



# Appendixes

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Methods, definitions and data sources

Statistical tables

National Health Priority Areas—diabetes indicators

## diabetes australian facts 2002

Australian Institute of Health and Welfare

## Methods, definitions and data sources

### Rates

Age-standardised rates are used to remove the influence of age when comparing populations with different age structures. In this report the Australian population as at 30 June 1991 is used as the standard population in all Australian comparisons, unless otherwise stated.

### Burden of disease

Information on the burden of disease due to diabetes and its risk factors is taken from the results of the Australian Burden of Disease and Injury Study. The burden of disease refers to the effects of premature mortality, disability, impairment, illness and injury on a 'healthy' life. The burden is described by a summary measure of population health, the disability-adjusted life year or DALY, that combines information on the impact of premature mortality and of disability and other non-fatal health outcomes due to a disease.

### Classifications used in this report

#### Cause of death and hospital diagnosis

The classification of cause of death data is based upon the International Classification of Diseases, Tenth Revision (ICD-10). Hospital diagnosis is classified using the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM). Table A.1 provides the codes used in this report.

**Table A.2:** MBS codes

Test	Item numbers
Glycosylated haemoglobin (HbA1c)	66319, 66551
Microalbumin	66361, 66560
Lipid	66317, 66334, 66335, 66337, 66339, 66341, 66521, 66524, 66527, 66530, 66533, 66536
Eye examination	10900, 10905, 10907, 10914, 10918, 104, 105, 106, 107, 108

**Table A.1:** Disease codes

Disease	ICD-10 code
Cardiovascular disease	G45, G46 & I00–I99
Coronary heart disease	I20–I25
Peripheral vascular disease	I71–I74
Stroke	G45, G46 & I60–I69
Diabetes	E10–E14
Neurological complications	E104, E114, E134, E144
Ophthalmic complications	E103, E113, E133, E143
Renal complications	E102, E112, E132, E142
End-stage renal disease	N17, N18
Lower limb ulcers	L97

### Medicare Benefits Schedule (MBS) codes

Table A.2 lists the MBS items used in the Pathology section of this report.

## Aboriginal and Torres Strait Islander people

'Indigenous Australians' refers to people who identify themselves as being of Aboriginal and/or Torres Strait Islander origin. Data quality issues exist in the identification of Indigenous Australians across population surveys and administrative data collections. In the 1996 census, the number of people who identified themselves as Indigenous Australians was about a third higher than the number who did so in 1991, a difference much larger than can be explained by natural increase.

Deficiencies in health data for Indigenous Australians occur in the National Mortality Database, the National Health Survey and the National Hospital Morbidity Database. For the years 1998–00, mortality data for only Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage of Indigenous Australian deaths. No data are available from the National Health Survey on Indigenous Australians living in remote areas, due to concerns about data quality. In many States the accuracy of Aboriginal and Torres Strait Islander identification in hospital data is questionable, limiting the reliability of Indigenous morbidity statistics. No hospital data have been reported by Indigenous status in this report.

## Culturally and linguistically diverse background

In this publication the term 'culturally and linguistically diverse background' (CaLDB) has been used to classify a special population group. A number of the National Health Priority Area indicators for diabetes stipulate analysis of CaLDB. However, the information needed to properly define CaLDB is not yet available. Therefore, in this publication CaLDB is based on country of birth.

Unless otherwise noted, CaLDB is defined as those people whose country of birth was not one of the following: Australia and its external territories, New

Zealand, the United Kingdom, Ireland, the United States of America, Canada or South Africa. This selection of countries is based on an analysis of the main countries from which Australia receives overseas settlers who are likely to speak English.

The Australian Bureau of Statistics developed CaLDB as a means of standardising the collection and dissemination of information relating to the origins of individuals and cultural diversity. It is done through a system of measuring certain aspects of peoples' language and cultural background. Following the endorsement of the new standard by the Ministerial Council of Immigration and Multicultural Affairs, CaLDB is being implemented across all levels of government. However, it will take some time for data collection agencies to fully implement CaLDB.

## Socioeconomic groups

The Australian Bureau of Statistics has constructed a number of socioeconomic indexes to classify areas on the basis of social and economic information collected in the Census of Population and Housing.

This report uses the index of relative socioeconomic disadvantage. This is derived from the social and economic characteristics of the local area such as levels of income, educational attainment, public sector housing, unemployment and jobs in relatively unskilled occupations.

Individual records were classified into quintiles of socioeconomic disadvantage according to the value of this index for the statistical local area of usual residence. Quintile 1 includes the most disadvantaged households and quintile 5 the least disadvantaged households. Statistical local areas were grouped into quintiles so that each quintile contained approximately 20% of the total Australian population.

It is important to note that the index of socioeconomic disadvantage relates to the average disadvantage of all people living in the statistical local area. These



measures of socioeconomic inequality thus generally understate the true inequality in health at the individual level in Australia.

## Urban, rural and remote areas

Urban, rural and remote areas are identified in this report using the rural, remote and metropolitan areas (RRMA) classification, developed in 1994 by the Department of Primary Industries and Energy and the Department of Human Services and Health.

The RRMA classification assigns each statistical local area in Australia into one of seven categories—two metropolitan, three rural and two remote zones. These can be regrouped into three larger zones: urban (metropolitan), rural and remote. The classification is based primarily on population numbers and an index of remoteness.

This report examines data for the three larger areas (urban, rural and remote), as cell sizes are too small for accurate estimation in a more detailed classification.

## Main data sources

*2000 National Physical Activity Survey* was funded by the Australian Sports Commission, NSW Health and the ACT Department of Health and Community Services. The survey was conducted to give an assessment of physical activity patterns and knowledge of the benefits of physical activity among adult Australians after the Olympics in Sydney (September 2000) and following on from the 1997 and 1999 national physical activity surveys. The survey collected information from a national sample of 3,590 people aged 18–75 years during November and December 2000.

*1999–2000 Australian Diabetes, Obesity and Lifestyle Study (AusDiab)*, conducted by the International Diabetes Institute and partially funded by the Commonwealth Department of Health and Aged Care, is the most comprehensive study to date on the prevalence and impact of diabetes. The survey collected information on self-reported and measured diabetes and cardiovascular risk factors, features of the Metabolic Syndrome, health knowledge, attitudes, and

health services utilisation and practices. The study collected information from approximately 11,247 adults aged 25 years and over throughout Australia (excluding the Australian Capital Territory).

*1999 National Physical Activity Survey*, funded by the Commonwealth Department of Health and Aged Care and the Australian Institute of Health and Welfare, was conducted to assess patterns of physical activity and the impact of the Active Australia campaign. The survey collected information from a national sample of 3,841 people in November and December 1999. Comparisons are made with the 1997 Active Australia baseline physical activity survey.

*1998 Disability, Ageing and Carers Survey*, conducted by the Australian Bureau of Statistics, collected national information on the disability levels of Australians, their current and future care needs and the role of carers. It can be used with previous national disability surveys to monitor trends over time. The survey collected information from a sample of about 42,100 people, from March to May 1998.

*1998 National Drug Strategy Household Survey* was conducted between June and September 1998, with 10,030 Australians aged 14 years and older participating. This was the sixth survey in a series that began in 1985. Respondents were asked about their knowledge of drugs, their attitudes towards drugs, their drug consumption histories and related behaviours.

*1995 National Health Survey*, conducted by the Australian Bureau of Statistics, was designed to obtain national information on the health status of Australians, their use of health services and facilities, and health-related aspects of their lifestyle. It can be used with previous health surveys to monitor trends in health over time. The survey collected information from a sample of 57,600 people, from January 1995 to January 1996. In this report the derived type of diabetes is used to determine the type of diabetes. This variable more accurately assesses the presence and type of diabetes based on information collected in the survey.

*1995 National Nutrition Survey*, a joint project between the Australian Bureau of Statistics and the Commonwealth Department of Health and Aged Care, is the largest and most comprehensive Australian survey of food and nutrient intake, dietary habits and body measurements. The survey collected information from a subsample of respondents from the 1995 National Health Survey, approximately 13,800 people from urban and rural areas of Australia. The National Nutrition Survey was conducted from January 1995 to January 1996.

*1983 National Dietary Survey of Adults* was conducted as a component of the second Risk Factor Prevalence Survey, by the Commonwealth Department of Health in collaboration with the National Heart Foundation. The survey was designed to obtain national information on dietary intake to determine the food composition and nutrient intake of Australians aged 25–64. The survey collected information from a sample of 5,950 people living in six of Australia's capital cities.

*Australia and New Zealand Dialysis and Transplant Registry (ANZDATA)* is a register of the delivery of kidney dialysis and transplantation to Australian and New Zealand patients. The Registry contains data on all patients receiving kidney replacement therapy where the intention to treat is long term, i.e. kidney function will not recover. Cases of acute kidney failure are excluded. The Registry is coordinated within the Queen Elizabeth Hospital and is funded by the Commonwealth Department of Health and Ageing.

*Australian National Diabetes Information Audit and Benchmarking (ANDIAB)* is a collection by the National Association of Diabetes Centres (NADC) based on an audit of patients attending a selection of specialist diabetes centres and specialist endocrinologists in private practice. It reports data on 5,680 persons with diabetes requiring specialist clinical management, in particular those who have had poor control of their diabetes. The surveys have been conducted over 1-month periods in 1998, 1999 and 2000. A major limitation of the sample is that it does not accurately reflect the conditions prevailing in the general community.

