-Indigenous	
	Number	Rate	Number	Rate
Pregnancy, childbirth and puerperium	5 513	246.1	4 674	127.7
Factors influencing health status	1 066	47.6	522	14.3
Injury and poisoning	798	35.6	542	14.8
Genitourinary diseases	423	18.9	500	13.7
Respiratory diseases	255	11.4	236	6.4
Digestive diseases	240	10.7	416	11.4
Skin and subcutaneous tissue diseases	186	8.3	142	3.9
Ill defined symptoms and signs	179	8.0	213	5.8
Infectious & parasitic diseases	152	6.8	99	2.7
Mental disorders	134	6.0	135	3.7
Nervous system & sense organ diseases	127	5.7	65	1.8
Circulatory diseases	105	4.7	35	1.0
Musculoskeletal diseases	94	4.2	112	3.1
Neoplasm	67	3.0	82	2.2
Blood and blood-forming organs diseases	49	2.2	18	0.5
Endocrine, nutritional and metabolic diseases	31	1.4	46	1.3
Congenital malformations	7	0.3	9	0.2
Normal childbirth	518	23.1	495	13.5
Total (Excluding normal childbirth)	9 428	420.9	7 846	214.3

Notes: 1. Principal diagnosis refers to the main diagnosis at time of discharge from hospital.

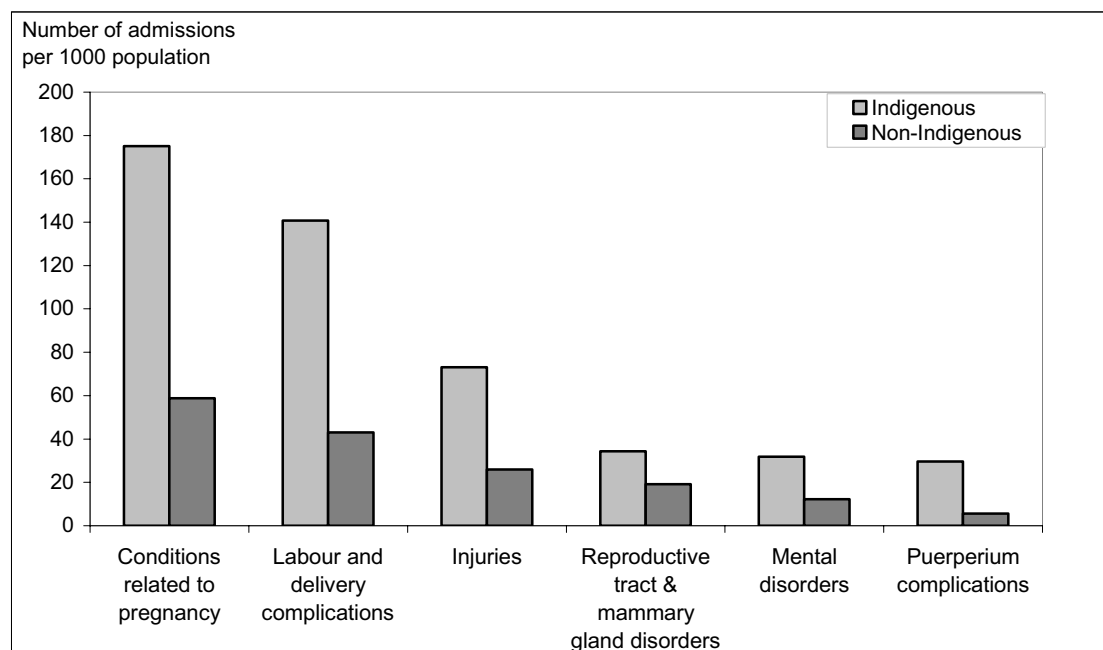
2. In the table "Number" refers to the average number of hospital admissions for each year

3. All admissions were coded to the tenth revision of the International Classification of Disease (ICD10)

Source: Hospital Morbidity Dataset, DHCS 1999–2002 (unpublished data)

- There was an annual average of 17 275 public hospital admissions of young females aged from 15 to 24 years between 1999 and 2002.
- Young Indigenous females made up 55% of the total admissions and overall were twice as likely to be hospitalised than young non-Indigenous females.
- Complications of pregnancy, childbirth and the puerperium were the common reason for admission for both groups of young women.

7.18 Common conditions present at hospital admission (15–24 year old females)



Health conditions	Indigenous Number of hospital admissions per 1000 population	Non-Indigenous	Ratio
Conditions related to pregnancy	175.0	58.9	3.0
Labour and delivery complications	140.7	43.0	3.3
Injuries	73.2	25.9	2.8
Reproductive tract and mammary gland disorders	34.3	19.1	1.8
Mental disorders	31.9	12.2	2.6
Puerperium complications	29.6	5.6	5.3
Urinary tract infections	22.2	4.4	5.1
Termination of pregnancy	21.0	41.8	0.5
Digestive diseases	16.7	12.6	1.3
Rheumatic heart disease	13.6	0.3	45.3
Infections of skin & subcutaneous tissue	13.5	4.6	2.9
Pneumonia	9.7	1.1	8.4
Asthma	3.4	3.9	0.9

Notes: 1. Principal diagnosis and other conditions listed on the hospital data were all included in this table.

2. All admissions were coded to the tenth revision of the International Classification of Disease (ICD10)

Source: Hospital Morbidity Dataset, DHCS 1999–2002 (unpublished data).

- The average number of conditions associated with each episode of hospital admission (excluding normal childbirth) was 2.1 for young Indigenous females and 1.8 for NT non-Indigenous females.
- Complications of pregnancy, delivery and puerperium were among the most common conditions diagnosed in both Indigenous and non-Indigenous young women aged 15 to 24 years.
- The greatest disparity between the two populations was rheumatic heart disease for which young Indigenous females had a rate 45 times that of non-Indigenous females of the same age. Young Indigenous women were three times as likely to be admitted with a condition related to pregnancy or complication of labour and delivery.

