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DEPARTMENT OF HEALTH

The Health and Wellbeing of Older Territorians



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The Health and Wellbeing of Older Territorians

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Abbreviations

Abbreviations

ABS	Australian Bureau of Statistics
ACAP	Aged Care Assessment Program
ACAT	Aged Care Assessment Team
ACCHO	Aboriginal Community Controlled Health Organisation
ADR	Adverse drug reaction
AHW	Aboriginal Health Worker
AIHW	Australian Institute of Health and Welfare
AMD	Age-related macular degeneration
AMSANT	Aboriginal Medical Services Alliance of the Northern Territory
ARBI	Alcohol-related brain impairment
ARI	Acute respiratory infection
ARO	Ageing Research Online
ASFA	Association of Superannuation Funds of Australia
AusDiab	Australian Diabetes, Obesity and Lifestyle Study
BEACH	Bettering the Evaluation and Care of Health
BMI	Body Mass Index
CACP	Community Aged Care Package
CALD	Culturally and linguistically diverse
CATI	Computer Assisted Telephone Interviews
CCIS	Community Care Information Services
CDC	Centre for Disease Control
Census	Census of Population and Housing
CKD	Chronic kidney disease
COAG	Council of Australian Governments
COPD	Chronic obstructive pulmonary disease
COTA	Council on the Ageing
COTA NT	Council on the Ageing Northern Territory
CPI	Consumer Price Index
CSTDA	Commonwealth State/Territory Disability Agreement
CUP	Carcinoma of unknown primary
DALY	Disability-adjusted life year
DHCS	Department of Health and Community Services
DHF	Department of Health and Families
DHLGRS	Department of Housing, Local Government and Regional Services
DHS	Department of Human Services
DLP	Department of Lands and Planning
DoH	Department of Health
DoHA	Department of Health and Ageing
DoJ	Department of Justice
DPH	Darwin Private Hospital
DR	Diabetic retinopathy
DRE	Digital rectal examination
DRUID	Darwin Region Urban Indigenous Diabetes
DVA	Department of Veterans' Affairs
EACH	Extended Aged Care at Home
EACHD	Extended Aged Care at Home Dementia
EPA	Enduring Power of Attorney
ERP	Estimated Resident Population
ESKD	End stage kidney disease

Abbreviations

FOBT	Faecal occult blood test
FPG	Fasting plasma glucose
FWE	Full-time workload equivalent
GP	General practitioner
GSS	General Social Survey
GST	Goods and Services Tax
HACC	Home and Community Care
HDL	High-density lipoprotein
HES	Household Expenditure Survey
HPV	Human papillomavirus
HRN	Hospital Registration Number
HRT	Hormone replacement therapy
ICD-9	International Statistical Classification of Diseases 9th revision
ICD-10	International Statistical Classification of Diseases 10th revision
IDF	International Diabetes Federation
IFG	Impaired fasting glucose
IGT	Impaired glucose tolerance
IHD	Ischaemic heart disease
ILU	Independent living unit
K-10	Kessler Psychological Distress Scale
LDL	Low-density lipoprotein
LFS	Labour Force Survey
LTB1	Latent tuberculosis
MATeS	Men in Australia Telephone Survey
MBS	Medicare Benefits Schedule
MPHS	Multi-Purpose Household Survey
MPS	Multi-Purpose Services
MVA	Motor vehicle accident
NATSIHS	National Aboriginal and Torres Strait Islander Health Survey
NATSISS	National Aboriginal and Torres Strait Islander Social Survey
NBCSP	National Bowel Cancer Screening Program
NCSEM	National Centre for Social and Economic Modelling
NDSHS	National Drug Strategy Household Survey
NHHN	National Health and Hospitals Network
NHMRC	National Health and Medical Research Council
NHS	National Health Survey
NRP	National Research Priorities
NSAOH	National Survey of Adult Oral Health
NTCR	NT Cancer Register
NTMP	Northern Territory Medical Program
NTNDS	NT Notifiable Diseases System
PATS	Patient Assistance Travel Scheme
PBS	Pharmaceutical Benefits Scheme
RAHC	Remote Area Health Corps
RPBS	Repatriation Pharmaceutical Benefits Scheme
RRT	Renal Replacement Therapy
SAAP	Supported Accommodation and Assistance Program
SDAC	Survey of Disability, Ageing and Carers
SEAT	Seating Equipment and Assessment Technology
SIH	Survey of Income and Housing

SLA	Statistical Local Area
SPCC	Senior, Pensioner and Carer Concession
STI	Sexually transmitted infection
TB	Tuberculosis
TIME	Territory Independence and Mobility Equipment Scheme
U3A	University of the Third Age
VET	Vocational Education and Training
WHO	World Health Organisation

Executive summary

Executive summary

This report embraces the broad notion of health, as described by the World Health Organisation (WHO) in the declaration of Alma-Ata, as “a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity”. The aim of the report is to assist policy makers by providing a single source of information with which to guide the development of policies and programs targeting older people in the Northern Territory (NT).

The report is comprised of seven chapters which cover the population characteristics of older Territorians (aged 65 years and over), the social environment in which they live, issues specific to their aged status, information on health and health behaviour and available health services. The following summary reports key findings for each chapter.

Population characteristics

In 2006 there were 9,739 Territorians aged 65 years and over. Of this group, 1,859 (19%) were Indigenous people and 53% were males. At this stage the NT had the smallest proportion of people aged 65 years and over: 4.6% compared with 13.0% nationally. By 2009, this proportion had risen to 5.3% compared with 13.3% nationally. By 2036, the proportion of Territorians aged 65 years and over is projected to rise to 10.3%.

Life expectancy at birth is lower in the NT than nationally and within the NT, the life expectancy of Indigenous people is lower than for non-Indigenous people.

- Indigenous males born in the NT between 2005 and 2007 will have a life expectancy of 61.5 years; 14.2 years below NT non-Indigenous males and 17.5 years below Australian males.
- Indigenous females born in the NT between 2005 and 2007 will have a life expectancy of 69.2 years; 12.0 years below NT non-Indigenous females and 14.5 years below Australian females.

Social environment

Participation in the workforce declines with age. In the 2006 Census of Population and Housing (Census) 10% of Indigenous and 20% of non-Indigenous Territorians aged 65 years and over were employed in a full-time or part-time capacity compared with 38% and 76% of Indigenous and non-Indigenous Territorians aged 50 to 64 years, respectively. Participation rates were higher among older non-Indigenous Territorians than nationally with 25% of male and 15% of female Territorians aged 65 years and over employed compared with 14% of Australian males and 6% of Australian females. The majority of Territorians aged 65 years and over (92% of Indigenous and 65% of non-Indigenous) reported earning less than \$400 per week, which equates to less than \$21,000 per annum.

During the financial year 2008/2009, females retiring from the NT workforce had the highest average age of retirement (53.5 years) among the states and territories. In contrast NT males had the second lowest average age of retirement (57.0 years). In December 2008, 6,623 Territorians aged 65 years and over were receiving the Age Pension, representing 59% of this age group, slightly lower than the national rate (66% in June 2007).

The majority of older Territorians live with their spouse, partner and/or family, however, many support relatives living outside the household. According to the 2006 General Social Survey (GSS), 32% of NT respondents aged 65 years reported that they provided support compared with a national average of 24%. A smaller proportion of older Territorians reported that they were living alone in the 2006 Census - approximately one in ten Indigenous Territorians aged 50 years and over and 28% of non-Indigenous Territorians aged 65 years and over.

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Health behaviours and risk factors

Adequate nutritional intake and physical activity are important for maintaining good health. As people age, their capacity to participate in physical activity can be impaired and their nutritional intake can be less than optimal. Reduced physical activity is often in direct relationship to declining health status. In a population health survey held in 2004 only 37% of older Territorians reported engaging in sufficient exercise to confer a health benefit, similar to the proportion (34%) who reported they were in excellent, or very good health. The same survey found that less than a third (29%) of older respondents ate the recommended daily intake of vegetables.

Older people are generally credited with a much lower propensity than younger people to engage in high risk behaviours. In the NT, however, high risk behaviours are less moderated by age. Alcohol and smoking-attributable morbidity and mortality rates are still challengingly high among the older population. In the previously mentioned survey, 5% of older respondents were at risk of developing alcohol related diseases due to long-term alcohol consumption; a similar proportion to those aged less than 65 years (9%). Furthermore, during the period 1994–2005 the alcohol-attributable death rate among older Territorians aged 65 to 74 years was more than twice that of similar aged people in the second highest jurisdiction (Tasmania). The prevalence of smoking among older Territorians is greater than the national prevalence. According to the 2007 National Drug Strategy Household Survey, 21% of NT urban based respondents aged 65 years reported smoking on a daily basis, compared with 10% nationally. The prevalence of smoking was even higher among Indigenous Territorians aged 55 years and over (50% of male and 30% of female respondents to the 2004–2005 National Aboriginal and Torres Strait Islander Health Survey).

Ageing and function

For the majority of Australians, increased life expectancy has been a welcome consequence of improved nutrition and reduced infectious disease mortality. A less desirable consequence is the relationship between extra years of living and the time spent in disability. For Australian males, 67% of the 1.5 years of extra living gained over the period 1988 to 2003 was estimated to be spent with disability. For females, over 90% of their additional 1.2 years was estimated to be spent with disability.

Among Indigenous Territorians, disability is already a disturbing consequence of chronic disease and premature morbidity. Many are already afflicted with disability to some degree in their middle years due to the high prevalence of key risk factors for the development of hearing loss and vision such as infectious ear diseases, diabetes, smoking and sub-optimal consumption of fruit and vegetables. By the time Indigenous Territorians reach 65 years of age, at least a third of the population in this age group have severe or profound disability according to the 2006 Census. In this Census 36% of older Indigenous Territorians self-reported their degree of disability as severe or profound, twice as much as the national average (18%) and older non-Indigenous Territorians (16%).

Disease and injury

Hospital admissions among older Territorians have risen over time. During the 19-year period between 1992 and 2010, admission rates for all causes of disease and injury almost doubled (79% increase) among older Indigenous people aged 65 years and over and rose by just over 20% among non-Indigenous people of the same age. An upwards trend in hospital admission rates can reflect increased prevalence of disease and injury or may simply reflect improved access to tertiary services. In the NT the marked rise in admission rates are thought to be attributable to both causes.

The average number of times an older Territorian is admitted to hospital has increased over time. In the early 1990s (from 1992–1995) older patients were admitted 2.5 times on average. By the most recent time period 2006–2010, the average number of times older Territorians were admitted had risen to 4.0 for Indigenous and 3.6 for non-Indigenous.

Endocrine diseases were major contributors to the overall rise in admission rates among older Territorians. The admission rate of older Indigenous Territorians due to diseases in this category rose by more than five times (422%) during the entire 19-year period and more than doubled (148%) among older non-Indigenous Territorians. Older people admitted for treatment of a disease of the endocrine, nutritional metabolic system were, for the most part, seeking treatment for diabetes.

Overall the trend for older Territorians dying was the opposite to that of hospital admissions. During the 20-year period between 1986 and 2005 the all cause death rates of older Territorians aged 65 years and over fell markedly, especially among Indigenous Territorians. This trend was comparable to the Australian trend among people of the same age. The all cause death rate fell by 22% among Indigenous Territorians aged 65 years and over, by 11% among older non-Indigenous Territorians and 15% among older Australians.

Over the two decades, the main decline in the death rates of older people occurred in the circulatory and respiratory disease categories. The biggest decline occurred in respiratory disease deaths. In this category, death rates fell by 63% among older Indigenous Territorians, by 29% among non-Indigenous and 3% among Australians. Deaths due to circulatory diseases among older Territorians and Australians also fell (27–28% fall among Indigenous and non-Indigenous Territorians and 35% fall among Australians aged 65 years and over).

Cancer death trends were mixed. Older non-Indigenous Territorians experienced a small fall (3%) in their cancer-related death rate whereas older Indigenous Territorians experienced a large increase (41%). The trend among Australians of the same age remained fairly constant over time.

Health and supported care services

Older Territorians experience a number of inequities in health and supported care services. This is due, in part, to remoteness issues and the inherent difficulty in attracting medically qualified staff to work in regional localities.

In the 2006/2007 financial year, there were 48.8 general practitioners (GPs) per 100,000 population in the NT compared with the national average of 86.4. The number of GPs per capita declined with increasing remoteness. During this period Territorians aged 65 years and over received 12% of all health services delivered in the NT that were subsidised under the Medicare Benefits Schedule (MBS). Nationally, the corresponding proportion was 30%. Similarly, around 11% of general practitioner (GP) attendance MBS items were received by Territorians aged 65 years and over whereas older Australians of the same age group received 25% of GP attendance MBS items.

In the 2006/2007 financial year, 858 aged care assessments of non-Indigenous Territorians aged 70 years and over and Indigenous Territorians aged 50 to 69 years were carried out. This equated to 70.0 assessments per 1,000 population, which was lower than the national rate of 84.5.

Executive summary

Future directions

Many social and economic issues are of concern to older Territorians including reduced income, access to appropriate housing, ongoing education, transport accessibility and general safety. Demand for services will grow considerably in coming years, but as noted in other chapters of this report, pressure points and gaps in service delivery already exist in the NT. This chapter revisits key issues raised earlier in the report and outlines policy response and future directions to address the issues.



Chapter 1

Introduction

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Chapter 1

Introduction

Introduction

This first edition report explores the characteristics and social circumstances of the older population of the Northern Territory (NT). It takes a similar approach to two previous reports featuring the NT population: *From infancy to young adulthood*¹ and *The health and wellbeing of Northern Territory women*,² with the scope and range of topics much broader than what is generally provided in routine “health” reports.

1.1 Definition of an “older” person

“Chronological age” is the number of years a person has lived since birth. It is used as an indicator for a range of abilities, such as voting and driving. However, the passage of time is not always an accurate measure of function or development, and other measures of age are in common usage. “Functional age” is a measure of how well a person can function in a physical and social environment compared with other people of the same chronological age. An important component of functional age is “biological age”. Biological age is a measure of how far a person has progressed along a potential lifespan and is predicted by their physical condition. To some extent, it is possible to reverse biological age by making healthy lifestyle changes, such as quitting smoking.³

While it is common to use a chronological definition, consensus can be difficult to reach regarding the age that defines an “older” person. Definitions of old, aged and ageing are neither straightforward nor universally applicable, and may be influenced by the individual, culture, country and gender.⁴ In Australia, the Department of Health and Ageing (DoHA) uses 70 years and over to plan and fund aged care services;⁵ Centrelink uses 65 years of age for men and 63 years for women (depending upon year of birth) to determine eligibility for the Age Pension;⁶ and Seniors Cards are available to Territorians aged 60 years and over.⁷

The Australian Institute of Health and Welfare (AIHW) and the Australian Bureau of Statistics (ABS) use 65 years and over when collecting data and producing reports on ageing.⁸ It is considered to be the age a person may retire and, for men, qualify for the Age Pension.⁹⁻¹⁰ While the chronological age of 65 years is widely used as an indicator of health, functional capacity, labour force participation, life cycle stage and income, it is important to emphasise the diversity that exists among older people. The span of almost 40 years between the average 65 year old and the average 90 year old covers a very wide variety of circumstances and needs. This diversity broadens even further when Indigenous status and gender are added to the mix.⁸

1.1.1 Ageing in Australia

Australia’s population is ageing; the number and proportion of people aged 65 years and over is increasing. This is the result of falling fertility, increasing life expectancy and the effect of the ‘baby boomer’ generation getting older. This trend is expected to continue over the coming decades, with the current 2.7 million Australians aged 65 years and over increasing to 6.3 million by 2036.⁸ Population ageing affects the age structure of the population – the ratio of the old to other ages – thereby reducing the numbers of younger people who drive the economy. As more people continue to live into old age, the demand for services to support their health and wellbeing will increase. This will put added pressure on the family and friends who provide care for older people living in the community.

Magnitude of population change

This portrait of change in the world's population (ageing) parallels the magnitude obtained during the industrial revolution, which is traditionally considered the most significant era of social and economic breakthrough in the history of humankind.¹¹

Source: Implementing the Madrid Plan of Action on Ageing.

1.1.2 Ageing in the Northern Territory

The NT has two distinct features impacting on ageing that distinguish it from other states and territories:

- Approximately 30% of the population are Indigenous, with a much younger age structure.¹² This is a reflection of higher fertility rates and relatively low life expectancy.¹³
- Many older non-Indigenous Territorians leave the NT and move interstate.¹⁴

As a result, the projected proportion of Territorians aged 65 years and over in the NT will remain the smallest of all states and territories. By 2036, the proportion of people aged 65 years and over will have increased from 4.6% to 10.3% in the NT¹⁵ and from 13.0% to 20.8% nationally.¹⁶ However, many Indigenous people in their 40s and 50s have disability and morbidity characteristics similar to older Australians, and the observation of the younger age structure of the NT population should not overlook the significant burden of disease within younger age groups.⁹

Although the NT is expected to have only a modest proportion of the aged, the proportional change (the change relative to the current age structure) will be high. Projected population changes for the NT based on fertility and mortality rates indicate the proportional change of the aged population will be larger than that of Australia as a whole. Between 2006 and 2036, the proportion of Territorians aged 65 years and over will more than triple (3.4 times),¹⁵ while nationally it will double (2.3 times).¹⁷

1.1.3 Principles for older people

The health and wellbeing of older persons is an internationally recognised issue. In 1991, the United Nations General Assembly adopted the “United Nations Principles for Older Persons” to promote priority attention be given to the situation of older persons. The United Nations encourages governments to incorporate these principles into national programs.¹⁸

United Nations Principles for Older Persons

1. Independence: Older persons should have access to adequate food, water, shelter, clothing, health, work, retirement options, education opportunities, safe living environments and home living
2. Participation: Older persons should remain integrated in society, participate in policies that affect their well-being, serve their communities and form movements or associations of older persons
3. Care: Older persons should have access to health care, family and community care, legal services, appropriate institutional care, human rights and fundamental freedoms when residing in any shelter, care or treatment facility
4. Self-fulfilment: Older persons should be able to access opportunities for the full development of their potential and the educational, cultural, spiritual and recreational resources of society
5. Dignity: Older persons should be treated fairly and be able to live in dignity and security, free of exploitation and physical or mental abuse.¹⁹

Source: United Nations principles for older persons.

These principles were used by the NT Government to develop the Active Ageing Framework. The framework identifies priorities to be addressed in terms of assisting older Territorians to maintain their health and capacity for independent living and highlights the NT Government's achievements towards these goals.²⁰

Northern Territory Government Active Ageing Principles

1. Ageing is recognised as a normal part of the lifecycle
2. All people in society are respected and valued regardless of their age
3. Older people are empowered to make choices that enable them to live a satisfying life, lead a healthy lifestyle and take responsibility for their personal growth and development
4. Older people are encouraged to participate in and contribute to family, friends and society
5. The different issues facing men and women are recognised
6. The diversity of cultural identity of older people is appreciated.²⁰

Source: Building the Territory for all generations: A framework for active ageing in the Northern Territory.

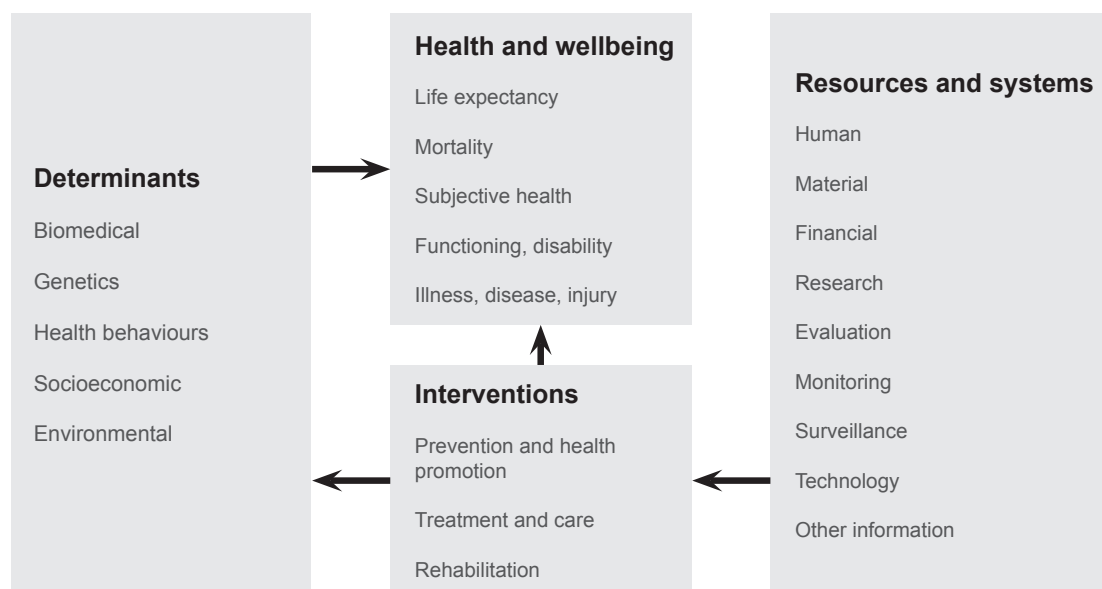
1.2 Understanding Health

Health is defined by the World Health Organisation (WHO) as “a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity”.²¹ This definition recognises that a person's health is influenced not only by his or her physical and psychological state, but also by the quantity and quality of social connections and support networks. Another way of describing and understanding health is by examining the interaction between health determinants, interventions and resources (Diagram 1.1). Determinants are socioeconomic (such as income, employment or education), environmental (such as housing, clean water and location of services), behavioural (such as alcohol use, smoking or nutrition), biomedical (such as cholesterol, blood pressure or obesity) and genetic factors. A variety of interventions have been developed in an attempt to modify and ameliorate these determinants, examples of which include health promotion campaigns (such as cancer screening services) and provision of treatment and care (such as aged care services). The delivery of these interventions depends on the availability of adequate resources and systems (including workforce and technology). All these factors work together to shape health and wellbeing, which is measured by life expectancy, mortality, health functioning, disability, illness, disease and injury.²²

Chapter 1

Introduction

Diagram 1.1 Conceptual framework for health and wellbeing



Source: Adapted from Australia's Health 2008.²²

Present day older Australians are generally expected to be in better health than previous generations of older Australians due to changes in lifestyle, working conditions and developments in health care. Changes such as these have also contributed to the rise in life expectancy of Australians aged 65 years and over. Increases in life expectancy for older Australians are not without penalty however, and for many Australians the additional life years gained between 1988 and 2003 have been spent with some form of disability.²³

Despite a considerable focus of this report on disease and disability, it is important to note that the majority of older people live independently, many provide direct or indirect financial support to their families, and are active members of their community.⁸

1.3 Report development

This report follows the convention used by the AIHW and the ABS whereby use of the term 'older' and 'ageing' refers to people aged 65 years and over. An exception is made, however, for Indigenous people where the report recognises the earlier onset of disease and disability and uses 50 years and over as the marker of ageing in the Indigenous population.⁹⁻¹⁰

1.3.1 Data sources

Data were collated from a variety of sources for this report, ranging from the Census of Population and Housing (Census), population surveys, government and non-government publications, peer-reviewed papers, media articles and web-based fact sheets to stand-alone databases and statistical websites.

1.3.1.1 Survey data

The Census was the main source of information for population characteristics. Data from the 2006 Census of Population and Housing were obtained from the ABS website, mainly as summary tables in downloadable reports. National population surveys conducted by the ABS and the AIHW were used for information on the health behaviours and risk factors of the Australian public. Data from the following population surveys were either obtained directly from the ABS and AIHW websites as summary tables in downloadable reports or were purchased from the ABS as user-defined tables:

- National Health Survey (ABS)
- General Social Survey (ABS)
- Multi-Purpose Household Survey (ABS)
- National Aboriginal and Torres Strait Islander Health Survey (ABS)
- National Aboriginal and Torres Strait Islander Social Survey (ABS)
- National Physical Activity Survey (AIHW)
- National Drug Strategy Household Survey (AIHW).

Data from routine national population surveys can be broken down by state and territory but the reliability of these jurisdictional level data, and therefore their utility to researchers, depends on the size of the sample in each state and territory. For example during recent surveys of the health of the nation: the National Health Survey, the NT sample was not considered large enough to provide reliable NT estimates. Among smaller jurisdictions data are therefore sought from other sources such as 'one-off' and local surveys, which are frequently the sole source of contemporary population health information.

Examples of 'one-off' and local surveys used in this report included:

- Australian Diabetes, Obesity and Lifestyle Study (AusDiab)
- Northern Territory Computer Assisted Telephone Interviews (CATI)
- Council on the Ageing (COTA) survey of senior Territorians
- Northern Territory Market Survey.

1.3.1.2 Key sources of published data

Government departments and non-government organisations were invaluable sources of published information for this report. This information took many forms including major publications, reports and statistical websites. Departments and organisations were often referenced in more than one chapter in this report and a complete detail of each reference is provided at the end of every chapter. Key sources were:

- Access Economics
- Australia and New Zealand Dialysis and Transplant Registry
- Australian Bureau of Statistics
- Australian Commission on Safety and Quality in Healthcare
- Australian Hearing
- Australian Institute of Health and Welfare
- Department of Health and Ageing
- KPMG
- Medicare Australia
- National Drug Research Institute, Curtin University of Technology
- National Health and Hospitals Reform Commission
- National Health and Medical Research Council
- National Health Priority Action Council
- National Public Health Partnership
- Northern Territory Department of Health and Families
- Northern Territory Department of Justice
- Northern Territory Department of Lands and Planning
- Northern Territory Treasury
- Productivity Commission
- School for Social and Policy Research, Charles Darwin University
- Senate Standing Committee on Community Affairs
- Steering Committee for the Review of Government Service Provision
- World Health Organisation.

1.3.1.3 Stand-alone databases, registries and minimum datasets

Much of the client-based data provided in this report, particularly for chapters 3 and 6, were obtained from stand-alone databases, registries and minimum datasets managed by branches and agencies within the NT Department of Health (DoH). Key DoH databases, registries and minimum datasets included:

- Aged Care and Assessment Program Minimum Data Set (Aged and Disability)
- breastscreenNT Screening and Assessment Data Set (Well Women's Cancer Screening Service)
- Australian Bureau of Statistics Causes of Death Unit Record File (Health Gains Planning)
- Cancer Register (Health Gains Planning)
- CervicalscreenNT Screening Data Set (Well Women's Cancer Screening Service)
- Commonwealth State/Territory Disability Agreement Minimum Data Set (Aged and Disability)

-
- Emergency Department Universe (Acute Care Information Services)
 - Home and Community Care Minimum Data Set (Aged and Disability)
 - Hospital Activity Reporting Universe (Acute Care Information Services)
 - NT Notifiable Diseases System (Centre for Disease Control)
 - Renal Disease Data Set (Top End Renal Services).

Other government departments were very helpful in providing data on the social environment of older Territorians and Australians. These included public housing tenancy data provided by the NT Department of Housing, Local Government and Regional Services (DHLGRS), licence holders data provided by the NT Motor Vehicles Registry database, Department of Lands and Planning (DLP) and recipients of income support data provided by Centrelink, Department of Human Services (DHS).

1.3.2 Framework for indicators

Information used in this report was obtained from source providers in raw format or copied from published tables. Raw data were preferred over published tables because these data could be presented in a variety of configurations such as counts, percentage distributions, rates broken down by sex, Indigenous status and age groups, or age-standardised rates. Trend analysis was performed when annual counts were sufficiently robust to overcome the effect of seasonal fluctuations.

If data were only accessible as published tables, the tables were copied and generally presented in the same format as the report from which the data originated. On several occasions complex tables from published reports were modified for easy reading, and may not resemble the source tables.

Although the focus of this report was the health and wellbeing of older Territorians (65 years and over), it was considered important to provide comparative statistics from other age groups (15–49 years of age and 50–64 years of age). In some instances, it was not possible to present data by these age groups and instead, similar age groups were used and the change was noted in the relevant table or graph. When possible, comparisons were also made by Indigenous status and between all Territorians and their Australian counterparts.

1.3.3 Limitations

The major limitation of this report was the availability and completeness of source information. In particular, data on Indigenous people were often incomplete or absent. Identification of Indigenous status varies considerably in many existing data collections and in addition, the difficulty of accessing Indigenous people has meant much of the existing research has been restricted to non-Indigenous people. Comparisons between NT and Australian data were often challenging because of the different age structure of the two populations. These differences are discussed in detail in Chapter 2 Population characteristics.

1.4 Report structure

The report is comprised of the following chapters:

Chapter 2 Population characteristics

This chapter contains details about current and future population characteristics of the NT including mobility, dependency ratio, life expectancy and cultural diversity.

Chapter 3 Social environment

This chapter explores the social environment of older Territorians and covers workforce participation, income and expenditure, family, income, housing, social engagement, transport, safety, legislation and end of life issues.

Chapter 4 Health behaviours and risk factors

This chapter details the health status of older people in relation to their behaviour and biomedical factors. This includes information on risk factors such as physical activity, nutrition, alcohol, smoking, illicit drugs and prescription medications. The chapter also contains information about vaccination, protective behaviours and biomedical risk factors such as high blood pressure, hypertension, obesity and impaired glucose metabolism.

Chapter 5 Ageing and functioning

This chapter deals with the common conditions of ageing including disability, deterioration in hearing and vision, oral health and continence. Gender specific health issues are also covered such as menopause and male reproductive health.

Chapter 6 Disease and injury

This detailed chapter covers infectious diseases, cancer, chronic diseases, mental health and injury. Information about cancer screening services in the NT is also included in this chapter.

Chapter 7 Health and supported care services

This chapter contains information about acute and primary health care services, and specific aged care services provided to older Territorians. Topics covered include financing of the health system, reimbursement of health care costs for patients and the funding and availability of various services, including community health, disability, dental and palliative. The challenge of providing aged care services in regional and remote areas is also covered in this chapter.

Chapter 8 Future directions

The final chapter looks at ageing policy internationally, nationally and within the NT. Influential reports and government responses to recommendations raised in these reports are discussed, including the extensive reform of the Australian health care system. This chapter also covers current research into ageing and key issues that will need to be addressed.

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Chapter 2

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Population characteristics at a glance

- In 2006 there were 9,739 Territorians aged 65 years and over.¹
- Of this group, 1,859 (19%) were Indigenous people and 53% were males.¹
- The Northern Territory (NT) had the smallest proportion of people aged 65 years and over in 2006: 4.6% compared with 13.0% nationally.¹
- In 2009, this proportion had risen to 5.3% compared with 13.3% nationally.¹
- By 2036, the proportion of Territorians aged 65 years and over is projected to rise to 10.3%.²
- The majority of non-Indigenous Territorians aged 65 years and over live in the urban areas of Darwin and Alice Springs (86%) while their Indigenous counterparts are more evenly distributed across the NT (only 29% in Darwin and Alice Springs).³
- Life expectancy at birth is lower in the NT than nationally and within the NT, the life expectancy of Indigenous people is lower than for non-Indigenous people.⁴
- Indigenous males born in the NT between 2005 and 2007 have a life expectancy of 61.5 years; 14.2 years below that for NT non-Indigenous males and 17.5 years below that for all Australian males.⁴
- Indigenous females born in the NT between 2005 and 2007 have a life expectancy at birth of 69.2 years; 12.0 years below that for NT non-Indigenous females and 14.5 years below that for all Australian females.⁴

What is an older person?

The chronological age definition of 'older' varies depending on the individual, the culture, the country and gender. Even within Australia, consensus has not been reached on what age defines an older person. The Department of Health and Ageing uses 70 years and over to plan and fund aged care services; Centrelink uses 65 years of age for men and 63 years for women to determine eligibility for the Age Pension; Seniors Cards are available to Territorians aged 60 years and over; and the Australian Institute of Health and Welfare (AIHW) uses 65 years when collecting data and producing reports on ageing.

This report follows the AIHW and World Health Organisation and uses 65 years and over as the definition of an 'older' person. The exception is made, however, for Indigenous people where the report recognises the earlier onset of disease and disability and uses 50 years and over as the marker of ageing in the Indigenous population.⁵

Source: Economic implications of an ageing Australia.

2.1 Population profile

2.1.1 Age structure

At the time of the Australian Bureau of Statistics (ABS) Census of Population and Housing (Census) on 30 June 2006, the Estimated Resident Population (ERP) of the NT was 210,627 persons or 1.0% of the Australian population. The NT population has since grown at an average of 2.2% per annum to reach 224,848 persons in 2009.^{1,7} The growth was higher than at a national level where the Australian population increased at an average of 1.9% per annum over the three year period.¹

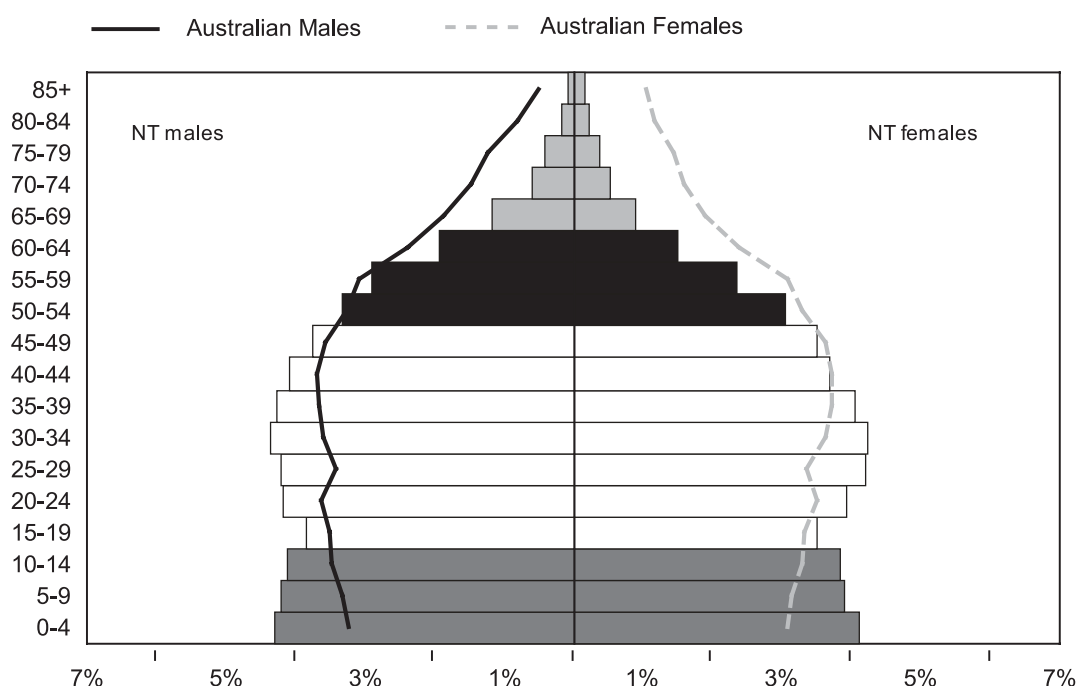
Appendix Table 2.1 provides a breakdown of older populations by states, territories and Australia. In 2006, 4.6% of the NT population were aged 65 years and over. This proportion was the lowest among the states and territories and about a third of the proportion of older people at a national level (13.1%). Within this age group, the NT also had a smaller proportion of people aged 85 years and over compared with other states and territories. In the three years since 2006, the proportion of Territorians aged 65 years and over grew to 5.3% of the population and the growth (0.6 percentage points) was greater than the growth nationally where the proportion of older people increased by 0.3 percentage points to 13.3%.¹

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More generally, the NT has a much younger age structure than other states and territories (Figure 2.1). In June 2006, the median age for the NT was 31.0 years, while the median age nationally was 36.7 years (Table 2.1). Despite recent growth in the number of older Territorians, the age structure in the NT is expected to continue to be much younger than nationally (Table 2.1).

Figure 2.1 Age structure of total population, by sex, Northern Territory and Australia, 2006



Source: ABS, Australian demographic statistics, June 2009, Cat. no. 3101.0.

Table 2.1 Median age, by Indigenous status, Northern Territory and Australia, selected years, 2006–2036

	2006	2011	2016	2021	2026	2031	2036
Northern Territory	31.0	31.2	31.8	32.3	32.8	33.2	33.6
NT Indigenous	22.5	23.6	24.6	25.6	26.4	27.1	27.6
NT non-Indigenous	34.6	34.6	34.8	35.6	35.5	35.8	36.1
Australia	36.7	37.6	38.4	39.1	39.9	40.5	41.1

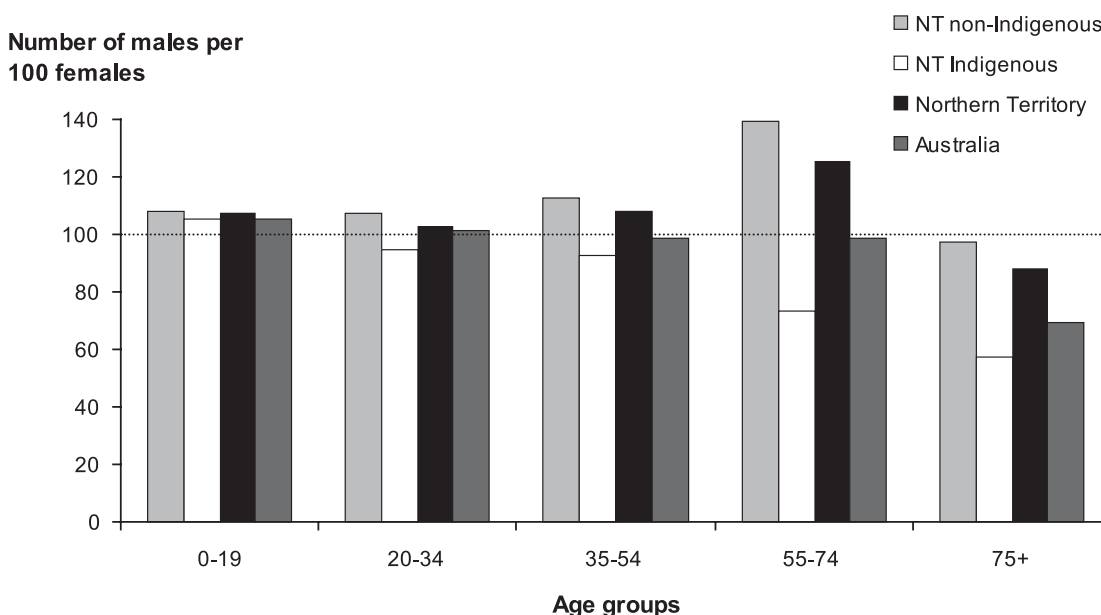
Source: NT Treasury, Northern Territory population projections, 2009. Viewed 7 April 2010, <http://www.nt.gov.au/ntt/economics/nt_population.shtml>

2.1.2 Sex structure

In 2006 females comprised 48% of the NT population compared with 50% nationally. The age structure of the male and female NT population aged 65 years and over also differed from the general Australian population (Figure 2.1). Nationally, females made up a greater proportion (55%) of this age group and their predominance increased with age. In the NT, males made up a greater proportion of people aged 65 years and over (53%) and it was not until the ages of 85 years and over that females were predominant.¹

Overall, there were 108 males for every 100 females in the NT compared with 99 males per 100 females nationally (Figure 2.2). The difference was greatest for Territorians aged between 55 and 74 years of age where the male to female ratio was 126:100. Among Territorians aged 75 years and over, males were outnumbered by females (88:100), but this was the only age group where this circumstance occurred. Nationally, males were outnumbered by females in all but the two youngest age groups (people aged 34 years and younger).

Figure 2.2 Number of males per 100 females, by Indigenous status, Northern Territory and Australia, 2006



Source: ABS, Australian demographic statistics, June 2009. Cat. no. 3101.0.

2.1.3 Indigenous population

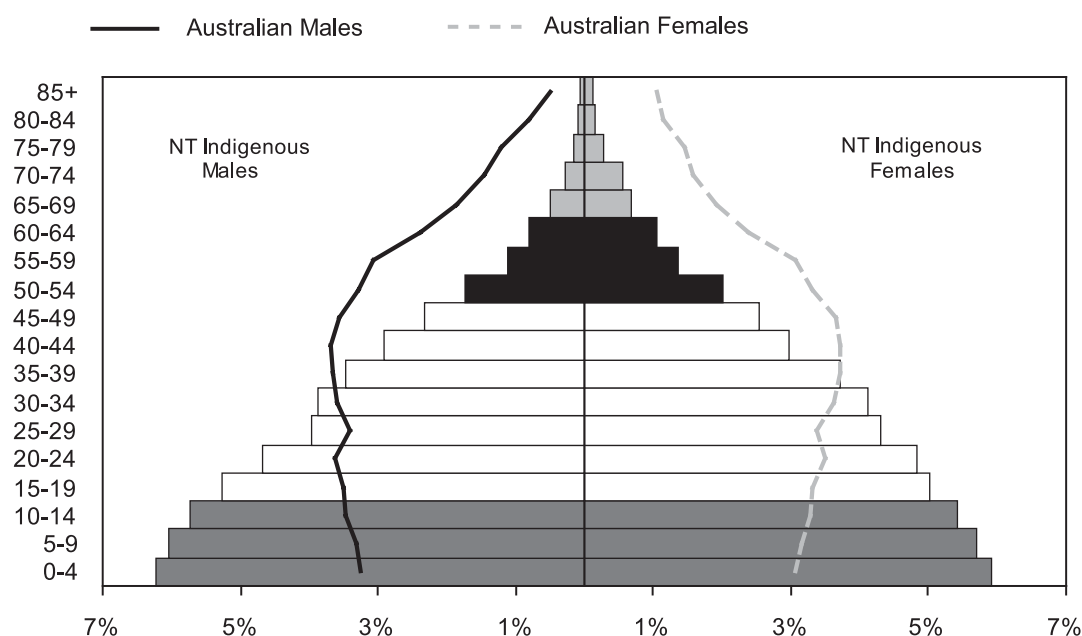
Statistics for the whole of the NT mask considerable differences between the Indigenous and non-Indigenous populations (Figure 2.1). The NT Indigenous population comprises nearly a third (30%) of the NT population and it has a much younger age structure and a greater proportion of females than the NT non-Indigenous population.¹

Figure 2.3 and Figure 2.4 show the age and sex structure of these populations compared with the Australian average. The younger age structure of the NT Indigenous population reflects the effect of high fertility rates and lower life expectancy.^{1,8,9} The greater proportion of NT non-Indigenous people of working age (15–64 years) reflects the impact of employment opportunities particularly in the construction, mining and defence sectors combined with high turnover that encourage people to migrate to the NT.¹⁰

In 2006, there were 1,859 Indigenous Territorians aged 65 years and over,¹ which equated to 2.9% of the Indigenous population. This proportion was just over half that for non-Indigenous Territorians (5.4%) in the same age group (Table 2.2). Indigenous people comprised 19% of all Territorians aged 65 years and over. They also followed the national trend whereby females comprised the majority of the group (62%). In contrast, males made up the majority of non-Indigenous Territorians aged 65 years and over (57%).¹

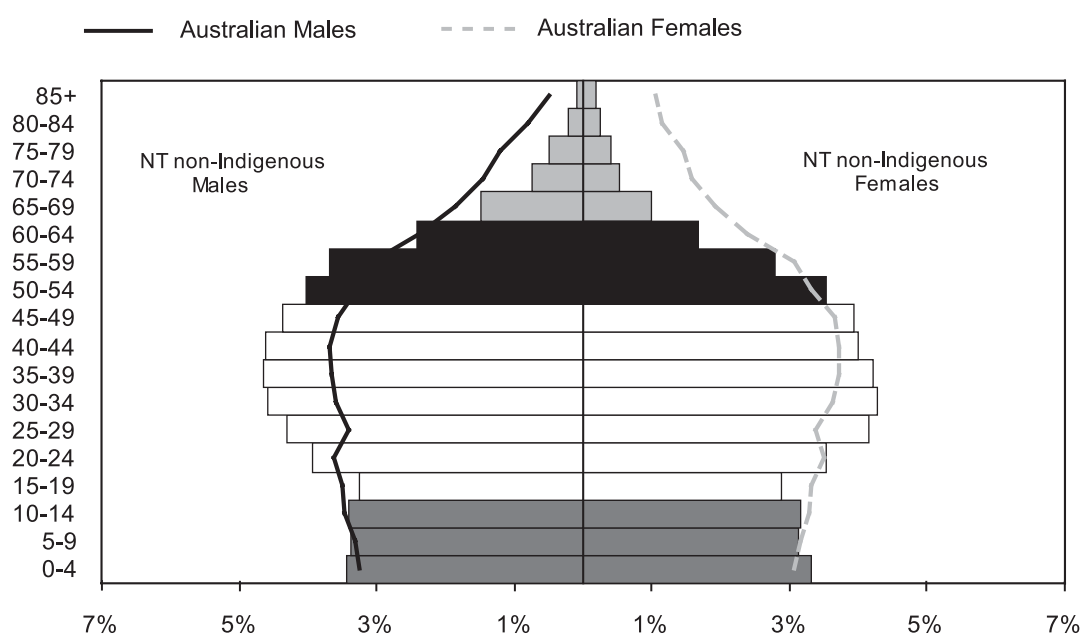
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Figure 2.3 Age structure of Indigenous population, by sex, Northern Territory and Australia, 2006



Source: ABS, Australian demographic statistics, June 2009. Cat. no. 3101.0.

Figure 2.4 Age structure of non-Indigenous population, by sex, Northern Territory and Australia, 2006



Source: ABS, Australian demographic statistics, June 2009. Cat. no. 3101.0

Although there was a comparatively small number of Indigenous Territorians aged 65 years and over, it is crucial to recognise that the threshold used to define 'oldness' depends on the social and health effects of ageing. Indigenous Territorians have a life expectancy of at least 17 years less than their non-Indigenous counterparts and experience diseases at much younger ages.¹¹ Therefore, many Indigenous people aged in their 40s and 50s have disability and morbidity characteristics similar to those of non-Indigenous Australians in their 60s and 70s. As a result, the younger age structure of the NT does not adequately represent the burden of disease that is typical of younger age groups.^{5,12,13} For this reason, information relating to the older populations of the NT are broken down in this report into two age groups (50–64 years and 65 years and over) to enable comparisons between these age groups for Indigenous and non-Indigenous Territorians. In 2006, there were 5,153 Indigenous Territorians in the 50 to 64 year old age group.¹

2.1.4 Geographic distribution

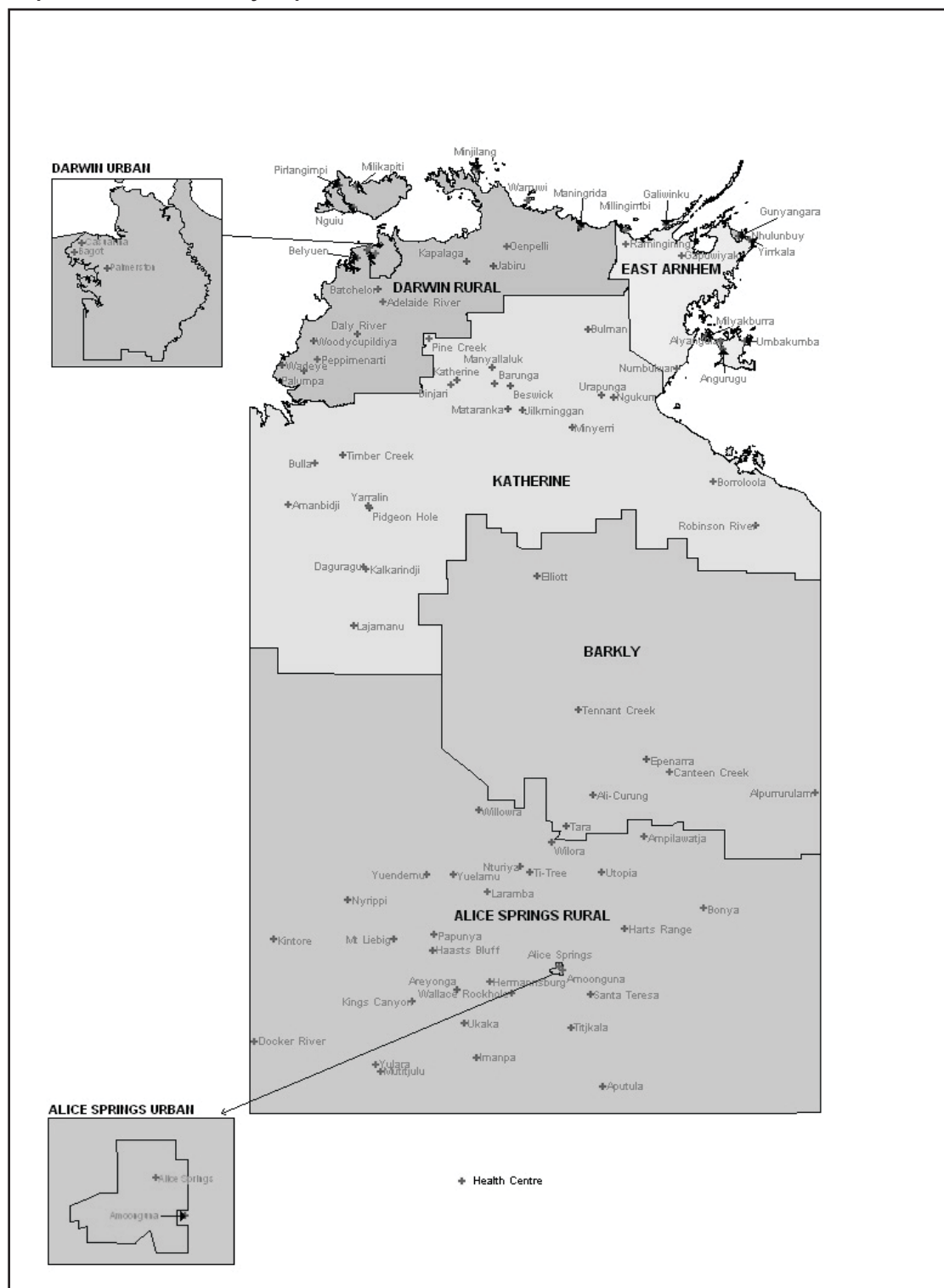
The Department of Health (DoH) administers services across seven health districts: Darwin Urban, Darwin Rural, Katherine, East Arnhem, Barkly, Alice Springs Urban and Alice Springs Rural (Map 2.1).



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Map 2.1 Northern Territory Department of Health Districts

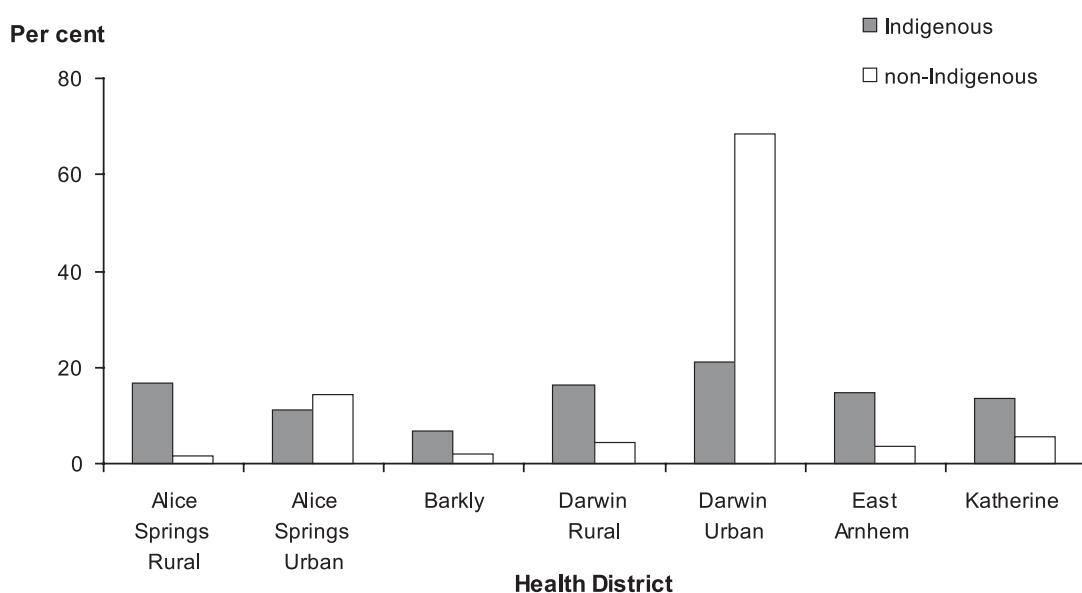


Source: MapInfo 2009. User-defined map of NT Health Districts held by the Health Gains Planning Branch, NT DoH.

Figure 2.5 shows the spread of 50–64 year olds across the seven health districts by Indigenous status and Figure 2.6 shows the spread of the population aged 65 years and over. In 2009, older Indigenous people were dispersed more evenly across the seven health districts than older non-Indigenous people.

Among 50 to 64 year old Territorians, the greatest proportion of Indigenous and non-Indigenous people were located in the Darwin Urban district, accounting for 21% and 68% of their respective age groups (Figure 2.5).

Figure 2.5 Distribution (%) of people aged 50 to 64 years across the seven Department of Health Districts, by Indigenous status, Northern Territory, 2009



Note: The Department of Health District Population Estimates by five-year age group, sex and Indigenous status for the years 1971 to 2006 are based on ABS “final” NT Estimated Resident Population (ERP) figures. The “revised” NT ERP for 2007 was obtained from ABS, Cat. No. 3201.0, the “preliminary” NT ERP for 2008 was obtained from ABS, Cat. No. 3235.0 and the “preliminary” NT ERP for 2009 was obtained from ABS, Cat no. 3201.0.

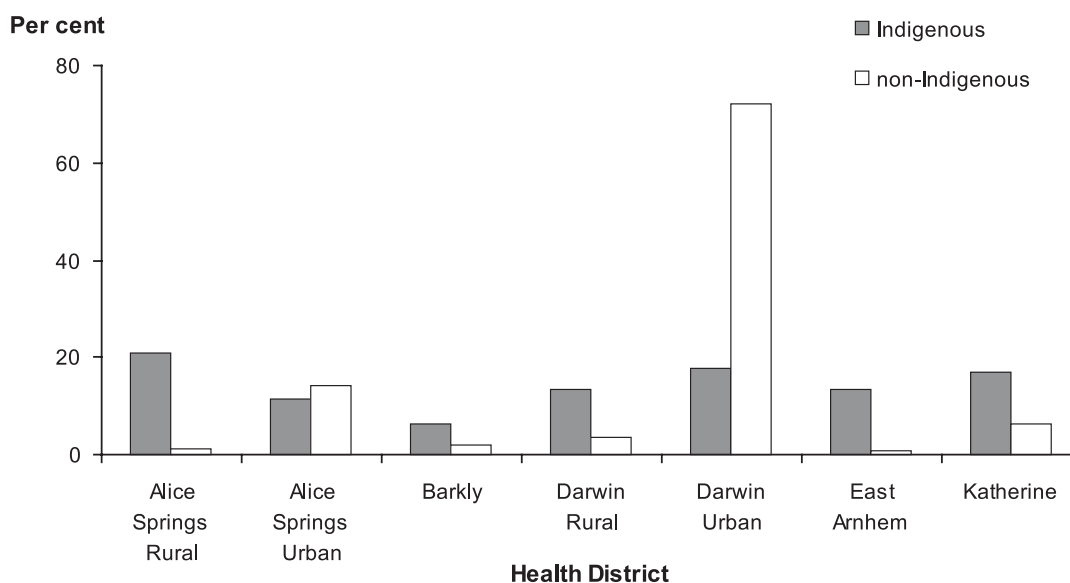
Source: User-defined tables held by the Health Gains Planning Branch, NT DoH.

Among Territorians aged 65 years and over, the greatest proportion of Indigenous people were located in the Alice Springs Rural district, accounting for 21% of their age group. In contrast, the majority of non-Indigenous people aged 65 years and over were located in the Darwin Urban district, accounting for 72% of their age group (Figure 2.6).

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Figure 2.6 Distribution (%) of people aged 65 years and over across the seven Department of Health Districts, by Indigenous status, Northern Territory, 2009



Note: The Department of Health District Population Estimates by five-year age group, sex and Indigenous status for the years 1971 to 2006 are based on ABS “final” NT Estimated Resident Population (ERP) figures. The “revised” NT ERP for 2007 was obtained from ABS, Cat. no. 3201.0, the “preliminary” NT ERP for 2008 was obtained from ABS, Cat. no. 3235.0 and the “preliminary” NT ERP for 2009 was obtained from ABS, Cat. no. 3201.0.

Source: User-defined tables held by the Health Gains Planning Branch, NT DoH.

2.2 Population projections

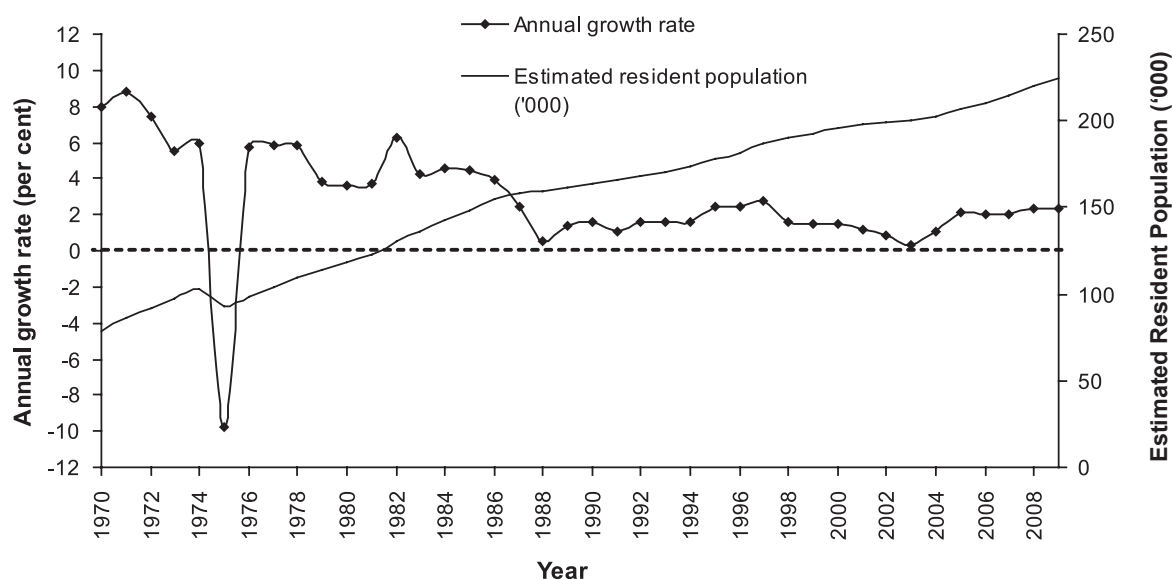
2.2.1 Historical influences

The population is subject to a number of influences: births, deaths, and people moving in and out of the area. Migration, both interstate and international, is an important factor affecting population change in the NT especially in the non-Indigenous population. For much of the period 1972–2009, more people left the NT to live in other parts of Australia than arrived, but the number of births far exceeded the combined effect of loss of population due to deaths and out-migration, leading to an overall increase in population.^{1,14}

Indeed, with the exception of the sharp decline in the population following Cyclone Tracy in 1974, the NT has experienced sustained population growth over the past three decades (Figure 2.7). For the 10 years between 1976 and 1985, as a result of the combined effect of the rebuilding of Darwin and self-government, the annual population growth was around 5%. From around 1986 the numbers of interstate departures increased and the annual growth rate slowed down. In recent years, however, it has been slightly higher. The annual growth change over the previous year to June 2009 was 2.3%. This rate was slightly above the national growth rate of 2.1%.¹

As noted previously, there has also been growth in the proportion of Territorians aged 65 years and over. In some years it has been the highest in Australia, for example, the two Commonwealth electoral divisions in the NT (Solomon and Lingiari) had the highest rate of growth among electoral divisions in Australia in the population aged 65 years and over between 2006 and 2007 (8.9% and 7.6% respectively).¹⁵

Figure 2.7 Annual population growth (%) and Estimated Resident Population, Northern Territory, 1970–2009



Sources:

(a) ABS, Australian historical population statistics. Cat. no. 3105.0.65.001.

(b) ABS, Population by age and sex, Australian States and Territories, June 2009. Cat. no. 3201.0.

2.2.2 Future population

Population ageing is the most significant population change projected to occur in Australia and internationally over the next 50 years. It is a change in age structure where the population has an increasing proportion of older people aged 65 years and over compared with the proportion of children aged 14 years and younger. Population ageing is a result of both sustained low fertility and increasing life expectancy. Nationally, it is projected that older people will outnumber children in 2018.¹⁶ While this phenomenon will impact on the NT, migration and birth rates (particularly among the Indigenous population) are also expected to continue to have a major impact on the size and age structure of the NT population.

Projections developed by Charles Darwin University in collaboration with the NT Government provide an indication of what could reasonably happen to the NT population over the next 30 years. These projections estimated that by 2036, the NT population would be 162,327 for males and 154,098 for females. Around 32,631 people (10.3%) would be aged 65 years and over (Appendix Table 2.2).

The projected Indigenous population in 2036 was estimated to be 101,265 (50,158 males and 51,107 females) of which 8,074 would be aged 65 years and over (Appendix Table 2.3). This age group would account for 8.0% of the total Indigenous population in 2036, an amount more than double the 2006 proportion of 2.9% (Table 2.2).

The projected non-Indigenous population in 2036 was estimated to be 215,160 (112,169 males and 102,991 females) of which 24,557 would be aged 65 years and over (Appendix Table 2.4). As a proportion of the population (11.4%), this age group would also be double the 2006 proportion of 5.4% (Table 2.2).

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Table 2.2 People aged 65 years and over (%), by Indigenous status, Northern Territory and Australia, selected years, 2006–2036

	2006	2009	2016	2026	2036
	Per cent				
Northern Territory	4.6 ^a	5.3 ^a	6.9 ^d	8.9 ^d	10.3 ^d
NT Indigenous	2.9 ^a	3.4 ^b	3.9 ^d	5.8 ^d	8.0 ^d
NT non-Indigenous	5.4 ^a	6.2 ^b	8.3 ^d	10.3 ^d	11.4 ^d
Australia	13.0 ^a	13.3 ^a	15.4 ^c	18.3 ^c	20.8 ^c

Sources:

(a) ABS, Australian demographic statistics, June 2009. Cat. no. 3101.0.

(b) User-defined tables held by the Health Gains Planning Branch, NT DoH.

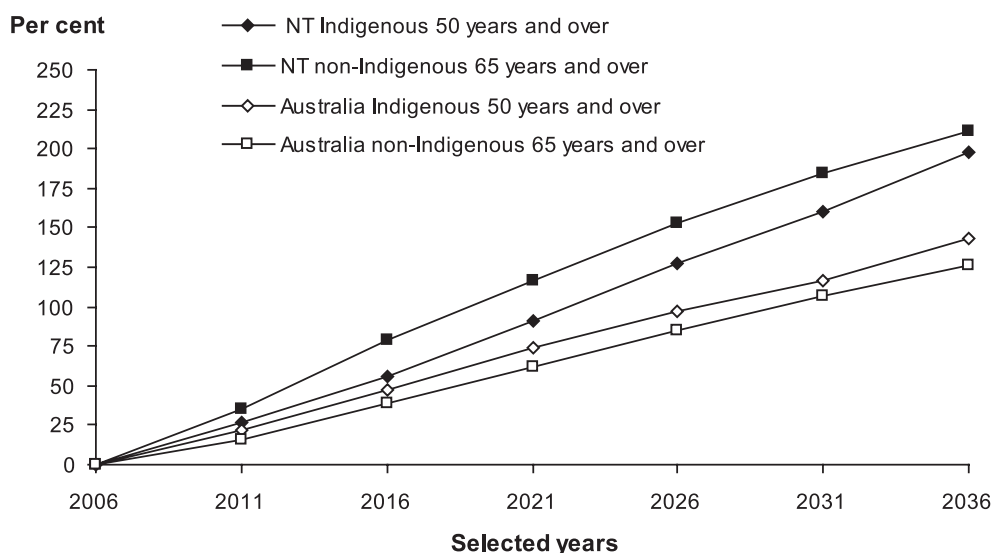
(c) ABS, Population projections, Australia, 2006 to 2101. Cat. no. 3222.0, B series, 2008. Viewed 8 April 2010, <<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3222.02006%20to%202101?OpenDocument>>

(d) NT Treasury, Northern Territory population projections, 2009. Viewed 7 April 2010, <http://www.nt.gov.au/ntt/economics/nt_population.shtml>

Although the proportion of older people in the population is smaller in the NT than nationally (Table 2.2), it is expected to grow at a faster rate than nationally (Figure 2.8). Nationally, the increase in the numbers of older people is projected to be much lower for Indigenous people aged 50 years and over and for non-Indigenous people aged 65 years and over (Figure 2.8).

Between 2006 and 2036, the number of Indigenous Territorians aged 50 years and over was projected to triple (3.0 times) (Appendix Table 2.3). Similar growth was projected for non-Indigenous Territorians aged 65 years and over (3.1 times) (Appendix Table 2.4).

Figure 2.8 Projected increase (%) of older people, by age group and Indigenous status, Northern Territory and Australia, selected years, 2006–2036



Source: NT Treasury, Northern Territory population projections, 2009. Viewed 8 April 2010, <http://www.nt.gov.au/ntt/economics/nt_population.shtml>

2.3 Key influences on population

2.3.1 Life expectancy

Life expectancy is the average number of years that a person can expect to live based on the existing patterns of mortality. It is commonly used as an indicator of a population's health with increasing life expectancy considered an improvement in population health.¹⁷ Over the past twenty years, life expectancy at birth has improved by 5.9 years for Australian males and 4.2 years for Australian females. Based on current mortality rates, a boy born between 2005 and 2007 could expect to live 79.0 years while a girl could expect to live 83.7 years.⁴ Life expectancy for Indigenous Australians is, however, much lower than for non-Indigenous Australians, although uncertainty about estimates of the actual Indigenous population make it difficult to accurately calculate this indicator. The ABS estimated that for the period 1998 to 2000, the gap between Indigenous and non-Indigenous life expectancy was at least 17 years.¹⁷

Experimental estimates by the ABS for the period 2005 to 2007 indicate that life expectancy in the NT is lower than in other states and territories for both the Indigenous and non-Indigenous populations. For Indigenous males born in the NT over that time, life expectancy at birth was 61.5 years, 14.2 years below that for NT non-Indigenous males and 17.5 years below that for all Australian males. In contrast, for NT non-Indigenous males life expectancy at birth was 75.7 years compared with 79.0 years for all Australian males.⁴

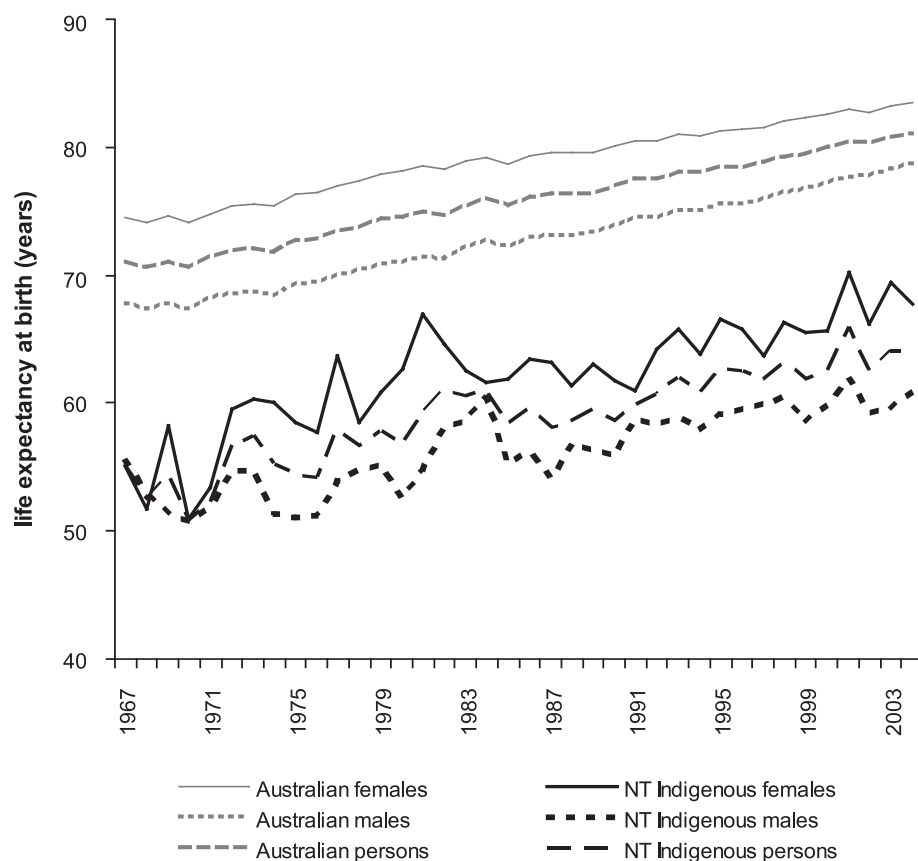
Among NT females, life expectancy at birth was 69.2 for Indigenous females and 81.2 years for non-Indigenous females compared with 83.7 for all Australian females. The life expectancy for NT Indigenous females was 12.0 years below that for NT non-Indigenous females and 14.5 years below that for all Australian females.⁴

Although the disparity in life expectancy between Indigenous and non-Indigenous Australians continues to be significant, a recent study demonstrated substantial improvements in Indigenous life expectancy in the NT. Wilson, Condon and Barnes analysed NT Indigenous death and population data covering the period 1967–2004. They found that life expectancy at birth increased for males from 52 years to 60 years, and for females from 54 years to 68 years (Figure 2.9). For Indigenous females in the NT, this increase narrowed the gap with total Australian life expectancy. The major reasons for the improvements were declines in infant mortality as a result of improved access to and resources invested in health services. In more recent times, the increase in life expectancy has been largely due to reduced mortality in the middle and older ages. Significant reductions in mortality from communicable, maternal, perinatal and nutritional conditions and injury have been reported; however, mortality from chronic diseases among Indigenous Territorians increased for the period 1977 and 2001.⁹ Future improvements in life expectancy will rely on the success of preventing and managing chronic disease in the Indigenous population.^{9,11}

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Figure 2.9 Life expectancy at birth, by sex and Indigenous status, Northern Territory and Australia, 1967–2004



Source: Wilson T, Condon J, Barnes T. Northern Territory Indigenous life expectancy improvements, 1967–2004. *Australian and New Zealand Journal of Public Health*, 2007; 31(2):184–188 (Reproduced with permission).

2.3.2 Dependency ratio

The dependency ratio is the number of children (0–14 years) and older persons (65 years and over) per 100 working age persons (15–64 years). The ratio gives an indication of how many working age people there are to support the non-working population with a smaller value indicating a larger supporting population.¹⁸ The dependency ratios for Australia and the Northern Territory by Indigenous status are provided below in Table 2.3.

In 2006, the NT dependency ratio was 41.0 compared with 48.3 nationally. In 2009, the ratios had declined in both the NT and nationally (40.5 and 48.1, respectively), but by a greater amount in the NT.¹

There are, however, differences in the dependency ratio between the Indigenous and non-Indigenous populations in the NT. Among the Indigenous population, the ratio in 2006 was 61.2, with 56.5 children and 4.7 people aged 65 years and over for every 100 people of working age. In contrast, the dependency ratio for the non-Indigenous population was 33.7, comprising of 26.5 children and 7.2 older people for every 100 people of working age.¹

The dependency ratio in the NT is projected to increase over time to reach 48.9 in 2036. The increase will be driven by changes in the age structure of the working and non-working age populations (Figure 2.10), but the nature of the changes differs between the Indigenous and non-Indigenous populations.²

Among the NT Indigenous population, the ratio of children to working population is projected to decrease and the ratio of older people to increase, while the working age population remains relatively stable. While the dependency level in 2036 (59.6) is similar to that in 2006 (61.2) (Table 2.3), the composition of the dependant population is different comprising of less (46.9) children and more (12.7) older people.²

In the non-Indigenous population the ratios of children and older people to the working population are both projected to increase, among children to 27.8 and among older people to 16.5. The total increase in ratio is projected to reach 44.3 in 2036.²

Table 2.3 Dependency ratio, by Indigenous status, Northern Territory and Australia, selected years, 2006–2036

	2006	2009	2016	2026	2036
Northern Territory	41.0 ^a	40.5 ^a	43.6 ^d	46.9 ^d	48.9 ^d
NT Indigenous	61.2 ^a	59.5 ^b	54.8 ^d	56.2 ^d	59.6 ^d
NT non-Indigenous	33.7 ^a	33.6 ^b	39.2 ^d	43.0 ^d	44.3 ^d
Australia	48.3 ^a	48.1 ^a	51.9 ^c	57.8 ^c	61.2 ^c

Sources:

(a) ABS, Australian demographic statistics, June 2009. Cat. no. 3101.0.

(b) User-defined tables held by the Health Gains Planning Branch, NT DoH.

(c) ABS, Population projections, Australia, 2006 to 2101. Cat. no. 3222.0, B series, 2008. Viewed 8 April 2010, <<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3222.02006%20to%202101?OpenDocument>>

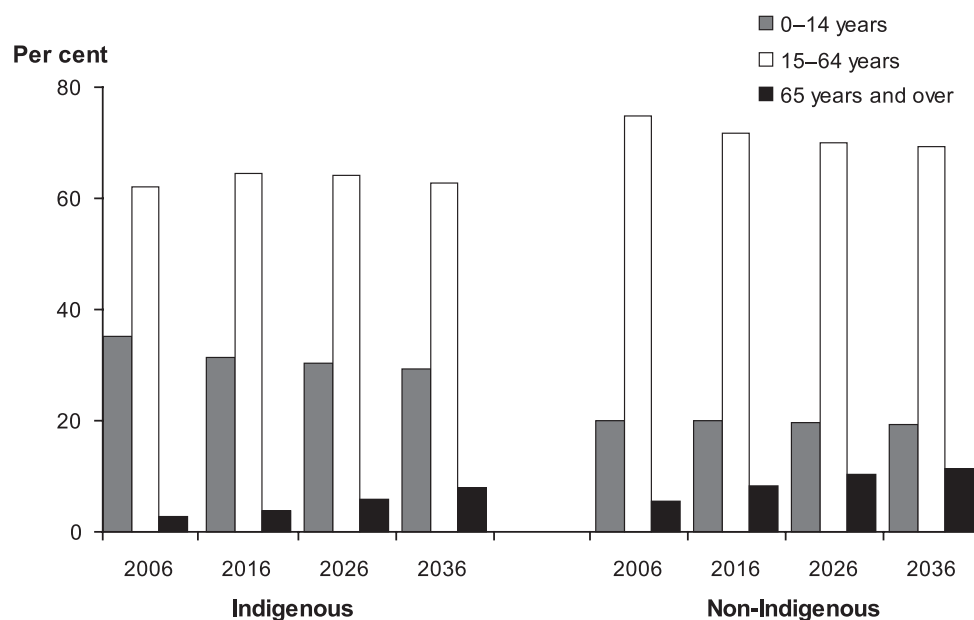
(d) NT Treasury, Northern Territory population projections, 2009. Viewed 7 April 2010, <http://www.nt.gov.au/nt/economics/nt_population.shtml>



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Figure 2.10 Projected change in proportion (%) of working and non-working Indigenous and non-Indigenous people, Northern Territory, selected years, 2006–2036



Source: NT Treasury, Northern Territory population projections, 2009. Viewed 9 April 2010, <http://www.nt.gov.au/ntt/economics/nt_population.shtml>

2.3.3 Population mobility

The NT has the highest population turnover of all states and territories. In 2006–07, the combined number of interstate arrivals and departures represented 15% of the total NT population. The turnover is likely to be due to a large number of temporary and short-term interstate moves for employment purposes.¹⁹

Within the population, people aged 50 years and over tend to be less mobile than younger people. Nationally, in 2006–07, they accounted for 15% of the total number of interstate migrations.¹⁹ Only a small percentage (just under 1%) of Australians in this age group moved interstate.

In the NT a greater number of people aged 50 years and over departed the NT (2,129) than arrived (1,740). This pattern was consistent even in older age groups where more people aged 65 years and over departed (300) than arrived (250).¹⁹ The loss of older Territorians does not, however, indicate a decrease in the older population (or the population as a whole) as it is counterbalanced by increased life expectancy and sustained high fertility.

Even when intrastate movements are included the lowest levels of household mobility were found in people aged 65 years and over with only 8.0% of Indigenous Territorians and 10.6% of non-Indigenous Territorians moving to a different residence in the 12 months prior to the 2006 Census (Table 2.4). Indigenous people of all ages were much less likely than non-Indigenous people to have changed their usual place of residence. Of people aged 65 years and over who moved residence, the majority had shifted from another area (Statistical Local Area; SLA), probably an interstate location as suggested by the figures on interstate migration.

