

Mortality

Cancer of the cervix is one of the few cancers for which there is an efficacious screening test for detection of precursors of the disease. Most deaths due to cervical cancer are potentially avoidable (Marcus & Crane 1998). The objective of the National Cervical Screening Program is to reduce this mortality rate.

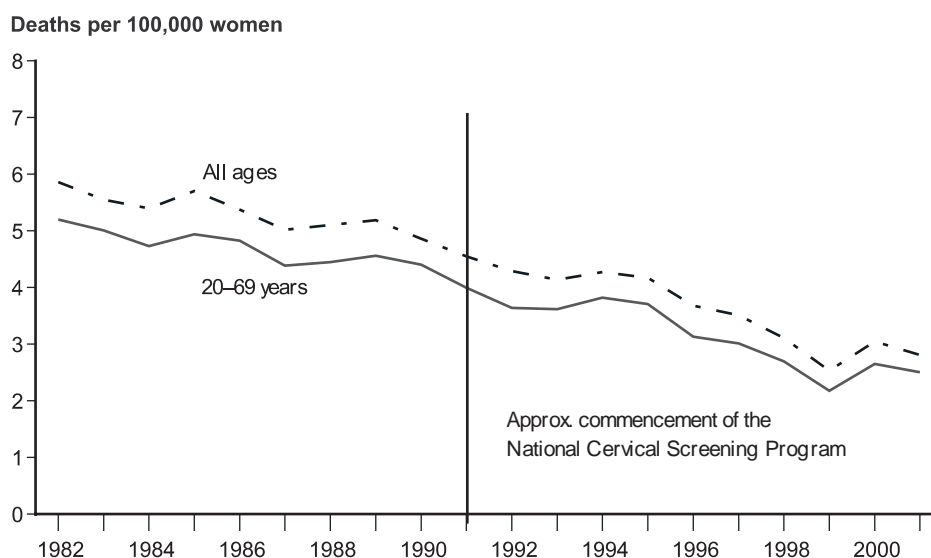
The three mortality indicators are mortality (by age and state), mortality by location (metropolitan, rural and remote), and Indigenous mortality (Indigenous and Non-Indigenous). These indicators measure the level of mortality from cervical cancer in the total female population by age and other demographic characteristics. The mortality indicators are important because from them an assessment can be made of changes in mortality in different age groups and particular target groups over time. However, note that changes in the mortality rates may not be evident for a number of years following an improvement in the participation rate. Therefore, the effectiveness of this measure needs to be viewed in the longer rather than the shorter term.

Data issues

- Two major changes that have occurred in the classification and processing of Australian mortality data require some caution when interpreting mortality data over time. They are:
 1. the introduction of the tenth revision of the International Classification of Diseases (ICD-10) for classifying deaths registered from 1 January 1999; and
 2. the introduction by the Australian Bureau of Statistics (ABS) of the Automated Coding System (ACS) for processing deaths registered from 1 January 1997.
- As a result of this there is now a break in the mortality data series. In order to make mortality data coded using ICD-9 and ICD-10 comparable, the ABS has derived comparability factors to adjust data based on ICD-9. These comparability factors are derived from the movements in the underlying causes of death coded in ICD-9 compared with ICD-10 (ABS 2000).
- For cervical cancer deaths, the comparability factor is 0.98, and the pre-1997 mortality data presented in this report have been adjusted accordingly. The effect of this is that the pre-1997 number of deaths appearing in this report are different from figures in previous *Cervical Screening in Australia* reports.
- Prior to 1998, only South Australia, Western Australia and the Northern Territory had a relatively high coverage of Indigenous status identification in the deaths data. In 1998 Queensland's coverage of Indigenous deaths reached an acceptable level following the introduction of a new *Death Information Form* in 1996-97 which included a question on Indigenous status (ABS 1999). Therefore, in this report, cervical cancer deaths for Indigenous Australians include data from Queensland (for 1998 to 2000), South Australia, Western Australia and the Northern Territory.

Indicator 7: Mortality

Death rate from cervical cancer per 100,000 estimated resident female population in a 12-month period by 5-year age groups (20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80-84, 85+) and for the target age group (20-69 years, age-standardised).



Refer to Table 21 (page 73).

