

1.23 Leading causes of mortality

Causes of death of Aboriginal and Torres Strait Islander Australians, expressed as a rate by age group, age-standardised rate and rate ratio

Data sources

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The Australian Institute of Health and Welfare (AIHW) maintains the database. The Registrars of Births, Deaths and Marriages provide information on the characteristics and causes of death of the deceased and the Australian Bureau of Statistics (ABS) codes this nationally. The medical practitioner certifying the death, or a coroner, supplies information on the cause of death. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The funeral director does not always ask the Indigenous status question of relatives and friends of the deceased. Detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided for five jurisdictions – New South Wales, Queensland, South Australia, Western Australia and the Northern Territory (AIHW 2010).

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

The ABS supplied additional revised 2007 and preliminary 2008 mortality data for this indicator from the ABS Cause of Death database. For further information see *Causes of death, Australia, 2008* (ABS 2010).

Data have been combined for the 5-year period 2004–2008 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

Analyses

Age-standardised rates and ratios have been used as a measure of mortality in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of mortality among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

Mortality

Mortality by cause of death

Tables 1.23.1 and 1.23.2 present data on the major causes of death of Indigenous Australians over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, the most common cause of death among Indigenous Australians was circulatory diseases (27%), followed by cancer (18%). Indigenous Australians died from these causes of death at 1.8 and 1.3 times the rate of non-Indigenous Australians respectively (Table 1.23.1).
- External causes (injury and poisoning) were responsible for 15% of Indigenous and 6% of non-Indigenous deaths. Digestive organ cancers are the most common types of cancer from which Indigenous Australians died (5%), at almost one and a half times the rate of non-Indigenous Australians.
- Over the period 2004–2008, Indigenous Australians died from diabetes at seven times the rate of non-Indigenous Australians and from kidney diseases at three and a half times the rate of non-Indigenous Australians.
- Deaths higher than the expected number are referred to as ‘excess deaths’. Excess deaths are calculated by subtracting the number of expected Indigenous deaths (based on the age, sex and cause-specific rates of non-Indigenous Australians) from the number of actual cause-specific deaths in the Indigenous population. This is usually expressed as a proportion of excess death from all causes. Diseases of the circulatory system accounted for the highest proportion of excess deaths among Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined over the period 2004–2008 (26% of deaths). Deaths due to external causes (injury and poisoning), endocrine, nutritional and metabolic diseases, cancer and diseases of the respiratory system. Deaths due to these causes were responsible for almost half (46%) of excess deaths among Indigenous persons (Table 1.23.2).

Mortality by cause of death and age

Table 1.23.3 presents data on the major causes of death of Indigenous Australians by age over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Indigenous Australians aged 75 years and over had the highest rates of mortality across all major causes of death except for cervical cancer and conditions originating in the perinatal period. The highest mortality rate for cervical cancer was in the 65–74 year age group.
- After the 75 years and over age group, the highest rates of mortality due to external causes for Indigenous Australians were in the 25–34 and 35–44 year age groups, at 129 and 122 per 100,000 population respectively.

Table 1.23.1: Causes of mortality, by Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)(i)}

Underlying cause of death	Number			Per cent			Number per 100,000 ^(j)		Ratio ^(k)
	Indigenous	Non-Indigenous	Not stated	Indigenous	Non-Indigenous	Not stated	Indigenous	Non-Indigenous	
Circulatory diseases (I00–I99)	2,908	164,525	1,784	26.8	35.2	35.5	376.6	213.0	1.8
External causes (V01–Y98)	1,615	26,808	642	14.9	5.7	12.8	88.3	36.5	2.4
Cancer (C00–D48)	1,955	138,666	973	18.0	29.7	19.3	241.2	181.0	1.3
<i>Lung cancer (C34)^(l)</i>	478	26,049	176	4.4	5.6	3.5	59.1	34.0	1.7
<i>Cervical cancer (C53)^{(l)(m)}</i>	51	779	n.p.	0.5	0.2	n.p.	4.3	1.0	4.3
<i>Digestive organ cancers (C15–C26)^(l)</i>	543	36,968	263	5.0	7.9	5.2	68.1	48.2	1.4
Endocrine, metabolic and nutritional disorders (E00–E89)	909	16,479	182	8.4	3.5	3.6	119.3	21.5	5.5
<i>Diabetes (E10–E14)^(l)</i>	777	11,523	122	7.2	2.5	2.4	103.4	15.0	6.9
Respiratory diseases (J00–J99)	848	39,171	450	7.8	8.4	8.9	115.5	50.9	2.3
Digestive diseases (K00–K93)	648	15,733	168	6.0	3.4	3.3	59.8	20.5	2.9
Conditions originating in perinatal period (P00–P96)	265	1,908	n.p.	2.4	0.4	n.p.	5.9	2.7	2.2
Nervous system diseases (G00–G99)	270	17,308	168	2.5	3.7	3.3	28.5	22.6	1.3
Kidney diseases (N00–N29)	272	8,419	65	2.5	1.8	1.3	36.6	10.9	3.4
Infectious and parasitic diseases (A00–B99)	242	6,736	56	2.2	1.4	1.1	25.1	8.8	2.9
Other causes ⁽ⁿ⁾	908	31,499	498	8.4	6.7	9.9	87.3	41.1	2.1
All causes	10,840	467,252	5,030	100.0	100.0	100.0	1,184.2	609.3	1.9

(continued)

Table 1.23.1 (continued): Causes of mortality, by Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)(i)}

- (a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (b) Data are presented in 5-year groupings because of small numbers each year.
- (c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.
- (d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.
- (e) Causes of death data for 2007 have been revised and are subject to further revisions.
- (f) 2008 data have been subject to a process improvement which has increased the quality of these data.
- (g) Causes of death data for 2008 are preliminary and subject to a revisions process.
- (h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (i) Rates exclude 5,030 registered deaths where the Indigenous status is not stated.
- (j) Directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.
- (k) Rate ratio Indigenous: non-Indigenous.
- (l) Data for lung cancer, cervical cancer and digestive organ cancers are a subset of the data presented for all cancers; data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.
- (m) Data for cervical cancer are for females only.
- (n) Includes: diseases of the blood and blood-forming organs and certain disorders involving the immune system, mental and behavioural disorders, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the skin and subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinary system (excluding kidney diseases), pregnancy, childbirth and the puerperium, congenital malformations, deformations and chromosomal abnormalities, symptoms, signs and abnormal clinical findings not elsewhere classified.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.2: Main causes of excess Indigenous deaths, by sex, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

	Males				Females				Persons			
	Observed ^(h)	Expected ⁽ⁱ⁾	Excess ^(j)	Per cent excess ^(k)	Observed ^(h)	Expected ⁽ⁱ⁾	Excess ^(j)	Per cent excess ^(k)	Observed ^(h)	Expected ⁽ⁱ⁾	Excess ^(j)	Per cent excess ^(k)
Circulatory diseases (I00–I99)	1,606	462	1,144	27.3	1,302	647	655	27.0	2,908	1,109	1,799	27.2
External causes (V01–Y98)	1,127	270	857	20.5	488	288	200	8.2	1,615	558	1,057	16.0
Endocrine, metabolic & nutritional disorders (E00–E89)	429	57	372	8.9	480	74	406	16.7	909	131	778	11.8
<i>Diabetes (E10–E14)^(l)</i>	367	35	332	7.9	410	48	362	14.9	777	83	694	10.5
Cancer (C00– D48)	1,002	569	433	10.3	953	716	237	9.8	1,955	1,285	670	10.1
<i>Lung cancer (C34)^(l)</i>	317	147	170	4.1	226	186	40	1.6	543	333	210	3.2
<i>Cervical cancer (C53)^{(l)(m)}</i>	272	103	169	4.0	206	131	75	3.1	478	234	244	3.7
<i>Digestive Organ Cancer (C15–C26)^(l)</i>	–	–	–	–	51	6	45	1.9	51	10	41	0.6
Respiratory diseases (J00–J99)	468	114	354	8.4	380	158	222	9.1	848	273	575	8.7
Other causes ⁽ⁿ⁾	489	153	336	8.0	419	184	235	9.7	908	337	571	8.6
Digestive diseases (K00–K93)	352	62	290	6.9	296	79	217	9.0	648	140	508	7.7
Kidney diseases (N00–N29)	129	21	108	2.6	143	31	112	4.6	272	52	220	3.3
Infectious & parasitic diseases (A00–B99)	134	29	105	2.5	108	36	72	3.0	242	65	177	2.7
Conditions originating in perinatal period (P00–P96)	154	63	91	2.2	111	61	50	2.1	265	124	141	2.1
Nervous system diseases (G00–G99)	165	67	98	2.3	105	85	20	0.8	270	152	118	1.8
All causes	6,055	1,868	4,187	100.0	4,785	2,358	2,427	100.0	10,840	4,226	6,614	100.0

(continued)

Table 1.23.2 (continued): Main causes of excess Indigenous deaths, by sex, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

- (a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (b) Data are presented in 5-year groupings because of small numbers each year.
- (c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.
- (d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.
- (e) Causes of death data for 2007 have been revised and are subject to further revisions.
- (f) 2008 data have been subject to a process improvement which has increased the quality of these data.
- (g) Causes of death data for 2008 are preliminary and subject to a revisions process.
- (h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (i) Expected deaths are calculated by applying the cause specific mortality rate for the standard non-Indigenous population to the Indigenous population of the reference period. This calculation is undertaken utilising an indirect method of standardisation.
- (j) Excess deaths are calculated by subtracting the expected deaths from the average of the observed deaths over the five-year period.
- (k) Excess % = excess deaths for specific cause/excess deaths for all causes x 100.
- (l) Data for lung cancer, cervical cancer and digestive organ cancers are a subset of the data presented for all cancers; data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.
- (m) Data for cervical cancer are for females only.
- (n) Includes: diseases of the blood and blood-forming organs and certain disorders involving the immune system; mental and behavioural disorders; diseases of the eye and adnexa; diseases of the ear and mastoid process; diseases of the skin and subcutaneous tissue; diseases of the musculoskeletal system and connective tissue; diseases of the genitourinary system (excluding kidney diseases); pregnancy, childbirth and the puerperium; congenital malformations, deformations and chromosomal abnormalities; symptoms, signs and abnormal clinical findings not elsewhere classified.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: NIRA 2010.

