

CHAPTER 6

ILL HEALTH

INTRODUCTION

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. It begins with a section on health risk factors, including poor nutrition, smoking, alcohol consumption and other substance use. This is followed by sections examining mental health conditions, the illnesses and conditions for which Indigenous people are admitted to hospital, and the medical procedures they undergo. Subsequent topics include kidney disease, communicable diseases, cancer and dental health. While some information is available about each of these topics, the quality and completeness of the data are often unknown and may vary from topic to topic, and from one jurisdiction to another. These issues mean that any interpretation of the information presented here should be undertaken with caution.

RISK FACTORS FOR ILL HEALTH

The relative socioeconomic disadvantage experienced by Aboriginal and Torres Strait Islander Australians compared with other Australians places them at greater risk of ill health. A review of research literature indicates that one reason for this is that health risk behaviours such as cigarette smoking and excessive alcohol consumption are more likely to occur among socioeconomically disadvantaged groups. Winkleby et al. (1990) found that lower levels of education, a key indicator of socioeconomic status, were associated with a higher prevalence of health risk factors such as smoking and obesity. Results of the 1994 National Aboriginal and Torres Strait Islander Survey (NATSIS) showed that Indigenous people aged 18 and over who had completed at least year 12 were less likely to report that they smoked than those who left school earlier (ABS & AIHW 1999). While an association between socioeconomic status and an increased level of health risk behaviour is apparent, the reasons why socioeconomically disadvantaged people are more likely to take health risks than others are complex, and the subject of ongoing research.

The health and welfare of Indigenous Australians is also likely to be affected adversely by exposure to other health risk factors such as poor housing and inadequate environmental health infrastructure (see Chapter 2). Violence is not always taken into account as a risk factor for poor health, even though personal safety is an essential element of wellbeing. In 1998–99, assault was the most common cause of injury resulting in the hospitalisation of Indigenous people (see the section in this chapter on hospitalisation for more details).

There is little recent information relating to Indigenous people and behavioural health risk factors. A summary of the information presented in the 1999 edition is included here. Readers are also directed to the appendix for summary tables on smoking and alcohol consumption (tables A17 and A18), and to previous editions of this publication for a more detailed discussion of data from sources such as the 1993–94 National Drug Strategy Household Survey (NDSHS), the 1994 NATSIS and the 1995 National Health Survey (NHS). Data on levels of physical activity, which were reported on in the 1999 edition, are discussed in

relation to diabetes (see Chapter 7). Information about the health risk behaviours of Indigenous people in Tasmania is presented in inset 6.1, along with other findings of the 1998 Tasmanian Healthy Communities Survey.

A number of international comparisons have been included in this chapter. Because survey and research methods vary between countries, comparisons should be restricted to general patterns rather than exact figures, and should only be made between indigenous and non-indigenous populations within a particular nation, rather than between different countries.

6.1 HEALTH AND WELLBEING IN TASMANIA

In 1998, the Department of Health and Human Services conducted a mail-back survey on the health and wellbeing of Tasmanians aged 18 and over. Of the 15,000 respondents, 1.9% (287) were Indigenous. Projections of the Aboriginal and Torres Strait Islander population (low series) estimate that 2.4% of Tasmania's population aged 18 and over was Indigenous in 1998. It should be noted that the results have not been adjusted for differences in the age structures of the Tasmanian Indigenous and non-Indigenous populations. The Tasmanian Indigenous population is a younger population than the general Tasmanian population. For example, only 13% of the Indigenous population in Tasmania is aged 45 and over, compared with 35% of the total Tasmanian population. This should be taken into account when making comparisons between the two populations, as variables such as those relating to health and family relationships may be strongly associated with age.

Results of the survey showed that 42% of Indigenous people were smokers, compared with 25% of non-Indigenous people. These results are similar to findings in the 1994 NATSIS and the 1995 NHS. Indigenous people were more likely to report that they didn't drink or only rarely drank alcohol (46%) than non-Indigenous people (40%), and 31% said they drank at least once a week, compared with 43% of non-Indigenous people. Similar proportions of Indigenous (12%) and non-Indigenous people (13%) considered themselves to be in excellent health, while 24% of Indigenous people reported having fair or poor health compared with 18% of non-Indigenous people.

Indigenous people were more likely than non-Indigenous people to rate themselves at the lower end of many of the health and wellbeing indicators. Over 10% reported that they had had 'almost more strain or pressure than they could bear', in the year prior to the survey. This compared with 5% for the non-Indigenous population. Nearly a quarter of Indigenous people (24%) reported having experienced depression, and 8% said they had seriously contemplated taking their own life. Indigenous people were more likely to feel that people in power did not act in their interests (46%, compared with 28% for non-Indigenous people). Over 6% considered their future to be worse than that of other Australians, and a similar proportion reported their 'quality of life' to be inferior to that of other Australians, compared with 2% and 1% respectively for non-Indigenous people.

Indigenous and non-Indigenous people were equally likely to report that they were highly satisfied with their relationship with their partners (close to 80%) and agreed that family members showed affection and tenderness towards each other (63%). However, about 13% of Indigenous people reported feeling that household members were threatened by each other, and 13% reported that there was a lot of anger between family or household members, compared with 7% and 8% respectively for non-Indigenous people. Some 10% of Indigenous people also reported that household members were abusive to each other, an experience reported by 6% of the non-Indigenous population.

Source: Department of Health and Human Services, Tasmania, in press.

Nutrition The importance of the roles played by diet and nutrition in health is universally acknowledged. Less well understood are the complex interrelationships between nutrition and health risk factors. For example, diet-related diseases may be associated with environmental, behavioural, biological and genetic factors, making it difficult to determine the extent to which diet contributes to disease (AIHW 2000b).

Many Aboriginal and Torres Strait Islander people live in remote areas of Australia and do not have the same opportunities as other Australians to obtain affordable, healthy food. For example, the 2000 Healthy Food Access Basket survey in Queensland confirmed that the cost of basic food was considerably higher in rural and remote communities than in metropolitan and regional centres, and noted that 'the food supply and delivery system is structured to favour metropolitan areas' (Public Health Services, Queensland Health 2001, p. 38). Stores in remote locations were also less likely to have basic food items or 'better nutritional choices' (such as reduced fat milk, wholemeal bread and lean meat) available, and had the least variety of fresh fruit and vegetables. The price of tobacco and take-away food items also rose with increasing remoteness, but the relative cost increase was not as high as that for healthy food (Public Health Services, Queensland Health 2001).

Even when healthy food is available, factors such as competing priorities for limited family incomes, restricted access to traditional foods, lack of knowledge of the nutritional value of certain foods, and lack of culturally appropriate nutrition information can lead to inadequate or inappropriate nutrition. A healthy living environment is also important and reduces the chances of gastrointestinal infection and diarrhoeal diseases, which may cause or exacerbate malnutrition in infants (NHRMC 2000).

The diet of many Aboriginal and Torres Strait Islander people has undergone rapid change, from a fibre-rich, high protein, low saturated fat 'traditional' diet, to one in which refined carbohydrates and saturated fats predominate (O'Dea 1992b). As has been found in other indigenous populations undergoing a similar change in diet and lifestyle, Australia's Indigenous people are prone to a group of conditions known collectively as Syndrome X, or the 'insulin resistance syndrome' (NHMRC 2000). This syndrome includes obesity, Type 2 diabetes, cardiovascular disease and renal disease (NHMRC 2000). All these conditions are more common in Indigenous Australians than in non-Indigenous Australians. (Obesity and diabetes are discussed in Chapter 7, and more information about cardiovascular disease and renal disease is presented in later sections of this chapter. Chapter 8 presents mortality data relating to these conditions.)

Diet and nutrition during pregnancy and the child's early life may have life-long effects. Breastfeeding is associated with reduced infant and child illness and mortality (see NHRMC 2000 for a discussion of the health benefits of breastfeeding). Maternal undernutrition is one factor linked to low birthweight, which is about twice as common among babies born to Indigenous mothers as it is among babies born to non-Indigenous

Nutrition *continued* mothers (see Chapter 5), and is a risk factor for infant death and ill health in childhood. In addition, Barker (1999a, 1999b) proposes that undernourishment of the fetus may predispose the person to diseases such as heart disease, stroke, high blood pressure and Type 2 diabetes in later life. However, more research is necessary to confirm these findings.

Detailed information about diet and nutrition for the Indigenous population is not available at the national level. Information about body mass index (BMI—see Glossary), an indicator of nutritional status, is available both from the NATSIS and the NHS, and is outlined in Chapter 7. The 2001 National Health Survey, for which field work is currently under way, includes several questions on nutrition. The questions will be asked of respondents, including respondents who identify as Indigenous, living in non-sparsely settled areas (see Chapter 9 for more information on the survey). Breastfeeding questions will be asked of female respondents in both sparsely settled and non-sparsely settled areas.

Alcohol consumption The hazardous use of alcohol is related to conditions such as alcohol dependence syndrome, alcoholic liver disease, high blood pressure, stroke and some cancers (Anderson 1996). Alcohol is frequently a contributing factor to injuries from traffic accidents, assault and self-harm (Unwin, Thomson & Gracey 1994), and may contribute to social problems such as family breakdown, domestic violence, and financial and legal problems (Davis 1998 in Hamilton et al. 1998).

While several surveys have shown that Indigenous people are less likely than non-Indigenous people to drink alcohol (ABS & AIHW 1999), those who do so are more likely to consume it at hazardous levels (see Glossary for guidelines on alcohol consumption). The 1995 NHS found that over 20% of Indigenous male drinkers were in the high risk category for alcohol consumption, compared with 8% of non-Indigenous male drinkers. Indigenous females were less likely to be in the high risk category than Indigenous males, but were still more likely than non-Indigenous women drinkers to be consuming alcohol at hazardous levels (see also ABS & AIHW 1999). There are no new national data on alcohol consumption in the Indigenous population since the 1999 edition of this publication. The forthcoming 2001 NHS and the 2002 Indigenous Social Survey will provide updated information on alcohol and smoking in the Indigenous population.

International data indicate that drinking at hazardous levels is more common among the indigenous populations of New Zealand and Canada. In the 1996–97 New Zealand Health Survey, Maori adults were twice as likely as non-Maori adults to report that they had not drunk any alcohol in the previous year but one in three Maori drinkers were consuming alcohol at hazardous levels compared with one in five non-Maori drinkers (Ministry of Health 1999). Canadian data indicate that Aboriginal youths are two to six times more at risk than non-Aboriginal youths for every alcohol-related problem examined (Health Canada 1999).

