

From Infancy to Young Adulthood

Health status in the Northern Territory
1998

Edouard T d'Espaignet
Kate Kennedy
Barbara A Paterson
Mary-Anne L Measey

Epidemiology Branch
Primary Health and Coordinated Care Branch
Territory Health Services
Darwin



This work is copyright. It may be reproduced in whole or in part for study or training purposes subject to the inclusion of an acknowledgement of the source and no commercial usage or sale. Reproduction for purposes other than those indicated above requires the written permission of the Secretary of Territory Health Services.

The suggested citation is:

d'Espaignet, ET. Kennedy, K. Paterson, BA. & Measey, ML 1998, *From Infancy to Young Adulthood: Health status in the Northern Territory, 1998*. Territory Health Services, Darwin.

Copyright © 1998 by Territory Health Services
Printed by the Government Printer of the Northern Territory
ISBN 0 7245 3352 4
Printed September 1998

Comments on the publication should be sent to:

Epidemiology Branch
Territory Health Services
PO Box 40596
Casuarina NT 0811
Telephone: (08) 8999 2933
Fax: (08) 8999 2618
E-Mail: epidemiology@nt.gov.au

Introduction

<i>Background</i>	v
<i>Monitoring child and youth health</i>	vi
<i>Structure of the report</i>	viii
<i>Limitation of the report</i>	viii

Demographic environment

Population size in 1996	2
Age-specific fertility rates	4
Life expectancy at birth (years)	5
Country of birth	6

Social environment

One parent and couple families with dependants	8
Main language spoken at home	9
School attendance and educational attainment for the total population (15 year olds and over)	10
Youth labour force participation and employment	11
Labour force participation and employment in the NT	12
Average family weekly income	13
Overcrowding	14

Nutritional status

Breastfeeding	16
Growth in rural and remote Indigenous communities	17
Anaemia in rural and remote Indigenous communities	18

Safety and security

Substantiated cases	20
Detention commencements	22

Behavioural determinants

Vaccination coverage 0–6 year olds	24
Vaccine preventable diseases	25
Primary teeth in five year olds	26
Permanent teeth in twelve year olds	27
Alcohol consumption over a four week period	28
Current smokers	29
Sexually transmitted disease notifications	30

Health status

Morbidity

Enteric disease notifications 33

Using hospital morbidity data: an explanation 34

Hospital admission by age 35

Principal diagnosis for hospital admission (postneonates) 36

Selected conditions documented during admission (postneonates) 37

Principal diagnosis for hospital admission (1–4 year olds) 38

Selected conditions documented during admission (1–4 year olds) 39

Principal diagnosis for hospital admission (5–14 year olds) 40

Selected conditions documented during admission (5–14 year olds) 41

Principal diagnosis for hospital admission (15–24 year old males) 42

Selected conditions documented during admission (15–24 yr old males) 43

Principal diagnosis for hospital admission (15–24 year old females) 44

Selected conditions documented during admission (15–24 yr females) 45

Mortality

Age-specific death rates 46

Infant mortality rates 47

Causes of infant death by ICD–9 chapter 48

Causes of infant death for conditions originating in the perinatal period 49

Causes of 1–14 year old deaths by ICD–9 chapter 50

Deaths due to injury and poisoning among 1–14 year olds 51

Causes of 15–24 year old deaths by ICD–9 chapter 52

Causes of 15–24 year old deaths due to injury and poisoning 53

Appendix 54

Abbreviations and acronyms 55

References and useful publications 56

Background

To guide the delivery of health care services to children and young people in the Northern Territory, the Primary Health and Coordinated Care Branch is currently in the process of developing policies for promoting, maintaining and improving the health of children and young people in the Territory. This initiative builds on a national health policy for children and young people, *'The Health of Young Australians'*, endorsed by Territory, State and Commonwealth health ministers in June 1995.

To assist the development of the Northern Territory policies, the Primary Health and Coordinated Care and the Epidemiology Branches of Territory Health Services have collaborated to produce this report on the health status of children and young people in the Northern Territory. An important objective of the undertaking was, however, to produce a report in a format that informs and commands the attention of not only health professionals but the community at large.

The project team, comprised of Kate Kennedy, Edouard d'Espaignet, Mary-Anne Measey and Barbara Paterson, identified a preliminary set of child and youth health indicators as well as the sources of data for these indicators. The project team sought advice from some experts in child health who as a group provided advice on the validity and usefulness of these indicators, and suggested possible additional indicators. The members of the advisory group included:

Karen Edmond, *Community paediatrician*

John Condon, *Director Epidemiology Branch*

Dayalan Devanesen, *Director Primary Health and Coordinated Care Branch*

David Brewster, *Head of Paediatrics Department, Royal Darwin Hospital*

In preparing the report, the project team liaised extensively with national organisations, other departments of the NT Government and other branches of Territory Health Services. Experts from these various organisations provided valuable insight into the adequacy of indicators relevant to their area of expertise, and sometimes provided data for inclusion in this report. The authors are particularly grateful to the following people for their expert contribution:

National organisations:

Justin Lloyd, *National Centre for Disease Control, Department of Health and Family Services*

Kate Ross, *National Centre for Aboriginal and Torres Strait Islander Statistics, ABS*

Deborah Wade-Marshall, *Census Consultant, ABS*

NT Government Departments:

Adrian Boyd, *Department of Employment, Education, Training and Youth Affairs*

Geoff Gilfillan, *Department of Employment, Education, Training and Youth Affairs*

Jenny Medwell, *Department of Housing and Local Government*

Heather Sjoburg, *NT Department of Education*

Allan Van Zyl, *Northern Territory Correctional Services*

Territory Health Services:

Ian Crundall, *Alcohol and Other Drugs Branch*

Colin Dyer, *Family and Children Services*

Heather Grieve, *Alice Springs Remote Services*

Merryn Hare, *Centre for Disease Control*

Vivienne Hobson, *Food and Nutrition Unit*

Angela Merianos, *Centre for Disease Control*

Matthias Merzenich, *Food and Nutrition Unit*

John Plummer, *Darwin Dental Services*

Jan Savage, *Centre for Disease Control*

Jenny Scott, *Family and Children Services*

Bruce Simmons, *Alice Springs Dental Services*

Monitoring child and youth health

The World Health Organization (WHO) has defined health as ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity’. This definition is complex and implicitly recognises that health is a holistic concept that incorporates not only concepts of physiological competence but also of functional ability, that is the ability to perform tasks of daily living and to carry out social roles. Functional ability therefore encompasses cultural, social and psychological dimensions which in turn relate to elements such as education, employment, access to economic resources and social support. A consequence of defining health in this way is that it acknowledges that responsibility for health requires a partnership between individuals and social organisations including both government and non-government organisations.

Despite its virtue of emphasising health as a positive experience at an individual level, the WHO definition is often criticised as too broad and too complex to enable it to describe health adequately at a population level. Attempts to describe the health of populations usually emphasise negative aspects of health by focussing on morbidity and mortality (Plant *et al.* 1995).

There have been substantial reductions in infant, child and youth mortality, as well as reductions in childhood infectious diseases in many developed countries over most of this century. As most children and young people now suffer from relatively low levels of physiological and functional impairment, traditional indicators of morbidity (reflecting contact with health care providers) and mortality have become insufficient to adequately describe their health. Information on their perceptions of life and well-being, and the quality of their lives are needed to provide a more complete picture of their health status and health needs (Kolbe *et al.* 1997; Nutbeam 1996). As this information, which usually requires conducting special purpose surveys of children and young people, is unfortunately lacking in the Northern Territory, this first report on the health status of Northern Territory children only makes use of the existing but limited traditional data sources described above.

There is an increasing awareness among researchers and health professionals that health and well-being in the perinatal period and in childhood directly influence health in adulthood (Barker 1994; Smith *et al.* 1998). The provision of a loving and safe environment encourages healthy behaviour patterns, promotes physical, emotional and intellectual growth and development, and prepares young people for the responsibilities of adult life (Houghughy 1998). The development of policies aimed at facilitating the adoption and implementation of health promotion activities among children and young people can prevent ill-health and disability in later life. Monitoring and regular reporting of changes in the health and well-being of children and young people will contribute to the evaluation of these policies.

Development of a framework and indicators

The information presented in this report is the first attempt to collate a limited amount of published and unpublished information on the health of infants, children and young people (under 25 years of age) living in the Northern Territory. The heterogeneity of people in this age group has meant that this was never going to be a simple project. The age group includes babies and young children who are totally dependent on adults for their survival, and adolescents and young adults who are in the process of establishing their own independence and many of whom often become parents themselves. Infancy to young adulthood is a span of life which is marked by physical, intellectual, emotional and social growth.

Although it has the smallest population in Australia of any State or Territory, the NT has the largest proportion of Indigenous people within its borders (29%) compared with between one and three percent of the population of all other States and Territories. Given the well documented poorer health of Indigenous people, this report highlights differences in the health status of Indigenous and non-Indigenous children and young people.

The first step in choosing relevant indicators of child health was the development of a conceptual framework aimed at identifying the major factors that influence and describe the health of young people in the Northern Territory. Capturing the elements of health that make up these factors is complex because measuring the health of young people is often synonymous with measuring their use of health services which are themselves strongly influenced by the intervention choices of their carers. An extensive literature review was undertaken to help in the development of a framework appropriate for the Northern Territory. The *Health Goals and Targets for Children and Youth* (1992), *Goals and Targets for Australia's health in the year 2000 and beyond* (1993), and *The Health of Young Australians* (1995) were particularly useful documents in ensuring that the NT-based framework remains relevant in the context of child and youth health goals and targets adopted at national level.

The framework that was eventually developed drew attention to the need to place children and young people within the broader demographic, social (and familial) environments in which they find themselves. Given their dependence on adults and society, this environment in turn influences several aspects of the life of children and young adults. These aspects were described in the framework and included in the report under the broad headings of nutritional status, safety and security, behavioural determinants, and health status.

The indicators selected to reflect these broad areas were influenced by three factors: the list of indicators for the national health goals and targets for children and young people, the relevance of these indicators for the Northern Territory, and the availability of NT data to enable reporting.

There were two advantages of selecting nationally recommended indicators. Firstly a substantial amount of work had already been done to ensure that these indicators provide a valid reflection on the area of interest. Secondly they allow for comparing performance in the Northern Territory against that at national level.

The complex dynamic interrelationships between factors that determine the health of people means that attempts to capture the various facets of these relationships is difficult (if not impossible). The purpose of the indicators selected for this report is to provide a broad view of possible changes so that more detailed work can be undertaken. For example, a change over time of the proportion of the population with sexually transmitted diseases may lead to consideration of issues such as those related to the appropriateness and effectiveness of campaigns aimed at educating, motivating and enabling young people to adopt healthy sexual practices, as well as careful reflection on the organisation of clinical services aimed at dealing with cases of disease and disabling conditions when these are identified.

Demographic environment

Information in this section 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 included in this section are population size, country of birth, fertility and mortality.

Social environment

The dependence of children on adults for their everyday emotional and physical needs means that the social environment in which they live are vital to their well-being. The indicators included in this section are family structure, education, employment, economic resources and housing.

Nutritional status

Adequate nutrition is a basic human need obviously necessary to achieve good health. The indicators included in this section are breastfeeding, growth and anaemia in rural and remote Indigenous communities.

Safety and security

Children have a right to expect that they will live in a physically and emotionally safe environment. Failure of society, parents and individuals to ensure such an environment can lead to emotional problems in childhood and in later life, as well as an increased risk of behaviour which is outside societal norms. The indicators included in this section are child maltreatment and juvenile detention commencements.

Behavioural determinants

The reasons why individuals choose healthy lifestyles (for example, taking their children to be immunised or giving up harmful substance abuse) is complex and involves 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 well-being, their attitudes to change and their ability to translate these attitudes into sustainable action. It is increasingly recognised that health behaviour change is also influenced by the social and physical environment, in particular by the availability and accessibility of resources, facilities, social support and social networks – factors over which individuals may have little control. The indicators included in this section are immunisation, oral health, alcohol consumption, smoking and sexual practices.

Health status

Health status indicators used in this report include measures of both morbidity and mortality. Data were sought and obtained from the Centre for Disease Control of Territory Health Services, the national Communicable Disease Network, the Hospital Morbidity dataset and mortality data obtained from the NT Registrar of Births, Deaths and Marriages through the Australian Bureau of Statistics.

Structure of the report

Each indicator appears on a separate page and consists of:

- data for the Northern Territory Indigenous and non-Indigenous populations, and Australian data where available, including the sources of these data
- a graph of the data
- several paragraphs of commentary about the relevance of the indicators to the framework, a brief discussion of the data and other factors that may impact on the indicators

A list of the publications consulted in the preparation of the report can be found at the back of the report. A description of the International Classification of Diseases codes used in the hospital morbidity and mortality sections of the report is included in the appendix.

Limitation of the report

The information presented in this report is not comprehensive as data systems are not always available to inform on the variety and complexity of issues that impact on the health of persons aged 0–24 years. Some areas such as growth monitoring and a rheumatic heart disease register are already being implemented and will provide valuable data for monitoring and evaluation in the future.

Population

- Population size
- Population pyramids

Fertility

- Age-specific fertility rates

Mortality

- Life expectancy at birth

Migration

- Country of birth

Population size in 1996

Age group	NT Indigenous			NT non-Indigenous			Australia		
	Male	Female	Total	Male	Female	Total	Males	Females	Total
0–4	3611	3337	6948	5587	5338	10925	665611	631438	1297049
5–9	3531	3170	6701	4924	4672	9596	669251	636798	1306049
10–14	3104	3016	6120	4693	4347	9040	670227	637990	1308217
15–19	2753	2655	5408	4422	3836	8258	655345	623774	1279119
20–24	2742	2782	5524	6185	5360	11545	708906	687960	1396866
25–29	2404	2461	4865	7161	6654	13815	710454	707561	1418015
30–34	1814	1984	3798	7174	6361	13535	720725	723796	1444521
35–39	1539	1673	3212	6905	5941	12846	726660	729327	1455987
40–44	1222	1325	2547	6054	5271	11325	676137	678946	1355083
45–49	911	1032	1943	5754	4474	10228	654234	639704	1293938
50–54	719	748	1467	4194	3051	7245	517520	497412	1014932
55–59	489	574	1063	2788	1732	4520	419859	407540	827399
60–64	385	509	894	1593	1037	2630	353827	356656	710483
65–69	248	298	546	1173	801	1974	337445	354740	692185
70–74	147	208	355	639	543	1182	276105	327017	603122
75 & over	217	268	485	586	717	1303	345749	562000	907749
Total	25836	26040	51876	69832	60135	129967	9108055	9202659	18310714

Note: The NT non-Indigenous population was derived as the difference between the total NT and the NT Indigenous population.

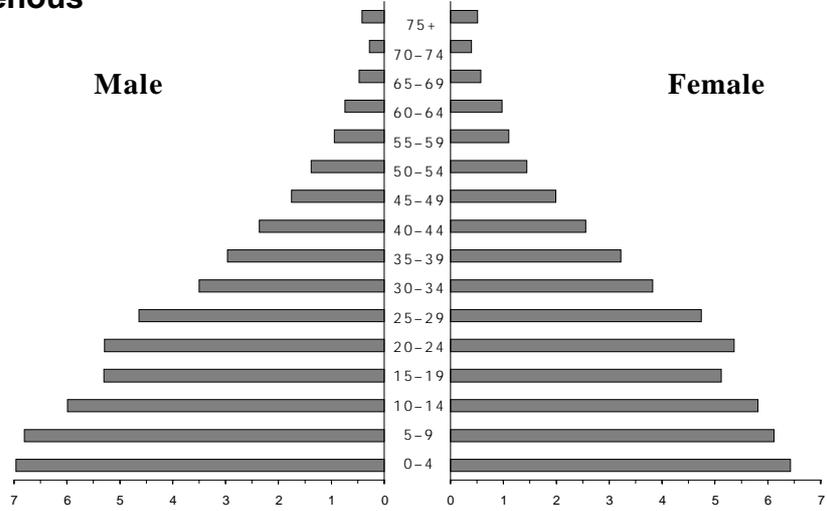
Source: 1. NT Indigenous data – ABS 1998, Experimental estimates of the Aboriginal and Torres Strait Islander population, Cat. No. 3230.0.
2. Australia data – ABS 1997, Population by Age and Sex. Australian States and Territories, Cat. No. 3201.0.

- The factors that affect the size of a population include fertility, mortality and migration. Basic demographic information is vital to understanding the patterns of disease, disability, death, and the factors that determine these patterns. In addition, this information is necessary for the efficient planning of health and other services required to maximise the health of people in a community.
- According to the ABS, 181,843 people resided in the Northern Territory in 1996. Indigenous people made up 29% of the population (51,876) compared with less than four percent in other States. People under 25 years of age made up 44% of the total NT population. Almost six out of every ten Indigenous people and almost four in every ten non-Indigenous people were under 25 years of age.
- The population pyramids indicate the extent of differences in the age structures of the Indigenous and non-Indigenous populations of the Northern Territory.
- The NT has the youngest population of all States and Territories in Australia. The 1996, NT Indigenous people had a median of 20.6 years compared with 27.8 for the Territory as a whole and 34.0 years nationally.
- The difference in the structures of the Indigenous and non-Indigenous populations reflect 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.
- The dependency ratio measures the proportion of children aged 0–14 years who are dependent on adults of working age (15–64 years). The ratio for the Indigenous population showed that every 100 adults of working age were responsible for 66 children compared with 32 in the non-Indigenous population.
- Indigenous people in the NT are more likely to reside in rural and remote areas than in urban areas. Using data from the 1996 ABS census, it was estimated that less than three in every ten Indigenous people lived in the urban areas of Darwin and Alice Springs. In contrast, non-Indigenous people were much more likely to reside in urban areas, with over eight in every ten non-Indigenous people living in the urban areas of Darwin and Alice Springs.

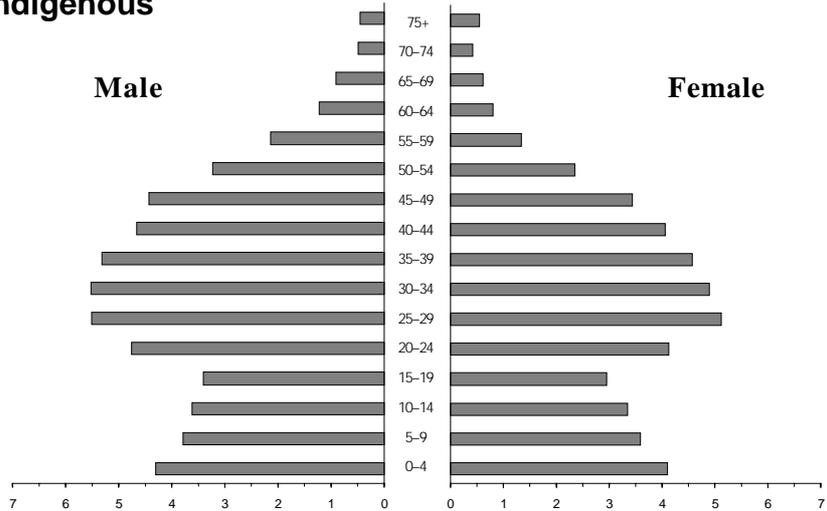
Demographic environment

Population pyramids

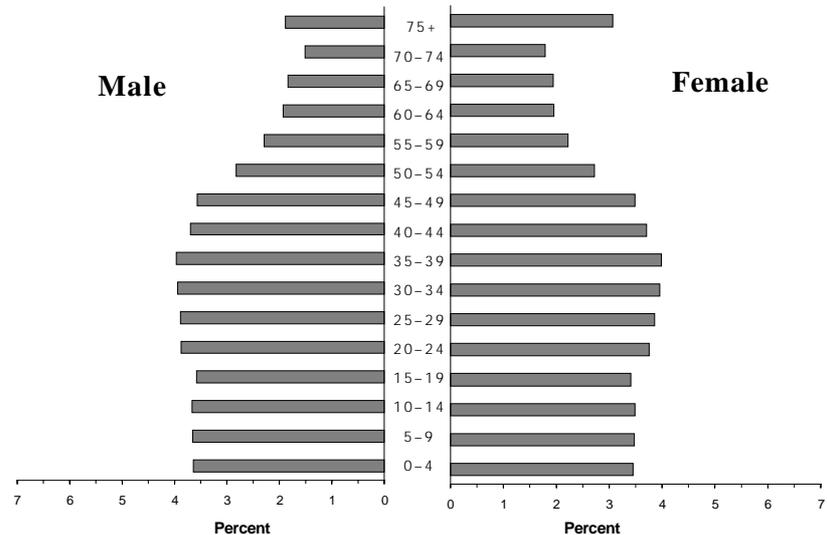
NT Indigenous



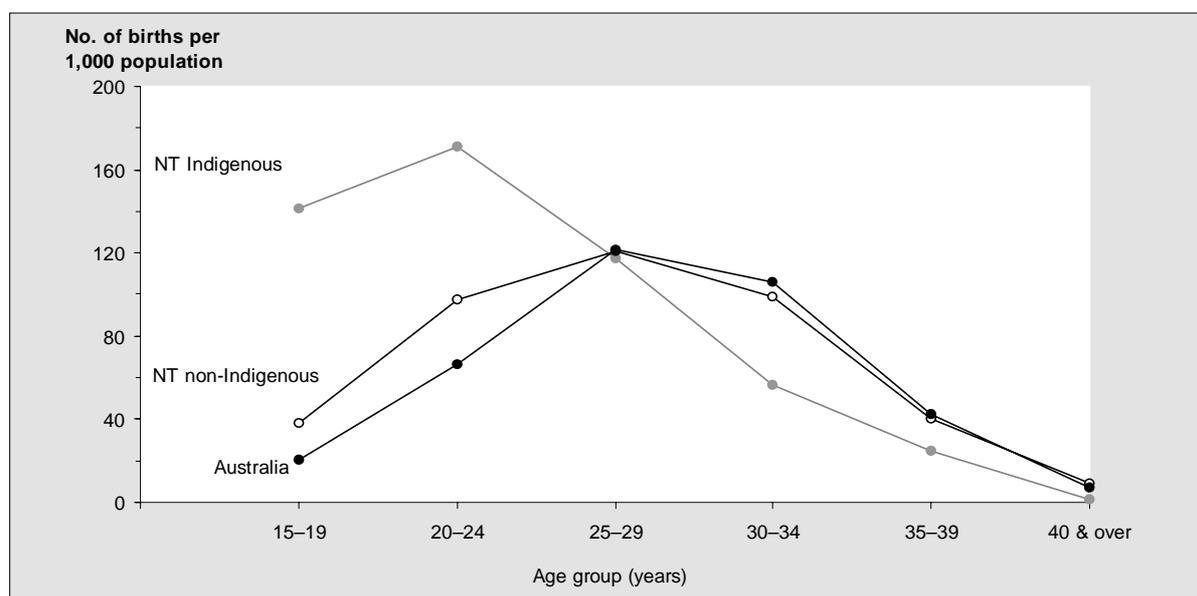
NT non-Indigenous



Australia



Age-specific fertility rates



Age-specific fertility rates: No. of livebirths per thousand women

	Under 15	15-19	20-24	25-29	30-34	35-39	40 & over	TFR (per woman)
NT Indigenous	6.5	141.6	170.7	117.1	56.3	24.8	1.6	2.6
NT non-Indigenous	0.2	38.5	97.2	120.5	98.8	40.0	9.2	2.0
Australia	—	20.5	66.7	121.6	106.1	42.5	7.4	1.8

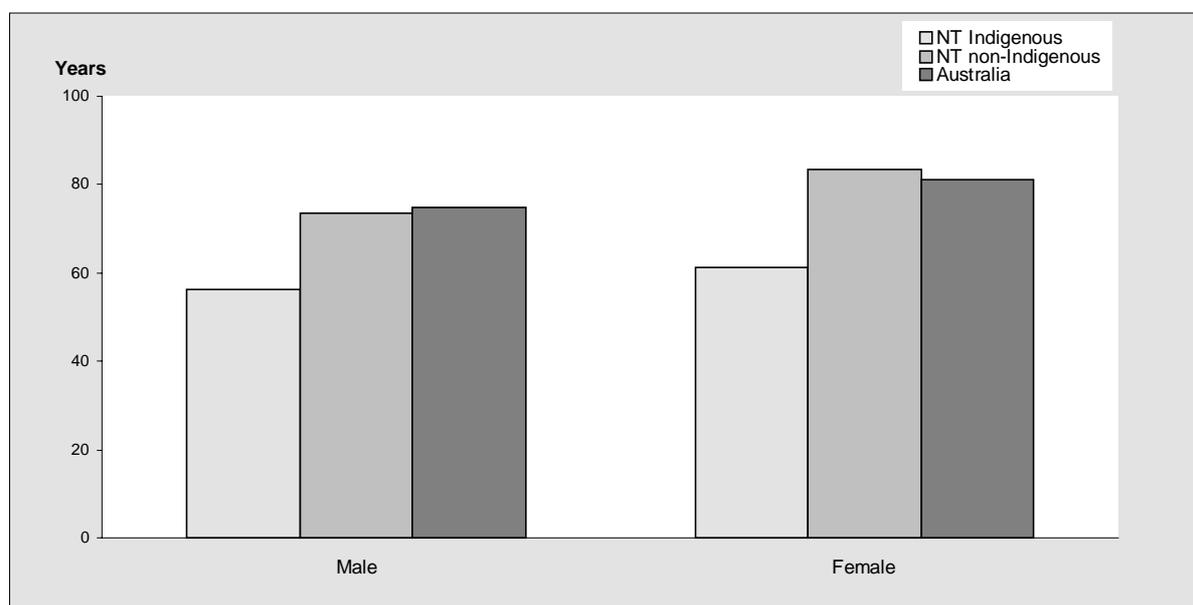
Note: 1. Data presented refer to the year 1995.

Source: 1. NT data – Markey PG, d’Espaignet, ET, Condon JR and Woods, M 1998, Trends in the health of mothers and babies Northern Territory, 1986 - 1995. Territory Health Services, Darwin.

2. Australia data – ABS 1997, Births Australia, 1995, Cat. No. 3301.0.

- Fertility is a measure of the reproductive capacity of a population. Measures of fertility include the age-specific rate which is the number of livebirths per thousand women of reproductive age, and the total fertility rate (TFR) which is the number of live births a woman would have throughout her reproductive years if she has children at current age-specific rates.
- Educational level, the availability of family planning services, economic circumstances and cultural beliefs are among the major determinants of fertility levels.
- In 1995, the total fertility rate of NT Indigenous population was 2.6 children per woman compared with 2.0 children among the NT non-Indigenous population and 1.8 nationally.
- Age-specific fertility patterns differed among the Northern Territory populations. The fertility rate for NT Indigenous women was highest among those aged 15–24 years compared with the 25–34 year age group for NT non-Indigenous women.
- NT Indigenous females aged less than 15 years were 32 times more likely to give birth than the corresponding non-Indigenous population. Infants born to young mothers are at greater risk of complications, stillbirths and infant death.