Table 1.23.3 : Causes of Indigenous mortality rates, by age group, NSW, Qld, WA, SA and NT, 2004– 2008^{(a)(b)(c)(d)(e)(f)(g)(h)(i)}

Underlying cause of death	Under 1	1–4	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65–74	75 and over	Total ^(j)
Circulatory diseases (I00–I99)	0.3	3.5	8.3	1.7	7.0	43.9	134.9	264.6	498.7	1,116.3	3,203.4	126.3
External causes (V01–Y98)	0.5	25.3	30.2	10.4	84.5	129.3	122.2	83.3	56.4	71.2	241.9	70.1
Cancer (C00– D48)	0.1	3.1	3.5	1.9	2.9	12.2	59.4	185.8	506.2	992.8	1,460.6	84.9
<i>Lung cancer (C34)^(k)</i>	0.0	0.0	0.3	0.0	0.0	0.6	6.2	51.7	152.1	268.1	291.2	20.8
<i>Cervical cancer (C53)^{(k)(l)}</i>	0.0	0.0	0.0	0.0	0.0	3.0	5.2	4.0	7.5	14.7	4.5	2.2
<i>Digestive organ cancer (C15–C26)^(k)</i>	0.0	0.0	0.0	0.0	0.2	3.4	16.2	49.2	151.2	270.2	425.6	23.6
Endocrine, metabolic and nutritional disorders (E00–E89)	0.1	0.4	3.1	0.3	1.1	3.0	26.9	81.3	219.8	458.7	855.7	39.5
<i>Diabetes (E10–E14)^(k)</i>	0.0	0.0	0.0	0.0	0.2	2.1	21.4	66.3	203.8	406.3	730.3	33.7
Respiratory diseases (J00–J99)	0.6	2.2	13.2	1.2	2.0	9.1	31.4	47.7	140.9	416.8	1,026.0	36.8
Digestive diseases (K00–K93)	0.2	1.3	4.5	0.0	1.4	15.6	54.5	89.4	96.7	148.7	300.2	28.1
Conditions originating in perinatal period (P00–P96)	4.4	1.7	91.6	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	11.5
Nervous system diseases (G00–G99)	0.1	5.2	6.6	1.7	5.0	7.0	13.5	18.1	28.2	83.8	228.5	11.7
Kidney diseases (N00–N29)	0.0	0.0	0.0	0.0	0.5	1.8	10.4	22.1	65.7	98.4	322.6	11.8
Infectious and parasitic diseases (A00–B99)	0.1	0.4	3.8	0.3	0.7	7.0	18.6	23.1	28.2	67.0	179.2	10.5
Other causes ^(m)	3.2	10.0	73.9	3.6	10.6	18.6	38.3	53.2	82.6	186.4	743.7	39.4
All causes	9.6	53.2	238.7	21.1	116.2	247.6	510.0	868.5	1,723.4	3,640.2	8,561.8	470.7

(continued)

Table 1.23.3 (continued): Causes of Indigenous mortality rates, by age group, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)(i)}

- (a) Rates for infants (under 1 year) calculated per 1,000 live births; age-specific death rates for age groups calculated per 100,000 estimated resident population for selected age group.
- (b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (c) Data are presented in 5-year groupings because of small numbers each year.
- (d) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.
- (e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.
- (f) Causes of death data for 2007 have been revised and are subject to further revisions.
- (g) 2008 data have been subject to a process improvement which has increased the quality of these data.
- (h) Causes of death data for 2008 are preliminary and subject to a revisions process.
- (i) In calculating mortality rates, data cells with small values have been randomly assigned to protect the confidentiality of individuals.
- (j) Includes age not stated.
- (k) Data for lung cancer, cervical cancer and digestive organ cancers are a subset of the data presented for all cancers; data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.
- (l) Data for cervical cancer are for females only.
- (m) Includes: diseases of the blood and blood-forming organs and certain disorders involving the immune system, mental and behavioural disorders, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the skin and subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinary system (excluding kidney diseases), pregnancy, childbirth and the puerperium, congenital malformations, deformations and chromosomal abnormalities, symptoms, signs and abnormal clinical findings not elsewhere classified.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database.

Endocrine, metabolic and nutritional disorders

Tables 1.23.4 and 1.23.5 present data on deaths of Indigenous Australians from endocrine, metabolic and nutritional disorders over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, there were 909 observed deaths of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from endocrine, metabolic and nutritional disorders.
- Among Indigenous Australians diabetes accounted for 85% of endocrine, metabolic and nutritional disorders deaths.
- 71% of Indigenous deaths due to endocrine, metabolic and nutritional disorders occurred in the age group 55 years and older (Table 1.23.5).

Table 1.23.4: Deaths of Indigenous Australians from endocrine, metabolic and nutritional disorders, by sex, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

Underlying cause of death	Males				Females				Persons			
	Observed	Expected	Excess	Per cent excess	Observed	Expected	Excess	Per cent excess	Observed	Expected	Excess	Per cent excess
	Number			Per cent	Number			Per cent	Number			Per cent
Endocrine, metabolic and nutritional disorders (E00–E89)	429	58	371	9.1	480	75	405	17.6	909	133	776	12.2
<i>Diabetes (E10–E14)⁽ⁱ⁾</i>	367	37	330	8.1	410	49	361	15.7	777	85	692	10.9
All causes	6,055	1,985	4,070	100.0	4,785	2,485	2,300	100.0	10,840	4,470	6,370	100.0

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Causes of death data for 2007 have been revised and are subject to further revisions.

(f) 2008 data have been subject to a process improvement which has increased the quality of these data.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process.

(h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(i) Data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.5: Deaths of Indigenous Australians from endocrine, metabolic and nutritional disorders, by age, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)}

	Age group (years)																Total ^(h)
	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75+	
Endocrine, metabolic and nutritional disorders (E00–E89)	9	0	n.p.	n.p.	n.p.	n.p.	8	35	43	65	97	116	118	104	115	191	909
<i>Diabetes (E10–E14)^(f)</i>	0	0	n.p.	n.p.	n.p.	n.p.	7	26	36	54	78	107	110	92	102	163	777
All causes	688	58	64	216	298	347	465	675	803	854	876	902	933	893	845	1,911	10,840

- (a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (b) Data are presented in 5-year groupings because of small numbers each year.
- (c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.
- (d) Causes of death data for 2007 have been revised and are subject to further revisions.
- (e) 2008 data have been subject to a process improvement which has increased the quality of these data.
- (f) Causes of death data for 2008 are preliminary and subject to a revisions process. Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (g) Includes age not stated.
- (h) Data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.

Source: ABS and AIHW analysis of ABS Mortality Database.

Circulatory diseases

Tables 1.23.6 and 1.23.7 present data on deaths of Indigenous Australians from circulatory diseases over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, there were 2,908 deaths of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from circulatory diseases. Indigenous Australians died from circulatory diseases at around twice the rate of non-Indigenous Australians.
- The most common type of circulatory disease causing death among Indigenous Australians was ischaemic heart disease (including heart attack and angina) (54%), followed by cerebrovascular disease (including stroke) (19%). Indigenous Australians died from these diseases at around twice the rate of non-Indigenous Australians.
- Over the period 2004–2008, Indigenous Australians died from hypertensive disease at 2.5 times the rate of non-Indigenous Australians. Indigenous Australians died from rheumatic heart disease (which predominantly affects children) at 6 times the rate of non-Indigenous Australians.
- Excluding rheumatic heart disease, the majority (87%) of Indigenous deaths due to circulatory diseases occurred in the older age groups (40 years and over) (Table 1.23.7)

Table 1.23.6: Deaths of Indigenous Australians from circulatory diseases, by sex, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

	Males				Females				Persons			
	Number	Per cent	No. per 100,000 ⁽ⁱ⁾	Rate ratio ^(j)	Number	Per cent	No. per 100,000 ⁽ⁱ⁾	Rate ratio ^(j)	Number	Per cent	No. per 100,000 ⁽ⁱ⁾	Rate ratio ^(j)
Ischaemic heart disease (I20–I25)	961	59.8	239.9	1.8	598	45.9	151.8	1.8	1,559	53.6	192.2	1.8
<i>Acute myocardial infarction (I21)^(k)</i>	438	27.3	111.5	1.7	273	21.0	73.8	1.6	711	24.4	91.3	1.7
Cerebrovascular disease (I60–I69)	260	16.2	92.5	1.8	277	21.3	79.1	1.4	537	18.5	84.9	1.6
<i>Stroke (I60–I64)^(k)</i>	206	12.8	68.2	1.8	222	17.1	60.4	1.5	428	14.7	63.8	1.6
Other heart disease (I26–I52)	263	16.4	62.6	1.9	232	17.8	55.5	1.8	495	17.0	59.2	1.8
Rheumatic heart disease (I00–I09)	30	1.9	3.7	4.1	69	5.3	9.3	6.8	99	3.4	6.8	5.8
Hypertensive disease (I10–I15)	37	2.3	13.4	2.3	70	5.4	19.6	2.5	107	3.7	17.1	2.5
Other diseases of the circulatory system (I70–I99)	55	3.4	14.6	1.0	56	4.3	16.8	1.7	111	3.8	16.3	1.4
Total circulatory diseases	1,606	100.0	426.7	1.8	1,302	100.0	332.1	1.7	2,908	100.0	376.4	1.8

(continued)

Table 1.23.6 (continued): Deaths of Indigenous Australians from circulatory diseases, by sex, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

- (a) Data are reported for NSW, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (b) Data are presented in 5-year groupings because of small numbers each year.
- (c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate.
- (d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.
- (e) Causes of death data for 2007 have been revised and are subject to further revisions.
- (f) 2008 data have been subject to a process improvement which has increased the quality of these data.
- (g) Causes of death data for 2008 are preliminary and subject to a revisions process.
- (h) Directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.
- (i) Rate ratio Indigenous: non-Indigenous.
- (j) Data presented for acute myocardial infarction are a subset of data presented for ischaemic heart disease; data presented for stroke are a subset of data presented for cerebrovascular disease in this table.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.7: Deaths of Indigenous Australians from circulatory diseases, by age, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

	Age group (years)															Total ⁽ⁱ⁾	
	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74		75+
Ischaemic heart disease (I20–I25)	0	0	0	n.p.	n.p.	20	47	90	139	162	157	148	170	158	140	319	1,559
<i>Acute myocardial infarction (I21)^(j)</i>	0	0	0	n.p.	n.p.	10	22	34	57	64	65	69	76	80	73	157	711
Cerebrovascular disease (I60–I69)	n.p.	0	n.p.	n.p.	n.p.	7	11	19	21	32	47	35	43	49	58	206	537
<i>Stroke (I60–I64)^(j)</i>	n.p.	0	n.p.	n.p.	n.p.	7	9	17	20	31	42	32	36	37	42	147	428
Other heart disease (I26–I52)	15	n.p.	n.p.	0	7	13	24	34	47	43	42	37	44	37	34	112	495
Rheumatic heart disease (I00–I09)	n.p.	n.p.	n.p.	n.p.	8	8	12	12	9	7	11	8	6	n.p.	5	n.p.	99
Hypertension disease (I10–I15)	0	0	0	0	0	0	n.p.	n.p.	n.p.	7	5	11	9	n.p.	15	40	107
Other diseases of the circulatory system (I70–I99)	n.p.	n.p.	0	0	n.p.	0	n.p.	n.p.	n.p.	7	7	9	11	18	8	36	111
Total circulatory diseases	24	n.p.	6	7	24	48	96	165	226	258	269	248	283	273	260	715	2,908

(continued)

Table 1.23.7 (continued): Deaths of Indigenous Australians from circulatory diseases, by age, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

- (a) A high proportion of the cells within this table have been randomised to ensure confidentiality of data. ABS recommends cells with small values are interpreted with caution. Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (c) Data are presented in 5-year groupings because of small numbers each year.
- (d) Deaths prior to 2007 are by year of registration and state/territory of usual residence.
- (e) Causes of death data for 2007 have been revised and are subject to further revisions.
- (f) 2008 data have been subject to a process improvement which has increased the quality of these data.
- (g) Causes of death data for 2008 are preliminary and subject to a revisions process. See *Causes of death, Australia, 2008* (ABS 2010, cat. No. 3303.0) Technical Note 2: Revisions Process for further information.
- (h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (i) Includes age not stated.
- (j) Data presented for acute myocardial infarction are a subset of data presented for ischaemic heart disease; data presented for stroke are a subset of data presented for cerebrovascular disease in this table.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database.