Notes

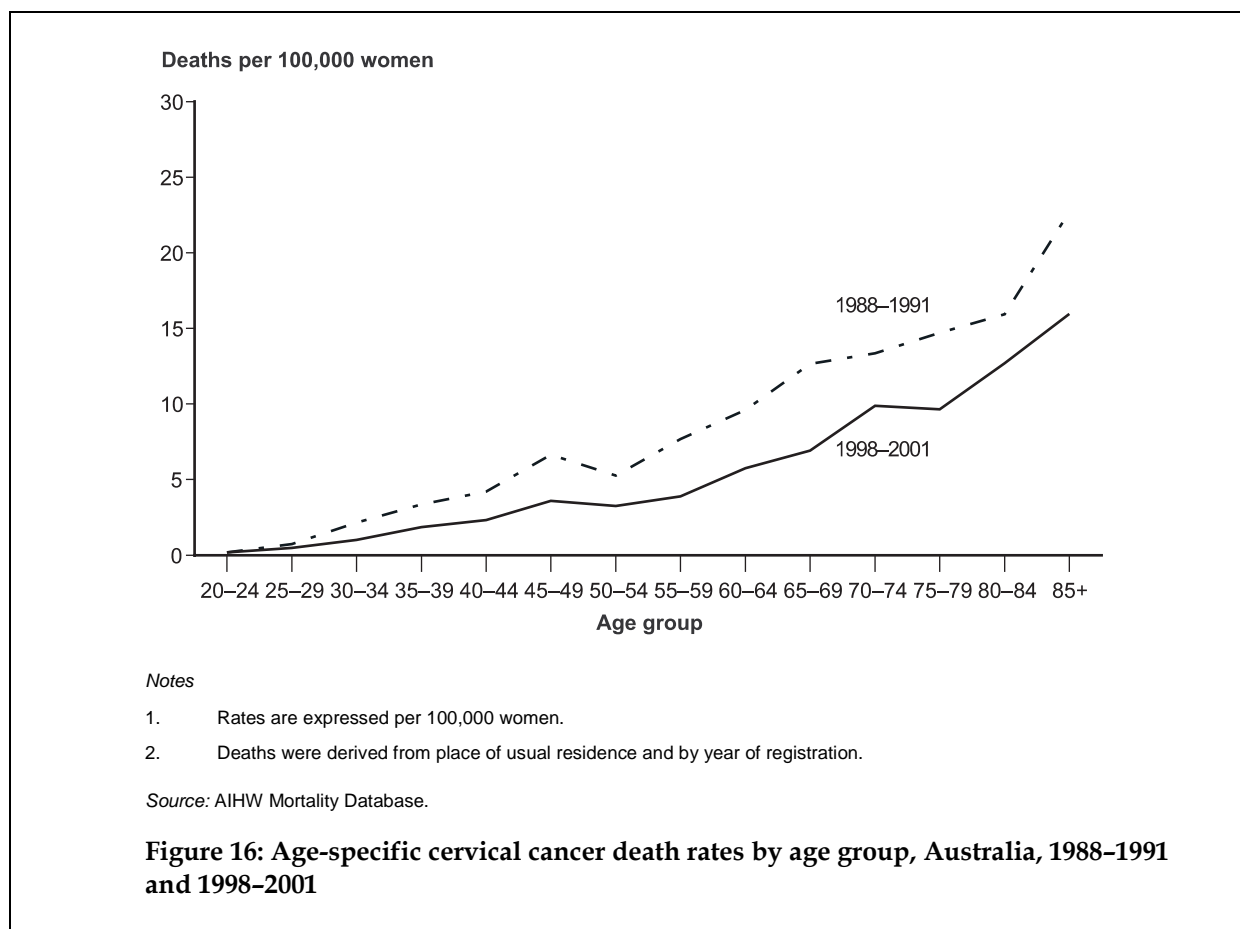
1. Rates are expressed per 100,000 women and age-standardised to the Australian 1991 population.
2. Deaths were derived from place of usual residence and by year of registration
3. Rates for all ages are based on data for women aged 15 years and over.

Source: AIHW Mortality Database.

