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Abbreviations

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
ARIA	Accessibility/Remoteness Index for Australia
ASGC	Australian Standard Geographical Classification
AS rate	age-standardised rate
AS rate (A)	age-standardised rate, standardised to the Australian 2001 Population
CD	Census Collection District
CI	confidence interval
DoHA	Australian Government Department of Health and Ageing
DCIS	ductal carcinoma in situ
ERP	estimated resident population
ICD	International Classification of Diseases
IRSD	Index of Relative Socioeconomic Disadvantage
NBCC	National Breast Cancer Centre
NQMC	National Quality Management Committee
NSW	New South Wales
NT	Northern Territory
Qld	Queensland
SA	South Australia
SLA	statistical local area
Tas	Tasmania
Vic	Victoria
WA	Western Australia
WHO	World Health Organization

Symbols

. .	not applicable
≤	less than or equal to
<	less than
>	more than

Summary

BreastScreen Australia is a joint program of the Australian and state and territory governments that aims to reduce morbidity and mortality from breast cancer. This is achieved through organised breast cancer screening that aims to detect cases of unsuspected breast cancer in asymptomatic women, enabling intervention at an early stage. The target age group is women aged 50–69 years.

Participation and rescreening

In 2005–2006, 1,622,481 women participated in BreastScreen Australia, of whom 1,241,796 (76.5%) were aged 50–69 years.

Participation of women aged 50–69 years in BreastScreen Australia increased from 55.7% in 2003–2004 to 56.9% in 2005–2006.

In 2005–2006, participation of Aboriginal and Torres Strait Islander women aged 50–69 years remained lower than the national rate, at 38.1% of the eligible population.

The proportion of women aged 50–69 years rescreened within 27 months ranged from 62.7% after the first screen to 80.9% after third and subsequent screens.

Invasive cancer detection

Detection of invasive breast cancers within BreastScreen Australia increased between 1996 and 2006, in line with the Program's aim to maximise the number of cancers detected, particularly the number of small cancers.

The proportion of invasive breast cancers detected that were small decreased marginally from 64.8% in 1996 to 62.4% in 2006. The proportion of small cancers detected was higher in subsequent screening rounds (63.6%) compared with the first screening round (55.2%), which shows that a higher proportion of women attending the Program for the first time have breast cancers larger than 15 mm compared with those who have been screened previously.

Recall to assessment

Between 1996 and 2006, the national recall to assessment rate for the first screening round increased from 5.8% to 10.0% of women screened, while this increased by a smaller margin for subsequent screening rounds from 3.2% to 4.0%.

Incidence and mortality

Incidence and mortality rates for breast cancer for all Australian women have changed between 1991, when BreastScreen Australia commenced, and the most recent year for which these data are available. Incidence for women aged 50–69 years increased from 229.9 new cases per 100,000 women in 1991 to 279.1 in 2005, with a peak of 304.8 in 2001. Conversely, mortality from breast cancer for women aged 50–69 years has decreased steadily from 66.5 deaths per 100,000 women in 1991 to 47.5 per 100,000 women in 2006.

National comparison table

The following table provides a comparison of national data for the BreastScreen Australia Program for all performance indicators for the target age group of women aged 50–69 years. Summary statistics for the latest reporting period (2005–2006) are compared with those from the previous reporting period (2003–2004) and those from the reporting period five years prior to the latest reporting period (2000–2001). Performance objectives for the Program are also listed to provide benchmark standards to aid in the interpretation of data presented.

One-year and 5-year comparison table for national data for all indicators for women aged 50-69 years

		Latest reporting period		Previous non-overlapping reporting period		5 years ago	
Indicator	**Objective[a]**	**Year**	**Rate**	**Year**	**Rate**	**Year**	**Rate**
Participation in 24-month period (%)	70.0[b]	2005–2006	56.9	2003–2004	55.7	2000–2001	56.9
Detection rate of small invasive cancers (≤15 mm)[c]	≥25						
First screening round		2006	37.7	2005	38.2	2001	38.8
Subsequent screening rounds		2006	26.8	2005	26.6	2001	27.9
Interval cancer rate							
First screening round 0–12 months following a negative screening episode	<7.5	Index years 2002, 2003 and 2004	6.1	Index years 1999, 2000 and 2001*	7.8	. .	. .
Subsequent screening rounds 0–12 months following a negative screening episode	<7.5	Index years 2002, 2003 and 2004	6.3	Index years 1999, 2000 and 2001*	8.0	. .	. .
Program sensitivity (screen detected cancers)							
First screening round 0–12 months following a negative screening episode	. .	Index years 2002, 2003 and 2004	91.6	Index years 1999, 2000 and 2001*	89.0	. .	. .
Subsequent screening rounds 0–12 months following a negative screening episode	. .	Index years 2002, 2003 and 2004	87.0	Index years 1999, 2000 and 2001*	83.5	. .	. .
Detection of ductal carcinoma in situ (DCIS)							
First screening round	≥12	2006	18.8	2005	14.5	2001	19.1
Subsequent screening rounds	≥7	2006	9.5	2005	11.0	2001	10.2
Recall to assessment[d]							
First screening round	<10	2006	10.0	2005	9.8	2001	8.5
Subsequent screening rounds	<5	2006	4.0	2005	4.0	2001	3.9

(continued)

(continued) One-year and 5-year comparison table for national data for all indicators for the all indicators for women aged 50–69 years

		Latest reporting period		Previous non-overlapping reporting period		5 years ago	
Indicator	**Objective[a]**	**Year**	**Rate**	**Year**	**Rate**	**Year**	**Rate**
Rescreening for age group 50–67 years[e]							
First screening round	≥75	Index year 2004	62.7	Index year 2003	60.5	. .	. .
Second screening round	≥90	Index year 2004	70.5	Index year 2003	69.5	. .	. .
Third and subsequent screening rounds	≥90	Index year 2004	80.9	Index year 2003	80.1	. .	. .
Incidence of breast cancer[f]		2005	279.1	2004	288.9	2000	295.2
Incidence of ductal carcinoma in situ (DCIS)[g]		2001–2005	44.2	. .		1996–2000	36.3
Mortality from breast cancer[h]		2006	47.5	2005	51.8	2001	51.8

(a) Performance objective of the BreastScreen Australia Program as set out in the National Accreditation Standards (NQMC 2004). Although these objectives were developed for individual screening services rather than for the national program as a whole, they do provide an indication of the national program's performance.

(b) Target formally agreed by the former BreastScreen National Advisory Committee.

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

(d) 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 service in 1998.

(e) Before index year 2000, data for the 50–69 years age group were reported. 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.

(f) Rates are the number of new cases of breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

(g) Rates are the number of new cases of DCIS per 100,000 women and age-standardised to the Australian population at 30 June 2001.

(h) Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

*Data for the index years 1999, 2000 and 2001 (0–12 months), which were originally supplied for the BreastScreen Australia monitoring reports 2002–2003, 2003–2004 and 2004–2005, respectively, were re-used in this report.

Introduction

Cancer

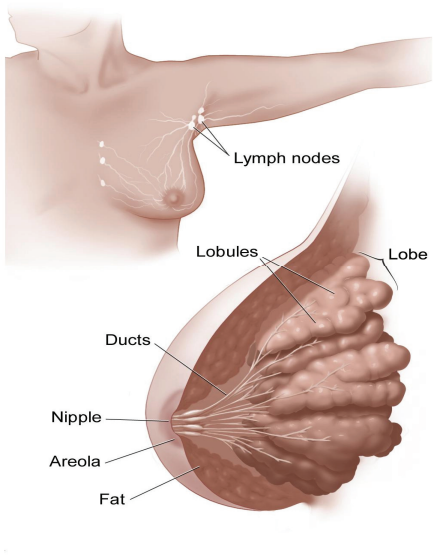
Cancer is a group of several hundred diseases in which abnormal cells are not destroyed by normal cell processes, but instead proliferate and spread out of control. Cancers are distinguished from each other by the specific type of cell involved and the place in the body in which the disease begins.

Normally, cells grow and multiply in an orderly way to form tissues and organs that have a specific function in the body. Occasionally, however, cells multiply in an uncontrolled way after developing from a random genetic mutation, or after being affected by a carcinogen, and form a mass that is called a tumour or neoplasm. Tumours can be benign (not a cancer) or malignant (a cancer). Benign tumours do not invade other tissues or spread to other parts of the body, although they can expand to interfere with healthy structures. The main features of a malignant tumour are its ability to grow in an uncontrolled way and to invade and spread to other parts of the body (metastasise).

Although various risk factors for cancer have been identified, for most cancers the causes are not fully known. Although some of the causes are modifiable through lifestyle changes, some others are inherited and cannot be avoided through personal action. However, the risk of death due to particular cancers may be reduced through intensive monitoring of individuals at high risk, reducing external risk factors, detecting and treating cancers early in their development, and treating them in accordance with the best available evidence.

Many cancers can be serious and even fatal. However, medical treatment is often successful if the cancer is detected early, as is the aim of cancer screening programs. The goal of treatment is to destroy the cancer cells and stop them from returning. This can be done by surgery to remove the growth or by other methods such as chemotherapy (cancer-destroying drugs) or radiation therapy.

Breast cancer



Source: National Cancer Institute, 2009.