Smoking While the effects of excess alcohol consumption on individuals, families and communities can be clearly identified, the effects of smoking, a major cause of preventable ill health and death, may take many years to appear (Unwin et al. 1994). Tobacco use is estimated to have been responsible for 10% of the total burden of disease in Australia in 1996 (Mathers et al. 1999). A previous edition of this publication included a feature chapter on tobacco smoking, highlighting the associated heavy burden of chronic disease and premature death experienced by Indigenous people (ABS & AIHW 1997).

Cigarette smoking is associated with the increased incidence of and mortality from various types of cancer, including lung, cervical, bladder and pancreatic cancers, coronary heart disease, stroke, chronic respiratory tract diseases, and pregnancy-related conditions (English et al. 1995). The effects of passive smoking are also associated with higher rates of lung cancer and heart disease in adults, asthma and lower respiratory tract illness such as bronchitis and pneumonia in children (NHMRC 1997), and higher rates of sudden infant death syndrome (Scragg et al. 1993, Mitchell et al. 1997). In addition, smoking is a risk factor for low birthweight (Sayers & Powers 1997), which, as noted above, is a risk factor for both childhood and long-term diseases.

Surveys have revealed a high prevalence of smoking among Aboriginal and Torres Strait Islander people, with the rate being about twice that for non-Indigenous people (see Appendix table A17). A recent study has also found this to be the case among Aboriginal Health Workers in Adelaide (Kerdel & Brice 2000). High rates of smoking have also been found among other indigenous groups. In New Zealand, the proportion of Maori people who smoke has decreased over the last 15 years but remains high, with almost half of all Maori adults aged 15 and over reporting that they were smokers in the 1996–97 National Health Survey, compared with 23% of non-Maori adults (Ministry of Health 1999). Over 60% of Canada's Aboriginal population over the age of 15 reported that they were smokers in 1997, more than twice the rate of the general Canadian population (Health Canada 1999).

Other drugs and substances Indigenous people are also at risk of ill health through the use of substances such as marijuana, heroin, amphetamines and inhalants (e.g. petrol, glue, aerosols). Although there are no comprehensive national data for Indigenous people on this topic, previous editions of this publication have reported the results of the 1993–94 NDSHS, which included a supplementary sample of Indigenous people living in urban areas (see ABS & AIHW 1997, 1999).

The National Drug and Alcohol Research Centre (NDARC) conducts a census of agencies providing treatment for drug and alcohol problems in Australia. The census is conducted over a 24-hour period on one day of each census year. Censuses were conducted in 1990, 1992, 1995 and 2001, and results have been published for the first three. Over the period 1992–95, Indigenous people made up about 10% of clients using treatment services on census day. They were more likely than

Other drugs and substances
continued

non-Indigenous clients to be receiving treatment for problems related to alcohol, cannabis or solvents, but less likely to be receiving treatment for opiates, amphetamines or benzodiazepines. Indigenous clients were also much less likely than non-Indigenous clients to report having injected drugs in the 12 months prior to the census (Webster et al. 1991, Chen et al. 1993, Torres et al. 1995).

Injecting drugs is a risk factor for blood-borne diseases such as hepatitis B and C, and HIV. A study of the prevalence of hepatitis C among injecting drug users using needle exchanges in 1995–96 found that about 70% of Indigenous and non-Indigenous injecting drug users were infected with the virus (ANCARD 1997). Over the period 1992–99, 140 cases of HIV among the Indigenous population were notified to the National HIV Surveillance Centre. Eight of these cases were reported in conjunction with injecting drug use, while a further 14 cases were reported in conjunction with exposure to both injecting drug use and male homosexual contact. More information about HIV is presented elsewhere in this chapter.

Petrol sniffing continues to be a major problem in some Indigenous communities, and particularly affects young people. Petrol sniffing can cause confusion, aggression, lack of coordination, hallucinations, respiratory problems, and chronic disability including mental impairment (see D'Abbs & MacLean 2000).

Inset 6.2 describes reasons for and problems associated with petrol sniffing, as well as interventions that may be successful in reducing its prevalence and impact.

6.2 PETROL SNIFFING IN ABORIGINAL COMMUNITIES: A REVIEW OF INTERVENTIONS

A review of literature relating to petrol sniffing in Aboriginal communities examines the prevalence and causes of petrol sniffing, and associated problems and potential interventions (D'Abbs & MacLean 2000).

In the view of the authors, 'the presence of petrol sniffing in indigenous communities of a number of developed nations suggests that social dislocation and acculturation and the suffering that these have brought are critical to the production of an environment in which petrol sniffing is attractive to young people'. They concluded that petrol sniffing appeared to offer young people 'some kind of identity, albeit a negative one, amidst the massive change experienced by Aboriginal communities' (p. 13).

The review notes that petrol sniffing causes problems for families as well as for the sniffers themselves. Families may experience loss of control over sniffers, feel shame and grief, and experience hardship through caring responsibilities and fear of violence. Communities may suffer property damage, social disruption and the loss of a proportion of their young people. Demands on hospitals, other health care services and the criminal justice system, are problems that may be experienced by the wider community as a result of petrol sniffing addiction.

Since earlier reviews in 1989 and 1991, the authors report ongoing fluctuations in the presence of petrol sniffing in Aboriginal communities. While the problem has spread to communities which had previously been unaffected, the success of interventions in some communities with long term petrol sniffing problems indicates that certain attempts to reduce the incidence of the behaviour may be successful over time.

The review concludes that effective intervention may require a combination of measures, including the employment of youth workers in communities, the introduction of culturally sensitive recreational and educational programs, the provision of appropriate school, employment and training opportunities, the substitution of petrol with AVGAS (aviation fuel), and the relocation of petrol sniffers to outstations. Skilled counselling, appropriate resources, support teams and night patrols may all be of benefit, while legal sanctions seem to offer little prospect of inducing change.

Source: D'Abbs & MacLean 2000.

Other drugs and substances
continued

Substance misuse is also a problem for indigenous communities in other parts of the developed world. A survey in 1996 in the Northwest Territories of Canada found that Aboriginal people aged over 15 years were about 11 times more likely than non-Aboriginal respondents to report having sniffed aerosols or solvents (Health Canada 1999). Aboriginal Canadians 15 years of age were approximately three times more likely than non-Aboriginal people to report having used marijuana or hashish in the past year, and three-and-a-half times more likely to report having used LSD, speed, cocaine, crack or heroin (Health Canada 1999).

In the United States, the 1991–93 National Household Survey on Drug Abuse found that Native Americans tended to report higher rates of illicit drug use and the need for illicit drug treatment than people in the general population. For example, 20% of Native Americans over the age of 12 reported the use of illicit drugs in the previous year compared, with 12% of the total population. Native Americans also had the highest reported rate of marijuana use at 15%, compared with 9% in the total population (Substance Abuse and Mental Health Services Administration 1998).

MENTAL HEALTH

Traditionally, Aboriginal and Torres Strait Islander people perceive their health not only in terms of the physical health of the individual, but rather in regard to the social, emotional and cultural wellbeing of the whole community (National Aboriginal Health Strategy 1989).

This holistic view makes the measurement of mental health as a separate area of study a complex process, and to date there has been little agreement on which data definitions, standards, and data collection instruments could adequately address these issues (see inset 9.12).

There are, however, data available on the hospitalisation and mortality of Indigenous people which result from mental illness. Some data are also available on self-harm and assault (see below), child abuse and neglect (see Chapter 2), substance misuse (see previous section of this chapter), and incarceration. These factors may be indicators of social and emotional distress, but the data, which are recorded separately in each case, do not provide information about the cause of the patient's mental illness or behavioural problem. Nevertheless, the available data indicate that Indigenous people suffer a higher burden of emotional distress and possible mental illness than that experienced by the wider community.

Data recorded under the category, 'mental and behavioural disorders' are available for Indigenous people who were hospitalised over the period 1998–99. Although the data are likely to underestimate the number of Aboriginal and Torres Strait Islander people, it is evident that Indigenous people were more likely than non-Indigenous people to be hospitalised for these disorders (table 6.3). There were more hospital separations for Indigenous people than expected, based on all-Australian rates, for most types of mental and behavioural disorders.

6.3 HOSPITAL SEPARATIONS FOR MENTAL AND BEHAVIOURAL DISORDERS(a)—1998–99

	<i>Indigenous males</i>			<i>Indigenous females</i>		
	<i>Observed separations</i>		Age-standardised hospital separation ratio(c)	<i>Observed separations</i>		Age-standardised hospital separation ratio(c)
	no.	%(b)		no.	%(b)	
Organic mental disorders(d)	136	0.2	3.1	107	0.1	2.6
Mental disorders due to psychoactive substance use(e)	1 848	2.7	4.1	936	1.0	3.5
Schizophrenia, schizotypal & delusional disorders	862	1.3	1.8	569	0.6	2.0
Mood and neurotic disorders	922	1.3	1.3	1 483	1.6	1.2
Other mental disorders(f)	234	0.3	0.8	255	0.3	0.6
All mental and behavioural disorders	4 002	5.8	2.0	3 350	3.7	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).

(b) Percentage of all hospital separations in 1998–99.

(c) Age-standardised hospital separation ratio is equal to observed separations divided by expected separations, based on all-Australian rates.

(d) Includes brain disorders due to brain damage and dysfunction, such as dementia.

(e) Includes a variety of disorders due to the use of psychoactive substances, which may or may not have been medically prescribed, such as alcohol, opioids, sedatives, and volatile substances.

(f) 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 1997–99, deaths from mental disorders were more common among Indigenous people in the jurisdictions of Queensland, South Australia, Western Australia, and the Northern Territory combined, than in the general population. Comparable rates could not be calculated for the other States and the ACT because data of sufficient quality were not available (see Chapter 8). Based on all-Australian rates, there were over twice as many deaths from mental disorders for Indigenous people as expected (table 8.6). The majority of these deaths (78%) were attributed to psychoactive substance use.

Rates of intentional injury, whether self-inflicted or caused by assault, may be an indicator of psychological illness and distress in the community. Hospitalisation data from 1998–99 show that there were about six times as many hospital separations as expected for assault among Indigenous males, and nearly 19 times as many for Indigenous females, based on all-Australian rates. There were also about twice as many hospital separations as expected for self-harm, for both Indigenous males and females.