Table 2.4 Change of place of usual residence during past 12 months, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Previous residence	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number (%)		Number (%)		Number (%)		Number (%)		Number (%)		Number (%)	
Census question: <i>Where did the person usually live one year ago?</i>												
<i>Same usual address</i>												
	22,567	(84.9)	45,785	(67.6)	3,722	(89.4)	18,303	(83.6)	1,502	(92.0)	5,836	(89.4)
<i>Different usual address</i>												
Same SLA*	1,286	(4.8)	2,565	(3.8)	137	(3.3)	555	(2.5)	49	(3.0)	119	(1.8)
Different SLA*	2,615	(9.8)	17,677	(26.1)	292	(7.0)	2,831	(12.9)	73	(4.5)	513	(7.9)
Overseas	24	(0.1)	1,589	(2.3)	0	(0.0)	188	(0.9)	0	(0.0)	43	(0.7)
Not stated†	88	(0.3)	163	(0.2)	13	(0.3)	25	(0.1)	9	(0.6)	18	(0.3)
Total stated	26,580		67,779		4,164		21,902		1,633		6,529	
Not stated	2,256		984		302		276		74		176	
Total	28,836		68,763		4,466		22,178		1,707		6,705	

Notes:

Not stated Indigenous status are excluded from this table.

* Statistical Local Area.

† People who stated they were living at a different address to where they lived one year ago, but did not state location.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, NT DoH.

The 2006 Census also asked people about their place of usual residence five years ago and when these data were compared with movements from one year previously the trends remained the same, but more movement was evident among all ages (Table 2.5). Even so, among Territorians aged 65 years and over, 84% of Indigenous people and 72% of non-Indigenous people were still living at the same address as five years previously. Among Territorians that did move, people were more likely to have moved to a different SLA than within the same SLA regardless of age (Table 2.5).

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Table 2.5 Change of place of usual residence during past five years, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Previous residence	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number (%)		Number (%)		Number (%)		Number (%)		Number (%)		Number (%)	
Census question: <i>Where did the person usually live five years ago?</i>												
<i>Same usual address</i>												
	19,379	(74.1)	22,775	(34.0)	3,297	(80.3)	13,112	(60.3)	1,356	(83.8)	4,613	(71.8)
<i>Different usual address</i>												
Same SLA*	1,612	(6.2)	3,928	(5.9)	187	(4.6)	901	(4.1)	64	(4.0)	206	(3.2)
Different SLA*	4,958	(19.0)	35,623	(53.2)	599	(14.6)	7,121	(32.7)	189	(11.7)	1,500	(23.3)
Overseas	14	(0.1)	4,081	(6.1)	0	(0.0)	539	(2.5)	0	(0.0)	83	(1.3)
Not stated†	184	(0.7)	543	(0.8)	21	(0.5)	75	(0.3)	9	(0.6)	22	(0.3)
Total stated	26,147		66,950		4,104		21,748		1,618		6,424	
Not stated	2,689		1,811		362		431		83		282	
Total	28,836		68,761		4,466		22,179		1,701		6,706	

Notes:

Not stated Indigenous status are excluded from this table.

*Statistical Local Area.

†People who stated they were living at a different address to where they lived five years ago, but did not state location.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Population mobility at retirement

Charles Darwin University conducted a survey of NT population mobility in 2006 to understand factors influencing retirement intentions. The survey was administered by Computer Assisted Telephone Interviews (CATI) and 1,469 non-Indigenous NT residents participated.¹⁰ The survey and a series of additional in-depth interviews found that long-term residents planning on retiring in the NT were those with strong ties to their community. These people were those who had spent the majority of their adult lives in the NT and contributed to the community through working and raising families. For some Territorians, intrastate movement from remote areas to more populated urban centres was likely to occur, depending on the availability of suitable accommodation options, to improve access to family networks.²⁰

The survey also found that retirees may be attracted back to the NT to be close to family or social networks as well as the NT lifestyle. Previous experience of the NT was also a more important factor for older people than for younger people in deciding whether to move to the NT.²⁰

People choosing to leave the NT on retirement may do so as the natural conclusion of a move made to the NT for employment reasons, that is, the intention to leave had been planned from the start and did not lessen their experience of living in the NT. For others, the decision to retire elsewhere may simply be another move in a lifetime of residential mobility.²⁰

Source: Creed E, Retirement intentions in the Northern Territory.

2.3.4 Cultural diversity

Cultural diversity gauges the variety of cultural backgrounds within a society and is commonly measured by the range of countries of birth and their respective proportions in the total population. In the NT, the values, practices and languages of the Indigenous population also enhance cultural diversity. Cultural differences can, however, be a barrier to accessing services and information especially a person's proficiency in English.²¹

2.3.5 Country of birth

Responses to the 2006 Census indicated that 77% of Territorians were born in Australia, 14% were born outside of Australia and 9% did not state where they were born. The proportion of Australian born Territorians was higher than the national average (71%),²² but this is likely to be influenced by the large Indigenous population, most of whom were born in Australia.

Among non-Indigenous Territorians, the proportion of people born outside of Australia and in a non-English speaking country increased with age (Table 2.6). For example, 17% of non-Indigenous people aged 65 years and over born outside of Australia were from an English speaking country and 26% from a non-English speaking country. In contrast, 9% of non-Indigenous people aged 15 to 49 years born outside of Australia were from an English speaking country and 12% from a non-English speaking country.

Of those born outside Australia, the proportion of people from non-English speaking countries ranged from 53% for people aged 50 to 64 years to 60% for people aged 65 years and over. Nationally in 2006, the proportion of older people born outside of Australia in a non-English speaking country was 61%.²³

Table 2.6 Country of birth, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Country of birth	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number (%)		Number (%)		Number (%)		Number (%)		Number (%)		Number (%)	
Census question: <i>In which country was the person born?</i>												
Australia	28,304	(99.9)	53,123	(78.9)	4,328	(100.0)	14,203	(65.9)	1,665	(99.8)	3,697	(57.7)
Outside Australia												
English speaking	14	(0.0)	5,897	(8.8)	0	(0.0)	3,472	(16.1)	3	(0.2)	1,071	(16.7)
Non-English speaking	21	(0.1)	8,327	(12.4)	0	(0.0)	3,864	(17.9)	0	(0.0)	1,635	(25.5)
Total stated	28,339		67,347		4,328		21,539		1,668		6,403	
Not stated	496		1,371		135		625		42		293	
Total	28,835		68,718		4,463		22,164		1,710		6,696	

Note: Not stated Indigenous status are excluded from this table.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, NT DoH.

2.3.6 Religion

An optional question on religious denomination was included in the 2006 Census, which gives a further indication of cultural diversity in the NT population. Among those who did state their religion, Christianity was the most common religion in the NT with comparable rates in the Indigenous and non-Indigenous populations (Table 2.7). The proportion of Christians increased with age among non-Indigenous Territorians while Indigenous Territorians had similar rates across all age groups. In the 65 years and over age group, 75% of Indigenous people and 80% of non-Indigenous people identified as Christians. The next most common religion in this age group was Buddhism for non-Indigenous Territorians (3%) and Australian Aboriginal Traditional Religion for Indigenous Territorians (8%). The rates for these religions were similar in other age groups (Table 2.7).

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Table 2.7 Religion, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Religion	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number (%)		Number (%)		Number (%)		Number (%)		Number (%)		Number (%)	
Census question: <i>What is the person's religion?</i>												
Buddhism	34	(0.1)	1,548	(2.4)	10	(0.3)	581	(2.8)	3	(0.2)	166	(2.7)
Christian*	17,436	(72.0)	39,013	(61.4)	2,991	(77.5)	14,474	(70.6)	1,133	(75.4)	4,967	(79.8)
Hinduism	3	(0.0)	316	(0.5)	0	(0.0)	83	(0.4)	0	(0.0)	33	(0.5)
Islam	31	(0.1)	584	(0.9)	7	(0.2)	158	(0.8)	0	(0.0)	21	(0.3)
Judaism	3	(0.0)	59	(0.1)	0	(0.0)	26	(0.1)	0	(0.0)	9	(0.1)
Indigenous	1,737	(7.2)	7	(0.0)	251	(6.5)	0	(0.0)	119	(7.9)	0	(0.0)
Other†	133	(0.5)	1,341	(2.1)	29	(0.8)	241	(1.2)	19	(1.3)	70	(1.1)
No Religion	4,848	(20.0)	20,711	(32.6)	569	(14.8)	4,949	(24.1)	228	(15.2)	957	(15.4)
Total stated	24,225		63,579		3,857		20,512		1,502		6,223	
Not stated	4,613		5,181		607		1,666		211		484	
Total	28,838		68,760		4,464		22,178		1,713		6,707	

Notes:

Not stated Indigenous status are excluded from this table.

* Christian comprises all Christian religions.

† Other comprises 'Bahai', 'Caodaism', 'Chinese religions', 'Church of Scientology', 'Eckankar', 'Janism', 'Japanese Religions', 'Nature Religions', 'New Aged', 'Theism', 'Religious belief not defined', 'Rastafarianism', 'Sikhism', 'Spiritualism', 'Satanism', 'Theosophy' and 'Zoroastrianism'.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, NT DoH.



Appendix

Appendix Table 2.1 Projected increase (%) of older people, by age group and jurisdiction, selected years, 2006–2036

State/Territory	2006 ^a	2009 ^a	2016 ^b	2026 ^b	2036 ^b
<i>Percentage of total population per state/ territory</i>					
Northern Territory					
65–84 years	4.4	5.0	6.9	8.8	9.5
85 years and over	0.3	0.3	0.4	0.6	1.0
Australian Capital Territory					
65–84 years	8.5	9.0	11.6	14.4	15.0
85 years and over	1.0	1.2	1.6	2.0	3.3
New South Wales					
65–84 years	11.9	12.1	13.9	16.8	17.7
85 years and over	1.6	1.9	2.3	2.6	3.7
Queensland					
65–84 years	10.7	10.9	13.0	15.6	16.7
85 years and over	1.4	1.5	1.8	2.1	3.2
South Australia					
65–84 years	13.1	13.2	15.2	18.4	19.2
85 years and over	2.0	2.2	2.7	2.9	4.3
Tasmania					
65–84 years	12.9	13.4	16.2	20.3	21.5
85 years and over	1.7	1.9	2.3	2.8	4.3
Victoria					
65–84 years	11.7	11.8	13.6	16.2	17.3
85 years and over	1.6	1.8	2.2	2.5	3.6
Western Australia					
65–84 years	10.4	10.5	12.6	15.2	16.4
85 years and over	1.3	1.5	1.8	2.2	3.2
Australia					
65–84 years	11.5	11.6	13.5	16.3	17.3
85 years and over	1.6	1.8	2.1	2.4	3.5

Sources:

(a) ABS, Australian demographic statistics, June 2009. Cat. no. 3101.0.

(b) ABS, Population projections, Australia, 2006 to 2101. June 2008. Cat. no. 3222.0, B series.

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Appendix Table 2.2 Total population, by age and sex, Northern Territory, selected years, 2006–2036

Age group	2006 ^a	2009 ^a	2016 ^b	2026 ^b	2036 ^b
Males					
0–14 years	26,545	27,252	29,527	33,013	36,338
15–49 years	60,469	64,294	68,025	75,051	83,062
50–64 years	17,138	18,757	20,370	23,109	25,674
65 years and over	5,163	6,381	9,295	13,368	17,253
Total Males	109,315	116,684	127,217	144,541	162,327
Females					
0–14 years	24,981	25,605	28,189	31,625	34,941
15–49 years	57,199	60,543	64,834	71,993	79,975
50–64 years	14,556	16,445	18,179	20,938	23,804
65 years and over	4,576	5,571	7,734	11,620	15,378
Total Females	101,312	108,164	118,936	136,176	154,098

Sources:

(a) ABS, Australian demographic statistics, June 2009. Cat. no. 3101.0.

(b) NT Treasury, Northern Territory population projections, 2009. Viewed 7 April 2010, <http://www.nt.gov.au/ntt/economics/nt_population.shtml>

Appendix Table 2.3 Indigenous population, by age and sex, Northern Territory, selected years, 2006–2036

Age group	2006 ^a	2009 ^b	2016 ^c	2026 ^c	2036 ^c
Males					
0–14 years	11,529	11,838	12,219	13,679	15,317
15–49 years	16,960	18,110	20,096	22,638	25,442
50–64 years	2,323	2,535	3,701	4,966	5,790
65 years and over	702	874	1,216	2,213	3,609
Total Males	31,514	33,357	37,232	43,496	50,158
Females					
0–14 years	10,903	11,180	11,560	12,901	14,444
15–49 years	17,601	18,675	20,613	22,839	25,175
50–64 years	2,830	3,200	4,308	5,859	7,023
65 years and over	1,157	1,408	1,710	2,875	4,465
Total Females	32,491	34,463	38,191	44,474	51,107

Sources:

(a) ABS, Australian demographic statistics, June 2009. Cat. no. 3101.0.

(b) User-defined tables held by the Health Gains Planning Branch, NT DoH.

(c) NT Treasury, Northern Territory population projections, 2009. Viewed 7 April 2010, <http://www.nt.gov.au/ntt/economics/nt_population.shtml>

Appendix Table 2.4 Non-Indigenous population, by age and sex, Northern Territory, selected years, 2006–2036

Age group	2006 ^a	2009 ^b	2016 ^c	2026 ^c	2036 ^c
Males					
0–14 years	15,016	15,414	17,308	19,334	21,021
15–49 years	43,509	46,184	47,929	52,413	57,620
50–64 years	14,815	16,222	16,669	18,143	19,884
65 years and over	4,461	5,507	8,079	11,155	13,644
Total Males	77,801	83,327	89,985	101,045	112,169
Females					
0–14 years	14,078	14,425	16,629	18,724	20,497
15–49 years	39,598	41,868	44,221	49,154	54,800
50–64 years	11,726	13,245	13,871	15,079	16,781
65 years and over	3,419	4,163	6,024	8,745	10,913
Total Females	68,821	73,701	80,745	91,702	102,991

Sources:

(a) ABS, Australian demographic statistics, June 2009. Cat. no. 3101.0.

(b) User-defined tables held by the Health Gains Planning Branch, NT DoH.

(c) NT Treasury, Northern Territory population projections, 2009. Viewed 7 April 2010, <http://www.nt.gov.au/ntt/economics/nt_population.shtml>

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Social environment at a glance

- Participation in the workforce declines with age. In the 2006 Census of Population and Housing (Census) 10% of Indigenous and 20% of non-Indigenous Territorians aged 65 years and over were employed in a full-time or part-time capacity compared with 38% and 76% of Indigenous and non-Indigenous Territorians aged 50 to 64 years, respectively.¹
- Participation rates were higher among older non-Indigenous Territorians than nationally with 25% of male and 15% of female Territorians aged 65 years and over employed compared with 14% of Australian males and 6% of Australian females.²
- During the financial year 2008/2009, females retiring from the Northern Territory (NT) workforce had the highest average age of retirement (53.5 years) among the states and territories. In contrast, NT males had the second lowest average age of retirement (57.0 years).³
- In 2006, Census findings reported that 10% of Indigenous Territorians aged 50 years and over participated in voluntary work and 22% of non-Indigenous Territorians aged 65 years.¹
- In 2006, 92% of Indigenous Territorians aged 65 years and over and 65% of non-Indigenous Territorians of the same age reported that they earned less than \$400 per week, which equates to less than \$21,000 per annum (note: these percentages were reported in the 2006 Census and included people with negative and nil income).¹
- In December 2008, there were 6,623 Territorians aged 65 years and over receiving the age pension⁴, representing 59% of this age group,⁵ slightly lower than the national rate (66% in June 2007).⁶
- According to the 2006 General Social Survey (GSS), 32% of NT respondents aged 65 years and over reported that they provided support to relatives living outside the household,⁷ compared with a national average of 24%.⁸
- Approximately one in 10 Indigenous Territorians aged 50 years and over and 28% of non-Indigenous Territorians aged 65 years and over reported that they were living alone in the 2006 Census.¹
- In 2006, 62% of the 2006 GSS respondents aged 65 years and older in the NT were home owners;⁹ a level higher than the NT average 48%,¹⁰ but lower than the Australian average 68%.¹¹
- In June 2008, a quarter of Territory Housing residents were aged 65 years and over and a further quarter were aged 50 to 64 years.¹²
- Although social networks narrow as people get older, 86% of NT respondents to the 2006 GSS aged 65 years and over reported that they would be able to get support from people living outside the household in a time of crisis.⁷
- Territorians aged 65 years and over were less likely to have been a victim of crime than younger age groups, but feelings of safety, especially outside of the home, were lowest in this age group.⁷

3.1 Major social and economic issues

The previous chapter highlighted key demographic characteristics of older Territorians. This chapter provides information on the major social and economic issues facing this group including retirement from the workforce; changes in living arrangements and family structure; social participation; civil, social and economic rights; and end of life matters. It details the current social and economic environment and discusses activities and services that facilitate the social and economic participation and security of older Territorians.

Data relating to social and economic issues are acquired through population surveys. Most are conducted by the Australian Bureau of Statistics (ABS). The ABS is a statutory authority headed by the Australian Statistician and is responsible to the Treasurer. Examples of ABS surveys which collect data from the adult Australian population are the Census of Population and Housing (Census), the National Health Survey (NHS), the General Social Survey (GSS), and the Multi-Purpose Household Survey (MPHS). Surveys that focus only on the Australian Indigenous population include the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) and the National Aboriginal and Torres Strait Islander Social Survey (NATSISS). For further information on these surveys and their sample sizes, see Chapter 4 Health Behaviours and Risk Factors.

Northern Territory specific data are not always published in these national surveys due to small sample size. However, NT specific data are available from the GSS (although largely non-Indigenous), Census and locally conducted surveys such as the example provided in the box below.

Council on the Ageing (Northern Territory) Incorporated, trading as COTA NT

COTA NT is funded by the NT Government to advocate for senior Territorians. It also receives funding from other organisations to deliver a range of projects relevant to seniors. The aim of COTA NT is to protect and promote the well being of Indigenous Territorians aged 45 years and older and non-Indigenous Territorians aged 50 years and over.¹³ COTA NT is guided by national policy priorities, which for the period 2008–2010 are income, housing, Home and Community Care (HACC) funding, workforce issues, health issues and end of life planning.¹⁴

In 2006, COTA NT conducted a survey in 2006 into post-retirement intentions.¹⁵ A wide scope of issues were covered in the survey including where the person planned to retire and why, present accommodation circumstances, safety and security, being a carer, elder abuse, health services, volunteering, public transport, computer usage and retirement activities. The survey was sent out to approximately 23,000 homes in the NT where one or more senior was identified as residing and 2,534 completed surveys were returned.

Appendix Table 3.1 details the age of respondents in five year age groups. Responses were weighted to adjust for the higher response rate (relative to population share) from older respondents and lower response rate from younger respondents (50 to 65 years of age). The weighted responses are presented in all tables and text.

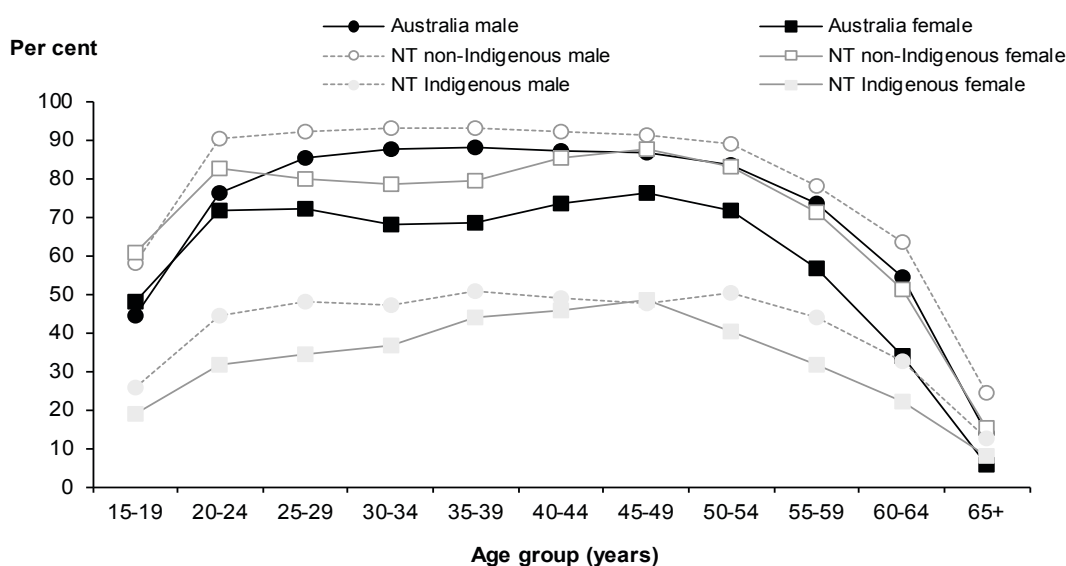
3.2 Participation in the workforce

3.2.1 Participation rates

The increasing proportion of older people noted in the previous chapter has implications for the workforce as participation rates decline in the older age groups (Figure 3.1) and older people are more likely than people in younger age groups to work part-time.¹⁶ The 2006 Census showed

that among Territorians aged 65 years and over, 25% of non-Indigenous males and 15% of non-Indigenous females were employed (Figure 3.1). These rates were higher than the national average (14% and 6% for males and females, respectively), a pattern also seen in other age groups. For Indigenous Territorians aged 65 and over, participation rates were 13% and 8% for males and females respectively, similar to the national average but lower than the NT non-Indigenous rates.

Figure 3.1 Population in full or part-time employment, by sex, five-year age group and Indigenous status, Northern Territory and Australia, 2006 Census of Population and Housing



Source: Appendix Table 3.2.

A survey of older Territorians conducted during 2006 by COTA NT (see Box) found that 75% of Territorians aged 50 to 65 years of age were working. By age 66 years and above the proportion of older Territorians working declined markedly to just over 15% (Appendix Table 3.3).

Disincentives to continued participation in the workforce include increased availability of income from superannuation and other government benefits and attitudinal changes to work and leisure.¹⁷ According to the Multi-Purpose Household Survey (MPHS), conducted by the ABS throughout Australia during the 2008/2009 financial year, another key reason for leaving the workforce is health. During this period, 24% of Australians aged 45 years and over retired from the workforce because of injury, illness or disability. Others left the workforce to become a carer for a child or a person who was ill, disabled or elderly (6%), or as a result of retrenchment, dismissal or a lack of work (11%).³ The proportion of older people aged 65 years and over who stated during the 2006 Census that they were unemployed and seeking work was relatively low compared with younger age groups (Appendix Table 3.4) but their probability of re-employment was also low.¹⁸ Long periods of time spent looking for work with less success than younger jobseekers can be discouraging and result in older people being more likely to withdraw from the labour market.¹⁷ Re-employment problems may be due to employer perceptions that productivity declines with age. Evidence suggests, however, that there is no significant decline and mature aged workers may be productive in different ways to younger workers. Research also suggests that the quality of work is better, turnover and absenteeism lower, and worker loyalty, work ethic and reliability higher in older workers.¹⁹

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National policy aimed at increasing workforce participation includes legislation preventing discrimination on the basis of age; increasing the age that females qualify for the Age Pension; and increasing the age at which an individual can access superannuation (preservation age).¹⁹ The NT Government's Active Ageing Framework includes educating the private sector about the needs and realities of employing older workers; assistance for mature age people to return to work, upgrade skills or try a new occupation; allowing positive discrimination in favour of older people in the public sector workforce; and improving the transition to retirement for public servants through flexible working conditions and superannuation arrangements.²⁰

The retention of older workers benefits the individual by increasing income and enabling further accumulation of superannuation and voluntary savings for retirement. It may also increase government revenues (taxation) and reduce expenditures (income support).¹⁷

Employment services for older Territorians

As part of Job Services Australia, older Territorians including age pensioners can access the following assistance:

- an interview with an employment service provider
- assistance with the development of a resume and upload of that resume to the Australian JobSearch website
- information on local employment opportunities
- access to JobSearch computer facilities in employment service provider offices and Centrelink
- information on free skills development training through the Productivity Places Program.

No referral is necessary. To find a Job Services Australia provider in the NT go to:

<http://jobsearch.gov.au/provider/providersearch.aspx>

3.2.2 Retirement

A key social milestone in older age is retirement from the workforce. There is no prescribed age for retirement in Australia, but the majority of people expect to retire sometime during their sixties. The 2008/2009 MPHS indicated that of the 4.3 million people aged 45 years and over in the workforce, 3.4 million (78%) intended to retire at some time in the future. The remainder were either not sure (9%), did not intend to ever retire (13%) or were unemployed and had never worked (<1%). Of those that intended to retire, 8% intended to do so before age 60; 47% between 60 and 69 years; and 8% at 70 years or older. The remaining 38% of people did not know at what age they would retire. Northern Territory data from the MPHS was mainly from urban areas and indicated that Territorians had similar retirement age and intentions as people in other states and territories. The average intended age of retirement for male Territorians was 63.4 years and 62.7 years for female Territorians.³ These intentions were, however, quite different to those from the previous MPHS conducted during the financial year 2006/2007, which indicated that the average intended age of retirement for Territorians was much higher than in other jurisdictions.²¹ Whether this reflects a long-term change in intentions should become clearer in subsequent surveys.

The age that someone actually retires can be markedly different to their intended retirement age. In the NT according to the 2008/2009 MPHS, there were about 11,000 people who had retired from the workforce and the average age at retirement was 55.1 years. Male Territorians tended to retire at a later age (57.0) than females (53.5). The average age of retirement in the NT (55.1)

was the highest among all states and territories.³ In the earlier MPHS conducted during the financial year 2006/2007, the average retirement age of NT retirees was the lowest (50.8) among the states and territories, so care needs to be taken in interpreting these results.²¹

Nationally, of people who had retired from the labour force, 35% had done so when they reached the age where they were eligible to receive superannuation or the pension, compared with 24% who retired due to illness, injury or disability. However, gender differences existed in the reasons for retirement. Among retired males, 42% had retired when they reached pension age and were eligible for superannuation compared with 27% of females. Males were also more likely to retire due to sickness, illness or injury than females (29% and 19%, respectively). Females were more likely than males to exit the workforce to care for another person including children (9% and 3%, respectively).³

Older people often leave the NT when they retire. Among the younger respondents to the COTA NT study, 32% indicated that they intended to retire outside of the NT. This proportion declined with age, however, and by 66 years and over, only 8% of respondents indicated they would retire outside of the NT (Appendix Table 3.5). In-depth interviews with a small sample of people, as part of the NT Mobility project by Charles Darwin University, found that retiring outside the NT did not always signify dissatisfaction with life in the NT; rather, it could be a continuation of a lifetime of mobility.²² People who made the decision to retire in the NT did so because of long-term commitments to family, community and the region. They were often those who had worked or holidayed there in the past and their relocation was aided by family and social networks.²²

3.2.3 Adult learning

Lifelong learning provides a way to increase a person's capacity to work by providing knowledge and skills required to enter, remain and return to the workforce. According to the 2006 Census, 33% of non-Indigenous Territorians aged 65 years and over had a non-school qualification, such as a certificate or tertiary degree. Within this age group, non-Indigenous Territorians were almost nine times more likely to have non-school qualification than Indigenous Territorians. Among younger Territorians (aged 15 to 49 years), the difference between Indigenous and non-Indigenous having a non-school qualification was much less (i.e. five times more likely) (Appendix Table 3.6). Participation in learning activities decreases with age, however, the ABS reported that people aged 60 to 64 years (the oldest group surveyed) had the lowest rate participation in formal learning (leads to a recognised qualification), non-formal learning (does not lead to a formal qualification) and informal (unstructured, non-institutionalised) learning. The proportions participating in these learning activities were 3%, 19% and 64%, respectively.²³

Higher education statistics also show that three quarters of a million domestic students were enrolled in higher education courses in Australia in 2007. Of these, 4,927 (0.7%) were aged 60 years and over with the majority (62%) undertaking postgraduate study.²⁴ Nationally, approximately 1.7 million people participated in Vocational Education and Training (VET) courses in 2007.²⁵ Of the 22,800 VET students enrolled in the NT, 1.4% were 65 years and over.²⁶ This rate was slightly higher than the 2007 national average (1%).²⁵

There are a number of major barriers, including cost, to studying for mature age people.²³ The University of the Third Age (see Box) provides a non-formal avenue of learning that attempts to overcome these barriers to learning for older people.²⁷

University of the Third Age

University of the Third Age (U3A) was founded in France in 1972 to improve the quality of life for older people. It provides a less formal structure and courses are available online and for personal interest and enjoyment with no exams or degrees awarded. No previous knowledge is required; however, internet access and basic computer skills are needed. U3A Online gives priority to older people who are isolated, either geographically or through physical or social circumstances.²⁷ The U3A started in Darwin in 1989 and now has groups in Palmerston and Alice Springs. These groups meet regularly for various activities and a newsletter is published monthly.²⁸

Source: University of the Third Age.

3.3 Income and expenditure

3.3.1 Sources of income

Following retirement, people's source of income changes to a system based on:

- superannuation accumulated through compulsory employer contributions
- voluntary superannuation contributions and other savings from individuals
- means tested Age Pension.²⁹

The Australian pension age of 65 years for males was set in 1909³⁰ when their life expectancy was 52.2 years.³¹ As a consequence of increased life expectancy, males born in 2006 to 2008 can expect to live for 14.2 years after retiring at age 65 while females can expect to live for over a quarter of their life after retiring at 60.³¹ In the face of this increase in longevity and the fiscal pressures of an ageing population, the Australian Government has raised the pension age so that by July 2023 it will be 67 years for both males and females.³⁰

Although the increase in the pension age and other reforms may persuade people to stay longer in the workforce, access to superannuation at an earlier age (55 to 60 years) can have the opposite effect. Generally, the earlier an individual accesses their superannuation, the lower their ultimate retirement income. Increased longevity also means that greater amounts of savings are needed to fund this period in life.³²

3.3.2 Weekly income

The 2006 Census collected information on total weekly income including all wages, government benefits, pensions, allowances and any other income usually received. Weekly income data are shown in Table 3.1. Consistent with the impact of retirement, it showed that the proportion of Territorians in the highest income group of \$600 or more per week was markedly lower in the oldest age group, 65 years and over, than in younger age groups. Only 20% of non-Indigenous and 3% of Indigenous Territorians aged 65 years and over had incomes over \$600 per week compared with 62% of non-Indigenous and 11% of Indigenous Territorians aged 15 to 49 years. The proportion of Territorians aged 65 years and over who earned between \$150 and \$399 (\$7,800 to \$20,748 per annum) was higher than other age groups, but the increase was less marked for older Indigenous Territorians because they tended to have lower incomes than non-Indigenous people in all age groups. Among Indigenous Territorians, 83% of those aged 65 years and over earned between \$150 and \$399 per week compared to 60% in their younger counterparts aged 15 to 49 years. Among non-Indigenous Territorians, 55% of those aged 65 years and over had incomes in this range compared to 12% in the younger year group (Table 3.1).

Table 3.1 Weekly income, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Income	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number (%)		Number (%)		Number (%)		Number (%)		Number (%)		Number (%)	
<i>Census question: What is the person's weekly income, including wages, benefits, pensions, allowances?</i>												
Negative income	51	(0.2)	242	(0.4)	11	(0.3)	116	(0.5)	15	(1.0)	34	(0.5)
Nil income	2,633	(10.4)	4,062	(6.1)	137	(3.4)	1,002	(4.7)	42	(2.8)	243	(3.9)
\$1–\$149	2,666	(10.6)	3,861	(5.8)	269	(6.7)	609	(2.8)	93	(6.1)	331	(5.3)
\$150–\$249	11,429	(45.2)	3,388	(5.1)	2,089	(51.9)	1,939	(9.0)	905	(59.3)	1,880	(30.0)
\$250–\$399	3,804	(15.1)	4,699	(7.1)	687	(17.1)	1,803	(8.4)	354	(23.2)	1,594	(25.4)
\$400–\$599	1,889	(7.5)	9,226	(13.9)	289	(7.2)	2,870	(13.4)	73	(4.8)	924	(14.7)
\$600 or more	2,794	(11.1)	40,950	(61.6)	542	(13.5)	13,127	(61.2)	44	(2.9)	1,268	(20.2)
Total stated	25,266		66,428		4,024		21,466		1,526		6,274	
Not stated*	3,579		2,331		442		716		183		430	
Total	28,845		68,759		4,466		22,182		1,709		6,704	

Notes:

(1) Not stated Indigenous status are excluded from this table.

* Includes not adequately described, not stated and not applicable.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Consistent with the trend identified in the Census, older people who responded to the COTA NT survey earned less than their younger counterparts. In the survey 61% of the older age group indicated they had a low annual income of \$25,000 or less compared with 22% of the younger age group (Appendix Table 3.7).

National data from the MPHS showed that among Australian retirees aged 45 years and over, 65% reported their main source of current income was a government pension or allowance. A further 15% received superannuation or an annuity. Females were less likely to have income from superannuation (11% compared with 21% for males) and more likely to have no personal income instead relying on savings, assets or partner's income (8% compared with 3% of males).³

Data obtained from Centrelink provided a more recent snapshot of the number of older Territorians receiving income support payments. In the first week of December 2008, 6,623 Territorians aged 65 years and over received the Age Pension (not including the Department of Veteran's Affairs Age Pension), representing 59% of this age group in 2008 (Appendix Table 3.8).⁵ Take up rates for the age pension in the NT were slightly lower than the national rates (66% in June 2007).⁶ Few Territorians aged 65 years and over received a Disability Support Pension (less than 112) or Carer Payment (less than 63). Examples of income support available to older Territorians are listed in Appendix Table 3.9. For more detailed information readers are directed to the Centrelink website at <http://www.centrelink.gov.au/internet/internet.nsf/payments/index.htm>.

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In the future, less people are expected to rely on the Age Pension as their main source of income. The Productivity Commission projected that nationally, the proportion of full pensioners would decline from 55% in 2007 to 36% in 2047. The proportion of people receiving part-pension was projected to increase from 25% to 41% and those receiving no pension were also expected to increase from 20% to 24%.³³ Data from the MPHS supported these projections with 53% of people aged 45 years and over who intend to retire from the workforce expecting to rely on superannuation or annuities as their main source of income at retirement. Only 27% expected the pension to be their main source of income.³

War veterans

In March 2010, the net total number of Department of Veterans' Affairs (DVA) beneficiaries in the NT was 1,407.³⁴

Of this group:

- 518 Territorians received the Service Pension,³⁴ which can be accessed up to five years earlier than the age pension in recognition of the intangible effects of war that may cause premature ageing and/or loss of earning power.³⁵
- 791 Territorians received the Disability Pension,³⁴ which is paid to veterans who have suffered injuries or diseases caused or aggravated by defence service.³⁵
- 160 Territorians received the War Widows/Widowers Pension,³⁴ which is available when a veteran's death is caused by war or eligible defence service.³⁵

Note: 'Net Total Beneficiaries' consists of any person who receives a pension/allowance from DVA or who holds a treatment or pharmaceutical card issued by DVA. However, it does not include persons receiving Veterans' Children Education Scheme payments or payments under the Military Rehabilitation and Compensation Act 2004 or the Safety, Rehabilitation and Compensation Act 1988.³⁴

Sources: DVA, DVA client profile by Federal electorate and List of pension types.

3.3.3 Superannuation

Superannuation will become the key source of income for many older Territorians in the future. Most Australians aged 45 years and over who are still in the workforce have contributed to a superannuation scheme (94% of people who intend to retire)³ and it is now compulsory for employers to provide superannuation support for employees under superannuation guarantee legislation.²⁹ Superannuation can be accessed when a person retires permanently from the workforce and reaches the minimum age set by law, known as the 'preservation age', which is determined by date of birth. For people born before July 1960 the minimum age is 55 years. After that date there is a sliding scale until June 1965 when the minimum is 60 years.³⁶

3.3.4 Wealth

Wealth is a summary measure of the value of household assets less the value of household liabilities.¹⁹ Greater wealth enables a higher quality of life and plays a key role in providing economic security during retirement. Wealth generally accumulates with increasing age due to the compounding of voluntary saving and compulsory superannuation.³⁷ It also determines Age Pension eligibility and the payment rate (the pension being a 'safety net' for older people unable to support themselves financially).⁸

Although the average income of older people tends to be relatively low, average wealth tends to be relatively high. The ABS Survey of Income and Housing (SIH) conducted during the period 2005–2006 found that households with a reference person aged 55 to 64 years had the highest mean household net worth at \$823,785. The second highest were people aged 65 to 74 years at \$743,326. People aged 75 years and over had an average mean household net worth of \$575,169.³⁸ Age based figures were not available for the NT, but given the average worth across all NT households was 30% (\$391,900) below the Australian average (\$562,900), wealth in older NT households may also be below the national average.³⁹

3.3.5 Household expenditure

The ABS 2003–2004 Household Expenditure Survey found the average weekly expenditure for an NT household with a reference person aged 65 years and over was \$693.98 compared with \$939.14 for a person aged 55 to 64 years and an average of all NT households of \$1043.63.⁴⁰ Expenditure in the NT was higher than the national average (\$509.70 for people aged 65 years and over).⁴¹ An inquiry into the cost of living pressures on older Australians found that key expenditure items for older households are food and medical care, but there were differences in their importance depending on people's primary source of income.⁴² In the NT, 51% of respondents to the COTA NT survey aged 66 years and over were reported to be self funded retirees (Appendix Table 3.10)

Nationally, age pensioners and self-funded retirees spent about twice as much on their health (7% and 9%, respectively) compared with 5% for employees and 3% for other recipients of government transfers. Age pensioners spent the highest proportion on food, allocating 21% of their income compared with 19% for other government transfer recipients, 17% for self-funded retirees, and 16% for employees. Self-funded retirees spent the highest proportion on recreation activities allocating 17% of income compared with 13% for employees, 6% for other government transfer recipients and 5% for age pensioners.⁴²

The likely expenditure for an NT retiree at the present time can be estimated using the Westpac and the Association of Superannuation Funds of Australia (ASFA) Retirement Standard Calculator (Table 3.2). The estimates assume a retiree owns their home and thus, do not include rent or mortgage payments. Two standards of retirement are possible: modest, which is defined as just better than that provided for by the Age Pension, but limited to fairly basic activities; and a comfortable lifestyle, which allows for a broad range of leisure and recreational activities, private health insurance, a sound car, good clothes, electronic equipment, domestic and occasional international travel.⁴³ In the NT, it was estimated that a single retiree required \$384.60 per week to live a modest lifestyle and a couple would require \$537.70 (Table 3.2). To live a comfortable lifestyle in the NT, a single retiree would require \$739.17 per week and a couple would require \$988.33 per week. As previously shown in Table 3.1, only 3% of Indigenous people and 20% of non-Indigenous aged 65 years and over had an income that could fund a comfortable lifestyle for a single person. Similarly, only 21% of the respondents to the COTA NT survey who were aged 66 years and over would have been able to fund such a lifestyle (Appendix Table 3.7).

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Table 3.2 Average weekly budget for retired singles and couples, Northern Territory, 2010

Expenditure item	Modest lifestyle - single*	Modest lifestyle - couple	Comfortable lifestyle - single*	Comfortable lifestyle - couple
Housing	\$78.62	\$81.31	\$104.44	\$107.13
Energy	\$14.43	\$17.21	\$15.81	\$18.56
Food	\$70.30	\$147.92	\$139.43	\$196.56
Personal care	\$25.78	\$40.63	\$25.78	\$40.63
Household goods/services	\$53.49	\$56.64	\$95.04	\$100.55
Clothing/footwear	\$14.82	\$25.54	\$31.26	\$57.02
Transport	\$70.01	\$70.77	\$106.84	\$107.61
Health services	\$13.39	\$25.25	\$56.42	\$110.96
Leisure	\$43.75	\$72.43	\$139.97	\$200.93
Gifts and/or alcohol or tobacco	\$0.00	\$0.00	\$24.19	\$48.38
Total per week	\$384.60	\$537.70	\$739.17	\$988.33
Total per year	\$19,999.27	\$27,960.32	\$38,436.94	\$51,393.28

Notes:

(1) It is assumed that the retiree owns their home.

(2) Housing expenditure includes contents, insurance, rates, repairs.

(3) Energy expenditure includes electricity, gas.

(4) Household goods/services expenditure includes furniture, household items, cleaning, tools.

(5) Transport expenditure includes running costs, public transport.

(6) Health services expenditure includes insurance, medicines, dental.

(7) Leisure expenditure includes books, television, computer, holidays.

* Single budget calculated for females, which is slightly higher than for males to allow for higher clothing and personal care costs.

Source: Westpac ASFA retirement standard calculator, as at 26 May 2010.

For older Territorians with fixed incomes and lower discretionary spending, relative prices and price increases will be important as they erode the value of savings and increase the cost of living. The cost of purchasing household items in the NT tends to be higher than in the rest of Australia. Of 51 supermarket items in capital cities in 2010, 27 were the most expensive in Darwin.⁴⁴

Outside of Darwin, grocery items tend to be higher due to freight charges and seasonal restrictions. In 2008, the average cost of groceries in remote stores was 23% higher than Darwin supermarket prices. The cost of the basket of foods is higher in both remote stores and Darwin supermarkets compared to the calculated cost of the basket using annual Consumer Price Index (CPI) figures in 2007 and 2008. The difference is small for remote stores and is quite marked for Darwin supermarkets. From 2007 to 2008, prices rose by 5% in NT supermarkets and 4% in remote stores. The growth was higher than increases in the CPI, a trend that has now persisted for several years, particularly in Darwin.⁴⁵

3.4 Characteristics of older households

3.4.1 Marital status

According to the 2006 Census, older Territorians were more likely to be either married or widowed than their younger counterparts (Table 3.3). Indigenous and non-Indigenous Territorians aged 50 to 64 years had the highest rate of marriage in 2006 (47% and 62% respectively). High rates of marriage (64%) were also found among 50 to 64 year old respondents to the COTA NT survey (Appendix Table 3.11). Older Indigenous Territorians aged 65 years and over were more likely to be widowed than non-Indigenous Territorians of the same age (41% and 22% respectively) (Table 3.3). Proportionately fewer older Territorians aged 65 years and over had never been married, 18% for Indigenous and 8% for non-Indigenous Territorians (Table 3.3). These rates were higher than the national rate of 5%. Older Territorians of this age group (both Indigenous and non-Indigenous) were also more likely to be separated (5% compared with 2% nationally) or divorced (15% compared with 8% nationally).¹⁹

Table 3.3 Marital status, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Marital Status	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number (%)		Number (%)		Number (%)		Number (%)		Number (%)		Number (%)	
<i>Census question: What is the person's present marital status?</i>												
Married*	11,251	(39.0)	26,487	(38.5)	2,111	(47.3)	13,577	(61.2)	535	(31.2)	3,398	(50.7)
Never married	15,445	(53.6)	35,419	(51.5)	969	(21.7)	2,247	(10.1)	302	(17.6)	532	(7.9)
Separated	950	(3.3)	2,122	(3.1)	267	(6.0)	1,308	(5.9)	75	(4.4)	321	(4.8)
Divorced	656	(2.3)	4,428	(6.4)	384	(8.6)	4,232	(19.1)	105	(6.1)	1,014	(15.1)
Widowed	532	(1.8)	304	(0.4)	733	(16.4)	819	(3.7)	696	(40.6)	1,439	(21.5)
Total	28,834		68,760		4,464		22,183		1,713		6,704	

Notes:

(1) Not stated Indigenous status are excluded from this table.

* Excludes defacto marriages.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, NT DoH.

3.4.2 Living arrangements

Consistent with higher proportions of widowed, separated and divorced people, the proportion of people living alone also increased with age (Table 3.4). In 2006, 11% of Indigenous Territorians and 28% of non-Indigenous Territorians aged 65 years and over were living alone compared to 29% of all Australians.¹⁹ The proportion of people living alone increased across the age groups, but this trend was more marked among non-Indigenous Territorians. The proportion of non-Indigenous Territorians living alone was also higher than for Indigenous Territorians in all age groups. Research conducted by NT Treasury, based on Census data, indicated that the proportion of lone person households among all households in the NT almost doubled between the 1986 Census and the 2006 Census.⁴⁶ This is a concerning trend as these people are more at risk of loneliness and social isolation and the need for assistance from people other than family in the case of illness and increasing frailty.¹⁹

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Table 3.4 Lone households, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Household Composition	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number (%)		Number (%)		Number (%)		Number (%)		Number (%)		Number (%)	
<i>Census question: What is the person's relationship to Person 1/Person 2?</i>												
Lives alone	1,050	(3.9)	5,968	(9.3)	415	(9.9)	3,585	(17.0)	165	(10.9)	1,732	(28.0)
Not alone	25,980	(96.1)	58,340	(90.7)	3,788	(90.1)	17,535	(83.0)	1,350	(89.1)	4,463	(72.0)
Total stated*	27,030		64,308		4,203		21,120		1,515		6,195	
Not applicable†	1,806		4,452		266		1,062		194		510	
Total	28,836		68,760		4,469		22,182		1,709		6,705	

Notes:

(1) Not stated Indigenous status are excluded from this table.

* Includes all those individuals whose census form had more than Person 1 completed for all stated relationships, such as dependent child, non-dependent child, husband/wife, de facto partner etc.

† Includes persons in other non classifiable households, persons in non-private dwellings and persons in migratory, off-shore or shipping CDs.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Carers NT

Carers NT is funded by the Australian Government and is the only organisation in the NT to provide direct services to carers of the frail aged, disabled or people with a chronic illness. Carers NT provide information, referral, educational training programs, respite programs, free counselling, advocacy and support groups. Offices are located in Darwin, Katherine and Alice Springs. For further information see the Carers NT website at <http://www.carersaustralia.com.au/?/nt/section/3:about-us/0>.

3.4.3 Older carers

Older people provide a significant amount of informal care for grandchildren, ill or disabled partners and adult children with a disability. Caring can cover a range of activities including assistance with emotional support, communication, health care, personal care, housework, meal preparation and mobility. In 2003, 18% (452,300) of the 2.5 million carers in Australia were aged 65 years and over. Of carers providing the most assistance with primary activities, 24% (113,100) were aged 65 years and over. The majority (83%) of older primary carers were looking after their spouse or partner. A further 9% were providing assistance to adult children with a disability or frail older parents.¹⁹

Within the NT, there are two sources of data on older carers: information collected about disability service use through organisations funded under the Commonwealth State/Territory Disability Agreement (CSTDA); and people receiving carer payments through Centrelink. During the financial year 2006/2007, CSTDA data identified 301 clients in the NT as having a carer, of whom 40 were aged 65 years and over (Appendix Table 3.12). Just over half of these older carers were looking after a person aged 50 years and over. Centrelink data is more recent, but not all carers receive payments for this work. In January 2009, over 300 Territorians aged 50 to 64 years and more than 20 Territorians aged 65 years and over received a Carer Payment (Appendix Table 3.8).

3.4.4 Grandparents raising grandchildren

The 2006 Census asked Territorians if they had provided unpaid care in the previous two weeks for a child including their own grandchildren, children of other relatives, friends and neighbours. It showed that there were significant numbers of people aged 65 years and over providing unpaid care: 26% of older Indigenous Territorians and 12% of older non-Indigenous Territorians (Table 3.5). The higher proportion of Indigenous carers was likely to reflect cultural and family responsibilities. The Census did not provide specific details about the relationship of the carer to the child, but anecdotal evidence indicates there are many Indigenous grandparents raising their grandchildren in the NT. This is supported by data from the COTA NT survey, which showed that 24% of Indigenous respondents aged 50 years and over were caring for grandchildren, compared with 2% of non-Indigenous respondents of the same age (Appendix Table 3.13).

Table 3.5 Unpaid carer for child less than 15 years of age, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Cared for a child*	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
<i>Census question: In the last two weeks did the person spend time looking after a child without pay?</i>						
Yes	11,930 (47.7)	24,708 (37.1)	1,530 (38.7)	3,776 (17.5)	390 (26.0)	718 (12.0)
No	13,076 (52.3)	41,859 (62.9)	2,419 (61.3)	17,804 (82.5)	1,109 (74.0)	5,270 (88.0)
Total stated	25,006	66,567	3,949	21,580	1,499	5,988
Not stated	3,829	2,191	517	600	210	722
Total	28,835	68,758	4,466	22,180	1,709	6,710

Notes:

(1) Not stated Indigenous status are excluded from this table.

* Includes care of own children, grandchildren, children of other relatives and children of friends and neighbours.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Grandparents raising grandchildren experience many challenges including the erosion of savings and superannuation, lack of access to specialist services for their grandchildren, lack of respite and restrictions on accessing Legal Aid.⁴⁷ Taking over the care of a child often requires sudden and major lifestyle adjustments and often occurs at a time when grandparents are retired or planning retirement, have lower financial resources and less physical stamina.⁴⁸ Community support groups are available for grandparents who are in a caring role or raising grandchildren. Carer allowances and payments are also available. For more information on financial support for carers see the Centrelink website at <http://www.centrelink.gov.au/internet/internet.nsf/publications/co031.htm>.

3.4.5 Financial support to older children

In addition to care, older people may also provide financial support to family members. The 2006 General Social Survey (GSS) found that about 24% of all older Australians provide direct or indirect financial support for adult children or other relatives living outside the household, despite relatively low average income levels.¹⁹ Older Territorians had higher rates of providing support (Table 3.6). Among older Territorians, the most common forms of support were to give money to pay bills or meet debt and to assist with transport by lending a car or driving relatives to places (Appendix Table 3.14).

The ABS General Social Survey

The 2006 General Social Survey (GSS) asked people aged 18 years and over who were residents of private dwellings about their personal and household characteristics. Non-private dwellings such as hotels, motels, hostels, hospitals and short-stay caravan parks were not included in the survey. People in remote areas were not sampled, thereby excluding about 20% of the NT population. The total GSS sample in 2006 was 13,375 dwellings, of which 1,293 were located in the NT.⁴⁹ The sampling method strongly biases results in the NT to the urban non-Indigenous population.

Source: ABS, General Social Survey: User guide.

Table 3.6 Supports relatives living outside the household, by age group, Northern Territory, 2006 General Social Survey

	18–49 years	50–64 years	65 years and over
Provides support to other relatives living outside the household	Per cent	Per cent	Per cent
Yes	26.9	32.1	31.9

Source: ABS, 2006 General Social Survey. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Another form of indirect financial support is the continued use of the parental home by adult children. In 1999, 30% of Australians aged 55 to 64 years and 11% of those aged 65 years and over experienced children returning to the household.⁵⁰ The increasing cost of housing, delayed marriage, high divorce rates and the rising cost of living suggest that return rates may now be even higher.⁸

3.5 Housing

3.5.1 Home ownership

For many older people, the home is a major store of household wealth.¹⁹ Nationally, the 2006 Census showed that 68% of households owned their home either outright (34%) or with a mortgage owing (34%).¹¹ In the NT, home ownership was much lower (48%), in part due to the large number of Indigenous households who have lower rates of home ownership (18%).¹⁰

According to the Survey of Income and Housing (SIH) on Australian housing occupancy and costs conducted by the ABS and reported by the AIHW in their report *Housing assistance in Australia*, home ownership among older Australians was much higher than all other households. In households where the reference person was aged 65 years and over, 79% of these households fully owned their home and a further 5% had a mortgage owing on their home (Table 3.7).⁵¹ Given home ownership among all Territorians was lower than the national average, it is likely that older Territorians would also have lower home ownership rates than nationally. Consistent with this proposition, the 2006 GSS indicated that only 62% of Territorians aged 65 years and over were home owners (Table 3.7).

The 2006 GSS found that the proportion of older Territorians in private rental properties (13%) or public housing (21%) was higher than the national average for this age group (6% and 5%, respectively) (Table 3.7). The GSS did not survey households in remote areas but this information is collected in each jurisdiction as part of the Census. According to the 2006 Census, the majority (72%) of Indigenous housing in the NT were rented. These were either owned by the community, Indigenous housing organisations or entities other than individuals.¹⁰ Since 71% of Indigenous Territorians resided in remote regions of the NT during the 2006 Census, it is reasonable to assume that rental rates in these areas are also likely to be high.⁵²

Table 3.7 Housing tenure among people aged 65 years and over, Northern Territory and Australia, 2006
General Social Survey

	Northern Territory ^a	Australia ^b
Tenure and landlord type	Per cent	Per cent
Owner		
Without a mortgage	43.6	79.3
With a mortgage	17.9*	5.3
Total owner	61.5	84.6
Renter		
State/territory housing authority	21.3*	5.1
Private landlord	13.1	6.1
All other tenure types	4.2	4.2
Total renter	34.4	15.4

Notes:

Not stated are not included in these totals.

* Estimates with a relative standard error of 25% to 50% should be used with caution.

Sources:

(a) ABS, General Social Survey Cat. no. 4159.7.55.001.

(b) AIHW, Housing assistance in Australia, Cat. no. HOU 173.

3.5.2 Public housing

Public housing is intended to meet the housing needs of disadvantaged Australians so eligibility is dependent on a person's income, assets and residency status.⁵³ In the NT, public housing is provided by Territory Housing. Access to homes is based on a queuing system (first in with an application, first housed), but exceptions are made in certain circumstances, for example, homelessness and serious medical, social or disability problems.⁵⁴ Some separate accommodation is provided for older residents (55 years and over) through a number of Seniors Villages located in Fannie Bay, Coconut Grove, Leanyer, Wanguri and Alice Springs. Territory Housing also provides separate accommodation for pensioners (the age criterion is the same as that for the Age Pension). These complexes are located in Darwin, Palmerston, Katherine and Tennant Creek.

As shown in Table 3.8, 26% of Territory Housing tenants in June 2008 were aged 65 years and over (1,288 residents) and another 25% were aged 50 to 64 years (1,279 residents). The greatest number and proportion of tenants aged 65 years and over were located in Darwin (423 people; 35%). The next highest proportion of older tenants was in Alice Springs (27%). The smallest number and proportion of tenants aged 65 years and over were in Nhulunbuy (5 people; 17%).

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Table 3.8 Public housing tenancies, wait list, and tenantable dwellings, by age group and location, as at June 2008

	Alice Springs	Casuarina	Darwin	Katherine	Nhulunbuy	Palmerston	Tennant Creek	NT Total
All public housing tenancies								
15–49 years	420	634	445	241	11	647	67	2,465
50–64 years	199	294	337	89	13	303	44	1,279
65 years and over	225	247	423	98	5	265	25	1,288
Total	844	1,175	1,205	428	29	1,215	136	5,032
Public housing applicants on wait list								
All ages	649	475	1,125	276	50	661	117	3,353
Public housing dwellings								
Tenantable	893	1,185	1,234	436	30	1,226	142	5,146
Untenantable	19	14	17	9	0	29	4	92
Not tenanted*	49	10	29	8	1	11	6	114

Note:

* These dwellings are included in the tenantable total, but were not tenanted as they were in the 21-day turnaround period between tenancies.

Source: NT DHLGRS. User-defined tables held by the Health Gains Planning Branch, NT DoH.

The majority of older public housing tenants live alone. According to the report *Older persons in public housing: Present and future profile*, where information was sourced from the 2001 Census, the NT had a slightly lower proportion of lone public housing tenants (58% in 2001) in public housing compared with the national average (63%) and slightly higher levels of other household arrangements (couples, families and groups) than the national average. The NT had the youngest profile of older public housing tenants with 75% of tenants aged 65 to 74 years compared with 56% nationally. The remainder of tenants were aged 75 to 84 years. Nationally, 10% of public housing tenants were aged 85 years or older.⁵⁵

The report also stated that there were no public housing tenants in the NT aged over 85 in 2001. This is likely to change in the future with the number of older people in public housing projected to change dramatically between 2001 and 2016. The NT is expected to have the greatest increase in older occupants of public housing (53% compared with 24% nationally) and the percentage of public housing tenants aged 85 years and over is expected to increase by 271% compared with 155% nationally. In 2001, the NT was able to meet 48% of the eligible demand for public housing from older people. To continue meeting this proportion of demand in 2016, the number of public housing dwellings allocated to older persons in the NT would need to increase annually by 95 dwellings.⁵⁵

The AIHW reported in *Public rental housing 2007–08* that the NT had a 95% occupancy rate for public housing, which was the lowest of all states and territories (98% nationally). The proportion of untenable dwellings in the NT (2%) was also higher than the national average of 0.8%. The lower occupancy rates and higher proportions of untenable dwellings were due to the ageing and deteriorating condition of housing stock and increased pressure from tenants who have limited experience of living in an urban environment.⁵⁶ If the maintenance needs of existing stock are high and the supply of new buildings is unable to keep up with the growing demand, the waiting list for public housing will lengthen. In the NT the wait for one bedroom public housing for pensioners varies between regions with a maximum of 57 months in Darwin/Casuarina and a minimum of 12 months in Katherine as of 31 May 2010 (Table 3.9).

Table 3.9 Estimated public housing (1 bedroom) wait times, Northern Territory, as at 31 May 2010

Region	Pensioner	Non-pensioner
	Months	Months
Alice Springs	36	55
Darwin/Casuarina	57	54
Palmerston	54	51
Katherine	12	23
Nhulunbuy	*	100
Tennant Creek	19	55

* There is no designated senior accommodation in Nhulunbuy. All eligible 1 bedroom applicants are housed from the non-senior wait list.

Source: NT DHLGRS. Viewed 31 May 2010, <http://www.territoryhousing.nt.gov.au/public_housing/new_tenants/wait>

3.5.3 Characteristics of dwellings for older people

The COTA NT survey collected information about the number of bedrooms in respondents' current accommodation. Most respondents were living in a three bedroom residence: 49% of those aged 50 to 65 years and 41% of those aged 66 years and over (Appendix Table 3.15). Only 5% of people aged 50 to 65 years lived in a one-bedroom residence, but increased to 18% among those aged 66 years and over (Appendix Table 3.15).

3.5.4 Retirement villages

Retirement villages are a popular housing choice that provide self contained homes for people who want to maintain their independence, but like the feeling of security, support and companionship of living in the proximity of other people of retirement age.⁵⁷ The NT has one retirement village: Tiwi Gardens Village, which is located in Darwin and run by Masonic Homes. It has over 60 two or three bedroom retirement villas that are available for retired or semi-retired people aged 55 years and over. These villas are purchased by individuals for market value (about \$360,000 in 2009).

3.5.5 Independent living units

Independent living units (ILUs) are provided by not-for-profit organisations to older people with low income and assets. Independent living units are generally rented and some may require an upfront contribution on entry.⁵⁸ In the NT, Frontier Services and Masonic Homes offer the only ILUs available. Frontier has 43 ILUs available for people aged 65 years and over at the Old Timers Village in Alice Springs. Younger people with special needs may also be accommodated there. Masonic Homes have 12 units at Tiwi in Darwin to rent to eligible frail elderly people.

3.5.6 Housing costs

The amount of income spent on housing depends on home ownership. Nationally, the SIH found that older households (reference person aged at least 65 years) who fully owned their home spent from 3% to 4% of their gross income in 2007–08 on housing costs. For older households with a mortgage, housing costs consumed from 9% to 12% of gross income. These proportions were similar to outlays for all owner households (2% for full owners and 18% for those with a mortgage). Older renters, however, spend a much higher proportion of their gross income on housing costs (from 30% to 35% for privately owned accommodation and from 21% to 27% for state and territory housing authority accommodation).⁵⁹ Rental costs at these levels put older people at risk of housing stress (see Box).

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Housing stress

Housing is considered to be affordable if it can be purchased or rented for not more than 30% of an individual's net disposable income. If housing costs are greater than 30% of an individual's income, he/she is considered to be in 'housing stress'.⁵¹

Source: AIHW, Housing assistance in Australia.

The 2006 Census also collected information about the weekly cost of rent including site fees for people residing in caravan parks. This question had a poor response rate, but of those Territorians who did respond, the proportion of people paying lower amounts of weekly rent (under \$100 per week) increased with age (Table 3.10), but the change was more marked in the non-Indigenous population. Among non-Indigenous Territorians, 61% of people aged 65 years or older were paying less than \$100 per week in rent compared with 21% of people aged 15 to 49 years. Among Indigenous Territorians, 81% of the oldest age group were paying rental costs of this amount compared to 75% of people in the 15–49 year age group.

Table 3.10 Weekly rental costs, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Weekly payment	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
<i>Census question: How much does your household pay for this dwelling*?</i>						
\$0–\$49	9,987 (49.6)	3,872 (14.6)	1,498 (50.9)	1,276 (23.2)	612 (56.4)	595 (36.0)
\$50–\$74	3,160 (15.7)	858 (3.2)	478 (16.2)	435 (7.9)	165 (15.2)	240 (14.5)
\$75–\$99	1,928 (9.6)	790 (3.0)	274 (9.3)	272 (4.9)	106 (9.8)	172 (10.4)
\$100–\$119	1,007 (5.0)	978 (3.7)	146 (5.0)	200 (3.6)	44 (4.1)	76 (4.6)
\$120–\$139	692 (3.4)	1,687 (6.4)	112 (3.8)	256 (4.6)	25 (2.3)	82 (5.0)
\$140–\$299	2,872 (14.3)	12,536 (47.2)	380 (12.9)	2,216 (40.3)	117 (10.8)	373 (22.6)
\$300 or more	508 (2.5)	5,838 (22.0)	56 (1.9)	852 (15.5)	17 (1.6)	113 (6.8)
Total stated*	20,154	26,559	2,944	5,504	1,086	1,651
Not stated	8,685	42,204	1,519	16,678	629	5,048
Total	28,839	68,763	4,463	22,182	1,715	6,699

Notes:

(1) Not stated Indigenous status are excluded from this table.

* Includes caravans etc. in caravan parks.

† Not stated also includes not applicable.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, NT DoH.

The majority of older Territorians had a weekly income of between \$150 and \$399 (Table 3.1) so rental amounts over \$50 per week could mean that people may face issues of housing affordability and are likely to experience 'housing stress'.⁵¹ The occurrence of increases in median rental prices in recent years, particularly for units, which increased from \$400 per week in December 2008 to \$500 in December 2009 is likely to have worsened this problem.⁶⁰

3.5.7 Assistance with bonds and rent

The NT Government helps people access private rental housing by providing an interest free loan to pay the bond. For eligibility criteria and other information on this assistance, readers are referred to the fact sheet available on the Territory Housing website at <http://www.territoryhousing.nt.gov.au>.⁶¹

The Australian Government provides a non-taxable payment to assist with the cost of private rent.⁶² Nationally, in June 2007, 19% (176,476) of people receiving rent assistance were age pensioners. On average, they paid \$272 per fortnight in rent and received \$80 per fortnight in rental assistance.⁶² For further detail on eligibility, payment rates and the claim process, readers are referred to information on the Centrelink website at <http://www.centrelink.gov.au>.⁶³

3.5.8 Homelessness

Homelessness occurs as a result of multiple intersecting factors, which for older people include a lack of appropriate residential care or affordable housing, poor family and social support, health issues, poor tenancy history and financial difficulties.⁶⁴⁻⁶⁶ Older homeless people may be further disadvantaged due to the effects of increasing frailty and age. Many also experience behavioural problems due to social isolation and/or disaffiliation, which act as a barrier to accessing services.⁶⁵

In 2008, the Department of Health and Ageing estimated that 6,000 people aged 65 years and over were homeless in Australia.⁶⁷ The Census estimated that around 7,400 senior Australians were homeless in 2006, the majority being males (64%).⁶⁸

The AIHW report *Counting the homeless 2006: Northern Territory*, provided information on the age structure of the NT homeless population. It showed that 314 (7%) of homeless people in the NT in 2006 were aged 65 years; 718 (15%) were aged 55 to 64 years and a further 634 (13%) were aged 45 to 54 years.⁶⁹ Given that chronic homelessness leads to premature ageing (50 years of age is considered elderly), this group needs to be considered as part of the older population.⁶⁴ Men outnumbered women in the majority of age groups and particularly amongst the older age groups.⁶⁹ The homeless population in the Territory was older than the homeless population in other states. In 2006, 48% of the homeless were aged 35 or older compared with 42% nationally. Indigenous people were overrepresented in all sectors of the homeless population, with the exception among those staying with other households. However, this may be due to undercounting.

The Australian Government's Supported Accommodation Assistance Program (SAAP), which funds the provision of accommodation and support to people who are homeless or at risk of becoming homeless, provides more recent information on homeless people in the NT, but only for those who access services under the program.⁷⁰ In the 2007/2008 financial year, 3,100 people used SAAP services and of these, 7% were aged 50 to 64 years of age and 1% were aged 65 years and over. More males accessed SAAP services than females in these older age groups and the gap increased with age to reach a three fold difference among people in the oldest age group, 65 years and over. In this age group, males comprised 1% of the total SAAP population compared with 0.3% for females.⁷¹

Residential issues for older people with alcohol-related brain impairment

Alcohol-related brain impairment (ARBI) is characterised by a reduction in cognitive function, aggressive tendencies, poor impulse control and depression.⁷² This condition is often misdiagnosed and can be mistaken for dementia. The challenging behaviours exhibited by people with ARBI can be barriers to accessing services, particularly residential aged care, as they require specialised care to manage their behaviour and meet their complex needs, which include a higher incidence of and more severe chronic health conditions.⁷³ There is, however, a lack of appropriate services available.⁷² Data were not available on the amount of people in the NT who suffer ARBI, but anecdotal evidence suggests that the NT has a significant number of older men whose lifestyle puts them at risk.

Source: Dual diagnosis: Acquired brain injury and mental illness

3.6 Social engagement

Although retirement provides the opportunity for many older people to spend more time with family and to pursue personal and community interests, for others it can be isolating with a lack of social support, contacts and participation in society, and reduced feelings of being a valued and supported member of the community.⁷⁴ One of the principles of the NT Government's Active Ageing Framework is to encourage older people to participate with family, friends and society.²⁰ This is also recognised as an important goal in the report *National strategy for an ageing Australia*.⁷⁵

3.6.1 Social interaction

The results from the 2006 GSS on social interaction and support networks among Territorians indicate that the number and nature of social contacts changes with age. The proportion of Territorians who indicated that they could get support from a person living outside their household narrowed with age (Table 3.11). Older Territorians were more likely than younger Territorians to have experienced, in the previous week, face to face contact with family and friends living outside the household, and for these contacts to occur at least once a week (Appendix Table 3.16). For all ages, the key sources of support were family members or friends, but other sources narrowed for older Territorians. Work colleagues and government services played a lesser role and reliance increased on neighbours and community, charity or religious organisations (Appendix Table 3.16).

Table 3.11 Support from persons living outside the household, by age group, Northern Territory, 2006 General Social Survey

	18–49 years	50–64 years	65 years and over
Able to get support in time of crisis from persons living outside the household	Per cent	Per cent	Per cent
Yes	93.1	90.6	85.8

Source: ABS, 2006 General Social Survey. User-defined tables held by the Health Gains Planning Branch, NT DoH.

3.6.2 Physical and social activity

The GSS also asked people about the type and frequency of participation in social and leisure activities. Participation reduced with age particularly for physical activity (Table 3.12). Participation in social activities also declined, most notably in terms of meeting friends for activities. Instead older people relied on less active forms of social interactions, such as visits to and from friends (Appendix Table 3.17).

Table 3.12 Participation in a physical activity, by age group, Northern Territory, 2006 General Social Survey

	18–49 years	50–64 years	65 years and over
Participated in sport or recreational physical activity in last 12 months	Per cent	Per cent	Per cent
Yes	73.3	69.6	48.5

Source: ABS, 2006 General Social Survey. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Although participation in sport or recreational physical activity declines with age, there are events, such as the Master Games, which encourage increased participation. These games are held throughout Australia to support lifelong participation in sport. Although the competition is important, people are encouraged to participate regardless of their background or ability and the social interaction and spirit of comradeship is one of the key attractions for participants.⁷⁶ Alice

Springs hosts a biennial Masters Games event. In 2008, 4,084 people participated in the Alice Springs Masters Games, 1,265 (31%) of whom were aged 65 years and over. Of these older participants, 485 were women and 780 were men. The most popular sports for older participants were golf, lawn bowls, swimming and track and field athletics.⁷⁷

Sport attendance rates also decrease with age. During the financial year 2005/2006, 23% of Australians aged 65 years and over attended a sports event compared with 57% of Australians aged 18 to 24 years. The most popular sports attended by people aged 65 years and over in Australia were AFL and horseracing.⁷⁸ Attendance rates among older Territorians appeared lower than the national average, but the data were too variable to draw definite conclusions on the difference.

3.6.3 Means of communication

The method for communicating with family and friends varies between age groups. Apart from face to face contact, the GSS found that older Territorians were more likely to contact family and friends by fixed line telephone while younger age groups were more likely to use mobile phones and the internet.⁷⁹ The 2006 Census also found lower internet usage in older age groups in the NT with 10% of non-Indigenous and 0.7% of Indigenous people aged 65 years and over reporting that they had used the internet in the previous week (Table 3.13). Internet usage among people in the 50–64 year age group was over three times higher (35% and 4% for non-Indigenous and Indigenous Territorians, respectively) than for people aged 65 years and over, but lower than the youngest age group (54% for non-Indigenous and 9% for Indigenous Territorians aged 15 to 49 years).

Interest in the internet among older Territorians appears to be increasing, however, with the COTA NT survey undertaken in 2006 finding that 70% of respondents aged 66 years and over were interested in undertaking computer training (Appendix Table 3.18).

Table 3.13 Internet usage, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Internet usage	15–49 years				50–64 years				65 years and over			
	Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)	Number	(%)	Number	(%)
Census question: Did the person use the internet anywhere last week?												
Yes	2,194	(8.6)	42,520	(54.3)	135	(4.0)	8,347	(34.7)	9	(0.7)	818	(10.1)
No	23,354	(91.4)	35,733	(45.7)	3,253	(96.0)	15,706	(65.3)	1,375	(99.3)	7,314	(89.9)
Total stated	25,548		78,253		3,388		24,053		1,384		8,132	
Not stated	1,922		985		210		251		88		127	
Total	27,470		79,238		3,598		24,304		1,472		8,259	

Note: Not stated Indigenous status are excluded from this table.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, NT DoH.

3.6.4 Unpaid assistance

The GSS collects information about the ways in which people provide unpaid assistance to people outside their household including activities such as domestic support, running errands and providing childcare. In 2006 almost half (47%) of NT respondents aged 65 to 74 years and 27% of respondents aged 75 years or older had provided unpaid assistance, usually to a relative or friend, in the previous four weeks.⁷⁹

3.6.5 Voluntary work

Although older people generally have lower rates of workforce participation, many provide assistance to the wider community through voluntary work and the time spent volunteering increases with age. In the ABS report *Voluntary work, Australia* which published results from the 2006 GSS, Australians aged 65 to 84 years spent a median time of 2.0 hours per week doing voluntary work. The next highest contribution was a median time of 1.5 hours per week among those aged 55 to 64 years.⁸⁰

In the NT, 22% of non-Indigenous and 6% of Indigenous people aged 65 years and over participated in voluntary work according to the 2006 Census (Table 3.14). Although volunteering was highest among Territorians aged 50 to 64 years, the proportion (11%) of Indigenous people among this age group who participated in voluntary activities was around half that of non-Indigenous people (25%). The nature of Indigenous volunteering may not be accurately captured and measured through self-report surveys. Many activities undertaken by Indigenous people are considered part of community life rather than volunteering. Examples of these activities include attending and participating in reconciliation events, meetings and public consultations; mentoring; and getting services up and running.⁸¹

Nationally, volunteers aged 65 years and over were most likely to work at community and welfare organisations (33%), religious organisations (19%) and health organisations (11%). The most frequent activities undertaken were fundraising and sales; preparing and serving food; administration; and management or committee work. Older volunteers were motivated by the desire to help others and their community, to feel personal satisfaction and to do something worthwhile.⁸⁰

Table 3.14 Volunteer work, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Voluntary work	15–49 years		50–64 years		65 years and over	
	Non-Indigenous		Non-Indigenous		Non-Indigenous	
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Census question: In the last 12 months did the person spend any time doing voluntary work?						
Yes	2,475 (10.0)	14,822 (22.4)	444 (11.4)	5,326 (24.8)	96 (6.4)	1,349 (22.3)
No	22,290 (90.0)	51,425 (77.6)	3,442 (88.6)	16,147 (75.2)	1,399 (93.6)	4,699 (77.7)
Total stated	24,765	66,247	3,886	21,473	1,495	6,048
Not stated	4,074	2,514	580	706	210	661
Total	28,839	68,761	4,466	22,179	1,705	6,709

Note: Not stated Indigenous status are excluded from this table.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, NT DoH.

In *Older people and volunteering*, the University of Adelaide summarises research into the benefits of volunteering among older people and the broader community. In this report various researchers identified the following findings. Volunteering is associated with lower rates of depression, better mental health, self-esteem and psychological well-being and provides the opportunity for social engagement, networking and greater support systems. If, however, volunteering is stressful, lacking in social support and overly demanding it is unlikely to be beneficial to the volunteer. Barriers to older people participating in voluntary work include time constraints, travel and mobility issues, health problems and a lack confidence, self-belief and knowledge about volunteering.⁸² As the population ages, the number of older volunteers is expected to increase and the numbers of younger volunteers decrease. This change will have implications for organisations that rely on a younger volunteer base such as sports and recreation; education, training and youth development; and emergency services.⁸³

3.7 Transport

A lack of access to appropriate transport can impact on the capacity of older people to maintain their independence and participate in social and community life.⁸⁴ Readily available access to transport is also important to attend routine and preventive health care services.⁸⁵ In the NT in 2006, most Territorians could easily get to places according to the GSS. Access to transport was similar across age groups (Table 3.15). However, according to the COTA NT survey fewer older Territorians were satisfied with available transport. This survey, which asked Territorians if they were satisfied with the availability and quality of public transport in their area, found that only half (52%) of respondents aged 66 years and over said that they were (Appendix Table 3.19).

Table 3.15 Transportation, by age group, Northern Territory, 2006 General Social Survey

	18–49 years	50–64 years	65 years and over
Difficulty with transportation	Per cent	Per cent	Per cent
Can easily get to the places needed	83.4	84.3	86.3
Cannot, or often has difficulty getting to the places needed	* 4.2	* 6.1	** 1.8

* Estimates with a relative standard error of 25% to 50% should be used with caution.

** Estimates with a relative standard error greater than 50% are considered too unreliable for general use.

Source: ABS, 2006 General Social Survey. User-defined tables held by the Health Gains Planning Branch, NT DoH.

For older people who have a driver's licence and a car, there may be a need to adapt their driving to their capabilities, for example, limiting the distance and conditions under which they drive.¹⁹ The NT does not have a policy requiring licence holders to undergo a driving assessment or medical examination once they reach a certain age, but legislation requires individuals and medical practitioners to report to the Motor Vehicle Registry any person who is medically unfit to drive.⁸⁶ On 1 March 2010, drivers aged 65 years and over comprised 6% of all licence holders in the NT.⁸⁷

There are a number of initiatives that improve access to transport for older Territorians (Appendix Table 3.20). The NT Government Pensioner & Carer Concession Card provides concessions on motor registration and free licence renewals. Public transport costs are free for senior NT residents holding an Australian Government Pensioner Concession Card (Centrelink), NT Government Pensioner & Carer Concession Card or NT Government Seniors Card. In Darwin and Alice Springs, low floor, easy access buses make boarding and exiting buses easier.⁸⁸ Residents of the seniors villages located in the Darwin suburbs of Fannie Bay and Leanyer can access a dedicated bus service, which stops at major shopping centres and the hospital.⁸⁹ The NT Taxi Subsidy Scheme and Lift Incentive Scheme facilitates access to taxi services for people who have long-term and ongoing disabilities (Appendix Table 3.20). For further information regarding the number of Territorians accessing the NT Taxi Subsidy Scheme, please see Chapter 7, Health and Supported Care Services, of this report.

