

# Indicator 8: Mortality

## Mortality rate

The mortality rate from breast cancer is calculated per 100,000 women in a 12-month period by five-year age groups for females aged 0–4 years and over and for the target age group 50–69 years.

## The mortality indicator

Mortality statistics are one of the most comprehensively collected national data sets. Registration of death is a legal requirement in Australia and, as a result, compliance is virtually complete. Registration of deaths is the responsibility of the Registrar of Births, Deaths and Marriages in each state and territory. The registrars provide the mortality data to the Australian Bureau of Statistics (ABS) for coding the cause of death and compilation into national statistics. The AIHW also holds these data in a national mortality database. The data presented here are from the AIHW National Mortality Database and are based on the year of registration of the death. Note that about 5% of deaths are not registered until the year following the death (ABS 2002).

Breast cancer is the most common cause of cancer death in Australian women. The number of deaths from breast cancer in recent years has remained fairly stable, with 2,400 women dying from the disease in 1990 and 2,641 women in 2004. However, over this period the rates of death caused by breast cancer have steadily fallen. Mortality from breast cancer for women in the target age group 50–69 years decreased significantly from 59.7 deaths per 100,000 women in 1995–1999 to 53.2 deaths per 100,000 women in 2000–2004. Similarly, mortality rates also decreased significantly for all women from 27.3 deaths per 100,000 women in 1995–1999 to 24.5 deaths per 100,000 women in 2000–2004.

In the longer term, mortality rates from breast cancer are an important indicator of the effectiveness of the screening program. A particularly important indication of the effectiveness of a screening program is the change in mortality rates over time in the target age group for screening. There are, however, two difficulties with using these mortality rates as an indicator of screening effectiveness. The first is that changes in mortality over time may reflect factors additional to screening, such as new and more effective treatments. The second is that changes in the mortality rates may not be apparent for a number of years following the commencement of a screening program. Accordingly, this is a measure that needs to be viewed over the long term and interpreted with caution.

The mortality rates presented in this chapter are for the total female population of Australia, not only for those women who participated in the BreastScreen Australia Program.

This chapter shows the trend in breast cancer mortality from 1990 to 2004, the latest national data available. It also reports on breast cancer mortality by state and territory, by age, by region and by Indigenous status.

Some changes have been made to the coding and processing of mortality data. These are described in Appendix A.

## Mortality from breast cancer in women aged 50-69 years and all women, 1995-1999 and 2000-2004

	1995-1999	2000-2004
<b>Rate for women aged 50-69 years</b>	59.7	53.2
<i>95% CI</i>	58.1-61.4	51.7-54.6
<b>Rate for all women</b>	27.3	24.5
<i>95% CI</i>	26.8-27.8	24.1-24.9

*Note:* Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

*Source:* AIHW National Mortality Database.

The following table shows the breast cancer mortality rates by regions. For women in the target age group, mortality rates in 2000-2004 were highest in outer regional areas and in major cities with 54.2 and 54.1 deaths per 100,000 women, respectively, and lowest in very remote areas, with 43.9 deaths per 100,000 women. The difference was not statistically significant because the relatively small number of deaths in very remote areas.

### Mortality from breast cancer in women aged 50-69 years, 2000-2004 by region

	Australia	Major cities	Inner regional	Outer regional	Remote	Very remote
<b>Rate 2000-2004</b>	53.2	54.1	51.0	54.2	45.2	43.9
<i>95% CI</i>	51.7-54.6	52.3-55.9	48.1-54.1	49.8-58.8	34.4-57.9	27.6-65.3

#### Notes

1. Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.
2. AIHW Mortality data by the ASGC remoteness categories are available from 1997 only; therefore, there is no comparable non-overlapping five-year period prior to 2000-2004.

*Source:* AIHW National Mortality Database.

The following table shows the mortality rates by Indigenous status for Queensland, Western Australia, South Australia and Northern Territory combined. In 2000-2004 in the target age group, the age-standardised mortality rate for Indigenous Australian women (44.2 deaths per 100,000 women) was lower than that for non-Indigenous women (51.4 deaths per 100,000 women); however, this difference was not statistically significant.

Similarly, in 1995-1999 there was no statistically significant difference in mortality rates between the Indigenous Australian women and non-Indigenous women (59.2 and 80.7 deaths per 100,000 women, respectively). Across the time periods 1995-1999 and 2000-2004, the national mortality rates decreased significantly from 59.7 to 53.2 deaths per 100,000 women, respectively. Similarly, mortality rates for non-Indigenous women decreased significantly from 80.7 in 1995-1999 to 51.4 deaths per 100,000 women in 2000-2004. For Indigenous Australian women, the mortality rates decreased from 59.2 to 44.2 deaths per 100,000 women over the same time periods; however, these changes were not statistically significant because of small numbers.