*Bettering the Evaluation And Care of Health (BEACH)*, an ongoing national survey looking at the clinical activities of general practitioners, is conducted by the General Practice Statistics and Classification Unit (an Australian Institute of Health and Welfare collaborating unit within the Family Medicine Research Centre, University of Sydney). BEACH began in April 1998 and involves a random sample of approximately 1,000 general practitioners per year.

*Burden of Disease and Injury in Australia Study*, a study that assessed the total 'burden' of disease/injury, uses a common measure developed by the Global Burden of Disease Study.

*Dental statistics* are held by the Dental Statistics and Research Unit (an Australian Institute of Health and Welfare collaborating unit within the University of Adelaide). The collection includes data on the oral health of children under the care of State and Territory school dental services, and that of adults receiving public-funded dental care. Information on access to dental care, the dental labour force and dentists' practice activity are also available.

*Drug Utilization Sub-Committee Database*, held at the Commonwealth Department of Health and Ageing, monitors the community (i.e. non-public hospital) use of prescription medicines in Australia. This database combines information on prescriptions subsidised by the Pharmaceutical Benefits Scheme (PBS) and the Repatriation Pharmaceutical Benefits Scheme with an estimate from the Pharmacy Guild Survey of those prescriptions that are not subsidised (i.e. private prescriptions and PBS prescriptions priced under the general patient copayment). Each month the Pharmacy Guild Survey collects dispensing information from a random sample of about 250 pharmacies throughout Australia. Information on drugs prescribed in public hospitals and highly specialised drugs available for outpatients through public hospital pharmacies under section 100 of the National Health Act are not included in this database.

*General practice diabetes statistics*, held at the Health Insurance Commission's web site <<http://www.hic.gov.au>> during 2001, contained a cohort of identified diabetes patients, defined as having an

HbA<sub>1c</sub> test within the preceding 2 years. The patient was allocated to a Division of General Practice based on the major practice postcode of their principal provider. In this report, pathology and other tests meeting the minimum recommended testing frequency (derived from the best practice guidelines of NSW Health, 1996, and the National Health and Medical Research Council, 1997) processed by Medicare are presented for adults aged 19 and over.

*National Aboriginal and Torres Strait Islander Survey (NATSI)* was conducted by the Australian Bureau of Statistics in 1994. The survey contains national information on the social, demographic, economic and health status of Indigenous Australians. A total of 15,700 Indigenous people were interviewed for the survey.

*National Hospital Morbidity Database*, held at the Australian Institute of Health and Welfare, contains demographic, diagnostic, procedural and duration of stay information on episodes of care for patients admitted to hospital. The data items are supplied to the Australian Institute of Health and Welfare by the State and Territory health authorities. The database provides information on the number of hospitalisations for a particular condition or procedure. It is not possible to count patients individually. In this report, disease data may relate to either the principal diagnosis or additional diagnosis of hospitalisations while procedures data relate to principal and additional procedures.

*National Diabetes Register* is a database that collects information about people who use insulin as part of their treatment of diabetes. It includes persons who began to use insulin from 1 January 1999. Data for the register are obtained from two main sources: the National Diabetes Services Scheme, administered by Diabetes Australia, and the Australasian Paediatric Endocrine Group (APEG) State-based registers. APEG registers collect information about children with diabetes aged less than 15 years. At December 2001, the register contained information about 23,179 persons.

*National Divisions Diabetes Program (NDDP) Data Collation Project* was conducted in 1999–00. The project comprised several components with participation of divisions dependent on the nature of their program and data availability. Data from the seven Divisions of General Practice piloting electronic collation of data from CARDIAB—a cardiovascular disease and diabetes database—have been used in this report. Data were collected on 4,359 patients. Quality of care and health outcomes were analysed in the areas of glycaemic control, blood pressure, weight, foot status, lipids and microalbumin level. These data indicate the status of care in environments that promote structured care and cannot be generalised to the entire general practice population.

*National Mortality Database*, held at the Australian Institute of Health and Welfare, contains information on the cause of death supplied by the medical practitioner certifying the death or by a coroner. Registration of deaths is the responsibility of the State and Territory Registrars of Births, Deaths and Marriages. Registrars provide the information to the Australian Bureau of Statistics for coding of cause of death and compilation into aggregate statistics. On 1 January 1997 the Australian Bureau of Statistics introduced new automatic coding software, which identifies multiple causes of deaths within Australia. In this report, unless otherwise specified, death data relate only to the principal cause of death.

*Risk Factor Prevalence Study*, a series of surveys conducted by the National Heart Foundation in 1980, 1983 and 1989, was designed to obtain national information on biomedical and behavioural risk factors in Australia and to monitor trends over time. While the data are somewhat dated, it remains an important source of national data for biomedical risk factors. The study collected information from a sample of around 22,000 adults living in capital cities of Australia (Canberra and Darwin were not included in the 1980 and 1983 surveys), between May/June and December of the survey year.

## Statistical tables

**Table A.3:** Death rates for diabetes by age, 2000

Disease	Sex	Age group							All ages <sup>(a)</sup>
		< 25	25–34	35–44	45–54	55–64	65–74	75+	
<b>Rate (per 100,000 population)</b>									
Diabetes as the underlying cause of death	Males	**	0.5*	1.6	8.1	21.5	73.9	195.1	16.9
	Females	0.2*	0.5*	0.6*	4.1	12.3	47.3	141.5	10.7
Diabetes as the underlying or an associated cause of death	Males	0.2*	1.0*	2.2	12.1	33.6	125.0	416.2	57.2
	Females	0.1*	1.0*	4.4	21.5	71.8	231.8	439.5	35.6
All causes of death	Males	67.8	127.5	167.4	310.0	812.0	2,404.9	8,234.0	712.7
	Females	39.9	48.3	88.8	197.9	484.5	1,342.2	6,574.8	450.7

\* Rates should be interpreted with caution as the relative standard errors are between 25% and 50%.

\*\* Rates are not presented as relative standard errors are greater than 50%.

(a) Age-standardised to the 1991 Australian population.

Source: AIHW National Mortality Database.

**Table A.4:** Hospitalisation rates for diabetes as a principal diagnosis or an additional diagnosis by age, 1999–00

Disease	Sex	Age group							All ages <sup>(a)</sup>
		< 25	25–34	35–44	45–54	55–64	65–74	75+	
<b>Rate (per 100,000 population)</b>									
Diabetes as the principal diagnosis	Males	52.2	62.5	85.7	150.6	257.0	399.6	567.6	133.7
	Females	68.5	61.9	68.3	93.7	186.1	291.6	425.0	111.3
Diabetes as the principal or additional diagnosis	Males	94.5	249.2	652.5	1,641.7	4,216.6	8,625.3	12,675.1	1,864.9
	Females	138.6	338.9	591.3	1,247.4	2,978.6	6,222.7	8,953.7	1,407.3
Coronary heart disease or stroke with diabetes as additional diagnosis	Males	**	6.1	42.1	229.0	681.5	1,245.1	1,551.3	244.2
	Females	0.2*	2.0	23.8	88.5	292.6	697.7	1,009.0	130.7
End-stage renal disease with diabetes as additional diagnosis	Males	**	1.7	4.6	14.3	29.9	71.1	109.0	14.8
	Females	0.2*	2.0	7.0	10.4	24.5	56.3	64.9	11.5
Lower limb ulcer with diabetes as additional diagnosis	Males	**	0.3*	3.5	12.2	18.9	59.9	96.2	12.0
	Females	**	**	1.1	4.1	11.7	24.4	60.6	7.5

\* Rates should be interpreted with caution as the relative standard errors are between 25% and 50%.

\*\* Rates are not presented as relative standard errors are greater than 50%.

(a) Age-standardised to the 1991 Australian population.

Source: AIHW National Hospital Morbidity Database.



**Table A.5:** Hospitalisation rates for diabetes with various complications by age, 1999–00

Diabetes with complication	Sex	Age group							All ages <sup>(a)</sup>
		< 25	25–34	35–44	45–54	55–64	65–74	75+	
<b>Rate (per 100,000 population)</b>									
Diabetes with ophthalmic (eye) complication	Males	0.9	19.5	25.1	46.9	129.6	157.2	176.3	43.2
	Females	2.1	16.0	24.8	33.1	78.2	157.3	130.7	38.0
Diabetes with renal (kidney) complication	Males	0.4	33.8	100.7	121.6	220.7	423.0	232.6	95.2
	Females	1.9	17.3	55.4	105.8	136.8	240.7	150.5	64.9
Diabetes with neuropathic complication	Males	0.5	15.1	32.7	47.0	119.7	167.4	211.4	44.8
	Females	1.3	9.5	14.9	23.7	65.0	99.2	123.6	28.3

\*Rates should be interpreted with caution as the relative standard errors are between 25% and 50%.

\*\*Rates are not presented as relative standard errors are greater than 50%.

(a) Age-standardised to the 1991 Australian population.

Source: AIHW National Hospital Morbidity Database.

