

CHAPTER 7

INTRODUCTION

ILL HEALTH

Aboriginal and Torres Strait Islander peoples suffer greater ill health, are more likely to experience disability and reduced quality of life and to die at younger ages than non-Indigenous Australians (AIHW 2002c).

Indigenous life expectancy at birth is 20 years less than for the total population, 56 years for Indigenous males compared to 77 years for all Australian males and 63 years for Indigenous females compared to 82 years for all Australian females for the period 1999–2001 (ABS 2002c).

As noted in Chapters 2 and 3, the Indigenous population is disadvantaged across a range of socioeconomic factors that can impact on health outcomes, including having lower incomes, higher rates of unemployment, poorer education outcomes and lower rates of home ownership. In addition, health risks (e.g. smoking, obesity, alcohol misuse) and other health factors (e.g. poor housing, exposure to violence) are important determinants of health among Aboriginal and Torres Strait Islander peoples (Chapter 8).

This Chapter draws on information from a range of health-related data collections, and aims to provide an overview of the health status of Aboriginal and Torres Strait Islander peoples. Information is included for a range of conditions that affect Indigenous Australians and cause significant morbidity and mortality.

The diseases and conditions which are covered in this Chapter are circulatory system diseases, diabetes, chronic kidney disease, cancer, respiratory diseases, communicable diseases, injury, arthritis and other musculoskeletal conditions, eye and vision problems, ear and hearing problems, oral health and mental health. While some information is available on each of these, the quality and completeness of the data are often unknown and may vary. Many of the rates in this Chapter are likely to under-represent true rates of illness and death in the Aboriginal and Torres Strait Islander population due to under-identification of Indigenous persons in these data sets.

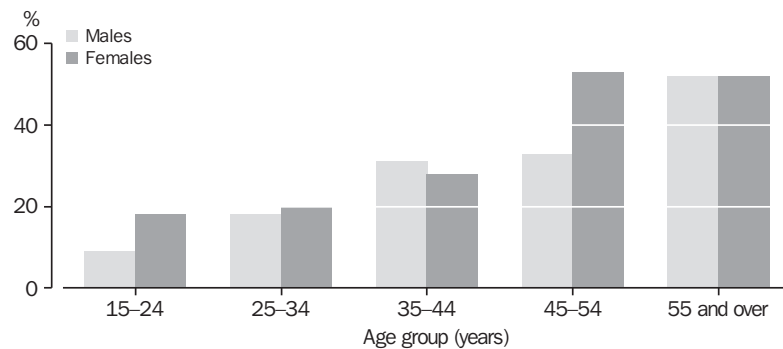
SELF-ASSESSED HEALTH

Self-assessed health status provides an indicator of overall health, based on an individual's perception of their health (ABS 2002e). As this measure is dependent on an individual's awareness and expectation of their own health, it may be influenced by factors such as access to health services and health information. Cunningham et al. (1997) examined the robustness of this measure and found that factors such as language spoken or employment status can have an effect on how individuals described their health.

SELF-ASSESSED HEALTH
continued

In 2001, after adjusting for differences in age structure, two-thirds of Indigenous Australians reported their health as good, very good, or excellent. However, one-third reported their health as 'fair' or 'poor', almost twice the rate for non-Indigenous Australians (18%) (ABS 2002e). The proportion reporting 'fair' or 'poor' health increased with age, from 13% of those aged 15–24 years to 52% of those aged 55 years and over (graph 7.1). Indigenous females were more likely overall to report 'fair' or 'poor' health than Indigenous males (29% compared to 23%).

7.1 INDIGENOUS PERSONS REPORTING FAIR OR POOR SELF-ASSESSED HEALTH — 2001



Source: ABS 2002e.

TYPES OF CONDITIONS

This section includes information about the Indigenous population's experience with various ill-health conditions, and includes measures of prevalence, admissions to hospital and mortality associated with these conditions.

In general, information about the self-reported prevalence of various conditions, available from the 2001 National Health Survey (NHS), provides a broader view of ill-health experience than information about hospitalisation or death. In 2001, Indigenous and non-Indigenous Australians were equally likely (78%) to report having at least one long-term health condition, an illness, injury or disability which had lasted at least six months, or which was expected to last for six months or more (ABS 2002e). Reports of a long-term health condition increased with age from 34% of Indigenous children aged under 5 years to 99% of Indigenous Australians aged 55 years and over. Eye/vision problems were the most commonly reported conditions among Indigenous persons (29%), followed by asthma (16%), back problems (15%) and ear/hearing problems (15%) (ABS 2002e).

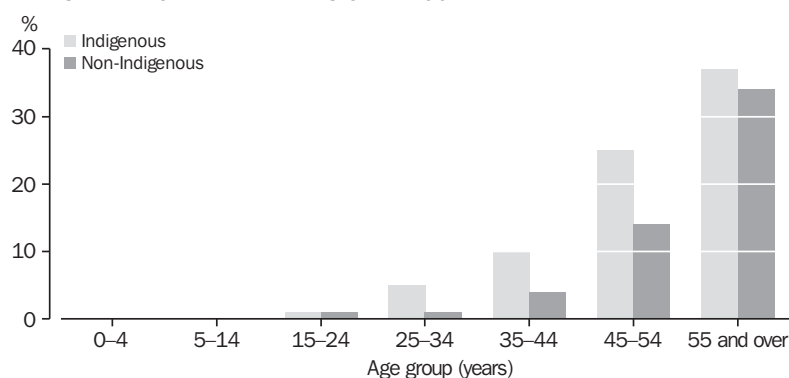
Circulatory system diseases

Circulatory system diseases include coronary heart disease, stroke, peripheral vascular disease and heart failure. The main underlying problem in circulatory system disease is atherosclerosis, a process that clogs blood vessels with deposits of fat, cholesterol and other substances that have built up in the inner lining of the vessels. It is most serious when it affects the blood supply to the heart (causing angina, heart attack or sudden death) or to the brain (which can lead to a stroke).

Prevalence of circulatory system diseases

In 2001, nearly one-fifth (19%) of Indigenous Australians reported a long-term health condition associated with the circulatory system (ABS 2002e). Indigenous Australians from remote areas were more likely than those from non-remote areas to report having circulatory problems (24% compared with 18%). The most commonly reported condition of the circulatory system among Indigenous Australians was hypertension. As in the non-Indigenous population, prevalence of hypertension rises with age. However, in age groups above 25 years, prevalence levels among Aboriginal and Torres Strait Islander peoples are similar to those experienced by non-Indigenous Australians who are 10 years older (graph 7.2).

7.2 SELF-REPORTED HYPERTENSION — 2001



Source: ABS 2002e.

Hospital visits for circulatory system diseases

In 2000–01, diseases of the circulatory system were the main reason for hospitalisation in 4% of separations for Indigenous males and 3% of separations for Indigenous females (table 7.3). Indigenous males up to 74 years of age had higher separation rates than non-Indigenous males. The difference is most marked for males in the age groups 25–54 years, where Indigenous separations were more than double non-Indigenous rates. For females, differentials of this magnitude were maintained across a wider age range (graph 7.4).

7.3 HOSPITAL SEPARATIONS FOR PRINCIPAL DIAGNOSIS OF DISEASES OF THE CIRCULATORY SYSTEM(a) — 2000–01

	Indigenous males				Indigenous females			
	no.	%(b)	rate(c)	rate ratio(d)	no.	%(b)	rate(c)	rate ratio(d)
Rheumatic heart disease	110	0.1	0.4	5.8	179	0.2	0.8	8.2
Hypertensive disease	158	0.2	1.4	5.6	249	0.2	2.1	5.4
Ischaemic heart disease	1 388	1.8	13.9	1.4	1 108	1.1	10.7	2.4
Other heart disease	993	1.3	11.4	1.8	902	0.9	9.0	2.0
Cerebrovascular disease	251	0.3	3.2	1.5	283	0.3	3.3	2.2
Other diseases of the circulatory system(e)	398	0.5	3.7	0.7	336	0.3	3.0	0.6
Total	3 298	4.3	34.1	1.4	3 057	3.0	28.9	1.8

(a) Data are for public and most private hospitals. Categories are based on the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM) (National Centre for Classification in Health 2000). ICD-10-AM codes I00–I99, refer to Appendix 4 for specific ICD-10-AM codes used.

(b) Percentage of hospital separations for Indigenous patients in 2000–01.

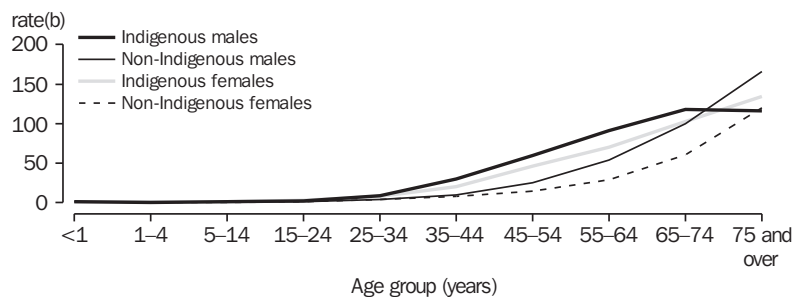
(c) Per 1,000 population. Directly age-standardised using the total Australian population as at 30 June 1991.

(d) Rate ratio is equal to the rate of Indigenous separations divided by the rate of non-Indigenous separations.

(e) Includes diseases of arteries, arterioles and capillaries, diseases of veins, lymphatic vessels and lymph nodes and other and unspecified disorders of the circulatory system.

Source: AIHW National Hospital Morbidity Database.

7.4 AGE-SPECIFIC HOSPITAL(a) SEPARATION RATES FOR PRINCIPAL DIAGNOSIS OF DISEASES OF THE CIRCULATORY SYSTEM — 2000–01



(a) Data are for public and most private hospitals.

(b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

Indigenous persons experienced higher separation rates for most types of ‘circulatory system diseases’ than the non-Indigenous population. Most notably, the rate for Indigenous males for ‘rheumatic heart disease’ (box 7.5) was 5.8 times as high as separations for non-Indigenous males. The separation rate for Indigenous females was 8.2 times as high as for non-Indigenous females. The separation rates for hypertensive disease were also substantially higher in the Indigenous population than in the non-Indigenous population. For the most common type of circulatory system disease (ischaemic heart disease) the Indigenous separation rates were 1.4 times as high for males and 2.4 as high for females (table 7.3).

Deaths from circulatory system diseases

In 1999–2001, in Queensland, South Australia, Western Australia and the Northern Territory, diseases of the circulatory system accounted for 24% of Indigenous deaths. Compared with death rates for diseases of the circulatory system among all Australians, the Indigenous death rates were 3.2 and 2.8 times higher than expected for males and females, respectively (refer to Chapter 9).

7.5 RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE

Rheumatic fever is a delayed complication of a throat or skin infection caused by group A streptococcus bacteria. It occurs mainly in children and young adults and may affect the heart valves, the heart muscle and its lining, the brain and the joints. After an attack of rheumatic fever an individual is at high risk of developing recurrences. Recurrences lead to cumulative heart damage but can be almost completely prevented by strict follow-up and monthly injections of penicillin. Rheumatic heart disease is the longer term damage done to the heart muscle and heart valves by acute rheumatic fever.