## Mortality from breast cancer in women aged 50-69 years, 1995-1999 and 2000-2004 by Indigenous status

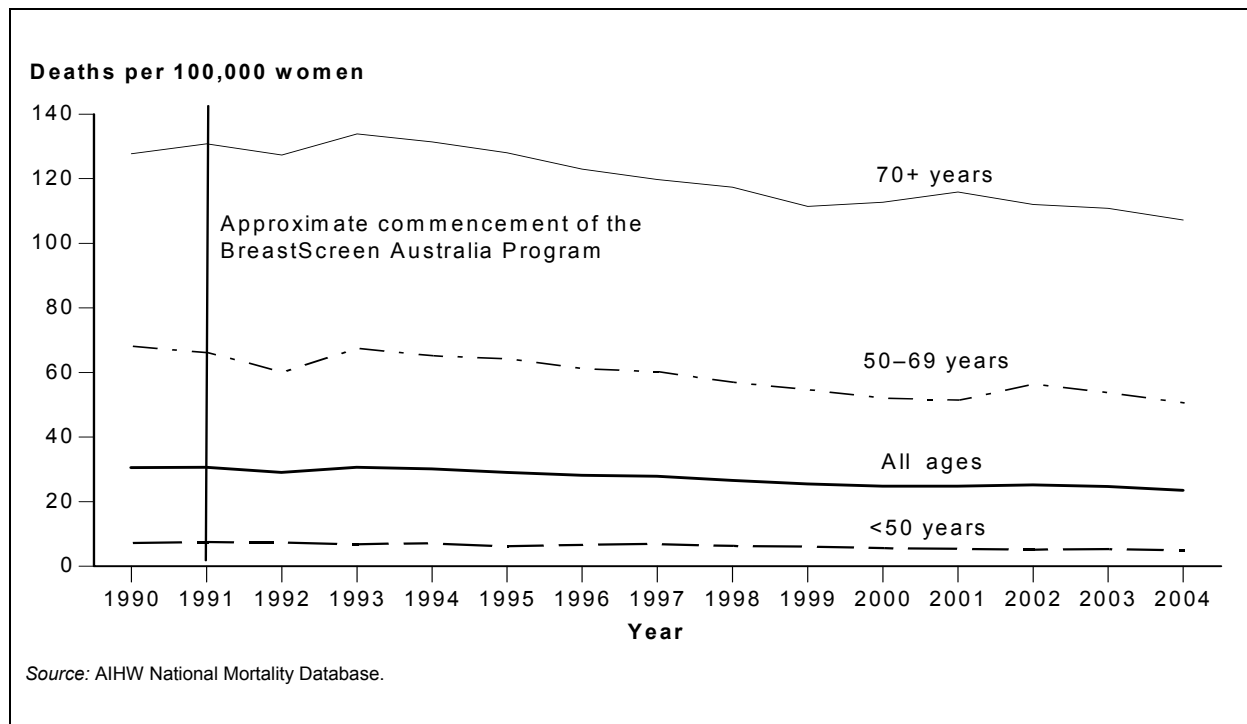
	Australia	Indigenous	Non-Indigenous
<b>Rate 2000-2004</b>	53.2	44.2	51.4
<i>95% CI</i>	51.7-54.6	28.4-65.4	49.0-53.8
<b>Rate 1995-1999</b>	59.7	59.2	80.7
<i>95% CI</i>	58.1-61.4	37.0-89.8	76.9-84.6

### Notes

1. Only Queensland, Western Australia, South Australia, and the Northern Territory have Indigenous death registration data considered to be of a publishable standard; therefore, data from these jurisdictions only are included in the analysis by Indigenous status. Queensland data are included from 1998 onwards.
2. 'Australia' includes all states and territories of Australia. 'Indigenous' and 'Non-Indigenous' includes Queensland, Western Australia, South Australia, and the Northern Territory.
3. Deaths in the 'not-stated' category are included in the column 'Australia', but they are not included in the other columns.
4. Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

Source: AIHW National Mortality Database.