3.8 Safety and personal security

3.8.1 Feelings of safety

Feeling safe is an important component of physical and mental wellbeing; however, surveys indicate that feelings of safety decline with age. In the sixth national ABS survey of household crime and safety conducted from April to July 2005, people were asked to rate their feelings of safety in selected situations when they were alone. Feelings of safety at home during the day were highest among people aged 35 to 44 years (85% saying they felt safe or very safe)

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and lowest among people aged 65 years and over (78%). After dark proportionality fewer respondents felt safe at home, particularly those aged 65 years and over. Among this age group only 67% reported feeling safe or very safe at home after dark.⁹⁰

Age-based rates for the NT were not available in the ABS Crime and Safety Survey, but feelings of safety for Territorians of all ages were comparable to rates in other states and territories.⁹⁰ In the 2006 GSS, which provided age-related rates for Territorians, feelings of safety were found to be lowest among the oldest Territorians, those aged 65 years and over. In this age group 78% of people reported feeling safe at home alone after dark (Table 3.16). In general, feelings of safety in the home among older Territorians were comparable to the Australian average for this age group.^{79,91}

Among Territorians, feelings of safety on the street after dark were much lower than feelings of safety in the home, and declined with age (Table 3.16). Findings from the 2006 GSS suggest that older Territorians feel less safe walking alone in a local street after dark than older people living in other jurisdictions of Australia.⁹¹ It should be noted that the above results reflect circumstances in urban and rural areas only, as very remote areas were not sampled in the GSS and the ABS Crime and Safety Survey.^{90,91}

3.8.2 Victims of crime

Older people are less likely to be victims of crime as the changes they make to their social roles and activities as they age are likely to reduce their exposure to crime. They do, however, experience changes associated with ageing that can make them susceptible to crime such as being physically, financially and socially vulnerable.⁹² The 2006 GSS found that 15% of respondents in the NT aged 65 years and over had been the victim of an actual or attempted break-in in the previous 12 months and 8% had been a victim of physical or threatened violence. These rates were much lower than for other age groups in the NT (Table 3.16), but higher than reported nationally.⁹⁰

Table 3.16 Victims of crime and feelings of safety, by age group, Northern Territory, 2006 General Social Survey

	18–49 years	50–64 years	65 years and over
Crime and safety	Per cent	Per cent	Per cent
<i>Victim of actual or attempted break-in in last 12 months</i>			
Yes	22.8	17.0	15.4
<i>Victim of physical or threatened violence in last 12 months</i>			
Yes	20.3	14.7	* 7.5
<i>Feelings of safety at home alone after dark</i>			
Very safe/safe	84.3	88.8	78.4
Very unsafe/unsafe	7.7	5.6	* 9.2
<i>Feelings of safety walking alone in local street after dark</i>			
Very safe/safe	45.6	36.5	26.4
Very unsafe/unsafe	30.7	31.1	* 19.8

* Estimates with a relative standard error of 25% to 50% should be used with caution.

Source: ABS, 2006 General Social Survey. User-defined tables held by the Health Gains Planning Branch, NT DoH.

3.8.3 Older prisoners

Rates of offending and imprisonment are lower in older age groups and only 13 out of 2,375 people who entered NT prisons during the period 2008–2009 were aged 60 years and over (Appendix Table 3.21). Ageing tends, however, to be earlier among prisoners. The age of 50 is considered to be elderly as prisoners' lifestyles are characterised by poor eating habits,

economic disadvantage and drug and alcohol abuse.⁹³ On 30 June 2009, 7% (75) of the prison population in the NT was aged 50 years and over (Appendix Table 3.22). This proportion was lower than the Australian average of 11%.⁹⁴ It has, however, increased over time from 5% in 2003–04.⁹⁵

3.8.4 Elder abuse

Elder abuse has only recently been considered a serious social problem in Australia. The incidence of elder abuse is hard to measure due to underreporting, but it has been estimated that between 3% to 5% of older Australians are victims.⁹⁶⁻⁹⁸

Elder abuse excludes abuse inflicted by a stranger or an elder's neglect of their own needs (self-neglect),⁹⁶ but includes:

- Physical abuse - infliction of physical pain, injury or physical coercion.
- Psychological abuse - infliction of mental anguish, including actions that lead to fear of violence, feelings of shame or powerlessness. It also includes depriving an older person of access to friends, people who speak their own language and privacy.
- Economic/financial abuse - illegal or improper use of an older person's property or finances including forced changes to wills and denial of access or control over finances.
- Sexual abuse - exploitative behaviour ranging from rape and indecent assault to sexual harassment.
- Neglect - failure to provide adequate food, shelter, clothing, medical care or other services necessary for maintaining physical and mental health.⁹⁹

According to the World Health Organisation

'Elder abuse can be defined as a single, or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person. Elder abuse can take various forms such as physical, psychological or emotional, sexual and financial abuse. It can also be the result of intentional or unintentional neglect.'¹⁰⁰

Source: WHO, Elder abuse

The 2006 COTA NT survey asked respondents if they had ever been a victim of elder abuse. Of the respondents aged 66 years and over, 7% stated that they had experienced such treatment (Appendix Table 3.23). This exceeds the national estimate; however, the COTA NT survey did not provide a definition of elder abuse so responses could refer to incidents beyond the boundaries noted above.

Two main risk factors for elder abuse are the dependency of victims on their abusers and an inability to make decisions and express needs due to dementia, poor self-image and feelings of being a burden.⁹⁶ Broader societal factors that may contribute to abuse occurring are negative societal attitudes to ageing, the reduction of adult children's sense of responsibility for their parents, societal acceptance of violence, attitudes towards inheritance and control of older people's assets and increasing materialism.⁹⁸ Prevention measures include education of health professionals and the general public to recognise elder abuse; education of older people to assert and protect their rights; and access to respite, community care services, advocacy and counselling services.⁹⁶

3.9 Legislation and consumer rights

As elder abuse indicates, older people can be vulnerable to exploitation and harm. Discrimination can also occur on the basis of age or abilities. This section provides information on legislation and complaints and advocacy services relevant to the needs of older Territorians.

3.9.1 Age discrimination

The NT Anti-Discrimination Act (as in force at 16 September 2009) prohibits discrimination against another person on a variety of attributes, one of which is age. Age discrimination includes any distinction, restriction, exclusion, harassment or preference made on the basis of age that consequently restricts equality of opportunity. The Act does, however, permit the imposition of a 'standard retirement age' for employment and for an employer to fix 'reasonable terms and conditions', which may impact on some people with an impairment or age-related restricted capacity. Clubs and sporting activities are also permitted to restrict membership and participation to specific age groups.¹⁰¹ The NT Anti-Discrimination Commission handles complaints made under the Act and offers training and education to improve understanding of the operation of the Act. Further information on the Act and the Commission can be found on the Commission's website at <http://www.nt.gov.au/justice/adcc/index.htm>.

The Commonwealth's Age Discrimination Act 2004 also makes it unlawful to discriminate, directly or indirectly, on the grounds of age in relation to employment, education, the provision of goods, services, facilities and accommodation and other circumstances. Some exemptions do apply including positive discrimination and exemptions for health programs such as prescribing influenza vaccinations for older people.¹⁰²

Further information on age discrimination and the Act can be found on the Australian Human Rights Commission webpage at http://www.hreoc.gov.au/age/info_age.html. The Commission also provides information on other forms of inequity including discrimination due to disability.

3.9.2 Complaints and advocacy services

The Australian Government funds two services in the NT to provide free and independent advice to older people who live in aged care facilities or who receive Community Aged Care Packages, and to people with disabilities who want to know more about their rights. In Darwin the Aged and Disability Rights Team can be accessed through Darwin Community Legal Service; and in Alice Springs the Aged Care Advocacy Service can be accessed through Centacare. For further information go to <http://www.sa.agedrights.asn.au/nt/>.

The Aged Care Complaints Investigation Scheme is a free service responsible for investigating concerns about Australian Government subsidised aged care services. It is available to residents of aged care facilities; people in the community receiving aged care packages or flexible care; relatives, guardians or representatives of those receiving care; and staff who work in aged care.¹⁰³ Further information is provided on the Department of Health and Ageing website at <http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-complaints-index.htm>.

If a person is unsatisfied with the outcome of the Aged Care Complaints Investigation Scheme they can complain to the Aged Care Commissioner. The Commissioner also handles complaints about the Aged Care Standards and Accreditation Agency who is responsible for the accreditation of Australian Government subsidised aged care services. The Commissioner is, however, limited to investigating the conduct of the person carrying out the accreditation, not the actual accreditation decision.¹⁰³ Further information on the Commissioner can be found at the Department of Health and Ageing website given above.

The Superannuation Complaints Tribunal handles complaints about superannuation funds and retirement savings accounts. Before the Tribunal can accept the complaint, an attempt must be made to resolve the issue with the superannuation provider.¹⁰³ For further information on the complaints process and the Tribunal go to <http://www.sct.gov.au/>.

3.10 End of life issues

Factors such as population ageing, increasing levels of dementia, life-extending changes in medical technology and increased patient autonomy have focussed attention on the latter part of life, including the period when disease and disability are present and contributing to progressive decline in health.^{104,105} There is no national approach to end of life decision making as each state and territory has different legislation that is not applicable outside that jurisdiction.¹⁰⁴ This section focuses on the ways Territorians are able to make their wishes known about their end of life treatment, management of their estate and other information relevant to this period of life. Discussion on palliative care issues is deferred until the Health and Supported Care Services chapter.

3.10.1 Advance care planning

Advance care planning enables people to decide what treatments they may or may not have or to nominate people to make medical and health related decisions on their behalf when they are no longer able to express them. It also provides the opportunity for the person to document their plans for prolonging treatments, resuscitation, end of life requests and organ or body donation.¹⁰⁶ In the NT, a person can develop an Advance Care Plan by:

- documenting their wishes on the prescribed form of the Natural Death Act 1988 (NT)
- documenting their wishes on the Statement of Choices form
- writing a letter
- having a verbal discussion regarding their choices with significant others.¹⁰⁶

For more information on the Natural Death Act 1988 or to download a statement of choices form go to the Department of Health (DoH) Palliative Care website at http://www.health.nt.gov.au/Service_Locator/Palliative_Care/index.aspx.

If a person is deemed to be unable to make reasonable judgments or informed decisions about everyday life, the Magistrates Court can appoint a Guardian to act in the person's best interests. The appointment is authorised under the Adult Guardianship Act (NT) and occurs after receiving advice from a panel, which includes at least one member who is an expert in performing assessments of people with disability. A guardian makes decisions about day-to-day care, accommodation and routine health procedures. Contacts who can provide further information on guardianship are listed on the DoH Adult Guardianship website at http://www.health.nt.gov.au/Aged_and_Disability/Adult_Guardianship/index.aspx.

3.10.2 Management of property and finances

An Enduring Power of Attorney (EPA) is a document that enables a person to choose another person or organisation to make decisions on his or her behalf regarding financial and legal matters when he or she is no longer capable. An EPA must be signed while a person still has legal capacity and remains effective, even though that person may subsequently suffer loss of capacity due to disability or illness. Once capacity is lost through disability or illness, an EPA cannot be signed.¹⁰⁷ An EPA can only be made while the person is of sound mind¹⁰⁷ and it must be registered with the Registrar General.¹⁰⁸ EPAs are regulated by the Powers of Attorney

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Act (NT); however, an EPA assigned in the NT may not be recognised interstate unless there is consistent legislation between jurisdictions.¹⁰⁹

Further information on EPAs is available from the Department of Justice's (DoJ's) website at http://www.nt.gov.au/justice/pubtrust/enduring_power_attorney.shtml.

What is 'sound mind'?

This term is used to describe a person's ability to be aware of, and understand fully, the nature and implications of the documentation they are signing. Should any doubts arise about legal capacity, or a person being of 'sound mind', a medical report will be obtained confirming the person's ability to conduct his or her business or financial affairs.¹⁰⁷

Source: NT DoJ, Enduring Power of Attorney.

When people are unable to protect their estate due to age, disease, illness, or mental or physical infirmity, the Supreme Court is able to make a protection order on their behalf under the Aged and Infirm Persons' Property Act (NT). A manager, who can be the Public Trustee or one or more persons other than the Public Trustee, is appointed to protect the estate through terms and conditions set down by the court.¹¹⁰ For further information, please refer to the Aged and Infirm Persons' Property Act (NT) as in force at 1 July 2010 (http://www.austlii.edu.au/au/legis/nt/consol_act/aaippa337/).

3.10.3 Distribution of assets before death

A person may choose to distribute their assets before or after they die. If distribution occurs beforehand, a person should decide what to leave and to whom and how he or she would like his or her assets distributed. This can be achieved through gifts or an Inter Vivos Trust.¹¹¹

What is an 'Inter Vivos Trust'?

An 'Inter Vivos Trust' is a trust that is created during the lifetime of the grantor. A common type is a revocable 'living' trust in which the grantor transfers title to property to a trust, serves as the initial trustee, and has the ability to remove the property from the trust during his/her lifetime.¹¹¹

Source: FreeAdvice. Options for distribution of assets in your estate.

3.10.4 Distribution of assets after death

If a person decides to have their assets distributed according to their wishes after they die, then a Will is required. A Will is the legal document that comes into effect after a person has died and gives instructions on the division of assets among beneficiaries. It can also contain the person's wishes for funeral arrangements.¹¹²

A Will must be in writing. It may be handwritten, typewritten or a combination of both. It must be dated and signed by the person making the Will as well as two, preferably independent, witnesses. A Will can be prepared by lawyers or the Public Trustee, or alternatively 'do it yourself' Will kits are available to purchase online and from commercial agencies such as post offices.

If a person has no Will they are said to have died 'intestate'. An administrator is appointed to distribute any assets in accordance with the statutory formula from the Administration and Probate Act (NT) as in force at 1 July 2009. The formula does not automatically transfer all assets to the deceased person's spouse or partner. Assets over a prescribed amount are inherited by the deceased's child/children.¹¹² According to the Administration and Probate Act (NT), if the deceased is not survived by a spouse, partner, child or relative, the intestate estate shall be deemed to be bona vacantia and the Territory is entitled to it.¹¹³

Further information on Wills, intestate circumstances and deceased estates are provided under the Department of Justice's Public Trustee website at <http://www.nt.gov.au/justice/pubtrust/wills.shtml>.

3.10.5 Euthanasia

Euthanasia is defined as 'actions that have as their intention or likely consequence the shortening of another person's life to prevent further pain and suffering of that person'.¹¹⁴ It is a subject that polarizes views and is well represented by lobby groups that are either pro-life or pro-choice.

In 1991 euthanasia was sanctioned in the Netherlands where it was openly practiced but never legalised. In 1995, the NT passed the first voluntary euthanasia law in the world,¹¹⁵ the Rights of the Terminally Ill Act, which enabled terminally ill patients the right to legally request assistance from a medical practitioner to end their life.¹¹⁶ There were a number of challenges to the Act made through the NT Supreme Court and Australian High Court during 1996, but the law was found to be valid and constitutional.¹¹⁷

In September 1996, a private member's bill was introduced into the national parliament to take away the power of the legislative assemblies of the NT, ACT and Norfolk Island to make laws concerning euthanasia or assisting a person to die.¹¹⁷ It ultimately resulted in the enactment in March 1997 of the Euthanasia Laws Bill 1996 (Cth), which made it illegal to provide euthanasia for the terminally ill in the NT.¹¹⁵

In the nine months that the Rights of the Terminally Ill Act was lawful, four people were assisted to die using the Act. Two of the patients were long time Territory residents and two travelled to the NT so they could exercise their right to receive medically assisted euthanasia.¹¹⁵ Euthanasia remains illegal in the NT and people cannot request euthanasia as part of advance care planning.¹⁰⁶ Further information on euthanasia is available at the Exit International web site at <http://www.exitinternational.net/>.

Appendix

Appendix Table 3.1 Respondents to the 2006 Council on the Ageing (COTA NT) survey, by age group, Northern Territory, 2006

	Unweighted		Weighted	
	Number (%)		Number (%)	
50–55 years	625	(24.7)	821	(32.4)
56–60 years	602	(23.8)	678	(26.7)
61–65 years	523	(20.6)	440	(17.4)
66–70 years	335	(13.2)	266	(10.5)
71–75 years	177	(7.0)	145	(5.7)
75 years and over	272	(10.7)	184	(7.3)
Total	2,534		2,534	
50–65 years	1,750	(69.1)	1,938	(76.5)
66 years and over	784	(30.9)	596	(23.5)
Total	2,534		2,534	

Notes:

(1) Responses are weighted to NT Estimated Resident Population as at 30 June 2006.

(2) As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

Source: COTA NT, 2006 survey of senior Territorians. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.2 Percentage of population in full or part-time employment, by sex, five-year age group and Indigenous status, Northern Territory and Australia, 2006 Census of Population and Housing

Age group	NT Indigenous		NT non-Indigenous		Australia	
	Male	Female	Male	Female	Male	Female
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
15–19 years	25.9	18.7	57.7	60.6	44.4	47.9
20–24 years	44.4	31.7	90.3	82.5	76.4	71.6
25–29 years	47.9	34.1	92.0	80.0	85.0	72.1
30–34 years	47.1	36.5	93.0	78.2	87.7	67.7
35–39 years	50.7	43.7	92.7	79.4	87.8	68.4
40–44 years	48.9	45.5	91.8	85.1	87.2	73.5
45–49 years	47.6	48.5	91.0	87.3	86.4	76.1
50–54 years	50.4	40.1	89.0	82.9	83.6	71.7
55–59 years	44.0	31.6	77.7	71.3	73.3	56.5
60–64 years	32.6	22.0	63.4	51.1	54.3	33.7
65 years and over	12.6	7.8	24.5	15.2	13.7	5.6

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by NT Treasury.

Appendix Table 3.3 Employment status, by age group, Northern Territory, 2006 Council on the Ageing survey

	50–65 years	66 years and over
Employment status	Number (%)	Number (%)
COTA NT question: Are you currently working?		
Yes	1,459 (75.3)	92 (15.5)
No	479 (24.7)	503 (84.5)
Total	1,938	596

Notes:

(1) Responses are weighted to NT estimated resident population as at 30 June 2006.

(2) As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

Source: COTA NT, 2006 survey of senior Territorians. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.4 Employment status, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Employment status	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number (%)		Number (%)		Number (%)		Number (%)		Number (%)		Number (%)	
Census question: Last week, did the person have a full-time or part-time job of any kind?												
Employed	10,000	(39.0)	56,979	(83.9)	1,511	(38.3)	16,575	(75.8)	152	(10.1)	1,283	(20.3)
Unemployed	1,798	(7.0)	1,585	(2.3)	128	(3.3)	418	(1.9)	28	(1.9)	23	(0.4)
Not in the labour force	13,828	(54.0)	9,315	(13.7)	2,303	(58.4)	4,888	(22.3)	1,322	(88.0)	5,016	(79.3)
Total stated	25,626		67,879		3,942		21,881		1,502		6,322	
Not stated*	3,216		883		523		300		207		380	
Total	28,842		68,762		4,465		22,181		1,709		6,702	

Notes:

(1) Not stated Indigenous status are excluded from this table.

* Includes not applicable.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.5 Retirement intention, by age group, Northern Territory, 2006 Council on the Ageing survey

Retirement intention	50–65 years		66 years and over	
	Number (%)		Number (%)	
COTA question: Do you intend to retire outside the NT?				
Yes	617	(31.8)	44	(7.5)
No	1,321	(68.2)	551	(92.5)
Total	1,938		596	

Notes:

(1) Responses are weighted to NT Estimated Resident Population as at 30 June 2006.

(2) As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

Source: COTA NT, 2006 survey of senior Territorians. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.6 Highest non-school qualification, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Non-school qualification	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number (%)		Number (%)		Number (%)		Number (%)		Number (%)		Number (%)	
Census question: What is the level of the highest non-school qualification the person has completed?												
Postgraduate	35	(1.1)	1,679	(4.9)	16	(2.7)	983	(9.0)	6	(9.4)	135	(6.2)
Degree or Diploma*	783	(25.2)	16,163	(47.2)	247	(41.9)	5,270	(48.3)	29	(45.3)	941	(42.9)
Certificate	2,293	(73.7)	16,388	(47.9)	327	(55.4)	4,662	(42.7)	29	(45.3)	1,118	(51.0)
Total stated†	3,111		34,230		590		10,915		64		2,194	
Not Stated	25,727		34,533		3,874		11,269		1,651		4,505	
Total	28,838		68,763		4,464		22,184		1,715		6,699	

Notes:

(1) Not stated Indigenous status are excluded from this table.

* Includes Graduate Diploma, Graduate Certificate Level, Bachelor Degree Level, Advanced Diploma and Diploma Level.

† Includes not adequately described, not stated and not applicable.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, NT DoH.

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Appendix Table 3.7 Annual income, by age group, Northern Territory, 2006 Council on the Ageing survey

	50–65 years		66 years and over	
Annual income	Number (%)		Number (%)	
<i>COTA NT question: What is your annual income?</i>				
Less than \$15,000	227	(12.3)	188	(37.4)
\$15,001–\$25,000	181	(9.8)	117	(23.1)
\$25,001–\$30,000	100	(5.4)	52	(10.2)
\$30,001–\$35,000	122	(6.6)	40	(7.9)
\$35,001–\$40,000	184	(10.0)	35	(6.9)
Greater than \$40,000	1,024	(55.7)	73	(14.5)
Total stated	1,838		504	
Not stated	101		92	
Total	1,938		596	

Notes:

(1) Responses are weighted to NT Estimated Resident Population as at 30 June 2006.

(2) As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

(3) 8% of participants did not respond to this question or their response was unknown.

Source: COTA NT, 2006 survey of senior Territorians. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.8 Centrelink income support recipients, by benefit type, age group and Indigenous status, Northern Territory

		Age Pension*	Disability Support Pension*	Carer Payment†	Newstart‡
Age group	Indigenous status	Number	Number	Number	Number
49 years and under	Indigenous	n/a	2,412	280	6,241
	Non-Indigenous	n/a	1,301	110	1,211
	Unknown	n/a	166	<20	95
50–64 years	Indigenous	100	1,655	145	800
	Non-Indigenous	224	1,582	166	397
	Unknown	<20	275	<20	53
65 years and over	Indigenous	1,608	54	<20	n/a
	Non-Indigenous	3,720	38	23	n/a
	Unknown	1,295	<20	<20	n/a
Total customers#		6,947	7,483	724	8,797

Notes:

(1) If the cell count is less than 20 the count is replaced by the symbol < 20 to protect the privacy of those recipients.

(2) Centrelink data is supplied as point in time data, which means that the data is a snapshot of that point in time.

* Point in time 5/12/08.

† Point in time 16/01/09.

Values less than 20 are not included in total customers.

Source: DHS, Centrelink. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.9 Selected Centrelink income support payments and allowances relevant to older Australians, 2009

Support payment	Description
Age Pension	Income and assets tested payment for people of retirement age.
Widow Allowance	Only available to women born on or before 1/07/1955 who have no recent workforce experience and have been widowed, divorced or separated since turning 40. Income and assets tested and residency requirements apply.
Rent Assistance	Payments to pension recipients and in certain cases, Family Tax Benefit recipients. Minimum rent rates apply. Residents of retirement villages and other private facilities may be eligible. People who pay rent directly to State or Territory Housing Authorities are not eligible for Rent Assistance.
Pensions Loans Scheme	Applicants must be of pension age and receive or be eligible to receive the Age Pension under the income and assets test and must own real estate that can be offered to secure the loan.
Bereavement Payment	Assists with adjustment to revised financial circumstances after the death of a partner or child or someone under the care of the recipient. Generally for people already getting a Centrelink or DVA payment.
Carer Allowance	Supplementary payment for people caring for a person with a severe disability, medical condition or who is frail aged and has substantive daily care needs. Care must be provided in the home of the carer or care recipient.
Carer Payment	Person being cared for must have a severe disability, medical condition or be frail aged and require constant care in the home. Income and assets tests and residency requirements apply.
Pension Bonus Scheme	A lump sum bonus for people who defer claiming the Age Pension and continue to work. Minimum hours apply and the person must qualify for the Age Pension.

Source: DHS, Centrelink website, <http://www.centrelink.gov.au/internet/internet.nsf/payments/index.htm>.

Appendix Table 3.10 Retirement income source, by age group, Northern Territory, 2006 Council on the Ageing survey

	50–65 years	66 years and over
Self-funded retiree	Number (%)	Number (%)
COTA NT question: Are you a self-funded retiree?		
Yes	582 (30.0)	303 (50.9)
No	1,356 (70.0)	293 (49.1)
Total	1,938	596

Notes:

(1) Responses are weighted to NT Estimated Resident Population as at 30 June 2006.

(2) As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

Source: COTA NT, 2006 survey of senior Territorians. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.11 Marital status, by age group, Northern Territory, 2006 Council on the Ageing survey

	50–65 years		66 years and over	
Marital status	Number (%)		Number (%)	
COTA (NT) question: What is your marital status?				
Married or defacto	1,246	(64.3)	285	(47.9)
Divorced	330	(17.0)	78	(13.2)
Single	222	(11.4)	61	(10.3)
Widowed	101	(5.2)	160	(26.8)
Divorced and remarried	1	(0.1)	0	(0.0)
Divorced and single	3	(0.2)	0	(0.0)
Not stated	35	(1.8)	11	(1.8)
Total	1,938		596	

Notes:

(1) Responses are weighted to NT estimated resident population as at 30 June 2006.

(2) As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

Source: COTA NT, 2006 survey of senior Territorians. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.12 Carers of Commonwealth State/Territory Disability Agreement (CSTDA) recipients, by age group and Indigenous status, Northern Territory, 2006/2007 financial year

Carer age group	15–49 years		50–64 years		65 years and over	
	Non-Indigenous		Non-Indigenous		Non-Indigenous	
	Indigenous Number	Non-Indigenous Number	Indigenous Number	Non-Indigenous Number	Indigenous Number	Non-Indigenous Number
15–24 years	3	1	0	2	0	0
25–44 years	30	34	11	1	10	5
45–64 years	39	69	6	5	17	10
65 years and over	5	14	7	4	3	7
Not stated	10	7	0	1	0	0
Total	87	125	24	13	30	22

Source: DoH, Community Care Information Services. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.13 Grandparent carers, by age group, Northern Territory, 2006 Council on the Ageing survey

Fulltime carer	50–65 years		66 years and over	
	Indigenous Number (%)	Non-Indigenous Number (%)	Indigenous Number (%)	Non-Indigenous Number (%)
COTA NT question: Are you the fulltime carer for your grandchild(ren)?				
Yes	15 (28.8)	51 (2.7)	2 (10.2)	7 (1.2)
No	37 (71.2)	1,847 (97.3)	16 (89.8)	559 (98.8)
Total	52	1,898	18	566

Notes:

(1) Responses are weighted to NT Estimated Resident Population as at 30 June 2006.

(2) As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

Source: COTA NT, 2006 survey of senior Territorians. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.14 Support provided to relatives living outside the household, by age group, Northern Territory, 2006 General Social Survey

	18–49 years	50–64 years	65 years and over
Type of support provided to other relatives living outside the household†	Per cent	Per cent	Per cent
Money to help pay housing costs	6.4	9.0	5.9
Provide or pay for food	6.1	9.0	**
Provide or pay for clothing	2.4	* 6.7	**
Pay for educational costs or textbooks	* 1.4	* 3.9	* 5.8
Give them spending money	6.2	8.2	* 6.5
Buy or give them money to buy big cost items	3.7	6.2	**
Give them money to pay bills or meet debt	8.9	10.9	* 6.6
Let them borrow car	6.8	8.1	* 8.6
Drive them places	10.9	9.7	* 9.4
Other support	* 1.5	* 2.1	**

Notes:

* Estimates with a relative standard error of 25% to 50% should be used with caution.

** Estimates with a relative standard error greater than 50% are considered too unreliable for general use.

† Categories within 'Type of support provided to other relatives living outside the household' are not mutually exclusive.

Source: ABS, 2006 General Social Survey. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.15 Accommodation type, by age group, Northern Territory, 2006 Council on the Ageing survey

	50–65 years	66 years and over
Accommodation status	Number (%)	Number (%)
COTA NT question: What is your current accommodation?		
One bedroom unit/flat	96 (5.1)	101 (17.8)
Two bedroom unit/house	368 (19.8)	154 (27.1)
Three bedroom unit/house	916 (49.2)	230 (40.5)
Four bedroom or larger	419 (22.5)	58 (10.3)
Other	64 (3.4)	24 (4.3)
Total stated	1,863	567
Not stated	74	29
Total	1,937	596

Notes:

(1) Responses are weighted to NT Estimated Resident Population as at 30 June 2006.

(2) 103 (4%) respondents did not respond to this question or their response was unknown.

(3) As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

Source: COTA NT, 2006 survey of senior Territorians. User-defined tables held by the Health Gains Planning Branch, NT DoH.

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Appendix Table 3.16 Social interaction and support, by age group, Northern Territory, 2006 General Social Survey

	18–49 years	50–64 years	65 years and over
Social interaction and support [†]	Per cent	Per cent	Per cent
<i>Source of support during times of crisis</i>			
Friend	75.0	70.7	49.6
Neighbour	22.9	30.2	32.9
Family member	74.1	65.0	65.7
Work colleague	42.3	33.8	** 3.5
Community, charity or religious organisation	10.5	21.8	16.3
Local council or other government services	7.8	10.1	** 3.8
Health, legal or financial professional	10.5	16.6	* 13.1
Other sources	* 2.0	1.3	0.0
<i>Face to face contact with family or friends living outside the household in last week</i>			
Yes	79.4	79.2	84.2
<i>Frequency of face to face contact with family or friends living outside the household in the last week</i>			
At least once a day	41.3	34.9	* 17.8
At least once a week	48.9	54.8	61.7
<i>Has friends of family outside the household to confide in</i>			
One or two family members	32.9	33.4	35.2
Three or more family members	52.8	54.5	45.9
One or two friends	32.7	34.3	28.3
Three or more friends	55.6	49.6	42.6

Notes:

* Estimates with a relative standard error of 25% to 50% should be used with caution.

** Estimates with a relative standard error greater than 50% are considered too unreliable for general use.

† Categories within 'Social interaction and support' are not mutually exclusive.

Source: ABS, 2006 General Social Survey. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.17 Social activity, by age group, Northern Territory, 2006 General Social Survey

	18–49 years	50–64 years	65 years and over
Type(s) of social activity during the last three months [†]	Per cent	Per cent	Per cent
Visited or was visited by friends	93.8	88.2	76.9
Went out with or met group of friends - outdoor activities	85.0	73.2	54.9
Went out with or met group of friends - indoor activities	75.1	65.3	44.7
Spent time in internet social activity	26.0	19.8	* 8.5
Other informal social activities	49.0	49.0	27.1

Notes:

* Estimates with a relative standard error of 25% to 50% should be used with caution.

† Categories within 'Type(s) of social activity' are not mutually exclusive.

Source: ABS, 2006 General Social Survey. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.18 Computer training, by age group, Northern Territory, 2006 Council on the Ageing survey

	50–65 years	66 years and over
Computer training	Number (%)	Number (%)
<i>COTA NT question: Are you interested in computer training?</i>		
Yes	1,381 (71.3)	419 (70.3)
No	557 (28.7)	177 (29.7)
Total	1,938	596

Notes:

(1) Responses are weighted to NT Estimated Resident Population as at 30 June 2006.

(2) As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

Source: COTA NT, 2006 survey of senior Territorians. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.19 Satisfaction with public transport, by age group, Northern Territory, 2006 Council on the Ageing survey

	50–65 years	66 years and over
Public transport	Number (%)	Number (%)
<i>COTA NT question: Do you feel satisfied with the availability and quality of public transport in your area?</i>		
Yes	922 (47.6)	309 (52.0)
No	1,017 (52.4)	286 (48.0)
Total	1,938	596

Notes:

(1) Responses are weighted to NT Estimated Resident Population as at 30 June 2006.

(2) As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

Source: COTA NT, 2006 survey of senior Territorians. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 3.20 Northern Territory Government benefits, Northern Territory, 2010

	Entitlement	Eligibility
Seniors card	Discounts on a range of goods and services.	60 years and over.
Pensioner & carer concession scheme	Free bus travel and driver's licence renewals, concessions on spectacles, electricity, water, sewerage, motor vehicle registration and rates. Interstate/overseas travel concessions for some recipients.	NT residents who receive carer's allowance, senior citizens (male aged 65 years and over, female 60 years and over), non-pensioner aged war service veterans, Centrelink and DVA pensioners, low-income superannuants.
Taxi subsidy scheme	A smartcard provides eligible members of the scheme with a subsidy of half a taxi fare.	Permanent residents unable to safely use public transport due to defined disability.
Lift incentive scheme	A smartcard enables eligible members to provide an extra \$10 payment to drivers when a scooter or wheelchair is lifted into a taxi.	Residents who are eligible for the taxi subsidy scheme.
Bus travel	Free bus travel	Centrelink pensioners, NT Pensioner & carer concession card holders, NT Government Seniors card holders, other state or territory government Seniors cardholders, DVA gold card holders, vision impaired travel pass holders.

Source: NTG, Senior Territorians website, http://www.health.nt.gov.au/Aged_and_Disability/Senior_Territorians/index.aspx.

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Appendix Table 3.21 Prisoners per year, by age group and Indigenous status, Northern Territory, 2008/2009 financial year

Prison location	18–49 years		50–59 years		60 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	Number	Number	Number	Number	Number	Number
Alice Springs	1,015	52	37	7	3	0
Darwin	952	241	33	25	4	6
Total	1,967	293	70	32	7	6

Source: NT DoJ, Correctional Services Annual Statistics, 2008–2009, adapted from Table 18.

Appendix Table 3.22 Prisoners as at 30 June 2009, by age and Indigenous status, Northern Territory

Prison location	18–49 years	50–59 years	60 years and over
	Number	Number	Number
Alice Springs	450	25	2
Darwin	526	39	9
Total	976	64	11

Source: NT DoJ, Correctional Services Annual Statistics, 2008–2009, adapted from Table 7.

Appendix Table 3.23 Elder abuse, Northern Territory, 2006 Council on the Ageing survey

Elder abuse	50–65 years	66 years and over
	Number (%)	Number (%)
COTA NT question: Have you been a victim of elder abuse?		
Yes	109 (5.6)	40 (6.7)
No	1,829 (94.4)	556 (93.3)
Total	1,938	596

Notes:

(1) Responses are weighted to NT Estimated Resident Population as at 30 June 2006.

(2) As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

Source: COTA NT, 2006 survey of senior Territorians. User-defined tables held by the Health Gains Planning Branch, NT DoH

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Chapter 4

Health behaviours and risk factors

Health behaviours and risk factors at a glance

- Self-assessed health status decreases with age. According to the 2006 General Social Survey (GSS), 34% of Northern Territory (NT) urban residents aged 65 years and over reported that they were in excellent, or very good health compared with 63% of residents 18 to 49 years of age.¹
- Physical activity levels decline with age. The proportion of Territorians aged 65 years and over who engaged in sufficient exercise to confer a health benefit was 37% according to the 2004 Computer Assisted Telephone Interviews (CATI) population health survey,² and 52% according to the 2000 Australian Diabetes, Obesity and Lifestyle Study (AusDiab).³
- A minority of older (aged 65 years and over) NT non-Indigenous respondents to the 2004 CATI survey ate the recommended daily intake of vegetables (29%) and fruit (46%).²
- The prevalence of risky levels of alcohol consumption decreases with age. Among Territorians who responded to the 2004 CATI survey, 5% of respondents aged 65 years and over were at risk of developing alcohol related diseases as a result of long-term alcohol consumption, compared with 9% of respondents aged less than 65 years.²
- The NT had the highest rates of alcohol-attributable deaths. During the time period 1994–2005, the alcohol-attributable death rate among Territorians aged 65 to 74 years was 12.2 deaths per 10,000 population. This rate was more than twice the rate of the second highest jurisdiction (Tasmania with 5.8 per 10,000 population).⁴ This pattern was similar for other older age groups.^{5,6}
- The prevalence of smoking among older Territorians is greater than the national prevalence. According to the 2007 National Drug Strategy Household Survey (NDSHS), 21% of NT urban based respondents aged 60 years and over reported smoking on a daily basis, compared with 10% nationally.⁷ The prevalence of smoking was even higher among Indigenous Territorians aged 55 years and over (50% of male and 30% of female respondents to the 2004–2005 National Aboriginal and Torres Strait Islander Health Survey (NATSIS)).⁸
- The NT has the lowest influenza vaccination rates of people aged 65 years and over; 68% compared to 79% nationally.⁹
- The prevalence of risk factors for cardiovascular disease increases with age. Risk factors include glucose intolerance (pre-diabetes and diabetes), dyslipidaemia (abnormal cholesterol levels), hypertension (high blood pressure) and central obesity as measured by waist circumference.¹⁰ This pattern was observed among participants to the 2000 AusDiab survey and details of this pattern are outlined below.³
- Among NT non-Indigenous participants, 38% of those aged 65 years and over were diagnosed with pre-diabetes, 80% were found to have dyslipidaemia, 64% were hypertensive and 58% were classified as being centrally obese.³
- By comparison, younger NT non-Indigenous participants (25 to 44 years) were found to have much lower levels of most risk factors. For example, pre-diabetes (10%), hypertension (6%) and central obesity (27%). The exception to this was dyslipidaemia, where the difference between younger and older participants was not as marked (58%).³
- Overall, older NT non-Indigenous participants were at greater risk of central obesity and dyslipidaemia than their counterparts nationally but at lower risk of hypertension. The risk of pre-diabetes was similar between the two groups.³

4.1 Population surveys

Data relating to health behaviours and risk factors are acquired through population surveys. Most are conducted by the Australian Bureau of Statistics (ABS). Examples of ABS surveys which collect data from the adult Australian population are the National Health Survey (NHS), the General Social Survey (GSS) and Multi-Purpose Household Survey (MPHS). Those that focus only on the Australian Indigenous population include the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) and the National Aboriginal and Torres Strait Islander Social Survey (NATSISS).

National Health Survey

The NHS examines the health characteristics of the Australian population. During an eleven month period, August 2007 to July 2008, health-related information was collected from approximately 20,800 people from all States and Territories and across all age groups. Information included history of long-term illness, mental wellbeing, injuries as well as consultations with health professionals. Health risk factors including alcohol consumption, smoking, exercise, body mass and dietary practices were also collected. The NT sample contributed to national estimates but was not considered large enough to provide reliable NT estimates.¹¹

Source: ABS, National Health Survey: Summary of results, 2007-2008.

National Aboriginal and Torres Strait Islander Health Survey

The NATSIHS was conducted from August 2004 to July 2005. This survey collected health-related information from a total of 10,439 Indigenous adults and children from all Australian jurisdictions. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. The NATSIHS focused on long-term illnesses experienced; mental wellbeing; injuries; consultations with doctors and other health professionals; and health risk factors including alcohol consumption, smoking, exercise, body mass and dietary practices. The NT sample comprised 1,687 participants, with 763 children under 18 years of age, and 924 adults.¹²

Source: ABS, National Aboriginal and Torres Strait Islander Health Survey 2004–05: Users' guide.

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS was conducted on two occasions during the past decade. The first survey collected information between August 2002 and April 2003 for a wide range of areas of social concern relating to the Aboriginal and Torres Strait Islander populations of Australia. These included health, education, culture and labour force participation.¹³ The second survey collected information between August 2008 and April 2009.¹⁴ During this second period, demographic, social, environmental and economic indicators were collected from 13,307 Indigenous Australians living in private dwellings in urban and remote areas. This survey included for the first time Indigenous children 15 years and under as well as adults. The information collected specifically related to personal and household characteristics, geography, language and cultural activities, social networks and support; health and disability, education, employment, financial stress, income, transport, personal safety, and housing.¹⁶ In the NT a total of 2,267 Indigenous persons were interviewed, 1,232 of whom were located in Indigenous communities and 1,035 in urban localities.¹⁵

Sources: ABS, National Aboriginal and Torres Strait Islander Social Survey 2002 & 2008 & Users' guide, 2008.

General Social Survey

The GSS examines the social characteristics of the Australian population. From March to July 2006 the GSS was conducted among adults living in private dwellings in urban areas of all Australian jurisdictions.¹⁶ People in remote areas were not sampled, thereby 20% of the NT population were excluded. The total GSS sample in 2006 was 13,375 dwellings, of which 1,293 were located in the NT. The sampling method strongly biases NT results to the urban non-Indigenous population.¹⁷

Source: ABS, General Social Survey: Summary of results & Users' guide, 2006.

Multi-Purpose Household Survey

The MPHS is conducted each year throughout Australia from July to June as a supplement to the ABS monthly Labour Force Survey (LFS). The MPHS specialises in socio-demographic information such as educational qualifications, labour force status and personal and household income. From July 2008 to June 2009 a total of 34,513 private dwelling households in both urban and rural areas in all states and territories were surveyed for the MPHS. This is approximately double the standard MPHS sample. The MPHS excludes people living in very remote parts of Australia which has considerable impact on aggregate estimates for the NT where such people accounted for 23% of the population during the survey period.¹⁸ Topics vary from year to year. Those topics collected during the period 2008–2009 included:

- education, personal and household income, and occupation and industry of current job (core topics)
- crime victimisation
- barriers and incentives to labour force participation
- retirement and retirement intentions
- household use of information technology.¹⁸

Source: ABS, Technical Manual Multipurpose Household Survey, Expanded CURF, Australia, 2008–09.

Other national institutions also conduct surveys, but generally less frequently than the ABS. The National Physical Activity Survey is one example of a survey conducted by the Australian Institute of Health and Welfare (AIHW) and the Department of Health and Ageing. This survey was last conducted in 1999, as follow-up to the 1997 Active Australia National Physical Activity Survey. The survey involved 2,500 respondents aged 18 to 75 years and focused on the physical activity patterns among adult Australians as well as trend information essential to assess the impact of the Active Australia campaign.¹⁹ Another AIHW survey is the National Drug Strategy Household Survey (NDSHS). This survey is an ongoing series to obtain information about the use of drugs and alcohol in the Australian population aged 14 years and over. The most recent survey was conducted in 2007 by using Computer Assisted Telephone Interviews (CATI). Of the 1,030 NT respondents, most were non-Indigenous with few Indigenous people from remote areas. Estimates based on this survey reflect the patterns of drug, smoking and alcohol consumption amongst the NT non-Indigenous population.²⁰

State health departments in various jurisdictions across Australia conduct annual or biennial population health surveys through the use of CATI. In 2004 the Commonwealth Government provided funding to jurisdictions that do not routinely survey their population. This was undertaken in order to obtain population health data for the whole of Australia. The survey findings for the NT were reported in an internal, unpublished report.² The survey is henceforth referred to in this report as the CATI survey.

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Finally, one-off surveys such as the 1999–2000 Australian Diabetes, Obesity and Lifestyle Study (AusDiab) are valuable sources of information about specific health behaviours. The main objective of the Study was to provide estimates of the national prevalence of diabetes, other forms of abnormal glucose tolerance in the population, and cardiovascular risk factors. This was achieved through a series of blood tests and examinations. In addition, the Study also asked respondents to report on unmeasurable health behaviours and risk factors such as their daily level of physical activity, smoking, alcohol intake etc. It was conducted in every jurisdiction in Australia during 1999 and 2000.¹⁰ The cohort of participants was invited to return for retesting in a follow-up study in 2005. In the NT, participants were residents of urban areas (n=1,427 non-Indigenous and n=32 Indigenous). The Study did not adequately represent Indigenous Territorians, who mainly live in remote areas. Because of this, the analyses of NT participants shown in the AusDiab tables within this chapter refer to non-Indigenous participants only.

4.1.1 Health status

An individual's assessment of their overall health is used as an indicator of health status and as a predictor of health service use and mortality. Most Australians assess themselves to be in good, very good or excellent health but this proportion decreases with age, while the proportion of people reporting fair or poor health increases. In 2006 the GSS found that just over one third (34%) of NT urban residents aged 65 years and over reported excellent health compared to more than half of (63%) their younger counterparts aged between 18 and 49 years (Table 4.1).

Table 4.1 Self-assessed health status, by age group and scale, Northern Territory, 2006 General Social Survey

	18–49 years	50–64 years	65 years and over
Self-assessed health status	Per cent	Per cent	Per cent
Excellent/ very good	63.3	42.7	33.6
Good	25.4	31.4	41.7
Fair/ poor	11.3	25.9	24.6

Source: ABS, 2006 General Social Survey. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Since the GSS mainly surveys urban Territorians, information about the health status of Indigenous Territorians who mostly reside in remote localities is not readily available. The health status of Indigenous Australians is captured by the NATSIHS. Territory-specific data are not available from the NATSIHS, however, data from the most recent survey provides a useful gauge as to the current perception of health among NT Indigenous people.

At the national level the 2004–2005 NATSIHS showed that proportionally fewer Indigenous Australians reported that their health was good or better than non-Indigenous Australians. Around 51% of Indigenous Australians aged 55 years and over reported excellent, very good or good health, compared to 71% of non-Indigenous Australians in this age group. Across all age groups, Indigenous Australians were almost twice as likely to report fair or poor health compared to non-Indigenous Australians. Among those aged 55 years and over, 50% of Indigenous Australians reported fair or poor health compared to 28% of non-Indigenous Australians.²¹

4.2 Behavioural risk factors

4.2.1 Insufficient physical activity

Physical inactivity is responsible for a sizeable proportion of the total burden of disease and injury in Australia. In 2003 between 6% and 7% was directly attributable to physical inactivity with coronary heart disease, type 2 diabetes and stroke accounting for the majority (80%) of the total burden of disease and injury in Australia.²²

Benefits of regular exercise

Regular exercise offers possibly the best value preventive medicine available, as well as providing other social and psychological benefits which arise from participating in something enjoyable.²³

Source: Australian Sports Commission and Department of Veterans Affairs. Older, smarter, fitter: A guide for providers of sport and physical activity programs for older Australians.

Participating in physical activity can:

- decrease the risk of premature death from cardiovascular disease, diabetes, colon and breast cancer
- lower the risk of diabetes and prevent diabetes onset in people at risk
- increase muscle and bone strength
- prevent osteoporosis and reduce the risks and consequences of arthritis
- prevent functional decline in middle aged and older people, especially through resistance training
- improve health outcomes for people who are overweight or obese
- assist people with established disease to manage their disease (e.g. lower high blood pressure and elevated lipid levels) and prevent further decline
- prevent falls through the relative contributions of strength training, balance and gait training
- increase the ability of people with certain chronic, disabling conditions to perform activities of daily living.^{19,24}

There is no clear threshold to quantify the duration and intensity required to achieve a health benefit, but experts agree that physical activity should be performed regularly.¹⁹

The National Physical Activity Guidelines for Australians are:

1. Think of movement as an opportunity, not an inconvenience
2. Be active every day in as many ways as you can
3. Put together at least 30 minutes of moderate-intensity physical activity on most, preferably all, days
4. If you can, also enjoy some regular, vigorous activity for extra health and fitness.²⁵

Participation in physical activity is known to decline with age. Older people are less inclined to participate in a sporting or recreational activity than the general population. Furthermore, disability or ill health may prevent older people from achieving enough exercise to confer a health benefit. This phenomenon is demonstrated in the findings of various surveys carried out in the past decade, as shown in Table 4.2.

Information about participation in sport and physical recreation is collected in several recurring ABS surveys: the GSS, the MPHS and the NATSISS. Details of the average level of physical activity undertaken by the Australian public are less readily available. Sources of this information

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include the 1999 National Physical Activity Survey as well as the 1999–2000 AusDiab study and 2004 CATI survey.

Several surveys involving NT participants revealed that older Territorians may not partake in exercise to the same extent as older Australians. In the MPHS only 35% of NT urban residents aged 65 years and over had participated in a sporting or recreational activity during the previous 12 months compared to 49% of Australians of the same age (Table 4.2).

With regards to physical activity, between 37% to 52% of older non-Indigenous Territorians self-reported that they had sufficient exercise during the previous week. The lower result (37%) was obtained from the CATI survey which was conducted in December, a month known for high humidity (Table 4.2). Paradoxically the AusDiab Study found that older non-Indigenous Territorians were slightly more likely to report that they achieved sufficient activity compared to Australian participants of the same age (Table 4.2). Among the NT participants, 52% of those aged 65 years and over reported having undertaken sufficient activity during the previous week compared to 61% of those aged 25 to 44 years (Appendix Table 4.1).

The main reason given by people aged 65 years and over for non-participation or low levels of participation is due to age. Over half of Australian respondents surveyed in the 2005–2006 MPHS attributed their age, while other reasons given included an ongoing injury/illness (21%) and lack of interest in participating (9%). Of those aged 65 years and over who did participate in sport and physical recreation, 60% said their health and fitness was their main motivating factor. Over half the people aged 65 years and over who participated in sport and physical recreation did so more than twice a week. The most popular activities in this age group were walking for exercise, lawn bowls, golf, aerobics/fitness and swimming.²⁶

Lack of physical activity amongst older people may also be due to misconceptions about the safety and efficacy of participation. These misconceptions include the belief that all older people are frail and weak and exercise is hazardous and will lead to injury. Others are that the ageing body requires much less physical activity or that only vigorous and sustained exercise is of any benefit. Other factors for lack of physical activity among older people include the preference for sedentary activities and relatively high cost of some sporting activities.²⁷



Table 4.2 Participation in a physical activity, by age group and Indigenous status, various surveys, Northern Territory and Australia, 1999–2006

	Time period	Jurisdiction	Indigenous status	Age group (years)	Per cent
Participation in sport and physical recreation over previous 12 months					
National Aboriginal and Torres Strait Islander Social Survey ^a	2002	Australia	Indigenous	45–54	32
				55 years and over	26
General Social Survey ^b	2006	Northern Territory	Mainly non-Indigenous	50–64	70
				65 years and over	49
Multi-Purpose Household Survey ^c	2005–2006	Australia	Indigenous and non-Indigenous	55–64	63
				65 years and over	49
		Northern Territory	Indigenous and non-Indigenous	65 years and over	35
Sufficient exercise to confer a health benefit					
National Physical Activity Survey ^d	2000	Australia	Indigenous and non-Indigenous	60–75	44
AusDiab ^e	1999–2000	Australia	Indigenous and non-Indigenous	65 years and over	47
		Northern Territory*	non-Indigenous		52
CATI survey ^f	2004	Northern Territory [#]	non-Indigenous	65 years and over	37

Notes:

* The AusDiab study collected information in 1999–2000 from 143 NT people aged 65 years and over, therefore statistics based on this small unweighted number of participants should be interpreted with caution. The AusDiab Study measured sufficient exercise as at least 150 mins of physical activity time, which was calculated as the sum of the time spent walking or performing moderate activity plus double the time spent in vigorous activity.

The CATI survey collected information in 2004 from 100 non-Indigenous Territorians aged 65 years and over, therefore statistics based on this small unweighted number of participants should be interpreted with caution. The CATI survey used the following rule to define the level of physical activity to confer health benefit: at least 150 mins of walking, moderate or vigorous activity undertaken over a week.

Sources:

(a) ABS, National Aboriginal and Torres Strait Islander Social Survey 2002. Cat No. 4714.0.

(b) ABS, 2006 General Social Survey. User-defined tables held by the Health Gains Planning Branch, NT DoH.

(c) ABS, 2005–2006 Multi-Purpose Household Survey. Participation in sports and physical recreation. Viewed 28 June 2020, <[http://www.ausstats.abs.gov.au/Ausstats/subscriber.nsf/0/74F8C78A82CB0327CA257281001ACA61/\\$File/41770_state_table1.xls](http://www.ausstats.abs.gov.au/Ausstats/subscriber.nsf/0/74F8C78A82CB0327CA257281001ACA61/$File/41770_state_table1.xls)>.

(d) Armstrong T, Bauman A, Davies J. Physical activity patterns of Australian adults: Results of the 1999 National Physical Activity Survey. Canberra: AIHW, 2000. Cat. no. CVD 10.

(e) AusDiab, 2000 Australian Diabetes, Obesity and Lifestyle Study. User-defined tables held by the Health Gains Planning Branch, NT DoH.

(f) Health Gains Planning Branch, unpublished report. CATI data pooling pilot project: Filling the gaps in data pooling 2004. The Northern Territory survey methodology.

4.2.2 Inappropriate nutrition

Adequate nutrient intake and quality of diet in older people are essential components to health and wellbeing, however, a number of factors associated with ageing can make this difficult to achieve. As people age, activity levels often decrease and appetite can be reduced due to the use of multiple medications, the presence of acute or chronic disease and difficulty swallowing. Increasing frailty generally results in declining ability to shop, cook, open utensils and use cutlery. The limited finances of many older people reduces purchasing power and can limit the type and quantity of food consumed. Social isolation often leads to decreased food intake, and depression can suppress appetite.²⁸ Typically, older people eat less; therefore the food that is consumed needs to be rich in nutrients so that a healthy intake is achieved. The National Health and Medical Research Council (NHMRC) suggests lowering intake of cereals for people aged 60 years and over, while maintaining intake from fruit, vegetables, dairy products and sources of protein.²⁹ The recommended daily servings for adults based on the NHMRC guidelines are shown in Table 4.3.

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Table 4.3 Recommended number of daily food servings, by sex and age group, National Health and Medical Research Council, 2003

Sample serves suggested for adults						
	Cereals including bread, rice, pasta and noodles	Vegetables and legumes	Fruit	Milk, yoghurt, cheese	Lean meat, fish, poultry, nuts and legumes	Extra foods
Women						
19–60 years	4–6	4–7	2–3	2–3	1–1.5	0–2.5
60 years and over	3–5	4–6	2–3	2–3	1–1.5	0–2
Men						
19–60 years	5–7	6–8	3–4	2–4	1.5–2	0–3
60 years and over	4–6	4–7	2–3	2–3	1–1.5	0–2.5

Notes:

Examples of serving sizes:

- 2 slices (60g) bread, 1 medium bread roll, 1 cup cooked rice, pasta or noodles.
- ½ cup (75g) cooked vegetables or legumes, 1 cup salad vegetables, 1 small potato.
- 1 medium piece (150g) of fruit, 1 cup diced pieces or canned fruit, ½ cup fruit juice.
- 1 cup (250ml) fresh milk, 2 slices (40g) cheese, 1 small carton (200g) yoghurt.
- 65–100g cooked meat or chicken, 80–120g cooked fish fillet, 2 small eggs, ½ cup of cooked legumes, 1/3 cup nuts.

Source: National Health and Medical Research Council dietary guidelines for Australian adults 2003.

National Health and Medical Research Council dietary guidelines for Australian adults

- enjoy a wide variety of nutritious food
- take care to limit saturated fat and moderate total fat intake
- choose foods low in salt
- drink plenty of water
- limit alcohol intake
- consume moderate amounts of sugar and foods containing added sugars
- prevent weight gain by being physically active and eating according to energy needs
- prepare and store food safely
- encourage and support breastfeeding.²⁹

Source: National Health and Medical Research Council. Dietary guidelines for Australian adults.

Declining nutritional status is common among older people and is associated with increased mortality and morbidity. Low fruit and vegetable consumption was responsible for 2% of the total burden of disease and injury in Australia in 2003.²²

Less than optimal levels of vegetables, fruit and milk consumption have been found to be common among all age groups in NT. According to findings of the CATI survey, the majority of NT respondents did not consume the recommended daily serving of five vegetables and two fruits (Table 4.4). Among respondents aged 65 years and over only 29% ate four or more serves of vegetables a day and 46% ate the recommended daily serving of fruit (Table 4.4). The CATI survey asked respondents whether they drank regular or low fat milk to measure nutrient and fat intake. Although the NHMRC recommends the consumption of low fat milk, older non-Indigenous Territorians were high consumers of full fat milk (53%) with only 38% drinking low fat alternatives (Table 4.4).

Table 4.4 Self-reported consumption of vegetables, fruit, milk by age group and amount, Northern Territory non-Indigenous residents, 2004 CATI survey

	18–44 years		45–64 years		65 years and over	
Daily consumption	Number (%)		Number (%)		Number (%)	
<i>Vegetables</i>						
≥4 serves daily	161	(23.6)	98	(27.2)	21	(29.3)
<4 serves daily	521	(76.2)	261	(72.5)	50	(70.1)
Not stated	1	(0.2)	1	(0.2)	0	(0.6)
Total	684		359		71	
<i>Fruit</i>						
≥2 serves daily	265	(38.7)	167	(46.5)	33	(46.0)
<2 serves daily	418	(61.1)	192	(53.5)	38	(53.4)
Not stated	1	(0.2)	0	(0.0)	0	(0.6)
Total	684		359		71	
<i>Milk</i>						
Low fat milk	276	(40.4)	171	(47.5)	27	(37.9)
Regular milk	359	(52.5)	147	(40.8)	37	(52.9)
No milk	47	(6.9)	39	(10.8)	6	(8.0)
Not stated	1	(0.2)	3	(0.9)	1	(1.1)
Total	684		359		71	

Notes:

(1) Northern Territory data were weighted against NT 2004 non-Indigenous Estimated Resident Population.

(2) Soya milk was included in low fat milk responses.

(3) As estimates have been rounded, discrepancies may exist between sums of component items and totals.

Source: Health Gains Planning Branch, unpublished report. CATI data pooling pilot project: Filling the gaps in data pooling 2004. The Northern Territory survey methodology.

Within the broad NHMRC dietary guidelines are special considerations for older people in recognition of changing metabolism and nutritional needs due to the ageing process:

- Calcium - the rate calcium is absorbed in the body decreases as people age and is further decreased in females at menopause. A low intake of calcium is associated with osteoporosis, which can lead to bone fractures and is the main cause of morbidity in older people, especially in females. There is evidence that high calcium intake at older ages can slow the rate of bone density loss, reducing fracture risk. The recommended daily amount of calcium is 800mg per day for adult males and pre-menopausal females and 1,000mg per day for post-menopausal females. Dairy foods are the richest and most easily digested source of calcium and low-fat varieties are recommended.²⁹
- Vitamin D - older people, especially those living in residential aged care, are at high risk of vitamin D deficiency. People who are dark-skinned, those who have dementia and people from culturally and linguistically diverse groups are also more likely to have a vitamin D deficiency. Contributing factors include lack of exposure to sunlight, poor conversion due to ageing and lack of vitamin D-rich foods. Vitamin D deficiency leads to reduced bone mineral density and increased risk of falls and fractures. Vitamin D supplements have been shown to be a cost effective and efficient way of treating deficiency in older people.^{30,31} The NHMRC recommends vitamin D supplements to housebound older people and other people not exposed to sunlight.²⁹
- Salt - a diet low in salty foods is especially important for older people for a number of reasons. A reduction in salt intake will decrease blood pressure and reduce the prevalence of hypertension, which are risk factors for stroke and coronary heart disease. High concentrations of salt can increase calcium loss; exacerbate conditions affected by water retention, such as cirrhosis and heart failure; is associated with stroke (independently of

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blood pressure) and gastric cancer; increases the rate of deterioration in kidney function in patients with renal disease; and may aggravate asthma and osteoporosis.²⁹

- Water - older Australians have an increased risk of dehydration due to declining kidney function, decreased thirst perception, medication, cognitive changes, limited mobility and increased use of diuretics and laxatives. Unfit, overweight older people are particularly at risk of dehydration when suffering heat stress. Chronic mild dehydration and poor fluid intake are related to increased risk of kidney stones, urinary tract cancers, and colon cancer. Dehydration also diminishes physical and mental performance, salivary gland function and prolapse of the mitral valve in the heart. The recommended daily intake for water is 2,500 to 3,000mls of which 1,000mls is usually obtained through solid food intake, 250mls through metabolism, leaving 1,250 to 1,750mls to be obtained from water and/or other fluids.²⁹
- Safe food storage and preparation - elderly people are at greater risk of food borne illness due to weakened immune systems. Other groups at risk include people with cancer, diabetes, kidney or liver disease, stomach problems and long-term users of steroids.²⁹

Under-nutrition in elderly people is associated with impaired immunity, recurrent sepsis, poor wound healing, and longer and more complicated hospital stays. Chronic diseases such as Parkinson's disease and motor neurone disease are associated with weight loss. Chronic lung disease and other fatiguing conditions can make it more difficult to prepare and consume food. Dementia can be a cause of under-nutrition due to increased energy levels associated with pacing or agitation, combined with forgetting to eat, lack of enjoyment of familiar foods and difficulty in cutting food, chewing and swallowing. A number of medications commonly prescribed to older people can also result in poor appetite and reduced food intake.²⁸

4.2.3 Alcohol

Studies suggest light to moderate consumption of alcohol can lead to health benefits in older people. These benefits are reduced bone density loss, reduced risk of heart failure, stroke, atherosclerosis, cognitive impairment and dementia.³² Under the 2001 guidelines, the alcohol consumed for these benefits is defined as one to two drinks per day for men and less than one per day for women. Similar benefits can be gained from other strategies like regular exercise, giving up smoking and eating a healthy diet.³³

The consumption of alcohol can cause added risk for some older people and the 2001 guidelines recommend lower levels of consumption within this group than for the general population.³³ As people age, their tolerance for alcohol usually decreases, making them more vulnerable to its effects. This is due to changes in body composition, decreased metabolic capacity and the presence of other conditions. Older people are more likely to take medications such as anti-inflammatories, anti-depressants and benzodiazepines, which can interact adversely with alcohol. Alcohol can also increase the risk of motor vehicle accidents and suicide in older people.

In 2009 the NHMRC revised the Australian guidelines for drinking alcohol. The new guidelines are based on estimating the overall risk of alcohol-related harm over a lifetime.

Two universal guidelines apply for adults aged 18 years and over:

Guideline 1: for healthy men and women, drinking no more than two standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury.³³

Guideline 2: for healthy men and women, drinking no more than four standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion.³³

Source: NHMRC. Australian alcohol guidelines: Health risks and benefits.

There are two other guidelines with special precautions for children and adolescents, and pregnant or breastfeeding women. The new guidelines differ from previous ones as they do not designate levels of drinking as 'risky' or 'high risk', instead they advise drinkers that any intake above the guideline is associated with increased risk of alcohol related accidents, injuries, disease and death. The guidelines contain additional health advice and precautions for some situations and groups of people who are at greater risk. This includes older people, people with a medical condition made worse by alcohol consumption, people with mental health problems and people taking medications. These groups are advised to consult with a health professional about the most appropriate level of drinking for their health.³⁴

The prevalence of risky levels of alcohol consumption decreases with age, with the rate falling from 16% of people aged 55 to 64 years to 10% of people aged 65 to 74 years to just over 5% of people aged 75 years and over.³⁵ Older people tend to consume less volume of alcohol in any one session and are less likely to drink compared to younger Australians, but are the most likely age group to drink everyday.^{20,36}

According to the 2007 NDSHS, approximately 16% of Australians aged 60 years and over who reported drinking, did so on a daily basis. Among other age groups, the prevalence of daily drinking decreased with age. Daily drinking rates were higher in males than in females, for all age groups. Among Australians aged 60 years and over, 21% of males drank on a daily basis compared to 11% of females.²⁰

According to the NHMRC 2001 report entitled *Australian alcohol guidelines: Health risks and benefits*, 'short term risk' describes the risk of accidents and injuries occurring immediately after drinking, while 'long-term risk' describes the risk of developing alcohol-related diseases from regular drinking over a lifetime. The CATI survey used these guidelines to assess the prevalence of risk of long-term harm among Territorians. The guidelines state that more than six standard drinks in any one day for men or more than four for women increases the risk of accident or injury (short-term harm); and more than four standard drinks per day/twenty-eight per week for men, or more than two per day/fourteen per week for women increases alcohol-related disease risks (long-term harm).³³

Number of standard drinks for risk of long-term harm			
	Low risk	Risky	High risk
Males			
On an average day:	Up to 4 per day	5 to 6 per day	7 or more per day
Overall weekly level:	Up to 28 per week	29 to 42 per week	43 or more per week
Females			
On an average day:	Up to 2 per day	3 to 4 per day	5 or more per day
Overall weekly level:	Up to 14 per week	15 to 28 per week	29 or more per week ³³

Source: NHMRC. Australian alcohol guidelines: Health risks and benefits.

Conversely, older non-Indigenous Territorians do not consider themselves to be at risk of long-term alcohol harm according to the 2004 CATI survey. In this survey, which asked participants about the frequency and quantity of alcohol they usually consumed, only 5% of Territorians aged 65 years and over admitted to drinking alcohol at levels that risk long-term harm (Table 4.5).

Alcohol consumption in the NT is the highest among all Australian states and territories. The 2007 NDSHS found that 11% of the NT population aged 14 years or older drank alcohol daily, while the national average was 8%.⁷ The NT also had the highest rates of risky drinking; 17% compared with the national rate of 10%.⁷ The respondents to this survey were largely non-Indigenous and therefore these results reflect the alcohol consumption patterns of non-Indigenous Territorians.

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Table 4.5 Self-reported risk of long-term alcohol harm, by age group and risk, Northern Territory non-Indigenous residents, 2004 CATI survey

	18–44 years		45–64 years		65 years and over	
Risk of long-term alcohol harm	Number (%)		Number (%)		Number (%)	
No risk or low risk	622	(91.0)	323	(89.9)	67	(94.8)
Risky or high risk	60	(8.8)	33	(9.3)	3	(4.6)
Not stated	1	(0.2)	3	(0.9)	0	(0.6)
Total	684		359		71	

Notes:

(1) NT data were weighted against 2004 Northern Territory non-Indigenous Estimated Resident Population.

(2) As estimates have been rounded, discrepancies may exist between sums of component items and totals.

Source: Health Gains Planning Branch, unpublished report. CATI data pooling pilot project: Filling the gaps in data pooling 2004. The Northern Territory survey methodology.

Although risky drinking decreases among older people, alcohol is still a significant contributor to premature death and hospitalisations.⁴ Trends in alcohol-attributable deaths during the period 1994–2003 show that the NT had the highest rate for people aged 65 years and over in Australia (Table 4.6). This figure is possibly related to the large Indigenous component of the NT population who, according to a report published by the NHMRC, are at twice the risk of alcohol-related disease. In this report around 20% of Indigenous Australians and 10% of non-Indigenous Australians exceeded the 2001 guideline levels for alcohol-related disease risks, and 50% and 34% respectively drank above the guideline levels for accidents and injuries.³²

Table 4.6 Alcohol-attributable deaths, estimated age-standardised rates, by 10-year age group and jurisdiction, 65 years and over, 1994–2003

	NT	WA	SA	QLD	NSW	VIC	ACT	TAS
65–74 years ^a	12.2	3.9	3.8	4.6	4.6	4.1	4.2	5.8
75–84 years ^b	11.0	4.2	5.5	4.1	4.9	3.0	5.1	4.5
85 years and over ^c	11.0	7.5	9.3	5.8	7.4	4.4	9.5	7.4

Note: Rates are expressed as number of deaths per 10,000 population.

Sources:

(a) National Drug Research Institute, Curtin University of Technology National Alcohol Indicators, Bulletin No.8, 2005.

(b) National Drug Research Institute, Curtin University of Technology National Alcohol Indicators, Bulletin No.9, 2005.

(c) National Drug Research Institute, Curtin University of Technology National Alcohol Indicators, Bulletin No.10, 2005.

The most common causes of alcohol-attributable death in older Australians during the period 1994–2003 were cirrhosis of the liver and stroke. Falls attributed to alcohol consumption were the most common cause of hospitalisation among older people and were also a frequent cause of death among people aged 85 years and over.^{4–6} Excessive alcohol consumption over time also increases the risk of some cancers, alcohol dependence, cognitive problems, dementia and sexual difficulties in men.³⁵

4.2.4 Smoking

Smoking tobacco is responsible for the greatest burden of disease and injury in Australia and is estimated to have caused 8% of the total burden in 2003. Lung cancer, chronic obstructive pulmonary disorder and coronary heart disease accounted for more than three-quarters of the smoking attributed burden. Males experience higher burden from smoking across all ages, due to their higher smoking prevalence rates.²²

Generally smoking tends to decrease in popularity as people age,³⁵ although in the NT the proportion of older Territorians who reported that they smoked on a daily basis in the 2007 NDSHS was not much lower than the total NT proportion.⁷ In the 2007 NDSHS, one in four (25%) NT respondents reported smoking on a daily basis in 2007, compared to 17% nationally.

Around 21% of NT respondents aged 60 years and over were daily smokers, more than twice the national rate of 10%. These results largely reflect the smoking patterns of non-Indigenous Territorians.⁷

The 2000–2001 AusDiab Study also collected information about smoking status and its findings were similar to the 2007 NDSHS. Although NT participants in the oldest age group were less likely to be daily smokers than their younger counterparts they were much more likely to smoke than Australian participants of the same age. The AusDiab Study found that 19% of NT participants aged 65 years and over, were current smokers compared to 6% of Australian participants (Figure 4.1). Again these results largely reflect the smoking patterns of non-Indigenous Territorians.³

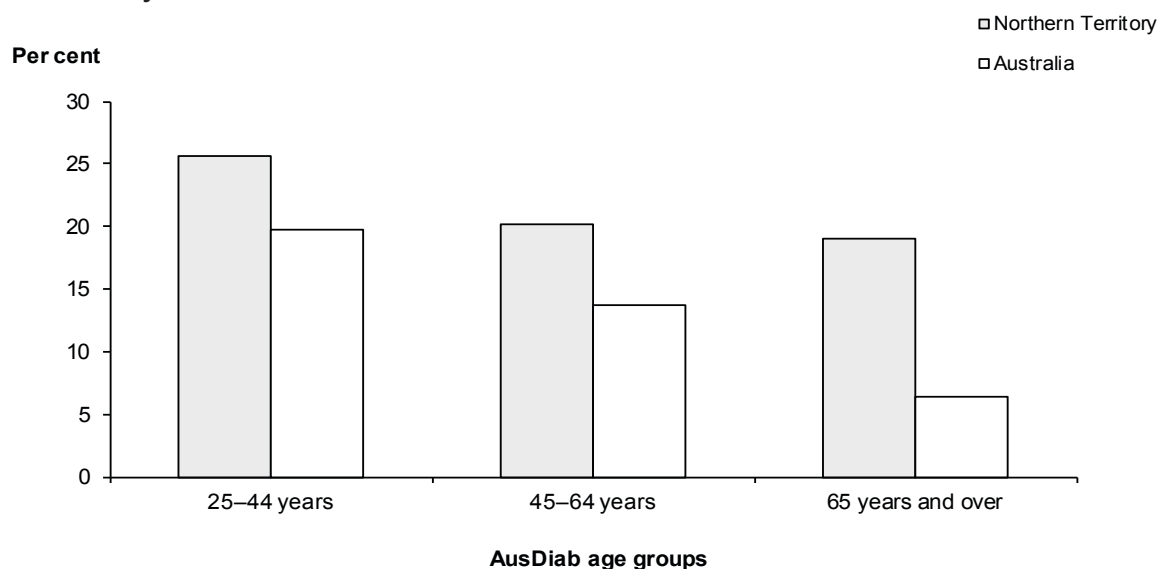
Smoking prevalence rates for Indigenous Territorians are higher still and apply to all ages. The 2004–2005 NATSIHS, which only samples Indigenous people, found that around 50% of NT Indigenous male respondents aged 55 years and over, and 30% of NT Indigenous female respondents reported smoking on a daily basis,⁸ compared to 30% of all Indigenous Australians.²¹



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Figure 4.1 Self-reported smoking, by age group, Northern Territory non-Indigenous residents, 1999–2000 AusDiab Study



Source: Appendix Table 4.2

It is never too late to stop smoking as all age groups can gain quality of life and increased life expectancy from cessation of tobacco smoking. However, doctors are less likely to advise older patients to stop smoking and older people are less likely to be concerned about the effects of smoking than younger people.³⁷ The 2007 NDSHS results on community attitudes towards policies to control smoking found the NT had the lowest rates of support in Australia. The greatest disparity when compared with national responses was in banning smoking in the workplace (70% of people in the NT supported this, compared to 82% nationally) and banning smoking in pubs/clubs (62% of people in the NT supported this, compared to 77% nationally). The least supported policy was making it harder to buy tobacco in shops, with 58% of people surveyed in the NT supporting this.⁷

4.2.5 Illicit drugs

Data on illicit drug use among older people is very limited. The AIHW report into drug use in Australia, which sources its data from the 2007 NDSHS, reported that illicit drug use decreases with age after peaking in the 20–29 year age group (23% reported recent use). Around 5% of Australians aged 50 to 59 years and 4% of people aged 60 years and over reported they had used an illicit drug in the previous 12 months. Among people aged 60 years and over, there was little gender difference with 4% of females and 5% of males recently using an illicit drug. In regards to specific illicit drug usage, the only data published in the report concerning older people was in relation to marijuana usage. Among people aged 60 years and over, less than 1% reported using marijuana in the previous 12 months. Other data available on illicit drug use in the previous 12 months was limited to Australians aged 40 years and over; 0.6% had used ecstasy, 0.4% meth/amphetamine, 0.3% cocaine, 0.2% inhalants, and 0.1% had used heroin.²⁰

Overseas estimates from the US and UK are predicting significant increases in the number of older people seeking treatment for substance abuse over the next decade. This is attributed to the size of the 'baby boom' cohort who are ageing and the higher rate of substance abuse in this group. Some of the social, psychological and health problems associated with ageing are also risk factors for substance abuse among older people. These include pain, isolation, financial difficulties and depression. Diagnosis of substance abuse problems in older people can be problematic. Older people may be less likely to seek help and their symptoms may be

missed or misdiagnosed. Treatment services are typically aimed at younger clients due to the predominance of people in this age group with substance abuse issues.^{38,39}

A 2007 report into benzodiazepine and pharmaceutical opioid misuse and crime in the NT by the National Drug Law Enforcement Research Fund observed some issues for older people, although the report has no clear definition of 'older'. The report found that some older people who are legitimate users of morphine are vulnerable to assaults and threats from illicit drug users and suppliers wishing to steal their prescription or tablets. Illicit use of pharmaceutical opiates in older people was attributed to have either begun as a chronic pain management strategy or occurred as a result of previous illicit drug use and the discovery that opiates dealt effectively with their pain.⁴⁰

4.2.6 Prescription medications

Medications are prescribed more often to people as they age. Data collected nationally on older patients attending general practice between 2000 and 2002 found that medications were prescribed, advised or supplied at an average rate of 132 medications per 100 encounters with patients aged 65 years and over, which is higher than the average of 108 medications for all encounters.⁴¹ A review article of geriatric clinical pharmacology found that older people have an increased risk of an adverse drug reaction (ADR), and these reactions are likely to be severe and more frequent. Older people are almost four times more likely to be admitted to hospital as a result of an ADR.⁴² Psychotropic medications increase the risk of falling in older people. A review of six epidemiological studies into the relationship between use of benzodiazepines and risk of hip fracture found that psychotropic medications increase the risk of falling by 71% in older people. The review also found that benzodiazepines are associated with an increase of between 50% and 110% in the rate of hip fractures.⁴³ Confusion and delirium are also frequent side effects of medications. It is possible that improved prescribing could prevent half of all ADRs.⁴⁴

The prescription of multiple medications is also more prevalent in older people. Polypharmacy, which is considered to be the use of five or more medications, occurs in 20% to 40% of older people.⁴⁵ As the number of medications taken increases, so does the risk of ADR. The probability of an ADR increases by 13% for two medications, 82% for 7 medications and almost 100% for 10 medications. Polypharmacy is a predictor of admission to hospital, early admission to aged care, death, hypoglycaemia, fractures, impaired mobility, pneumonia and malnutrition. Cognitive and sensory impairments in an older person can lead to errors taking medication. This is a major cause of morbidity and mortality in older people.⁴⁶ Inadvertent polypharmacy and drug interactions can also occur when a person is discharged from hospital to the community setting without appropriate management and supports. Risk factors for polypharmacy are age, co-morbidity and the prescribing doctor.⁴⁵

The Australian Government funds the Home Medicines Review service which is available to people living in the community. The goal is to prevent medication related problems by adopting a team approach with the person, their general practitioner (GP), carer, other healthcare professionals and preferred pharmacy to develop a medication management plan. The GP refers the person to their preferred pharmacist for a medication management review at a location of their choosing (preferably in the person's home). The pharmacist will review all prescribed, over-the-counter and complementary medications and any issues the person may have with compliance, storage and administration techniques. A report outlining the persons' issues and needs forms the basis of a medication management plan that is finalised in a further consultation with the GP. The plan can contain provision for enhanced monitoring of medication, liaison with other specialist medical practitioners, and further reviews as follow-up. Medicare rebates are applicable for the GP's involvement and the pharmacist's fee is paid for by the Government (see Chapter 7, Health and Supported Care Services, for further information).⁴⁷

4.3 Protective behaviours

4.3.1 Vaccination

Vaccination against influenza and pneumococcal infection is provided free of charge for all Indigenous Australians aged 50 years and over, for non-Indigenous Australians aged 65 years and over, and for Indigenous Australians aged 15 to 49 years with chronic medical conditions. In the NT, all Indigenous people aged 15 years and over, regardless of their medical status, have been recommended for pneumococcal vaccination since 2000.⁴⁸

Vaccination against influenza is recommended for Territorians in February, while pneumococcal vaccination can be administered any time during the year. The 2004 Adult Vaccination Survey carried out by the Australian Institute of Health and Welfare reported the NT achieved the lowest vaccination rates of the target population for the influenza vaccine; in this case, those people 65 years and over. The NT coverage was 68%, considerably lower than the national rate of 79%. Across Australia, males were less likely than females to be vaccinated against influenza, and the NT had the greatest variation between the sexes. The coverage in Territorian males aged 65 years and over was 62% compared to 73% of their female counterparts.⁹

Pneumonia is an important communicable disease contributor to premature mortality in Indigenous Australians of all ages. The vaccination program of targeting Indigenous people from 15 years of age and over has been most successful in remote areas of Australia. In the NT during the period 2004–2005, 82% of remote and 23% of urban Indigenous people aged 50 to 64 years received the influenza vaccination. The difference in vaccination coverage was greater for pneumococcal; in the five years prior to 2004–2005, 65% of remote and 4% of urban Indigenous Territorians aged 50 to 64 years received the pneumococcal vaccination.⁴⁸

National influenza and pneumococcal vaccination rates are higher among Indigenous people aged 50 to 64 years, compared to non-Indigenous people of the same age. In 2004, 47% of Indigenous Australians aged 50 to 64 years were vaccinated against influenza compared to 26% in the non-Indigenous population of this age group.⁴⁹ For the period 1999–2002, 20% of Indigenous Australians aged 50 to 64 years were vaccinated against pneumococcal compared to 3% of the non-Indigenous population.⁵⁰

4.4 Biomedical risk factors

Risk behaviours can interact with each other and influence a variety of biomedical risk factors, which are risk factors expressed as a body measurement. The main biomedical risk factors are excess body weight, high blood pressure, high blood cholesterol and impaired glucose tolerance. An example of interaction is physical activity and diet. They can both independently affect body weight, blood pressure and blood cholesterol, or with greater impact, they can act together. These particular biomedical factors are often highly interrelated in causing disease. For example, excess body weight, high blood pressure and high blood cholesterol can all contribute to the risk of heart disease and amplify each other's effects if they occur together.⁵¹

The prevalence of biomedical risk factors in the Australian population had never been measured until the AusDiab Study which was conducted over the two-year period, 1999–2000. In addition to questioning participants about health behaviours the Study also involved measuring height, weight and blood pressure and performing a series of blood tests.

