

Indicator 2

Detection of small cancers

Detection rate for small cancers

This measure is the rate of women with small diameter (≤ 10 mm) invasive breast cancers per 10,000 women screened 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). Detection rates for all invasive cancers are also provided by screening round, 5-year age groups and for the target age group.

What is small cancer detection rate and why is it important?

The small cancer detection rate measures the rate of small invasive breast cancers of 10 mm or less in size diagnosed in women attending BreastScreen Australia for screening between 1 January and 31 December 1998. This is expressed as the number of small cancers detected for every 10,000 women screened. This chapter uses age-standardised rates where comparisons are made between States and Territories and across time periods. Age-standardised rates enable comparisons to be made between populations which have different age structures.

A greater rate of detection of small cancers within the BreastScreen Australia Program increases the likelihood that the anticipated reductions in morbidity and mortality from breast cancer will be achieved. The aim of BreastScreen Australia is to maximise the early detection of breast cancers. Early detection of small cancers gives a woman the best chance for a good prognosis in addition to requiring less extensive surgery. As a result, women who have cancers detected early may suffer less morbidity from breast cancer. (Day 1991, NHS BSP & BASO 1999)

The interval between screens is an important factor influencing the level of detection of cancers within the Program. Intervals that are too long may allow tumours to grow to the point where symptoms become evident, thereby eliminating the advantage of screening (Day 1991). BreastScreen Australia aims to re-screen all women in the Program at 2-yearly intervals.

Women attending the Program for the first time may have larger tumours than those who have been screened previously because regular, biennial mammography provides the best chance for detection of early-stage small cancers (AHMAC 1990). As a result, the proportion of small cancers detected in first attenders may be lower relative to those returning for subsequent screens.

National Accreditation Requirements

The Minimum Standards for BreastScreen Australia require that:

- the breast cancer detection rate (all sizes, including Ductal Carcinoma In Situ) for women screened in the prevalent screening round should be greater than 50 per 10,000 women screened (see glossary).
- for women screened in incident screening rounds, the rate of cancer detection (including Ductal Carcinoma In Situ) should be greater than 20 per 10,000 women screened.
- the number of small invasive breast cancers less than or equal to 10 mm in diameter should be greater than 8 cancers per 10,000 women screened.

Crude cancer detection rates achieved by BreastScreen Australia nationally and across the States/Territories

Small (≤ 10 mm) invasive cancers

	NAR	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Rate	8.0	15.5	14.3	17.9	12.9	16.8	14.8	20.2	18.6	16.6

Note:

Rates are expressed per 10,000 women screened.

Sources: DSHS 1994a and BreastScreen Australia.

The National Accreditation Requirements (NARs) for BreastScreen Australia are currently under review. While the new NARs have not yet been finalised, the current Minimum Standards are the main benchmark by which the Program can be measured. This report includes current Minimum Standards as a reference point. However, some inconsistencies exist between the definition of these Minimum Standards and the indicator specifications. In this context, the following two points should be considered when interpreting the all invasive cancer detection rates given below:

- the Minimum Standards of the NARs for cancer detection (all sizes) include both invasive cancers and Ductal Carcinoma In Situ (DCIS). The performance indicator for cancer detection in this report has specifically excluded DCIS in its measurement. This has been done so as to focus on the main aim of the Program—to reduce mortality. As DCIS does not cause mortality it falls outside this scope. If however the DCIS cases were included in the cancer detection performance indicator for this report, the resulting rate would be higher.
- the Minimum Standards for invasive cancer (all sizes) are based on prevalent and incident screening rounds which are defined differently from the terms first and subsequent screening round used in the indicator specifications (see glossary). It is difficult to predict how this difference in definitions may affect the cancer detection rates.

All invasive cancers

	NAR	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
First round										
Rate	50.0	47.5	42.9	56.9	49.3	34.3	49.5	50.9	47.5	48.2
Subsequent round										
Rate	20.0	36.6	33.0	39.2	33.7	39.9	43.7	37.4	37.1	26.6

