Indicator 2: Detection of small invasive cancers

Small invasive cancer detection rate (1999)

The detection rate for small invasive cancers is the rate of women with small diameter (≤ 10 mm) invasive breast cancers per 10,000 women screened by five-year age groups (40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+ years) and for the target age group (50–69 years). Detection rates for all invasive cancers are provided by screening round (that is, first round and subsequent rounds), five-year age groups and for the target age group.

Small invasive cancer detection rate (2000)

The detection rate for small invasive cancers is the rate of women with small diameter (≤ 15 mm) invasive breast cancers per 10,000 women screened by five-year age groups (40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+ years) and for the target age group (50–69 years). Detection rates for all invasive cancers are provided by screening round, five-year age groups and for the target age group.

The small invasive cancer detection indicator

The small invasive cancer detection indicator measures the rate of invasive breast cancers that are 15 mm or less in size diagnosed in women attending BreastScreen Australia for screening. This is expressed as the number of small cancers detected for every 10,000 women screened.

Prior to the compilation of this report, small cancers were defined to be those of 10 mm or less in diameter. There is little evidence of important biological or prognostic differences between cancers that are 10 mm or less at diagnosis or 11 to 15 mm. The standard for small cancer detection was therefore increased to tumours of 15 mm or less in diameter (NQMC unpublished).

Data collected for 1999 were subject to the previous definition of small cancers—less than or equal to 10 mm in diameter. As a result, this chapter reports on small cancers for 1999 and 2000 separately.

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. One of BreastScreen Australia's aims is to maximise the early detection of breast cancers (BSANAC & DHAC 2000). Finding breast cancer early often means that the cancer is small, can be more effectively treated, and is less likely to have spread to other parts of the body. As a result, women who have cancers detected early may suffer less morbidity from breast cancer (Day 1991).

In 2000, 65% of all invasive breast cancers detected by BreastScreen Australia in women aged 40 and over were small diameter cancers (15mm or less).

The table below shows the percentage of all invasive cancers detected that were small diameter invasive breast cancers, by screening round, for women screened in 2000.

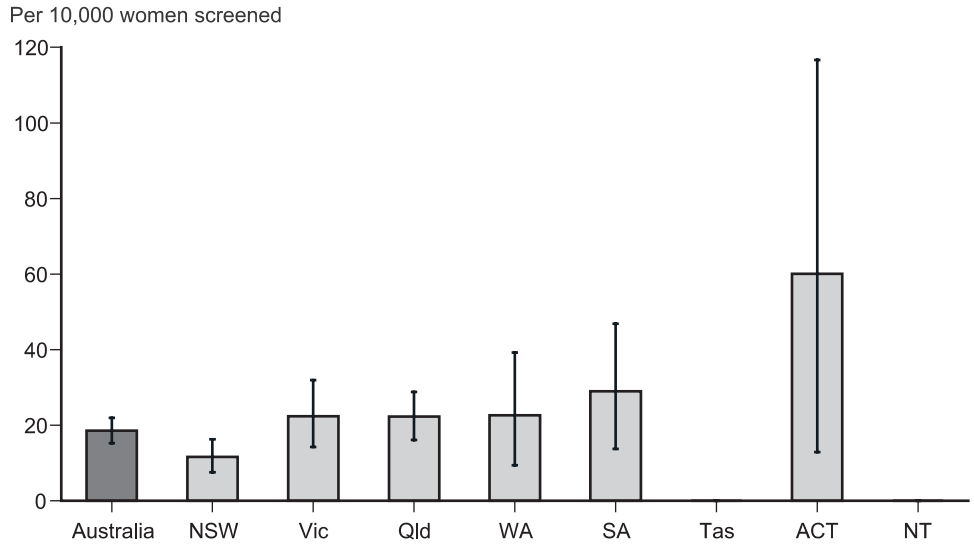
Percentage of invasive cancers detected that were small (≤ 15 mm) in diameter, 2000

	First screening round	Subsequent screening rounds
50–69 years	57.3	67.7
Ages 40 and over	55.1	67.6

Source: AIHW analysis of BreastScreen Australia data.

It is evident that a higher proportion of women attending the program for the first time have larger tumours compared with those who have been screened previously. This is because regular, biennial mammography provides the best chance of detection of early-stage small cancers (AHMAC 1990).