Breast cancer occurs when abnormal cells grow and multiply out of control. Breast cancer originates in the lobules (small lobes of the breast that produce milk) or more commonly in the ducts (that carry milk from the lobules to the nipple) of the breast, and can be classified as either non-invasive or invasive.

Breast cancer that remains confined within the lobules or ducts is called non-invasive breast cancer, or carcinoma in situ. There are two types of non-invasive breast cancer: lobular carcinoma in situ (LCIS) is confined to the lobules, while ductal carcinoma in situ (DCIS)—the most common type of non-invasive breast cancer—is confined to the ducts of the breast.

Invasive breast cancer is where the cancer cells spread beyond the lobules or ducts and invade surrounding breast tissue. Most invasive breast cancers originate in the ducts of the breast.

Many risk factors for breast cancer have been identified for women, both established and probable. The greatest risk factor is age, with the majority of breast cancers occurring in women over the age of 50. A family history of breast cancer can also increase a woman's risk of developing breast cancer, although most women who develop breast cancer do not have a family history of the disease. Women are considered to have about twice the risk of breast cancer if they have a first degree relative (mother, sister or daughter) diagnosed with breast cancer before the age of 50 (McPherson et al. 2000). The risk increases with a greater number of relatives, and younger age of breast cancer in affected relatives, and other factors such as family history of bilateral breast cancer, breast cancer before the age of 40, and male breast cancer (NBCC 2006). Genetic predisposition accounts for up to 10% of breast cancers in Western countries (McPherson et al. 2000). Inherited alterations in two identified breast cancer genes called BRCA1 and BRCA2 are involved in many cases of hereditary breast cancer, and a woman's risk of developing breast cancer is greatly increased if she inherits either of these altered genes (McPherson et al. 2000).

Other factors that may increase a woman's risk of breast cancer include not having carried or given birth to any children, late age at birth of first child, early menstruation and late menopause. Oral contraception use can cause a small increase in the risk of breast cancer, as can hormone replacement therapy, the use of which causes an increase in the risk of breast cancer consistent with late menopause (McPherson et al. 2000).

Incidence and mortality

Excluding non-melanoma skin cancer, breast cancer is the most common cancer affecting Australian women, with an age-standardised (world) incidence of 88.3 new cases per 100,000 women in 2005, and is the second most common cause of cancer mortality in Australian women behind lung cancer, with an age-standardised (world) mortality of 16.1 deaths per 100,000 women in 2006 (AIHW 2007).

Worldwide, in 2002, the estimated age-standardised (world) incidence of breast cancer was 37.4 new cases per 100,000 women, and the age-standardised (world) mortality from breast cancer was 13.2 deaths per 100,000 women (Ferlay et al. 2004).

Screening

Population-based screening involves the systematic use of a test to identify individuals who have a previously unrecognised disease in an asymptomatic population (that is, in people not showing any symptoms of the disease). The aim of population-based screening is to reduce the burden of disease, which may include a reduction in the incidence, morbidity and mortality of the disease, through detection at an early stage in individuals who would not otherwise know they were affected (Wald 2001; Strong et al. 2005; Screening Subcommittee 2008).

The screening test used in a population-based screening program is not intended to be diagnostic; rather it aims to distinguish between individuals who test positive (and therefore may have, or may develop, the disease) and require further specific testing to ascertain whether they have the disease, and those who test negative (show no early indications of the disease) and require no further testing (Strong et al. 2005; Screening Subcommittee 2008). The screening test should both minimise false-positives (a positive screening result that further diagnostic testing showed was actually negative) and maximise true-positives. Balanced information as to the benefits and potential harms of the screening should be made available to the target population to ensure they can make an informed decision regarding their participation (Screening Subcommittee 2008).

In 1968, the World Health Organization (WHO) endorsed ten principles to be used when determining if a new population-based screening program should be introduced for a disease or condition (Wilson & Jungner 1968). These principles were designed to ensure that the disease in question was well understood and the correct test, treatment and resources were in place to allow screening to be of benefit to the target population. Currently in Australia there are eight National Health Priority Area cancers: lung cancer, bowel cancer, melanoma, non-melanoma skin cancer, prostate cancer, breast cancer, cervical cancer and non-Hodgkin lymphoma (NHPAC 2006). Of these, bowel, breast and cervical cancer have met the criteria for approved population-based screening programs. This report focuses on the BreastScreen Australia Program.

Breast cancer screening

The National Program for the Early Detection of Breast Cancer, now known as BreastScreen Australia, was established in 1991, and is a joint program of the Australian and state and territory governments. The main objective of the BreastScreen Australia Program is to reduce mortality and morbidity from breast cancer.

The aim of organised breast cancer screening is to detect cases of unsuspected breast cancer in asymptomatic women, which enables intervention when the cancer is at an early stage. Mammography is the screening test used in breast cancer screening, with two views of each breast usually performed, and then reviewed to look for suspicious characteristics that would require follow-up. This is different to diagnostic mammography that may be performed outside the BreastScreen Australia Program, such as when a woman presents to her doctor with symptoms, which is used for individual follow-up in symptomatic women.

BreastScreen Australia targets women aged 50–69 years, but also screens women aged 40–49 years and 70 years or over. Women aged 50–69 years are targeted because these women have a relatively high incidence of breast cancer, and screening mammography is known to be effective in reducing mortality in this age group (NQMC 2004). Screening mammography is less effective in women aged less than 50 years due to biological differences in breast tissue of pre-menopausal women that result in more investigations and false negative results (missed breast cancers) due to lower sensitivity of screening mammography in this age group (Irwig et al. 1997).

BreastScreen Australia provides free breast cancer screening to women through screening and assessment services, which are made up of one assessment centre and one or more screening units. Women have their screening mammogram performed at a screening unit (which may be fixed, relocatable or mobile), and, if any films are found to be suspicious for breast cancer, these women will be recalled for further investigation by a multidisciplinary team at an assessment centre. Further investigation may include clinical examination, diagnostic mammography, ultrasound and biopsy procedures. Most women who are recalled for assessment are found not to have breast cancer.

The BreastScreen Australia Program has a strong commitment to the provision of a high-quality service to women. To support this, the Program has several aims and objectives that guide the provision of this service. These are listed below.

Aims of the BreastScreen Australia Program

- To ensure that the Program is implemented in such a way that statistically significant reductions can be achieved in morbidity and mortality attributable to breast cancer.
- To maximise the early detection of breast cancer in the target population.
- To ensure that screening for breast cancer in Australia is provided in dedicated and accredited Screening and Assessment Services as part of the BreastScreen Australia Program.
- To ensure equitable access for women aged 50−69 years to the Program.
- To ensure that services are acceptable and appropriate to the needs of the eligible population.
- To achieve high standards of program management, service delivery, monitoring and evaluation, and accountability.

Objectives of the BreastScreen Australia Program

- To achieve a 70 per cent participation rate in the BreastScreen Australia Program by women in the target group (50-69) and access to the Program for women aged 40-49 years and 70-79 years.
- To rescreen all women in the Program at two-yearly intervals.
- To achieve agreed performance outcomes which minimise recall rates, retake films, invasive procedures, 'false negatives', and 'false positives', and maximise the number of cancers detected, particularly the number of small cancers.
- To refer to appropriate treatment services and collect information about the outcome of treatment.
- To fund, through State Coordination Units, Screening and Assessment Services which are accredited according to agreed National Accreditation Standards and to ensure that those Standards are monitored and reviewed by appropriate national and state and territory Accreditation Committees.
- To recognise the real costs to women of participation in the Program and to minimise those costs. This includes the provision of services at minimal or no charge and free to eligible women who would not attend if there was a charge.
- To make information about mammographic screening and the BreastScreen Australia Program available in a variety of easily comprehensible and appropriate forms, to women and health-care providers in particular.
- To achieve patterns of participation in the Program which are representative of the socioeconomic, ethnic and cultural profiles of the target population.
- To provide services in accessible, non-threatening and comfortable environments by staff with appropriate expertise, experience and training.
- To provide appropriate service in that: the provision of counselling, education and information is an integral part of the Program; sensitive procedures for notification of recall are in place; and the time between the initial screen and assessment is minimised.
- To achieve high levels of participation in the development and management of the Program by members of significant professional and client groups.
- To collect and analyse data sufficient to monitor the implementation of the Program, to evaluate its effectiveness and efficiency and to provide the basis for future policy and program development decisions.

BreastScreen Australia performance indicators

Performance indicators

This report monitors the performance of the BreastScreen Australia Program using performance indicators. The indicators represent key measures of the Program's success in achieving improvements in morbidity and reductions in mortality from breast cancer. The eight indicators help to measure progress towards meeting the aims and objectives of the BreastScreen Australia Program. Performance indicators were developed and endorsed by the former National Screening Information Advisory Group and by state and territory BreastScreen programs.

Performance indicators for the BreastScreen Australia Program cover the areas of participation, cancer detection, sensitivity, DCIS detection, recall to assessment and rescreening within the BreastScreen Australia Program, as well as incidence of breast cancer and DCIS and mortality from breast cancer in Australia.

Performance objectives

BreastScreen Australia has a strong commitment to the provision of high-quality services that are appropriate and accessible to women. To this end, BreastScreen Australia screening and assessment services are monitored through an accreditation process to ensure that the BreastScreen Australia Program delivers a high-quality service to women. Each service is assessed against National Accreditation Standards (NAS) to ensure all aspects of service delivery are met. There are 177 quantitative and qualitative NAS that cover the ten areas of: participation; cancer detection; assessment; unnecessary recall; timeliness; equitable access; continuity, counselling and support; management; data management; and information given.