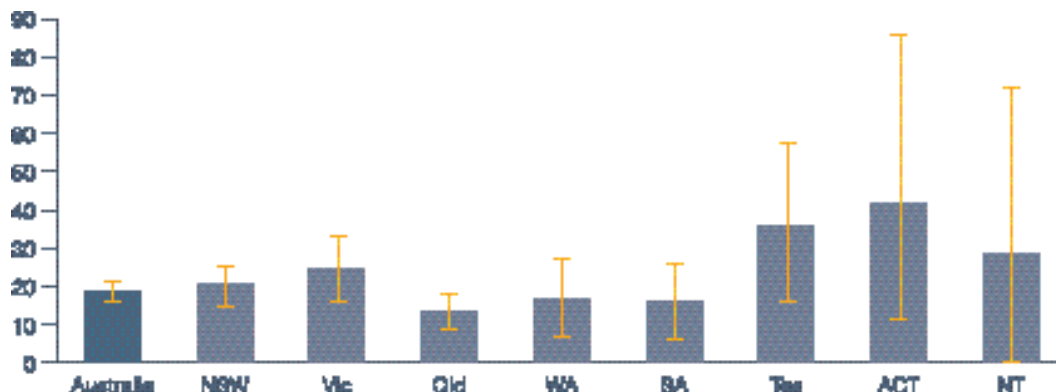
Note:

Rates are expressed per 10,000 women screened.

Sources: DSHS 1994a and BreastScreen Australia.

Small (≤ 10 mm) invasive breast cancer detection in women aged 50–69, first screening round, 1998

Per 10,000 women screened



Bars on graphs represent 95% confidence intervals.

Source: BreastScreen Australia.

	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Rate	18.6	20.4	24.4	13.6	16.5	15.8	36.0	42.0	28.3
95% CI	16.3–20.8	16.1–24.7	17.5–32.1	10.1–17.0	8.0–26.2	7.4–25.3	17.5–56.9	12.7–84.7	0–70.9

Notes:

1. Rates are expressed per 10,000 women screened and standardised to the Australian population of women attending a BreastScreen service in 1998.
2. None of the rates were significantly different from the rest of Australia at the 5% level.

- In 1998, BreastScreen Australia detected small invasive cancer in 1,095 women screened. Seventy per cent (766) of all small invasive cancers were detected in women in the target age group, 50–69 years (Tables 3 and 4).
- For women screened for the first time in 1998, the age-standardised national small cancer detection rate was 17.8 per 10,000 women screened for all women, and 18.6 for the target age group. Across the States and Territories, age-standardised small cancer detection rates ranged from 11.4 to 32.9 per 10,000 women screened. For the target age group, these rates ranged from 13.6 to 42.0 per 10,000 women screened (Table 5).
- The crude rates for all screening rounds combined ranged from 12.9 to 20.2 per 10,000 women screened for the target age group, and 13.2 to 18.8 for all women screened. These rates comply with the National Accreditation Standard (> 8 cancers per 10,000 women screened) (Table 7).

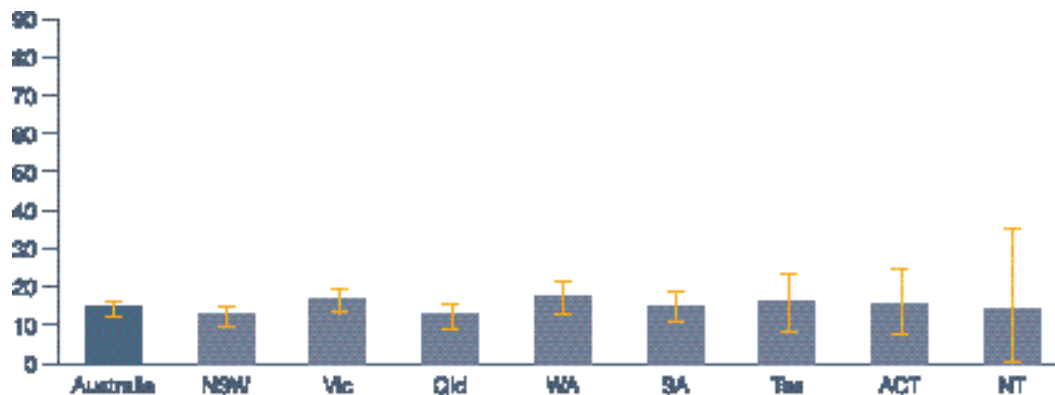
For more information, see:

Tables 3 to 11.

Commonwealth Department of Human Services and Health (DHS) 1994a. National Program for the Early Detection of Breast Cancer—National Accreditation Requirements. Canberra: Commonwealth Department of Human Services and Health.

Small (≤ 10 mm) invasive breast cancer detection in women aged 50–69, subsequent screening round, 1998

Per 10,000 women screened



Bars on graphs represent 95% confidence intervals.

Source: BreastScreen Australia.

	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Rate	14.6	12.6	16.6	12.6	17.4	15.0	15.9	15.5	14.3
95% CI	13.6–15.6	10.9–14.2	14.4–18.7	10.2–15.0	13.9–20.8	11.6–18.3	9.8–22.5	7.9–23.9	0–34.7

Notes:

1. Rates are expressed per 10,000 women screened and standardised to the Australian population of women attending a BreastScreen service in 1998.
2. None of the rates were significantly different from the rest of Australia at the 5% level.