Life expectancy at birth (years)

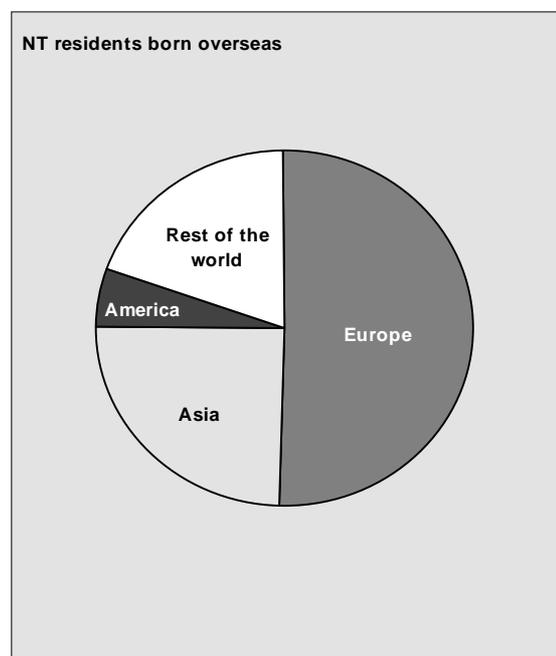


	NT Indigenous (1986-95)	NT non-Indigenous (1986-95)	Australia (1993-95)
	Years of life		
Male	56.7	76.6	75.2
Female	61.1	83.3	81.1

Source: 1. NT data – Epidemiology Branch, Territory Health Services (unpublished data).
 2. Australia data – ABS 1997, Deaths Australia 1995, Cat. No. 3302.0.

- Life expectancy at birth is the average duration of time that a newborn child can expect to live if they continue to experience current mortality conditions for the rest of their life.
- Non-Indigenous Territorians had a higher life expectancy at birth than all Australians. NT non-Indigenous females could expect to live 2.2 years longer than Australian females and non-Indigenous male Territorians could expect to live 1.6 years longer than Australian males. To some extent, the difference may reflect the relatively high out-migration rate of older Territory residents to the other States of Australia.
- With an average life expectancy at birth of 83 years in 1996, non-Indigenous females in the Northern Territory could expect to live 22 years longer than Indigenous females who had an average life expectancy at birth of 61 years.
- The corresponding difference is smaller among males. With an average life expectancy at birth of 77 years, non-Indigenous males in the Northern Territory could expect to live 20 years longer than Indigenous males who had an average life expectancy at birth of 57 years.
- Reliable information on life expectancy for Indigenous Australians is only available for South Australia, Western Australia and the Northern Territory. Data from the ABS indicate that the Indigenous people residing in the Northern Territory have the lowest life expectancy in Australia.
- The average life expectancy at birth for Northern Territory Indigenous people is similar to that for developing countries. The United Nations Children's Fund (UNICEF) has estimated the 1994 life expectancy at birth for developing countries at 61 years.

Country of birth



Country / region of birth	Northern Territory	Australia
	Percent	
Australia	78.7	74.5
New Zealand & Oceania	2.3	2.1
United Kingdom & Ireland	4.8	6.3
Other Europe	3.2	6.2
Asia	3.9	4.8
Americas	0.8	0.8
Africa	0.5	1.7
Other and not stated	5.8	3.5
Total	100.0	100.0

Source: 1. NT data – ABS 1997, Selected Social and Housing Characteristics for Statistical Local Areas NT, Cat. No. 2015.
 2. Australia data – ABS 1997, 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 share different cultural values and practices. Although people born overseas have been found to generally have better health than Australian born people, they may face different health problems and may require different services and support systems.
- About 16% of the Northern Territory population in 1996 reported that they were born overseas.
- Of those born overseas, almost half (46%) were born in the UK, Ireland or New Zealand.
- Of those born in a non-English speaking country, the large majority came from the Philippines, Indonesia, Greece and Germany respectively.
- Using data from the 1991 Census, the ABS has estimated that children under 15 years of age and young people aged 15–24 years made up 11% and 15% respectively of the total overseas born population in the Northern Territory.

Social environment

Family structure

- One parent and couple families with dependants

Communication

- Main language spoken at home

Education

- School attendance and educational attainment for 15 year olds and over

Employment

- Youth labour force participation and employment
- Labour force participation and employment in the NT

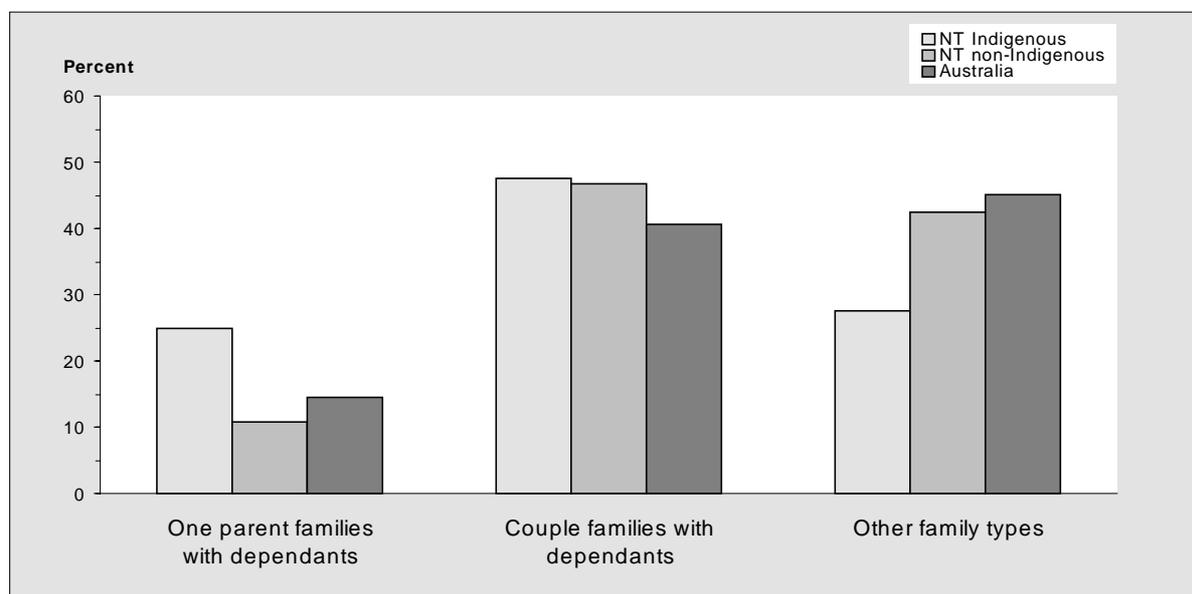
Economic resources

- Average family weekly income

Housing

- Overcrowding

One parent and couple families with dependants



	NT Indigenous	NT non-Indigenous	Australia
	percent		
One parent families with dependants	24.8	10.8	14.5
Couple families with dependants	47.6	46.8	40.6
Other family types	27.6	42.4	45.0
Total	100.0	100.0	100.0

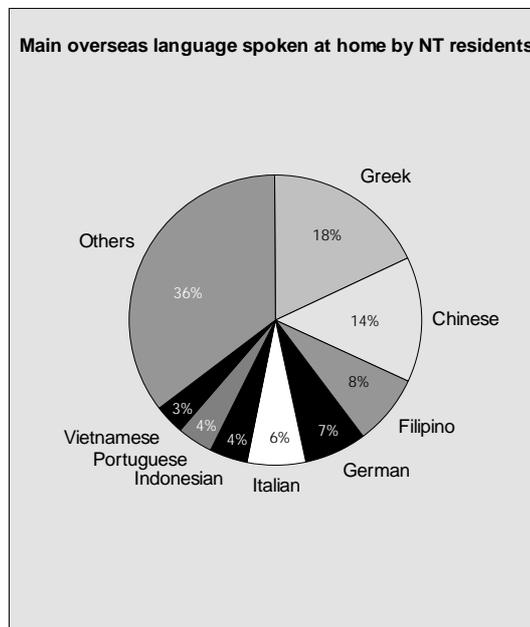
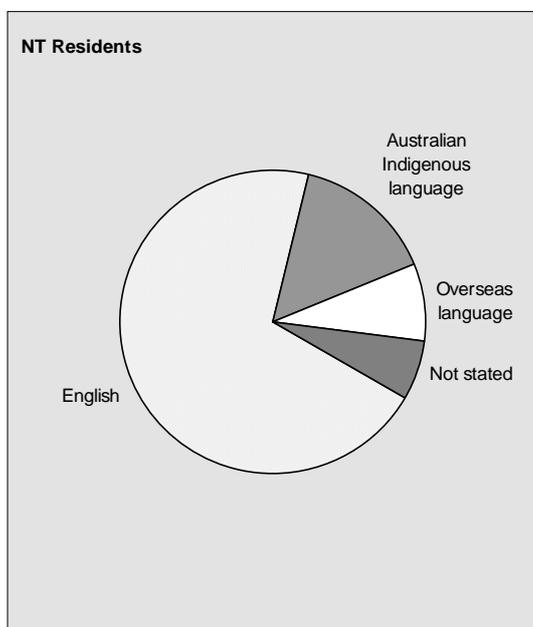
Note: One parent family is defined by the ABS as one parent and that parents children plus all other people in the household related to them, provided those people do not have a spouse or child of their own.

Source: 1. NT data – ABS 1996, Census of Population and Housing (unpublished data).

2. Australia data – ABS 1998, Census of Population and Housing, Selected family and labour force characteristics, Cat. No. 2017.0.

- The structure of a family can influence the level of resources and the available social support necessary for healthy family functioning.
- One parent families may have less economic resources and social support in providing for the material and emotional needs of children. The Australian Institute of Health and Welfare has published data which show that children in one parent families have worse health status and use health services more frequently than children in two parent families.
- Caution must be exercised when interpreting information that highlights differences between Indigenous and non-Indigenous families because of the culturally different meaning attached to the concepts of family unit, family relationships and family responsibilities in the two populations.
- According to the Australian Bureau of Statistics, there was a 23% increase in the number of one parent families between 1991 and 1996 in the Northern Territory.
- The proportion of one parent families among the NT Indigenous population (24.8%) was 2.3 times greater than the proportion for the non-Indigenous population (10.8%).
- There was little difference in the proportion of couple families with dependants between the NT Indigenous, NT non-Indigenous and Australian populations.

Main language spoken at home

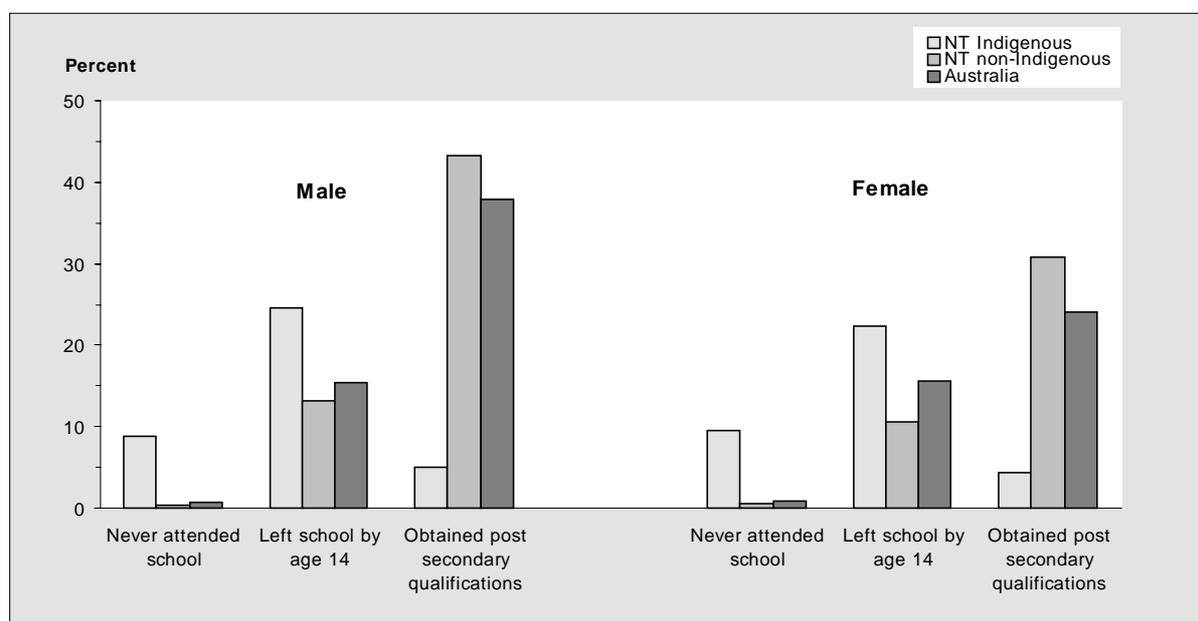


Main language spoken at home	NT residents	Australian residents
	percent	
English only	70.6	81.9
Australian Indigenous language	15.0	0.3
Other (overseas) languages	8.2	14.8
Not stated	6.1	3.0
Total	100.0	100.0

Source: 1. NT data – ABS 1996, Selected Social and Housing Characteristics for SLAs, NT, Cat. No. 2015.7.
 2. Australia data – ABS 1996, Selected Social and Housing Characteristics Australia, Cat. No. 2015.0.

- In Australia, those whose main language is not English can experience communication barriers which may disadvantage their personal, economic and social development. This may reduce their access to, and usage of, health services.
- According to the 1996 ABS census, 71% of people in the Northern Territory spoke English as their main language at home compared with 82% for the total Australian population. Eight percent of NT residents mainly used an overseas based language at home compared with 15% in the whole of Australia.
- In the 1996 ABS Census, 15% of all NT residents aged five years and over reported speaking an Australian Indigenous language compared with 0.3% for the whole of Australia.
- The 1994 ABS National Aboriginal and Torres Strait Islander (NATSIS) survey indicated that of NT Indigenous people aged 13 years and over, 66% spoke an Indigenous language as their main language. In addition, 21% reported having difficulty with English and 83% of those experiencing difficulty reported that they would have used an interpreter service if one were available.
- 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 1994 NATSIS survey found that 76% of NT Indigenous people who resided in rural areas spoke an Indigenous language as their main language spoken at home compared with 27% of those residing in Darwin.

**School attendance and educational attainment
(Total population aged 15 years and over)**

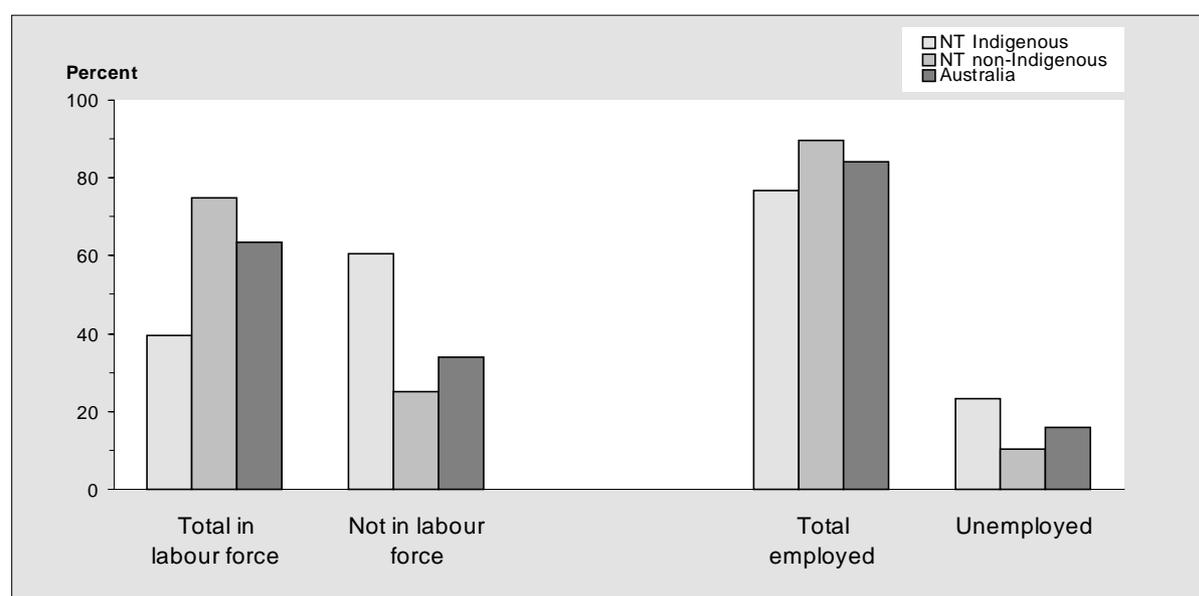


	NT Indigenous	NT non-Indigenous	Australia
Male			
% who never attended school	8.8	0.4	0.7
% who left school by age 14 among those who attended school	24.5	13.1	15.4
% who obtained post-secondary qualifications	5.1	43.3	37.9
Female			
% who never attended school	9.5	0.6	0.9
% who left school by age 14 among those who attended school	22.4	10.5	15.6
% who obtained post-secondary qualifications	4.3	30.8	24.1

Source: 1. NT data – ABS 1996, Census of Population and Housing (unpublished data).
2. Australia data – ABS 1996, Census of Population and Housing (unpublished data).

- Education directly influences health status and health behaviour. In addition to its potential for increased employment and earning opportunities, education contributes to the development of skills necessary for parents, particularly mothers, to promote the adoption of healthy behaviours in their children, and for the children to maintain these behaviours throughout their life.
- According to the 1996 ABS Census, almost all non-Indigenous people living in the NT had received some school education. In contrast, almost 10% of the NT Indigenous population reported that they had never attended school.
- In the Northern Territory, although males tend to leave school earlier than females, they were more likely to have obtained post-secondary qualifications.
- NT non-Indigenous males were 8.5 times more likely to have obtained a post-secondary school qualification than NT Indigenous males. NT non-Indigenous females were 7.2 times more likely to have obtained a post-secondary school qualification than Indigenous females.

Youth labour force participation and employment



	NT Indigenous	NT non- Indigenous	Australia
Labour force:		percent	
Total in labour force	39.5	74.9	65.2
Not in labour force	60.5	25.1	34.8
Employment:			
Employed	38.1	89.6	84.3
Employed under CDEP scheme	38.6	—	—
Total employed	76.7	89.6	84.3
Unemployed	23.3	10.4	15.7

Note: 1. These data exclude people aged 15–24 years who did not state their Indigenous or labour force status at the 1996 ABS Census.
2. Labour force status identifies whether a person aged 15–24 years is employed, unemployed or not in the labour force.
3. The proportion of people who are employed or unemployed is expressed as a percentage of the labour force.

Source: 1. NT data – ABS 1996, Census of Population and Housing (unpublished data).
2. Australia data – ABS 1998, Census of Population and Housing, Selected Family and Labour Force Characteristics Australia Cat No. 2017.0.

- Transition into the workforce most often occurs between 15–24 years of age. This can be a vulnerable period in life in which confidence is developed and a work identity is formed. These both having implications for later in life.
- Youth unemployment has been associated with physical ill health, low self confidence, depression and an increased prevalence of attempted suicide.
- The labour force participation rate tends to be lower, and the unemployment rate higher in this age group, than the corresponding rates for the general population.
- According to the 1996 ABS Census, the NT youth unemployment rate declined from 18.5% in 1991 to 13.1% in 1996.
- The unemployment rate among 15–24 year old NT Indigenous population (23.3%) was over twice that of the NT non-Indigenous population (10.4%).
- To improve employment opportunities for Indigenous people, the Aboriginal and Torres Strait Islander Commission (ATSIC) funds the Community Development Employment Program (CDEP) scheme for people living in geographically isolated locations. Of those that were employed (76.7%), nearly four in every ten people were working on the CDEP scheme which is reflective of the limited work opportunities.

Labour force participation and employment in the NT



	Participation rate		Unemployment rate	
	1991	1996	1991	1996
NT Indigenous	40.7	42.4	25.7	18.0
NT non-Indigenous	79.4	79.1	9.7	5.8
Australia	61.5	61.0	11.6	9.2

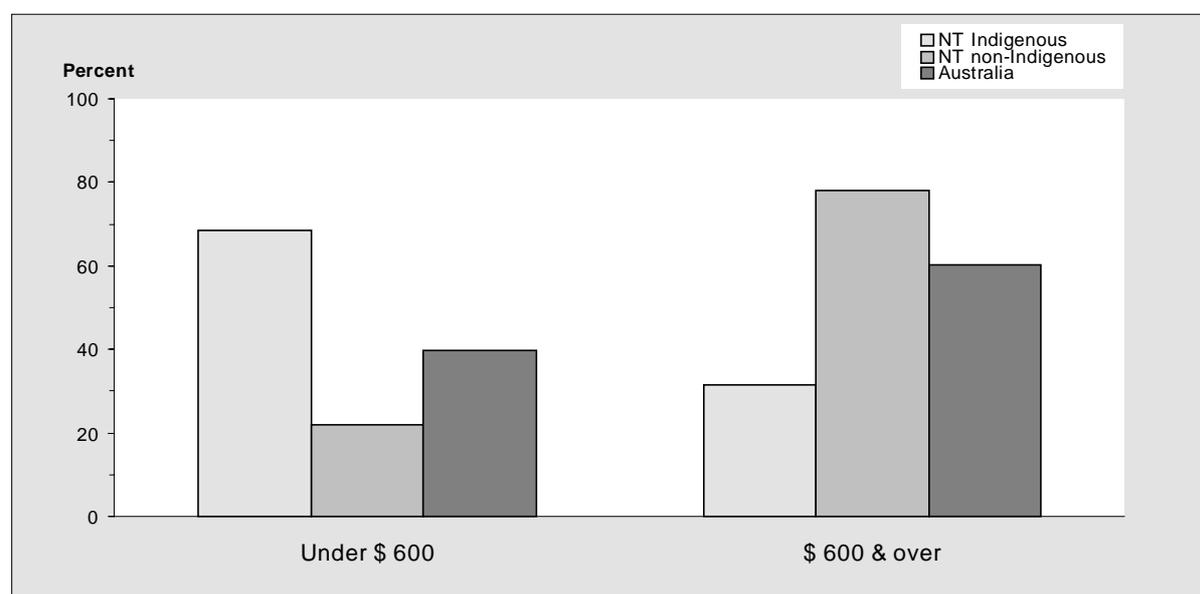
Note: 1. Unemployment data for the NT Indigenous population varies by source. The 1994 National Aboriginal and Torres Strait Islander survey reported an unemployment rate of 37% for Indigenous persons in the NT.

Source: 1. NT data – Provided by the Dept of Employment, Education, Training & Youth Affairs from data derived from the 1991 and 1996 Australian Bureau of Statistics census.

2. Australia data – ABS 1996, Census of Population and Housing (unpublished data).

- For most people, access to economic resources is highly influenced by their ability to participate in the labour force. The Australian Bureau of Statistics defines the labour force participation rate as the proportion of people aged 15–64 years in the civilian population who are actively seeking work or are currently employed. Employment in turn is not only influenced by willingness to work but more importantly depends on the availability of work opportunities. The unemployment rate is the proportion of unemployed people in the total labour force.
- There is substantial evidence that the unemployed are more likely to experience ill health than those who are employed. In addition to the obvious consequence of reduced income, unemployment often results in stress and social isolation which can have a negative impact on the health and welfare of the family unit and consequently on the health of children.
- The fact that three out of four Indigenous people of working age live in localities with limited labour market opportunities partly explains the relatively low 1996 Indigenous labour force participation rate of 42%, and the conservatively low unemployment rate of 18% (see note above).
- According to the 1994 NATSIS survey, 41% of currently working NT Indigenous persons are employed under the CDEP scheme.
- Every hundred NT Indigenous working adults aged 15–64 years supported 191 Indigenous children aged 0–14 years. This compared with 46 children dependent on every hundred non-Indigenous working adults.

Average family weekly income



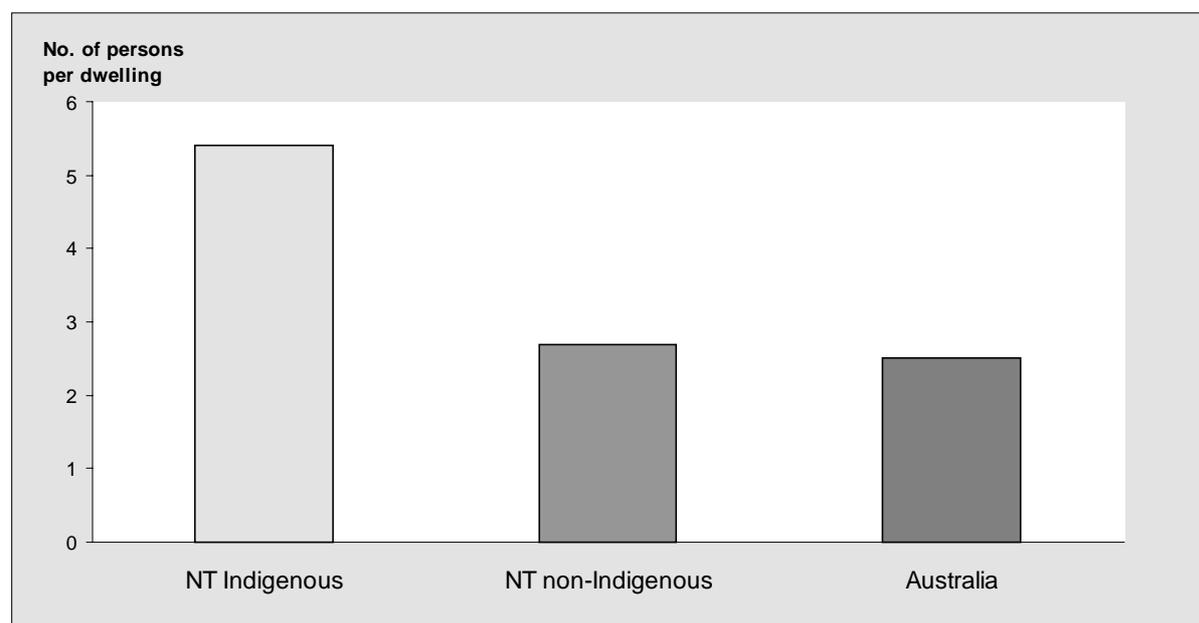
Income (\$)	NT Indigenous	NT non-Indigenous	Australia
	percent		
0–199	13.4	2.3	3.3
20–599	55.0	19.5	36.4
60–999	19.9	29.9	28.1
1000 and over	11.8	48.4	32.2
Total	100.0	100.0	100.0

Note: 1. Family is defined as two or more persons (with at least one aged more than 15 years) who are related and usually resident in the same household.
 2. Not inclusive of group households, lone person households or people in non-private dwellings.

