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 at a pre-cancerous stage, and most deaths due to cervical cancer are potentially avoidable (Marcus & Crane 1998). However, some deaths do occur and the objective of the National Cervical Screening Program is to reduce this mortality rate.

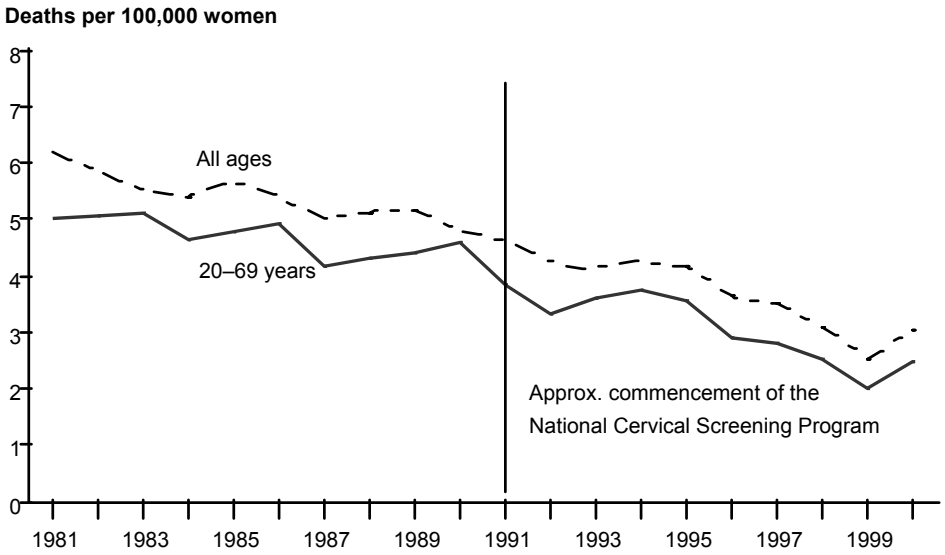
These indicators measure the level of mortality from cervical cancer in the total female population by age and other demographic characteristics. This indicator is important because from it an assessment can be made of changes in mortality in different age groups and particular target groups over time. However, it should be noted 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 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 Australian Bureau of Statistics (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 to 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 rates 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 (p. 157).

Notes

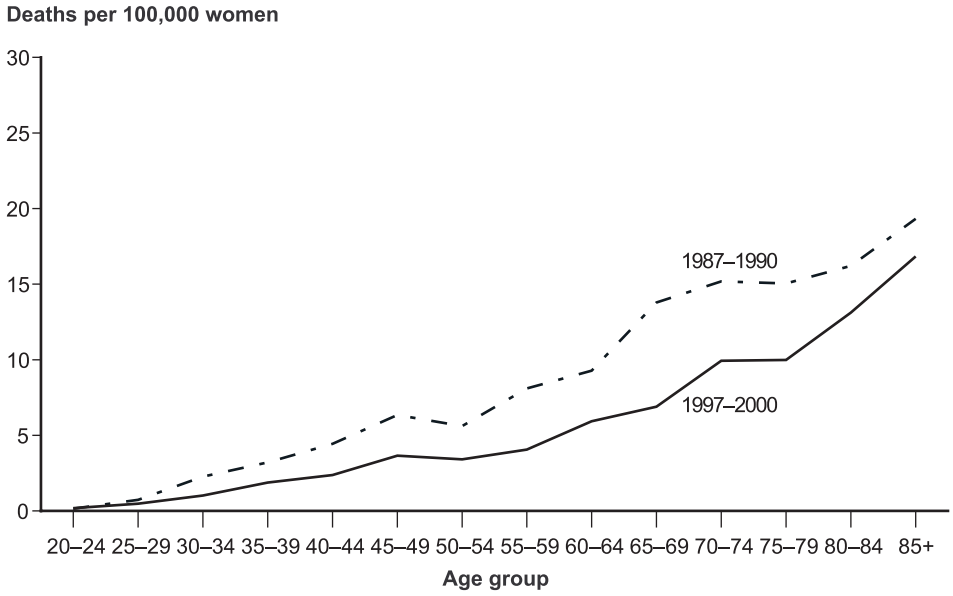
1. Rates are expressed per 100,000 women.
2. Deaths were derived from place of usual residence and by year of registration
3. Rates for all ages are based on data for women aged 15 years and over.
4. Rates are expressed per 100,000 women and age-standardised to the Australian 1991 population.

Source: AIHW Mortality Database.

Figure 15: Age-standardised death rates from cervical cancer, Australia, 1981–2000

	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00
All ages	6.2	5.9	5.5	5.4	5.7	5.4	5.0	5.1	5.2	4.9	4.6	4.3	4.1	4.3	4.2	3.7	3.5	3.1	2.5	3.0
20–69 years	5.0	5.1	5.1	4.7	4.8	4.9	4.2	4.3	4.4	4.6	3.8	3.3	3.5	3.8	3.6	2.9	2.8	2.5	2.0	2.5

- Cervical cancer was the 15th most common cause of cancer deaths in Australian women in 2000, accounting for 267 deaths.
- The age-standardised death rate for women of all ages was 3.0 per 100,000 in 2000. Mortality from cervical cancer, although fluctuating, has declined over time.