## Mortality from breast cancer, females, Australia, 1990–2004



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>All ages</b>	30.4	30.5	28.9	30.5	30.0	28.9	28.1	27.8	26.5	25.4	24.7	24.7	25.1	24.6	23.4
<b>&lt;50</b>	7.5	7.8	7.7	7.1	7.4	6.5	6.9	7.2	6.6	6.4	5.9	5.7	5.4	5.6	5.2
<b>50–69</b>	68.5	66.5	60.5	67.9	65.5	64.6	61.5	60.6	57.3	55.0	52.5	51.8	56.7	54.1	50.9
<b>70+</b>	127.7	130.8	127.3	133.8	131.4	128.0	123.0	119.7	117.3	111.4	112.7	115.9	112.0	110.8	107.2

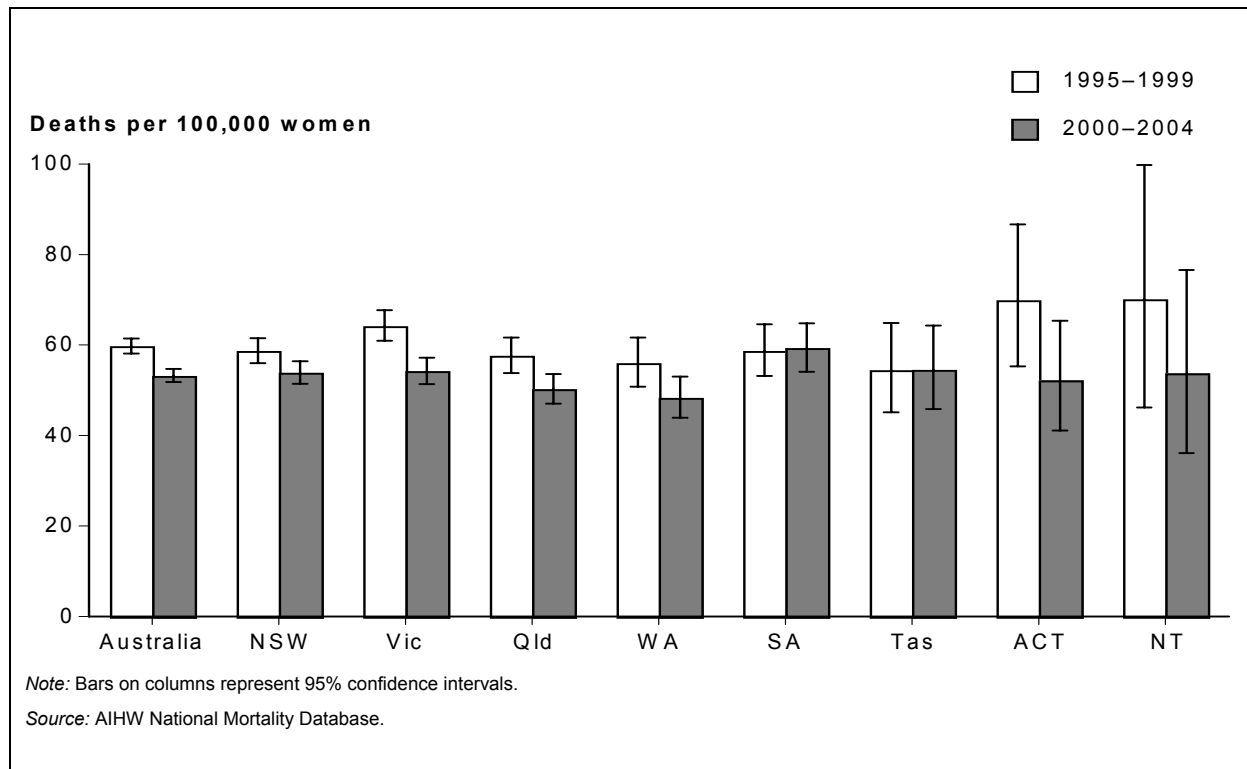
Note: Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

- The age-standardised mortality rate for women aged 50–69 years has been declining steadily from 68.5 deaths per 100,000 women in 1990 to 50.9 deaths per 100,000 women in 2004. There was a small increase in the mortality rate in 2002, to 56.7 deaths per 100,000 women. However, this increase was not statistically significant. Similar patterns of decline in mortality rates can be observed in women aged 70 years and over and women aged less than 50 years.

For more information, see: Tables 53 to 60 beginning on page 122. Tables with data other than for the latest reporting period can be found on the AIHW's website at <[www.aihw.gov.au](http://www.aihw.gov.au)>.

## States and territories

### Mortality from breast cancer in women aged 50–69 years, 1995–1999 and 2000–2004



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
<b>Rate 2000–2004</b>	53.2*	53.9	54.2*	50.2*	48.3	59.3	54.5	52.2	53.7
95% CI	51.7–54.6	51.4–56.5	51.4–57.2	47.0–53.6	44.0–53.0	54.1–64.8	45.8–64.3	41.1–65.4	36.1–76.6
<b>Rate 1995–1999</b>	59.7	58.7	64.2	57.6	56.0	58.7	54.4	69.9	70.1
95% CI	58.1–61.4	55.9–61.5	60.9–67.7	53.8–61.6	50.8–61.5	53.3–64.6	45.1–64.9	55.3–86.7	46.2–99.8