**Table A.6:** Risk factors for diabetes and its complications by age, 1999 to 2000

Risk factor	Sex	Age group							
		18–24	25–34	35–44	45–54	55–64	65–74	75+	25+(a)
<b>Rate (per 100,000 population)</b>									
Overweight <sup>(b)</sup>	Males	n.a.	60.2	65.5	72.5	74.0	73.7	64.3	67.3
	Females	n.a.	35.8	45.6	58.1	67.2	70.7	56.4	51.7
Insufficient physical activity <sup>(c)</sup>	Males	18.1	46.7	44.5	47.6	50.1	45.8 <sup>(d)</sup>	n.a.	42.0 <sup>(e)</sup>
	Females	32.4	40.1	46.3	52.0	46.9	46.1 <sup>(d)</sup>	n.a.	43.5 <sup>(e)</sup>
High blood pressure <sup>(f)</sup>	Males	n.a.	7.9	16.2	30.5	46.5	69.7	75.1	30.7
	Females	n.a.	4.1	7.9	22.8	42.3	66.7	77.2	25.6
High blood cholesterol <sup>(g)</sup>	Males	n.a.	31.0	54.2	60.7	61.8	54.1	49.2	49.9
	Females	n.a.	30.1	39.8	54.7	71.6	74.0	65.2	49.7
Tobacco smoking <sup>(h)</sup>	Males	24.5	29.0	26.7	22.0	15.2	11.0	4.8	22.0 <sup>(i)</sup>
	Females	23.7	23.8	23.8	17.5	13.5	6.6	4.4	18.4 <sup>(i)</sup>

n.a. Not available.

\* Rates should be interpreted with caution as the relative standard errors are between 25% and 50%.

\*\* Rates are not presented as relative standard errors are greater than 50%.

(a) Age-standardised to the 1991 Australian population.

(b) Overweight is defined as body mass index (BMI)  $\geq 25$ .

(c) Insufficient physical activity is defined as less than 150 minutes of physical activity for recreation or exercise (including walking for transport) in the previous week.

(d) Data for ages 65–75.

(e) Data for ages 18–75.

(f) High blood pressure is defined as systolic blood pressure  $\geq 140$  mm Hg and/or diastolic blood pressure  $\geq 90$  mm Hg and/or receiving treatment for high blood pressure.

(g) High blood cholesterol is defined as above 5.5 mmol/L.

(h) The daily smoking of tobacco products, including packet cigarettes, roll-your-own cigarettes, pipes and cigars.

(i) Data for ages 18 or over.

Sources: 1999–2000 AusDiab; 2000 National Physical Activity Survey; AIHW 2001 National Drug Strategy Household Survey.

# National Health Priority Areas —diabetes indicators

In 1996 the Australian Health Ministers agreed that diabetes become a National Health Priority Area (NHPA). The NHPA initiative focuses public attention and health policy on health conditions that contribute most to the burden of illness in the community, particularly areas where it is possible to reduce that burden through prevention and treatment programs.

A set of priority indicators covering prevention, screening and early intervention, treatment and management of the condition was developed. A complete list of the diabetes indicators outlined in the 1998 National Health Priority Areas report on diabetes mellitus appears over the page. Data on the indicators are provided in the following pages, with the exceptions of 1.3, 7.1 and 7.2 where there are no suitable data available. For some indicators, available data have been reported despite limitations in addressing the indicator definition. Notes below the indicator title are provided to alert readers to these data limitations.

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## National Health Priority Area—diabetes indicator set

### 1 Disease incidence and prevalence

- 1.1 Prevalence rates for Type 1 and Type 2 diabetes in:
  - general population
  - Indigenous population
  - people from culturally and linguistically diverse backgrounds
- 1.2 Incidence rates for Type 1 and Type 2 diabetes in:
  - general population
  - Indigenous population
  - people from culturally and linguistically diverse backgrounds
- 1.3 Gestational diabetes among women aged 20–44 years, by parity

### 2 Risk factors for diabetes and associated complications

- 2.1 Prevalence rates for obesity and overweight (as measured by BMI) among people with Type 2 diabetes and in the general population
- 2.2 Rates for non-participation in regular, sustained, moderate aerobic exercise among people with Type 2 diabetes and in the general population
- 2.3 Prevalence rates for high blood pressure among people with Type 2 diabetes:
  - $\geq 140$  mm Hg systolic and/or 90 mm Hg diastolic and aged  $< 60$  years;
  - $\geq 160$  mm Hg systolic and/or 90 mm Hg diastolic and aged  $\geq 60$  years; and/or
  - those on medication for high blood pressure
- 2.4 Prevalence rates for high levels of lipoproteins among people with Type 1 and Type 2 diabetes:
  - total cholesterol above 5.5 mmol/L; and
  - high-density lipoproteins below 1.0 mmol/L
- 2.5 Prevalence rates for fasting hypertriglyceridaemia among people with Type 1 and Type 2 diabetes

### 3 Diabetes complications

- 3.1 Proportion of people with end-stage renal disease with diabetic nephropathy as a causal factor
  - 3.2 Incidence rate for eye disease among people with clinically diagnosed diabetes
  - 3.3 Prevalence rate for foot problems among people with clinically diagnosed diabetes
  - 3.4 Incidence rates for coronary heart disease and stroke among people with clinically diagnosed diabetes and in the general population
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**National Health Priority Area—diabetes indicator set (continued)****4 Hospital separations for diabetes complications**

- 4.1 Hospital separation rates for end-stage renal disease as the principal diagnosis with diabetes as an additional diagnosis
- 4.2 Hospital separation rates for coronary heart disease or stroke as the principal diagnosis with diabetes as an additional diagnosis
- 4.3 Hospital separation rates for conditions other than end-stage renal disease and coronary heart disease/stroke among people with diabetes as a principal diagnosis or an additional diagnosis

**5 Mortality**

- 5.1 Death rates for diabetes in:
  - general population
  - Indigenous population
  - people from culturally and linguistically diverse backgrounds
- 5.2 Death rates for coronary heart disease and stroke among people with diabetes in:
  - general population
  - Indigenous population
  - people from culturally and linguistically diverse backgrounds

**6 Health status**

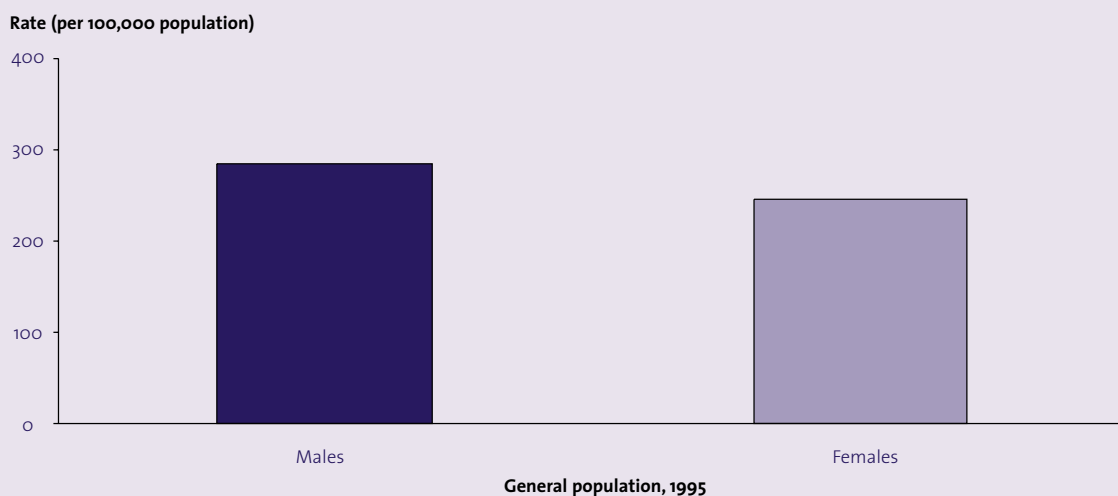
- 6.1 Self-assessed health status of people with and without diabetes

**7 Screening and management**

- 7.1 Proportion of people with diabetes tested for glycosylated haemoglobin (HbA<sub>1c</sub>) level at least every 6 months
  - 7.2 Proportion of pregnant women being tested for gestational diabetes
-

**Indicator 1.1 (a):** Prevalence rates for Type 1 diabetes in the general population, the Indigenous population, and among people from culturally and linguistically diverse backgrounds (CaLDB)

*Note: Data are not available to report prevalence for the Indigenous population or for people from culturally and linguistically diverse backgrounds.*



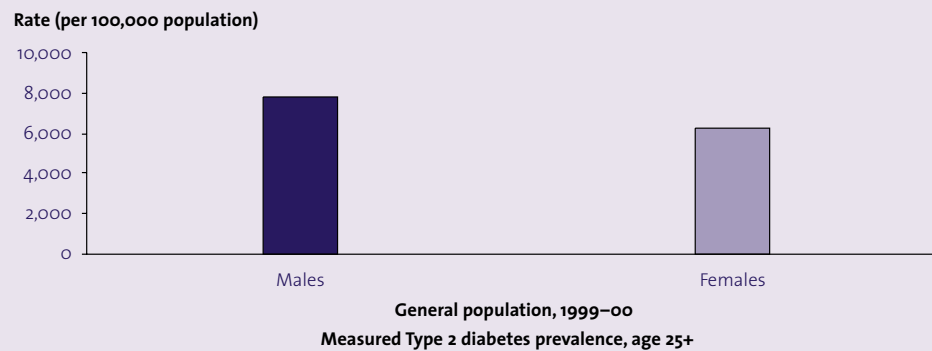
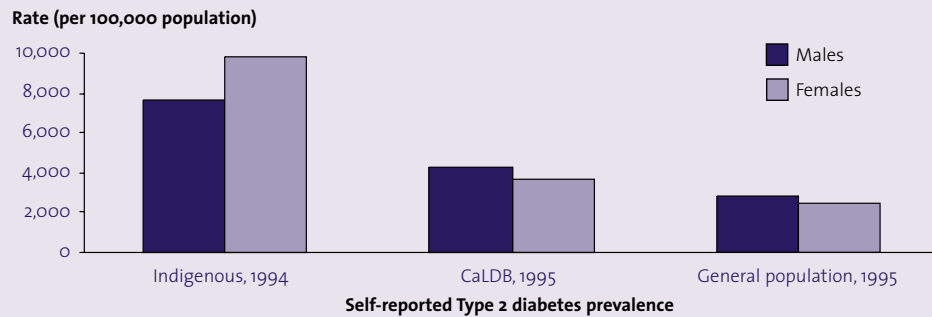
Sex	Rate (per 100,000 population)
Males	282
Females	244

Notes

1. Data are not available by diabetes type for the Indigenous population or for people from culturally and linguistically diverse backgrounds.
2. Rates are age-standardised to the Australian population as at 30 June 1991.