Figure 15: Age-standardised death rates from cervical cancer, Australia, 1982-2001

	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01
All ages	5.9	5.5	5.4	5.7	5.4	5.0	5.1	5.2	4.9	4.5	4.3	4.1	4.3	4.2	3.7	3.5	3.1	2.5	3.0	2.8
20-69 years	5.2	5.0	4.7	4.9	4.8	4.4	4.4	4.6	4.4	4.0	3.6	3.6	3.8	3.7	3.1	3.0	2.7	2.2	2.7	2.5

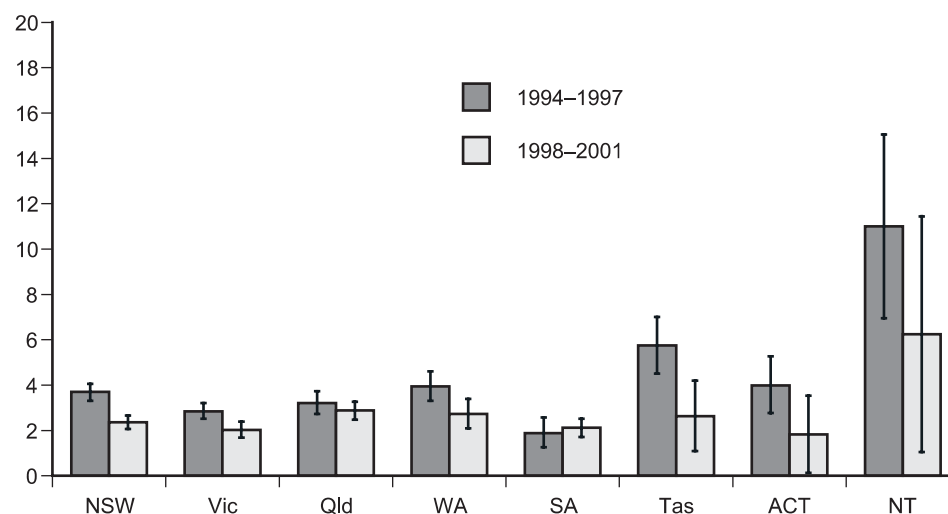
- Cervical cancer was the 15th most common cause of cancer deaths in Australian women in 2001, accounting for 262 deaths.
- The age-standardised death rate for women of all ages fell to 2.8 per 100,000 in 2001.



Period	Age group													
	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
1988-1991	0.2	0.7	2.1	3.4	4.2	6.6	5.3	7.7	9.6	12.6	13.4	14.7	15.9	22.7
1998-2001	0.2	0.5	1.0	1.9	2.3	3.6	3.3	3.9	5.7	6.9	9.9	9.7	12.7	16.0

- In both 1988-1991 and 1998-2001 the rates of cervical cancer mortality increased with increasing age.
- The mortality between the two reference periods declined in all age groups except for the age group 20-24 years where there was no difference.
- In the period 1998-2001 the mortality in the target age group was 0.2 deaths per 100,000 women in the 20-24 years age group and rose with each successive age group to 6.9 in the 65-69 age group.

Deaths per 100,000 women



Refer to Tables 23 and 25 (pages 75 and 77).

Notes

1. The age-standardised rates were averaged over 4 years to smooth annual variations that may occur in the smaller states and territories.
2. Deaths derived from place of usual residence and by year of registration.
3. Rates are expressed per 100,000 women and age-standardised to the Australian 1991 population.
4. Bars on graphs represent 95% confidence intervals.

Source: AIHW Mortality Database.

Figure 17: Age-standardised cervical cancer death rates by women aged 20-69 years, states and territories, 1994-1997 and 1998-2001