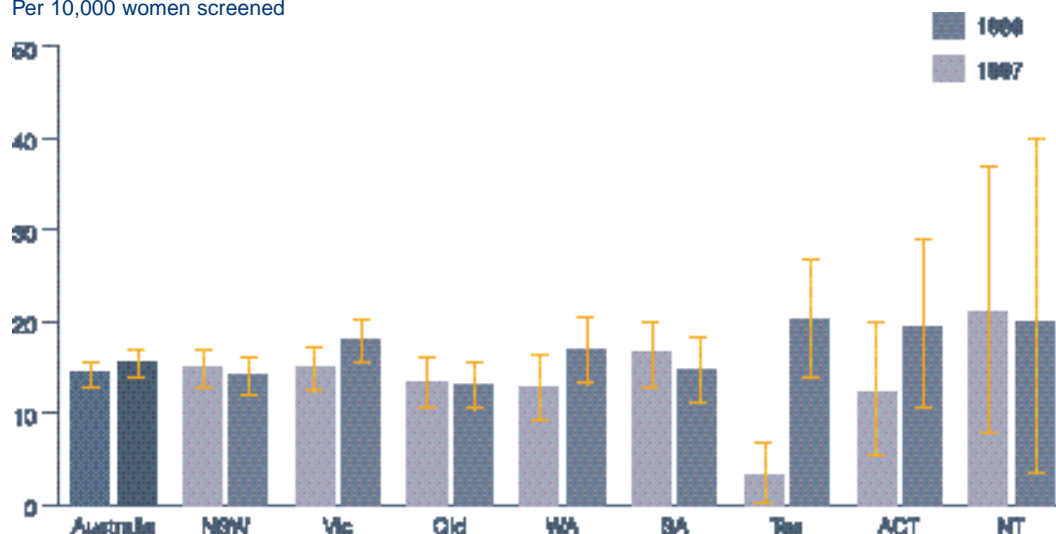
- For women who had previously attended the Program, the age-standardised national small cancer detection rate for 1998 was 14.0 per 10,000 women screened, and 14.6 for the target age group (Table 6).
- Women attending the Program for a subsequent screen had age-standardised small cancer detection rates ranging from 10.4 to 19.7 per 10,000 women screened. These rates ranged from 12.6 to 17.4 per 10,000 women screened for the target age group (Table 6).

For more information, see:

Tables 3 to 11.

Small (≤ 10 mm) invasive breast cancer detection in women aged 50–69, combined screening rounds, 1997 and 1998

Per 10,000 women screened



Bars on graphs represent 95% confidence intervals.

Source: BreastScreen Australia.

	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
1997	14.4	15.0	14.9	13.4	12.7	16.6	3.2	12.3	21.0
95% CI	13.4–15.3	13.5–16.6	13.0–16.7	11.2–15.6	9.8–15.8	13.4–19.6	0.7–6.3	6.1–19.4	8.4–36.4
1998	15.5	14.1	17.9	13.0	17.0	14.8	20.3	19.5	19.9
95% CI	14.6–16.4	12.7–15.6	16.0–19.8	11.1–15.2	13.8–20.1	11.7–17.9	14.4–26.4	11.1–28.5	4.1–39.5

Notes:

1. Standardised to the Australian population of women attending a BreastScreen service in 1998.
2. None of the 1998 rates were significantly different from the 1997 rates at the 5% level.

- In 1998, 37% of invasive breast cancers of all sizes detected by BreastScreen Australia were small diameter cancers (≤ 10 mm). In 1997 this figure was 36%. This percentage for the target age group increased from 37% in 1997 to 38% in 1998.
- The small cancer detection rates did not change significantly from 1997 to 1998. The Tasmanian rates changed from 3.2 to 20.3. However, this was not statistically significant using the methods provided in Appendix 1. Variation in the rates for this indicator are expected to stabilise for the smaller States and Territories by the accumulation of several years' data.

