

Indicator 3: Sensitivity

3a. Interval cancer rate

The interval cancer rate is the rate of invasive breast cancers detected during an interval between two screening rounds per 10,000 women-years. It is stratified by 10-year age groups (40–49, 50–59, 60–69, 70+ years), time since screen (0–12 months, 13–24 months, and 0–24 months) and screening round (first or subsequent).

Interval cancer rate indicator

An interval cancer is an invasive breast cancer that is diagnosed after a screening episode that detected no cancer and before the next scheduled screening episode. The interval cancer rate is expressed per 10,000 women-years at risk (see the glossary for definitions of ‘women-years at risk’ and ‘interval cancer’). It measures how effective the BreastScreen Australia Program is at detecting the presence of breast cancer in well women. A low interval cancer rate is one measure of the effectiveness of the screening process.

The National Accreditation Standards for the detection of interval breast cancers require:

- <7.5 per 10,000 women aged 50–69 years who attend for screening are diagnosed with an invasive interval breast cancer between 0 and less than 12 months following a negative screening episode.

The table below shows the detection rate for interval cancers during index years 1996–1998 and 1999–2001. The objective of detecting less than 7.5 interval cancers per 10,000 women in the target age group 50–69 was achieved in 1996–1998 for women attending for their first screening round.

Interval cancer rate for women aged 40 and over and 50–69 years, screened during index years 1996, 1997, 1998 and 1999, 2000, 2001, first and subsequent rounds, 0–12 months follow-up

	Objective ^(a)	Index years 1996, 1997 and 1998*	Index years 1999, 2000 and 2001
First screening round 0–12 months			
Rate for women aged 50–69 years	<7.5	6.6	7.8
95% CI		5.8–7.5	6.7–9.1
Rate for women aged 40 years and over	..	6.5	7.7
95% CI		5.9–7.2	6.8–8.7
Subsequent screening rounds 0–12 months			
Rate for women aged 50–69 years	<7.5	7.8	7.9
95% CI		7.2–8.3	7.4–8.4
Rate for women aged 40 years and over	..	7.4	7.8
95% CI		7.0–7.9	7.4–8.2

.. Not applicable.

(a) Performance objective for BreastScreen services as set out in the National Accreditation Standards (NQMC unpublished).

* The Australian figure includes data from Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the *BreastScreen Australia monitoring report 1998–1999 and 1999–2000* from which the data for index years 1996, 1997 and 1998 were copied. Updated NSW data were supplied separately.

3b. Program sensitivity

The program sensitivity rate is the percentage of women with invasive breast cancer among all program-screened women diagnosed with invasive breast cancer during the screening interval (screen-detected and interval cancers). It is stratified by 10-year age groups (40–49, 50–59, 60–69, 70+ years), time since screen (0–12 months, 0–24 months) and screening round (first or subsequent).

The sensitivity indicator

Program sensitivity measures the ability of the program to detect invasive breast cancers in women attending for screening. The program needs to achieve a high sensitivity in order to be effective. Program sensitivity is the proportion of invasive breast cancers that are detected within the BreastScreen Australia Program out of all invasive breast cancers (interval cancers plus screen-detected cancers) diagnosed in program-screened women in the screening interval.

There are no National Accreditation Standards for the sensitivity indicator.

The table below shows the detection rate for invasive cancers during index years 1996–1998 and 1999–2001.

Program sensitivity for women aged 40 and over and 50–69 years, screened during index years 1996, 1997, 1998 and 1999, 2000, 2001, first and subsequent rounds, 0–12 months follow-up

	Index years 1996, 1997 and 1998*	Index years 1999, 2000 and 2001
First screening round 0–12 months		
Rate (%) for women aged 50–69 years	89.1	88.9
95% CI	85.3–92.9	84.4–93.6
Rate (%) for women aged 40 years and over	87.5	87.5
95% CI	84.6–90.6	84.0–91.1
Subsequent screening rounds 0–12 months		
Rate (%) for women aged 50–69 years	81.7	83.8
95% CI	79.0–84.5	81.6–86.0
Rate (%) for women aged 40 years and over	79.9	81.7
95% CI	77.4–82.5	79.7–83.7

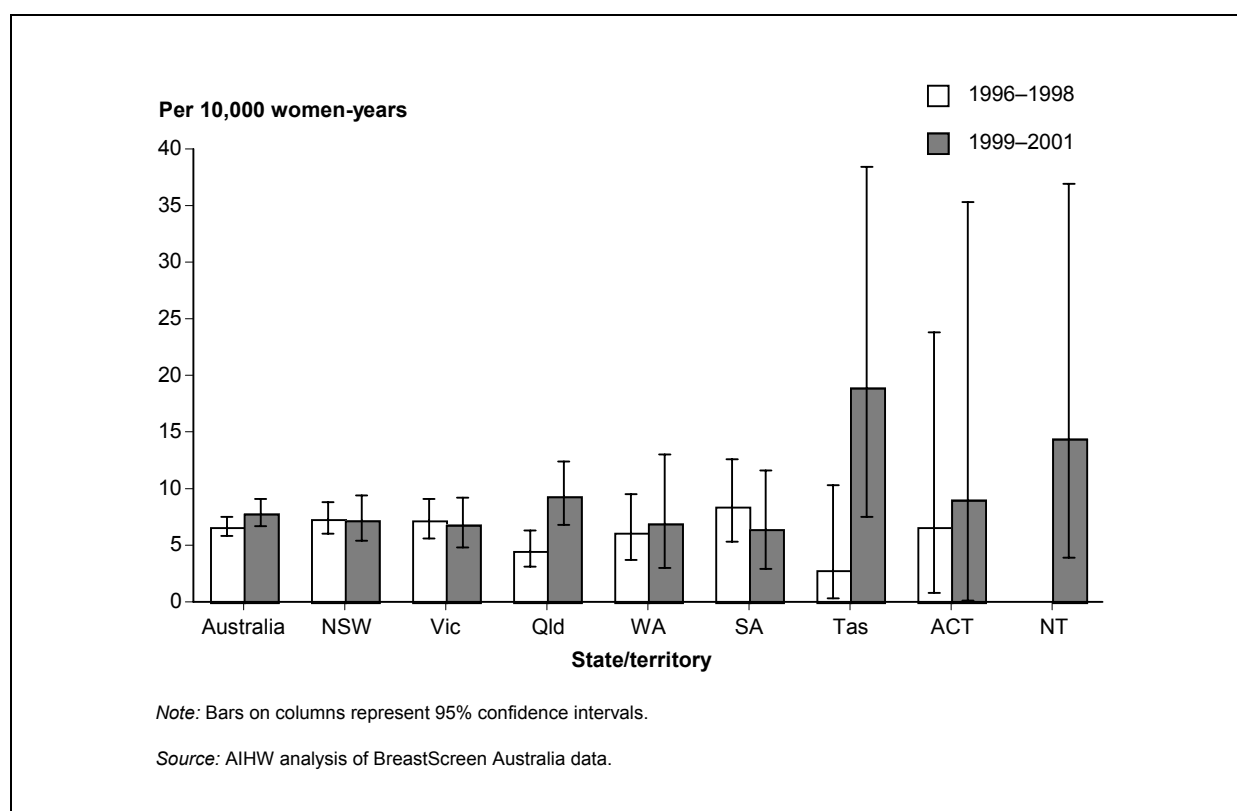
* The Australian figure includes data from Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the *BreastScreen Australia monitoring report 1998–1999 and 1999–2000* from which the data for index years 1996, 1997 and 1998 were copied. Updated NSW data were supplied separately.

In this chapter, data for the index years are combined. This aggregation improves the stability of rates, especially those of the small states and territories.

In principle, screening should be done only with women who have no breast cancer symptoms. Those with symptoms should be referred for diagnostic follow-up. However, in practice this is not always practical so the data presented here include both symptomatic and asymptomatic women. Both interval cancers and sensitivity rates are affected by the policy on management of symptomatic clients in that state. For example, in NSW, women are not

recalled to assessment on the basis of symptom status. Those women with a negative screen but who have symptoms are referred for diagnostic follow-up outside the BreastScreen Australia Program. However, those who have a cancer diagnosis will be counted as interval cancers--leading to a higher apparent interval cancer rate. Other states that do recall on the basis of symptoms may have lower apparent interval cancer rates. This may affect the comparability of this indicator between jurisdictions.

Interval cancer rate for women aged 50–69 years, screened during index years 1996, 1997, 1998 and 1999, 2000, 2001, first screening round, 0–12 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Index years 1999–2001									
Rate	7.8	7.2	6.8	9.3	6.9	6.4	18.9	9.0	14.4
95% CI	6.7–9.1	5.4–9.4	4.8–9.3	6.9–12.4	3.1–13.0	2.9–11.7	7.5–38.4	0.1–35.3	3.9–36.9
Index years 1996–1998									
Rate	6.6	7.3	7.2	4.5	6.1	8.4	2.8	6.6	n.a.
95% CI	5.8–7.5	6.0–8.9	5.5–9.1	3.2–6.3	3.7–9.5	5.3–12.5	0.3–10.4	0.8–23.8	n.a.

n.a. Not available.

Notes

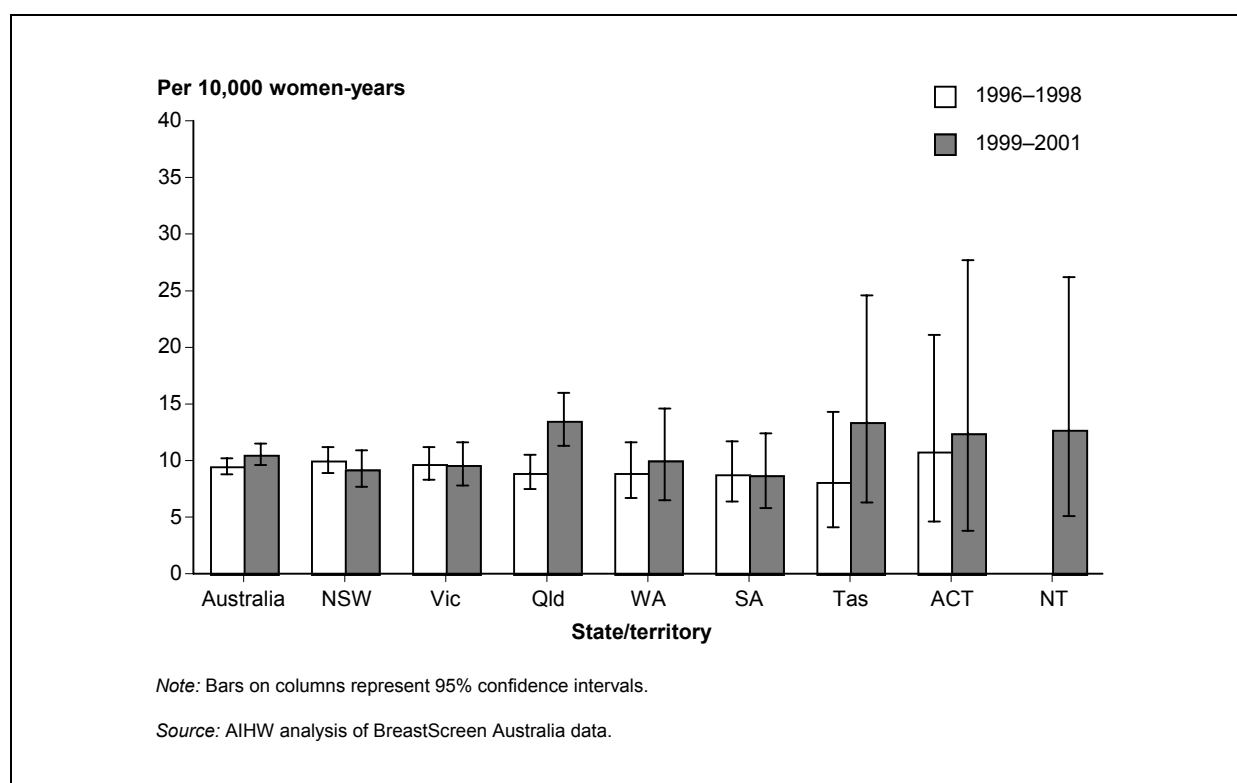
1. Rates are the number of interval cancers detected per 10,000 women-years and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. The data include both symptomatic and asymptomatic women.
3. None of the rates was significantly different from the all-Australia rate.
4. The Australian figure includes data from Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the *BreastScreen Australia monitoring report 1998–1999 and 1999–2000* from which the data for index years 1996, 1997 and 1998 were copied. Updated NSW data were supplied separately.