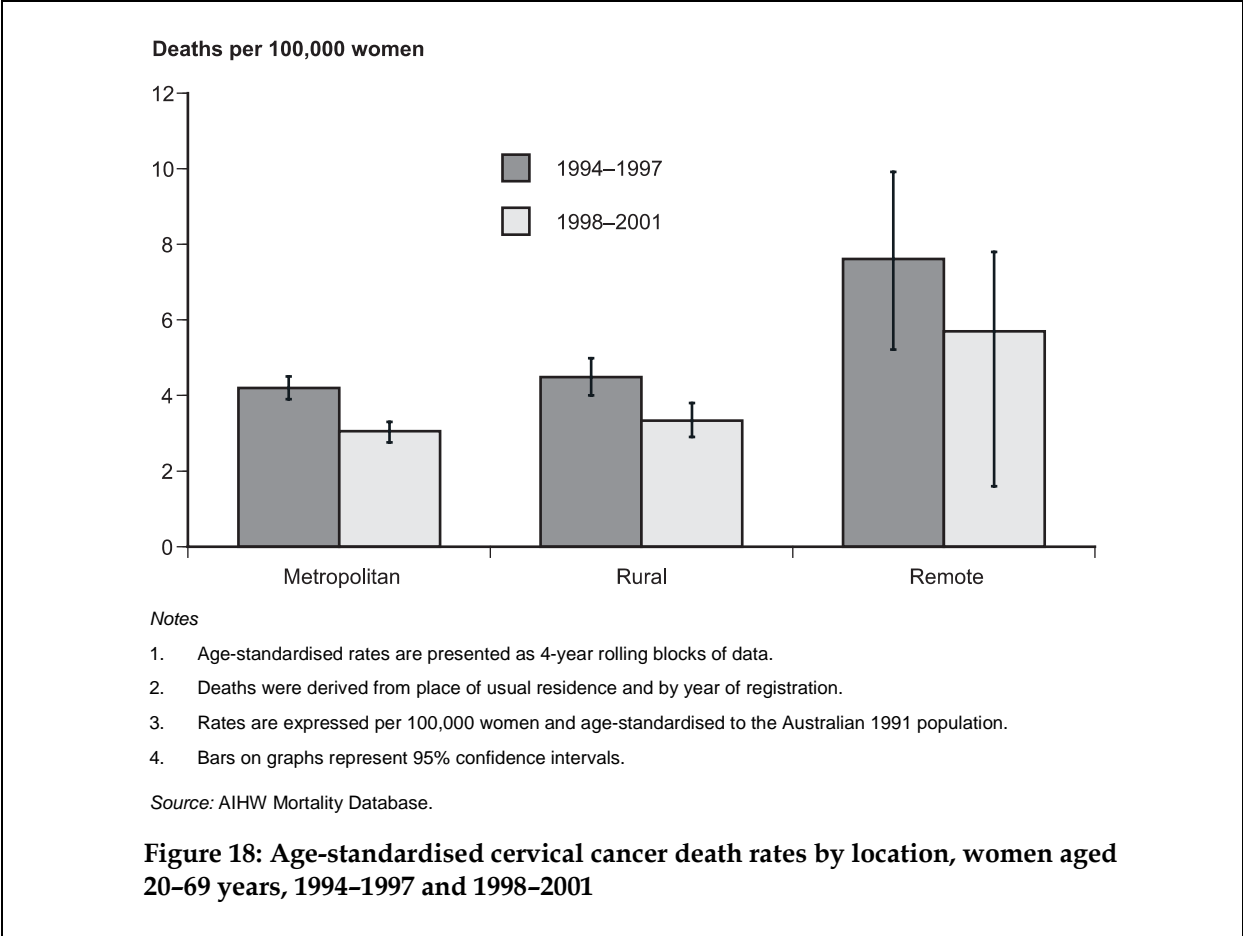
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Rate 1994-1997	3.7	2.8	3.2	3.9	1.9	5.7	4.0	11.0	3.4
95% CI	3.4-4.0	2.5-3.2	2.8-3.6	3.3-4.6	1.5-2.3	4.2-7.3	2.3-5.7	5.8-16.2	3.2-3.6
Rate 1998-2001	2.4	2.0	2.9	2.7	2.1	2.6	1.8	6.2	2.4
95% CI	2.0-2.7	1.7-2.4	2.4-3.4	2.1-3.4	1.5-2.8	1.4-3.9	0.6-3.1	2.2-10.3	2.2-2.6

- In 1998-2001 there were 1,046 deaths from cervical cancer in all states and territories compared with 1,273 in 1994-1997.
- The age-standardised mortality rate varied from 1.8 per 100,000 women in the Australian Capital Territory to 6.2 in the Northern Territory.
- The age-standardised death rates decreased in all jurisdictions between the two periods except in South Australia. The declines were significantly different in New South Wales, Victoria and Tasmania. Although the Northern Territory rate decreased sharply between the two periods, the rates are based on very small numbers and are subject to considerable variation.