Although this type of cardiovascular disease is rare among the Australian population overall, its prevalence among Indigenous Australians living in remote areas is very high. Since the 1950s, acute rheumatic fever and rheumatic heart disease have largely become diseases of economically disadvantaged persons. Poverty and overcrowding, poor sanitary conditions, lack of education and limited access to medical care for diagnosis and treatment are contributing factors to this disease in Australia.

A register of persons with known or suspected rheumatic fever and rheumatic heart disease operates in the Top End of the Northern Territory. In 2001, there were 660 persons with rheumatic heart disease on the register, of whom 93% were Indigenous Australians (617 cases). Rheumatic heart disease was present in 57 children aged 5–14 years, all of whom were Indigenous. The prevalence of rheumatic heart disease among Indigenous Australians in the Top End was 1,640 per 100,000 in 2001 compared with 38 per 100,000 among non-Indigenous Australians in the area (AIHW 2002c).

Diabetes Diabetes is a significant health issue for Indigenous Australians. In recognition of this, the 2001 edition of this publication included a 'feature chapter' on diabetes and its effects on Aboriginal and Torres Strait Islander peoples.

There are three main types of diabetes — Type 1, Type 2 and gestational diabetes. Type 1 diabetes is marked by a total or near total lack of insulin, while Type 2 diabetes is marked by a reduced level of insulin or the inability of the body to use insulin properly (i.e. insulin resistance) (AIHW 2002e). Gestational diabetes occurs during pregnancy in about 3–8% of females not previously diagnosed with diabetes and usually disappears after the baby is born (AIHW 2002e).

The majority (98–99%) of cases of diabetes among Indigenous Australians are thought to be Type 2 (de Courten et al. 1998). Type 1 diabetes is generally considered rare in the Indigenous population. There are limited national data available to accurately measure the extent of gestational diabetes among Indigenous women, however the incidence rate may be as high as 20% (Colagiuri et al. 1998).

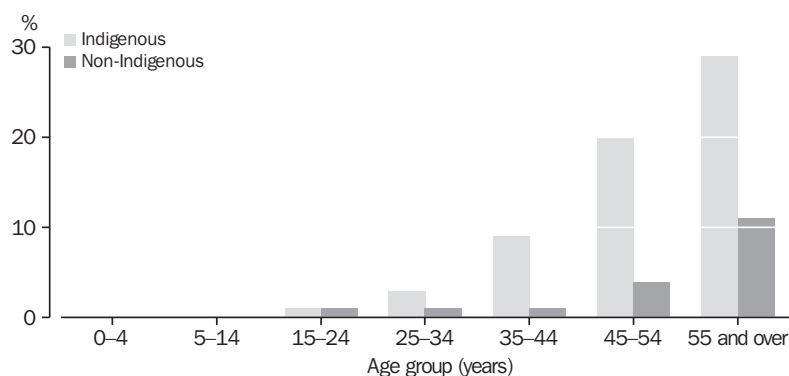
Prevalence of diabetes

In 2001, the age-standardised prevalence of self-reported diabetes among Indigenous Australians was 11%. In comparison, the corresponding proportion among the non-Indigenous population was 3%. Indigenous Australians from remote areas were almost two times more likely than those from non-remote areas to report having diabetes (16% compared with 9%) and Indigenous females were slightly more likely to report some form of diabetes than Indigenous males (12% compared with 9%) (ABS 2002e).

It should be noted that the prevalence of diabetes based on self-reported data underestimates the true prevalence. The Australian Diabetes, Obesity and Lifestyle Study, which was conducted in 1999–2000 and measured the prevalence of diabetes objectively, found that for every known case of diabetes, there was one undiagnosed case (Dunstan et al. 2001).

The prevalence of self-reported diabetes among Indigenous Australians was 1% for those aged 15–24 years, 3% for 25–34 year olds, 9% for 35–44 year olds, 20% for 45–54 year olds and 29% for those aged 55 years and over (graph 7.6). In contrast, the proportion of non-Indigenous Australians reporting diabetes was 1% for those aged 15–44 years, 4% at age 45–54 years and 11% for those aged 55 years and over. From age 25 years and over, diabetes was more prevalent among Indigenous Australians than non-Indigenous Australians. While in both populations prevalence is progressively higher in older age groups, the prevalence among Indigenous Australians aged 35–44 years is almost as high as among non-Indigenous Australians aged 55 years and over.

7.6 SELF-REPORTED DIABETES — 2001

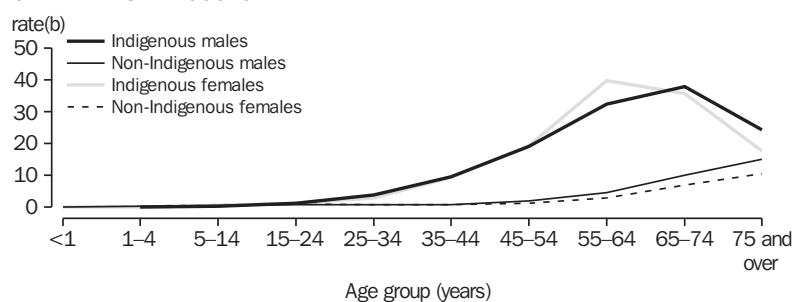


Source: ABS 2002e.

Hospital visits for diabetes

Diabetes was the main reason for hospitalisation in just over 1% of male and female Indigenous separations in 2000–01. Despite a relatively low population prevalence of Type 1 diabetes, 20% of hospital visits with diabetes as the principal diagnosis were for Type 1 diabetes. The hospital separation rate for Indigenous males was four times that for non-Indigenous males, while for Indigenous females the rate was six times as high as that for non-Indigenous females.

7.7 AGE-SPECIFIC HOSPITAL(a) SEPARATION RATES FOR PRINCIPAL DIAGNOSIS OF DIABETES — 2000–01



(a) Data are for public and most private hospitals.

(b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

Separation rates for diabetes for Indigenous patients increased rapidly from age 15–24 years (1.3 and 1.2 separations per 1,000 population for males and females respectively) to age 55 years for Indigenous females (39.8 separations per 1,000 population) and 65 years for Indigenous males (38.0 separations per 1,000 population) (graph 7.7). At each age, from age 15 years and over, separation rates for Indigenous males and females were considerably higher than for non-Indigenous males and females.

It should be noted that hospitalisation statistics are not a measure of prevalence or incidence. The data reported here are for diabetes as a principal diagnosis only, which may tend to reflect the more severe cases. However diabetes is more frequently reported as an additional diagnosis than a principal diagnosis. It should also be noted that the identification of Aboriginal and Torres Strait Islander patients in hospital records is considered to be incomplete in most jurisdictions and therefore the true hospital separation rates for Aboriginal and Torres Strait Islander peoples is likely to be even higher than reported here.

Deaths from diabetes

The number of deaths due to diabetes provides an indication of the burden of disease in the population. However, diabetes may be under-reported in mortality data because certifying doctors do not always record diabetes as an underlying cause of death on death certificates. In addition, the overall number of deaths registered as Indigenous is likely to be an underestimate because not all death registration records correctly identify Aboriginal and Torres Strait Islander peoples (Chapter 9). For the period 1999–2001, identification of Indigenous Australians in death registrations data is considered to be of sufficient quality only for Queensland, South Australia, Western Australia and Northern Territory (Chapter 9) and therefore only data from these jurisdictions are reported here.

Deaths from diabetes *continued*

In 1999–2001, in Queensland, South Australia, Western Australia and Northern Territory, diabetes was recorded as the underlying cause of death for 373 Indigenous persons. These deaths represented 6.2% of all Indigenous male deaths and 11.7% of all Indigenous female deaths in these jurisdictions. Diabetes accounted for 10.6 times as many deaths as expected for Indigenous males and 17.6 as many deaths as expected for Indigenous females based on total Australian male and female rates. A further 432 deaths of Indigenous Australians were reported with diabetes as an associated cause. Overall in 1999–2001, diabetes was recorded as either the underlying or associated cause of death for 18% of all deaths recorded as Indigenous.

Kidney disease Kidney disease was the topic of a special chapter in the 1999 edition of this publication. That chapter pointed out that kidney disease is much more prevalent in the Indigenous Australian population than in non-Indigenous Australians. The main focus of the following section is on end-stage renal disease (ESRD), the last and most debilitating stage of chronic kidney disease in which dialysis or kidney transplantation is necessary to maintain life. Information on persons with ESRD is available from the Australian and New Zealand Dialysis and Transplant Registry (ANZDATA) (box 7.8).

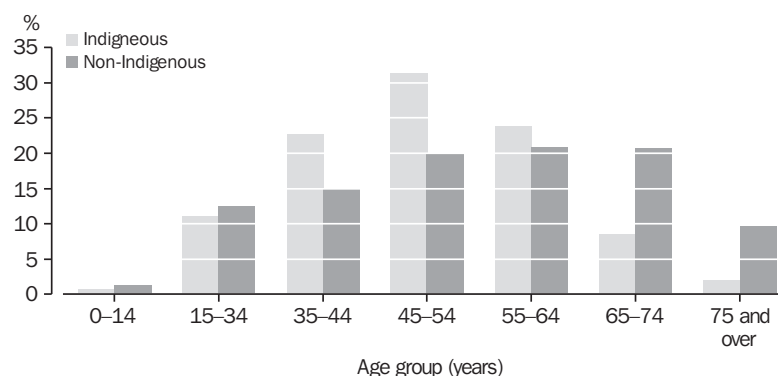
7.8 THE AUSTRALIAN AND NEW ZEALAND DIALYSIS AND TRANSPLANT REGISTRY (ANZDATA)

In Australia, persons who develop ESRD and undertake the life sustaining treatments of dialysis or kidney transplantation, are registered with ANZDATA. The registry is the most comprehensive and reliable source of information on persons treated for ESRD. It compiles data on incidence and prevalence, renal complications, co-morbidities and patient deaths. Demographic information collected by the registry allows for the identification of Aboriginal and Torres Strait Islander patients.

Source: Russ 2002.

In 2001, 6.2% (761) of the 12,278 persons registered with ANZDATA were identified as Indigenous Australians (Russ 2002). This compares unfavourably with Indigenous representation in the total population of 2.4%. About two-thirds (66%) of Aboriginal and Torres Strait Islander peoples registered with ANZDATA were aged less than 55 years, whereas less than half (49%) of registered non-Indigenous Australians were below that age (graph 7.9). Two major causal factors leading to kidney disease are streptococcal infections and diabetes, both of which are more common among Indigenous Australians.

7.9 AGE DISTRIBUTION OF END-STAGE RENAL DISEASE PATIENTS — 2001



Source: Russ 2002.

New cases

Of the 1,883 patients starting ESRD treatment in 2001, 170 (9.0%) were Indigenous Australians. Ten years earlier, 42 of the 979 new cases of ESRD (4.3%) were Indigenous (Russ 2002). These figures indicate that numbers of persons commencing treatment for ESRD are rising, with the rate for Indigenous persons increasing faster than the rate for non-Indigenous persons.