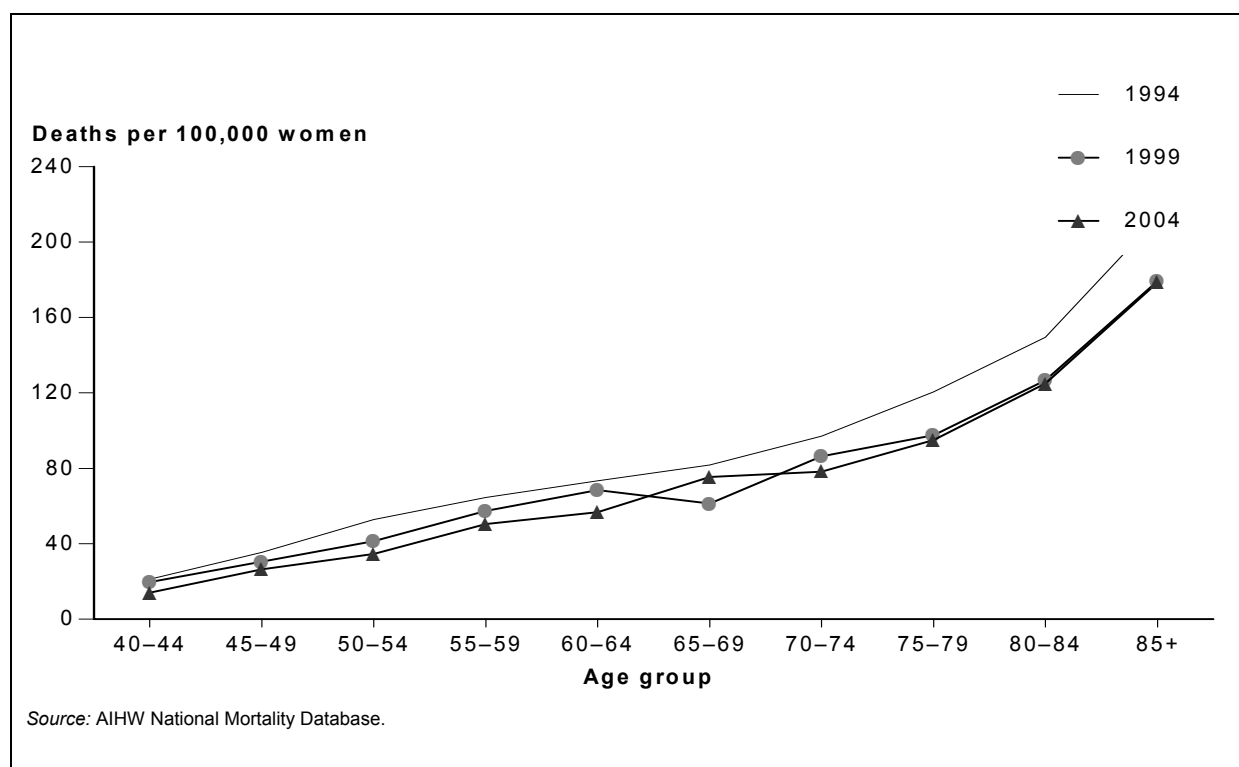
\* Statistically different from the 1995–1999 rate.

Note: Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

- There were statistically significant changes in the mortality rates between the states and territories and across the time periods. The national mortality rate declined between 1995–1999 and 2000–2004 from 59.7 to 53.2 deaths per 100,000 women. Victoria and Queensland also had significant decreases in mortality between the two time periods.

For more information, see: Tables 53 to 60 beginning on page 122. Tables with data other than for the latest reporting period can be found on the AIHW's website at <www.aihw.gov.au>.