8 Mortality

Mortality for 0–24 year olds

- Mortality trends for children and young people aged 0–24 years, Northern Territory and Australia 1986 to 2001
- Age-specific death rates, 1998 to 2002

Infant mortality

- Trends in infant mortality, 1986 to 2003
- Causes of infant mortality, 1998 to 2002
- Causes of infant mortality for conditions originating in the perinatal period, 1998 to 2002

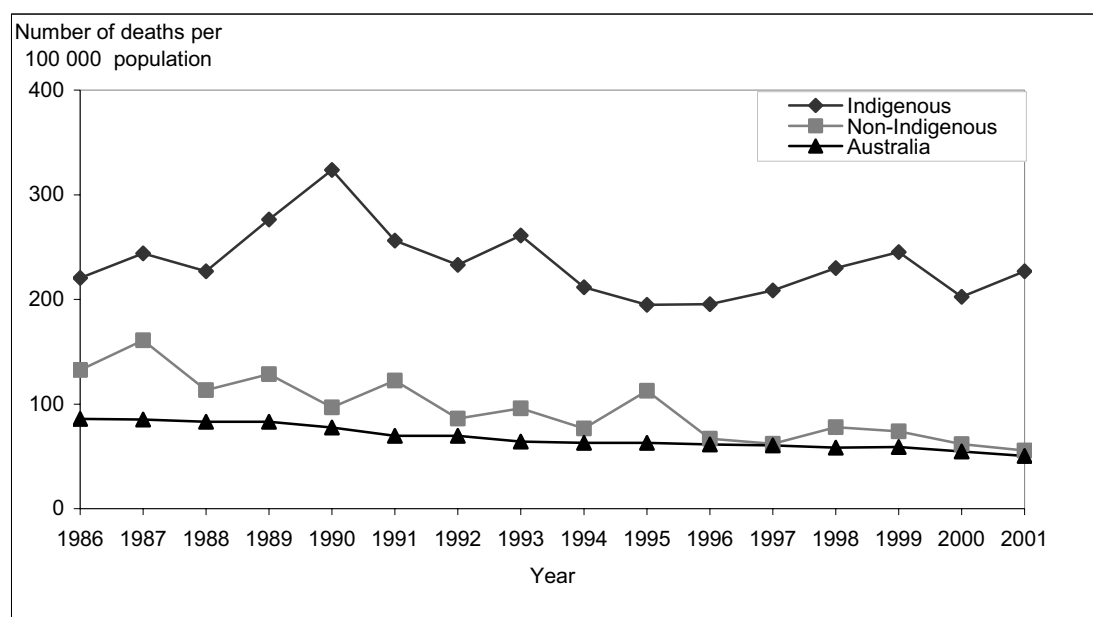
Mortality for 1–14 year olds

- Causes of death in children aged 1–14 years, 1998 to 2002
- Injury type in death of children aged 1–14 years, 1998 to 2002

Mortality for 15–24 year olds

- Causes of death in young people aged 15–24 years, 1998 to 2002
- Injury type in death of young people aged 15–24 years, 1998 to 2002

8.1 Mortality trends for children and young people aged 0–24 years, Northern Territory and Australia 1986 to 2001



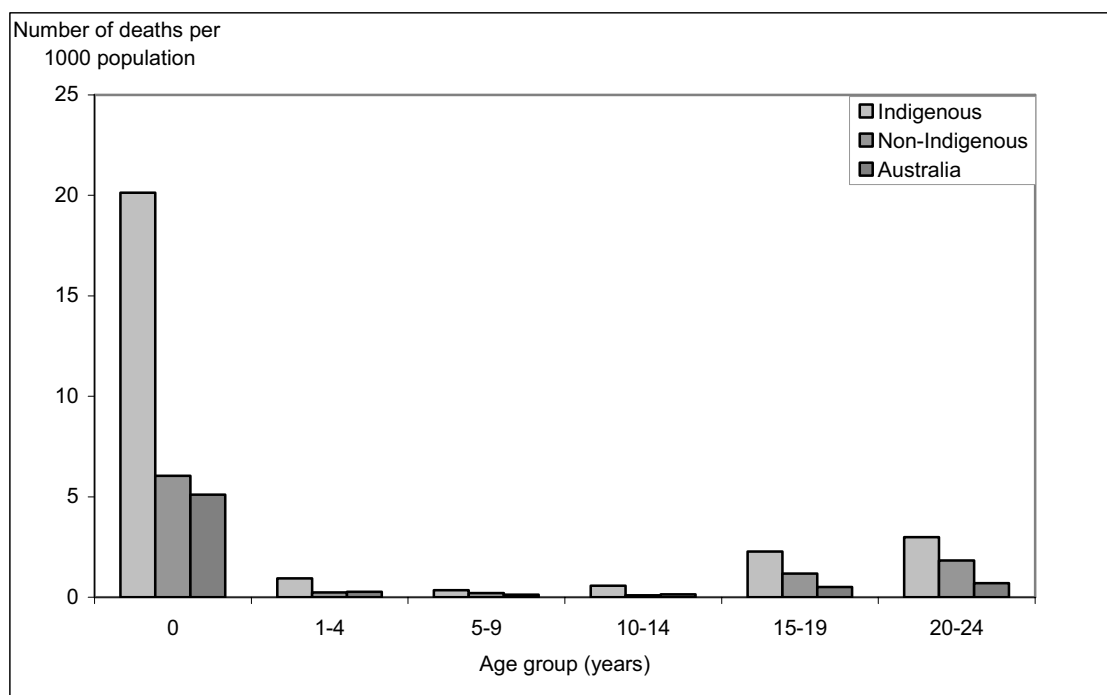
	Death rate			Death rate ratio		
	NT Indigenous	NT non-Indigenous	Australia	NT Indigenous to Australia	NT non-Indigenous to Australia	NT Indigenous to NT non-Indigenous
1986–89	242.2	133.9	84.3	2.9	1.6	1.8
1990–92	270.5	101.8	72.2	3.7	1.4	2.7
1993–95	222.2	95.1	63.3	3.5	1.5	2.3
1996–98	211.4	69.0	60.0	3.5	1.2	3.1
1999–01	224.7	63.7	54.7	4.1	1.2	3.5

Note: Death rates are expressed as the number of deaths per 100 000 population.