Many of the NAS include performance objectives, which represent minimum standards that have been set to represent a service's ability to meet the aims and objectives of the Program (NQMC 2004). Although these objectives were developed for individual screening services rather than for the national Program as a whole, they do provide an indication of the national Program's performance.

Therefore, in addition to looking at favourable or unfavourable trends in performance indicators over time and across stratifications, where there are NAS performance objectives that relate to the performance indicators in this report, they have been included to provide benchmark standards to aid in the interpretation of data presented.

Statistical significance

Statistical analyses are useful tools that aid in the interpretation of data. In this report, 95% confidence intervals have been used to determine if a statistically significant difference exists between compared values. Although the approximate comparisons presented might understate the statistical significance of some differences, they are sufficiently accurate for the purposes of this report. For more information on 95% confidence intervals, please see Appendix D.

Interpretation

The confidence intervals presented in this report can be used as a guide to whether differences in a particular rate are consistent with chance variation. Where the confidence intervals do not overlap, the difference between rates is greater than that which could be explained by chance and is regarded as statistically significant.

It is important to note that overlapping confidence intervals does not imply that the difference between two rates is definitely due to chance. Instead, overlapping confidence intervals represent a difference in rates that is too small to allow differentiation between a real difference and one that is due to chance variation. It can therefore only be stated that no statistically significant differences were found, and not that no differences exist.

As with all statistical comparisons, care should be exercised in interpreting the results of the comparison. If two rates are statistically significantly different from each other, this means that the difference is unlikely to have arisen by chance. Judgment should, however, be exercised in deciding whether or not the difference is of any clinical significance.

Indicator 1 Participation

The BreastScreen Australia Program aims to maximise the proportion of women aged 50-69 years who are screened every 2 years, as high participation is required to achieve reductions in mortality from breast cancer.

Key points

- Participation in the BreastScreen Australia Program among women in the target age group 50–69 years for the 2005–2006 reporting period was 56.9%. This is a statistically significant increase from the previous non-overlapping 2-year rate for 2003–2004 of 55.7%, and similar to the peak participation of 57.1% that occurred in 2001–2002.
- In 2005–2006, 1,622,481 women were screened by the BreastScreen Australia Program, of whom 1,241,796 (76.5%) were aged 50–69 years.
- Although there was a statistically significant increase between 2003–2004 and 2005–2006 in the proportion of women screened aged 50–69 years from 70.3% to 76.5%, there were statistically significant drops in the proportion of women screened aged 40–49 years from 16.5% to 14.1% and in women aged 70 years or over from 13.2% to 9.4% over the same period. This may reflect a focus on women in the target age group over other eligible age groups.
- In 2005–2006, participation was highest in *Inner regional* (61.1%), *Outer regional* (62.2%) and *Remote* (60.1%) areas, and lowest in *Major cities* (54.6%) and *Very remote* (49.5%) areas. The relatively high participation in *Remote* areas is in line with the Program's aim to provide equitable access.
- Despite a statistically significant increase in participation between 2003–2004 and 2005–2006 from 36.1% to 38.1%, participation of Aboriginal and Torres Strait Islander women continues to be statistically significantly below the national rate of 56.9% in 2005–2006.

Participation

Participation is the proportion of women in the population screened though the BreastScreen Australia Program in a 24-month period, presented by 5-year age groups for women aged 40 years or over, and for women aged 50-69 years.

The participation indicator

Participation is a population-based indicator that measures the proportion of the eligible population attending the BreastScreen Australia Program within the recommended screening interval. All women who are Australian Citizens and those with permanent residency status are eligible for breast screening through BreastScreen Australia. A high proportion of attendance for screening by women aged 50–69 years is needed to maximise reductions in mortality from breast cancer (NQMC 2004).

It is important to note that with the number of eligible women in the population aged 50–69 years increasing each year, the increase in the number of women participating in the Program has to increase by an equal amount in order to keep participation constant. Therefore a constant, or even slightly decreased, participation should not be seen as a failure by the Program, if it is still accompanied by an increase in the number of women participating. In order for participation to increase, the increase in participating women aged 50–69 years needs to surpass the increase in eligible women (that is, if the number of eligible women increases by 10%, the number of women participating has to increase by more than 10% in order to achieve an increase in the overall participation).

The focus of this report is on women who have had a mammogram in the BreastScreen Australia Program. However, other screening mammography is conducted outside the Program. Therefore, the results presented in this report are an underestimation of all screening on a national basis. The participation indicator measures the number of women screened in a 24–month period (even if a woman is screened more than once in this period, she is only counted as having been screened once). Women with and without breast cancer symptoms such as a lump or clear or bloody discharge are counted (although states and territories have different policies on screening women with symptoms). This chapter reports on participation for the BreastScreen Australia Program for 2005–2006 and presents trends from 1996 onwards.

Participation, along with other performance indicators, is presented for the eight states and territories. However, it should be noted that there are substantial differences between the states and territories in terms of population, area, geographic structure, Program structure and other factors. These differences affect comparisons between jurisdictions.

In addition to aims and objectives that relate to general participation in the Program, one of the objectives of the BreastScreen Australia Program is 'to achieve patterns of participation in the Program, which are representative of the socioeconomic, ethnic and cultural profiles of the target population' (NQMC 2004). Participation is therefore also reported by geographic region, socioeconomic status, Aboriginal and Torres Strait Islander status, and main language spoken at home.

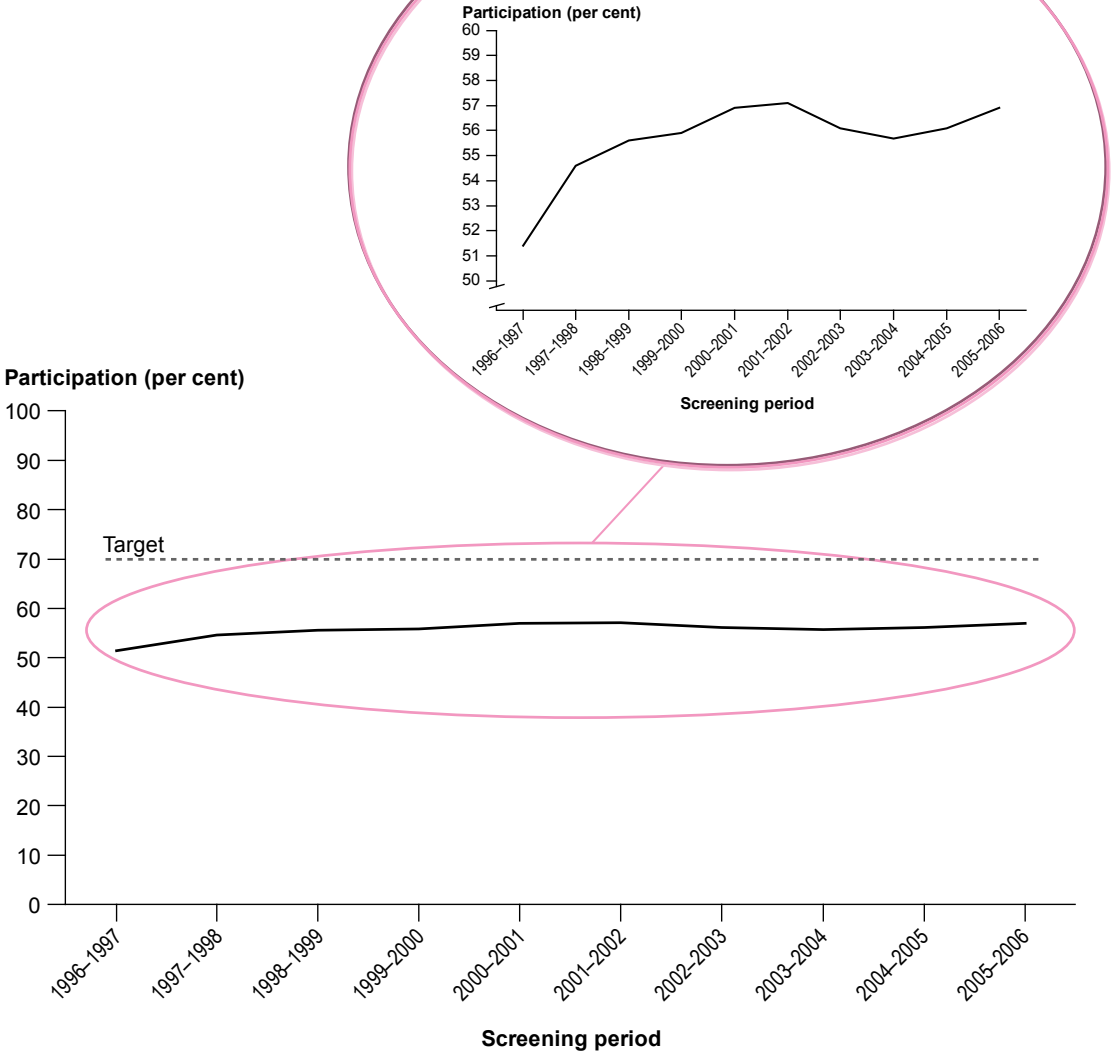
The National Accreditation Standards for participation require that:

- ≥70% of women aged 50–69 years participate in screening in the most recent 24–month period (NAS 1.1.1).