## Age-specific mortality rates for breast cancer, females, Australia, 1994, 1999 and 2004



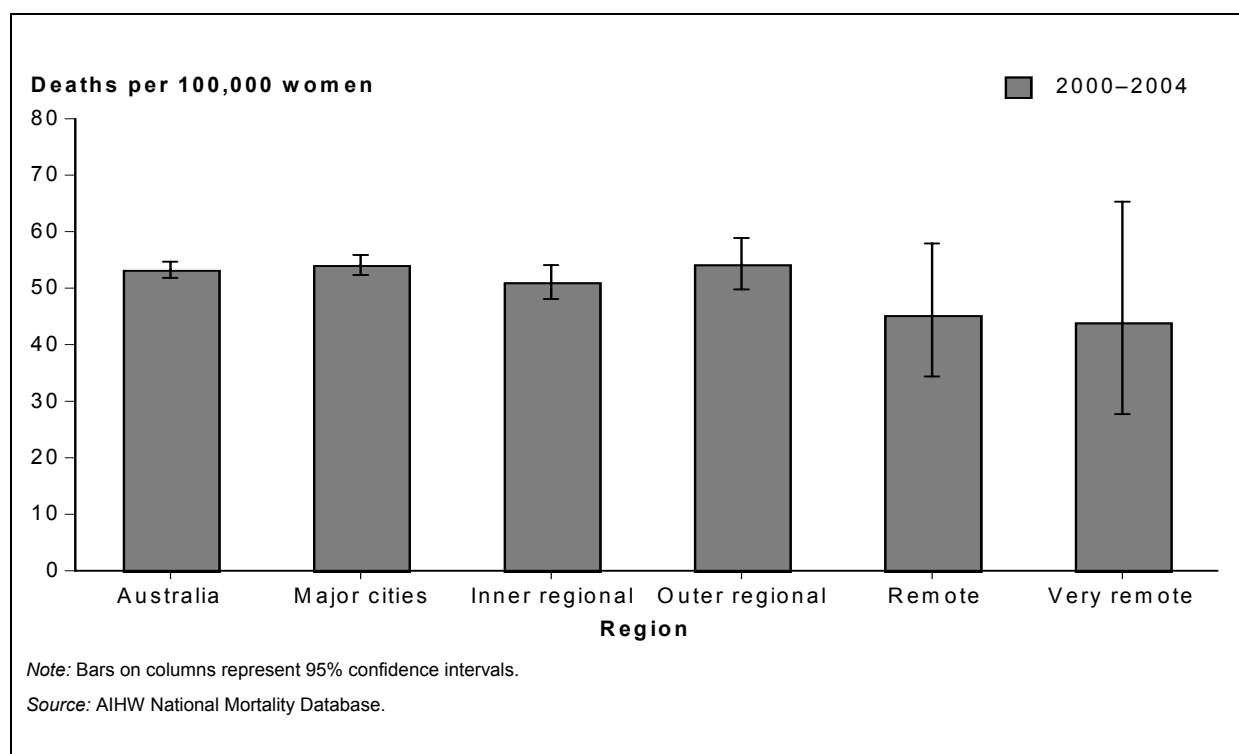
Age	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
2004	14.1	26.5	34.6	50.5	56.7	75.4	78.3	95.0	125.0	178.7
1999	19.7	30.5	41.3	57.4	68.4	61.3	86.4	97.6	126.7	179.4
1994	21.2	35.4	52.8	64.5	73.3	81.8	97.0	120.5	149.5	212.9

Note: Rates are the number of deaths from breast cancer per 100,000 women.

- The age-specific mortality rates increased consistently with age. In 1994, the age-specific rate for women aged 40-44 years was 21.2 increasing to 212.9 deaths per 100,000 women for women aged 85 years and over. In 2004, the age-specific rate for women aged 40-44 years was 14.1 increasing to 178.7 deaths per 100,000 women for women aged 85 years and over.
- The mean age at death for women dying from breast cancer increased from 65 years in 1994 to 67 years in 2004. The median age at death increased from 66 years in 1994 to 67 years in 2004.

For more information, see: Tables 53 to 60 beginning on page 122. Tables with data other than for the latest reporting period can be found on the AIHW's website at <[www.aihw.gov.au](http://www.aihw.gov.au)>.

## Mortality from breast cancer by region, females aged 50–69 years, 2000–2004



	Australia	Major cities	Inner regional	Outer regional	Remote	Very remote
<b>Rate 2000–2004</b>	53.2	54.1	51.0	54.2	45.2	43.9
<b>95% CI</b>	51.7–54.6	52.3–55.9	48.1–54.1	49.8–58.8	34.4–57.9	27.6–65.3