External causes (injury and poisoning)

Tables 1.23.8 and 1.23.9 present data on deaths of Indigenous Australians from external causes of injury and poisoning over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, there were 1,615 deaths of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from external causes. Indigenous Australians died from external causes at twice the rate of non-Indigenous Australians.
- The most common types of external cause of death among Indigenous Australians were intentional self-harm (suicide) and transport accidents (both 27%), followed by accidental poisoning by and exposure to noxious substances, and assault (both 9%).
- Indigenous Australians died from intentional self-harm and transport accidents at two and three times the rate of non-Indigenous Australians respectively. Indigenous males and females died from assault at 8 and 10 times the rate of non-Indigenous males and females respectively.
- Over the period 2004–2008, the largest number of deaths of Indigenous Australians from external causes was in the 30–34 year age groups (226, 14%), followed by the 20–24 year age group (213, 13%) (Table 1.23.9).

Table 1.23.8: Deaths of Indigenous Australians from external causes (injury and poisoning), by sex, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)(i)}

	Males				Females				Persons			
	Number	Per cent	Number per 100,000 ^(j)	Rate ratio ^(k)	Number	Per cent	Number per 100,000 ^(j)	Rate ratio ^(k)	Number	Per cent	Number per 100,000 ^(j)	Rate ratio ^(k)
Intentional self-harm (X60–X84)	355	31.5	32.5	2.2	84	17.2	6.8	1.8	439	27.2	19.2	2.1
Accidents												
Transport accidents (V01–V99)	300	26.6	30.0	2.7	132	27.0	13.1	3.9	432	26.7	21.2	3.0
Accidental drowning or accidental threats to breathing (W65–W84)	74	6.6	7.5	2.2	34	7.0	2.8	2.2	108	6.7	5.0	2.2
Accidental poisoning by and exposure to noxious substances (X40–X49)	90	8.0	9.2	2.2	51	10.5	5.5	3.1	141	8.7	7.4	2.4
Exposure to electric current/smoke/fire/ animals/nature (W85–W99, X00–X39)	31	2.8	4.3	4.3	18	3.7	1.6	3.0	49	3.0	2.8	3.6
Accidental falls (W00–W19)	37	3.3	9.0	1.8	16	3.3	3.6	0.9	53	3.3	5.9	1.4
Exposure to inanimate mechanical forces (W20–W49)	18	1.6	1.6	1.5	7	1.4	0.7	4.7	25	1.5	1.1	1.9
Other external causes of accidental injury (W50–W64, X50–X59)	66	5.9	14.2	2.8	43	8.8	8.3	2.0	109	6.7	10.8	2.3
Assault (X85–Y09)	78	6.9	8.1	8.0	61	12.5	5.6	9.9	139	8.6	6.8	8.6
Complications of medical or surgical care (Y40–Y84)	9	0.8	2.1	1.7	14	2.9	2.6	2.4	23	1.4	2.3	2.0
Other external causes ^(l)	69	6.1	8.9	2.5	28	5.7	3.0	2.0	97	6.0	5.7	2.3
Total external causes	1,127	100.0	127.5	2.5	488	100.0	53.6	2.4	1,615	100.0	88.2	2.4

(continued)

Table 1.23.8 (continued): Deaths of Indigenous Australians from external causes of injury and poisoning, by sex, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)(i)}

- (a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (b) Data are presented in 5-year groupings because of small numbers each year.
- (c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.
- (d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.
- (e) Causes of death data for 2007 have been revised and are subject to further revisions.
- (f) 2008 data have been subject to a process improvement which has increased the quality of these data.
- (g) Causes of death data for 2008 are preliminary and subject to a revisions process.
- (h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (i) These data exclude 642 deaths where the Indigenous status was not stated.
- (j) Directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.
- (k) Rate ratio Indigenous: non-Indigenous.
- (l) Includes event of undetermined intent; legal intervention and operations of war; sequelae of external cause of mortality; supplementary factors related to causes of mortality not classified elsewhere.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.9: Deaths of Indigenous Australians from external causes of injury and poisoning, by age group, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

	Age group (years)															Total ⁽ⁱ⁾	
	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74		75+
	Number																
Intentional self-harm (X60–X84)	0	0	15	70	94	84	61	56	27	16	8	n.p.	n.p.	n.p.	0	n.p.	439
Accidents																	
Transport accidents (V01–V99)	29	14	10	57	54	38	61	50	38	37	10	12	10	n.p.	n.p.	5	432
Accidental drowning or accidental threats to breathing (W65–W84)	21	5	n.p.	5	13	10	20	12	9	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	108
Accidental poisoning by and exposure to noxious substances (X40–X49)	n.p.	0	n.p.	5	16	20	22	24	24	12	6	n.p.	n.p.	n.p.	0	n.p.	141
Exposure to electric current/smoke/fire/animals/nature (W85–W99, X00–X39)	13	n.p.	n.p.	n.p.	n.p.	n.p.	6	n.p.	5	6	n.p.	0	n.p.	n.p.	n.p.	n.p.	49
Accidental falls (W00–W19)	n.p.	0	0	n.p.	0	n.p.	5	6	n.p.	6	5	n.p.	n.p.	n.p.	n.p.	13	53
Exposure to inanimate mechanical forces (W20–W49)	n.p.	0	0	n.p.	n.p.	n.p.	n.p.	n.p.	5	n.p.	n.p.	0	0	0	0	0	25
Other external causes of accidental injury (W50–W64, X50–X59)	6	n.p.	n.p.	8	8	n.p.	11	8	10	8	n.p.	5	n.p.	7	n.p.	22	109
Assault (X85–Y09)	6	n.p.	n.p.	5	16	20	26	21	20	9	7	n.p.	n.p.	n.p.	0	0	139
Complications of medical or surgical care (Y40–Y84)	n.p.	0	0	0	0	0	n.p.	n.p.	0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	23
Other external causes ^(j)	n.p.	0	0	5	7	16	11	13	13	11	5	6	0	n.p.	n.p.	n.p.	97
Total external causes	87	25	35	161	213	198	226	199	155	111	55	33	27	22	12	54	1,615

(continued)

Table 1.23.9 (continued): Deaths of Indigenous Australians from external causes of injury and poisoning, by age, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

- (a) A high proportion of the cells within this table have been randomised to ensure confidentiality of data. ABS recommends cells with small values be interpreted with caution. Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (c) Data are presented in 5-year groupings because of small numbers each year.
- (d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.
- (e) Causes of death data for 2007 have been revised and are subject to further revisions.
- (f) 2008 data have been subject to a process improvement which has increased the quality of these data.
- (g) Causes of death data for 2008 are preliminary and subject to a revisions process.
- (h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (i) Includes age not stated.
- (j) All other external Causes of death not presented elsewhere in this table.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database.

Neoplasms (cancer)

Tables 1.23.10 and 1.23.11 present data on deaths of Indigenous Australians from neoplasms (cancer) over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, there were 1,955 deaths of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from cancer. Indigenous Australians died from cancer at around 1.3 times the rate of non-Indigenous Australians.
- The most common type of cancer causing mortality among Indigenous Australians was cancer of the digestive organs, from which they died at 1.4 times the rate of non-Indigenous Australians.
- The second most common type of cancer causing mortality among Indigenous Australians was cancer of the respiratory and intrathoracic organs, which comprises predominantly lung cancer. Indigenous Australians died from these cancers at almost twice the rate of non-Indigenous Australians.
- Over the period 2004–2008, there were 51 deaths of Indigenous females in the five jurisdictions from cervical cancer. Indigenous females died from cervical cancer at four times the rate of non-Indigenous Australians.
- Over the period 2004–2008, the largest number of deaths of Indigenous Australians from cancer was in the 75 years and over age group (326, 17%), followed by the 60–64 year age group (287, 15%) (Table 1.23.11).

Table 1.23.10: Deaths of Indigenous Australians from neoplasms (cancer), by sex, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)(i)}

Site of neoplasm	Males				Females				Persons			
	Number	Per cent	Number per 100,000 ^(j)	Rate ratio ^(k)	Number	Per cent	Number per 100,000 ^(j)	Rate ratio ^(k)	Number	Per cent	Number per 100,000 ^(j)	Rate ratio ^(k)
Digestive organs (C15–C26)	317	31.6	82.6	1.4	226	23.7	55.7	1.5	543	27.8	68.1	1.4
Respiratory and intrathoracic organs (C30–C39)	299	29.8	84.8	1.7	217	22.8	47.5	2.0	516	26.4	63.4	1.8
<i>Bronchus and lung (C34)^(j)</i>	272	27.1	78.1	1.6	206	21.6	45.0	2.0	478	24.5	59.1	1.7
Ill-defined, secondary and unspecified site (C76–C80)	66	6.6	20.2	1.5	72	7.6	17.6	1.7	138	7.1	18.7	1.6
Lymphoid, haematopoietic and related tissue (C81–C96)	59	5.9	16.9	0.8	67	7.0	15.3	1.2	126	6.4	15.9	0.9
Female genital organs (C51–C58)	..	..	..	..	121	12.7	23.9	1.9	121	6.2	13.4	2.0
<i>Cervix (C53)^(j)</i>	..	..	..	..	51	5.4	7.8	4.0	51	2.6	4.3	4.1
Lip, oral cavity and pharynx (C00–C14)	91	9.1	19.4	4.4	28	2.9	4.7	3.1	119	6.1	11.4	3.9
Breast (C50)	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	128	6.5	14.2	1.2
Malignant neoplasms of urinary tract (C64–C68)	30	3.0	10.5	0.9	16	1.7	3.9	0.7	46	2.4	6.7	0.8
Male genital organs (C60–C63)	52	5.2	22.6	0.7	..	..	..	..	52	2.7	9.2	0.7
Other malignant neoplasms ^(k)	63	6.3	20.1	0.7	49	5.1	11.5	0.8	112	5.7	15.2	0.7
Non-malignant neoplasms (D00–D48)	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	38	1.9	5.0	1.1
Total neoplasms	1,002	100.0	281.8	1.2	953	100.0	211.0	1.5	1,955	100.0	241.2	1.3

(continued)

Table 1.23.10 (continued): Deaths of Indigenous Australians from neoplasms (cancer), by sex, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)(i)}