New Indigenous patients were typically younger than non-Indigenous patients. More Indigenous females (101) than males (69) commenced treatment for ESRD in 2001, which contrasts with the overall pattern where more males (1,100) than females (783) began treatment that year (Russ 2002) (table 7.10).

For all states and territories, Indigenous Australians accounted for a disproportionate number of new cases. In the Northern Territory, Aboriginal and Torres Strait Islander peoples accounted for about four in five new patients, much higher than the proportion of the Northern Territory population reporting as Indigenous (approximately 30%). In remote regions, standardised ESRD incidence among Indigenous Australians has been shown to be up to 30 times the national incidence for the total Australian population (Cass et al. 2001).

7.10 INCIDENCE OF END-STAGE RENAL DISEASE — 2001

	New South Wales(a)	Queensland	South Australia	Western Australia	Northern Territory	Australia(b)
MALES						
Total (no.)	348	180	100	107	29	1 100
Indigenous (no.)	10	20	9	6	23	69
Indigenous (%)	2.9	11.1	9.0	5.6	79.3	6.3
Indigenous population as a % of total	2.0	3.4	1.7	3.5	27.6	2.4
FEMALES						
Total (no.)	268	150	53	79	35	783
Indigenous (no.)	11	29	6	21	30	101
Indigenous (%)	4.1	19.3	11.3	26.6	85.7	12.9
Indigenous population as a % of total	2.0	3.5	1.7	3.5	30.1	2.4

(a) Includes Australian Capital Territory.

(b) Includes Victoria and Tasmania.

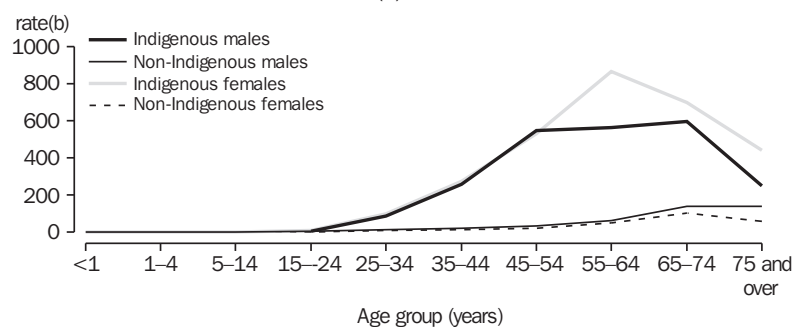
Source: Russ 2002.

Management of ESRD

ESRD patients require either kidney transplantation or dialysis to maintain the functions typically performed by the kidneys. Patterns of treatment for ESRD differed between Indigenous and non-Indigenous patients. The majority (84%) of Indigenous Australians being treated for ESRD were reliant on dialysis, with about one in six (16%) living with kidney transplants. In comparison, half (54%) of non-Indigenous Australians living with ESRD were reliant on dialysis, the remaining 46% lived with functioning kidney transplants (Russ 2002). These patterns reflect such things as disparities in availability of treatment and differences in the health of Indigenous and non-Indigenous Australians upon presentation for treatment (Cass et al. 2001; Thomas 1998).

In 2000–01, there were 54,784 dialysis procedures in hospitals and clinics for Indigenous Australians. The rates for these procedures were markedly higher in older age groups, peaking in males aged 65–74 years at 598 per 1,000 and in females aged 55–64 years at 867 per 1,000 (graph 7.11). In contrast, the rates for non-Indigenous persons peaked at ages 65–74 at much lower levels, 139 per 1,000 for males and 104 per 1,000 for females. It should be noted that the rates of use of dialysis procedures is actually the outcome of a few individuals accessing services many times, for example an individual reliant on treatment may undergo dialysis 2–3 times a week.

7.11 HAEMODIALYSIS PROCEDURES(a) — 2000–01



(a) Data are for public and most private hospitals.

(b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

Deaths from chronic kidney disease

Chronic kidney disease (ICD-10 codes N01–N07, N11–N12, N14–N15, N18–N20, N25.8, N26, N28, Q61) was listed as the underlying cause of death for 108 Indigenous persons in Queensland, South Australia, Western Australia and the Northern Territory in 1999–2001. The Indigenous death rate was about eight times the total Australian rate.

Deaths from chronic kidney disease represented 2.5% of all Indigenous deaths in the four jurisdictions in 1991–2001. Of 108 deaths, 42 (39%) were males and 66 (61%) were females.

Cancer

Cancers (malignant neoplasms) result from the growth and spread of abnormal cells throughout the body. Cancer is a leading cause of death for Indigenous and non-Indigenous Australians alike. Mortality data from 1999–2001 indicate that there were 60% more observed deaths from cancer among Indigenous persons in Western Australia, South Australia, Queensland and the Northern Territory combined, than would have been expected, if deaths from the disease occurred at the same rates as found in the total population (Chapter 9).

Information on cancer incidence (i.e. new cases) comes from the state and territory cancer registries. The registries collect data on all malignant tumours except for non-melanoma skin cancers. These are referred to as the 'registrable' cancers. They do not include tumours classified as benign, in-situ or of uncertain behaviour. All the data reported in this section relate to registrable cancers.

It is believed that there is considerable under-identification of Aboriginal and Torres Strait Islander peoples in cancer registrations, although the exact extent of this has not been quantified. It is likely that even for the four jurisdictions for which information has been presented in this section (table 7.12), there is some level of under-identification. For this reason, and because the total numbers of cancers reported for Indigenous persons are small, the numbers and rates in table 7.12 should be interpreted with caution. The focus should be on broad patterns rather than precise figures, and comparisons should be made within jurisdictions rather than between jurisdictions.

Cancer *continued*

Indigenous cancer incidence rates have been reported to be lower than non-Indigenous rates in several states, but it is known that not all Indigenous persons are correctly identified in cancer registries. It appears likely that the incidence of cancer in Indigenous Australians is similar to that of other Australians. There are, however, considerable differences in incidence of cancer at particular sites, though some of these differences can be explained, in part at least, by differences in risk factor prevalence (Condon et al. 2003).

The cancer mortality rates presented in table 7.12 are generally higher for Indigenous persons than for the rest of the population. However, survival may be poorer among Indigenous cancer patients because of later diagnosis and higher rates of typically fatal cancers (South Australian Cancer Registry 1997).

7.12 CANCER INCIDENCE AND MORTALITY, EXCLUDING NON-MELANOMA SKIN CANCER, SELECTED YEARS

	Incidence(a)		Mortality(b)	
	Cases no.	Mean annual rate(c)	Deaths no.	Mean annual rate(c)
Queensland				
Indigenous males	366	454	166	359
Indigenous females	390	334	131	200
Non-Indigenous males(d)	41 749	510	10 948	212
Non-Indigenous females(d)	34 155	369	7 764	126
South Australia				
Indigenous males	n.a.	n.a.	27	196
Indigenous females	n.a.	n.a.	26	170
Non-Indigenous males(d)	n.a.	n.a.	5 350	209
Non-Indigenous females(d)	n.a.	n.a.	4 117	127
Western Australia				
Indigenous males	164	320	73	295
Indigenous females	162	255	47	139
Non-Indigenous males(d)	18 913	449	5 202	205
Non-Indigenous females(d)	16 153	330	3 971	127
Northern Territory				
Indigenous males	196	401	74	270
Indigenous females	204	327	77	229
Non-Indigenous males(d)	960	451	227	203
Non-Indigenous females(d)	653	322	139	140
All Australia(e)				
Total males	n.a.	470	n.a.	210
Total females	n.a.	339	n.a.	127

(a) Western Australian incidence data are for the period 1997–2001. Northern Territory and Queensland incidence data are for the period 1996–2000.

(b) Mortality data for Queensland, South Australia, Western Australia, and Northern Territory are for the period 1999–2001.

(c) Rate per 100,000. Directly age-standardised using the 1991 Australian Standard Population.

(d) Includes those for whom Indigenous status information was not known.

(e) Data for All Australians category is for 1999.

Source: National Cancer Statistics Clearing House and AIHW National Mortality Database.

Cancer continued The age-standardised incidence rates for cancers of the lung and liver were higher among Indigenous males than non-Indigenous males in both Queensland and the Northern Territory for 1996–2000. In addition the rate for cancer of the pancreas was higher among Indigenous males than non-Indigenous males in the Northern Territory, while the rate for cancer of the oesophagus was higher among Indigenous males than non-Indigenous males in Queensland. The age-standardised incidence rates for cancers of the liver, pancreas and larynx in Western Australia, for 1997–2001, were higher among Indigenous males than non-Indigenous males but the rate for lung cancer was similar between the two groups.

Cancer of the cervix was higher among Indigenous women than non-Indigenous women in both Queensland and the Northern Territory for 1996–2000. In addition, myeloid leukemia was higher among Indigenous women than non-Indigenous women in the Northern Territory while lung cancer was higher among Indigenous women than non-Indigenous women in Queensland. Cancers of the gallbladder and of unknown primary site were higher among Indigenous women in Western Australia for 1997–2001 but the rate for cancer of the cervix was similar between the two groups.

The incidence rates of breast cancer, prostate cancer, colorectal cancer, and skin cancer (melanoma) were lower among Indigenous Australians than non-Indigenous Australians in all three jurisdictions.

Among Indigenous females in the Northern Territory, cancers of the breast, lung, unknown primary site and cervix were the most common. The most common cancers among Indigenous females in Western Australia were cancers of the breast and lung, colorectal cancer and cancers of unknown primary site. The most common cancers among Indigenous females in Queensland were cancers of the breast and lung, colorectal cancer and cancer of the cervix.

Indigenous males in the Northern Territory were most commonly affected by lung, liver, and colorectal cancers and cancers of unknown primary site. Indigenous males in Western Australia and Queensland were most commonly affected by prostate, lung, and colorectal cancers and cancers of unknown primary site.

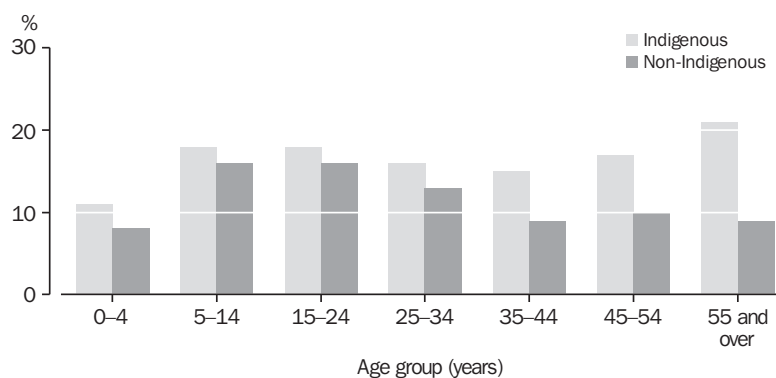
Respiratory diseases Respiratory diseases, including pneumonia and influenza, are a leading cause of illness, disability and mortality in human populations around the world. Common respiratory diseases include asthma, chronic obstructive pulmonary disease (COPD — comprising both chronic bronchitis and emphysema), influenza and pneumonia. While all these respiratory diseases are leading causes of illness resulting in a high use of health services, influenza and pneumonia (combined) and COPD are leading underlying causes of death.