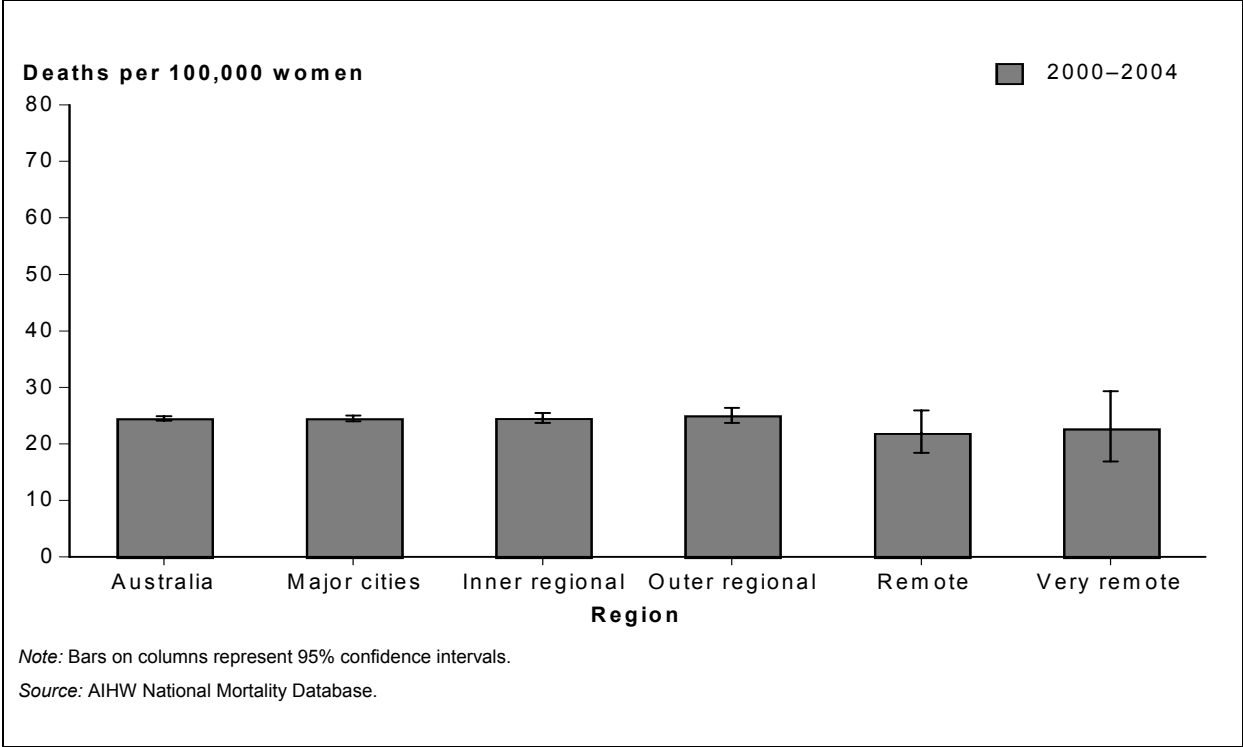
### Notes

1. Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.
2. The Australian Standard Geographical Classification (ASGC) was used to create the above categories (ABS 2001) and applied to the area of usual residence of the deceased persons.
3. AIHW Mortality data by ASGC remoteness categories are available from 1997 only; therefore, there is no comparable non-overlapping five-year period prior to 2000–2004.

- For women in the target age group, breast cancer mortality rates in 2000–2004 were highest in outer regional areas with 54.2 deaths per 100,000 women, and lowest in very remote areas, with 43.9 deaths per 100,000 women. The difference was not statistically significant because of the relatively small number of deaths in very remote areas.

For more information, see: Tables 53 to 60 beginning on page 122. Tables with data other than for the latest reporting period can be found on the AIHW's website at <[www.aihw.gov.au](http://www.aihw.gov.au)>.

# Mortality from breast cancer by region, females all ages, 2000–2004



	Australia	Major cities	Inner regional	Outer regional	Remote	Very remote
<b>Rate 2000–2004</b>	24.5	24.5	24.6	25.0	21.9	22.7
<b>95% CI</b>	24.1–24.9	24.0–25.0	23.7–25.5	23.7–26.4	18.4–25.9	16.9–29.3

