Indicator 4

Incidence

Incidence of breast cancer

The incidence rate of breast cancer is calculated per 100,000 estimated resident female population in a 12-month period by 5-year age groups (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 (50–69 years).

Breast cancer incidence data

Since 1982, the registration of cancer has occurred nationally. The data are collected by State and Territory cancer registries and compiled in a national database, the National Cancer Statistics Clearing House, which is held by the AIHW. These data include clinical and demographic information about people with newly diagnosed cancer. The incidence indicator measures the number of new cases of breast cancer in the community. The indicator does not distinguish between screen-detected cancers and other detection methods.

Paradoxically, the introduction of a screening program may result in an increase in the number of new cases of breast cancer in the short term (Peeters et al. 1989). This results directly from the early detection of cancers in women without symptoms who may otherwise go undetected for a number of years. However, the early detection of breast cancer provides the opportunity for early treatment and may ultimately lead to a reduction in the number of deaths due to breast cancer.

Why report on incidence?

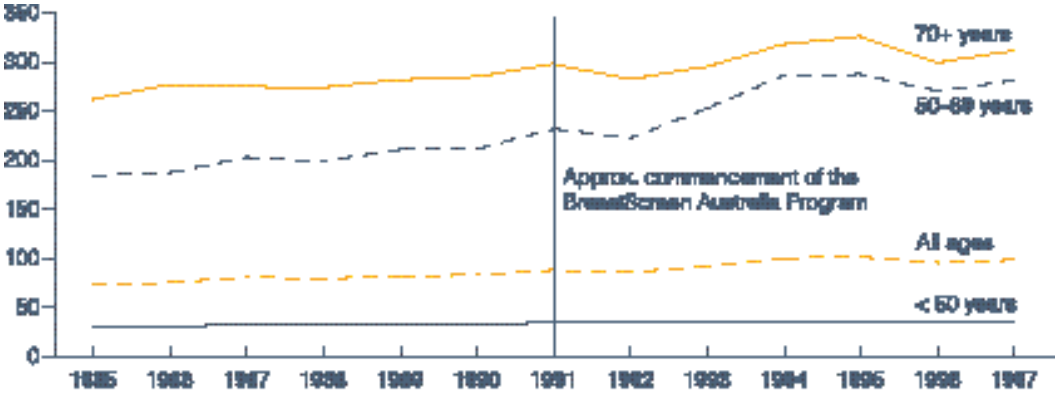
Incidence data provide us with information about the burden of disease for breast cancer in the Australian community. This knowledge can be used to assist in developing policies on breast cancer screening. For example, examining the trends in breast cancer incidence in different age groups helps to identify the ages at which women are most at risk of developing breast cancer. Incidence data can also be used to examine the distribution of disease by State and Territory to determine whether the screening Program needs to be tailored for particular local circumstances. These data also allow for national and international comparisons.

This chapter reports the rates of breast cancer from 1985 to 1997, the latest national data available. Two pages of supplementary information are also included:

- breast cancer incidence by State and Territory for the target age group (women aged 50–69 years) for the period 1994–1997. Data are aggregated over a 4-year period to improve the stability of rates, especially in the small States and Territories.
- national age-specific breast cancer incidence rates for 1997 by 5-year age groups.

Incidence of breast cancer, Australia, 1985–1997

New cases per 100,000 women



Source: AIHW National Cancer Statistics Clearing House.

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
All ages	74.5	75.2	81.1	79.3	82.3	83.0	88.1	85.8	92.4	100.4	101.5	95.5	98.5
50–69	184.1	187.6	203.1	199.0	211.1	211.5	231.9	222.5	253.1	286.5	287.5	270.2	281.5
< 50	30.9	29.5	34.0	32.6	33.0	33.7	34.4	35.0	35.5	36.3	36.7	35.4	35.4
70+	261.8	277.1	274.8	274.1	281.8	285.1	297.9	282.5	295.3	317.9	326.0	299.4	311.7

Note:

Rates are expressed per 100,000 women and age-standardised to the Australian population at 30 June 1991.

- This figure shows the trend in breast cancer incidence rates for the years 1985 to 1997. These data are important for the Program as they indicate the underlying risk of breast cancer in the community. From these data performance standards can be set for breast cancer detection. Information about incidence allows for planning of screening and downstream treatment services, and helps in assessing the Program's impact on detection.
- Age-standardised incidence rates have increased for women in the target age group, 50–69 years. Rates for this age group have increased by an average of 4.4% per year from 1985 to 1997 (Table 25). A similar pattern of increase is evident for women aged 70+ years.
- Age-standardised incidence rates have also increased for women of all ages, from 74.5 new cancers per 100,000 women in 1985 to 98.5 new cancers per 100,000 women in 1997 (Table 25). Rates have increased by an average of 2.7% per year from 1985 to 1997. The rates for women aged under 50 years have remained stable throughout this period.
- The increase in the rate of new cancers, especially in the 50 to 69 age group, corresponds to the introduction in 1991 of BreastScreen Australia (then known as the National Program for the Early Detection of Breast Cancer). Although the underlying rate for breast cancer is increasing, the sharp increase between 1992 and 1994 is likely to be, at least partly, the result of the early detection of cancers in women who may otherwise have gone undetected for some years.

