

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 for women aged 40 years and over and for the target age group 50–69 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 at risk of interval or screen-detected breast cancer’ 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 interval cancers per 10,000 women aged 50–69 years who attend for screening less than 12 months following a negative screening episode.

The following table shows the detection rate for interval cancers during index years 1997–1999 and 2000–2002 (see the glossary for definition of ‘index year’). The objective of detecting less than 7.5 interval cancers per 10,000 women in the target age group 50–69 years was achieved in 1997–1999 and 2000–2002 for women attending for their first screening round. However, this has not been achieved for subsequent screening rounds where it has increased, though not significantly.

Interval cancer rate for women aged 40 years and over and 50–69 years, screened during index years 1997, 1998, 1999 and 2000, 2001, 2002, first and subsequent rounds, 0–12 months follow-up

	Objective ^(a)	Index years 1997, 1998 and 1999*	Index years 2000, 2001 and 2002
First screening round 0–12 months			
Rate for women aged 50–69 years	<7.5	7.3	6.8
95% CI		6.4–8.4	5.8–8.0
Rate for women aged 40 years and over	..	7.2	7.0
95% CI		6.5–8.0	6.1–8.0
Subsequent screening rounds 0–12 months			
Rate for women aged 50–69 years	<7.5	7.7	7.9
95% CI		7.2–8.2	7.4–8.3
Rate for women aged 40 years and over	..	7.6	7.9
95% CI		7.2–8.1	7.5–8.3

.. Not applicable.

(a) Performance objective for BreastScreen services as set out in the National Accreditation Standards (NQMC 2004).

* The Australian figure includes data from NSW, Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the BreastScreen Australia monitoring report 2000–2001 from which the data for index years 1997, 1998 and 1999 were copied.

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 for women aged 40 years and over and for the target age group 50–69 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. It 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.

A high sensitivity indicates that few cancers in women screened are missed by the screening program. For example, in the following table, in 2000, 2001 and 2002 there was program sensitivity of 79% in 24 months follow-up of women aged 50–69 years in the first screening round, indicating that 21% of cancers diagnosed during the screening interval were not detected by screening. For subsequent screening rounds, the program sensitivity for women aged 50–69 years in this time period was 71%, indicating that 29% of cancers were not detected by screening.

There are no National Accreditation Standards for the sensitivity indicator.

The following table shows the program sensitivity for invasive breast cancers during index years 1997–1999 and 2000–2002 (see Glossary for the definition of ‘index years’).

Program sensitivity for women aged 40 years and over and 50–69 years, screened during index years 1997, 1998, 1999 and 2000, 2001, 2002, first and subsequent rounds, 0–24 months follow-up

	Index years 1997, 1998 and 1999*	Index years 2000, 2001 and 2002
First screening round		
Rate (%) for women aged 50–69 years	77.1	78.6
95% CI	73.5–80.9	74.5–82.8
Rate (%) for women aged 40 years and over	75.7	77.2
95% CI	72.8–78.7	74.0–80.4
Subsequent screening rounds		
Rate (%) for women aged 50–69 years	68.9	71.1
95% CI	66.7–71.2	69.4–72.9
Rate (%) for women aged 40 years and over	67.8	69.0
95% CI	65.8–69.9	67.4–70.6

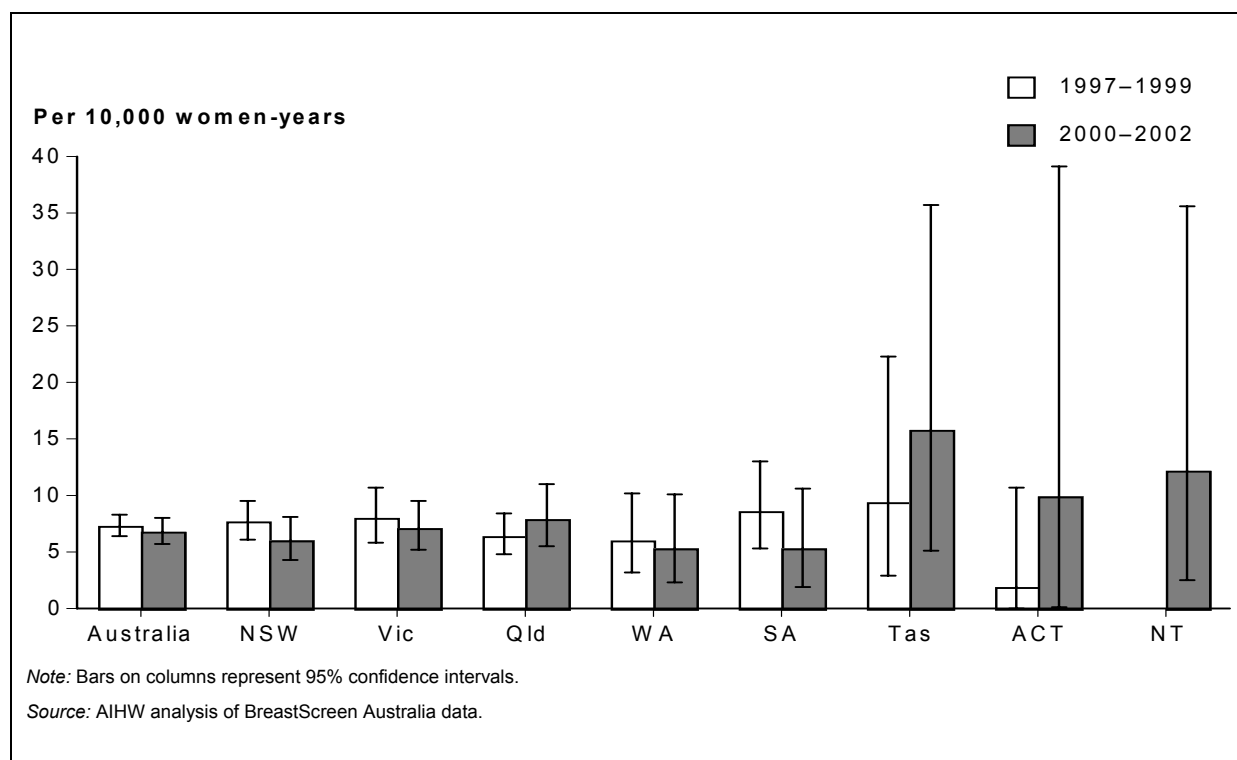
* Excludes NT.