Source: 1. NT Indigenous data – ABS 1996, Census of Population and Housing (unpublished data).
 2. NT non-Indigenous data – ABS 1997, Census of Population and Housing, Selected Social & Housing Characteristics for SLAs, Cat. No. 2015.7.
 3. Australian data – ABS 1997, Census of Population and Housing, Selected Social & 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.
- The Australian Council of Social Services has argued that poverty both contributes to, and is a result of, poor health. Australian children in families with lower income have been shown to have more serious chronic illnesses, as well as lower adoption of health promoting practices such as full immunisation and breastfeeding.
- The Institute of Applied Economic and Social Research has calculated that to avoid being considered in poverty in 1997, a family unit comprised of a single working parent with two dependent children requires a weekly income of at least \$368, and a couple family (with one adult working) and two children requires at least \$445 per week.
- Although more meaningful when related to family structure, the income data presented refer to all families. According to the 1996 ABS Census, 68% of NT Indigenous families were likely to earn less than \$600 per week, with a median family weekly income of \$425. This compared with 22% of NT non-Indigenous families earning less than \$600 per week, with a median family weekly income of \$978.

Overcrowding



	Average number of persons per dwelling	Proportion of population with more than two persons per bedroom (%)
NT Indigenous	5.4	30.9
NT non-Indigenous	2.7	1.7
Australia	2.5	n.a.

Source: 1. NT data – ABS 1998, Census of Population and Housing, Aboriginal and Torres Strait Islander People, NT, Cat. 2034.7.
2. Australia data – ABS 1996, Census of Population and Housing (unpublished data).

- Adequate housing is required to meet basic human needs of shelter and has a direct impact on health and welfare. To understand information on the adequacy of housing, the Australian Institute of Health and Welfare has highlighted the need to take into account complex dimensions which includes issues 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, which is related to 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, and, the proportion of households with more than two persons per bedroom.
- According to the 1996 ABS Census, there was no significant difference in the average number of persons per dwelling between the NT non-Indigenous and the Australian populations. The number for the NT Indigenous population was twice that for the NT non-Indigenous population.
- According to the 1996 ABS Census, there was in the Indigenous population an average of 5.4 persons per dwelling. This average however masks substantial differences between localities. The 1994 ABS NATSIS survey reported an average of 4.0 persons per dwelling in Darwin, 5.8 in other urban areas and 6.4 in rural areas.
- The 1994 ABS NATSIS survey also reported that one in every ten NT Indigenous households had no toilet, bath or shower.

Infant

- Breastfeeding

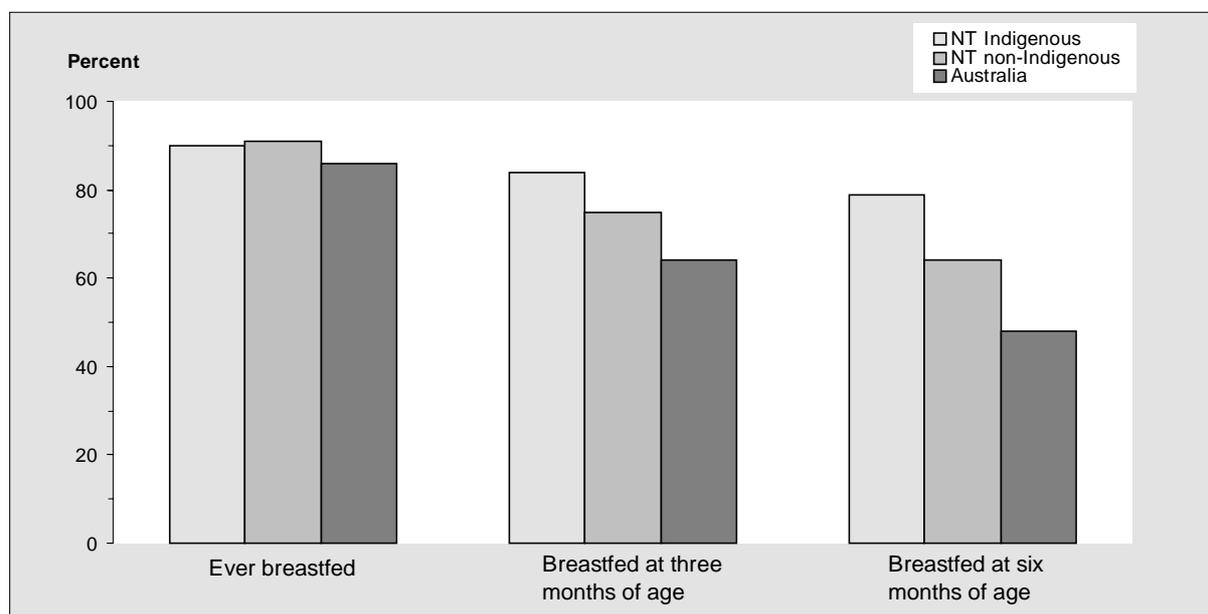
0–5 year olds

- Growth in rural and remote Indigenous communities

0–10 year olds

- Anaemia in rural and remote Indigenous communities

Breastfeeding

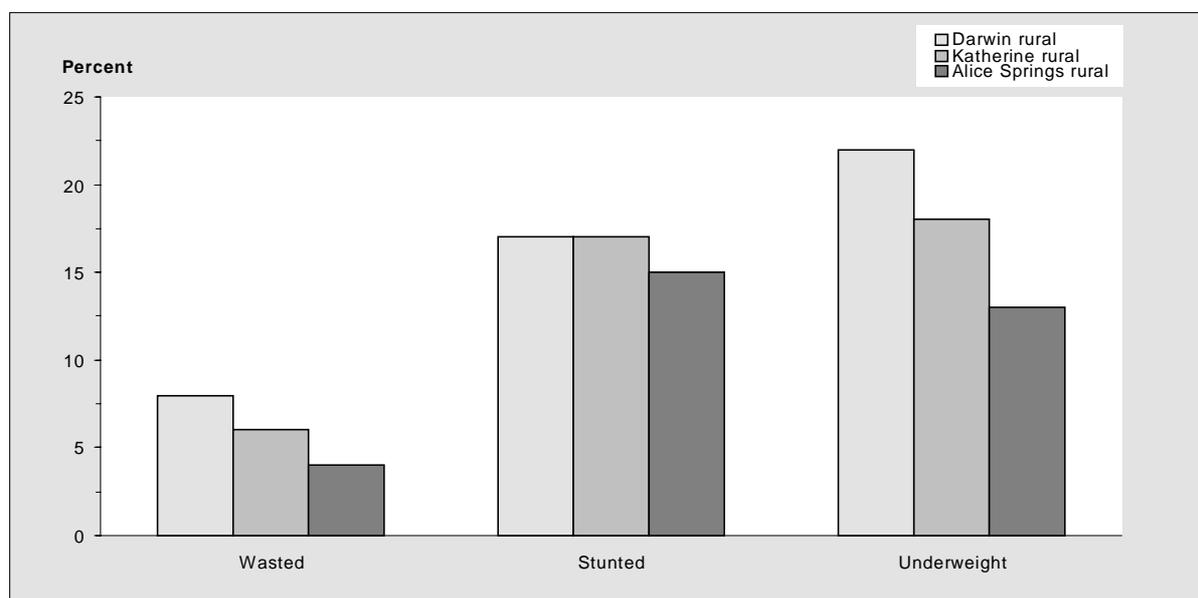


	Proportion breastfed (%)		
	Ever	At 3 months	At 6 months
NT Indigenous	90	84	79
NT non-Indigenous	91	75	64
Australia	86	64	48

Source: 1. NT Indigenous data – ABS 1996, Health of Indigenous Australians, NATSIS. Cat. No. 4395.0.
 2. NT non-Indigenous data – ABS 1997, National Health Survey. Cat. No.4364.0.
 3. Australia data– ABS 1997, National Health Survey. Cat. No.4364.0.

- Breastfeeding is important because it provides nutritional, immunological, psychological and economic benefits. In children, the benefits include lower rates of respiratory illness and improved cognitive development. In mothers, breastfeeding assists in various ways, including child bonding, spacing of pregnancies, and protecting against osteoporosis, ovarian and breast cancers in later life.
- The proportion of children who were ever breastfed was slightly higher in the Northern Territory (90%) than in all of Australia (86%).
- By three months of age, the proportion of breastfed infants declined to 75% for NT non-Indigenous and 64% for all Australian infants. This compared with 84% of NT Indigenous infants still breastfed at this age.
- By six months of age, the proportion of non-Indigenous infants who were breastfed declined to 64% for NT children and 48% for all Australian children. This compares with a higher proportion of 79% for NT Indigenous infants.
- These figures represent relative reductions of 44% for all Australian infants, 30% for NT non-Indigenous infants and 12% for NT Indigenous infants between infants that were ever-breastfed and those still breastfed at six months of age.
- According to additional surveys conducted by the ABS, breastfeeding rates were highest amongst NT Indigenous infants living in rural and remote areas (93%) and NT non-Indigenous infants living in urban area (91%). NT Indigenous infants living in urban areas had the lowest prevalence of breastfeeding (76%).

Growth in rural and remote Indigenous communities



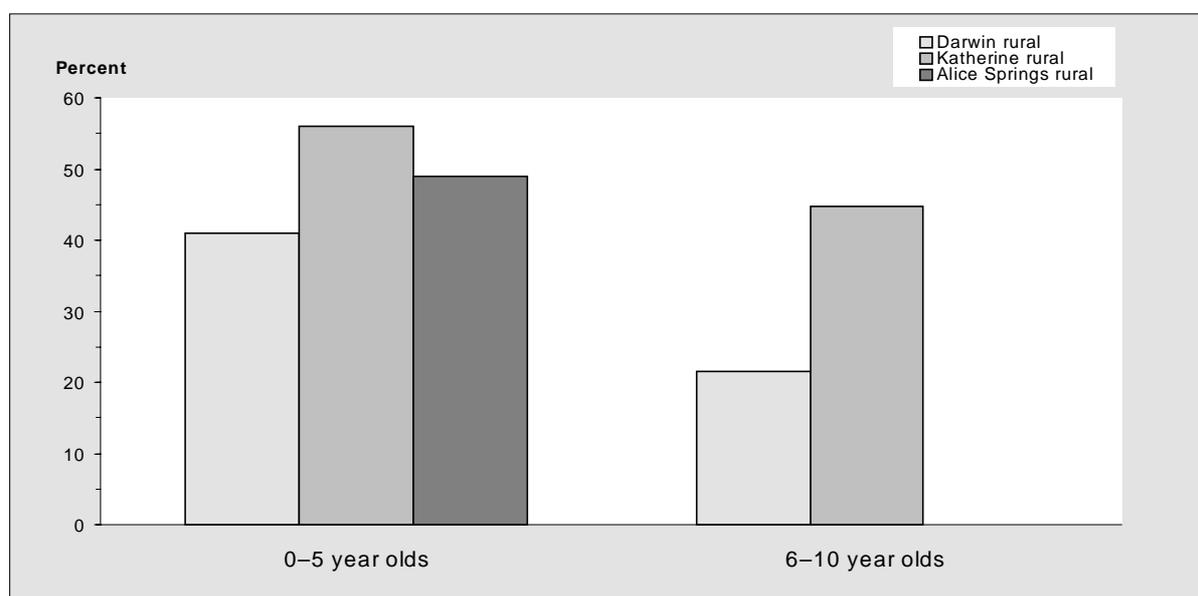
District	Number of children	Percentage wasted	Percentage stunted	Percentage both wasted and stunted	Percentage underweight
Darwin rural	568	8.0	17.0	0.2	22.0
Katherine rural	642	6.0	17.0	1.0	18.0
Alice Springs rural	367	4.0	15.0	1.0	13.0

Source: 1. Darwin rural (1996) data – provided by community child health program.

2. Katherine rural (1995) and Alice Springs rural (1997–98) data – provided by district nutritionists from routine growth surveillance.

- Adequate nutrition is necessary to achieve good health. Inadequate nutrition can result from overnutrition or undernutrition.
- Overnutrition occurs when people eat too much food, contributing to overweight and obesity. The consequences of overnutrition may include issues of self-esteem as well as chronic diseases such as heart disease, diabetes and cancer.
- Undernutrition occurs when people eat too little food or an inadequate variety of nutritious foods. The health consequences of undernutrition in children are an increased susceptibility to infections, as well as delayed motor and intellectual development.
- Wasting occurs as a result of the combined effects of inadequate food intake, acute infections and low immunity to various diseases. Stunting, which is a slowing of skeletal growth in children, results from inadequate nutrition over a long period of time together with chronic infectious and parasitic diseases.
- Adequate nutrition depends on an available and affordable quality food supply, and on the ability of individuals to make appropriate choices from the various available foods. There is evidence that many Indigenous people living in rural remote regions of the Northern Territory do not have access to adequate nutrition.
- Although a growth monitoring system is being implemented in the NT, there are currently no related data available for urban areas, and only limited data on rural communities. These rural data suggest that children under five years of age had a wasting rate ranging between 4–8% and a stunting rate ranging between 15–17% for these regions. UNICEF (1996) has published data which show that these NT Indigenous rates are comparable with those for Thailand (wasting rate of 6% and stunting rate of 22%) and Ghana (wasting rate of 11% and stunting rate of 26%).

Anaemia in rural and remote Indigenous communities



Age group	Darwin rural		Katherine rural		Alice Springs remote	
	Number	%	Number	%	Number	%
0–5 year olds	607	41	590	56	367	47
6–10 year olds	204	22	391	42	n.a.	n.a.

Note: 1. As used here, anaemia refers to the World Health Organization's definition of anaemia as a haemoglobin of less than 110g/litre.
2. Haemoglobin level was determined using a finger prick blood sample and HemoCue haemoglobinometer.

Source: 1. Darwin rural (1996) data – data collected by the community child health program in Darwin rural communities.
2. Katherine rural (1995) and Alice Springs rural (1997–1998) data – provided by district nutritionists from routine growth surveillance.

- Most anaemia is due to iron deficiency which itself usually results from a combination of factors including inadequate nutritional intake, recurrent infections and parasitic infections.
- Iron deficiency is associated with reduced immune function and physical and intellectual development in 0–5 year old children.
- There is no information on the prevalence of anaemia among the non-Indigenous population of the Northern Territory, however, high rates have been documented in the NT Indigenous population.
- Data from Darwin, Katherine and Alice Springs rural districts suggest that about half of all NT Indigenous 0–5 year olds are anaemic. Although lower than for 0–5 year olds, the proportion of 6–10 year olds with anaemia was 22% in Darwin rural and 42% in Katherine rural districts.

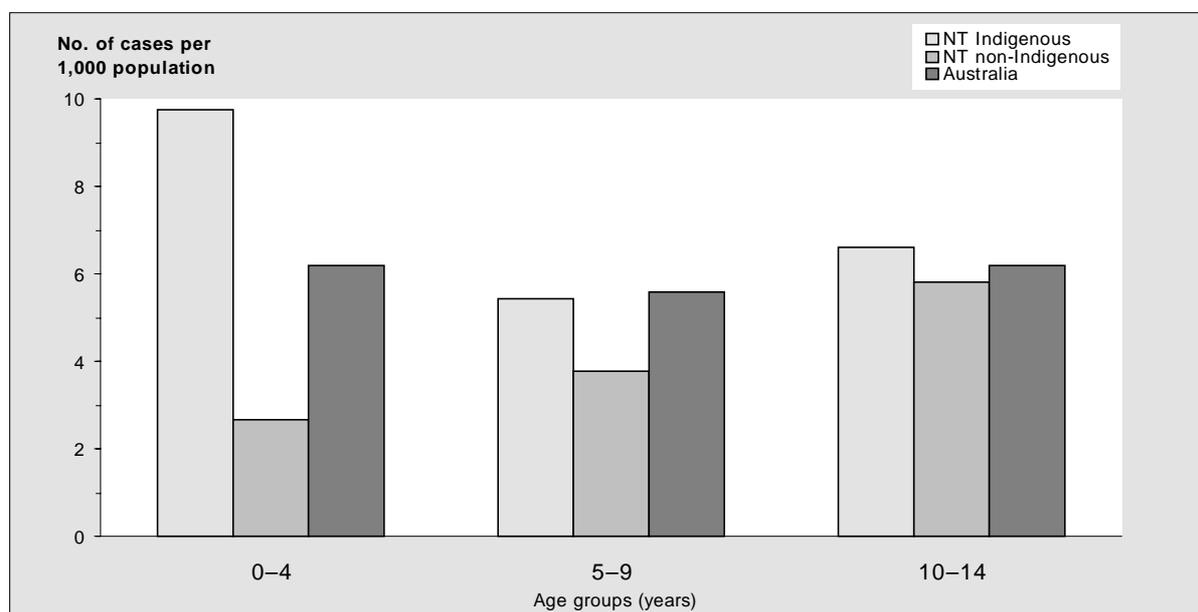
Child maltreatment

- Substantiated cases

Juvenile justice

- Detention commencements

Substantiated cases



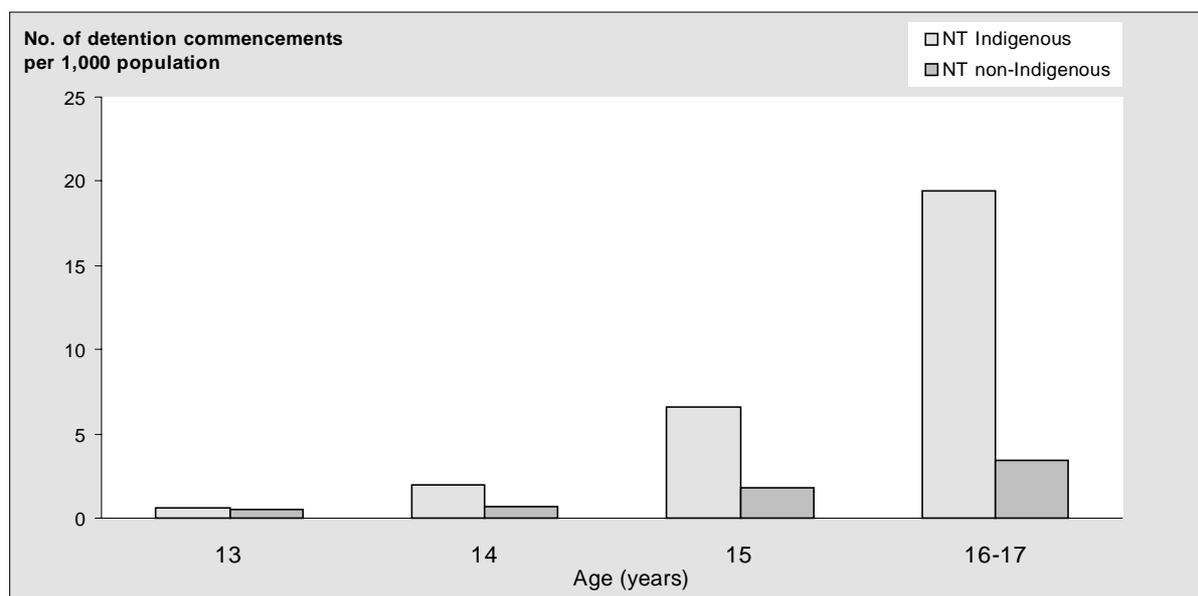
Age (years)	Sexual	Physical	Neglect	Emotional	Total
Number of cases per thousand children					
NT Indigenous children					
0-4	0.5	2.9	6.2	0.0	9.7
5-9	0.8	2.5	2.0	0.1	5.4
10-14	1.3	3.6	1.6	0.1	6.6
15-17	0.5	1.3	0.1	0.1	1.5
Total	0.8	2.7	3.0	0.1	6.6
NT non-Indigenous children					
0-4	0.2	1.2	1.2	0.5	2.7
5-9	1.7	3.1	2.1	0.5	3.8
10-14	2.0	7.0	1.2	1.1	5.8
15-17	0.5	1.4	0.1	0.2	1.7
Total	0.6	1.9	0.8	0.4	3.8
Australian children					
0-4	0.5	1.5	2.0	2.3	6.2
5-9	1.1	1.6	1.3	1.7	5.6
10-14	1.4	2.1	1.0	1.7	6.2
15-16	0.9	1.3	0.4	0.8	3.4
Total (a)	1.0	1.7	1.3	1.8	5.8

Note: 1. Data for the Northern Territory refer to children aged 17 years and under, for the years 1995-97.
 2. Data for Australia refer to children aged 16 years and under for the year 1995-1996.
 3. Data for the NT and Australia is not strictly comparable due to variations in the definitions of maltreatment, differing laws and processes.

Source: 1. NT data - Database on substantiated cases of child abuse, Epidemiology Branch, THS (unpublished).
 2. Australia data - Broadbent, A. Bently, R 1997, Child abuse and neglect, Australia 1995-1996 AIHW.

- 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 sexual, physical, emotional abuse and neglect.
- Where the standard of child care 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 to protect the health and welfare of a child.
- The Australian Institute of Health and Welfare has also suggested that high unemployment, economic stress, one parent families, poor environmental living conditions, and lack of access to support services are among major factors in child maltreatment. Children who live in communities which have a high prevalence of these factors may be at higher risk of maltreatment.
- 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.
- 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, cases of suspected child abuse are usually brought to the notice of authorities through various avenues which include self-disclosure, community members, teachers and health care professionals. Approximately 40–50% of all notified cases of child abuse are substantiated in the Northern Territory.
- Although care needs to be exercised when comparing rates of child maltreatment across States and Territories (see fourth dot point), Northern Territory non-Indigenous children were 35% less likely to have experienced substantiated child maltreatment than Australian children as a whole.
- Between 1995–97, Northern Territory Indigenous children aged 0–17 years were 1.7 times more likely to have been involved in substantiated cases of maltreatment than Northern Territory non-Indigenous children and 1.5 times more likely than the population nationally.
- When analysed by type of maltreatment, substantiated cases of neglect were most common among Northern Territory Indigenous children compared with physical abuse for Northern Territory non-Indigenous children.
- Rates of substantiated cases of maltreatment were highest in the 0–4 year age group for Northern Territory Indigenous children (9.7/1000) and in the 10–14 year age group (5.8/1000) for Northern Territory non-Indigenous children.
- Northern Territory Indigenous children in the 0–4 years age group were 3.6 times more likely to have been involved in substantiated cases of maltreatment than NT non-Indigenous children. Within this age group neglect accounted for the most common type of maltreatment in the Northern Territory Indigenous population, in contrast with the Northern Territory non-Indigenous population where the most commonly reported forms of maltreatment were physical abuse and neglect.
- Physical abuse was the major type of substantiated child maltreatment among children aged 5–17 years for both Northern Territory Indigenous and non-Indigenous children.

Detention commencements



	Age at commencement of detention (years)				Total
	13 and under	14	15	16–17	
Number of episodes of detentions					
NT Indigenous	2	7	19	56	84
NT non-Indigenous	3	4	9	17	33
Number of episodes of detentions per thousand population					
NT Indigenous	0.6	2.0	6.6	19.4	6.6
NT non-Indigenous	0.5	0.7	1.8	3.4	1.6

Note: 1. Detention commencements represent the number of episodes not individuals.
 2. Data presented here relate to the years 1995–97.
 3. National level data were not available.

Source: Northern Territory Correctional Services (unpublished data).

- The factors that contribute to delinquency in young people, not only reflects an inability to conform to societal norms and expectations but includes 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 shown to be associated with criminal behaviour in adulthood.
- There were 117 episodes of youth detentions in the Northern Territory in the three year period

1995–97. Although Indigenous young people aged 13–17 years made up for about 35% of young people in the Northern Territory, they accounted for 72% of all youth detentions in the Territory during that period. Their rate of detention (6.6/1,000 children) was four times that of non-Indigenous young people (1.6/1,000).

- The difference in detention rates increased with age. Whereas 13 year old Indigenous youth were 1.2 times more likely to commence detention than non-Indigenous youth of the same age, the relative difference had increased to 2.8 times by 14 years of age, 3.7 times by 16 years of age, and 5.7 times by 16–17 years of age.

Immunisation

- Vaccination coverage in 0–6 year olds
- Vaccine preventable disease notifications

Oral health

- Primary teeth in five year olds
- Permanent teeth in twelve olds

Alcohol

- Consumption over a four week period

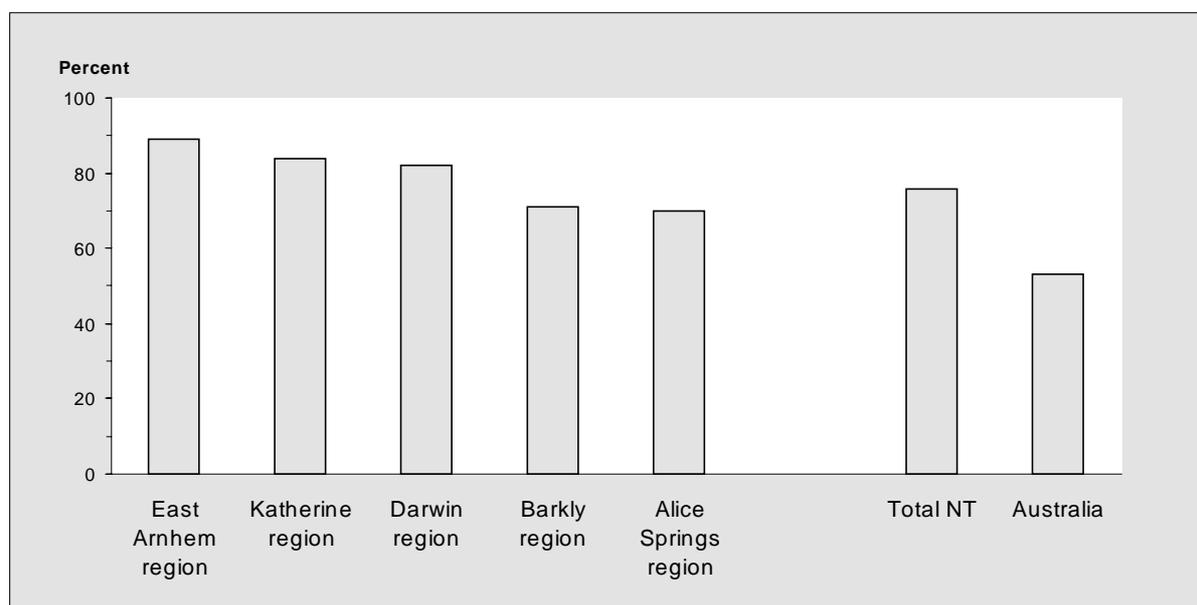
Smoking

- Current smokers

Sexual health

- Sexually transmitted disease notifications

Vaccination coverage 0–6 year olds



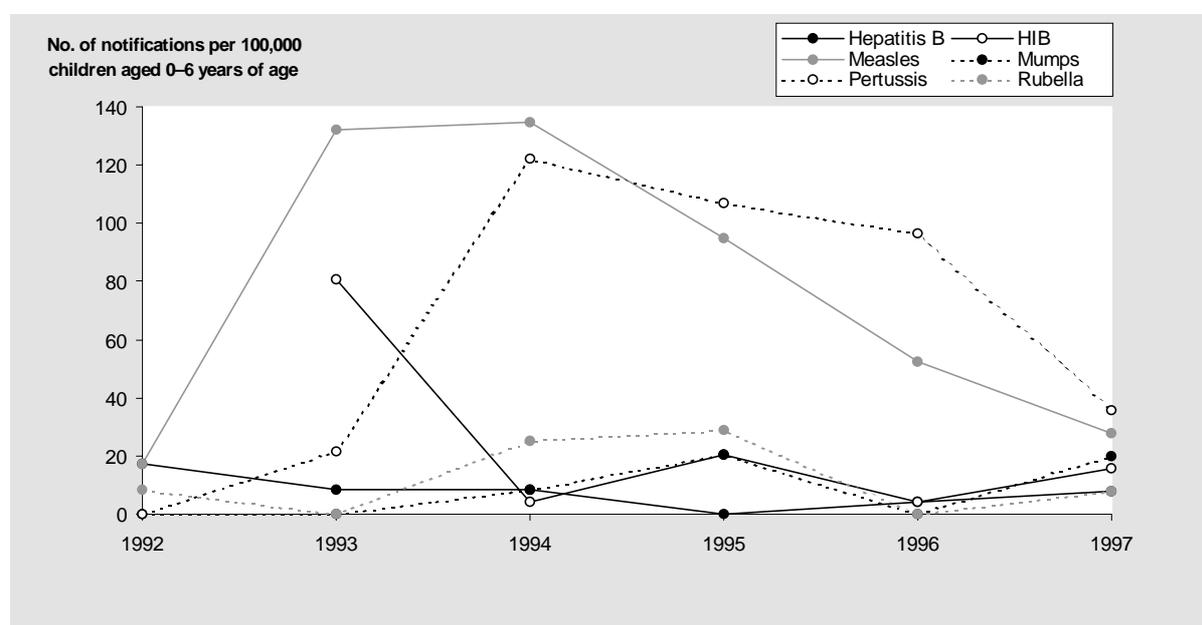
	East Arnhem	Katherine	Darwin	Barkly	Alice Springs	Total NT	Australia
Vaccination rate	89	84	82	71	70	76	53

Note: 1. The data presented here refer to the year 1996.