4.4.1 High blood cholesterol

Cholesterol is a fat that is produced by the liver and also made by most cells in the body. It is also absorbed through diet when animal products such as meat and dairy foods are

consumed. There are two types of cholesterol: 'good' or high-density lipoprotein (HDL) which takes cholesterol from the cells to the liver where it is broken down and excreted from the body; and 'bad' or low-density lipoprotein (LDL) which remains in the blood. An excess of LDL cholesterol can cause a build up of fat in the walls of the arteries, which can stop the flow of blood or cause clots.⁵²

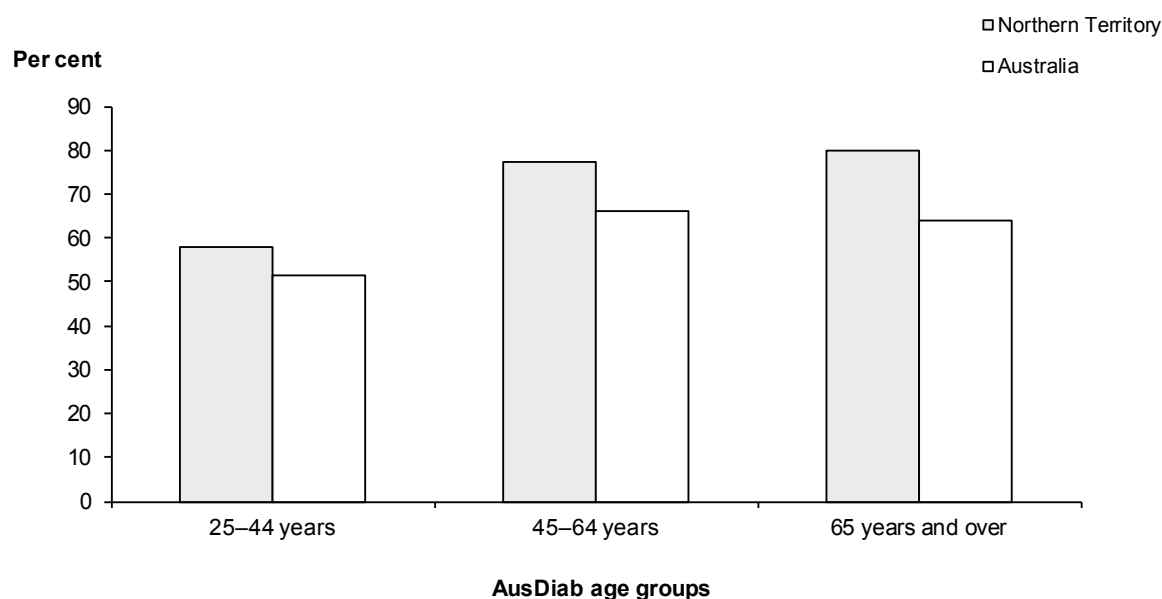
Dyslipidaemia is the term used for abnormal cholesterol levels. The following criteria are used to define abnormal lipid levels by the National Heart Foundation and Australian Diabetes Society:

- abnormal total cholesterol greater than or equal to 5.5 mmol/l
- abnormal HDL cholesterol less than 1.0 mmol/l
- abnormal LDL cholesterol greater than or equal to 3.5 mmol/l
- abnormal triglycerides greater than or equal to 2.0 mmol/l.¹⁰

Dyslipidaemia is responsible for a sizeable proportion of the total burden of disease and injury in Australia (6% in 2003), with coronary heart disease and stroke accounting for this entire burden. The rate of burden increases with age and the absolute burden is concentrated around old age.²² In the majority of cases, abnormal blood cholesterol levels are the result of excess saturated fat in the diet. Genetic factors can also affect blood cholesterol levels. Lifestyle factors that can maintain healthy levels include physical activity and diet.³⁵

In Australia the prevalence of dyslipidaemia in the population is high.¹⁰ The 2000 AusDiab Study found that at least half of Australian participants had dyslipidaemia and the likelihood of being diagnosed with this disorder tended to increase with age (Figure 4.2). Among Territorians who participated in the Study, the proportion of people with dyslipidaemia was even higher, particularly among those aged 65 years and above (Figure 4.2). In this age group well over three quarters of NT participants aged 65 years and over (76% male and 84% female) had dyslipidaemia compared to 61% and 66% of Australian participants (males and females respectively). Untreated dyslipidaemia was high among all age groups in the NT and Australia, however, older people were more likely to be treated (Appendix Table 4.3).

Figure 4.2 Dyslipidaemia, by age group, Northern Territory non-Indigenous residents and Australia, 1999–2000 AusDiab Study



Source: Appendix Table 4.3

4.4.2 Hypertension

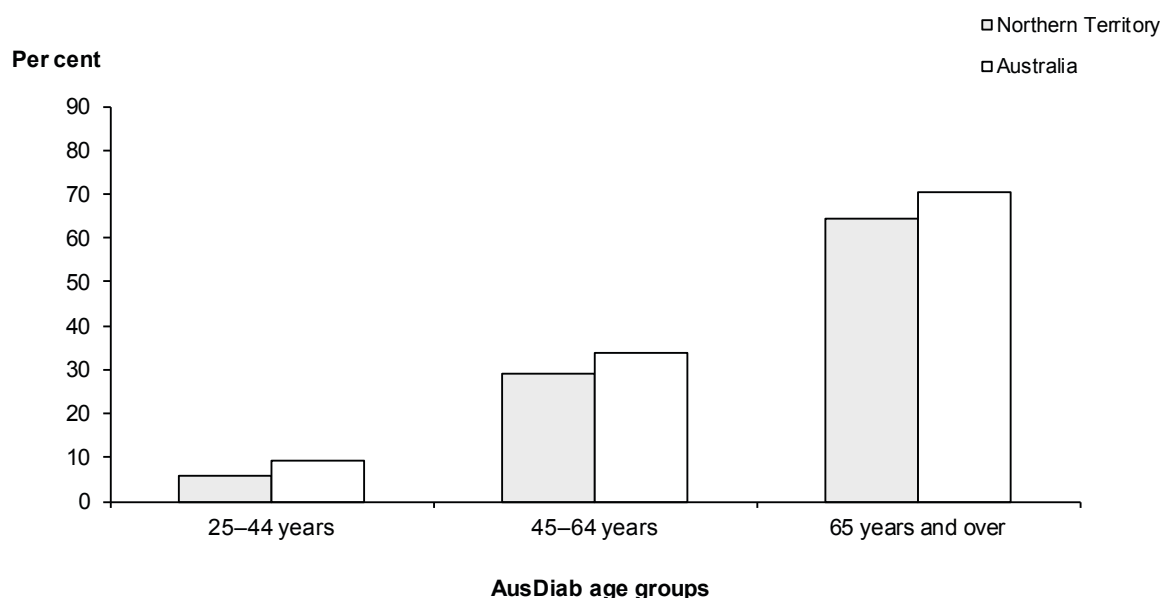
Blood pressure is the measurement of the forces exerted by circulating blood on the walls of the arteries. The heart creates the force by contracting (referred to as systolic pressure) and relaxing (diastolic pressure). High blood pressure, also known as hypertension, is defined by the National Heart Foundation as:

- systolic blood pressure of 140mmHg or more, or
- diastolic blood pressure of 90mmHg or more, or
- receiving medication for high blood pressure.

Hypertension is a major risk factor for coronary heart disease, stroke, heart failure and kidney failure. It is usually caused by obesity, excessive alcohol consumption, diet particularly high in salt and insufficient physical activity.³⁵

The prevalence of hypertension is known to increase with age³⁵, a trend clearly demonstrated in the 2000 AusDiab Study (Figure 4.3). In the Study a small proportion of young participants aged 25 to 44 years were diagnosed with hypertension (6% NT and 9% Australian) whereas the proportion of older participants aged 65 years and over with hypertension was substantially larger; 64% of NT and 70% of Australian participants (Figure 4.3).

Figure 4.3 Hypertension, by age group, Northern Territory non-Indigenous residents and Australia, 1999–2000 AusDiab Study



Source: Appendix Table 4.4

The Study also found that although hypertension was more prevalent among males than females, both in the NT and Australia, the differential lessened with age. Older female participants, both from the NT and Australia were less likely to be diagnosed with hypertension than their male counterparts but were much more likely to be receiving treatment once diagnosed (Appendix Table 4.4).

4.4.3 Obesity

Obesity is considered a disease in its own right but is also a risk factor for a number of other serious diseases (Table 4.7). Cardiovascular disease and cancer are the main diseases

associated with obesity and increased mortality, while diabetes is the most immediate outcome of excess body fat.⁵³

Defining obesity

Body Mass Index (BMI) is the most common way of estimating the prevalence of obesity and is calculated by dividing weight (kg) by height (metres) squared. A BMI from 18.5 to less than 25 is considered healthy. A person with a BMI of 30 or more is considered obese. BMI does not distinguish between weight created by muscle or fat so a further measure provides a more accurate picture. The size of a person's waist circumference is correlated with risk of disease. A waist circumference greater than or equal to 102 cm in men and 88cm in women indicates abdominal obesity.⁵⁴

Source: Bennett et al. Obesity trends in older Australians.

Table 4.7 Diseases and conditions associated with obesity

Increased relative risk	Associated with metabolic consequences	Associated with excess weight
High		
	Type 2 diabetes	Sleep apnoea
	Gall bladder disease	Breathlessness
	Hypertension	Asthma
	Dyslipidaemia	Social isolation
	Insulin resistance	Depression
	Non-alcoholic fatty liver disease	Daytime sleepiness and fatigue
Moderate		
	Coronary heart disease	Osteoarthritis
	Stroke	Respiratory disease
	Gout	Hernia
		Psychological problems
Slight		
	Cancer (breast, endometrial, colon and other)	Varicose veins
	Reproductive/fertility issues	Musculoskeletal problems
	Polycystic ovaries	Bad back
	Skin complications	Stress incontinence
	Cataract	Oedema/cellulitis

Source: National Health and Medical Research Council, Clinical practice guidelines for the management of overweight and obesity in adults, 2003.

Australia is in the midst of an obesity epidemic affecting all age groups. The National Health Survey conducted by the ABS in 2004–2005 found 54% of adults were classified as overweight or obese and that men were more affected than women; 62% and 45% respectively. Results from previous surveys show the number of overweight or obese adults has been rapidly increasing over the past decade, especially the proportion of obese adults.⁵⁵ By 2008 it was estimated that four million Australians were classified as obese and the highest rates of obesity were found among middle-aged people; 70% of males and 60% of females aged 45 to 64 years being either overweight or obese.⁵⁶ Around 20% of Australians aged 65 years and over were obese and were between 6kg to 7kg heavier than their counterparts 20 years ago.³⁵

In the NT the overweight and obesity profile of Territorians is similar to that of the rest of Australia, with 21% of older Territorians aged 65 years and over deemed to be obese according to self-reported height and weight measurements provided by respondents to the CATI survey conducted during 2004 (Table 4.8).

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Table 4.8 Self-reported body mass index (BMI), by age group, Northern Territory non-Indigenous residents, 2004 CATI survey

	18–44 years		45–64 years		65 years and over	
Body Mass Index	Number (%)		Number (%)		Number (%)	
Normal	362	(52.9)	147	(40.8)	31	(44.3)
Overweight	195	(28.5)	132	(36.8)	22	(30.5)
Obese	87	(12.8)	68	(18.8)	15	(20.7)
Not stated	39	(5.8)	13	(3.5)	3	(4.6)
Total	684		359		71	

Notes:

(1) NT data were weighted against 2004 Northern Territory non-Indigenous Estimated Resident Population.

(2) Normal Body Mass Index may include a small number of underweight participants.

(3) This table may differ from AusDiab information as a result of the sample selection process and measurement method. The CATI survey sample were selected via telephone and self-reported body measurements whereas AusDiab participants were self-selected and physically measured.

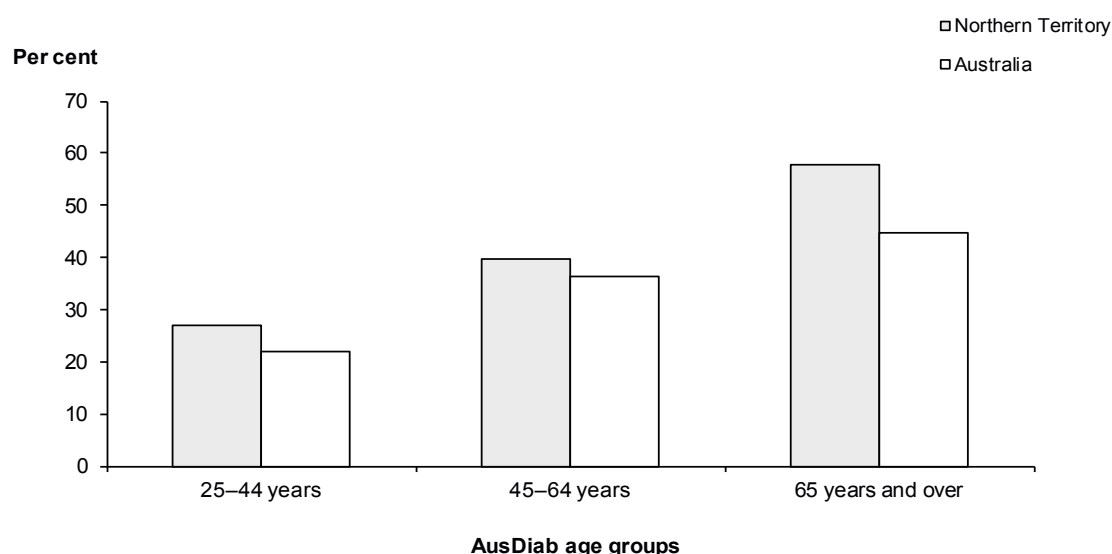
(4) As estimates have been rounded, discrepancies may exist between sums of component items and totals.

Source: Health Gains Planning Branch, unpublished report. CATI data pooling pilot project: Filling the gaps in data pooling 2004. The Northern Territory survey methodology.

The 2000 AusDiab Study also collected data about the prevalence of obesity, and used both BMI and waist measurements to identify obesity among participants. Unlike the CATI survey, AusDiab results were not self-reported but were obtained through actual measurements carried out by survey workers. Using BMI calculations based on actual weight and height measurements, the AusDiab Study findings for obesity among older Australian participants (21%) (Appendix Table 4.5) were similar to the findings of the 2004–2005 NHS.³⁵ The Study also found that obesity among older NT participants was slightly higher (23%) than the self-reported findings to the CATI survey (21%) (Table 4.8).

In contrast, using waist circumference as an indicator of abdominal obesity, the AusDiab survey found the rate of obesity was much higher than the rate derived from BMI. According to waist measurements taken in the AusDiab Study, the rates of obesity amongst older NT and Australian participants were 58% and 45% respectively (Figure 4.4).

Figure 4.4 Obesity based on waist measurement, by age group, Northern Territory non-Indigenous residents and Australia, 1999–2000 AusDiab Study



Source: Appendix Table 4.6

Furthermore, the Study found that NT male participants aged 65 years and over were much more likely to be obese according to waist measurement than Australian male participants of the same age (56% compared to 40%). The same pattern was identified among older women (60% of NT female participants compared to 49% of Australian female participants) (Appendix Table 4.6).

The increasing prevalence of obesity is a result of over-consumption of kilojoules or the decrease in physical activity or a combination of both. Some medications commonly used by older people can also have an effect on weight, including benzodiazepines, corticosteroids and insulin.⁵³ Abdominal obesity is common in older people, due to the redistribution of fat to this area as part of the ageing process.³⁵ Life stages can influence weight, and menopause is a high-risk time for weight gain in women, although the causal effect is not clear and evidence suggests it can be avoided by lifestyle change.⁵³

Obesity is also emerging as a major issue for Indigenous Australians. In fact the 2004–2005 NATSIHS found that Indigenous Australians were 1.2 times more likely to be overweight or obese than non-Indigenous Australians. In each age group, the disparity between Indigenous and non-Indigenous people was greater for females than for males.²¹ The DRUID (Darwin Region Urban Indigenous Diabetes) Study carried out from 2003 to 2005 measured around 1,000 participants and found 45% of those aged 55 to 64 years were obese.⁵⁷

Since European occupation, the diet and physical activity patterns of Indigenous people have experienced dramatic changes. The Indigenous diet has changed from one of high protein and complex carbohydrates and low in sugar to a diet high in refined carbohydrates and saturated fats. Energy was traditionally expended carrying out hunter-gatherer roles, but this has been replaced with a more sedentary lifestyle. Indigenous people living in rural and remote areas have the added issues of accessing nutritious and affordable food. Prices are much higher, quality of fruit and vegetables is poor and healthy options are limited. Obesity is associated with several of the main causes of morbidity and mortality in Indigenous people including cardiovascular disease, diabetes, renal diseases, respiratory disorders, gastrointestinal diseases and pregnancy complications.⁵⁸

Apart from the increased risk of diseases and premature death, excess weight in older people can have negative effects on daily functioning, and is likely to impact on the already limited mobility experienced by many older people. In addition, caring for people with excess weight can create health and safety concerns for formal and informal carers.⁵⁴ The treatment of obesity involves some form of lifestyle change on behalf of the person involved. However, on the population level, policy and environmental changes need to accompany this if the obesity epidemic is to be managed effectively. The NHMRC recommends a treatment model based on individual considerations, which includes medical and/or surgical intervention, behaviour modification, individual education and skills training, and population education and awareness raising. Modest weight losses of 5% to 10% can lead to health benefits such as lowering of blood pressure and improvements in blood lipids. A more substantial loss of 15% to 20% can reverse the elevated mortality risk of type 2 diabetes and reduce sleep apnoea. A 30kg weight loss has been demonstrated to reduce the risk of diabetes 14-fold.⁵³

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4.4.4 Pre-diabetes

Pre-diabetes is a condition known as impaired glucose metabolism whereby a person's blood glucose level is higher than normal but not high enough to be classified as type 2 diabetes.⁵⁹

There are two categories of impaired glucose metabolism:

- A person is classified as having impaired fasting glucose (IFG) if his/her fasting blood glucose level is slightly elevated i.e. between 6.1 and 6.9 mmol/l before consumption of a sweet glucose drink but does not rise abnormally following consumption of the drink.⁵⁹
- A person is classified as having impaired glucose tolerance (IGT) if his/her blood glucose level is still elevated i.e. between 7.8 and 11.0 mmol/l two hours following consumption of a sweet glucose drink.⁵⁹

Although people who have an IFG are at higher risk of progressing to IGT than people who have a normal fasting glucose, not all people with IFG will progress to IGT. Similarly, people who have an IGT are at higher risk of progressing to type 2 diabetes than people diagnosed with an IFG, but not all will progress to type 2 diabetes.⁵⁹

Pre-diabetes is most common among people who are overweight or obese, are physically inactive, have low HDL cholesterol, high total cholesterol, high levels of triglycerides or high blood pressure. Preventing these risk factors as well as treatment and management of pre-diabetes can reduce the progression to type 2 diabetes.⁵⁹

The 2000 AusDiab Study took blood samples (fasting and post glucose load) from all participants to test for IGT and IFG (see Table 4.9 for classification definitions). The Study found the prevalence of IGT was significantly higher than a study conducted 20 years previously, rising from 3% to 10% among Australian male participants and 3% to 12% among female participants aged 25 years and over. The prevalence of IGT increases with age in conjunction with declining ability of the pancreas to make insulin. The combination of this and decreased physical activity and increased body weight contributes to the higher prevalence of IGT in older people.³⁵

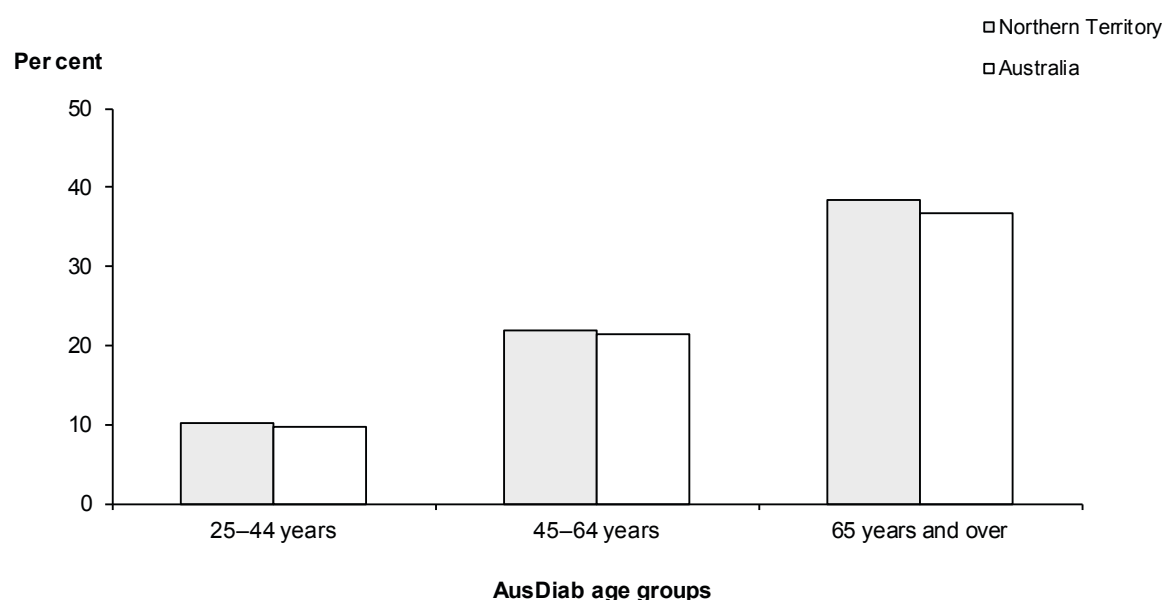
Table 4.9 Classification of glucose tolerance

Classification	Plasma glucose (mmol/l)		
	Fasting		2 hours
Diabetes	Greater than or equal to 7.0	or	Greater than or equal to 11.1
IGT	Less than 7.0	and	Between 7.8 to 11.0
IFG	Between 6.1 to 6.9	and	Less than 7.8
Normal	Less than 6.1	and	Less than 7.8

Source: Dunstan et al. Diabetes and associated disorders in Australia-2000: The accelerating epidemic. The Australian Diabetes, Obesity and Lifestyle Study (AusDiab).

According to the AusDiab Study, the prevalence of pre-diabetes across participants in all age groups in the NT was comparable to that of Australia and increased with age (Figure 4.5). Among the NT participants 45% of males aged 65 years and over and 31% of females of this age group were diagnosed as being pre-diabetic. This diagnosis was almost entirely due to IGT (Appendix Table 4.7).

Figure 4.5 Pre-diabetes, by age group, Northern Territory non-Indigenous residents and Australia, 1999–2000 AusDiab Study



Source: Appendix Table 4.7

4.4.5 Deadly Quartet

The AusDiab Study used a modified version of the metabolic syndrome known as the *Deadly Quartet*, a term first coined by Kaplan in 1989.⁶⁰

The *Deadly Quartet* consists of the following risk factors:

- glucose intolerance (Diabetes, IGT or IFG)
- dyslipidaemia (triglycerides greater than or equal to 2.0 mmol/l or HDL cholesterol less than 1.0 mmol/l or treatment for either)
- hypertension (systolic blood pressure greater than or equal to 140mm Hg or diastolic blood pressure greater than or equal to 90mm Hg)
- central obesity (waist circumference greater than or equal to 102cm (men) or waist circumference greater than or equal to 88cm (women)).¹⁰

Source: Dunstan et al. Diabetes and associated disorders in Australia.

People diagnosed with any of the *Deadly Quartet* risk factors are at higher risk of an adverse outcome, with the risk increasing with number of risk factors. In the AusDiab Study, 54% of all Australians participants (52% females and 55% males) had at least one of the *Deadly Quartet* criterion and therefore were at higher risk of cardiovascular disease than participants without risk factors.¹⁰ The risk among NT participants was even higher at 56%. This increase was mainly due to the high proportion of male participants diagnosed with one or more risk factors during the Study (64%). Among female participants, the proportion with one risk factor or more was much lower (47%) (Table 4.10).

The chance of being diagnosed with a *Deadly Quartet* risk factor increases with age. In the NT just under half (46%) of participants aged 24 to 44 years had at least one risk factor, but by 65 years of age and over 88% had one or more risk factors (Table 4.10).

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Table 4.10 Deadly quartet risk factors, by sex and age group, Northern Territory non-Indigenous residents, 1999–2000 AusDiab Study

Risk factors	25–44 years		45–64 years		65 years and over	
	Males	Females	Males	Females	Males	Females
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Zero	207 (46.5)	249 (61.9)	66 (23.7)	92 (43.1)	3 (7.2)	7 (17.8)
One	120 (26.9)	124 (30.9)	87 (31.5)	58 (27.3)	10 (20.3)	8 (20.6)
Two	80 (17.9)	19 (4.6)	58 (20.8)	32 (15.0)	13 (27.7)	9 (24.4)
Three	32 (7.2)	10 (2.4)	47 (16.9)	23 (10.9)	13 (27.7)	12 (29.6)
Four	7 (1.6)	1 (0.2)	20 (7.2)	8 (3.7)	8 (17.1)	3 (7.6)
Total	445	403	278	213	47	39

Notes:

(1) NT data were weighted against 2000 NT non-Indigenous Estimated Resident Population.

(2) As estimates have been rounded, discrepancies may exist between sums of component items and totals.

Source: Health Gains Planning Branch, unpublished report. Diabetes, obesity and other co-morbidities among the non-Indigenous population of the Northern Territory.

The most recent definition of metabolic syndrome was released on the World Wide Web by the International Diabetes Federation (IDF) in 2005 (see box). This is a slightly different approach to the one taken by the AusDiab study because it promotes central obesity as the key factor for recognition of the syndrome.⁶¹

Metabolic syndrome

According to the new IDF definition, a person is defined as having the Metabolic Syndrome if they have central obesity (defined as waist circumference ≥ 94 cm for European men and ≥ 80 cm for European women, with ethnicity specific values for other groups) and any two of the following four factors:

- raised triglyceride level greater than or equal to 150 mg/dl (1.7 mmol/l), or specific treatment for this lipid abnormality
- reduced HDL cholesterol less than 40 mg/dl (1.03 mmol/l*) in males and less than 50 mg/dl (1.29 mmol/l*) in females, or specific treatment for this lipid abnormality
- raised blood pressure with systolic blood pressure greater than or equal to 130mm Hg or diastolic blood pressure greater than or equal to 85mm Hg, or treatment of previously diagnosed hypertension
- raised fasting plasma glucose* (FPG) greater than or equal to 100 mg/dl (5.6 mmol/l), or previously diagnosed type 2 diabetes.

* If FPG is above 5.6 mmol/l or 100 mg/dl, an oral glucose tolerance test (OGTT) is strongly recommended but is not necessary to define presence of the syndrome.⁶¹

Source: International Diabetes Federation. The IDF consensus worldwide definition of the metabolic syndrome.

Appendix

Appendix Table 4.1 Physical activity level, number and percentage distribution of participants, by sex and age group, Northern Territory non-Indigenous residents and Australia, 1999–2000 AusDiab Study

Activity level	25–44 years		45–64 years		65 years and over	
	Males	Females	Males	Females	Males	Females
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Northern Territory^a						
Sufficient	297 (67.1)	214 (53.3)	165 (59.7)	109 (51.2)	26 (54.4)	19 (49.7)
Insufficient	88 (19.8)	129 (32.2)	61 (22.1)	64 (30.2)	9 (19.1)	11 (28.1)
Sedentary	58 (13.1)	59 (14.6)	51 (18.3)	39 (18.6)	13 (26.5)	9 (22.2)
Total	442	402	277	212	47	39
Australia^b						
Sufficient	942 (56.0)	1,046 (46.1)	1,218 (53.6)	1,173 (44.4)	619 (56.6)	495 (38.4)
Insufficient	523 (31.1)	896 (39.5)	677 (29.8)	985 (37.3)	324 (29.7)	517 (40.1)
Sedentary	218 (13.0)	326 (14.4)	377 (16.6)	485 (18.3)	150 (13.7)	276 (21.5)
Total	1,684	2,267	2,272	2,643	1,093	1,288

Notes:

(1) NT data were weighted against 2000 NT non-Indigenous Estimated Resident Population.

(2) As estimates have been rounded, discrepancies may exist between sums of component items and totals.

Sources:

(a) Health Gains Planning Branch, unpublished report. Diabetes, obesity and other co-morbidities among the non-Indigenous population of the Northern Territory.

(b) Dunstan et al. Diabetes and associated disorders in Australia-2000: The accelerating epidemic. The Australian Diabetes, Obesity and Lifestyle Study (AusDiab).

Appendix Table 4.2 Smoking status, number and percentage distribution of participants, by sex and age group, Northern Territory non-Indigenous residents and Australia, 1999–2000 AusDiab Study

Smoking status	25–44 years		45–64 years		65 years and over	
	Males	Females	Males	Females	Males	Females
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Northern Territory^a						
Non-smoker	215 (49.3)	227 (57.2)	93 (34.1)	121 (57.9)	13 (28.3)	21 (55.3)
Ex-smoker	92 (21.1)	86 (21.7)	119 (43.6)	52 (24.9)	24 (52.2)	10 (26.3)
Smoker	129 (29.6)	84 (21.2)	61 (22.3)	36 (17.2)	9 (19.6)	7 (18.4)
Total	436	397	273	209	46	38
Australia^b						
Non-smoker	915 (54.4)	1,341 (59.1)	1,078 (47.5)	1,755 (66.4)	433 (39.6)	917 (71.2)
Ex-smoker	377 (22.4)	539 (23.8)	825 (36.3)	581 (22.0)	576 (52.7)	302 (23.4)
Smoker	391 (23.2)	388 (17.1)	369 (16.2)	307 (11.6)	84 (7.7)	69 (5.3)
Total	1,683	2,268	2,272	2,643	1,093	1,287

Notes:

(1) NT data were weighted against 2000 NT non-Indigenous Estimated Resident Population.

(2) As estimates have been rounded, discrepancies may exist between sums of component items and totals.

Sources:

(a) Health Gains Planning Branch, unpublished report. Diabetes, obesity and other co-morbidities among the non-Indigenous population of the Northern Territory.

(b) Dunstan et al. Diabetes and associated disorders in Australia-2000: The accelerating epidemic. The Australian Diabetes, Obesity and Lifestyle Study (AusDiab).

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Appendix Table 4.3 Lipid level, number and percentage distribution of participants, by sex and age group, Northern Territory non-Indigenous residents and Australia, 1999–2000 AusDiab Study

Cholesterol status	25–44 years		45–64 years		65 years and over	
	Males	Females	Males	Females	Males	Females
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Northern Territory^a						
Normal	128 (29.1)	226 (56.6)	52 (18.6)	59 (27.7)	11 (23.9)	6 (16.0)
Abnormal	311 (70.9)	173 (43.4)	226 (81.4)	153 (72.3)	35 (76.1)	33 (84.0)
Therapy	5 (1.6)	2 (1.0)	20 (8.8)	7 (4.4)	9 (25.0)	5 (15.4)
No therapy	306 (98.4)	171 (99.0)	206 (91.2)	146 (95.6)	26 (75.0)	28 (84.6)
Total	439	399	278	212	46	39
Australia^b						
Normal	642 (38.2)	1,269 (56.0)	687 (30.3)	975 (36.9)	423 (38.7)	439 (34.1)
Abnormal	1,041 (61.8)	999 (44.0)	1,585 (69.7)	1,668 (63.1)	670 (61.3)	849 (65.9)
Therapy	31 (3.0)	12 (1.2)	242 (15.3)	227 (13.6)	190 (28.4)	273 (32.2)
No therapy	1,010 (97.0)	987 (98.8)	1,343 (84.7)	1,441 (86.4)	480 (71.6)	576 (67.8)
Total	1,683	2,268	2,272	2,643	1,093	1,288

Notes:

(1) NT data were weighted against 2000 Northern Territory non-Indigenous Estimated Resident Population.

(2) As estimates have been rounded, discrepancies may exist between sums of component items and totals.

Sources:

(a) Health Gains Planning Branch, unpublished report. Diabetes, obesity and other co-morbidities among the non-Indigenous population of the Northern Territory.

(b) Dunstan et al. Diabetes and associated disorders in Australia-2000: The accelerating epidemic. The Australian Diabetes, Obesity and Lifestyle Study (AusDiab).

Appendix Table 4.4 Blood pressure status, number and percentage distribution of participants, by sex and age group, Northern Territory non-Indigenous residents and Australia, 1999–2000 AusDiab Study

Blood pressure status	25–44 years		45–64 years		65 years and over	
	Males	Females	Males	Females	Males	Females
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Northern Territory^a						
Normal	400 (90.1)	394 (98.4)	185 (66.3)	163 (77.2)	15 (31.6)	16 (40.8)
Abnormal	44 (9.9)	6 (1.6)	94 (33.7)	48 (22.8)	33 (68.4)	23 (59.2)
Therapy	5 (11.5)	2 (28.1)	43 (45.9)	22 (46.3)	15 (47.1)	14 (60.3)
No therapy	39 (88.5)	5 (70.3)	50 (53.7)	26 (53.5)	17 (52.6)	9 (39.7)
Total	445	401	279	212	48	39
Australia^b						
Normal	1,457 (86.6)	2,127 (93.8)	1,428 (62.9)	1,818 (68.8)	315 (28.8)	392 (30.4)
Abnormal	226 (13.4)	141 (6.2)	844 (37.1)	825 (31.2)	778 (71.2)	896 (69.6)
Therapy	32 (14.0)	57 (40.0)	331 (39.2)	422 (51.1)	373 (47.9)	570 (63.6)
No therapy	194 (86.0)	85 (60.0)	513 (60.8)	403 (48.9)	406 (52.1)	326 (36.4)
Total	1,683	2,268	2,272	2,643	1,093	1,288

Notes:

(1) NT data were weighted against 2000 NT non-Indigenous Estimated Resident Population.

(2) As estimates have been rounded, discrepancies may exist between sums of component items and totals.

Sources:

(a) Health Gains Planning Branch, unpublished report. Diabetes, obesity and other co-morbidities among the non-Indigenous population of the Northern Territory.

(b) Dunstan et al. Diabetes and associated disorders in Australia-2000: The accelerating epidemic. The Australian Diabetes, Obesity and Lifestyle Study (AusDiab).

Appendix Table 4.5 Weight status according to Body Mass Index, number and percentage distribution of participants, by sex and age group, Northern Territory non-Indigenous residents and Australia, 1999–2000 AusDiab Study

Weight status (BMI)	25–44 years		45–64 years		65 years and over	
	Males	Females	Males	Females	Males	Females
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Northern Territory^a						
Normal	160 (36.5)	225 (59.5)	69 (24.7)	91 (43.3)	10 (23.6)	14 (38.1)
Overweight	183 (41.8)	100 (26.5)	149 (53.2)	72 (34.5)	20 (47.6)	17 (45.8)
Obese	95 (21.6)	53 (14.0)	62 (22.1)	47 (22.2)	12 (28.8)	6 (16.1)
Total	438	378	279	209	42	37
Australia^b						
Normal	624 (37.1)	1,334 (58.8)	612 (26.9)	1,003 (38.0)	328 (30.0)	476 (36.9)
Overweight	767 (45.6)	552 (24.3)	1,148 (50.5)	888 (33.6)	574 (52.5)	496 (38.5)
Obese	292 (17.3)	382 (16.9)	512 (22.5)	752 (28.4)	192 (17.6)	316 (24.5)
Total	1,683	2,268	2,272	2,643	1,093	1,288

Notes:

(1) NT data were weighted against 2000 NT non-Indigenous Estimated Resident Population.

(2) As estimates have been rounded, discrepancies may exist between sums of component items and totals.

Sources:

(a) Health Gains Planning Branch, unpublished report. Diabetes, obesity and other co-morbidities among the non-Indigenous population of the Northern Territory.

(b) Dunstan et al. Diabetes and associated disorders in Australia-2000: The accelerating epidemic. The Australian Diabetes, Obesity and Lifestyle Study (AusDiab).

Appendix Table 4.6 Weight status according to waist measurement, number and percentage distribution of participants, by sex and age group, Northern Territory non-Indigenous residents and Australia, 1999–2000 AusDiab Study

Weight status (waist)	25–44 years		45–64 years		65 years and over	
	Males	Females	Males	Females	Males	Females
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Northern Territory^a						
Normal	217 (49.3)	197 (52.5)	83 (29.9)	79 (37.9)	7 (16.2)	7 (18.4)
Overweight	105 (23.8)	78 (20.8)	81 (29.2)	50 (24.2)	12 (27.5)	8 (22.1)
Obese	118 (26.9)	100 (26.7)	114 (41.0)	79 (37.9)	25 (56.3)	22 (59.5)
Total	440	376	278	208	44	38
Australia^b						
Normal	886 (52.6)	1,287 (56.7)	871 (38.3)	932 (35.3)	338 (30.9)	316 (24.6)
Overweight	448 (26.6)	469 (20.7)	701 (30.9)	618 (23.4)	321 (29.3)	341 (26.4)
Obese	349 (20.7)	512 (22.6)	700 (30.8)	1,094 (41.4)	434 (39.7)	631 (49.0)
Total	1,683	2,268	2,272	2,643	1,093	1,288

Notes:

(1) NT data were weighted against 2000 NT non-Indigenous Estimated Resident Population.

(2) As estimates have been rounded, discrepancies may exist between sums of component items and totals.

Sources:

(a) Health Gains Planning Branch, unpublished report. Diabetes, obesity and other co-morbidities among the non-Indigenous population of the Northern Territory.

(b) Dunstan et al. Diabetes and associated disorders in Australia-2000: The accelerating epidemic. The Australian Diabetes, Obesity and Lifestyle Study (AusDiab).

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Appendix Table 4.7 Blood glucose status and glucose tolerance, number and percentage distribution of participants, by sex and age group, Northern Territory non-Indigenous residents and Australia, 1999–2000 AusDiab Study

Pre-diabetes status	25–44 years				45–64 years				65 years and over			
	Males		Females		Males		Females		Males		Females	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)	Number	(%)	Number	(%)
Northern Territory^a												
Normal	366	(86.4)	351	(93.8)	191	(75.3)	164	(81.6)	20	(54.7)	23	(69.3)
Pre-diabetes	58	(13.6)	23	(6.2)	62	(24.7)	37	(18.4)	17	(45.3)	10	(30.7)
IFG	28	(47.9)	3	(11.7)	26	(41.8)	7	(18.9)	2	(8.9)	1	(10.0)
IGT	30	(52.1)	20	(88.3)	36	(58.2)	30	(81.1)	15	(91.1)	9	(90.0)
Total	424		374		253		201		37		33	
Australia^b												
Normal	1,477	(89.3)	2,031	(91.0)	1,537	(75.7)	1,988	(81.1)	515	(60.4)	686	(65.8)
Pre-diabetes	177	(10.7)	200	(9.0)	494	(24.3)	463	(18.9)	338	(39.6)	357	(34.2)
IFG	112	(63.4)	36	(18.1)	244	(49.4)	123	(26.5)	97	(28.7)	72	(20.2)
IGT	65	(36.6)	164	(81.9)	250	(50.6)	340	(73.5)	241	(71.3)	285	(79.8)
Total	1,654		2,231		2,031		2,451		854		1,043	

Notes:

(1) NT data were weighted against 2000 Northern Territory non-Indigenous Estimated Resident Population.

(2) Pre-diabetic includes AusDiab participants found to have an impaired fasting glucose or an impaired glucose tolerance.

(3) As estimates have been rounded, discrepancies may exist between sums of component items and totals.

Sources:

(a) Health Gains Planning Branch, unpublished report. Diabetes, obesity and other co-morbidities among the non-Indigenous population of the Northern Territory.

(b) Dunstan et al. Diabetes and associated disorders in Australia-2000: The accelerating epidemic. The Australian Diabetes, Obesity and Lifestyle Study (AusDiab).

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Ageing and function at a glance

- In the 2006 Census of Population and Housing (Census), there were 574 Indigenous Territorians and 1,050 non-Indigenous Territorians aged 65 years and over reported to have severe or profound disabilities which required assistance to undertake core activities. A further 481 Indigenous Territorians aged 50 to 64 years were also reported to have severe or profound disabilities.¹
- The proportion of Indigenous Territorians identified as having a severe or profound disability was higher than the proportion of non-Indigenous Territorians in all age groups, with the differential being greatest in the 50 to 64 year group (3.6 times the non-Indigenous rate).¹
- Among Territorians aged 65 years and over the proportion (36%) of Indigenous people identified as having a severe or profound disability¹ was twice that of the national average for this age group (18%).² The proportion (16%) for non-Indigenous Territorians of this age¹ was slightly lower than the national average.²
- Much of the recent increase in life expectancy appears to be spent in disability. For Australian males, 67% of the 1.5 years gained over the period 1988 to 2003 was estimated to be spent with disability. For females, over 90% of their additional 1.2 years was estimated to be spent with disability.³
- The number of older Territorians with disability has been projected to increase at just over 4% per annum over the next two decades.⁴
- The occurrence of hearing loss and vision impairment increase with age^{5,6} and rates in the Northern Territory (NT) are likely to be higher than nationally due to the high prevalence of key risk factors such as infectious ear diseases,⁷ diabetes,^{6,8} smoking⁹ and sub-optimal consumption of fruit and vegetables.^{6,8}
- Territorians aged 55 years and over were more likely than younger age groups to have untreated tooth decay and moderate or severe gum disease and rates were higher than national rates.^{10,11}
- Just over half (52%) of Territorians aged 55 years and over visited a dentist in the last year.¹⁰ This attendance rate was similar to younger age groups, but below the national average (62% for people aged 55 to 74 years).^{10,11} Older Territorians were also less likely to avoid or delay dental care because of cost than younger age groups.¹⁰
- Incontinence data are not available for the NT, however, among the Australian population in 2003, it was estimated that almost 3% of the adult population were affected by severe incontinence. Females were primarily affected and rates increased with age.¹²

5.1 Common conditions associated with ageing

The physiological decline that characterises ageing and the presence of disease and injury can affect an older person's ability to feel well and be active, care for themselves, work and participate in social and other activities. When older people have lost function or are unable to return to full health, the loss of capability may require them to change or seek assistance with daily activities.¹³ This chapter provides information on disability and common conditions associated with ageing that affect physiological function. It also discusses avenues for assistance and health care.

5.1.1 Disability

The 2006 Census of Population and Housing (Census) conducted by the ABS reported the number of people who needed assistance with day to day activities due to a profound or severe disability, which was defined as needing assistance with at least one of three activities: self-care, mobility and communication, because of disability, old age or a lasting health condition.¹⁴ According to the 2006 Census, there were 4,081 Territorians who reported that they had a severe or profound disability (i.e. needed help with core activities). The Census also showed that the proportion of people needing assistance increased with age (Table 5.1). There were 574 Indigenous Territorians and 1,050 non-Indigenous Territorians aged 65 years and over in need of assistance with self-care, physical mobility or communication. A further 481 Indigenous Territorians aged 50 to 65 years also needed assistance with these activities. Compared with non-Indigenous Territorians, the prevalence rates of disability in Indigenous Territorians were higher in all age groups with the greatest differential occurring in the 50 to 64 year age group (3.6 times). Disability rates among Indigenous Territorians aged 65 years and over (36%) were double the Australian average of 18% for this age group.² The non-Indigenous rate of 16% was slightly less than the Australian average.²

Table 5.1 Need for assistance with core activities, by age group and Indigenous status, Northern Territory, 2006 Census of Population and Housing

Assistance Required	15–49 years		50–64 years		65 years and over	
	Non-Indigenous		Non-Indigenous		Non-Indigenous	
	Indigenous Number (%)	Indigenous Number (%)	Indigenous Number (%)	Indigenous Number (%)	Indigenous Number (%)	Indigenous Number (%)
<i>Census question: Does the person ever need someone to help with or be with them for core activities?</i>						
Yes	543 (2.1)	700 (1.0)	481 (11.9)	733 (3.3)	574 (36.4)	1,050 (16.1)
No	25,127 (97.9)	66,965 (99.0)	3,567 (88.1)	21,167 (96.7)	1,004 (63.6)	5,492 (83.9)
Total stated	25,670	67,665	4,048	21,900	1,578	6,542
Not stated	3,171	1,096	421	277	125	167
Total	28,841	68,761	4,469	22,177	1,703	6,709

Note: Not stated Indigenous status are excluded from this table.

Source: ABS, 2006 Census of Population and Housing. User-defined tables held by the Health Gains Planning Branch, Northern Territory DoH.

The Survey of Disability, Ageing and Carers (SDAC) conducted by the ABS during 2003 also showed that disability rates rose with age, particularly after the age of 75.¹⁵ Northern Territory data are not available from the SDAC; however, the rate of profound or severe disability in Australians as a whole increased from 9% among people aged 60 to 64 years to 58% in people aged 85 years and over. Of older Australians with a profound or severe disability, a number of conditions were common: 50% had arthritis, 43% had hearing disorders, 38% had hypertension, 30% had heart disease and 23% had suffered a stroke. Health conditions most likely to result in profound or severe disability were dementia (98% of people with dementia), speech problems (87%), Parkinson's disease (79%) and mental disorders (anxiety and phobias 60%; depression 60%).¹⁶

A report *Review of disability services in the Northern Territory* by KPMG estimated that in 2006 there were 5,100 Territorians aged 65 years and over with disability, 37% (1,900) of whom had a severe or profound disability (Table 5.2). A further 3,800 Indigenous Territorians aged 45 to 64 years also had disabilities, 24% (900) of whom had severe or profound disabilities. The KPMG estimate of the number of Territorians with severe or profound disabilities was more than double the number identified by the 2006 Census (8,300 compared with 4,081). The KPMG review found that among all Territorians aged 65 years and over with severe or profound disabilities the proportion who were Indigenous was lower (26%) than that of the 2006 Census (35%) (Table 5.1). The difference will be due to the different data sources used by KPMG (SDAC and burden of disease and injury data). While the KPMG estimates may overstate the extent of disability in the NT, the Census may understate it as the Indigenous population where the prevalence of disability is highest tend to be undercounted.^{4,17}

Table 5.2 Estimated number of people with disability, by age group and Indigenous status, Northern Territory, 2006

Age group	All disability			Severe/profound disability only		
	Indigenous	Non-Indigenous	Total	Indigenous	Non-Indigenous	Total
15–44 years	6,500	8,200	14,700	1,500	1,900	3,400
45–64 years	3,800	9,300	13,100	900	2,100	3,000
65 years and over	1,300	3,800	5,100	500	1,400	1,900
Total	11,600	21,300	32,900	2,900	5,400	8,300

Source: KPMG, Review of disability services in the Northern Territory. Final Report, 2006.

A key component of the KPMG report was to project future levels of disability in the NT. KPMG estimated that the number of Territorians aged 65 years and over with disability would increase by 130% (just over 4% per annum) over the 20-year period from 2006 to 2026. Many disabled people are likely to live in small remote communities, which will increase the cost and difficulty of providing support services.⁴

The AIHW also made projections of growth, estimating that between 2006 and 2010 there would be an 19% increase in the number of Territorians aged 65 years and over with severe or profound core activity limitations. The growth was higher than the Australian average for this age group of 13%.¹⁸

A key contributor to growth will be increasing longevity as research suggests that the majority of the extra years that people are now living is spent with disability. Of the 1.5 year gain in life expectancy between 1988 and 2003 for a 65 year old male, 67% was estimated to be spent with disability and over a quarter of that with a severe or profound core activity limitation. For a 65 year old woman, over 90% of the 1.2 years gained was estimated to be spent with disability and over half of that with a profound or severe core activity limitation.³

An increasing prevalence of disability in younger age groups may also challenge service providers as the health of people with early onset disability may deteriorate more rapidly as they age and their support needs may be greater than older people generally. Trial programs have demonstrated that people living in disability supported accommodation who were at risk of entering residential aged care can be provided individually tailored care services that allow them to 'age in place' and avoid or delay entry to residential care.¹⁸ More of these programs may be implemented under the National Disability Agreement, which aims to increase the proportion of younger disabled people with access to more appropriate forms of accommodation, diversionary programs and enhanced services.¹⁹

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The NT Department of Health (DoH) has long recognised the need to streamline and co-ordinate resources for Senior Territorians as well as the frail aged and people with disabilities. To address this need the DoH has established an Office of Disability in Darwin to provide Top End Territorians with one-stop-shop access to the NT pensioner and carer concession scheme, Seniors cards, NT Companions cards as well as access and referrals to NT disability and ageing services. This facility was opened in May 2010.

5.1.2 Hearing loss

Hearing loss develops due to problems in the hearing pathway: the ears or auditory nerve pathway to the brain, due to exposure to loud noise and certain chemicals, injury or illness, and as part of the normal ageing process.²⁰ It interferes with communication and people with hearing loss can become frustrated, socially isolated, withdrawn and depressed.²¹ The National Health Survey conducted by the ABS during 2007 and 2008 (see chapter 4 for more detail about this survey) showed that hearing loss increased with age and was estimated to affect 19% of Australians aged 55 to 64 years, 26% aged 65 to 74 years and 42% of Australians aged 75 years and over.⁵

Older Territorians with hearing problems may be able to access free hearing services through Australian Hearing, which is funded by the Australian Government. Services provided by Australian Hearing include hearing assessments, fitting of hearing devices, hearing checks and counselling about hearing loss. Hearing Australia has permanent offices in Darwin and Alice Springs and provides visiting services to Palmerston, Coolalinga, Katherine and Tennant Creek. For further information and eligibility criteria, see the Hearing Australia website at <http://www.hearing.com.au>.

Assistance with telephone calls can be obtained through the National Relay Service (<http://www.relayservice.com.au/>) and Telstra's Disability Equipment Program (http://www.telstra.com.au/abouttelstra/commitments/disability/equipment_program.cfm)

5.1.3 Vision impairment

Vision impairment refers to conditions of the eye or visual system that reduce sight and a person's ability to function normally. It can decrease independence, increase social isolation and is strongly associated with falls and hip fractures. According to the AIHW report *Vision problems among older Australians*, an estimated figure of 444,400 Australians aged 55 years and over were visually impaired (including the blind) in 2004, equating to 9% of that age group. The prevalence of vision impairment also increased with age rising from just over 2% of Australians aged 50 to 59 years to 40% aged 90 years and over.⁶ Data for the NT are not available, but Medicare Benefits Schedule (MBS) data during the financial year 2008/2009 showed that attendance rates for optometrical consultations were higher than the national average among Territorians aged 65 years and over. For example, in the 65–74 year age group, Territorians attended 60,682 optometrical consultations (MBS group A10) per 100,000 population compared with an average of 52,540 consultations per 100,000 population across all Australian jurisdictions.²² The prevalence of preventable eye health conditions among Indigenous Territorians is much higher than among non-Indigenous Territorians.²³ This may contribute to the higher utilisation of optometrical services among older Territorians compared to the average for other Australian jurisdictions.

Key causes of vision impairment in Australians aged 55 years and over in 2004 are shown in Table 5.3. Macular degeneration, glaucoma and cataracts are age related diseases (see Box for further detail on these and other key eye diseases). Together they accounted for 31% of vision impairment in Australians aged 55 years and over. A further 59% was due to uncorrected refractive error, which can be aided by wearing spectacles. Cataracts were the most common

of the eye diseases that can cause vision impairment, affecting an estimated 1.5 million (31%) Australians aged 55 years and over in 2004. The occurrence of cataracts increases with age, rising from 9% of people aged 55 to 59 years to 74% of people aged 80 years and over and occur more often in females than males.⁶ Cataracts are also more common in Indigenous Australians who are three times more likely than non-Indigenous Australians to report vision loss due to this disease.²⁴

Table 5.3 Prevalence of visual impairment among Australians aged 55 years and over, by primary cause, 2004

Visual impairment by primary cause	Number	Per cent
Cataract	73,000	16.4
Age-related macular degeneration	51,500	11.6
Glaucoma	14,100	3.2
Diabetic retinopathy	7,400	1.7
Other	36,000	8.1
Uncorrected refractive error (URE)	262,400	59.0
Total	444,400	

Notes:

(1) The primary cause of visual impairment was determined where two or more disorders were present.

(2) Visual impairment was defined as visual acuity of less than 6/12 and included blindness.

(3) URE can be corrected by eyewear and includes presbyopia, hyperopia, myopia and astigmatism.

Source: AIHW, Vision problems among older Australians. Bulletin no. 27, AIHW Cat. no. AUS 60. Canberra: AIHW, 2005.

Age-related macular degeneration

Age-related macular degeneration (AMD) is the most common cause of vision loss in Australia with 28% of people in their 80s experiencing end-stage AMD. It is a degenerative condition that reduces the central vision but leaves the peripheral vision intact. AMD is strongly related to ageing and family history, and the key preventable risk factor is smoking, which increases, by six fold, the risk of severe visual loss from AMD. There is no cure for AMD, but treatment may delay or halt its progress in some cases and vision aids can help people continue with normal life and maintain their independence.⁹

Source: Centre for Eye Research. Age-related macular degeneration.

Cataract

A cataract is a clouding of the eye's lens that reduces the amount of light able to pass through the lens and the ability of the retina to focus. The result is blurred vision, sensitivity to glare and light, fading or yellowing of colours and double vision in some people.⁸ In addition to ageing, other potential risk factors are long-term exposure to sunlight, smoking, alcohol consumption, medical conditions such as diabetes, eye injury and low intakes of fruit and vegetables.^{6,8} Spectacles, magnifying glasses and other visual aids may be used to improve vision when symptoms first appear, but when daily life is impeded, surgery to remove the cataract is necessary to restore vision.⁶

Sources: AIHW. Vision problems among older Australians. Australian Government. Eye health in Australia.

Glaucoma

Glaucoma is a disease that damages the optic nerve resulting in vision loss or blindness. Signs of glaucoma include gradual loss of peripheral vision and the development of tunnel vision, headache, blurred vision, light sensitivity and haloes around lights.⁶ In addition to ageing, key risk factors for glaucoma include high eye pressure, family history, extreme short-sightedness, eye injury, steroid use and conditions such as diabetes and hypertension. Glaucoma cannot be cured, but medications and surgery can slow the progression of vision loss.⁸

Sources: AIHW. Vision problems among older Australians. Australian Government. Eye health in Australia.

Diabetic retinopathy

Diabetic retinopathy (DR) is a common complication of diabetes where high blood glucose levels damage the small blood vessels of the retina.⁶ Vision loss depends on the progression of DR and in advanced stages vision loss can be severe or blindness can occur. All diabetics are at risk of developing DR, but poor control of blood sugar is the most critical factor in the occurrence and progression of DR. Early detection is important for successful management of DR and surgery can be used to prevent vision loss.⁸

Sources: AIHW. Vision problems among older Australians. Australian Government. Eye health in Australia.

Trachoma and trichiasis

Trachoma is a chronic conjunctivitis caused by repeated bacterial infection of the eye that can lead to scarring of the membrane (conjunctiva) that coats the surface of the eye and inner eyelids. Trichiasis is a complication of trachoma where the eyelid and eyelashes turn inwards and damage the cornea.⁸ Prevalence rates of trachoma and trichiasis are high in areas of the NT where environmental health, hygiene and housing are sub-optimal.^{8,25} In 2005, the Australian Government introduced guidelines for the public health management of trachoma to control and reduce the occurrence of the disease.²⁵

Sources: Australian Government. Eye health in Australia. Mak. D. Better late than never.

The occurrence of hearing loss and vision impairment increase with age^{5,6} and rates in the NT are likely to be higher than nationally due to the high prevalence of key risk factors such as infectious ear diseases,⁷ diabetes,^{6,8} smoking⁹ and sub-optimal consumption of fruit and vegetables.^{6,8} These risk factors plus gains in life expectancy, particularly in the Indigenous population, mean that in the future there will be a greater need for optometry services in the NT. Medicare and private health insurance subsidise the cost of some optometry services, but eligibility and the extent of subsidies and entitlements should be checked prior to accessing services. Older Territorians with a NT Pensioner and Carer Concession card are eligible for concessions on spectacles, but must obtain an approved authorisation and order form prior to consultation.²⁶ Optometrists are located in Darwin, Katherine and Alice Springs. Services to remote areas are provided by visiting optometrists and through programs such as the Fred Hollows Central Australian Eye Health Program, which is run in partnership with the Eye Foundation, the NT and Australian governments and local Indigenous health organisations.

5.1.4 Oral health

Dental care needs are dependent on oral health status, which is often related to childhood experiences, diet, smoking, fluoride intake and health behaviours.²⁷ According to a AIHW report which reported findings from the National Survey of Adult Oral Health (NSAOH) 2004–2006, an estimated 12% of NT respondents aged 55 years and over had lost all of their natural teeth (edentulism). This figure was slightly lower than the national proportion of 14% for 55 to 74 year olds. Rates were even higher for Australian respondents aged 75 years and over,¹⁰ a phenomenon attributed to differing patterns of dental care among older generations, rather than the effects of ageing.²⁸

The NSAOH also measured the adequacy of natural dentition and found that older Territorians aged 55 years and over were more likely to have inadequate dentition (fewer than 21 teeth) than people aged 15 to 34 years of age (24%, compared with 0.3%). Similarly, Territorians aged 55 years and over were more likely to wear dentures compared with younger age groups (27% wore dentures compared with 0.8% of people aged 15 to 34 years of age).¹⁰ Territorians aged 55 years and over were also more likely than younger age groups to have untreated tooth decay and moderate or severe gum disease and rates were higher than national rates.^{10,11}

Other findings of note from the NSAOH were that Territorians who hold government health care cards were disadvantaged with respect to several indicators of oral health status, oral health care and perceived oral health and the disadvantage could not be attributed to the age profile of health care cardholders. Uninsured Territorians also had poorer oral health outcomes compared with insured Territorians.¹⁰ Disadvantage in these groups was also shown at a national level. National results indicated that Indigenous Australians were disadvantaged in terms of oral health status relative to non-Indigenous Australians.¹¹

For older Territorians, risk factors for oral health status are likely to be poor general health, inadequate oral hygiene and a lack of access to services, particularly for those in rural and remote areas.²⁹ People in rural and remote areas also have less access to fluoridated water, which helps prevent tooth decay.²⁷ Another group with higher risk of poor oral health may be residents of aged care facilities where institutional complexities and functional abilities of elderly residents may create barriers to accessing dental services.²⁹

Demand for dental services from older Territorians will increase as a result of growth in this population. In addition, their treatment needs are likely to be more complex than that of younger Territorians, requiring more numerous and longer consultations.³⁰ A key issue for older Territorians will be the cost of dental services. Presently, dental costs are only subsidised under Medicare where people have a chronic medical condition and complex care needs, and their oral health is more likely to impact on their general health. A referral for dental services from a GP is required to access subsidised treatment. For further information on the scheme and eligibility criteria go to the Department of Health and Ageing's website on dental health at http://www.health.gov.au/internet/main/publishing.nsf/Content/fact%20sheet_dental-patients. Private health insurance provides cover for the cost of dental services, but less than half of Australians aged 65 years and over have private health insurance and rates of cover in the NT are lower than average.³¹ Older Territorians with a Centrelink Pensioner Concession Card or Health Care Card can access, free of charge, publicly-funded dental services provided by DoH, but waiting lists exist and patients are prioritised by clinical need with more urgent cases receiving priority.³²

5.1.5 Incontinence

Incontinence refers to the loss of control over urinary and faecal discharge. It can affect a person's ability to maintain their lifestyle or participate in particular activities. In 2003, the AIHW estimated that 545,039 Australians (almost 3% of the adult population) experienced severe incontinence. Females were more likely than males to experience severe incontinence, representing two thirds of people likely to experience severe incontinence. Incontinence also increased with age, but the timing differed between males and females. Females started to experience incontinence in their 30s due to pregnancy and childbirth and prevalence also had two peaks: between the ages of 50 to 60 years and after 70 to 80 years of age. In men, rates are low until after age 70 when they more than double.¹² Urinary incontinence (all grades of severity) was more common than faecal and flatus incontinence in 2003 and affected four times as many people.¹²

Northern Territory data are not available from the AIHW study, but the Australian rates are likely to represent circumstances in the NT. Key risk factors for incontinence other than ageing include having experienced pregnancy and childbirth, menopause, prostate surgery, anal surgery, high Body Mass Index, lower urinary tract infections, constipation, impaired mobility, diabetes, and neurological conditions such as Parkinson's disease and multiple sclerosis. Incontinence is also likely to be a significant factor in determining whether a person requires residential care. Of residents in aged care facilities in Australia in 2003, 68% needed support with bladder management, 83% needed support with bowel management and 68% required assistance with toileting.¹²

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The treatment and management of incontinence includes medications and behavioural techniques such as diet, counselling and improving pelvic floor and sphincter function. People may, however, be reluctant to seek medical care due to embarrassment about their condition.³³ People can consult general practitioners (GPs) about incontinence. They can also access a free helpline, funded by the Australian Government, which gives clinical advice on incontinence (the National Continence Helpline on 1800 330 066). Information and other resources can also be found on the Continence Foundation of Australia's website at <http://www.continence.org.au/site/index.cfm>. The Australian Government provides a capped subsidy to assist eligible people with severe and permanent incontinence to meet some of the cost of their continence products. Further information on the Continence Aids Payment Scheme and other advice on the prevention and management of bladder control and bowel problems can be found at the Department of Health and Ageing's bladder and bowel website at <http://www.bladderbowel.gov.au/>.

5.1.6 Menopause

Menopause occurs when a woman has had her last menstrual period. The ovaries cease releasing eggs and natural conception is no longer possible. Menopause usually occurs between the ages of 48 and 55 years, and among Australian women the average age at which it occurs is 51 to 52 years. Cigarette smokers and former smokers reach menopause, on average, two years earlier.³⁴ With life expectancy of 81.2 years of age, non-Indigenous women in the NT can expect to live over a third of their life after menopause while Indigenous women can expect to live about a quarter of their life after menopause.³⁵

There are a number of physical and emotional symptoms of menopause including hot flushes, night sweats, aches and pains, headaches, vaginal dryness, lowered libido, weight gain, low self-esteem and forgetfulness.³⁶ Symptoms can start up to five years before menopause and continue for many years after menopause. About 80% of women experience symptoms, but their intensity reduces over time and by five years after menopause, three quarters of women no longer experience symptoms.³⁷ Menopause is also associated with an increased risk of osteoporosis. Limited research has been conducted on Indigenous Australian women's experience of menopause; however, a study conducted in Kimberley region (Western Australia) communities in 2003 found that menopausal symptoms were common, but the women had limited understanding of the cause and traditional methods were not being used to manage symptoms.³⁸

Menopause symptoms can be managed through the use of hormone therapy or natural therapies, but both types of therapies should be carefully considered for their safety and effectiveness. Recent research findings have shown that long-term hormone replacement therapy (HRT) is associated with an increased risk of heart disease and for long-term use or for those with mild symptoms, the risks of HRT appear to outweigh the benefits from relief of symptoms.³⁹ The risks and benefits of some natural therapies are unclear and it is important to consult a doctor before use, especially if they will be taken in conjunction with other medications as they may interact and cause side effects. Regular physical activity and a healthy diet high in calcium and plant oestrogens is recommended for bone strength and to mitigate some menopausal symptoms.³⁶

The need for assistance to manage symptoms and risks associated with menopause will increase in the NT as the number of older women increases, and as awareness of the issue and preparedness to seek assistance increases among Indigenous women.

5.1.7 Male reproductive health

As men age, their reproductive function declines and key health issues of prostate disease, lower urinary tract symptoms and erectile dysfunction increase in prevalence. Data specific to the NT male population are not available on these issues; however, in 2003 male Territorians were asked to take part in a survey entitled Men in Australia Telephone Survey (MATEs). In this survey 5,990 middle-aged and older Australian males were asked about their reproductive health. The prevalence of reproductive health disorders was found to be high and increased with age. Among respondents, 49% aged 60 to 69 years and 80% aged 70 years and over reported a reproductive health issue. Erectile problems (the inability to get and/or keep an erection that allows sexual activity with penetration) were the most common reproductive health issue with 31% of respondents aged 60 to 69 years and 67% of respondents aged 70 years and over having moderate or severe erectile dysfunction. Prostate problems including prostate disease and cancer were reported by 22% of respondents aged 60 to 69 years and 47% aged 70 years and over. The prevalence of lower urinary tract symptoms, which cover a range of urinary problems including hesitancy, a weak and poorly directed stream, urgency, frequent night time urination, pain and blood during urination also increased with age (from 16% of respondents 50 to 59 years of age to 29% of respondents aged 70 years and over).⁴⁰

The survey MATEs showed that older and middle aged males had high levels of health service use, but it did not translate into seeking help for reproductive health problems.⁴⁰

Older males, for example, were far less likely than younger males to discuss issues or be worried about their reproductive health, particularly erectile dysfunction.^{40,41} Males living in rural and regional areas were less likely to seek help about erectile dysfunction due to limited access to services as well as concerns about confidentiality. Similarly, males from non-English speaking backgrounds and Indigenous males were also less likely to speak to a health professional about this issue. Erectile dysfunction and lower urinary tract symptoms may signal the presence of an underlying medical condition so consultation with a medical professional is important.⁴¹

In the NT, it is likely that the extent of reproductive health issues in older non-Indigenous males is similar to that shown by the MATEs. Anecdotal evidence, however, suggests that sexual dysfunction is a significant problem for NT Indigenous males.⁴² Although statistics are not available for reproductive health issues among NT Indigenous males, it is likely that rates for these issues may be higher due to the higher prevalence of diabetes and cardiovascular disease, which are precursors for reproductive issues, among this population group.⁴³ Improvements in education about male health issues and access to culturally appropriate and gender specific health providers, particularly in remote Indigenous communities, are likely to increase the demand for medical consultations about these issues. Medical professionals could also be encouraged to opportunistically raise these issues with patients during consultations, however, cultural and gender sensitivities may need to be considered, particularly for older Indigenous males.⁴¹

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Chapter 6

Disease and injury

Disease and injury at a glance

Chapter 6 provides a profile of disease and injury among Territorians primarily based on admissions to all Northern Territory (NT) public hospitals during the 19-year period 1992–2010 and deaths of NT residents during the 20-year period 1986–2005. Where possible, the profile is enhanced with data collected in health department registries and administrative datasets across a variety of periods.

To demonstrate differences between the disease and injury profile of older Territorians aged 65 year and over and their younger counterparts, health statistics are shown in tables or graphs for three age groups; 15 to 49 years, 50 to 64 years and 65 years and over. Text components of the chapter mainly focus on the disease and injury profile of older Territorians. Important changes over time are discussed and comparisons made between older Territorians and their younger counterparts. Comparisons are also made between Indigenous and non-Indigenous Territorians, and Australians of the same age.

Key changes in the disease profile of older Territorians reported in this chapter are provided in the following dot points:

Hospital admissions trends

- Across the 19-year period between 1992 and 2010, the rate of older Territorians aged 65 years and over being admitted to NT public hospitals for all diseases and injuries combined (all-cause) rose markedly. All-cause admission rates almost doubled (79% increase) among older Indigenous people and rose by just over 20% among non-Indigenous people of the same age.
- The average number of times that older patients were admitted for all causes during each five-year period also increased over time. During the earliest time period 1992–1995 (early 1990s) older patients were likely to be admitted 2.5 times on average. By the most recent time period 2006–2010 (late 2000s) the average number of times older Territorians were admitted had risen to 4.0 for Indigenous and 3.6 for non-Indigenous.
- Over time the pattern of all-cause admissions changed among older Territorians aged 65 years and over. During the early 1990s older non-Indigenous people had a higher all-cause admission rate than their Indigenous counterparts whereas by the late 2000s the rate was higher among Indigenous people.
- The admission rates of older Indigenous Territorians rose in every major disease/injury category including infectious diseases, cancers, mental health conditions, injuries and diseases of the cardiovascular, respiratory, endocrine, digestive and genitourinary systems.
- The trend among older non-Indigenous Territorians was mixed. Their admission rates for mental health conditions and diseases of the cardiovascular, respiratory, digestive and genitourinary systems declined over time whereas rates for infectious and endocrine diseases, cancer and injuries rose.
- Endocrine diseases were major contributors to the overall rise in admission rates among older Territorians. The admission rate of older Indigenous Territorians due to diseases in this category rose by more than five times (422%) during the entire 19-year period and more than doubled (148%) among older non-Indigenous Territorians. Older people admitted for treatment of a disease of the endocrine, nutritional and metabolic system were, for the most part, seeking treatment for diabetes.
- For other disease categories the magnitude of the rise in admission rates over the entire 19-year period varied according to Indigenous status. Among older Indigenous people the smallest upswing occurred in the rates of admission for respiratory diseases where there was a 30% increase over this period. The largest occurred in the mental health conditions

category which more than doubled in rate over time. On the other hand, among older non-Indigenous people the rate of increase occurred in other conditions such as cancer-related admissions which rose by around 20% and infectious diseases by 40%.

- Admission rates of older non-Indigenous Territorians exceeded those of their younger counterparts in the 15–49 or 50–64 year age groups. Generally this pattern was the same among Indigenous Territorians; however, there were some notable exceptions. For example, middle aged Indigenous people were more likely to be admitted for treatment of diseases within the endocrine or digestive system categories than Indigenous people aged 65 years and over. Furthermore admission rates for injury or mental and behavioural disorders among Indigenous people in the two younger age groups almost doubled those of people in the oldest age group.

Death trends

- Trends in the all-cause death rates of older NT residents were the reverse of admission trends. During the 20-year period between 1986 and 2005 there was a marked fall in the all-cause death rates of older Territorians aged 65 years and over, which was comparable to the Australian trend among people of the same age. The death rate fell by 22% among Indigenous Territorians aged 65 years and over, by 11% among older non-Indigenous Territorians and 15% among older Australians.
- During the most recent period of available data 2001–2005, the all-cause death rate of older Indigenous Territorians was 62% higher than that of older Australians whereas the rate among non-Indigenous Territorians was 13% lower.
- At this time, the all-cause death rate of older Indigenous Territorians was only three times higher than that of their younger counterparts aged 50 to 64 years. The gap between older and younger non-Indigenous Territorians was much wider (almost eight times larger for the older people). Underpinning this disparity is the large degree of premature mortality among middle-aged Indigenous Territorians.
- All-cause death rates are a composite of all types of disease and injury rates. Frequently, death rate trends for individual disease/injury categories did not mirror that of the composite rate; hence, the downward trend did not occur in every category of disease and injury. Furthermore, the trend sometimes differed between population groups i.e. up in one and down in the other.
- Over the two decades, the main decline in the death rates of older people occurred in the circulatory and respiratory disease categories.
- The biggest decline among older Territorians occurred in respiratory disease deaths. In this category, death rates fell by 63% among older Indigenous Territorians, by 29% among non-Indigenous and 3% among Australians overall.
- Deaths due to circulatory diseases among older Territorians also fell, by 28% among Indigenous Territorians, by 27% among non-Indigenous and 35% among Australians.
- Infectious disease deaths declined, but only among older Indigenous Territorians who experienced a 43% decline over time. The trend among non-Indigenous Territorians was upwards by 27%, the same direction as the death rate among older Australians (96% rise).
- Cancer death trends were mixed. Older non-Indigenous Territorians experienced a small fall (3%) in their cancer-related death rate whereas older Indigenous Territorians experienced a large increase (41%). The trend among Australians of the same age remained fairly constant over time.
- In contrast, upwards trends in the death rates of older people were apparent in mental health conditions, as well as endocrine and genitourinary diseases. The most consistent rise occurred in endocrine-related deaths with older Indigenous Territorians experiencing a 19% increase, non-Indigenous 74% and Australians 37%.

6.1 Overview

Patterns of disease and injury experienced by older Territorians are presented in this chapter, predominantly as hospitalisation (admission) and mortality (death) rates. The first section describes all causes, an aggregation of all forms of disease and injury, including mental health disorders and cancer. Thereafter the chapter is divided into sections corresponding with disease categories reported in the manuscript *International Statistical Classification of Diseases and Related Health Problems, 9th and 10th Revision (ICD-9 and ICD-10)*.¹ The ICD is a classification standard used to categorise diseases and other health problems documented in many types of health and vital records such as death certificates and health records. The categories are used by World Health Organisation (WHO) member states during population health monitoring and the compilation of national mortality and morbidity statistics.¹

6.1.1 Section structure

Each section was constructed to firstly describe the population health impact of all diseases/conditions contained within each section and then the impact of a selection of diseases/conditions. The population health impact was generally described in terms of public hospital admissions and death rates; however, where possible the impact of certain diseases/conditions was also described in terms of number of cases per head of population. This was particularly applicable for infectious diseases and invasive cancers, most of which are notifiable by law in the Northern Territory (NT).

In the infectious diseases and cancers sections the majority of diseases and cancers were chosen for discussion because of their considerable impact on the health of older Territorians. Several were selected for other reasons, either because their rates are many times higher than the rest of Australia or because they seldom occur outside the NT. Leprosy is a prime example fitting this criteria.

Diseases/conditions in the middle sections of this chapter were categorised in terms of the body systems they affected. There was particular focus on a number of chronic disease/conditions identified in the *Northern Territory chronic conditions prevention and management strategy, 2010–2020*. The report provides a long term framework to address chronic conditions including cardiovascular disease, diabetes, chronic airways disease, chronic kidney disease, mental illness and certain cancers.² The body systems described in this section included the following major systems:

- endocrine, nutritional and metabolic system
- circulatory system
- respiratory system
- digestive system
- musculoskeletal system
- genitourinary system.

The final two sections described the population health impact of injury and poisoning and the top 15 leading causes of disease burden. There was particular focus on the causes of injury most likely to impact on the health of older Territorians, whereas the leading causes of disease burden were for the entire NT population.

6.1.2 Data sources

Data presented in this chapter were acquired from a variety of sources. Hospital admissions data were sourced from the Public Hospital Morbidity dataset and deaths from the Australian Bureau of Statistics Causes of Death Unit Record File. Where possible public hospital admissions and deaths data were supplemented with information obtained from disease registers such as the NT Notifiable Diseases System (NTNDS) and the NT Cancer Register (NTCR), stand-alone disease datasets, surveys and studies.

6.1.2.1 Public hospital admissions

Hospital admission data were obtained from the Public Hospital Morbidity dataset. This dataset has existed since 1976 when electronic recording of inpatient services first commenced in the NT. Persons who enter the NT public hospital system for the first time are assigned a unique number; a Hospital Registration Number (HRN). The HRN stays with the patient for all subsequent health encounters. Because of the unique identifier (HRN), it is possible to calculate the number of individuals admitted to an NT public hospital for a specific health issue per time period. Summary information on each episode of inpatient care provided at all five NT public hospitals is extracted from the hospital information system to create the dataset. Information consists of patient demographics, diagnosis details as well as length of stay.³ Diagnosis details are coded using the ICD-10 coding system.¹

In this chapter, the admission pattern for each major ICD category was presented in two ways. Firstly as the number of public hospital admissions for each category per 100,000 population i.e. the admission rate. Secondly as the number of individuals admitted for each category per 100,000 population. By comparing the admission rates to the person rates as a ratio for each disease or condition it was possible to estimate the average number of times an individual could be expected to be admitted for a specific health issue and examine changes to the ratio over time. A consistently high ratio may reflect the recidivist nature of a health issue, such as interpersonal injury, or the chronic nature of certain diseases and the ongoing treatment required.

6.1.2.2 Mortality

Mortality data were purchased from the Australian Bureau of Statistics (ABS). The ABS is responsible for coding the causes of death for all death records notified to the Registrar-General of the Department of Births, Deaths and Marriages in each Australian jurisdiction.⁴ Mortality data were available from 1986 to 2005 for both the NT and Australia, thus allowing useful comparison between NT and Australian rates. Mortality rates were also expressed as the number of deaths per 100,000 population. At the time of editing, more recent mortality data were not available.