Prevalence

Respiratory diseases are prevalent in both the Indigenous and non-Indigenous populations of Australia. At a broader level, according to the 2001 NHS, about one-third (33%) of Aboriginal and Torres Strait Islander peoples reported having a respiratory disease compared with 30% of non-Indigenous Australians. However, asthma is more prevalent in Indigenous than non-Indigenous Australians (17% compared to 12% in 2001).

The higher prevalence of asthma in Indigenous Australians is noted across all age groups. The prevalence of asthma in Indigenous Australians generally increases as age increases (graph 7.13), with peaks at ages 5–24 years (18%) and 55 years and over (21%). In comparison, among non-Indigenous Australians, the prevalence of asthma peaks among those aged 5–24 years (16%).

7.13 SELF-REPORTED ASTHMA — 2001



Source: ABS 2002e.

Use of health services

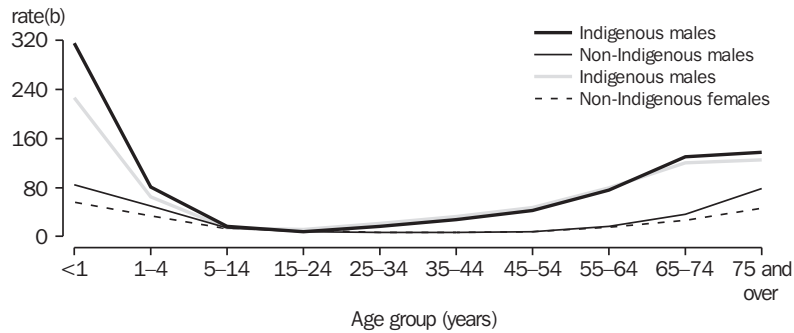
Respiratory diseases are a major factor for health service use. This includes visits to primary providers (general practitioner consultations, emergency department attendances, etc.) as well as hospitalisation in severe cases. According to the 2000–01 Bettering the Evaluation And Care of Health survey, general practitioners managed respiratory diseases at a rate of about 22 problems per 100 encounters in the Indigenous and total Australian populations. However, asthma was managed more often among Indigenous persons, at about twice the total population rate (5.0 compared to 2.8 per 100 total encounters), again reflecting the self-reported prevalence levels in the 2001 NHS. Asthma was the third most commonly managed problem in Indigenous persons compared with seventh in the total population (Britt et al. 2002).

About 15,700 hospital separations with a principal diagnosis of respiratory disease were Indigenous in 2000–01, representing about 9% of all Indigenous hospital separations. The Indigenous rates (46.0 and 45.2 per 1,000 males and females respectively) were about three times the non-Indigenous rates.

Use of health services *continued*

The age-specific distribution of hospital separations for respiratory disease is U-shaped in both Indigenous and non-Indigenous Australians. However, in 2000–01 the rates among Indigenous infants (under one year) were about four times the non-Indigenous rates; among those aged 55 years and over the Indigenous rates were about three times the non-Indigenous rates (graph 7.14).

7.14 AGE-SPECIFIC HOSPITAL(a) SEPARATION RATES FOR RESPIRATORY DISEASES — 2000–01



(a) Data are for public and most private hospitals.

(b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

Influenza and pneumonia (combined), COPD and asthma were principal diagnoses with higher rates of hospital separations among Indigenous than non-Indigenous Australians. In 2000–01, the Indigenous separation rates for influenza and pneumonia (combined) were nearly five times the non-Indigenous rates, the Indigenous COPD rates were 4–5 times the non-Indigenous rates, and the asthma rates about 2–3 times the non-Indigenous rates.

Deaths from respiratory diseases

Respiratory diseases are a major underlying cause of death. In 1999–2001 there were 360 Indigenous deaths in Queensland, South Australia, Western Australia and the Northern Territory with respiratory diseases as the underlying cause of death, representing 8.2% of all Indigenous deaths in those jurisdictions. The Indigenous death rate from respiratory diseases in those jurisdictions was about four times the total Australian rate.

COPD was the major cause of respiratory deaths during 1999–2001 with 149 deaths, or 3.4% of all Indigenous deaths in the same four jurisdictions. Influenza and pneumonia (combined) were the underlying cause of 110 Indigenous deaths (2.5%) and asthma was the underlying cause of 18 Indigenous deaths (0.4%).

Deaths from respiratory diseases *continued*

The Indigenous death rates for COPD were 3–4 times the total Australian rate. For influenza and pneumonia combined, the relative difference between the Indigenous and total Australian death rates was greater in males than females. While the death rate for Indigenous males was eight times the total Australian rate, among Indigenous females the rate was four times the total Australian rate (table 7.15).

7.15 DEATH RATES FOR RESPIRATORY DISEASES(a) — 1999–2001

<i>Respiratory disease</i>	<i>Males</i>			<i>Females</i>		
	<i>Indigenous rate(b)</i>	<i>Total Australian rate(c)</i>	<i>Rate ratio(d)</i>	<i>Indigenous rate(b)</i>	<i>Total Australian rate(c)</i>	<i>Rate ratio(d)</i>
Asthma	4.6	1.8	2.6	6.9	2.7	2.5
Chronic obstructive pulmonary disease	114.2	34.3	3.3	83.0	21.5	3.9
Influenza and pneumonia	85.9	11.1	7.7	61.4	14.4	4.3
All respiratory diseases(e)	259.8	59.2	4.4	192.5	49.0	3.9

(a) Rates are given as number of deaths per 100,000 population, directly age-standardised using the total Australian population at 30 June 1991.

(b) Data are for Indigenous deaths for usual residents of Queensland, South Australia, Western Australia and the Northern Territory combined. Based on year of registration.

(c) Data are for all deaths of usual residents of Australia, including Indigenous deaths.

(d) Rate ratio is equal to Indigenous rate divided by total Australian rate. The rates are subject to rounding, therefore the rate ratios may not equal the value calculated using reported rates.

(e) Data are for ICD-10 codes J00–J99.

Source: AIHW National Mortality Database.

Communicable diseases
(and HIV/AIDS)

This section compares the occurrence of communicable diseases in Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians. Data presented here include notification of communicable diseases and hospital use. The evidence from these analyses reinforces the fact that the burden of communicable diseases in Indigenous Australians is far greater than that of non-Indigenous Australians.

Identification of Indigenous Australians within data collections continues to be a problem due to a number of factors, and the magnitude of the differences in illness is still marked. Indigenous persons suffer a greater burden of ill health from communicable diseases than non-Indigenous Australians.

Communicable disease surveillance and reporting

In Australia, communicable diseases of particular public health importance are classified as 'notifiable' and under legislation each case must be notified to state and territory health authorities. Notifications are received from hospitals, general practitioners and diagnostic laboratories. While each Australian state and territory have their own set of notifiable diseases, a set of 56 diseases and conditions are nationally notifiable. Data on all these cases are forwarded to the National Notifiable Diseases Surveillance System (NNDSS), managed by the Commonwealth Department of Health and Ageing. The number of notifications, however, represent a variable proportion of all incident cases of any disease, with the proportion of milder conditions notified likely to be less than the proportion of more serious diseases.

In some jurisdictions, namely the Northern Territory, Western Australia and South Australia, reporting of Indigenous status has been relatively complete for most diseases reported to NNDSS. Table 7.16 shows notifications and rates for selected notifiable diseases for the Northern Territory, South Australia and Western Australia combined in 2001.

Notifications of tuberculosis (TB) are reported to the National Mycobacterial Surveillance System. In 2001, 77% of TB notifications were in overseas-born Australians (Miller et al. 2002). Therefore, so as to avoid distorting proportions when comparing rates of TB notifications for Indigenous persons to those for non-Indigenous persons, overseas-born Australians were excluded from proportion calculations in table 7.16, and only calculations for Australian-born non-Indigenous persons are shown in table 7.16 (see footnote (e)). Notifications of invasive pneumococcal disease to the NNDSS began in 2001 and additional data was provided through enhanced surveillance systems in metropolitan New South Wales, Tasmania, Victoria, South Australia, Western Australia and the Northern Territory. Data are drawn from this dataset (table 7.16) and should be interpreted with caution, since national totals are likely to be incomplete (Roche & Krause 2002).

Rates of sexually transmissible infections (STIs) were higher in Indigenous persons than in non-Indigenous Australians, with the highest ratios for gonococcal infection and syphilis. The substantially higher levels of chlamydia, gonorrhoea and syphilis among Indigenous persons compared to non-Indigenous persons may also facilitate human immunodeficiency virus (HIV) transmission in the Indigenous population (Grosskurth et al. 1995).

Communicable disease surveillance and reporting *continued*

Between 1992 and 2001, 167 notifications of newly diagnosed HIV infection and 69 notifications of acquired immune deficiency syndrome (AIDS) were recorded in the Indigenous population. Overall age-standardised incidence rates of newly diagnosed HIV and AIDS in Indigenous Australians were similar to those in non-Indigenous Australians. However, while the incidence rate of AIDS diagnosis in both the Indigenous and non-Indigenous populations declined from a peak in 1994, the rate of decline in AIDS diagnoses in the Indigenous population was significantly slower than in the non-Indigenous population. Differences in the rate of decline in AIDS diagnoses between the Indigenous and non-Indigenous populations may be due to differences in access, uptake or effectiveness of antiretroviral treatment for HIV infection (NCHECR 2002).

The proportion of female cases in newly diagnosed HIV infections is higher in the Indigenous population than in the total population (27% compared with 11%) for the period 1999–2001 (NCHECR 2002).

7.16 NOTIFICATIONS OF SELECTED DISEASES TO THE NATIONAL NOTIFIABLE DISEASES SURVEILLANCE SYSTEM(a)
— 2001

Disease	Notifications no.	Proportion of notifications identified as			Crude rate per 100,000 population(b)		Rate ratio(c)
		Indigenous	Non- Indigenous	Unknown	Indigenous	Non- Indigenous	
		%	%	%			
Chlamydial infection	9 825	32.5	52.8	14.7	1 213.3	66.5	18.2
Donovanosis(d)	23	91.3	8.7	—	8.0	<0.1	. .
Gonococcal infection	4 319	64.6	29.1	6.3	1 059.2	15.4	68.8
Haemophilus influenzae type b	16	18.8	75.0	6.3	1.1	0.1	11.0
Hepatitis A	290	16.9	72.4	10.7	18.6	2.4	7.8
Hepatitis B (incident)	153	19.0	68.0	13.1	11.0	1.2	9.2
Hepatitis C (incident)	489	19.6	57.3	23.1	36.5	3.9	9.4
Leprosy	5	60.0	40.0	0.0	1.1	<0.1	. .
Measles	45	6.7	86.7	6.7	1.1	0.4	2.8
Meningococcal infection	358	14.8	78.2	7.0	20.1	3.1	6.5
Mumps	70	17.1	54.3	28.6	4.6	0.6	7.7
Pertussis	6 817	13.7	72.8	13.5	353.6	59.1	6.0
Pneumococcal disease (invasive)	1 446	8.0	86.0	6.0	39.0	8.7	4.5
Ross River virus infection	1 283	16.4	69.7	14.0	79.7	10.8	7.4
Rubella	66	10.6	81.8	7.6	2.7	0.6	4.5
Salmonellosis	3 520	17.8	63.9	18.2	238.1	29.0	8.2
Shigellosis	348	54.0	33.0	12.9	71.4	1.6	44.6
Syphilis	1 134	52.3	40.6	7.1	225.2	5.4	41.7
Tuberculosis(e)	997	4.2	15.6	3.0	9.8	1.0	9.8

(a) Data from South Australia, Western Australia and the Northern Territory are combined. Except for pneumococcal disease (invasive) where data from enhanced surveillance from metropolitan New South Wales, Victoria, South Australia, Western Australia, Tasmania, and the Northern Territory for 2001 are shown (Roche & Krause, 2002).