Although the target of 70% participation in the Program by women in the target age group has not yet been achieved, there has been a statistically significant improvement in participation from 51.4% in 1996–1997, when reporting began, to 56.9% in 2005–2006.

Participation results

Participation by year



Source: AIHW analysis of BreastScreen Australia data.

Figure 1.1: Participation in the BreastScreen Australia Program in overlapping 2-year periods, women 50–69 years, 1996–1997 to 2005–2006

Table 1.1: Age-standardised participation for women aged 50–69 years, 1996–1997 to 2005–2006

Year of screening	Objective[(a)]	Rate (per cent)	95% CI
1996–1997	70.0	51.4	51.3–51.5
1997–1998		54.6	54.5–54.7
1998–1999		55.6	55.5–55.8
1999–2000		55.9	55.8–56.0
2000–2001		56.9	56.8–57.0
2001–2002		57.1	57.0–57.2
2002–2003		56.1	56.0–56.2
2003–2004		55.7	55.6–55.8
2004–2005		56.1	56.0–56.2
2005–2006		56.9	56.8–57.0

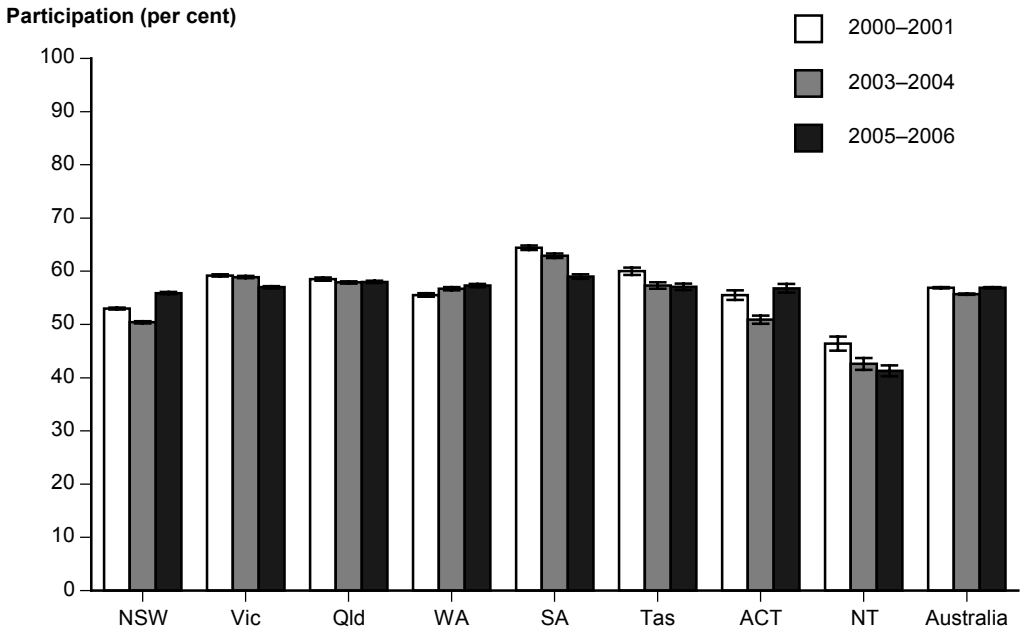
(a) Performance objective of the BreastScreen Australia Program as set out in the National Accreditation Standards (NQMC 2004).

Note: Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the Australian Bureau of Statistics estimated resident population and age-standardised to the Australian population at 30 June 2001.

Source: AIHW analysis of BreastScreen Australia data.

- In 2005–2006, there were 1,622,481 women screened in the Program, of whom 76.5% (1,241,796) were aged 50–69 years.
- Participation in BreastScreen Australia among women aged 50–69 years increased statistically significantly from 51.4% in 1996–1997 when reporting began to 56.9% in 2005–2006. Participation peaked at 57.1% in 2001–2002 and has since remained steady at around 56%.
- No statistically significant difference was found between the 2005–2006 participation of 56.9% and the peak participation of 57.1% that was reached in 2001–2002.
- Although participation remained relatively stable for much of this time, there has been a substantial increase in the number of women aged 50–69 years participating in the Program, from 844,444 in 1996–1997 to 1,241,796 in 2005–2006. This equates to an increase in the number of women participating in the Program of 47%.

Participation by state and territory



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 1.2: Participation of women aged 50–69 years in BreastScreen Australia, by state and territory, 2000–2001, 2003–2004 and 2005–2006

Table 1.2: Participation of women aged 50–69 years in BreastScreen Australia, by state and territory, 2000–2001, 2003–2004 and 2005–2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
2005–2006	55.9*#	57.0*#	58.0	57.3#	59.0*#	57.1#	56.8*	41.3#	56.9*
95% CI	55.8–56.1	56.8–57.2	57.7–58.2	57.0–57.7	58.6–59.3	56.5–57.7	56.0–57.7	40.3–42.4	56.8–57.0
2003–2004	50.4	58.9	57.9	56.7	62.9	57.3	50.9	42.6	55.7
95% CI	50.2–50.5	58.7–59.1	57.7–58.2	56.4–57.0	62.6–63.3	56.7–58.0	50.1–51.7	41.5–43.8	55.6–55.8
2000–2001	53.0	59.2	58.5	55.5	64.4	60.0	55.5	46.4	56.9
95% CI	52.8–53.2	58.9–59.4	58.2–58.7	55.2–55.9	64.0–64.8	59.3–60.7	54.6–56.3	45.2–47.7	56.8–57.0

* Statistically significantly different from the 2003–2004 rate.

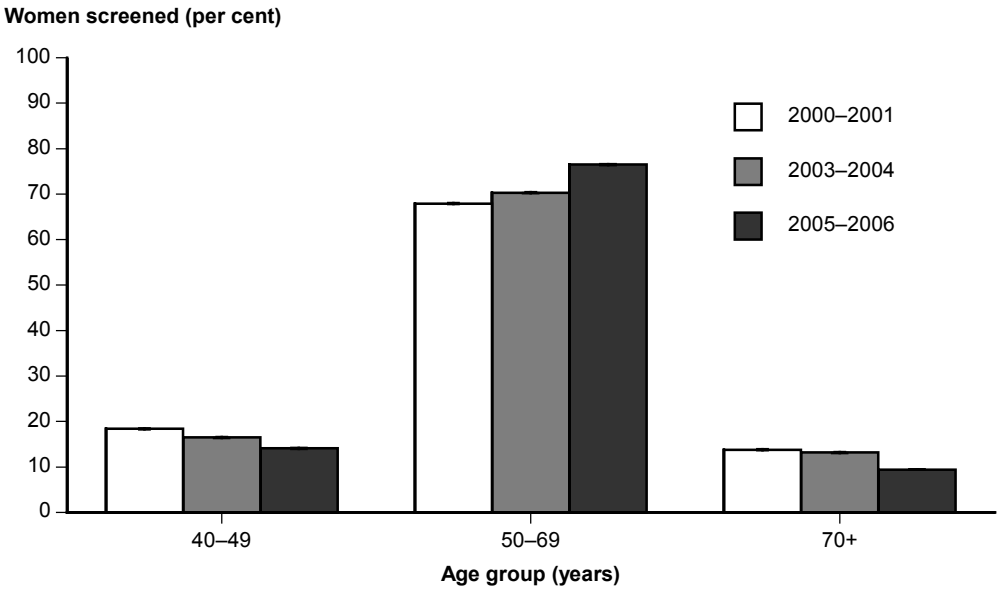
Statistically significantly different from the 2000–2001 rate.

Notes

1. Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the Australian Bureau of Statistics estimated resident population and age-standardised to the Australian population at 30 June 2001.
2. Periods cover 1 January 2000 to 31 December 2001, 1 January 2003 to 31 December 2004 and 1 January 2005 to 31 December 2006.

- In 2005–2006, across states and territories, participation for women aged 50–69 years ranged from 41.3% in the Northern Territory to 59.0% in South Australia. It should be noted that BreastScreen Australia services are not provided in some remote areas of the Northern Territory and this may lower participation for this jurisdiction.
- Between 2003–2004 and 2005–2006, for women aged 50–69 years, there were statistically significant increases in participation in New South Wales (from 50.4% to 55.9%) and the Australian Capital Territory (from 50.9% to 56.8%).
- Between 2003–2004 and 2005–2006, there were statistically significant decreases in participation in Victoria (from 58.9% to 57.0%) and South Australia (from 62.9% to 59.0%).

Participation by age group



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 1.3: Age distribution of women aged 40 years or over screened by BreastScreen Australia, 2000–2001, 2003–2004 and 2005–2006

Table 1.3: Age distribution of women aged 40 years or over screened by BreastScreen Australia, 2000–2001, 2003–2004 and 2005–2006

	Age group (years)		
	40–49	**50–69**	**70+**
		(**per cent**)	
2005–2006	14.1*#	76.5*#	9.4*#
95% CI	14.0–14.1	76.4–76.7	9.4–9.5
2003–2004	16.5	70.3	13.2
95% CI	16.4–16.6	70.2–70.5	13.1–13.2
2000–2001	18.4	67.9	13.8
95% CI	18.3–18.4	67.7–68.0	13.7–13.8

* Statistically significantly different from the 2003–2004 rate.