Based on all-Australian rates, the jurisdictions of Queensland, South Australia, Western Australia, and the Northern Territory combined, recorded about five times more deaths than expected from assault for Indigenous males, and ten times as many for Indigenous females.

Suicides accounted for 2.6 times more deaths than expected for Indigenous males and twice as many deaths as expected for Indigenous females. The age-specific death rates from suicide for Indigenous males were highest in the 15–24 year age group at 108 per 100,000 and in the 25–34 year age group (96 per 100,000). This compared with 27 per 100,000 for all males aged 15–24 and 38 per 100,000 for all males aged 25–34. For Indigenous females, the rate was highest in the 15–24 year age group at 18 per 100,000 compared with 6 per 100,000 for all females.

Tatz (1999) found high rates of suicide among Aboriginal youth in New South Wales for the years 1996–98, noting that these were among the highest recorded in the international literature he reviewed. He describes Aboriginal suicide as having ‘unique social and political contexts’ (p. 10), and stresses that any attempt to identify the causes of and possible remedies for Aboriginal suicide needs an understanding of the differences that distinguish Aboriginal suicide from non-Aboriginal suicide.

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. In the year 2000, Indigenous males aged 17 and over were imprisoned at the rate of 3,318 per 100,000 compared with 280 per 100,000 for all males (ABS 2001f). The rate for Indigenous females aged 17 and over was 251 per 100,000, compared with 19 per 100,000 for all females. 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 very large differences in the rates. Indigenous people aged 10 to 17 were also at high risk of imprisonment. At 30 June 1999, 42% of all detainees in juvenile corrective institutions were of Aboriginal and/or Torres Strait Islander origin (Australian Institute of Criminology 2001).

Incarceration may be both a risk factor for, and a result of, emotional distress and mental illness. The 1991 Royal Commission into Aboriginal Deaths in Custody found that Aboriginal people who were imprisoned 'often experience depressive symptoms and unresolved anger which sometimes leads them to attempt or commit suicide whilst in custody' (HREOC 1993, p. 698). The incarceration of young Indigenous men and juveniles during their formative years left them 'permanently alienated from their communities', so that on release from prison, they were likely to turn to substance abuse and violence (HREOC 1993, p. 698).

HOSPITALISATION

Hospitalisation data provide useful information about the reasons for which people are hospitalised and the procedures they may undergo in hospital. While the data can provide insights into the health of the population they represent, they are not necessarily good indicators of the health of the total community. Hospitalisation statistics are limited to information about the conditions for which people are admitted to hospital, thereby excluding information regarding those who have made use of other health services, such as general practitioners and community health clinics, and those who have not accessed health care at all. Hospitals may also vary in their decisions about whether to admit patients or treat them as outpatients, and information about outpatients is not routinely reported. Other factors, such as the availability of and access to other medical services, may influence hospital utilisation, and consequently the data reported may not be good indicators of the true levels of need and ill health in a community. A rising rate of hospitalisation, for example, could mean that health status is deteriorating, or that access to hospitals has improved, or both.

Hospital separation (see Glossary) records are reported to the National Hospital Morbidity Database, and provide a count of episodes of hospital care, rather than of the numbers of patients. A 'separation record' refers to a patient's record on discharge, and includes details of diagnosis and procedures performed. A person may be admitted to, and separated from, hospital many times in a year. Each of these separations will appear in the hospital separations dataset as a separate record. Where this occurs for people with conditions such as end stage renal disease, which requires admission for dialysis treatment several times a week, many hospital separations are recorded each year for each individual patient.

The analysis of hospital separation data for Indigenous people is complicated by difficulties in estimating both the numbers of Indigenous people in hospital and the numbers in the overall population. Information about the numbers of Indigenous people in hospital is limited by the accuracy with which they are identified in hospital records.

In some cases, Indigenous status is not recorded at all. For example, although only about 4% of national hospital records for 1998–99 lacked information on patients' Indigenous status, this varied considerably for each jurisdiction (AIHW 2000c). In addition, hospitals may use a variety of methods to capture and record information about Indigenous status (see Chapter 9). Tables 6.4 and 6.14 show that, in 1998–99, some States recorded a smaller proportion of Indigenous people receiving hospital treatment than their proportion of the general population while others recorded a very similar proportion (note that Victoria, Tasmania, and the Australian Capital Territory are not shown in the table). While this could suggest that Indigenous people were either healthier, or that they were accessing other types of health services in a particular jurisdiction, the known poorer health status of the Indigenous population does not support the former conclusion. It is probable that not all Indigenous patients were identified in the hospital records of these jurisdictions. In fact, studies in a number of hospitals across Australia have indicated that records of patients' Indigenous status varied from as few as 44% complete in some hospitals, to 100% in others (Shannon, Brough & Haswell-Elkins 1997, Lynch & Lewis 1997, Condon et al. 1998, ATSIHWIU 1999). This indicates that the number of hospital separations recorded as Indigenous is an underestimate of the true number of Indigenous hospital separations, and the numbers presented in this chapter will, therefore, underestimate the true level of hospital utilisation by Indigenous people. The extent of this underestimation is unknown nationally. The exceptions are the Northern Territory and Western Australia, which have assessed the completeness with which Indigenous status is recorded in their public hospitals. The Northern Territory study showed that 94% of Indigenous patients had their Indigenous status correctly recorded (Condon et al. 1998). Results for Western Australia are expected to be published in the near future (Young, forthcoming). (See Chapter 9 for information on progress in other jurisdictions.)

The accuracy of the Indigenous population estimates and projections, used in the denominator of the calculation of hospitalisation rates, will also affect the accuracy of the rates presented here. Rates presented in this chapter are based on low series projections, that is, conservative estimates of the Indigenous population. Refer to Chapter 9 for information on the difficulties associated with estimating and projecting the Indigenous population.

Uncertainties regarding the accuracy of methods used to gather information about Indigenous people also make it difficult to draw conclusions about changes occurring over time. Improvements in the identification of Indigenous people in hospital records, for example, can lead to higher apparent rates of hospitalisation. It is not currently possible to ascertain whether a rise in hospitalisation is a result of improved Indigenous identification, or whether it reflects a real increase in hospital utilisation.

Difficulties in comparing hospitalisation data also arise due to recent changes to the way in which diagnoses and procedures are classified in Australia. Reasons for hospitalisation and types of hospital procedures are classified according to the International Statistical Classification of Diseases and Related Health Problems. The tenth revision of this classification with Australian modification (ICD-10-AM), is now in use in Australia (NCCH 2000). Hospital data for 1998–99 were provided in ICD-10-AM format by New South Wales, Victoria, the Australian Capital Territory and the Northern Territory. The remaining states provided the data in the previous format, ICD-9-CM. To allow the data to be combined in a national dataset, the data provided in ICD-9-CM format were mapped to that of ICD-10-AM by the AIHW (see Explanatory Notes). The data presented below for main causes of hospitalisation and principal procedures are based on ICD-10-AM, and are therefore not directly comparable with those of previous editions of this publication, which presented data based on ICD-9-CM.

In this publication, hospital separations by principal diagnosis and principal procedure for the 1998–99 reporting period are presented for all States and Territories. With the exception of the Northern Territory, where only public hospital data were available, information from both public and private hospitals has been included in the National Hospital Morbidity Database. Complete information was not obtained from all private hospitals (see AIHW 2000c).

Overview In 1998–99 there were over 5.7 million hospital separations recorded nationally, of which 159,292 (2.8%) were for people identified as Indigenous. More than 98% of separations for people identified as Indigenous were recorded in public hospitals, compared with 66% of other separations. After adjusting for age, Indigenous people nationally were about twice as likely to be hospitalised as other people (table 6.4).

6.4 HOSPITAL SEPARATIONS IDENTIFIED AS INDIGENOUS—1998–99(a)

	<i>Separations identified as Indigenous</i>		<i>Other separations(b)</i>			<i>Proportion of separations identified as Indigenous</i>	<i>Proportion of the population identified as Indigenous(e)</i>
	<i>no.</i>	<i>age-standardised rate per 1,000(c)</i>	<i>no.</i>	<i>age-standardised rate per 1,000(c)</i>	<i>rate ratio(d)</i>		
MALES							
New South Wales	13 259	332	847 951	268	1.2	1.5	1.8
Queensland	19 677	550	495 809	296	1.9	3.8	3.2
South Australia	4 885	669	224 844	295	2.3	2.1	1.5
Western Australia	15 122	724	235 583	273	2.7	6.0	3.1
Northern Territory(f)	13 212	811	12 224	210	3.9	51.9	26.8
Australia(g)	68 837	512	2 571 520	279	1.8	2.6	2.1
FEMALES							
New South Wales	18 060	404	995 057	297	1.4	1.8	1.8
Queensland	25 188	615	558 469	321	1.9	4.3	3.3
South Australia	6 812	834	264 886	331	2.5	2.5	1.6
Western Australia	19 798	886	273 666	302	2.9	6.7	3.2
Northern Territory(f)	16 925	856	12 769	225	3.8	57.0	30.0
Australia(g)	90 455	596	3 004 151	308	1.9	2.9	2.2

(a) Based on State/Territory of usual residence. Excludes separations for which age and sex was not stated.

(b) Includes separations for people identified as non-Indigenous and those for whom Indigenous status was not reported.

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

(d) Rate ratio is the rate of separations for persons identified as Indigenous divided by the rate of other separations.

(e) As estimated at 31 December 1998.

(f) Public hospitals only.

(g) Includes Victoria, Tasmania and the A.C.T. Includes those usually resident in other Australian territories or overseas, and those for whom State/Territory of usual residence was not stated.

Source: AIHW National Hospital Morbidity Database.

Reasons for hospitalisation In 1998–99, the most common principal diagnosis for Indigenous males and females was for a group of reasons called ‘Factors influencing health status and contact with health services’ (table 6.5). The majority of these (87%) were for ‘care involving dialysis’. Indigenous males were also commonly hospitalised for injury and poisoning (13%), respiratory diseases (12%), digestive diseases (7%) and mental and behavioural disorders (6%). For Indigenous females, pregnancy and childbirth were important reasons for hospitalisation (17% of separations), followed by respiratory diseases (9%), injury and poisoning (8%) and digestive diseases (5%). These major causes of hospitalisation are described in more detail below.