In this chapter, data for the index years are combined. This aggregation improves the stability of rates.

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 of management of symptomatic clients in that jurisdiction. 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 affects the comparability of this indicator between jurisdictions.

States and territories

Interval cancer rate for women aged 50–69 years, screened during index years 1997, 1998, 1999 and 2000, 2001, 2002, first screening round, 0–12 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Index years									
2000–2002									
Rate	6.8	6.0	7.1	7.9	5.3	5.3	15.8	9.9	12.2
95% CI	5.8–8.0	4.3–8.0	5.1–9.4	5.5–11.0	2.2–10.1	1.9–10.7	5.0–35.7	0.0–39.0	2.5–35.5
Index years									
1997–1999									
Rate	7.3	7.7	8.0	6.4	6.0	8.6	9.4	1.9	n.a.
95% CI	6.4–8.4	6.2–9.6	5.7–10.7	4.8–8.4	3.2–10.3	5.4–13.1	2.8–22.3	0.0–10.7	n.a.

n.a. Not available.

Notes

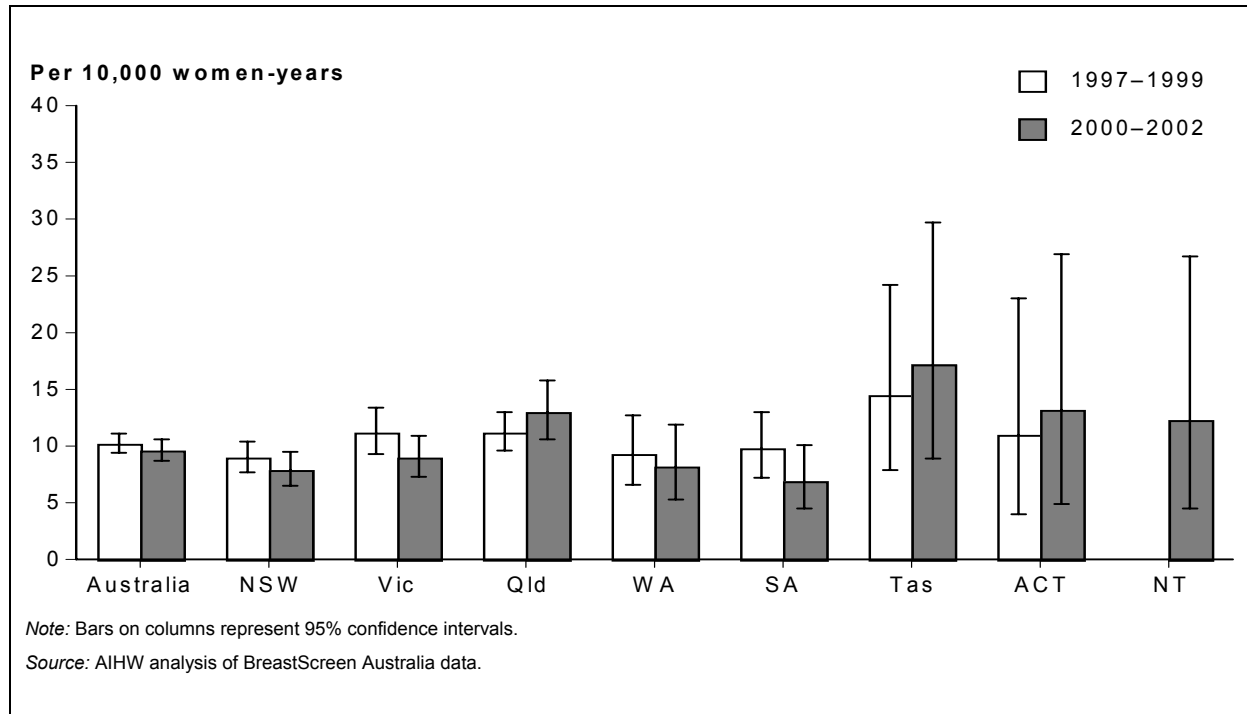
1. Rates are the number of interval cancers detected per 10,000 women-years and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. The data include both symptomatic and asymptomatic women.
3. None of the rates was significantly different from the all-Australia rate.
4. The Australian figure includes data from NSW, Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the BreastScreen Australia monitoring 2000–2001 from which the data for index years 1997, 1998 and 1999 were copied.