6.1.2.3 Disease registers

Information relating to infectious diseases and invasive cancers were obtained from disease registers kept by the NT Department of Health (DoH). In the NT the details of certain communicable diseases and all invasive cancers diagnosed among NT residents are required by law to be kept on an electronic register. The Notifiable Diseases Act requires doctors and laboratories to notify the NT Centre for Disease Control (CDC) with prescribed details of persons diagnosed with a disease scheduled under the Act.⁵ The Cancer (Registration) Act 2009 requires pathology laboratories and hospitals (public and private) to notify the NT Cancer Registrar with the prescribed details of persons diagnosed with a malignant invasive cancer.⁶

6.1.3 Statistics

The incidence rate, expressed as number of cases per 100,000 population was used to describe the number of new instances of disease or injury diagnosed within a specified period of time. The periods of time varied depending on the source of the data. For example, infectious disease incidence rates were provided for the period 1997–2006. By comparison, survey results were presented as prevalence and expressed as a percentage. Prevalence captures the amount of disease or condition in a population at a particular point in time. It differs from incidence, which captures new cases during an interval of time.

Data shown in this chapter were disaggregated across three age groups: 15 to 49 years, 50 to 64 years and 65 years and over. Comparisons were made between the three age groups to examine the relationship between ageing and illness. Comparisons were also made between Indigenous and non-Indigenous Territorians, as well as comparisons between Territorians and Australians where possible. Hospitalisation and death trends were presented over various time periods depending on availability. Hospitalisations data were available from 1992 to 2010 and deaths from 1986 to 2005.

6.2 All-cause

This section presents data on all-cause admission and death rates. For all-cause death rates the numbers of deaths in each disease and injury category were pooled to create a single count for each age and ethnic category. These counts were then converted to rates to allow for comparison by age group and Indigenous status.

The methodology for all-cause admission rates varied slightly. Dialysis episodes for renal related conditions were deliberately omitted from calculations, as Northern Territory all-cause admission rates which include dialysis episodes are many times higher than rates in other jurisdictions. To provide a more comparable assessment of NT admission rates against other jurisdictions, it is more appropriate to exclude routine dialysis from hospital admission analyses.⁷

Table 6.1 provides rates for five time periods: from 1986 to 2005 for deaths, and from 1992 to 2010 for hospital admissions.

6.2.1 Public hospital admissions

All-cause admissions among older Territorians aged 65 years and over increased considerably over time. From 1992 to 2010, the admission rate almost doubled among Indigenous people of this age group (from 34,469 to 61,618 per 100,000 population). The admission rate of older non-Indigenous people also increased over the same period of time; but to a lesser extent (from 39,880 to 48,520 per 100,000 population) (Table 6.1).

The average number of times an older Territorian was admitted within each time period increased markedly, from 2.5 in the early 1990s for both populations to 3.6 (non-Indigenous) and to 4.0 (Indigenous) during the most recent time period 2006–2010 (Appendix Table 6.1).

All-cause admission rates among Indigenous Territorians were higher than non-Indigenous Territorians across most age groups and time periods, however, the difference was least among people in the oldest age group. By the most recent period (2006–2010) rates were 61,618 and 48,520 per 100,000 population respectively (Table 6.1).

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During 2006–2010, the all-cause admission rate of Indigenous Territorians aged 65 years and over was only marginally greater than that of their younger counterparts aged 50 to 64 years (61,618 and 60,423 per 100,000 population respectively). By contrast, there was a substantial difference between the rates of older non-Indigenous Territorians and their younger counterparts (48,520 and 18,159 per 100,000 population respectively). This disparity in the relationship between age and Indigenous status reflects the higher level of illness among Indigenous Territorians at younger ages, a pattern which does not appear to have improved over time (Table 6.1).

6.2.2 Mortality

In contrast to admission rates, the all-cause death rate trend was downwards for older Territorians aged 65 years and over. This decline was particularly notable among older Indigenous Territorians whose death rate fell from 8,491 to 6,660 per 100,000 population over the entire 20-year period 1986–2005 (Table 6.1).

The all-cause death rates of Indigenous Territorians were much higher than non-Indigenous Territorians in all age groups, particularly among the middle-aged. Despite a fall in the all-cause death rate of Indigenous Territorians aged 50–64 years the gap widened over time, from 3.6 times higher than non-Indigenous in the 1980s to 4.7 times during the most recent time period 2001–2005. Older Indigenous and non-Indigenous Territorians were more comparable with regards to mortality. The older Indigenous death rate was 1.9 times higher than non-Indigenous people of the same age and 1.6 times higher than older Australians (Table 6.1).



Table 6.1 All-cause: trends in public hospital admission rates and death rates, by age group and Indigenous status, Northern Territory and Australia, 1986–2010

Period (years)	15–49 years			50–64 years			65 years and over		
	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia
	Rate			Rate			Rate		
1986–1990									
Deaths	559.4	166.5	122.3	3,423.9	956.6	831.0	8,491.1	4,008.1	4,842.7
1991–1995 (deaths) 1992–1995 (admissions)									
Admissions [#]	24,760.0	13,071.8		30,011.0	16,811.1		34,469.1	39,880.2	
Individuals [#]	10,430.0	7,932.3		11,362.9	8,491.2		14,045.2	15,911.7	
Deaths	556.1	127.5	113.6	3,014.3	855.0	684.0	7,924.3	4,509.1	4,554.1
1996–2000									
Admissions [#]	28,459.3	13,356.3		38,197.4	17,530.4		45,330.9	39,525.6	
Individuals [#]	9,806.0	7,382.4		11,542.0	7,715.7		14,091.4	13,513.3	
Deaths	568.3	134.1	112.5	2,688.0	625.4	554.0	7,459.3	3,875.4	4,359.3
2001–2005									
Admissions [#]	35,177.3	13,340.5		49,467.2	18,231.4		55,510.5	46,664.0	
Individuals [#]	10,907.8	6,908.2		12,920.8	7,014.8		16,061.0	13,447.6	
Deaths	620.5	110.2	97.7	2,216.2	470.7	474.2	6,660.3	3,582.1	4,108.9
2006–2010									
Admissions [#]	39,545.7	13,876.0		60,422.8	18,158.5		61,617.6	48,519.8	
Individuals [#]	11,059.1	6,951.4		13,601.3	7,294.1		15,362.3	13,393.8	

Notes:

(1) All causes includes all diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries (ICD-9 and ICD-10).

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of health events per 100,000 population.

[#] Renal dialysis and boarder episodes are excluded from the rates for public hospital admissions and individuals.

Source: Appendix Table 6.1.

6.3 Infectious diseases

The incidence of infectious diseases is very high in the NT, partly due to the tropical climate as well as the proportionally large Indigenous population. Infectious disease trends are shown in Table 6.2, which provides rates over five time periods: from 1986 to 2005 for deaths and from 1992 to 2010 for public hospital admissions.

6.3.1 Public hospital admissions

Between 1992 and 2010 infectious disease admission rates increased among all older Territorians, rising by around 40% in non-Indigenous aged 65 years and over and almost doubling in Indigenous people of the same age.

Across every time period and in every age group Indigenous Territorians were more likely to be admitted for treatment of an infectious disease than non-Indigenous Territorians (Table 6.2). During the most recent period, 2006–2010, older patients were admitted 1.2 times on average for treatment of an infectious disease (Appendix Table 6.2).

6.3.2 Mortality

In contrast to public hospital admissions, the infectious disease death rates of Indigenous Territorians aged 65 years and over dropped considerably during the 20-year period 1986–2005 from a peak rate of 469 per 100,000 population in the 1980s to less than 10 deaths in the 2000s. This is opposite to the trend observed among older non-Indigenous Territorians and Australians whose death rates rose during the same period. By the most recent time period 2001–2005, non-Indigenous older Territorians were more likely to die from an infectious disease than their Australian counterparts (Table 6.2).

Table 6.2 Infectious diseases: trends in public hospital admission rates and death rates, by age group and Indigenous status, Northern Territory and Australia, 1986–2010

Period (years)	15–49 years			50–64 years			65 years and over		
	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia
	Rate			Rate			Rate		
1986–1990									
Deaths	17.6	n.p.	3.1	198.1	23.0	5.6	468.8	n.p.	25.7
1991–1995 (deaths) 1992–1995 (admissions)									
Admissions	500.8	238.1		1,160.6	269.1		1,406.5	605.8	
Deaths	21.5	3.6	5.8	95.4	21.8	7.5	288.7	66.6	32.9
1996–2000									
Admissions	663.0	212.1		1,481.2	267.5		1,752.7	654.7	
Deaths	17.7	n.p.	3.1	93.3	16.4	6.1	266.4	52.5	46.0
2001–2005									
Admissions	883.0	186.2		1,625.2	250.1		2,502.1	767.8	
Deaths	21.4	n.p.	2.1	n.p.	n.p.	5.9	n.p.	84.6	51.3
2006–2010									
Admissions	1,053.3	215.6		2,413.6	320.9		2,748.9	843.3	

Notes:

(1) Infectious disease includes diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 001–139 and ICD-10 codes A00–B99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of health events per 100,000 population.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: Appendix Table 6.2.

6.3.3 Specific infectious diseases

Older people are particularly susceptible to infectious diseases and have a greater incidence of certain types of infectious disease compared to younger people. Some diseases have greater adverse effects as people age and respond less well to treatment.⁸ For example, the most serious consequences of influenza and pneumococcal disease, including death, increase from 65 years of age.⁹

In the NT, specific infectious diseases are reported by laboratories and health practitioners to the NTNDS. Rare diseases such as leprosy can still be seen from time to time while diseases such as melioidosis and tuberculosis are more frequently diagnosed in the NT than in other jurisdictions.

Table 6.3 presents infectious disease incidence rates among Territorians in three age groups from 15 years of age and over. The rates were based on data obtained from the NTNDS during the 10-year period 1997–2006. The incidence of many infectious diseases can increase as people age, whereas the incidences of others decrease. Among older Indigenous Territorians aged 65 years and over, sexually transmissible infections (STIs) and intestinal diseases rates were the highest of all infectious diseases, with salmonellosis and campylobacteriosis in particular, featuring among older non-Indigenous Territorians.

6.3.3.1 Sexually transmissible infections

Sexually transmissible infections are a variety of infectious diseases spread mainly through person to person sexual contact, predominantly in younger age groups.¹⁰ In 2005, STIs were the most commonly reported communicable disease in Australia, accounting for 43% of all notifications.¹¹

Northern Territory STI rates tend to be higher than national rates, primarily due to the high rates among Indigenous Territorians.^{12,13} Table 6.3 shows high rates of syphilis and trichomoniasis (342 and 218 per 100,000 respectively) reported among Indigenous Territorians aged 65 years and over. Rates among older non-Indigenous people are not reported because there were less than 10 cases of syphilis and trichomoniasis in this age group.

6.3.3.2 Intestinal infections

Infection of smaller and larger intestines and the stomach (intestinal infections) is commonly characterised by diarrhoea, but can include symptoms such as fever, abdominal pain and nausea.¹⁴ Intestinal infections are caused by a variety of bacterial, viral and parasitic organisms transmitted through contaminated food and water or from person-to-person as a result of poor hygiene.¹⁵ The consequences of intestinal infections range from mild to life threatening, depending on the variety of infection and availability of treatment.¹⁶

Intestinal infections are generally more frequently reported in the NT than any other jurisdiction, particularly, salmonellosis and shigellosis. Older people are susceptible to contracting salmonellosis and more likely to be severely affected than their younger counterparts¹⁷ and shigellosis is an intestinal infection that predominately occurs in the NT.¹⁸

In 2005, the incidence rate of salmonellosis in the NT was around 4.6 times higher than the national rate (194 and 42 per 100,000 population respectively).¹⁹ At the same time the incidence rate of shigellosis in the NT was over 20 times higher than the national rate (97 and 4 per 100,000 respectively).¹⁹

The incidence rates of salmonellosis and shigellosis in the NT were highest among older Indigenous Territorians aged 65 years and over (Table 6.3). Of the three non-Indigenous age groups the incidence rate of salmonellosis was highest in the oldest age group too, whereas shigellosis was a rare event among older people.

6.3.3.3 Leprosy

In Australia, leprosy is rare and occurs primarily among Indigenous people in the NT and people who have relocated from endemic areas overseas. Leprosy is not highly contagious; however, overcrowding in larger Indigenous communities with poor health services and inadequate housing may encourage the transmission of communicable diseases.²⁰

Nine new cases of leprosy were diagnosed among NT adults aged 15 years and over during the 10-year period 1997–2006 (Appendix Table 6.3). Rates of leprosy were not provided due to the small number of cases. Effective disease control programs including screening, vaccination and education are responsible for the decline in the incidence of leprosy since the 1960s.²⁰

6.3.3.4 Tuberculosis

Tuberculosis (TB) is an infectious disease of the lungs caused by the bacteria *Mycobacterium tuberculosis*. The disease can cause coughing, sometimes with sputum or blood, chest pains, weakness, weight loss and fever.²¹ Tuberculosis has been described as the disease that affects the disadvantaged, the dispossessed, the displaced and those with disabled immune systems.²² Older Australians, especially those with chronic diseases, are susceptible to the variety of latent tuberculosis (LTB1).²³ In 2005, there were 5.3 cases of TB per 100,000 population in Australia, a rate that has remained relatively stable since 1985.²⁴

Territory Screening programs target high-risk groups including refugees, immuno-suppressed patients, and people who have been in contact with TB; typically health care workers, agency personnel involved in apprehending illegal fishermen and prisoners, and school children in communities where tuberculosis has been active.²⁵

During the 10-year period 1997–2006, there were 358 cases of tuberculosis diagnosed among NT adults aged 15 years and above, 31 of which occurred in the age group 65 years and over (Appendix Table 6.3). In Table 6.3 the peak incidence rate of TB occurred among older Indigenous Territorians.

6.3.3.5 Influenza

Influenza is part of the Acute Respiratory Infections (ARIs) group that are a major cause of acute illness, hospitalisation and mortality. Nationally in 2004, ARIs were the leading cause of death in the infectious diseases group, with the older population most affected. The average age of death due to ARI for males was 80 years and females 85 years.²⁶ The median length of stay in hospital for influenza was twice as long for older people than any other age group.²⁷

People with chronic diseases, children, the elderly and Indigenous Australians are at an increased risk of contracting ARIs.²⁶ Table 6.3 shows the incidence rate of influenza during the 10-year period 1997–2006. In this table the incidence rate among Indigenous Territorians was highest among those aged 50 to 64 years, whereas among non-Indigenous Territorians, the incidence rate was highest in the oldest age group (65 years and over).

In the NT influenza typically strikes the Top End in March and again in August or September each year, creating twice as much burden on the health system than in other parts of the country, and increasing the chance of exposure for those at risk.²⁸ Vaccination against influenza is recommended for Territorians in February. It is provided free to Indigenous people aged 50 years and over, to non-Indigenous people aged 65 years and over, and for Indigenous people aged 15

to 49 years in high-risk groups (those with underlying medical conditions).²⁹⁻³⁰ The 2004 National Adult Vaccination Survey carried out by the Australian Institute of Health and Welfare (AIHW) reported the NT vaccination rate of the target population was 68%, approximately 11% lower than the national rate of 79%.³¹ Nationally, however, remote areas of Australia recorded higher vaccination rates than urban areas, most likely due to the success of the National Indigenous Pneumococcal and Influenza Immunisation Program.²⁹⁻³⁰

6.3.3.6 Melioidosis

Melioidosis is an infectious disease caused by the bacteria *Burkholderia pseudomallei*, which is commonly found in soil. After heavy rain the bacteria is present in surface water and mud and can become airborne. It typically enters the body through cuts and sores in the skin, or by inhalation of dust or droplets. Melioidosis is not usually contagious.

In Australia, melioidosis occurs in the Top End, far north Queensland and the Kimberley region. Symptoms of the disease include a productive cough and difficulty breathing, fever, headache, confusion, pain and difficulty passing urine. Melioidosis requires treatment in hospital with a course of antibiotics. Untreated it can be fatal, but most people make a full recovery. Preventive measures include wearing waterproof footwear and protective gloves when walking or working in wet and muddy conditions. People most at risk including diabetics, heavy drinkers, those with kidney, lung disease, cancer or immunosuppression are advised to stay indoors during periods of heavy wind and rain.³²

During the 10-year period 1997–2006, there were 245 new cases of melioidosis diagnosed among adults aged 15 years and over in the NT (Appendix Table 6.3). In Table 6.3 melioidosis incidence rates among Indigenous Territorians were higher than among non-Indigenous in every age group. For non-Indigenous Territorians incidence was highest in the oldest age group 65 years and over. For Indigenous Territorians incidence was highest in two age groups (50–64 years of age and 65 years and over).



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Table 6.3 Infectious diseases: incidence rates, by type, age group and Indigenous status, Northern Territory, 1997–2006

Disease	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	Rate	Rate	Rate	Rate	Rate	Rate
Campylobacteriosis	21.0	61.7	n.p.	56.0	n.p.	67.1
Chlamydia	2,523.4	379.0	192.3	37.5	82.6	n.p.
Gonococcal infection	3,542.6	147.9	334.0	61.7	106.2	29.4
Hepatitis B	201.9	17.9	n.p.	10.9	171.1	n.p.
Hepatitis C	59.2	158.5	19.2	66.5	n.p.	18.0
Influenza	18.0	10.8	26.4	10.4	n.p.	18.0
Leprosy	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Melioidosis	25.3	5.5	76.9	25.2	76.7	40.9
Meningococcal infection	5.0	1.6	n.p.	n.p.	n.p.	3.3
Pertussis	12.0	19.6	24.0	15.2	n.p.	18.0
Pneumococcal disease	99.4	6.5	105.7	11.9	106.2	37.6
Rheumatic Fever	69.8	n.p.	n.p.	0.0	n.p.	0.0
Ross River Virus	24.6	116.4	19.2	108.3	0.0	47.4
Salmonellosis	63.2	54.8	149.0	60.3	177.0	75.3
Shigellosis	61.2	13.4	161.0	9.0	177.0	n.p.
Syphilis	814.7	18.4	425.4	12.8	342.1	n.p.
Trichomoniasis	1,959.4	32.2	747.4	16.1	218.3	n.p.
Tuberculosis	40.2	17.4	64.9	16.1	76.7	29.4
Zoster	4.3	2.9	n.p.	n.p.	n.p.	18.0

Notes:

(1) Rates are expressed as number of cases per 100,000 population.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: Appendix Table 6.3.

6.4 Cancer

Cancer describes a range of diseases in which abnormal cells multiply and spread to form malignant tumours. Cancers can form in any part of the body and are classified according to where they initially develop. Cancer diagnoses described below and cancer deaths described in section 6.4.2 include malignant invasive cancers, malignant non-invasive skin cancers, benign and in-situ cancers. Cancer trends are shown in Table 6.4, which provides rates over five time periods: from 1986 to 2005 for deaths and from 1992 to 2010 for public hospital admissions.

6.4.1 Public hospital admissions

Trends in the admission rates of older Indigenous and non-Indigenous Territorians varied according to Indigenous status. There was a 64% rise in cancer-related admission rates of Indigenous Territorians aged 65 years and over and a 21% rise among non-Indigenous people of the same age. The peak admission rate of Territorians for cancer-related treatment occurred in the oldest age group. During the most recent period, 2006–2010, the admissions rate among older non-Indigenous Territorians was almost double that of older Indigenous Territorians (Table 6.4). Non-Indigenous patients in this age group were admitted 2.1 times on average and Indigenous 1.6 times (Appendix Table 6.4).

6.4.2 Mortality

Death rate trends among older Territorians were less marked than admission trends. There was a slight increase in Indigenous cancer-related death rates over time and virtually no change in non-Indigenous rates. During the most recent period, 2001–2005, the highest rate occurred among Indigenous Territorians aged 65 years and over, although there wasn't a great deal of difference between death rates of Indigenous, non-Indigenous or Australian people of this age. The gap between the cancer-related death rates of middle-aged and older Indigenous Territorians was marginal relative to the gap among non-Indigenous people of these age groups.

Table 6.4 All cancers: trends in public hospital admission rates and death rates, by age group and Indigenous status, Northern Territory and Australia, 1986–2010

Period (years)	15–49 years			50–64 years			65 years and over		
	NT Indigenous	NT non-Indigenous	Australia	NT Indigenous	NT non-Indigenous	Australia	NT Indigenous	NT non-Indigenous	Australia
	Rate			Rate			Rate		
1986–1990									
Deaths	38.8	20.4	28.5	608.4	321.7	333.9	902.9	1,077.8	1,085.2
1991–1995 (deaths) 1992–1995 (admissions)									
Admissions	333.9	382.8		1,239.0	1,577.9		1,604.6	3,977.9	
Deaths	48.4	23.6	28.3	546.9	368.1	305.6	1,315.4	1,277.2	1,121.2
1996–2000									
Admissions	464.0	371.4		1,601.8	1,366.9		2,201.3	3,414.7	
Deaths	45.7	20.1	26.0	559.5	266.3	259.6	1,191.8	1,192.1	1,116.9
2001–2005									
Admissions	501.2	357.2		1,898.3	1,199.3		2,061.2	3,582.1	
Deaths	42.2	17.4	23.9	523.8	200.7	231.8	1,274.9	1,049.9	1,101.4
2006–2010									
Admissions	591.4	360.5		2,272.9	1,519.6		2,636.7	4,830.3	

Notes:

(1) All cancers includes diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 140–239 and ICD-10 codes C00–D48. Malignant invasive cancers, malignant non-invasive skin cancers, benign and in-situ cancers are included in this category.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of health events per 100,000 population.

Source: Appendix Table 6.4.

6.4.3 Specific cancers

Each cancer has its own pattern of growth and spread. Most cancers have a unique set of risk factors, others may be the result of inherited genetics and some are due to unknown causes. The risk of death may be reduced through monitoring those at risk, reducing risk factors, screening programs and early treatment. If left untreated, most malignant tumours will eventually result in death.³³

In the NT the Cancer (Registration) Act 2009 requires all pathology laboratories and hospitals to report invasive malignant tumours (henceforth referred to as cancer) diagnosed among NT residents to the NT Cancer Registrar. The Act also requires the Register of Births, Deaths and Marriages to report cancer-related deaths.⁶ The demographic details of each case as well as the details of their malignancy are recorded onto the NT Cancer Registry (NTCR), a secure electronic 'population based' registry.³⁴

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The NTCR which has data covering 15 years from 1991 to 2005 provides statistics on all malignant cancers except non-invasive skin cancers (non-melanocytic) and cancers in-situ. The statistics are used to inform cancer control programs and to enable monitoring and evaluation of these programs. Information collected by the NTCR is also used for jurisdictional, national and international statistics, research and publications.³⁴

These statistics are presented below in Figure 6.1 and Figure 6.2. In these figures the term bowel refers to cancer of the colon and rectum, lung refers to cancer of the trachea, bronchus and lung, oral cavity refers to cancer of the lip, tongue and oral cavity, oesophagus refers to cancer of the oesophagus and stomach and uterus refers to cancer of the corpus uteri.

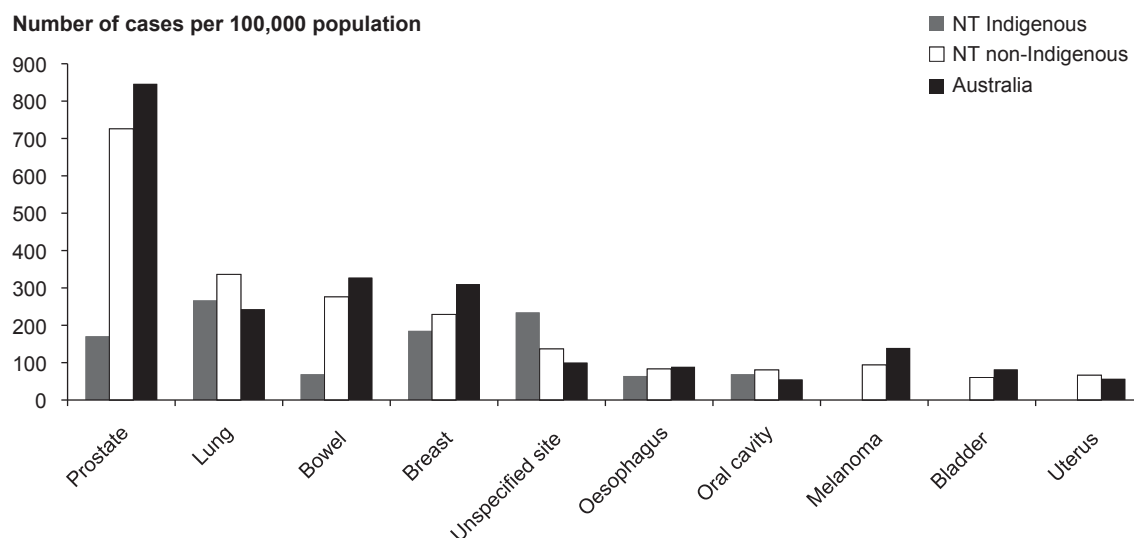
Figure 6.1 shows incidence rates for the ten leading malignant cancer sites diagnosed among older NT residents and Australians between 1991 and 2005. During this period cancer incidence rates were generally much lower among older Indigenous Territorians than older non-Indigenous Territorians, particularly melanoma and cancers of the bladder and uterus.

Older Territorians, both Indigenous and non-Indigenous were less likely to be diagnosed with a melanoma or cancer of the prostate, bowel, breast, bladder or oesophagus than their Australian counterparts but more likely to be diagnosed with cancer of the lung, oral cavity or uterus.

The outstanding exception to this pattern was cancer of unspecified site. Cancer of unspecified site is a term used to describe metastatic or secondary cancers where the primary cancer is unknown. Most often, the metastatic cancer is first found in the lymph nodes, liver, lung, or bone. When the primary site can't be identified, this disease is also referred to as carcinoma of unknown primary (CUP). World-wide, the percentage of people diagnosed with CUP is around 2–4%, much the same as older non-Indigenous Territorians (4%) but very much lower than the percentage among older non-Indigenous Territorians (17%).³⁵ The high percentage of CUP among Indigenous people may be related to late diagnosis. In 2008, the Menzies School of Health Research in Darwin and the NT DoH, at that time known as Department of Health and Families (DHF), jointly assessed data on cancer among Indigenous people in all Australian jurisdictions and concluded that Indigenous people are diagnosed later, are less likely to receive adequate treatment and more likely to die from cancer than non-Indigenous people.³⁶ Late diagnosis may not be the reason in every instance. In some cases, for example, the immune processes (white blood cells) may have successfully detected and destroyed the cancer when it was small at the primary site, but not before it had spread to an area where the immune system is less effective (i.e. brain or bone).³⁷

Figure 6.2 shows the death rates for the ten leading malignant cancer sites diagnosed among older NT residents and Australians between 1991 and 2005. Lung cancer was the leading cancer death among older Territorians while prostate caused the most cancer deaths among Australians of the same age. Bowel and prostate cancer deaths were uncommon among older Indigenous Territorians.

Figure 6.1 Malignant invasive cancers: incidence rates among people aged 65 years and over, by top ten sites and Indigenous status, Northern Territory and Australia, 1991–2005



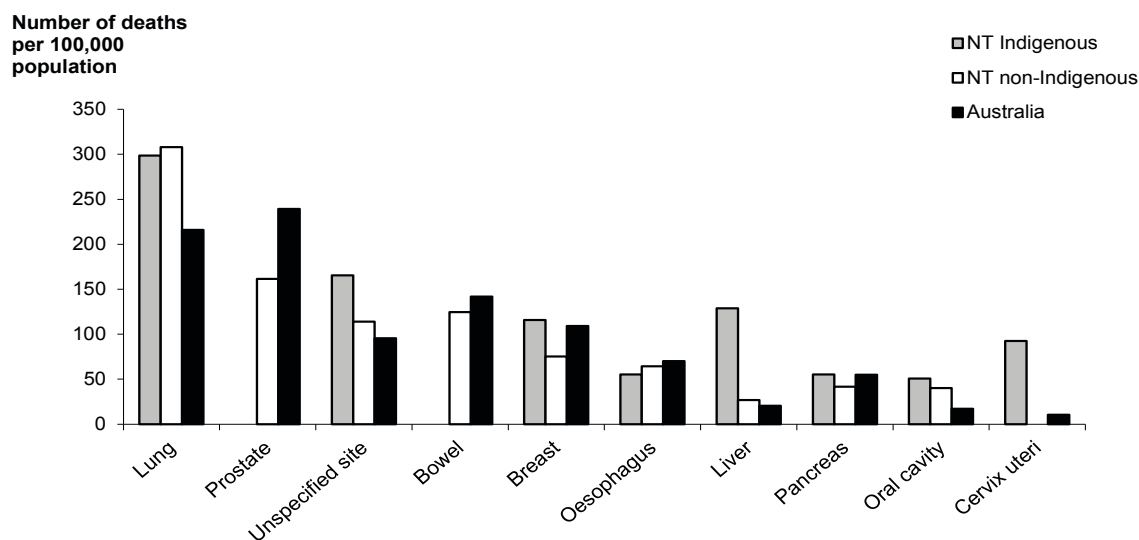
Notes:

(1) Incidence rates for melanoma, cancer of the bladder and uterus are not shown for Indigenous Territorians due to the small number of cases (less than 10).

(2) Figure 6.1 ranked in order of total Northern Territory cancer incidence rate.

Source: Appendix Table 6.5.

Figure 6.2 Malignant invasive cancers: death rates among people aged 65 years and over, by top ten sites and Indigenous status, Northern Territory and Australia, 1991–2005



Notes:

(1) Death rates for cancer of the prostate and bowel are not shown for Indigenous Territorians due to the small number of death (less than 10).

(2) The death rate for cancer of the cervix is not shown for non-Indigenous Territorians due to the small number of deaths (less than 10).

(3) Figure 6.2 ranked in order of total Northern Territory cancer death rate.

Source: Appendix Table 6.6.

6.4.3.1 Lung cancer

The majority of lung cancers are classified as non-small cell lung cancer. General symptoms can include shortness of breath, wheezing, chest pain and a cough that contains blood stained sputum, weight loss, lethargy and loss of appetite. Lung cancer is diagnosed through a biopsy or by examining sputum for cancer cells. Small tumours can be removed and the survival rate is 80%, five years after diagnosis. Tumours that spread to the lymph nodes can also be treated by surgery, but the five-year survival rate drops to 25–30%. Patients who receive chemotherapy for lymph node tumours have a 15–35% five-year survival rate.³⁸

Tobacco smoking is considered to be the principal risk factor for lung cancer, causing 90% of male and 65% of female lung cancers throughout Australia.³⁹ In the NT the prevalence of this particular risk factor is very high. For example, during the mid 2000s the age-standardised smoking prevalence of Territorians aged 18 years and above was 35%, or 1.6 times higher than the Australian prevalence.⁴⁰

Australia wide, lung cancer incidence rates are decreasing but it is still the most common cause of cancer death for males. Conversely, lung cancer rates of non-Indigenous females and the Indigenous population of the NT are increasing, reflecting the growth of tobacco consumption among these two population groups during recent decades.^{11,41} Lung cancer rates also vary across regions as shown in the report *Northern Territory cancer incidence and mortality by region 1991–2003*. This report identified that Indigenous people living in East Arnhem region had much higher lung cancer incidence rates (170 per 100,00 population) and death rates (151 per 100,000 population) than their counterparts in other regions.⁴²

Generally the incidence of lung cancer increases with age and peaks among those aged 65 years and over. This is true for non-Indigenous Territorians among whom the rate of lung cancer diagnosis was four times higher than those aged 50 to 64 years during the period 1991–2005 (336 and 83 per 100,000 population respectively). The differential among older Indigenous Territorians was much smaller; however, only 1.3 times higher than their younger counterparts aged 50 to 64 years (267 and 213 per 100,000 population respectively) (Appendix Table 6.5).

The death rate from lung cancer also increases with age and peaks among older people. During the entire data collection period 1991–2005, the highest death rates due to lung cancer occurred among Indigenous and non-Indigenous people aged 65 years and over. Although comparable within the NT, the lung cancer death rates of older Territorians were almost one and a half times greater than their Australian counterparts (299, 308 and 216 per 100,000 respectively) (Appendix Table 6.6).

6.4.3.2 Bowel cancer

Most colon and rectum cancers (also known as bowel cancers or colorectal cancers) start from a polyp (a small raised area that looks like a mushroom)⁴⁴ that develops in the lining of the large bowel.⁴⁵ Polyps are usually harmless (benign) but can become cancerous (malignant). Bowel cancer can be treated successfully if detected in its early stages.^{46,44}

Risk increases with age after 50 years and is higher for those with a significant family history of bowel cancer or polyps, and those who have had an inflammatory bowel disease such as Crohn's disease or ulcerative colitis, or have previously had adenoma type polyps in the bowel. Other risk factors are obesity, and a diet high in animal fats, red or processed meat. Tobacco or heavy alcohol consumption may also increase risk.⁴⁴ There are few, if any, early warning signs of bowel cancer. However, symptoms can include bleeding from the rectum, recent and persistent change in bowel habit, unexplained tiredness and/or abdominal pain.⁴⁶

Testing for cancer is recommended to detect the disease in its early stages, before it has developed and before any symptoms are present. In Australia there are three national population-based screening programs: BreastScreen Australia, the National Cervical Screening Program, and the National Bowel Cancer Screening Program.⁴³

Screening tests are recommended every two years for males and females over 50 years of age. The most common test is the faecal occult blood test (FOBT). The National Bowel Cancer Screening Program (NBCSP) commenced in August 2006 for eligible Australians turning 50 years of age between January 2008 and December 2010, and those turning 55 or 65 between July 2008 and December 2010.⁴⁷ The *National Bowel Cancer Screening Program monitoring report* for the period August 2006 to June 2008 found the NT participation rate was 28%, the lowest of all states and territories and 12% below the national rate of 40%. Australians aged 65 years were more likely to participate than those aged 55 years, which correlates to the risk of bowel cancer increasing with age. In contrast, males were less likely to participate in the program but have higher incidences of bowel cancer.⁴⁸

Bowel cancer rates in the NT are lower than the rest of Australia, especially among Indigenous Territorians. During the entire period of NTCR data collection 1991–2005, the incidence rates of this cancer among older Indigenous and non-Indigenous Territorians aged 65 years and over were 69 and 276 per 100,000 population compared with 328 among Australians of the same age (Appendix Table 6.5).

As with most cancers the death rate for bowel cancer increases with age and peaks in the age group 65 years and over. During the 15-year period 1991–2005, the differential was most marked among older NT non-Indigenous people. The bowel cancer death rate of non-Indigenous Territorians aged 65 years and over was four times greater than that of their younger counterparts aged 50 to 64 years (125 and 28 per 100,000 population respectively) (Appendix Table 6.6).

6.4.3.3 Liver cancer

Liver cancer is an uncommon primary cancer diagnosis in the Australian population as a whole, whereas, in the NT, it is more frequently diagnosed among Indigenous Territorians. The exact cause of primary liver cancer is not yet known; however, risk factors include hepatitis B or hepatitis C infection, prolonged alcohol consumption and cirrhosis (fine scarring throughout the liver resulting from liver disease). Hepatitis B vaccination programs have been identified as potential options for reducing the high Indigenous death rate from liver cancer.⁴¹

Liver cancer symptoms often appear once the cancer has advanced and may include fatigue, pain in the upper right side of the abdomen and swelling, weight loss, reduced appetite, yellowing of the skin, nausea and fever. Diagnosis may be made using a liver function test, blood tests, ultrasounds and scans.⁴⁹

In the NT, during the entire period of NTCR data collection 1991–2005, Indigenous Territorians had liver cancer rates that were much higher than non-Indigenous Territorians and Australians in every age group (Appendix Table 6.5).

Older people are much more likely to be diagnosed with liver cancer than younger people. Over the same time period Indigenous and non-Indigenous Territorians aged 65 years and over had higher liver cancer incidence rates compared to people of younger ages. The rates of older Indigenous Territorians were double that of their younger counterparts aged 50 to 64 years (92 and 46 per 100,000 population respectively). This gap was even greater for older non-

Indigenous Territorians, who experienced incidence rates four times higher than their younger counterparts (17 and 4 per 100,000 population respectively) (Appendix Table 6.5).

Nationally, the death rate for liver cancer for all age groups in 2005 was 4.5 per 100,000 population.⁵⁰ During the entire period of NTCR data collection 1991–2005 NT Indigenous Territorians aged 65 years and over had a liver cancer death rate around five times higher (129 per 100,000 population) than that of NT non-Indigenous people (27 per 100,000 population) and other Australians (20 per 100,000) of the same age group (Appendix Table 6.6).

6.4.3.4 Prostate cancer

Prostate cancer is the most commonly diagnosed sex-specific cancer among men. It can occur without symptoms; however, indication of the disease may include frequent urination at night, sudden or urgent need to urinate, difficulty in starting to urinate, slow flow of urine and difficulty in stopping, discomfort while urinating, painful ejaculation, blood in the urine or semen, decrease in libido or reduced ability to get an erection.⁵¹

Tests include a blood test that measures Prostate Specific Antigen, biopsy of the prostate, and Digital Rectal Examination (DRE). Prostate cancer can be cured if detected and treated while still confined to the prostate gland.⁵¹

Between 1991 and 2005, prostate cancer was the most common type of cancer in older males in Australia and in 2003 overtook bowel cancer as the most common cancer diagnosed in Australia. It is the second most common cause of cancer death in males.³³

By contrast, prostate cancer is a relatively less common type of cancer among Indigenous men compared with non-Indigenous men. In the NT, during the period of NTCR data collection 1991–2005, Indigenous prostate cancer rates were around three to four times lower than non-Indigenous people of the same age (Appendix Table 6.5).

Prostate cancer is a disease of old age. For both Indigenous and non-Indigenous men there was a five-fold difference between the incidence rate among males aged between 50 to 64 years of age and those aged 65 years or older during this period (Appendix Table 6.5).

Similarly, the death rate for prostate cancer increases with age. It peaks in the age group 65 years and over and the differential in rates between younger and older men can be quite marked. In the NT for example, during the period 1991–2005 older non-Indigenous Territorians had prostate cancer death rates that were 13 times higher than that of their younger counterparts aged 50 to 64 years (162 and 12 per 100,000 population respectively) (Appendix Table 6.6).

Australian males had higher rates of prostate cancer mortality than NT males for all age groups. This differential was most significant in the oldest age group, with the Australian male death rate around 50% higher than non-Indigenous Territorians (239 and 162 per 100,000 population respectively during the period 1991–2005) (Appendix Table 6.6).

6.4.3.5 Breast cancer

Breast cancer is a major health problem for women in Australia. In 2007 it was the most commonly diagnosed cancer among Australian females and the second most common cause of cancer death.⁵² Family history is not a strong risk factor for breast cancer as 80% of diagnosed women have no family history of the disease; the only known risk factor is being female and growing older.⁵³ Breast cancer starts in the ducts or lobules of the breast and it is usually discovered when the cancer has spread to surrounding tissue. Symptoms may include, a lump, lumpiness or thickening of the breast, changes to the nipple, including discharge, changes to the skin of the breast, change in the shape and size of the breast, swelling or discomfort in the armpit or persistent, unusual pain in the breast.⁵⁴

A mammogram, ultrasound and biopsy are carried out to diagnose breast cancer. Early detection means greater treatment options and the potential for complete cure.⁵³ In the NT screening is provided by breastScreenNT, a program jointly funded by BreastScreen Australia and the NT Government to reduce the incidence and mortality of breast cancer. In the NT breastScreenNT's free bi-annual mammography screening is provided to the target group of women aged from 50 to 69 years, when it is most effective. BreastScreen Australia aims to achieve a 70% participation rate of the target group. Screening is less effective in women under 50 years due to the higher density breast tissue.⁵⁵ Women's participation in the breastScreenNT program is measured over a 24-month period by calculating the number of individual women screened in each age group as a proportion of the ABS Estimated Resident Population (ERP) for that age group (Table 6.5). The bi-calendar year ERPs are averages of the paired years. Participation rates are expressed as percentages.⁵⁶ During the two calendar years, 2006–2007, a total of 7,089 Territorians aged 50 to 69 years had a mammogram provided through breastScreenNT, equating to 42% of eligible women in the target group (Table 6.5). Although the NT rate has progressively improved since 1994,⁵⁶ it is still lower than the national rate. Between the years 2004 to 2005, the national age-standardised participation rate was 56%.⁵⁷

Table 6.5 Number and percentage of women screened for breast cancer by breastScreenNT, Northern Territory, 2006–2007

	40–49 years	50–69 years	70 years and over	All eligible
<i>Number receiving screening</i>				
2006	713	3,336	87	4,136
2007	800	3,753	82	4,635
<i>Percentage receiving screening</i>				
2006/2007	9.9	42.1	6.1	24.8

Note: The average of bi-calendar year Estimated Resident Population counts were used as the denominator in the above table.
Source: breastScreenNT. User-defined tables held by Health Gains Planning Branch, NT DoH.

Once a woman is diagnosed with breast cancer, treatment is coordinated through her general practitioner and specialist. Women may return to breastScreenNT for screening mammograms five years after diagnosis and treatment, provided they no longer require specialist surveillance.⁵⁸

Breast cancer is a disease of ageing, with over 70% found in women over 50 years of age. During the 15-year period of data collection by the NTCR 1991–2005, the rate of breast cancer among Indigenous NT women was considerably higher after 65 years of age. In contrast non-Indigenous women aged between 50 and 64 years had a slightly higher rate than their older counterparts aged 65 years and over. The rates among older women aged 65 years and over were 185 per 100,000 population for NT Indigenous older women, 229 for NT non-Indigenous women and 310 for Australian women (Appendix Table 6.5).

Although breast cancer occurs less often among Indigenous women the death rate due to this cause is similar to or higher than that of non-Indigenous women.⁵⁹ In fact, among older women aged 65 years and over during the period 1991–2005, the death rate of Indigenous women due to breast cancer far exceeded that of non-Indigenous women of the same age (116 deaths per 100,000 population and 75 respectively) (Appendix Table 6.6).

6.4.3.6 Cervical cancer

Although cervical cancer is not among the top ten most commonly diagnosed cancers, like liver cancer, it is a significant health problem among the Indigenous population of the NT. It is a malignant tumour in the tissues of the cervix and infection with the Human Papillomavirus (HPV) is present in almost all cases of women diagnosed.

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Early changes in the cells of the cervix rarely cause symptoms; however, the most common signs include vaginal bleeding between periods, bleeding after or pain during intercourse, unusual vaginal discharge, vaginal bleeding after menopause, excessive tiredness, leg pain or swelling and lower back pain.⁶⁰

Cervical screening is the most reliable means of detecting cervical cancer with the capacity to detect both treatable pre-cancerous lesions as well as cervical cancer. The National Cervical Screening Program was first introduced in Australia in 1991 and since inception millions of women have participated in the program. In the most recent time period for which national data are available, more than 3.6 million women participated in the program (61% participation rate).⁵²

In the NT the National Cervical Screening Program⁶¹ is administered by CervicalscreenNT, Well Women's Cancer Screening Program.^{62,63-64} Participation in the Cervical Screening Program by NT women is lower than the Australian average. During the two-year period 2006–2007 the overall participation rate of NT women in the target age group was 56% with participation rates declining as women aged.⁶⁵ Among those aged 50 to 69 years the participation rate was 44%, much lower than that of younger NT women aged between 20 to 49 years who had a participation rate of 60% (Table 6.6).

Table 6.6 Number and percentage of women screened for cervical cancer by CervicalscreenNT, Northern Territory, 2006–2007

	20–49 years	50–69 years	Total (20–69 years)
Number receiving screening			
2006	14,777	3,558	18,335
2007	15,242	3,788	19,030
Percentage receiving screening			
2006/2007	59.9	43.6	55.8

Note: The average of bi-calendar year Estimated Resident Population counts were used as the denominator in the above table.
Source: CervicalscreenNT. User-defined tables held by the Health Gains Planning Branch, DoH.

Nationally, about half of new cervical cancer cases are diagnosed in women over 50 years of age.⁶⁶ In the NT, during the entire period of NTCR data collection between 1991 and 2005, the incidence rate was higher among Indigenous Territorians of all ages compared to their Australian counterparts.⁶⁰ The rate increased with age, peaking for the 65 years and over age group at 108 per 100,000 population among Indigenous women. The Indigenous rate for this age group was more than 6 times higher than the Australian rate. Overall cervical cancer incidence was higher among Indigenous Territorians in every age group compared with non-Indigenous Territorians and Australians (Appendix Table 6.5).

In the NT, between 1991 and 2005, the death rate for cervical cancer was also highest among Indigenous Territorians. As with most cancers the death rate increased with age and in the oldest age group 65 years and over, Indigenous Territorians had rates up to nine times higher than their Australian counterparts (93 and 11 per 100,000 population respectively) (Appendix Table 6.6).

Appropriate access to health practitioners as well as follow-up and treatment services is a particular issue for Indigenous women and women living in remote and rural areas. In the past, the tyranny of distance frequently affected remote-based screening programs, causing participation rates of rural dwellers to be lower than rates among their urban-based counterparts. Cervical screening data collected during the earlier years of the eight-year period 1997–2004 attests to this phenomenon. In the first two years, 1997–1998, screening among Indigenous Territorians was around half the rate of Australian women (34% compared with 64%). Although

screening among Indigenous women aged 20 to 69 years of age increased over the next two years, their peak overall participation rate of 44% was still much less than the Australian peak two years earlier.⁶⁷ Death rates for cervical cancer show the same geographical pattern. Rates are three times higher in rural areas compared with metropolitan areas and attributed to limited access to treatment, more advanced conditions at diagnosis, lower levels of education, lower socio-economic status and increased risky lifestyle behaviours.⁶⁸

6.5 Diseases of the endocrine, nutritional and metabolic system

Diseases of the endocrine, nutritional and metabolic system include diabetes, disorders of glucose regulation, obesity, malnutrition and metabolic disorders. Trends for the diseases in this category are shown in Table 6.7 where rates are provided over five time periods: from 1986 to 2005 for deaths and from 1992 to 2010 for public hospital admissions.

6.5.1 Public hospital admissions

Between 1992 and 2010 there was a marked increase in admission rates among older Territorians for treatment of diseases of the endocrine, nutritional and metabolic system; 5.4 times higher for Indigenous and 2.5 times for non-Indigenous.

During the most recent time period, 2006–2010, admissions among Indigenous Territorians were highest in the 50–64 year age group, whereas the highest admission rate among non-Indigenous patients occurred in those aged 65 years and over (Table 6.7). Readmission for treatment was more likely to occur among Territorians aged 50 to 64 years than any other age group with an average of 2.5 admissions per Indigenous patient and 3.2 per non-Indigenous patient. In contrast, older patients aged 65 years and over had a much lower average number of admissions per individual, ranging from 1.5 for Indigenous to 1.9 for non-Indigenous (Appendix Table 6.7).

6.5.2 Mortality

Death rates of older Territorians and Australians due to endocrine, nutritional and metabolic diseases also rose over time, although the extent was much less than public hospital admissions. By the most recent time period 2001–2005 death rates were higher among all Territorians compared with the rest of Australia and highest among Indigenous Territorians aged 65 years and over (Table 6.7).

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Table 6.7 Diseases of the endocrine, nutritional and metabolic system: trends in public hospital admission rates and death rates, by age group and Indigenous status, Northern Territory and Australia, 1986–2010

	15–49 years			50–64 years			65 years and over		
Period (years)	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia
	Rate			Rate			Rate		
1986–1990									
Deaths	22.0	n.p.	1.8	297.1	33.4	18.9	659.8	107.8	113.4
1991–1995 (deaths) 1992–1995 (admissions)									
Admissions	354.7	120.0		1,082.2	267.1		693.3	673.1	
Deaths	24.6	n.p.	2.1	324.3	30.1	19.5	577.5	188.8	125.8
1996–2000									
Admissions	527.4	111.9		2,221.7	617.2		1,991.0	808.2	
Deaths	25.9	2.4	2.4	334.6	18.8	19.6	645.0	149.5	140.4
2001–2005									
Admissions	727.6	123.2		4,324.9	823.7		3,228.9	2,196.9	
Deaths	22.6	n.p.	2.3	304.4	20.8	16.5	786.4	188.0	155.4
2006–2010									
Admissions	788.6	144.9		4,585.5	648.9		3,758.8	1,669.0	

Notes:

(1) Diseases of the endocrine, nutritional and metabolic system include diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 240–279 and ICD-10 codes E00–E89.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of health events per 100,000 population.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: Appendix Table 6.7.

6.5.3 Leading diseases of the endocrine, nutritional and metabolic system

Diabetes is the leading disease of this system. In 2009 the Health Economics unit of the Health Gains Planning Branch, NT DoH published a report *Burden of disease and injury in the Northern Territory*. According to this report, which examined death and disability data from 1999 to 2003, diabetes was considered to be a substantial contributor to the burden of disease in the NT accounting for 10.5% of total disability adjusted life years.⁶⁹ Similarly, another NT report *Northern Territory chronic conditions prevention and management strategy, 2010–2020* also recognised type 2 diabetes as a chronic condition with a considerable impact on the health of Territorians.² The following section describes the types of diabetes and the prevalence of this illness through data collected by the Australian Diabetes, Obesity and Lifestyle Study (AusDiab) and in terms of public hospital admissions and mortality.

6.5.3.1 Diabetes

Diabetes mellitus (henceforth referred to as diabetes) is a major disease within the endocrine system. It occurs when there is too much glucose in the blood. There are two types of diabetes, type 1 and type 2.

Type 1 diabetes occurs when the pancreas, a large gland behind the stomach, stops making insulin. Insulin is a hormone produced by the pancreas to control the amount of glucose in the blood. Sufferers of type 1 diabetes rely on insulin injections every day. Type 1 diabetes can occur at any age, but usually affects children and young adults. The exact cause is not known.⁷⁰

Type 2 diabetes is diagnosed when the pancreas makes insufficient or ineffective insulin to control glucose levels. There is no single cause. The risk of type 2 diabetes increases with

age and a family history of diabetes.⁷⁰ Type 2 diabetes is more common than type 1, affecting 85–90% of all diabetics. Type 2 diabetes may be managed by changes to the diet, increased exercise and weight loss, but many sufferers require medication and insulin to lower their glucose levels.⁷¹ Type 2 diabetes may be preceded by a condition called pre-diabetes, also known as impaired glucose metabolism. In pre-diabetes blood glucose level is higher than normal but not high enough to be classified as type 2 diabetes.⁷²

Diabetes reduces life expectancy by up to 15 years and is a risk factor for heart disease, kidney failure, blindness and amputations.⁷³ Aboriginal and Torres Strait Island people, Melanesian, Polynesian, Chinese people, people from the Indian sub-continent as well as women who had gestational diabetes, or gave birth to a baby over 4.5kgs or who suffer Polycystic Ovarian Syndrome all have a high risk of developing diabetes.⁷⁰

The prevalence of diabetes is thought to be increasing, although the Australia-wide prevalence has not been estimated since the AusDiab study more than a decade ago. During the period 1999–2000 the AusDiab study was conducted in every jurisdiction of Australia, including the NT. As part of the study blood tests and measurements were performed on willing participants to determine the prevalence of pre-diabetes and diabetes in the urban population, most of whom were non-Indigenous.

Table 6.8 shows the prevalence of diabetes detected among NT AusDiab participants. The study found diabetes prevalence to be higher among NT male participants than females. The study found that prevalence also increased markedly with age. Among those aged 65 years and over 35% of male participants had diabetes, almost double that of female participants (18%). The prevalence of diabetes among older Australian participants was slightly higher, with 32% of males and 26% of females found to have diabetes. Relative to Australia, proportionally more of the male NT participants aged 65 years and over did not know they had diabetes until tested during the study. In this age group almost half (48%) of NT male participants were diagnosed by the study investigation compared with 40% of Australian male participants.

Table 6.8 AusDiab survey participants: number and percentage distribution, by diabetes status, age group and sex, Northern Territory, 1999–2000

Diabetes status	25–44 years				45–64 years				65 years and over			
	Males		Females		Males		Females		Males		Females	
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
<i>Northern Territory^a</i>												
Normal	366 (95.7)	351 (98.7)	191 (88.4)	164 (95.0)	20 (65.3)	23 (81.6)						
Diabetes	16 (4.3)	5 (1.3)	25 (11.6)	9 (5.0)	11 (34.7)	5 (18.4)						
Known	8 (47.2)	0 (0.0)	14 (55.0)	n.p.	6 (51.9)	n.p.						
New	9 (52.8)	5 (100.0)	11 (45.0)	n.p.	5 (48.1)	n.p.						
Total	382	356	216	173	31	28						
<i>Australia^b</i>												
Normal	1,477 (98.1)	2,031 (98.2)	1,536 (86.4)	1,988 (91.1)	516 (68.3)	686 (73.7)						
Diabetes	29 (1.9)	37 (1.8)	241 (13.6)	194 (8.9)	239 (31.7)	245 (26.3)						
Known	12 (41.4)	16 (42.3)	118 (48.9)	105 (54.0)	144 (60.1)	105 (42.8)						
New	17 (58.6)	21 (57.7)	123 (51.1)	89 (46.0)	95 (39.9)	140 (57.2)						
Total	1,506	2,068	1,778	2,182	755	931						

Notes:

(1) NT data were weighted against 2000 Northern Territory non-Indigenous Estimated Resident Population.

(2) Normal excludes people with pre-diabetes.

n.p. The number of cases and percentage is not published due to the small number (less than 5) of health events in this category.

Sources:

(a) Health Gains Planning Branch. Diabetes, obesity and other co-morbidities among the non-Indigenous population of the Northern Territory (unpublished).

(b) Dunstan et al. Diabetes and associated disorders in Australia-2000: The accelerating epidemic. The Australian Diabetes, Obesity and Lifestyle Study (AusDiab).

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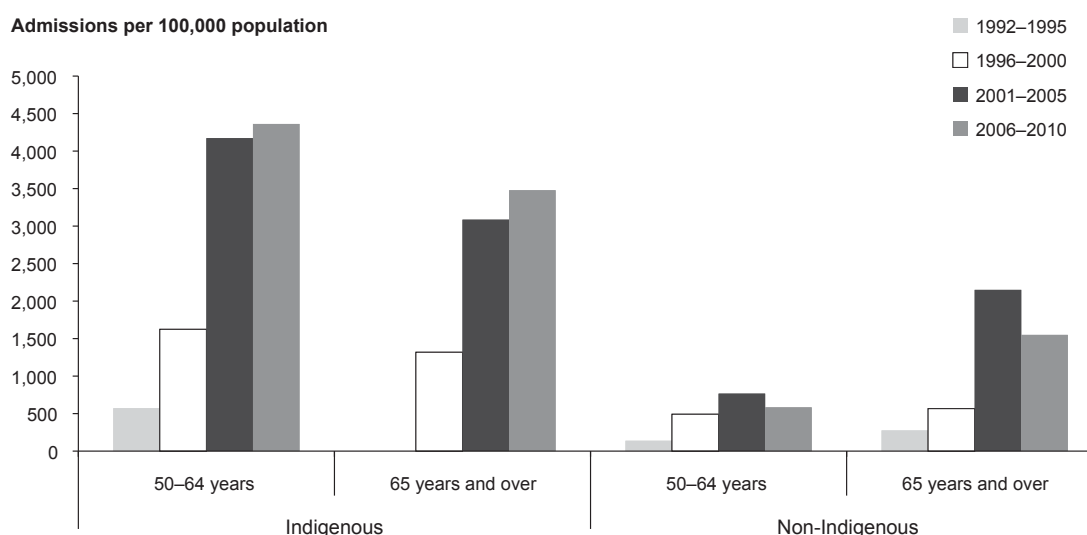
Diabetes among Indigenous people is much more prevalent, and thought to be increasing, especially among young Indigenous people.⁷⁴ According to the 2004–2005 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), nearly one third (32%) of Indigenous Australians and 40% of Indigenous Territorians aged 50 years or over reported having diabetes.^{13,75}

A study of urban-based Indigenous Territorians by the Menzies School of Health Research during the period 2003–2005 found the prevalence of diabetes among the Indigenous population to be even higher than that reported in the NATSIHS. In this study, which assessed the level of diabetes and related disorders in urban Indigenous people in the Darwin region through blood tests and anthropometric measurements, over half (52%) of participants aged 55 years and over had diabetes.⁷⁶

The diet of Indigenous people has changed from low energy, low density to high energy, high fat content and may be a contributing factor to increased rates of diabetes. Reduction in the level of physical activity among Indigenous people may also be a contributing factor to the higher rates of type 2 diabetes.⁷⁴

Hospital admissions data support the premise that diabetes prevalence among Indigenous people is increasing. Figure 6.3 shows the changes in hospital admission rates for diabetes among middle-aged and older Territorians over four time periods; from 1992 to 2010. In this figure, the rate of public hospital admissions for diabetes increased significantly over time for all Indigenous Territorians, particularly those aged 50 to 64 years (almost eight times higher). Older Territorians, both Indigenous and non-Indigenous also experienced a large increase in diabetes admission rates over the first three time periods; however, the trend has reversed among older non-Indigenous people in recent times (2006–2010).

Figure 6.3 Diabetes: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010



Note: Hospitalisation rates are not shown for Indigenous Territorians aged 65 years and over during the period 1992–1995 due to the small number of admissions (less than 10) in this disease category.
Source: Appendix Table 6.8.

Despite large admission rates, the number of deaths due to diabetes in the NT is relatively small. Table 6.9 shows the number of Territorians who died due to diabetes across four 5-year periods from 1986 to 2005 and the trends in death rates from this cause. Over this period of time the diabetes death rate of Indigenous Territorians aged 65 years and over almost doubled, from 382 per 100,000 population in the 1980s to 691 in the early 2000s.

Among older non-Indigenous Territorians, the diabetes-related death rate also increased, albeit to a smaller magnitude than their Indigenous counterparts. The increasing propensity of death certifiers to notify diabetes as an underlying cause of death may underpin the rise in diabetes deaths.

Table 6.9 Diabetes mellitus: trends in the number and rate of deaths, by age group and Indigenous status, Northern Territory, 1986–2005 (five-year periods)

Period (years)	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1986–1990	17	15.0	n.p.	n.p.	35	247.6	10	20.9	22	382.0	12	80.8
1991–1995	20	15.4	n.p.	n.p.	44	279.8	11	18.4	29	465.2	24	133.3
1996–2000	32	21.8	7	n.p.	52	285.3	10	11.7	36	504.8	27	109.1
2001–2005	32	19.6	n.p.	n.p.	62	277.6	18	15.6	58	691.1	38	119.1

Notes:

(1) Rates are expressed as number of deaths per 100,000 population.

n.p. Number of deaths not published due to the small number (less than 5) of health events in this category.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

6.6 Mental and behavioural disorders

Dementia, anxiety and depression are the most common mental health disorders experienced by older people. The 2004–2005 National Health Survey (NHS) conducted by the Australian Bureau of Statistics, (excluding people living in cared accommodation), found that 11 per cent of older people reported high to very high levels of psychological distress.⁷⁷

The 2007–2008 NHS found the prevalence of mood and affective disorders decreased substantially in older age groups; however, the use of medications for mental well-being increased with age. The most commonly reported medications were anti-depressants and sleeping tablets. Approximately 21% of persons aged 65 years and over with a mental health condition reported taking antidepressants and 10% reported taking sleeping tablets.⁷⁸

The 65 years and over age group accounted for 11% of all Australian Community mental health care contacts during the financial year 2005/2006, with a contact rate of 206 people per 1,000 population and 11% of residential mental health episodes, with a rate of 0.9 people per 1,000 population. The 55 to 64 year old age group accounted for 8% of community mental health care contacts and 9% of residential mental health episodes.⁷⁹

During the financial year 2006/2007, psychiatrist and allied health services subsidised by the Medical Benefits Schedule (MBS) for the 65 years and over age group accounted for 9% of all patients. Prescriptions rates provided under the Pharmaceutical Benefits Scheme (PBS) increased with age, rising from 46 per 1,000 population among 15–24 year olds, to 163 per 1,000 population among 55–64 year olds and 323 per 1,000 population for the over 65 age group. Prescriptions dispensed to 65 years and over age group represented 38% of all mental health related prescriptions dispensed.⁷⁹

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Excluding Western Australia, fewer psychiatrists serviced the NT than any other state or territory (12 per 100,000 population) compared with the highest in Victoria and South Australia (20 per 100,000 respectively) and nationally (17 per 100,000 population). Psychiatrists in the Northern Territory also worked the longest hours per week: 44.4 hours compared to the lowest in Tasmania at 35.6.⁷⁹

Only 3% of psychiatric disability funds provided by the Commonwealth State/Territory Disability Agreement (CSTDA) were for clients aged 65 years and over during the period 2001–2007. The proportion of clients receiving mental health services under this scheme decreased with age; with 87% of clients aged 15 to 49 years, decreasing to around 10% in the middle age group and 3% in the 65 years and over age group (Table 6.10).

Table 6.10 Number of contacts by a mental health professional as reported by NT Health Community Care Information Services (CCIS), by age group and Indigenous status, Northern Territory, 2001–2007

	15–49 years	50–64 years	65 years and over
Indigenous	8,557	556	122
Non-Indigenous	12,453	1,991	577
Total	21,010	2,547	699

Note: The number of contacts is not the number of unique individuals, as an individual may have more than one contact within the period.
Source: Community Care Information Services database. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Trends for mental and behavioural disorders are shown in Table 6.11, which provides rates over four time periods: from 1986 to 2005 for deaths and from 1992 to 2010 for public hospital admissions.

6.6.1 Public hospital admissions

Between 1992 and 2010 the admission rate for mental health-related issues more than doubled (152%) among older Indigenous Territorians. The opposite trend was experienced by older non-Indigenous Territorians whose rate of admissions for these conditions decreased by 30% over the same time period (Table 6.11).

During the most recent time period 2006–2010, young Indigenous persons aged between 15 to 49 years had the highest rate of admissions for mental and behavioural disorders. Their admission rate was more than double that of their older counterparts aged 65 years and over. In contrast, admission rates of non-Indigenous Territorians in the youngest and eldest age groups were much more comparable (674 and 762 admissions per 100,000 population respectively) (Table 6.11).

Older Indigenous people aged 65 years and over were slightly more likely to be admitted than non-Indigenous people of the same age (Table 6.11) but less likely to require readmission (1.5 times on average if Indigenous and 1.9 times if non-Indigenous) (Appendix Table 6.9).

6.6.2 Mortality

Mental health deaths were relatively few in number for many age group and Indigenous status categories. Despite the small numbers an upward trend was observed among people aged 65 years and over. In this age group the death rate due to mental health disorders among Indigenous persons was two to three times higher in 2001–2005 than in 1986–1990 (Table 6.11).

Older non-Indigenous Territorians in the 65 years and over age group had a similar rise in death rate but only from the late 1990s onwards. This rise was not initially evident because deaths were not large enough in number to provide a reliable rate during the period 1986–1990 (Table 6.11).

In the most recent time period, 2001–2005, the mental health death rate was highest among older Indigenous Territorians aged 65 years and over, around four times higher than that of their non-Indigenous and Australian counterparts (Table 6.11).

Table 6.11 Mental and behavioural disorders: trends in public hospital admission rates and death rates, by age group and Indigenous status, Northern Territory and Australia, 1986–2010

Period (years)	15–49 years			50–64 years			65 years and over		
	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia
	Rate			Rate			Rate		
1986–1990									
Deaths	22.0	3.5	3.8	n.p.	n.p.	5.3	173.6	n.p.	80.3
1991–1995 (deaths) 1992–1995 (admissions)									
Admissions	751.2	604.0		470.5	695.2		356.6	1,090.4	
Deaths	23.0	2.8	4.3	n.p.	n.p.	4.6	n.p.	66.6	97.3
1996–2000									
Admissions	1,078.0	543.6		416.9	369.6		687.0	606.2	
Deaths	15.7	6.0	6.1	n.p.	n.p.	4.5	n.p.	64.7	101.1
2001–2005									
Admissions	1,439.9	584.1		604.4	434.4		393.2	557.8	
Deaths	15.9	n.p.	1.6	44.8	n.p.	3.8	452.8	109.7	114.7
2006–2010									
Admissions	2,041.2	673.7		963.3	511.9		897.6	761.6	

Notes:

(1) Mental health disorders include diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 290–319 and ICD-10 codes F00–F99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of health events per 100,000 population.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: Appendix Table 6.9.

6.6.3 Leading mental and behavioural disorders

The report *Burden of disease and injury in the Northern Territory* identified mental illness as the leading contributor to the burden of disease in the NT. According to the report, mental and behavioural disorders accounted for 16.3% of the total disability adjusted life years. The report identified an increase in the burden of disease attributable to depression for both Indigenous and non-Indigenous Territorians compared to the previous period 1994–1998. The comparison also indicated an increase in burden of disease resulting from suicide and self-inflicted harm among Indigenous Territorians.⁶⁹ Mental illness was also recognised as a chronic condition that has a considerable impact on the health of Territorians, in a report that proposes a strategy to prevent and manage chronic conditions in the NT.²

The following section describes depression and provides data on suicide and intentional self-harm in terms of public hospital admissions and mortality. There is also an examination of dementia due to the age specific nature of this illness.

6.6.3.1 Depression

Depression is not a normal part of ageing and is more than just low mood. It is estimated that the prevalence of depression in community-dwelling Australians aged 60 years and over is around 8%⁸⁰ and is higher in older people residing in aged care facilities.⁸¹ Older people with chronic medical conditions, such as disease of the circulatory and respiratory systems, stroke, cancer, arthritis and dementia, face an increased risk of depression. The level of risk increases with the increase in number of conditions.⁸²

Depression in older people is also associated with cerebrovascular disease and its associated risk factors such as high blood pressure, diabetes, smoking and increased lipid levels.⁸³ Females are at higher risk, as are people experiencing recent bereavement, stressful life events, social isolation and those with a prior history of depression. Chronic insomnia, pain, incontinence, lack of mobility and inability to perform activities of daily living are all linked with depression.⁸⁴

According to *beyondblue: the national depression initiative*, an older person may be depressed if, for more than two weeks, they have felt sad most of the time or they have lost interest or pleasure in most of their usual activities and experienced symptoms in at least three of the following categories:

- Behaviours - general slowing down or restlessness; neglect of responsibilities and self-care; withdrawing from family and friends; decline in day-to-day ability to function accompanied by confusion; worry and agitation; inability to find pleasure in any activity; difficulty getting motivated in the morning; behaviour which is out of character; denial of depressive feelings.
- Thoughts - indecisiveness; loss of self-esteem; persistent suicidal thoughts; negative comments; concerns about their financial situation; perceived change of status within family.
- Feelings - moodiness or irritability; sadness, hopelessness or emptiness; overwhelmed; worthless or guilty.
- Physical symptoms - change in sleeping patterns; tiredness; unexplained aches and pains; digestive upsets; agitation: hand wringing; pacing; loss or change of appetite; significant weight loss or gain.⁸⁵

Older people are less likely to report depressed moods and are more likely to have psychotic delusions. They are vulnerable to being under-treated due to symptoms being dismissed as part of the ageing process or due to physical illness, by both health professionals and the individual.⁷⁷ Depression can be treated through a range of medical, psychological and lifestyle interventions. These include anti-depressants, therapy and exercise.^{83,85}

Depression increases the risk of mortality for people suffering heart attack and among residents of aged care facilities. Older people suffering depression are more likely to commit suicide than younger people with depression.⁸⁴

In 2004, the NT Government used Computer Assisted Telephone Interviews (CATI) to survey a sample of urban-based non-Indigenous Territorians. The survey asked respondents a series of questions about how they had been feeling in the previous four weeks, using the Kessler Psychological Distress Scale (K-10). Levels of distress were low, with little variation between age groups. Territorians aged 65 years and over were the least likely of the three age groups of survey participants to report high or very high levels of psychological stress (6.3% compared with 6.8% among respondents 45 to 64 years and 9.8% among those aged 18 to 44 years) (Appendix Table 6.10).

6.6.3.2 Suicide and intentional self-harm

Suicide is defined as the deliberate intentional taking of one's life. To be classified as suicide, the death must be recognised as not a result of natural causes. A coronial enquiry must also establish the death was deliberate.⁸⁶

In a report published by the ABS in 2005 suicide accounted for 1.6% (2,101) of all Australian deaths, of which 13% were people aged 65 years and over. Although older Australians represented a small percentage of suicides, 73% were men and there was a tendency for suicide to increase as males aged. For Australian males aged 65 to 69, the suicide rate was 12.0 per 100,000 population and increased to 22.0 among men aged 75 years and over. In contrast, the rate for Australian females was fairly static at 5.1 among women aged 65 to 69 years, increasing

to 5.5 among women aged 70 to 74 and reducing back to 5.1 among women aged 75 years and over. During the five-year period 2001–2005, the report noted that the NT had the highest age-standardised suicide rate of all Australian jurisdictions, more than double the national average (24.0 and 11.0 per 100,000 population respectively).⁸⁶

The high rate in the NT is largely due to the rise in suicides among young Indigenous Territorians in recent years. Table 6.12 shows the number of Territorians who died due to suicide across four 5-year periods from 1986 to 2005 and the trends in death rates from this cause. For Indigenous Territorians suicides more than quadrupled in rate over time among young people aged 15 to 49 years of age, but was a rare cause of death among 50–64 year olds and non-existent in the oldest age group. For non-Indigenous Territorians suicide rates declined in all age groups except in the oldest age group where the number of deaths were too small to provide reliable rates.

Table 6.12 Suicides: trends in the number and rate of deaths, by age group and Indigenous status, Northern Territory, 1986–2005 (five-year periods)

Period (years)	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1986–1990	n.p.	n.p.	81	21.7	0	0.0	20	41.8	0	0.0	n.p.	n.p.
1991–1995	18	13.8	65	16.7	n.p.	n.p.	12	20.1	0	0.0	6	n.p.
1996–2000	57	38.8	104	25.1	n.p.	n.p.	20	23.5	0	0.0	n.p.	n.p.
2001–2005	117	71.6	81	19.8	n.p.	n.p.	23	19.9	0	0.0	12	37.6

Notes:

(1) Rates are expressed as number of deaths per 100,000 population.

n.p. Number of deaths not published due to the small number (less than 5) of health events in this category.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

A report *Suicide in the Northern Territory* examined coronial records and associated factors of all suicides recorded in the NT from 2000 to 2002. The report focussed on the Top End only and the results suggest unmarried people (63%) and unemployed people (41%) are at higher risk of suicide. Other factors associated included drug and alcohol involvement (72%), diagnosis of depression or other mental illness (49%), financial difficulties (6%) and terminal illness/ill health (6%).⁸⁷

6.6.3.3 Dementia

Dementia describes a range of chronic diseases characterised by impairment of brain function, including language, memory, perception, personality and cognitive skills. More than 100 illnesses and conditions can result in dementia. Alzheimer's disease is the most common form in Australia, estimated to be responsible for 50 to 70% of all cases. Vascular dementia, the result of brain damage caused by vascular disease, is the second most common condition. Less common are dementias caused by excess alcohol consumption and petrol sniffing.⁸⁸

In the early stages of dementia, difficulty may be experienced with tasks such as shopping, driving or handling money. As the disease progresses, daily activities such as eating, bathing and dressing are affected. Dementia can also cause personality and behaviour changes, depression, delusions, apathy and withdrawal.⁸⁸ People with dementia are also likely to suffer from diseases such as arthritis, osteoporosis, and urinary tract infections as well as conditions like poor oral health, fractures and gait disturbance.⁷⁷

Early signs of dementia can vary and may not be immediately obvious. Most people notice problems with memory, particularly recalling recent events. Warning signs include memory loss that affects day-to-day function, difficulty performing familiar tasks, confusion about time and place, problems with language, problems with abstract thinking, poor or decreased judgement, problems misplacing things and changes in personality or behaviour, or loss of initiative.⁸⁹

In the AIHW report *Dementia in Australia: National data analysis and development*, 190,000 Australians were estimated to have dementia in 2006, of whom 64% were female and 81% were aged 75 years and over. The number of cases is expected to more than double in the next 25 years.⁹⁰ In 2005, Access Economics provided estimates and projections of dementia cases within each jurisdiction, using data derived from the ABS Survey of Disability, Ageing and Carers (SDAC) for the years 1998 and 1993, together with international epidemiological data. For the NT, Access Economics estimated there were 540 people with dementia in 2005, and projected the NT will experience the fastest growth (five-fold increase between 2005 and 2050) of all states and territories. This significant increase relative to other jurisdictions may be due to the low base and longer forecast life expectancy into the more dementia-prevalent ages.⁹¹

Dementia patients living in the community are mostly cared for by older women who are more likely to be living in the same household. More than half of dementia patients living in the community require around the clock supervision. The median duration of care is often reported as less than five years, due to the late age of onset and the burden of care being transferred to a residential facility. However, the 2003 SDAC found that at least a third (33%) of carers provided care for 10 years or more.⁹²

Indigenous people diagnosed with dementia are low in numbers, but are likely to increase as people live longer and screening tools become more culturally appropriate. A study in the Kimberley region in WA indicates that dementia rates in Indigenous communities may in fact be higher than currently estimated. This study showed that the prevalence of dementia among Indigenous people aged 45 years and over was 12% compared to a rate of around 3% in the Australian population.⁹³

Data on the prevalence of dementia in Indigenous Territorians are not available; however, Alzheimer's Australia's *Indigenous dementia project report 2002*, discusses the contribution of alcohol and/or substance abuse (e.g. petrol sniffing) as a leading cause of Indigenous dementia at much younger ages. The high morbidity rate of other chronic diseases in Indigenous people may mask or overpower symptoms and prevent early diagnosis of dementia.⁹⁴

With no current cure, treatment is focused on the management of symptoms along with medication to enhance cognitive function, delay progression of the disease and improve behavioural and psychological symptoms. Prescription medications are subsidised by the PBS. Behavioural interventions can also minimise and manage symptoms.⁹⁵

6.7 Diseases of the circulatory system

Diseases of the circulatory system, also referred to as cardiovascular disease or 'heart, stroke and vascular diseases', covers all diseases and conditions of the heart and blood vessels. Diseases of the circulatory system are caused by atherosclerosis, a condition where abnormal build-ups of fat, cholesterol and other substances line the arteries. Atherosclerosis develops over a long period of time and risk factors include smoking, high blood pressure, high blood cholesterol, insufficient physical activity, chronic kidney disease, obesity, poor nutrition and diabetes. The risk of developing cardiovascular disease increases with age and is higher for males, Indigenous people and people from lower socio-economic groups.⁹⁶

Cardiovascular disease trends are shown in Table 6.13, which provides rates over five time periods: from 1986 to 2005 for deaths and from 1992 to 2010 for public hospital admissions.

6.7.1 Public hospital admissions

In the early 1990s the cardiovascular disease admission rate of older Indigenous Territorians aged 65 years and over was much lower than that of non-Indigenous people of the same age. Since then rates among older Indigenous Territorians have increased markedly over time, whereas the trend among non-Indigenous people has reversed. By the most recent time period 2006–2010, cardiovascular disease admission rates of Indigenous people were higher among all age groups relative to their non-Indigenous counterparts, including those aged 65 years and over (6,601 per 100,000 population compared to 6,343 respectively) (Table 6.13). During this period readmission rates were similar among older Territorians (Appendix Table 6.11).

6.7.2 Mortality

The trend for cardiovascular disease deaths was the reverse of admissions with considerable reduction in rates occurring among older people aged 65 years and over. During the most recent period 2001–2005, death rates for Indigenous and non-Indigenous Territorians and their Australian counterparts aged 65 years and over were lower than in all preceding time periods. Indigenous death rates were higher than non-Indigenous and Australian rates in every age group; however, the differential was least among people in the oldest age group of 65 years and over reflecting the impact of premature mortality among middle-aged Indigenous Territorians (Table 6.13).



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Table 6.13 Diseases of the circulatory system: trends in public hospital admission rates and death rates, by age group and Indigenous status, Northern Territory and Australia, 1986–2010

Period (years)	15–49 years			50–64 years			65 years and over		
	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia
	Rate			Rate			Rate		
1986–1990									
Deaths	132.1	17.7	19.0	955.0	265.3	307.1	2,743.5	1,610.0	2,611.3
1991–1995 (deaths) 1992–1995 (admissions)									
Admissions	845.1	357.2		4,038.6	2,301.7		4,021.4	6,899.1	
Deaths	125.2	11.8	15.7	903.0	214.2	217.0	2,678.9	1,765.9	2,292.5
1996–2000									
Admissions	1,121.6	390.7		4,756.2	2,205.8		5,300.1	6,150.5	
Deaths	145.1	14.7	14.9	855.8	152.5	150.9	2,874.4	1,374.0	2,021.7
2001–2005									
Admissions	1,433.8	393.2		5,448.6	1,884.6		6,064.6	6,647.0	
Deaths	154.2	17.9	13.9	631.3	116.8	111.9	1,977.8	1,172.1	1,706.8
2006–2010									
Admissions	1,619.3	395.2		6,198.1	1,684.0		6,601.2	6,342.6	

Notes:

(1) Diseases of the circulatory system includes diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 390–459 and ICD-10 codes I00–I99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of health events per 100,000 population.