As indicated by the age-standardised hospital separation ratios (see inset 8.1) in table 6.5, for many principal diagnoses, separations for people identified as Indigenous were higher than expected, based on the hospitalisation rates for the total Australian population. If all separations for Indigenous persons had been correctly recorded, these ratios would, in all probability, have been higher. Despite these limitations, the data available indicate that the Indigenous population experiences a higher burden of illness and disease resulting in hospitalisation than does the rest of the population.

6.5 HOSPITAL SEPARATIONS IDENTIFIED AS INDIGENOUS, BY CAUSE—1998–99(a)

	Separations identified as Indigenous		Age-standardised hospital separation ratio(b)		Proportion of total separations	
	Males	Females	Males	Females	Males	Females
	no.	no.	ratio	ratio	%	%
Certain infectious and parasitic diseases	2 504	2 492	2.1	2.1	3.6	2.8
Neoplasms	861	1 405	0.5	0.6	1.3	1.6
Diseases of the blood & blood-forming organs & certain diseases involving the immune mechanism	252	479	0.5	1.0	0.4	0.5
Endocrine, nutritional & metabolic disease	1 247	1 601	3.4	3.0	1.8	1.8
Mental and behavioural disorders	4 002	3 350	2.0	1.5	5.8	3.7
Diseases of the nervous system	1 779	1 111	1.8	1.2	2.6	1.2
Diseases of the eye and adnexa	572	682	1.0	1.0	0.8	0.8
Diseases of the ear and mastoid process	959	943	0.9	1.2	1.4	1.0
Diseases of the circulatory system	3 151	3 026	1.7	2.1	4.6	3.5
Diseases of the respiratory system	8 072	7 986	2.0	2.4	11.7	8.8
Diseases of the digestive system	4 806	4 601	1.0	0.9	7.0	5.1
Diseases of the skin and subcutaneous tissue	2 717	2 419	2.9	3.0	4.0	2.7
Diseases of the musculoskeletal system and connective tissue	1 764	1 667	0.8	0.9	2.6	1.8
Diseases of the genitourinary system	1 509	4 686	1.0	1.1	2.2	5.2
Pregnancy, childbirth and the puerperium	..	15 018	..	1.4	..	16.6
Certain conditions arising in the perinatal period	1 054	934	0.9	1.0	1.5	1.0
Congenital malformations, deformations and chromosomal abnormalities	407	262	0.6	0.5	0.6	0.3
Symptoms, signs and abnormal clinical & laboratory findings, nec(c)	3 453	3 921	1.6	1.5	5.0	4.3
Injury, poisoning and certain other consequences of external causes	9 039	7 077	1.8	2.4	13.1	7.8
Factors influencing health status and contact with health services(d)						
Care involving dialysis	18 215	22 871	6.6	10.9	26.5	25.3
Other	2 447	3 918	0.7	0.9	3.6	4.3
Total	20 662	26 789	3.3	4.3	30.0	29.6
All causes (excluding dialysis)(e)	50 625	67 585	1.4	1.4	73.5	74.7
All causes (including dialysis)(e)	68 840	90 456	1.8	1.8	100.0	100.0

(a) Includes data from public and most private hospitals. Exclude separations for which sex was not stated. 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).

(b) Age-standardised hospital separation ratio is calculated as hospital separations for persons identified as Indigenous divided by expected separations, based on all-Australian rates.

(c) Includes signs, symptoms and abnormal results of clinical or other investigative procedures that do not point conclusively to a specific diagnosis.

(d) Includes hospitalisation for care involving dialysis, chemotherapy, radiotherapy, circumstances related to reproduction, organ donation, vaccination, convalescence, or for discussion of a problem that is affecting a person's health but not currently causing illness.

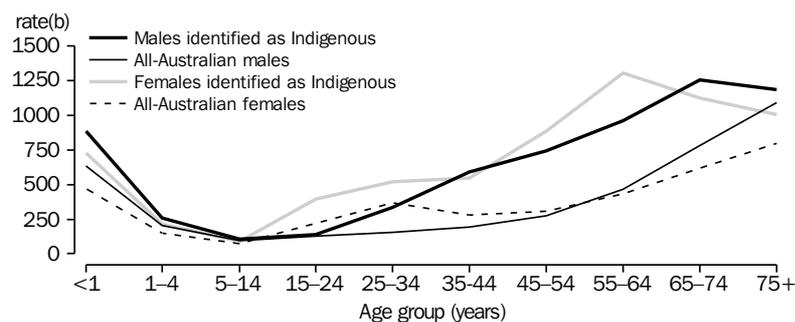
(e) Total includes separations for which information on principal diagnosis was not stated.

Source: AIHW National Hospital Morbidity Database.

Age-specific hospital separation rates

Hospital separation rates for Indigenous males and females exceeded the all-Australian rates in every age group (graph 6.6). After excluding separations involving dialysis, the differences were greatly reduced, particularly for the age groups 35–44 and above (graph 6.7).

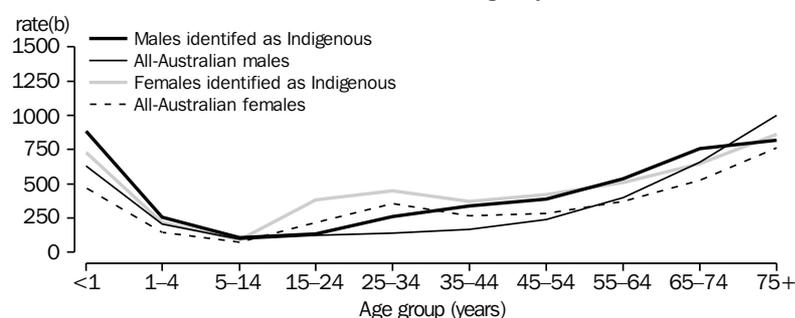
6.6 HOSPITAL SEPARATIONS, All Causes(a)—1998–99



(a) Data are from public and most private hospitals.
 (b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

6.7 HOSPITAL SEPARATIONS, All Causes Excluding Dialysis(a)—1998–99



(a) Data are from public and most private hospitals.
 (b) Per 1,000 population.

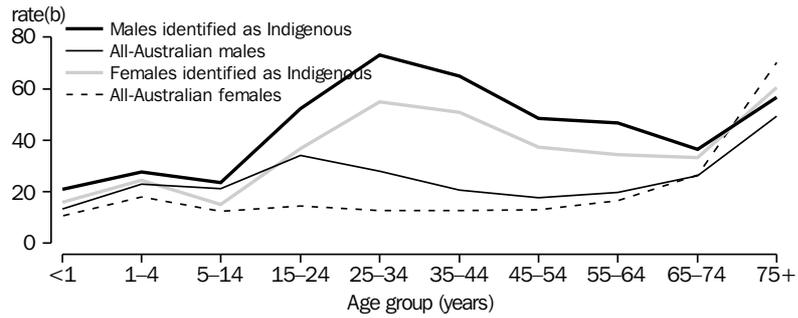
Source: AIHW National Hospital Morbidity Database.

Injury or poisoning

In 1998–99, there were over 16,000 separations among patients identified as Indigenous with a principal diagnosis of injury or poisoning (table 6.5). Graph 6.8 shows that the rates at which Indigenous people were hospitalised for injury or poisoning varied greatly with age, and that Indigenous people aged 25–34 were most at risk.

Separations with a principal diagnosis of injury or poisoning are generally accompanied by a code which indicates the external cause of the injury. In 1998–99, over 20% of injury separations for Indigenous males and almost 30% for Indigenous females were recorded with an external cause of assault (graph 6.9). There were six times as many separations for assault for Indigenous males as expected, based on hospitalisation rates for the total population, and nearly 19 times as many as expected for Indigenous females.

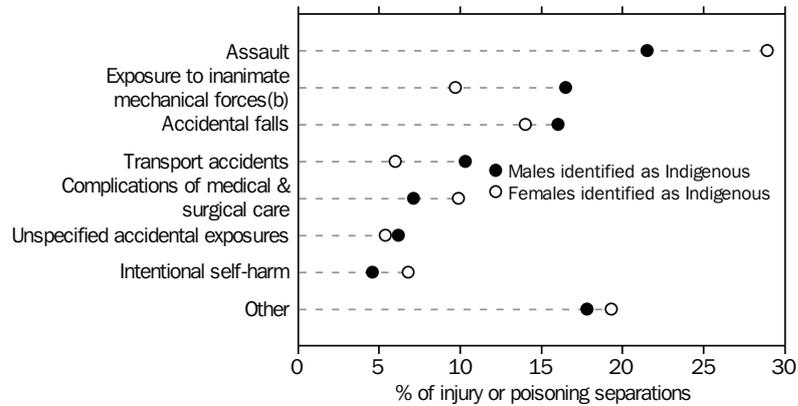
6.8 HOSPITAL SEPARATIONS, Injury or Poisoning(a)—1998–99



(a) Data are from public and most private hospitals.
 (b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

6.9 HOSPITAL SEPARATIONS, Cause of Injury or Poisoning(a)—1998–99



(a) Data are from public and most private hospitals. 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'.

(b) Includes injuries due to accidental contact with machinery or other objects, accidental discharge from firearms, explosions, & exposure to noise.

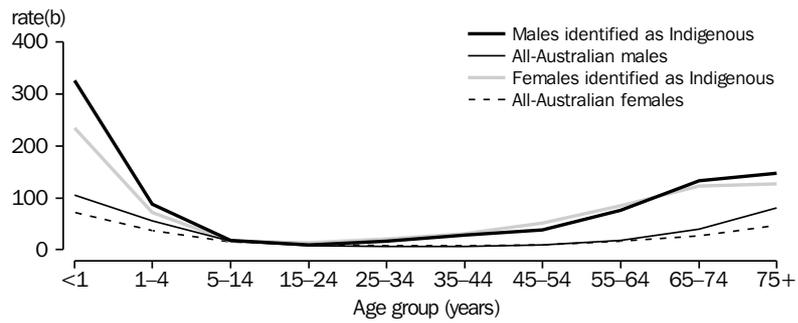
Source: AIHW National Hospital Morbidity Database.