Source: 1995 National Health Survey (ABS).

**Indicator 1.1 (b):** Prevalence rates for Type 2 diabetes in the general population, the Indigenous population, and among people from culturally and linguistically diverse backgrounds (CaLDB)



Population group		Self-reported diabetes, all ages	Self-reported Type 2 diabetes, all ages	Measured Type 2 diabetes, aged 25+
		1994	1995	1999–2000
<b>Rate (per 100,000 population)</b>				
Indigenous	Males	7,597	n.a.	n.a.
	Females	9,763	n.a.	n.a.
CaLDB	Males	n.a.	4,174	n.a.
	Females	n.a.	3,565	n.a.
General	Males	n.a.	2,772	7,753
	Females	n.a.	2,461	6,157

Notes

1. Data are not available by diabetes type for the Indigenous population; however, most diabetes in the Indigenous population is Type 2 diabetes.
2. Rates are age-standardised to the Australian population as at 30 June 1991.
3. CaLDB = Culturally and linguistically diverse background.

Sources: 1994 National Aboriginal and Torres Strait Islander Survey (ABS); 1995 National Health Survey (ABS); 1999–2000 AusDiab.

**Indicator 1.2:** Incidence rates for Type 1 and Type 2 diabetes in the general population, the Indigenous population, and among people from culturally and linguistically diverse backgrounds (CaLDB)

*Note: Data are not available to report the incidence of Type 2 diabetes. Nor are data available to report the incidence of Type 1 diabetes for the total population, Indigenous population or for people from culturally and linguistically diverse backgrounds. An estimate can be made for the general population aged less than 15 years; these data are provided as the best estimate available.*



Sex	Rate (per 100,000 population)
Males aged < 15 years	19.2
Females aged < 15 years	18.6

Notes

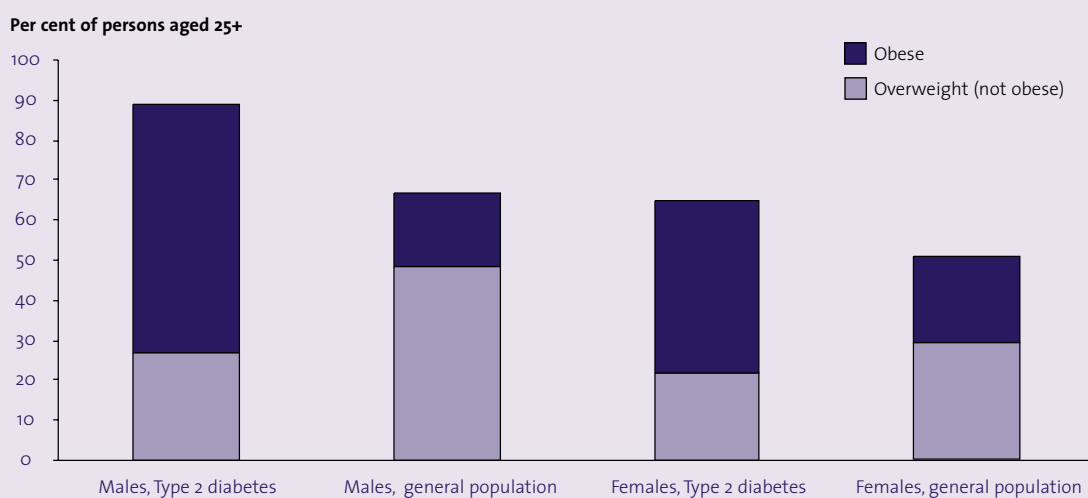
1. Data are sourced from the National Diabetes Register containing information on insulin-treated diabetes, predominantly Type 1 in persons aged less than 15 years.
2. Data are not available for the total population, the Indigenous population or for people from culturally and linguistically diverse backgrounds.
3. Rates refer to the incidence per 100,000 population (not age-standardised).

Source: 2000 National Diabetes Register (AIHW).



**Indicator 2.1:** Prevalence rates for obesity and overweight (as measured by BMI) among people with Type 2 diabetes and in the general population

*Note: Data presented are for people aged 25 years or over.*



Sex	1999–2000	
	Per cent of persons aged 25+	
Males, Type 2 diabetes (measured)	Overweight (not obese)	26.6
	Obese	62.2
Males, general population	Overweight (not obese)	48.0
	Obese	18.7
Females, Type 2 diabetes (measured)	Overweight (not obese)	21.6
	Obese	42.8
Females, general population	Overweight (not obese)	29.4
	Obese	21.4

Notes

1. BMI is a person's weight in kilograms divided by the square of the person's height in metres. Overweight (not obese) refers to persons with a BMI of 25.0 to less than 30.0. Obese refers to persons with a BMI of 30.0 or greater.
2. Rates are age-standardised to the Australian population as at 30 June 1991.

Source: 1999–2000 AusDiab.

**Indicator 2.2:** Rates for non-participation in regular, sustained, moderate aerobic exercise among people with Type 2 diabetes and in the general population

*Note: Data presented are for people aged 25 years or over.*



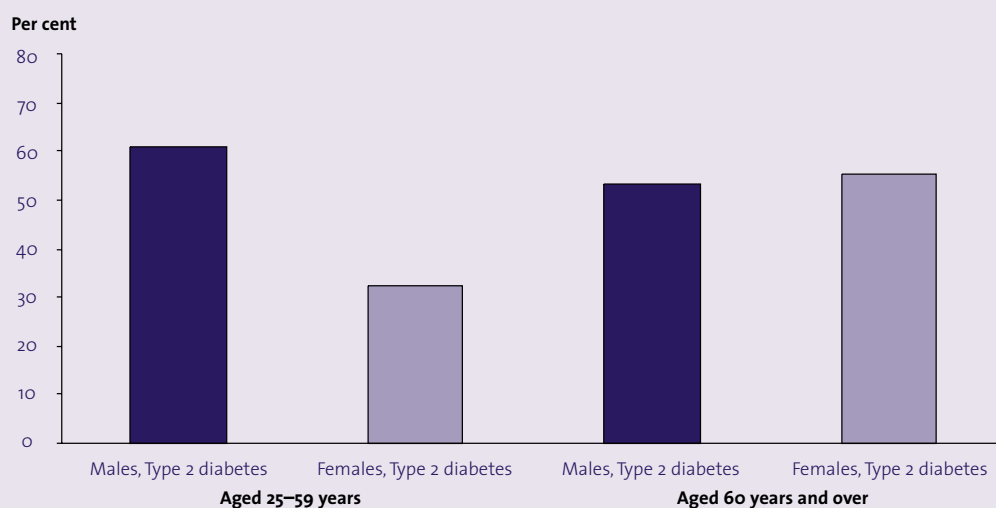
Sex		1999–2000	
		Per cent of persons aged 25+	
Males, Type 2 diabetes (measured)	Insufficient		29.2
	Sedentary		28.2
Males, general population	Insufficient		28.2
	Sedentary		14.0
Females, Type 2 diabetes (measured)	Insufficient		55.3
	Sedentary		12.4
Females, general population	Insufficient		35.7
	Sedentary		16.8

Notes

1. Sedentary refers to persons reporting no leisure-time physical activity in the week before interview. Insufficient refers to persons reporting some activity but less than 150 minutes in total in the week before interview.
2. Rates are age-standardised to the Australian population as at 30 June 1991.

Source: 1999–2000 AusDiab.