- The age-standardised rate of interval cancers detection for Australia decreased between the index years 1997–1999 and 2000–2002 from 7.3 to 6.8. However, the decrease was not statistically significant.

For more information, see: Tables 15 to 20 beginning on page 90. Tables with data other than for the latest reporting period can be found on the AIHW's website at <www.aihw.gov.au>.

States and territories

Interval cancer rate for women aged 50–69 years, screened during index years 1997, 1998, 1999 and 2000, 2001, 2002, first screening round, 0–24 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas*	ACT	NT
Index years 2000–2002									
Rate	9.6	7.9	9.0	13.0	8.2	6.9	17.2	13.2	12.3
95% CI	8.7–10.6	6.5–9.5	7.4–10.9	10.6–15.8	5.3–11.9	4.5–10.1	8.8–29.6	4.9–26.9	4.5–26.7
Index years 1997–1999									
Rate	10.2	9.0	11.2	11.2	9.3	9.8	14.5	11.0	n.a.
95% CI	9.4–11.1	7.7–10.4	9.3–13.4	9.7–13.0	6.6–12.7	7.1–13.0	7.9–24.2	4.0–23.0	n.a.

* Interval cancers for 13–24 months for 2002 for Tasmania may not be fully complete as the Tasmanian Cancer Registry file for 2004 was not closed off at the time the interval cancer data were supplied to the AIHW.

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 NSW, Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the BreastScreen Australia monitoring 2000–2001 from which the data for index years 1997, 1998 and 1999 were copied.

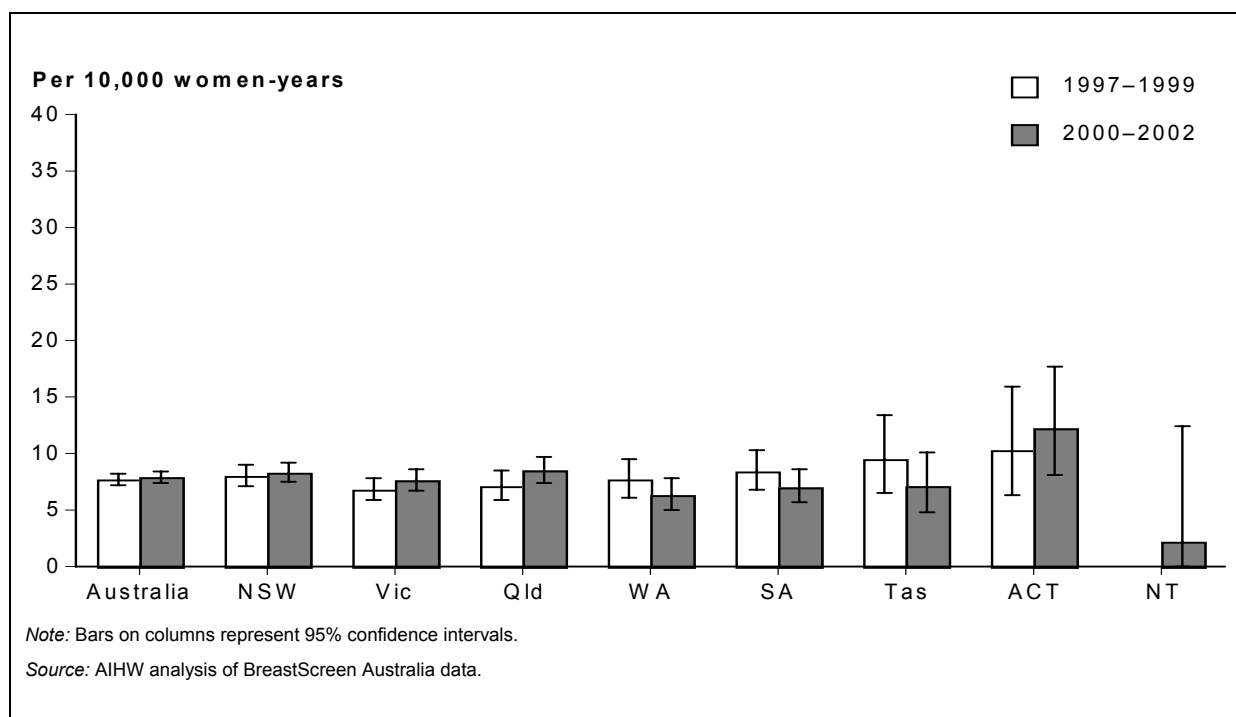
- The age-standardised rate of interval cancers detection for Australia decreased from 10.2 per 10,000 women-years for women aged 50–69 years 0–24 months after their first screen

during index years 1997–1999 to 9.6 per 10,000 women-years for women screened in index years 2000–2002. The decrease was not statistically significant.

For more information, see: Tables 15 to 20 beginning on page 90. Tables with data other than for the latest reporting period can be found on the AIHW's website at <www.aihw.gov.au>.