- The age-standardised rate of interval cancer detection for Australia increased between the index years 1996–1998 and 1999–2001 from 6.6 to 7.8. However, the increase was not statistically significant.
- Across the states and territories, the age-standardised rates of interval cancer ranged from 6.4 per 10,000 women-years in South Australia to 18.9 per 10,000 women-years in Tasmania; this difference was not statistically significant. For example, there were only

8 cases in Tasmania, a relatively small number that might be expected to fluctuate considerably over time.

For more information, see: Tables 15 to 20 beginning on page 94. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Interval cancer rate for women aged 50–69 years, screened during index years 1996, 1997, 1998 and 1999, 2000, 2001, first screening round, 0–24 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Index years 1999–2001									
Rate	10.5	9.2	9.6	13.5	10.0	8.7	13.4	12.4	12.7
95% CI	9.6–11.5	7.8–10.9	7.8–11.6	11.3–16.0	6.5–14.6	5.8–12.4	6.2–24.6	3.7–27.7	5.1–26.2
Index years 1996–1998									
Rate	9.5	10.0	9.7	8.9	8.9	8.8	8.1	10.8	n.a.
95% CI	8.8–10.2	8.9–11.2	8.3–11.2	7.5–10.5	6.7–11.6	6.4–11.7	4.1–14.3	4.6–21.0	n.a.

n.a. Not available.

Notes

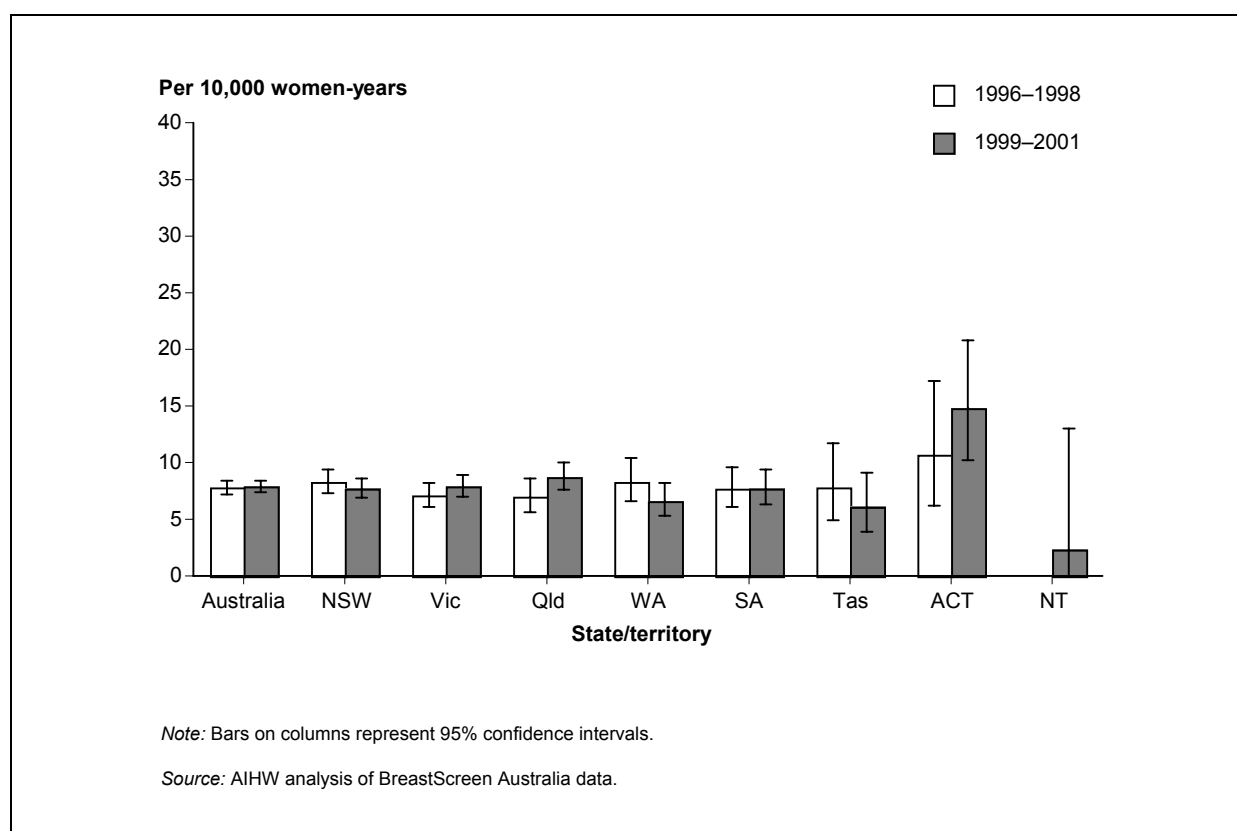
1. Rates are the number of interval cancers detected per 10,000 women-years and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. The data include both symptomatic and asymptomatic women.
3. The Australian figure includes data from Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the *BreastScreen Australia monitoring report 1998–1999 and 1999–2000* from which the data for index years 1996, 1997 and 1998 were copied. Updated NSW data were supplied separately.

- The age-standardised rate of interval cancer rate for Australia increased from 9.5 per 10,000 women-years for women in the target age group 0–24 months after their first screen during index years 1996–1998 to 10.5 per 10,000 women-years for women screened in index years 1999–2001. The increase was not statistically significant.
- Across the states and territories differences in the age-standardised rates of interval cancer for women in the target age group (50–69 years) 0–24 months after their first

screen were not statistically significant. They ranged from 8.7 per 10,000 women-years in South Australia to 13.5 per 10,000 women-years in Queensland.

For more information, see: Tables 15 to 20 beginning on page 94. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Interval cancer rate for women aged 50–69 years, screened during index years 1996, 1997, 1998 and 1999, 2000, 2001, subsequent screening rounds, 0–12 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Index years 1999–2001									
Rate	7.9	7.7	7.9	8.7	6.6	7.7	6.1	14.8*	2.3
95% CI	7.4–8.4	6.9–8.6	7.0–8.9	7.6–10.0	5.3–8.2	6.3–9.4	3.9–9.0	10.2–20.9	0.1–13.0
Index years 1996–1998									
Rate	7.8	8.3	7.1	7.0	8.3	7.7	7.8	10.7	n.a.
95% CI	7.2–8.3	7.3–9.4	6.1–8.3	5.7–8.6	6.5–10.3	6.0–9.6	4.9–11.7	6.2–17.2	n.a.

* Significantly different from the Australian rate.

n.a. Not available.

Notes

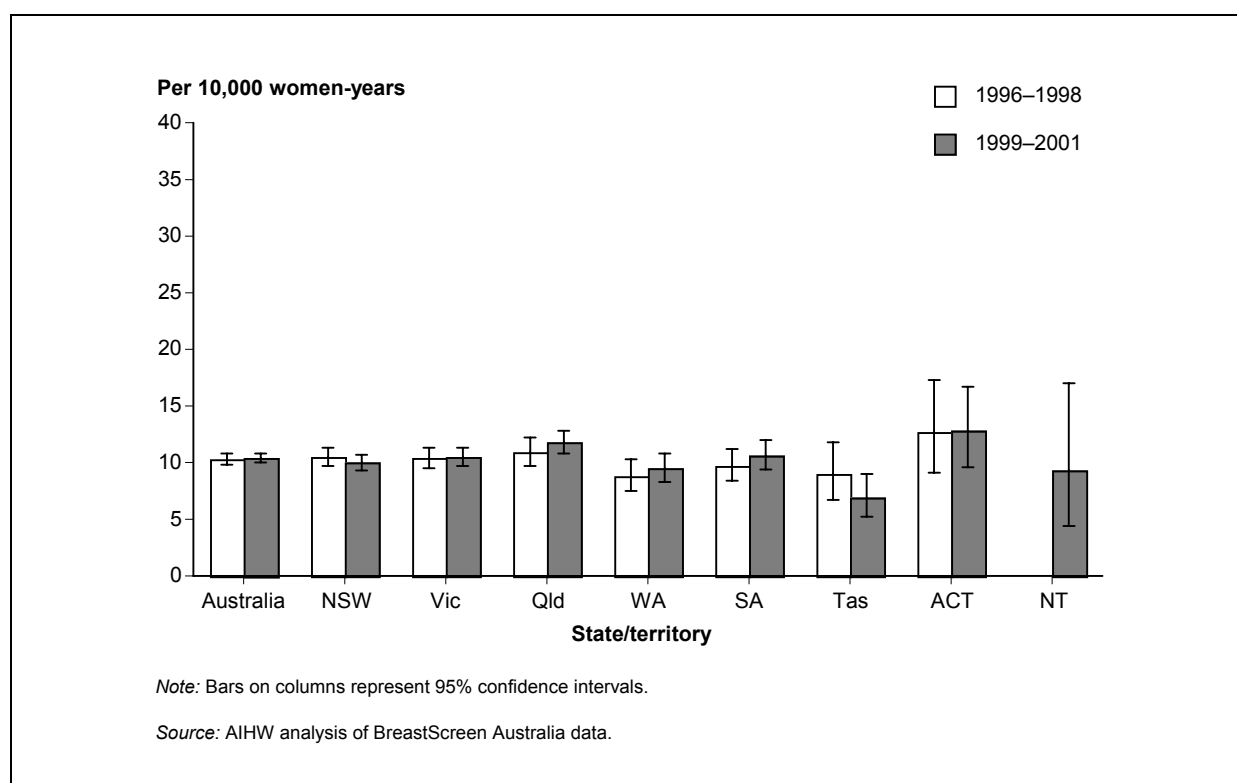
- Rates are the number of interval cancers detected per 10,000 women-years and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
- The data include both symptomatic and asymptomatic women.
- The Australian figure includes data from Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the *BreastScreen Australia monitoring report 1998–1999 and 1999–2000* from which the data for index years 1996, 1997 and 1998 were copied. Updated NSW data were supplied separately.

- For index years 1999–2001, the age-standardised rate of interval cancer for Australia for women in the target age group (50–69 years), 0–12 months follow-up, increased slightly between the first and the subsequent rounds (7.8 to 7.9 per 10,000 women-years respectively).

- The age-standardised rate of interval cancers for subsequent screening rounds for women in the target age group (50–69 years), 0–12 months follow-up in the Australian Capital Territory (14.8 per 10,000 women-years) was significantly higher than the national rate (7.9 per 10,000 women-years).
- For index years 1996–1998, the age-standardised rate of interval cancer for Australia between women in the target age group (50–69 years) 0–12 months after their first and 0–12 months after their subsequent screen increased from 6.6 to 7.8 per 10,000 women-years. This change was not statistically significant.

For more information, see: Tables 15 to 20 beginning on page 94. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Interval cancer rate for women aged 50–69 years, screened during index years 1996, 1997, 1998 and 1999, 2000, 2001, subsequent screening rounds, 0–24 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Index years 1999–2001									
Rate	10.4	10.0	10.5	11.8	9.5	10.6	6.9*	12.8	9.3
95% CI	10.0–10.8	9.4–10.7	9.7–11.3	10.8–12.8	8.3–10.9	9.4–12.0	5.2–9.1	9.7–16.7	4.5–17.0
Index years 1996–1998									
Rate	10.3	10.5	10.4	10.9	8.8	9.7	9.0	12.7	n.a.
95% CI	9.8–10.8	9.8–11.4	9.5–11.3	9.7–12.3	7.5–10.3	8.4–11.2	6.7–11.8	9.1–17.3	n.a.

* Significantly different from the Australian rate.

n.a. Not available.