(b) Based on projections from 1996 census (ABS 1998b).

(c) Rate ratio is equal to the rate of Indigenous notifications divided by the rate of non-Indigenous notifications and does not include notifications where Indigenous status was not known.

(d) Donovanosis not notifiable in and South Australia.

(e) Notifications number includes people born outside Australia. Proportions are based on only Australian born cases.

Source: NNDSS.

Hospital separations

The illnesses classified in Chapter 1 of the International Classification of Diseases (ICD) represents a grouping of infectious and parasitic diseases. Yet, many other diseases of a communicable nature are found in other chapters of the ICD-10 classification including meningitis, rheumatic heart disease (discussed in detail within circulatory system diseases of this Chapter), kidney infections, influenza and pneumonia. This section describes hospital separations for some major communicable illnesses.

The hospital separation rate for Indigenous persons was more than twice that of non-Indigenous Australians for infectious and parasitic diseases and a set of other communicable diseases (table 7.17). In 2000–01, the communicable diseases listed in table 7.17 were the main reason requiring a hospital stay in 6.7% of Indigenous males and 5.2% of Indigenous females. The majority of these illnesses caused Indigenous Australians to be hospitalised at higher rates. For example, Indigenous Australians were four times more likely to require a hospital visit for the treatment of pneumonia than non-Indigenous Australians.

7.17 HOSPITAL SEPARATIONS FOR SELECTED INFECTIOUS AND PARASITIC DISEASES(a) — 2000–01

	Indigenous males				Indigenous females			
	no.	%(b)	rate(c)	rate ratio(d)	no.	%(b)	rate(c)	rate ratio(d)
Infectious and parasitic diseases								
Intestinal infectious diseases	1 369	1.8	3.9	2.3	1 298	1.3	4.3	2.3
Tuberculosis	21	0.0	0.2	4.5	18	0.0	0.1	2.5
Other bacterial diseases	311	0.4	2.5	3.4	330	0.3	2.4	4.3
Septicaemia	233	0.3	2.3	4.0	277	0.3	2.2	5.2
Pneumococcal septicaemia	20	0.0	0.1	5.2	17	0.0	0.1	3.9
Infections, sexual transmission	37	0.0	0.2	2.6	129	0.1	0.6	4.7
Viral infections	168	0.2	0.7	1.0	161	0.2	0.7	1.2
Viral hepatitis	40	0.1	0.2	1.1	24	0.0	0.1	1.4
Other and unspecified infectious and parasitic diseases	712	0.9	3.0	2.2	736	0.7	3.3	2.7
Meningitis	45	0.1	0.2	3.2	31	0.0	0.1	2.0
Influenza	68	0.1	0.4	3.5	87	0.1	0.5	3.8
Pneumonia	2 335	3.1	13.6	4.4	2 034	2.0	11.6	5.0
pneumococcal pneumonia	126	0.2	0.7	7.8	101	0.1	0.7	9.9
Kidney infections	66	0.1	0.5	3.5	429	0.4	2.4	3.9
Total	5 132	6.7	27.3	2.7	5 253	5.2	28.1	3.1

(a) Data are for public and most private hospitals. Categories are based on the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM) (National Centre for Classification in Health 2000). ICD-10-AM codes A00–B99, G00–G03, J10–J18, N10–N12, N13.6 and N15.1. Refer to Appendix 4 for specific ICD-10-AM codes used.

(b) Percentage of all Indigenous hospital separations in 2000–01.

(c) Per 1,000 population. Directly age-standardised using the total Australian population as at 30 June 1991.

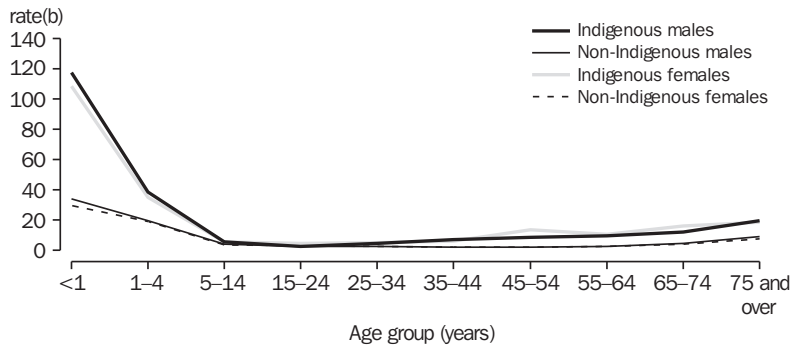
(d) Rate ratio is equal to the rate of Indigenous separations divided by the rate of non-Indigenous separations.

Source: AIHW National Hospital Morbidity Database.

Hospital separations *continued*

An analysis of hospital separations for 'Infectious and parasitic diseases' shows the extent of the differences by age and Indigenous status. The highest rates occurred in Indigenous children less than one year of age (males 117.8 per 1,000 population, females 108.8 per 1,000 population) followed by those aged 1–4 years (males 38.8 per 1,000 population, females 35.0 per 1,000 population). Indigenous Australians had higher age-specific hospitalisation rates than non-Indigenous Australians (graph 7.18).

7.18 AGE-SPECIFIC HOSPITAL(a) SEPARATION RATES FOR PRINCIPAL DIAGNOSIS OF INFECTIOUS AND PARASITIC DISEASES — 2000–01



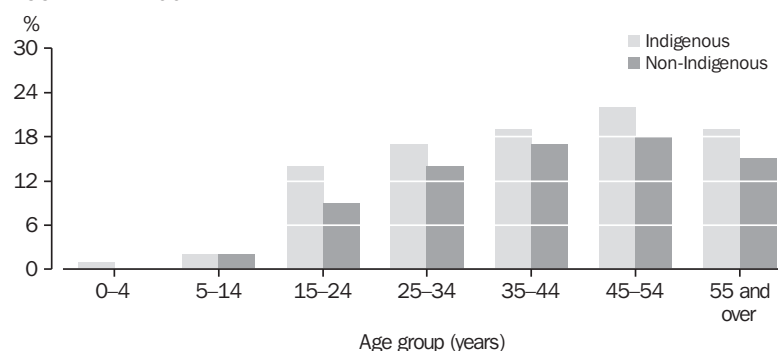
(a) Data are for public and most private hospitals. Data are only for ICD-10-AM 'Certain infectious and parasitic diseases' (A00–B99).
 (b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

Infectious respiratory diseases are a major cause of illness in Aboriginal and Torres Strait Islander peoples. The National Indigenous Pneumococcal and Influenza Immunisation Program provides free vaccines to Indigenous persons to protect them from two communicable respiratory illnesses, pneumococcal disease and influenza. A serious complication of these illnesses is pneumonia, especially in persons with pre-existing heart or lung illness (NHMRC 2000a).

Injury Data from the 2001 NHS show that a higher proportion of Indigenous persons than non-Indigenous persons reported a condition as a result of an injury or accident (graph 7.19).

7.19 SELF-REPORTED CONDITION AS A RESULT OF AN INJURY OR ACCIDENT — 2001



Source: ABS 2002e.

In 2000–01, over 16,000 separations from hospital by Indigenous patients had a principal diagnosis of injury or poisoning (table 7.20). Of these, 56% were males. This corresponds to an estimated rate of 48.6 injury separations per 1,000 Indigenous males, and 38.3 per 1,000 Indigenous females.

7.20 HOSPITAL SEPARATIONS FOR PRINCIPAL DIAGNOSIS OF INJURY OR POISONING(a) — 2000–01

	Males				Females			
	no.	%(b)	rate(c)	rate ratio(d)	no.	%(b)	rate(c)	rate ratio(d)
Injuries	7 188	9.4	36.8	1.9	5 084	5.0	26.1	2.4
Burns and frostbite	289	0.4	1.4	2.8	209	0.2	1.0	4.4
Poisoning	434	0.6	2.2	1.7	703	0.7	3.5	1.8
Toxic effects	186	0.2	0.9	1.8	134	0.1	0.6	1.9
Other effects of external causes, early complications of trauma	288	0.4	1.7	3.6	247	0.2	1.3	3.9
Complications of surgical and medical care, n.e.c.	709	0.9	5.7	1.7	807	0.8	5.9	2.0
Total(e)	9 095	11.9	48.6	1.9	7 184	7.1	38.3	2.3

(a) Data are for public and most private hospitals. Categories are based on the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM) (National Centre for Classification in Health 2000). ICD-10-AM codes S00–T98 & V01–Y98, refer to Appendix 4 for specific ICD-10-AM codes used.

(b) Percentage of all Indigenous hospital separations in 2000–01.

(c) Per 1,000 population. Directly age-standardised using the total Australian population as at 30 June 1991.

(d) Rate ratio is equal to the rate of Indigenous separations divided by the rate of non-Indigenous separations.

(e) Total includes sequelae of injuries, poisoning, external causes.

Source: AIHW National Hospital Morbidity Database.

Nearly all separations with a principal diagnosis of injury include a code that indicates the external cause of the injury. (External causes include things like a car crash, fall, or stabbing, which result in an injury such as a fracture, laceration or burn.) In 2000–01, as in previous years, common types of external causes of hospitalised injury were assault (23% of Indigenous male and 31% of Indigenous female injury separations), accidental falls (males 17%; females 15%), complications of medical or surgical care (males 10%; females 14%), and transport-related injuries (males 11%; females 7%) (table 7.21).

Injury continued Rates of hospitalised injury in Australia were about twice as high for Indigenous persons as for non-Indigenous Australians (ratio of age-standardised rates: 1.9 for males and 2.3 for females). The rate ratio was less than this (though still above one) for some external causes of injury, such as accidental falls (ratio of age-standardised rates: 1.5 for males and 1.2 for females) and transport-related injuries (ratio of age-standardised rates: 1.4 for males and 1.6 for females). However, rates of hospitalisation for injury recorded as being due to assault were very much higher for Indigenous Australians than for non-Indigenous Australians, ratios of age-standardised rates being 8.3 for males and 28.0 for females.