States and territories

Interval cancer rate for women aged 50–69 years, screened during index years 1997, 1998, 1999 and 2000, 2001, 2002, subsequent screening rounds, 0–12 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Index years									
2000–2002									
Rate	7.9	8.3	7.6	8.5	6.3	7.0	7.1	12.2	2.2
95% CI	7.4–8.3	7.5–9.2	6.7–8.6	7.4–9.7	5.1–7.8	5.7–8.6	4.8–10.1	8.1–17.7	0.1–12.4
Index years									
1997–1999									
Rate	7.7	8.0	6.8	7.1	7.7	8.4	9.5	10.3	n.a.
95% CI	7.2–8.2	7.2–9.0	5.9–7.8	5.9–8.6	6.1–9.5	6.7–10.3	6.5–13.4	6.3–16.0	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. None of the rates was significantly different from the all-Australia rate.
4. The Australian figure includes data from NSW, Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the *BreastScreen Australia monitoring 2000–2001* from which the data for index years 1997, 1998 and 1999 were copied.

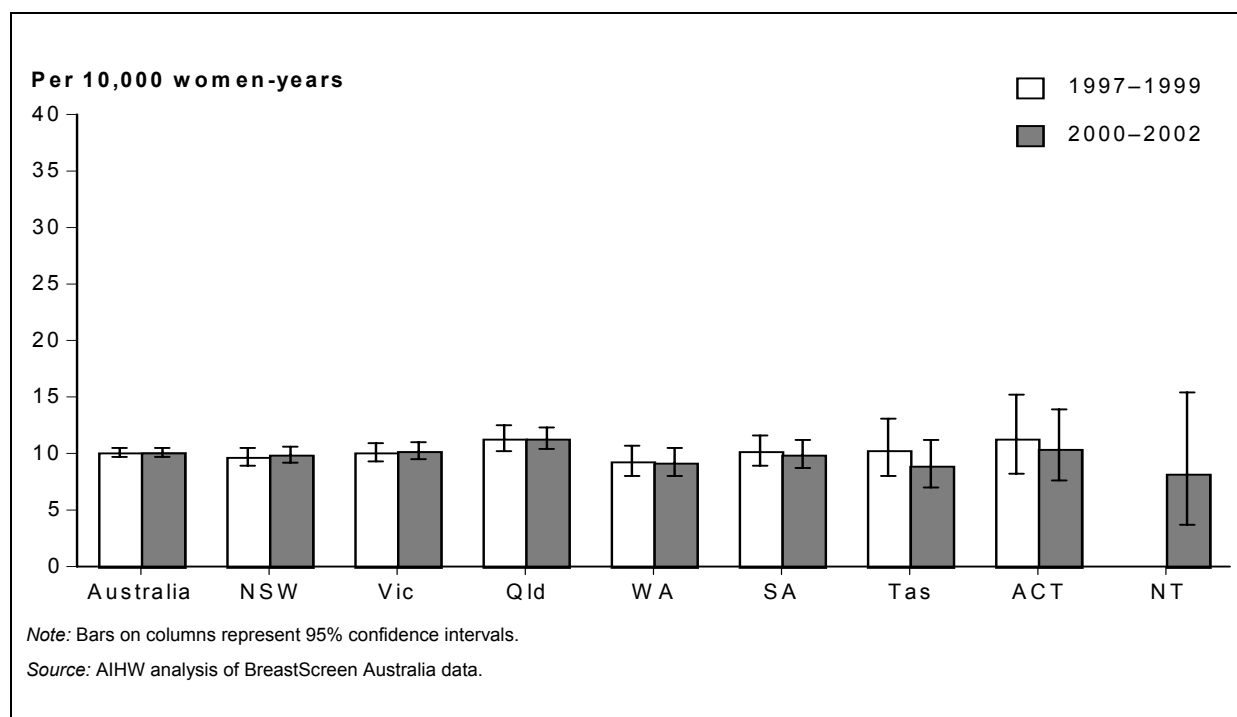
- There was almost no change between index years 1997–1999 and 2000–2002 in the age-standardised rate of interval cancers of 7.9 per 10,000 women-years in 2000–2002 for women aged 50–69 years during 0–12 months follow-up.
- For index years 2000–2002, the age-standardised rate of interval cancers for women aged 50–69 years for 0–12 months follow-up increased slightly between the first and the

subsequent rounds from 6.8 to 7.9 per 10,000 women-years. This increase was not significant.

For more information, see: Tables 15 to 20 beginning on page 90. Tables with data other than for the latest reporting period can be found on the AIHW's website at <www.aihw.gov.au>.

States and territories

Interval cancer rate for women aged 50–69 years, screened during index years 1997, 1998, 1999 and 2000, 2001, 2002, subsequent screening rounds, 0–24 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas*	ACT	NT
Index years 2000–2002									
Rate	10.1	9.9	10.2	11.3	9.2	9.9	8.9	10.4	8.2
95% CI	9.8–10.5	9.3–10.6	9.4–10.9	10.4–12.2	8.0–10.4	8.7–11.2	7.0–11.2	7.6–13.9	3.8–15.4
Index years 1997–1999									
Rate	10.1	9.7	10.1	11.3	9.3	10.2	10.3	11.3	n.a.
95% CI	9.7–10.6	8.9–10.5	9.3–11.0	10.2–12.6	8.0–10.7	8.9–11.6	8.0–13.1	8.2–15.2	n.a.