Diseases of the respiratory system

In 1998–99, there were over 16,000 separations among patients recorded as Indigenous with a principal diagnosis of respiratory disease, about twice as many as would be expected based on rates for the total population (table 6.5). Hospitalisation for respiratory diseases affected the very young in both the Indigenous and the total population although the rates for infants identified as Indigenous were higher than those for all Australians. Indigenous people were also more likely to be hospitalised for respiratory diseases than the total population from the age of about 35 onwards (graph 6.10).

Influenza and pneumonia, and chronic lower respiratory tract diseases (including asthma) were the most common types of respiratory diseases resulting in hospital admission. There were about five times as many separations as expected for influenza and pneumonia for both Indigenous males and females, and about twice as many as expected for chronic lower respiratory disease.

6.10 HOSPITAL SEPARATIONS, Respiratory Disease(a)—1998–99



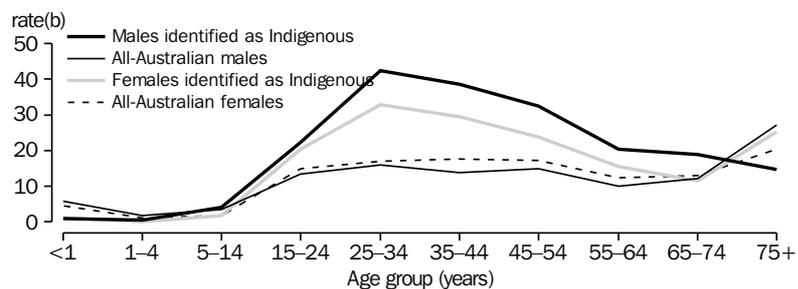
(a) Data are from public and most private hospitals.
 (b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

Mental and behavioural disorders

There were about 7,400 separations for mental and behavioural disorders among patients identified as Indigenous, twice as many as expected for Indigenous males and 1.5 times as many as expected for Indigenous females (table 6.5). Admission to hospital for mental and behavioural disorders occurred most frequently among Indigenous people aged 25–34 years (graph 6.11). See the above section on mental health for more details.

6.11 HOSPITAL SEPARATIONS, Mental and Behavioural Disorders(a)—1998–99



(a) Data are from public and most private hospitals.
 (b) Per 1,000 population.

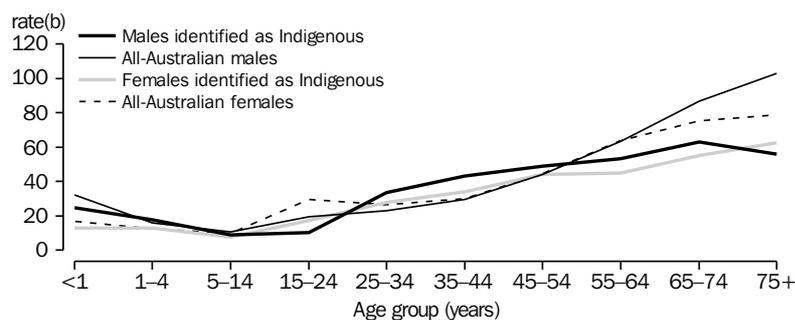
Source: AIHW National Hospital Morbidity Database.

Diseases of the digestive system

In 1998–99, diseases of the digestive system accounted for 9,400 separations among patients identified as Indigenous (table 6.5). Indigenous people were hospitalised for these conditions at rates similar to those experienced by the total population (graph 6.12).

Diseases of the gallbladder, biliary tract and pancreas, and diseases of the oesophagus, stomach and duodenum, were the most common types of digestive disease requiring hospital admission of Indigenous people.

6.12 HOSPITAL SEPARATIONS, Digestive Diseases(a)—1998–99



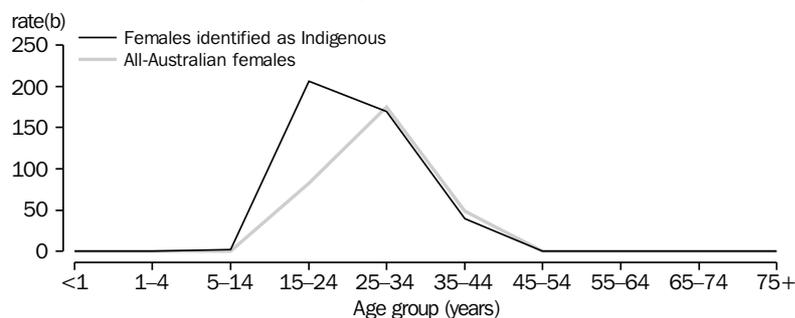
(a) Data are from public and most private hospitals.
 (b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

Pregnancy and childbirth

There were 15,000 separations for pregnancy and childbirth among women identified as Indigenous in 1998–99, representing 17% of all separations for females identified as Indigenous (table 6.5). This was 1.4 times as many separations as expected for Indigenous females, based on rates for the total population. Graph 6.13 shows that Indigenous mothers have their babies at younger ages than mothers in the general population. Data presented here are for mothers who have their babies in hospital. For more information about Indigenous mothers and their babies, see Chapter 5.

6.13 HOSPITAL SEPARATIONS, Pregnancy and Childbirth(a)—1998–99



(a) Data are from public and most private hospitals.
 (b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

Hospital procedures

There were 4.4 million principal procedures (see Glossary) performed in hospitals in 1998–99, of which 2.1% were recorded among patients identified as Indigenous (table 6.14).

On a population basis, the likelihood of an Indigenous person undergoing a principal procedure in hospital was greater nationally, and in the jurisdictions of Queensland, South Australia, Western Australia, and the Northern Territory than it was for other patients (table 6.14). However, Indigenous people who were hospitalised were less likely to undergo a principal procedure than other hospitalised people. Of the 159,292 hospital separations for people identified as Indigenous (table 6.4), 59% had a principal procedure recorded, compared with

Hospital procedures *continued* 78% for the rest of the population. This difference holds regardless of age, jurisdiction, or reason for hospitalisation (with the exception of dialysis). The reasons why Aboriginal and Torres Strait Islander people who entered hospital were less likely to have a principal procedure recorded are not known. This issue has been noted previously and needs further investigation (Cunningham & Beneforti 2000).

6.14 SEPARATIONS WITH A PRINCIPAL PROCEDURE RECORDED(a)—1998–99

	<i>Separations identified as Indigenous</i>		<i>Other separations(b)</i>			<i>Proportion of separations identified as Indigenous</i>	<i>Proportion of the population identified as Indigenous</i>
	<i>no.</i>	<i>age-standardised rate per 1,000(c)</i>	<i>no.</i>	<i>age-standardised rate per 1,000(c)</i>	<i>rate ratio(d)</i>		
MALES							
New South Wales	6 224	176	653 619	205	0.9	0.9	1.8
Queensland	10 936	331	377 646	225	1.5	2.8	3.2
South Australia	2 911	448	172 518	224	2.0	1.7	1.5
Western Australia	8 396	429	186 254	215	2.0	4.3	3.1
Northern Territory(f)	9 928	670	8 989	158	4.2	52.5	26.8
Australia(g)	39 998	327	2 001 290	216	1.5	2.0	2.1
FEMALES							
New South Wales	9 755	230	771 027	228	1.0	1.2	1.8
Queensland	14 266	371	426 861	244	1.5	3.2	3.3
South Australia	4 414	601	202 577	253	2.4	2.1	1.6
Western Australia	11 114	536	216 670	239	2.2	4.9	3.2
Northern Territory(f)	12 237	677	8 886	160	4.2	57.9	30.0
Australia(g)	54 200	389	2 320 707	236	1.6	2.3	2.2

(a) Based on State/Territory of usual residence. Excludes separations for which age and sex was not stated.

(b) Includes separations for people identified as non-Indigenous and those for whom Indigenous status was not reported.

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

(d) Rate ratio is the rate of separations with a procedure among people identified as Indigenous divided by the rate of separations with a procedure for all others.

(e) As estimated at 31 December 1998.

(f) Public hospitals only.

(g) Includes Victoria, Tasmania and the A.C.T. Includes those usually resident in other Australian territories or overseas, and those for whom State/Territory of usual residence was not stated.

Source: AIHW National Hospital Morbidity Database.

Types of principal procedure The most common types of principal procedure recorded for separations for persons identified as Indigenous in 1998–99 were procedures on the urinary system, the majority of which were for haemodialysis (table 6.15). Some 46% of principal procedures for Indigenous males, and 43% for Indigenous females, were for haemodialysis, a procedure which artificially performs the work of the kidneys in end stage renal disease patients. For more detail on haemodialysis procedures and end stage renal disease, see the section in this chapter on kidney disease.

Types of principal procedure
continued

Other types of principal procedures commonly performed on Indigenous male patients were procedures on the musculoskeletal system (8%), 'non-invasive, cognitive and interventions not elsewhere classified' (7%), dermatological and plastic procedures (7%), and procedures on the digestive system (6%). For Indigenous females (after haemodialysis) obstetric procedures were the most commonly performed procedures, accounting for 12% of total separations with a principal procedure recorded. Other common types of procedures for Indigenous females were gynaecological procedures (7%), allied health interventions (6%), and procedures on the digestive system (5%).

6.15 TYPES OF PROCEDURES(a) RECORDED FOR SEPARATIONS IDENTIFIED AS INDIGENOUS(b)—1998–99

	Separations for patients identified as Indigenous		Age-standardised hospital separation ratio(c)		Proportion of total separations	
	Males	Females	Males	Females	Males	Females
	no.	no.	ratio	ratio	%	%
Procedures on the nervous system	554	559	0.8	0.7	1.4	1.0
Procedures on the endocrine system	15	60	0.5	0.6	—	0.1
Procedures on the eye and adnexa	534	601	0.9	0.9	1.3	1.1
Procedures on the ear and mastoid process	651	623	0.7	0.9	1.6	1.2
Procedures on the nose, mouth and pharynx	482	482	0.4	0.4	1.2	0.9
Dental Services	617	665	0.6	0.5	1.5	1.2
Procedures on the respiratory system	634	468	1.4	1.5	1.6	0.9
Procedures on the cardiovascular system	1 042	981	1.0	1.2	2.6	1.8
Procedures on blood and blood-forming organs	97	102	0.6	0.7	0.2	0.2
Procedures on the digestive system	2 474	2 846	0.6	0.6	6.2	5.3
Procedures on the urinary system						
Haemodialysis	18 261	23 148	6.6	11.0	45.6	42.7
Other	887	780	1.1	1.2	2.2	1.4
Total	19 148	23 928	5.3	8.7	47.9	44.2
Procedures on the male genital organs	659	..	0.5	..	1.7	..
Gynaecological procedures	..	3 967	..	0.8	..	7.3
Obstetric procedures	..	6 240	..	1.1	..	11.5
Procedures on the musculoskeletal system	3 130	1 914	0.8	0.8	7.8	3.5
Dermatological and plastic procedures	2 833	2 354	1.4	1.3	7.1	4.3
Procedures on the breast	10	296	0.3	0.5	—	0.6
Chemotherapeutic and radiation oncology procedures	351	545	0.3	0.4	0.9	1.0
Non-invasive, cognitive and interventions n.e.c.(d)	2 865	2 822	1.0	1.1	7.2	5.2
Imaging services	1 564	1 619	1.2	1.4	3.9	3.0
Allied health interventions(e)	2 338	2 981	1.7	1.7	5.9	5.5
Total (excluding dialysis)	21 737	31 052	0.9	0.9	54.3	57.3
Total (including dialysis)	39 998	54 200	1.4	1.5	100.0	100.0

(a) Refers to the principal procedure performed.