- (a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (b) Data are presented in 5-year groupings because of small numbers each year.
- (c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.
- (d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.
- (e) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.
- (f) 2008 data have been subject to a process improvement which has increased the quality of these data. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 1: 2008 COD Collection – Process Improvement for further information.
- (g) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.
- (h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (i) These data exclude 973 deaths where the Indigenous status was not stated.
- (j) Directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.
- (k) Rate ratio Indigenous: non-Indigenous.
- (l) Data presented for bronchus and lung cancer are a subset of data presented for all respiratory and intrathoracic organs; data presented for cervix cancer are a subset of data presented for all cancers of the female genital organs in this table.
- (m) Includes neoplasms of bone and articular cartilage; melanoma and other neoplasms of skin; neoplasms of mesothelial and soft tissue; neoplasms of eye, brain and other parts of central nervous system; neoplasms of thyroid and other endocrine glands; C9 Malignant neoplasms of independent (primary) multiple sites.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.11: Deaths of Indigenous Australians from neoplasms (cancer), by age, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

	Age group (years)																Total ⁽ⁱ⁾
	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75+	
	Number																
Digestive organs (C15–C26)	0	0	0	n.p.	n.p.	5	6	17	30	39	59	75	86	64	65	95	543
Respiratory and intrathoracic organs (C30–C39)	n.p.	0	0	0	0	0	n.p.	5	14	39	78	76	96	64	72	70	516
<i>Bronchus and lung (C34)^(j)</i>	n.p.	0	0	0	0	0	n.p.	5	13	33	70	69	93	60	68	65	478
Ill-defined, secondary and unspecified site (C76–C80)	0	0	0	0	n.p.	0	n.p.	7	9	5	6	17	21	23	12	33	138
Lymphoid, haematopoietic and related tissue (C81–C96)	n.p.	n.p.	0	n.p.	n.p.	n.p.	n.p.	n.p.	9	9	8	11	16	15	20	23	126
Female genital organs (C51–C58)	0	0	0	0	0	n.p.	9	n.p.	14	10	13	9	16	12	10	18	121
<i>Cervix (C53)^(j)</i>	0	0	0	0	0	n.p.	8	6	9	n.p.	6	n.p.	n.p.	6	n.p.	n.p.	51
Lip, oral cavity and pharynx (C00–C14)	0	0	0	0	0	n.p.	n.p.	n.p.	10	15	28	17	13	14	10	n.p.	119
Breast (C50)	0	0	0	0	0	n.p.	0	n.p.	12	12	17	22	16	12	n.p.	18	128
Malignant neoplasms of urinary tract (C64–C68)	n.p.	n.p.	0	0	0	0	0	0	0	n.p.	n.p.	5	5	5	10	11	46

(continued)

Table 1.23.11 (continued): Deaths of Indigenous Australians from neoplasms (cancer), by age, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

	Age group															Total ⁽ⁱ⁾	
	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74		75+
	Number																
Male genital organs (C60–C63)	0	0	0	0	0	0	n.p.	n.p.	n.p.	0	n.p.	n.p.	n.p.	5	12	21	52
Other malignant neoplasms ^(k)	5	n.p.	6	n.p.	n.p.	n.p.	0	8	11	9	6	12	9	12	20	23	128
Non-malignant neoplasms (D00–D48)	n.p.	0	0	0	0	n.p.	n.p.	0	n.p.	n.p.	5	n.p.	5	5	n.p.	9	38
Total neoplasms	10	5	6	6	7	15	25	60	112	144	226	252	287	231	243	326	1,955

- (a) A high proportion of the cells within this table have been randomised to ensure confidentiality of data. ABS recommends cells with small values be interpreted with caution. Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (c) Data are presented in 5-year groupings because of small numbers each year.
- (d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.
- (e) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.
- (f) 2008 data have been subject to a process improvement which has increased the quality of these data. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 1: 2008 COD Collection – Process Improvement for further information.
- (g) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.
- (h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (i) Includes deaths where age was not stated.
- (j) Data presented for bronchus and lung cancer are a subset of data presented for all respiratory and intrathoracic organs; data presented for cervix cancer are a subset of data presented for all cancers of the female genital organs in this table.
- (k) Includes neoplasms of bone and articular cartilage; melanoma and other neoplasms of skin; neoplasms of mesothelial and soft tissue; neoplasms of eye, brain and other parts of central nervous system; neoplasms of thyroid and other endocrine glands; C9 Malignant neoplasms of independent (primary) multiple sites.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database.

Respiratory diseases

Tables 1.23.12 and 1.23.13 present data on deaths of Indigenous Australians from respiratory diseases over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, there were 848 deaths of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from respiratory diseases. Indigenous Australians died from respiratory diseases at over twice the rate of non-Indigenous Australians.
- The most common type of respiratory disease causing death among Indigenous Australians was chronic lower respiratory diseases (including asthma, bronchitis and emphysema), followed by pneumonia and influenza. Indigenous Australians died at around three and two times the rate of non-Indigenous Australians for these diseases respectively.
- Over the period 2004–2008, the largest number of deaths of Indigenous Australians from respiratory diseases was in the 75 years and over age group (229), followed by the 65–69 year age group (111). The three age groups with the largest number of deaths of Indigenous Australians from pneumonia and influenza were 75 years and over (50), 40–44 years (28) and 0–4 years (20). For all respiratory diseases, 68% of observed deaths were for people aged 55 years and over (Table 1.23.13).

Table 1.23.12: Deaths of Indigenous Australians from respiratory diseases, by sex, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

	Males				Females				Persons			
	Number	Per cent	Number per 100,000 ⁽ⁱ⁾	Rate ratio ^(j)	Number	Per cent	Number per 100,000 ⁽ⁱ⁾	Rate ratio ^(j)	Number	Per cent	Number per 100,000 ⁽ⁱ⁾	Rate ratio ^(j)
Chronic lower respiratory diseases (J40–J47)	268	57.3	94.6	3.0	238	62.6	63.3	3.2	506	59.7	76.1	3.1
Pneumonia and influenza (J10–J18)	115	24.6	27.2	2.1	97	25.5	21.7	1.8	212	25.0	24.4	2.0
Other respiratory disease (J00–06, J20–39, J60–99)	85	18.2	22.0	1.2	45	11.8	9.8	0.9	130	15.3	15.0	1.1
Total respiratory diseases	468	100.0	143.8	2.3	380	100.0	94.8	2.2	848	100.0	115.5	2.3

- (a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (b) Data are presented in 5-year groupings because of small numbers each year.
- (c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.
- (d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.
- (e) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.
- (f) 2008 data have been subject to a process improvement which has increased the quality of these data. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 1: 2008 COD Collection – Process Improvement for further information.
- (g) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.
- (h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (i) Directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.
- (j) Rate ratio Indigenous: non-Indigenous.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database

Table 1.23.13: Deaths of Indigenous Australians from respiratory diseases, by age, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

	Age group															Total ⁽ⁱ⁾	
	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74		75+
	Number																
Chronic lower respiratory diseases (J40–J47)	0	n.p.	n.p.	n.p.	n.p.	5	n.p.	23	18	16	31	45	60	78	70	151	506
Pneumonia and influenza (J10–J18)	20	n.p.	0	0	n.p.	n.p.	12	n.p.	28	17	12	14	11	15	11	50	212
Other respiratory disease (J00–06, J20–39, J60–99)	18	n.p.	0	n.p.	n.p.	5	n.p.	n.p.	6	11	8	11	9	18	7	28	130
Total respiratory diseases	38	5	n.p.	n.p.	7	13	17	39	52	44	51	70	80	111	88	229	848

- (a) A high proportion of the cells within this table have been randomised to ensure confidentiality of data. ABS recommends cells with small values be interpreted with caution. Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (c) Data are presented in 5-year groupings because of small numbers each year.
- (d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.
- (e) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.
- (f) 2008 data have been subject to a process improvement which has increased the quality of these data. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 1: 2008 COD Collection – Process Improvement for further information.
- (g) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.
- (h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (i) Includes age not stated.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database.

Diseases of the genitourinary system

Tables 1.23.14 and 1.23.15 present data on deaths of Indigenous Australians from diseases of the genitourinary system over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, there were 316 deaths of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from diseases of the genitourinary system. Indigenous Australians died from genitourinary disease at around three times the rate of non-Indigenous Australians.
- The most common type of genitourinary disease causing mortality among Indigenous Australians was renal failure, from which they died at around three times the rate of non-Indigenous Australians.
- Over the period 2004–2008, Indigenous males and females died from renal tubulo-intestinal disorders at around nine and three times the rate of non-Indigenous males and females respectively. Over the same period, Indigenous males and females died from glomerular disease (a disease of the kidneys) at two and six times the rate of non-Indigenous males and females respectively.
- Over the period 2004–2008, the largest number of deaths of Indigenous Australians from diseases of the genitourinary system was in the 75 years and over age group (95), followed by the 55–59 year age group (40). 72% of deaths were observed in ages 55 and over (Table 1.23.15).

Table 1.23.14: Deaths of Indigenous Australians from diseases of the genitourinary system, by sex, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)}

	Males				Females				Persons			
	Number.	Per cent	Number per 100,000 ⁽ⁱ⁾	Rate ratio ^(j)	Number	Per cent	Number per 100,000 ⁽ⁱ⁾	Rate ratio ^(j)	Number	Per cent	Number per 100,000 ⁽ⁱ⁾	Rate ratio ^(j)
Renal failure (N17–N19)	107	72.3	34.7	3.1	118	70.2	29.2	3.4	225	71.2	31.4	3.3
Other diseases of the urinary system (N30–N39)	12	8.1	4.8	2.1	21	12.5	6.4	2.0	33	10.4	5.8	2.0
Renal tubulo-intestinal diseases (N10–N16)	11	7.4	4.3	9.3	12	7.1	2.3	3.4	23	7.3	3.0	5.2
Glomerular disease (N00–N08)	6	4.1	0.8	1.9	8	4.8	1.6	5.8	14	4.4	1.2	3.8
Other diseases of the genitourinary system ^(k)	12	8.1	5.1	4.8	9	5.4	1.8	3.8	21	6.6	3.0	4.2
Total genitourinary diseases	148	100.0	49.7	3.3	168	100.0	41.2	3.1	316	100.0	44.5	3.1

- (a) Data are reported for NSW, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (b) Data are presented in 5-year groupings because of small numbers each year.
- (c) These data exclude 95 deaths where the Indigenous status was not stated.
- (d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.
- (e) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.
- (f) 2008 data have been subject to a process improvement which has increased the quality of these data. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 1: 2008 COD Collection – Process Improvement for further information.
- (g) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.
- (h) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all causes mortality rate.
- (i) Directly age-standardised using the Australian 2001 standard population.
- (j) Rate ratio Indigenous: non-Indigenous
- (k) Includes: urolithiasis; other disorders of the kidney and urether; disease of male genital organs; disorders of breast; inflammatory disorders of the female pelvic organs; non-inflammatory disorders of the female genital tract; other disorders of the genitourinary tract.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.15: Deaths of Indigenous Australians from diseases of the genitourinary system, by age, NSW, Qld, WA, SA and NT, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)}

	Age group																Total ⁽ⁱ⁾
	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75+	
	Number																
Renal failure (N17–N19)	0	0	0	n.p.	n.p.	n.p.	n.p.	13	7	16	22	30	25	26	14	66	225
Other diseases of the urinary system (N30–N39)	n.p.	0	0	n.p.	0	n.p.	n.p.	0	n.p.	n.p.	0	n.p.	n.p.	n.p.	n.p.	16	33
Renal tubulo-intestinal diseases (N10–N16)	0	0	0	0	0	0	n.p.	n.p.	n.p.	n.p.	0	n.p.	n.p.	n.p.	n.p.	n.p.	23
Glomerular disease (N00–N08)	0	0	0	0	0	n.p.	0	n.p.	n.p.	n.p.	0	n.p.	n.p.	n.p.	0	n.p.	14
Other diseases of the genitourinary system	0	0	0	0	0	0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	0	n.p.	7	21
Total genitourinary diseases	n.p.	0	0	n.p.	n.p.	n.p.	n.p.	18	14	21	24	40	37	30	24	95	316

- (a) A high proportion of the cells within this table have been randomised to ensure confidentiality of data. ABS recommends cells with small values be interpreted with caution. Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (c) Data are presented in 5-year groupings because of small numbers each year.
- (d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.
- (e) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.
- (f) 2008 data have been subject to a process improvement which has increased the quality of these data. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 1: 2008 COD Collection – Process Improvement for further information.
- (g) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.
- (h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.
- (i) Includes age not stated.