Source: NT and Australia data – THS Communicable Diseases Bulletin. Vol. 4, Nos 1 and 2, March and June 1997.

- Immunisation against diphtheria, tetanus, pertussis (whooping cough), Haemophilus influenzae type B (Hib), hepatitis B, measles, mumps and rubella is an effective public health intervention which has over time significantly reduced morbidity and mortality arising from these childhood diseases.
- The level of immunisation coverage reflects several factors which include parental understanding of issues related to immunisation, their commitment to having their children fully immunised over time, 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.
- According to the Australian Institute of Health and Welfare, children were less likely to be fully immunised if they lived in single parent or low income families, with unemployed parents, with parents born overseas or those whose parents did not speak English at home.
- In 1996, the immunisation coverage rate in the Northern Territory was 76%. This was higher than that experienced for all of Australia (53%) but below the 95% target recommended by the NHMRC.
- Within the Northern Territory, vaccine coverage was higher in non-urban areas. The highest vaccination coverage rate in the Northern Territory was in the East Arnhem region (89%), an area with a predominantly rural Indigenous population. An analysis of the data for the Darwin region indicated a vaccination rate of 86% in Darwin rural region and 79% in Darwin urban.

Vaccine preventable diseases



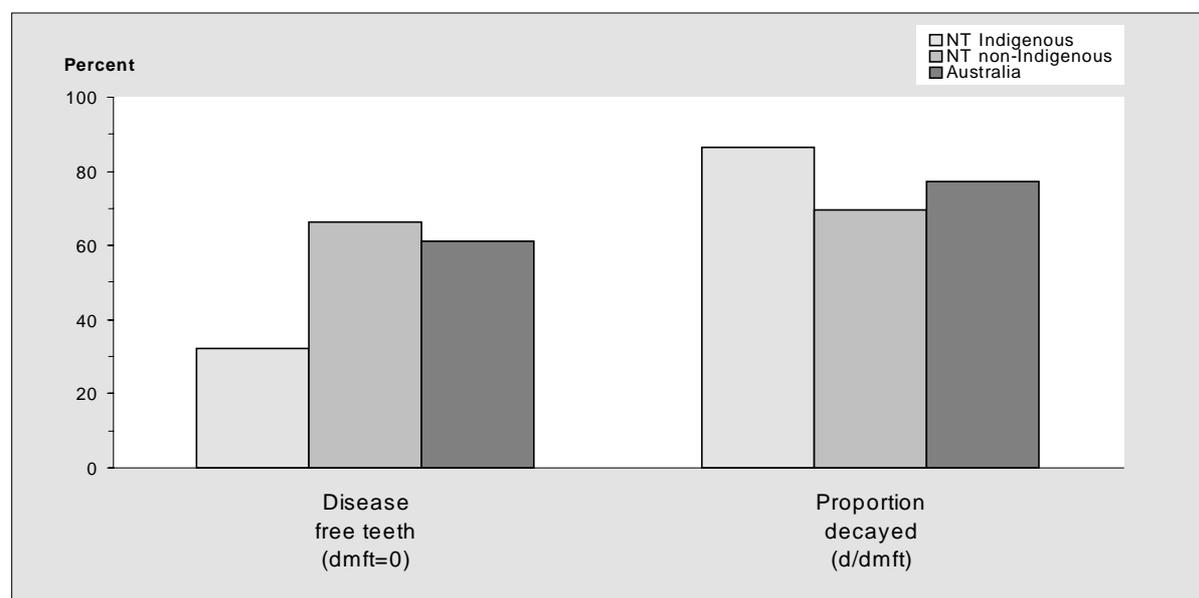
	Hepatitis B	HIB	Measles	Mumps	Pertussis	Rubella
Number of vaccine preventable disease notifications per 100,000 population						
1992	17.2	n.a.	17.2	0.0	0.0	8.6
1993	8.5	81.0	132.1	0.0	21.3	0.0
1994	8.4	4.2	134.5	8.4	121.9	25.2
1995	0.0	20.6	94.7	20.6	107.0	28.8
1996	4.0	4.0	52.4	0.0	96.7	0.0
1997	8.0	15.9	27.8	19.9	35.8	8.0

Note: HIB data for 1992 were incomplete and not included in the report.

Source: The data were obtained from the Centre for Disease Control (THS) and refer to notifications for children aged 0–6 years of age for the years 1992–1997 (unpublished data). These data include notifications for Indigenous and non-Indigenous children combined.

- Measles, hepatitis B, pertussis (whooping cough), *Haemophilus influenzae* type B (Hib), diphtheria, mumps and rubella are vaccine preventable diseases (VPD). Although some of these diseases can lead to serious health complications and even death, they are potentially preventable.
- Preventing the transmission of these infectious diseases requires that a very high proportion of the population be immune to the organisms. For example, the National Health and Medical Research Council recommends that at least 95% of the population be immunised against measles to minimise its impact in the community.
- In addition to ensuring that vaccinations are readily available and accessible, the health care system is responsible for ensuring that the community is well informed about the advantages, disadvantages and consequences to the individual and community of not being fully immunised against these diseases. Parents have a responsibility to ensure that their children are protected against vaccine preventable diseases.
- Since the introduction of the *Haemophilus influenzae* type B (HIB) vaccine in 1993, there has been a dramatic decrease in invasive HIB disease. The majority of recent cases has been in children who were not vaccinated or who had fallen behind with their vaccinations.
- Some VPDs occur in cycles. The last epidemics of measles and pertussis were in 1993–95.
- An improvement in vaccination coverage rates will reduce the number of cases and prevent epidemics of VPDs.

Primary teeth in five year olds



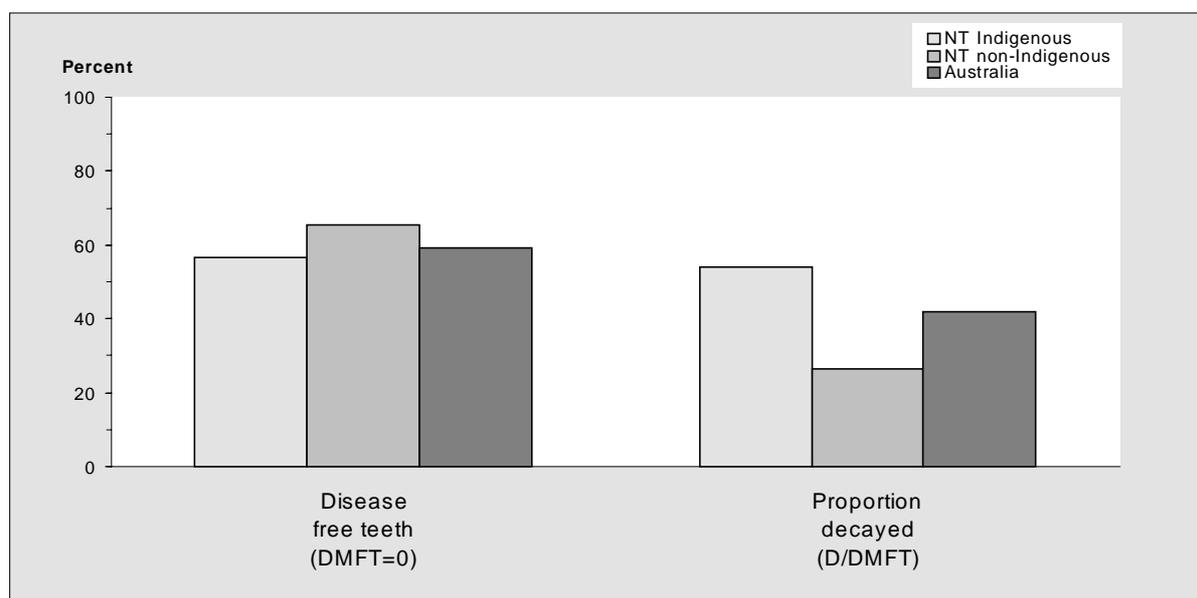
	NT Indigenous	NT non- Indigenous Percent	Australia
Proportion of children with no diseased teeth (% dmft=0)	32.3	66.2	61.1
Proportion of untreated decayed teeth out of total decayed, missing and filled teeth (% d/dmft)	86.6	69.6	77.3
Average number of decayed, missing and filled teeth per five year old child (mean dmft)	3.1	1.2	1.5

Note: dmft – In keeping with dental terminology when written in lower case, this refers to decayed, missing or filled in primary teeth.

Source: 1. NT data – Davies, M 1996, The Child Dental Health Survey NT, 1995. AIHW Cat. No. DEN7.
2. Australia data – Davies, MJ. Spencer, AJ 1997, The Child Dental Health Survey, Australia 1995. AIHW Cat. No. DEN 31.

- Children, with poor oral health which includes both diseased gums and teeth, may have problems eating properly. This can in turn affect their physical growth and development, and their mental wellbeing. Oral health in five year olds is measured by the 'dmft' - a count of the number of decayed (d), missing (m), or filled (f) primary teeth.
- Intakes of foods and drinks which have a high proportion of sugar, as well as poor oral hygiene, are major causes of oral disease in children.
- Oral health can alter physical and emotional growth and development through its influence on factors such as mastication, nutritional intake, appearance and self esteem. There is also a link between poor oral health and attendance at school, as well as conditions such as heart disease, rheumatic fever and diabetes later in life.
- Data from the 1995 Child Dental Health Survey indicated that non-Indigenous five year olds in the NT had slightly better oral health than Australian children as a whole. 66% of the NT children had no history of carious teeth (dmft=0) compared with 61% for all Australian children.
- NT Indigenous five year olds had substantially poorer oral health than NT non-Indigenous and Australian children. Only 32% of the NT Indigenous five year olds had no dental caries compared with 66% for NT non-Indigenous five year olds. 87% of the Indigenous children had untreated decayed primary teeth compared with 70% for NT non-Indigenous children. The average number of decayed, missing or filled teeth (3.1) in NT Indigenous children was 2.6 times that of NT non-Indigenous children (1.2).

Permanent teeth in twelve year olds



	NT Indigenous	NT non- Indigenous Percent	Australia
Proportion of children with no diseased teeth (% DMFT=0)	56.8	65.6	59.1
Proportion of untreated decayed teeth out of total decayed, missing and filled teeth (% D/DMFT)	54.1	26.5	41.8
Average number of decayed, missing and filled teeth per twelve year old child (mean DMFT)	0.96	0.73	1.01

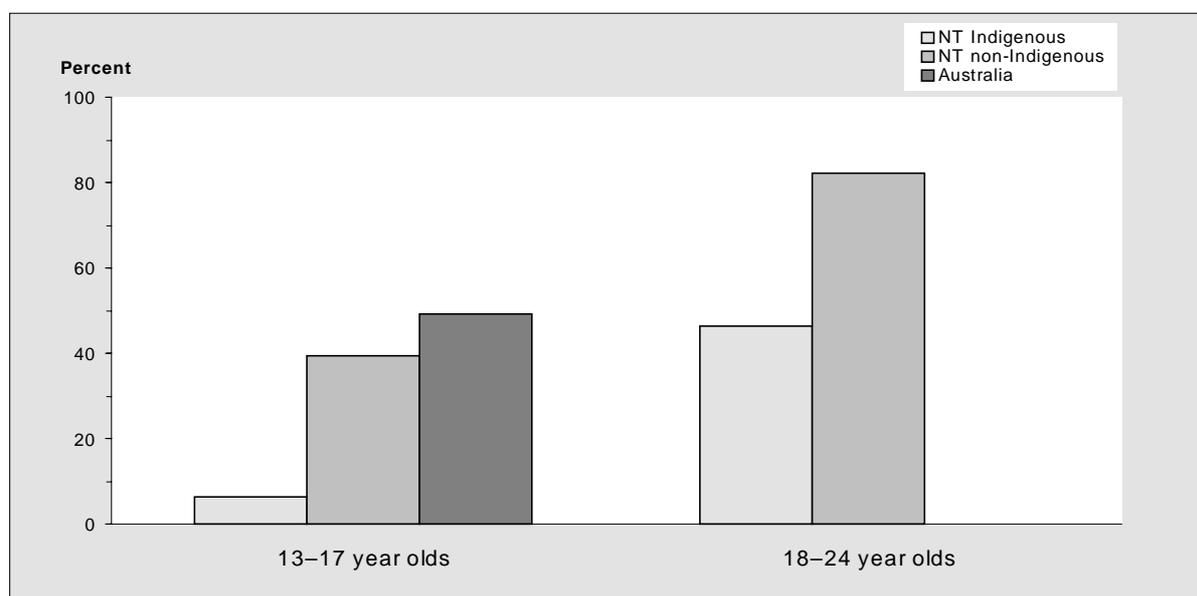
Note: DMFT – In keeping with dental terminology when written in upper case, this refers to decayed, missing or filled in permanent teeth.

Source: 1. NT data – Davies, M 1997, The Child Dental Health Survey NT, 1995. AIHW Cat. No. DEN7.

2. Australia data – Davies, M.J. Spencer, A.J 1997, The Child Dental Health Survey, Australia 1995. AIHW Cat. No. DEN 31.

- Data from the 1995 Child Dental Health Survey indicated that NT non-Indigenous 12 year olds have better indicators of oral health compared with all Australian children. Compared with all Australian children, a higher proportion of NT non-Indigenous 12 year olds had no history of dental caries, and they had a substantially lower proportion of untreated dental caries, and a lower average number of decayed, missing or filled teeth.
- On the average, 12 year old NT Indigenous children have poorer oral health than the Northern Territory non-Indigenous population. A smaller proportion of the Indigenous children had no history of dental caries, and had twice the proportion of untreated decayed teeth compared with non-Indigenous 12 year olds.
- In addition, Northern Territorian Indigenous 12 year olds in 1995 had a slightly higher average number of decayed missing or filled teeth (0.96) when compared with the NT non-Indigenous population (0.73), but both were less than the Australian average.

Consumption over a four week period



	13-17 year olds	18-24 year olds
	Percent	
NT Indigenous	6.2	46.3
NT mostly non-Indigenous	39.5	82.6
Australia	49.3	n.a.

Note:

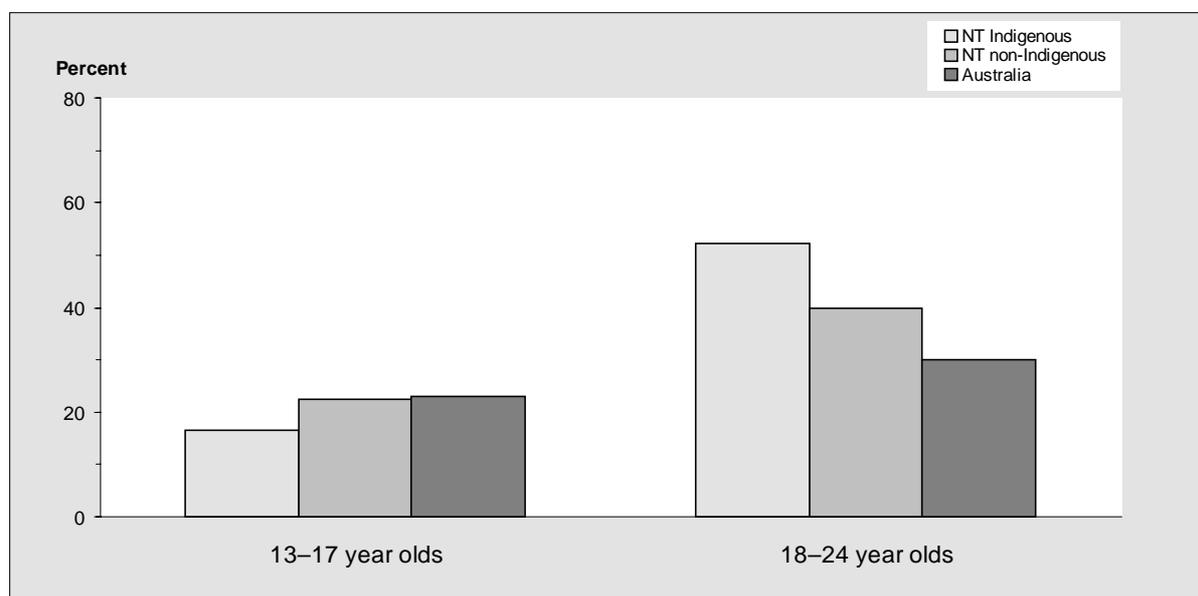
1. Every three years, the Anti-Cancer Council of Victoria (ACCV) conducts a national survey of the prevalence of alcohol and tobacco use among secondary school students. 598 Northern Territory students were surveyed in 1993.
2. In 1993, the Living with Alcohol program funded a survey sample of 358 persons aged 16-24 years who were no longer secondary school students and were mainly residents of Darwin, Alice Springs and Katherine. (53% of the sample were female. 18% of the sample identified as being Indigenous).

Source:

1. NT Indigenous data – ABS 1994, National Aboriginal & Torres Strait Islander survey, Northern Territory (unpublished data).
2. NT non-Indigenous data for 13-17 y.o – ACCV data analysed by Crundall, I 1994, Alcohol and Tobacco use among Northern Territory secondary students in 1993.
3. NT non-Indigenous data for 18-24 y.o – Crundall, I. Weir. S 1994, Alcohol and Young People in the Northern Territory.
4. Australia data – White, M.V. Hill, D.J. and Segal, C.J. 1997, in Drug and Alcohol Review. 16: 113-122.

- Alcohol is a widely used drug which when misused is a leading contributor of 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 which in turn can impact on the physical and mental development of children and young people.
- Drinking alcohol is a prominent part of youth culture. In addition to the problems described above, the adoption of unsafe behaviour is often associated with alcohol use in young people. Because many young people cannot legally drink, they often do so in physical and social environments which lie outside their control.
- Intoxication can also lead to the adoption of unsafe sexual practices.
- 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. The data for 13-17 year olds indicate that a smaller proportion of young Territorians had drunk alcohol compared with young Australians.
- The above surveys confirmed findings from other sources that a smaller proportion of Indigenous people drink alcohol compared with non-Indigenous people. The prevalence of drinking, however, depends on the setting. Less drinking occurs in remote areas where alcohol is less readily available.

Current smokers



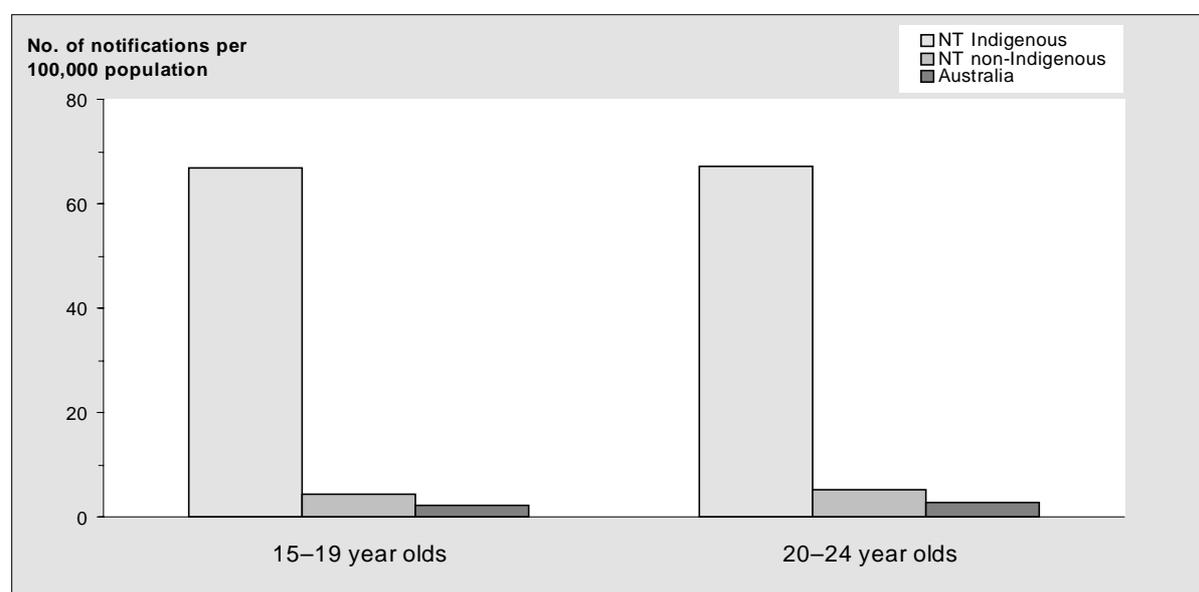
	13-17 year olds	18-24 year olds
	Percent	
NT Indigenous	16.6	52.2
NT mostly non-Indigenous	22.5	40.0
Australia	23.1	30.1

Note: 1. In 1994, the ABS conducted a Health Behaviours and Risk Factors Survey with a smoking supplement. The NT data presented here were analysed by R Richards and J McComb (1996).
 2. Every three years, the Anti-Cancer Council of Victoria (ACCV) conducts a national survey of the prevalence of alcohol and tobacco use among secondary school students. 598 Northern Territory students were surveyed in 1993.

Source: 1. NT Indigenous data – ABS 1994, National Aboriginal and Torres Strait Islander survey, Cat. No. 4395.0.
 2. NT non-Indigenous data for 13-17 y.o – ACCV data analysed by Crundall, I 1994, Alcohol and Tobacco use among Northern Territory secondary students in 1993.
 3. NT non-Indigenous data for 18-24 y.o – Richards, R. McComb, J 1996, Tobacco consumption in Darwin, THS.
 4. Australian data for 13-17 y.o – White, M.V. Hill, DJ and Segan, C.J. 1997, Drug and Alcohol Review 16: 113-122.
 5. Australian data for 18-24 y.o – ABS 1997, National Health Survey. Cat. No. 4364.0.

- Smoking is the single most important modifiable cause of preventable disease, disability and premature death in the NT. 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 of Territory Health Services, one in five adult deaths in the NT is due to cigarette smoking.
- A smaller proportion of the NT Indigenous population aged 13-17 years smoked (16.6%) compared with the NT non-Indigenous population (22.5%).
- Among those aged 18-24 years, the proportion of NT young people who smoked was however substantially larger than the proportion of smokers Australia-wide. 52% of the NT Indigenous population smoked compared with 40% of the NT non-Indigenous population. In contrast, only 30% of 18-24 year old Australians smoked.

Sexually transmitted disease notifications



Age group	NT Indigenous	NT non-Indigenous	Australia
Number of disease notifications per 100,000 population			
15-19	66.9	4.5	2.1
20-24	67.0	5.1	2.8

Note: The data presented only refer to gonorrhoea, chlamydia, syphilis and donovanosis.

Source: 1. NT data – Data was obtained from Territory Health Services Communicable Disease Unit for the years 1995–1997 (unpublished data).
2. Australia data – Communicable Disease Network-Aust N Z-National Notifiable Diseases Surveillance System (unpublished data).

- Sexually transmitted diseases (STDs), such as gonorrhoea, chlamydia, syphilis and donovanosis, are significant causes of morbidity which have serious economic, social and health consequences. The human immunodeficiency virus (HIV) and hepatitis are blood borne viruses which can be sexually transmitted and may be fatal.
- All STDs are preventable and many are curable. The most common curable STDs are gonorrhoea, chlamydia, syphilis and donovanosis. If untreated, STDs can lead to severe health problems including pelvic inflammatory disease, infertility, pregnancy complications, neonatal diseases, and cervical cancer. STDs are also significant co-factors in the transmission of the human immunodeficiency virus (HIV).
- Whilst young people aged 15–24 years tend to have a high rate of partner change, they also often experience more barriers in adopting and maintaining safe sexual practices and accessing mainstream health services. As a result, young people have a high risk of contracting STDs.
- Analysis of STD notifications in the Northern Territory indicated that Indigenous young people aged 15–24 years were thirteen to fifteen times more likely to have an STD compared with non-Indigenous young people. The higher rate for the Indigenous group partly reflects problems of limited access to services.

Morbidity

- Enteric disease notifications

Hospital admission

- Admission by age
- Principal diagnosis for hospital admission (postneonates)
- Selected conditions documented during admission (postneonates)
- Principal diagnosis for hospital admission (1–4 year olds)
- Selected conditions documented during admission (1–4 year olds)
- Principal diagnosis for hospital admission (5–14 year olds)
- Selected conditions documented during admission (5–14 year olds)
- Principal diagnosis for hospital admission (15–24 yr old males)
- Selected conditions documented during admission (15–24 yr old males)
- Principal diagnosis for hospital admission (15–24 yr old females)
- Selected conditions documented during admission (15–24yr old females)

Mortality

- Age-specific death rates
- Infant mortality rates
- Causes of infant death by ICD–9 chapter
- Causes of infant death for conditions originating in the perinatal period
- Causes of 1–14 year old deaths by ICD–9 chapter
- Causes of 1–14 year old deaths due to injury and poisoning
- Causes of 15–24 year old deaths by ICD–9 chapter
- Causes of 15–24 year old deaths due to injury and poisoning

Your comments, please

Please mail your comments to:

Territory Health Services,
Epidemiology Branch,
PO Box 40596
Casuarina NT 0810

Alternatively you can:

e-mail to: epidemiology@nt.gov.au
Fax to: (08) 8999 2700

A. Can you please describe yourself. For example, are you a member of the public, a health professional, a policy analyst, a student or other category?
.....