Source: Appendix Table 6.11.

6.7.3 Leading diseases of the circulatory system

Cardiovascular disease accounted for 38% of all Australian deaths in 2002. At this time approximately 3.67 million people were affected by cardiovascular disease and over one million had disabling conditions associated with cardiovascular disease. As the population ages, the burden of cardiovascular disease is expected to increase.⁹⁶

During the period 1999 to 2003 cardiovascular disease was the second leading contributor to the burden of disease in the NT accounting for 12.4% of total disability adjusted life years.⁶⁹ The *Northern Territory chronic conditions prevention and management strategy, 2010–2020* also recognised cardiovascular disease as a chronic condition with a considerable impact on the health of Territorians. This report identified ischaemic heart disease, hypertension and cerebrovascular disease as cardiovascular conditions requiring special attention.² The following section describes these conditions and their prevalence.

6.7.3.1 Ischaemic heart disease

Ischaemic heart disease (IHD), also referred to as coronary heart disease, occurs when cholesterol plaque blocks blood vessels that supply the heart muscle. If blood supply is completely blocked, heart attack or acute myocardial infarction occurs and if the blockage is not promptly treated the heart muscle will die. An angina attack can occur if the blood supply is partially blocked.⁹⁶

Identification of symptoms is vital to surviving a heart attack.⁹⁶ The Heart Foundation advises that warning signs can vary, but symptoms usually last for at least 10 minutes and include one or more of the following:

- pain in the chest - usually in the centre and may be severe, moderate or mild
- pain spreading - chest discomfort can spread to the neck and throat, jaw, shoulders, the back, either or both arms
- discomfort in the upper body - some people do not get chest pain but may feel discomfort in other parts of the upper body like the throat and arms
- difficulty breathing
- cold sweat
- feeling dizzy or light headed.⁹⁷

Major risk factors for IHD are smoking, hypertension, high blood cholesterol, insufficient physical activity, obesity, depression, social isolation and lack of support. Diabetes and poor nutrition are also risk factors, while males, older Australians, Indigenous people and people from lower socio-economic groups are at higher risk.⁹⁸

Ischaemic heart disease is treated with medications to reduce the risk of recurrent heart and angina attacks, dissolve blood clots and lower blood pressure and lipid levels. Surgical interventions include by-pass surgery, defibrillator implant and heart transplant.⁷⁷

The 2004–2005 National Health Survey showed 3% of Australians had self-reported IHD. The prevalence increased with age, from 8% in the 55 to 64 years age group to 20% in the 75 years and over age group.¹⁸ The NT Indigenous prevalence rate for ages 50 years and over is an estimated 23%.⁷⁵

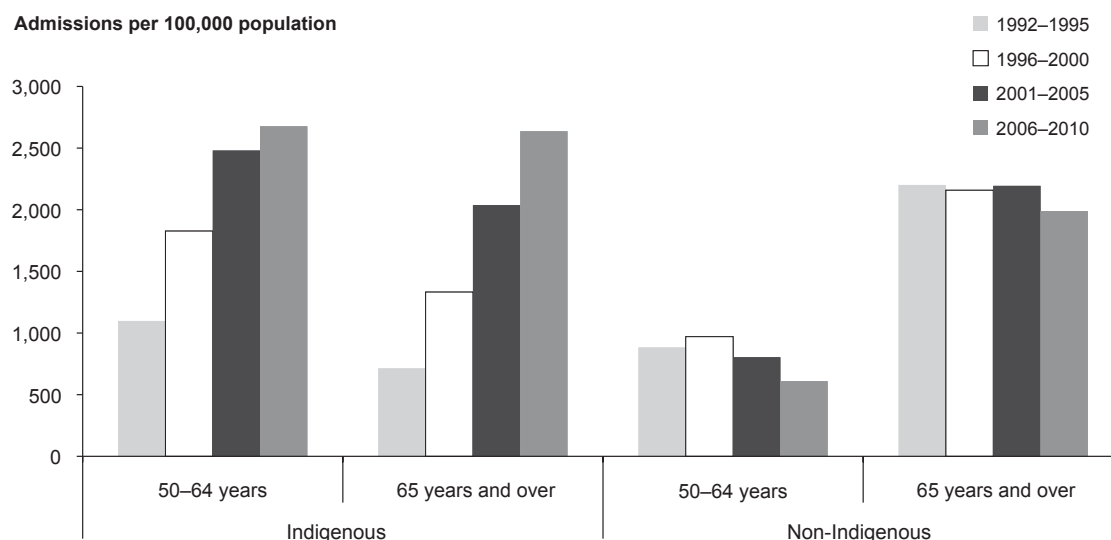
Figure 6.4 shows the trend in IHD admission rates among middle-aged and older Territorians over four time periods; from 1992 to 2010. During these two decades IHD-related admissions decreased among non-Indigenous Territorians. There was a moderate decline among 50 to 64 years old non-Indigenous people and a smaller decline among those aged 65 years and over. Older non-Indigenous Territorians were three times more likely to be admitted with IHD than their counterparts in the 50–64 year age group.

In contrast, the pattern of IHD-related admissions was quite different among Indigenous Territorians. Over the same period admission rates increased markedly among Indigenous Territorians with rates more than doubling for people aged between 50 to 64 years of age and almost quadrupling for people in the oldest age group. Similarly, the relationship between age and admission rate was different. By the most recent time period 2006–2010 admission rates for the two age groups of Indigenous people were very similar with 50 to 64 year olds only just exceeding their older counterparts. Indigenous admissions recorded for IHD may be masked by admissions for other chronic diseases (Figure 6.4).

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Figure 6.4 Ischaemic heart disease: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010



Source: Appendix Table 6.12.

Ischaemic heart disease is the largest single cause of death in Australia, accounting for 23,570 deaths (18% of all deaths) in 2005. The majority (74%) were in the 65 years and over age group.¹⁸ In 2002, the Indigenous death rate was over two and half times higher than the non-Indigenous death rate for IHD and the NT rate was 15% above the national average.⁹⁸

Table 6.14 shows the number of Territorians who died from IHD across four 5-year periods from 1986 to 2005 and the trends in death rates due to this cause. During this time IHD death rates fell considerably among most Territorians aged 50 years and over. The exception was Indigenous Territorians aged 65 years and over among whom the rate increased during the 1990s and only dropped to the 1980s level during the period 2001–2005.

Table 6.14 Ischaemic heart disease: trends in the number and rate of deaths, by age group and Indigenous status, Northern Territory, 1986–2005 (five-year periods)

Period (years)	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1986–1990	63	55.5	41	11.0	67	474.0	95	198.4	51	885.6	145	976.8
1991–1995	73	56.1	27	6.9	74	470.6	83	138.9	61	978.5	147	816.3
1996–2000	109	74.3	35	8.5	83	455.3	73	85.7	86	1,205.8	180	727.4
2001–2005	135	82.6	40	9.8	85	380.6	100	86.5	73	869.8	195	611.1

Note: Rates are expressed as number of deaths per 100,000 population.

Source: ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

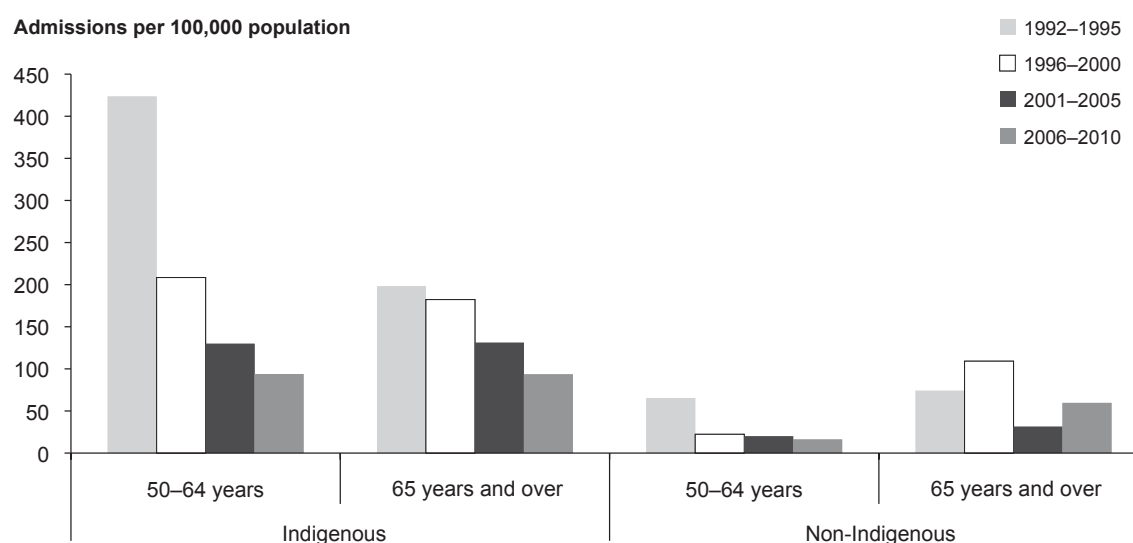
6.7.3.2 Hypertension

High blood pressure, otherwise known as hypertension, is a major risk factor for coronary heart disease, stroke, heart failure and chronic kidney disease.⁹⁹ Risk factors include a high salt and saturated fat diet, obesity, excessive alcohol consumption and lack of physical activity.^{96,100}

Hypertension was responsible for almost 8% of the total burden of disease and injury in Australia in 2003 and was the leading cause of disease in people aged 65 years and over.¹⁰¹ Hypertension is also the most common form of cardiovascular disease among Aboriginal and Torres Strait Islander peoples.¹⁰²

Figure 6.5 shows the trend in admission rates for hypertension among middle-aged and older Territorians over four time periods; from 1992 to 2010. Admission rates for all Indigenous Territorians declined over time, particularly among the middle-aged. By the most recent time period 2006–2010, the admission rate of 50 to 64 year old Indigenous Territorians was very similar to that of their older counterparts. The trend in admission rates among middle-aged non-Indigenous Territorians was similarly downwards with a steady decline over time. Conversely, the pattern was quite different among older non-Indigenous people with rates fluctuating across time periods. During the most recent time period, 2006–2010 the admission rate of older non-Indigenous Territorians for hypertension was almost as high as it was in the early 1990s (Figure 6.5).

Figure 6.5 Hypertension: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010



Source: Appendix Table 6.13.

Hypertension is strongly linked to age. The 2007–2008 National Health Survey conducted by ABS found approximately 75% of hypertension patients were 55 years and over. The prevalence increased from 10% in the 45 to 54 year age group to 39% in ages 75 years and over.⁷⁸ It is more prevalent for Indigenous people and occurs at younger ages.¹⁰³ A 2007 study published in the Australian and New Zealand Journal of Public Health examined three NT Indigenous communities between 2000 and 2003 and found the prevalence rates in all age groups were between 3 to 8 times higher than participants in the 2000 AusDiab study. The rate for participants aged 55 to 75 years was over 60%.¹⁰⁴ In a more recent 2005 estimation, the prevalence among NT Indigenous people aged 50 years and over was approximately 50%.⁷⁵

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Higher levels of blood pressure are strongly associated with escalating rates of cardiovascular disease, cardiovascular events and death.¹⁰⁰ Table 6.15 shows the number of Territorians who died from hypertension across four 5-year periods from 1986 to 2005 and the trends in death rates due to this cause. There were relatively few deaths where hypertension was recorded as the underlying cause of death. Death rates due to this cause were highest among the oldest Territorians, particularly Indigenous people.

Table 6.15 Hypertension: trends in the number and rate of deaths, by age group and Indigenous status, Northern Territory, 1986–2005 (five-year periods)

Period (years)	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1986–1990	7	n.p.	0	0.0	5	n.p.	n.p.	n.p.	9	n.p.	6	n.p.
1991–1995	9	n.p.	0	0.0	12	76.3	n.p.	n.p.	15	240.6	5	n.p.
1996–2000	n.p.	n.p.	n.p.	n.p.	12	65.8	n.p.	n.p.	11	154.2	10	40.4
2001–2005	9	n.p.	n.p.	n.p.	9	n.p.	n.p.	n.p.	15	178.7	11	34.5

Notes:

(1) Rates are expressed as number of deaths per 100,000 population.

n.p. Number of deaths not published due to the small number (less than 5) of health events in this category.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

6.7.3.3 Cerebrovascular disease

Cerebrovascular disease is the term given to any disorder of the blood vessels supplying the brain and its membranes. Stroke is a major form of cerebrovascular disease and occurs when an artery becomes blocked or bleeds. This may result in part of the brain dying because of lack of oxygen, leading to death or a loss of function or impairment.

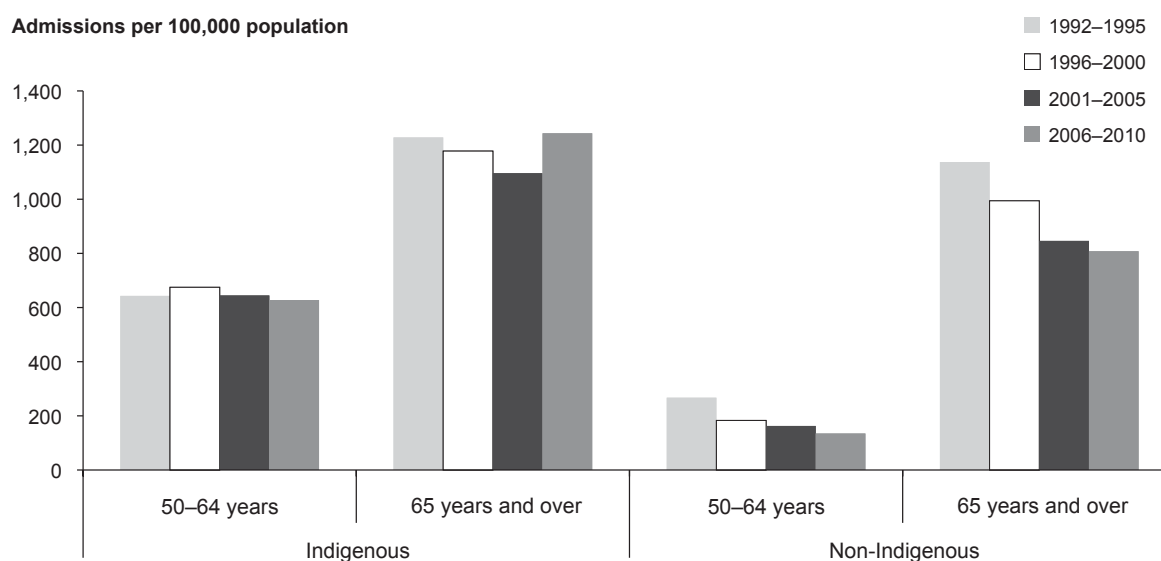
The Stroke Foundation identifies the following as symptoms of stroke:

- weakness, numbness or paralysis of the face, arm or leg on either or both sides of the body
- difficulty speaking or understanding
- dizziness, loss of balance or an unexplained fall
- loss of vision, sudden blurred or decreased vision in one or both eyes
- headache, usually severe and sudden onset or unexplained change in the pattern of headaches
- difficulty swallowing.¹⁰⁵

Stroke is one of the most disabling long-term health conditions among older people. Stroke survivors with a disability are more likely to have a severe or profound activity limitation than other people with a disability.⁷⁷ Risk factors for stroke include family history, atrial fibrillation, transient ischaemic attack (temporary strokes where symptoms disappear within 24 hours), high blood pressure and smoking. Treatment includes preventive measures including medication to lower blood pressure and behavioural changes like quitting smoking. Timely emergency care is associated with better outcomes, especially for stroke victims.⁹⁸ Stroke is primarily a condition of older age. In Australia in 2005 the mean ages for stroke were 78 years for males and 82 years for females.¹⁰⁶ Males under 75 years of age experienced death rates one and a half times higher than their female counterparts; however, more females over 75 years died from stroke due to their longer life span. Indigenous Australians experienced death rates at twice the rate of non-Indigenous Australians.⁹⁸

In the NT cerebrovascular disease is also more prominent among Indigenous Territorians. Figure 6.6 shows public hospital admission rates for treatment of cerebrovascular disease over four periods from 1992 to 2010. The admission rate for older Indigenous Territorians was consistently higher than non-Indigenous, but the gap was greatest among people aged 50 to 64 years. Admission rates increased slightly over time for Indigenous Territorians but declined among non-Indigenous.

Figure 6.6 Cerebrovascular disease: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010



Source: Appendix Table 6.14.

Table 6.16 shows the number of Territorians who died from cerebrovascular disease across four 5-year periods from 1986 to 2005 and the trends in death rates due to this cause. Over time there was a marked decline in the death rates of middle-aged and older Indigenous Territorians particularly among those aged 50 to 64 years of age. In contrast the death rate of older non-Indigenous people, which was much lower than Indigenous, showed almost no change over time.

The gap between the death rate of older Indigenous Territorians due to cerebrovascular disease and that of non-Indigenous people of the same age has decreased markedly over the period 1986–2005. In the 1980s Indigenous people aged 65 years and over were four times more likely to die from cerebrovascular disease than non-Indigenous. Over time the gap halved so that by the most recent time period 2001–2005 the death rate of older Indigenous Territorians was less than double that of their non-Indigenous counterparts (Table 6.16).

Table 6.16 Cerebrovascular disease: trends in the number and rate of deaths, by age group and Indigenous status, Northern Territory, 1986–2005 (five-year periods)

Period (years)	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1986–1990	14	12.3	7	n.p.	27	191.0	10	20.9	48	833.5	30	202.1
1991–1995	13	10.0	5	n.p.	28	178.1	14	23.4	46	737.9	61	338.7
1996–2000	35	23.8	8	n.p.	22	120.7	32	37.5	57	799.2	77	311.2
2001–2005	24	14.7	14	3.4	13	58.2	13	11.2	36	428.9	75	235.0

Notes:

(1) Rates are expressed as number of deaths per 100,000 population.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

6.8 Diseases of the respiratory system

Respiratory diseases include influenza (discussed in section 6.3.3.5) pneumonia, respiratory tract infections and conditions, and lung diseases due to external agents.¹⁰⁷ Respiratory diseases are of particular public health importance in the NT, especially in the Top End where smoking prevalence is the highest of any Australian jurisdiction.⁴⁰ Respiratory disease trends are shown in Table 6.17, which provides rates over five time periods: from 1986 to 2005 for deaths and from 1992 to 2010 for public hospital admissions.

6.8.1 Public hospital admissions

Respiratory-related admission rates rose by around 30% among Indigenous Territorians aged 65 years and over for the entire period and declined slightly among their non-Indigenous counterparts. Older Indigenous Territorians were consistently more likely to be admitted with a respiratory-related condition than a non-Indigenous person of the same age (Table 6.17). During the most recent time period 2006–2010 Indigenous patients of this age were admitted for respiratory treatment 2.0 times on average and non-Indigenous 1.9 times (Appendix Table 6.15).

6.8.2 Mortality

Deaths due to respiratory-related conditions generally declined in rate among Territorians. This decline was especially noticeable among Indigenous Territorians. During the most recent time period 2001–2005 older Indigenous Territorians had a respiratory disease death rate that was more than three and a half times higher than that of the youngest age group, 50–64 years. The differential was even greater for older non-Indigenous Territorians whose death rate was 14 times higher than their younger counterparts. Death rates among all older Territorians, both Indigenous and non-Indigenous, consistently exceeded that of Australian people, although the gap did reduce over time (Table 6.17).

Table 6.17 Diseases of the respiratory system: trends in public hospital admission rates and death rates, by age group and Indigenous status, Northern Territory and Australia, 1986–2010

Period (years)	15–49 years			50–64 years			65 years and over		
	NT Indigenous	NT non-Indigenous	Australia	NT Indigenous	NT non-Indigenous	Australia	NT Indigenous	NT non-Indigenous	Australia
	Rate			Rate			Rate		
1986–1990									
Deaths	59.0	5.6	3.9	650.8	94.0	50.6	2,431.0	606.3	415.5
1991–1995 (deaths) 1992–1995 (admissions)									
Admissions	1,791.6	509.6		5,450.1	1,376.1		8,439.0	4,536.6	
Deaths	72.2	4.9	2.9	597.8	60.2	40.2	1,732.4	594.2	399.2
1996–2000									
Admissions	2,263.6	477.4		6,462.2	1,237.8		9,001.7	4,041.1	
Deaths	38.8	2.7	2.4	323.7	39.9	29.7	1,290.0	452.6	395.3
2001–2005									
Admissions	2,990.5	442.7		7,633.4	973.4		10,878.1	4,055.3	
Deaths	40.4	2.7	2.3	237.3	31.1	24.3	893.6	432.5	403.4
2006–2010									
Admissions	3,190.3	463.4		8,878.7	917.1		10,705.9	3,925.2	

Notes:

(1) Diseases of the respiratory system includes diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 460–519 and ICD-10 codes J00–J99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of health events per 100,000 population.

Source: Appendix Table 6.15.

6.8.3 Leading diseases of the respiratory system

The report *Burden of disease and injury in the Northern Territory* identified chronic respiratory conditions as substantial contributors to the burden of disease in the NT. According to the report, chronic respiratory conditions accounted for 7% of the total disability adjusted life years.⁶⁹ The report *Northern Territory chronic conditions prevention and management strategy, 2010–2020* also recognised chronic airways disease as having a considerable impact on the health of Territorians. This report focused on asthma and chronic obstructive pulmonary disease as conditions requiring attention.² The following section describes these conditions and their impact among Territorians in terms of public hospital admissions and mortality.

6.8.3.1 Asthma

Asthma, a chronic inflammatory disease causing episodes of wheezing, breathlessness and tightening in the chest can be triggered by exercise, viral infections, irritants like smoking and pollution, allergens such as dust mites and mould, and some food preservatives. Asthma is associated with significant disability, depression and impairment of mobility in older people.¹⁰⁸

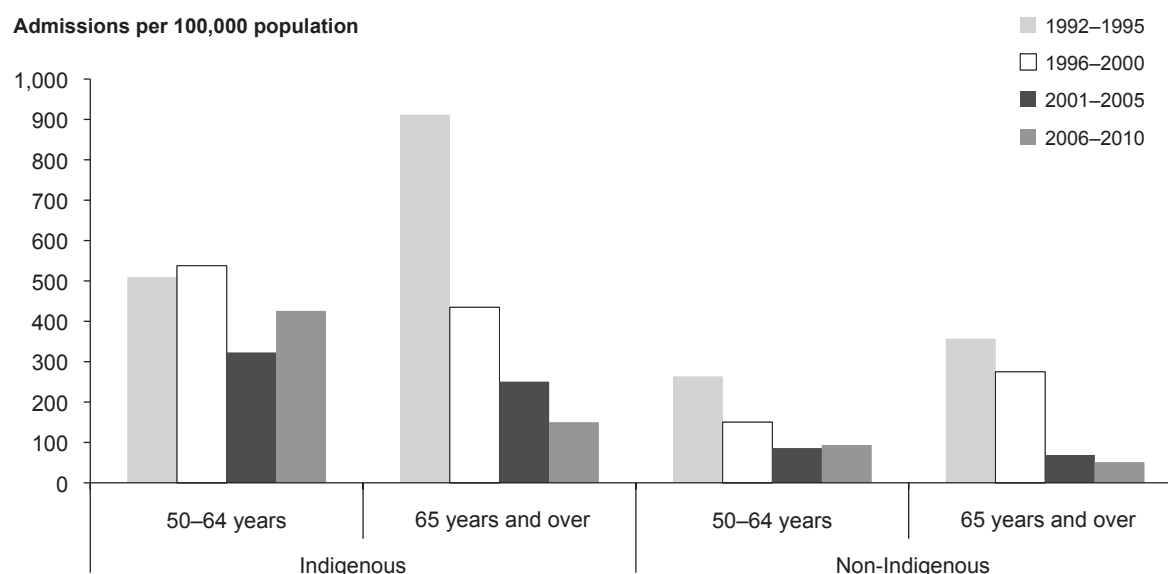
Risk factors include smoking, obesity and malnutrition. It is reported 25% of adult Australian sufferers are smokers; however, the proportion decreases with age. In the 2004–2005 NHS, 32% Indigenous and 21% non-Indigenous Australians with asthma were classified as obese.¹⁰⁹ The prevalence was higher among Indigenous Australians than non-Indigenous Australians, and the difference is more prominent in older age groups. The prevalence in Indigenous people aged 55 years and older is higher in remote areas.¹⁰⁹

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In the NT Indigenous Territorians have higher rates of public hospital admissions for asthma treatment than their non-Indigenous counterparts. This pattern is shown in Figure 6.7, which shows the difference in admission rates among middle-aged and older Territorians as well as trends across four time periods from 1992 to 2010. Overall there has been a downward trend in admissions for this condition among all Territorians particularly those aged 65 years and over. In the most recent time period, 2006–2010, asthma rates were higher among middle-aged Territorians than older Territorians aged 65 years and over. This pattern was evident in both Indigenous and non-Indigenous population groups (Appendix Table 6.16).

Figure 6.7 Asthma: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010



Source: Appendix Table 6.16.

In general, asthma tends to be more severe in older patients, acute attacks become more rapidly fatal and death rates are higher.¹⁰⁸ Australia-wide there were 402 deaths in 2006; most of whom were aged 65 years and over (76%). The remainder were aged less than 50 at time of death (11%) or 50 to 64 years (12%).¹¹⁰ Asthma is often undiagnosed in elderly people and often coincides with chronic obstructive pulmonary disease.⁷⁷ This reason could explain the low number of asthma deaths in the NT and Australia.

Effective management of asthma symptoms can help alleviate the effects of the disease.¹⁰⁸ Vaccination against influenza and pneumococcal infection is recommended for older people, especially those with asthma; however, the NT has low vaccination rates for this age group compared with Australian rates.³¹ The NHS also reported that people with asthma rated their health worse than people without asthma and the proportions of people with a 'poor' rating increased with age.¹⁰⁹ Asthma sufferers are more likely to have diabetes, arthritis, heart disease, stroke, cancer and osteoporosis. Co-morbidity significantly impacts on quality of life and case management.^{109, 108, 111-114}

6.8.3.2 Chronic obstructive pulmonary disease

Chronic obstructive pulmonary disease (COPD) is a respiratory disease characterised by airflow obstruction that mainly affects older people who have been exposed to tobacco smoke. There is no cure for COPD, with progressive decline in lung function. Other risk factors include exposure to occupational dusts and chemicals, environmental pollutants, infections and socio-economic status.¹¹⁵

The diseases most commonly contributing to COPD are emphysema, which involves destruction of the lung air sacs and scarring and obstruction of the small airways, and chronic bronchitis. These conditions cause shortness of breath on exertion and interrupted sleep patterns as well as reducing capacity for the activities of daily life, and exercise. Patients are usually unable to participate in work within 8 years of diagnosis.⁷⁷ Patients are also prone to malnutrition, anxiety and depression.¹¹⁶ In 2004, COPD deaths represented 4.5% of all older Australian deaths (4,730).⁷⁷

Early identification and treatment of COPD is important with treatment to open up the airways, and anti-inflammatory and antibiotic medications.¹¹⁷ Influenza and pneumococcal vaccinations are recommended.¹¹⁸ The most effective management strategy is cessation of smoking or limitation of exposure to other identifiable contaminants.

The prevalence of emphysema and bronchitis increases with age. The 2004–2005 NHS indicated around 8% of older Australians, excluding those in residential care, had emphysema or bronchitis, compared to 3% of the total population.⁷⁷ Older people may require regular hospital care, physiotherapy and rehabilitation services to help improve exercise capacity and quality of life.¹¹⁶ Lung transplantation can offer improved quality of life and enhanced survival. Around 30% of Australian lung transplants are for COPD sufferers.¹¹⁹

A recent analysis conducted by the Public Health Information Development Unit in the University of Adelaide on avoidable hospital admissions during the two-year period 2001–2002 showed the rate of admissions for COPD in the NT was higher than every other jurisdiction, and two and half times greater than nationally (751 and 283 per 100,000 population respectively).¹²⁰

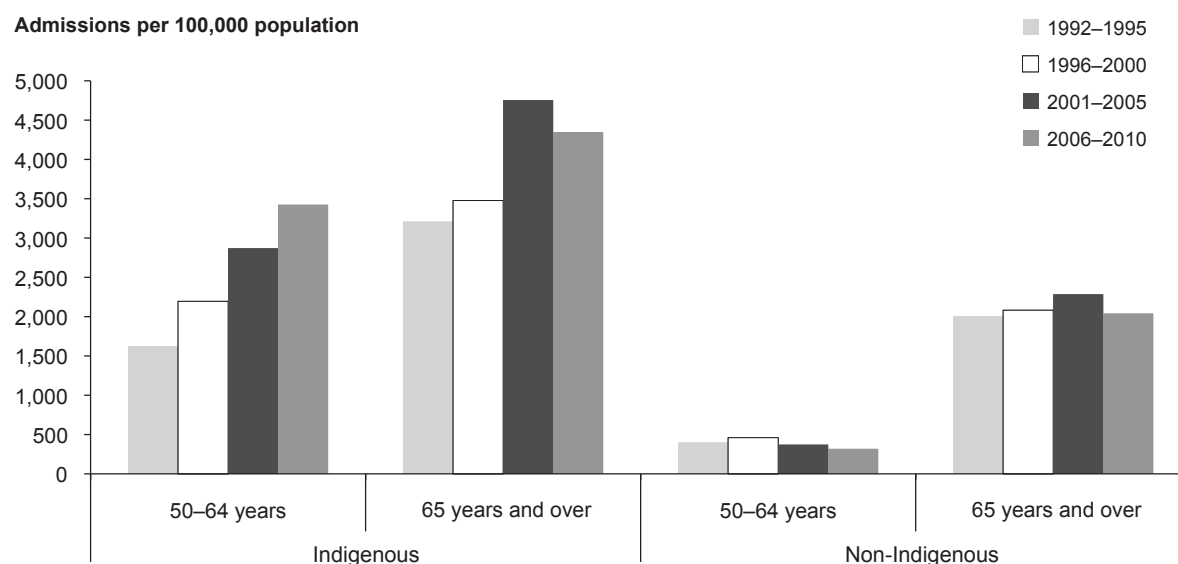
In the NT the prevalence of COPD is highest among Indigenous Territorians aged 50 years and over residing in remote localities. In 2005, the Health Economics unit of the Health Gains Planning Branch, DoH, estimated that just over 30% of this population group had COPD.⁷⁵

Figure 6.8 shows the changes in COPD admission rates over four time periods from 1992 to 2010. Chronic obstructive pulmonary disease admission rates of all older Territorians rose over the first three time periods and then fell during the most recent time period 2006–2010. At this stage the admission rate for older Indigenous Territorians was 4,348 per 100,000 population, noticeably lower than the previous time period but still more than twice that of non-Indigenous people of the same age (2,040 per 100,000 population) (Appendix Table 6.17).

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Figure 6.8 Chronic obstructive pulmonary disease: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010



Source: Appendix Table 6.17.

Table 6.18 shows the number of Territorians who died from COPD across four 5-year periods from 1986 to 2005 and the trends in death rates due to this cause. In contrast to public hospital admission trends, which increased over time, the trend for COPD deaths among Indigenous Territorians aged 65 years and over spiralled downwards. By the 2000s the death rate among this population group was half that of the 1980s.

Reasons for the large decline in COPD deaths are speculative, particularly in view of the fact that smoking prevalence among Indigenous Territorians has only recently started to fall.¹²¹ However, improved intrauterine growth, reduction in infections and less overcrowding are thought to be major contributors to the decline in COPD death rates.¹²²

Table 6.18 Chronic obstructive pulmonary disease: trends in the number and rate of deaths, by age group and Indigenous status, Northern Territory, 1986–2005 (five-year periods)

Period (years)	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1986–1990	14	12.3	6	n.p.	57	403.2	21	43.9	71	1,232.9	54	363.8
1991–1995	25	19.2	n.p.	n.p.	52	330.7	23	38.5	61	978.5	68	377.6
1996–2000	20	13.6	n.p.	n.p.	36	197.5	22	25.8	63	883.3	83	335.4
2001–2005	28	17.1	n.p.	n.p.	32	143.3	23	19.9	56	667.2	93	291.5

Notes:

(1) Rates are expressed as number of deaths per 100,000 population.

n.p. Number of deaths not published due to the small number (less than 5) of health events in this category.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

6.9 Diseases of the digestive system

Diseases of the digestive system include diseases and disorders of the oral cavity, salivary glands, jaws, oesophagus, stomach, appendix, liver, gallbladder, biliary tract, pancreas, peritoneum, duodenum and intestines.¹ Table 6.19 provides trends in digestive disease rates across four time periods: from 1986 to 2005 for deaths and from 1992 to 2010 for public hospital admissions.

6.9.1 Public hospital admissions

Digestive disease admission trends were upwards among older Indigenous Territorians and more or less constant among their non-Indigenous counterparts. In the early 1990s there was a large gap in admission rates between the two population groups. By the most recent time period 2006–2010 the gap had greatly reduced and admission rates for Indigenous people aged 65 years and over were similar to non-Indigenous people of the same age. As people age they are more likely to be hospitalised for digestive diseases. In the most recent period 2006–2010, the admission rates for digestive system diseases were 1.9 times higher among older non-Indigenous Territorians compared with people in the next youngest age group (50–64 years). There was virtually no difference in admission rates across these two age groups of Indigenous Territorians (Table 6.19).

6.9.2 Mortality

The death rate of older Indigenous Territorians remained fairly constant over time (Table 6.19). In contrast the rate declined among non-Indigenous Territorians and Australians aged 65 years and over. As seen in other chronic diseases, the difference between the death rates of older and middle-aged Indigenous people was marginal relative to the difference between older and middle-aged non-Indigenous people. This pattern reflects the impact of premature mortality among Indigenous people due to chronic conditions within this major disease chapter.



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Table 6.19 Diseases of the digestive system: trends in public hospital admission rates and death rates, by age group and Indigenous status, Northern Territory and Australia, 1986–2010

Period (years)	15–49 years			50–64 years			65 years and over		
	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia
	Rate			Rate			Rate		
1986–1990									
Deaths	22.9	5.9	4.1	99.0	77.3	35.4	n.p.	161.7	163.0
1991–1995 (deaths) 1992–1995 (admissions)									
Admissions	1,311.7	1,284.2		1,913.4	2,658.5		2,575.3	4,879.9	
Deaths	26.1	3.9	3.6	82.7	38.5	27.3	192.5	172.1	141.0
1996–2000									
Admissions	1,824.1	1,491.9		3,132.4	2,927.4		3,000.6	4,760.4	
Deaths	38.2	5.6	3.7	93.3	29.3	22.7	140.2	185.9	133.5
2001–2005									
Admissions	2,807.0	1,228.4		3,998.0	2,553.4		4,146.3	4,713.4	
Deaths	61.8	3.9	3.8	134.3	27.7	20.8	202.5	112.8	131.7
2006–2010									
Admissions	2,958.3	1,261.2		4,809.1	2,410.1		4,619.0	4,545.6	

Notes:

(1) Diseases of the digestive system includes diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 520–579 and ICD-10 codes K00–K99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of health events per 100,000 population.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: Appendix Table 6.18.

6.9.3 Leading diseases of the digestive system

The following section provides information on liver disease which is the leading disease of the digestive system.

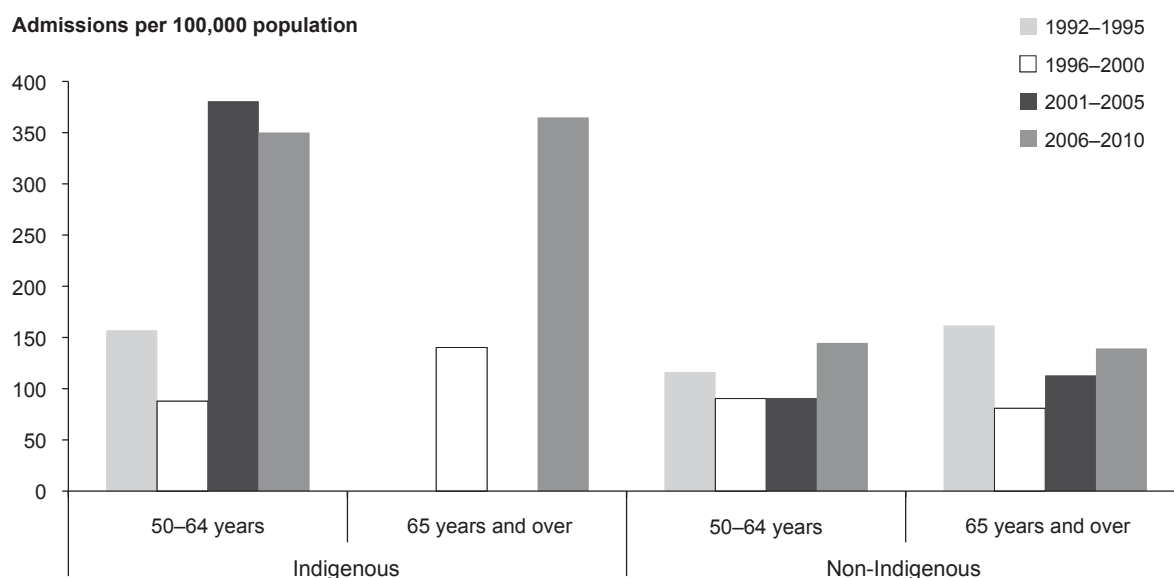
6.9.3.1 Liver disease

Liver disease is a general term describing any number of conditions affecting the liver, including chronic hepatitis, alcoholic liver disease, and cirrhosis of the liver. Hepatitis is an immune system based inflammation of the liver as a result of viruses, alcohol, drugs and other toxins.¹

Alcoholic liver disease occurs as a result of toxic substance produced when the liver metabolises alcohol. These diseases have the potential to seriously damage liver cells, producing scar tissue, which hardens the liver and prevents it from functioning normally, a condition known as cirrhosis of the liver.¹²³ Liver disease may also result from petrol sniffing or melioidosis.¹²⁴

Liver damage is a significant contributor to ill-health among Indigenous people in the NT with cirrhosis, the most common cause of liver cancer.¹²⁴ The disease is increasing in prominence among middle-aged and older Indigenous Territorians (Figure 6.9). Admission rates for treatment of liver disease more than doubled among 50 to 64 year old Indigenous people over time and dramatically increased from less than 10 admissions among older Indigenous Territorians aged 65 years and over in the early 1990s to 365 admissions per 100,000 population during the most recent time period 2006–2010 (Appendix Table 6.19). Liver disease admissions were much more prevalent among Indigenous people than non-Indigenous.

Figure 6.9 Liver disease: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010



Note: Hospitalisation rates are not shown for Indigenous Territorians aged 65 years and over during the period 1992–1995 and 2001–2005 due to the small number of admissions (less than 10) in this category.

Source: Appendix Table 6.19.

While liver disease is only responsible for 1% of all deaths nationally, Indigenous death rates are 12 times higher than non-Indigenous rates. Nationally, death from liver disease is more common in males.¹²⁵ In Appendix Table 6.20 this pattern is shown to be similar in the NT. During the period 1986 to 2005 the gap between the liver disease death rates of Indigenous and non-Indigenous Territorians was consistently larger, particularly among people of the youngest age group (15–49 years). In the oldest age group 65 years and over deaths from liver disease were relatively uncommon.

6.10 Diseases of the musculoskeletal system

Diseases of the musculoskeletal system include disorders affecting the spine, bones, joints, muscles and connective tissues of the body and can be caused by the overuse of joints, congenital anomalies, infections, inflammatory conditions, trauma and cancer. Diseases of the musculoskeletal system can cause significant pain and disability, which severely limit a person's ability to perform everyday tasks.¹⁸

6.10.1 Leading diseases of the musculoskeletal system

The following section provides information about the leading diseases of the musculoskeletal system. Arthritis conditions affect the joints, and can affect nearly every joint in the body. There are over 100 types of arthritis: the most common are osteoarthritis, rheumatoid arthritis, lupus and gout. Musculoskeletal conditions are disorders of the bones, muscles and their attachments and includes osteoporosis.¹²⁶ Chronic conditions of the bones and joints are a leading cause of pain and disability in older people.¹²⁶ Arthritis and musculoskeletal conditions were named a "National Health Priority Area" in 2002 due to the substantial burden they place on the Australian community.¹²⁷

Rheumatoid arthritis patients have an increased risk of experiencing and dying from cardiovascular disease arising from shared causative mechanisms between the two diseases,¹²⁸ and from the reduced exercise levels.¹²⁹ Mood and anxiety disorders also occur with greater frequency among persons with arthritis.¹³⁰

The prevalence rate of arthritis in the NT is the lowest of all states and territories (13%) but is projected to grow rapidly, increasing 1.4 times to 18% by 2050.¹³¹ The overall prevalence of arthritis and musculoskeletal conditions is similar in Indigenous and non-Indigenous people; however, a much higher rate is reported in Indigenous age groups below 55 years. Rheumatoid arthritis occurs less frequently in Indigenous people whereas lupus is more prevalent in Indigenous people from the NT and Queensland.¹²⁷

General practitioners provide prescription medication and referrals to pathology, imaging and specialists. Hospitalisations are less frequent and of shorter duration compared to other diseases and conditions, and surgery is the most frequent form of hospital treatment.¹²⁷ In the NT, there is one rheumatology specialist located in Darwin¹³² and another at Alice Springs Hospital.¹³³

6.10.1.1 Osteoarthritis

Osteoarthritis occurs when the cartilage covering the bone in a joint starts to break down. This is usually due to trauma, ageing or failure of the body to repair itself. Symptoms include stiffness, pain and tenderness in the joints and surrounding area, reduction in motor skills and deformities. Osteoarthritis occurs mostly in weight bearing joints such as the hips, knees and lower spine and is also common in the neck and hands.¹³¹ Osteoarthritis causes decreased functional ability, especially in older people.¹²⁷

Risk factors are age, obesity, genetics, physical inactivity, joint trauma and other metabolic or inflammatory disorders. Osteoarthritis is the most common self-reported reason for restriction of daily living. The pain can decrease quality of life and lead to anxiety, depression and a sense of helplessness, particularly those living with osteoarthritis of their hip and/or knee. Sufferers of osteoarthritis affecting these limbs are often dependent on others for assistance in performing activities of daily life.¹²⁷

It is estimated that 1.62 million people in Australia have osteoarthritis and well over half (61%) are women. The average age of onset is about 45 years. In 2007, around 26% of the NT population over 75 years suffered with osteoarthritis.¹³¹

Prevention is limited to avoiding joint trauma, preventing obesity and modifying occupation-related joint stress. There is no cure so treatment includes pain management and improving quality of life and functioning. This can be done through education, mechanical aids and appliances, physical therapy, weight loss, medications, topical creams, injections and surgery.¹²⁷

6.10.1.2 Rheumatoid arthritis

Rheumatoid arthritis is a chronic, autoimmune disease in which the immune system attacks the lining of the joints, resulting in inflammation, swelling, and joint damage and if left untreated, cartilage destruction and deformity.¹²⁷ Smaller joints such as the hands and feet are most frequently affected, and symptoms include early morning joint stiffness and pain in the same joint on both sides of the body.¹³⁴ Difficult to diagnose, rheumatoid arthritis symptoms vary in appearance and severity during the early stages. There is currently no cure but the disease may be managed through pain management techniques, physical activity, ergonomic household utensils, smoking cessation and medication.¹³⁴

Rheumatoid arthritis is the most common autoimmune disease in Australia,¹²⁷ affecting 2.5% of all Australians in 2004–2005.¹⁸ Females are more likely to develop the condition and the prevalence increases with age.¹²⁷ Onset is most likely in the 25–50 year age group.¹³¹ In 2007, rheumatoid arthritis affected 1.8% of all Territorians and 8% of Territorians aged 65 to 74 years.¹³¹

6.10.1.3 Gout

Gout is characterised by severe acute attacks of joint pain and swelling as a result of excess uric acid crystallising in joints.¹³¹ Gout has a rapid onset relative to other types of arthritis and typically affects joints such as the big toe, the ankle, knee and elbow. It is most prevalent among males aged between 40 and 50 years and among older people taking diuretics (medication to help the body remove water).¹³⁴ Gout can be managed through alcohol moderation, a healthy balanced diet, medication to lower uric acid levels and relaxation techniques. If left untreated, an episode of gout will usually last a week; however, attacks may become more frequent and permanently damage joints.¹³⁴

6.10.1.4 Osteoporosis

Osteoporosis is the loss of bone density resulting in fragile bones prone to fracture from minimal trauma, and can result in long-term pain and disability.¹²⁷

Risk factors for osteoporosis include:

- biomedical and genetic - ageing, being post-menopausal, family and population history, poor vitamin D status, low body weight
- behavioural - low calcium intake, physical inactivity, smoking, excessive alcohol consumption
- other medical conditions - corticosteroid use, reduced lifetime exposure to oestrogen, rheumatoid arthritis, chronic liver disease, inflammatory bowel disease, hyperthyroidism, physical disability
- previous history - previous fracture after minimal trauma, vertebral deformity, loss of height and hunchback.¹²⁷

A large proportion of fractures in people aged 55 years and over are due to osteoporosis.¹²⁷ Measuring the incidence and prevalence of osteoporosis is difficult as it is not usually diagnosed until a fracture occurs.¹³⁵ Osteoporosis is a major cause of acute and chronic disability, loss of independence and early admission to aged care. Almost half of all people who fracture their hip will be permanently disabled and require assistance with self-care, mobility and communication.¹³⁶ The organisation 'Osteoporosis Australia' estimates 2.2 million Australians had an osteoporosis related condition in 2006 and 75% were females. In the age group 60 years and over, 50% of females and 33% of males will have a fracture due to osteoporosis.¹³⁵ Fractures caused by osteoporosis are associated with a two-fold increase in age-adjusted mortality in females and a three-fold increase in males.¹³⁶ Mortality within 12 months of a hip fracture is approximately 30%, with the rate increasing in older people.¹²⁷ Treatment with medication called biphosphonates, to increase bone mass and reduce the risk of vertebral fractures, and calcium treatment can slow the rate of decline of bone density.¹²⁷ Regular exercise is recommended to maximise healthy bones and increase muscle strength. Improved co-ordination and balance may also occur from exercise, reducing the risk of falls and resulting in fewer fractures.¹³⁷

6.11 Diseases of the genitourinary system

Diseases of the genitourinary system include diseases and disorders of the kidney and ureter, male genital organs, breast, female pelvic organs, female genital tract and other disorders of the genitourinary tract.¹³⁸ Table 6.20 provides trends in genitourinary disease rates across five time periods: from 1986 to 2005 for deaths and from 1992 to 2010 for public hospital admissions.

6.11.1 Public hospital admissions

The incidence of genitourinary diseases has escalated in the NT over the past 20 years; however, this trend is not easily recognised in Table 6.20 because the admission rates shown below do not include renal dialysis episodes. Indigenous Territorians aged 65 years and over experienced an increase in admissions for treatment of genitourinary disease or disorder whereas the admission trend among older non-Indigenous people declined slightly. Older Indigenous Territorians were equally likely to be readmitted during the most recent five-year time period 2006–2010 i.e. 1.5 times if Indigenous and 1.4 times if non-Indigenous (Appendix Table 6.21).

6.11.2 Mortality

A similar trend was shown for genitourinary disease mortality among older Territorians. The death rate of Indigenous people aged 65 years and over steadily increased over time whereas the death rate of older non-Indigenous people remained relatively constant. Indigenous death rates were much higher than non-Indigenous for all age groups reflecting the serious impact of genitourinary diseases upon Indigenous Territorians. During the most recent time period 2001–2005, the death rate of Indigenous Territorians aged 65 years and over was four to five times that of non-Indigenous Territorians and Australians of the same age (465, 85 and 110 per 100,000 population respectively) (Table 6.20).



Table 6.20 Diseases of the genitourinary system: trends in public hospital admission rates and death rates, by age group and Indigenous status, Northern Territory and Australia, 1986–2010

Period (years)	15–49 years			50–64 years			65 years and over		
	NT	NT non-	Australia	NT	NT non-	Australia	NT	NT non-	Australia
	Indigenous	Indigenous		Indigenous	Indigenous		Indigenous		
	Rate	Rate		Rate					
1986–1990									
Deaths	14.1	n.p.	0.5	198.1	n.p.	7.4	399.4	n.p.	89.8
1991–1995 (deaths) 1992–1995 (admissions)									
Admissions	2,006.9	1,289.3		3,207.3	1,429.1		2,436.6	2,423.1	
Deaths	7.7	0.0	0.5	146.3	n.p.	5.6	417.1	83.3	87.8
1996–2000									
Admissions	1,863.6	1,116.7		2,545.4	1,366.9		3,645.5	2,060.9	
Deaths	17.7	n.p.	0.5	159.1	n.p.	4.3	574.9	84.9	105.9
2001–2005									
Admissions	1,601.4	798.4		2,395.2	935.4		3,491.0	2,312.8	
Deaths	14.7	0.0	0.5	116.4	n.p.	3.6	464.7	84.6	110.4
2006–2010									
Admissions	1,750.0	771.9		2,705.8	980.3		3,777.5	2,103.9	

Notes:

(1) Diseases of the genitourinary system includes diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 580–629 and ICD-10 codes N00–N99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of health events per 100,000 population.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: Appendix Table 6.21.



6.11.3 Leading diseases of the genitourinary system

The following section provides information on chronic kidney disease and end stage kidney disease, the two leading diseases of the genitourinary system.

6.11.3.1 Chronic kidney disease

Reduced kidney function occurs as the body ages, sometimes starting as early as 30 years of age.¹³⁹ As the function decreases, the kidney's ability to respond to other stresses is reduced. Chronic kidney disease (CKD) is diagnosed when over one third of kidney function is lost for more than three months. The five stages of CKD relate to the level of kidney function, and management to delay the progression of the disease from one stage to the next. Older people become more susceptible especially if they have high blood pressure and diabetes. Chronic kidney disease is called a 'silent disease' with often no warnings and it is not uncommon to lose 90% of kidney function before experiencing symptoms. Late symptoms can include urination at night, tiredness, loss of appetite, nausea, vomiting, difficulty sleeping, bad breath and a metallic taste in the mouth, itchiness and shortness of breath.¹⁴⁰

Risk factors for developing CKD include high blood pressure, diabetes, smoking, obesity, family history, age over 50 years or being of Aboriginal and/or Torres Strait Islander descent.¹⁴¹ Management of risk includes quitting smoking, maintaining good blood pressure control, weight control, and maintaining good glucose control if diabetic, salt intake reduction and moderated alcohol consumption.¹³⁹ Those at risk should be assessed annually for blood pressure and weight checks and urine tests for protein.¹⁴¹

In the NT, conditions such as anaemia, malnutrition and worsening cardiovascular function are not only frequently related to the underlying conditions causing renal disease but also increase the consequences of decreasing renal function. Delays in diagnosis and treatment and infrequent dialysis attendance tend to exacerbate the severity of the co-morbidities.¹⁴²

Unpublished data provided by Top End Renal Services show the extent of chronic kidney disease in the NT as of January 2008. A total of 420 adult Territorians were diagnosed with 'pre-dialysis' CKD (304 Indigenous and 116 non-Indigenous). The 50–64 year old age group had the largest number of people with CKD (41%) and there were more Indigenous Territorians with CKD in every age group (Table 6.21).

Table 6.21 Pre-dialysis patients with chronic kidney disease: number and percentage distribution, by age group and Indigenous status, Northern Territory, as of January 2008

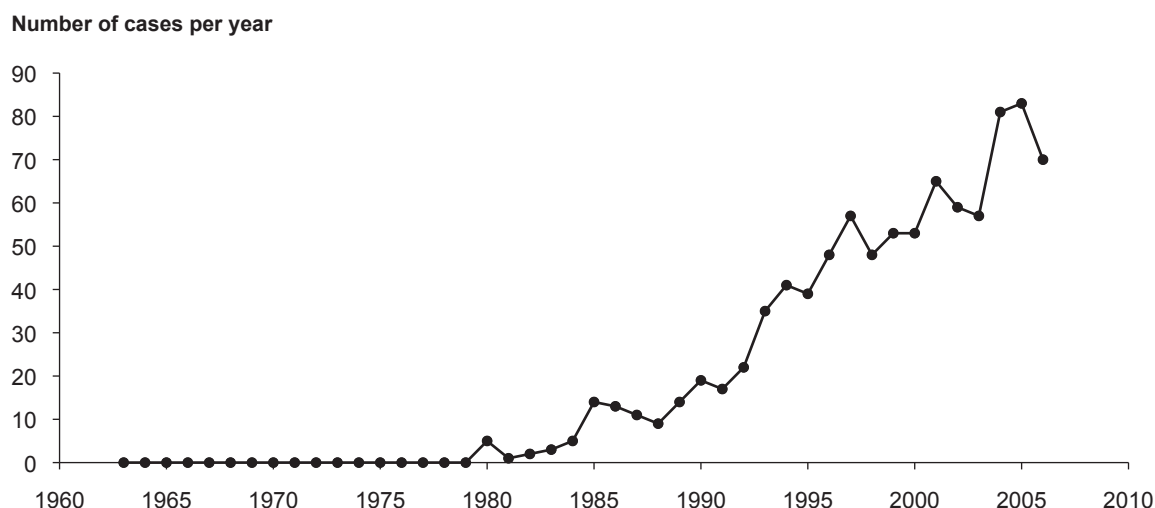
	15–49 years		50–64 years		65 years and over		Total	
Indigenous status	Number (%)		Number (%)		Number (%)		Number (%)	
Indigenous	91	(29.9)	126	(41.4)	87	(28.6)	304	(100.0)
Non-Indigenous	25	(21.6)	47	(40.5)	44	(37.9)	116	(100.0)
Total	116	(27.6)	173	(41.2)	131	(31.2)	420	(100.0)

Source: Top End Renal Services. User-defined tables held by Health Gains Planning Branch, NT DoH.

6.11.3.2 End stage kidney disease

Chronic kidney disease often progresses to end stage kidney disease (ESKD), which is irreversible and permanent. According to the 30th *Annual Report of the Australia and New Zealand Dialysis and Transplant Registry*, the number of adult Territorians diagnosed with ESKD has progressively increased since the 1980s.¹⁴³ Figure 6.10 clearly shows the rising trend in cases over time. In 1980, five NT patients aged 15 years and older were diagnosed with ESKD. By 2006 the number had increased to 70 patients diagnosed during that year (Appendix Table 6.22). The majority of newly diagnosed ESKD NT patients were Indigenous (93%) whereas the majority of Australian patients were non-Indigenous (91%).¹⁴³

Figure 6.10 End stage kidney disease: trend in number of newly diagnosed patients, Northern Territory, 1963–2006



Source: Appendix Table 6.22.

In 2006, the incidence rate of Indigenous Territorians newly diagnosed with ESKD was up to 12 times that of the Australian rate (176 and 14 per 100,000 population respectively) (Table 6.22). The prevalence of renal disease (CKD and ESKD) is especially high among Indigenous Territorians residing in remote communities. The Health Economics unit of the Health Gains Planning Branch, NT Department of Health, estimated the prevalence of chronic diseases among remote-based Indigenous people aged 50 years and over to exceed 50% for hypertension and renal disease, and to be around 40% for diabetes, 30% for chronic obstructive airways disease and over 20% for IHD in 2007.⁷⁵

Table 6.22 End stage kidney disease: incidence rates, by age group and Indigenous status, Northern Territory and Australia, 2006

Age group	15–44 years		45–64 years		65 years and over		Total	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Northern Territory								
Indigenous	21	76.8	34	512.4	8	n.p.	63	176.1
Non-Indigenous	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	5	n.p.
Australia								
Total Australia	393	4.4	865	16.9	1,098	40.9	2,356	14.1

Notes:

(1) Rates are expressed as number of cases per 100,000 population.

n.p. Number of cases not published due to the small number (less than 5) of health events in this category.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: Appendix II. 'The thirtieth report.' Australia and New Zealand Dialysis and Transplant Registry 2007.

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Renal replacement therapy (RRT) through transplantation or dialysis is necessary when kidney function is 10% to 15%.¹³⁹ In January 2008 there were 377 ESKD patients in the NT receiving dialysis treatment, of which 92% were Indigenous (Table 6.23). Of these, 301 (87%) Indigenous ESKD renal dialysis patients were less than 65 years of age. By comparison, 23 (74%) non-Indigenous NT renal dialysis patients were less than 65 years old. This age disparity is consistent with the findings of the Northern Territory Aboriginal Health Forum Renal Working Party which reported in 2004 that Indigenous ESKD patients were on average 20 years younger when they present for treatment and had shorter treatment survival than non-Indigenous ESKD patients.¹⁴²

Table 6.23 End stage kidney disease patients receiving dialysis treatment: number and percentage distribution, by age group and Indigenous status, Northern Territory, as of January 2008

	25–49 years		50–64 years		65 years and over		Total
Indigenous status	Number (%)		Number (%)		Number (%)		Number (%)
Indigenous	138	(39.9)	163	(47.1)	45	(13.0)	346 (100.0)
Non-Indigenous	12	(38.7)	11	(35.5)	8	(25.8)	31 (100.0)
Total	150	(39.8)	174	(46.2)	53	(14.1)	377 (100.0)

Source: Top End Renal Services. User-defined tables held by Health Gains Planning Branch, NT DoH.

Many patients face relocation to commence dialysis and/or kidney transplantation and all patients must be thoroughly assessed by specialists at Darwin or Alice Springs first. Renal units have been set up at Palmerston and Darwin, Nguiu, Katherine, Tennant Creek and Alice Springs¹⁴² as well as community based home dialysis services at Nguiu, Ramingining, Yirrkala, Kalkarindji, Mt Liebig, Santa Teresa, Nhulunbuy, Wadeye, Oenpelli, Ngukurr, Barunga and Lake Nash, and there are plans to extend to Milngimbi and Maningrida. Relocatable services have also been provided for Galiwinku, Maningrida, Milngimbi, Angurugu, Borroloola, Amoonguna, Ti Tree and Ali Curung.¹⁴⁴

Indigenous Territorians are much more likely to die from renal failure than non-Indigenous Territorians and Australians. Furthermore, the rate of death among Indigenous Territorians due to this condition is increasing. During the period 1981–1985, the renal failure death rate of male Indigenous Territorians was almost four times higher than male non-Indigenous Territorians and Australians and eight times higher for females.¹⁴⁵ Recent work covering the period 1997–2004 shows the gap has widened even further, from ten to eleven times higher, a phenomenon mainly attributed to rising renal failure death rates among Indigenous women.¹⁴⁶

Table 6.24 shows renal failure death rates broken down by age and Indigenous status. In this table data were aggregated over an even longer time period, from 1991 to 2003, in order to provide sufficient numbers per age group. These breakdowns show that death from renal failure is much more common in the oldest age group, and particularly so among older Indigenous Territorians relative to non-Indigenous people of similar age.

Table 6.24 Renal failure: number and rate of deaths, by age group and Indigenous status, Northern Territory, 1991–2003 combined

Indigenous status	15–49 years		50–64 years		65 years and over	
	Number	Rate	Number	Rate	Number	Rate
Indigenous	15	4.0	34	72.9	66	362.2
Non-Indigenous	n.p.	n.p.	n.p.	n.p.	26	42.6

Notes:

(1) Rates are expressed as number of deaths per 100,000 population.

n.p. Number of deaths not published due to the small number (less than 5) of health events in this category.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: Top End Renal Services. User-defined tables held by the Health Gains Planning Branch, NT DoH.

6.12 Injury and poisoning

Injury is damage to a person's body produced by contact with physical entities such as extreme heat or cold, objects, animals and other persons, electricity or chemicals. The consequences of such contact are usually sudden and discernable. Unlike diseases the definition of injury includes both the causative event and resulting pathology.¹⁴⁷ Northern Territory injury trends generally exceed that of other Australians and there is an excess of deaths in all age groups. These trends are clearly shown in Table 6.25, which provides hospitalisation and death trends across five time periods: from 1986 to 2005 for deaths and from 1992 to 2010 for public hospital admissions.

6.12.1 Public hospital admissions

Over time, injury admission rates of all Territorians aged 65 years and over increased by around 30 to 40%. In the most recent period, 2006–2010, older Indigenous Territorians had the lowest injury admission rate of all Indigenous age groups while older non-Indigenous Territorians had the highest. Indigenous and non-Indigenous injury-related admission rates were markedly different in the younger age groups but relatively similar in the oldest age group (Table 6.25). During the most recent time period 2006–2010 older Indigenous patients were admitted 1.5 times on average for an injury-related episode and non-Indigenous 1.4 times (Appendix Table 6.23).

6.12.2 Mortality

Unlike admissions, which rose consistently over time, the trend in the injury death rate of all older Territorians initially declined and then increased notably during the most recent time period 2001–2005. Older people were generally more likely than younger people to die as a result of injury. Injury is a major concern for the NT. Injury incidence and deaths arising from injury are consistently higher per head of population than any other jurisdiction in Australia.¹⁴⁸ This trait is not just confined to Indigenous people. The risk of injury-related death among all Territorians regardless of age or Indigenous status has always exceeded that of Australian people (Table 6.25).

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Table 6.25 Injury and poisoning: trends in public hospital admission rates and death rates, by age group and Indigenous, Northern Territory and Australia, 1986–2010

Period (years)	15–49 years			50–64 years			65 years and over		
	NT	NT non-	Australia	NT	NT non-	Australia	NT	NT non-	Australia
	Indigenous	Indigenous		Indigenous	Indigenous		Indigenous	Indigenous	
	Rate	Rate	Rate						
1986–1990									
Deaths	162.1	93.0	51.8	219.3	98.2	46.1	225.7	148.2	106.3
1991–1995 (deaths) 1992–1995 (admissions)									
Admissions	4,697.6	1,673.4		3,176.0	1,492.3		3,130.0	3,035.6	
Deaths	162.8	65.8	44.5	159.0	78.6	38.3	192.5	127.7	87.3
1996–2000									
Admissions	4,754.8	1,559.8		3,845.5	1,309.4		3,799.8	2,990.4	
Deaths	172.4	72.2	46.4	131.7	64.5	35.7	168.3	117.2	94.7
2001–2005									
Admissions	6,295.0	1,653.9		4,965.1	1,427.7		4,658.6	3,641.6	
Deaths	207.4	57.1	39.6	98.5	44.1	32.3	274.0	163.0	101.1
2006–2010									
Admissions	7,820.5	1,934.9		6,389.3	1,729.6		4,375.9	3,850.1	

Notes:

(1) Injury and poisoning includes diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 800–999 and ICD-10 codes S00–T99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of health events per 100,000 population.

Source: Appendix Table 6.23.

6.12.3 Leading causes of injury

The following section provides information on two leading injury conditions: motor vehicle accidents and falls.

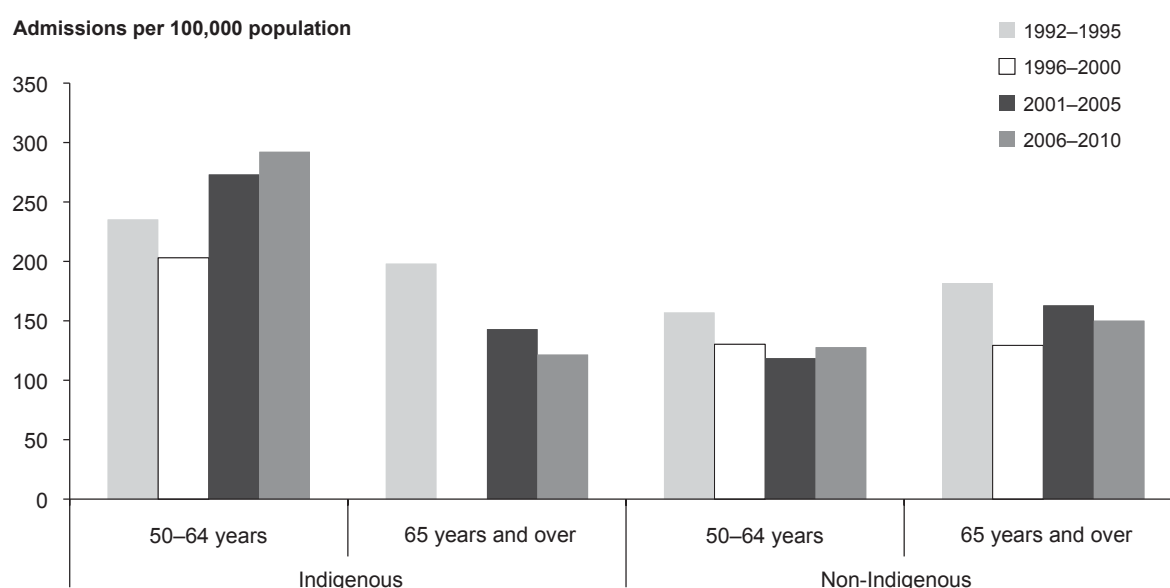
6.12.3.1 Motor vehicle accidents

As people age they are less likely to be involved in motor vehicle accidents than younger age groups. During 2005–2006 the AIHW reported that nationally only 9% of all transport injury cases requiring hospitalisation were aged 65 years and over; however, they are more likely to be severely injured or die as a result of injuries.¹⁴⁹ More severe injuries result in longer hospital stays as shown by a rise in average length of stay due to transport injuries across age groups; 4.4 days for 25 to 44 year olds, 5.2 days for 45 to 64 year olds and 8.3 days for the 65 years and over age group.¹⁴⁸

In the NT injury rates due to motor vehicle accidents (MVA) are consistently higher than that of any other jurisdiction in Australia. During 2003–2004 the age-standardised rate of transport injuries in the NT was 323 injuries per 100,000 population compared with 255 in the Australian population.¹⁴⁸ The NT also has the highest death rates attributed to transport and motor vehicles accidents in Australia. During the same time period transport and MVA death rates were more than twice the national equivalents.¹⁵⁰ Long distances in the NT may account in part for the higher rates. In 2007, the majority (53%) of fatalities occurred in the Alice Springs and southern region while the minority (21%) occurred in the Greater Darwin area.¹⁵¹

Figure 6.11 shows the trend in MVA admission rates among middle-aged and older Territorians across four time periods from 1992 to 2010. In this figure, hospitalisation trends were downwards in all age and population groups with the exception of Indigenous people aged 50 to 64 years of age for whom a moderate increase occurred. The relationship between age and admission rate differed among Indigenous and non-Indigenous Territorians, with higher MVA-related admission rates observed among Indigenous people aged 50 to 64 years compared with their older counterparts aged 65 years and over. Conversely, admission rates for non-Indigenous Territorians aged 65 years and over tended to exceed that of younger non-Indigenous people across most time periods.

Figure 6.11 Motor vehicle accidents: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010



Note: Hospitalisation rates are not shown for Indigenous Territorians aged 65 years and over during the period 1996–2000 due to the small number of admissions (less than 10) in this category.

Source: Appendix Table 6.24.

Table 6.26 shows MVA-related death rates across four 5-year periods from 1986 to 2005. During most time periods there was marked downward trend in death rates particularly among middle aged Territorians. Whether this trend also occurred among older Territorians is difficult to say as the number of deaths in this age group was less than 10 for every time period.

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Table 6.26 Motor vehicle accidents: trends in the number and rate of deaths, by age group and Indigenous status, Northern Territory, 1986–2005 (five-year periods)

Period (years)	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1986–1990	82	72.2	160	42.9	14	99.0	11	23.0	n.p.	n.p.	7	n.p.
1991–1995	91	69.9	93	23.9	11	70.0	17	28.4	n.p.	n.p.	n.p.	n.p.
1996–2000	88	60.0	109	26.3	11	60.3	14	16.4	n.p.	n.p.	5	n.p.
2001–2005	102	62.4	79	19.4	9	n.p.	9	n.p.	n.p.	n.p.	n.p.	n.p.

Notes:

(1) Rates are expressed as number of deaths per 100,000 population.

n.p. Number of deaths not published due to the small number (less than 5) of health events in this category.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Unlike other states the NT does not have compulsory medical and driving assessments of aged persons, but has legislation mandating individuals and medical practitioners to report to the Motor Vehicle Registry any person who is medically unfit to drive.¹⁵² Given the low number of MVA-related deaths among the aged it is unlikely that compulsory medical and driving assessments would have much impact on death rates in the older population. Pedestrian-related deaths among the aged are of greater concern. Nationally, the aged account for less than one-eighth of the population but contribute one-third of total pedestrian deaths. This can be attributed to greater reliance on pedestrian travel among older people as well as increased frailty and risk of death if injured. The perceptual, cognitive and physical deterioration associated with ageing may also be factors in high pedestrian deaths rates among older people. An assessment of coronial records show that the majority of pedestrian deaths occurring among older people are due to pedestrian error. Only a small percentage of accidents occurred at intersections or roads with traffic control.¹⁵³

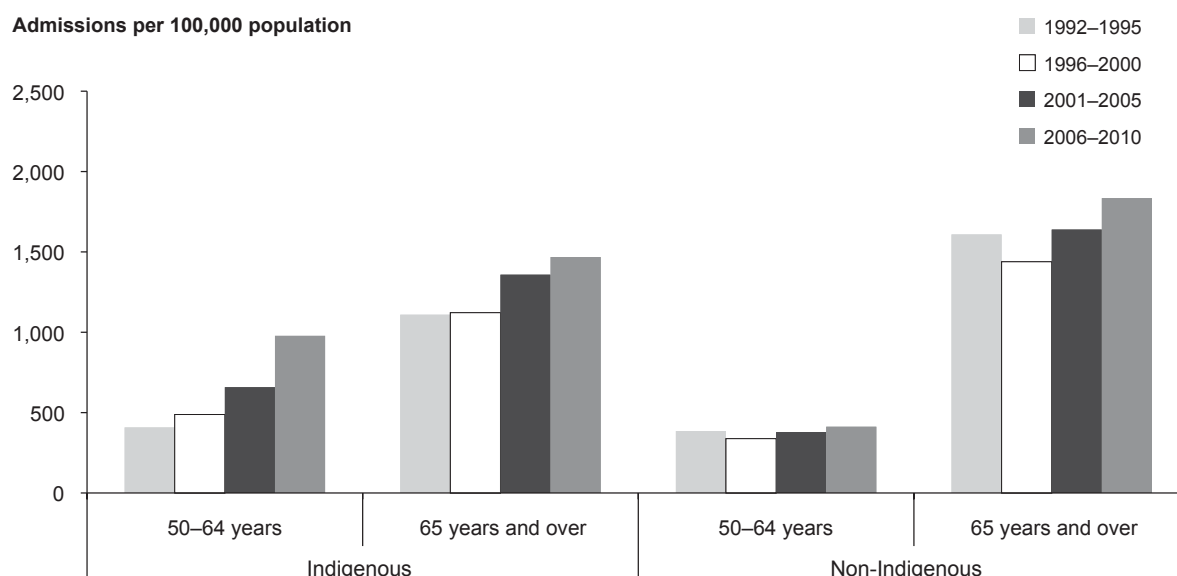
6.12.3.2 Falls

The risk of falling increases with age. The AIHW estimates that one in three Australians aged 65 years and over living in the community experience a fall every year.¹⁵⁴ Falls in older people can lead to injuries such as bone fracture, head injury and lacerations, often requiring hospitalisation. Around 95% of hip fractures are caused by falls¹⁵⁵ and many people do not fully recover their ability to walk or carry out daily activities post-fracture, leading to reduced independence.¹⁵⁶ Serious falls in older people substantially increase the risk of admission to residential aged care.¹⁵⁴ Falls constitute a major part of the injury cost burden, accounting for 25% of the total cost and there is concern projected national demographic changes will see costs rise sharply.¹⁵⁷

Risk factors for falls include increasing age, gender, medication use, predisposed medical conditions including Parkinson's disease, osteoporosis and vision problems. A person who has had one fall is at increased risk of subsequent falls.¹⁵⁴ The Australian Commission on Safety and Quality in Health Care reports around 15% of all falls requiring hospitalisation occur in residential aged care facilities as well as 20% for aged 85 years and over.¹⁵⁵

NT public hospital admissions data from the period 1992 to 2010 confirm the likelihood of injury from falling increases with age. Figure 6.12 shows higher falls-related admission rates among the older population aged 65 years and over. Of concern too is the steady rise in admissions over time among the aged.

Figure 6.12 Falls: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010



Source: Appendix Table 6.25.

Despite higher falls-related admission rates among the aged (65 years and over), falls-related deaths are fewer in number, averaging three per year at most. Table 6.27 shows the number of deaths due to falls during the period 1986–2005. For the most part, rates are not shown because the number of deaths was less than 10.

Table 6.27 Falls: trends in the number and rate of deaths, by age group and Indigenous status, Northern Territory, 1986–2005 (five-year periods)

Period (years)	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1986–1990	n.p.	n.p.	7	n.p.	n.p.	n.p.	n.p.	n.p.	0	0.0	n.p.	n.p.
1991–1995	n.p.	n.p.	10	2.6	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
1996–2000	6	n.p.	9	n.p.	n.p.	n.p.	5	n.p.	n.p.	n.p.	6	n.p.
2001–2005	n.p.	n.p.	10	2.4	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	16	50.1

Notes:

(1) Rates are expressed as number of deaths per 100,000 population.

n.p. Rates are not published due to the small number of events (i.e. less than 10).

Source: ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

In 2005, the Australian Government endorsed the National Injury Prevention and Safety Promotion Plan 2004–2014. A component of the plan is the National Falls Prevention for Older People Initiative which aims to reduce the incidence, morbidity and mortality associated with falls in non-Indigenous people aged 65 years and over and Indigenous people aged 55 years and over.¹⁵⁸

The NT has a limited range of government and non-government organisations that deliver falls prevention programs, which are mainly located in urban areas. The DoH Aged Care Assessment Team undertakes risk assessments, interventions and referrals.¹⁵⁹ The Veterans Affairs HomeFront program provides eligible veterans, war widows and widowers with an annual free home assessment and will contribute financial assistance towards recommended safety appliances.¹⁶⁰

6.12.3.3 Rehabilitation

Rehabilitation, as defined by the United Nations, is the goal-oriented and time-limited process aimed at enabling an impaired person to reach an optimum mental, physical and/or social functional level. Older people make up the majority of clients and the major conditions requiring treatment are stroke and hip fractures.¹⁶¹

The major goals for older people undertaking rehabilitation are to achieve mobility and independent self-care. Older people who are most likely to benefit from rehabilitation are those who have had a recent onset of disability. The capacity to benefit from rehabilitation is a primary consideration and is determined by the severity of the presenting disability and any pre-existing disability. Severe cognitive impairment is a risk factor for a poor response to rehabilitation. Rehabilitation is most effective when there is a co-ordinated response from a multi-disciplinary team of health professionals including nurses, doctors, physiotherapists, occupational therapists, speech pathologists and social workers as well as the patient and the patient's family.¹⁶²

Admissions for rehabilitation account for the highest proportion of all non-acute care types. During the 2004–2005 calendar year, rehabilitation accounted for 5% of all overnight hospital separations among Australians aged 65 years and over. Acute care comprised the vast majority of hospital separations (90%).¹⁶³

In the NT a high proportion of non-acute admissions involve rehabilitation. For the period 2004–2008, there were 504 rehabilitation admissions among people aged 65 years and over. The majority (90%) of admissions in this age group were non-Indigenous Territorians (Table 6.28).

Table 6.28 Number of rehabilitation public hospital admissions, by age group and Indigenous status, 2004 to 2008, Northern Territory

	15–49 years	50–64 years	65 years and over	Total
Indigenous	326	291	50	667
Non-Indigenous	468	551	454	1,473

Source: Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, DoH.



6.13 Burden of disease and injury

The 'burden of disease' is an indication of the amount of ill health, disability and premature death caused by an individual disease or group of health conditions. A report *Burden of disease and injury in Australia 2003* published by the AIHW in 2007 identified that the NT has the highest total burden of disease of all states and territories. The rates are higher for most causes, but particularly for diabetes and injuries. In contrast, diseases relating to old age, such as IHD and dementia, contribute less to the NT burden than in other states due to the younger population in the NT.¹⁰¹

Using the AIHW's burden of disease methodology, the Health Economics unit of the Health Gains Planning Branch, DoH produced a report in 2009 entitled *Burden of disease and injury in the Northern Territory, 1999–2003*. This report examined NT death and disability data over the period from 1999 to 2003. The report revealed the higher burden of disease, measured through age-adjusted DALYs, among Indigenous Territorians. Their rate was 3.6 times higher than the Australian rate and 2.9 times higher than non-Indigenous Territorians. The overall burden of disease and injury in the NT from 1999 to 2003 was 227 DALYs per 1,000 population, over one and half times greater than the Australian rate of 130.⁶⁹

Disability-adjusted life years (DALYs)

A measurement called Disability-adjusted life years or DALYs is used to calculate the years of healthy life lost through living with a disability owing to illness or injury, or through premature death.