Notes

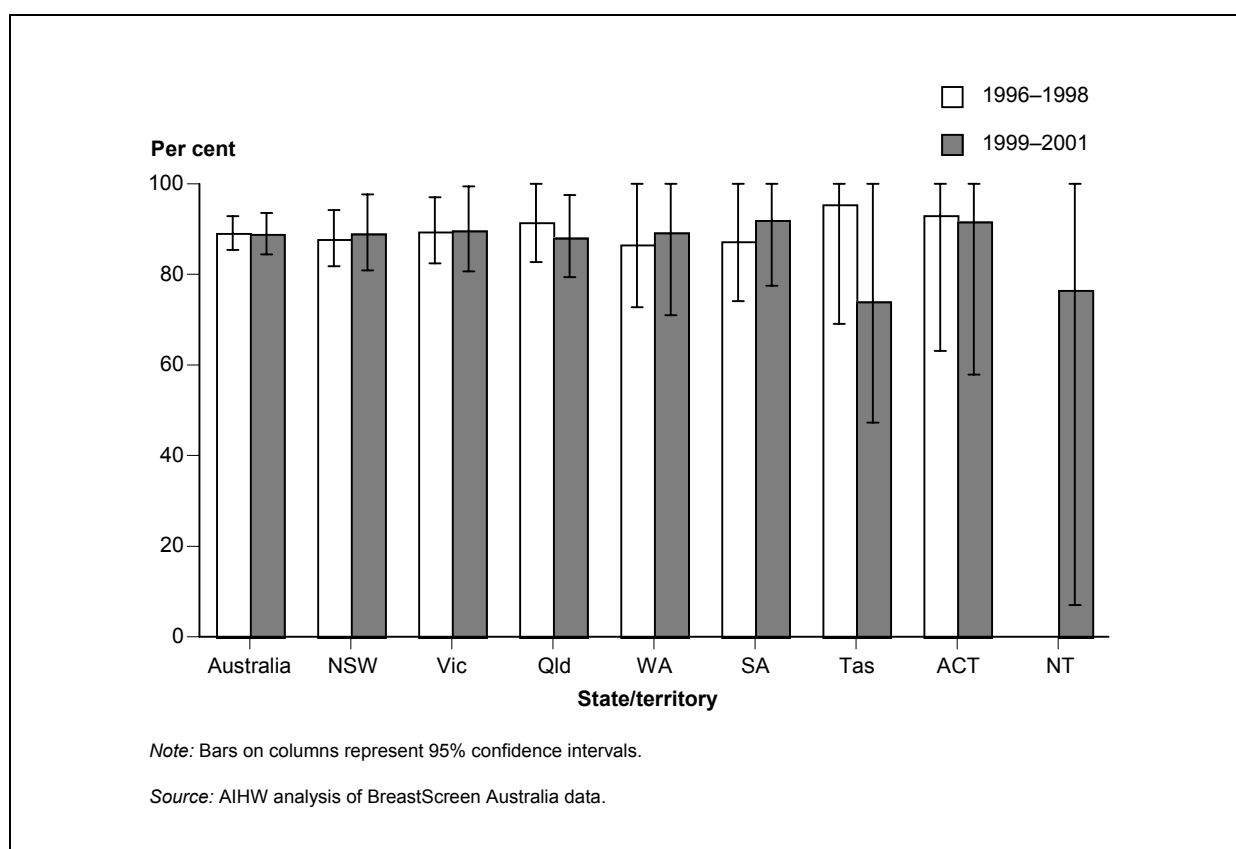
1. Rates are the number of interval cancers detected per 10,000 women-years and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. The data include both symptomatic and asymptomatic women.
3. The Australian figure includes data from Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the *BreastScreen Australia monitoring report 1998–1999 and 1999–2000* from which the data for index years 1996, 1997 and 1998 were copied. Updated NSW data were supplied separately.

- The interval cancer rate for women aged 50–69 years with 0–24 months of follow-up after their subsequent screening rounds was 10.4 per 10,000 women-years for index years 1999–2001 compared with the rate of 10.3 per 10,000 women-years for index years 1996–1998. This difference is small and is not statistically significant.
- The age-standardised rate of interval cancers for subsequent screening rounds for women in the target age group (50–69 years), 0–24 months follow-up in Tasmania

(6.9 per 10,000 women-years) was significantly lower than the national rate (10.4 per 10,000 women-years).

For more information, see: Tables 15 to 20 beginning on page 94. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Program sensitivity for women aged 50–69 years, screened during index years 1996, 1997, 1998 and 1999, 2000, 2001, first screening round, 0–12 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Index years 1999–2001									
Rate	88.9	89.0	89.7	88.1	89.3	92.0	74.0	91.7	76.6
95% CI	84.4–93.6	80.9–97.7	80.7–99.5	79.4–97.6	71.0–100.0	77.4–100.0	47.2–100.0	57.9–100.0	7.1–100.0
Index years 1996–1998									
Rate	89.1	87.8	89.5	91.5	86.6	87.3	95.5	93.1	n.a.
95% CI	85.3–92.9	81.7–94.1	82.5–97.0	82.7–100.0	72.8–100.0	74.1–100.0	69.1–100.0	63.1–100.0	n.a.

n.a. Not available.

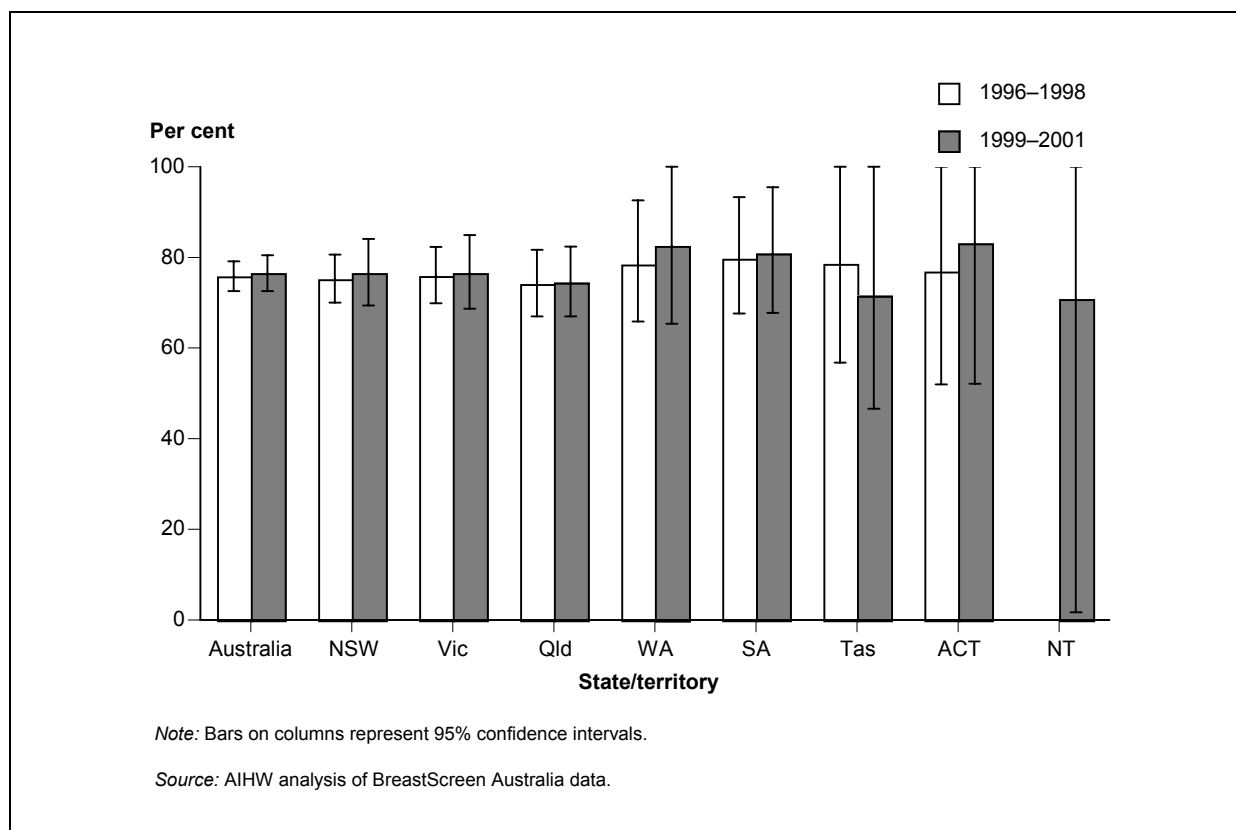
Notes

- Rates are the number of screen-detected cancers as a percentage of all cancers (screen-detected and interval cancers) and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
- The data include both symptomatic and asymptomatic women.
- The Australian figure includes data from Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the *BreastScreen Australia monitoring report 1998–1999 and 1999–2000* from which the data for index years 1996, 1997 and 1998 were copied. Updated NSW data were supplied separately.

- For index years 1999–2001, the age-standardised program sensitivity rate for women in the target age group (50–69) 0–12 months after their first screen was 88.9%, and 89.1% for index years 1996–1998. The decrease between the age-standardised program sensitivity rates for Australia between the index years was not statistically significant.

For more information, see: Tables 21 to 24 beginning on page 100. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Program sensitivity for women aged 50–69 years, screened during index years 1996, 1997, 1998 and 1999, 2000, 2001, first screening round, 0–24 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Index years 1999–2001									
Rate	76.5	76.5	76.5	74.4	82.5	80.8	71.5	83.1	70.8
95% CI	72.6–80.5	69.4–84.1	68.8–84.9	67.0–82.4	65.4–100.0	67.7–95.5	46.6–100.0	52.0–100.0	1.6–100.0
Index years 1996–1998									
Rate	75.8	75.2	75.9	74.1	78.4	79.7	78.6	76.9	n.a.
95% CI	72.6–79.1	70.1–80.7	69.9–82.3	67.0–81.8	65.9–92.6	67.6–93.2	56.8–100.0	52.0–100.0	n.a.

n.a. Not available.

Notes

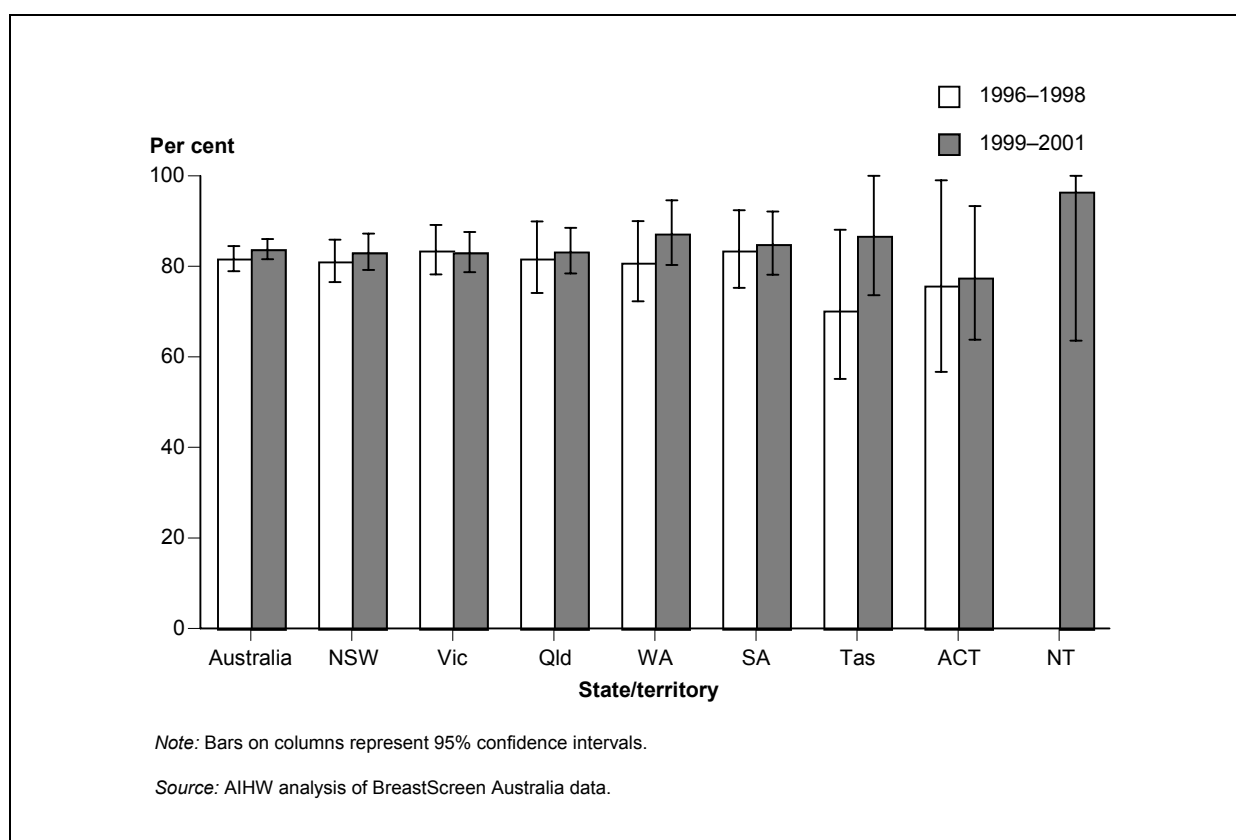
1. Rates are the number of screen-detected cancers as a percentage of all cancers (screen-detected and interval cancers) and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. The data include both symptomatic and asymptomatic women.
3. The Australian figure includes data from Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the *BreastScreen Australia monitoring report 1998–1999 and 1999–2000* from which the data for index years 1996, 1997 and 1998 were copied. Updated NSW data were supplied separately.