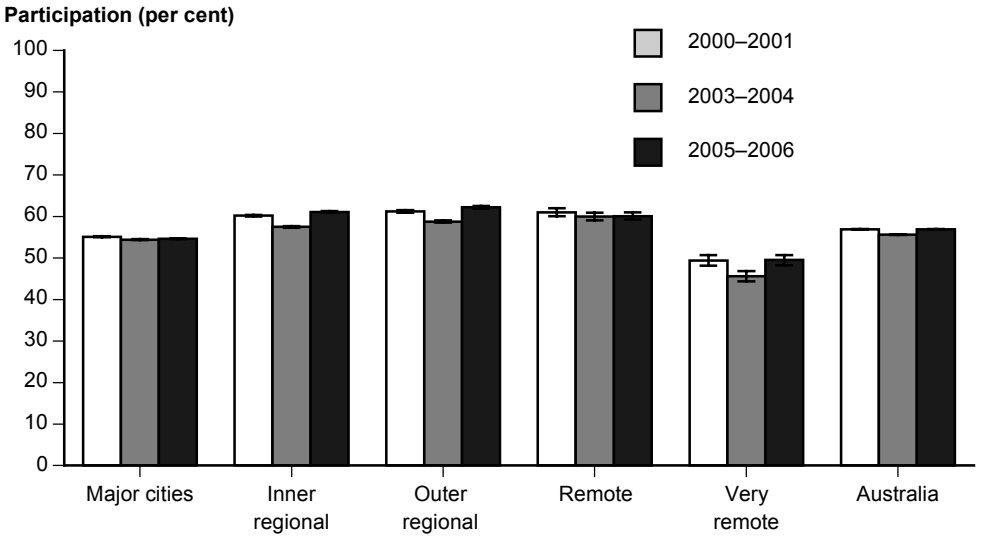
Statistically significantly different from the 2000–2001 rate.

Notes

1. Rates are the number of women screened as a percentage of all women aged 40 years or over screened by BreastScreen Australia.
2. Periods cover 1 January 2000 to 31 December 2001, 1 January 2003 to 31 December 2004 and 1 January 2005 to 31 December 2006.
3. Some states and territories have a policy of not screening outside the target age range.

- Of women participating in the BreastScreen Australia Program in 2005–2006, 76.5% were aged 50–69 years, 14.1% were aged 40–49 years and 9.4% were aged 70 years or over.
- Although there was a statistically significant increase between 2003–2004 and 2005–2006 in the proportion of women screened aged 50–69 years from 70.3% to 76.5%, there were statistically significant decreases in the proportion of women screened aged 40–49 years from 16.5% to 14.1% and in women aged 70 years or over from 13.2% to 9.4% over the same period. This may reflect a focus on women in the target age group with the emergence of capacity issues within the Program.

Participation by geographic region



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 1.4: Participation of women aged 50–69 years in BreastScreen Australia, by geographic region, 2000–2001, 2003–2004 and 2005–2006

Table 1.4: Participation of women aged 50–69 years in BreastScreen Australia, by geographic region, 2000–2001, 2003–2004 and 2005–2006

	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
			(per cent)			
2005–2006	54.6#	61.1*#	62.2*#	60.1	49.5*	56.9*
95% CI	54.5–54.7	60.9–61.3	61.9–62.5	59.2–61.0	48.3–50.8	56.8–57.0
2003–2004	54.4	57.5	58.8	60.0	45.6	55.6
95% CI	54.3–54.5	57.3–57.7	58.5–59.1	59.1–60.9	44.4–46.8	55.5–55.7
2000–2001	55.1	60.2	61.2	61.0	49.4	56.9
95% CI	54.9–55.2	60.0–60.5	60.8–61.5	60.1–62.0	48.1–50.7	56.8–57.0

* Statistically significantly different from the 2003–2004 rate.

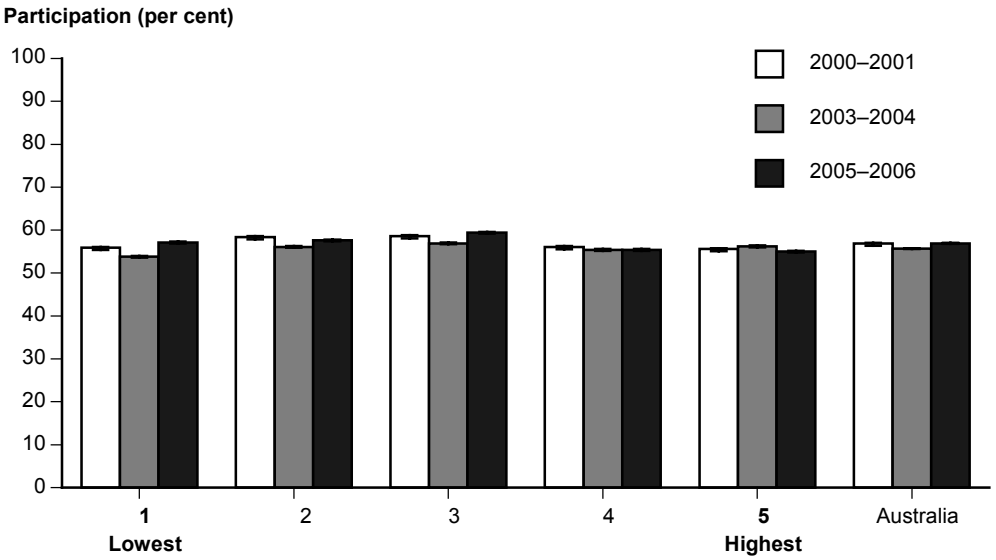
Statistically significantly different from the 2000–2001 rate.

Notes

1. Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the Australian Bureau of Statistics estimated resident population and age-standardised to the Australian population at 30 June 2001.
2. Periods cover 1 January 2000 to 31 December 2001, 1 January 2003 to 31 December 2004 and 1 January 2005 to 31 December 2006.
3. The Australian Standard Geographical Classification was used to create the above categories (ABS 2001).

- Between 2003–2004 and 2005–2006, there were statistically significant increases in participation in *Inner regional*, *Outer regional* and *Very remote* areas.
- In 2005–2006, participation was lower than the national rate (56.9%) for women aged 50–69 years in *Major cities* (54.6%) and *Very remote* areas (49.5%). Higher participation than the national rate occurred in the *Inner regional* (61.1%), *Outer regional* (62.2%) and *Remote* areas (60.1%).
- The relatively high participation in *Remote* areas is in line with the Program's aim to provide equitable access.

Participation by socioeconomic status



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 1.5: Participation of women aged 50–69 years in BreastScreen Australia, by socioeconomic status, 2000–2001, 2003–2004 and 2005–2006

Table 1.5: Participation of women aged 50–69 years in BreastScreen Australia, by socioeconomic status, 2000–2001, 2003–2004 and 2005–2006

	1 (Lowest)	2	3	4	5 (Highest)	Australia
			(per cent)			
2005–2006	57.1*#	57.6*#	59.4*#	55.4#	55.0*#	56.9*
95% CI	56.9–57.4	57.4–57.8	59.2–59.6	55.2–55.7	54.8–55.2	56.8–57.0
2003–2004	53.8	56.1	56.9	55.4	56.2	55.7
95% CI	53.5–54.0	55.8–56.3	56.7–57.2	55.2–55.7	56.0–56.4	55.6–55.8
2000–2001	55.9	58.4	58.6	56.1	55.6	56.9
95% CI	55.7–56.1	58.2–58.7	58.3–58.8	55.9–56.3	55.3–55.8	56.8–57.0

* Statistically significantly different from the 2003–2004 rate.

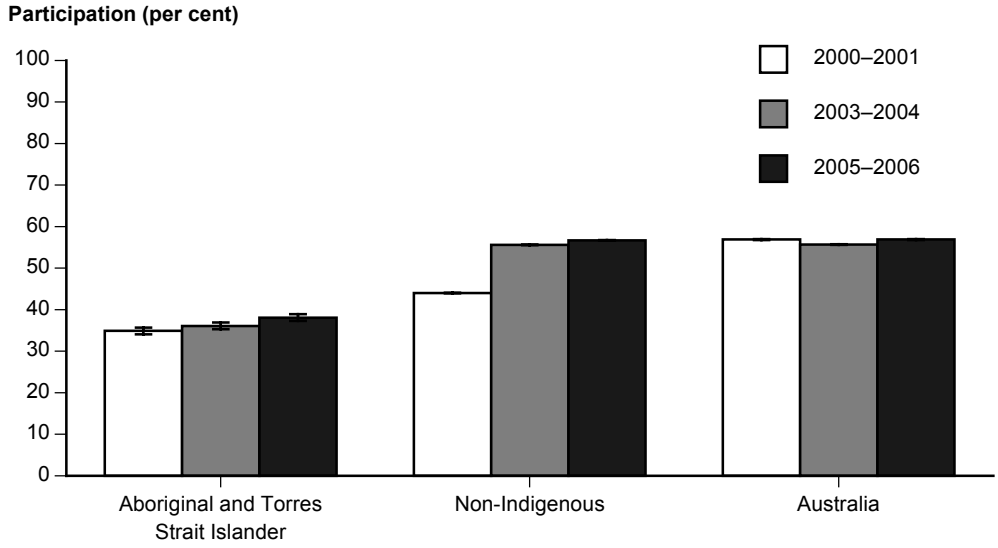
Statistically significantly different from the 2000–2001 rate.