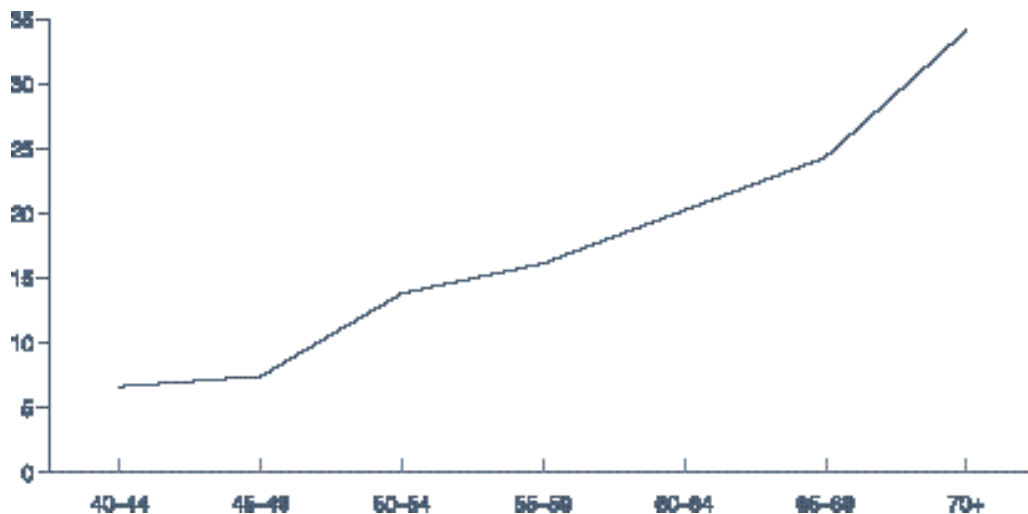
For more information, see:

Tables 3 to 11.

Australian Institute of Health and Welfare (AIHW) 1998b. Breast and cervical cancer screening in Australia 1996–97. AIHW Cat. No. CAN 3. Canberra: AIHW (Cancer Series No. 8).

Small (≤ 10 mm) invasive breast cancer detection by age, 1998

Per 10,000 women screened



Source: BreastScreen Australia.

Age	40-44	45-49	50-54	55-59	60-64	65-69	70+
Rate	6.6	7.4	13.8	16.1	20.2	24.3	34.1

Note:

Rate expressed per 10,000 women screened.

- The detection rate for small cancers increased with age. This is in line with the increase in breast cancer incidence that occurs with age. Note that the age-specific rates reported here are for small cancers detected during first and subsequent screening rounds combined.
- The age-specific rates ranged from 6.6 per 10,000 women screened (ages 40-44) to 34.1 per 10,000 women screened (age 70+) (Table 7).

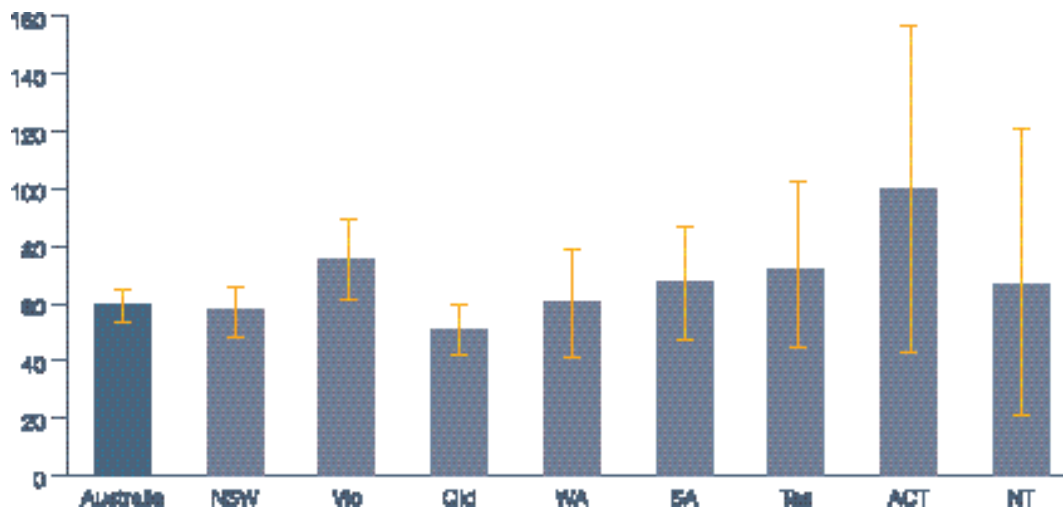
For more information, see:

Tables 3 to 11.

Australian Institute of Health and Welfare (AIHW) 1998b. Breast and cervical cancer screening in Australia 1996-97. AIHW Cat. No. CAN 3. Canberra: AIHW (Cancer Series No. 8).

All-size invasive breast cancer detection in women aged 50–69, first screening round, 1998

Per 10,000 women screened



Bars on graphs represent 95% confidence intervals.

Source: BreastScreen Australia.