- The program sensitivity rate for Australia between the follow-up periods of 0–12 and 0–24 months for women after their first screening round for index years 1999–2001 decreased by 12 percentage points from 88.9% to 76.5%.

- For index years 1996–1998, the age-standardised program sensitivity rate for women in the target age group (50–69) 0–24 months after their first screen was 75.8%.

For more information, see: Tables 21 to 24 beginning on page 100. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Program sensitivity for women aged 50–69 years, screened during index years 1996, 1997, 1998 and 1999, 2000, 2001, subsequent screening rounds, 0–12 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Index years 1999–2001									
Rate	83.8	83.1	83.1	83.3	87.2	84.9	86.7	77.5	96.5
95% CI	81.6–86.0	79.2–87.2	78.7–87.7	78.4–88.5	80.3–94.6	78.2–92.1	73.6–100.0	63.8–93.3	63.6–100.0
Index years 1996–1998									
Rate	81.7	81.1	83.5	81.7	80.8	83.5	70.2	75.7	n.a.
95% CI	79.0–84.5	76.5–85.9	78.2–89.1	74.1–89.9	72.3–90.0	75.2–92.4	55.1–88.1	56.7–99.0	n.a.

n.a. Not available.

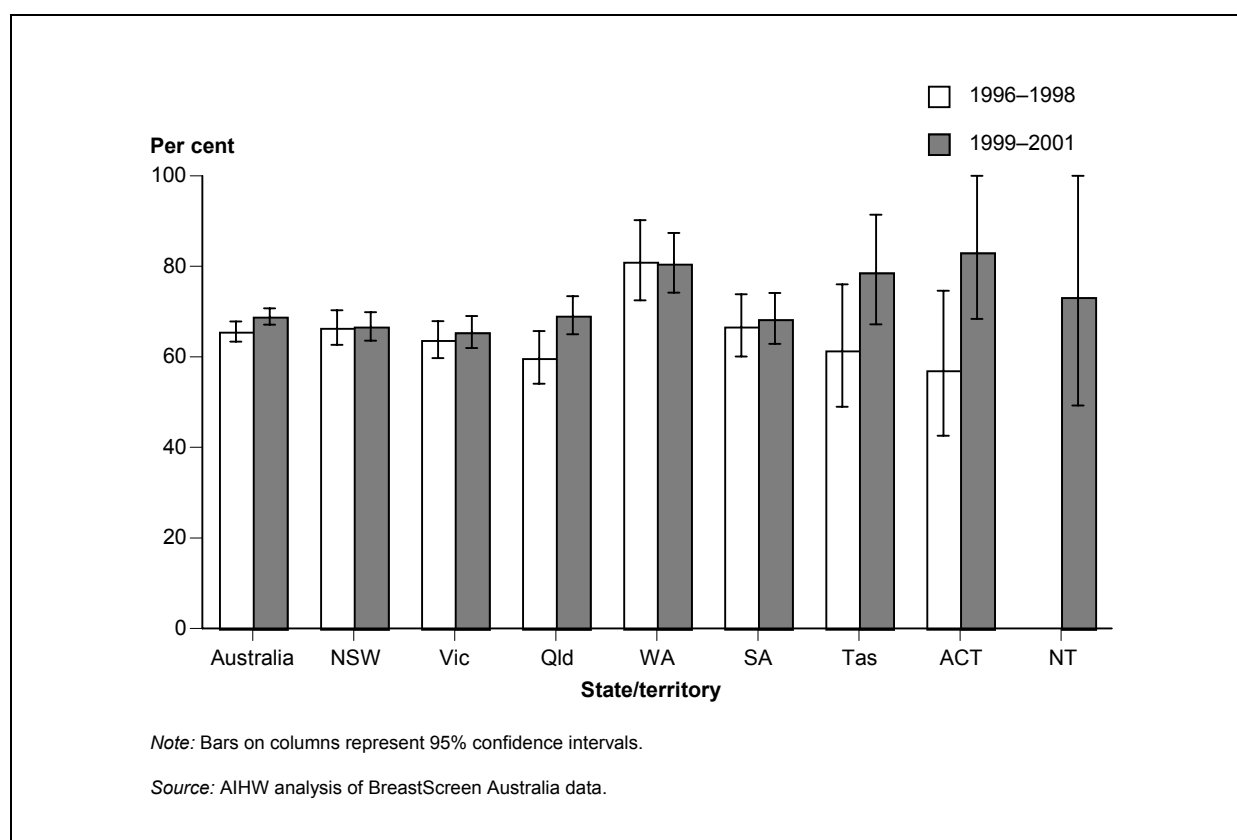
Notes

1. Rates are the number of screen-detected cancers as a percentage of all cancers (screen-detected and interval cancers) and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. The data include both symptomatic and asymptomatic women.
3. The Australian figure includes data from Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the *BreastScreen Australia monitoring report 1998–1999 and 1999–2000* from which the data for index years 1996, 1997 and 1998 were copied. Updated NSW data were supplied separately.

- The program sensitivity rate between the index years 1996–1998 and 1999–2001 for women in the target age group (50–69) 0–12 months after their second or subsequent screens increased from 81.7% to 83.8% but the increase was not statistically significant.
- Across the states and territories, there were no statistically significant differences in the program sensitivity rate for women in the target age group (50–69) 0–12 months after their second or subsequent screens.

For more information, see: Tables 21 to 24 beginning on page 100. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Program sensitivity for women aged 50–69 years, screened during index years 1996, 1997, 1998 and 1999, 2000, 2001, subsequent screening rounds, 0–24 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Index years 1999–2001									
Rate	68.9	66.7	65.4	69.1	80.6	68.3	78.6	83.1	73.2
95% CI	67.1–70.7	63.6–69.9	62.0–69.0	65.1–73.4	74.2–87.4	62.9–74.1	67.3–91.4	68.4–100.0	49.4–100.0
Index years 1996–1998									
Rate	65.6	66.4	63.7	59.7	81.0	66.7	61.4	57.0	n.a.
95% CI	63.4–67.8	62.7–70.3	59.6–67.9	54.1–65.7	72.5–90.2	60.1–73.8	49.0–76.0	42.6–74.6	n.a.

n.a. Not available.

Notes

1. Rates are the number of screen-detected cancers as a percentage of all cancers (screen-detected and interval cancers) and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. The data include both symptomatic and asymptomatic women.
3. The Australian figure includes data from Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the *BreastScreen Australia monitoring report 1998–1999 and 1999–2000* from which the data for index years 1996, 1997 and 1998 were copied. Updated NSW data were supplied separately.

- The program sensitivity rate for Australia between the 0–12 and 0–24 months follow-up periods for women after their second or subsequent screening rounds for index years 1999–2001 decreased from 83.8% to 68.9%.
- The program sensitivity rate for Australia between the index years 1996–1998 and 1999–2001 for women in the target age group (50–69) 0–24 months after their second or

subsequent screen increased from 65.6% to 68.9%. This increase was not statistically significant.

For more information, see: Tables 21 to 24 beginning on page 100. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Indicator 4: Detection of ductal carcinoma in situ

Ductal carcinoma in situ detection rate

The ductal carcinoma in situ (DCIS) detection rate is the rate of women with DCIS per 10,000 women screened by 10-year age groups (40–49, 50–59, 60–69, 70+ years) and for the target age group (50–69 years).

The DCIS detection indicator

The DCIS indicator measures the rate of DCIS diagnosed in women attending a BreastScreen Australia service. This is expressed as the number of women with DCIS detected for every 10,000 women screened. DCIS is a disease that involves changes in the cells in the lining of the ducts of the breast. Although the changes are like those seen in breast cancer, DCIS has not spread beyond the ducts (NBCC et al. 2000). The natural history of DCIS is still not well understood, although women with the condition are at increased risk of subsequent development of invasive breast cancer (O'Shaughnessy 2000).

DCIS is asymptomatic in the majority of cases and is usually detected as a change on a mammogram or as a chance finding on a breast biopsy for another condition. Before the introduction of nationwide mammographic screening in Australia in 1991, DCIS was rarely found. Since then, screening mammography has increased the detection rate for DCIS (NBCC et al. 2000).

Early detection of high-grade DCIS through screening, and its subsequent treatment, is likely to prevent deaths from breast cancer. The ability to detect DCIS can also be seen as an indicator of the quality of the screening process, since it reflects good-quality imaging and screen-film reading.

The National Accreditation Standards for the detection of DCIS require:

- ≥12 per 10,000 women aged 50–69 years who attend for their first screen are diagnosed with DCIS.
- ≥7 per 10,000 women aged 50–69 years who attend for their second or subsequent screen are diagnosed with DCIS.

The following table illustrates the detection of DCIS in 1998, 2002 and 2003. The objectives of detecting at least 12 DCIS lesions per 10,000 women attending for their first screening round and at least 7 DCIS lesions per 10,000 women attending for their second and subsequent rounds were achieved for women in all age categories.