Note: Different Causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database.

Time series analysis

Longer term mortality trend data are limited to three jurisdictions – Western Australia, South Australia and the Northern Territory, which have over 10 years of adequate identification of Indigenous deaths in their recording systems.

There is a consistent time series of population estimates from 1991. Because of changes in the classification and coding of Causes of death from ICD-9 (used up until 1996) to ICD-10 (used from 1997 onwards) which affect the comparability of the data, the analysis reported for this measure is for two time periods – 1991–1996 and 1997–2008.

Because of the late inclusion of a ‘not stated’ category of Indigenous status in 1998 (before which ‘not stated’ responses were included with non-Indigenous deaths), Indigenous mortality rates have been compared with the mortality rates of other Australians (which include deaths of both non-Indigenous people and people for whom Indigenous status was not stated).

Mortality rates, rate ratios and rate differences between Indigenous and other Australians for circulatory diseases, external causes (injury and poisoning), cancer, respiratory diseases, diabetes and kidney-related diseases over the period 1991–1996 and 1997–2008 are presented in tables 1.23.16, 1.23.18, 1.23.20, 1.23.22, 1.23.24, 1.23.26 and Figure 1.23.1.

Additional trends analysis has been presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001 to 2008 for Indigenous and non-Indigenous Australians (excluding deaths for which Indigenous status was not stated) in tables 1.23.17, 1.23.19, 1.23.21, 1.23.23, 1.23.25, 1.23.27 and Figure 1.23.2. Queensland has had adequate identification of Indigenous deaths in its recording systems since 1998; New South Wales has had adequate identification of Indigenous deaths since 2001.

Note that fluctuations in the level of Indigenous mortality over time partly reflect changing levels of coverage of Indigenous deaths and population estimates. Given the volatility in the measures of Indigenous mortality, caution should be exercised in assessing trends in Indigenous mortality over time and comparisons between jurisdictions and with the non-Indigenous population.

Circulatory diseases

- Over the period 1991–1996 in Western Australia, South Australia and the Northern Territory combined, there were no significant declines in mortality rates for circulatory diseases among Indigenous Australians and significant declines in mortality rates for circulatory diseases among other Australians (Table 1.23.16).
- Over the period 1997–2008 there were significant declines in mortality rates for circulatory diseases among Indigenous and other Australians. The fitted trend implies an average yearly decline in the rate of around 18 deaths per 100,000 for Indigenous Australians (a 29% decline) and 9 deaths per 100,000 for other Australians (a 35% decline). Over the same period, there were no significant changes in mortality rate ratios or rate differences between Indigenous and other Australians from circulatory diseases (Table 1.23.16).
- Over the period 2001–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant declines in mortality rates for circulatory diseases among Indigenous Australians (13% decline) and non-Indigenous Australians (19% decline). There were no significant changes in the mortality rate ratios or rate differences between Indigenous and non-Indigenous Australians from circulatory diseases (Table 1.23.17).

Table 1.23.16: Age-standardised mortality rates, rate ratios and rate differences, circulatory diseases, WA, SA and NT, 1991–1996 and 1997–2008^{(a)(b)(c)}

	Indigenous rate (deaths per 100,000)	Other ^(d) rate (deaths per 100,000)	Rate ratio ^(e)	Rate difference ^(f)
1991	726.4	362.5	2.0	364.0
1992	642.7	347.9	1.8	294.8
1993	576.3	356.4	1.6	219.9
1994	782.2	343.7	2.3	438.5
1995	632.5	323.2	2.0	309.3
1996	485.5	315.7	1.5	169.8
Annual change^(g)	-29.4	-9.1*	0.0	-20.2
Per cent change^(h)	-20.2	-12.7*	-9.6	-27.8
1997	687.3	297.1	2.3	390.2
1998	604.5	284.5	2.1	320.0
1999	560.0	266.9	2.1	293.1
2000	541.8	251.3	2.2	290.5
2001	437.2	245.0	1.8	192.1
2002	409.2	236.3	1.7	172.8
2003	409.9	229.7	1.8	180.2
2004	476.8	210.1	2.3	266.7
2005	400.1	208.0	1.9	192.1
2006	360.0	198.1	1.8	161.9
2007	506.9	200.9	2.5	306.0
2008 ⁽ⁱ⁾	477.7	196.4	2.4	281.3
Annual change^(g)	-18.1*	-9.3*	0.0	-8.8
Per cent change^(h)	-29.0*	-34.6*	5.4	-24.7

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) 'Other' includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(e) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(f) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(g) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(h) Per cent change between 1991 and 1996 and between 1997 and 2008 based on the average annual change over the period.

(i) Preliminary 2008 cause of death data.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.17: Age-standardised mortality rates, rate ratios and rate differences, circulatory diseases, NSW, Qld, WA, SA and NT, 2001–2008^{(a)(b)(c)}

	2001	2002	2003	2004	2005	2006	2007	2008 ^(d)	Annual change ^(e)	Per cent change ^(f)
Indigenous rate (deaths per 100,000)	427.5	429.8	398.4	393.9	363.2	355.1	411.6	371.8	–7.6*	–12.5*
Non-Indigenous rate (deaths per 100,000)	248.8	245.9	235.7	228.5	213.2	207.8	206.4	209.4	–6.8*	–19.2*
Rate ratio ^(g)	1.7	1.7	1.7	1.7	1.7	1.7	2.0	1.8	0.0	8.1
Rate difference ^(h)	178.7	183.9	162.8	165.4	150.0	147.3	205.2	162.4	–0.8	–3.3

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) Preliminary 2008 cause of death data.

(e) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(f) Per cent change between 2001 and 2008 based on the average annual change over the period.

(g) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(h) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

External causes (injury and poisoning)

- Over the period 1991–1996 in Western Australia, South Australia and the Northern Territory, there was a significant decline in mortality rates for injury and poisoning among Indigenous Australians, an annual change of seven deaths per 100,000. During the same period there were no significant changes in the mortality rates for other Australians. There were also significant decreases in the mortality rate ratio and rate difference between Indigenous and other Australians from injury and poisoning over the period 1991–1996 (Table 1.23.18).
- Across the period 1997–2008 there was an apparent increase in the mortality rate from injury and poisoning for Indigenous Australians, but this increase did not obtain statistical significance. During this period there was no significant change in the mortality rate for other Australians. There were significant increases in the mortality rate ratio (29%) but no significant change in mortality rate difference between Indigenous and other Australians for injury and poisoning (Table 1.23.18).
- Throughout the period 2001–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were no significant change in mortality rates for external causes among Indigenous and non-Indigenous Australians. There were also no significant changes in mortality rate ratios or rate differences between Indigenous and non-Indigenous Australians for external causes (Table 1.23.19).

Cancer

- Across the period 1991–1996 in Western Australia, South Australia and the Northern Territory, there was a significant decline in the mortality rate for cancer for Indigenous Australians (18%). During this period there was no significant change in the mortality rate for cancer for other Australians. There was also a significant decrease in both the rate ratio (19%) and rate difference (66%) between Indigenous and other Australians for cancer (Table 1.23.20).
- Over the period 1997–2008, there were non-significant increases in mortality rates for cancer among Indigenous Australians and significant declines in mortality rates for cancer among other Australians (10% decline over the period). There were significant increases in the mortality rate ratios and rate differences between Indigenous and other Australians for cancer over the period 1997–2008 reflecting both a relative and an absolute increase in the gap between mortality rates for Indigenous and other Australians from cancer (Table 1.23.20).
- Throughout the period 2001–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were non-significant increases in mortality rates for cancer among Indigenous Australians and significant declines in mortality rates for cancer among non-Indigenous Australians (5% decline). There were significant increases in the mortality rate ratios and rate differences between Indigenous and non-Indigenous Australians for cancer (Table 1.23.21).

Table 1.23.18: Age-standardised mortality rates, rate ratios and rate differences, external causes (injury and poisoning), WA, SA and NT, 1991–1996 and 1997–2008^{(a)(b)(c)}

	Indigenous rate (deaths per 100,000)	Other ^(d) rate (deaths per 100,000)	Rate ratio ^(e)	Rate difference ^(f)
1991	185.1	43.5	4.3	141.6
1992	155.7	42.5	3.7	113.2
1993	140.3	43.7	3.2	96.6
1994	151.0	41.8	3.6	109.2
1995	128.7	41.1	3.1	87.6
1996	149.5	44.4	3.4	105.1
Annual change^(g)	-7.1*	-0.1	-0.2*	-7.0*
Per cent change^(h)	-19.2*	-0.6	-18.9*	-24.9*
1997	116.3	41.8	2.8	74.5
1998	143.9	47.7	3.0	96.2
1999	105.6	41.8	2.5	63.8
2000	135.2	43.8	3.1	91.4
2001	129.4	41.0	3.2	88.4
2002	126.4	38.8	3.3	87.6
2003	124.9	39.9	3.1	85.1
2004	114.4	37.9	3.0	76.5
2005	147.3	39.8	3.7	107.4
2006	130.9	37.7	3.5	93.2
2007	123.1	41.6	3.0	81.5
2008 ⁽ⁱ⁾	165.5	42.7	3.9	122.8
Annual change^(g)	1.9	-0.4	0.1*	2.3
Per cent change^(h)	18.0	-9.3	28.5*	33.3

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2008.

- (a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.
- (b) 2006 Series B Indigenous experimental population estimates used as denominator.
- (c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.
- (d) 'Other' includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.
- (e) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.
- (f) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.
- (g) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
- (h) Per cent change between 1991 and 1996 and between 1997 and 2008 based on the average annual change over the period.
- (i) Preliminary 2008 cause of death data.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.19: Age-standardised mortality rates, rate ratios and rate differences, external causes (injury and poisoning), NSW, Qld, WA, SA and NT, 2001–2008^{(a)(b)(c)}

	2001	2002	2003	2004	2005	2006	2007	2008 ^(d)	Annual change ^(e)	Per cent change ^(f)
Indigenous rate (deaths per 100,000)	91.3	88.6	88.8	82.2	95.3	79.6	86.5	97.5	0.2	1.5
Non-Indigenous rate (deaths per 100,000)	39.3	38.1	37.4	36.8	36.1	34.7	36.6	37.6	−0.3	−5.2
Rate ratio ^(g)	2.3	2.3	2.4	2.2	2.6	2.3	2.4	2.6	0.0	7.0
Rate difference ^(h)	51.9	50.5	51.3	45.4	59.2	44.9	49.9	59.9	0.6	6.5

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) Preliminary 2008 cause of death data.