B. Can you describe your main occupation (tick more than one box if necessary)

- Planning and delivering health services Policy development work
 Conducting research and analysis

Other

C. How did you find the format of this report?

- Easy to follow Difficult to follow

Any comments:

D. Did you find the report informative?

- Yes No

Any comments:

E. What contents changes would you like to see to the report to make it more informative?
.....
.....

F. Do you wish to be included on our notification mailing list for future reports?

- Yes No

Your name:

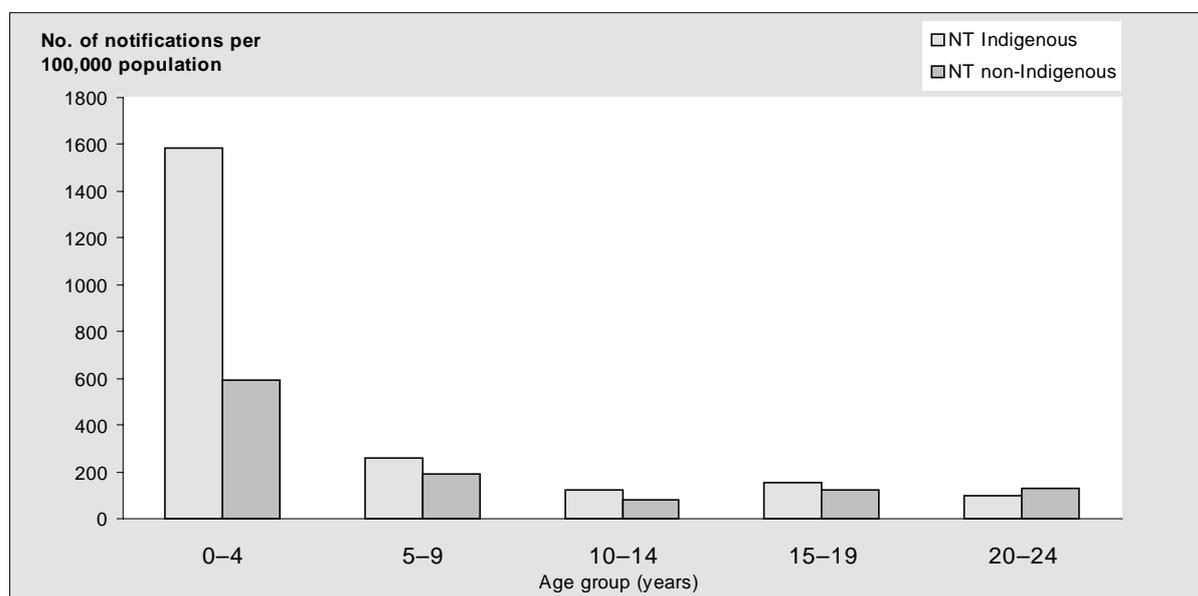
Your e-mail address:

Your postal address:

.....

From Infancy to Young Adulthood:
Health status in the Northern Territory, 1998

Enteric disease notifications



Age group (years)	Campylobacter	Rotavirus	Salmonellosis	Shigellosis
Number of disease notifications per 100,000 population				
NT Indigenous				
0-4	327.8	372.5	486.7	392.4
5-9	62.8	20.9	62.8	115.1
10-14	5.7	5.7	51.7	57.5
15-19	20.8	6.9	76.4	48.6
20-24	14.3	7.2	50.1	28.6
NT non-Indigenous				
0-4	132.6	159.7	198.9	99.5
5-9	46.9	20.1	56.9	67.0
10-14	25.1	3.6	39.5	14.4
15-19	52.2	4.0	44.1	20.1
20-24	65.3	0.0	47.5	14.9
Australia				
0-4	141.0	104.6	196.1	19.7
5-9	62.8		38.7	6.7
10-14	38.6	* 2.3	22.5	2.1
15-19	50.7		21.6	1.8
20-24	82.6	** 0.3	30.5	3.3

Note: 1. The data for Australia were requested from the Communicable Disease Network. Only data which had been provided at time of printing are included in the above table. Data with * refer to ages 5-14 and ** refer to ages 15-24.
 2. The data for the NT exclude persons for whom Indigenous status was not recorded.

Source: 1. NT data – Data were obtained from the Centre for Disease Control (THS) for the years 1995-1997 (unpublished data)
 2. Australia data – Communicable Disease Network-Aust & NZ-National Notifiable Diseases Surveillance System (unpublished data).

- The enteric diseases presented here include only those that are notifiable in the Northern Territory. In the very young and in those with low immunity, these diseases may be fatal.
- Although not consistent across all age groups, the notification rates for Australia as a whole tended to be lower than those in the Northern Territory. NT Indigenous young people had higher rates of disease notifications than the non-Indigenous population. The reason for the higher rates is unknown, and it is unclear whether they reflect higher incidence of enteric diseases.

Using hospital morbidity data: an explanation

It is always difficult to obtain information on the level of ill-health in a population. One source that is often used 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 population at large, but 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 pains which may initially be thought to be a heart related problem, but which after investigation may prove to be an ulcer. These reasons refer to the conditions that have been diagnosed and treated rather than the symptoms present at admission to hospital. As people are 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.

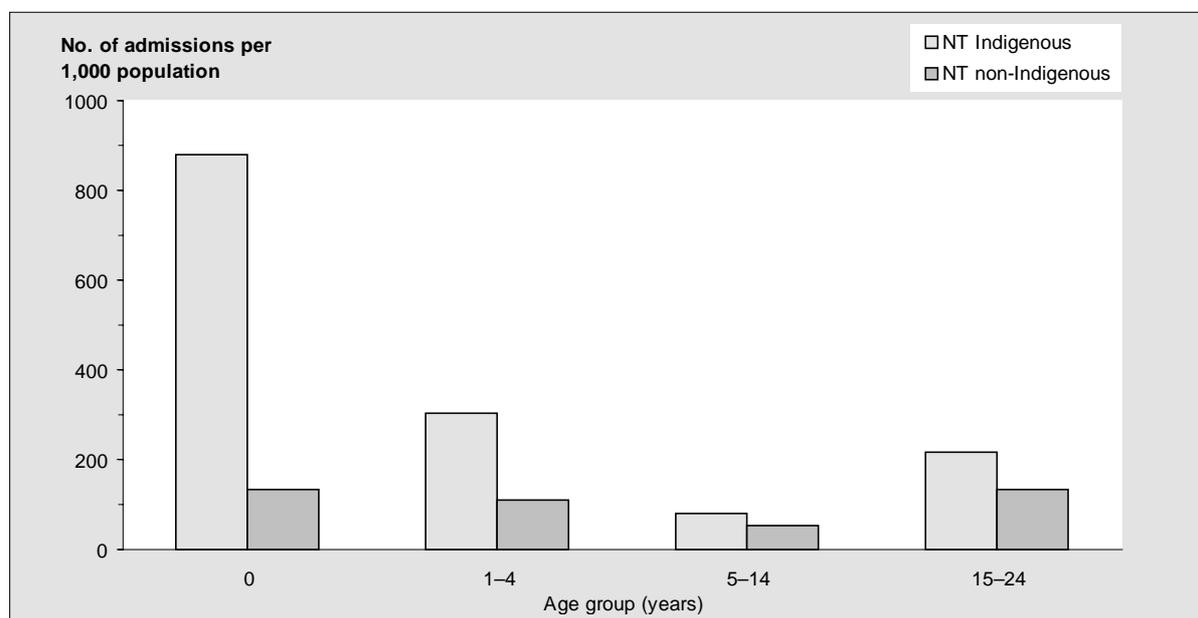
The NT Hospital Morbidity database contains public-hospital information on episodes of hospitalisation rather than on individuals admitted to hospital. The database provides information on the principal diagnosis and up to nine additional conditions associated with that admission (co-morbidities). For example, a child admitted to hospital as a result of severe bronchiolitis may also suffer from 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.

For this report, these conditions have been classified according to the ninth revision of the International Classification of Diseases (ICD9–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 seventeen 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 conducting a literature review of conditions believed to be important in the Northern Territory. These included intestinal infectious diseases, acute bronchitis and bronchiolitis, pneumonia, scabies, malnutrition, acute upper respiratory tract infection, otitis media, urinary tract infection, injuries, asthma, skin infections, genitourinary diseases and mental disorders. In addition, information were also sought for young women in the 15–24 years age bracket for complications of pregnancy, labour and delivery, disorders of the female reproductive tract, complications of puerperium, and terminations of pregnancy.

The data presented relate to episodes of admission to hospital (not including use of outpatient services) for 0–24 year olds in the period between 1993 and 1997. Information on hospitalisation are presented for the following groups: infants in the postneonatal age group (4–51 weeks), 1–14 year-olds, 15–24 year-olds. As the data refers 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.

Hospital admission by age

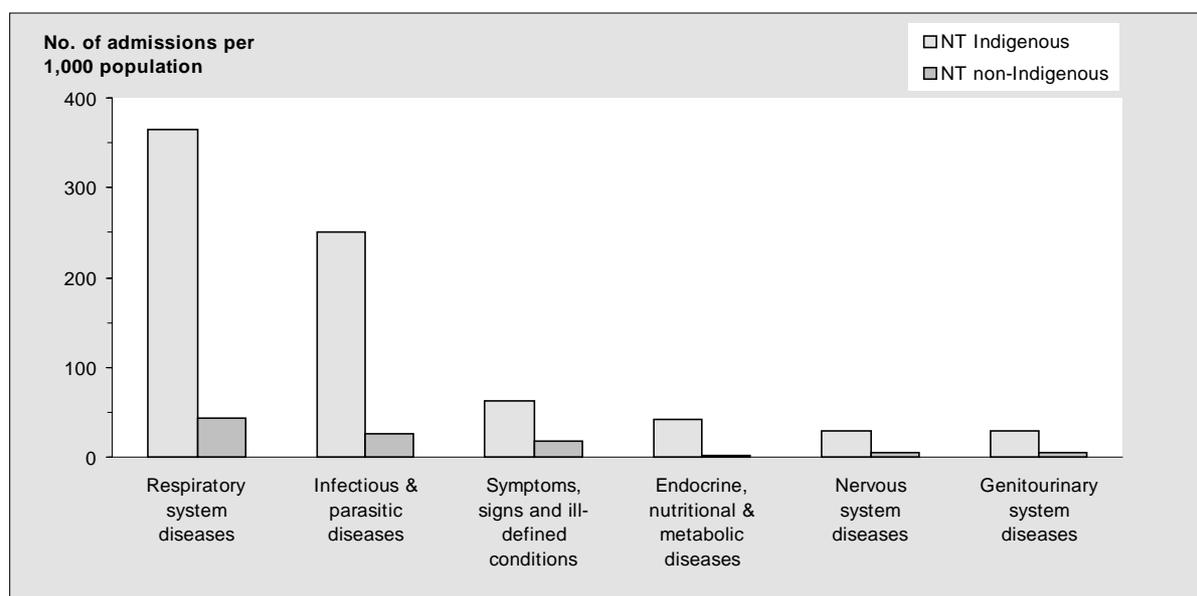


Age Group	NT Indigenous		NT non-Indigenous	
	Number	Rate	Number	Rate
Infants	5381	880.1	1605	134.6
1-4 years	8281	305.0	4608	109.5
5-14 years	4805	80.7	5048	52.9
15-24 years	10317	217.1	13033	134.9
Total	28784	205.2	24294	98.7

Note: 1. The data were obtained from the NT Hospital Morbidity dataset (1993-97).
 2. Rates are calculated as the number of admissions to public hospitals in the Northern Territory per 1,000 population aged 0-24 years.

- Hospital care is an important source of information on the more serious episodes of acute and chronic illnesses faced by individuals in a population.
- Of the 53,078 episodes of admission to a public hospital between 1993 and 1997 among NT young people, 54% (28,784) were of Indigenous young people.
- The total NT Indigenous rate of 205 admissions per thousand population was just over twice the rate of 99 admissions per thousand population for the non-Indigenous population.
- Hospital admission rates were highest among infants for both Indigenous and non-Indigenous populations with rates of 880 and 135 admissions per thousand infants respectively.
- The lowest rate of admission to a public hospital was among young people aged 5-14 years with an Indigenous rate of 81 admissions per thousand population, and a rate of 53 admissions per thousand population for the non-Indigenous population.

Principal diagnosis for hospital admission (postneonates)



Reason for admission by ICD-9 chapter	NT Indigenous	NT non-Indigenous
No. of public hospital admissions per 1,000 population		
Diseases of the respiratory system	365.2	44.0
Infectious and parasitic diseases	251.3	25.1
Symptoms, signs and ill-defined conditions	62.0	18.2
Endocrine, nutritional and metabolic diseases and immunity disorders	41.8	2.1
Diseases of the nervous system and sense organs	28.8	4.5
Diseases of the genitourinary system	28.2	4.2
Diseases of the skin and subcutaneous tissue	27.7	3.8
Diseases of the digestive system	24.4	14.6
Congenital anomalies	12.2	6.3
Injury and poisoning	10.4	6.6
Diseases of the blood and blood-forming organs	9.4	0.3
Certain conditions originating in the perinatal period	8.5	2.9
Other diseases and conditions	10.2	2.0
Total	880.1	134.6

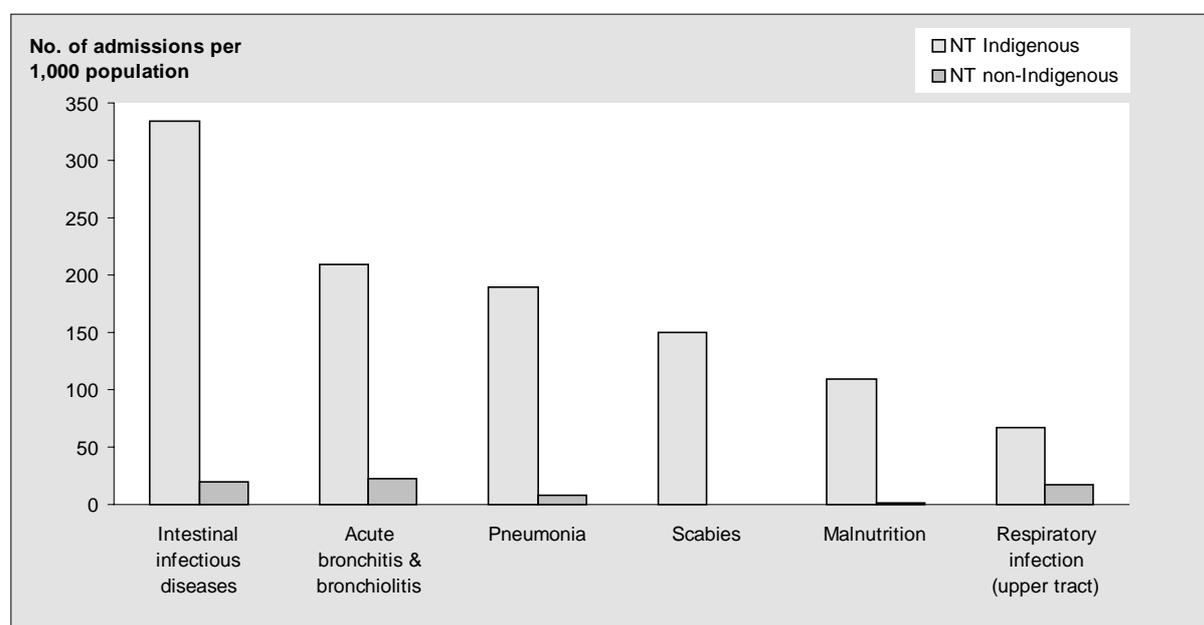
Note: 1. The data presented were obtained from the NT Hospital Morbidity dataset (1993–97).
 2. Principal diagnosis refers to the main diagnosis at time of discharge from hospital.
 3. All admissions were coded to the ninth revision of the World Health Organization’s International Classification of Diseases (ICD).

- Infants include all newborn babies 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 postneonatal period (from the fourth week to the end of the first year of life).
- An NT Indigenous postneonate is about seven times more likely to be admitted to hospital than an NT non-Indigenous postneonate. There were 880 admissions to hospital for every thousand

NT Indigenous infants compared with the NT non-Indigenous rate of 135 admissions per thousand.

- Diseases of the respiratory system and infectious and parasitic disease were the major principal causes of hospital admission for both NT Indigenous and NT non-Indigenous infants. The substantially higher rates among the Indigenous babies may be a reflection of their poorer physical and social environments.

Selected conditions documented during admission (postneonates)

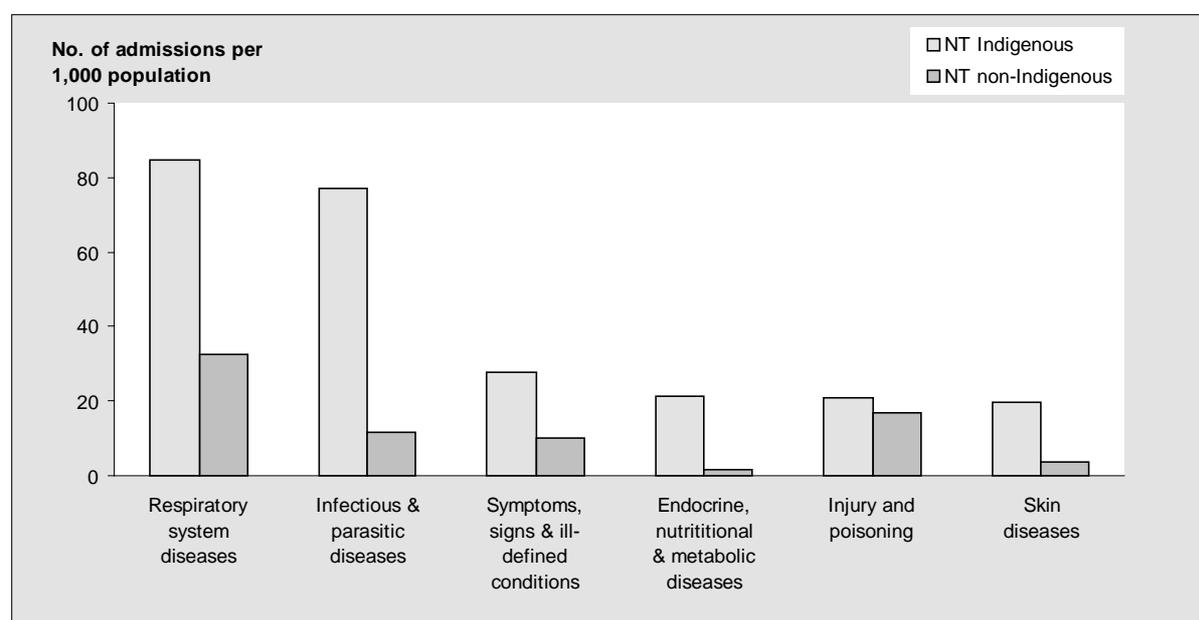


Health condition	NT Indigenous	NT non-Indigenous
No. of public hospital admissions per 1,000 population		
Intestinal infectious disease	333.7	20.3
Acute bronchitis, and bronchiolitis	209.7	22.7
Pneumonia	189.4	7.9
Scabies	149.7	0.2
Malnutrition	104.0	1.6
Acute upper respiratory tract infection (excluding bronchitis & bronchiolitis)	67.2	17.4
Congenital anomalies	48.6	16.3
Asthma	15.0	8.8

Note: 1. The data were obtained from the NT Hospital Morbidity dataset (1993–97).
 2. In addition to the principal diagnosis for which a patient is admitted for treatment, the NT hospital database provides an opportunity to record up to nine other health and disabling conditions that a patient may suffer from. For example, a child admitted as a result of severe bronchiolitis may also suffer from other conditions such as chronic malnutrition and otitis media. An examination of these additional conditions together with the principal diagnosis, that is of any diagnosis associated with the admission episode, was used to put together a more complete picture of the health status of a patient at admission.
 3. All admissions were coded to the ninth revision of the International Classification of Diseases (ICD) – see Appendix for code details.

- The average number of conditions associated with each episode of admission to hospital for NT Indigenous postneonates was 2.7 compared with 1.7 for NT non-Indigenous postneonates.
- Irrespective of the main diagnosis for their admission, 334 in every thousand NT Indigenous postneonates were found to have an intestinal infection (mainly gastroenteritis), 210 in every thousand had acute bronchitis and bronchiolitis.
- The rates for the NT non-Indigenous postneonates were substantially lower than those for the Indigenous postneonates for each of the conditions presented.
- Northern Territory Indigenous infants were 750 times more likely to have been admitted to hospital for scabies, and 65 times more likely to have had a diagnosis of malnutrition than NT non-Indigenous infants.
- In addition to the admissions with malnutrition there were 460 Indigenous postneonates (75.2/1,000 population) admitted with a diagnosis of 'lack of expected normal physiological development'. A significant number of these were likely to be malnourished but were not recorded as such because of coding procedures.

Principal diagnosis for hospital admission (1–4 year olds)

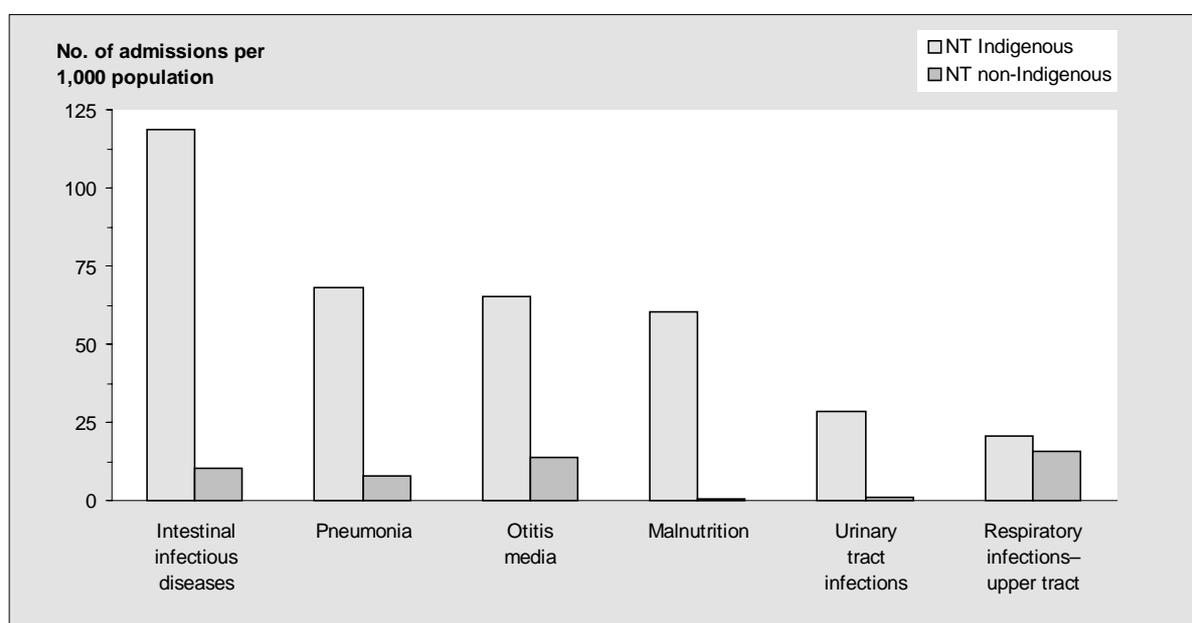


Reason for admission by ICD-9 chapter	NT Indigenous	NT non-Indigenous
	No. of public hospital admissions per 1,000 population	
Diseases of the respiratory system	84.8	32.7
Infectious and parasitic diseases	77.2	11.8
Symptoms, signs and ill-defined conditions	27.6	10.0
Endocrine, nutritional and metabolic diseases and immunity disorders	21.1	1.5
Injury and poisoning	20.8	16.7
Diseases of the skin and subcutaneous tissue	19.8	3.6
Diseases of the genitourinary system	18.0	4.3
Diseases of the digestive system	13.1	11.4
Diseases of the nervous system and sense organs	11.1	11.5
Diseases of the musculoskeletal system and connective tissue	4.0	1.0
Congenital anomalies	3.5	2.7
Diseases of the blood and blood-forming organs	2.4	0.8
Other diseases and conditions	1.6	1.5
Total	305.0	109.5

Note: 1. The data presented were obtained from the NT Hospital Morbidity dataset (1993–97).
 2. Principal diagnosis refers to the main diagnosis at the time of discharge from hospital. All admissions were coded to the ninth revision of the World Health Organisation's International Classification of Diseases (ICD).
 2. Rates calculated as the number of admissions to public hospitals in the Northern Territory per 1,000 population aged 1–4 years.

- There was a total of 12,889 admissions of children aged 1–4 years old in the NT between 1993–97. Of these admissions, 64% were Indigenous children. With a rate of 305 admissions per thousand population, these children were 2.8 times more likely to be admitted to hospital than NT non-Indigenous children who had a rate of 110 hospital admissions per thousand children.
- Diseases of the respiratory system, and infectious and parasitic diseases were the two most common principal reasons for admitting NT Indigenous children to hospital.
- Diseases of the respiratory system, and injuries and poisonings were the two most common principal reasons for admitting NT non-Indigenous children to hospital.

Selected conditions documented during admission (1–4 year olds)



Health condition	NT Indigenous	NT non-Indigenous
No. of public hospital admissions per 1,000 population		
Intestinal infectious disease	118.8	10.2
Pneumonia	68.1	7.9
Otitis media	65.3	13.9
Malnutrition	60.1	0.5
Urinary tract infection	28.6	1.2
Acute upper respiratory tract infections	20.4	15.7
Asthma	16.4	17.4
Injuries	16.3	12.1

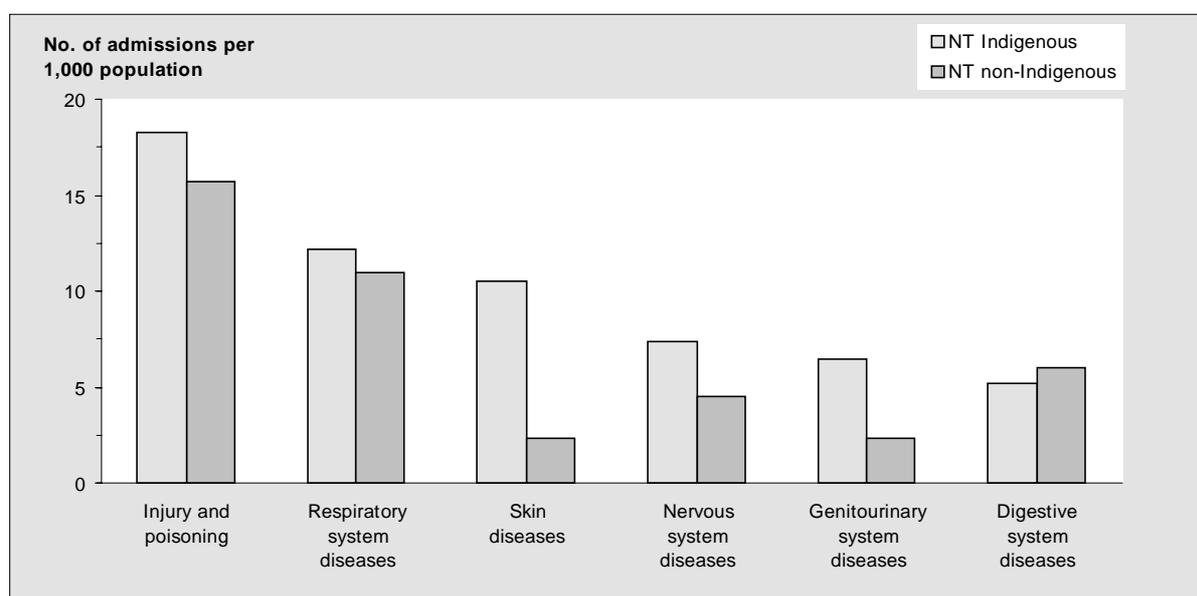
Note: 1. The data were obtained from the NT Hospital Morbidity dataset (1993–97).