Source: ABS death registration data (1986–2001).

- Information is presented for the NT Indigenous, NT non-Indigenous and Australian populations. In all three groups there has been a decline in death rates. A comparison of the rates for the period 1986–89 with those for 1999–2001 indicate substantial declines of 52% for the NT non-Indigenous population, and 35% for the total Australian population. The improvement for the NT Indigenous population is less apparent and was 7% over the same period. The fluctuations in the Indigenous rates over the 16 years of data makes it difficult to confirm whether the improvement is real or a result of random variation.
- The higher rate of decline in the NT non-Indigenous group relative to the total Australian population has resulted in a reduction of the death rate ratios between these groups.
- By contrast, the death rate ratio has increased for the NT Indigenous population relative to both the Australian and NT non-Indigenous populations. In the last period of 1999–2001, the death rate for the NT Indigenous population aged from 0 to 24 years was 3.5 times the rate for the corresponding NT non-Indigenous population.

8.2 Age-specific death rates, 1998 to 2002



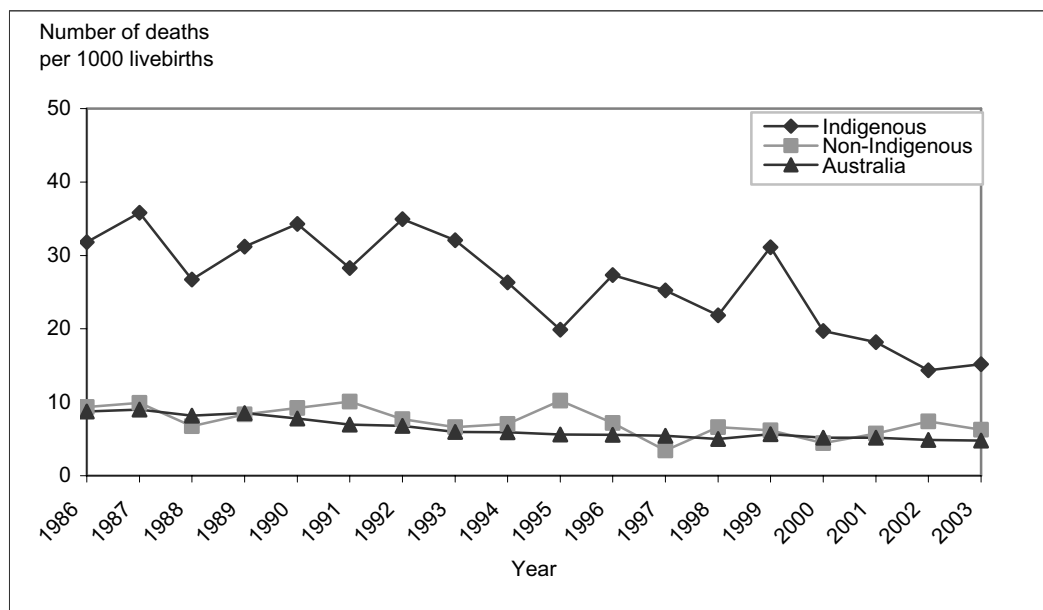
Age group (years)	NT Indigenous		NT non-Indigenous		Australia	
	1993-1997	1998-2002	1993-1997	1998-2002	1993-1997	1998-2002
	Death rates					
0	22.5	20.1	7.1	6.1	6.4	5.1
1-4	1.3	0.9	0.6	0.2	0.4	0.3
5-9	0.5	0.3	0.1	0.2	0.2	0.1
10-14	0.5	0.6	0.2	0.1	0.2	0.1
15-19	1.6	2.3	0.7	1.2	0.6	0.5
20-24	2.9	3.0	1.1	1.8	0.8	0.7

Note: Death rates are expressed as the number of deaths per 1000 population, except for the Infant Mortality Rate (those aged less than 1 year) which is calculated as the number of deaths per 1000 livebirths

Source: ABS death registration data (1993-97, 1998-2002).

- Age at death is an important indicator of the health status of people of the various age groups in a population. An examination of the causes of death by age group provides evidence to inform the development of targeted policies and programs to improve health outcomes for young people.
- The NT Indigenous death rates are consistently the highest of the three populations groups across all age groups.
- There has been a reduction in infant mortality rates for all population groups, although the three-fold relative difference between the Indigenous rate and the rate for the other two populations has remained little changed.
- Across most age groups the death rate for the NT non-Indigenous population was greater than the Australian population. As an example for the period 1998-2002, the NT non-Indigenous deaths rates for both 15 to 19 year olds and 20 to 24 year olds was more than twice the corresponding national rate.

8.3 Trends in infant mortality, 1986 to 2003



Year	Infant mortality rate			Neonatal death rate			Post-neonatal death rate		
	Indigenous	Non-Indigenous	Australia	Indigenous	Non-Indigenous	Australia	Indigenous	Non-Indigenous	Australia
1986	31.8	9.4	8.7	16.4	7.0	5.3	15.4	2.3	3.4
1991	28.3	10.1	7.0	14.1	7.0	4.3	14.1	3.1	2.6
1996	27.3	7.2	5.6	16.6	5.4	3.7	10.8	1.8	1.9
1997	25.2	3.4	5.4	11.8	2.1	3.6	13.5	1.3	1.8
1998	21.8	6.6	5.0	13.7	5.3	3.4	8.1	1.3	1.6
1999	31.1	6.2	5.6	21.0	4.4	3.8	10.1	1.8	1.8
2000	19.7	4.4	5.2	12.1	3.6	3.5	7.6	0.9	1.7
2001	18.2	5.7	5.2	10.1	4.4	3.6	8.1	1.3	1.6
2002	14.4	7.4	4.9	8.6	4.3	3.3	5.8	3.0	1.6
2003	15.2	6.3	4.8	8.7	3.1	3.3	6.5	3.1	1.4