Small (≤ 10 mm) invasive breast cancer detection in women aged 50–69, first screening round, 1999



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Rate	18.6	11.7	22.3	22.3	22.6	29.0	. .	60.1	. .
95% CI	15.2–22.0	7.6–16.3	14.2–32.0	16.1–28.8	9.4–39.3	13.7–46.9	. .	12.9–116.7	. .

. . Not applicable—no small invasive breast cancers were found in Tasmania and the Northern Territory at first screening round in 1999.

Notes

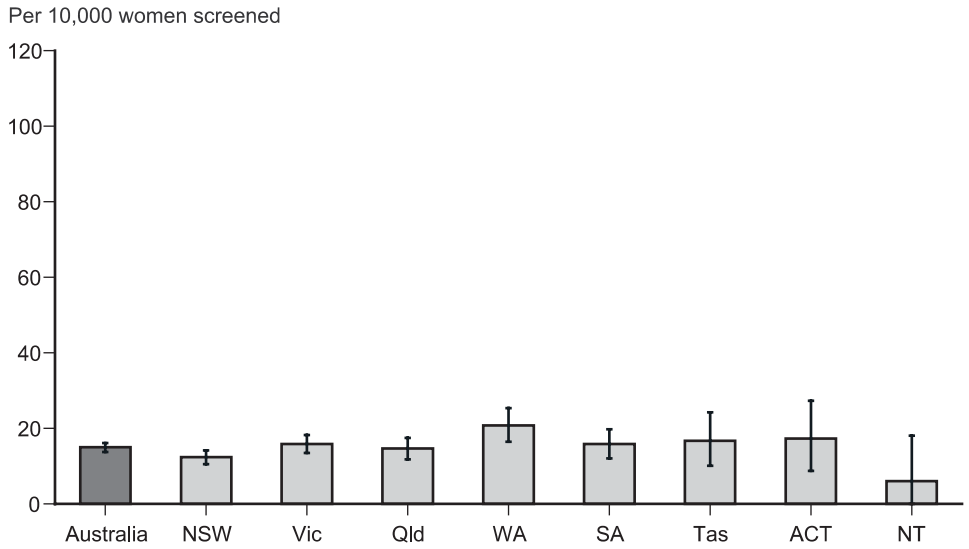
1. Rates are the number of small invasive cancers detected per 10,000 women screened and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. None of the rates was significantly different from the all-Australia rate.

- The age-standardised rate of detection of small invasive cancers for Australian women attending BreastScreen Australia for the first time in 1999 was 18.1 per 10,000 women screened for women aged 40 and over, and 18.6 per 10,000 women screened for women in the target age group.
- The age-standardised detection rate for small invasive cancers in the target age group ranged from none detected in Tasmania and the Northern Territory to 29.0 per 10,000 women in South Australia.

For more information, see:

Tables 7 and 8.

Small (≤ 10 mm) invasive breast cancer detection in women aged 50–69, subsequent screening rounds, 1999



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Rate	15.0	12.4	15.9	14.7	20.8*	15.9	16.8	17.3	6.0
95% CI	13.8–16.1	10.5–14.2	13.5–18.3	11.8–17.5	16.5–25.4	12.0–19.7	10.1–24.3	8.7–27.3	0.0–18.1

* Significantly different from the all-Australia rate.

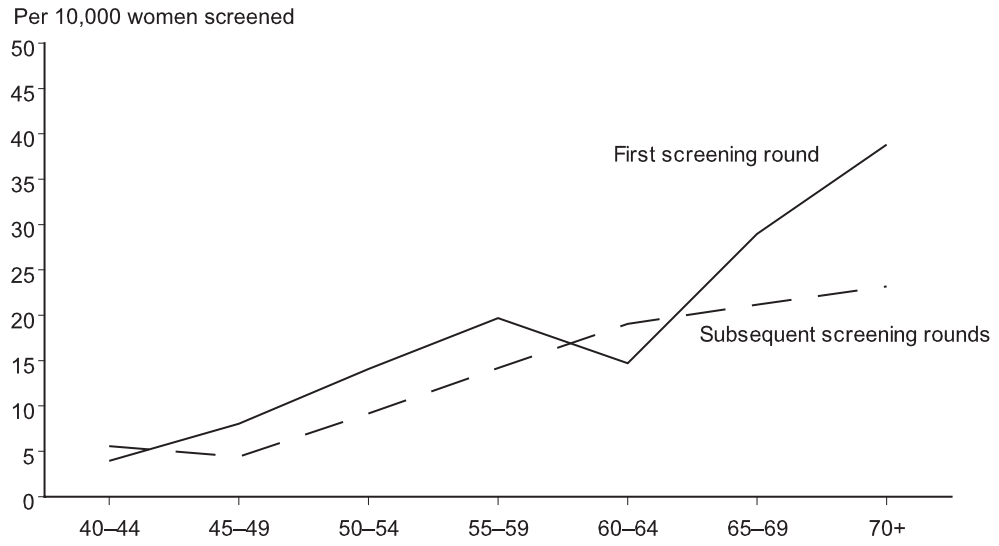
Note: Rates are the number of small invasive cancers detected per 10,000 women screened and age-standardised to the population of women attending a BreastScreen Australia service in 1998.