(b) Includes data from public and most private hospitals. Categories are based on the International Statistical Classification of Diseases, 10th Revision, Australian Modification (ICD-10-AM) (National Centre for Classification in Health 2000).

(c) Age-standardised hospital separation ratio is calculated as separations with a principal procedure for people identified as Indigenous divided by expected separations with a principal procedure, based on all-Australian rates.

(d) Includes diagnostic assessments and investigations, counselling, alcohol and drug rehabilitation, skills training in relation to learning and movement, immunisations, and therapeutic interventions.

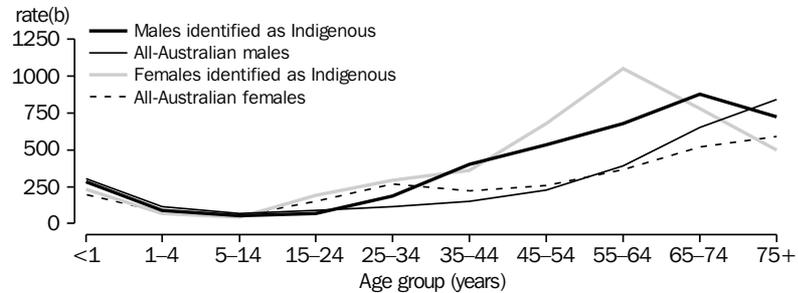
(e) Includes physiotherapy, social work and speech pathology among others.

Source: AIHW. National Hospital Morbidity Database.

Age-specific rates for principal procedures

The age-specific rates for principal procedures were higher for males and females identified as Indigenous than for all-Australians, in most adult age groups (graph 6.16). After excluding haemodialysis procedures, the differences were much reduced, particularly for the age groups 35–44 and above (graph 6.17).

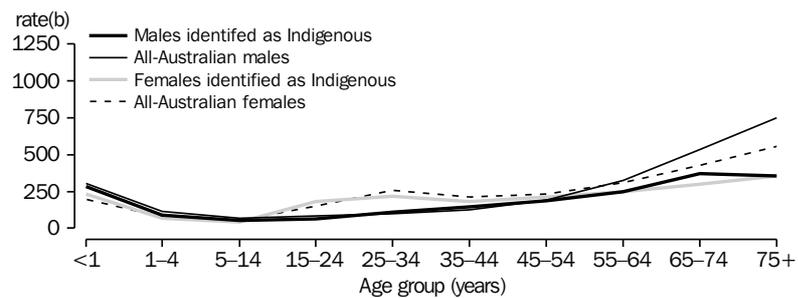
6.16 HOSPITAL PROCEDURES, All Causes(a)—1998–99



(a) Refers to separations with a principal procedure recorded. Data are from public and most private hospitals.
 (b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

6.17 HOSPITAL PROCEDURES, All Causes Excluding Dialysis(a)—1998–99



(a) Refers to separations with a principal procedure recorded. Data are from public and most private hospitals.
 (b) Per 1,000 population.

Source: AIHW National Hospital Morbidity Database.

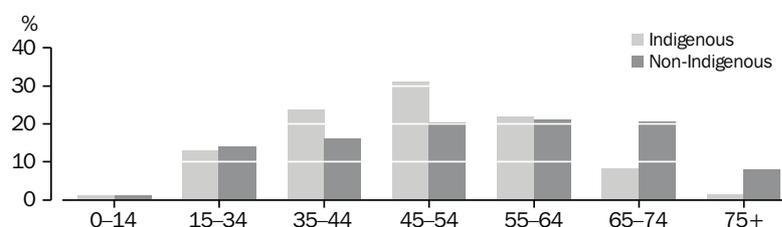
KIDNEY DISEASE

Risk factors for kidney disease include diabetes, high blood pressure, infections, low birthweight and obesity, all of which are more common among Indigenous people than among non-Indigenous people (ABS & AIHW 1999). Kidney disease affects a relatively small number of people, but has a severe impact on the quality of life of those affected and their carers. Also, the cost of treatment of kidney disease (e.g. haemodialysis) is very high. The 1999 edition of this publication included a special feature chapter on kidney disease. The current edition includes updated information about people with end stage renal disease (ESRD), as well as data on the mortality and hospitalisation of Indigenous people with renal failure.

People with ESRD require dialysis or a kidney transplant for survival. These patients are registered with the Australian and New Zealand Dialysis and Transplant Registry (ANZDATA). In 1999, there were 642 registrations for patients who identified as Aboriginal and/or Torres Strait Islander, including new and continuing patients (ANZDATA). Of these, 82% were receiving dialysis treatment, and the remainder (18%) had functioning transplants. In contrast, 46% of all patients registered had a functioning transplant. Some of the reasons Indigenous patients are less likely to receive a transplant include having multiple illnesses, being less likely to find a suitable donor, or being too ill to undergo the surgery required to receive a transplant (ABS & AIHW 1999).

Indigenous patients with ESRD are more likely to be younger than non-Indigenous patients with the disease (graph 6.18). Just under 70% of new and continuing Indigenous patients were under 55 years of age, compared with 51% of non-Indigenous patients (ANZDATA).

6.18 AGE DISTRIBUTION OF END STAGE RENAL DISEASE PATIENTS(a)—
1999(b)



(a) Includes all types of dialysis, plus functioning transplants.

(b) Figures for 1999 updated 30 September 2000.

Source: The data reported here have been supplied by the Australian and New Zealand Dialysis and Transplant Registry. The interpretation and reporting of these data are the responsibility of the authors and should not be seen as the official policy or interpretation of the Australia and New Zealand Dialysis and Transplant Registry.

There were 1,735 new ESRD patients in 1999, of whom 8.7% (151) were identified as Indigenous (table 6.19) (ANZDATA). The total number of new patients has been increasing yearly (Disney et al. 2000) and the proportion of Indigenous patients continues to exceed the proportion of Indigenous people in the population. The median age of new Indigenous patients in 1999 was 50 years, compared with a median age of 61 years for all patients (ANZDATA, Disney et al. 2000). Nearly 64% of new Indigenous patients were female, compared with 40% of new non-Indigenous patients.

The Northern Territory and Queensland had the highest numbers of new Indigenous patients in 1999, followed by Western Australia (table 6.19). These three jurisdictions together accounted for 78% of all new Indigenous patients. As with other datasets, the level of identification of Indigenous status is likely to vary between jurisdictions, therefore comparisons between jurisdictions should be treated with caution.

6.19 END STAGE RENAL DISEASE—NEW PATIENTS IDENTIFIED AS INDIGENOUS
—1999(a)

	NSW(b)	Qld	SA	WA	NT	Australia(c)
MALES						
Total (no.)	339	158	88	112	15	1 001
Indigenous (no.)	10	16	5	11	12	55
Indigenous (%)	3	10	6	10	80	6
FEMALES						
Total (no.)	232	149	53	86	37	734
Indigenous (no.)	8	26	5	20	33	96
Indigenous (%)	3	9	11	23	89	13

(a) Updated figures as at 30th September 2000.

(b) Includes Australian Capital Territory.

(c) Includes Victoria and Tasmania, due to small numbers of cases.

Source: The data reported here have been supplied by the Australia and New Zealand Dialysis and Transplant Registry. The interpretation and reporting of these data are the responsibility of the authors and should not be seen as the official policy or interpretation of the Australia and New Zealand Dialysis and Transplant Registry.

KIDNEY DISEASE *continued*

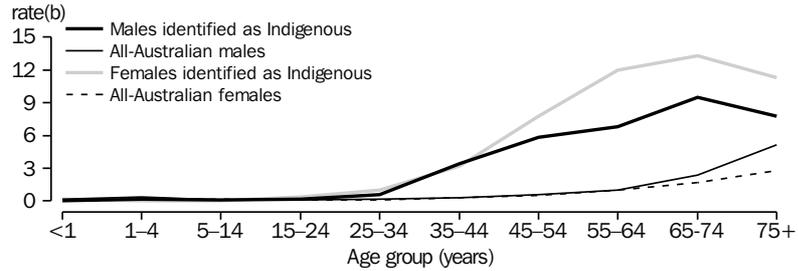
Research has shown that ESRD incidence among Indigenous people in remote areas is 30 times higher than the total national incidence of ESRD. In urban areas, the incidence of ESRD among Indigenous people is much lower, but still higher than the national incidence rate (Cass et al. 2001).

Hospital visits for renal failure

In 1998–99, there were 279 hospital separations of Indigenous males for renal failure, including ESRD. (This excludes hospital separations where the principal diagnosis was ‘care involving dialysis’). After adjusting for age, the numbers of separations for renal failure for Indigenous males was about five times higher than expected. For Indigenous females, 420 separations were recorded for renal failure, which was seven times higher than expected, based on rates for the total Australian population. The higher numbers and ratios for Indigenous females compared with Indigenous males with renal failure reflect the higher numbers of Indigenous females on the ANZDATA registry.

Graph 6.20 shows that the rates of hospitalisation for renal failure among Indigenous males and females aged 25 and over greatly exceed those for the total Australian population.

6.20 HOSPITAL SEPARATIONS, Renal Failure(a)—1998–99



(a) Data are from public and most private hospitals. Based on principal diagnosis. Refers to acute and chronic renal failure, including end stage renal disease (ICD-10-AM codes N17-N19). Excludes separations where the principal diagnosis was 'care involving dialysis'.
 (b) Per 1,000 population.