**Indicator 2.3:** Prevalence rates for high blood pressure among people with Type 2 diabetes, aged less than 60 years or aged 60 years and over



Sex	Age	1999–2000
		Per cent
Males, Type 2 diabetes (measured)	25–59 years	60.7
Females, Type 2 diabetes (measured)	25–59 years	32.2
Males, Type 2 diabetes (measured)	60 years and over	52.8
Females, Type 2 diabetes (measured)	60 years and over	55.2

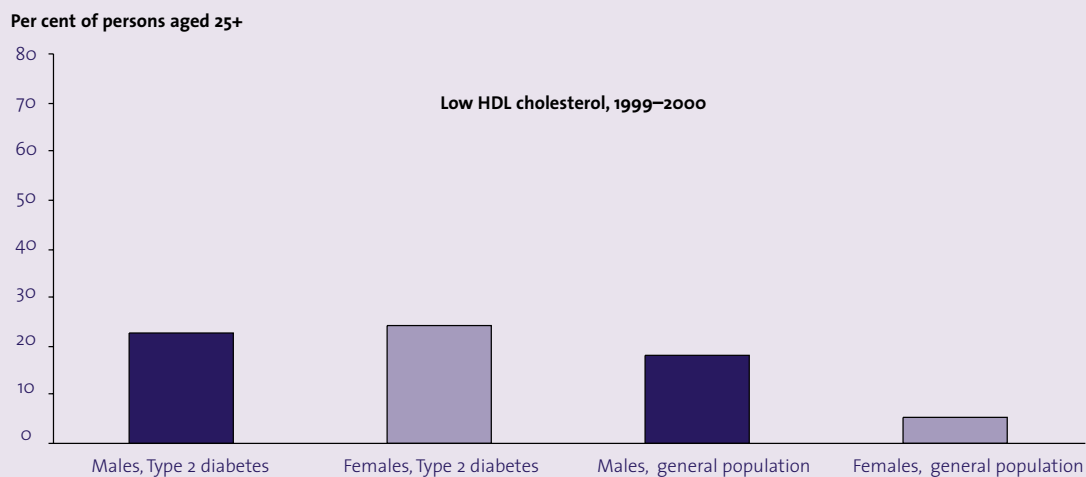
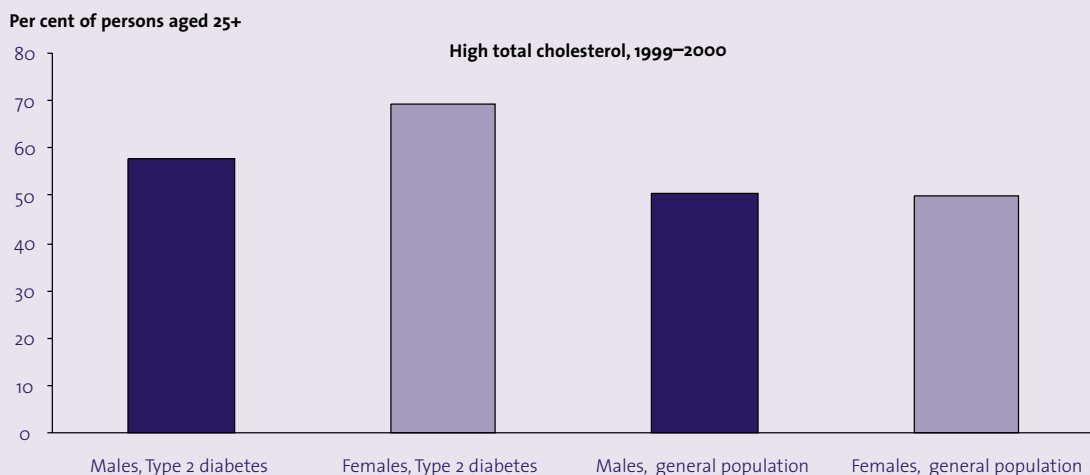
Notes

1. High blood pressure is defined as:  $\geq 140$  mm Hg systolic and/or 90 mm Hg diastolic, or taking anti-hypertensive medication for people aged less than 60 years;  $\geq 160$  mm Hg systolic and/or 90 mm Hg diastolic, or taking anti-hypertensive medication, for people aged 60 years and over.
2. Rates are age-standardised to the Australian population as at 30 June 1991.

Sources: 1995 National Nutrition Survey and National Health Survey (ABS), 1999–2000 AusDiab.

**Indicator 2.4:** Prevalence rates for high levels of lipoproteins among people with Type 1 and Type 2 diabetes

*Note: Data are presented separately for high total cholesterol and low HDL cholesterol. Data are not available to report prevalence rates for people with Type 1 diabetes. Data presented are for people aged 25 years and over.*



**Indicator 2.4:** (continued)

<b>High total cholesterol</b>		<b>1999–2000</b>	<b>Low HDL cholesterol</b>		<b>1999–2000</b>
		<b>Per cent of persons aged 25+</b>			<b>Per cent of persons aged 25+</b>
Type 2 diabetes (measured)	Males	57.7	Type 2 diabetes (measured)	Males	22.4
	Females	69.2		Females	24.1
General population	Males	50.2	General population	Males	17.7
	Females	49.6		Females	5.2

## Notes

1. High total cholesterol is defined as  $\geq 5.5$  mmol/L.
2. Low HDL (high density lipoprotein) cholesterol is defined as  $< 1.0$  mmol/L.
3. Rates are age-standardised to the Australian population as at 30 June 1991.
4. Estimates are not provided for people with Type 1 diabetes due to inadequate sample size.

Source: 1999–2000 AusDiab.

**Indicator 2.5:** Prevalence rates for fasting hypertriglyceridaemia among people with Type 1 and Type 2 diabetes

*Note: Data are not available to report prevalence rates for people with Type 1 diabetes. Data presented are for people aged 25 years and over.*



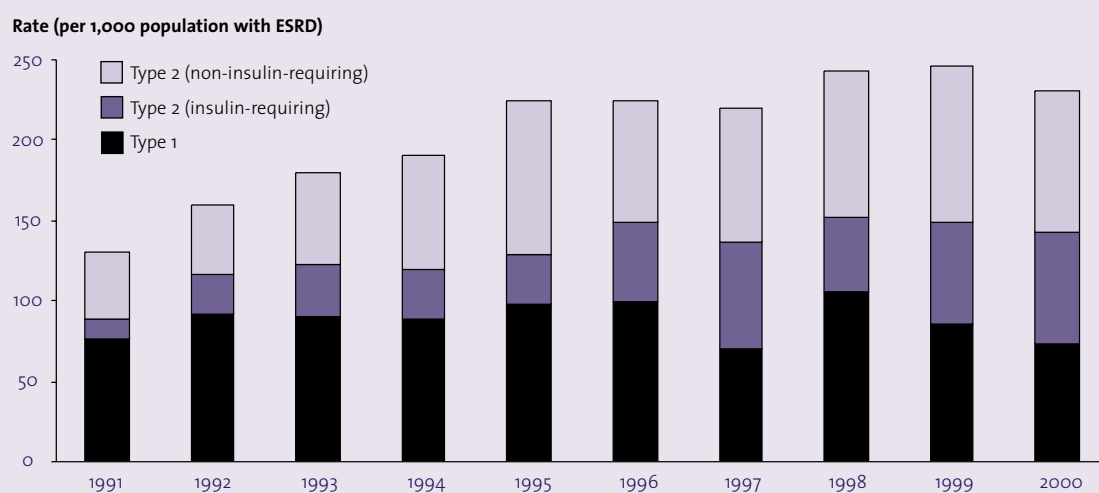
High triglycerides		Per cent of persons aged 25 +
Type 2 diabetes (measured)	Males	7.7
	Females	6.5
General population	Males	3.8
	Females	1.5

Notes

1. Consistent with the operational definition for this indicator, fasting hypertriglyceridaemia is defined here as > 4.0 mmol/L. Note that the recommended level of triglycerides is < 2.0 mmol/L.
2. Rates are age-standardised to the Australian population as at 30 June 1991.
3. Estimates are not provided for people with Type 1 diabetes due to inadequate sample size.

Source: 1999–2000 AusDiab.

**Indicator 3.1:** Proportion of people with end-stage renal disease (ESRD) with diabetic nephropathy as a causal factor



Diabetes type	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>Rate (per 1,000 population with ESRD)</b>										
Type 1	76.0	91.0	90.0	88.0	97.7	97.9	68.0	104.3	84.2	72.6
Type 2 insulin-requiring	11.5	24.0	31.0	29.0	30.8	50.0	64.5	46.6	62.0	68.7
Type 2 non-insulin-requiring	42.0	44.0	57.0	70.9	94.9	71.0	83.5	90.1	95.1	88.6
<b>Total</b>	<b>130.0</b>	<b>158.8</b>	<b>178.5</b>	<b>188.0</b>	<b>223.5</b>	<b>219.1</b>	<b>216.0</b>	<b>241.0</b>	<b>241.3</b>	<b>229.9</b>

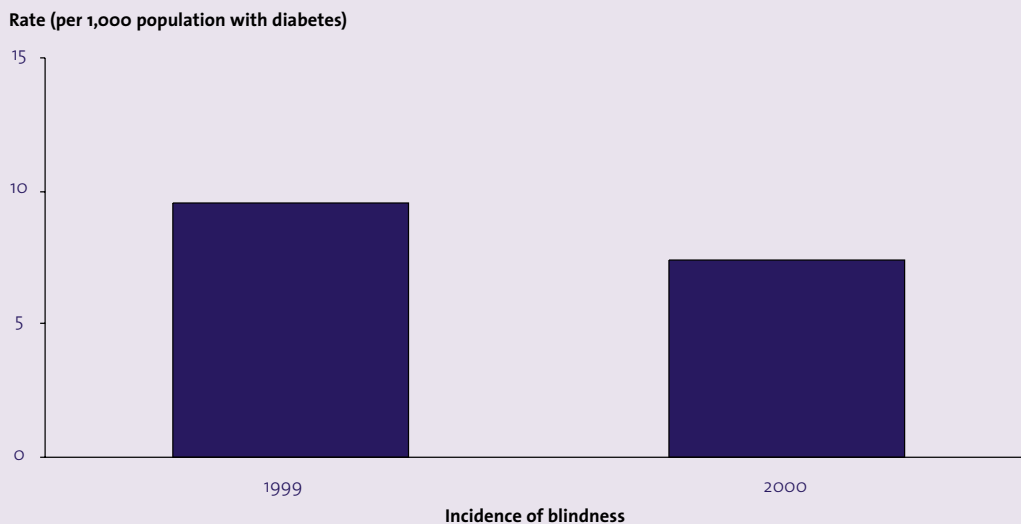
Notes

1. Data are presented for new ANZDATA patients only.
2. Rates are age-standardised to the Australian population as at 30 June 1991.