- The age-standardised rate of detection of small invasive cancers for Australian women attending BreastScreen Australia in 1999 for their second or subsequent visit was 13.9 per 10,000 women screened for women aged 40 and over, and 15.0 per 10,000 women screened for women in the target age group. The small cancer detection rates for women aged 40 and over attending a second or subsequent screen were significantly lower than for women aged 40 and over attending their first screen. The rates by screening round for women in the target age group were not significantly different.
- The age-standardised small cancer detection rate in the target age group ranged from 6.0 per 10,000 women in the Northern Territory to 20.8 per 10,000 women in Western Australia.

For more information, see:

Tables 8, 9 and 10.

Small (≤ 10 mm) invasive breast cancer detection by age, 1999



Source: AIHW analysis of BreastScreen Australia data.

	40–44	45–49	50–54	55–59	60–64	65–69	70+
First screening round	4.0	8.0	14.1	19.7	14.7	29.0	38.8
Subsequent screening rounds	5.6	4.4	9.2	14.2	19.1	21.2	23.2

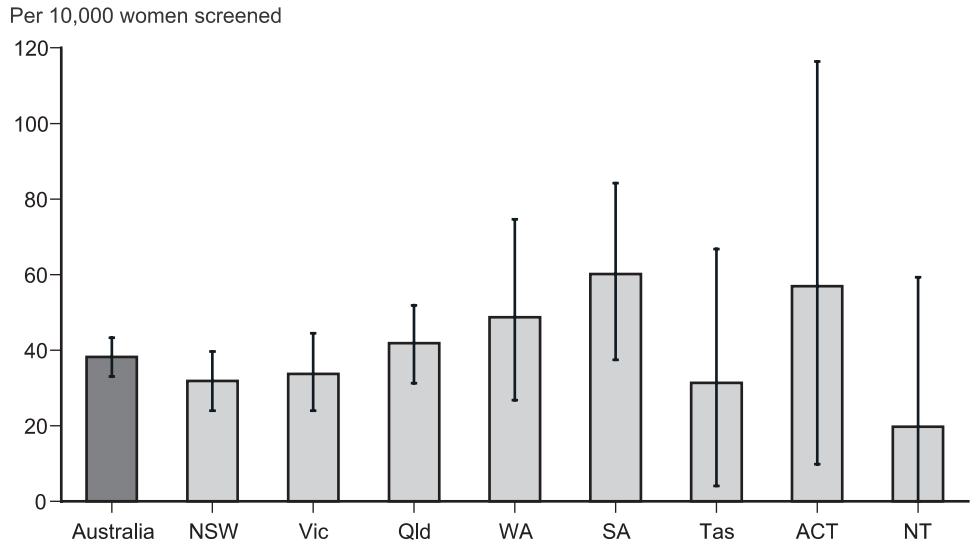
Note: Rates are the number of small invasive cancers detected per 10,000 women screened.

- The detection rate of small invasive cancers in 1999 increased with age for cancers detected at first screening round and subsequent rounds. This is in line with the increase in breast cancer incidence that occurs with age. The rate of increase is greater for cancers detected at the initial screening round, despite a small decrease from the 55–59 age group to the 60–64 age group.

For more information, see:

Tables 8, 10 and 42.