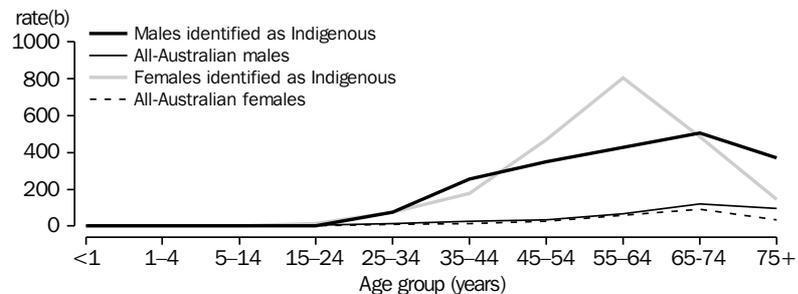
Source: AIHW National Hospital Morbidity Database.

Haemodialysis procedures

Some 44% of all principal procedures performed in hospital on Indigenous people in 1998–99 were for haemodialysis. There were over 41,000 separations for Indigenous persons with a haemodialysis procedure recorded (as a principal procedure), 56% of which were for Indigenous females. After adjusting for age, there were over six times as many procedures for haemodialysis as expected for Indigenous males, and eleven times as many for Indigenous females. The graph (6.21) depicts the sharp rise in rates for both Indigenous males and females for hospitalisation for haemodialysis from early adulthood. The highest rates were for Indigenous females, peaking in the 55–64 year old age group at around 800 procedures per 1,000 population. Patients with ESRD may be admitted several times a week for treatment. The majority of hospital admissions for haemodialysis are on a same-day basis.

Haemodialysis is not the only kind of dialysis performed, but it is by far the most common. In 1999, about 70% of all Indigenous dialysis patients on the ANZDATA registry were receiving haemodialysis treatment in either a hospital or a hospital satellite unit (ANZDATA). The remainder were receiving either home-based haemodialysis treatment (6%), peritoneal dialysis treatment (hospital or home-based)(2%), or continuous ambulatory peritoneal dialysis treatment (home or hospital based) (22%) (ANZDATA). (See Glossary for an explanation of the different types of dialysis.)

6.21 HAEMODIALYSIS PROCEDURES(a)—1998–99



(a) Data are from public and most private hospitals. Based on the principal procedure performed.
 (b) Per 1,000 population. Patients may be admitted several times a week for haemodialysis treatment. Admission is usually on a same-day basis.

Source: AIHW National Hospital Morbidity Database.

Deaths from renal failure In 1997–99, in Queensland, South Australia, Western Australia and the Northern Territory, there were 78 deaths of Indigenous people with an underlying cause of renal failure, 64% of which were of Indigenous females. There were about five times as many deaths due to renal failure as expected for males identified as Indigenous and eight times as many for females identified as Indigenous, based on rates for the total population. In addition, renal failure was reported as an associated cause of death in 440 other deaths of Indigenous people, 124 of which had an underlying cause of diabetes (see Chapter 8).

Inset 6.22 describes a program that has been successful in reducing rates of ESRD in the Indigenous population of Tiwi Islands, in the Northern Territory.

6.22 REDUCING PREMATURE DEATH AND RENAL FAILURE IN INDIGENOUS PEOPLE ON THE TIWI ISLANDS

There are very high rates of ESRD, cardiovascular disease (CVD), hypertension, and diabetes among the Indigenous population of the Tiwi Islands. To address these problems, a systematic treatment program was introduced in 1995. The aim of the program was to reduce the levels of hypertension in the population and modify the onset and progression of both renal and cardiovascular diseases.

The program has been run by the Tiwi people since soon after its inception, with support from medical practitioners, who make the initial assessments and decisions about treatment regimes, and with assistance from visiting nurses.

The program's non-medical methods include education about diet, exercise, health behaviours and medical treatment. Medical interventions consist of drug therapy for blood-pressure control and protection against hypertension and cardiovascular disease, as well as for blood glucose and lipid level reduction, where appropriate.

Approximately three years after its initiation, 29% (258) of all adults in the Tiwi Islands were enrolled in the program, of whom 227 are still participating. Participation was reported as 'enthusiastic', and compliance improved as the program continued, with 65% of participants taking at least 70% of their medication.

The program has led to significant improvements in blood pressure and stabilisation of renal function in those receiving treatment. Other associated outcomes have been a decrease in renal failure and death rates, compared with an historical control group. An increase in ESRD in other Aboriginal groups during the period of the study contrasted with the community-wide reduction of ESRD in the Tiwi Islands.

Source: Hoy et al. 2000.

NOTIFIABLE COMMUNICABLE DISEASES

Surveillance of communicable diseases (i.e. those that can be spread to others) is a crucial component of public health strategies for prevention and control of these diseases. For this reason, certain infectious diseases are classified as 'notifiable communicable diseases', and must be brought to the attention of health authorities. Since not all such cases of infectious disease lead to hospitalisation or death, notification data are also a valuable source of information on the presence of these conditions in the community.

NOTIFIABLE COMMUNICABLE
DISEASES *continued*

Notifiable communicable diseases include tuberculosis, various types of hepatitis, malaria, leprosy, measles, *Haemophilus influenzae* type b, syphilis, gonococcal infection, arbovirus infections (such as Ross River virus), chlamydial infection, meningococcal infection, mumps, pertussis, rubella, salmonellosis, and other diseases. (See following section for information on HIV/AIDS.) State and Territory health authorities forward information about disease notifications to the National Notifiable Diseases Surveillance System (NNDSS). The proportion of disease cases notified to the health authorities (and therefore to the NNDSS) is unknown and is likely to vary for different diseases and from one jurisdiction to another (Hargreaves et al. 1995).

Table 6.23 presents information on notifications for selected diseases for South Australia, Western Australia and the Northern Territory combined, for the three-year period 1998–2000. Notifications from other jurisdictions have been excluded because a high proportion of their notifications lacked Indigenous status identification—as high as 100% for some diseases in some jurisdictions. It is not known how well the data represent the experience of Indigenous people living in other jurisdictions. Indigenous status was unknown for up to 28% of notifications for the diseases and infections listed in table 6.23, so it is likely that the notification rates for the Indigenous population in South Australia, Western Australia and the Northern Territory underestimate the true rates, to some extent. Territory Health Services notes that recording of Indigenous status has improved in the Northern Territory Notifiable Diseases Surveillance System. The proportion of notifications missing information on Indigenous status has nearly halved over the past decade.

Other potential biases in the data include differential access to medical services and specific screening and priority programs that may influence the likelihood of certain diseases being identified (and therefore notified).

In 1998–2000, the notification rates for people identified as Indigenous were higher than rates for the total population in South Australia, Western Australia and the Northern Territory for chlamydial infection, donovanosis, gonococcal infection, *Haemophilus influenzae* type b, hepatitis A, hepatitis B, hepatitis C, meningococcal infection, salmonellosis, shigellosis, syphilis and tuberculosis, but lower or very similar for measles, pertussis (whooping cough), mumps, rubella and Ross River virus (table 6.23).

The rates presented are crude rates, that is, they do not take into account differences in the age structures of the populations. Because the Indigenous population has a younger age structure than the total population (see Chapter 1), diseases and infections which are more common in children and young people could be expected to have relatively higher crude rates in the Indigenous population than in the total population, even if age-specific rates were similar. However, for most of the diseases presented in the table, differences in the age structures of the two populations do not explain the differences in the crude rates.

NOTIFIABLE COMMUNICABLE DISEASES *continued*

Despite shortcomings in the quality of the data, the greater burden of infectious disease (apart from some vaccine-preventable diseases such as measles) among Indigenous people in South Australia, Western Australia and the Northern Territory, relative to the total population living in those jurisdictions is apparent.

6.23 COMMUNICABLE DISEASE NOTIFICATIONS—1998–2000(a)

	<i>Proportion of notifications identified as</i>				<i>Crude rates per 100,000</i>	
	<i>Notifications</i>	<i>Indigenous</i>	<i>Non-Indigenous</i>	<i>Unknown</i>	<i>Notifications identified as Indigenous</i>	<i>Total</i>
	<i>no.</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>rate</i>	<i>rate(b)</i>
Campylobacteriosis	12 275	4	70	26	115.3	115.3
Chlamydial infection	13 200	31	57	13	983.2	124.0
Donovanosis	44	98	2	—	10.4	0.4
Gonococcal infection	8 007	72	16	11	1405.0	75.2
Haemophilus influenzae type b	22	50	41	9	2.7	0.2
Hepatitis A	1 071	20	68	12	52.9	10.1
Hepatitis B (acute)	296	23	71	6	16.7	2.8
Hepatitis C (incident)	630	13	83	4	19.2	5.9
Measles	116	2	88	10	0.5	1.1
Meningococcal infection	320	19	77	4	14.8	3.0
Mumps	159	4	80	16	1.7	1.5
Pertussis	1 851	4	69	28	16.3	17.4
Ross River virus	2 936	3	77	20	19.4	27.6
Rubella	127	2	84	14	0.5	1.2
Salmonellosis	5 324	15	65	20	196.3	50.0
Shigellosis	871	52	37	11	109.4	8.2
Syphilis	1 228	78	16	5	233.2	11.5
Tuberculosis	585	15	71	14	21.4	5.5

(a) Data from South Australia, Western Australia and the Northern Territory combined.

(b) Rate for the total population of South Australia, Western Australia and the Northern Territory combined.

Source: Communicable Diseases Network — National Notifiable Diseases Surveillance System, personal communication.

HIV/AIDS Information on HIV/AIDS is published by the National Centre in HIV Epidemiology and Clinical Research (NCHECR 2000). Between 1992 and 1999, a total of 140 notifications of HIV infection and 61 notifications of AIDS diagnosis were identified as being for Indigenous people. Indigenous status is now recorded for notifications in all jurisdictions, except the Australian Capital Territory, but the quality of identification of Indigenous people is unknown (NCHECR 2000). Most HIV notifications in Australia for 1992–99 were for men (94%). In the Indigenous population, a much higher proportion of notifications were for women (28%). The majority (82%) of HIV cases in the total population were attributable to male homosexual contact (some of these were in conjunction with injecting drug use). However, 38% of HIV notifications identified as Indigenous were attributed to heterosexual contact.