(e) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(f) Per cent change between 2001 and 2008 based on the average annual change over the period.

(g) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(h) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.20: Age-standardised mortality rates, rate ratios and rate differences, cancer, WA, SA and NT, 1991–1996 and 1997–2008^{(a)(b)(c)}

	Indigenous rate (deaths per 100,000)	Other ^(d) rate (deaths per 100,000)	Rate ratio ^(e)	Rate difference ^(f)
1991	284.2	205.7	1.4	78.6
1992	300.1	200.2	1.5	99.9
1993	272.2	210.6	1.3	61.6
1994	255.0	211.4	1.2	43.6
1995	278.0	202.7	1.4	75.2
1996	230.6	206.7	1.1	24.0
Annual change^(g)	-10.1*	0.4	-0.1*	-10.4*
Per cent change^(h)	-17.7*	0.9	-18.6*	-66.4*
1997	267.5	202.9	1.3	64.5
1998	252.2	194.2	1.3	58.0
1999	217.4	195.1	1.1	22.2
2000	284.0	192.3	1.5	91.7
2001	224.7	190.3	1.2	34.4
2002	240.9	191.3	1.3	49.7
2003	249.9	187.6	1.3	62.3
2004	243.2	181.6	1.3	61.6
2005	223.5	180.8	1.2	42.7
2006	268.3	182.4	1.5	85.8
2007	295.8	180.6	1.6	115.2
2008 ⁽ⁱ⁾	338.7	181.1	1.9	157.6
Annual change^(g)	4.5	-1.9*	0.04*	6.4*
Per cent change^(h)	18.6	-10.2*	32.0*	109.2*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2008.

- (a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.
- (b) 2006 Series B Indigenous experimental population estimates used as denominator.
- (c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.
- (d) 'Other' includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.
- (e) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.
- (f) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.
- (g) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
- (h) Per cent change between 1991 and 1996 and between 1997 and 2008 based on the average annual change over the period.
- (i) Preliminary 2008 cause of death data.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.21: Age-standardised mortality rates, rate ratios and rate differences, cancer, NSW, Qld, WA, SA and NT, 2001–2008^{(a)(b)(c)}

	2001	2002	2003	2004	2005	2006	2007	2008 ^(d)	Annual change ^(e)	Per cent change ^(f)
Indigenous rate (deaths per 100,000)	239.7	211.0	230.3	229.3	212.2	235.5	248.5	281.6	5.7	16.7
Non-Indigenous rate (deaths per 100,000)	186.5	186.2	183.1	184.4	181.5	179.2	176.3	181.4	–1.2*	–4.5*
Rate ratio ^(g)	1.3	1.1	1.3	1.2	1.2	1.3	1.4	1.6	0.04*	21.7*
Rate difference ^(h)	53.2	24.8	47.3	44.9	30.7	56.3	72.2	100.2	6.9*	90.7*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) Preliminary 2008 cause of death data.

(e) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(f) Per cent change between 2001 and 2008 based on the average annual change over the period.

(g) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(h) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Respiratory diseases

- Over the period 1991–1996 in Western Australia, South Australia and the Northern Territory combined, there was a significant decline in mortality rates for respiratory diseases among Indigenous Australians (decrease of 27%) and other Australians (decrease of 11%). There were significant decreases in the rate ratio (18%) and rate difference (30%) between Indigenous and other Australians for respiratory diseases over the period 1991–1996 (Table 1.23.22).
- During the period 1997–2008, there was a 23% decrease in the mortality rates for respiratory diseases for both Indigenous Australians and other Australians. There were no significant changes in either the mortality rate ratio or mortality rate difference between Indigenous and other Australians for respiratory diseases over this period (Table 1.23.22).
- Across the period 2001–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there was a significant decrease in the mortality rates for respiratory diseases for Indigenous (20%) and non-Indigenous Australians (14%). There were no significant changes in either the mortality rate ratio or mortality rate difference between Indigenous and non-Indigenous Australians for respiratory diseases over this period, although the rate difference declined by 23% (Table 1.23.23).

Diabetes

- During 1991–1996 in Western Australia, South Australia and the Northern Territory combined, there were no significant changes in mortality rates for diabetes among Indigenous Australians, however there were significant increases in mortality rates for diabetes among other Australians (increase of 40%) (Table 1.23.24).
- Over the period 1997–2008, there were no significant changes in the mortality rates for diabetes for Indigenous Australians and significant increases in mortality rates for diabetes among other Australians (13%). There were no significant changes in either the mortality rate ratio or mortality rate difference between Indigenous and other Australians for diabetes over this period (Table 1.23.24).
- Throughout the period 2001–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there was no significant change in mortality rates for diabetes among Indigenous Australians; however there were significant increases in mortality rates for diabetes among non-Indigenous Australians (20% increase). There was no significant change in the mortality rate ratios or rate differences between Indigenous and non-Indigenous Australians over this period (Table 1.23.25).

Table 1.23.22: Age-standardised mortality rates, rate ratios and rate differences, respiratory diseases, WA, SA and NT, 1991–1996 and 1997–2008^{(a)(b)(c)}

	Indigenous rate (deaths per 100,000)	Other ^(d) rate (deaths per 100,000)	Rate ratio ^(e)	Rate difference ^(f)
1991	346.2	60.3	5.7	285.9
1992	304.0	65.2	4.7	238.7
1993	313.2	60.8	5.2	252.4
1994	276.9	58.8	4.7	218.0
1995	251.5	53.7	4.7	197.9
1996	254.9	58.8	4.3	196.1
Annual change^(g)	-18.6*	-1.3*	-0.2*	-17.3*
Per cent change^(h)	-26.8*	-10.5*	-18.4*	-30.3*
1997	168.5	63.1	2.7	105.4
1998	215.6	57.5	3.8	158.2
1999	162.2	54.1	3.0	108.1
2000	173.7	60.0	2.9	113.7
2001	172.9	57.5	3.0	115.4
2002	168.4	63.0	2.7	105.4
2003	144.2	62.3	2.3	82.0
2004	191.9	55.0	3.5	136.9
2005	132.9	50.5	2.6	82.4
2006	168.0	48.3	3.5	119.7
2007	154.4	46.4	3.3	108.0
2008 ⁽ⁱ⁾	139.9	46.1	3.0	93.8
Annual change^(g)	-3.5*	-1.3*	0.0	-2.1
Per cent change^(h)	-22.7*	-23.4*	4.8	-22.4

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2008.

- (a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.
- (b) 2006 Series B Indigenous experimental population estimates used as denominator.
- (c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.
- (d) 'Other' includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.
- (e) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.
- (f) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.
- (g) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
- (h) Per cent change between 1991 and 1996 and between 1997 and 2008 based on the average annual change over the period.
- (i) Preliminary 2008 cause of death data.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.23: Age-standardised mortality rates, rate ratios and rate differences, respiratory diseases, NSW, Qld, WA, SA and NT, 2001–2008^{(a)(b)(c)}

	2001	2002	2003	2004	2005	2006	2007	2008 ^(d)	Annual change ^(e)	Per cent change ^(f)
Indigenous rate (deaths per 100,000)	145.6	131.0	116.2	133.6	102.8	117.4	128.3	101.5	–4.2*	–20.0*
Non-Indigenous rate (deaths per 100,000)	52.5	56.9	57.5	55.5	50.4	49.3	51.1	48.1	–1.1*	–14.2*
Rate ratio ^(g)	2.8	2.3	2.0	2.4	2.0	2.4	2.5	2.1	0.0	–8.7
Rate difference ^(h)	93.1	74.1	58.7	78.0	52.5	68.1	77.2	53.4	–3.1	–23.2

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) Preliminary 2007 and 2008 cause of death data.

(e) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(f) Per cent change between 2001 and 2008 based on the average annual change over the period.

(g) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(h) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.24: Age-standardised mortality rates, rate ratios and rate differences, diabetes, WA, SA and NT, 1991–1996 and 1997–2008^{(a)(b)(c)}

	Indigenous rate (deaths per 100,000)	Other ^(d) rate (deaths per 100,000)	Rate ratio ^(e)	Rate difference ^(f)
1991	138.5	13.6	10.2	124.9
1992	147.7	13.9	10.6	133.8
1993	176.6	16.0	11.1	160.6
1994	142.9	17.4	8.2	125.5
1995	146.1	16.8	8.7	129.3
1996	149.4	19.1	7.8	130.3
Annual change^(g)	0.5	1.1*	-0.68*	-0.6
Per cent change^(h)	1.7	39.5*	-28.7*	-2.5
1997	149.6	17.5	8.5	132.1
1998	103.8	15.0	6.9	88.8
1999	133.0	15.0	8.9	118.0
2000	161.7	15.1	10.7	146.6
2001	160.9	15.4	10.4	145.5
2002	143.2	15.8	9.1	127.5
2003	110.7	15.1	7.3	95.6
2004	140.1	16.3	8.6	123.7
2005	135.5	15.8	8.6	119.6
2006	134.8	17.0	7.9	117.8
2007	129.3	18.4	7.0	110.9
2008 ⁽ⁱ⁾	180.8	18.2	9.9	162.6
Annual change^(g)	1.3	0.2*	0.0	1.1
Per cent change^(h)	9.2	12.7*	-3.7	8.8

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2008.

- (a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.
- (b) 2006 Series B Indigenous experimental population estimates used as denominator.
- (c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.
- (d) 'Other' includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.
- (e) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.
- (f) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.
- (g) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
- (h) Per cent change between 1991 and 1996 and between 1997 and 2008 based on the average annual change over the period.
- (i) Preliminary 2008 cause of death data.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.25: Age-standardised mortality rates, rate ratios and rate differences, diabetes, NSW, Qld, WA, SA and NT, 2001–2008^{(a)(b)(c)}

	2001	2002	2003	2004	2005	2006	2007	2008 ^(d)	Annual change ^(e)	Per cent change ^(f)
Indigenous rate (deaths per 100,000)	99.0	113.0	87.6	113.0	90.9	104.5	92.5	118.9	0.8	5.5
Non-Indigenous rate (deaths per 100,000)	13.1	14.0	13.8	14.7	14.0	14.2	15.2	16.6	0.4*	19.5*
Rate ratio ^(g)	7.5	8.1	6.3	7.7	6.5	7.3	6.1	7.2	–0.1	–11.8
Rate difference ^(h)	85.8	99.0	73.8	98.3	76.9	90.2	77.3	102.3	0.4	3.4

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2008.