Small (≤ 15 mm) invasive breast cancer detection in women aged 50–69, first screening round, 2000



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Rate	38.3	31.9	33.7	41.9	48.8	60.2	31.4	57.0	19.8
95% CI	33.1–43.3	24.0–39.6	24.0–44.5	31.3–51.9	26.8–74.7	37.4–84.2	4.1–66.8	9.8–116.4	0.0–59.3

Notes

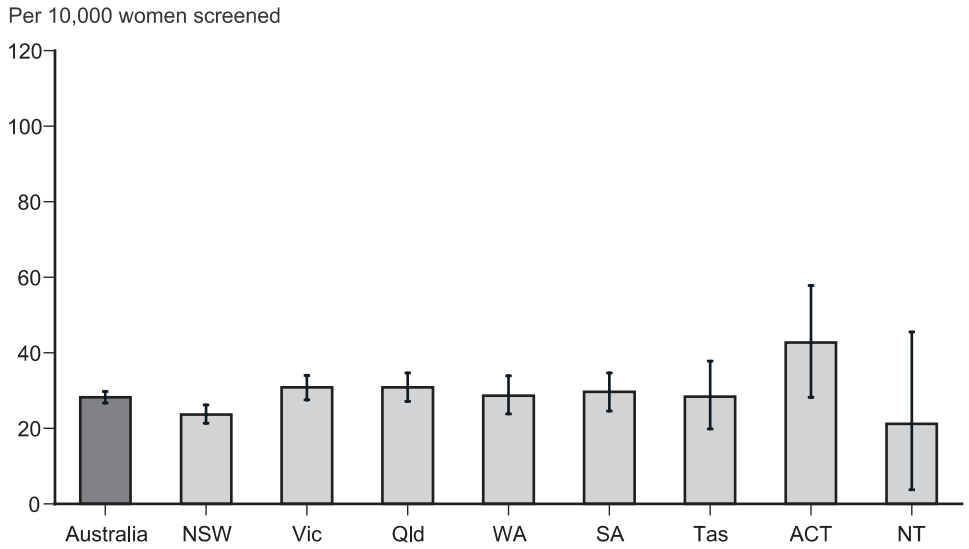
1. Rates are the number of small invasive cancers detected per 10,000 women screened and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. None of the rates was significantly different from the all-Australia rate.
3. Jurisdictions reported the following number of invasive cancers at initial round with unknown lesion size: NSW—5; Vic—6; Qld—1; SA—2.

- The age-standardised rate of detection of small invasive cancers for Australian women attending BreastScreen Australia for the first time in 2000 was 37.5 per 10,000 women screened for women aged 40 and over, and 38.3 per 10,000 women screened for women in the target age group.
- The age-standardised small cancer detection rate in the target age group ranged from 19.8 per 10,000 women in the Northern Territory to 60.2 per 10,000 women in South Australia.

For more information, see:

Tables 11 and 12.

Small (≤ 15 mm) invasive breast cancer detection in women aged 50–69, subsequent screening rounds, 2000



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Rate	28.3	23.7*	30.9	30.8	28.6	29.7	28.4	42.7	21.2
95% CI	26.7–29.8	21.4–26.2	27.5–34.0	27.1–34.7	23.9–33.9	24.6–34.6	19.9–37.8	28.2–57.8	3.8–45.5

* Significantly different from the all-Australia rate.

Notes

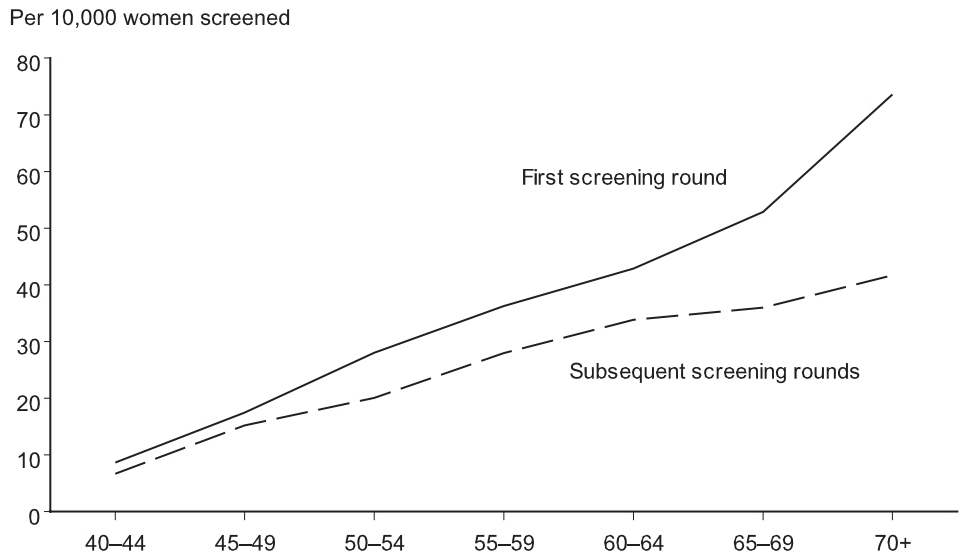
1. Rates are the number of small invasive cancers detected per 10,000 women screened and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. Jurisdictions reported the following number of invasive cancers at subsequent rounds with unknown lesion size: NSW—16; Vic—8; Qld—5; SA—9.