	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Rate	59.3	57.6	75.8	51.0	60.1	67.1	71.9	100.0	66.6
95% CI	55.4–63.1	50.5–64.7	63.5–88.2	44.2–57.5	43.1–77.5	49.0–85.7	47.1–101.0	44.7–155.4	23.4–119.5

Notes:

1. Standardised to the Australian population of women attending a BreastScreen service in 1998.
2. None of the rates were significantly different from the rest of Australia at the 5% level.

- For women attending for their first screening round, the national age-standardised invasive breast cancer detection rate (all sizes) for the target age group was 59.3 per 10,000 women screened, and 60.3 per 10,000 women screened for all ages (Table 10).
- The States and Territories achieved age-standardised rates for the target age group of between 51.0 and 100.0 per 10,000 women screened, while for all ages this rate ranged from 48.8 to 77.0 per 10,000 women screened (Table 10).
- The crude cancer detection rates for all women attending the Program for the first time in 1998 ranged from 34.3 to 56.9 per 10,000 women screened. The crude national rate was 47.5 cancers per 10,000 women screened (excluding DCIS), just under the National Accreditation Standard (> 50 cancers detected per 10,000 women screened) (Table 10).

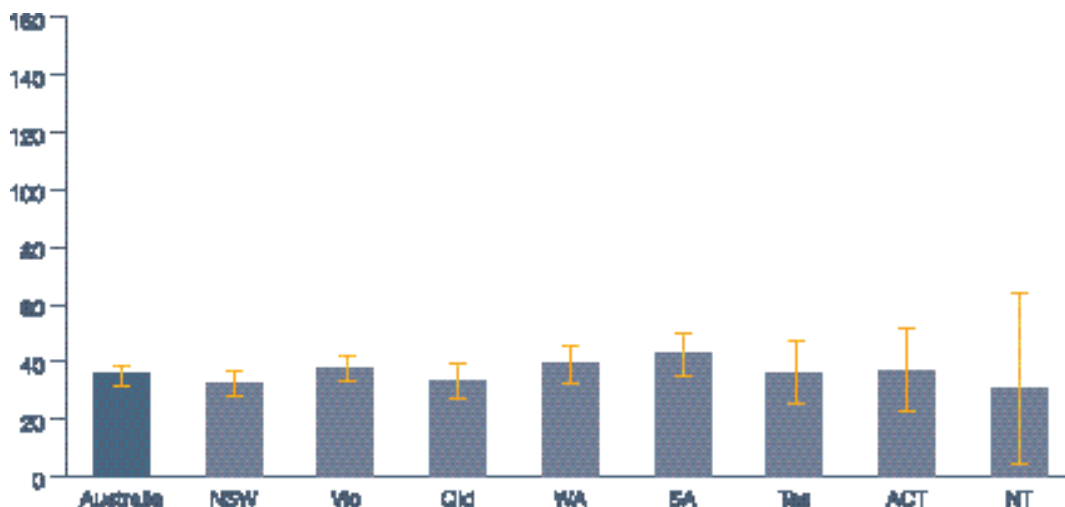
For more information, see:

Tables 3 to 11.

Commonwealth Department of Human Services and Health (DHS) 1994a. National Program for the Early Detection of Breast Cancer—National Accreditation Requirements. Canberra: Commonwealth Department of Human Services and Health.

All-size invasive breast cancer detection in women aged 50–69, subsequent screening round, 1998

Per 10,000 women screened



Bars on graphs represent 95% confidence intervals.

Source: BreastScreen Australia.

	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Rate	35.9	32.4	37.7	33.7	39.5	42.9	36.4	36.9	30.5
95% CI	34.3–37.5	29.7–35.2	34.6–40.9	29.5–37.9	34.4–44.8	37.3–48.7	26.8–46.1	24.7–50.5	6.8–62.9

Notes:

1. Standardised to the Australian population of women attending a BreastScreen service in 1998.
2. None of the rates were significantly different from the rest of Australia at the 5% level.

- The age-standardised national cancer detection rate (all sizes) for women attending the Program for a subsequent screen in 1998 was 34.3 per 10,000 women screened, and 35.9 for the target age group (Table 11).
- Across the States and Territories the age-standardised cancer detection rates ranged from 28.2 to 41.9 per 10,000 women screened. These rates ranged from 30.5 to 42.9 per 10,000 women screened for the target age group (Table 11).
- For women attending the Program for a subsequent screen in 1998, the crude cancer detection rates ranged from 24.3 to 43.3 per 10,000 women screened, while the crude national rate was 36.6 cancers per 10,000 women screened (excluding DCIS). These rates for the subsequent round comply with the National Accreditation Standard (> 20 cancers detected per 10,000 women screened) (Table 11).

For more information, see:

Tables 3 to 11.