* Interval cancers for 13–24 months for 2002 for Tasmania may not be fully complete as the Tasmanian Cancer Registry file for 2004 was not closed off at the time the interval cancer data were supplied to the AIHW.

n.a. Not available.

Notes

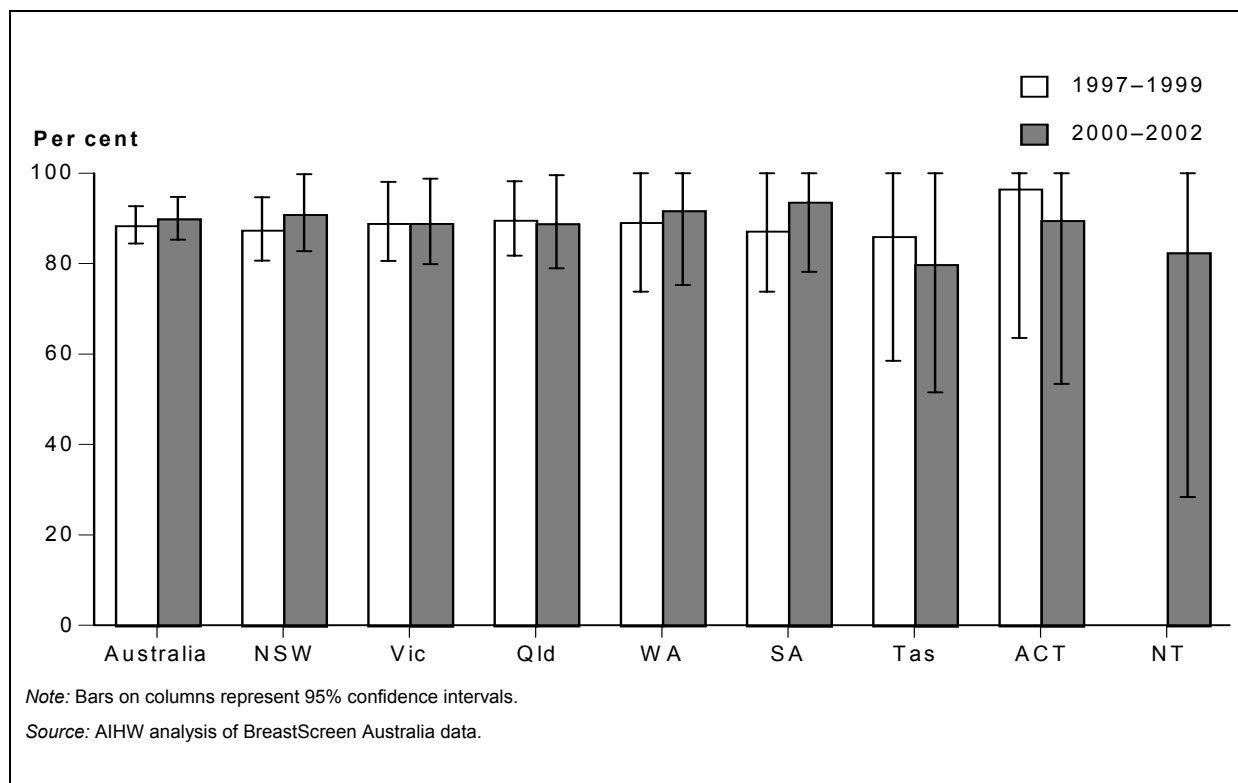
1. Rates are the number of interval cancers detected per 10,000 women-years and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. The data include both symptomatic and asymptomatic women.
3. None of the rates was significantly different from the all-Australia rate.
4. The Australian figure includes data from NSW, Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the BreastScreen Australia monitoring 2000–2001 from which the data for index years 1997, 1998 and 1999 were copied.

- The age-standardised rate of interval cancers for women aged 50–69 years with 0–24 months of follow-up after their subsequent screening rounds was 10.1 per 10,000 women-years for index years 2000–2002 and 1997–1999.

For more information, see: Tables 15 to 20 beginning on page 90. Tables with data other than for the latest reporting period can be found on the AIHW's website at <www.aihw.gov.au>.

States and territories

Program sensitivity for women aged 50–69 years, screened during index years 1997, 1998, 1999 and 2000, 2001, 2002, first screening round, 0–12 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Index years 2000–2002									
Rate	90.0	91.0	89.0	88.9	91.8	93.7	79.9	89.6	82.5
95% CI	85.4–94.9	82.8–99.8	79.9–98.8	79.0–99.6	75.2–100.0	78.2–100.0	51.4–100.0	53.5–100.0	28.4–100.0
Index years 1997–1999									
Rate	88.5	87.5	89.0	89.7	89.2	87.3	86.1	96.6	n.a.
95% CI	84.5–92.7	80.7–94.7	80.5–98.0	81.8–98.2	73.8–100.0	73.7–100.0	58.5–100.0	63.6–100.0	n.a.

n.a. Not available.