- (a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.
- (b) 2006 Series B Indigenous experimental population estimates used as denominator.
- (c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.
- (d) Preliminary 2008 cause of death data.
- (e) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
- (f) Per cent change between 2001 and 2008 based on the average annual change over the period.
- (g) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.
- (h) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Kidney diseases

- Over the period 1991–1996 in Western Australia, South Australia and the Northern Territory combined, there were no significant changes in mortality rates for kidney diseases among Indigenous Australians, but a significant increase (30%) in mortality rates for kidney diseases among other Australians. There were apparent declines in the mortality rate ratios and rate differences between Indigenous and other Australians from kidney diseases, but these were not statistically significant (Table 1.23.26).
- Over the period 1997–2008, there were no significant changes in mortality rates for kidney diseases for Indigenous or other Australians. There were apparent but not significant changes in the mortality rate ratios and rate differences between Indigenous and other Australians for kidney diseases (Table 1.23.26).
- Over the period 2001–2008, in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, the mortality rates for kidney diseases for Indigenous people more than doubled (102%), and the non-Indigenous rate increased by 23%. The rate differences between Indigenous and non-Indigenous Australians for kidney diseases increased more than two and a half times (168%) (Table 1.23.27).

Table 1.23.26: Age-standardised mortality rates, rate ratios and rate differences, kidney diseases WA,SA and NT, 1991–1996 and 1997–2008^{(a)(b)(c)}

	Indigenous rate (deaths per 100,000)	Other ^(d) rate (deaths per 100,000)	Rate ratio ^(e)	Rate difference ^(f)
1991	74.7	7.2	10.3	67.5
1992	28.1	6.4	4.4	21.7
1993	63.1	8.4	7.5	54.7
1994	22.6	7.0	3.2	15.5
1995	60.3	8.0	7.5	52.3
1996	62.4	9.6	6.5	52.8
Annual change^(g)	-0.2	0.4*	-0.4	-0.6
Per cent change^(h)	-1.1	30.3*	-19.5	-4.5
1997	59.5	11.1	5.4	48.4
1998	78.6	10.5	7.5	68.1
1999	97.4	9.8	10.0	87.7
2000	90.0	10.2	8.8	79.8
2001	30.5	10.9	2.8	19.5
2002	47.2	10.7	4.4	36.5
2003	65.2	10.5	6.2	54.7
2004	38.8	10.5	3.7	28.3
2005	36.9	9.9	3.7	26.9
2006	75.9	10.6	7.1	65.3
2007	61.3	12.2	5.0	49.1
2008 ⁽ⁱ⁾	74.8	12.6	5.9	62.2
Annual change^(g)	-1.3	0.1	-0.2	-1.4
Per cent change^(h)	-23.4	12.1	-40.6	-31.5

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) 'Other' includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(e) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(f) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(g) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(h) Per cent change between 1991 and 1996 and between 1997 and 2008 based on the average annual change over the period.

(i) Preliminary 2008 cause of death data.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.27 Age-standardised mortality rates, rate ratios and rate differences, kidney diseases, NSW, Qld, WA, SA and NT, 2001–2008^{(a)(b)(c)}

	2001	2002	2003	2004	2005	2006	2007	2008 ^(d)	Annual change ^(e)	Per cent change ^(f)
Indigenous rate (deaths per 100,000)	21.1	26.3	28.3	28.2	25.7	49.8	35.5	42.6	3.1*	101.7*
Non-Indigenous rate (deaths per 100,000)	9.7	10.3	10.2	9.7	9.8	10.5	12.0	12.3	0.3*	23.4*
Rate ratio ^(g)	2.2	2.6	2.8	2.9	2.6	4.8	3.0	3.5	0.2	64.1
Rate difference ^(h)	11.4	16.0	18.1	18.6	15.9	39.3	23.5	30.3	2.7*	168.4*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) Preliminary 2008 cause of death data.

(e) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(f) Per cent change between 2001 and 2008 based on the average annual change over the period.

(g) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(h) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

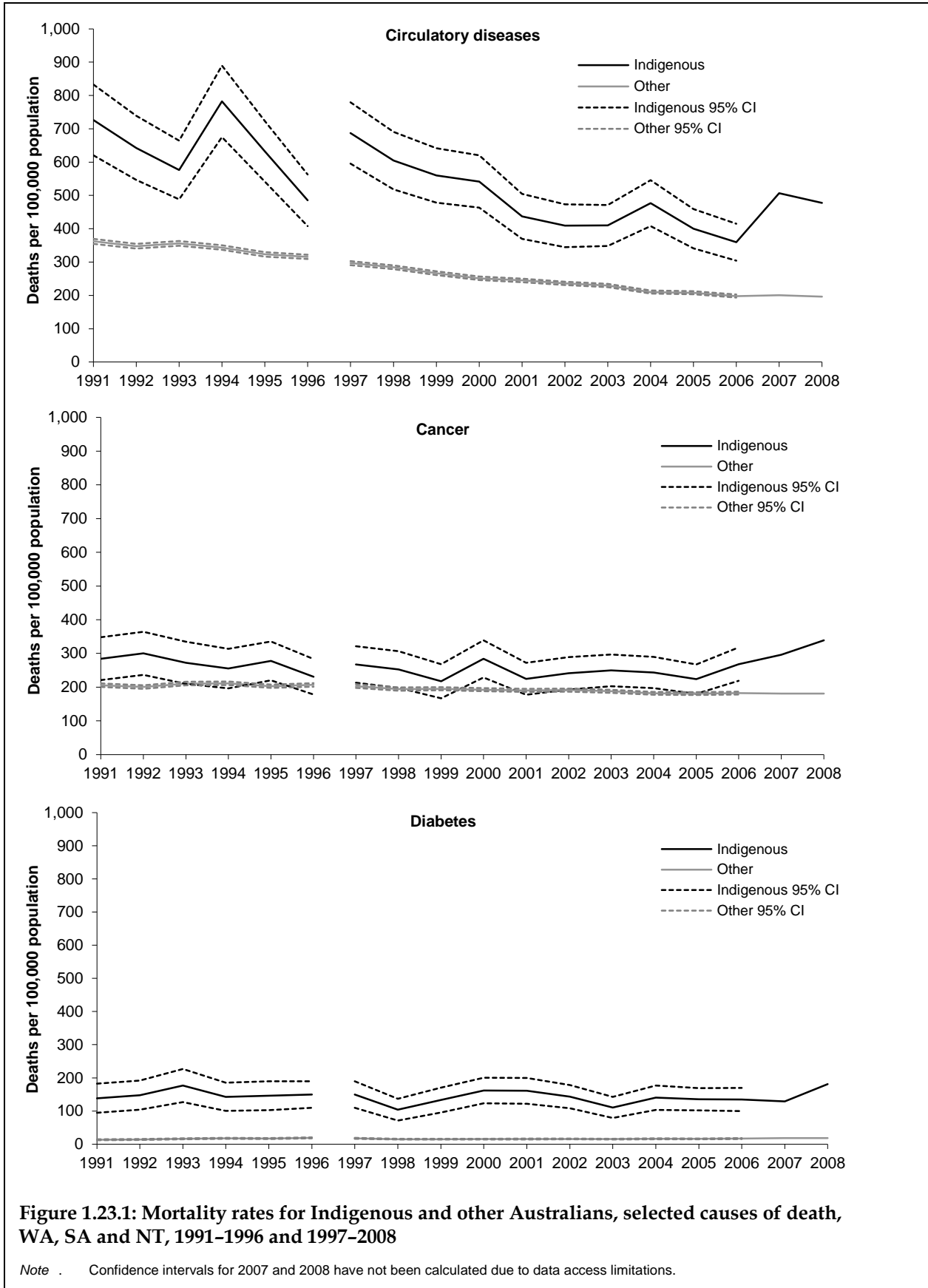
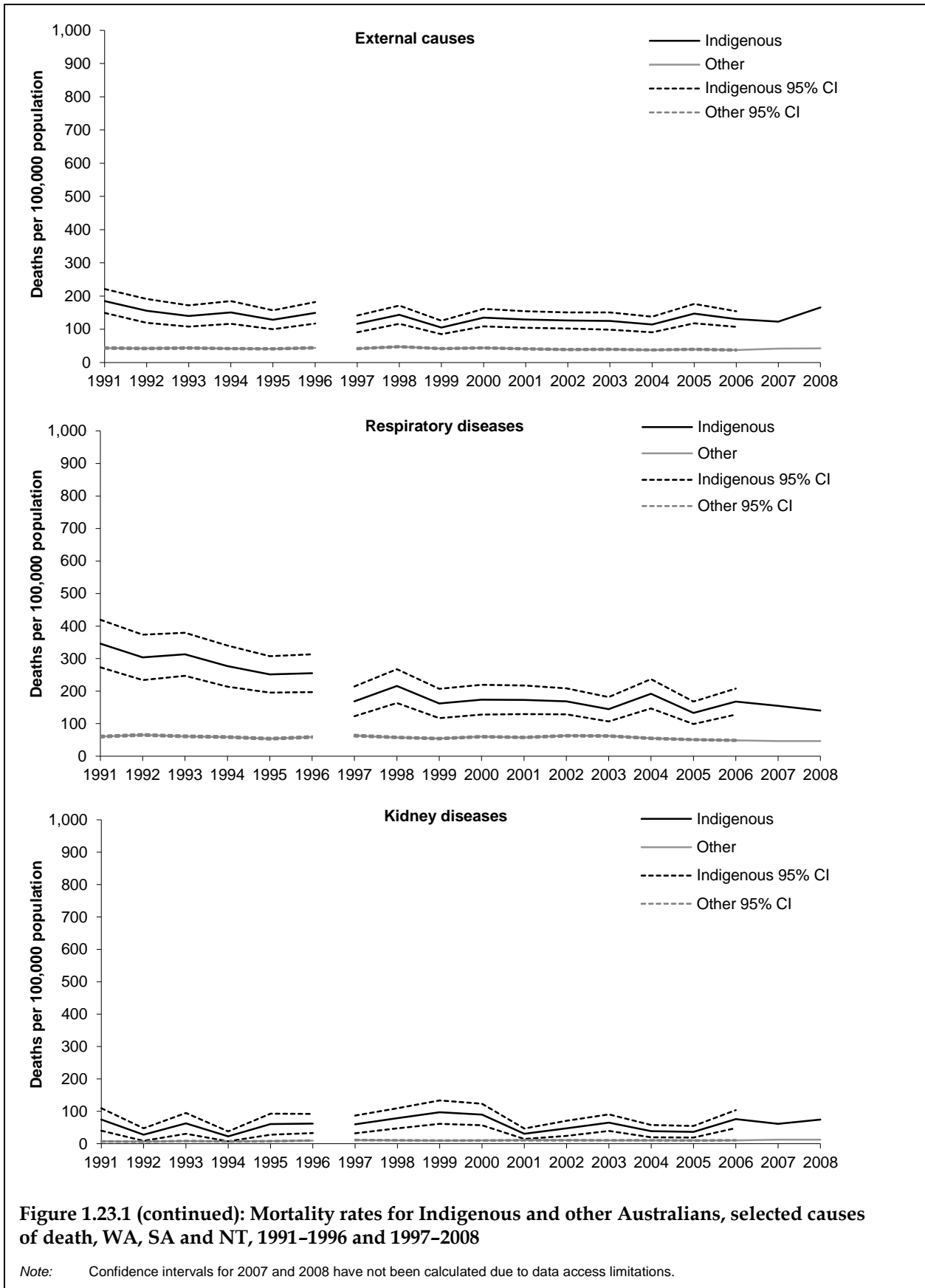


Figure 1.23.1: Mortality rates for Indigenous and other Australians, selected causes of death, WA, SA and NT, 1991-1996 and 1997-2008

Note . Confidence intervals for 2007 and 2008 have not been calculated due to data access limitations.