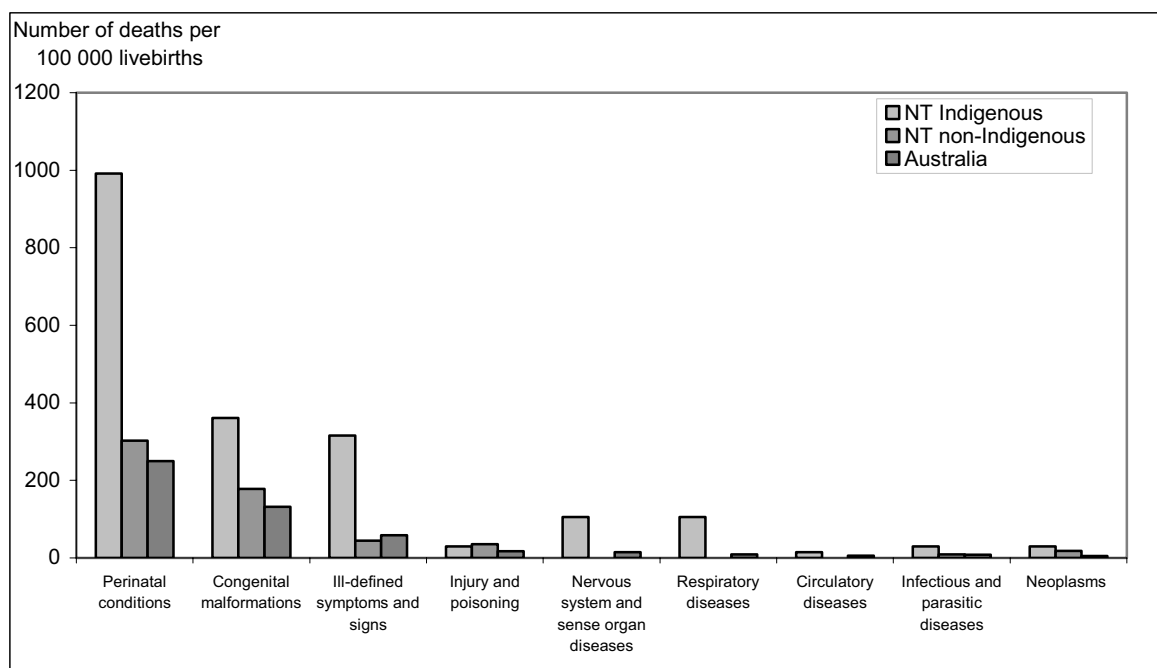
Notes: 1. Death rates are calculated as the number of infant deaths per 1000 livebirths.

2. Complete data for the years from 1987 to 1995 are not included in the table for presentational reasons.

Source: ABS death registration data (1986-2001).

- The “infant mortality rate” (IMR) is the number of deaths among children aged less than one year per 1000 livebirths. The IMR has two components the “neonatal death rate” (death within 28 days of birth) and the “post-neonatal death rate” (death in the period 4–51 weeks after birth). The neonatal death rate is broadly indicative of health problems during pregnancy and on the effectiveness of health services. The post-neonatal death rate is more generally reflective of social and environmental conditions affecting the infant.
- The NT Indigenous IMR declined by more than 50% from 31.8 in 1986, to 15.2 in 2003. Through the period 1986 to 2003 there were parallel declines in both neonatal and post-neonatal death rates.
- There has been a steady decline in the infant mortality rate for the NT non-Indigenous population, with similar rates to the general Australian population.

8.4 Causes of infant mortality, 1998 to 2002



	NT Indigenous		NT non-Indigenous		Australia	
	1993-97	1998-2002	1993-97	1998-2002	1993-97	1998-2002
Number of deaths per 100 000 livebirths						
Perinatal conditions	930.7	991.7	376.9	302.5	282.7	249.7
Congenital malformations	300.2	360.6	214.2	178.0	175.8	132.2
Ill-defined symptoms and signs	540.4	315.6	42.8	44.5	103.1	58.7
Injury and poisoning	45.0	30.1	17.1	35.6	14.4	17.2
Nervous system and sense organ diseases	45.0	105.2	25.7	0.0	15.5	14.7
Respiratory diseases	180.1	105.2	17.1	0.0	15.5	9.1
Circulatory diseases	105.1	15.0	0.0	0.0	5.1	5.7
Infectious and parasitic diseases	75.1	30.1	8.6	8.9	7.4	7.9
Neoplasms	n/a	30.1	n/a	17.8	n/a	4.6
Other	30.0	30.1	8.6	17.8	15.7	11.4
Total	2 251.6	2 013.5	711.0	605.0	635.2	511.1

Notes: 1. All causes of death coded to the ninth and tenth revision of the World Health Organization's International Classification of Diseases (ICD9 and ICD10).

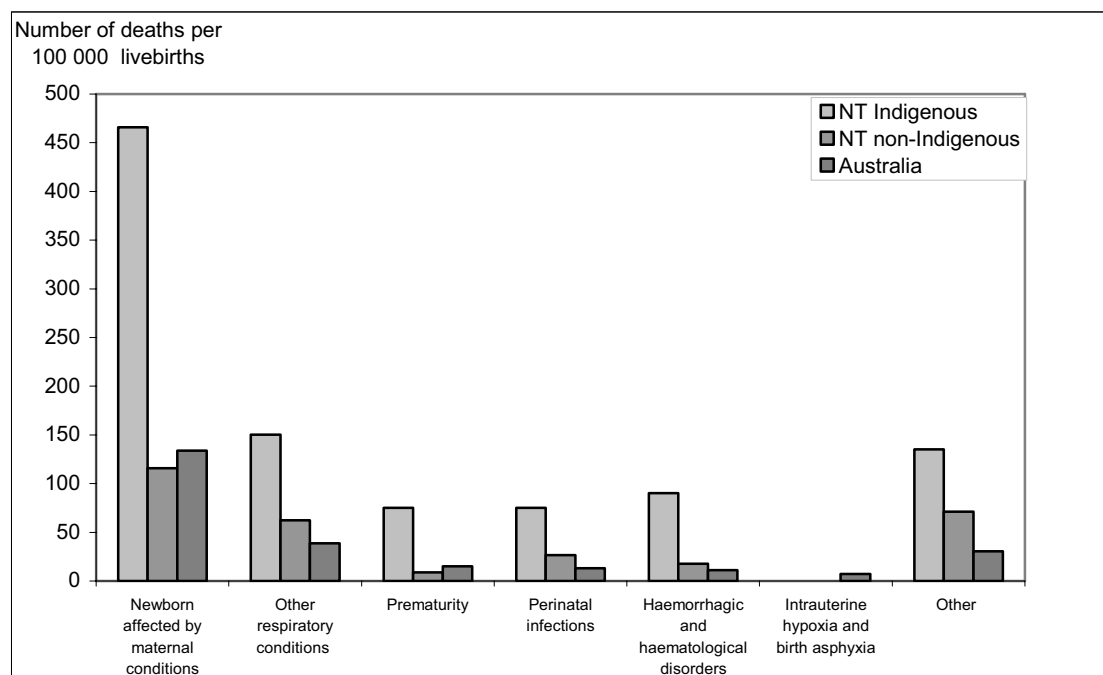
2. Death rates were expressed as the number of deaths per 100 000 livebirths.