Notes

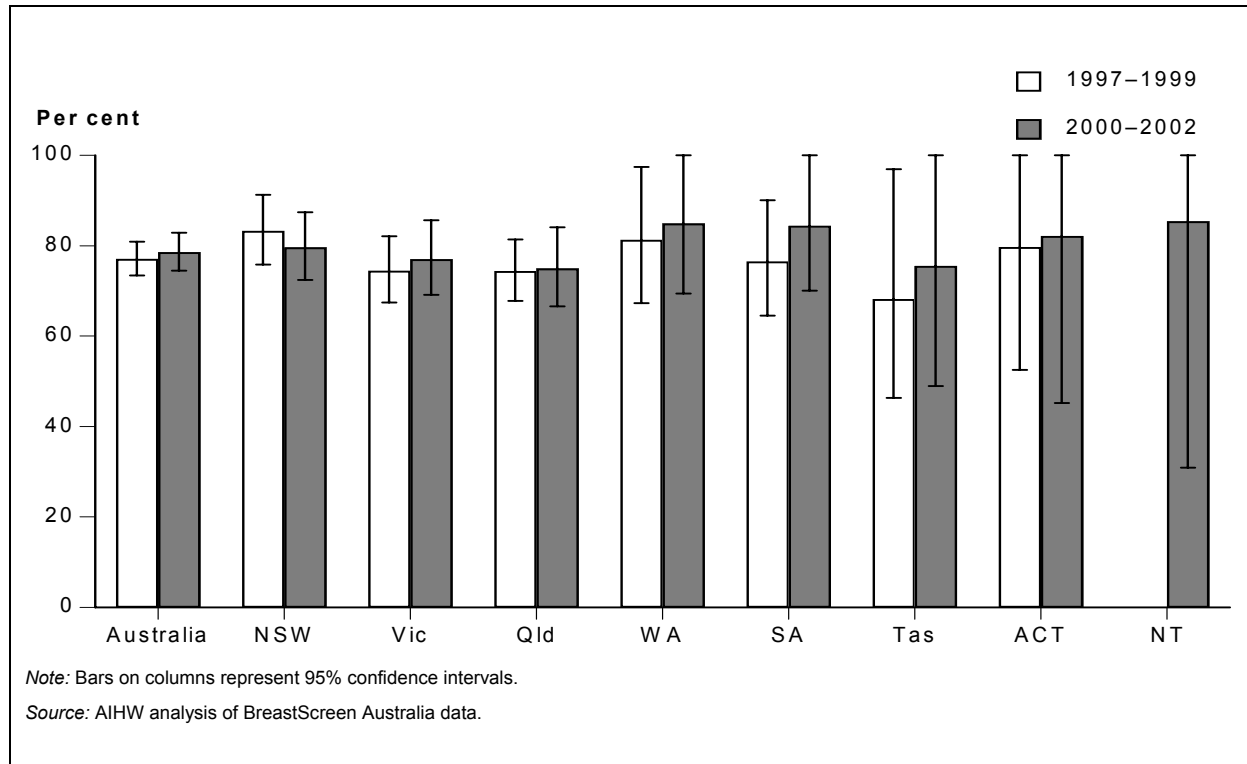
1. Rates are the number of screen-detected cancers as a percentage of all cancers (screen-detected and interval cancers) and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. The data include both symptomatic and asymptomatic women.
3. None of the rates was significantly different from the all-Australia rate.
4. The Australian figure includes data from NSW, Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the BreastScreen Australia monitoring 2000–2001 from which the data for index years 1997, 1998 and 1999 were copied.

- The age-standardised program sensitivity rate for women in the target age group (50–69) 0–12 months after their first screen was 90.0% for index years 2000–2002 compared with 88.5% for index years 1997–1999. The increase was not statistically significant.

For more information, see: Tables 21 to 24 beginning on page 96. Tables with data other than for the latest reporting period can be found on the AIHW's website at <www.aihw.gov.au>.

States and territories

Program sensitivity for women aged 50–69 years, screened during index years 1997, 1998, 1999 and 2000, 2001, 2002, first screening round, 0–24 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas*	ACT	NT
Index years 2000–2002									
Rate	78.6	79.6	77.0	75.0	84.9	84.4	75.5	82.2	85.4
95% CI	74.5–82.8	72.4–87.4	69.0–85.6	66.6–84.1	69.4–100.0	70.0–100.0	48.9–100.0	45.2–100.0	30.9–100.0
Index years 1997–1999									
Rate	77.1	83.3	74.5	74.4	81.3	76.5	68.2	79.7	n.a.
95% CI	73.5–80.9	75.8–91.3	67.3–82.1	67.9–81.5	67.3–97.4	64.5–90.1	46.2–96.8	52.5–100.0	n.a.

* Interval cancers for 13–24 months for 2002 for Tasmania may not be fully complete as the Tasmanian Cancer Registry file for 2004 was not closed off at the time the interval cancer data were supplied to the AIHW.

n.a. Not available.