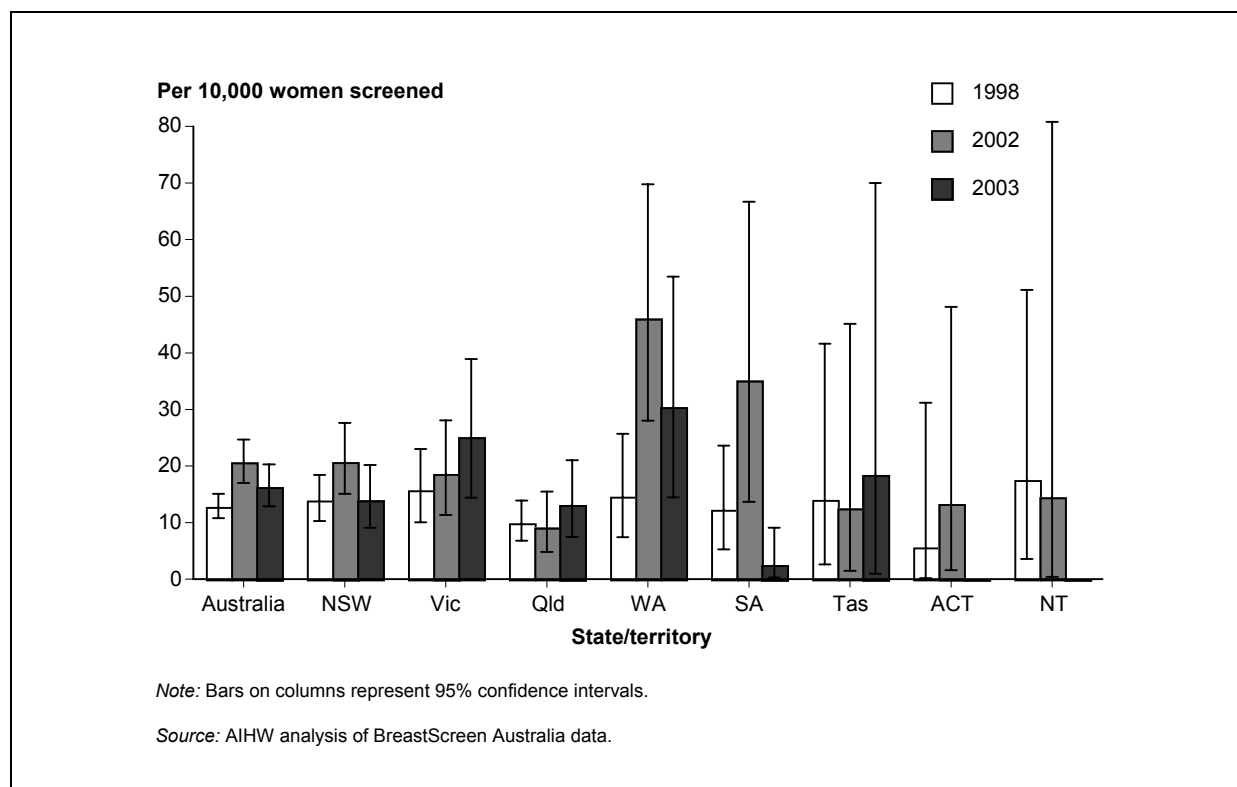
Ductal carcinoma in situ detection rate in women aged 40 and over and 50–69 years, Australia, 1998, 2002 and 2003

	Objective^(a)	1998	2002	2003
First screening round				
Rate for women aged 50–69 years	≥12	12.8	20.6	16.3
<i>95% CI</i>		10.7–15.1	17.0–24.7	12.9–20.3
Rate for women aged 40 years and over	..	12.8	18.3	15.5
<i>95% CI</i>		11.1–14.6	15.5–21.4	12.7–18.6
Subsequent screening rounds				
Rate for women aged 50–69 years	≥7	9.2	8.9	10.0
<i>95% CI</i>		8.3–10.2	8.1–9.8	9.1–10.9
Rate for women aged 40 years and over	..	8.8	8.5	9.6
<i>95% CI</i>		8.0–9.7	7.8–9.2	8.9–10.3

(a) Performance objective for BreastScreen services as set out in the National Accreditation Standards (NQMC unpublished).

.. Not applicable.

Ductal carcinoma in situ detection in women aged 50–69 years, first screening round, 1998, 2002 and 2003



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
2003 rate	16.3	13.9	25.1	13.1	30.4	2.5*	18.4
<i>95% CI</i>	12.9–20.3	9.1–20.2	14.4–38.9	7.5–21.0	14.5–53.5	0.3–9.2	1.0–70.0
2002 rate	20.6	20.7	18.6	9.1 [#]	46.0 [#]	35.1	12.5	13.3	14.5
<i>95% CI</i>	17.0–24.7	15.1–27.6	11.5–28.2	4.8–15.5	28.0–69.8	13.7–66.6	1.5–45.1	1.6–48.2	0.4–80.8
1998 rate	12.8	13.9	15.7	9.9	14.6	12.3	14.0	5.6	17.5
<i>95% CI</i>	10.7–15.1	10.3–18.4	10.1–23.0	6.8–13.8	7.4–25.6	5.3–23.5	2.6–41.6	0.1–31.2	3.6–51.1

* Statistically different from the 2002 Australian rate.

[#] Statistically different from the 2002 Australian rate.

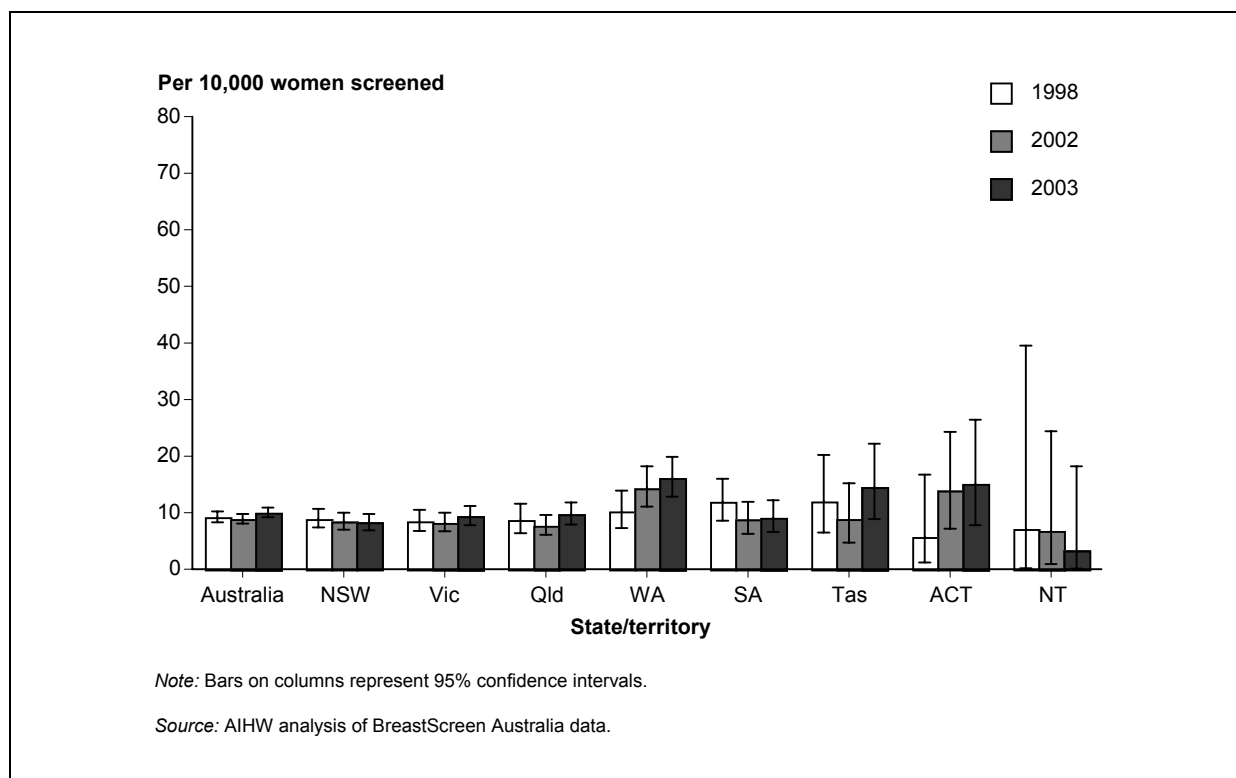
.. Not applicable—no DCIS cases detected.

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

- DCIS was detected in 163 women attending for their first screening round in 2003, including 102 cases in women in the target age group. The age-standardised DCIS detection rate was 16.3 per 10,000 women screened for women in the target age group, and 15.5 per 10,000 women screened for women aged 40 and over.
- The national age-standardised detection rate of DCIS increased from 12.8 in 1998 to 16.3 in 2003 but the increase was not statistically significant.

For more information, see: Tables 25 to 28 beginning on page 102. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Ductal carcinoma in situ detection in women aged 50–69 years, second or subsequent screening rounds, 1998, 2002 and 2003



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
2003 rate	10.0	8.3	9.4	9.7	16.1*	9.1	14.5	15.1	3.3
<i>95% CI</i>	9.1–10.9	7.0–9.9	7.8–11.2	7.9–11.8	12.8–19.9	6.6–12.1	9.0–22.2	7.8–26.5	0.1–18.2
2002 rate	8.9	8.4	8.2	7.7	14.3 [#]	8.8	8.9	13.9	6.8
<i>95% CI</i>	8.1–9.8	7.0–10.0	6.7–10.0	6.1–9.6	11.0–18.2	6.4–12.0	4.7–15.3	7.1–24.3	0.8–24.4
1998 rate	9.2	8.9	8.5	8.7	10.2	11.9	12.0	5.7	7.1
<i>95% CI</i>	8.3–10.2	7.4–10.7	6.8–10.5	6.4–11.6	7.3–13.9	8.6–15.9	6.6–20.2	1.2–16.7	0.2–39.5

* Statistically different from the 2003 Australian rate.

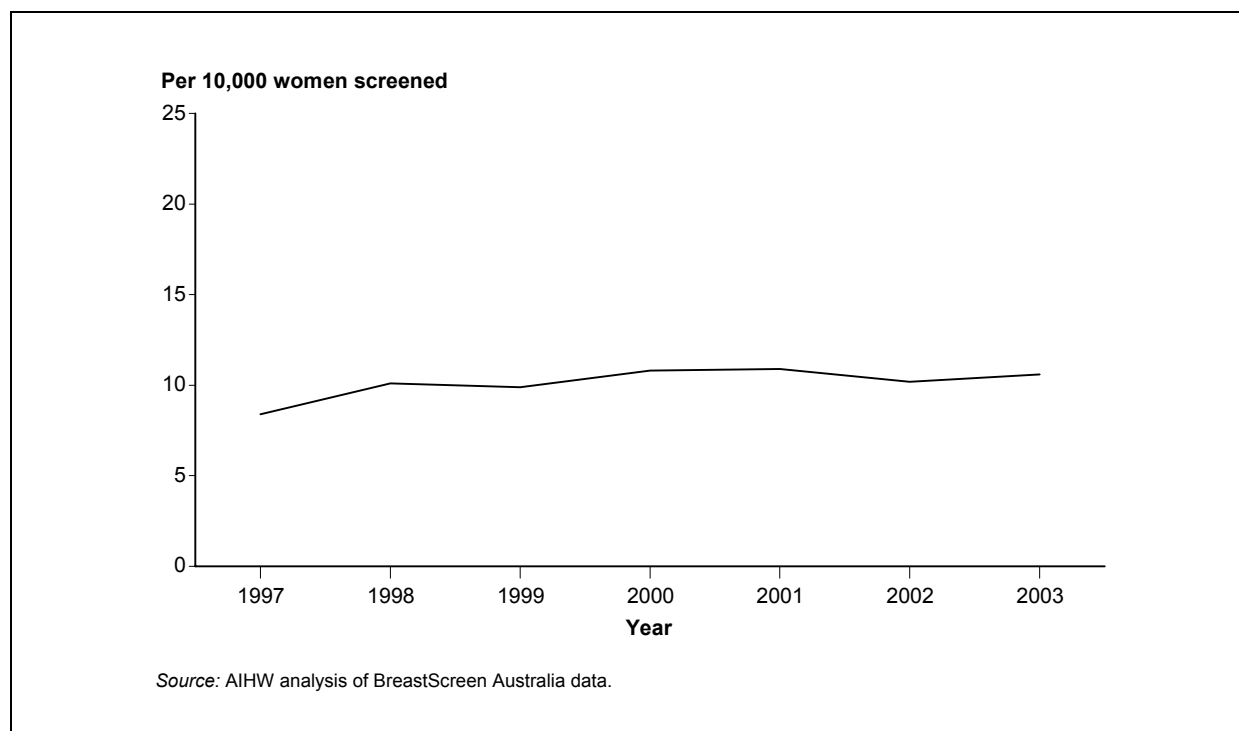
[#] Statistically different from the 2002 Australian rate.

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

- DCIS was detected in 720 women aged 40 years and over attending for their second or subsequent screening rounds in 2003, including 518 cases in women in the target age group. The age-standardised DCIS detection rate was 10.0 per 10,000 women screened for women in the target age group, and 9.6 per 10,000 women screened for women aged 40 and over.
- The national age-standardised detection rate of DCIS increased from 9.2 in 1998 to 10.0 in 2003; however, the increase was not statistically significant.