3. n/a - not available

Source: ABS death registration data (1993-97, 1998-2002).

- Most infant deaths in Australia and in both Indigenous and non-Indigenous Territorians were classified under the ICD chapter headed 'Certain conditions originating in the perinatal period'. These deaths together with those attributed to the categories of 'Signs, symptoms and ill-defined conditions' and 'Congenital anomalies' accounted for almost 90% of all infant deaths in Australia and in NT non-Indigenous infants, and about 80% of all deaths among NT Indigenous infants.
- Deaths classified under the ICD chapter 'Signs, symptoms and ill-defined conditions' are principally attributed to the Sudden Infant Death Syndrome. There has been improvement in the Indigenous death rate in this category between the two periods however it remains 7.1 times the rate for NT non-Indigenous infants.

8.5 Causes of infant mortality for conditions originating in the perinatal period, 1998 to 2002



	NT Indigenous		NT non-Indigenous		Australia	
	1993-1997	1998-2002	1993-1997	1998-2002	1993-1997	1998-2002
Number of deaths per 100 000 livebirths						
Newborn affected by maternal conditions	n/a	465.8	n/a	115.7	n/a	134.0
Other respiratory conditions	330.2	150.3	77.1	62.3	n/a	38.8
Prematurity	285.2	75.1	179.9	8.9	86.4	15.3
Perinatal infections	60.0	75.1	51.4	26.7	n/a	13.0
Haemorrhagic and haematological disorders	n/a	90.2	n/a	17.8	n/a	11.2
Intrauterine hypoxia and birth asphyxia	75.1	0.0	8.6	0.0	105.5*	7.1
Other	180.1	135.2	60.0	71.2	90.8**	30.3
Total	930.7	991.7	376.9	302.5	282.7	249.7

Notes: 1. All causes of death coded to the ninth and tenth revision of the World Health Organisation's International Classification of Diseases (ICD9 and ICD10).

2. Death rates were expressed as the number of deaths per 100 000 livebirths.

3. Perinatal death refers to stillbirth and neonatal death during the first 28 days after birth.

4. * Includes all respiratory conditions, and intra-uterine hypoxia and birth asphyxia combined.

5. ** Other conditions include Australian data for perinatal infections.

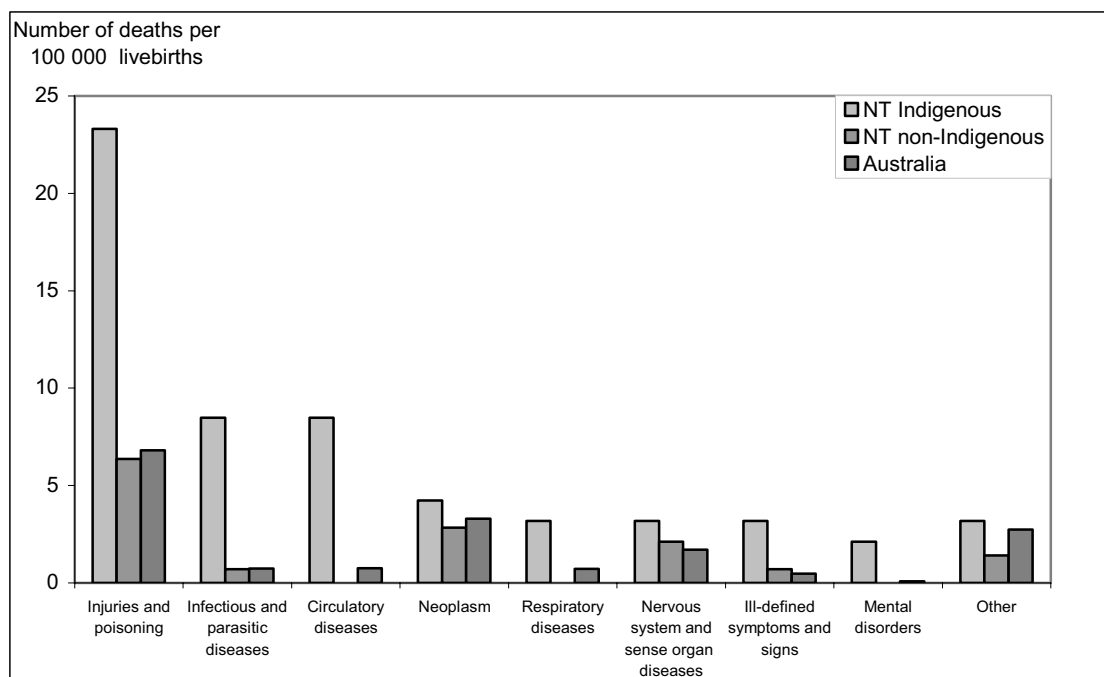
6. n/a - not available

Source: ABS death registration data (1993-1997, 1998-2002)

- The change in the classification of infant deaths between the ICD-9 and ICD-10 make it difficult to compare specific conditions between the two time periods of 1993–97 and 1998–2002. However comparison of total rates remains valid.
- Although there has been a decrease in the total death rates for both Australian

and NT non-Indigenous populations, the corresponding rate for the NT Indigenous population increased during this period from 930.7 deaths per 100 000 livebirths in 1993–97 to 991.7 deaths per 100 000 for the 1998–2002 period.