Notes

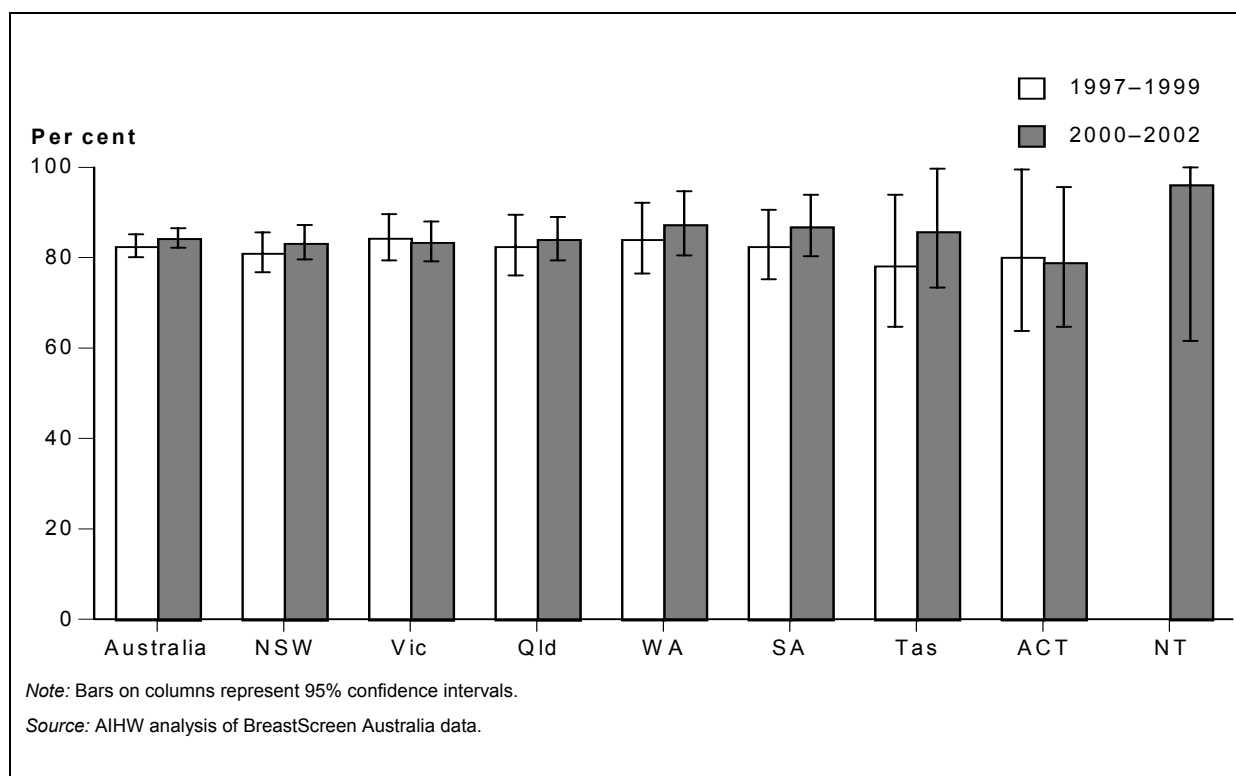
1. Rates are the number of screen-detected cancers as a percentage of all cancers (screen-detected and interval cancers) and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. The data include both symptomatic and asymptomatic women.
3. The Australian figure includes data from NSW, Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the BreastScreen Australia monitoring 2000–2001 from which the data for index years 1997, 1998 and 1999 were copied.

- The age-standardised program sensitivity rate for women in the target age group (50–69 years) 0–24 months after their first screen increased from 77.1% in 1997–1999 to 78.6% in 2000–2002, but this increase was not significant.

For more information, see: Tables 21 to 24 beginning on page 96. Tables with data other than for the latest reporting period can be found on the AIHW's website at <www.aihw.gov.au>.

States and territories

Program sensitivity for women aged 50–69 years, screened during index years 1997, 1998, 1999 and 2000, 2001, 2002, subsequent screening rounds, 0–12 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Index years									
2000–2002									
Rate	84.3	83.3	83.5	84.1	87.4	86.9	85.8	79.0	96.2
95% CI	82.2–86.5	79.6–87.2	79.2–88.0	79.5–89.0	80.5–94.7	80.3–93.9	73.3–99.6	64.7–95.6	61.6–100.0
Index years									
1997–1999									
Rate	82.6	81.1	84.4	82.6	84.1	82.6	78.3	80.2	n.a.
95% CI	80.1–85.2	76.8–85.6	79.4–89.6	76.1–89.5	76.5–92.2	75.1–90.6	64.7–93.9	63.8–99.5	n.a.

n.a. Not available.