2. In addition to the principal diagnosis for which a patient is admitted for treatment, the NT hospital database provides an opportunity to record up to nine other health and disabling conditions that a patient may suffer from. For example, a child admitted as a result of severe bronchiolitis may also suffer from other conditions such as chronic malnutrition and otitis media. An examination of these additional conditions together with the principal diagnosis, that is of any diagnosis associated with the admission episode, was used to put together a more complete picture of the health status of a patient at admission.

3. All admissions were coded to the ninth revision of the International Classification of Diseases (ICD) – see Appendix for code details.

- The average number of conditions associated with each episode of admission to hospital for NT Indigenous 1–4 year olds was 2.7 compared with 1.6 for NT non-Indigenous children.
- As for postneonates, intestinal infections were the major health conditions associated with admission of Indigenous children aged 1–4 years with a rate of 119 admissions per thousand children. This rate was twelve times higher than the NT non-Indigenous rate of 10 admissions per thousand children aged 1–4 years.
- Among NT non-Indigenous 1–4 year olds, asthma and acute upper respiratory tract infections were the two major conditions associated with children who had been admitted to hospital.
- Northern Territory Indigenous young children were 120 times more likely to have a diagnosis of malnutrition than NT non-Indigenous young children.

Principal diagnosis for hospital admission (5–14 year olds)

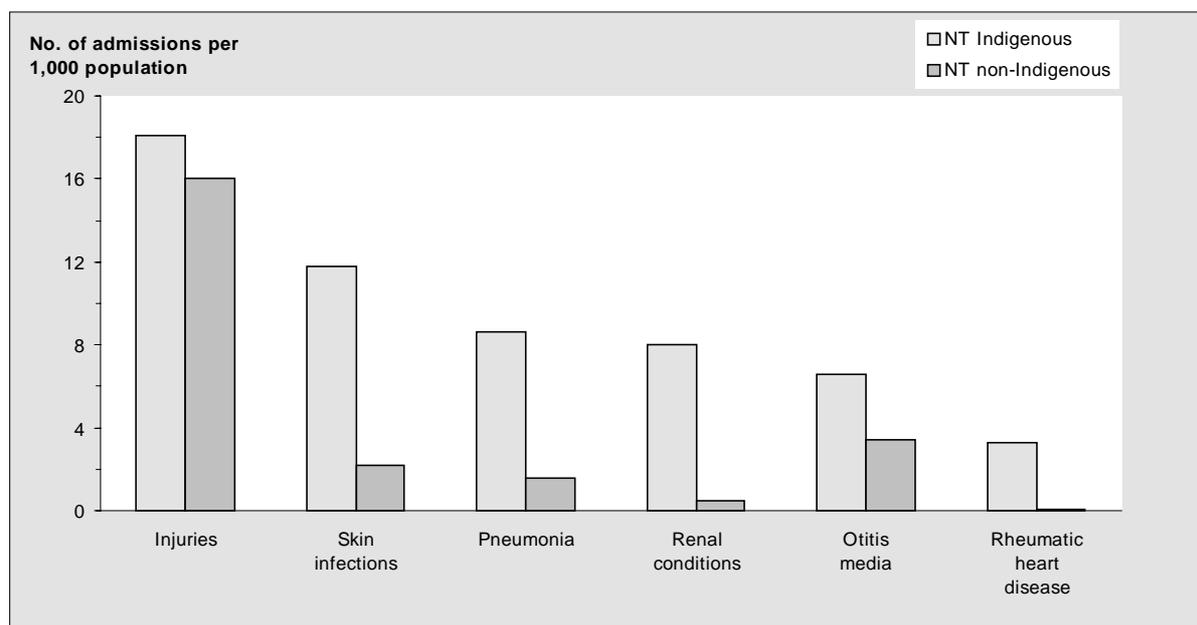


Reason for admission by ICD–9 chapter	NT Indigenous	NT non-Indigenous
	No. of public hospital admissions per 1,000 population	
Injury and poisoning	18.3	15.7
Diseases of the respiratory system	12.2	11.0
Diseases of the skin and subcutaneous tissue	10.5	2.3
Diseases of the nervous system and sense organs	7.4	4.5
Diseases of the genitourinary system	6.5	2.3
Diseases of the digestive system	5.2	6.0
Diseases of the musculoskeletal system and connective tissue	4.1	1.7
Symptoms, signs and ill-defined conditions	3.8	3.1
Infectious and parasitic disease	3.7	3.1
Complications of pregnancy, childbirth and the puerperium	2.8	0.3
Diseases of the circulatory system	2.8	0.2
Other diseases and conditions	3.4	2.7
Total	80.7	52.9

Note: 1. The data presented were obtained from the NT Hospital Morbidity dataset (1993–97).
 2. Principal diagnosis refers to the main diagnosis at time of discharge from hospital.
 3. All admissions were coded to the ninth revision of the World Health Organisation's International Classification of Diseases (ICD).

- There was a total of 9,853 admissions of children aged 5–14 years old in the Northern Territory between 1993–97. Of these admissions, 49% were of Indigenous children. With a rate of 81 admissions per thousand population, these children were 1.5 times more likely to be admitted to hospital than NT non-Indigenous children who had a rate of 53 per thousand population.
- Admissions for injury and poisoning, diseases of the respiratory system and diseases of the skin were the three most common principal reasons for admitting NT Indigenous children aged 5–14 years to hospital.
- Injury and poisoning and diseases of the respiratory system were the two most common principal reasons for admitting NT non-Indigenous children to hospital.

Selected conditions documented during admission (5–14 year olds)

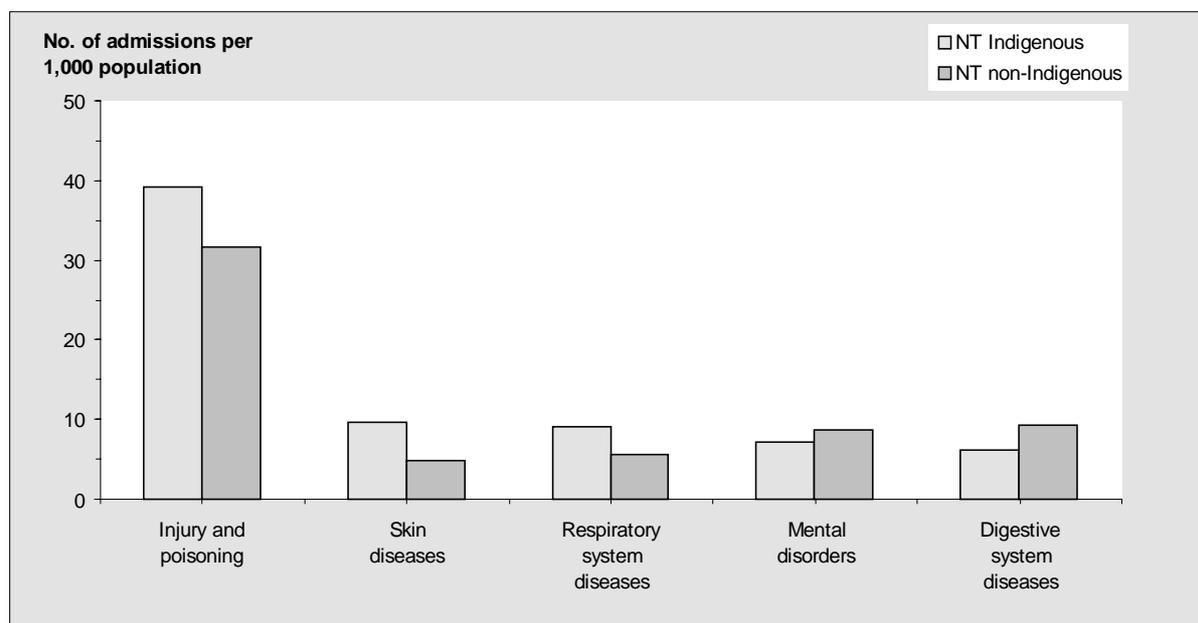


Health condition	NT Indigenous	NT non-Indigenous
No. of public hospital admissions per 1,000 population		
Injuries	18.1	15.0
Infections of the skin	11.8	2.0
Pneumonia	8.6	1.5
Renal conditions (nephritis, nephrotic syndrome and nephrosis)	8.0	0.5
Otitis media	6.6	3.3
Renal dialysis	5.2	0.0
Acute and chronic rheumatic heart disease	3.3	0.1
Acute upper respiratory tract infections	2.6	3.1
Asthma	2.3	6.2
Chronic disease of tonsils and adenoids	0.2	3.9

Note: 1. The data were obtained from the NT Hospital Morbidity dataset (1993–97).
 2. In addition to the principal diagnosis for which a patient is admitted for treatment, the NT hospital database provides an opportunity to record up to nine other health and disabling conditions that a patient may suffer from. For example, a child admitted as a result of severe bronchiolitis may also suffer from other conditions such as chronic malnutrition and otitis media. An examination of these additional conditions together with the principal diagnosis, that is of any diagnosis associated with the admission episode, was used to put together a more complete picture of the health status of a patient at admission.
 3. All admissions were coded to the ninth revision of the International Classification of Diseases (ICD) – see Appendix for code details.

- The average number of conditions associated with each episode of admission to hospital for NT Indigenous 5–14 year olds was 1.9 compared with 1.5 for NT non-Indigenous children.
- Among NT Indigenous children, skin infections were diagnosed for every 12 admissions per thousand population. Cellulitis and abscesses accounted for 65% of these skin infections.
- In keeping with the principal diagnosis among the NT Indigenous and non-Indigenous populations, analysis of all diagnoses associated with admission to hospital indicated that injury remained the most common health condition.
- At six admissions per thousand children, asthma was the second major condition (after injuries) associated with NT non-Indigenous children admitted to hospital.

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



Reason for admission by ICD chapter	No. of public hospital admissions per 1,000 population	
	NT Indigenous	NT non-Indigenous
Injury and poisoning	39.2	31.6
Diseases of the skin and subcutaneous tissue	9.7	4.8
Diseases of the respiratory system	9.0	5.6
Mental disorders	7.2	8.6
Diseases of the digestive system	6.2	9.3
Diseases of the musculoskeletal system and connective tissue	4.3	4.8
Diseases of the circulatory system	4.1	0.7
Symptoms, signs and ill-defined conditions	4.1	3.1
Diseases of the nervous system and sense organs	4.1	1.8
Infectious and parasitic disease	3.3	2.2
Diseases of the genitourinary system	3.2	2.6
Other diseases and conditions	4.3	2.7
Total	98.7	77.8

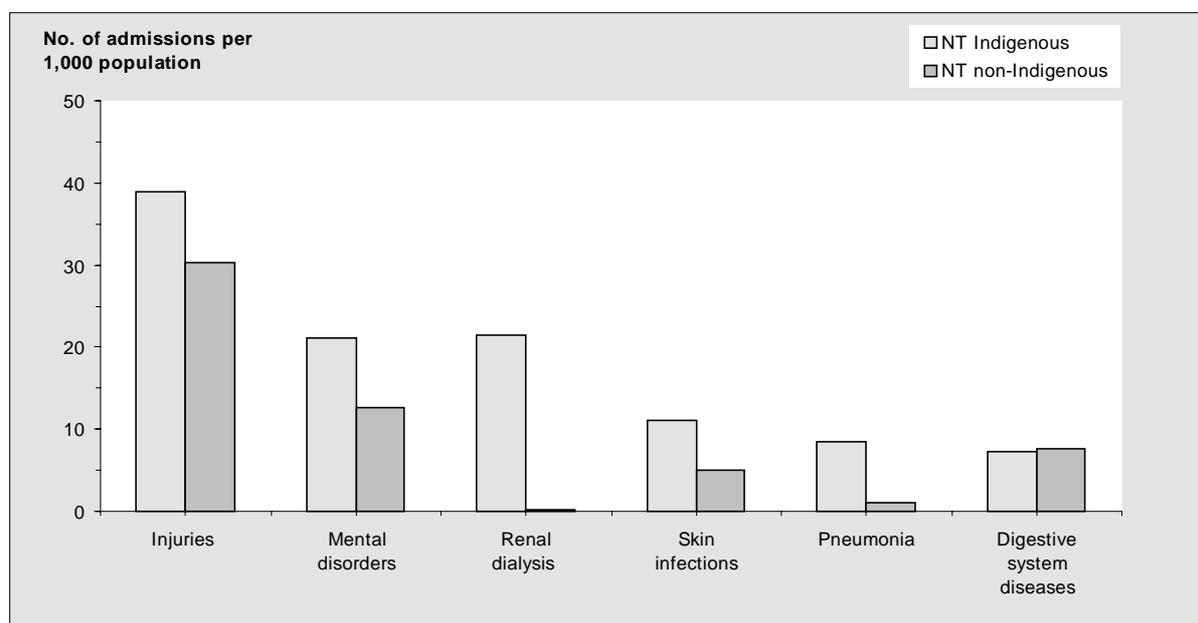
Note: 1. The data presented were obtained from the NT Hospital Morbidity dataset (1993–97).
 2. Principal diagnosis refers to the main diagnosis at time of discharge from hospital.
 3. All admissions were coded to the ninth revision of the World Health Organisation’s International Classification of Diseases (ICD).

- 6,297 young men aged 15–24 years were admitted to public hospital between 1993–97. Indigenous young men made up 38% of these admissions. With a rate of 99 per thousand population, they were 1.3 times more likely to be admitted to hospital than NT non-Indigenous young men who had a rate of 78 per thousand population.
- Admissions for injury and poisoning, diseases of the skin and of the respiratory system were the

three most common principal reasons for admission to hospital among the Indigenous population.

- Likewise among the non-Indigenous population, injury and poisoning was the most common reason for admission in this age group. The second and third most common reasons for admission were diseases of the digestive system and mental disorders respectively.

Selected conditions documented during admission (15–24 yr old males)

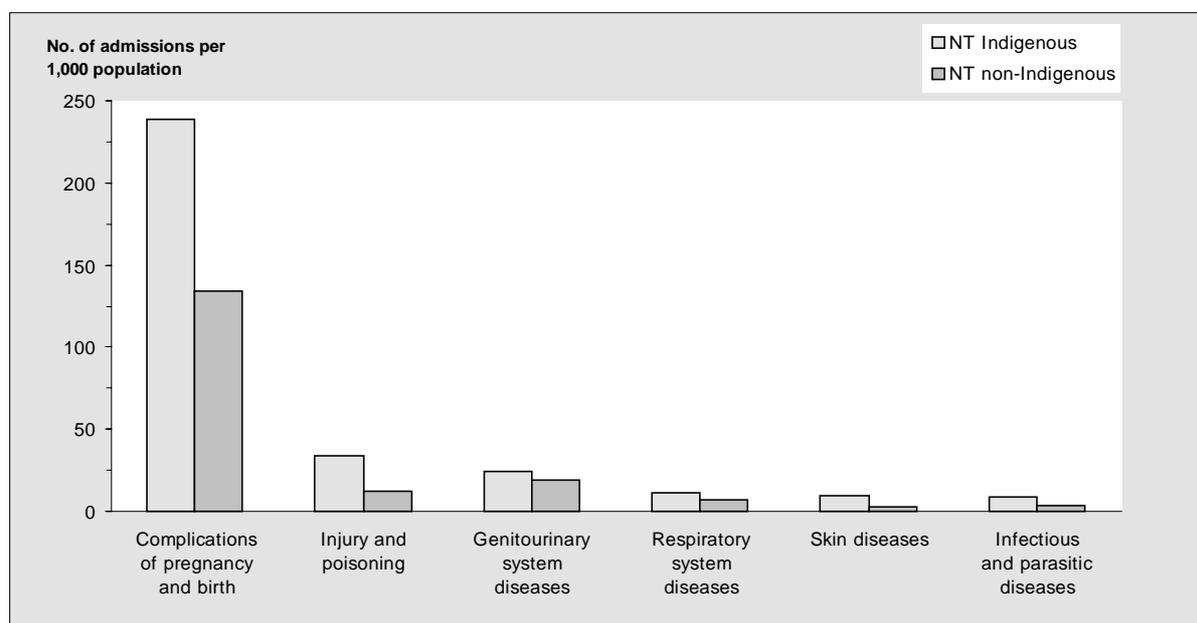


Health condition	NT Indigenous	NT non-Indigenous
No. of public hospital admissions per 1,000 population		
Injuries	39.0	30.3
Mental disorders	21.1	12.7
Renal dialysis	21.4	0.1
Infections of skin and subcutaneous tissue	11.0	5.0
Pneumonia	8.4	1.1
Diseases of the digestive system (excluding oral cavity, salivary glands & jaw)	7.3	7.6
Acute and chronic rheumatic heart disease	4.2	0.1
Poisonings	3.1	2.1
Asthma	0.7	3.0

Note: 1. The data were obtained from the NT Hospital Morbidity dataset (1993–97).
 2. In addition to the principal diagnosis for which a patient is admitted for treatment, the NT hospital database provides an opportunity to record up to nine other health and disabling conditions that a patient may suffer from. For example, a child admitted as a result of severe bronchiolitis may also suffer from other conditions such as chronic malnutrition and otitis media. An examination of these additional conditions together with the principal diagnosis, that is of any diagnosis associated with the admission episode, was used to put together a more complete picture of the health status of a patient at admission.
 3. All admissions were coded to the ninth revision of the International Classification of Diseases (ICD) – see Appendix for code details.

- The average number of conditions associated with each episode of admission to hospital for NT Indigenous 15–24 year old men was 2.1 compared with 1.8 for NT non-Indigenous young men.
- Injuries and mental disorders were the most commonly recorded health conditions for Northern Territory Indigenous young people aged 15–24 years. The data for dialysis which do indicate the emergence of renal problems for this population are, however, misleading as the data provided refer to a relatively small number of individuals who have a large number of episodes of dialysis.
- Injuries, mental disorders and infections of the skin were the major health conditions associated with hospital admissions of young non-Indigenous Territorians. Pancreatitis and appendicitis accounted for 40% of the digestive system conditions.

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

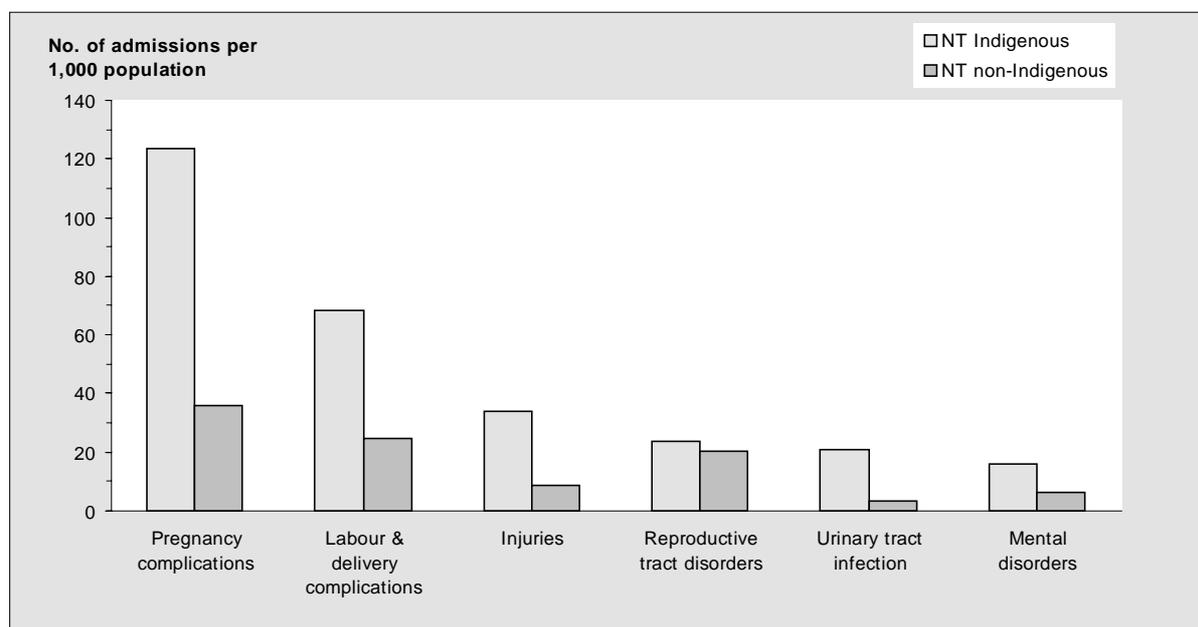


Reason for admission	NT Indigenous	NT non-Indigenous
No. of public hospital admissions per 1,000 population		
Complications of pregnancy, childbirth, and the puerperium	216.1	117.4
Injury and poisoning	33.4	11.7
Diseases of the genitourinary system	24.1	19.2
Diseases of the respiratory system	11.1	6.7
Diseases of the skin and subcutaneous tissue	9.9	3.0
Infectious and parasitic disease	9.0	3.2
Diseases of the digestive system	8.7	14.0
Symptoms, signs and ill-defined conditions	7.5	5.2
Diseases of the nervous system and sense organs	5.2	1.6
Diseases of the musculoskeletal system and connective tissue	4.6	3.5
Mental disorders	3.0	3.0
Diseases of the circulatory system	2.9	0.9
Normal childbirth	22.7	16.6
Other diseases and conditions	7.1	6.8
Total (excluding normal childbirth)	342.6	196.2

Note: 1. The data presented were obtained from the NT Hospital Morbidity dataset (1993–97).
 2. Principal diagnosis refers to the main diagnosis at time of discharge from hospital.
 3. All admissions were coded to the ninth revision of the World Health Organisation’s International Classification of Diseases (ICD).

- There was a total of 17,043 public hospital admissions (excluding normal childbirth) of NT young women aged 15–24 years in the period 1993–97. Just under half (46%) of these admissions were NT Indigenous young women.
- Northern Territory Indigenous females, at a rate of 343 per thousand population, were 1.7 times more likely to be hospitalised than their non-Indigenous counterpart at 196 per thousand population
- Complications of pregnancy, childbirth and the puerperium accounted for the most common principle cause of admission to hospital for females aged 15–24 years in both the NT Indigenous and non-Indigenous populations.

Selected conditions documented during admission (15–24 yr females)

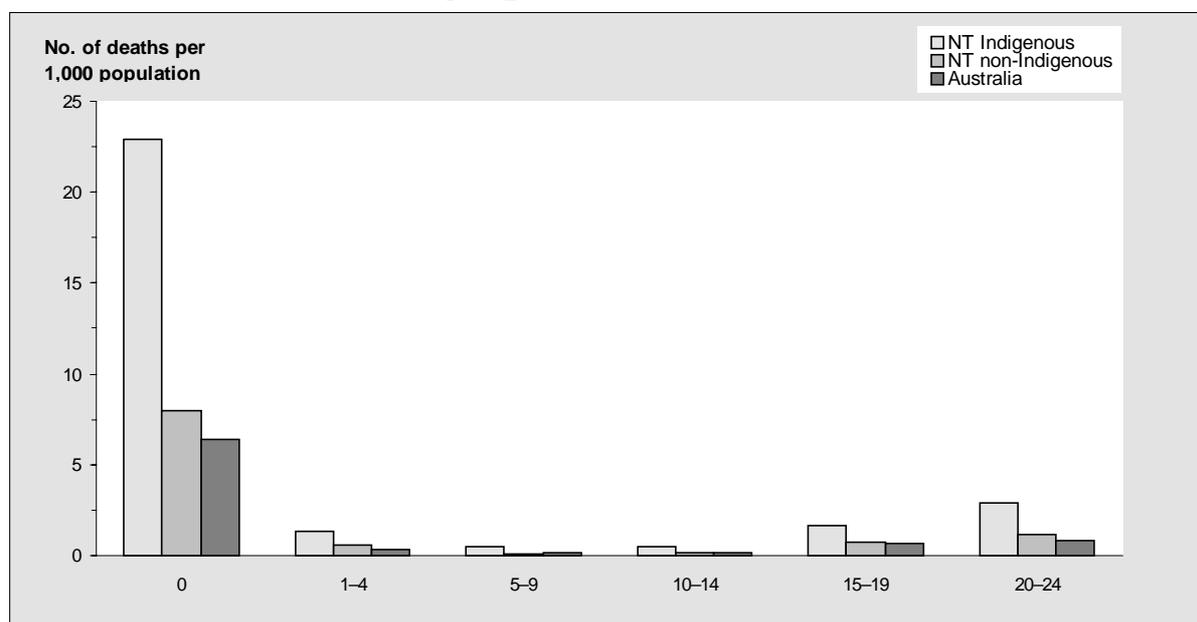


Health condition	NT Indigenous	NT non-Indigenous
No. of public hospital admissions per 1,000 population		
Complications of pregnancy	123.4	36.0
Complications of labour and delivery	68.2	24.9
Injuries	34.1	8.7
Disorders of female reproductive tract	23.8	20.2
Urinary tract infection	20.7	3.6
Complications of puerperium	18.5	4.2
Mental disorders	16.2	6.3
Termination of pregnancy	12.2	41.0
Infections of skin and subcutaneous tissue	12.3	2.5
Diseases of digestive system (excluding oral cavity, salivary glands and jaw)	9.6	10.7
Pneumonia	8.5	0.9
Acute and chronic rheumatic heart disease	5.2	0.3
Asthma	3.0	5.2

Note: 1. The data were obtained from the NT Hospital Morbidity dataset (1993–97).
 2. In addition to the principal diagnosis for which a patient is admitted for treatment, the NT hospital database provides an opportunity to record up to nine other health and disabling conditions that a patient may suffer from. For example, a child admitted as a result of severe bronchiolitis may also suffer from other conditions such as chronic malnutrition and otitis media. An examination of these additional conditions together with the principal diagnosis, that is of any diagnosis associated with the admission episode, was used to put together a more complete picture of the health status of a patient at admission.
 3. All admissions were coded to the ninth revision of the World Health Organisation's International Classification of Diseases (ICD).