8.6 Causes of death in children aged 1–14 years, 1998 to 2002



	NT Indigenous		NT non-Indigenous		Australia	
	1993-97	1998-2002	1993-97	1998-2002	1993-97	1998-2002
Number of deaths per 100 000 population						
Injuries and poisoning	47.5	23.3	33.2	6.4	9.8	6.8
Infectious and parasitic diseases	17.1	8.5	1.2	0.7	0.7	0.7
Circulatory diseases	n/a	8.5	n/a	0.0	n/a	0.8
Neoplasm	n/a	4.2	n/a	2.8	n/a	3.3
Respiratory diseases	13.3	3.2	1.2	0.0	1.0	0.7
Nervous system and sense organ diseases	13.3	3.2	2.4	2.1	2.3	1.7
Other	28.6	8.5	7.1	2.1	8.9	3.3
Total	119.8	59.4	45.1	14.2	22.7	17.3

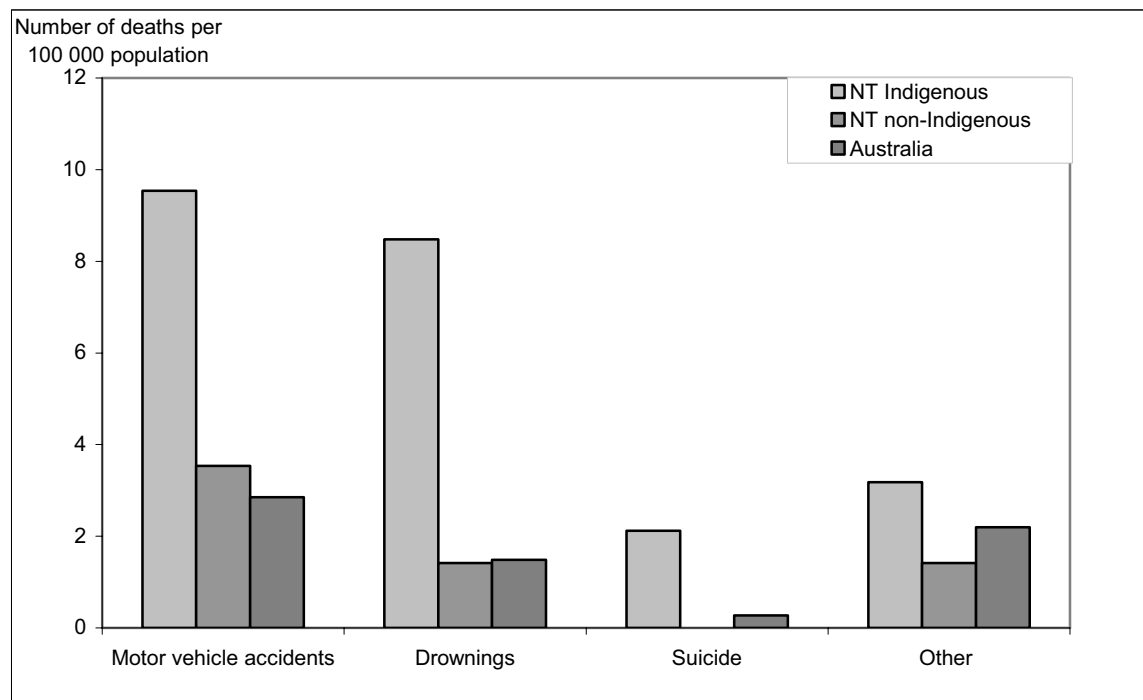
Notes: 1. All causes of death coded to the ninth and tenth revision of the World Health Organisation's International Classification of Diseases (ICD9 and ICD10).

2. Death rates were expressed as the number of deaths per 100 000 children aged from 1 to 14 years.

Source: ABS death registration data (1993-97, 1998-2002).

- A total of 76 children aged from 1 to 14 years died in the Northern Territory between 1998 and 2002.
- There was a substantial improvement in the NT Indigenous total death rate between the two periods from 119.8 to 59.4 deaths per 100 000 population. Associated with this fall was a closing of the difference to the national rate from 5.3 times to 3.4 times the national rate.
- The NT non-Indigenous total death rate was similar to the national rate for the most recent period.
- The most common cause of death for NT children aged from 1 to 14 was "injury and poisoning".
- Deaths from infectious and parasitic diseases and from respiratory diseases often share the same underlying cause of social and economic deprivation. NT Indigenous children were 14 times more likely to die from these diseases than their NT non-Indigenous counterparts.

8.7 Injury type in death of children aged 1–14 years, 1998 to 2002



Type of injury	NT Indigenous		NT non-Indigenous		Australia	
	1993–97	1998–2002	1993–97	1998–2002	1993–97	1998–2002
Number of deaths per 100 000 population						
Motor vehicle accidents	15.2	9.5	10.7	3.5	3.6	2.9
Drownings	11.4	8.5	16.6	1.4	2.0	1.5
Suicide	n/a	2.1	n/a	0.0	n/a	0.3
Other	20.9	3.2	5.9	1.4	4.1	2.2
Total	47.5	23.3	33.2	6.4	9.8	6.8

Notes: 1. All causes of death were coded to the ninth and tenth revision of the World Health Organization's International Classification of Diseases (ICD9 and ICD10).