Disability-adjusted life years provide information about the impact of common chronic diseases that lead to long-term disabilities, but rarely cause death, and compare it with the impact of a disease that is less common but often fatal.^{18,77}

Source: Australia's health 2008. Older Australia at a glance.

The leading causes of the total burden of disease for the NT from 1999 to 2003 were cardiovascular disease, cancers, mental illnesses, diabetes and neurological disease. Table 6.29 presents the top 15 causes of disease burden in the NT and the age-adjusted DALYs per 1,000 population for each cause.

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Table 6.29 Top 15 causes of disease burden, age-adjusted DALYs per 1,000 population, by Indigenous status, Northern Territory and Australia, 1999–2003

Major disease category*	Age-adjusted DALYs per 1,000 population			
	Indigenous	Non-Indigenous	Northern Territory	Australia
	Rate	Rate	Rate	Rate
Cardiovascular	82.9	25.6	37.3	23.1
Cancer	42.4	26.7	29.6	24.5
Mental†	46.3	19.8	26.5	17.7
Diabetes	70.5	13.6	25.0	7.1
Neurological	32.3	17.3	20.6	15.3
Chronic respiratory	38.2	13.3	18.5	9.3
Unintentional injuries	19.8	8.5	11.2	6.3
Genitourinary	36.2	4.8	11.2	3.2
Intentional injuries	15.9	4.3	7.6	3.0
Digestive	14.1	4.3	6.3	2.9
Musculoskeletal	6.9	5.0	5.4	5.2
Neonatal	7.6	3.2	4.9	1.8
Infectious	12.3	2.5	4.8	2.2
Skin	10.0	1.7	4.1	1.0
Acute respiratory	10.3	1.6	3.9	1.8

Notes:

* Ranked in order of total DALYs for the Northern Territory.

† Mental disorders include substance abuse.

Source: Zhao Y, You J, Guthridge S. Burden of disease and injury in the Northern Territory, 1999–2003. NT Department of Health and Families, 2009.



Appendix

Appendix Table 6.1 All causes: trends in number of public hospital admissions, individuals and deaths, by age group and Indigenous status, Northern Territory, 1986–2010

Periods (years)	15–49 years		50–64 years		65 years and over	
	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous
	Number		Number		Number	
1986–1990						
Deaths	635	621	484	458	489	595
1991–1995 (deaths) 1992–1995 (admissions)						
Admissions [#]	26,106	40,839	3,827	8,246	1,740	5,925
Individuals [#]	10,997	24,782	1,449	4,165	709	2,364
Ratio	2.4	1.6	2.6	2.0	2.5	2.5
Deaths	724	496	474	511	494	812
1996–2000						
Admissions [#]	41,766	55,280	6,963	14,941	3,233	9,781
Individuals [#]	14,391	30,555	2,104	6,576	1,005	3,344
Ratio	2.9	1.8	3.3	2.3	3.2	2.9
Deaths	834	555	490	533	532	959
2001–2005						
Admissions [#]	57,485	54,453	11,049	21,070	4,659	14,890
Individuals [#]	17,825	28,198	2,886	8,107	1,348	4,291
Ratio	3.2	1.9	3.8	2.6	3.5	3.5
Deaths	1,014	450	495	544	559	1,143
2006–2010						
Admissions [#]	71,410	60,040	16,748	25,858	6,590	21,978
Individuals [#]	19,970	30,078	3,770	10,387	1,643	6,067
Ratio	3.6	2.0	4.4	2.5	4.0	3.6

Notes:

(1) All causes includes diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 001–139, 140–239, 240–279, 290–319, 390–459, 460–519, 520–579, 580–629, 800–999 and ICD-10 codes A00–B99, C00–D48, E00–E89, F00–F99, I00–I99, J00–J99, K00–K99, N00–N99, S00–T99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

[#] Renal dialysis and boarder episodes are excluded from the rates for public hospital admissions and individuals.

Sources:

Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.
ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

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Appendix Table 6.2 Infectious diseases: trends in number of public hospital admissions, individuals and deaths, by age group and Indigenous status, Northern Territory, 1986–2010

Periods (years)	15–49 years		50–64 years		65 years and over	
	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous
	Number		Number		Number	
1986–1990						
Deaths	20	5	28	11	27	7
1991–1995 (deaths) 1992–1995 (admissions)						
Admissions	528	744	148	132	71	90
Individuals	429	676	125	116	61	80
Ratio	1.2	1.1	1.2	1.1	1.2	1.1
Deaths	28	14	15	13	18	12
1996–2000						
Admissions	973	878	270	228	125	162
Individuals	725	794	211	204	107	145
Ratio	1.3	1.1	1.3	1.1	1.2	1.1
Deaths	26	8	17	14	19	13
2001–2005						
Admissions	1,443	760	363	289	210	245
Individuals	1,059	704	278	264	169	219
Ratio	1.4	1.1	1.3	1.1	1.2	1.1
Deaths	35	9	6	8	9	27
2006–2010						
Admissions	1,902	933	669	457	294	382
Individuals	1,348	863	473	392	239	330
Ratio	1.4	1.1	1.4	1.2	1.2	1.2

Notes:

(1) Infectious disease includes diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 001–139 and ICD-10 codes A00–B99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

Sources:

Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.
ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.3 Infectious diseases: number of cases, by type, age group and Indigenous status, Northern Territory, 1997–2006

Disease	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	Number		Number		Number	
Campylobacteriosis	63	514	9	118	5	41
Chlamydia	7,588	3,159	80	79	14	7
Gonococcal infection	10,653	1,233	139	130	18	18
Hepatitis B	607	149	147	23	29	5
Hepatitis C	178	1,321	8	140	n.p.	11
Influenza	54	90	11	22	n.p.	11
Leprosy	6	n.p.	0	0	n.p.	n.p.
Melioidosis	76	46	32	53	13	25
Meningococcal infection	15	13	n.p.	n.p.	n.p.	n.p.
Pertussis	36	163	10	32	n.p.	11
Pneumococcal disease	299	54	44	25	18	23
Rheumatic Fever	210	6	6	0	n.p.	0
Ross River Virus	74	970	8	228	0	29
Salmonellosis	190	457	62	127	30	46
Shigellosis	184	112	67	19	30	n.p.
Syphilis	2,450	153	177	27	58	6
Trichomoniasis	5,892	268	311	34	37	n.p.
Tuberculosis	121	145	27	34	13	18
Zoster	13	24	7	9	n.p.	11

Notes:

n.p. Number of cases not published due to the small number (less than 5) of health events in this category.

Source: Northern Territory Notifiable Diseases System. User-defined tables held by the Health Gains Planning Branch, NT DoH

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Appendix Table 6.4 All cancers: trends in number of public hospital admissions, individuals and deaths, by age group and Indigenous status, Northern Territory, 1986–2010

Periods (years)	15–49 years		50–64 years		65 years and over	
	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous
	Number		Number		Number	
1986–1990						
Deaths	44	76	86	154	52	160
1991–1995 (deaths) 1992–1995 (admissions)						
Admissions	352	1,196	158	774	81	591
Individuals	249	972	96	483	57	336
Ratio	1.4	1.2	1.6	1.6	1.4	1.8
Deaths	63	92	86	220	82	230
1996–2000						
Admissions	681	1,537	292	1,165	157	845
Individuals	438	1,196	174	771	86	513
Ratio	1.6	1.3	1.7	1.5	1.8	1.6
Deaths	67	83	102	227	85	295
2001–2005						
Admissions	819	1,458	424	1,386	173	1,143
Individuals	531	1,154	243	886	112	639
Ratio	1.5	1.3	1.7	1.6	1.5	1.8
Deaths	69	71	117	232	107	335
2006–2010						
Admissions	1,068	1,560	630	2,164	282	2,188
Individuals	678	1,142	323	1,262	172	1,067
Ratio	1.6	1.4	2.0	1.7	1.6	2.1

Notes:

(1) All cancers includes diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 140–239 and ICD-10 codes C00–D48. Malignant invasive cancers, malignant non-invasive skin cancers, benign and in-situ cancers are included in this category.

(2) Some duplication of cases may occur over different time periods and/or age groups.

Sources:

Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.
ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.5 Malignant invasive cancers: incidence rates, by site, age group and Indigenous status, Northern Territory and Australia, 1991–2005

Cancer site	50–64 years			65 years and over		
	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia
	Rate			Rate		
Anus	n.p.	n.p.	2.3	n.p.	n.p.	5.1
Bladder	n.p.	11.1	18.1	n.p.	60.3	81.7
Bone	n.p.	6.1	6.0	n.p.	n.p.	13.3
Bowel	48.0	81.7	106.5	68.9	275.9	327.5
Brain	n.p.	11.1	12.6	n.p.	21.4	22.8
Kidney	n.p.	18.0	22.2	n.p.	52.2	55.4
Larynx	17.8	21.9	7.8	n.p.	32.1	14.0
Leukaemia	21.3	11.1	16.9	46.0	36.2	58.2
Liver	46.2	4.2	6.4	91.9	17.4	18.5
Lung	213.2	83.3	73.3	266.6	336.2	242.9
Lymphoma	n.p.	23.8	31.8	n.p.	54.9	79.6
Melanoma	n.p.	73.7	81.3	n.p.	93.8	139.4
Oesophagus	40.9	24.6	23.9	64.3	83.0	88.8
Oral cavity	71.1	58.3	31.4	68.9	80.4	54.8
Other cancers	21.3	19.6	26.5	68.9	73.7	83.0
Pancreas	42.6	12.3	13.4	n.p.	44.2	56.6
Thyroid	19.5	n.p.	9.0	n.p.	n.p.	8.4
Unspecified site	71.1	31.5	21.7	234.4	136.6	100.0
Sex-specific cancers						
Breast	102.9	250.7	271.2	185.1	229.0	310.2
Cervix	45.0	18.6	13.7	108.0	n.p.	17.5
Ovary	n.p.	25.2	25.6	n.p.	n.p.	43.6
Penis	n.p.	n.p.	1.3	n.p.	n.p.	3.6
Prostate	39.7	140.3	196.9	170.6	725.7	846.2
Testis	0.0	n.p.	3.3	0.0	0.0	1.5
Uterus	45.0	29.8	40.2	n.p.	66.3	56.7
Vagina	0.0	0.0	1.1	0.0	n.p.	2.9
Vulva	n.p.	n.p.	3.1	n.p.	n.p.	10.6

Notes:

(1) Bone refers to cancer of the bone and articular cartilage.

(2) Bowel refers to cancer of the colon and rectum.

(3) Cervix refers to cancer of the cervix uteri.

(4) Lung refers to cancer of the trachea, bronchus and lung.

(5) Oral cavity refers to cancer of the lip, tongue & oral cavity.

(6) Oesophagus refers to cancer of the oesophagus & stomach.

(7) Ovary refers to cancer of the ovary and uterine adnexa.

(8) Uterus refers to cancer of the corpus uteri.

(9) Other cancers refers to Kaposi's sarcoma, immunoproliferative neoplasms, multiple myelomas and mesothelioma, as well as cancer of the eye, nasal cavity, middle ear and sinuses, gallbladder, small intestine, placenta, other thoracic organs, other endocrine glands, other male and female organs.

(10) Rates are expressed as number of cases per 100,000 population.

n.p. The rate is not published due to the small number (less than 10) of health events in this category.

Source: Northern Territory Cancer Registry, 1991–2005 cancer registrations. User-defined tables held by the Health Gains Planning Branch, NT DoH.

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Appendix Table 6.6 Malignant invasive cancers: death rates, by site, by age group and Indigenous status, Northern Territory and Australia, 1991–2005

Cancer site	50-64 years			65 years and over		
	NT Indigenous	NT non- Indigenous	Australia	NT Indigenous	NT non- Indigenous	Australia
	Rate			Rate		
Anus	n.p.	n.p.	0.4	n.p.	n.p.	1.4
Bladder	n.p.	n.p.	3.2	n.p.	36.2	31.2
Bone	n.p.	n.p.	2.6	n.p.	n.p.	8.1
Bowel	19.5	28.4	34.1	n.p.	124.6	141.7
Brain	n.p.	8.4	11.0	n.p.	18.8	21.1
Kidney	n.p.	n.p.	6.4	n.p.	32.1	26.2
Larynx	n.p.	8.4	2.4	n.p.	26.8	7.0
Leukaemia	n.p.	n.p.	7.3	n.p.	29.5	39.5
Liver	44.4	4.2	5.6	128.7	26.8	20.3
Lung	184.8	66.8	56.5	298.7	308.1	216.0
Lymphoma	n.p.	6.9	10.4	n.p.	21.4	45.9
Melanoma	n.p.	10.4	8.4	n.p.	21.4	25.0
Oesophagus	35.5	12.7	15.6	55.1	64.3	70.1
Oral cavity	40.9	15.4	7.4	50.6	40.2	17.0
Other cancers	n.p.	6.5	11.6	64.3	34.8	51.2
Pancreas	40.9	12.3	12.0	55.1	41.5	55.0
Thyroid	n.p.	n.p.	0.6	n.p.	n.p.	2.5
Unspecified site	42.6	19.2	17.1	165.4	113.8	95.4
Sex-specific cancers						
Breast	n.p.	61.5	54.8	115.7	75.3	109.1
Cervix	n.p.	n.p.	4.8	92.6	n.p.	10.6
Ovary	n.p.	10.3	14.2	n.p.	n.p.	38.8
Penis	0.0	0.7	0.2	n.p.	n.p.	0.8
Prostate	7.9	12.4	13.6	n.p.	161.5	239.2
Testis	0.0	n.p.	0.3	0.0	0.0	0.5
Uterus	n.p.	n.p.	4.1	n.p.	n.p.	16.4
Vagina	0.0	0.0	0.3	0.0	n.p.	1.5
Vulva	n.p.	n.p.	0.4	0.0	0.0	3.4

Notes:

(1) Bone refers to cancer of the bone and articular cartilage.

(2) Bowel refers to cancer of the colon and rectum.

(3) Cervix refers to cancer of the cervix uteri.

(4) Lung refers to cancer of the trachea, bronchus and lung.

(5) Oral cavity refers to cancer of the lip, tongue & oral cavity.

(6) Oesophagus refers to cancer of the oesophagus & stomach.

(7) Ovary refers to cancer of the ovary and uterine adnexa.

(8) Uterus refers to cancer of the corpus uteri.

(9) Other cancers refers to Kaposi's sarcoma, immunoproliferative neoplasms, multiple myelomas and mesothelioma, as well as cancer of the eye, nasal cavity, middle ear and sinuses, gallbladder, small intestine, placenta, other thoracic organs, other endocrine glands, other male and female organs.

(10) Rates are expressed as number of deaths per 100,000 population.

n.p. The rate is not published due to the small number (less than 10) of health events in this category.

Source: ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.7 Diseases of the endocrine, nutritional and metabolic system: trends in number of public hospital admissions, individuals and deaths, by age group and Indigenous status, Northern Territory, 1986–2010

Periods (years)	15–49 years		50–64 years		65 years and over	
	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous
	Number		Number		Number	
1986–1990						
Deaths	25	7	42	16	38	16
1991–1995 (deaths) 1992–1995 (admissions)						
Admissions	374	375	138	131	35	100
Individuals	221	260	95	97	28	88
Ratio	1.7	1.4	1.5	1.4	1.3	1.1
Deaths	32	n.p.	51	18	36	34
1996–2000						
Admissions	774	463	405	526	142	200
Individuals	330	298	186	174	80	113
Ratio	2.3	1.6	2.2	3.0	1.8	1.8
Deaths	38	10	61	16	46	37
2001–2005						
Admissions	1,189	503	966	952	271	701
Individuals	422	227	362	212	175	230
Ratio	2.8	2.2	2.7	4.5	1.5	3.0
Deaths	37	7	68	24	66	60
2006–2010						
Admissions	1,424	627	1,271	924	402	756
Individuals	586	283	512	288	267	404
Ratio	2.4	2.2	2.5	3.2	1.5	1.9

Notes:

(1) Diseases of the endocrine system include diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 240–279 and ICD-10 codes E00–E89.

(2) Some duplication of cases may occur over different time periods and/or age groups.

n.p. Number of deaths not published due to the small number (less than 5) of health events in this category.

Sources:

Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.

ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.8 Diabetes mellitus: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010

Period (years)	15–49 years		50–64 years		65 years and over	
	Indigenous	Non- Indigenous	Indigenous	Non- Indigenous	Indigenous	Non- Indigenous
	Rate		Rate		Rate	
1992–1995	137.5	52.5	572.5	138.6	n.p.	276.0
1996–2000	357.1	48.3	1,623.8	491.6	1,318.0	565.7
2001–2005	679.3	96.3	4,172.6	766.6	3,085.9	2,149.9
2006–2010	717.7	114.6	4,361.8	583.6	3,478.3	1,549.8

Notes:

(1) Diabetes mellitus includes diagnoses coded to the International Classification of Diseases and Injuries: ICD-9 code 250 and ICD-10 codes E10–E14.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of admissions per 100,000 population.

n.p. The rate is not published due to the small number (less than 10) of health events in this category.

Source: Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.

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Appendix Table 6.9 Mental and behavioural disorders: trends in number of public hospital admissions, individuals and deaths, by age group and Indigenous status, Northern Territory, 1986–2010

	15–49 years		50–64 years		65 years and over	
Periods (years)	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous
	Number		Number		Number	
1986–1990						
Deaths	25	13	7	6	10	9
1991–1995 (deaths) 1992–1995 (admissions)						
Admissions	792	1,887	60	341	18	162
Individuals	395	966	40	163	12	102
Ratio	2.0	2.0	1.5	2.1	1.5	1.6
Deaths	30	11	6	6	8	12
1996–2000						
Admissions	1,582	2,250	76	315	49	150
Individuals	741	1,225	52	180	37	98
Ratio	2.1	1.8	1.5	1.8	1.3	1.5
Deaths	23	25	9	8	7	16
2001–2005						
Admissions	2,353	2,384	135	502	33	178
Individuals	1,137	1,290	78	247	28	103
Ratio	2.1	1.8	1.7	2.0	1.2	1.7
Deaths	26	5	10	n.p.	38	35
2006–2010						
Admissions	3,686	2,915	267	729	96	345
Individuals	1,522	1,431	153	339	62	185
Ratio	2.4	2.0	1.7	2.2	1.5	1.9

Notes:

(1) Mental health disorders include diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 290–319 and ICD-10 codes F00–F99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

n.p. Number of deaths not published due to the small number (less than 5) of health events in this category.

Sources:

Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.

ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.10 Computer Assisted Telephone Interviews (CATI) survey participants: percentage distribution of Northern Territory non-Indigenous participants, by grouped score on Kessler Psychological Distress Scale (K-10) and age, 2004 CATI survey

Score	18–44 years	45–64 years	65 years and over
	Percent	Percent	Percent
No/Low distress	90.2	93.0	92.5
High or very high	9.8	6.8	6.3
Not stated	0.0	0.2	1.1
Total			

Note: NT data were weighted against 2004 Northern Territory non-Indigenous Estimated Resident Population.

Source: Health Gains Planning Branch. CATI data pooling pilot project: Filling the gaps in data pooling 2004. The Northern Territory survey methodology (unpublished).

Appendix Table 6.11 Diseases of the circulatory system: trends in number of public hospital admissions, individuals and deaths, by age group and Indigenous status, Northern Territory, 1986–2010

Periods (years)	15–49 years		50–64 years		65 years and over	
	NT Indigenous	NT non-Indigenous	NT Indigenous	NT non-Indigenous	NT Indigenous	NT non-Indigenous
	Number		Number		Number	
1986–1990						
Deaths	150	66	135	127	158	239
1991–1995 (deaths) 1992–1995 (admissions)						
Admissions	891	1,116	515	1,129	203	1,025
Individuals	552	839	288	767	144	640
Ratio	1.6	1.3	1.8	1.5	1.4	1.6
Deaths	163	46	142	128	167	318
1996–2000						
Admissions	1,646	1,617	867	1,880	378	1,522
Individuals	914	1,246	473	1,220	239	916
Ratio	1.8	1.3	1.8	1.5	1.6	1.7
Deaths	213	61	156	130	205	340
2001–2005						
Admissions	2,343	1,605	1,217	2,178	509	2,121
Individuals	1,269	1,285	685	1,470	306	1,225
Ratio	1.8	1.2	1.8	1.5	1.7	1.7
Deaths	252	73	141	135	166	374
2006–2010						
Admissions	2,924	1,710	1,718	2,398	706	2,873
Individuals	1,513	1,321	870	1,712	404	1,586
Ratio	1.9	1.3	2.0	1.4	1.7	1.8

Notes:

(1) Diseases of the circulatory system include diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 390–459 and ICD-10 codes I00–I99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

Sources:

Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.
ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.12 Ischaemic heart disease: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010

Period (years)	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	Rate		Rate		Rate	
1992–1995	184.0	73.9	1,097.9	882.8	713.2	2,201.0
1996–2000	329.8	81.9	1,826.8	970.3	1,332.0	2,157.9
2001–2005	480.4	98.0	2,480.3	803.8	2,037.4	2,193.7
2006–2010	536.1	89.4	2,677.0	609.5	2,636.7	1,989.1

Notes:

(1) Ischaemic heart disease includes diagnoses coded to the International Classification of Diseases and Injuries: ICD-9 codes 410–414 and ICD-10 codes I120–I125.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of admissions per 100,000 population.

Source: Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.

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Appendix Table 6.13 Hypertension: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010

Period (years)	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	Rate		Rate		Rate	
1992–1995	91.1	12.2	423.5	65.2	198.1	74.0
1996–2000	67.5	5.6	208.5	22.3	182.3	109.1
2001–2005	45.3	4.7	129.8	19.9	131.1	31.3
2006–2010	38.8	4.9	93.8	16.2	93.5	59.6

Notes:

(1) Hypertension includes diagnoses coded to the International Classification of Diseases and Injuries: ICD-9 codes 401–405 and ICD-10 codes I10–I15.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of admissions per 100,000 population.

Source: Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.14 Cerebrovascular disease: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010

Period (years)	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	Rate		Rate		Rate	
1992–1995	65.4	26.2	643.0	267.1	1,228.2	1,137.5
1996–2000	107.7	21.5	674.7	183.0	1,177.8	994.1
2001–2005	92.4	21.3	644.7	162.7	1,096.2	846.2
2006–2010	101.9	26.3	627.8	134.8	1,243.6	808.0

Notes:

(1) Cerebrovascular disease includes diagnoses coded to the International Classification of Diseases and Injuries: ICD-9 codes 430–438 and ICD-10 codes I66–I69.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of admissions per 100,000 population.

Source: Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.15 Diseases of the respiratory system: trends in number of public hospital admissions, individuals and deaths, by age group and Indigenous status, Northern Territory, 1986–2010

Periods (years)	15–49 years		50–64 years		65 years and over	
	NT	NT non-	NT	NT non-	NT	NT non-
	Indigenous	Indigenous	Indigenous	Indigenous	Indigenous	Indigenous
	Number		Number		Number	
1986–1990						
Deaths	67	21	92	45	140	90
1991–1995 (deaths) 1992–1995 (admissions)						
Admissions	1,889	1,592	695	675	426	674
Individuals	1,272	1,296	393	438	216	401
Ratio	1.5	1.2	1.8	1.5	2.0	1.7
Deaths	94	19	94	36	108	107
1996–2000						
Admissions	3,322	1,976	1,178	1,055	642	1,000
Individuals	1,888	1,620	621	618	351	576
Ratio	1.8	1.2	1.9	1.7	1.8	1.7
Deaths	57	11	59	34	92	112
2001–2005						
Admissions	4,887	1,807	1,705	1,125	913	1,294
Individuals	2,369	1,467	852	734	481	733
Ratio	2.1	1.2	2.0	1.5	1.9	1.8
Deaths	66	11	53	36	75	138
2006–2010						
Admissions	5,761	2,005	2,461	1,306	1,145	1,778
Individuals	2,676	1,613	1,045	846	569	934
Ratio	2.2	1.2	2.4	1.5	2.0	1.9

Notes:

(1) Diseases of the respiratory system includes diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 460–519 and ICD-10 codes J00–J99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

Sources:

Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.
ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.16 Asthma: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010

Period (years)	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-	Indigenous	Non-	Indigenous	Non-
		Indigenous		Indigenous		Indigenous
		Rate		Rate		Rate
1992–1995	190.6	109.8	509.7	263.0	911.3	356.7
1996–2000	237.8	83.1	537.6	150.2	434.7	274.8
2001–2005	190.3	67.9	322.3	85.7	250.2	68.9
2006–2010	227.6	54.3	425.7	93.4	149.6	50.8

Notes:

(1) Asthma includes diagnoses coded to the International Classification of Diseases and Injuries: ICD-9 code 493 and ICD-10 codes J45–J46.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of admissions per 100,000 population.

Source: Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.

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Appendix Table 6.17 Chronic obstructive pulmonary disease: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010

Period (years)	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	Rate		Rate		Rate	
1992–1995	175.5	19.5	1,623.3	399.6	3,209.2	2,005.8
1996–2000	331.8	25.9	2,194.3	459.9	3,477.3	2,081.1
2001–2005	587.5	24.7	2,869.8	371.2	4,754.0	2,284.6
2006–2010	765.3	23.3	3,423.8	318.1	4,347.8	2,039.9

Notes:

(1) Chronic obstructive pulmonary disease includes diagnoses coded to the International Classification of Diseases and Injuries: ICD-9 codes 490–492, 494–496 and ICD-10 codes J40–J44 and J47.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of admissions per 100,000 population.

Source: Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.18 Diseases of the digestive system: trends in number of public hospital admissions, individuals and deaths, by age group and Indigenous status, Northern Territory, 1986–2010

Periods (years)	15–49 years		50–64 years		65 years and over	
	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous
	Number		Number		Number	
1986–1990						
Deaths	26	22	14	37	9	24
1991–1995 (deaths) 1992–1995 (admissions)						
Admissions	1,383	4,012	244	1,304	130	725
Individuals	961	3,266	179	977	87	496
Ratio	1.4	1.2	1.4	1.3	1.5	1.5
Deaths	34	15	13	23	12	31
1996–2000						
Admissions	2,677	6,175	571	2,495	214	1,178
Individuals	1,737	4,822	386	1,708	137	747
Ratio	1.5	1.3	1.5	1.5	1.6	1.6
Deaths	56	23	17	25	10	46
2001–2005						
Admissions	4,587	5,014	893	2,951	348	1,504
Individuals	2,500	3,979	583	1,957	247	918
Ratio	1.8	1.3	1.5	1.5	1.4	1.6
Deaths	101	16	30	32	17	36
2006–2010						
Admissions	5,342	5,457	1,333	3,432	494	2,059
Individuals	2,871	4,110	810	2,261	299	1,298
Ratio	1.9	1.3	1.6	1.5	1.7	1.6

Notes:

(1) Diseases of the digestive system includes diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 520–579 and ICD-10 codes K00–K99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

Sources:

Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.

ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.19 Liver disease: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010

Period (years)	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	Rate		Rate		Rate	
1992–1995	83.5	37.8	156.8	116.2	n.p.	161.5
1996–2000	125.4	30.9	87.8	90.3	140.2	80.8
2001–2005	348.2	26.0	380.6	90.9	n.p.	112.8
2006–2010	239.2	27.5	350.0	144.7	364.7	139.1

Notes:

(1) Liver disease includes diagnoses coded to the International Classification of Diseases and Injuries: ICD-9 code 570–573 and ICD-10 code K70–K77.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of admissions per 100,000 population.

n.p. Number of deaths not published due to the small number (less than 5) of health events in this category.

Source: Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.20 Liver disease: trends in the number and rate of deaths, by age group and Indigenous status, Northern Territory, 1986–2005 (five-year periods)

Period (years)	15–49 years				50–64 years				65 years and over			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1986–2000	21	18.5	19	5.1	5	n.p.	22	46.0	n.p.	n.p.	8	n.p.
1991–1995	22	16.9	12	3.1	8	n.p.	12	20.1	n.p.	n.p.	12	66.6
1996–2000	43	29.3	20	4.8	8	n.p.	15	17.6	n.p.	n.p.	9	n.p.
2001–2005	73	44.7	14	3.4	17	76.1	19	16.4	n.p.	n.p.	n.p.	n.p.

Notes:

(1) Rates are expressed as number of deaths per 100,000 population.

n.p. Number of deaths not published due to the small number (less than 5) of health events in this category.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

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Appendix Table 6.21 Diseases of the genitourinary system: trends in number of public hospital admissions, individuals and deaths, by age group and Indigenous status, Northern Territory, 1986–2010

Periods (years)	15–49 years		50–64 years		65 years and over	
	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous
	Number		Number		Number	
1986–1990						
Deaths	16	n.p.	28	n.p.	23	6
1991–1995 (deaths) 1992–1995 (admissions)						
Admissions	2,116	4,028	409	701	123	360
Individuals	1,371	3,324	234	579	83	278
Ratio	1.5	1.2	1.7	1.2	1.5	1.3
Deaths	10	0	23	n.p.	26	15
1996–2000						
Admissions	2,735	4,622	464	1,165	260	510
Individuals	1,892	3,783	312	883	176	380
Ratio	1.4	1.2	1.5	1.3	1.5	1.3
Deaths	26	n.p.	29	n.p.	41	21
2001–2005						
Admissions	2,617	3,259	535	1,081	293	738
Individuals	1,893	2,726	376	866	200	501
Ratio	1.4	1.2	1.4	1.2	1.5	1.5
Deaths	24	0	26	n.p.	39	27
2006–2010						
Admissions	3,160	3,340	750	1,396	404	953
Individuals	2,240	2,680	486	1,068	261	689
Ratio	1.4	1.2	1.5	1.3	1.5	1.4

Notes:

(1) Diseases of the genitourinary system include diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 580–629 and ICD-10 codes N00–N99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

n.p. Number of deaths not published due to the small number (less than 5) of health events in this category.

Sources:

Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.
ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.22 End stage kidney disease: number of newly diagnosed cases, by year of diagnosis, Northern Territory and Australia, 1963–2006

Year	Northern Territory	Australia
1963–1979	0	4,283
1980	5	549
1981	n.p.	556
1982	n.p.	571
1983	n.p.	606
1984	5	697
1985	14	629
1986	13	714
1987	11	791
1988	9	807
1989	14	874
1990	19	950
1991	17	979
1992	22	1,084
1993	35	1,159
1994	41	1,315
1995	39	1,373
1996	48	1,426
1997	57	1,485
1998	48	1,606
1999	53	1,751
2000	53	1,750
2001	65	1,912
2002	59	1,892
2003	57	1,983
2004	81	1,955
2005	83	2,283
2006	70	2,378
Total	924	38,358

Notes:

This table shows all end stage kidney disease (ESKD) patients including children.

n.p. Number of deaths not published due to the small number (less than 5) of health events in this category.

Source: 'The thirtieth report.' Australia and New Zealand Dialysis and Transplant Registry 2007, McDonald et al. 2007.

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Appendix Table 6.23 Injury and poisoning: trends in number of public hospital admissions, individuals and deaths, by age group and Indigenous status, Northern Territory, 1986–2010

	15–49 years		50–64 years		65 years and over	
Periods (years)	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous	NT Indigenous	NT non- Indigenous
	Number		Number		Number	
<i>1986–1990</i>						
Deaths	184	347	31	47	13	22
<i>1991–1995 (deaths) 1992–1995 (admissions)</i>						
Admissions	4,953	5,228	405	732	158	451
Individuals	3,370	4,401	301	622	126	360
Ratio	1.5	1.2	1.3	1.2	1.3	1.3
Deaths	212	256	25	47	12	23
<i>1996–2000</i>						
Admissions	6,978	6,456	701	1,116	271	740
Individuals	4,399	5,391	453	915	188	565
Ratio	1.6	1.2	1.5	1.2	1.4	1.3
Deaths	253	299	24	55	12	29
<i>2001–2005</i>						
Admissions	10,287	6,751	1,109	1,650	391	1,162
Individuals	5,887	5,451	679	1,259	251	805
Ratio	1.7	1.2	1.6	1.3	1.6	1.4
Deaths	339	233	22	51	23	52
<i>2006–2010</i>						
Admissions	14,122	8,372	1,771	2,463	468	1,744
Individuals	7,234	6,609	966	1,895	315	1,263
Ratio	2.0	1.3	1.8	1.3	1.5	1.4

Notes:

(1) Injury and poisoning includes diagnoses and underlying causes of death coded to the International Classification of Diseases and Injuries: ICD-9 codes 800–999 and ICD-10 codes S00–T99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

Sources:

Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.
ABS, 1986–2005 cause of death data. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.24 Motor vehicle accidents: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010

Period (years)	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
		Rate		Rate		Rate
1992–1995	363.3	293.8	235.3	157.0	198.1	181.7
1996–2000	350.9	290.7	203.0	130.2	n.p.	129.3
2001–2005	381.8	284.9	273.1	118.5	143.0	163.0
2006–2010	410.4	297.2	292.2	127.8	121.6	150.1

Notes:

(1) Motor vehicle accidents include diagnoses coded to the International Classification of Diseases and Injuries external causes of morbidity codes within the transport accidents category: ICD-9 codes E810–E825 and E9290, ICD-10 code Y850 and selected ICD-10 codes within V00–V99.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of admissions per 100,000 population.

n.p. Rate not published due to the small number (less than 10) of health events in this category.

Source: Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix Table 6.25 Falls: trends in public hospital admission rates, by age group and Indigenous status, Northern Territory, 1992–2010

Period (years)	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
		Rate		Rate		Rate
1992–1995	277.9	189.5	407.8	385.3	1,109.4	1,608.7
1996–2000	340.0	204.6	488.2	337.9	1,121.7	1,438.6
2001–2005	518.9	196.7	658.1	379.0	1,358.3	1,639.0
2006–2010	748.7	252.6	977.7	412.2	1,468.0	1,834.6

Notes:

(1) Falls include diagnoses coded to the International Classification of Diseases and Injuries external causes of morbidity codes within other external causes of accidental injury: ICD-9 codes E880–E886, E887 and E929.3 and ICD-10 codes W00–W19.

(2) Some duplication of cases may occur over different time periods and/or age groups.

(3) Rates are expressed as number of admissions per 100,000 population.

Source: Hospital Activity Reporting universes. User-defined tables held by the Health Gains Planning Branch, NT DoH.

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Health and supported care services at a glance

- In the 2006/2007 financial year, Territorians aged 65 years and over received 12% of all health services delivered in the Northern Territory (NT) that were subsidised under the Medicare Benefits Schedule (MBS). Nationally, the corresponding proportion was 30%.¹
- In the 2006/2007 financial year, Territorians aged 65 years and over received, on average, 17.9 MBS services per person, which was 2.5 times the average for all Territorians (7.2 services), but only two thirds the national rate for their age group (27.9 services).¹
- In the 2006/2007 financial year, 11% of general practitioner (GP) attendance MBS items were received by Territorians aged 65 years and over,² which was double their population share of 4.6%.³ Nationally, older Australians of the same age group received 25% of GP attendance MBS items.²
- In the 2006/2007 financial year, there were 48.8 GPs per 100,000 population in the NT compared with the national average of 86.4. The number of GPs per capita declined with increasing remoteness.⁴
- Hospitalisations for older Territorians grew between 1997 and 2007 by 14% per annum for Indigenous Territorians aged 50 years and over and 9% per annum for non-Indigenous Territorians aged 65 years and over.⁵
- In the 2006/2007 financial year, 858 aged care assessments of non-Indigenous Territorians aged 70 years and over and Indigenous Territorians aged 50 to 69 years were carried out. This equated to 70.0 assessments per 1,000 population, which was lower than the national rate of 84.5.⁶
- On 30 June 2008, there were 379 permanent residents in aged care facilities in the NT. The likelihood of admission to residential aged care increases with age, but patterns differ between Indigenous and non-Indigenous populations with usage rates being higher at younger ages in Indigenous people.⁷
- On 30 June 2008, 63% of all permanent residents in NT aged care facilities were female, and 35% of all NT aged care residents were Indigenous.⁷
- On 30 June 2008, the number of NT high care residential places per 1,000 people aged 70 years or over plus Indigenous people aged 50 to 69 years was at a lower level than the national average (26.5 compared with 41.7 respectively). The same pattern was observed for low care residential places (20.6 compared with 43.4 respectively).⁶
- The NT had a much higher proportion of concessional residents in aged care at 67% compared with 36% nationally. Concessional residents are those with low levels of income and assets where a government funded supplement is paid to the aged care service provider in lieu of the resident paying an accommodation charge or bond.⁷
- The number of Community Aged Care Packages per 1,000 people aged 70 years or over plus Indigenous people aged 50 to 69 years in the NT was almost three times the national average (53.9 compared with 19.6).⁶

7.1 Challenges for service provision in the Northern Territory

This chapter provides information on the broader system of health and supported care services used by older Territorians. The chapter begins with an overview of major issues facing health service providers in the Northern Territory (NT) and the financing of health services in Australia and the NT. The remainder of the chapter presents information on older Territorians' use of health services in the community, acute and aged care sectors.

7.1.1 Population dispersion and remoteness

The NT has 1.0% of the Australian population (210,627 people in 2006)^{8,3} spread over an area of 1.3 million square kilometres (18% of the Australian landmass).⁹ About two thirds of the population live in the five major urban areas of Alice Springs, Darwin (including Palmerston), Katherine, Nhulunbuy and Tennant Creek.¹⁰ The remainder is dispersed across the NT, mostly in small remote Indigenous communities. These communities tend to be too small to support the traditional model of health care delivery by private general practitioners and hospitals.¹¹ Instead, publicly funded health centres provide services in some communities and outreach services to others. Remote health centres are typically staffed by registered nurses and Aboriginal Health Workers (AHWs) with support from a visiting medical practitioner.¹² In communities without a centre, people may travel considerable distances by road. For hospital and other specialist appointments, which are only available in urban areas, travel and assistance with accommodation is supported through the Patient Assistance Travel Scheme (PATS), provided the distance is greater than 200 kilometres.¹³

In addition to the issues of remoteness and small population size, other challenges to the provision of services in non-urban areas of the NT are:

- the availability of land, buildings and other infrastructure to support service provision, particularly in remote Indigenous communities
- higher construction and operating costs in regional and remote areas and limited ability to raise funds for capital works
- the higher cost of providing services (e.g., additional allowances and higher wages for staff, travel costs)
- constraints on the availability of public funding for services.¹²

7.1.2 Workforce availability

A further difficulty for service delivery in the NT is the availability of health professionals. It can be difficult to attract health professionals to the NT, particularly its remote areas where the nature of work requires a particular level of skill, experience and aptitude. In general, numbers of health professionals in the NT tend to be lower than in other jurisdictions. For example, the NT has about half the number of full-time workload equivalent (FWE) general practitioners (GPs) per capita as nationally.⁴ Full-time workload equivalent account for differences in working patterns, and are calculated by dividing a GP's Medicare billings by the average billing of full-time GPs for the year. For example, a GP billing 70 per cent of the full-time average would be counted as 0.7 FWE while a GP billing 120 per cent of the full-time average would be 1.2 FWE.¹⁴ In the 2006/2007 financial year, there were 48.8 GPs per 100,000 population in the NT compared with the national average of 86.4. The number of GPs per capita declined with increasing remoteness.⁴

Issues of economic viability (for private providers), professional isolation, difficult working conditions, distance from family, friends and services also mean that it is difficult to attract health professionals to remote areas and turnover is high.¹⁵ Table 7.1 shows the numbers of selected health professionals by remoteness in the NT in 2006. Aboriginal Health Workers were the only occupation to increase in number as the remoteness increased. Optometrists and orthoptists were only located in outer regional areas (Darwin, Palmerston and other nearby areas) and there were no physiotherapists, podiatrists or enrolled nurses in very remote areas. In June 2006, the proportion of the NT population living in remote (22%) and very remote areas (24%) was just under half that in outer regional areas (55%).¹⁶ With the exception of AHWs, the number of health professionals in remote areas was generally about half the number in outer regional areas. In very remote areas there were even fewer health professionals than might be expected, given the proportion of people living there (Table 7.1).

Table 7.1 Number of allied health professionals, by occupation and remoteness area, Northern Territory, 2006

Occupation	Location			Total*
	Outer regional	Remote	Very remote	
Medical practitioners	356	152	26	537
Registered nurses and midwives	1,130	494	219	1,863
Enrolled nurses	116	39	0	155
Aboriginal health workers	24	64	138	226
Chiropractors and osteopaths	8	3	4	15
Dental practitioners	43	13	6	62
Optometrists and orthoptists	19	0	0	19
Pharmacists	62	23	5	90
Physiotherapists	61	25	0	86
Podiatrists	3	3	0	6
Psychologists	83	22	4	109
Total occupations	1,905	838	402	3,168

Note:

* Darwin is classified as Outer Regional.

Source: ABS, CData Online. Customised table, Occupation 06 (ANZSCO) (OCC06P) by remoteness area. Viewed 10 September 2010,

<<http://www.abs.gov.au/CDataOnline>>

7.1.3 Urban services

Typically, there are more health professionals and a greater range of specialty services available in urban areas, but that does not mean that people can always readily access services. The 2006 General Social Survey (GSS) sampled mostly urban people about accessing a range of health and non-health service providers including doctors, disability services, Centrelink and financial institutions. In the NT, 39% of all Territorians reported they had difficulty accessing service providers.¹⁷ Barriers to access were the same for older Territorians as those for other age groups. These included inadequate services in the area where older Territorians lived, problems with getting transport to service providers or the distance to travel to reach these services (Table 7.2). National data showed that a much lower proportion of all Australians reported difficulties accessing services (22%) than Territorians (39%).¹⁸

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Table 7.2 Access to services, by age group, Northern Territory, 2006

	18–49 years	50–64 years	65 years and over
Access to services	Per cent	Per cent	Per cent
Type of barriers			
Transport/distance	7.4	* 10.5	* 9.1
Cost of service	9.9	9.1	* 3.6
No service in area	8.4	10.0	** 5.5
Inadequate services in area where resides	25.3	27.1	* 13.6
Other reason	9.4	10.2	** 9.1
No barriers			
No access problems	59.6	59.6	68.3
Have not accesses any services	* 1.2	1.3	0.0

Notes:

* Estimates with a relative standard error of 25% to 50% should be used with caution.

** Estimates with a relative standard error greater than 50% are considered too unreliable for general use.

Source: ABS, 2006 General Social Survey. User-defined tables held at Health Gains Planning Branch, NT DoH.

In 2006 the Council on the Ageing (Northern Territory) Incorporated, trading as COTA NT, conducted a survey of older Territorians. The survey collected a multitude of information from the respondents including regarding their concerns about the level of access to dental, cancer treatment, GP and heart specialist services. Results from the survey indicate that respondents aged 66 years and over were less concerned about access to these health services than respondents aged 50 to 65 years of age. At the time of the survey, the major issue for all respondents was access to cancer treatment (Table 7.3). However, since this survey was conducted, access to cancer treatment services in the NT has greatly improved with the establishment of a new radiation oncology unit at the Royal Darwin Hospital.¹⁹

Table 7.3 Access to health services, by age group, Northern Territory, 2006 Council on the Ageing survey

	50–65 years		66 years and over	
Health services access	Number (%)		Number (%)	
COTA question: Do you have any concerns about your level of access to the following health services				
Dental/oral health				
Yes	552	(28.5)	150	(25.2)
No	1,387	(71.5)	446	(74.8)
Cancer treatment				
Yes	975	(50.3)	206	(34.6)
No	964	(49.7)	389	(65.4)
General Medical Practitioner				
Yes	676	(34.9)	111	(18.7)
No	1,262	(65.1)	484	(81.3)
Heart specialist services				
Yes	806	(41.6)	145	(24.3)
No	1,132	(58.4)	451	(75.7)

Notes:

(1) Responses are weighted to NT Estimated Resident Population as at 30 June 2006.

(2) As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

Source: COTA NT 2006 survey of senior Territorians. User-defined table held by the Health Gains Planning Branch, NT DoH.

7.2 Financing of health and supported care services

In the 2006/2007 financial year, \$94 billion was spent in Australia on health expenditure, accounting for 9% of Gross Domestic Product (see Chapter 8 for further explanation of this term). Of this, 93% was for recurrent expenditure and 7% was for capital expenditure and capital consumption (depreciation). In addition to monies spent on health expenditure, another \$8.1 million was spent on residential aged care, although this estimate excludes expenditure where the full fee was paid out of the resident's own pocket. Funding for health services during this period came from the Australian Government (42%), state and territory governments (26%), private health insurers (7%), individuals (17%) and other non-government organisations (7%).²⁰ The average recurrent health expenditure per person in the NT was \$5,282 compared to \$4,185 nationally.²⁰

The NT Department of Health (DoH), at that time known as the Department of Health and Community Services (DHCS), spent \$797 million in the 2006/2007 financial year on providing health services to Territorians.²¹ The funding for these services was provided by the NT Government with contributions from the Australian Government through agreements such as the National Healthcare Agreement²² and the National Disability Agreement (this came into effect on 1 January 2009 and replaced the Commonwealth State/Territory Disability Agreement).²³ Other service providers in the NT receive funding directly from the Australian Government, for example, Indigenous health organisations, or from patients who then may access subsidies through Medicare or private health insurance.

7.2.1 Medicare

Medicare subsidises the cost of services provided by hospitals, medical practitioners and certain pathology, allied health, psychiatry, optometry and dental services. It enables Australians to be treated free of charge as a public patient in a public hospital and subsidises the cost of a patient treated by private practitioners in public or private hospitals (private patients). Private patients must pay the difference between the fees charged for services provided in the hospital and any subsidy available under Medicare. If they hold private health insurance, this cover may subsidise a further portion of costs.²⁴

For out-of-hospital services covered by Medicare, service providers may “bulk-bill” patients in which case they provide the service for no more than the subsidy (benefit) prescribed through the Medicare Benefits Schedule (MBS). Alternatively, providers may charge a higher fee and the difference between the fee and the MBS benefit must be met by the patient.²⁵ In the 2006/2007 financial year, residents in the NT received \$61.1 million in MBS benefits, which equated to 0.5% of benefits provided nationally.¹

Medicare also subsidises the cost of certain medications through the Pharmaceutical Benefits Scheme (PBS). There are two levels of subsidy (benefit) that determine the amount a person contributes to their prescription: general and concessional. The contribution for concessional patients is much lower than that for general patients. To be eligible for a concessional benefit, a person must be a holder of a Pensioner Concession Card, a Commonwealth Seniors Health Card, a Health Care Card or a Department of Veterans' Affairs (DVA) White, Gold or Orange Card.²⁶ In the 2006/2007 financial year, residents in the NT received \$25.6 million in PBS benefits, which equated to 0.4% of benefits provided nationally.²⁷

7.2.2 Private health insurance

Private health insurance provides additional insurance cover and options for how and where health care is delivered. Private health insurance is generally divided into hospital cover, general treatment cover (or ancillary or extras cover) and ambulance cover. Hospital cover insures against the cost of medical services, accommodation, theatre fees, intensive care, tests, pharmaceuticals, and dressings. General treatment cover insures against the costs of ancillary treatments such as dental, chiropractic services, podiatry, physiotherapy and optical items.²⁸ The amount and type of costs covered depends on the insurance policy. There may also be limitations regardless of policy such as services that are not covered (exclusions), caps on payments and waiting periods before full rebates are paid.²⁸

The Australian Government subsidises the cost of private health insurance. There is a general rebate of 30 cents for every dollar of the insurance premium. For older people, the subsidy is higher: 35% for people aged between 65 and 69 years and 40% for people aged 70 years and over.²⁹ There is, however, a penalty for people who take out hospital insurance later in life and/or who do not consistently maintain cover. For people taking out cover after the age of 30, the Lifetime Health Cover initiative imposes a 2% loading on top of their premium for every year after age 30. The maximum loading is 70% so people aged 66 years and over taking out private hospital insurance for the first time are not penalised further. Those born before 1 July 1934 are exempt from the Lifetime Health Cover initiative. Loadings are removed after 10 years as long as hospital insurance cover is maintained.³⁰

In June 2009, 45% (9.7 million) of Australians had hospital treatment cover. Coverage peaked in the 55–59 year age group at 57% and then declined steadily to 33% for people aged 85 years and over. In the NT, 35% (77,496 people) had hospital treatment cover.³¹ Similar trends in coverage across the age groups would be expected in the NT, but consistent with a lower overall rate, it is likely that age-specific rates would be lower. Lower rates in the NT are likely to be due to the younger population (coverage rates are low among people aged 20 to 29 years) and the large proportion of Indigenous Territorians. The 2004–2005 National Aboriginal and Torres Strait Islander Health Survey and the 2004–2005 National Health Survey found that only 15% of Indigenous Australians had private health insurance compared with 51% of their non-Indigenous counterparts; a gap largely attributed to their relative economic disadvantage.³²

7.2.3 Residential and community care for the aged

The Australian Government finances and regulates the residential and community care sector in Australia. The governance framework for the operation of the sector is the Aged Care Act 1997 (Cth) and the Home and Community Care Act 1985 (Cth) (see Box). For residential aged care, the Australian Government provides about three-quarters of total funding primarily through residential care subsidies and capital grants to providers. The remainder comes from accommodation and daily living charges paid by residents. The level of the residential care subsidy is dependent on each resident's care needs, which are assessed using the Aged Care Funding Instrument, and their income (but not assets). Supplementary payments may be made to assist residents or service providers with accommodation costs, primary care needs, the higher costs of providing care in rural and remote areas (viability supplements), improving efficiency (conditional adjustment payments) and to prevent new arrangements from disadvantaging particular providers (grandparenting arrangements).³³

Legislation

Aged Care Act 1997

The Aged Care Act 1997 (Cth) governs the provision of residential care, flexible care and community aged care to older Australians. The Australian Government, through the Act, controls the allocation and distribution of aged care places; determines the eligibility of recipients; approves providers; and defines the quality of care framework.³⁴ The Aged Care Act contains special needs provisions for Indigenous people, people living in rural and remote communities, people from non-English speaking backgrounds and people who are financially or socially disadvantaged.³⁵

Source: Hanks P, De Ferrari L. Regulation of residential aged care. Review of legislation: Commonwealth, state and territory legislation.

The Home and Community Care Act 1985

The Home and Community Care Act 1985 (Cth) provides the framework for the operation of the Home and Community Care Program. It sets out the agreement entered into between the Australian Government and state and territory governments, and the type of programs that can be funded. The objective of the Act is to provide basic maintenance and support services to a target population.³⁶

Source: Australian Government. Home and Community Care Act 1985.

The Private Hospitals and Nursing Homes Act 1981

The Private Hospitals and Nursing Home Act 1981 (NT) governs premises that provide accommodation and nursing care for patients suffering from infirmity, illness, disease, incapacity or disability. The Act requires all premises to be licensed and inspected at least once a year. As such, the Act is a complementary piece of legislation to the Aged Care Act (Cth), a phenomenon that only occurs in the NT.³⁷

Source: Northern Territory of Australia. Private Hospitals and Nursing Homes Act.

For aged care in the community, the Australian Government funds the Community Aged Care Package (CACAP) and Extended Aged Care at Home (EACH) programs. Recipients may be asked to contribute toward the cost of services, but their payments only amount to about 5% of costs. The Australian and state and territory governments jointly fund the Home and Community Care (HACC) program with the funding being split 60/40, respectively. Care recipients may also be asked to make a co-payment toward certain services.³³

Residential aged care is funded through subsidies from the Australian Government and fees paid by residents. Residents may be asked to pay two types of fees: daily care fees and accommodation payments. Daily care fees cover daily living costs including nursing, personal care, meals and laundry. Residents who have higher incomes may also be required to pay an additional income tested fee. Accommodation payments contribute toward housing costs and comprise of either an accommodation bond for low level care or an accommodation charge for high level care, but these charges only apply to people with assets exceeding a set amount determined by the Australian Government. People unable to pay the required fees can apply for assistance through the Department of Health and Ageing (DoHA).³⁸

Providers of residential aged care must be accredited to receive residential care subsidies from the Australian Government. Accreditation is carried out by an independent body: the Aged Care Standards Accreditation Agency Limited. Existing facilities may be awarded up to four years accreditation, but new facilities only receive a maximum of one year accreditation. Once a facility is accredited, monitoring continues through a combination of announced and unannounced visits. If an aged care facility fails to meet a standard, compliance action is undertaken to

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improve the care and services until the appropriate standard is achieved. If the standard is not achieved, the Agency can reduce the period of accreditation or revoke the accreditation status thereby making the facility ineligible to receive government subsidies. The Aged Care Standards and Accreditation Agency publishes the outcomes of all assessments on the website www.accreditation.org.au.

In the 2006/2007 financial year, Australian Government expenditure for aged care was \$7.7 billion. Of this amount, the NT was allocated \$26.8 million, which included \$17.3 million for recurrent residential aged care funding, \$6.6 million for Community Aged Care Packages, \$2.1 million for EACH packages and \$0.8 million for Extended Aged Care at Home Dementia (EACHD) packages.³⁹ During this period, a further \$6.4 million was allocated by the Australian Government to the NT for HACC services.⁴⁰ This amount was matched with \$2.9 million by the NT Government.⁴¹

7.2.4 Dental services

As discussed in Chapter 5, Medicare only subsidises dental costs in particular circumstances. In the NT, dental services are provided free of charge by DoH to people holding a Centrelink Health Care Card or Pension Card. Community dental centres are located in Darwin, Palmerston, Alyangula, Katherine, Nhulunbuy, Tennant Creek and Alice Springs. Waiting lists exist and patients are prioritised by clinical need with more urgent cases receiving priority. Older Territorians who are not eligible for Medicare or DoH services must meet the cost of dental services out of their own pockets. Insurance cover against these costs is available from private health insurers.⁴²



7.3 Health services in the community

7.3.1 Medicare Benefits Schedule

The Medicare Benefits Schedule (MBS) lists the services provided by private health providers that are subsidised under the Medicare program. Medicare Benefits Schedule services include professional attendances at GPs, specialists, optometrists and other medical professionals; diagnostic procedures and imaging services; therapeutic procedures such as dermatology, surgical operations, obstetrics and radiation oncology; and pathology services.⁴³ In the 2006/2007 financial year, Territorians aged 45 to 64 years of age received 33% of MBS services over this period. This is consistent with the proportion of MBS services received by Australians of the same age. However, in the 65 years and over age group, Territorians received a substantially lower proportion (12%) of MBS services than Australians of the same age (30%) (Table 7.4). This difference in Medicare usage is likely to be related to the lower proportion (4.6%) of people aged 65 years and over in the NT population compared with the proportion (13%) in the Australian population.³

Table 7.4 Medicare Benefits Schedule (MBS) services received, by age group and sex, Northern Territory and Australia, 2006/2007 financial year

Age group	Northern Territory			Australia		
	Males	Females	Persons	Males	Females	Persons
	Per cent			Per cent		
0–14 years	14.0	9.0	11.0	7.0	10.8	8.6
15–44 years	33.2	51.8	44.3	35.8	24.8	31.2
45–64 years	37.2	29.7	32.7	29.3	32.1	30.5
65 years and over	15.5	9.6	12.0	27.9	32.2	29.7

Source: Medicare Australia statistics. Medicare group reports. Customised table. Viewed 10 September 2010, <https://www.medicareaustralia.gov.au/statistics/mbs_group.shtml>

In the 2006/2007 financial year, Territorians aged 65 years and over received 12% of all MBS services provided to the NT population. This pattern was consistent across most categories, with the exception of diagnostic procedures and investigations, where older Territorians received a much higher proportion of these services (22%) (Table 7.5).

Table 7.5 Medicare Benefits Schedule (MBS) services received by Territorians aged 65 years and over, by MBS category, Northern Territory, 2006/2007 financial year

MBS Category	Number of services	Per cent*
Diagnostic imaging services	8,151	11.9
Diagnostic procedures and investigations	3,105	22.1
Other services	3,854	11.9
Pathology services	80,771	12.4
Professional attendances	73,945	11.4
Therapeutic procedures	8,233	11.4
Total	178,059	12.0

Note:

* Per cent of each MBS category received by Territorians aged 65 years and over.

Source: Medicare Australia statistics. Medicare group reports. Customised table. Viewed 10 September 2010, <https://www.medicareaustralia.gov.au/statistics/mbs_group.shtml>

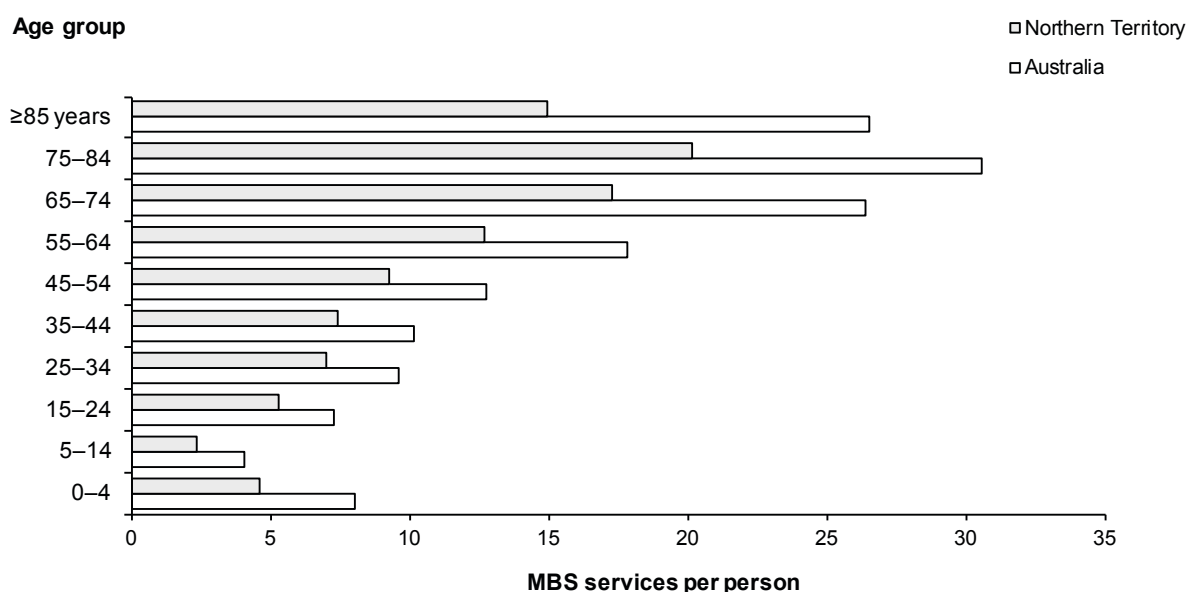
During the same period, the average number of services received per person was greatest in the older age groups, peaking in the 75–84 year age group. Usage in the NT was, however, below national rates, particularly in the older age groups (Figure 7.1). Territorians in the age group 65

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years and over received, on average, 17.9 MBS services per person, which was 2.5 times the average for all Territorians (7.2 services), but only two thirds the national rate for their age group (27.9 services).¹

Figure 7.1 Medicare Benefit Schedule (MBS) services per person, by age group, Northern Territory and Australia, 2006/2007 financial year



Source: Appendix Table 7.1

There are MBS items specifically for older Territorians that facilitate early detection and management of chronic illness and disease. Early detection is provided through annual health assessments, which are available to non-Indigenous Territorians aged 75 years or over (MBS items 700 and 702), Indigenous Territorians aged 55 years and over (MBS items 704 and 706), and permanent residents of aged care facilities (MBS item 712). Assessment under MBS item 712 fully reviews a resident's health, physical and psychological function to inform the provision of care and management of medication.⁴⁴ In the 2006/2007 financial year, 159 residents of aged care facilities in the NT received an assessment under this item. Uptake in the NT has, however, decreased in recent years and in the 2008/2009 financial year, only 126 residents received an assessment.²

7.3.2 General practitioners

General practitioners (GPs) initiate access to MBS subsidies and subsidised pharmaceuticals through consultations with patients, referral to other services such as diagnostic tests and imaging and specialist services, and the issuing of prescriptions for medicines.⁴ In the 2006/2007 financial year, 11% of GP attendance MBS items (MBS items in MBS groups A1, A2, A11 subgroup 1, A22 and A23) were received by Territorians aged 65 years and over,² which was double their population share of 4.6%.³ Nationally, older Australians of the same age group received 25% of GP attendance MBS items.²

A lack of access to GPs is likely to be a key reason for lower rates of use of MBS services in the NT. The lower rate of GPs per head of population in the NT was discussed earlier in the chapter. Accessing a GP can be difficult for all Territorians, but older Territorians in remote areas and those who reside in an aged care facility may face extra barriers. In very remote areas, the

number of GPs per 100,000 population is only a third of that in Darwin.⁴ Instead, residents in these areas must rely on publicly funded remote health services (discussed in the next section) for primary health care services. For residents in aged care facilities, access to GPs may be limited because of the time required for travel. Obtaining access to the patient and completing paperwork can be a disincentive for already busy medical practitioners. In 2004, the Australian Government created the Aged Care GP Panels Initiative to increase access to primary health care for aged care residents. The program was replaced in 2008 by the Aged Care Access Initiative, which provides incentive payments for GPs and funding for allied health professionals to provide increased and continuing services to residents in aged care facilities.⁴⁵

Bettering the evaluation and care of health (BEACH)

The BEACH survey is a continuous cross-sectional national survey of GPs in Australia, which began in April 1998. It provides timely data to describe general practice activity and inform improvements in primary health care service provision. The survey is undertaken by the General Practice Statistics and Classification Unit, a collaborating unit of the AIHW, located within the Department of General Practice at the University of Sydney.⁴⁶

Source: Britt et al. General practice activity in Australia 2006–07. General practice series no. 21. Cat. no. GEP 21.

7.3.3 Remote health services

In the 2006/2007 financial year, 52 remote health centres were funded and managed by DoH and a further 32 received funding from the NT Government, but were managed by non-government organisations.²¹ Remote health services are typically staffed by registered nurses, AHWs, a medical practitioner (likely to be visiting rather than resident), administrative personnel and visiting specialists and allied health professionals. The Australian Government also funds Aboriginal Community Controlled Health Organisations (ACCHOs) some of which may receive NT Government funding. While most ACCHOs provide services in remote areas, there are some in urban areas in the NT. In the 2006/2007 financial year, ACCHOs delivered 352,000 episodes of service in the NT and 1,644,000 nationally.⁴⁷

7.3.4 Pharmaceutical Benefits Scheme

The PBS lists pharmaceuticals subsidised under the Medicare program. The PBS data are not published by age group, but in the 2006/2007 financial year, Territorians used 710,280 PBS services (including Repatriation Pharmaceutical Benefits Scheme (RPBS) services), which equated to 0.3% of all PBS services received by the Australian population,²⁷ a share lower than would have been expected regardless of the younger population in the NT.⁴ In per capita terms, based on the June 2006 Estimated Residential Population,³ this translated to 3.4 PBS services per person compared with 10.3 nationally.²⁷

Older Territorians would be likely to use more PBS services than younger Territorians. Analysis by the AIHW of national data indicated that pharmaceutical expenditure per person was higher for older age groups compared with younger age groups. People aged 65 years and over were estimated to have accounted for 52% of pharmaceutical expenditure in 2005–2006. Expenditure peaked in the 75–84 year age group where it was 4.5 times higher than for the average for the whole of the population.⁴⁸ Furthermore, the BEACH survey showed that a GP was more likely to issue a prescription at an encounter with an older person. The prescription rate for patients aged 65 years and over (100 per 100 encounters) was almost double the rate for patients aged less than 25 years (54 per 100 encounters). The higher rate of prescriptions was due to the higher number of health problems in older people and the enduring and complex nature of those conditions.⁴⁶

7.3.5 Pharmacies

Access to pharmacies is important for accessing medications; however, in 2006, the NT had the lowest number of retail pharmacists per capita in Australia. There were 40 pharmacists per 100,000 head of population in the NT compared with 70 nationally.⁴⁹ Pharmacies are also less accessible in non-urban areas. In 2008, there were 18 urban pharmacies and nine non-urban pharmacies in the NT.⁵⁰ These numbers translate to 4,882 persons per pharmacy in urban areas and 11,451 persons per pharmacy in non-urban areas. These ratios were much higher than nationally where the number of persons per pharmacy was 3,863 in urban areas and 4,436 in non-urban areas.⁵⁰ The absence of pharmacies in remote areas means that people are reliant on remote health services for access to medications.

7.3.6 Community health services

In the NT, DoH provides a range of free services through the urban-based community health centres located in Casuarina, Palmerston, Nhulunbuy, Katherine, Tennant Creek and Alice Springs. Services include hearing assessments, health assessments (for example measuring blood pressure, blood sugar and weight), vaccination, counselling and wound care among other services.⁵¹ Data collected for the period 2001 to 2007 showed that 6,631 Territorians aged 65 years and over (790 Indigenous and 5,841 non-Indigenous clients) used these services. They accounted for 23% of the total number of clients using community health services (28,780) (Appendix Table 7.2).

7.3.7 Mental health services

Mental health is recognised as a national priority and Australian governments have committed to ensure that people with a mental illness, or those at risk of developing one, and their families and carers, have access to quality health and support services.⁵² Chapter 6 of this report provides further information on the prevalence of mental health illness among Australians and Territorians and the uptake of health services.

In the NT, DoH works with health services, clinicians, consumers and carers to develop mental health services that can provide the best outcomes for all Territorians.⁵³ For older Territorians, DoH funds a Psychogeriatric Service to improve the health and quality of life for people with age related impairments. The service, which was instigated in 2010, provides assessment, screening, collaborative care planning and short term management, education, respite access assistance and advocacy. The Psychogeriatric Service also covers prevention through risk management. Anyone is able to make a referral if there is a concern that an older person is experiencing mental health symptoms that create a risk of harm, or decrease the ability of the person to manage at home.⁵⁴

7.3.8 Disability services

The National Disability Agreement and formerly, the Commonwealth State/Territory Disability Agreement (CSTDA), fund supported accommodation, community support, community access, respite, employment and advocacy services for disabled people.²³ The target group for these services is people aged 64 years and younger, but people aged 65 years and over are not excluded from accessing services.⁵⁵ In the 2006/2007 financial year, 130 Territorians aged 65 years and over accessed CSTDA funded services. They accounted for 15% of all users (Appendix Table 7.5); a proportion higher than the national average of 5% for this age group.⁵⁵ The number of Indigenous Territorians aged 65 years and over who accessed CSTDA services was higher than the number of non-Indigenous Territorians, but in younger age groups their number was lower. The most common disability among older Indigenous Territorians (aged 50 years and over) accessing these services was physical impairments while for older non-Indigenous Territorians (aged 65 years and over) it was vision impairments.

In the NT, DoH also provides support, assessment, referral, case management and transitional care for disabled people, which older Territorians can access. For the period 2001–2007, 278 non-Indigenous and 12 Indigenous Territorians aged 65 years and over accessed these services. Although few Indigenous Territorians aged 65 years and over accessed these services, there were more Indigenous Territorians in the preceding age group who accessed these disability resources (Appendix Table 7.2). Older Territorians with a disability can also receive support through aged care services and information on these services is provided later in this chapter.

7.3.8.1 Disability Equipment Program

The Disability Equipment Program (DEP) is a new service model instigated following the Gatter Review of the Territory Independence and Mobility Equipment Scheme (TIMES) and Seating Equipment Assessment and Technical (SEAT) Service. The DEP complies with the principles of the National Disability Services Standards to provide prescribed equipment, aids and appliances to assist independent living among people with a permanent or long term disability. To be eligible for the DEP applicants must be a resident of the NT and meet all of the following criteria:

- have a disability of a permanent or long term duration as defined under the Disability Services Act (1993)
- require items of approved DEP equipment on a permanent or long term basis
- be a beneficiary of a Centrelink Aged Pension, Centrelink Disability Support Pension or are under 16 years for whom a family member is in receipt of a Centrelink Carer Allowance or Centrelink Carer Payment, or are a child in the care of the Minister or have been approved as eligible on the basis of Financial Hardship.

Equipment available under the scheme includes communication aids and devices; continence equipment; daily living aids and equipment, feeding equipment and appliances, pressure care, specialised items, home and car modifications; oxygen and respiratory appliances; personal call alarms; walking aids; and wheelchairs. Access to DEP assistance is based on assessed functional or clinical need by a registered therapist.⁵⁶

Between 2001 and 2007 older Territorians were the greatest users of DEP (formerly TIMES). During this period the program provided services to 1,150 non-Indigenous Territorians and 611 Indigenous Territorians aged 65 years and over. Together, this age group accounted for 56% of DEP services. Usage increases with age, however, the gap between usage by middle aged and older Indigenous Territorians is small compared to non-Indigenous users. Indigenous Territorians aged 15 to 49 years used 360 services and those aged 65 years and over used 541 services. For non-Indigenous Territorians there was a 6.6 fold difference in usage (from 173 to 1,150 services) (Appendix Table 7.2).

7.3.8.2 Seating Equipment and Assessment Technology Service

Funded by the NT Government, the Seating Equipment and Assessment Technology (SEAT) Service provides an assessment, prescription and technical service for people with disabilities who require seating and mobility devices. Referral is made by a physiotherapist or occupational therapist who organises the funding of the equipment.⁵⁷

During the period 2001–2007, Territorians aged 65 years and over were the greatest users of SEAT Services receiving 48% (557) of these services. Usage differed, however, across age groups for Indigenous and non-Indigenous Territorians. The amount of services delivered to Indigenous Territorians in each of the three age groups (15–49 years, 50–64 years and 65 years and over) was similar, ranging from 149 to 157 services. For non-Indigenous Territorians, usage increased across the age groups from 142 services in the 15–49 year age group to 400 services in the 65 years and over age group (Appendix Table 7.2).

7.3.9 Dental services

As noted in Chapter 5, increasing numbers of older Territorians have their natural teeth and will need access to the services of dentists to maintain their oral health. At various dates between 2004 and 2006, the National Survey of Adult Oral Health (NSAOH) asked respondents in all jurisdictions about their dental attendance to gauge access to dental care. In the NT, just over half (52%) of respondents aged 55 years and over had visited a dentist in the past 12 months and this was similar to rates in other age groups.⁵⁸ It was, however, lower than the national average for a similar age group (62% of 55 to 74 year olds).⁵⁹ Territorians aged 55 years and over were less likely than younger Territorians to avoid or delay dental care due to cost (24% compared with 36% of 15 to 34 year olds),⁵⁸ and this rate was consistent with the national rate for 55 to 74 year olds.⁵⁹

7.3.10 Palliative care services

Territory Palliative Care is a consultative service providing care for people with a life threatening illness where cure is no longer a realistic possibility. It provides clinical assessments and consultations; training and education; direct service provision; support and advocacy (as far as practical) for the patient to receive care in the location of their choice; and support services that meet the cultural, spiritual and bereavement needs of those involved with the service. Clients receive different levels and types of service depending on their needs and services are provided in partnership with primary health care and other service providers.⁶⁰

Territory Palliative Care is divided into two separate operational units: one based in Darwin for the Top End and one in Alice Springs for Central Australia. Territory Palliative Care in the Top End administers a hospice on the grounds of Royal Darwin Hospital. The hospice is a specialised 12 bed short-stay facility, which accepts clients for active symptom management, as transition to home from hospital, or for care in the final stage of illness. Limited respite places are also offered at the hospice.⁶⁰

Department of Health data for the period 2001–2007 showed that Territorians aged 65 years and over were the greatest users of palliative care services; however, this result was largely due to higher numbers of non-Indigenous clients. Among non-Indigenous clients there was a progressive rise in the number of users of palliative care by age. In contrast, the use of palliative care services was almost uniform in number among Indigenous people across the three age groups (Appendix Table 7.2).

Indigenous Territorians use palliative care services at a lower rate than might be expected, given that mortality rates are particularly high in this population. In recent times, however, the instigation of a number of strategies to facilitate better access to palliative care services for Indigenous people has seen a rise in the number of Indigenous patients utilising these services. These strategies include an Australian Government funded education plan for health professionals and ancillary Indigenous services and the employment of Aboriginal Health Workers. Territory Palliative Care has developed an Indigenous Palliative Care Model to provide culturally appropriate services, which recognises the importance of country, culture and kinship to Indigenous people. The majority of Indigenous people wish to return to their community at the end of their lives and Territory Palliative Care seeks to facilitate this where possible. Difficulties occur when access to remote communities is limited due to weather or geographic conditions and there is a lack of services or appropriate conditions to support the individual.⁶¹

7.4 Hospital services

The NT has five public hospitals, which are located in Alice Springs, Darwin, Katherine, Nhulunbuy and Tennant Creek and one private hospital, Darwin Private Hospital (DPH), which is co-located with Royal Darwin Hospital. Darwin Private Hospital offers a range of specialist inpatient, day patient and outpatient services including obstetrics, paediatrics, a sleep study unit, rehabilitation and day surgery.⁶² Northern Territory public hospitals provide general services ranging from primary screening and prevention to acute and chronic care. In addition, a radiation oncology unit was constructed in 2009 on the Royal Darwin Hospital campus, with the assistance of funding from the Australian Government. The first patients received treatment in early 2010.¹⁹

7.4.1 Hospital admissions

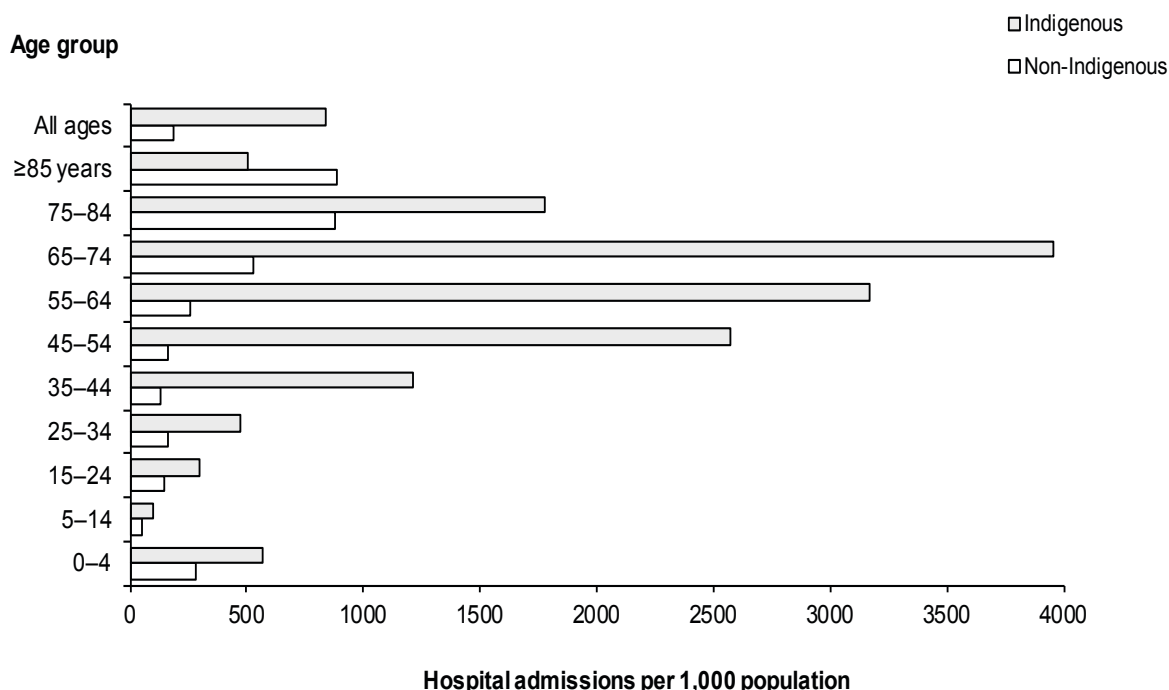
In the financial year 2006/2007, the NT had 600 hospital beds, equating to 3.5 beds per 1,000 population, which was lower than the Australian average of 4.0.⁶³ During this time, NT public hospitals had the highest age-standardised admission rate in Australia (480.1 per 1,000 population compared with the Australian average of 218.8), and a lower than average length of stay (3.0 days compared with 3.7 nationally).⁶³

Territorians aged 65 years and over are over-represented in the hospital population. In 2006, they accounted for 14% of NT hospital admissions,⁵ but only comprised 4.6% of the population.³ The three-fold differential between their share of the population and admissions was similar to the differential at a national level (2.7 during the 2005/2006 financial year).⁶⁴ This pattern of usage is demonstrated in Figure 7.2, which shows that in 2006, older aged people in the NT tended to use hospital services at a higher rate than younger aged people. However, the patterns of use differed between the Indigenous and non-Indigenous Territorians. Indigenous rates were higher in all age groups except people aged 85 years and over, but much of the differential was due to admissions for renal dialysis (Figure 7.2).

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Figure 7.2 Public hospital admission rates, by age group and Indigenous status, Northern Territory, 2006



Notes:

(1) Rates are expressed as number of admissions per 1,000 population.