HIV/AIDS *continued*

Based on the available data, rates of HIV infection for Indigenous people and non-Indigenous people appear to be similar. However, Guthrie et al. (2000) notes that the incidence of new cases of HIV in non-Indigenous people has declined since peaking in 1994, while the rate of new infection among Indigenous people has been relatively stable. The study also cautions that data may underestimate actual numbers due to lack of uniformity across jurisdictions in the reporting of Indigenous status, and the possible fear of stigma associated with HIV/AIDS preventing some from seeking diagnosis.

The Working Party on Indigenous Australian's Sexual Health noted that higher rates of sexually transmitted diseases among Indigenous Australians (see table 6.23) may increase the likelihood of HIV transmission (ANCARD 1997).

CANCER

Cancers (malignant neoplasms) result from the growth and spread of abnormal cells throughout the body. This can occur in most cell types. Cancer is an important cause of death for Indigenous and non-Indigenous people alike. Mortality data from 1997–99 indicate that cancer caused 40% more deaths among Indigenous people in Western Australia, South Australia, Queensland and the Northern Territory combined, than would have been expected, if the disease occurred at the same rates as found in the total population (see Chapter 8).

Information on cancer incidence (i.e. new cases) comes from the State and Territory cancer registries. It is believed that there is considerable under-identification of Indigenous people in cancer registrations, although the exact extent of this has not been quantified. It is likely that even for the two jurisdictions for which information has been presented in this section (table 6.24), there is some level of under-identification. For this reason, and because the total numbers of cancers reported for Indigenous people are small, the numbers and rates in table 6.24 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.

The incidence of cancers among Indigenous people appears to be lower than among non-Indigenous people, although data limitations make it difficult to draw this conclusion with any confidence. The risk of cancer is known to increase with age (AIHW & AACR 1999) and as Indigenous people die at younger ages than non-Indigenous people (see Chapter 8), they may be less likely to live long enough to develop some cancers. In addition, survival may be poorer among Indigenous cancer patients because of later diagnosis and higher rates of typically fatal cancers (South Australian Cancer Registry 1997). The cancer-related mortality rates presented in table 6.24 are generally higher for Indigenous people than for the rest of the population..

The age-standardised incidence rates for cancers of the liver and pancreas in Western Australia and the Northern Territory, for 1994–98, were higher among Indigenous males than other males. Cancer of the cervix was twice as common among Indigenous females as it was among other females. However, the incidence rates of breast cancer, prostate cancer, colorectal cancer, and skin cancer (melanoma) were lower among Indigenous people than other people.

Among Indigenous females, breast, lung and cervical cancers were the most common, while Indigenous males were most commonly affected by lung, liver, prostate and pancreatic cancers.

6.24 CANCER INCIDENCE AND MORTALITY, SELECTED YEARS

	Incidence		Mortality	
	cases	mean annual rate(a)	deaths	mean annual rate(a)
Western Australia(b)(c)				
Indigenous males	131	197	110	168
Indigenous females	168	205	81	113
Other males(d)	18 718	351	8 168	147
Other females(d)	15 005	261	6 154	94
Northern Territory(b)				
Indigenous males	169	275	113	193
Indigenous females	175	226	88	127
Other males(d)	868	334	389	163
Other females(d)	627	258	247	127
All Australian(e)				
Total males	—	352	—	150
Total females	—	264	—	97

(a) Rate per 100,000. Directly age-standardised using the World Standard Population.

(b) Data from 1994–98.

(c) Rates may not match figures published by the Health Department (Western Australia) because of differences in the methodology used for estimating the Indigenous population.

(d) Includes those for whom Indigenous status information was missing.

(e) Data from 1996.

Source: Northern Territory Cancer Registry, Western Australian Cancer Registry; AIHW & AACR 1999.

DENTAL HEALTH

The consequences of poor dental health can be severe. Pain, infection, impaired speech, interference with eating habits, embarrassment about one's appearance, and the financial burden incurred when dental intervention is necessary, can all reduce quality of life. Factors that may affect dental health include age, fluoride exposure, dietary habits, smoking, alcohol consumption, stress, infection and preventive dental habits, such as regular tooth brushing and flossing. The level of access to dental treatment, as well as knowledge of, and attitudes towards, dental health, are also important factors (AIHW 2000b). Other health conditions such as diabetes may also affect dental health (Taylor et al. 1996, see below).

Dental health is measured in terms of the number of decayed, missing or filled teeth (known as 'dmft' for deciduous or infant teeth and 'DMFT' for permanent teeth) and edentulism (the loss of all natural teeth). There is little information about the dental health of Indigenous people. Some information about children's dental health is available from the Child Dental Health Survey, in which children using the School Dental Service throughout Australia are examined. However, the information for Indigenous children is limited by the small sample sizes available for most jurisdictions. Data from the 1998 survey for the Northern Territory are presented below (see Child Dental Health section).

Information on the dental health of Indigenous adults has been limited to data from the Commonwealth Dental Health Program which ceased in 1996, and data from a small sample of Indigenous people in the 1994–96 National Dental Telephone Interview Surveys (AIHW Dental Statistics & Research Unit 1995, Brennan & Carter 1998). While indicative only, these data suggested that dental problems, tooth extraction and edentulism are more common among Indigenous people than non-Indigenous people.

The 1995 National Health Survey provided information about dental visits, and estimated that Indigenous people in every age group were less likely than non-Indigenous people to report a recent dental consultation (ABS 1999c). The 1999 CHINS provided information about the availability of dentists in discrete Indigenous communities, and showed that 105 of the 254 communities surveyed (with populations of 50 or more located 10 km or more from the nearest hospital), affecting about 13,600 people, did not have a dentist in the community nor did the community receive the service of a visiting dentist (see Chapter 4 for more details).

A study of oral health in the Anangu Pitjantjatjara (AP) lands of South Australia found that the children had a high and increasing prevalence of dental caries in their deciduous teeth, and that edentulism among adults had increased rapidly over the last decade, from no recorded cases in 1987, to ten cases in 2000 (2.9% of all adults attending for dental care) (Endean et al., forthcoming). All edentulous adults on the AP lands also had a diagnosis of diabetes. An association between periodontal disease and diabetes was identified in an earlier study (Taylor et al. 1996).

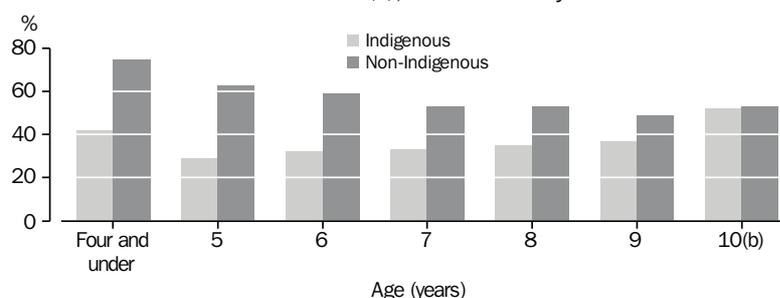
Child dental health

Good oral health throughout infancy and childhood contributes to better dental health in adults, as indicated by a reduced loss of natural teeth and less decay. Effective preventive strategies, including water fluoridation, improved oral hygiene practices, better diet and improved disease management, all help maintain the health of teeth and gums.

Since the introduction of the School Dental Scheme in 1977, the dental health of Australian school children has improved markedly. The average number of decayed, missing or filled teeth, for both infant and permanent teeth, decreased over the period 1989–1996 and was accompanied by a marked increase in the proportion of children with no dental decay (AIHW 2000b).

However, comparative data from the 1998 Child Dental Health Survey for children in the Northern Territory show that Indigenous children are more likely than non-Indigenous children to have decayed, missing or filled deciduous teeth (graph 6.25). Data for New South Wales, which are not presented here and can be considered indicative only, because of the small numbers of Indigenous children in the sample, show a similar pattern, although the differences are less marked (AIHW Dental Statistics Research Unit).

6.25 HEALTH OF DECIDUOUS TEETH(a), Northern Territory—1998

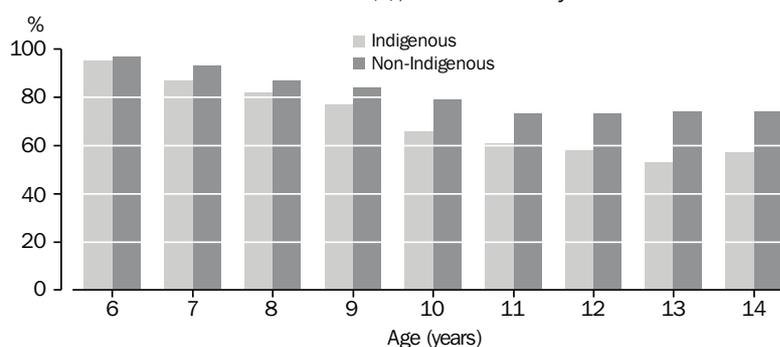


(a) Percentage of children with no decayed, missing or filled deciduous (infant) teeth (dmft=0)
(b) From age ten onwards, there are few remaining deciduous teeth which means that the likelihood of having dmft=0 increases.

Source: AIHW Dental Statistics Research Unit.

Graph 6.26, which illustrates the dental experience for permanent teeth, shows that the proportion of children with healthy permanent teeth declines steadily from age 6 to 13, and the decline is more pronounced among Indigenous children than non-Indigenous children. Data for New South Wales showed a similar pattern (not graphed).

6.26 HEALTH OF PERMANENT TEETH(a), Northern Territory—1998



(a) Percentage of children with no decayed, missing or filled permanent teeth (DMFT=0).

Source: AIHW Dental Statistics Research Unit.

SUMMARY Although the data presented in this chapter are limited in their availability and are often of uncertain quality, it is clear that Indigenous people suffer from a greater burden of ill health than other Australians. Health risk factors, high rates of hospitalisation and illnesses, such as cancer, renal disease and some communicable diseases, all impact on the quality of life of Indigenous people. The absence of discussion of certain health conditions should not be understood to imply that Indigenous people experience only those described in this chapter. There is very little information about the health of people who are not hospitalised, or who are not recorded in the various registries (e.g. cancer, communicable diseases, ANZDATA), although surveys will provide new information in the near future.

The high rates of illness experienced by Indigenous people are reflected in higher death rates, as can be seen in Chapter 8. Indigenous people are also likely to suffer multiple illnesses, an issue which is raised in the following chapter on diabetes.