7.21 HOSPITAL SEPARATIONS FOR EXTERNAL CAUSES OF INJURY OR POISONING(a) — 2000–01

	Indigenous males				Indigenous females			
	no.	%(b)	rate(c)	rate ratio(d)	no.	%(b)	rate(c)	rate ratio(d)
Transport accidents	1 015	1.3	4.8	1.4	524	0.5	2.6	1.6
Accidental falls	1 550	2.0	8.6	1.5	1 077	1.1	6.4	1.2
Exposure to inanimate mechanical forces	1 186	1.6	5.4	1.4	603	0.6	2.6	1.9
Exposure to animate mechanical forces	370	0.5	1.8	2.2	186	0.2	0.9	2.5
Exposure to electric current/smoke/fire/animals/nature(e)	385	0.5	2.0	2.7	282	0.3	1.4	3.5
Accidental poisoning	241	0.3	1.2	1.8	215	0.2	1.0	1.9
Other accidental exposures(f)	599	0.8	3.3	1.2	426	0.4	2.3	1.8
Intentional self-harm	452	0.6	2.4	2.2	522	0.5	2.6	2.0
Assault(g)	2 114	2.8	11.3	8.3	2 196	2.2	10.9	28.0
Complications of medical and surgical care	945	1.2	6.6	1.5	996	1.0	6.9	1.9
Other external causes	205	0.3	1.1	2.5	135	0.1	0.6	2.1
Total(h)	9 095	11.9	48.6	1.9	7 184	7.1	38.3	2.3

(a) Data are for public and most private hospitals. Categories are based on the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM) (National Centre for Classification in Health 2000). Cause of injury is based on the first reported external cause where the principal diagnosis was 'Injury, poisoning and certain other consequences of external causes'. ICD-10-AM codes S00–T98 & V01–Y98, refer to Appendix 4 for specific ICD-10-AM codes used.

(b) Percentage of all Indigenous hospital separations in 2000–01.

(c) Per 1,000 population. Directly age-standardised using the total Australian population as at 30 June 1991.

(d) Rate ratio is equal to the rate of Indigenous separations divided by the rate of non-Indigenous separations.

(e) Includes exposure to electric current, radiation, extreme ambient air temperature and pressure, smoke, fire, flames, forces of nature, contact with heat and hot substances, and contact with venomous animals and plants.

(f) Includes overexertion, travel and privation, accidental exposure to other and unspecified factors.

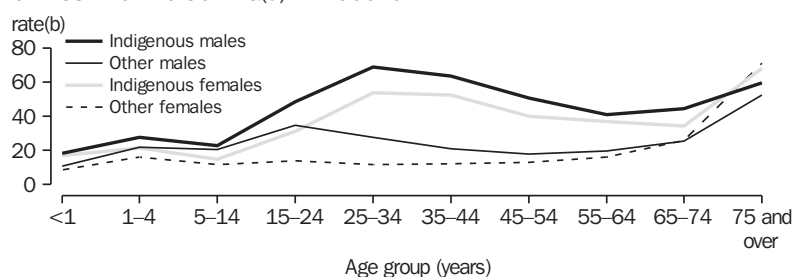
(g) These figures should be interpreted with caution, as injuries purposely inflicted by others may be under-reported by women.

(h) Includes injuries where no external cause was reported.

Source: AIHW National Hospital Morbidity Database.

Rates of hospitalisation due to injury varied with age (graph 7.22). For Indigenous persons, rates were highest from 25 to 44 years of age, and were also high at ages 75 years and older. Most of the excess of injury hospitalisation between the ages of 15–54 years is due to cases attributed to assault (graph 7.23).

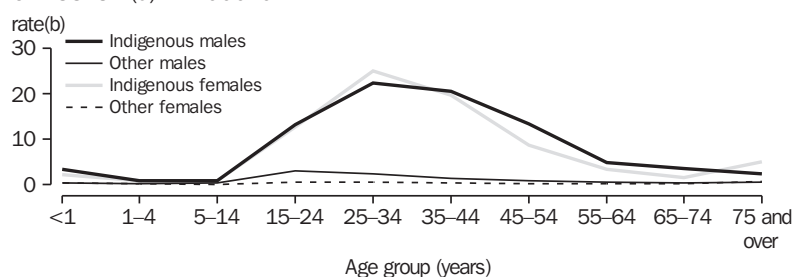
7.22 AGE-SPECIFIC HOSPITAL SEPARATION RATES FOR PRINCIPAL DIAGNOSIS OF INJURY OR POISONING(a) — 2000–01



(a) Data are for public and most private hospitals, includes cases where principal diagnosis is injury or poisoning (ICD-10-AM S00–T98).
 (b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

7.23 AGE-SPECIFIC HOSPITAL SEPARATION RATES FOR PRINCIPAL DIAGNOSIS OF ASSAULT(a) — 2000–01



(a) Data are for public and most private hospitals. Includes cases where principal diagnosis is injury or poisoning (ICD-10-AM S00–T98) and external causes in assault (X85–Y09).
 (b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

Deaths from injury

Mortality data show a broadly similar pattern to hospitalised injury information. Rates of death due to injury and poisoning are considerably higher for Indigenous persons than the Australian population. During the three years from 1999 to 2001, and considering deaths registered in the four jurisdictions in which Indigenous identification is more complete, the ratios of age-standardised injury death rates were 3.2 for Indigenous males and 3.3 for Indigenous females. As with hospitalisation data, the injury death rates for Indigenous persons are highest in mid-life. The high injury mortality rates contribute to the lower life expectancy of Indigenous Australians.

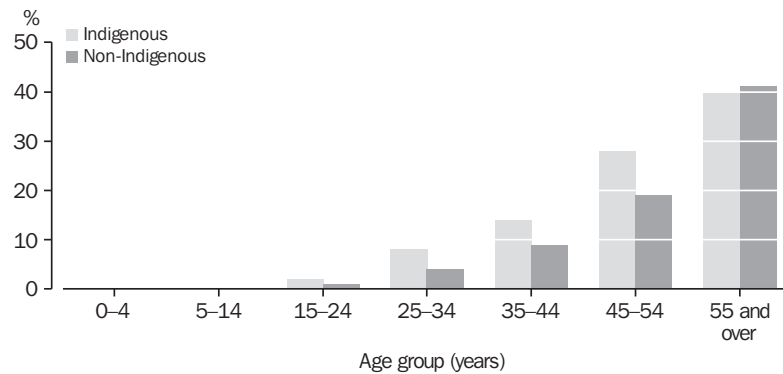
Common external causes of fatal injury were suicide (33% of male and 15% of female Indigenous injury deaths), transport-related injuries (males 24%; females 28%), and intentional interpersonal harm (males 11%; females 22%). Ratios between age-standardised death rates for Indigenous and non-Indigenous Australians were particularly high for intentional interpersonal harm (males 11; females 16), and for exposure to fire and hot objects and substances (males 9; females 16) (Chapter 9).

Arthritis and musculoskeletal conditions

Arthritis and musculoskeletal conditions are a large cause of pain and disability in Australia’s ageing population. Their prevalence among Indigenous Australians is similar to that in non-Indigenous Australians. According to the 2001 NHS, about 35% of Indigenous Australians reported having a long-term health condition associated with these conditions, similar to non-Indigenous Australians (32%).

Arthritis is a heterogenous group of disorders in which there may be inflammation of the joints, causing chronic pain, stiffness, functional limitations and deformity. Its two most common forms are osteoarthritis and rheumatoid arthritis. During 2001, about 16% of Indigenous Australians reported some form of long-term arthritis compared to 13% of non-Indigenous Australians. The higher prevalence was reported for all age groups, except those aged 55 years and over (graph 7.24).

7.24 SELF-REPORTED ARTHRITIS — 2001



Source: ABS 2002e.

A large proportion of arthritis reported by Indigenous Australians is osteoarthritis, a highly age-associated condition. In comparison, rheumatoid arthritis appears to be relatively uncommon among Indigenous persons (Chin & Segasothy 2000). On the other hand, systemic lupus erythematosus, a connective tissue disorder, appears to be more common among Indigenous Australians from north Queensland and the Northern Territory (Anstey et al. 1995; Grennan & Bossingham 1995).

Although arthritis and musculoskeletal conditions are not immediately life threatening, they are a major cause of disability. At present, there are no national data on the prevalence of arthritis-related disability among Indigenous Australians. In 2000–01, joint and back problems were the main reason for hospitalisation in around 1% of Indigenous hospital separations.

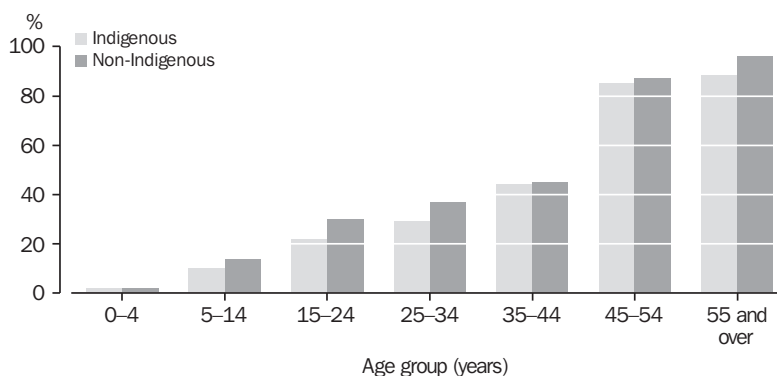
Eye and vision problems

Eye and vision problems are the most commonly reported long-term health conditions among both the Indigenous and non-Indigenous populations (ABS 2002e). The most frequently reported problems are long-sightedness (hyperopia) and short-sightedness (myopia), which are correctable with lenses. More serious eye diseases and conditions include partial or total vision loss, cataract, and among Indigenous persons, trachoma.

Eye and vision problems
continued

Eye and vision problems are reported less frequently by Indigenous persons (46%) compared to non-Indigenous persons (51%), and this pattern is consistent across all age groups. The prevalence of eye and vision problems increases with age, to 85% and 96% for Indigenous and non-Indigenous Australians respectively (graph 7.25). Within the Indigenous population, those living in non-remote areas are more likely to report eye and sight problems (49%) than those living in remote areas (38%) (ABS 2002e). Since Indigenous persons living in remote areas have limited access to specialist eye health services, they may be less likely to report eye and vision problems, or to be diagnosed with such disorders.

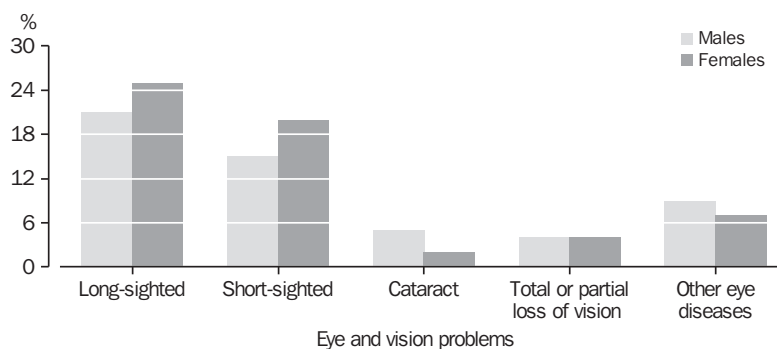
7.25 SELF-REPORTED EYE AND VISION PROBLEMS — 2001



Source: ABS 2002e.