Sources: Estimates from the 1996, 1997, 1998, 1999, 2000 and 2001 ANZDATA Registry Annual Reports.

**Indicator 3.2:** Incidence rate for eye disease among people with clinically diagnosed diabetes

*Note: Data are not available to report the incidence rate for eye disease. Data presented are for incidence of blindness among patients with diabetes attending diabetes centres.*



	1999	2000
<b>Rate of blindness (per 1,000 population with diabetes)</b>		
Persons with diabetes	9.5	7.4

Note: Rates are age-standardised to the Australian population as at 30 June 1991.

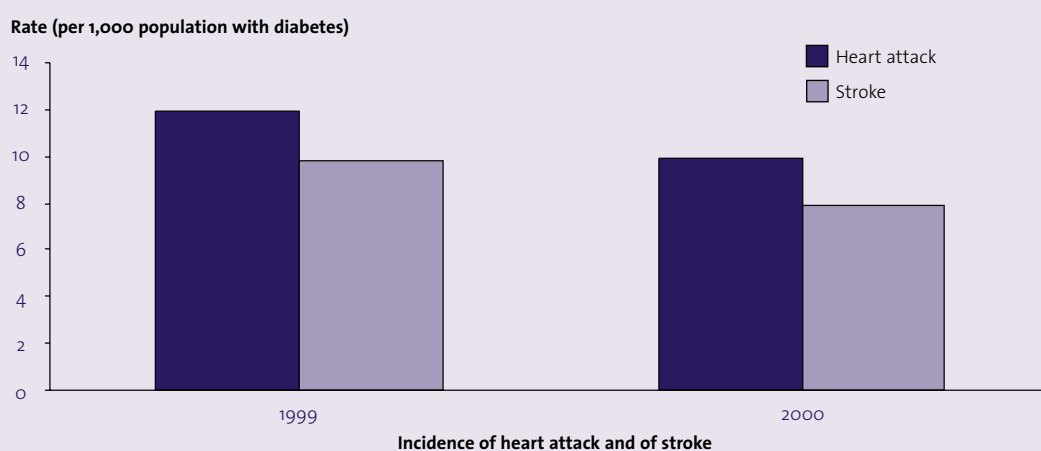
Source: 1999 and 2000 Australian National Diabetes Information Audit and Benchmarking (NADC).





**Indicator 3.4:** Incidence rates for coronary heart disease and stroke among people with clinically diagnosed diabetes and in the general population

*Note: Data are not available to report incidence rates for coronary heart disease and stroke in the general population and among people with diabetes. Data presented are for incidence rates of heart attack and stroke among patients with diabetes attending diabetes centres.*



	Heart attack		Stroke	
	1999	2000	1999	2000
	<b>Rate (per 1,000 population with diabetes)</b>			
Males with diabetes	15.7	11.4	11.2	10.5
Females with diabetes	7.4	7.9	8.1	5.0
Persons with diabetes	11.8	9.9	9.8	7.9

Note: Rates are age-standardised to the Australian population as at 30 June 1991.

Sources: 1999 and 2000 Australian National Diabetes Information Audit and Benchmarking (NADC).

**Indicator 4.1:** Hospital separation rates for end-stage renal disease as the principal diagnosis with diabetes as an additional diagnosis



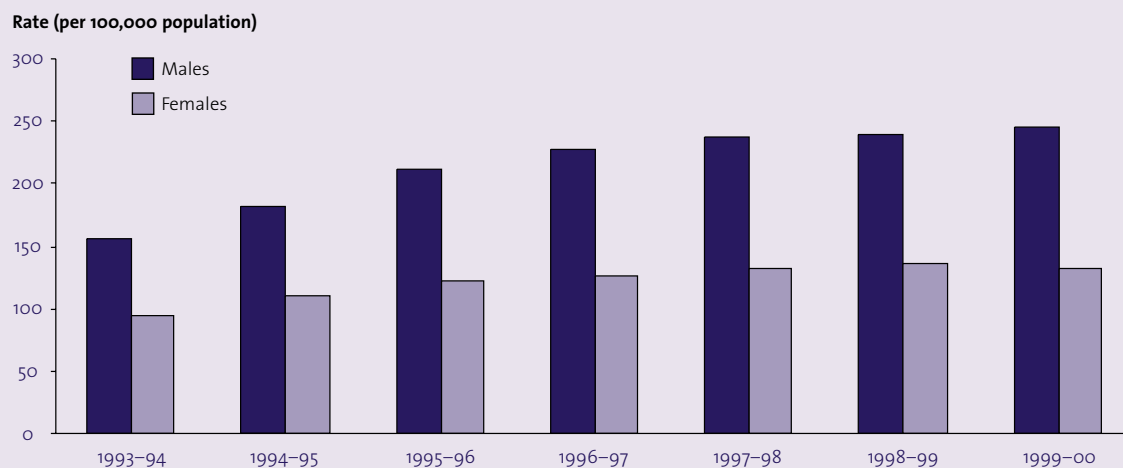
	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Rate (per 100,000 population)							
Males	7	8	10	11	15	15	15
Females	6	7	9	10	13	12	11
<b>Persons</b>	<b>6</b>	<b>7</b>	<b>10</b>	<b>10</b>	<b>14</b>	<b>13</b>	<b>13</b>

Notes

1. Rates are age-standardised to the Australian population as at 30 June 1991.
2. For 1993-94 to 1998-99 the disease groupings are classified according to the ICD-9-CM codes: 584-585 for end-stage renal disease and 250 for diabetes.
3. For 1999-00 the disease groupings are classified according to the ICD-10-AM codes: N17-N18 for end-stage renal disease and E10-E14 for diabetes.

Source: AIHW National Hospital Morbidity Database.

**Indicator 4.2:** Hospital separation rates for coronary heart disease or stroke as the principal diagnosis with diabetes as an additional diagnosis



	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
<b>Rate (per 100,000 population)</b>							
Males	156	181	210	226	236	239	244
Females	93	109	122	125	131	134	131
<b>Persons</b>	<b>123</b>	<b>143</b>	<b>164</b>	<b>173</b>	<b>181</b>	<b>184</b>	<b>184</b>

Notes

1. Rates are age-standardised to the Australian population as at 30 June 1991.
2. For 1993-94 to 1998-99 the disease groupings are classified according to the ICD-9-CM codes: 410-414 for coronary heart disease, 430-438 for stroke and 250 for diabetes.
3. For 1999-00 the disease groupings are classified according to the ICD-10-AM codes: I20-I25 for coronary heart disease, G45, G46 and I60-I69 for stroke and E10-E14 for diabetes.

Source: AIHW National Hospital Morbidity Database.

**Indicator 4.3:** Hospital separation rates for conditions other than end-stage renal disease and coronary heart disease/stroke among people with diabetes as a principal diagnosis or an additional diagnosis



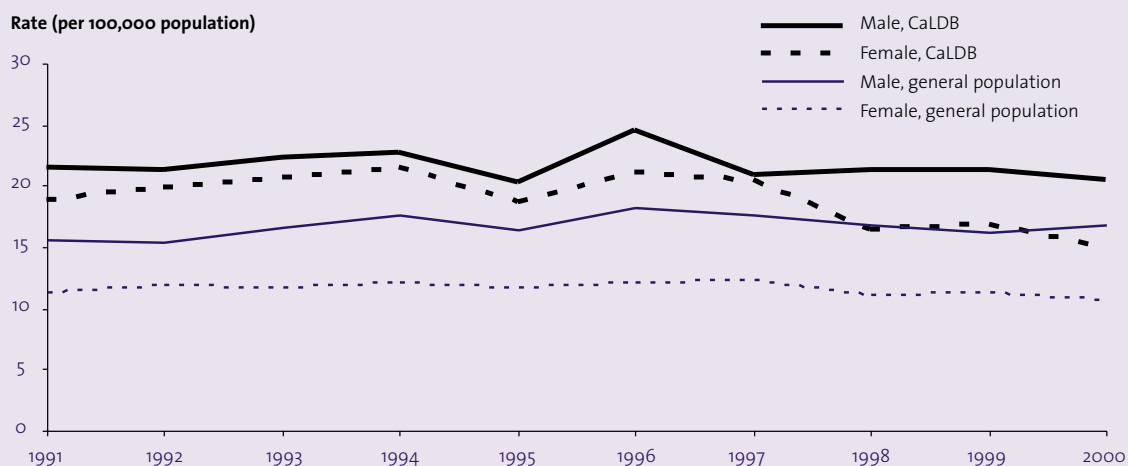
	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
	Rate (per 100,000 population)						
Males	858	1,023	1,188	1,322	1,469	1,577	1,606
Females	703	835	986	1,089	1,190	1,251	1,265
<b>Persons</b>	<b>770</b>	<b>916</b>	<b>1,073</b>	<b>1,190</b>	<b>1,312</b>	<b>1,396</b>	<b>1,418</b>

#### Notes

1. Rates are age-standardised to the Australian population as at 30 June 1991.
2. For 1993-94 to 1998-99 the disease groupings are classified according to the ICD-9-CM codes: 584-585 for end-stage renal disease, 410-414 for coronary heart disease, 430-438 for stroke and 250 for diabetes.
3. For 1999-00 the disease groupings are classified according to the ICD-10-AM codes: N17-N18 for end-stage renal disease, I20-I25 for coronary heart disease, G45, G46 and I60-I69 for stroke and E10-E14 for diabetes.