Indicator 9: Mortality by location

Death rate from cervical cancer per 100,000 estimated resident female population in a 4-year period by location and 5-year age groups (20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80-84, 85+) and for the target age group (20-69 years, age-standardised).

The graph and table below refer to the data for the target age group only. For additional data refer to Table 27 (page 79).



	Metropolitan		Rural		Remote	
	1994-1997	1998-2001	1994-1997	1998-2001	1994-1997	1998-2001
Rate	3.1	2.3	3.4	2.7	6.6	3.0
95% CI	2.8-3.4	2.1-2.5	2.9-3.8	2.3-3.1	4.3-8.8	1.7-4.6

- During the 4-year period 1998-2001, there were 709 deaths (70% of all cervical cancer deaths in that period) in metropolitan areas, 270 deaths (27% of all cervical cancer deaths) in rural areas and 35 deaths (3% of all cervical cancer deaths) in remote areas (Table 26, page 78).

- The age-standardised death rate for women in the target age group 20–69 years increased from metropolitan to rural areas and from rural to remote areas, though none of these differences were statistically significant.
- In all three regions the age-standardised mortality rates declined between the periods 1994–1997 and 1998–2001; however, only the decline in the metropolitan area was statistically significant. The largest overall mortality reduction was in remote areas (a mortality reduction of 55% between 1994–1997 and 1998–2001), but these rates are based on small numbers and therefore the decline is not statistically significant. Between the same two periods, in metropolitan areas there was a 26% decline in cervical cancer mortality, and in rural areas it was 21%.

Age-specific features

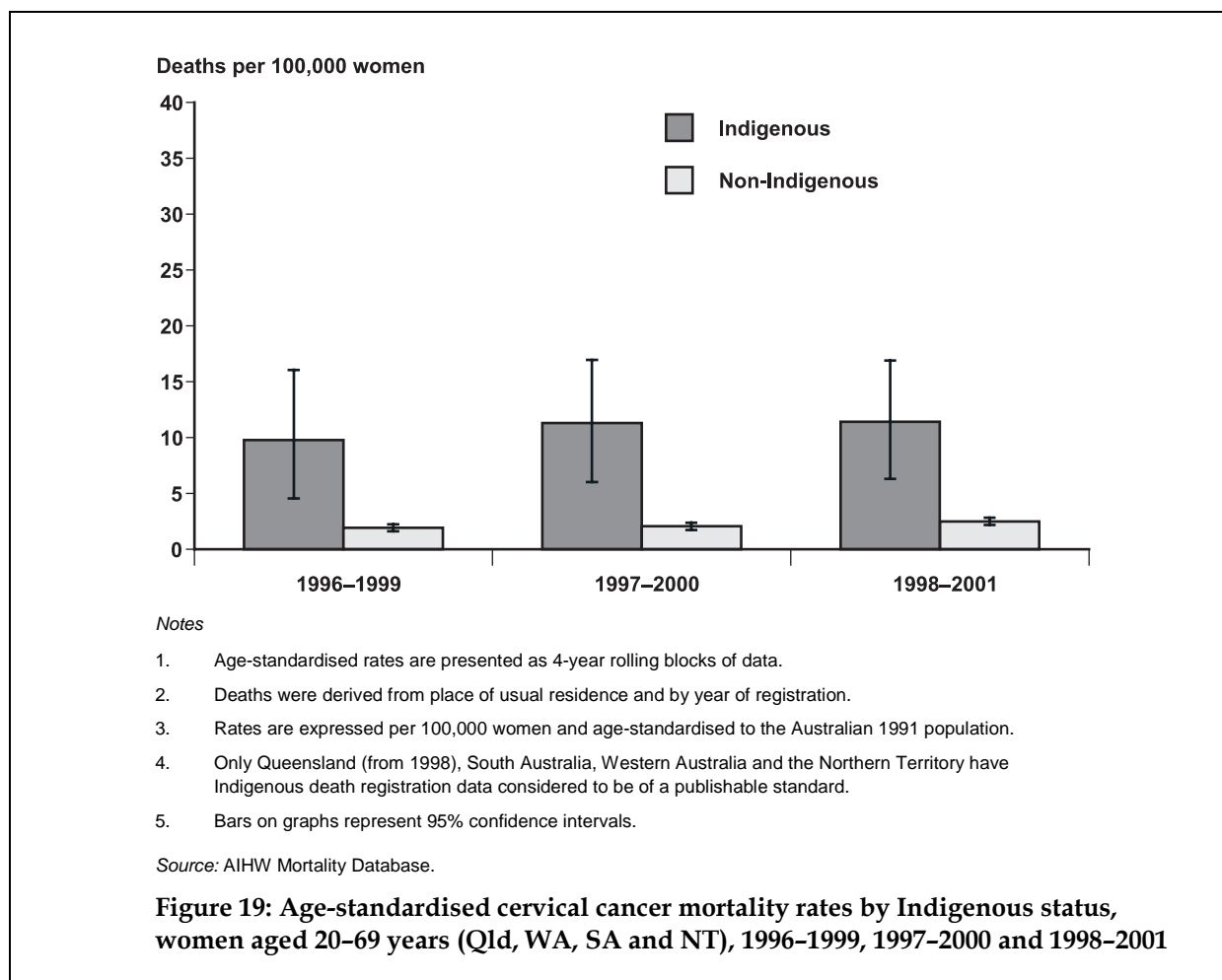
(Tables 26 and 27, pages 78 and 79)