Notes

1. Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the Australian Bureau of Statistics estimated resident population and age-standardised to the Australian population at 30 June 2001.
2. Periods cover 1 January 2000 to 31 December 2001, 1 January 2003 to 31 December 2004 and 1 January 2005 to 31 December 2006.
3. 1 (lowest socioeconomic group) corresponds to the most disadvantaged socioeconomic status and 5 (highest socioeconomic group) to the least disadvantaged socioeconomic status. This is different from socioeconomic status that has been presented in previous BreastScreen Australia monitoring reports.

- Between 2003–2004 and 2005–2006, there were statistically significant increases in participation in women aged 50–69 years in all socioeconomic status groups except in group 4 (second highest).
- In 2005–2006, participation in women aged 50–69 years was lowest in the socioeconomic status groups 4 (second highest) and 5 (highest) at 55.0% and 55.4%, respectively.

Participation by Aboriginal and Torres Strait Islander status



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 1.6: Participation of women aged 50–69 years in BreastScreen Australia, by Aboriginal and Torres Strait Islander status, 2000–2001, 2003–2004 and 2005–2006

Table 1.6: Participation of women aged 50–69 years in BreastScreen Australia, by Aboriginal and Torres Strait Islander status, 2000–2001, 2003–2004 and 2005–2006

	Aboriginal and Torres Strait Islander	Non-Indigenous	Australia[(a)]
		(per cent)	
2005–2006	38.1*#	56.7*#	56.9*
95% CI	37.3–38.9	56.6–56.8	56.8–57.0
2003–2004	36.1	55.6	55.7
95% CI	35.3–36.9	55.5–55.7	55.6–55.8
2000–2001	34.9	44.0	56.9
95% CI	34.1–35.8	43.9–44.0	56.8–57.0

* Statistically significantly different from the 2003–2004 rate.

Statistically significantly different from the 2000–2001 rate.

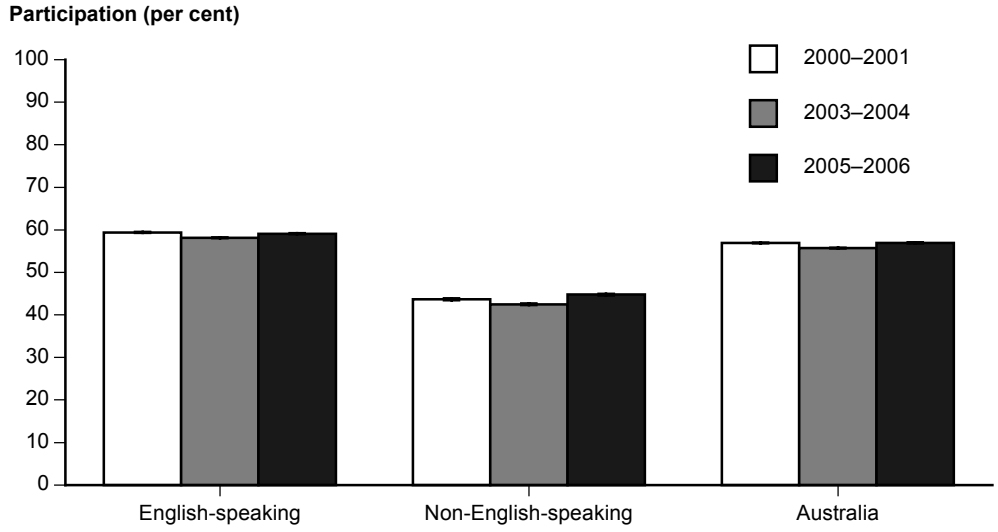
(a) Includes women in the 'not-stated' category for Aboriginal and Torres Strait Islander status.

Notes

1. Some jurisdictions do not use the 'not stated' category. Therefore there are likely to be some Aboriginal and Torres Strait Islander women who are being incorrectly assigned to the non-Indigenous status. This means that the analysis based upon Aboriginal and Torres Strait Islander status should be interpreted with caution. Limitations of Aboriginal and Torres Strait Islander data are detailed in Appendix B.
2. Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the Australian Bureau of Statistics estimated resident population and age-standardised to the Australian population at 30 June 2001.
3. Periods cover 1 January 2000 to 31 December 2001, 1 January 2003 to 31 December 2004 and 1 January 2005 to 31 December 2006.

- In 2005–2006, participation for Aboriginal and Torres Strait Islander women was 38.1%, which was far lower than the rate of non-Indigenous women of 56.7%. This difference is statistically significant.
- Although lower than the non-Indigenous rate, there was a statistically significant increase in participation of Aboriginal and Torres Strait Islander women from 34.9% in 2000–2001 to 38.1% in 2005–2006.

Participation by main language spoken at home



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 1.7: Participation of women aged 50–69 years in BreastScreen Australia, by main language spoken at home, 2000–2001, 2003–2004 and 2005–2006

Table 1.7: Participation of women aged 50–69 years in BreastScreen Australia, by main language spoken at home, 2000–2001, 2003–2004 and 2005–2006

	English-speaking	Non-English-speaking	Australia[(a)]
		(per cent)	
2005–2006	59.1*	44.8*#	56.9*
95% CI	59.0–59.2	44.6–45.0	56.8–57.0
2003–2004	58.1	42.5	55.7
95% CI	58.0–58.3	42.3–42.8	55.6–55.8
2000–2001	59.4	43.7	56.9
95% CI	59.2–59.5	43.5–43.9	56.8–57.0

* Statistically significantly different from the 2003–2004 rate.

Statistically significantly different from the 2000–2001 rate.

(a) Includes women in the 'not-stated' category for Main language other than English spoken at home.

Notes

1. Some jurisdictions do not use the 'not stated' category and there may be difference in how these data are collected. This means that the analysis based upon main language spoken at home should be interpreted with caution. Limitations are detailed in Appendix B.
2. Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the Australian Bureau of Statistics estimated resident population and age-standardised to the Australian population at 30 June 2001.
3. Periods cover 1 January 2000 to 31 December 2001, 1 January 2003 to 31 December 2004 and 1 January 2005 to 31 December 2006.

- In 2005–2006, participation for women aged 50–69 years who identified as not having English as their main language spoken at home was 44.8%, which was lower than the rate for English-speaking women of 59.1%. This difference is statistically significant.
- Although lower than the English-speaking rate, there was a statistically significant increase in participation of women who identified as not having English as their main language spoken at home from 42.5% in 2003–2004 to 44.8% in 2005–2006.

Indicator 2 Detection of invasive cancers

The BreastScreen Australia Program aims to maximise the number of invasive breast cancers and small cancers detected to achieve its aim of reducing deaths from breast cancer through early detection.

Key points

- Detection of invasive breast cancers within the BreastScreen Australia Program increased between 1996 and 2006, in line with the Program's aim to maximise the number of cancers detected, particularly the number of small cancers.
- The rate of detection of all invasive breast cancers in the first screening round increased from 55.6 in 1996 to 67.8 per 10,000 women screened in 2006. The detection rate also rose in subsequent screening rounds, from 34.8 in 1996 to 42.2 per 10,000 women screened in 2006.
- The rate of detection of small invasive breast cancers increased only slightly between 1996 and 2006, with no statistically significant differences between the 1996 and 2006 rates for either first or subsequent screening rounds.
- The proportion of invasive breast cancers detected that were small decreased marginally from 64.8% in 1996 to 62.4% in 2006.
- The proportion of small cancers detected was higher in subsequent screening rounds (63.6%) compared with the first screening round (55.2%), which shows that a higher proportion of women attending the Program for the first time have breast cancers larger than 15 mm compared with those who have been screened previously.

All-size and small invasive cancer detection rate

The detection rate for invasive cancers is the number of women with all-size invasive breast cancers per 10,000 women screened. The rate is presented by 5-year age groups for women aged 40 years or over, and for the target age group (50–69 years).

The detection rate for small invasive cancers is the number of women with small diameter (≤15 mm) invasive breast cancers per 10,000 women screened, presented by 5-year age groups for women aged 40 years or over, and for the target age group (50–69 years).

The detection of invasive cancers indicator

The BreastScreen Australia Program aims to maximise the number of invasive breast cancers detected to achieve its aim of reducing deaths from breast cancer.

One of BreastScreen Australia's aims is to maximise the early detection of breast cancers (NQMC 2004). A greater rate of detection of small cancers within the BreastScreen Australia Program increases the likelihood that the desired reductions in morbidity and mortality from breast cancer will be achieved. 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). Mortality has also been shown to be reduced by early detection, with a cohort of Australian women with smaller breast cancers found to have considerably higher survival (5-year relative survival of 98% for women with cancers ≤10 mm) compared with women with larger breast cancers (AIHW & NBCC 2007).

Therefore BreastScreen Australia has aims and objectives specific to the detection of small (≤15 mm) invasive breast cancers as well as breast cancers of all sizes.

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

- ≥50 per 10,000 women aged 50–69 years who attend for their first screen are diagnosed with invasive breast cancer (NAS 2.1.1)
- ≥35 per 10,000 women aged 50-69 years who attend for their second or subsequent screen are diagnosed with invasive breast cancer (NAS 2.1.2)
- ≥25 per 10,000 women aged 50–69 years who attend for screening are diagnosed with small (≤15 mm) invasive breast cancer (NAS 2.2.1).