The prevalence rates for the most frequently reported conditions are higher among Indigenous females than males. On the other hand, cataracts are more common among Indigenous males than females. Around 4% of both Indigenous males and females reported total or partial loss of vision in 2001 (graph 7.26).

7.26 PREVALENCE OF EYE AND VISION PROBLEMS, INDIGENOUS POPULATION — 2001



Source: ABS 2002e.

Eye and vision problems
continued

The occurrence of cataract doubles with each decade after the age of 40. Cataract is correctable by surgical replacement of the lens. However, cataract has a greater impact on the vision of Indigenous Australians as they usually present for cataract surgery at a more advanced stage than those in the general community. This is due in part to later diagnosis, and concerns about moving away from the community for surgery (Taylor 1997). Although there is limited data on the prevalence of Indigenous diabetic retinopathy (damage to the small blood vessels in the retina), Taylor (1997) states that it is a major problem in Indigenous communities. All persons with diabetes are at increased risk of developing retinopathy, which can lead to blindness. Most of this can be prevented by regular screening followed by laser treatment. There is an increased prevalence and severity of diabetic retinopathy in Indigenous persons which is associated with poor diabetes control, late presentation and irregular monitoring (Taylor 1997).

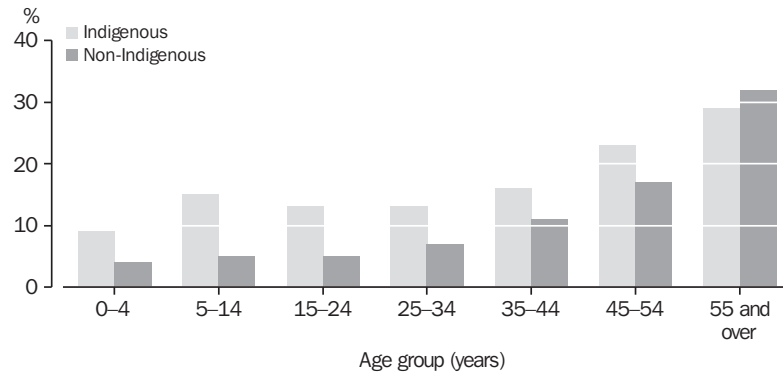
Trachoma, a preventable disease caused by the bacterium *Chlamydia trachomatis*, is found almost exclusively in Australia among Indigenous communities, particularly among children. Chronic or recurrent trachoma infection can lead to conjunctival scarring, trichiasis (inturned eye lashes which damage the cornea) and blindness through corneal opacification (Ewald et al. 2003). Considerable attention was given to trachoma in Indigenous communities in the 1970s and 1980s, with the result that in some areas the prevalence and severity of active trachoma has decreased considerably and even disappeared. However, in some communities the prevalence and intensity of trachoma has remained unchanged over the past 20 years (Taylor 1997; Thomson & Paterson 1998).

Ear and hearing problems

Ear and hearing problems were the second most common long-term health conditions reported by Australians in 2001 (ABS 2002e). Indigenous persons reported more ear and hearing problems (18%) than non-Indigenous persons (14%) and the prevalence increases with age. Total or partial hearing loss was reported by 13% of Indigenous and 10% of non-Indigenous Australians.

Aboriginal and Torres Strait Islander children are reported as having ear and hearing problems twice as often as non-Indigenous children (graph 7.27). This is due in part to high rates of otitis media (middle ear infection) among children in many Indigenous communities (Couzos et al. 2001). Otitis media, a common childhood disease, is often the result of a pneumococcal invasion of the nasopharynx. Recurrent or chronic otitis media is often characterised by a perforated tympanic membrane, which can lead to hearing loss, deafness and further complications such as learning difficulties (Coates et al. 2002). The World Health Organization (2003) recognises that the prevalence of otitis media greater than 4% in a population is indicative of a massive public health problem. Otitis media affects up to ten times this proportion of children in many Indigenous communities (Coates et al. 2002).

7.27 SELF-REPORTED EAR AND HEARING PROBLEMS — 2001



Source: ABS 2002e.

Hospital separation rates for ear and hearing problems (which peak in the age group 1–4 years) are similar between Indigenous and non-Indigenous peoples. Slightly more (67%) of all separations for Indigenous persons are due to otitis media compared to 60% of non-Indigenous separations. A further 14% of Indigenous hospitalisations for ear problems are due to perforation of the tympanic membrane, in contrast to 7% of non-Indigenous separations.

The chronicity of ear and hearing problems is also greater among Indigenous children than non-Indigenous children. According to Coates (2002), Indigenous children and young adults between the ages of two and 20 years experience approximately 32 weeks of middle ear disease and hearing loss compared to an average of 2 weeks for non-Indigenous children.

7.28 SWIMMING POOLS PROMOTING HEALTH IN REMOTE ABORIGINAL COMMUNITIES

Interventions to improve health need not always be medical. An example of direct health, as well as social benefits, from a non-medical intervention in remote Aboriginal communities comes from Western Australia. The intervention was the construction and management of swimming pools in three remote Aboriginal communities.

Indigenous Australian children living in remote areas have very high rates of skin sores (pyoderma) and middle-ear infections (otitis media). In some remote communities as many as 70% of children have sores. The same agent that causes skin sores (Group A streptococcus) can also cause acute rheumatic fever (which causes heart disease) and kidney failure. Ear infections cause deafness (a considerable number of Indigenous children have perforated ear drums as a result of ear infections) that impairs learning at school, which consequently makes it difficult to gain employment, and leads to low incomes.

In the past it has been noticed that where children had access to places to swim, the number of skin infections was significantly lower. A survey of communities in Central Australia suggested that swimming pools would confer social benefits as well as health benefits.

On the basis of these reports, the Western Australian Government built public swimming pools in three remote Aboriginal communities. Following the construction of the pools, a study was carried out by the Telethon Institute for Child Health Research to see whether or not the pools resulted in a reduction in skin and middle-ear infections and if the pools also provided social benefits to these remote communities.

There have been significant health improvements in the two communities studied. The number of children with skin infections has declined markedly which is likely to result in less work for clinic staff, less use of antibiotics and a reduction in subsequent chronic kidney failure and heart disease in the adult population.

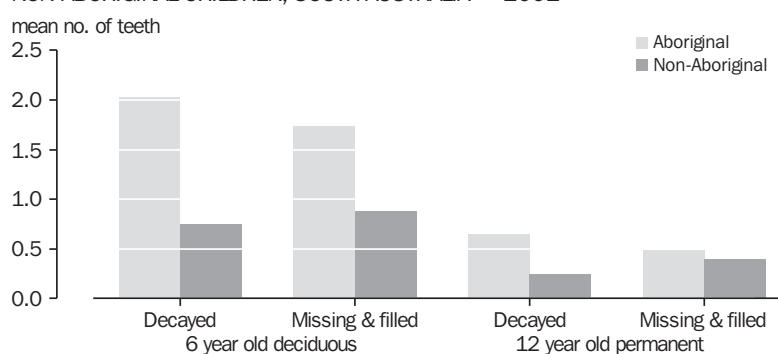
Furthermore, the proportion of children with perforated eardrums has declined. Children also benefit from the regular exercise and are taught how to swim and skills such as water safety, lifesaving and resuscitation, which are very important in preventing deaths by drowning in Aboriginal communities.

The pools are managed by the Royal Life Saving Association and water quality is monitored according to statewide regulations. There have been no pool-related disease outbreaks; however, continued maintenance of water quality will be important.

Source: Deborah Lehmann, Child Health Research Institute, Western Australia.

Dental decay among South Australian Aboriginal children was about twice the level compared with non-Aboriginal children in both the deciduous and permanent teeth. The proportion of dental decay which was untreated was also greater (graph 7.29). These comparisons are similar to previously published results for the Northern Territory for 1999 (AIHW DSRU 2002). A previous study by Bourke et al. (1999) in South Australia found that dental decay levels in deciduous teeth among Aboriginal children differed by geographic location, being lowest in remote communities (mean dmfs=1.9) but higher in other non-metropolitan areas (mean dmfs=7.9) and in Adelaide (mean dmfs=5.2). Similar geographic variation was observed in the permanent teeth.

7.29 CUMULATIVE HISTORY OF DENTAL DECAY, ABORIGINAL AND NON-ABORIGINAL CHILDREN, SOUTH AUSTRALIA — 2001



Source: AIHW Dental Statistics Research Unit.

Adult oral health

Tooth loss

Complete loss of all natural teeth (edentulism) is an adverse outcome of the cumulative effects of oral disease. Previous research reports noted a higher percentage of Aboriginal and Torres Strait Islander persons with no natural teeth (16.3%) than among non-Indigenous Australians (10.2%) (AIHW DSRU 2000).

Tooth loss is strongly associated with non-insulin-dependent diabetes (Taylor et al. 1996), a condition that is common among Aboriginal and Torres Strait Islander peoples. In the two remote communities of central Australia where data were collected, persons with diabetes had over three times the number of missing teeth than those without diabetes. One remote community which in 1987 had no edentulous persons had 10 in 2000, all of whom had diabetes (in a sample of 345 persons from a community of 1,706 adults).

Dental decay

After adjusting for age, cumulative history of dental decay among Aboriginal Dental Clinic (ADC) patients in remote communities in South Australia was approximately 50% lower than each of three other groups in non-remote areas: ADC patients in Adelaide, Aboriginal patients of public dental clinics in non-remote South Australia and New South Wales, and Aboriginal patients of regional New South Wales. For example, among 18–24 year olds, the mean DMFT values were 3.6, 10.6, 10.8 and 8.4, respectively. Among persons aged 45 years and over, the mean DMFT values were 8.5, 18.5, 16.7 and 16.3, respectively.

The distribution of components of decay reveals that the filled teeth component is lower among persons living in remote areas compared with those living in metropolitan and other (non-remote) locations. This pattern was consistent among all age groups. Untreated decay was responsible for the majority of the decay experienced in the 18–24 year old group but decreased in other age groups. Missing teeth was the predominant component in the oldest age group in both remote areas and Public Dental Services (PDS); however, in remote areas missing teeth comprise almost 75% of caries experience.

7.30 MEASURES OF TOOTH DECAY AND DATA SOURCES

The cumulative history of dental decay in permanent teeth was measured by the mean number of teeth that were decayed (DT), missing because of decay (MT) or filled because of decay (FT). Corresponding measures for deciduous teeth were dt, mt and ft. At the tooth surface level DS, MS and FS, and ds, ms and fs indices were used. Gum disease, (also called periodontal disease) was measured using the Community Periodontal Index (CPI), a World Health Organization measure of periodontal health. Each person was categorised according to the most severe periodontal condition found by the examining dentist: 0 indicating satisfactory periodontal health, 1 — gingival bleeding, 2 — presence of calculus (tartar), 3 — periodontal pocket depth of 4–5 mm and 4 — periodontal pocket depth of 6+ mm.