- The age-standardised rate of detection of small invasive cancers for Australian women attending BreastScreen Australia for their second or subsequent visit was 26.5 per 10,000 women screened for women aged 40 and over, and 28.3 per 10,000 women screened for women in the target age group. These results were significantly lower than the results for women attending for their first screen.
- The age-standardised small cancer detection rate in the target age group ranged from 21.2 per 10,000 women in the Northern Territory to 42.7 per 10,000 women in the Australian Capital Territory.

For more information, see:

Tables 13 and 14.

Small (≤ 15 mm) invasive breast cancer detection by age, 2000



Source: AIHW analysis of BreastScreen Australia data.

	40–44	45–49	50–54	55–59	60–64	65–69	70+
First screening round	8.6	17.4	28.0	36.3	42.9	52.8	73.6
Subsequent screening rounds	6.7	15.0	20.0	28.0	33.9	36.0	41.7

Notes

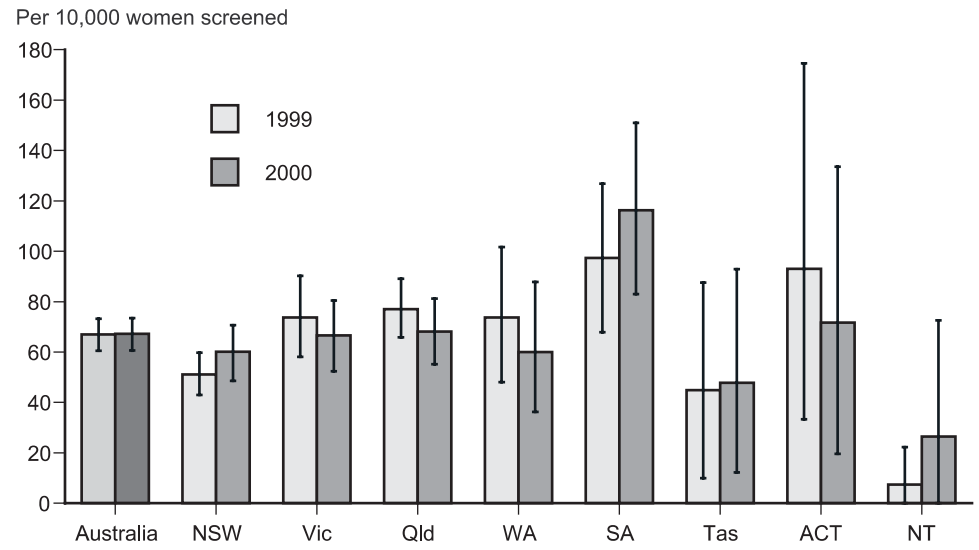
1. Rates are the number of small invasive cancers detected per 10,000 women screened.
2. Jurisdictions reported the following number of invasive cancers with unknown lesion size: NSW—21; Vic—14; Qld—6; SA—11.

- The rate of detection of small invasive cancers in 2000 increased with age for cancers detected at first screening round and subsequent screening rounds. The rate of increase was greater for cancers detected at the first screening round.
- The same pattern of increasing detection of invasive cancer with increasing age is evident for cancers of all sizes.

For more information, see:

Tables 12,14, 16b and 18b.

All-size invasive breast cancer detection in women aged 50–69, first screening round, 1999 and 2000



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
1999	66.9	51.0*	73.8	77.1	73.7	97.3	44.9	93.0	7.4*
95% CI	60.5–73.2	42.9–59.8	58.1–90.2	65.8–89.1	48.0–101.6	67.9–126.9	9.9–87.6	33.3–174.6	0.0–22.3
2000	67.2	60.1	66.6	68.1	60.0	116.3*	47.9	71.7	26.4
95% CI	60.6–73.4	48.6–70.7	52.4–80.4	55.2–81.3	36.2–87.8	83.0–151.0	12.2–92.9	19.6–133.6	0.0–72.6

* Significantly different from the all-Australia rate for the corresponding period.