- The average number of conditions associated with each episode of admission to hospital, excluding normal childbirth, for NT Indigenous 15–24 year old females was 2.1 compared with 1.8 for NT non-Indigenous young females.
- In keeping with the principal diagnosis among the NT Indigenous population, analysis of all diagnoses associated with admission indicated that complications of pregnancy remained the most common major health condition.
- Among the Northern Territory non-Indigenous population termination of pregnancy was the most common reason for admission to hospital, followed by complications of pregnancy.

Age-specific death rates

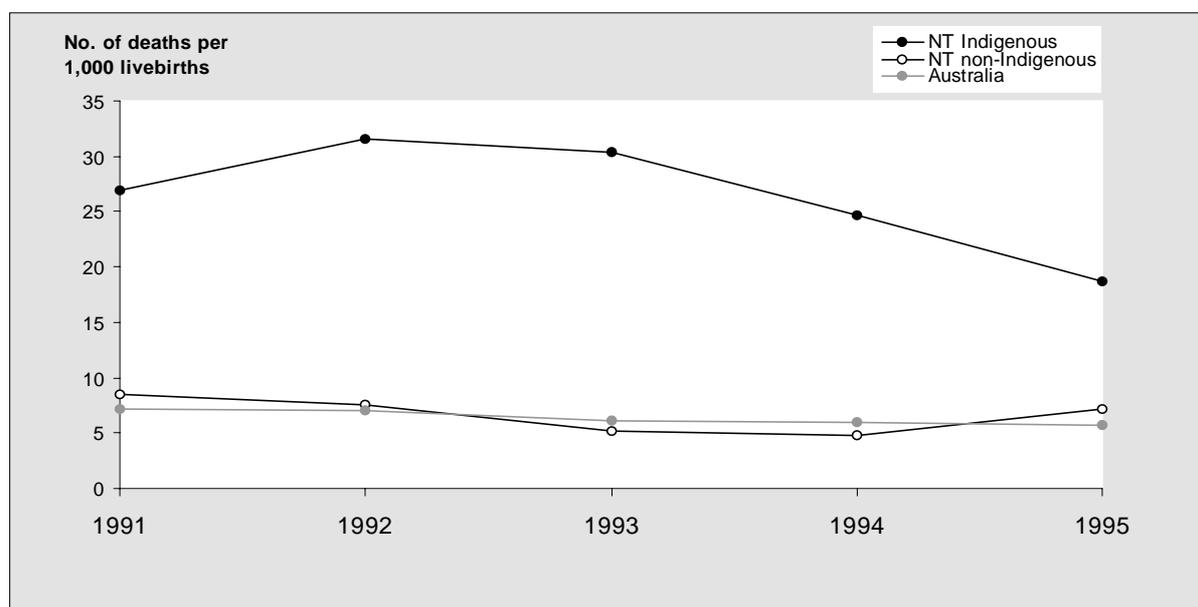


Age group (years)	NT Indigenous	NT non-Indigenous	Australia
	No. of deaths per 1,000 population		
0	22.5	7.1	6.4
1-4	1.3	0.6	0.4
5-9	0.5	0.1	0.2
10-14	0.5	0.2	0.2
15-19	1.6	0.7	0.6
20-24	2.9	1.1	0.8

Note: 1. Data presented here are for the years 1991-95.
 2. All rates expressed as the number of deaths per thousand population, except for the infant mortality rate (at age 0) where the rate measures the number of infant deaths per thousand livebirths.

- Age at death is an important indicator of the health status of people of various age groups in a population. For all populations, death rates usually have a U-shape distribution with relatively high in the first year of life followed by a sharp drop in childhood until people reach their teenage years when death rates usually increase again as a result of often preventable injury and accidental deaths. An examination of age and cause of deaths can provide evidence on which to plan health services and programs, interdepartmental initiatives and government legislation to prevent death among young people.
- Whilst there was relatively little difference in the age-specific death rates of the NT non-Indigenous and Australian populations, the rates for these two populations were substantially lower than those for the Indigenous population.
- Between 1991 and 1995, NT Indigenous infants (aged less than one year of age) had an infant mortality rate of 22.5 per thousand livebirths. This rate was over three times that of the NT non-Indigenous population of 7.1 deaths per thousand population, and almost four times that of the Australian population (see page 51 for more details on annual rates).
- A decline in the death rate is seen from after the neonatal period until the late teen years when again there is a slight rise in the death rate among the populations. This may be accounted for by the increase in accidents in these age groups
- NT Indigenous 1-24 year olds had substantially higher rates of death when compared to NT non-Indigenous young people.

Infant mortality rates

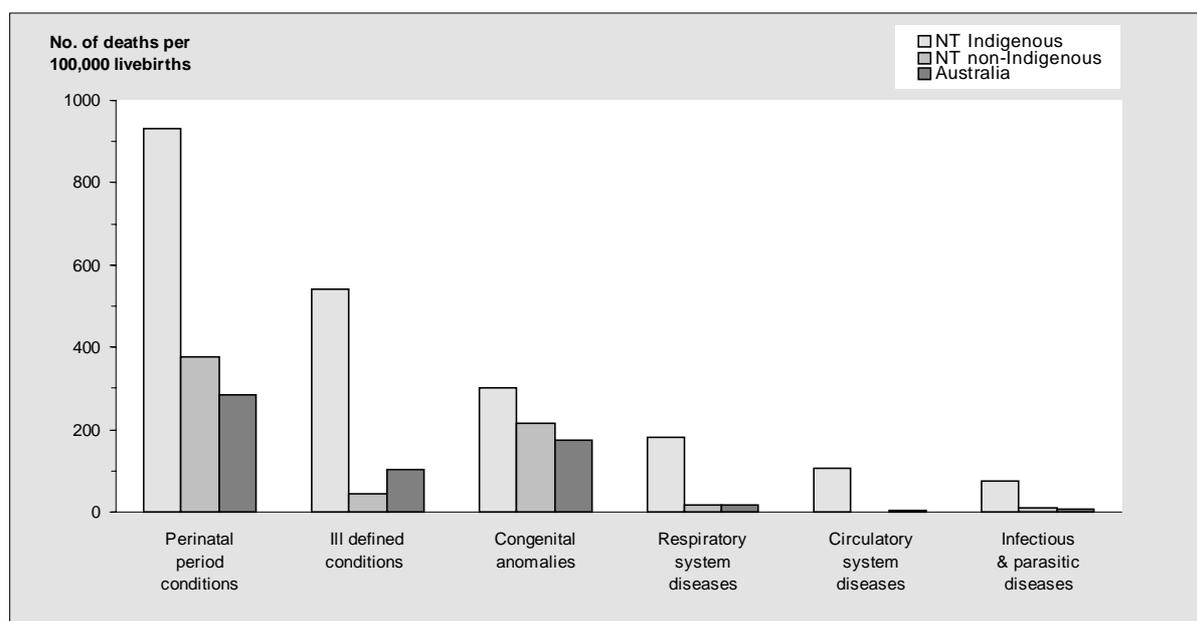


Year	Infant mortality rates			Neonatal mortality rates			Postneonatal mortality rates		
	NT Indigenous	NT non-Indigenous	Australia	NT Indigenous	NT non-Indigenous	Australia	NT Indigenous	NT non-Indigenous	Australia
1991	26.9	8.5	7.1	14.3	6.8	4.4	12.6	1.7	2.7
1992	31.5	7.6	7.0	12.5	6.4	4.6	19.0	1.2	2.4
1993	30.3	5.2	6.1	17.2	4.4	3.9	13.1	0.8	2.2
1994	24.7	4.8	5.9	19.7	4.0	3.9	5.0	0.8	2.0
1995	18.7	7.1	5.7	9.8	5.0	3.7	8.9	2.1	1.9

Note: 1. Rates calculated as the number of infant deaths per thousand livebirths.
 2. Calculated from data provided by the Registrar of Births, Deaths and Marriages through the Australian Bureau of Statistics.

- The infant mortality rate (IMR) is the number of deaths among children aged less than one year per 1,000 livebirths. This rate has long been used as an indicator of population health status, and is reflective of education, public health measures and socio-economic factors prevailing in a population.
- The IMR is made up of two rates: the neonatal rate (death within 28 days of birth) and the postneonatal rate (death in the period 4–51 weeks after birth). The neonatal rate mostly reflects health problems during pregnancy and on the effectiveness of health services, and the postneonatal rate on social and environmental conditions.
- The NT Indigenous IMR declined by 30% from 26.9 deaths per thousand livebirths in 1991 to 18.7 in 1995. Over the period 1991–95, the decline was about equally distributed between the neonatal and postneonatal periods. The neonatal mortality rate declined by 31% from 14.3 to 9.8 deaths per thousand livebirths. The postneonatal mortality rate declined by 29% from 12.6 to 8.9 deaths per thousand livebirths. Although not presented, data analysed over a longer time period (1986–95) indicated a decline of 56% in the neonatal rate compared with 31% in the postneonatal rate. This difference suggested that over that period, the Indigenous community benefited more from the introduction of better health services than from improving social conditions.
- The non-Indigenous IMR declined by 16% from 8.5 to 7.1 infant deaths per thousand livebirths. The neonatal mortality rate declined by 26% from 14.3 to 9.8 deaths per thousand livebirths. The rates in the postneonatal period fluctuated substantially over the 1991–95 five year period.

Causes of infant death by ICD-9 chapter

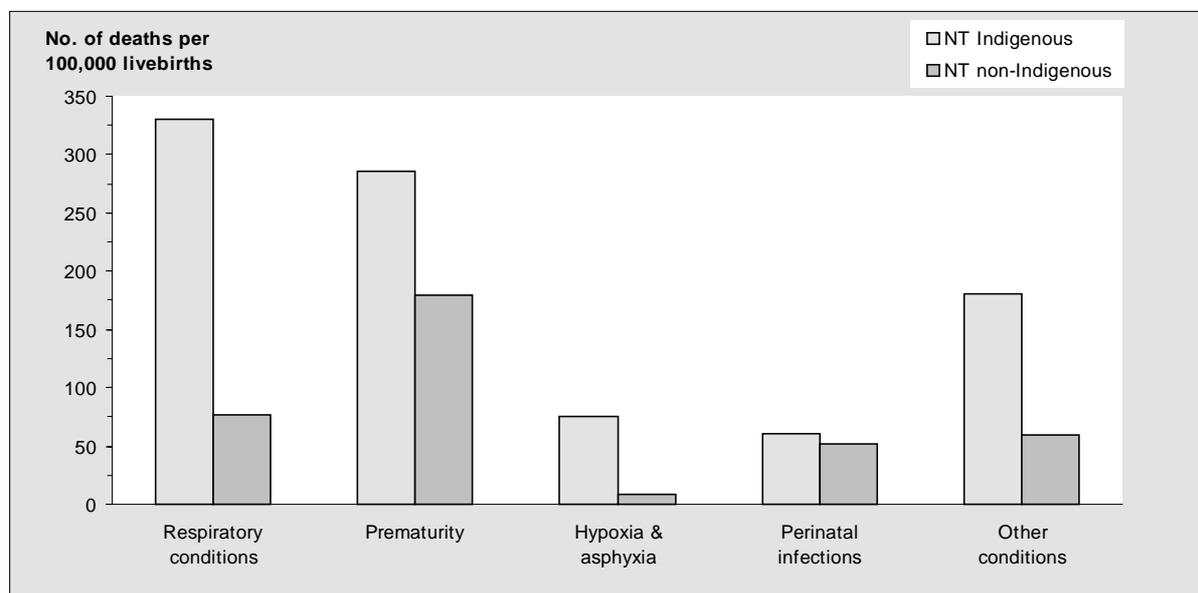


	NT Indigenous		NT non-Indigenous		Australia	
	Number	Rate	Number	Rate	Number	Rate
Conditions originating in the perinatal period	62	930.7	44	376.9	3664	282.7
Signs, symptoms and ill-defined conditions	36	540.4	5	42.8	1336	103.1
Congenital anomalies	20	300.2	25	214.2	2278	175.8
Diseases of the respiratory system	12	180.1	2	17.1	201	15.5
Diseases of the circulatory system	7	105.1	0	0.0	66	5.1
Infectious and parasitic diseases	5	75.1	1	8.6	96	7.4
Diseases of the nervous system	3	45.0	3	25.7	201	15.5
Injury and poisoning	3	45.0	2	17.1	186	14.4
All other causes	2	30.0	1	8.6	203	15.7
Total	150	2251.6	83	711.0	8231	635.2

Note: 1. Data presented refer to the years 1991–95.
 2. All causes of death coded to the ninth revision of the World Health Organization's International Classification of Diseases (ICD).
 3. All rates, which were expressed as the number of deaths per 100,000 livebirths, were calculated from data provided by the Registrar of Births, Deaths and Marriages through the Australian Bureau of Statistics.

- 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' (see next page for more details). These deaths together with those attributed to the categories of 'Signs, symptoms and ill-defined conditions' and 'Congenital anomalies' accounted for about 90% of all infant deaths in Australia and among non-Indigenous infants in the Territory, and about 78% of all deaths among NT Indigenous infants.
- There was a thirteen-fold difference between NT Indigenous and non-Indigenous rates for deaths classified under the ICD chapter 'Signs, symptoms and ill-defined conditions' which mainly includes deaths attributed to the sudden infant death syndrome.
- The NT Indigenous mortality rates for diseases of the respiratory system as well as infectious and parasitic diseases were over nine times the NT non-Indigenous rates, reflecting the substantially poorer physical, social and economic environment of many of the Indigenous population.

Causes of infant death for conditions originating in the perinatal period



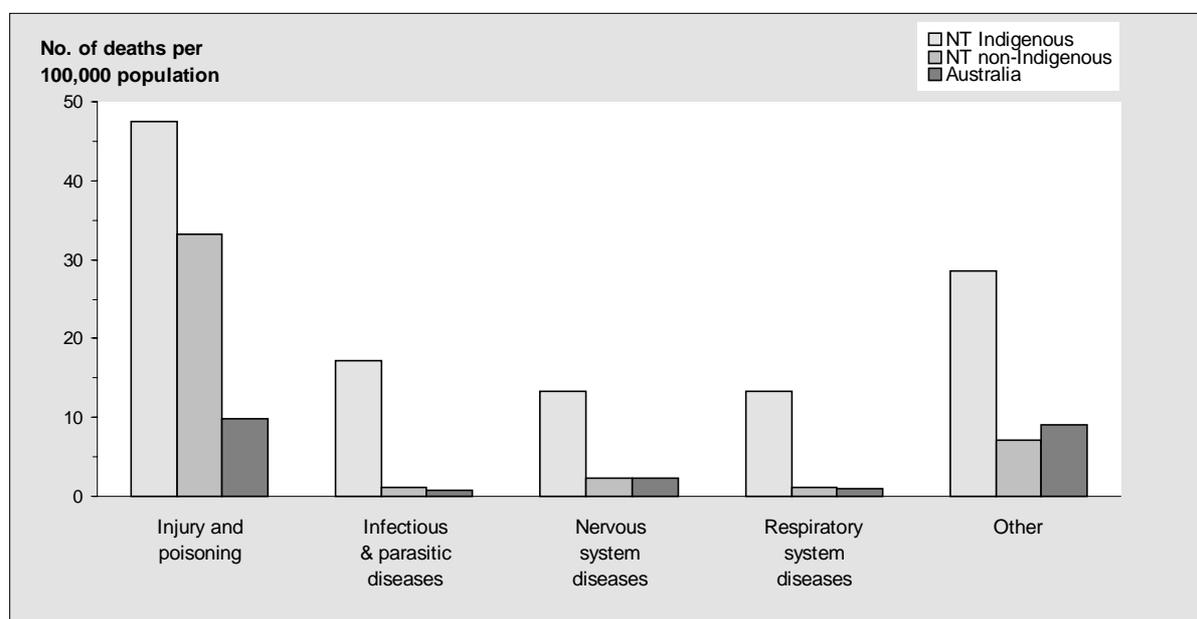
	NT Indigenous		NT non-Indigenous		Australia	
	Number	Rate	Number	Rate	Number	Rate
Respiratory conditions	22	330.2	9	77.1	*	*
Prematurity	19	285.2	21	179.9	1120	86.4
Intra-uterine hypoxia and birth asphyxia	5	75.1	1	8.6	* 1367	* 105.5
Perinatal infections	4	60.0	6	51.4	**	**
Other conditions	12	180.1	7	60.0	** 1177	** 90.8
Total	62	930.7	44	376.9	3364	282.7

Note: 1. Data presented refer to the years 1991–95.
 2. All causes of death coded to the ninth revision of the World Health Organization's International Classification of Diseases (ICD).
 3. All rates, which were expressed as the number of deaths per 100,000 livebirths, were calculated from data provided by the Registrar of Births, Deaths and Marriages through the Australian Bureau of Statistics.
 * refers to total for respiratory conditions and intra-uterine hypoxia and birth asphyxia combined
 ** Other conditions include data for perinatal infections

Source: Australian data – ABS, Causes of Death Australia, ABS Catalogue No. 3303.0.

- Infant deaths classified under the ICD chapter headed 'Certain conditions originating in the perinatal period' included those associated with complications of low birthweight and prematurity, respiratory conditions including the respiratory distress syndrome, intrauterine hypoxia and birth asphyxia, and perinatal infections.
- At 330 deaths per 100,000 livebirths, the Northern Territory Indigenous infant mortality rate for respiratory conditions was 4.3 times that of the NT non-Indigenous infants rate of 77 deaths per 100,000 livebirths.
- The NT Indigenous infant mortality rate for deaths associated with premature birth was 285 deaths per 100,000 livebirths. This rate was 1.6 times larger than the rate of 180 deaths per 100,000 livebirths for non-Indigenous infants.

Causes of 1–14 year old deaths by ICD–9 chapter

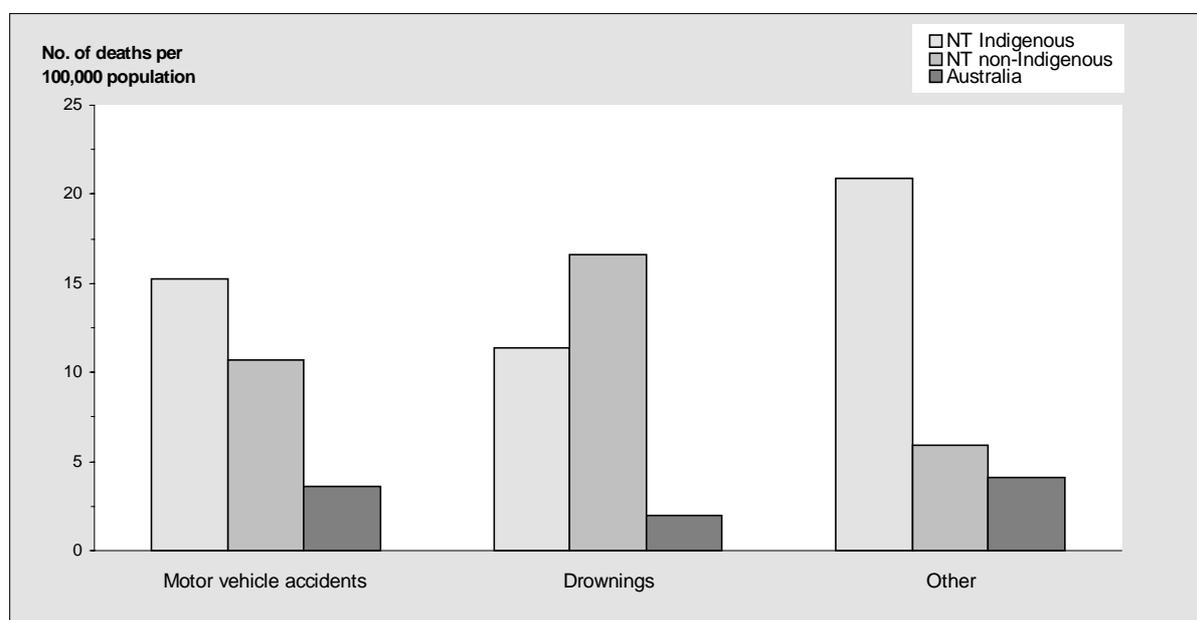


	NT Indigenous		NT non-Indigenous		Australia	
	Number	Rate	Number	Rate	Number	Rate
Injury and poisoning	25	47.5	28	33.2	1750	9.8
Infectious and parasitic diseases	9	17.1	1	1.2	132	0.7
Diseases of the respiratory system	7	13.3	1	1.2	176	1.0
Diseases of the nervous system	7	13.3	2	2.4	405	2.3
Other	15	28.5	6	7.1	1607	9.0
Total	63	119.8	38	45.1	4070	22.7

Note: 1. Data presented refer to the years 1991–95.
 2. All causes of death coded to the ninth revision of the World Health Organization's International Classification of Diseases (ICD).
 3. All rates, which were expressed as the number of deaths per 100,000 children aged 1–14 years, were calculated from data provided by the Registrar of Births, Deaths and Marriages through the Australian Bureau of Statistics.

- A total of 101 young people aged 1–14 years died in the Northern Territory between 1991 and 1995. The NT death rates for both the Indigenous and non-Indigenous populations were substantially higher than the rate at national level. The NT Indigenous population death rate of 119.8 deaths per 100,000 population was over five times the national death rate of 22.7 deaths per 100,000 population, and the NT non-Indigenous rate was twice the national rate.
- With just over half of all deaths in this age group (53%) due to ‘Injury and poisoning’, this was the single major cause of death among NT young children aged 1–14 years. The death rate for the NT Indigenous population of 47.5 deaths per 100,000 population was 43% higher than the NT non-Indigenous rate of 33.2.
- 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 infectious and parasitic diseases and eleven times more likely to die of diseases of the respiratory system than non-Indigenous children.

Deaths due to injury and poisoning among 1–14 year olds

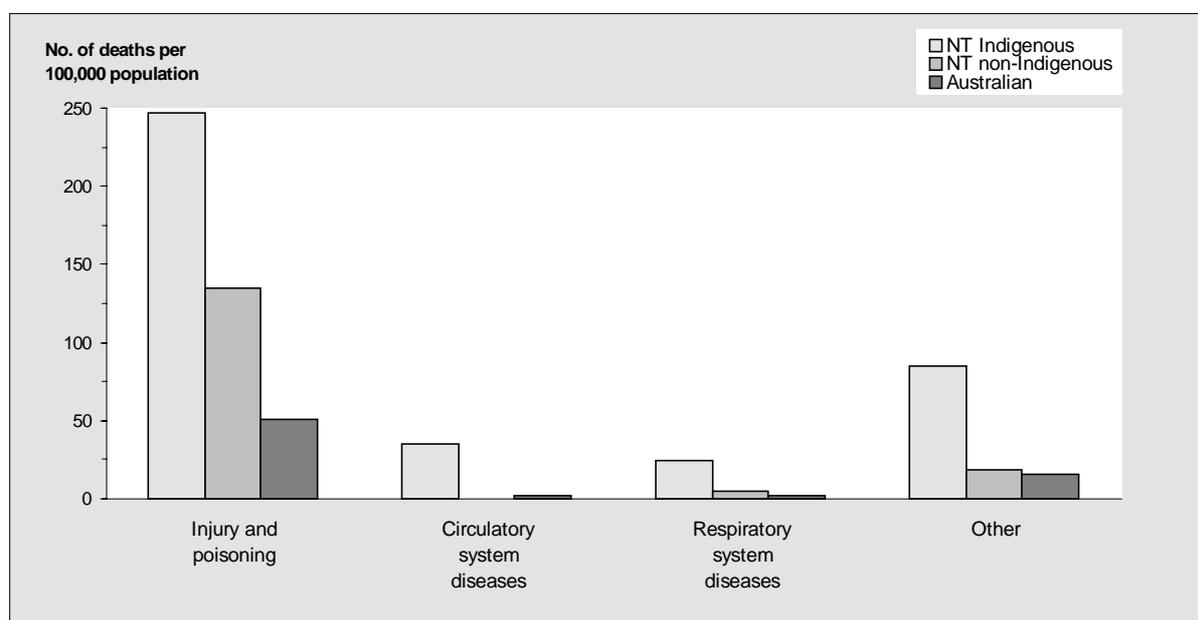


Type of injuries:	NT Indigenous		NT non-Indigenous		Australia	
	Number	Rate	Number	Rate	Number	Rate
Motor vehicle accidents	8	15.2	9	10.7	645	3.6
Drownings	6	11.4	14	16.6	366	2.0
Other	11	20.9	5	5.9	739	4.1
Total	25	47.5	28	33.2	1750	9.8

Note: 1. Data presented refer to the years 1991–95.
 2. All causes of death coded to the ninth revision of the World Health Organization's International Classification of Diseases (ICD).
 3. All rates, which were expressed as the number of deaths per 100,000 children aged 1–14 years, were calculated from data provided by the Registrar of Births, Deaths and Marriages through the Australian Bureau of Statistics.

- Data on injury and accidental deaths in children are valuable sources of information for the potential actions that can be taken to prevent these unnecessary and preventable deaths. Of the 101 children who died in the Northern Territory between 1991 and 1995, slightly more than half (53) died from external causes of death.
- Nearly eight in every ten deaths among the NT non-Indigenous population and four in every ten deaths among the NT Indigenous population were attributable to 'Injury'.
- The death rate associated with motor vehicle accidents was higher in the Northern Territory than in Australia as a whole. This difference may be partly explained by the relatively high proportion of NT roads located in rural and remote areas. Accidents involving high speed on rural roads partly explains the relatively higher fatality of accidents in rural areas compared with those that occur in urban areas. A consequence of the remote location of accidents in rural areas often is a delay in injured persons receiving appropriate medical attention.
- Thirteen of the 14 non-Indigenous deaths attributable to drowning involved children aged 1–4 years old. There was an eight-fold relative difference between the NT non-Indigenous drowning related death rates (17 deaths per 100,000 population) and the national death rate (two per 100,000 population).