Notes

1. Rates are expressed per 100,000 women.
2. Deaths were derived from place of usual residence and by year of registration.

Source: AIHW Mortality Database.

Figure 16: Age-specific cervical cancer death rates, by age group, Australia, 1987–1990 and 1997–2000

	Age group													
Period	**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+**
1987–1990	0.1	0.7	2.3	3.2	4.4	6.3	5.6	8.1	9.3	13.8	15.2	15.0	16.2	19.3
1997–2000	0.2	0.5	1.0	1.9	2.4	3.7	3.4	4.1	5.9	6.9	9.9	10.0	13.1	16.8

- The age-specific rates of cervical cancer mortality increased with rising age—very few deaths occurred at younger ages while most deaths concentrated at older ages. In the period 1997–2000, within the target age group, the age-specific mortality ranged from 0.2 deaths per 100,000 women in the age group 20–24 to 6.9 deaths per 100,000 women in the age group 65–69.
- The age-specific mortality between the two reference periods declined in all age groups except for the age group 20–24 years.

Refer to Tables 23 and 25 (pp. 159 and 161).

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, women aged 20–69 years, states and territories, 1993–1996 and 1997–2000

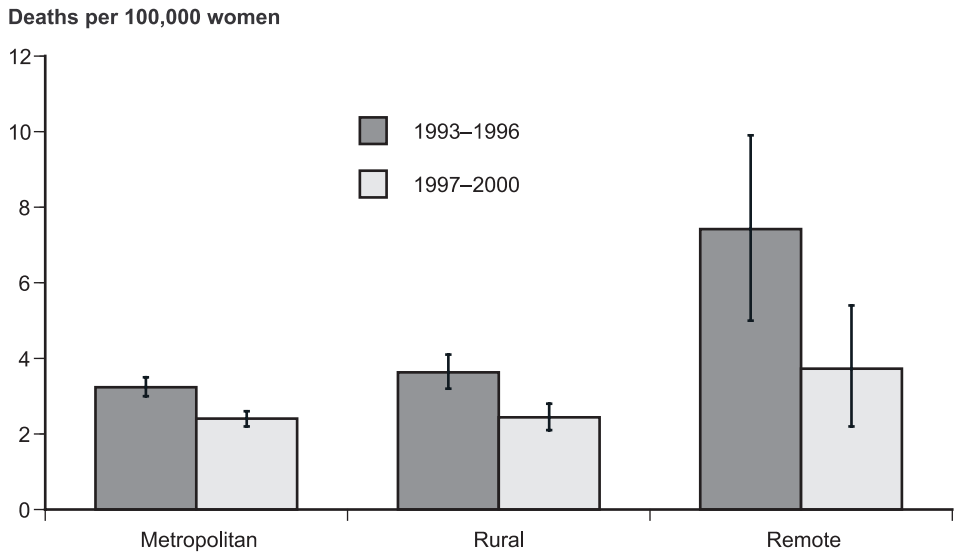
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Rate 1993–1996	3.5	3.0	3.5	4.4	2.3	5.7	3.2	11.8	3.4
95% CI	3.1–4.0	2.5–3.4	2.9–4.0	3.4–5.2	1.6–2.9	3.7–7.5	1.5–5.2	5.8–18.8	3.2–3.7
Rate 1997–2000	2.5	1.9	2.9	2.9	1.8	3.5	3.7	4.4	2.4
95% CI	2.1–2.9	1.5–2.2	2.3–3.3	2.2–3.6	1.3–2.4	2.1–5.1	1.8–6.0	1.6–7.6	2.2–2.6

- There were 1,046 deaths from cervical cancer in all states and territories in 1997–2000.
- The age-standardised mortality rates varied from 4.4 per 100,000 women in the Northern Territory to 1.8 per 100,000 women in South Australia. Although the Northern Territory mortality rate declined considerably between the two periods, the rates are based on a very small number of deaths and are therefore subject to great variability.
- In all jurisdictions except the Australian Capital Territory the death rate declined between the two periods. Only the declines in New South Wales and Victorian rates, however, are statistically significant.
- The mortality rate in the Australian Capital Territory increased between the two periods; this increase is not statistically significant.