The following summary tables show the detection rate of all-size and small cancers achieved by the BreastScreen Australia Program in 2001, 2005 and 2006. The objective of detecting at least 50 cancers per 10,000 women screened for the first screening round and at least 35 cancers per 10,000 women screened for subsequent screening rounds was achieved at the national level in 2001, 2005 and 2006 for all women. Further, the objective of detecting at least 25 small-size cancers per 10,000 women screened was also achieved in these years.

All-size invasive breast cancer summary table

Table 2.1: All-size invasive breast cancer detection per 10,000 women screened, first and subsequent screening rounds, 2001, 2005 and 2006

	Objective[(a)]	2001	2005	2006
First screening round				
Rate for women aged 50–69 years	≥50	68.3	74.0	67.8
95% CI		61.9–75.1	66.2–82.4	60.4–75.8
Rate for women aged 40 years or over	. .	70.5	75.0	68.2
95% CI		65.0–76.2	67.5–83.0	61.0–75.9
Subsequent screening rounds				
Rate for women aged 50–69 years	≥35	42.2	41.0	42.4
95% CI		40.4–44.1	39.4–42.7	40.7–44.1
Rate for women aged 40 years or over	. .	39.5	40.1	41.7
95% CI		38.1–41.0	38.5–41.6	40.2–43.3

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

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

Small invasive breast cancer summary table

Table 2.2: Small (≤15 mm) invasive breast cancer detection per 10,000 women screened, first and subsequent screening rounds, 2001, 2005 and 2006

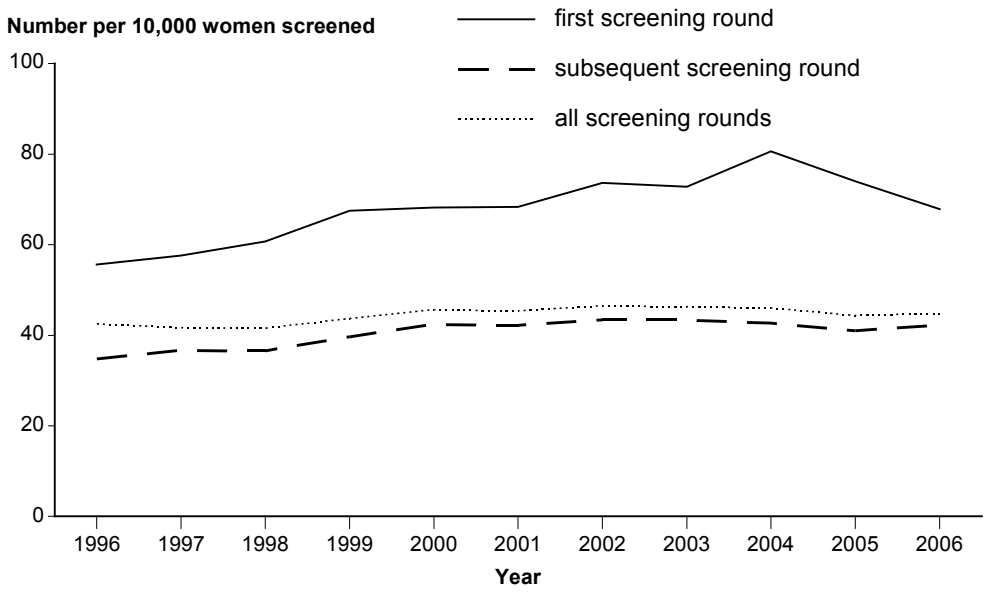
	Objective[(a)]	2001	2005	2006
First screening round				
Rate for women aged 50–69 years	≥25	38.8	38.2	37.7
95% CI		34.1–44.0	32.7–44.3	32.2–43.8
Rate for women aged 40 years or over	. .	39.6	39.3	36.4
95% CI		35.6–43.9	33.9–45.1	31.2–42.1
Subsequent screening rounds				
Rate for women aged 50–69 years	≥25	27.9	26.6	26.9
95% CI		26.4–29.4	25.3–28.0	25.6–28.3
Rate for women aged 40 years or over	. .	26.0	25.7	26.7
95% CI		24.8–27.2	24.5–27.0	25.4–27.9

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

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

Cancer detection results

All-size invasive cancer detection by year, all screening rounds



Source: AIHW analysis of BreastScreen Australia data.

Figure 2.1: All-size invasive breast cancer detection in women aged 50–69 years, first, subsequent and all screening rounds, 1996–2006

Table 2.3: All-size invasive breast cancer detection in women aged 50–69 years, first and subsequent screening rounds, 1996–2006

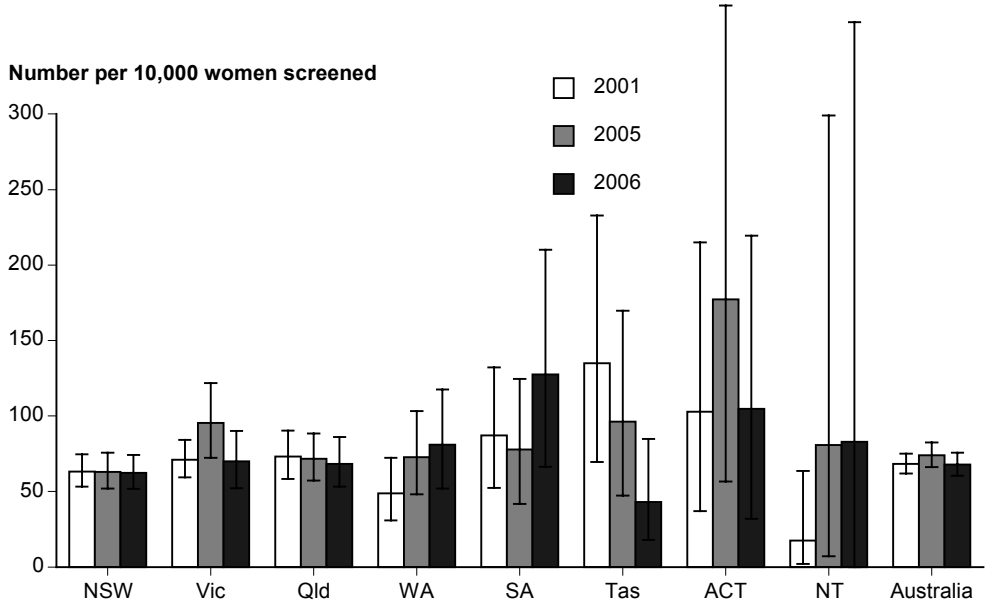
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
First screening round											
Rate	55.6*	57.6*	60.7*	67.5*	68.2*	68.3*	73.6*	72.8*	80.6*	74.0*	67.8*
95% CI	52.0–59.5	53.2–62.3	55.9–65.9	61.4–74.1	61.7–75.2	61.9–75.1	66.3–81.4	65.0–81.3	72.0–89.8	66.2–82.4	60.4–75.8
Subsequent screening rounds											
Rate	34.8	36.7	36.6	39.7	42.4	42.2	43.4	43.4	42.7	41.0	42.4
95% CI	32.5–37.1	34.6–38.8	34.7–38.6	37.8–41.6	40.5–44.3	40.4–44.1	41.6–45.2	41.6–45.2	40.9–44.5	39.4–42.7	40.7–44.1

* Statistically significantly different from subsequent rounds.

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

- The detection rate of all invasive breast cancers in the first screening round was statistically significantly higher than it was for subsequent screening rounds for all years from 1996 to 2006. Higher detection for the first screening round reflects the fact that women who present for breast cancer screening for the first time are more likely to have a slow growing breast cancer that may have been present for some time (Kavanagh et al. 1999).
- The rate of detection of all invasive breast cancers in the first screening round increased statistically significantly from 55.6 in 1996 to 67.8 per 10,000 women screened in 2006. The detection rate also rose statistically significantly in subsequent screening rounds, from 34.8 in 1996 to 42.4 per 10,000 women screened in 2006.
- Although there was an apparent decrease from 74.0 in 2005 to 67.8 in 2006 in all-size invasive breast cancer detection per 10,000 women screened for women aged 50–69 years attending for the first time, this was not found to be statistically significant.