(continued)



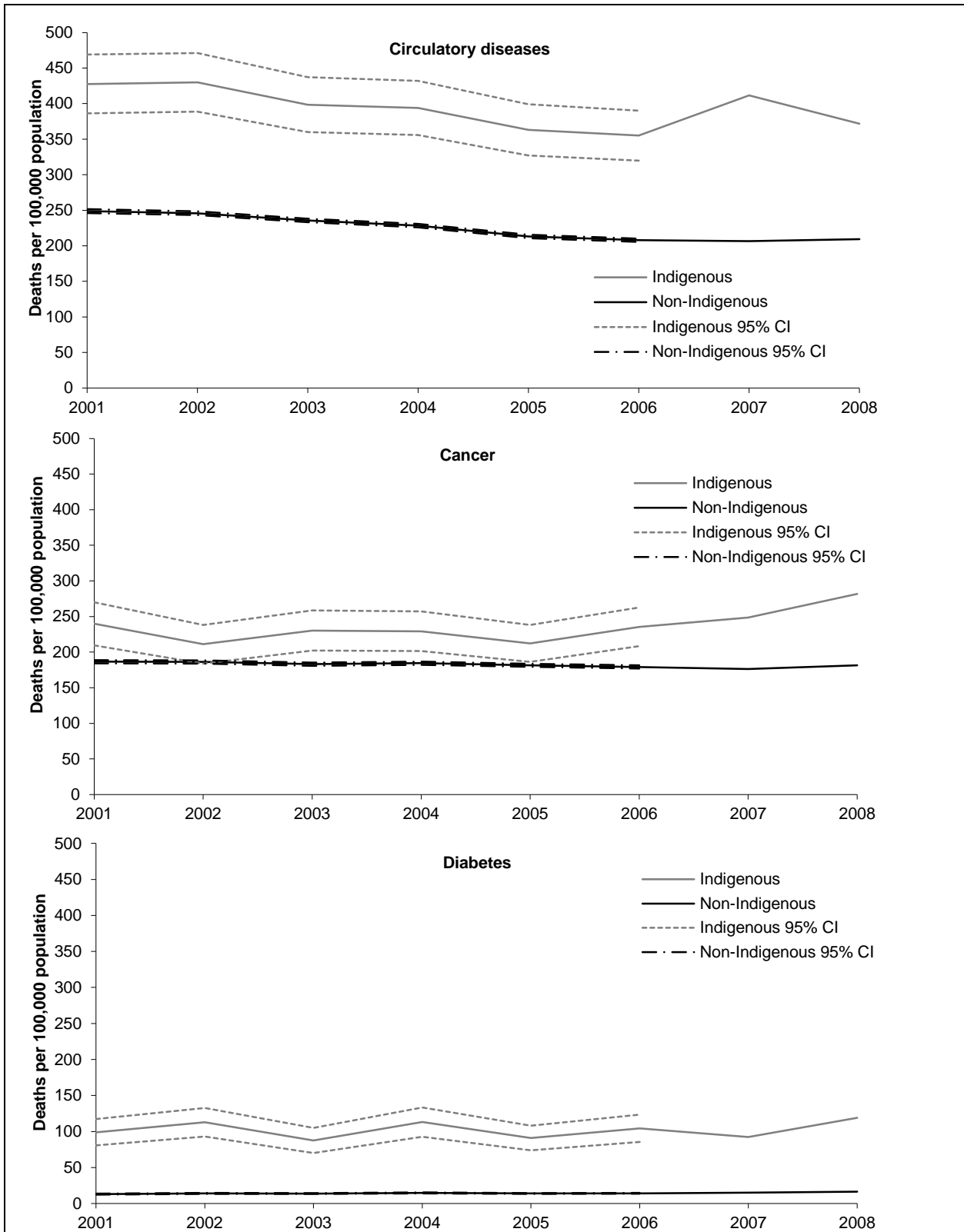
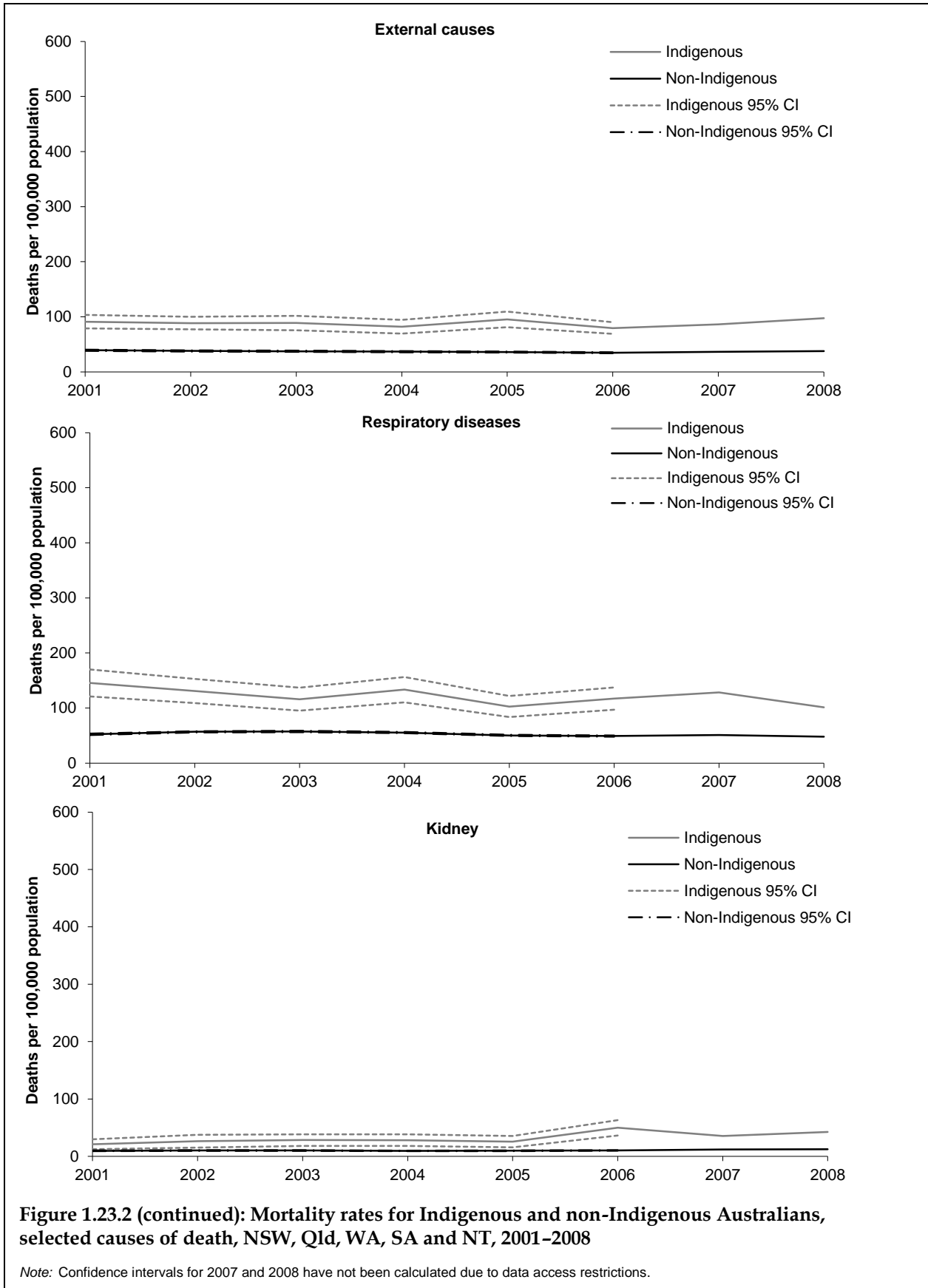


Figure 1.23.2: Mortality rates for Indigenous and non-Indigenous Australians, selected causes of death, NSW, Qld, WA, SA and NT, 2001–2008

Note: Confidence intervals for 2007 and 2008 have not been calculated due to data access limitations.

(continued)



Data quality issues

Mortality data

Deaths

The mortality rate for Indigenous Australians can be influenced by identification of Indigenous deaths, late registration of deaths, and changes to death forms and/or processing systems. Because of the small size of the Indigenous population, these factors can significantly affect trends over time and between jurisdictions. At present, there is considerable variation across the states and territories in the completeness of mortality and hospital data for Indigenous people.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms. However, although data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked. Detailed breakdowns of Indigenous deaths are therefore provided for only five jurisdictions – New South Wales, Queensland, South Australia, Western Australia and the Northern Territory.

Indigenous status information from the two sources is kept in the database, although this may not be consistent for an individual.

In 2004, a new range of codes were introduced as part of the effort to standardise and improve indigenous identification in data collection nationally.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008). The CDE Indigenous Mortality Quality Study linked Census records with death registration records and examined differences in the reporting of Indigenous status across the two data sets.

There were 106,945 registered death records available to be linked in the study. Of these, 1,800 (1.7%) were identified as Indigenous on the death registration. Of the total registered deaths, 98,898 (92%) were linked to a Census record. However, a much lower linkage rate was achieved for Indigenous deaths, with more than one quarter of all Indigenous death registrations (26% or 473) unable to be linked to a Census record. As a result, Indigenous death records were over-represented in the unlinked death registrations.

As well as being over-represented in unlinked death registrations, unlinked Indigenous death records had different characteristics to linked Indigenous death registrations. Indigenous death records with older ages at death and from non-remote regions were more likely to be linked.

Under-identification

Almost all deaths in Australia are registered. However, the Indigenous status of the deceased is not always recorded/recorded correctly. The incompleteness of Indigenous identification means the number of deaths registered as Indigenous is an underestimate of deaths occurring in the Aboriginal and Torres Strait Islander population (ABS 2009a). As a result, the observed differences between Indigenous and non-Indigenous mortality are underestimates of the true differences.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) with 10 years of adequate identification of Indigenous deaths in their recording systems (ABS and AIHW 2005). The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

The ABS calculated the implied coverage (identification) of Indigenous deaths for the period 2002–2006 using population estimates: New South Wales 45%, Victoria 32%, Queensland 51%, South Australia 62%, Western Australia 72%, Northern Territory 90%, Australia 55% (Tasmania and the Australian Capital Territory were not calculated because of small numbers) (ABS 2007).

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

There are also current concerns about data quality for Causes of death, especially relating to external Causes of death of all Australians (not just Indigenous) (ABS 2006).

Problems associated with identification result in an underestimation of deaths and hospital separations for Indigenous people.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009b).

List of symbols used in tables

- n.a. not available
- rounded to zero (including null cells)
- 0 zero
- .. not applicable
- n.e.c. not elsewhere classified
- n.f.d. not further defined
- n.p. not available for publication but included in totals where applicable, unless otherwise indicated

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