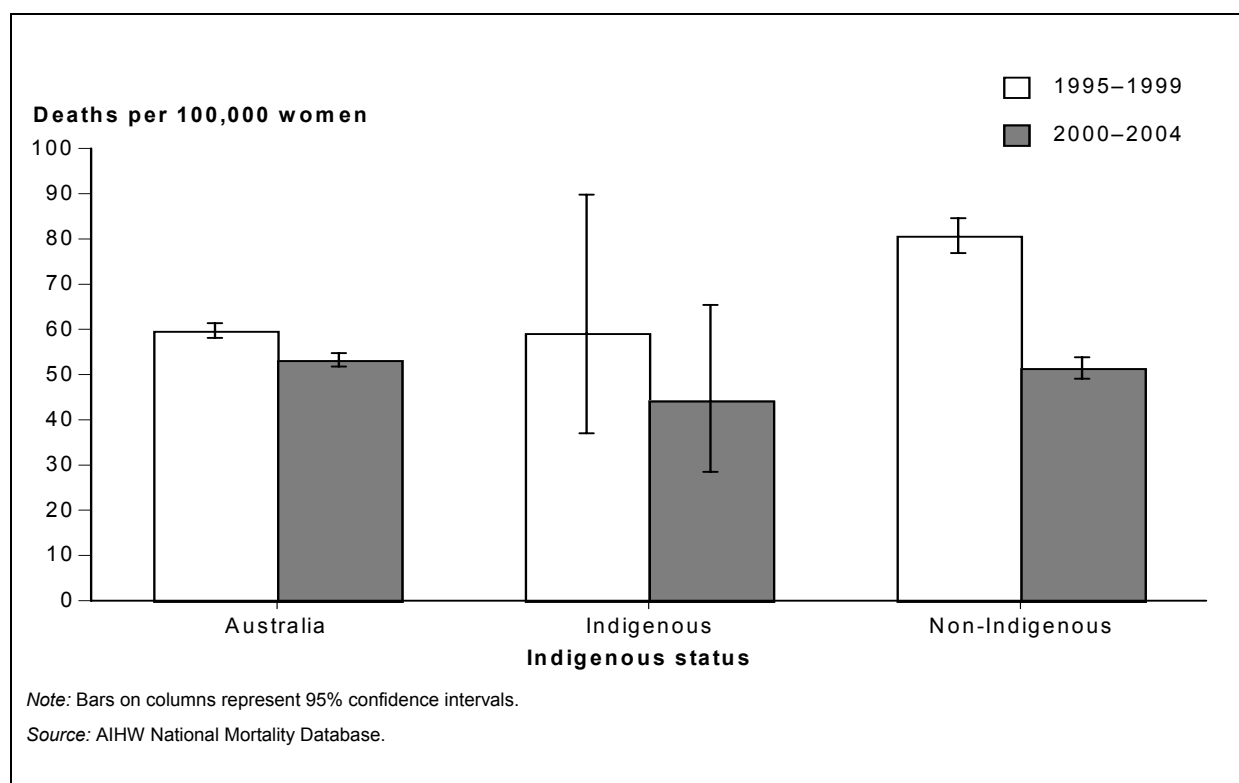
*Notes*

1. Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.
2. The Australian Standard Geographical Classification (ASGC) was used to create the above categories (ABS 2001).
3. AIHW Mortality data by ASGC remoteness categories are available from 1997 only; therefore, there is no comparable non-overlapping five-year period prior to 2000–2004.

- For women of all ages, mortality rates in 2000–2004 were highest in outer regional areas with 25.0 deaths per 100,000 women, and lowest in remote areas, with 21.9 deaths per 100,000 women. The difference between the rates was not statistically significant because of the relatively small number of deaths in remote areas.

For more information, see: Tables 53 to 60 beginning on page 122. Tables with data other than for the latest reporting period can be found on the AIHW’s website at <www.aihw.gov.au>.

## Mortality from breast cancer by Indigenous status, females aged 50–69 years, 1995–1999 and 2000–2004



	Australia	Indigenous	Non-Indigenous
<b>Rate 2000–2004</b>	53.2*	44.2	51.4*
95% CI	51.7–54.6	28.4–65.4	49.0–53.8
<b>Rate 1995–1999</b>	59.7	59.2	80.7
95% CI	58.1–61.4	37.0–89.8	76.9–84.6

\* Statistically different from the 1995–1999 rate.

### Notes

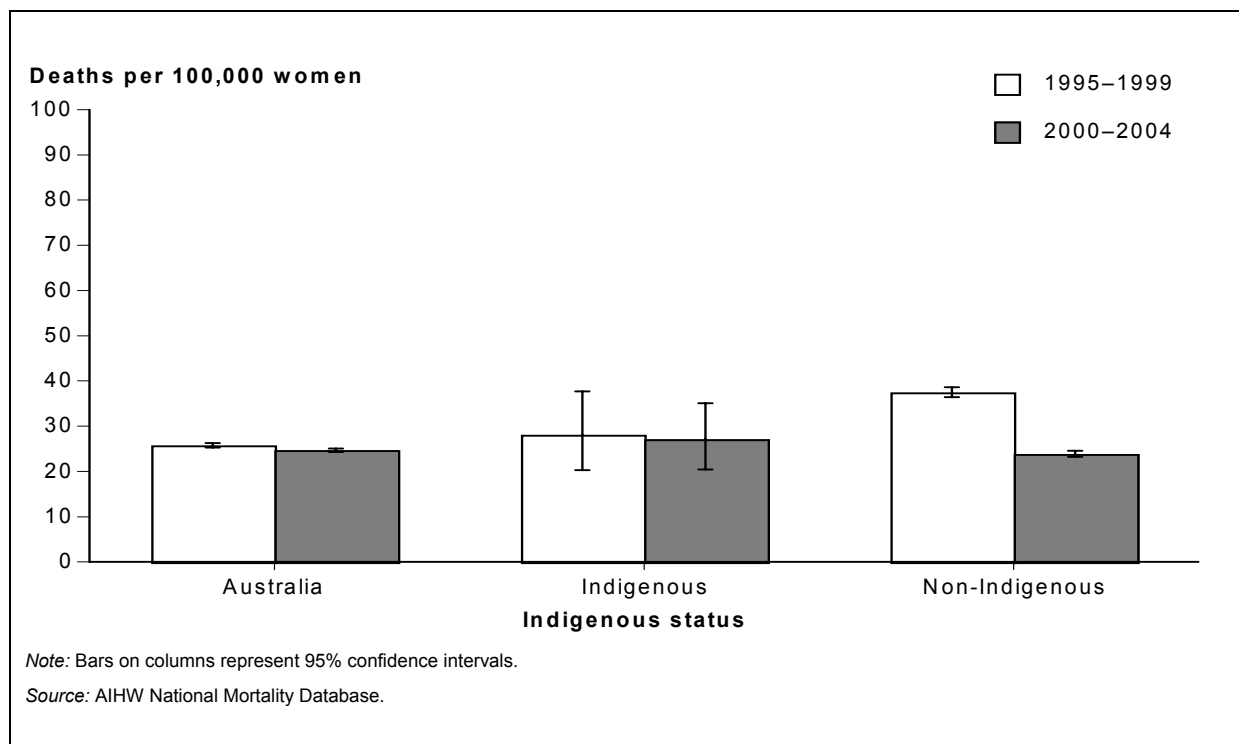
1. Only Queensland, Western Australia, South Australia and the Northern Territory had Indigenous death registration data considered to be of a publishable standard at the time this report was prepared. Therefore, data from these jurisdictions only are included in the analysis by Indigenous status. Queensland data are included from 1998 onwards.
2. 'Australia' includes all states and territories.
3. Women whose Indigenous status was recorded as 'not-stated' are included in the analysis for all women but excluded from the analysis by Indigenous status.
4. Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