Notes

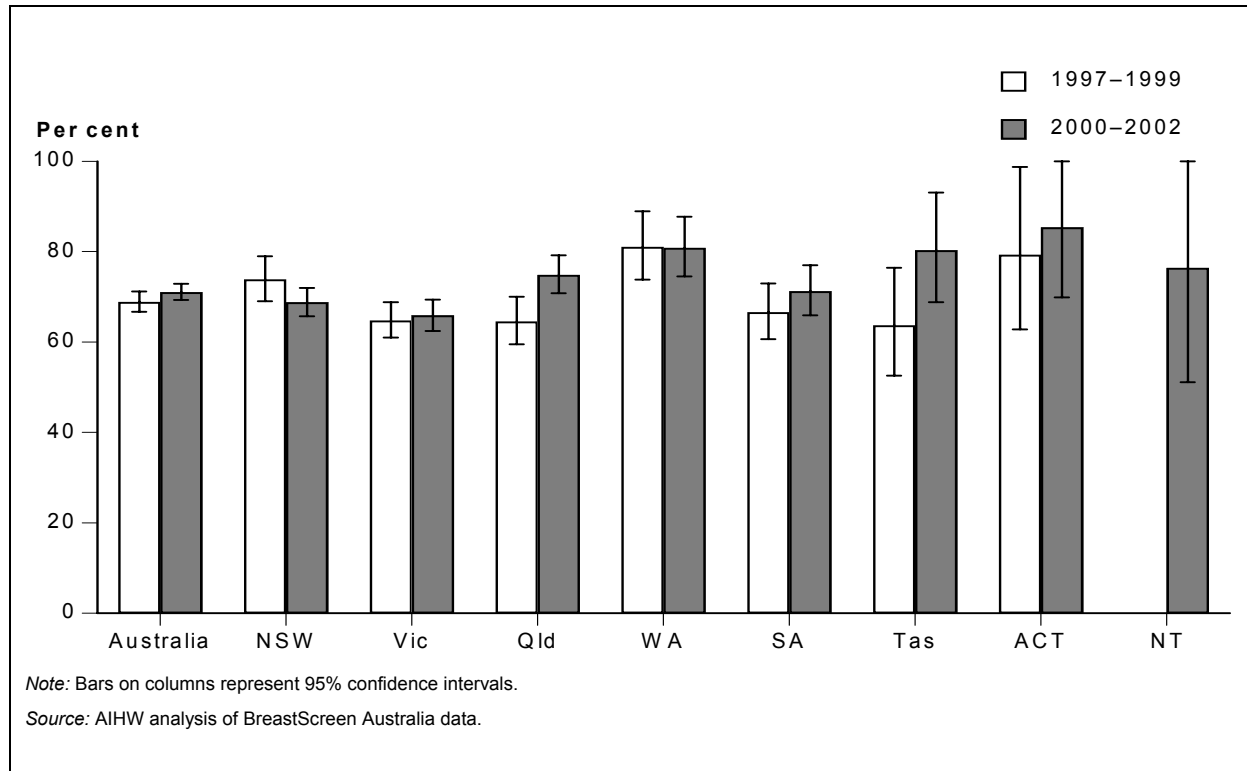
1. Rates are the number of screen-detected cancers as a percentage of all cancers (screen-detected and interval cancers) and age-standardised to the population of women attending a BreastScreen Australia service in 1998.
2. The data include both symptomatic and asymptomatic women.
3. None of the rates was significantly different from the all-Australia rate.
4. The Australian figure includes data from NSW, Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the BreastScreen Australia monitoring 2000–2001 from which the data for index years 1997, 1998 and 1999 were copied.

- The program sensitivity rate between the index years 1997–1999 and 2000–2002 for women in the target age group (50–69) 0–12 months after their second or subsequent screens increased from 82.6% to 84.3% but the increase was not statistically significant.

For more information, see: Tables 21 to 24 beginning on page 96. Tables with data other than for the latest reporting period can be found on the AIHW's website at <www.aihw.gov.au>.

States and territories

Program sensitivity for women aged 50–69 years, screened during index years 1997, 1998, 1999 and 2000, 2001, 2002, subsequent screening rounds, 0–24 months follow-up



	Australia	NSW	Vic	Qld	WA	SA	Tas*	ACT	NT
Index years									
2000–2002									
Rate	71.1	68.8	65.9	74.9	80.9 ^{**}	71.3	80.3	85.4	76.4
95% CI	69.4–72.9	65.8–72.0	62.5–69.4	70.8–79.2	74.5–87.6	65.9–77.1	68.8–93.1	69.9–100.0	51.2–100.0
Index years									
1997–1999									
Rate	68.9	73.9	64.8	64.6	81.1 [#]	66.6	63.7	79.3	n.a.
95% CI	66.7–71.2	69.0–79.0	61.0–68.7	59.5–70.0	73.7–88.9	60.7–73.1	52.6–76.4	62.8–98.7	n.a.

* Interval cancers for 13–24 months for 2002 for Tasmania may not be fully complete as the Tasmanian Cancer Registry file for 2004 was not closed off at the time the interval cancer data were supplied to the AIHW.

** Statistically different from all-Australia rate.

[#] Statistically different from all-Australia rate.

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 NSW, Vic, Qld, WA, SA, Tas and ACT. NT data were unavailable at the time of publication of the BreastScreen Australia monitoring 2000–2001 from which the data for index years 1997, 1998 and 1999 were copied.

- The program sensitivity rate for Australia between the index years 1997–1999 and 2000–2002 for women in the target age group (50–69) 0–24 months after their second or subsequent screen increased from 68.9% to 71.1%. This increase was not statistically significant.

For more information, see: Tables 21 to 24 beginning on page 96. Tables with data other than for the latest reporting period can be found on the AIHW's website at <www.aihw.gov.au>.