Source: AIHW National Hospital Morbidity Database.

**Indicator 5.1:** Death rates for diabetes in the general population, Indigenous population and among people from culturally and linguistically diverse backgrounds (CaLDB)



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
<b>Rate (per 100,000 population)</b>											
Males, CaLDB population	21.5	21.4	22.4	22.7	20.2	24.4	20.9	21.3	21.4	20.5	
Females, CaLDB population	18.9	20.0	20.6	21.6	18.6	21.1	20.5	16.5	16.8	14.9	
Males, general population	15.6	15.4	16.7	17.6	16.4	18.2	17.7	16.8	16.2	16.9	
Females, general population	11.4	11.9	11.8	12.1	11.8	12.2	12.4	11.1	11.3	10.7	
	<b>1998–2000</b>								<b>1998–2000</b>		
Males, Indigenous population					116.5				Males, non-Indigenous population		15.1
Females, Indigenous population					152.4				Females, non-Indigenous population		10.6

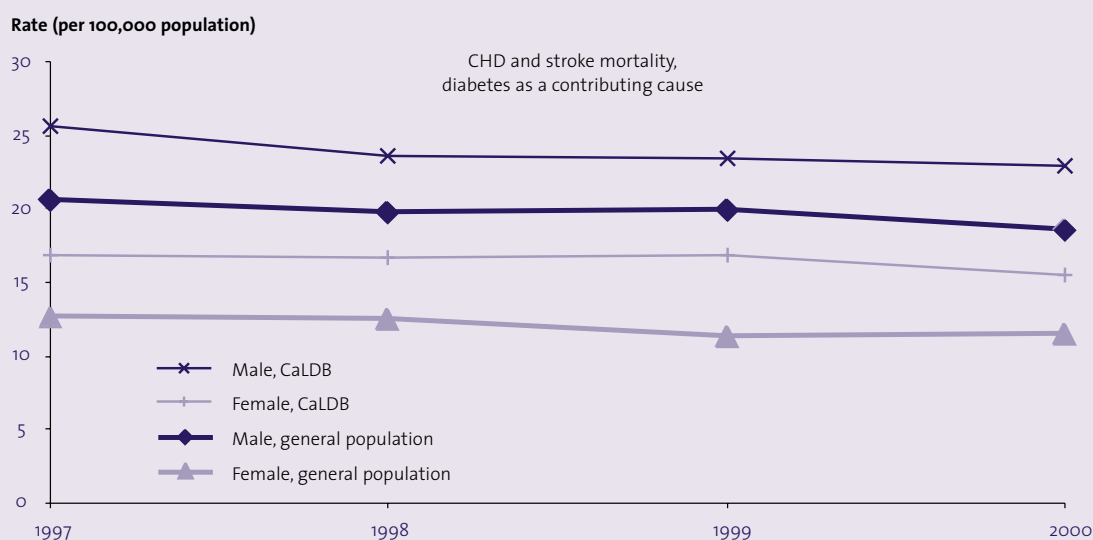
Notes

1. Rates are age-standardised to the Australian population as at 30 June 1991.
2. CaLDB = Culturally and linguistically diverse background. CaLDB is based on a country of birth other than Australia, New Zealand, United States of America, Canada, South Africa, United Kingdom or Ireland.
3. Aboriginal and Torres Strait Islander is based on only Queensland, Western Australia, South Australia and the Northern Territory.
4. For 1991 to 1996 the disease grouping is classified according to the ICD-9 code: 250 for diabetes.
5. For 1997 to 2000 the disease grouping is classified according to the ICD-10 codes: E10–E14 for diabetes.

Source: AIHW National Mortality Database.

**Indicator 5.2:** Death rates for coronary heart disease (CHD) and stroke among people with diabetes in the general population, the Indigenous population and among people from culturally and linguistically diverse backgrounds (CaLDB)

*Note: Data are not available to report death rates for coronary heart disease and stroke for the Indigenous population.*



	1997	1998	1999	2000
<b>Rate (per 100,000 population)</b>				
<b>General population</b>				
Males	21	20	20	19
Females	13	12	11	11
<b>People from culturally and linguistically diverse backgrounds</b>				
Males	26	24	23	23
Females	17	17	17	15

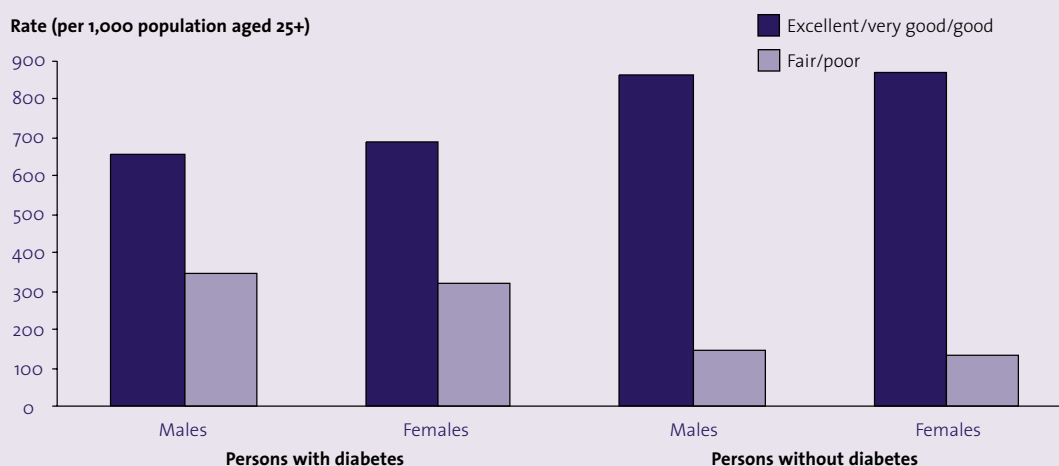
**Notes**

1. Rates are age-standardised using the Australian population as at 30 June 1991.
2. 'People from culturally and linguistically diverse backgrounds' is based on a country of birth other than Australia, New Zealand, United States of America, Canada, South Africa, United Kingdom or Ireland.
3. For 1997 and 1998, the disease groupings are classified according to the ICD-9-CM codes: 410–414 for coronary heart disease, 430–438 for stroke and 250 for diabetes as a contributing cause of death.
4. For 1999 and 2000, the disease groupings are classified according to the ICD-10-AM codes: I20–I25 for coronary heart disease, G45, G46 and I60–I69 for stroke and E10–E14 for diabetes as a contributing cause of death.

*Source: AIHW National Mortality Database.*

**Indicator 6.1: Self-assessed health status of people with and without diabetes**

*Note: Data presented are for people aged 25 years or over.*



**Self-assessed health status**

**1999–2000**

**Rate (per 1,000 population aged 25+)**

*Good, very good or excellent*

Males, with diabetes	657
Males, without diabetes	859
Females, with diabetes	684
Females, without diabetes	870

*Fair or poor*

Males, with diabetes	343
Males, without diabetes	141
Females, with diabetes	316
Females, without diabetes	130

Notes

1. Rates are age-standardised to the Australian population as at 30 June 1991.
2. Health status is assessed using the question 'In general, would you say that your health is: excellent / very good / good / fair / poor?'

Source: 1999–2000 AusDiab.