Indicator 9: Mortality by location

Death rates 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 Tables 26 and 27, pages 162 and 163)



Notes:

1. The age-standardised rates are presented as 4-year rolling blocks of data.
2. Deaths were 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 18: Age-standardised cervical cancer death rates, by location, women aged 20–69 years, 1993–1996 and 1997–2000

	Metropolitan		Rural		Remote	
	1993–1996	1997–2000	1993–1996	1997–2000	1993–1996	1997–2000
Rate	3.2	2.4	3.6	2.4	7.4	3.7
95% CI	3.0–3.5	2.2–2.6	3.2–4.1	2.1–2.8	5.0–9.9	2.2–5.4

- During the 4-year period 1997–2000 there were 735 deaths (70% of all cervical deaths in that period) in metropolitan areas, 276 deaths (26% of all cervical deaths) in rural areas and 35 deaths (4% of all cervical deaths) in remote areas (Table 26, page 162).
- The age-standardised death rate for women in the target age group 20–69 years was highest in remote locations. The difference was statistically significant from other locations in the period 1993–1996, but during the period 1997–2000, the difference was not statistically significant. The high rate of mortality in remote locations may reflect the relatively high proportion of Indigenous people in remote areas, and the high death rates among Indigenous women. Both metropolitan and rural locations had similar rates of mortality from cervical cancer.
- In all three regions the age-standardised mortality rates declined between the periods 1993–1996 and 1997–2000; however, only the declines in metropolitan and rural areas were statistically significant. The largest overall mortality reduction was in remote areas (a mortality reduction of 50% between 1993–1996 and 1997–2000), 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 25% decline in cervical cancer mortality and in rural areas, it was 33%.

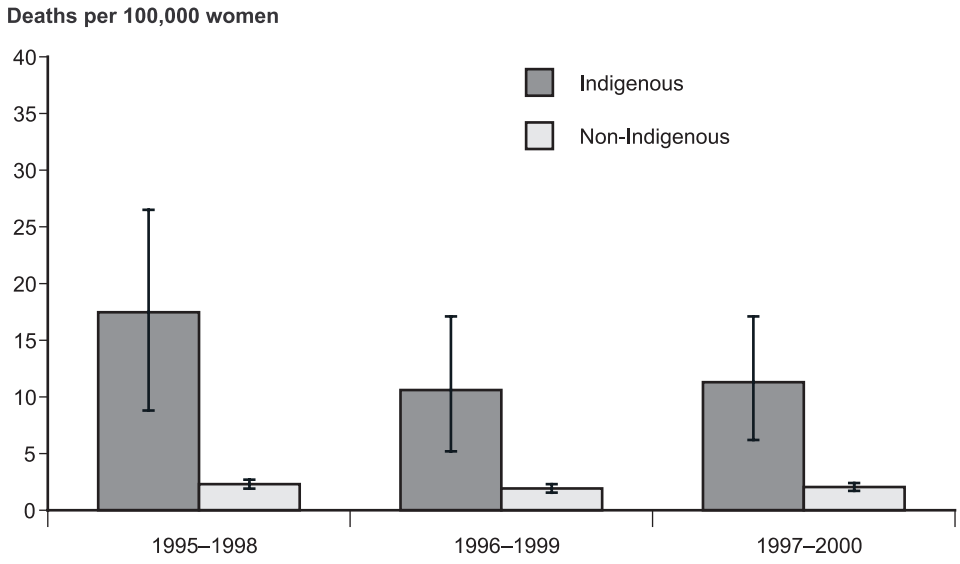
Age-specific features

- In the target age group of 20–69 years, age-specific mortality from cervical cancer increases with age. However, it is higher still among women in their 70s and 80s.

Indicator 10: Indigenous mortality

Death rates 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 Tables 28 and 29 (pages 164 and 165).



Notes

1. The age-standardised rates are presented as 4-year rolling blocks of data.
2. Deaths were 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. Only Queensland (from 1998), South Australia, Western Australia and the Northern Territory have Indigenous death registration data considered to be of a publishable standard.
5. Bars on graphs represent 95% confidence intervals.

Source: AIHW Mortality Database.

Figure 19: Age-standardised cervical cancer mortality rates, by Indigenous status, women aged 20–69 years, 1995–1998, 1996–1999 and 1997–2000

	Indigenous			Non-Indigenous		
	1995–1998	1996–1999	1997–2000	1995–1998	1996–1999	1997–2000
AS rate	17.5	10.6	11.3	2.3	1.9	2.1
95% CI	8.8–26.5	5.2–17.1	6.2–17.1	1.9–2.7	1.6–2.3	1.7–2.4

Note: Indigenous and non-Indigenous deaths from Queensland for 1998, 1999 and 2000 are included in the above table.

- 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.
- There were 22 deaths, an age-standardised rate of 11.3 per 100,000 women, attributable to cervical cancer among Indigenous women in the target age group in 1997–2000 period. This is over 5 times the mortality rate for non-Indigenous women in the same age range (2.1 per 100,000 women) (Tables 28 and 29, pages 164 and 165).
- The Indigenous cervical cancer mortality rate among women in the target age group declined over time from 17.5 in 1995–1998 to 11.3 deaths per 100,000 women in 1997–2000. The Queensland data only cover part of this period, so their inclusion may effect the comparison. When Queensland data were excluded from the analysis, the Indigenous mortality rate from cervical cancer still declined from 22 in 1995–1998 to 15.1 per 100,000 women in 1997–2001. However, the 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. Despite the relatively large size of the apparent decline in the rate, it is still within the range of variation that would be expected due to chance, that is, it is not statistically significant (Table 29, page 165).
- Mortality from cervical cancer among non-Indigenous women fluctuated over time.

Age-specific features

- 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.