For more information, see:

Tables 24 to 27.

Incidence of breast cancer, ages 50–69, 1994–1997

New cases per 100,000 women

Bars on graphs represent 95% confidence intervals.

Source: AIHW National Cancer Statistics Clearing House.

	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Rate	281.5	285.0	290.8[(a)]	263.1	290.8	277.3	266.8	280.3	194.0[(a)]
95% CI	278.0–285.1	279.0–290.9	283.4–297.5	255.0–270.9	279.1–302.3	265.7–289.0	246.5–286.7	250.8–310.9	152.5–234.5

(a) Significantly different from the rest of Australia at the 5% level.

Note:

Rates are expressed per 100,000 women and age-standardised to the Australian population at 30 June 1991.

- Incidence data by State and Territory provide an indication as to whether a Program needs to be specially tailored to local conditions, e.g. high incidence in a State, or whether a relatively generic program can be used nationally. Although some differences in incidence exist between the States and Territories, these differences are relatively small and therefore BreastScreen Australia aims to provide a similar level of service in each State and Territory.
- From 1994 to 1997, the age-standardised incidence rate for women aged 50 to 69 years was highest in Vic and WA (290.8 per 100,000 women) and lowest in the NT (194.0 per 100,000 women) (Table 27). Statistically, only Vic and the NT were significantly different from the national rate (see Appendix 1).
- Rates for all States and Territories except for SA and Tas have increased from 1993–1996 to 1994–1997. The increase in rates between the time-periods may be a result of several factors including increases in data capture, underlying causes and screening. The largest increases have been for the NT (a relative increase of 10.3%) and the ACT (a relative increase of 4.1%). Mammographic screening can have a large impact by detecting a small number of cases in relatively small populations like the NT and the ACT.

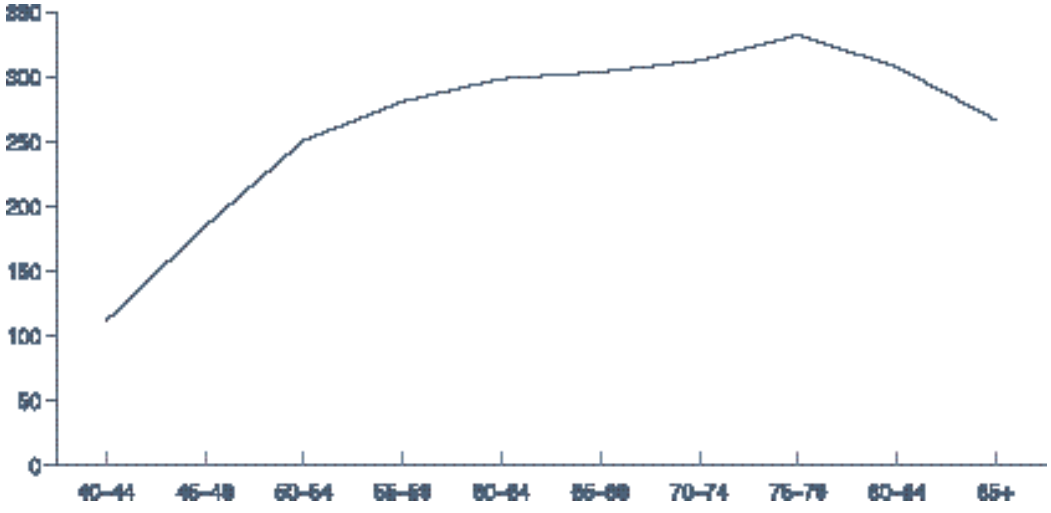
For more information, see:

Tables 24 to 27.

Australian Institute of Health and Welfare (AIHW) 1998b. Breast and cervical cancer screening in Australia 1997. AIHW Cat. No. CAN 3. Canberra: AIHW (Cancer Series No. 8).

Age-specific incidence rates for breast cancer, Australia, 1997

New cases per 100,000 women



Source: AIHW National Cancer Statistics Clearing House.

Age	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	85+
Rate	111.2	184.2	250.5	280.6	298.2	303.4	312.2	332.0	307.3	266.2

Note:

Rates are expressed per 100,000 women and age-standardised to the Australian population at 30 June 1991.

- The age distribution of breast cancer is an important factor for BreastScreen Australia. From this distribution the Program is able to be targeted at those women where significant benefit can be achieved due to their risk profile. The distribution is also used to determine the likely cancer detection rates in various age groups.
- Breast cancer incidence increases with age. In 1997 the age-specific incidence rates ranged from 111.2 new cancers per 100,000 women aged 40–44 years to 332 new cancers per 100,000 women aged 75 to 79 years (Table 25). This pattern is similar to that seen in 1996 (AIHW 1998b).
- All women over 40 years of age are able to attend for screening at BreastScreen Australia, although the Program is specifically aimed at women without symptoms aged 50–69 years of age. In 1997, almost half (46%) of breast cancer cases occurred in women in the target age group, 50–69 years (Table 24).

For more information, see:

Tables 24 to 27.