# Abbreviations

<b>ABS</b>	Australian Bureau of Statistics
<b>AGPS</b>	Australian Government Publishing Service
<b>AIHW</b>	Australian Institute of Health and Welfare
<b>ANDIAB</b>	Australian National Diabetes Information Audit and Benchmarking
<b>ANZDATA</b>	Australia and New Zealand Dialysis and Transplant Registry
<b>APEG</b>	Australasian Paediatric Endocrine Group
<b>AusDiab</b>	The Australian Diabetes, Obesity and Lifestyle Study
<b>BEACH</b>	Bettering the Evaluation And Care of Health
<b>BMI</b>	Body mass index
<b>CaLDB</b>	Culturally and linguistically diverse backgrounds
<b>CHD</b>	Coronary heart disease
<b>CPI</b>	Community Periodontal Index
<b>DALY</b>	Disability-adjusted life year
<b>DBP</b>	Diastolic blood pressure
<b>DDD</b>	Defined daily dose
<b>DHAC</b>	Department of Health and Aged Care
<b>ESRD</b>	End-stage renal disease
<b>GI</b>	Glycaemic Index
<b>GP</b>	General practitioner
<b>HbA1c</b>	Glycosylated haemoglobin
<b>HDL</b>	High-density lipoprotein
<b>ICD-9</b>	International Classification of Diseases, 9th Revision
<b>ICD-10</b>	International Classification of Diseases, 10th Revision
<b>ICD-10-AM</b>	International Classification of Diseases, 10th Revision Australian Modification
<b>IDDM</b>	Insulin-dependent diabetes mellitus
<b>IGT</b>	Impaired glucose tolerance
<b>JDRF</b>	Juvenile Diabetes Research Foundation
<b>LDL</b>	Low-density lipoprotein
<b>MBS</b>	Medicare Benefits Schedule
<b>NADC</b>	National Association of Diabetes Centres
<b>NDDP</b>	National Divisions Diabetes Program
<b>NDSS</b>	National Diabetes Services Scheme
<b>NHPA</b>	National Health Priority Area
<b>NHMRC</b>	National Health and Medical Research Council
<b>NHS</b>	National Health Survey
<b>NIDP</b>	National Integrated Diabetes Program



<b>NPDR</b>	Non-proliferative diabetic retinopathy
<b>OGTT</b>	Oral glucose tolerance test
<b>PVD</b>	Peripheral vascular disease
<b>RRMA</b>	Rural, Remote and Metropolitan Areas classification
<b>SBP</b>	Systolic blood pressure
<b>WHO</b>	World Health Organization
<b>YLL</b>	Years of life lost to premature mortality
<b>YLD</b>	Years of life lost to disability



# Symbols

\$	Australian dollars, unless otherwise specified
–	nil or rounded to zero
%	per cent
g	gram
kJ	kilojoule
mm Hg	millimetres of mercury
mmol/L	millimoles per litre
n.a.	not available
>	more than
≥	more than or equal to
<	less than
≤	less than or equal to





# Glossary

**abdominal obesity:** Excess fat around the trunk of the body, also called central obesity. Technically defined as a waist circumference  $\geq 102$  cm for males or  $\geq 88$  cm for females.

**albuminuria:** More than normal amounts of a protein called albumin in the urine.

**angina:** Temporary chest pain or discomfort when the heart's own blood supply is inadequate to meet extra needs, as in exercise.

**associated causes of death:** All morbid conditions, diseases and injuries (separate from the *underlying cause of death* recorded on the death certificate) contributing to death. See *cause of death*.

**atherosclerosis:** A process that gradually clogs arteries, through fatty and fibre-like deposits building up on the inner walls of the arteries, and can lead to *cardiovascular disease*.

**blood cholesterol:** Fatty substance produced by the liver and carried by the blood to supply the rest of the body. Its normal function is to provide material for cell walls and for steroid hormones, but if levels in the blood are too high it can lead to *atherosclerosis*.

**blood pressure:** The force exerted by blood against the walls of the arteries. The force is created by the pumping action of the heart, at contraction (systolic) and at relaxation (diastolic).

**body mass index (BMI):** The most commonly used method of assessing whether a person is normal weight, underweight, overweight or obese. Calculated by dividing the person's weight (in kilograms) by their height (in metres) squared, i.e.  $\text{kg/m}^2$ .

**cardiovascular disease:** Any disease of the heart or blood vessels, including *heart attack*, *angina*, *stroke* and *peripheral vascular disease*.

**cause of death:** The disease or factor contributing to the death. When used technically, this term is usually applied to the 'underlying cause' listed on the medical certificate issued at death. The *underlying cause of death* is defined as the main disease that initiated the train of events leading directly to death, distinct from *associated causes of death* which are conditions, diseases or injuries that contributed to the death, directly or indirectly.

**cataract:** Clouding of the lens of the eye.

**central obesity:** See *abdominal obesity*.

**cerebrovascular:** Of or relating to blood vessels and the supply of blood to the brain. See *stroke*.

**chronic disease:** A disease persisting for a long period (at least 3 to 6 months).

**complications:** Conditions and illness resulting directly or indirectly from another disease or condition.

**coronary heart disease (CHD):** *Heart attack* and *angina* (chest pain). Also known as ischaemic heart disease.

**creatinine:** A chemical found in the blood and passed in the urine. A test of the amount of creatinine in blood or in blood and urine indicates functioning of the kidneys.

**dental caries:** Tooth decay.

**dialysis:** A method of removing excess waste substances from the blood when the kidneys are unable to work effectively.

**disability:** When used technically, disability refers to the presence of one or more of a defined set of limitations, restrictions or impairments.

**disability-adjusted life year (DALY):** A summary statistic to describe years of healthy life lost through disability and/or premature mortality.

**dyslipidaemia:** Unhealthy levels of fats (lipids) in the blood.

**encounter (general practitioner):** Any professional interchange between a patient and a general practitioner.

**endocrinologist:** A doctor who treats people who have problems with their endocrine glands. Diabetes is an endocrine disorder.

**glaucoma:** An eye disease associated with increased pressure within the eye.

**glomeruli:** The primary filtration units of the kidney.

**glucose:** The main sugar that the body uses for energy. Glucose comes from the breakdown of carbohydrates in the diet as well as from the breakdown of glycogen (the storage form of glucose) in the liver.

**HDL cholesterol:** Cholesterol packaged in high-density lipoprotein particles. The HDLs are good acceptors of membrane-free cholesterol and transport it back from tissues to the liver.

**health risk factor:** Any factor that represents a greater risk of a health disorder or other unwanted condition. Some risk factors are regarded as causes of disease, others are regarded as contributors.

**heart attack:** Life-threatening emergency that occurs when a vessel supplying blood to the heart muscle is suddenly blocked completely. The event may lead to the death of a part of the heart muscle. The medical term commonly used for a heart attack is myocardial infarction.

**heart failure:** When the heart cannot pump strongly enough to keep the blood circulating around the body at an adequate rate.

**hospital separation:** The formal process by which a hospital records the completion of treatment and/or care for an admitted patient. The episode of care may be completed by an admitted patient's discharge, death, transfer to another hospital, or change in the type of care.

**hyperglycaemia:** High blood *glucose* levels.

**hypertension:** High *blood pressure*.

**hypertriglyceridemia:** High levels of *triglycerides*; a marker of lipid abnormalities.

**hypoglycaemia:** A low blood *glucose* level.

**impaired glucose tolerance:** Slower metabolism of *glucose* due to *insulin* deficiency or resistance. Classified as fasting plasma glucose less than 7.0 mmol/L and 2-hour plasma glucose 7.8–11.0 mmol/L after oral glucose tolerance testing (OGTT).

**incidence:** The number of new cases (of a disease, condition or event) occurring during a given period. Compare with *prevalence*.

**insulin:** A hormone produced in the *pancreas* that helps *glucose* to enter body cells for energy metabolism.

**insulin resistance:** A condition in which *insulin* works inefficiently and the body compensates by producing an excess supply.

**International Classification of Diseases (ICD):** The World Health Organization's internationally accepted statistical classification of disease and injury.

**ischaemic heart disease:** See *coronary heart disease*.

**LDL cholesterol:** Cholesterol packaged in low-density lipoprotein particles. LDLs carry cholesterol to the various tissues for use.

**Metabolic Syndrome:** Also called Syndrome X, is a symptom cluster associated with a high risk of *coronary heart disease* and *stroke*. Central to Metabolic Syndrome is *insulin resistance*. Other common signs include *impaired glucose tolerance*, excessively high blood insulin levels, high *blood pressure* and abnormal blood cholesterol levels (specifically high levels of triglycerides and low levels of HDL cholesterol).

**morbidity:** Refers to ill-health in an individual and to levels of ill-health in a population or group.

**myocardial infarction:** See *heart attack*.

**neuropathy:** A disease of the system that results in damage to nerves.

**nephropathy:** A disease of the kidneys.

**obesity:** Increased adiposity or fat mass, associated with several chronic diseases and their risk factors. Technically defined as *body mass index*  $\geq 30$ . Also see *abdominal obesity* and *central obesity*.

**ophthalmologist:** A doctor who sees and treats people with eye problems or diseases.

**pancreas:** An organ that produces digestive substances and hormones, including *insulin*.

**periodontal:** Refers to the supporting structures of the teeth, including the gums, connective tissue and bone.

**peripheral vascular disease:** Pain in the legs due to an inadequate blood supply to them.

**prevalence:** The number or proportion (of cases, instances, etc.) present in a population at a given time. Compare with *incidence*.

**principal diagnosis:** The diagnosis established after study to be chiefly responsible for occasioning the patient's episode of care in hospital (or attendance at the health care facility).

**retinopathy:** A disease of the small blood vessels in the retina of the eye.

**risk factor:** See *health risk factor*.

**Rural, Remote and Metropolitan Areas classification:** A classification that assigns geographic areas into one of seven categories: capital cities, other metropolitan centres, large rural centres, small rural centres, other rural areas, remote centres and other remote areas.

**saturated fats:** Fats that are solid and are found in the diet mostly from animal sources. In excess, they tend to raise *blood cholesterol*.

**separation:** See *hospital separation*.

**sleep apnoea:** Cessation or prolonged break in breathing during sleep.

**stroke:** When an artery supplying blood to the brain suddenly becomes blocked or bleeds, often causing paralysis of parts of the body or speech problems.

**triglycerides:** A hydrophobic, neutral lipid, packaged with proteins and cholesterol in various lipoprotein particles.

**underlying cause of death:** The main disease or injury initiating the sequence of events leading directly to death. See *cause of death*.