Causes of 15–24 year old deaths by ICD–9 chapter

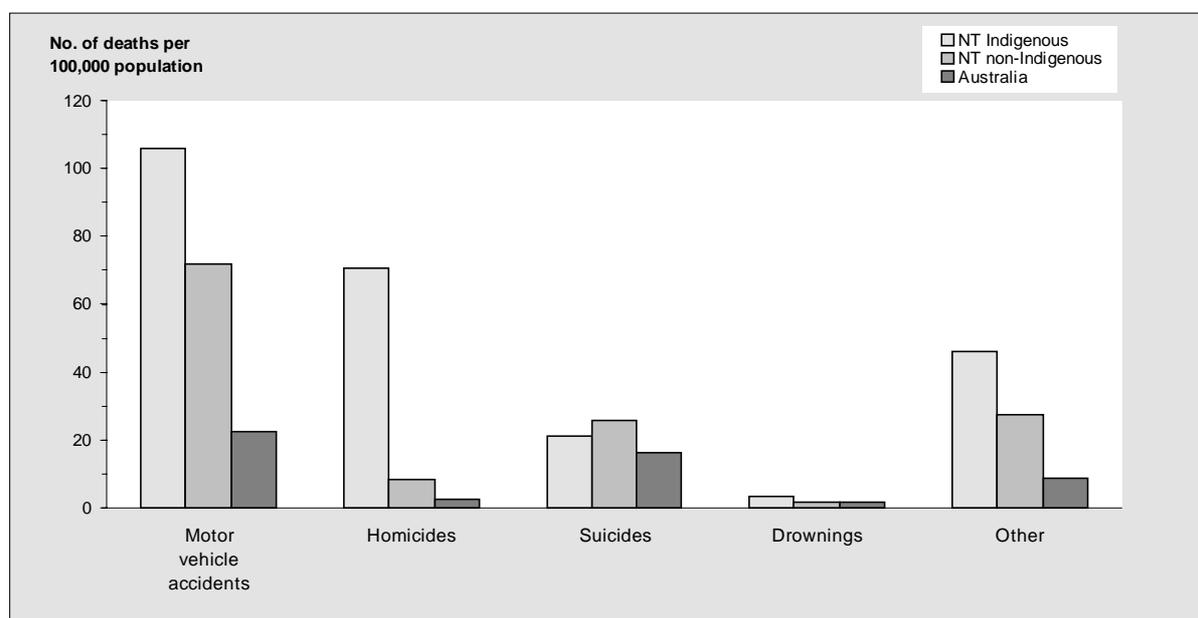


Cause of death	NT Indigenous		NT non-Indigenous		Australia	
	Number	Rate	Number	Rate	Number	Rate
Injury and poisoning (external causes)	70	247.0	79	134.8	6946	50.8
Diseases of the circulatory system	10	35.3	0	0.0	312	2.3
Diseases of the respiratory system	7	24.7	3	5.1	203	1.5
Other	24	84.7	11	18.8	2154	15.8
Total	111	391.6	93	158.7	9615	70.4

Note: 1. Data presented refer to the years 1991–95.
 2. All causes of death coded to the ninth revision of the World Health Organization's International Classification of Diseases (ICD).
 3. All rates, which were expressed as the number of deaths per 100,000 young people aged 15–24 years, were calculated from data provided by the Registrar of Births, Deaths and Marriages through the Australian Bureau of Statistics.

- A total of 204 young adults aged 15–24 years died in the Northern Territory between 1991 and 1995. As for children aged 1–14, young adult Territorians had a higher risk of death compared with those living in Australia as a whole. The NT Indigenous death rate of 392 per 100,000 population was 5.6 times greater than the rate for all Australian children who had a death rate of 70.4 deaths per 100,000 population aged 15–24 years. At 158.7 per 100,000 population, the death rate for the NT non-Indigenous children was 2.3 times that of all Australian young adults aged 15–24 years.
- Death due to injury was by far the major cause of death among adolescents and young adults aged 15–24 years. These deaths made up 63% of all deaths among NT Indigenous young people, 85% of all deaths among NT non-Indigenous young people, and 72% of all deaths nationally.
- Diseases of the circulatory system, particularly rheumatic heart disease and acute rheumatic fever, and diseases of the respiratory system were the other major causes of death among NT Indigenous young people. These causes reflect the relatively poorer physical, social and economic environment of Indigenous people.

Causes of 15–24 year old deaths due to injury and poisoning



Cause of injury	NT Indigenous		NT non-Indigenous		Australia	
	Number	Rate	Number	Rate	Number	Rate
Motor vehicle accidents	30	105.8	42	71.7	3051	22.3
Homicides	20	70.6	5	8.5	323	2.4
Suicides	6	21.2	15	25.6	2182	16.0
Drownings	1	3.5	1	1.7	210	1.5
Other	13	45.9	16	27.3	1180	8.6
Total	70	247.0	79	134.8	6946	50.8

Note: 1. Data presented refer to the years 1991–95.
 2. All causes of death coded to the ninth revision of the World Health Organization's International Classification of Diseases (ICD).
 3. All rates, which were expressed as the number of deaths per 100,000 young people aged 15–24 years, were calculated from data provided by the Registrar of Births, Deaths and Marriages through the Australian Bureau of Statistics.

- Death from external causes accounted for nearly three out of every four deaths (73%) of Northern Territory persons aged 15–24 between 1991–1995.
- Deaths resulting from motor vehicle accidents comprised the majority of deaths due to external causes both in the Northern Territory and nationally. At a rate of 105.8 deaths per 100,000 population, NT Indigenous young people were 1.5 times more likely to die as a result of a motor vehicle accident than were NT non-Indigenous young people who had a motor vehicle death rate of 71.7 deaths per 100,000 population. These rates are considerably higher than the national death rate of 22.3 deaths per 100,000 population aged 15–24 years.
- Of the deaths to the Indigenous population that involved a motor vehicle accident, one third (11/30) was described as single vehicle accidents.
- Whilst suicides were the second major cause of injury of death among Australian and NT non-Indigenous adolescents and young adults aged 15–24 years, homicide related deaths were the second major cause of death among Indigenous young people. There was an 8.3 fold relative difference amongst NT Indigenous youth (70.6 per 100,000 population) compared with the NT non-Indigenous population (8.5 per 100,000 population).

ICD Chapter and specific conditions	Codes
1. Infectious and parasitic diseases	0010 – 1399
Intestinal infectious disease (excludes heminthiasis)	0010–0093
Scabies	1330
2. Neoplasms	1400-2399
3. Endocrine, nutritional and metabolic diseases and immunity disorders	2400-2799
4. Diseases of the blood and blood forming organs	2800-2899
5. Mental disorders	2900-3199
6. Diseases of the nervous system and sense organs	3200-3269
Otitis media	3810-3829
7. Diseases of the circulatory system	3900-4599
Acute and chronic rheumatic heart disease	3900-3989
8. Diseases of the respiratory system	4600-5199
Acute upper respiratory tract infection	4600-4659
Acute bronchitis and bronchiolitis	4660-4661
Chronic disease of tonsils and adenoids	4740-4749
Pneumonia	4800-4869
Asthma	4930-4939
9. Diseases of the digestive system	5200-5799
Diseases of digestive system excluding oral cavity, salivary glands and jaw	5300-5799
10. Diseases of the genitourinary system	5800-6299
Nephritis, nephrotic syndrome, & nephrosis	5800-5899
Urinary tract infection	5900-5909, 5950-5959, 5990
Renal dialysis	V560
11. Complications of pregnancy, childbirth and the puerperium	6300-6769
Disorders of female reproductive tract	6100-6299
Complications of pregnancy	6400-6489
Complications of labour and delivery	6601-6699
Complications of puerperium	6701-6769
Terminations of pregnancy	6350-6369
12. Diseases of the skin and subcutaneous tissue	6800-7099
Infections of the skin and subcutaneous tissue	6800-6869
13. Diseases of the musculoskeletal system and connective tissue	7100-7399
14. Congenital anomalies	7400-7599
15. Certain condition originating in the perinatal period	7600-7799
Respiratory conditions	7690-7709
Short gestation	7650-7659
Intra-uterine hypoxia and birth asphyxia	7680-7689
Perinatal infections	7710-7719
16. Signs, symptoms and ill-defined conditions	7800-7999
Malnutrition and lack of expected normal physiological development	7834
17. Injuries and poisonings	8000-9999
Injuries	8000-9599
Poisonings	9600-9999
18. Supplementary classification of external causes of injury and poisoning	E8000-E9999
Motor vehicle accidents	E810-E819
Drowning	E910-E910
Suicides	E950-E959
Homicides	E960-E969

Abbreviations and acronyms

ABS

Australian Bureau of Statistics

ACCV

Anti-Cancer Council of Victoria

AGPS

Australian Government Publishing Service

AIHW

Australian Institute of Health and Welfare

ATSIC

Aboriginal and Torres Strait Islander Commission

CDEP

Community Development Employment
Programme

HIV

Human immunodeficiency virus

NATSIS (survey)

National Aboriginal Torres Strait Islander survey

NHMRC

National Health and Medical Research Council

NT

Northern Territory

STD

Sexually transmitted diseases

THS

Territory Health Services

TFR

Total fertility rate

UNICEF

United Nations Children's Fund

References and useful publications

Introduction

Australian Institute of Health and Welfare & Commonwealth Department of Health and Family Services 1997, *First report on National Health Priority Areas 1996*. AIHW Catalogue No.PHE1, AIHW & DHFS, Canberra.

Barker, D 1994, *Mothers, Babies and Diseases in Later Life*. BMJ Publishing Group, London.

Child Adolescent and Family Health Service 1992, *Health Goals and Targets for Australian Children and Youth*. Child Adolescent and Family Health Service and Department of Community Services and Health, Canberra.

Commonwealth Department of Human Services and Health 1995, *The Health of Young Australians: a national health policy for children and young people*. AGPS, Canberra.

Commonwealth Department of Health and Family Services 1997, *The national health plan for Young Australians: an action plan to protect and promote the health of children and young people*. AGPS, Canberra.

Deschamps, JP 1995. Adolescent Health Today: Contributions and Limitations of Epidemiology, Facts, Doubts and uncertainties. *Promotion and Education*, vol.1, 1997.

Hoghugh, M. Speight, A,N,P 1998, Good enough parenting for all children—a strategy for a healthier society. *Archives of Disease in Childhood* 1998; 78: 293–300.

Kolbe, L. Kann, L.Everett, S and Hannan, C 1997. Frameworks to inform the development of U.S Adolescent Health Indicators for the 21st Century. *Promotion and Education*, vol.1, 1997.

Mathers, C 1995, *Health differentials among Australian children*, Australian Institute of Health and Welfare: Health Monitoring series; no.3. Canberra.

Nutbeam, D. Wise, M. Bauman, A. Harris, E and Leeder, S 1993, *Goals and targets for Australia's health in the year 2000 and beyond*. Report for the Commonwealth Department of Health, Housing, Local Government and Community Services. University of Sydney, Sydney.

Nutbeam, D 1996. Indicators of Adolescent Health: Expanding the framework for assessing health status among young people. *Promotion and Education*, vol.4, 1997.

Plant, AJ. Condon, JR. and Durling, G 1995, *Northern Territory Health Outcomes, Morbidity and Mortality 1979–1991*. Northern Territory Department of Health and Community Services, Darwin.

Smith, GD. Hart, C. Blane, D. and Hole, D 1998, Adverse socioeconomic conditions in childhood and cause specific adult mortality: prospective observational study. *BMJ* 316: 1631–5.

Mathews, JD 1997, Historical, Social and Biological Understanding is Needed to Improve Aboriginal Health. *Recent Advances in Microbiology* Vol 5, 1997: 257–334.

Population

Australian Bureau of Statistics 1997, *Population by Age and Sex. Australian States and Territories*, Catalogue No. 3201.0. ABS, Canberra.

Australian Bureau of Statistics 1998, *Experimental estimates of the Aboriginal and Torres Strait Islander population*, Catalogue No. 3230.0. ABS, Canberra.

Australian Bureau of Statistics 1998, *Census of Population and Housing. Aboriginal and Torres Strait Islander People, Northern Territory*. Catalogue No. 2034.7. ABS, Canberra.

References and useful publications

Fertility

Abraham, B. d'Espaignet, ET and Stevenson, C 1995, *Australian health trends 1995*. Australian Institute of Health and Welfare. AGPS, Canberra.

Australian Bureau of Statistics 1997, *Births Australia, 1995*. Catalogue No. 3301.0. ABS, Canberra.

d'Espaignet ET, Woods M and Measey ML 1997, *Northern Territory Midwives Collection: Mothers and Babies 1995*. Territory Health Services, Darwin.

Markey, PG. d'Espaignet, ET. Condon, JR and Woods, M 1998, *Trends in the health of mothers and babies, Northern Territory, 1986–95*. Territory Health Services, Darwin.

Mortality

Australian Bureau of Statistics & Australian Institute of Health and Welfare 1997, *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples*, Catalogue No.4704.0. ABS, Canberra.

Australian Bureau of Statistics 1997, *Death Australia 1995*, Catalogue No. 3302.0. ABS, Canberra.

United Nations Children's Fund 1996. *The state of the world's children, 1996*. Oxford University Press, Oxford.

Migration

Australian Bureau of Statistics 1997, *Census of Population and Housing. Selected Social and Housing Characteristics*. Catalogue No. 2015.0. ABS, Canberra.

Australian Bureau of Statistics 1997, *Census of Population and Housing. Selected Social and Housing Characteristics for Statistical Local Areas, NT*. Catalogue No. 2015.7. ABS, Canberra.

Family structure

Australian Bureau of Statistics 1998, *Census of Population and Housing, Selected family and labour force characteristics Australia*, Catalogue No. 2017.0. ABS, Canberra.

Australian Bureau of Statistics 1998, *Census of Population and Housing, Selected family and labour force characteristics for statistical local areas Northern Territory*, Catalogue No. 2017.7. ABS, Canberra.

Mathers, C 1995, *Health differentials among Australian children*, Australian Institute of Health and Welfare: Health Monitoring series; no.3. Canberra.

Communication

Australian Bureau of Statistics 1996, *Census of Population and Housing. Selected Social and Housing Characteristics*. Catalogue No. 2015.0. ABS, Canberra.

Australian Bureau of Statistics 1996, *Census of Population and Housing. Selected Social and Housing Characteristics for Statistical Local Areas, NT*. Catalogue No.2105.7. ABS, Canberra.

Australian Bureau of Statistics 1996, *National Aboriginal and Torres Strait Islander survey, Northern Territory*. Catalogue No. 4190.7. ABS, Canberra.

References and useful publications

Education

Australian Bureau of Statistics 1995, *Aboriginal and Torres Strait Islander people in the Australian labour market 1986–1991*. Catalogue No. 6253.0. ABS, Canberra.

Australian Bureau of Statistics 1998, *Census of Population and Housing. Aboriginal and Torres Strait Islander People, Northern Territory*. Catalogue No. 2034.7. ABS, Canberra.

Employment

Australian Bureau of Statistics 1995, *Aboriginal and Torres Strait Islander people in the Australian labour market 1986–1991*. Catalogue No.6253.0. ABS, Canberra.

Australian Bureau of Statistics 1996, *National Aboriginal and Torres Strait Islander survey, Northern Territory*. Catalogue No. 4190.7. ABS, Canberra.

Australian Bureau of Statistics 1998, *Census of Population and Housing, Selected family and labour force characteristics, Australia*. Catalogue No. 2017.0. ABS, Canberra.

Mathers, C 1995, *Health differentials among Australian children*, Australian Institute of Health and Welfare: Health Monitoring series; no.3. Canberra.

Morrell, S.I. Taylor, R.J. Kerr, CB 1998, Unemployment and young peoples health. *Medical Journal of Australia*, March vol. 168.

Taylor, J 1992, Aboriginal migration and the labour market programs. *Journal of Australian Population Association*. vol.9, No. 1.

Economic resources

Australian Bureau of Statistics 1997, *Census of Population and Housing. Selected Social and Housing Characteristics, Australia*. Catalogue No. 2015.0. ABS, Canberra.

Australian Bureau of Statistics 1997, *Census of Population and Housing. Selected Social and Housing Characteristics for Statistical Local Areas, NT*. Catalogue No. 2105.7. ABS, Canberra.

Australian Bureau of Statistics 1998, *Census of Population and Housing. Aboriginal and Torres Strait Islander People, Northern Territory*. Catalogue No. 2034.7. ABS, Canberra.

Mathers, C 1995, *Health differentials among Australian children*, Australian Institute of Health and Welfare: Health Monitoring series; no.3. Canberra.

Melbourne Institute of Applied Economic and Social Research 1997, *Poverty Lines Australia*, March quarter 1997.

Housing

Australian Bureau of Statistics 1996, *Census of Population and Housing counts by Age and for Selected Areas Northern Territory*, Catalogue No. 2018.7. ABS, Canberra.

Australian Bureau of Statistics 1996, *National Aboriginal and Torres Strait Islander survey, Northern Territory*. Catalogue No. 4190.7. ABS, Canberra.

Australian Bureau of Statistics 1998, *Census of Population and Housing. Aboriginal and Torres Strait Islander People, Northern Territory*. Catalogue No. 2034.7. ABS, Canberra.

Australian Institute of Health and Welfare 1993, *Australia's welfare 1993: services and assistance*. AGPS, Canberra.

References and useful publications

Breastfeeding

Australian Bureau of Statistics 1996, *Health of Indigenous Australians, National Aboriginal and Torres Strait Islander Survey*. Catalogue No. 4395.0. ABS, Canberra.

Australian Bureau of Statistics 1997, *National Health Survey Summary of Results, Australian States and Territories*. Catalogue No. 4364.0. ABS, Canberra.

Mathers, C 1995, *Health differentials among Australian children*, Australian Institute of Health and Welfare: Health Monitoring series; no.3. Canberra.

NT Department of Health and Community services 1994, *Breast feeding policy and strategic plan 1994–2000*. Darwin.

Nutbeam, D. Wise, M. Bauman, A. Harris, E and Leeder, S 1993, *Goals and targets for Australia's health in the year 2000 and beyond*. Report for the Commonwealth Department of Health, Housing, Local Government and Community Services. University of Sydney, Sydney.

Pape, G 1996, *Breastfeeding survey 1995/1996 in Darwin, Katherine and East Arnhem districts*, (unpublished report).

Tasseron, M 1993, *Breastfeeding patterns of Aboriginal and non-Aboriginal women in the Northern Territory*. Department of Health and Nutrition, (unpublished report).

Growth and anaemia

Kerr, P 1993, *Aboriginal child protection issues discussion paper*. Territory Health Services (unpublished).

NHMRC 1997, *Acting on Australia's weight: a strategic plan for the prevention of overweight and obesity*. Commonwealth Department of Health and Family Services, Canberra.

Paterson, B 1997, *Screeing for anaemia in Aboriginal children of school-age*. Territory Health Services (unpublished).

Ruben, AR. and Walker, AC 1995. Malnutrition among rural Aboriginal children in the Top End of the Northern Territory. *Medical Journal of Australia* 162: 400–403.

Territory Health Services 1995, *Northern Territory Food and Nutrition policy and strategic plan 1995–2000*. Northern Territory Government, Darwin.

United Nations Children's Fund 1996. *The state of the world's children, 1996*. Oxford University Press, Oxford.

Child maltreatment

Australia Institute of Health and Welfare 1993, *Australia's welfare 1993: services and assistance*. AGPS, Canberra.

Broadbent, A. Bently, R 1997, *Child abuse and neglect Australia 1995–1996*. AIHW Catalogue No. CWS1. AIHW, Canberra.

Juvenile justice

Hoghugh, M. Speight, A,N,P 1998, Good enough parenting for all children—a strategy for a healthier society. *Archives of Disease in Childhood* 1998; 78: 293–300.

References and useful publications

Immunisation

Mathers, C 1995, *Health differentials among Australian children*, Australian Institute of Health and Welfare: Health Monitoring series; no.3. Canberra.

Territory Health Services *Communicable diseases bulletin*. Vol. 4, No. 1 March 1997

Territory Health Services *Communicable diseases bulletin*. Vol. 4, No. 2 June 1997

Oral health

Child Adolescent and Family Health Service 1992, *Health Goals and Targets for Australian Children and Youth*. Child Adolescent and Family Health Service and Department of Community Services and Health, Canberra.

Davies, M 1997, *The Child Dental Health Survey NT 1995*, AIHW Catalogue No. DEN7
Canberra: AIHW

Davies, MJ. Spencer, AJ 1997, *The Child Dental Health Survey, Australia 1995*. AIHW Catalogue No. DEN 31. Canberra: AIHW

Spencer, N 1996, *Poverty and child health*. Radcliffe Medical Press. Oxford

Alcohol

Crundall, I 1994, *Alcohol and Tobacco use among Northern Territory secondary school students in 1993*. THS unpublished.

Crundall, I. Weir, S 1994, *Alcohol and Young People in the Northern Territory*. NT Department of Health and Community Services, Darwin.

Nutbeam, D. Wise, M. Bauman, A. Harris, E and Leeder, S 1993, *Goals and targets for Australia's health in the year 2000 and beyond*. Report for the Commonwealth Department of Health, Housing, Local Government and Community Services. Sydney: University of Sydney

White, MV. Hill, DJ and Segan, CJ 1997, Alcohol use among Australian secondary students in 1993. *Drug and Alcohol Review* 1997. 16: 113-122.

Smoking

Australian Bureau of Statistics 1997, *National Health Survey Summary of Results Australia States and Territories*. Catalogue No. 4364.0. Canberra: ABS

Crundall, I 1994, *Alcohol and Tobacco use among Northern Territory secondary school students in 1993*. THS unpublished.

Richards, R. and McComb, J 1996, *Tobacco consumption in Darwin, October 1994*. Territory Health Services. Darwin.

White, MV. Hill, DJ and Segan, CJ 1995, Prevalence of cigarette smoking among Australian secondary school students in 1993. *Aust Journal Public Health* vol 19. no. 5.

Sexually transmitted diseases

Family Health International. STDs global burden and challenge for all. World Wide Web.

Bowden, FJ. Sheppard, C and Currie, B 1994, HIV in Australia's Northern Territory: current disease patterns and predictions for the future. *Venereology* 7: 50–55.

Bowden, FJ 1995 Surveillance of sexually transmitted diseases in the Northern Territory. *Venereology* 8: 21–26.

References and useful publications

Morbidity and mortality

ABS 1996, *Deaths Australia*. Catalogue No. 3302.0. ABS, Canberra.

ABS 1996, *Causes of death Australia (1991–1995)*. Catalogue No. 3303.0. ABS, Canberra.

Silva, DT. Ruben, AR. Wronski, I. Stronach, P and Woods, M 1998, Excessive rates of childhood mortality in the Northern Territory, 1985–94. *Journal of Paediatrics, Child Health* 34, 63–68.

Spencer, N 1996, *Poverty and child health*. Radcliffe Medical Press. Oxford

World Health Organization 1977, *Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death. Ninth Revision*. WHO. Geneva.

Mathews, JD 1997, Historical, Social and Biological Understanding is Needed to Improve Aboriginal Health. *Recent Advances in Microbiology* Vol 5, 1997: 257–334.

Epidemiology Branch publications

Morbidity and mortality

- Plant AJ, Condon JR & Durling G 1995, Northern Territory Health Outcomes – Morbidity and Mortality 1979–1991. Northern Territory Department of Health & Community Services, Darwin.

This report documents Northern Territory mortality, maternal and child health and notifiable communicable diseases for the period 1979–91 and hospital separations for the period 1979–88 (excluding 1981).

Health of mothers and babies

- Markey PG, d'Espaignet ET, Condon JR & Woods M 1998, Trends in the health of mothers and babies, Northern Territory, 1986–95. Territory Health Services, Darwin.
- d'Espaignet ET, Woods M and Measey ML 1997, Northern Territory Midwives Collection: Mothers and Babies 1995. Territory Health Services, Darwin.

A series of reports on the health of mothers and babies using data from the NT Midwives Collection have been published by the Epidemiology Branch since data were first collected in 1986. The above two publications are the latest in this series.

Cancer

- d'Espaignet ET, Measey ML, Condon JR, Jelfs P & Dempsey KE 1996, Cancer in the Northern Territory 1987–1993. Territory Health Services, Darwin.

This report provides information on the incidence and mortality associated with cancers but excludes data on malignant non-melanocytic skin cancer. The information is presented by sex for Aboriginal and non-Aboriginal residents of the Northern Territory for the period 1987–93 as well as for the total Australian population for the period 1987–90.

Smoking

- Measey ML, d'Espaignet ET & Cunningham J 1998, Mortality and morbidity attributable to smoking, Northern Territory 1986–1995. Territory Health Services, Darwin.

This report provides information on the number, proportion and rates of death and hospital admissions due to smoking in the Top End and The Centre regions of the Northern Territory.

Diabetes

- Markey P, Weeramanthri T & Guthridge S 1996, Diabetes in the Northern Territory. Diabetes Australia, NT, Darwin.

This report was an initiative of Diabetes Australia Northern Territory branch and was produced as a collaborative effort between Diabetes Australia NT and the Epidemiology Branch. Copies of the report are only available from Diabetes Australia.

Forthcoming reports

Hospital morbidity in the Northern Territory: An analysis of hospital admissions by age, sex, Indigenous status and reason for admission for the period 1993–97.

Mortality in the Northern Territory: An analysis of mortality by age, sex and cause of death for the seven health districts for the period 1979–96.

Cancer in the Northern Territory: An analysis of incidence and mortality from cancer in the Northern Territory for the period 1987–96.

Mental health in the Northern Territory: An analysis of the NT Hospital Morbidity database for public hospital admission for mental disorders in the Northern Territory for the period 1979–97.



Epidemiology Branch publications

Morbidity and mortality

- Plant AJ, Condon JR & Durling G 1995, Northern Territory Health Outcomes – Morbidity and Mortality 1979–1991. Northern Territory Department of Health & Community Services, Darwin.

This report documents Northern Territory mortality, maternal and child health and notifiable communicable diseases for the period 1979–91 and hospital separations for the period 1979–88 (excluding 1981).

Health of mothers and babies

- Markey PG, d'Espaignet ET, Condon JR & Woods M 1998, Trends in the health of mothers and babies, Northern Territory, 1986–95. Territory Health Services, Darwin.
- d'Espaignet ET, Woods M and Measey ML 1997, Northern Territory Midwives Collection: Mothers and Babies 1995. Territory Health Services, Darwin.

A series of reports on the health of mothers and babies using data from the NT Midwives Collection have been published by the Epidemiology Branch since data were first collected in 1986. The above two publications are the latest in this series.

Cancer

- d'Espaignet ET, Measey ML, Condon JR, Jelfs P & Dempsey KE 1996, Cancer in the Northern Territory 1987–1993. Territory Health Services, Darwin

This report provides information on the incidence and mortality associated with cancers but excludes data on malignant non-melanocytic skin cancer. The information is presented by sex for Aboriginal and non-Aboriginal residents of the Northern Territory for the period 1987–93 as well as for the total Australian population for the period 1987–90.

Smoking

- Measey ML, d'Espaignet ET & Cunningham J 1998, Mortality and morbidity attributable to smoking, Northern Territory 1986–1995. Territory Health Services, Darwin.

This report provides information on the number, proportion and rates of death and hospital admissions due to smoking in the Top End and The Centre regions of the Northern Territory.

Diabetes

- Markey P, Weeramanthri T & Guthridge S 1996, Diabetes in the Northern Territory. Diabetes Australia, NT, Darwin.

This report was an initiative of Diabetes Australia Northern Territory branch and was produced as a collaborative effort between Diabetes Australia NT and the Epidemiology Branch. Copies of the report are only available from Diabetes Australia.

Forthcoming reports

Hospital morbidity in the Northern Territory: An analysis of of hospital admissions by age, sex, Indigenous status and reason for admission for the period 1993–97.

Mortality in the Northern Territory: An analysis of mortality by age, sex and cause of death for the seven health districts for the period 1979–96.

Cancer in the Northern Territory: An analysis of incidence and mortality from cancer in the Northern Territory for the period 1987–96.

Mental health in the Northern Territory: An analysis of the NT Hospital Morbidity database for public hospital admission for mental disorders in the Northern Territory for the period 1979–97.