- In 2000–2004 in the target age group, the age-standardised mortality rate for Indigenous women in Queensland, Western Australia, South Australia and Northern Territory combined (44.2 deaths per 100,000 women) was lower than that for non-Indigenous women (51.4 deaths per 100,000 women); however, this difference was not statistically significant because of small numbers. Similarly, in 1995–1999 there was no statistically significant difference in mortality rates between the Indigenous and non-Indigenous populations (59.2 and 80.7 deaths per 100,000 women, respectively).
- From 1995–1999 to 2000–2004 national breast cancer mortality decreased from 59.7 to 53.2 deaths per 100,000 women. Mortality for non-Indigenous women decreased from 80.7 in

1995–1999 to 51.4 deaths per 100,000 women in 2000–2004. For Indigenous women, the mortality rate decreased from 59.2 to 44.2 deaths per 100,000 women between these periods; however, these changes were not statistically significant.

For more information, see: Tables 53 to 60 beginning on page 122. Tables with data other than for the latest reporting period can be found on the AIHW's website at <[www.aihw.gov.au](http://www.aihw.gov.au)>.

## Mortality from breast cancer by Indigenous status, females all ages, 1995–1999 and 2000–2004



	Australia	Indigenous	Non-Indigenous
<b>Rate 2000–2004</b>	24.7*	27.1	23.9*
95% CI	24.3–25.1	20.4–35.1	23.2–24.6
<b>Rate 1995–1999</b>	27.4	28.1	37.5
95% CI	26.9–27.9	20.3–37.7	36.4–38.7

\* Statistically different from the 1995–1999 rate.

### Notes

1. Only Queensland, Western Australia, South Australia and the Northern Territory had Indigenous death registration data considered to be of a publishable standard at the time this report was prepared. Therefore, data from these jurisdictions only are included in the analysis by Indigenous status. Queensland data are included from 1998 onwards.
2. 'Australia' includes all states and territories.
3. Women whose Indigenous status was recorded as 'not-stated' are included in the analysis for all women but excluded from the analysis by Indigenous status.
4. Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

- In 2000–2004 the age-standardised breast cancer mortality rate for Indigenous women of all ages in Queensland, Western Australia, South Australia and Northern Territory combined (27.1 deaths per 100,000 women) was not very different from the rate for non-Indigenous women (23.9 deaths per 100,000 women) and from the national rate (24.7 deaths per 100,000 women).
- Across the years from 1995–1999 to 2000–2004, the national mortality rate decreased from 27.4 to 24.7 deaths per 100,000 women respectively. Similarly, for non-Indigenous women, the mortality rate decreased from 37.5 to 23.9 deaths per 100,000 women over the same time periods. The mortality rate for Indigenous women decreased from 28.1 in

1995–1999 to 27.1 deaths per 100,000 women in 2000–2004, although this change was not statistically significant.

For more information, see: Tables 53 to 60 beginning on page 122. Tables with data other than for the latest reporting period can be found on the AIHW's website at <[www.aihw.gov.au](http://www.aihw.gov.au)>.