- In metropolitan and rural locations, the death rates from cervical cancer increased with age. In remote locations, although there is a general trend of rising death rates with age, the specific pattern is less clear because of the small numbers involved in calculating the rates.
- In metropolitan locations, age-specific cervical cancer mortality increased slightly for younger ages. In rural locations, age-specific mortality declined in almost all age groups.

Indicator 10: Indigenous mortality

Death rate from cervical cancer per 100,000 estimated resident female population in a 4-year period by Indigenous status and 5-year age groups (20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80-84, 85+) and for the target age group (20-69 years, age-standardised).

The graph and table below refer to the data for the target age group only. For detailed data refer to Table 29 (page 81).



	Indigenous			Non-Indigenous		
	1996-1999	1997-2000	1998-2001	1996-1999	1997-2000	1998-2001
AS Rate (A)	9.8	11.3	11.4	1.9	2.1	2.5
95% CI	4.6-16.1	6.2-17.1	6.3-17.6	1.6-2.3	1.7-2.4	2.2-2.8
<i>Note: Indigenous and non-Indigenous deaths from Queensland for 1998, 1999, 2000 and 2001 are included in the above table.</i>						
Excluding Queensland						
AS Rate (A)	7.9	7.2	5.5	1.8	1.9	2.0
95% CI	2.3-14.1	2.6-12.9	1.4-11.0	1.4-2.2	1.2-2.2	1.6-2.4

- Due to the difficulties of Indigenous identification in health data collections, only Indigenous mortality data from Queensland (from 1998), Western Australia, South Australia and the Northern Territory are considered to be of publishable standard. Therefore, all cervical cancer mortality data for both Indigenous women and non-Indigenous women used in this analysis are confined to these jurisdictions.
- The age-standardised mortality rate attributable to cervical cancer among Indigenous women in the target age group in the 1998–2001 period was 11.4 per 100,000 women and was considerably higher than the mortality rate for non-Indigenous women in the same age range (2.5 per 100,000 women) (Tables 28 and 29, pages 80 and 81).
- The Indigenous cervical cancer mortality rate among women in the target age group was higher in 1998–2001 than in 1996–1999. However, these figures are not directly comparable because data from Queensland was available only from 1998. Queensland accounts for almost half of the Indigenous population when the four jurisdictions are combined. If we exclude Queensland, then death rates among Indigenous people fell between 1996–1999 and 1998–2001. Death rates for Indigenous women are based on relatively small numbers of cases and may be subject to large variability. This is reflected in the wide confidence intervals associated with the mortality rates. (Table 29, page 81).

Age-specific features

(Tables 28 and 29, pages 80 and 81)

- The numbers of deaths among Indigenous women in Queensland, Western Australia, South Australia and the Northern Territory are either very small or none in many age groups and care is needed in interpreting the rates.
- Mortality rates generally increased with increasing age in both Indigenous and non-Indigenous women.
- Compared with non-Indigenous women, Indigenous women experienced high rates of mortality in every age group.