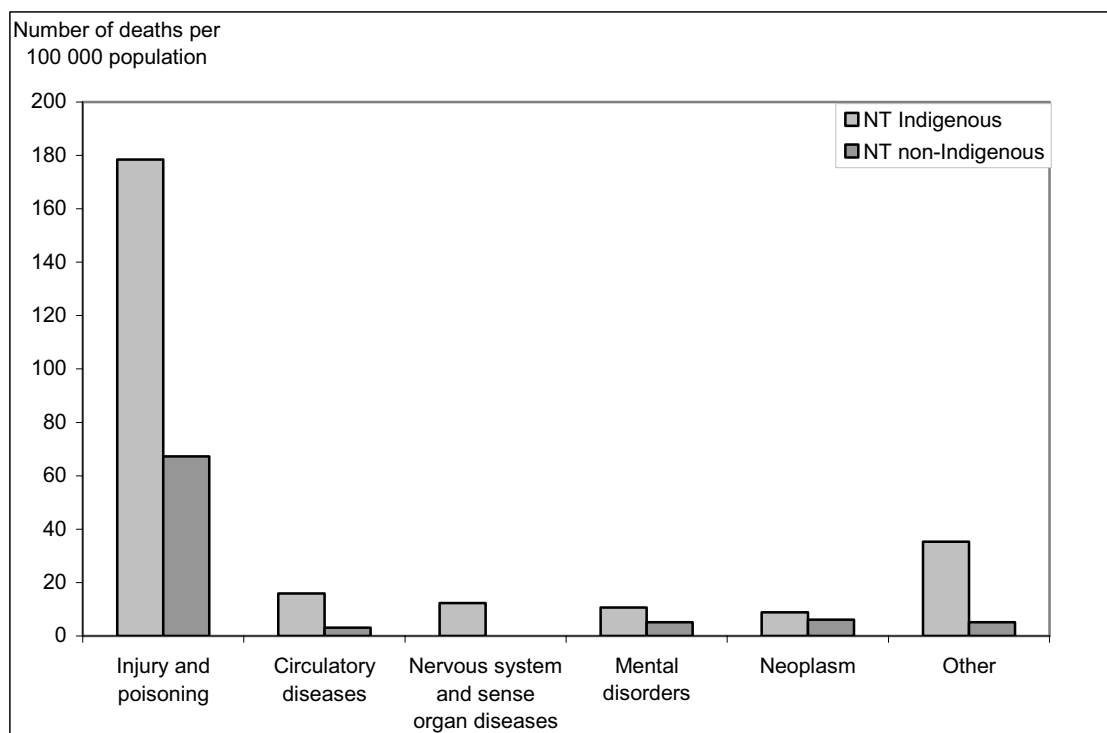
2. Death rates were expressed as the number of deaths per 100,000 children aged from 1 to 14 years.

3. n/a - not available

Source: ABS death registration data (1993–97, 1998–2002).

- Data on injury and accidental deaths in children are a valuable source of information for programs to reduce the number of avoidable deaths. Of the 76 children who died in the Northern Territory between 1998 and 2002, forty per cent (31) died from external causes.
- Nearly eight in every ten deaths in the NT non-Indigenous population and four in every ten deaths among the NT Indigenous population were attributable to 'Injury'.
- The leading cause of injury related deaths for all three populations NT Indigenous, NT non-Indigenous and Australian was motor vehicle accidents. There was an improvement in the death rates for all populations between the two time periods, especially in the Northern Territory.
- During 1993–97 there was an eight-fold relative difference between the NT non-Indigenous drowning related death rate (16.6 deaths per 100 000 population) and the national death rate (2.0 per 100 000 population). By 1998–2002 this difference had disappeared with a rate (1.4 deaths per 100,000) similar to the national rate (1.5 deaths per 100,000).

8.8 Causes of death in young people aged 15–24 years, 1998 to 2002



	NT Indigenous		NT non-Indigenous		Australia	
	1993–97	1998–2002	1993–97	1998–2002	1993–97	1998–2002
Number of deaths per 100 000 population						
Injury and poisoning	247.0	178.4	134.8	67.2	50.8	42.6
Circulatory diseases	35.3	15.9	0.0	3.1	2.3	2.0
Nervous system and sense organ diseases	n/a	12.4	n/a	0.0	n/a	2.5
Mental disorders	n/a	10.6	n/a	5.1	n/a	3.2
Neoplasm	n/a	8.8	n/a	6.1	n/a	4.7
Other	84.7	35.3	18.8	5.1	15.8	5.7
Total	391.6	261.4	158.7	86.6	70.4	60.6

Notes: 1. All causes of death coded to the ninth and tenth revision of the World Health Organization's International Classification of Diseases (ICD9 and ICD10).

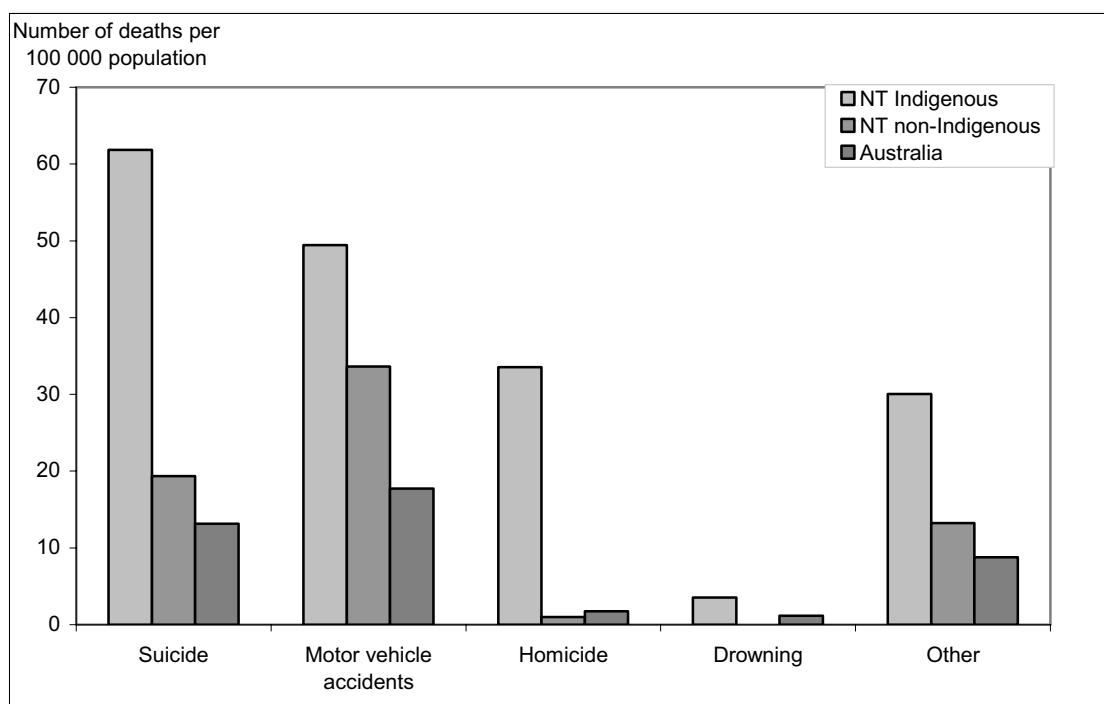
2. Death rates were expressed as the number of deaths per 100 000 population aged from 15 to 24 years.