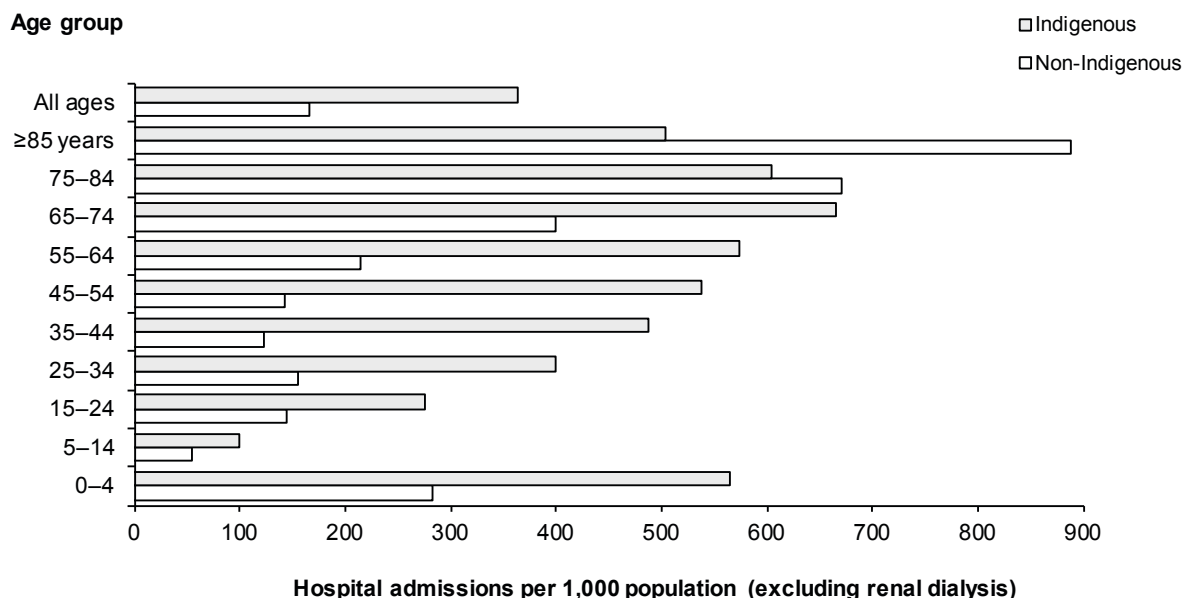
(2) Excludes admissions for boarders and people from interstate and overseas.

Source: Appendix Table 7.3

In 2006, renal dialysis was a major service provided in the NT, particularly to older Indigenous Territorians (aged 50 years and over) (Figure 7.2). Nationally, renal dialysis, cardiology and respiratory medicine and orthopaedics were the most common acute care services provided by public hospitals to Australians aged 65 years and over in the 2005/2006 financial year. This age group also represented a particularly high proportion of people admitted for ophthalmology (67%), which often involves surgical lens procedures for cataract treatment.⁶⁴ Older Australians were also high users of rehabilitation, geriatric evaluation and management and maintenance care services.⁶⁴⁻⁶⁵

When admissions for renal dialysis were removed from the analysis, the rate of admissions for Indigenous Territorians reduced markedly, but it still exceeded the rate for non-Indigenous Territorians except for people aged 75 years and over (Figure 7.3). Among Indigenous Territorians, the admission rate peaked in the 65–74 year age group (665 admissions per 1,000 population). Rates then declined in the two oldest age groups down to 504 admissions per 1,000 population in the 85 years and over age group. Among non-Indigenous Territorians, admission rates also increased with age and peaked in the oldest age group of 85 years and over (888 admissions per 1,000 population) (Appendix Table 7.4).

Figure 7.3 Public hospital admission rates excluding renal dialysis, by age group and Indigenous status, Northern Territory, 2006



Notes:

(1) Rates are expressed as number of admissions per 1,000 population.

(2) Excludes admissions for boarders and people from interstate and overseas and admissions for renal dialysis.

Source: Appendix Table 7.4

The number of admissions for older Territorians has increased substantially over time, although regional differences exist. Between 1997 and 2007, the number of admissions for Indigenous Territorians aged 50 years and over increased by 14% per annum and by 9% per annum for non-Indigenous people aged 65 years and over. The greatest increase in hospital admissions among older Indigenous Territorians was from people living in very remote areas, particularly from Alice Springs Rural health district (note: this large increase may be artificially inflated due to small numbers of older Indigenous Territorians residing in very remote areas). The greatest increase among older non-Indigenous Territorians came from patients living in the Katherine health district (Table 7.6).

Table 7.6 Annual growth in public hospital admissions among older Territorians, by health district and Indigenous status, Northern Territory, 1997–2007

Health district	Indigenous*	Non-Indigenous#
	Per cent	Per cent
Alice Springs Rural	35.2	1.5
Alice Springs Urban	1.3	6.4
Barkly	14.9	-1.1
Darwin Rural	20.1	4.8
East Arnhem	15.8	1.6
Katherine	16.4	12.6
Total	13.8	9.3

Notes:

* Indigenous Territorians aged 50 years and over.

Non-Indigenous Territorians aged 65 years and over.

Source: Hospital Activity Reporting 10 year universe. User-defined table held by the Health Gains Planning Branch, NT DoH.

7.4.2 Emergency department presentations

Territorians aged 65 years and older accounted for 6% of non-admitted emergency department presentations in the NT in 2006.⁶⁶ Although this proportion was similar to their population share of 4.6%,³ they were over represented in the emergency category (triage category 2) accounting for 15% of presentations. Indigenous Territorians aged 50 to 64 years accounted for 4% of non-admitted emergency department presentations,⁶⁶ which was slightly higher than their population share of 2%.³ Nationally, nearly a third of people in the two most urgent triage categories were aged 65 years and over.⁶⁴

In general, demand for emergency department services in NT public hospitals is high. The rate of presentations (all patients including those who are admitted) was over double the national rate in the 2006/2007 financial year (751 patients per 1,000 population compared with 311 nationally). Indigenous people accounted for 41% of all emergency department presentations in the NT. In the same period, the median waiting time in the NT was 39 minutes and was the second longest of all states and territories (ACT was higher at 44 minutes). The national average wait time was 24 minutes. There is a recommended time within which a patient should be seen depending on the urgency of their condition. Only 55% of emergency patients in the NT were seen within the recommended time for their condition, which was lower than the national average of 70%.⁶⁷

7.4.3 Elective surgery

Elective surgery is a surgical procedure that is necessary, but does not have to be undertaken immediately (can be delayed for 24 hours or longer). Patients requiring elective surgery are prioritised by clinical urgency. According to the *State of our public hospitals: June 2008* report, during the 2006/2007 financial year data, 1% of all Australian patients admitted from elective waiting lists had their procedures done in NT public hospitals,⁶⁷ an amount commensurate with the NT's share of the Australian population.³ The median waiting time for patients who received elective surgery in the NT was 35 days, which was slightly higher than the national average of 32 days.⁶⁷

While 2006/2007 financial year elective surgery information for older Australians is not available in the *State of our public hospitals: June 2008* report, this information is available in an earlier report, which showed that Australians aged 65 years and over accounted for 28% of public hospital admissions for elective surgery in the 2005/2006 financial year.⁶⁴ However, NT specific data was not available in this report.

7.4.4 Patient transport

It can be difficult for older Territorians living in rural and remote areas to access specialist health services when they are not available in their local area. For hospital and other specialist appointments, which are only available in urban areas, travel and assistance with accommodation is supported through the Patient Assistance Travel Scheme (PATS), provided the distance is greater than 200 kilometres.¹³ This scheme is funded by the NT Government to provide a financial contribution toward the travel and accommodation costs for patients who need to travel to attend medical and surgical services in the NT and interstate. Patient Assistance Travel Scheme assists with costs, but the availability of resources and the need to ensure equity means that it does not cover all costs for all individuals in all cases. Eligibility criteria, information on the assistance available, how to access the scheme and other details can be found on the DoH website at http://www.health.nt.gov.au/Hospitals/Patient_Assistance_Travel_Scheme/index.aspx.

Patient Assistance Travel Scheme staff are located in all five public hospitals in the NT. Staff in remote health services can provide information on PATS and facilitate arrangements for attending specialist services.⁶⁸ Language difficulties have been identified as a major barrier in negotiating the PATS system, especially for Indigenous patients from rural and remote areas where English is a second or third language. Aboriginal Liaison Officers can assist Indigenous patients with access to PATS should there be linguistic or cultural difficulties.⁶⁹ While there are guidelines that outline the purposes for which PATS funds should be spent, it is recognised that patient needs differ greatly. Provisions are available for medical personnel to exercise some decision-making discretion in order to address particular circumstances.⁷⁰



7.5 Aged care

Aged care in Australia consists of three main components: care provided by family and friends (informal care); services provided by governments and private organisations to people still living in the community and residents of aged care facilities (formal care). The majority of older people wish to stay in their own home, but to do so they may need the assistance of others. In 2003, informal care networks provided the most assistance to people aged 65 years and over who were living in the community. Of this group, 83% received informal care and 64% received formal care, with 47% receiving both informal and formal care.⁴⁸ For older people who are no longer able to live in the community, care and accommodation can be provided in residential facilities offering high or low care.

The 2003 Survey of Disability, Ageing and Carers (SDAC) found that 43% (one million) of the 2.3 million Australians aged 65 years and over living in the community required some form of assistance. Between 7% and 15% of older Australians required assistance with self-care, mobility and meal preparation to help them stay at home. However, a much higher proportion (between 20% and 30%) of older Australians required assistance with property maintenance, transport, housework and healthcare. The majority of people who needed help reported that their needs were met, but a small percentage felt that their needs were not met. Unmet need was highest for transport and self-care while the areas where needs were best met were paperwork, meal preparation and communication. Data from the SDAC was not available for the NT.⁴⁸

7.5.1 Informal care

Informal care is most often provided by partners and other family members and over two thirds of primary carers (the person who provides the most ongoing informal help with core activities) are female.⁴⁸ Socio-demographic change is likely to have an impact on the supply and demand of informal care. Population ageing will increase the number of older people likely to need assistance, but the increase will not be matched by the growth in the number of informal carers. Over the period 2002 to 2050, the National Centre for Social and Economic Modelling (NCSEM) has projected that the 'caretaker ratio', defined as the ratio of the number of women aged 50 to 64 years (the people most likely to provide care) to the number of people aged 80 years and over (the people most likely to need care) will fall from 2.5 to less than one. The greatest falls were projected to occur in the next decade (2020 to 2029).⁷¹ This trend is likely to mean that the pressure on other groups to provide informal care will increase, as will the demand for formal care. Other socio-demographic changes that are likely to limit the supply of informal care are: increased participation in the labour force by females, less willingness to care, smaller families, increased childlessness and greater mobility and dispersion of families.⁷²⁻⁷³ In addition to the increased number of elderly people, other factors that are likely to increase the demand for informal care are: a greater number of people living with chronic illness, high divorce rates, a greater emphasis on keeping older people in the community rather than in aged care facilities and an increased number of elderly people living alone.⁷²⁻⁷³

7.5.2 Formal care

Formal care is provided to frail older Australians through services funded by the Australian Government. In the 2006/2007 financial year, over one million formal care services were provided to Australians, the majority of whom were frail aged.³⁹ Care within the community and residential facilities is planned using population estimates for the general population aged 70 years, and the number of Indigenous Australians who are 50 years and over in recognition of the earlier onset of disease and disability in this population. In 2007, the Australian Government increased the national provision of aged care from a ratio of 108 places to 113 places per 1,000 people aged 70 years with the increase to be achieved by 2011. The aged care packages would

be apportioned as 25 places for community care, 44 places for low-level residential care and 44 for high-level residential care.⁷⁴

On 30 June 2006, the NT's allocation of aged care places was above the target ratio at 244.8 places per 1,000 people aged 70 years and over. The allocation comprised 63.8 places for high-level residential care, 45.9 places for low-level residential care, 135.1 places for community care and nil transition care places. All of the NT's community care places and almost all residential places (104 out of 110 per 1,000 people aged 70 years and over) were operational.⁷⁵ Since this time, there has been a slight increase in the ratio of allocated places including the implementation of transition care places, but the ratio of operational places has declined. On 30 June 2009, the NT's allocation was 246.6 places per 1,000 people aged 70 years and over, of which 222.9 were operational. Operational places comprised of 97.6 residential care places, 121.8 community care places and 3.5 transition care places.⁷⁴

Australian Government planning targets are based on providing 88 residential places per 1,000 people aged 70 years or over. However, according to the *Report on Government Services 2009*, the provision ratio, which is the number of operational aged care places per head of population in the NT as at 30 June 2008, was one of the largest in Australia (comprising 53.5 high care places per 1,000 people and 41.5 low care). This was due to the inclusion of places for Indigenous people aged 50 to 69 years, causing the provision ratio based on population aged 70 years or over to appear high in jurisdictions with a proportionally large Indigenous population, such as the NT.⁶

When the Indigenous population aged 50 to 69 years is included in the denominator of the provision ratio calculation, the number of operational aged care places in the NT is reduced to a lower level than the national average, as shown in Table 7.7. In contrast, the number of Community Aged Care Packages (CACPs) per 1,000 people aged 70 years or over, plus Indigenous people aged 50 to 69 years in the NT, was almost three times the national average (53.9 compared with 19.6). Community Aged Care Packages provide home-based care to frail or disabled older people living in the community including help with personal care, meals, laundry, gardening and transport. Community Aged Care Packages provide support to people who might otherwise require low care in an aged care facility.⁷⁶

Table 7.7 Operational aged care places, by type of place, Northern Territory and Australia, 30 June 2008

	Northern Territory	Australia
Operational places	Rate	Rate
Residential care - high	26.5	41.7
Residential care - low	20.6	43.4
Extended Aged Care in the Home	6.8	2.1
Extended Aged Care in the Home - Dementia	2.4	1.0
Transition care	1.3	1.0
Community Aged Care Packages	53.9	19.6

Note: Rates are expressed as number of aged care places per 1,000 people aged 70 years or over plus Indigenous people aged 50–69 years.
Source: Steering committee for the review of government service provision. Report on Government Services 2009, Table 13A.¹¹

7.5.2.1 Aged care assessment

An assessment and recommendation for services by the Aged Care Assessment Team (ACAT) is necessary for people to be admitted to residential care or receive a community care place. Anyone can make a referral to an ACAT if they are concerned about a person's ability to stay at home, or if people are having difficulty continuing to provide care in the home. In the 2006/2007 financial year, Aged Care Assessment Teams operating in the NT carried out 858 assessments of non-Indigenous people aged 70 years and over and Indigenous people aged 50 to 69 years,

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which equated to a rate of 70.0 per 1,000 people in this population. The rate of assessments in the NT was lower than the national rate of 84.5.⁶

Appendix Table 7.2 shows more non-Indigenous than Indigenous people aged 65 years and over received an ACAT assessment over the seven-year period 2001 to 2007. Assessments were also carried out on younger people with multiple disabilities who had complex care needs and were at risk of, or in need of, residential care. However, this practise has virtually ceased in the last few years and younger people with disabilities are now referred to disability teams for assessment.⁷⁷

7.5.2.2 Community Aged Care Packages

On 30 June 2008, 557 people in the NT received assistance through CACPs and 87% were in remote or very remote areas. The NT had a younger age profile of CACP recipients compared with national CACP recipients, with only 75% being aged 65 years and over compared with 95% nationally. The difference was due to the younger age of Indigenous recipients. Indigenous Territorians comprised 61% of CACP recipients in the NT compared with 3% nationally.⁷⁸

7.5.2.3 Extended Aged Care at Home

Extended Aged Care at Home (EACH) places provide high levels of support to help older people remain in their own homes. In addition to the types of services that may be provided in a CACP, EACH packages may also include assistance with oxygen and/or enteral feeding, nursing and allied health services.⁷⁹ In 2005, the Australian Government introduced Extended Aged Care at Home Dementia (EACHD) packages, which offer the same level of support as EACH packages, but are targeted at older people who have difficulties in daily living because of behavioural and psychological symptoms associated with their dementia.⁷⁸

As at 30 June 2008, 66 Territorians received EACH packages and 20 received EACHD packages. The NT had a similar age profile of EACH recipients compared with national EACH recipients, with 89% aged 65 years and over compared with 93% nationally. Although younger, the age profile of EACH and EACHD recipients in the NT was more similar to the national average than for CACPs because a smaller proportion of recipients were Indigenous. In the NT, only 14% of EACH recipients were Indigenous compared with 61% of CACP recipients. Once again, the proportion of NT EACH recipients who were Indigenous was greater than the national proportion of 1%.⁷⁸

7.5.2.4 Residential aged care

Residential aged care is for older people who can no longer live at home, most often due to illness or disability. Residential care can be provided as either as permanent or short-term care. This section discusses the provision of permanent care in the NT, while short term care, known as respite, is examined in a later section. Permanent residential care can be provided as low level care or high level care with the latter providing a greater extent and intensity of services.³⁸ The Australian Government publication *5 steps to entry into residential care* provides further detail on information about residential care and how to arrange it. Copies of the publication can be accessed from the DoHA website at http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-rescare-resentry_a.htm.

The likelihood of admission to residential aged care increases with age, but patterns differ between Indigenous and non-Indigenous populations with usage rates being higher at younger ages in Indigenous people. On 30 June 2008, national usage rates were 17.7 per 1,000 Indigenous Australians aged 65 to 69 years compared with 5.9 per 1,000 non-Indigenous people of the same age. It was not until age 75 years and over that usage rates between the groups became more comparable with the Indigenous rate being 110.2 per 1,000 people compared with 102.3 among non-Indigenous people.⁷

In the NT there were 15 services providing a mix of high and low residential care on 30 June 2008. Nine (60%) were located in remote or very remote areas. The NT had the highest proportion of services operated by religious organisations (53% compared with 29% nationally). The remainder of services were charity or community based.⁷ These services provided residential care to 340 permanent residents aged 65 years and over (Table 7.8). This number comprised 3% of all Territorians aged 65 years and older.⁸⁰ During the same time period there were 150,481 permanent residents in aged care facilities nationally,⁷ which comprised 5% of all Australians aged 65 years and older.⁸¹

At this point in time there were more females than males in NT aged care facilities (63% and 37% respectively) (Table 7.8) and 35% of all NT aged care residents were Indigenous compared with 0.6% nationally.⁷ Although Indigenous people aged 50 years and over comprised 46% of the NT older population in 2008,⁸⁰ they were under represented in NT aged care facilities, comprising just over a third of permanent residents.⁷

Table 7.8 Number of permanent residential aged care residents, by age group and sex, Northern Territory, 30 June 2008

Age group	Male	Female	Total
Less than 65	18	21	39
65–74	35	45	80
75–84	56	82	138
85 years and over	31	91	122
Total	140	239	379

Source: AIHW. Residential aged care in Australia 2007–08: a statistical overview. Aged care statistics series 28. Cat. no. AGE 58.

The NT had a much higher proportion of concessional residents in aged care at 67% compared with 36% nationally. Concessional residents are those with low levels of income and assets where a government funded supplement is paid to the aged care service provider in lieu of the resident paying an accommodation charge or bond.⁷

7.5.2.5 Flexible care

In addition to allowing for earlier ageing of Indigenous people, the Australian Government recognises the need for Indigenous service provision to be flexible and located in the community.⁴⁸ The National Aboriginal and Torres Strait Islander Flexible Aged Care Program operates outside the Aged Care Act and uses a different model to deliver services. The model encourages the community to participate in every aspect of service provision, from the planning stages through to the operation of the services. A flexible approach to funding allows the model to provide a mix of residential and community aged care services according to community aged care needs.⁸² As at 30 June 2009, there were 12 services in the NT providing aged care under the National Aboriginal and Torres Strait Islander Flexible Aged Care Program.⁸³

For rural and remote communities, the Multi-Purpose Services (MPS) initiative is a joint arrangement between the Australian, state and territory governments, which brings health, community and aged care services together under a single management structure. It provides the opportunity to develop a more coordinated and cost-effective approach to service delivery and facilitates access to residential aged care in communities not large enough to support a stand-alone aged care facility. In the NT, there is one MPS which is located at Nhulunbuy.⁸⁴

7.5.2.6 Respite care

Respite care is an important way of assisting older people to remain in their home as it provides a break for their carers. Respite care can be delivered within the home, in a day care centre (provides full or half day care) or in a residential aged care home. Residential respite can also be useful as a transition in preparation for permanent residency in an aged care facility. During the 2006/2007 financial year, an estimated 5,715 high level respite care days and 3,622 low level respite care days were provided in the NT.³⁹

7.5.2.7 Transition Care Program

The Transition Care Program is a program that provides low intensity therapy and personal and/or nursing care for older people following a stay in hospital. The program aims to improve the independence and confidence of recipients during their recovery process. This enables families or carers time to consider longer term care arrangements, which may include returning home with community support or changing residence to an aged care facility. Transition care can be provided for a period of up to 12 weeks, with a possibility to extend to 18 weeks if a person is assessed as needing an extra period of therapeutic care. The average period of care is about eight weeks.⁸⁵

The Transition Care Program is jointly funded by the Australian and NT Governments and commenced in the NT in 2007. Transition Care places are governed by the Aged Care Act 1997 and can be used in either a residential or community setting. An assessment by an ACAT is required to approve clients for access to places, and services are provided in Darwin, Katherine and Alice Springs.⁸⁶ On 30 June 2007, there were three transition care services operational in the NT. In the 2007/2008 financial year there were 53 admissions under the Transition Care Program and the average length of stay was 27 days, which was less than the national average of 50 days.⁶

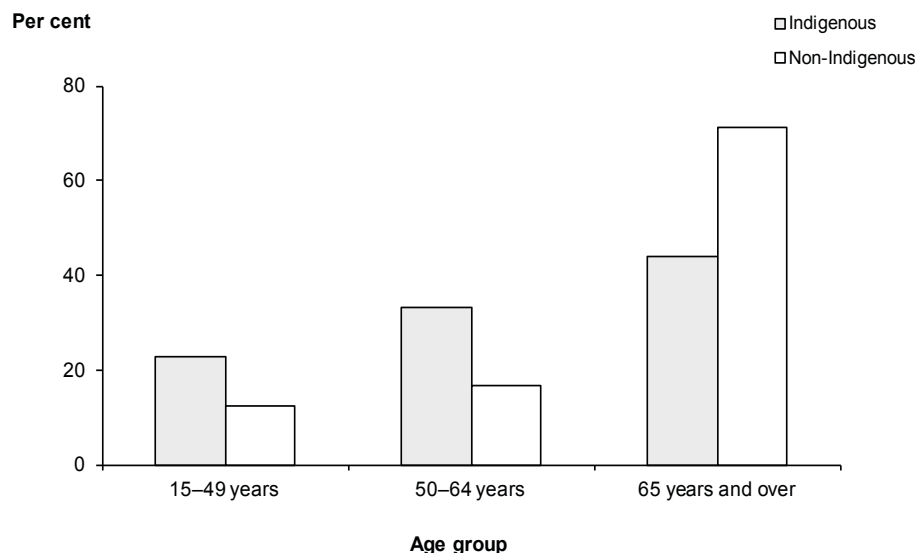
7.5.2.8 Home and Community Care program

The Home and Community Care (HACC) program provides community care services to frail aged people, younger people with disabilities and their carers in their own homes. A range of organisations deliver HACC services including NT and local government services, religious organisations, charitable bodies and community organisations. Referral for HACC services can be made by the individual, carers, family and service providers and needs are assessed by Aged and Disability staff from the DoH.⁸⁷

In the 2006/2007 financial year, 2,368 Territorians aged 65 years and over received at least one HACC service. This group comprised 56% of all HACC clients in the NT. Indigenous Territorians aged 50 to 64 years comprised a further 16% (665) of HACC clients (Appendix Table 7.6).

Generally, the use of HACC services increased with age, particularly among non-Indigenous clients. This trend was not as pronounced among Indigenous clients, who were considerable users of HACC services at younger ages (Figure 7.4).

Figure 7.4 Distribution of Home and Community Care (HACC) clients across age groups, by Indigenous status, Northern Territory, 2006/2007 financial year



Source: Appendix Table 7.6

In the 2006/2007 financial year, most older HACC clients had a carer regardless of Indigenous status (Appendix Table 7.7). During this period, the HACC service most utilised by Indigenous clients aged 65 years and over was meals at home (75%). In contrast, meals on wheels was far less utilised by non-Indigenous clients of the same age group (16%) with domestic assistance being the most utilised (43%) (Appendix Table 7.8).

When comparing HACC clients in the NT with those in other states and territories, the NT had more clients in younger age groups, which is consistent with the earlier ageing of its Indigenous population. In the 2006/2007 financial year, the proportion of HACC clients aged 50 to 64 years in the NT was double the Australian proportion (24% compared with 12% nationally). The proportion of clients aged 65 years and over was lower in the NT accounting for only 52% of HACC population compared with 76% nationally. Home and Community Care clients comprised 2% of the total NT population and this was the smallest proportion of all states and territories. The national average was 4%. In the NT, 45% of HACC clients were Indigenous compared with 2% nationally.⁸⁸

Compared with HACC clients in other jurisdictions, NT Indigenous clients aged 50 years and over were more likely to have a carer and receive four or more HACC services. Indigenous clients in the NT received almost twice as many hours of service than the national rate (10.5 hours per month compared with 5.9 hours nationally). Non-Indigenous NT HACC clients in the same age group tended to be similar to their counterparts in other jurisdictions, except they were more likely to have a carer and the proportion of females was lower (55% compared with 66% nationally).⁸⁸

7.5.2.9 Veterans' Home Care

Veterans' Home Care is a DVA program that helps Australia's veterans and war widows/widowers with low care needs to remain in their home for as long as possible. Services provided include domestic assistance, personal care, home and garden maintenance and respite. Other services such as delivered meals and community transport are provided through special arrangements with the NT Government. Veterans and widows/widowers with higher needs are eligible to

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access the DVA Community Nursing Program, which provides personal care and nursing assistance.⁴⁸

According to the report *Veterans' home care: Annual statistical summary, 2006–2007*, recipients of Veterans' Home Care in the NT tended to be younger than in other states and territories with an average age of 80 years compared with the national average of 83 years.⁸⁹ In the 2007/2008 financial year, 117 Territorians were approved to receive Veterans' Home Care services. They received, on average, 51.4 hours of service, which was similar to the national rate of 50.9 hours. The services included domestic assistance, respite care, home and garden maintenance and personal care.⁶

7.5.3 Other assistance

7.5.3.1 Commonwealth Respite and Carelink Centres

Commonwealth Respite and Carelink Centres provide a single point of contact for people to access information on community, aged and disability services and carer support including costs for services, assessment processes and eligibility criteria. The centres can also help arrange respite by organising, purchasing, or managing assistance packages for carers.

There are two centres in the NT.

1. The Commonwealth Carelink Centre Top End NT, which is located in Coconut Grove in Darwin, services the area south to the Barkly region.
2. The Commonwealth Carelink Centre Central Australia NT, which is located in Alice Springs, services the Barkly and Alice Springs regions.⁹⁰

In the 2007/2008 financial year, Commonwealth Carelink Centres assisted 648 Territorians, 139 of whom were Indigenous. The rate of contact with the centres in the NT was much lower than the national rate. The NT target population (all people aged 70 years and older plus Indigenous people aged 50 to 69 years) was 12,260 people. Overall, there were 52.9 contacts per 1,000 target population, considerably lower than the national contact rate of 94.1. The contact rate for Indigenous Territorians aged 50 years and over (18.9 per 1,000 Indigenous target population) was lower than the Australian contact rate of 28.6.⁶

7.5.3.2 People from a culturally and linguistically diverse background

There are two programs funded by the Australian Government, which are aimed at facilitating access to services for older people from culturally and linguistically diverse (CALD) backgrounds.

Council on the Ageing NT manages the Partners in Culturally Appropriate Aged Care program in the NT. The program aims to identify and meet the needs of older people from a CALD background as well as improve partnerships with aged care facilities, CALD communities and DoHA.⁹¹

The Community Partners Program, funded by the Australian Government through DoHA, aims to assist older people from CALD communities to access culturally appropriate aged care. It does so by raising awareness of the range of aged care services for older people from multicultural backgrounds, facilitating input from CALD communities into aged care services and assisting with development of culturally inclusive aged care services. Information on organisations receiving funding under the program can be found on the DoHA website at <http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-cpp-index.htm>.

7.5.3.3 Community Visitors Scheme

Some residents of aged care facilities have limited family and social contact. The Australian Government funds Anglicare in the NT to recruit and train volunteers to visit residents on a regular basis, at least fortnightly. Anglicare matches a volunteer with a resident and monitors the relationship.⁹² The volunteer provides friendship and support to the resident by doing things like working on a hobby together, talking with the resident and if the resident is able, going for a walk or an outing.⁹³ Further information on the scheme can be found on the DoHA website at <http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-publicat-cvs-cvsvisit.htm-copy4>.

7.5.3.4 Assistance with Care and Housing for the Aged program

The Assistance with Care and Housing for the Aged program, funded by the Australian Government, helps link homeless older people and those at risk of homelessness to care and accommodation. Services provided under the program include advocacy, referral and support. Presently, three organisations provide services under the program in the NT: Community Care Services NT in Alice Springs, Calvary Silver Circle in Darwin and East Arnhem Shire in Groote Eylandt. Contact details for service providers and other information on the program can be found on the DoHA website at <http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-commcare-acha-overview.htm>.

7.5.4 Perceptions of aged care services

Older Territorians' perception of aged care services in the NT is reported in the 2006 COTA NT survey. Respondents to the survey were asked to collectively rate aged care services from 'very good' to 'very poor'. Of the 1,853 people aged 50 years and over who answered this question, a third (623 people) rated aged care services as good or very good; and almost a quarter (444 people) as poor or very poor (Table 7.9).

Satisfaction with aged care services in the NT varied by age group. Those respondents in the 66 year and over age group were much more likely than their counterparts in the 50 to 65 year age group to rate aged care services as good or very good (49% and 28% respectively).

Table 7.9 Rating of aged care services, by age group, Northern Territory, 2006 Council on the Ageing

	50–65 years		66 years and over	
	Number (%)		Number (%)	
COTA NT question: Describe the standard of aged care services in the NT?				
Very good	90	(6.6)	83	(17.1)
Good	297	(21.7)	153	(31.6)
Average	601	(43.9)	173	(35.7)
Poor	267	(19.5)	52	(10.7)
Very poor	103	(7.5)	22	(4.5)
Unsure	11	(0.8)	2	(0.5)
Total	1,369		484	

Notes:

(1) Responses are weighted to NT Estimated Resident Population as at 30 June 2006.

(2) As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

Source: COTA NT 2006 survey of senior Territorians. User-defined tables held by the Health Gains Planning Branch, NT DoH.

Appendix

Appendix Table 7.1 Medicare Benefits Schedule services per person, by age group, Northern Territory and Australia, 2006/2007 financial year

	Northern Territory	Australia
Age group		
0–4	4.6	8.1
5–14	2.4	4.1
15–24	5.3	7.3
25–34	7.0	9.6
35–44	7.4	10.2
45–54	9.3	12.8
55–64	12.7	17.8
65–74	17.3	26.4
75–84	20.2	30.6
≥ 85 years	14.9	26.5

Source: Medicare Australia. Medicare Benefits Schedule (MBS) statistical website. Medicare Group Reports. Customised table. Viewed 21 September 2010, <https://www.medicareaustralia.gov.au/statistics/mbs_group.shtml>

Appendix Table 7.2 Number of people receiving supported care services, by type of service, age group and Indigenous status, Northern Territory, 2001–2007

	15–49 years		50–64 years		65 years and over	
Service type	Number (%)		Number (%)		Number (%)	
Palliative Care						
Indigenous	348	(27.9)	437	(35.0)	462	(37.0)
Non-Indigenous	249	(10.8)	744	(32.2)	1,316	(57.0)
Community Health						
Indigenous	4,674	(70.4)	1,178	(17.7)	790	(11.9)
Non-Indigenous	12,234	(55.3)	4,063	(18.4)	5,841	(26.4)
Aged care assessment						
Indigenous	0	(0.0)	699	(43.3)	914	(56.7)
Non-Indigenous	0	(0.0)	290	(13.7)	1,834	(86.3)
Taxi subsidy scheme						
Indigenous	101	(42.8)	84	(35.6)	51	(21.6)
Non-Indigenous	173	(15.0)	250	(21.6)	734	(63.4)
Disability resource						
Indigenous	478	(90.2)	40	(7.5)	12	(2.3)
Non-Indigenous	485	(52.4)	162	(17.5)	278	(30.1)
Seating equipment and technology (SEAT) service						
Indigenous	152	(33.2)	149	(32.5)	157	(34.3)
Non-Indigenous	142	(20.3)	159	(22.7)	400	(57.1)
Territory independence and mobility equipment (TIME) scheme						
Indigenous	360	(26.2)	474	(34.5)	541	(39.3)
Non-Indigenous	173	(10.0)	406	(23.5)	1,150	(66.5)

Note: People aged between 15 to 49 years are not currently eligible for aged care assessment.

Source: Community Care Information Services database. User-defined table held by the Health Gains Planning Branch, NT DoH.

Appendix Table 7.3 Number of hospital admissions and rate per 1,000 population, by age group and Indigenous status, Northern Territory, 2006

Age group	Indigenous		Non-Indigenous	
	Number	Rate	Number	Rate
0–4	4,391	564.8	2,806	283.0
5–14	1,490	101.7	1,047	54.6
15–24	3,791	299.5	2,877	144.3
25–34	4,961	475.9	4,113	162.0
35–44	10,176	1,215.8	3,411	133.2
45–54	14,161	2,572.9	3,710	159.7
55–64	8,738	3,169.4	3,957	255.4
65–74	5,044	3,956.1	2,868	525.9
75–84	803	1,780.5	1,786	882.4
85 years and over	67	503.8	358	888.3
Total	53,622	837.8	26,933	183.7

Note: Excludes admissions for boarders and people from interstate and overseas.

Source: Hospital Activity Reporting 10 year universe. User-defined table held by the Health Gains Planning Branch, NT DoH.

Appendix Table 7.4 Number of hospital admissions and rate per 1,000 population, excluding renal dialysis, by age group and Indigenous status, Northern Territory, 2006

Age group	Indigenous		Non-Indigenous	
	Number	Rate	Number	Rate
0–4	4,391	564.8	2,806	283.0
5–14	1,456	99.3	1,047	54.6
15–24	3,487	275.5	2,877	144.3
25–34	4,160	399.0	3,923	154.5
35–44	4,089	488.5	3,162	123.5
45–54	2,959	537.6	3,305	142.3
55–64	1,581	573.4	3,338	215.5
65–74	848	665.1	2,184	400.5
75–84	273	605.3	1,357	670.5
85 years and over	67	503.8	358	888.3
Total	23,311	364.2	24,357	166.1

Note: Excludes admissions for boarders and people from interstate and overseas.

Source: Hospital Activity Reporting 10 year universe. User-defined table held by the Health Gains Planning Branch, NT DoH.

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Appendix Table 7.5 Number of Commonwealth State Territory Disability Agreement (CSTDA) recipients, by primary disability, age group and Indigenous status, Northern Territory, 2006/2007 financial year

Primary disability	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Intellectual	88	131	11	8	1	0
Specific learning/ADHD	0	3	0	0	0	0
Autism	12	26	0	1	0	0
Physical	52	20	27	11	35	12
Acquired brain injury	29	7	5	6	0	1
Neurological	11	6	4	3	11	6
Deaf/blind	3	0	0	0	1	0
Vision	13	7	14	7	12	27
Hearing	6	0	0	0	2	0
Speech	1	0	1	0	0	0
Psychiatric	1	0	1	0	0	0
Not stated	23	119	8	38	5	16
Total	241	327	70	76	68	62

Note: Attention deficit hyperactivity disorder is abbreviated to ADHD.

Source: Commonwealth State/Territory Disability Agreement (CSTDA) 2006/07 Annual Submission. User-defined table held by the Health Gains Planning Branch, NT DoH.

Appendix Table 7.6 Number of clients receiving Home and Community Care (HACC), by age group and Indigenous status, Northern Territory, 2006/2007 financial year

Indigenous status	15–49 years		50–64 years		65 years and over	
	Number (%)		Number (%)		Number (%)	
Indigenous	456	(22.8)	665	(33.3)	877	(43.9)
Non-Indigenous	233	(12.2)	316	(16.6)	1,355	(71.2)
Stated	689		981		2,232	
Not stated	116		60		136	
Total	805		1,041		2,368	

Source: Home and Community Care (HACC) database. User-defined table held by the Health Gains Planning Branch, NT DoH.

Appendix Table 7.7 Number of clients receiving Home and Community Care (HACC), with or without carer assistance, by age group and Indigenous status, Northern Territory, 2006/2007 financial year

Carer	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Has a carer	282 (67.3)	152 (80.0)	360 (59.1)	133 (50.8)	508 (64.1)	710 (62.6)
No carer	137 (32.7)	38 (20.0)	249 (40.9)	129 (49.2)	284 (35.9)	425 (37.4)
Stated	419	190	609	262	792	1,135
Not stated	37	43	56	54	85	220
Total	456	233	665	316	877	1,355

Source: Home and Community Care (HACC) database. User-defined table held by the Health Gains Planning Branch, NT DoH.

Appendix Table 7.8 Number of clients receiving Home and Community Care (HACC) services, by type of service received, age group and Indigenous status, Northern Territory, 2006/2007 financial year

Number of clients	15–49 years		50–64 years		65 years and over	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	n=456	n=233	n=665	n=316	n=877	n=1,355
Number (%) of clients receiving each service						
Allied health care (centre)	5 (1.1)	0 (0.0)	14 (2.1)	1 (0.3)	16 (1.8)	7 (0.5)
Allied health care (home)	6 (1.3)	1 (0.4)	3 (0.5)	2 (0.6)	4 (0.5)	3 (0.2)
Assessment	198 (43.4)	17 (7.3)	331 (49.8)	58 (18.4)	404 (46.1)	329 (24.3)
Care coordination	216 (47.4)	66 (28.3)	304 (45.7)	86 (27.2)	326 (37.2)	323 (23.8)
Case management	224 (49.1)	33 (14.2)	370 (55.6)	81 (25.6)	420 (47.9)	421 (31.1)
Centre based activities	116 (25.4)	1 (0.4)	211 (31.7)	28 (8.9)	309 (35.2)	141 (10.4)
Counselling (a carer)	116 (25.4)	70 (30.0)	162 (24.4)	38 (12.0)	179 (20.4)	231 (17.0)
Counselling (client)	54 (11.8)	20 (8.6)	114 (17.1)	16 (5.1)	135 (15.4)	105 (7.7)
Domestic assistance	228 (50.0)	61 (26.2)	378 (56.8)	130 (41.1)	441 (50.3)	581 (42.9)
Home maintenance	78 (17.1)	3 (1.3)	190 (28.6)	13 (4.1)	207 (23.6)	21 (1.5)
Nursing (centre)	33 (7.2)	55 (23.6)	14 (2.1)	29 (9.2)	20 (2.3)	90 (6.6)
Nursing (home)	11 (2.4)	5 (2.1)	13 (2.0)	6 (1.9)	11 (1.3)	43 (3.2)
Other food services	67 (14.7)	2 (0.9)	122 (18.3)	3 (0.9)	107 (12.2)	17 (1.3)
Personal care	130 (28.5)	19 (8.2)	207 (31.1)	21 (6.6)	266 (30.3)	87 (6.4)
Respite care	12 (2.6)	17 (7.3)	7 (1.1)	7 (2.2)	19 (2.2)	45 (3.3)
Social support	234 (51.3)	25 (10.7)	396 (59.5)	65 (20.6)	468 (53.4)	281 (20.7)
Transport trips	219 (48.0)	11 (4.7)	374 (56.2)	57 (18.0)	499 (56.9)	309 (22.8)
Meals (centre)	84 (18.4)	2 (0.9)	159 (23.9)	22 (7.0)	252 (28.7)	101 (7.5)
Meals (home)	323 (70.8)	20 (8.6)	547 (82.3)	56 (17.7)	656 (74.8)	213 (15.7)

Source: Home and Community Care (HACC) database. User-defined table held by the Health Gains Planning Branch, NT DoH.

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Chapter 8

Future directions

Future directions

Population ageing is an international issue with significant social and economic ramifications. In the near future the balance between the numbers of older people and children in the global population will change for the first time in recorded history. Within five years, people aged 65 years and over will outnumber children aged less than five. This phenomenon is largely driven by lower fertility and increasing life expectancy associated with the shift from communicable to non-communicable diseases as leading causes of death. This transition in human health or “epidemiologic transition” is spreading globally and expected to have greater impact on developing countries that currently have a lower burden of non-communicable disease.¹

“Population ageing is one of humanity’s greatest triumphs. It is also one of our greatest challenges. As we enter the 21st century, global ageing will put increased economic and social demands on all countries. At the same time, older people are a precious, often ignored resource that makes an important contribution to the fabric of our societies.”²

Source: World Health Organisation. Active Ageing: A policy framework.

Topics covered in preceding chapters of this report, including the health, social and functional status of older people, will become increasingly relevant as the proportion of older people increases. This chapter discusses international, national and Northern Territory (NT) level policy responses to issues associated with population ageing. This section also covers research and influential reports and government responses to recommendations, including extensive reform of the Australian health care system.

8.1 Policy context

8.1.1 International

Internationally, the United Nations (UN) has guided the course of thinking and action on ageing since the first World Assembly on Ageing in Vienna in 1982.³ Action plans from this and the second World Assembly on Ageing in Madrid in 2002 along with the UN Principles for Older Persons, which were established in 1991, have tasked governments with changing attitudes, policies and practices in order to promote, protect and empower older people.

The Madrid International Action Plan on Ageing (Madrid Action Plan) provided three priority areas to direct the focus of policymakers:

- Older persons and development – actions to enable older people to contribute to and share in the benefits from economic, social, cultural and political participation.
- Advancing health and wellbeing into old age – actions including health promotion; maintaining functional capacity; and ensuring access to services and the presence of an adequate and knowledgeable workforce of caregivers and health professionals.
- Ensuring enabling and supporting environments – actions including appropriate housing and transport; support for caregivers; elimination of abuse; and facilitating a positive view of ageing.³

The UN’s Program on Ageing is promoted and facilitated by the Division for Social Policy and Development within the UN Department of Economic and Social Affairs. Further information including progress on the implementation of the Madrid Action Plan, publications, news and events relating to older people is available on the Division’s website at <http://www.un.org/esa/socdev/ageing/index.html>.

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The World Health Organisation (WHO) also promotes leadership from governments, non-government bodies, health providers and health professionals in creating strategies and programs that enable older people to remain healthy and continue to make a positive contribution to society.²

The WHO Active Ageing policy framework identifies three main areas requiring action:

- Health – keeping risk factors for chronic diseases and functional decline low while increasing protective factors; and for those people who do require care, ensuring access to the entire range of health and social services.
- Participation – ensuring the labour market, education, health and social policies and programs support participation in social, economic, cultural and spiritual activities.
- Security – addressing the social, financial and physical security of people as they age including supporting families and communities in their efforts to provide care for older people.²

8.1.2 Australia

In Australia, strategies to address issues of an ageing population have emerged through the findings of a number of reports. Three key reports drew attention to the impact of an ageing population and identified issues that required attention to improve the ageing experience in Australia. The issues and recommendations raised by the reports and the Australian Government's response are outlined in this section.

8.1.2.1 Intergenerational report

The first Australian Government Intergenerational Report (IGR) *2002–03 Budget Paper No. 5. Intergenerational report 2002–03* was produced as part of the 2002/2003 Budget.⁴ Two IGRs have subsequently been produced in 2007 and 2010. These reports assess, from an Australian Government perspective, the sustainability of current policies over 40 years taking into account demographic change and other important influences on revenue and expenditure.⁴

Measures of income

Gross Domestic Product

Gross Domestic Product (GDP) is a measure of the value of goods and services produced by a country during a specified period. There are several recognised methods of calculating GDP, which are standardised by an internationally recognised publication *System of National Accounts 1993*.⁵

Source: OECD Factbook 2010: Economic, environmental and social statistics.

Gross State Product

In Australia, GDP is calculated for the fiscal year from the market value of goods and services produced within Australia, after deducting the cost of goods and services used up in the process of production but prior to deducting for depreciation. Gross State Product (GSP) is similar to GDP except that it refers to production within a jurisdiction instead of the entire nation.⁶

Source: State economic and social indicators. Research Paper no.14.

The first IGR (2002) identified ageing as a major risk factor for the Australian Government. The impact of ageing was expected to build over time and by 2041–42, Australians would face an additional tax burden of \$87 billion on 2002–03 prices or 5% of Gross Domestic Product (GDP) in order for the Australian Government to be able to finance its spending commitments. The key impacts from ageing were a greater demand for age pensions, health and aged care services. Revenue was expected to stay constant as a proportion of GDP.⁴

The most recent publication, the 2010 IGR, *Australia to 2050: Future Challenges*, showed that population ageing was still a substantial risk for the sustainability of Australian Government finances; however the impact of ageing on the gap between government expenditures and revenues was less than previously projected. The Australian Government's policy responses to the ageing of the population included pension and health system reform and investments to support those most in need and improve the productivity of service delivery.⁷

8.1.2.2 The Hogan Report 2004

In 2004, the Review of pricing arrangements in residential aged care - known as *The Hogan Report 2004*, made a comprehensive appraisal of the aged care sector covering entry, workforce, financial, economic, regulatory and structural arrangements. It identified the key demand and supply pressures that faced the sector.

On the demand side, three demographic factors and three economic factors were identified as having a key influence on aged care services over the following 40 years:

- growth and ageing of the population, particularly the oldest age groups
- changes in the number of years that older people will be free of chronic and severe illness (health expectancy)
- changes in older people's living arrangements and access to informal care
- preferences for particular types and quality of care
- the level and distribution of income and wealth of older people
- the out-of-pocket costs of aged care services.⁸

The Hogan Report 2004 made 20 recommendations aimed at improving the flexibility, financing and operation of the aged care sector so that it would be better placed to meet current and future pressures.⁸ Most recommendations were adopted by the Australian Government. Its responses included extra aged care places particularly in community and respite care; funding to expand and improve the role of Aged Care Assessment teams and the Aged Care Standards and Accreditation Agency; a new instrument for assessing need; targeted support for specific residents and service providers including those in rural and remote areas; a revision of accommodation payments; workforce initiatives; and more support for dementia and research into neuro-degenerative diseases.⁹ A further initiative in response to *The Hogan Report 2004* was to develop the Aged Care Australia website (www.agedcareaustralia.gov.au) to provide a single point of information about aged care, carer support and other relevant health information.¹⁰

8.1.2.3 Economic Implications of an Ageing Australia

Following the 2002 IGR, the Productivity Commission was requested by the Council of Australian Governments (COAG) to examine the implications of likely demographic trends over the next 40 years on productivity, labour supply and government finances for all levels of government.¹¹

The Council of Australian Governments

The Council of Australian Governments is the peak intergovernmental forum in Australia comprising the Prime Minister, Premiers and Chief Ministers from the states and territories and the President of the Australian Local Government Association. The Council of Australian Governments' role is to initiate, develop and monitor policy reforms of significance that require cooperative national action. The Council of Australian Governments established a Ministerial Advisory Council on Ageing in 2008 to provide a forum for coordinating the planning, development, delivery and funding of ageing and aged care policy, programs and services across governments.¹²

Source: Commonwealth State Ministerial Councils - a compendium.

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In 2005 the findings of the Productivity Commission were released in *Economic Implications of an Ageing Australia*. The report assessed the potential fiscal impact of the ageing population on Australian, state and territory governments and commented on the likely impacts for local government.¹¹

According to the report, population ageing in Australia will have significant future economic and fiscal impacts. Key impacts include a reduction in the growth in GDP and a rise in health care costs. Growth in GDP is predicted to be half its 2003–04 rate by the mid 2020s, and health care costs are projected to rise by about 4.5 percentage points of GDP by 2044–45, with ageing accounting for nearly one-half of this.¹¹ These impacts will pose significant policy challenges and all levels of government, including state and territory, will need to introduce a range of policy measures to reduce the fiscal pressure from ageing. It is expected that policy measures will include steps to raise productivity and participation, as well as measures to provide more cost-effective service provision, especially in health care. However the efficacy of these measures will be contingent on service demands and rising costs.¹¹

Despite these impacts, the Productivity Commission maintains that population ageing should not be seen as a problem. Provided action is implemented in a timely fashion, the need for costly interventions can be avoided. Population ageing can only be conceived as a crisis if it is permitted to become one.¹¹

8.1.2.4 Whole of government approach

Australia's response to these reports has been to take a whole-of-government perspective to population ageing through policies for superannuation and retirement income support, workforce, housing, social inclusion and life-long education, medical, health and aged care services. The policies aim to encourage people to plan for financial security and independence in later life while offering a broad range of services and support, depending on need and circumstances.¹³ In addition, the Australian Government has implemented strategies and programs to address the priority areas from the Madrid Action Plan and its progress was detailed in a report to the UN in 2007.¹⁴

8.1.2.5 National Health Reform

In April 2010 the Council of Australian Governments (COAG), excluding Western Australia, reached an historic agreement to work together to deliver an improved health and hospital system for all Australians. Through the instigation of a number of far-reaching reforms, the National Health and Hospitals Network (NHHN) would create a single national unified health system whereby the Australian Government would become the dominant funder of hospital services and have full policy and funding responsibility for general practice (GP), primary health care and aged care. In July 2010, *A National Health and Hospitals Network for Australia's Future: Delivering the Reforms* was released, and contained plans for implementation of health reform measures. In August 2011 all jurisdictional governments, including the NT, agreed to major reforms to the organisation, funding and delivery of health and aged care. This would herald the beginning of the National Health Reform Agreement, the largest change since the introduction of Medicare.¹⁵

Aged care

Under the National Health Reform Agreement, aged care was identified as one of eight streams of health reform. Responsibility for aged care services would shift from the states and territories to the Australian Government under the Agreement in response to the growing demand for aged care services. Ten objectives were identified as key goals that will progress an identified need to provide a nationally consistent and better integrated aged care system.¹⁵

National Health Reform – Objectives

- Increase the capacity of the aged care system through 5,000 places or beds and 1,200 packages of care by 2013.
- Increase access to primary health care services for people receiving aged care support.
- Strengthen consumer protection in aged care.
- Deliver easy access to information and assessment for aged care services, through a new front end for aged care (one stop shops measure) with national coverage and that is linked with Local Hospital Networks and Medicare Locals.
- Increase the capacity of the aged care system by making available a further \$300 million in zero real interest loans to build or expand residential aged care services.
- Take full policy and funding responsibility for aged care across most states and territories.
- Provide alternatives to residential care to help people remain at home and in the community for as long as possible.
- Support carers, including through the National Respite for Carers program.
- Assist older people to lead independent, active and healthy lives.
- Improve the quality of care for older Indigenous Australians.¹⁵

Source: National Health Reform. Progress and delivery. September 2011.

Since the Agreement, extensive consultation with states and territories has taken place in relation to the major programs and responsibilities. These include:

- Transferring responsibility for the Home and Community Care (HACC) program to the Commonwealth Government.
- Providing capital funding of \$120 million for the construction of 286 new beds, or bed equivalent services, to expand the subacute care capacity in Multi-Purpose Services in rural and remote areas, and expanding the number of rural communities eligible to apply for Multi-Purpose Service funding.
- Allocating up to 2,000 Long Stay Older Patients places to states and territories, which will provide funding to the states and territories for these patients in hospitals. This will provide an estimated \$277 million over the next three years to the states.
- Providing \$1.6 billion for states and territories to deliver over 1,300 additional subacute care beds, and bed equivalent services, in hospitals and the community to improve patient health outcomes, functional capacity and quality of life, as well as reducing pressure on public hospital beds and emergency departments.¹⁵

From 1 July 2012, the Australian Government assumed full operational responsibility for all aged care services for non-Indigenous people aged 65 years and over and for Aboriginal and Torres Strait Islander people aged 50 years and over covering basic home care through to residential care in most states and territories. Responsibility for the HACC Program has been transferred to the Australian Government in participating states and territories. Medicare Locals will administer a flexible funding pool to target gaps in primary health care for older people receiving aged care support, regardless of whether they live in a residential aged care facility or the community.¹⁵

Further reforms to the aged care system will be considered in light of the Productivity Commission's report on aged care in Australia, *Caring for Older Australians*, which was publicly released on 8 August 2011.¹⁶ The Commission's proposals addressed a number of identified weaknesses in the aged care system through an integrated package of reforms. A copy of the proposed reforms is available as a pdf file at <http://www.pc.gov.au/projects/inquiry/aged-care/report>. To date the proposed reforms have not been integrated into the overall aged care health reform agenda.

8.1.3 Northern Territory

The NT's response to issues associated with an ageing population was detailed in two key reports, *Building the Territory for all Generations: A Framework for Active Ageing in the Northern Territory and the Territory 2030 Strategic Plan*.

In 2007, the NT Government released *Building the Territory for all Generations: A Framework for Active Ageing in the Northern Territory* (henceforth referred to as the *Active Ageing Framework*), which is a strategy based on the United Nation's *Principles for Older Persons* (see Chapter 1 for complete list of principles). The Framework contained ideas for community groups, organisations and businesses, to assist people to age well and ideas for individuals so they can be responsible for their own active ageing.¹⁷ The *Active Ageing Framework* outlined prior achievements and intended actions for the ensuing five years to assist older Territorians to achieve three key outcomes:

Active Ageing Framework

Outcome 1: People maintain their physical and mental health and minimise the effects of ill health

Prior achievements to ensure the physical and mental health of older Territorians are maintained included developing, supporting and extending programs that promote healthy ageing and quality of life, such as providing infrastructure and improving access for recreational fishing.¹⁷

Outcome 2: People have the resources to maintain their preferred lifestyle

The NT Government has encouraged older people to continue working and learning through implementing flexible public service working arrangements and providing seniors with access to further education programs.¹⁷

Outcome 3: Society supports older people to remain active, independent and connected

The NT Government has improved access to public transport through low floor easy access buses and improved public security through installing closed circuit cameras and lighting in bus shelters and employing transport safety officers.¹⁷

Source: Building the Territory for all generations: A framework for active ageing in the Northern Territory.

8.1.3.2 Territory 2030 Strategic Plan

In 2009 the NT Government released a 20-year strategic plan for the NT: *Territory 2030 Strategic Plan* (henceforth referred to as *Territory 2030*). The plan was based on current and future needs including those related to demographic change, and aimed to set priorities and give guidance for the government's efforts over the period 2010 to 2030. *Territory 2030* contains 128 targets under six key priorities of education, society, economic sustainability, health and wellbeing, the environment and knowledge, creativity and innovation. Under the Health and Wellbeing priority area, there were three objectives and 22 targets. Although the targets vary to include all population groups in the NT, there is specific mention of the need to provide services for senior Territorians which are equitable to those available to the wider Australian population.¹⁸

8.2 Research

8.2.1 International

The UN developed the Research Agenda on Ageing for the 21st Century to support the implementation and monitoring of priority directions proposed under the Madrid Action Plan. The Agenda identifies the six major research priorities to guide research internationally:

- Relationships between population ageing and socio-economic development.
- Current practices and options for maintaining material security into older age.
- Changing family structures, intergenerational transfer systems and emergent patterns of family and institutional dynamics.
- Determinants of healthy ageing.
- Basic biological mechanisms and age associated diseases.
- Quality of life and ageing in diverse cultural, socio-economic and environmental situations.¹⁹

8.2.2 Australia

In 2002, the Australian Government introduced national research priorities (NRPs) to focus research efforts in Australia on areas of greatest need.²⁰ The NRP *Promoting and Maintaining Good Health* contains the goal of 'Ageing well, Ageing productively', which aims to develop better social, medical and population health strategies to improve the mental and physical capacities of ageing people.²¹ Government agencies and many academic institutions and other research bodies have aligned their research with relevant priorities.

Communication and collaboration between researchers in Australia is facilitated by Ageing Research Online (ARO),²² which is an interactive web-based directory of ageing related research projects, education courses, grants and awards. It also provides a web forum, newsletters and a notice board of upcoming events in the ageing and ageing-related fields. The ARO website can be found at <http://www.aro.gov.au/index.html>.

8.2.3 Northern Territory

As described earlier in this chapter, the report *Economic Implications of an Ageing Australia* assessed the potential fiscal impact of the ageing population on Australian, state and territory governments and commented on the likely impacts for local government.

Key impacts for the NT over the period 2003–2004 to 2044–2045 include:

- An increase in the aged dependency ratio (the number of older Territorians aged 65 years and over compared with the number of younger Territorians aged 15 to 64 years) from 6% to 18%. Although the ratio for the NT will increase, the rise is predicted to be around half that of the national level.
- Growth in average Gross State Product (GSP) for the NT will rise from 1.5% to 1.9%. This is due to the NT's younger population and assumptions about the increasing engagement of Indigenous Territorians in the NT labour force.¹¹

Because the Australian Government will be required to increase specific purpose payments to jurisdictions in line with increasing need, the impacts of ageing will be greater at the national level than for state and territory governments. Of all jurisdictions, the NT is predicted to be the least affected by ageing; however, the impact will still be substantial.¹¹

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Local agencies undertaking research pertaining to the ageing population in the NT include the Council on the Ageing NT (COTA NT) and the Northern Institute (formerly the School for Social and Policy Research in Charles Darwin University (CDU)).

In 2006 COTA NT conducted a survey of older Territorians, collecting a range of demographic, social and health information, as well as post retirement intentions. There were 2,534 respondents²³ and the results of the survey are discussed in detail in Chapter 3 of this report. In light of the survey's success, COTA NT and the Northern Institute at CDU plan to collaborate on a follow up survey in 2013. The survey will comprise a much larger number of respondents and an increased range of questions, the results of which will provide a more timely profile of the needs of senior Territorians. In addition the findings will be compared with responses from the previous survey to demonstrate trends over time.²⁴⁻²⁵

In view of the projected increase in Territorians aged 65 years and over and the associated demands on services and infrastructure, the Northern Institute at CDU is undertaking research to examine the employment status, personal characteristics, migration patterns and retirement intentions of older Territorians and identify areas for future research.²⁵ Because growth in the ageing population in the NT is projected to increase to a greater extent than nationally (see Chapter 2) there will be economic and social implications in proportion to this growth and policy makers will need to be aware of service and infrastructure demands to be anticipated from the ageing population.

Over the years there has been a trend among older Territorians to take early retirement and move interstate. This trend is still apparent as shown in the Census counts of 2001 and 2006. Between these two Censuses, more people aged 55 years and over left the NT than arrived. Most of the leavers were among the younger age bracket of 55 to 64 years of age but were less likely to be still in the labour force than those who stayed or those who were new arrivals.²⁶

By the same token the majority of older people who arrived in the NT were also aged between 55 to 64 years but a large proportion were still in the labour force. Employment opportunities may be an important consideration for older people's decision to relocate to the NT, and future research may need to examine whether this group of 'young' older people move to the NT as part of a temporary career change prior to retirement, or whether the move is permanent, with associated investments for living purposes. It may also be beneficial to identify what factors attract older people to relocate to the NT to retire.²⁶

A separate examination of personal characteristics of older people who relocated to the NT between 2001 and 2006 indicated the majority were males, unmarried and had a relatively high level of education. The demographic profiles of people who relocated to the NT resembled the composition of existing Territorians, reinforcing the current population structures. Future research may need to continue to monitor the characteristics of people who arrive in the NT as there will be implications for aged care planning.²⁷

Research by the Northern Institute also indicates the impact of ageing and migration will have a diverse impact on different NT regions. Older people who arrived in the NT between 2001 and 2006 generally settled in urban areas, with over half relocating to the Greater Darwin area. Alice Springs experienced the greatest proportional loss of older people through migration. Ongoing monitoring of migration patterns will identify where infrastructure and facilities are going to be needed the most.²⁸

The outflow of older Territorians from the NT is concerning and there is an imperative to determine what might entice older Australians to retire in the NT or for older Territorians to stay on reaching retirement age.²⁸ In view of this and other issues related to the ageing of the NT

population the Northern Institute is undertaking a range of research projects to inform future policy requirements. Topics include population projections and scenarios, Indigenous ageing and life expectancy, population turnover and overseas migration.²⁹

8.3 Key issues for the NT

The remainder of this chapter focuses on key issues that will affect the health and wellbeing of older people residing in the NT. Outcomes from the health reform and the Productivity Commission's review of aged care will extensively affect the funding and delivery of health services to older Territorians. Consequently, aspects of the following key issues may also be subject to change based on the outcomes from these events.

8.3.1 Fiscal pressure

In a budget paper published by NT Treasury, *Fiscal and economic outlook 2007–08*, the implications of demographic change in the NT were examined and found to be similar to the pressure points indicated in the Productivity Commission report.³⁰ The NT Treasury's projections of the expected growth in population and demand for selected services in the NT and Australia for the period 2007 to 2027 are shown in Figure 8.1.

This figure clearly identifies a pattern of growth in the NT, which will exceed national growth, both in population and demand indicators. The NT population is projected to increase by 33% during the 20-year period 2007–2027, compared with the 21% growth of the Australian population. Consequently, demand for services in the NT will also grow at rates higher than national rates, up to two times higher for corrective services and three times higher for school education. Growth will be highest in the aged care sector (129%) and demand for aged care services in the NT is projected to be one and a half times higher than national growth.

The growth in the NT population will be similar among both Indigenous and non-Indigenous Territorians (34% compared with 32%). Despite this similarity there will be significant differences in the growth of service demands. For example, the growth in demand for health, housing and corrections among Indigenous Territorians is projected to be higher than for non-Indigenous Territorians, but lower for school education and aged care services. The growth in labour force participation by Indigenous Territorians is also expected to differ from that of the non-Indigenous population despite the similarity in population growth (44% compared with 33%). The growth in labour force participation of both NT population groups will greatly exceed that of the national labour force (20%) (Figure 8.1). The greater growth in labour force participation in the NT means that there is the potential for greater economic growth. The degree to which greater participation translates into economic growth depends in part on the impact of education and training on skill levels, particularly for Indigenous Territorians.³⁰

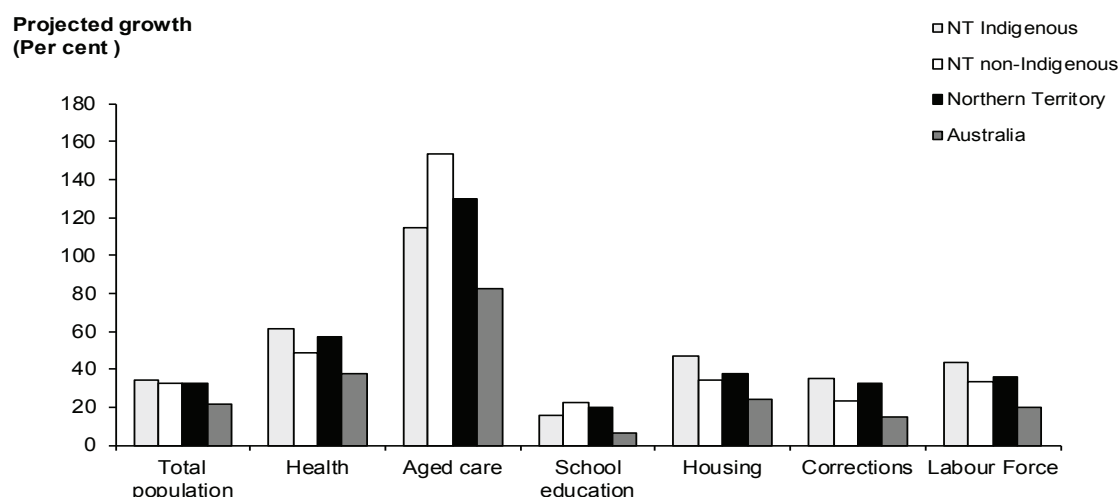
Whether economic growth will mean that NT Government revenue can grow sufficiently to meet the increase in demand associated with population growth and ageing is difficult to establish. The NT Government has considerable service delivery responsibilities, but limited ability to raise revenue, the primary sources being payroll, gambling, property taxes and mining royalties. Instead, a major source of revenue is the Goods and Services Tax (GST), which is distributed among all jurisdictions by the Australian Government. The NT receives a much greater per capita share than other jurisdictions due to its higher needs. Revenue from this source is vulnerable to changes in the distribution methodology and the level of the GST receipts. The NT also receives payments from the Australian Government for specific purposes including the delivery of hospital services, education and housing.³¹ The GST revenue and other grants from the Australian Government comprise about 80% of NT revenue.³¹ Thus, the NT's ability to finance increased

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expenditure on services will be substantially dependent on the amount and distribution of funds from these sources rather than growth in the NT economy.

Figure 8.1 Projected growth in population and increase in selected demand indicators by Indigenous status, NT and Australia, 2007 to 2027



Source: Appendix Table 8.1

8.3.2 Health workforce

Within Australia and internationally, there is considerable concern about whether there will be sufficient health professionals to meet current and future demand. In the NT, these concerns are compounded by the high mobility in the workforce, the poor health of Indigenous Territorians and the need to provide services in remote areas where recruitment and retention of staff can be difficult.³²

Recent workforce modelling in the NT in a report entitled *Health Workforce Modelling, Northern Territory, 2006–2022*, indicated that the NT should be able to source sufficient medical practitioners and nurses to meet the growth in need for their services. However when the level of burden of disease and injury in the NT is taken into consideration the report was less optimistic about the capacity of the health workforce to meet the needs of the population. In fact, when the 2006 NT health workforce was benchmarked against the national average the report found that current levels of health professionals were well below the national average. There were also far fewer health professionals servicing remote areas than urban areas (see Chapter 7 for further examples of these deficiencies). This issue means that for health outcomes to improve in the NT, particularly for Indigenous Territorians, the health workforce needs to expand to address existing unmet need as well as the additional demand from demographic change.³²

Furthermore the magnitude of the NT health workforce is dependent upon the NT being able to continue to attract and retain health professionals at past levels. The NT is vulnerable to changes in health professionals' willingness to move interstate or to immigrate to Australia. At present, the NT is able to attract health professionals, but many only stay for a short period. Turnover could increase or recruitment become more difficult if increasing demand in other states and territories and internationally causes competition for their services to intensify.³³ While the establishment of a medical school in the NT and locally educated nurses will help the NT grow its workforce, the NT will remain reliant on health professionals trained in other states and countries to meet its workforce needs as high turnover means that it needs to regularly replace experienced health

professionals.³² Difficulties may also exist at a specialty level where there is a smaller pool of health professionals from which the NT can recruit.

Workforce is an even greater issue in the aged care sector according to a 2004 national report *Future Ageing. Report on a draft report of the 40th Parliament: Inquiry into long-term strategies to address the ageing of the Australian population over the next 40 years*. The report found shortages in the workforce due to the ageing of the workforce, a lack of wage parity, poor working conditions in the sector and a lack of educational and training opportunities. The poor public image of caring for the aged in the NT was reflected by the 21% disparity in pay rates between the NT public sector Enterprise Bargaining Agreement rate and aged care award rates in 2004. The report stressed the need to not only address shortages of nurses, but to have an aged care workforce that was more appropriately skilled and attuned to the needs of older people as well as changing the attitudes and work practices of other health professionals.³⁴

In 2008, the Australian Government launched the *Bringing Nurses Back into the Workforce* program, which provided cash bonuses to encourage nurses to return to the health workforce. The Australian Government's National Aged Care Workforce Strategy aims to increase the aged care workforce, provide training opportunities and create better career paths for all aged care workers. The Australian Government also provides incentives and support programs to encourage greater provision of GP services in rural and remote areas, as well as strategies to improve the supply of all health professionals in rural, regional and outer suburban areas.³⁵ In the NT, Remote Area Health Corps (RAHC) has been established to recruit and deploy doctors, nurses and allied health workers to remote NT Indigenous communities.³⁶

The NT Government has a number of initiatives to address workforce issues,³⁷ these include:

- The establishment of a full medical education program, which commenced in 2011, to enable students to complete their full medical degree without having to leave the NT.³⁸
- More support for medical specialist training such as professional development allowances and the development of a rural generalist pathway.
- Recruitment, development and retention initiatives such as the Aboriginal and Torres Strait Islander Workforce Plan, a nurse and midwifery recruitment campaign, leadership and development programs and recognition of skills and contributions.³⁷

8.3.3 Aged care

As a result of the proposed funding arrangements, aged care within all Australian jurisdictions including the NT will become the responsibility of the Commonwealth Government. It is anticipated that previously identified aged care service issues such as those listed below will be addressed through these arrangements. These issues include:

- The aged care system is highly regulated and the aged care planning ratios can limit the choice for consumers. Furthermore, many residential facilities run at high occupancy rates with long waiting lists so there may be little opportunity to choose a provider or a facility when the need for care is urgent.³⁹
- Service providers, especially those located in rural and remote areas, may have higher costs for goods and services or limited ability to achieve scale efficiencies. More generally, red tape has been estimated to divert \$90 million and four million nursing hours away from direct care activities.
- Capital may be limited where providers have a high proportion of concessional residents. The extent of capital raised may also be constrained by the type and level of charges that can be levied and the need to meet a concessional quota.⁴⁰

- Indigenous service providers may face additional challenges due to cultural obligations and responsibilities, which may not be adequately funded and supported by current arrangements.⁴¹

A further issue has been the financing of health and aged care services by different levels of government which can lead to cost shifting between programs and jurisdictions.⁴² Although there have been benefits through cost shifting in the past to both the Commonwealth and state/territory governments, these benefits will be reduced as a result of recent agreements around the responsibility for services to the aged and the greater share of Commonwealth funding for hospitals.⁴³

8.3.4 Retirement income

As older people continue to live longer, their retirement incomes will need to last longer to provide financial security in retirement. Concerns have been raised about the long-term viability of the current 'three pillar' retirement system. They include:

- Superannuation – adequacy, equity, the complexity of arrangements and a lack of incentives to invest in superannuation.³⁴
- Age Pension – the economic sustainability of the pension system in the long term and the inability to maintain a modest lifestyle on the pension.⁴⁴
- Private savings – low current levels of savings and disincentives such as taxation on private superannuation. The later timing and higher costs of events such as tertiary education, purchasing a home and having a family mean that debt may still exist as retirement approaches thereby shortening the time available for people to save for retirement.³⁴

With regards to the Age Pension, the Australian Government's 2009–2010 budget increased the single Age Pension to two-thirds of the rate for couples, which were also increased under the Pension Plus Supplements.⁴⁵ This increase has been projected to reduce poverty rates in this group.⁴⁶ To reflect improvements in life expectancy and to help offset the economic burden of an ageing population, the Australian Government will gradually increase the qualifying age for the Age Pension to 67 years. The increase will commence in 2017 at a rate of six months every two years and reach 67 years in 2023.⁴⁵

At the NT level the Government has made a number of changes to encourage workforce participation among older Territorians. The compulsory retirement age from the public sector has been removed and staff are able to contribute to superannuation after age 65.⁴⁷ Other initiatives to promote opportunities for older Territorians to continue in the workforce are outlined in Chapter 3.

8.4 Further directions

Many social and economic issues are of concern to older Territorians including reduced income, access to appropriate housing, ongoing education, transport accessibility and general safety. Certain demographic phenomena such as the large proportion of Indigenous Territorians and a population that is younger than nationally yet ageing at a faster rate, will have significant impact. Demand for services will grow considerably in coming years, but as noted in other chapters of this report, pressure points and gaps in service delivery already exist in the NT. This section revisits key issues raised earlier in the report and outlines policy response and future directions to address the issues.

8.4.1 Housing

The location and circumstances of accommodation for older people have significant impacts on health, wellbeing and the level of care required. Many older people want to continue living in their own home, but many buildings are not designed to meet the needs of people as they age or develop disabilities. More generally, the availability of affordable and appropriate housing options in the NT is an issue, which has been exacerbated by recent increases in housing prices and rentals (see Chapter 3 for further discussion on housing). Of great consideration too will be the expected growth in the older population of the NT. In 2001 public housing met 48% of the eligible demand for housing among older Territorians. By 2016 the number of older person households in public housing is estimated to increase by 53% in the NT. The largest increases are estimated in the oldest age-group (85+) with an NT-wide increase of 271% compared with an Australia-wide increase of 155%. Not only will there be more households with older people, but there will be more people in the oldest age-groups.⁴⁸

Since the instigation of *Territory 2030* the NT Government has constructed seniors village-style housing for eligible public housing tenants while encouraging private sector development of housing options for older people. The Senior, Pensioner and Carer Concession (SPCC) has been introduced to assist eligible senior citizens, pensioners and carers acquire a home or land on which to build a home. This assistance takes the form of reduced stamp duty by an amount up to \$8,500. Although not means tested, this scheme is only be available to people who are not first home owners and eligibility ceases if the dutiable value of the home or land at the date of the conveyance exceeds \$750,000 and \$385,000 respectively.⁴⁹

Acute housing shortage and overcrowding in remote Indigenous communities have received national attention. Through the Closing the Gap Strategy agreed by COAG, “Healthy Homes” is one of the seven priority action areas and the Australian Government has committed 5.5 billion dollars over ten years to 2018 to address these issues. Under the National Partnership Agreement on Remote Indigenous Housing 2,397 refurbishments and 680 houses have been completed in the NT as at 30 June 2012.⁵⁰ The delivery of housing and refurbishments under the Agreement is ahead of schedule in all jurisdictions including the NT where the number of new houses and refurbishments completed during the financial year 2011/2012 exceeded the target number by around 5 to 6%.⁵¹

8.4.2 Safety

Integral to maintaining and improving safety within all NT communities, including remote Indigenous communities, is a strong and effective police force that meets the needs of a growing population. Over the past decade there has been a significant increase in police numbers in the NT, with the addition of 148 police officers over a four year period following the O’Sullivan Review in August 2003, a further 66 following the Federal Intervention, and a proposed increase of up to 94 police officers during 2012/13 under an agreement with the Department of Immigration and Citizenship.⁵² As part of the Stronger Futures in the NT package, funding boosts from the Australian Government to the value of \$619 million will ensure the continued employment of 60 full-time police officers in 18 remote communities for the next 10 years, and cover the cost of building an additional four permanent remote area police complexes across the NT.⁵³

8.4.3 Transport

Access to transport is important for maintaining independence, continued participation in the workforce and maintaining family and community networks. Although governments provide concessional fares to older people, more attention may be needed to make public transport age-friendly. Suggestions for improvements have included timetabling services beyond the needs of people commuting to work and ensuring the physical facilities are safe and adaptive to those with restricted mobility. For older people living in rural and remote areas, public transport tends to be very limited or unavailable.³⁴

Transport strategies of particular benefit to older Territorians may include a program to increase bus drivers' awareness of the needs of older passengers, the installation of seats and shade at all bus stops and ensuring bus stops are accessible to people with limited mobility.¹⁷ The NT Department of Planning and Infrastructure audits transport infrastructure to ensure that it complies with the Australian *Disability Discrimination Act* and Disability Standards for Accessible Public Transport. The standards establish minimum accessibility requirements in relation to issues such as access paths, ramps, boarding devices, handrails, doorways, signs, payment of fares and the provision of information.⁵⁴ These requirements benefit people with a disability and older Territorians with reduced mobility.

8.4.4 Disability

Of concern too is the physiological decline that characterises ageing, including disability and common conditions associated with ageing. Chapter 5 reports the proportion of older Territorians with disability and the projected increases in certain disabilities as a result of increased life expectancy. The number of Territorians using these services relative to the estimated potential population does not currently equate with the national level.¹⁸

8.4.5 Health and wellbeing

Maintaining optimal health and wellbeing is closely linked with healthcare accessibility. In terms of the NT population it is also important to maintain a health work force that is culturally in touch with the needs of all Territorians, including Indigenous. For this reason enhancing the capacity of the NT to produce locally trained health professions is regarded as a priority action as well as boosting the number of Indigenous Territorians training for health-related roles.¹⁸ In 2011 the NT Medical Program (NTMP) under the auspices of Flinders University commenced with 24 students. A major focus of the NTMP is to attract Indigenous students into medicine and entry into the program can be facilitated through an alternative pathway to that of non-Indigenous students. It is anticipated that up to 40 trained doctors will graduate through the NTMP every year.³⁸

Appendix

Appendix Table 8.1 Projected growth in population and increase in selected demand indicators by Indigenous status, Northern Territory and Australia, 2007–2027

Projected growth (%)	Northern Territory			Australia
	Indigenous	Non-Indigenous	Total	Total
Total population growth	34.0	32.2	32.8	21.2
Economic capacity				
Labour force	43.6	33.0	35.8	20.0
Social service area				
Health	61.1	48.2	57.0	37.6
Aged care	114.6	153.4	129.4	82.8
School education	15.5	22.5	19.5	6.2
Housing	46.5	34.0	37.2	25.4
Corrections	35.0	23.1	32.9	15.1

Source: Reproduced from NT Treasury: Fiscal and economic outlook 2007–08, Budget paper no. 2, Table 5.4. Darwin, NT Treasury.

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