For more information, see: Tables 25 to 28 beginning on page 102. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Ductal carcinoma in situ detection in women aged 50–69 years, trend data, all screening rounds, 1997–2003



	1997	1998	1999	2000	2001	2002	2003
Rate	8.4*	10.1	9.9 [#]	10.8	10.9	10.2	10.6
95% CI	7.6–9.3	9.3–11.1	9.0–10.8	9.9–11.7	10.1–11.8	9.4–11.1	9.8–11.5

* Statistically different from the 2000, 2001, 2002 and 2003 rate.

[#] Does not include data from NT.

Note: Rates are the number of cases of DCIS 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 DCIS detection for women in the target age group has remained relatively constant since 1998, at between 10 and 11 cases detected per 10,000 women screened, over all screening rounds.

For more information, see: Tables 25 to 28 beginning on page 102. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Indicator 5: Recall to assessment

Recall to assessment rate

The recall to assessment rate is the proportion of all women screened in a given calendar year who were recalled for assessment by five-year age groups (40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, and 85+ years) and for the target age group (50–69 years).

The recall to assessment indicator

The recall to assessment indicator measures the rate of women who are recalled for assessment following attendance for a routine screening at a BreastScreen Australia service. In most cases, the recall is made because a woman's screening mammogram shows signs that there may be breast cancer. Women may also be recalled for other non-mammographic reasons. During assessment, a woman might undergo further tests, such as additional mammography, physical examination, ultrasound and, if required, a fine needle aspiration or a core biopsy.

BreastScreen Australia aims to maximise the number of cancers detected – in particular, the number of small cancers – while minimising the number of unnecessary investigations. Most women recalled to assessment are found not to have breast cancer (BreastScreen South Australia 2005; BreastScreen Queensland 2005).

Women attending the program for the first time have a higher all-size cancer detection rate than those who have previously been screened. This is reflected in a higher recall to assessment rate for women who attend for their first screening round compared with those who attend for a subsequent round.

The National Accreditation Standards for recall to assessment require:

- <10% of women aged 50–69 years who attend for their first screen are recalled for assessment.
- <5% of women aged 50–69 years who attend for their second or subsequent screen are recalled for assessment.

The following table shows the recall rates for 1998, 2002 and 2003. The objectives of recalling less than 10% of women in the target age group 50–69 attending for their first screening round and less than 5% of women attending for their second or subsequent screening rounds were achieved in the three years.

Age-standardised recall to assessment rates for women aged 40 and over and 50–69 years, mammographic reasons, 1998, 2002 and 2003

	Objective ^(a)	1998	2002	2003
First screening round				
Rate (%) for women aged 50–69 years	<10	7.2	8.7	9.3
95% CI		7.1–7.4	8.5–9.0	9.1–9.6
Rate (%) for women aged 40 years and over	..	7.2	8.6	9.3
95% CI		7.0–7.3	8.4–8.7	9.1–9.6
Subsequent screening rounds				
Rate (%) for women aged 50–69 years	<5	3.9	4.0	4.0
95% CI		3.9–4.0	4.0–4.1	4.0–4.1
Rate (%) for women aged 40 years and over	..	3.9	4.1	4.2
95% CI		3.9–4.0	4.1–4.2	4.1–4.2

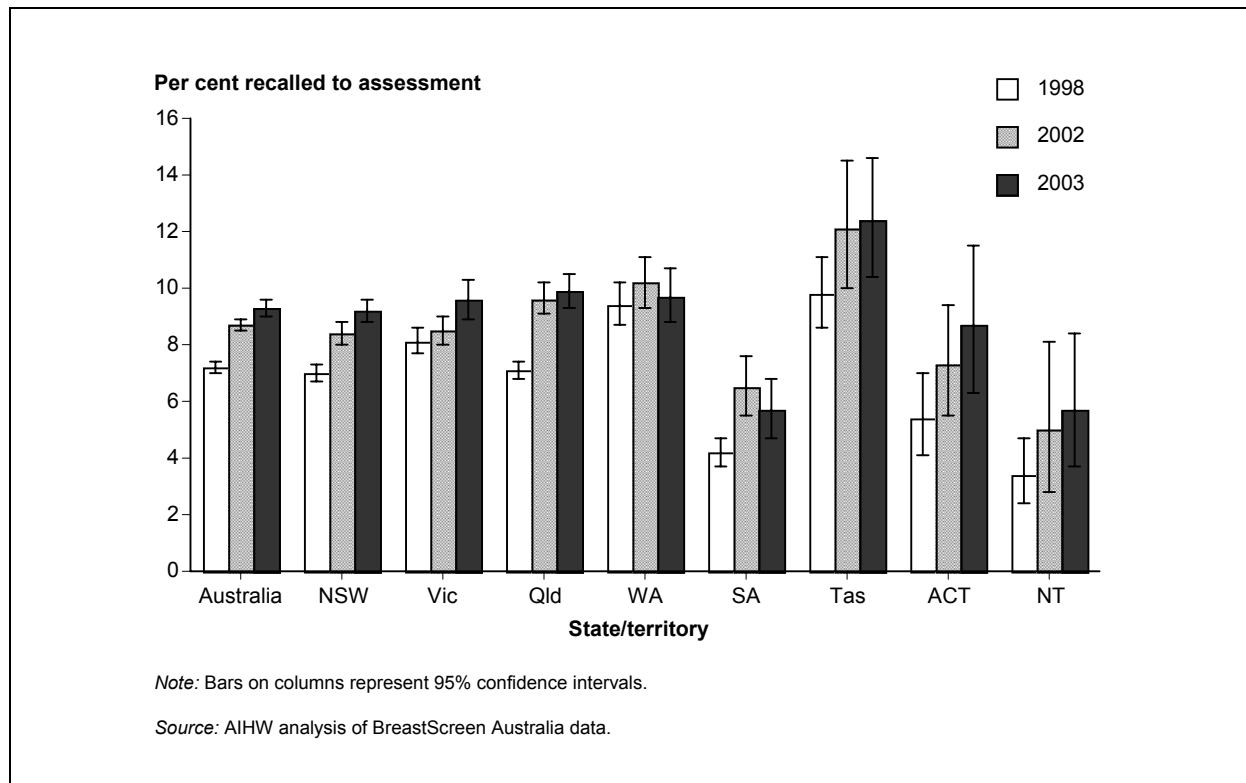
(a) Performance objective for BreastScreen services as set out in the National Accreditation Standards (NQMC unpublished).

.. Not applicable.

Source: AIHW analysis of BreastScreen Australia data.

The age-standardised recall to assessment rate for women attending for their first screening round rose from 7.2% in 1998 to 9.3% in 2003. This increase was statistically significant. The age-standardised recall rate for women aged 40 and over attending for their first screening round also rose considerably from 7.2% in 1998 to 9.3% in 2003.

Recall to assessment rate for women aged 50–69 years, mammographic reasons, first screening round, 1998, 2002 and 2003



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
2003 rate (%)	9.3*#	9.2*#	9.6#	9.9#	9.7	5.7	12.4	8.7	5.7
95% CI	9.1–9.6	8.8–9.6	9.0–10.4	9.3–10.5	8.8–10.6	4.6–6.8	10.4–14.6	6.3–11.5	3.7–8.4
2002 rate (%)	8.7	8.4	8.5	9.6	10.2	6.5	12.1	7.3	5.0
95% CI	8.5–9.0	8.0–8.7	7.9–9.0	9.0–10.1	9.4–11.1	5.5–7.6	10.0–14.5	5.5–9.4	2.7–8.0
1998 rate (%)	7.2	7.0	8.1	7.1	9.4	4.2	9.8	5.4	3.4
95% CI	7.1–7.4	6.7–7.3	7.7–8.6	6.8–7.4	8.7–10.2	3.7–4.7	8.6–11.1	4.1–7.0	2.3–4.7

* Statistically different from the 2002 rate.

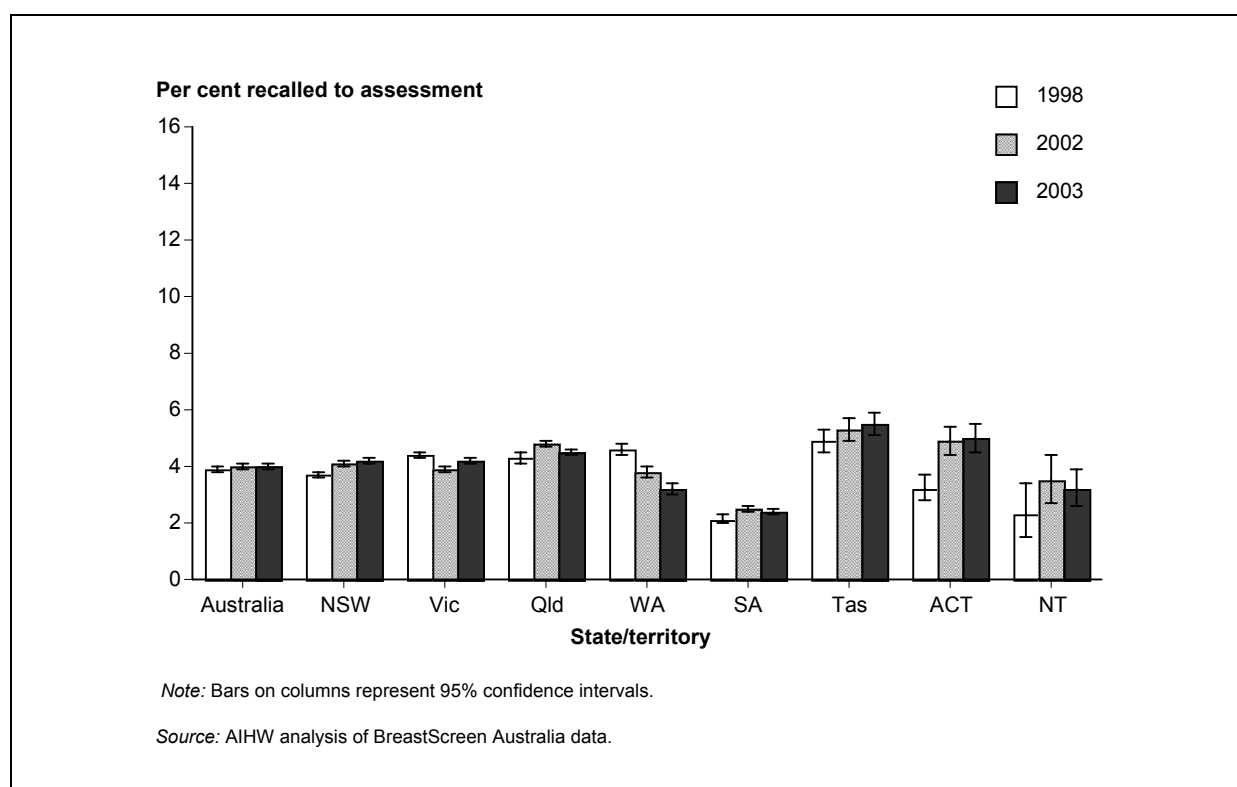
Statistically different from the 1998 rate.

Note: Rates are the number of women recalled for assessment as a percentage of women screened and age-standardised to the population of women attending a BreastScreen Australia service in 1998.

- In 2003, 9.3% (age-standardised) of women in the target age group attending for their first screen were recalled for assessment due to an abnormal mammogram result. Between 1998 and 2003 there was a statistically significant increase in recalls due to mammographic reasons for women attending their first screen. Similar increases also occurred in New South Wales, Victoria and Queensland. In other states and territories the changes between 1999 and 2003 were not statistically significant, mainly due to the number of cases being too small to measure significant change.
- In 2003 the age-standardised rates of recall for assessment for women in the target age group for the Northern Territory and South Australia (5.7%) were much lower than the national rate (9.3%).