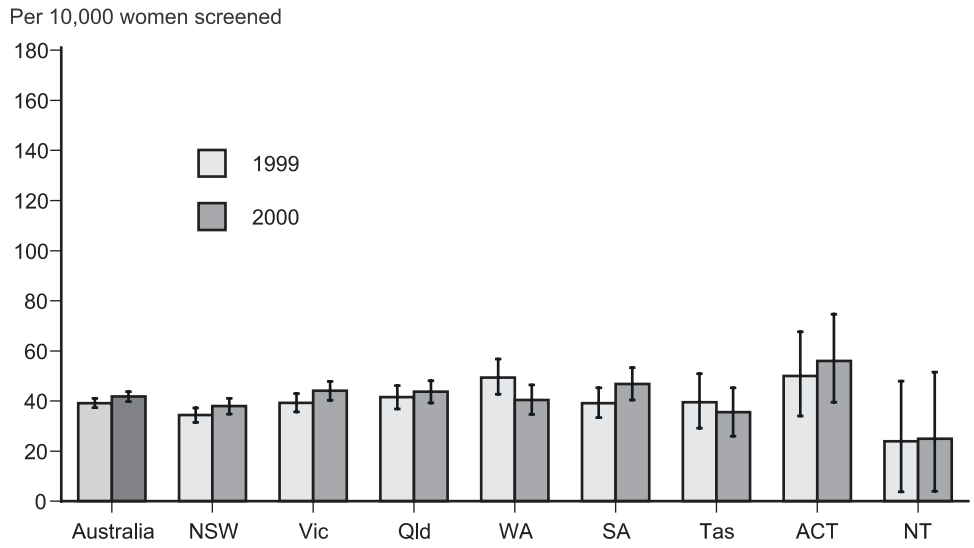
Note: Rates are the number of invasive cancers detected per 10,000 women screened and age-standardised to the population of women attending a BreastScreen Australia service in 1998.

- The age-standardised rate of detection of invasive cancers of all sizes for Australian women attending BreastScreen Australia for the first time in 2000 was 67.4 per 10,000 women screened for women aged 40 and over, and 67.2 per 10,000 women screened for women in the target age group. In 1999, the rates were 65.1 per 10,000 women screened for women aged 40 and over, and 66.9 per 10,000 women screened for women in the target age group.
- The age-standardised all-size cancer detection rate in 2000 in the target age group ranged from 26.4 per 10,000 women in the Northern Territory to 116.3 per 10,000 women in South Australia. In 1999, the age-standardised cancer detection rate in the target age group ranged from 7.4 per 10,000 women in the Northern Territory to 97.3 per 10,000 women in South Australia.

For more information, see:

Tables 15a, 15b, 16a and 16b.

All-size invasive breast cancer detection in women aged 50–69, subsequent screening rounds, 1999 and 2000



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
1999	39.2	34.4	39.3	41.5	49.4*	39.1	39.6	50.0	23.9
95% CI	37.3–41.0	31.4–37.3	35.6–42.9	36.8–46.1	42.8–56.7	33.3–45.2	29.2–50.8	34.1–67.6	3.7–47.9
2000	41.8	38.0	44.1	43.7	40.5	46.8	35.5	56.0	25.0
95% CI	39.8–43.7	34.8–41.0	40.2–47.8	39.2–48.1	34.6–46.4	40.4–53.3	25.9–45.3	39.5–74.7	4.0–51.5

* Significantly different from the all-Australia rate for the corresponding period.

Note: Rates are the number of invasive cancers detected per 10,000 women screened and age-standardised to the population of women attending a BreastScreen Australia service in 1998.

- The age-standardised rate of detection of invasive cancers of all sizes in Australian women attending BreastScreen Australia in 2000 for their second or subsequent visit was 39.4 per 10,000 women screened for women aged 40 and over, and 41.8 per 10,000 women screened for women in the target age group. In 1999, the rates were 37.0 per 10,000 women screened for women aged 40 and over, and 39.2 per 10,000 women screened for women in the target age group. The 1999 and 2000 rates were not significantly different.
- The 2000 results for subsequent screening rounds were significantly lower than those for women attending their first screen (Tables 16b and 18b).
- The age-standardised all-size cancer detection rate in 2000 in the target age group ranged from 25.0 per 10,000 women in the Northern Territory to 56.0 per 10,000 women in the Australian Capital Territory.

For more information, see:

Tables 16a, 16b, 17a, 17b, 18a and 18b.