Unless otherwise stated, data in this report come from studies conducted by the Australian Institute of Health and Welfare's Dental Statistics and Research Unit. Child oral health data were collected from all children in South Australia who used the South Australian Dental Service (SADS) in a six-month period during 2001 and included 900 Aboriginal children. Data from remote communities not served by SADS were collected in 1999–2000 (n=412) in South Australia and the Northern Territory. Oral health data for adults were collected in 1999–2000 among patients seeking dental care in one South Australian metropolitan (n=147) and two remote Aboriginal Dental Clinics (ADCs, n=534; AIHW DSRU 2003). Data from Aboriginal patients were also collected through public dental services (PDS) in South Australia and New South Wales (n=243; AIHW DSRU 2003). Due to the sampling design, these data may not be representative of Aboriginal persons in Australia and should be regarded as indicative only.

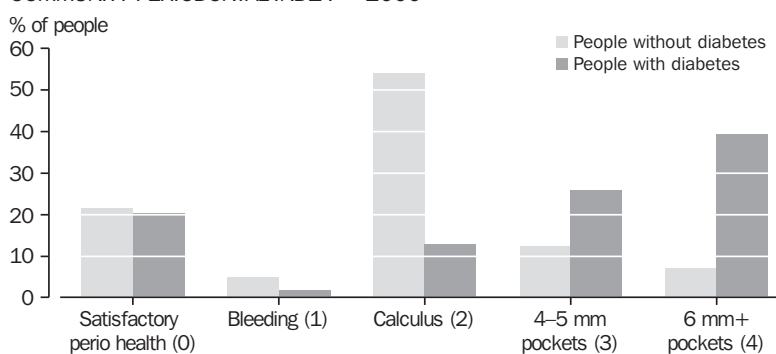
There is some evidence that decay rates in adults are increasing in remote communities. In one remote community of central Australia, caries experience doubled between 1987 and 1999, the number of missing teeth increased twofold and the number of filled teeth increased more than threefold.

Gum disease (periodontal status)

Among Aboriginal patients receiving care at public dental services and ADCs, the presence of calculus was the most common periodontal condition observed by examining dentists in persons below 45 years of age: 63% among 18–24 year olds and 48% among 25–44 year olds. However, in the 45 and over age group 23% had periodontal pockets of 6 mm plus and 25% had periodontal pockets of 4–5 mm.

The link between periodontal disease and diabetes is well established (Löe 1993). In these data, the percentage of persons with diabetes is 10.9% in the 25–44 year age group and 50.6% in the 45 and over age group. The distribution of Community Periodontal Index (CPI) scores shows marked differences between those with diabetes and those without (graph 7.31). Among non-diabetics, a score of two, indicating the presence of calculus, was the most common score. However, among persons with diabetes the most frequent CPI score was four, indicating periodontal pockets of 6 mm plus.

7.31 GUM DISEASE AMONG INDIGENOUS PEOPLE, AS MEASURED USING THE COMMUNITY PERIODONTAL INDEX — 2000



Source: AIHW Dental Statistics Research Unit.

Mental health and emotional wellbeing

The large difference in the mental health and emotional wellbeing of Indigenous peoples compared with non-Indigenous peoples and the importance of policy initiatives to overcome this inequality has long been recognised (HREOC 1993, HREOC 1997; New South Wales Health Department 2002). However, large discrepancies in the mental wellbeing of Indigenous peoples compared with non-Indigenous peoples still remain.

Mental health and
emotional wellbeing
continued

Information related to the mental health of Indigenous persons presented here includes hospitalisation and mortality which result from mental illness, rates of self-harm and assault, and incarceration rates. This information is collected from a number of sources including the National Hospital Morbidity Database, National Mortality Database and the National Prison Census. Data are also available on child protection services (Chapter 5) and substance misuse (Chapter 8), as well as the use of alcohol and other drug treatment services (Chapter 4). While these sources of information do not provide a complete account of a person's environment or cause of mental illness, they can give an indication of the burden of distress and mental illness experienced. The NHS 2001 did not include information on Indigenous mental health due to concerns about the cultural appropriateness of the mental health-related questions in that survey (ABS 2002e).

Compared with the rates of the general population there were more hospital separations for Indigenous persons than expected for most types of mental and behavioural disorders (table 7.32). The overall rate ratios for Indigenous males and females were 2.2 and 1.5 respectively. Particularly, the rate that Indigenous persons were hospitalised for 'mental and behavioural disorders due to psychoactive substance use' was higher than that of the non-Indigenous population (4.8 times higher for Indigenous males and 3.6 times higher for Indigenous females).

Those hospitalised for mental and behavioural disorders can receive treatment in a unit or ward dedicated to the treatment of patients with psychiatric conditions (specialised psychiatric care) or in general wards. Indigenous persons have proportionally less specialised care for mental disorders and behavioural disorders. In 2000–01, Indigenous males received specialised care in 53% of separations for mental and behavioural disorders (standardised based on the categories in table 7.32), compared with 67% for non-Indigenous males. Indigenous females were admitted to specialised care for 46% of mental health separations, compared with 69% for non-Indigenous females.

7.32 HOSPITAL SEPARATIONS FOR PRINCIPAL DIAGNOSIS OF MENTAL AND BEHAVIOURAL DISORDERS(a) — 2000–01

	Indigenous males				Indigenous females			
	no.	%(b)	rate(c)	rate ratio(d)	no.	%(b)	rate(c)	rate ratio(d)
Organic mental disorders	92	0.1	1.2	2.0	68	0.1	0.9	1.8
Mental disorders due to psychoactive substance use	2 095	2.7	12.6	4.8	1 002	1.0	5.2	3.6
Schizophrenia, schizotypal & delusional disorders	1 165	1.5	5.9	2.3	728	0.7	3.7	2.1
Mood and neurotic disorders	1 005	1.3	6.0	1.1	1 685	1.7	9.4	1.2
Other mental disorders(e)	226	0.3	0.9	0.9	247	0.2	1.2	0.6
Total	4 583	6.0	26.7	2.2	3 730	3.7	20.4	1.5

(a) Data are for public and most private hospitals. Categories are based on the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM) (National Centre for Classification in Health 2000) ICD-10-AM codes F00–F99, refer to Appendix 4 for specific ICD-10-AM codes used.

(b) Percentage of all Indigenous hospital separations in 2000–01.

(c) Per 1,000 population. Directly age-standardised using the total Australian population as at 30 June 1991.

(d) Rate ratio is equal to the rate of Indigenous separations divided by the rate of non-Indigenous separations.

(e) Includes eating disorders, sleeping disorders, disorders of personality and behaviour, mental retardation, disorders of psychological development and unspecified mental disorders.

Source: AIHW National Hospital Morbidity Database.

In 1999–2001, 103 Indigenous persons died as a result of mental and behavioural disorders in Queensland, South Australia, Western Australia and the Northern Territory (Chapter 9). Mental and behavioural disorders accounted for 4.1 times as many deaths as expected for Indigenous males, based on total Australian rates. For Indigenous females, mental disorders accounted for 2.1 times as many deaths as expected, based on total Australian rates.

Hospitalisation and mortality rates for intentional injury, such as assault or suicide, may also be indicative of mental illness and distress. In 2000–01 Indigenous Australians were more likely to be hospitalised as a result of assault compared with non-Indigenous Australians (8.3 times more likely for Indigenous males and 28.0 times more likely for Indigenous females) (table 7.21). Indigenous Australians also had a higher rate of hospitalisation for intentional self-harm (2.2 times higher for Indigenous males, 2.0 times higher for Indigenous females).

Mental health and
emotional wellbeing
continued

Aboriginal and Torres Strait Islander peoples were also more likely to die from assault or suicide (Chapter 9). In 1999–2001, 96 Indigenous Australians died as a result of assault in Queensland, South Australia, Western Australia and the Northern Territory. Assault accounted for 7.2 times as many deaths as expected for Indigenous males based on total Australian male rates and 10.2 times as many deaths as expected for Indigenous females based on total Australian female rates. In Queensland, South Australia, Western Australia and the Northern Territory there were 198 Indigenous deaths from suicides in 1999–2001. For Indigenous males, suicide accounted for 2.8 times as many deaths as expected based on total Australian male rates. For Indigenous females, suicide accounted for 1.9 times as many deaths as expected based on total Australian female rates. The sex and age groups with the highest rates of suicide among Indigenous persons were males aged 15–24 years (85 per 100,000 population) and males aged 25–34 years (109 per 100,000 population), which were higher than total Australian rates (21 per 100,000 for males aged 15–24 years and 34 per 100,000 for males aged 25–34 years). Due to the problems with identification of Indigenous persons in death records, these figures are likely to be underestimates (ABS 2002c).

The National Inquiry into the Human Rights of People with Mental Illness (HREOC 1993) found that anti-social and self-destructive behaviour, often the result of undiagnosed mental and social distress, brought Indigenous people into frequent contact with the criminal justice system. The national prison census reports that Indigenous males aged 17 and over were imprisoned at the rate of 3,479 per 100,000 population compared with 285 for all males, at 30 June 2001 (ABS 2002h). Indigenous females also had a higher rate of imprisonment (294 per 100,000 population) compared with all females (20 per 100,000 population). Indigenous youth (aged 10–17) also had high rates of imprisonment. At 30 June 2001, Indigenous youth were incarcerated at a rate of 284 per 100,000 compared with 28.2 for the general population (Cahill & Marshall 2002). Although the rates are not adjusted for the younger age structure of the Indigenous population, this would only account for a small part of the striking differences in the rates.

Indigenous mental illness and/or emotional distress may not only cause Indigenous Australians to come into contact with the criminal justice system but incarceration may be a risk factor for mental illness (HREOC 1993). Incarceration separates Indigenous persons from their communities and culture. Imprisoned Indigenous persons frequently experience depressive symptoms associated with unresolved anger resulting in suicide attempts. The number of Indigenous deaths in custody was also relatively high. Of the 87 deaths in custody in 2001, 19 (22%) were Indigenous persons (Collins 2002). On release from prison some Indigenous persons may then turn to substance misuse or violence and continue their decline of mental health with further contact with the criminal justice system (HREOC 1993).

SUMMARY

While self-reported data indicate that a similar proportion of Indigenous and non-Indigenous Australians had a long-term condition (78%), these proportions do not reflect the marked differentials in the incidence, prevalence and the burden of ill-health on Indigenous peoples compared with the non-Indigenous population.

The diseases and conditions examined in this Chapter include circulatory system diseases, diabetes, chronic kidney disease, cancer, respiratory diseases, communicable diseases, injury and poisoning, vision and hearing problems, oral health and mental health. For most of these conditions Indigenous peoples had higher prevalence rates, higher hospitalisation rates and higher death rates than non-Indigenous Australians. Moreover, some of the chronic diseases described here are diagnosed at a younger age in Indigenous persons than non-Indigenous persons, resulting in a lower quality of life at younger ages and premature mortality.