3. n/a - not available

Source: ABS death registration data (1993–97, 1998–2002).

- A total of 233 young adults aged 15–24 years died in the Northern Territory between 1998 and 2002. Young adult Territorians had a higher risk of death compared with those living in Australia as a whole. However the death rates for both NT Indigenous and NT non-Indigenous populations fell substantially between the two periods. The total rates for 1998–2002 were 261.4 deaths per 100 000 and 86.6 deaths per 100 000 respectively compared to the national rate of 60.6 per 100 000.
- Death due to injury was by far the major cause of death for this age group. Injury was the cause of 68% of all deaths in NT Indigenous young people, 72% of all deaths among NT non-Indigenous young people, and 70% of national deaths.
- Diseases of the circulatory system, particularly rheumatic heart disease and acute rheumatic fever were the second most common cause of death among NT Indigenous young people.

8.9 Injury type in death of young people aged 15–24 years, 1998 to 2002



	NT Indigenous		NT non-Indigenous		Australia	
	1993–97	1998–2002	1993–97	1998–2002	1993–97	1998–2002
Number of deaths per 100 000 population						
Suicide	21.2	61.8	25.6	19.4	16.0	13.2
Motor vehicle accidents	105.8	49.5	71.7	33.6	22.3	17.7
Homicide	70.6	33.6	8.5	1.0	2.4	1.8
Drowning	3.5	3.5	1.7	0.0	1.5	1.2
Other	45.9	30.0	27.3	13.2	8.6	8.8
Total	247.0	178.4	134.8	67.2	50.8	42.6

Notes: 1. All causes of death coded to the ninth and tenth revision of the World Health Organization's International Classification of Disease (ICD9 and ICD10).

2. Death rates were expressed as the number of deaths per 100 000 population aged from 15 to 24 years.

Source: ABS death registration data (1993–97, 1998–2002).

- Death from external causes accounted for nearly three out of four deaths (167, 72%) of Northern Territory persons aged 15–24 during the period from 1998 to 2002.
- Motor vehicle accidents were the leading cause of death by injury type for the NT non-Indigenous population aged 15–24 years. This rate fell substantially across the two periods from 71.7 deaths per 100 000 to 33.6 per 100 000, but remains twice the national rate for the same age group. Suicide has remained the second major cause of injury related death in the Australian and NT non-Indigenous populations aged 15–24 years.
- Among NT Indigenous young people, the death rate from motor vehicle accidents fell from 105.8 to 49.5 per 100 000 population. Through the same period, death from suicide increased to a rate of 61.8 per 100 000 making it the most common cause of death in this age group.
- Within the NT there has been a decline in homicide in both Indigenous and non-Indigenous populations. The rate among NT Indigenous young people remains much greater than either the NT non-Indigenous or national rates.

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Glossary

ABS: Australian Bureau of Statistics.

Birthweight: refers to the first weight of a baby obtained after birth, measured to the nearest five grams.

Body Mass Index (BMI): can be calculated from the age of 21 months, using the following formula. $BMI = \text{weight (kg)} / \text{Height (m)}^2$.

CATI: is a type of survey that relies on Computer Assisted Telephone Interview.

Dependent child: is an individual who is under 15 years of age or a full-time student aged 15-24 years. To be regarded as a dependent child, the individual can have no partner or child of his/her own usually resident in the same household.

Family types

A **couple family** is based on two persons who are in a registered marriage or a de facto marriage who are usually resident in the same household. The family may or may not include any dependent, non-dependent children.

A **one-parent family** contains one parent and that parent's children plus all other people in the household related to them, provided those people do not have a spouse or child of their own.

Fast food: is food prepared and served quickly at a fast-food restaurant or shop at low cost.

Fertility: is a measure of the reproductive capacity of a population. Measures include age-specific fertility rate (ASFR) and total fertility rate (TFR).

ICD or International Classification of Diseases: The World Health Organisation's internationally accepted classification of death and disease. The 9th version (ICD9) and 10th version (ICD10) were used in this report.

Indigenous: An Indigenous person is one who is a descendant of an Indigenous inhabitant of Australia, who identifies as Indigenous and is recognised as Indigenous by members of the community in which she or he lives.

Labour force participation rate: is the proportion of people aged 15–64 years in the civilian population who are actively seeking work or are currently employed.

Labour force status: labour force status identifies whether a person aged 15–64 years is employed, unemployed or not in the labour force.

Life expectancy at birth: is the number of years that a newborn child can be expected to live if the current pattern of death rate in each age group remains the same for the rest of the child's life. Although it is a theoretical measure, it is still a good summary measure of current death pattern.

Livebirth: the complete expulsion or extraction from its mother of a baby, irrespective of duration of pregnancy, which after separation shows signs of life.

Nutritional assessment

Stunting is defined as height greater than of two standard deviations (2SD) below the median height for age.

Underweight is defined as a weight greater than two standard deviations (2SD) below the median weight for age.

Wasting is defined as a weight greater than two standard deviations (2SD) below the median weight for height.

Provincial: is an administrative term for the geographic area that includes Darwin and Palmerston.

Trimester: a period of three months, especially during human pregnancy.

Unemployment rate: is the proportion of unemployed people in the total labour force.

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