For more information, see: Tables 29 to 36 beginning on page 104. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Recall to assessment rate for women aged 50–69 years, mammographic reasons, subsequent screening rounds, 1998, 2002 and 2003



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
2003 rate (%)	4.0	4.2 [#]	4.2*	4.5*	3.2 [#]	2.4 [#]	5.5	5.0 [#]	3.2
95% CI	4.0–4.1	4.1–4.3	4.1–4.3	4.3–4.6	3.1–3.4	2.3–2.6	5.1–5.9	4.5–5.5	2.5–3.9
2002 rate (%)	4.0	4.1	3.9	4.8	3.8	2.5	5.3	4.9	3.5
95% CI	4.0–4.1	4.0–4.2	3.8–4.0	4.7–4.9	3.6–4.0	2.4–2.7	4.9–5.7	4.4–5.4	2.7–4.4
1998 rate (%)	3.9	3.7	4.4	4.3	4.6	2.1	4.9	3.2	2.3
95% CI	3.9–4.0	3.6–3.8	4.3–4.5	4.1–4.4	4.4–4.9	2.0–2.3	4.5–5.3	2.8–3.7	1.5–3.4

* Statistically different from the 2002 rate.

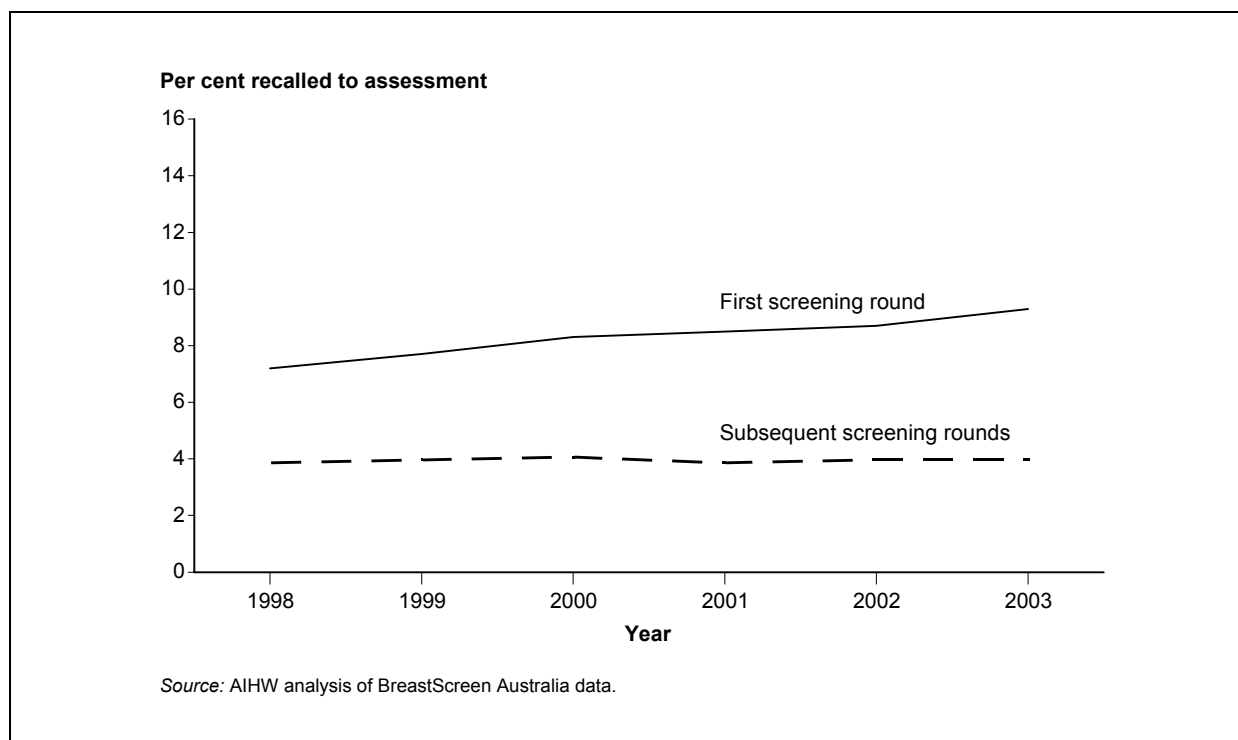
[#] Statistically different from the 1998 rate.

Note: Rates are the number of women recalled for assessment as a percentage of women screened and age-standardised to the population of women attending a BreastScreen Australia service in 1998.

- Of women in the target age group who were screened for a second or subsequent time in 2003, 4.0% (age-standardised) were recalled for assessment due to an abnormal mammogram result. This is less than half the rate for women attending for their first screen (9.3%).
- In 2003 the age-standardised rates of recall for mammographic assessment for women in the target age group screened for a second or subsequent time for South Australia, Northern Territory and Western Australia (2.4%, 3.2% and 3.2%, respectively) were much lower than the Australian rate (4.0%). Higher rates than the national rate were reported in Queensland, Tasmania and the Australian Capital Territory (4.5%, 5.5% and 5.0%, respectively).

For more information, see: Tables 29 to 36 beginning on page 104. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Recall to assessment trends for women aged 50–69 years, mammographic reasons, first and subsequent screening rounds, 1998 to 2003



	1998	1999	2000	2001	2002	2003
First screening round						
Rate	7.2*	7.7*	8.3*	8.5*	8.7*	9.3*
95% CI	7.1–7.4	7.5–7.9	8.1–8.5	8.3–8.8	8.5–9.0	9.1–9.6
Subsequent screening rounds						
Rate	3.9	4.0	4.1	3.9	4.0	4.0
95% CI	3.9–4.0	3.9–4.1	4.0–4.1	3.9–4.0	4.0–4.1	4.0–4.1

* Statistically significant from subsequent rounds.

Note: Rates are the number of women recalled for assessment as a percentage of women screened and age-standardised to the population of women attending a BreastScreen Australia service in 1998.

- There was an increase in the age-standardised rate for women recalled for assessment for mammographic reasons after their first screening round between 1998 and 2003. The age-standardised recall rate increased from 7.2% to 9.3%.
- The age-standardised recall rate for women attending for their second or subsequent screen was relatively stable between 1998 and 2003 and oscillated between 3.9% and 4.1%. However, recall rates reported for women attending for their second or subsequent rounds were much lower than the recall rates reported for women attending for their first screen—in recent years less than half.

For more information, see: Tables 29 to 36 beginning on page 104. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Indicator 6: Rescreening

Rescreen rate

The rescreen rate is the proportion of all women screened in a given year whose screening outcome was a recommendation to return for screening in two years who returned for a screen within 27 months. This rate is reported by five-year age groups (40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, and 85+ years) and for the target age group (50–67 years). Although the BreastScreen Australia target age group is 50–69 years, only women aged 50–67 years are reported for the rescreen indicator. This is because women aged 68–69 years in the index year were outside the target age group 27 months after their index screen and, therefore, were not expected to return for screening.

The rescreen indicator

The rescreen indicator measures the proportion of women who return for screening in the program within the recommended screening interval. 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, thus eliminating the advantage of screening. A high rescreen rate is also important for maintaining the participation rate. The anticipated reductions in mortality can be achieved only if a high proportion of women in the target age group attend for screening every two years. By having a mammogram every two years, a woman can reduce her chance of dying from breast cancer by up to 40% (Duffy et al. 1991; Fletcher et al. 1993; Feig 1998). The recommended interval of 27 months includes an additional 3 months to allow for potential delays in screening availability.

Women in the target age group are re-invited biennially. Some states and territories have a policy of re-inviting a proportion of women annually, for example, women with a strong family history of breast cancer. The data for this indicator include women who are recommended for annual screening as well as those screened biennially.

The proportion of women who returned for screening within the recommended screening interval increased with the number of screens a woman had previously attended. As can be seen in the table below, the rescreen rate is greater for women who have attended for two previous screens than for women who have been screened only once before, and greater still for women who have previously attended three or more screening episodes.

One of the objectives of the BreastScreen Australia Program is 'To rescreen all women in the Program at two-yearly intervals' (BSANAC & DHAC 2000).

The National Accreditation Standards for rescreen require:

- ≥75% of women aged 50–67 years who attend for their first screening round within the program are rescreened within 27 months.
- ≥90% of women aged 50–67 years who attend for their second and subsequent screen are rescreened within 27 months of their previous screening episode.

The following table shows the rescreen rates for 2000 and 2001 for women aged 50–67 years. Although the BreastScreen Australia target age group is 50–69 years, only women aged

50–67 years are reported for the rescreen indicator. This is because women aged 68–69 years in the index year were outside the target age group 27 months after their index screen and, therefore, were not expected to return for screening.

The objectives of rescreening at least 75% of women in the age group 50–67 attending for their first screening round and at least 90% of women attending for their second or subsequent screening rounds were not achieved in 2000 and 2001. The age-standardised rescreen rate for women aged 50–67 years attending for their first screening round declined from 66.3% in 2000 to 62.9% in 2001. The age-standardised rescreen rate for women aged 40 and over attending for their first screening round also declined from 61.8% in 2000 to 58.5% in 2001. The rescreen rates for women aged 50–67 years participating in their second or subsequent rounds were higher than the rescreen rates achieved by women participating in their first screening round but they did not reach the objective of at least 90%.

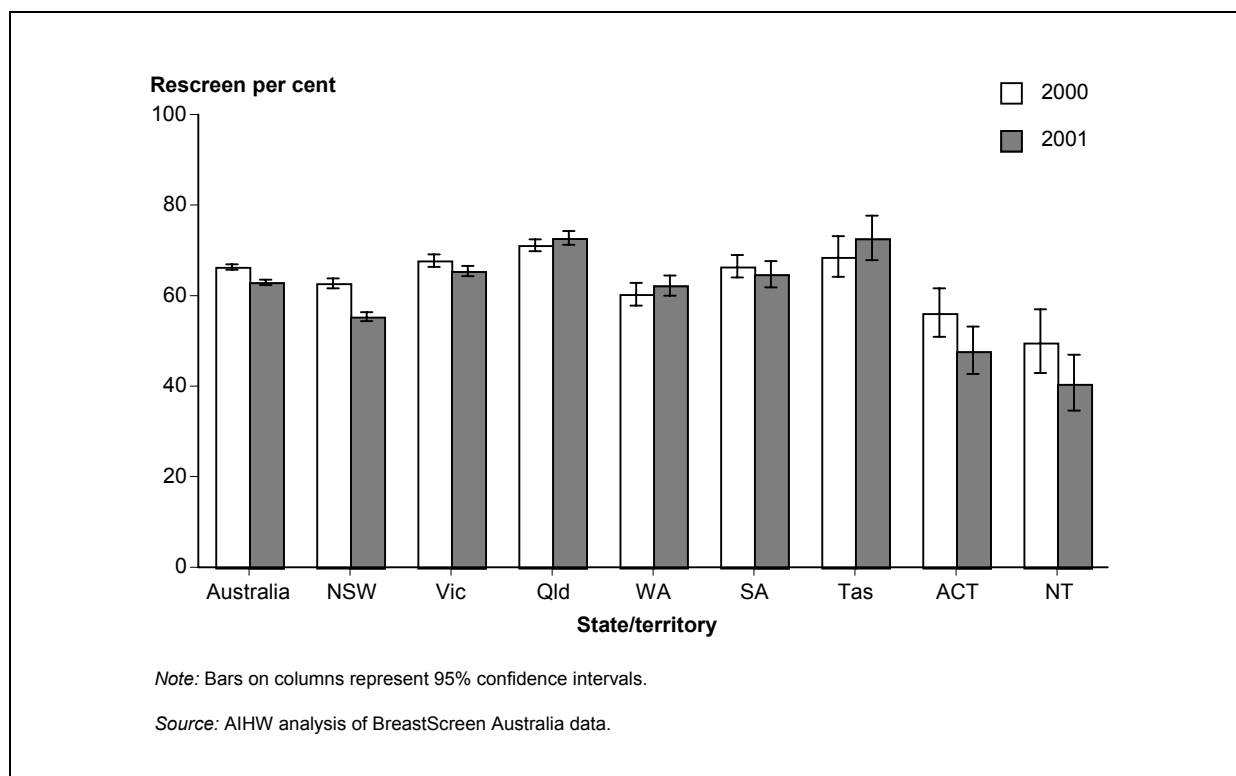
Age-standardised rescreen rates for women aged 40 and over and 50–67 years, screened during 2000 or 2001

	Objective ^(a)	2000	2001
First screening round			
Rate (%) for women aged 50–67 years	≥75	66.3	62.9
95% CI		65.6–66.9	62.2–63.5
Rate (%) for women aged 40 years and over	..	61.8	58.5
95% CI		61.3–62.3	58.1–59.0
Second screening round			
Rate (%) for women aged 50–67 years	≥90	75.7	71.9
95% CI		75.2–76.3	71.3–72.5
Rate (%) for women aged 40 years and over	..	72.0	67.9
95% CI		71.6–72.4	67.4–68.3
Subsequent screening rounds			
Rate (%) for women aged 50–67 years	≥90	84.2	81.8
95% CI		83.8–84.5	81.5–82.1
Rate (%) for women aged 40 years and over	..	80.6	78.0
95% CI		80.3–81.0	77.7–78.3

(a) Performance objective for BreastScreen services as set out in the National Accreditation Standards (NQMC unpublished).

.. Not applicable.

Rescreen rate for women aged 50–67 years, screened during 2000 and 2001, first screening round



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
2001 rate (%)	62.9*	55.3*	65.4	72.7	62.2	64.7	72.6	47.7	40.5
<i>95% CI</i>	62.2–63.5	54.4–56.3	64.3–66.6	71.2–74.2	60.0–64.4	61.8–67.6	67.8–77.7	42.7–53.1	34.6–46.9
2000 rate (%)	66.3	62.7	67.7	71.1	60.3	66.4	68.5	56.1	49.6
<i>95% CI</i>	65.6–66.9	61.6–63.8	66.3–69.1	69.8–72.5	57.9–62.9	64.0–68.9	64.1–73.1	50.9–61.6	42.9–56.8

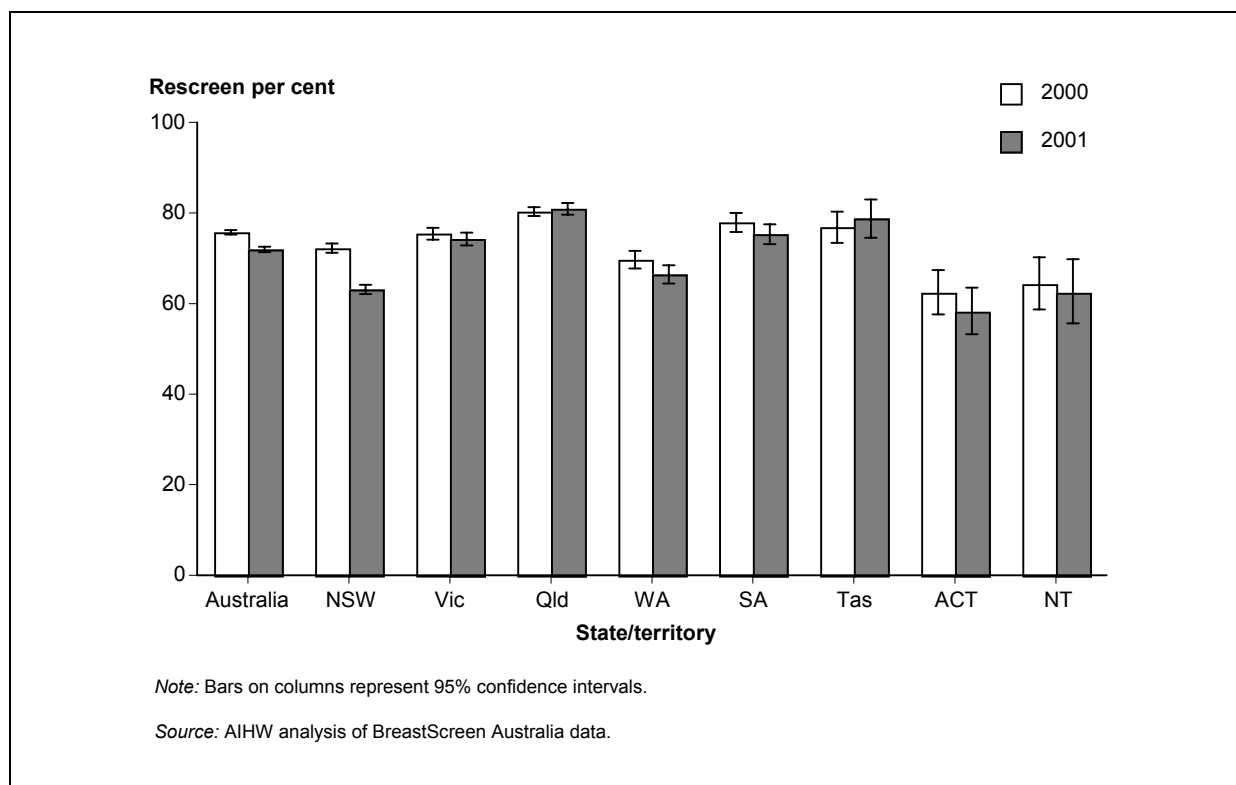
* Statistically different from the 2000 rate.

Note: Rates are the number of women attending for rescreening as a percentage of women screened and age-standardised to the population of women attending a BreastScreen Australia service in 1998.

- The age-standardised national rescreen rate for women aged 50–67 years returning for screening within 27 months of attending a BreastScreen Australia service in 2001 for the first time was 62.9%. Of all women aged 40 and over, 58.5% returned for screening.
- Across the states and territories, the age-standardised rescreen rates in 2001 for women aged 50–67 years were below the national average for New South Wales (55.3%), Australian Capital Territory (47.7%) and Northern Territory (40.5%), and above the average for Queensland (72.7%) and Tasmania (72.6%).
- The age-standardised national rescreen rate for women attending the service in 2000 decreased from 66.3% to 62.9% for women attending the service in 2001. New South Wales followed a similar trend with a decrease in rescreen rates between 2000 (62.7%) and 2001 (55.3%). The changes in rescreen rates in all other states and territories were not statistically significant.

For more information, see: Tables 37 to 42 beginning on page 112. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Rescreen rate for women aged 50–67 years, screened during 2000 and 2001, second screening round



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
2001 rate (%)	71.9*	63.1*	74.2*	80.9*	66.4	75.3*	78.7	58.2*	62.4*
<i>95% CI</i>	71.3–72.5	62.1–64.1	72.8–75.6	79.7–82.2	64.4–68.5	73.2–77.5	74.6–83.1	53.3–63.5	55.6–69.7
2000 rate (%)	75.7	72.2	75.4	80.3	69.6	77.9	76.8	62.4	64.3
<i>95% CI</i>	75.2–76.3	71.3–73.2	74.1–76.7	79.2–81.3	67.7–71.6	75.8–80.1	73.3–80.3	57.6–67.5	58.7–70.2

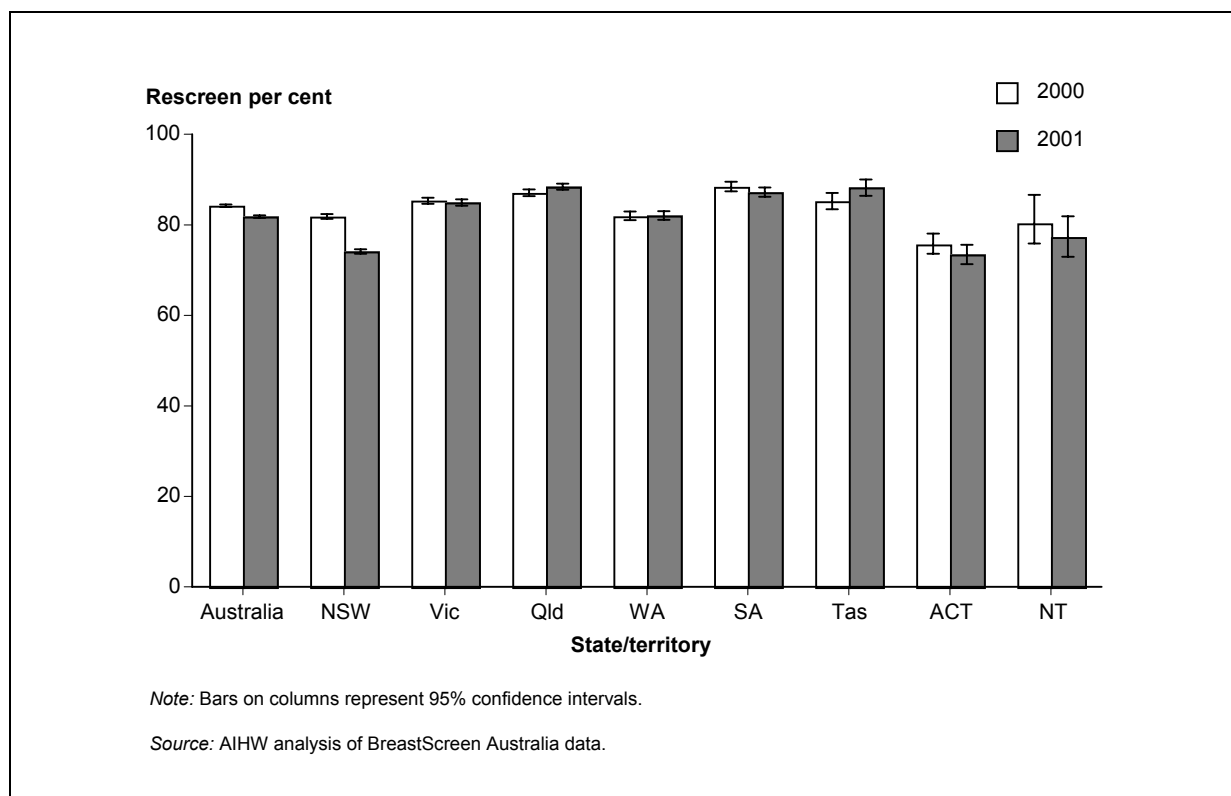
* Statistically significant increase between first and second screening round (first round is on previous page).

Note: Rates are the number of women attending for rescreening as a percentage of women screened and age-standardised to the population of women attending a BreastScreen Australia service in 1998.

- The age-standardised national rescreen rate for women aged 50–67 years returning for screening within 27 months of attending a BreastScreen Australia service in 2001 for the second time was 71.9%. This is higher than the rate for women attending for their first visit (62.9%). New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory followed a similar trend with increases between the first and subsequent screening rounds.
- There was a statistically significant decrease in the age-standardised rescreen rates for women attending a screening service for their second round from 75.7% in 2000 to 71.9% in 2001. For New South Wales, the decrease in the rescreen rates was from 72.2% (2000) to 63.1% (2001). The changes for other states and territories were not statistically significant.

For more information, see: Tables 37 to 42 beginning on page 112. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.

Rescreen rate for women aged 50–67 years, screened during 2000 and 2001, third and subsequent screening rounds



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
2001 rate (%)	81.8*	74.1*	84.9	88.4	82.0	87.2	88.2	73.4	77.3
95% CI	81.5–82.1	73.6–74.6	84.3–85.6	87.7–89.2	81.1–83.0	86.2–88.2	86.4–90.0	71.3–75.6	72.8–81.9
2000 rate (%)	84.2	81.8	85.3	87.0	81.9	88.4	85.2	75.7	80.3
95% CI	83.8–84.5	81.3–82.4	84.6–86.0	86.2–87.9	80.9–82.9	87.3–89.5	83.4–86.9	73.4–78.1	74.3–86.5

* Statistically different from the 2000 rate.

Note: Rates are the number of women attending for rescreening as a percentage of women screened and age-standardised to the population of women attending a BreastScreen Australia service in 1998.

- The age-standardised national rescreen rate for women aged 50–67 years returning for screening within 27 months of attending a BreastScreen Australia service in 2001 for their third or subsequent visit was 81.8%. This is much higher than the rates for women attending for their first or second visits (62.9% and 71.9% respectively).
- The age-standardised national rescreen rate for the third and subsequent screening rounds declined from 84.2% in 2000 to 81.8% in 2001.

For more information, see: Tables 37 to 42 beginning on page 112. Tables with data other than for the latest reporting period can be found on the AIHW's web site at <www.aihw.gov.au>.