All-size invasive cancer detection by state and territory, first screening round



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 2.2: All-size invasive breast cancer detection in women aged 50–69 years, by state and territory, first screening round, 2001, 2005 and 2006

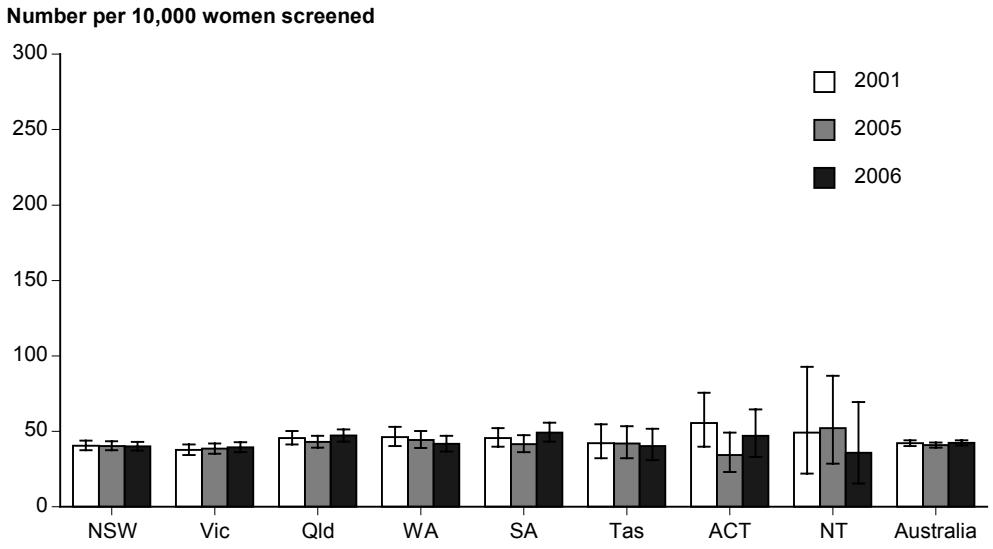
Table 2.4: All-size invasive breast cancer detection in women aged 50–69 years, by state and territory, first screening round, 2001, 2005 and 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
2006 rate	62.3	69.9	68.3	81.1	127.6	43.2	104.7	82.8	67.8
95% CI	51.8–74.2	52.3–90.2	53.2–86.1	51.8–117.6	66.4–210.3	18.0–84.9	31.9–219.4	0.0–360.9	60.4–75.8
2005 rate	63.1	95.4	71.7	72.8	77.8	96.3	177.3	80.7	74.0
95% CI	52.1–75.6	72.3–121.8	57.3–88.4	48.1–103.3	41.7–124.5	47.3–169.6	56.6–371.8	7.2–299.0	66.2–82.4
2001 rate	63.3	71.1	73.1	48.9	87.1	135.0	102.7	17.6	68.3
95% CI	53.3–74.6	59.5–84.2	58.3–90.4	30.8–72.4	52.4–132.3	69.6–232.8	37.0–214.9	2.1–63.7	61.9–75.1

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

- Across states and territories, there were no statistically significant differences found between 2005 and 2006 in all-size invasive breast cancer detection for women aged 50–69 years attending a BreastScreen Australia service for the first time.

All-size invasive cancer detection by state and territory, subsequent screening rounds



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 2.3: All-size invasive breast cancer detection in women aged 50–69 years, by state and territory, subsequent screening rounds, 2001, 2005 and 2006

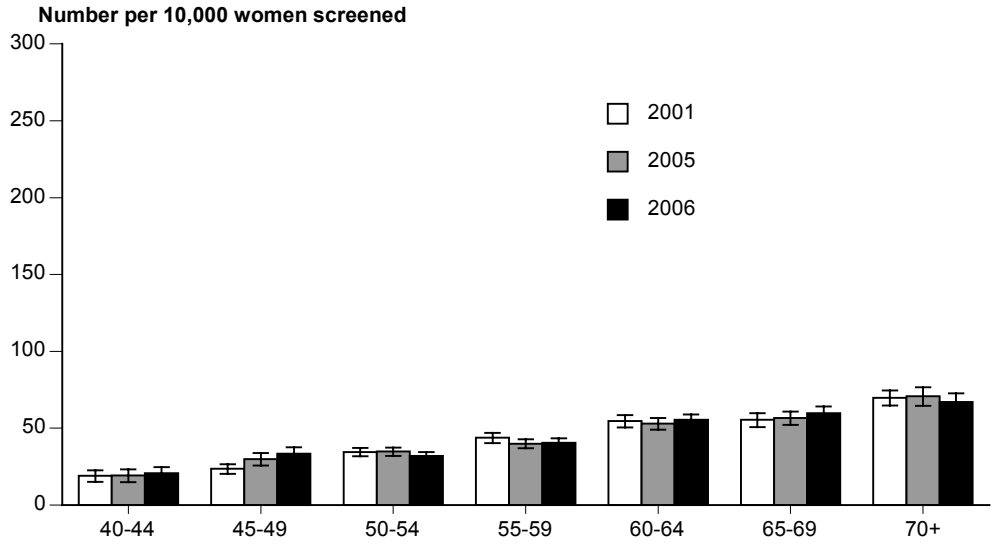
Table 2.5: All-size invasive breast cancer detection in women aged 50–69 years, by state and territory, subsequent screening rounds, 2001, 2005 and 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
2006 rate	40.2	39.4	47.2	41.7	49.2	40.4	47.1	40.1	42.4
95% CI	37.5–43.2	36.2–42.9	43.3–51.3	36.8–47.1	43.2–55.7	31.0–51.8	33.2–64.7	18.4–75.1	40.7–44.1
2005 rate	40.4	38.6	43.1	44.4	41.6	41.9	34.4	52.1	41.0
95% CI	37.5–43.4	35.3–42.0	39.3–47.1	39.0–50.3	36.1–47.6	32.2–53.5	23.2–49.1	28.5–86.7	39.4–42.7
2000 rate	40.6	37.8	45.7	46.3	45.7	42.3	55.6	49.2	42.2
95% CI	37.6–43.9	34.4–41.5	41.4–50.4	40.4–52.9	39.9–52.2	32.2–54.6	39.8–75.6	22.3–92.7	40.4–44.1

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

- In 2006, the all-size invasive cancer detection rate for women aged 50–69 years at a subsequent screen was 42.4 per 10,000 women screened. This is statistically significantly lower than the detection rate for first round attendances of 67.8.
- In 2006, the all-size invasive cancer detection per 10,000 women screened was relatively similar across the states and territories for women aged 50–69 years at subsequent screens, ranging between 39.4 and 49.2.
- There were no statistically significant differences found between 2005 and 2006 in all-size invasive breast cancer detection for women aged 50–69 years across states and territories.

All-size invasive cancer detection by age



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 2.4: All-size invasive breast cancer detection, by age, all screening rounds, 2001, 2005 and 2006

Table 2.6: All-size invasive breast cancer detection, by age, all screening rounds, 2001, 2005 and 2006

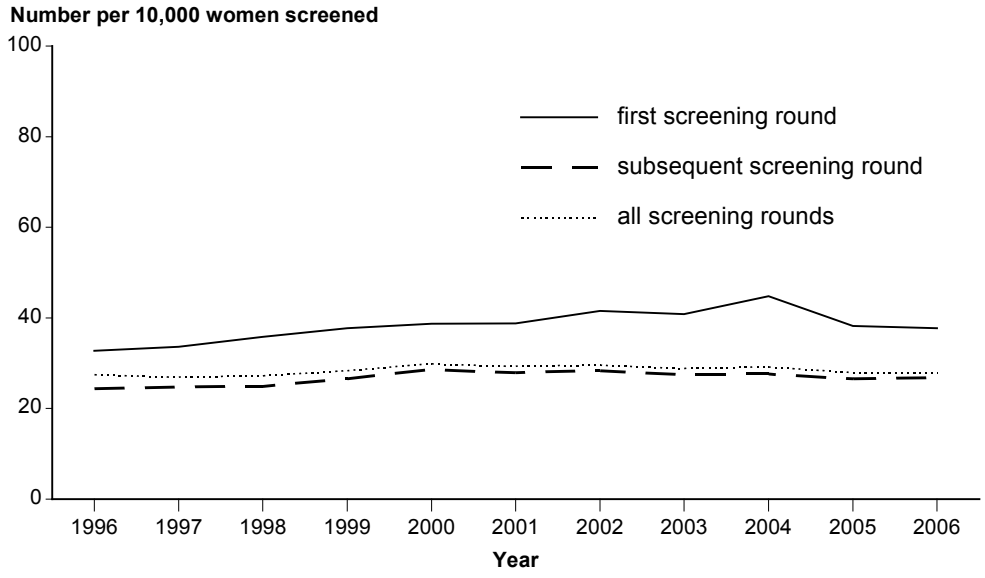
	Age group (years)						
	40–44	**45–49**	**50–54**	**55–59**	**60–64**	**65–69**	**70+**
2006 rate	20.8	33.5[#]	32.0	40.6	55.6	60.2	67.1
95% CI	16.8–25.6	29.5–38.0	29.6–34.7	37.8–43.6	51.9–59.5	56.0–64.8	61.6–73.0
2005 rate	19.4	30.0	34.9	39.9	53.0	56.7	70.9
95% CI	15.6–23.9	26.2–34.3	32.2–37.7	37.0–42.9	49.3–56.9	52.5–61.2	65.0–77.1
2001 rate	19.2	23.6	34.5	43.8	54.6	55.5	69.8
95% CI	15.8–23.2	20.6–26.9	31.9–37.3	40.6–47.2	50.6–58.8	51.1–60.2	65.1–74.8

[#] Statistically significantly different from 2001 rates.

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

- For all years shown, the invasive cancer detection rate was lowest for the 40–44 years age group and highest for the 70 years or over age group.
- Between 2001 and 2006, there was a statistically significant increase in invasive cancer detection per 10,000 women screened for women aged 45–49 years, from 23.6 in 2001 to 33.5 in 2006.

Small invasive cancer detection by year, all screening rounds



Source: AIHW analysis of BreastScreen Australia data.

Figure 2.5: Small (≤15 mm) invasive breast cancer detection in women aged 50–69 years, first, subsequent and all screening rounds, 1996–2006

Table 2.7: Small (≤15 mm) invasive breast cancer detection in women aged 50–69 years, first and subsequent screening rounds, 1996–2006

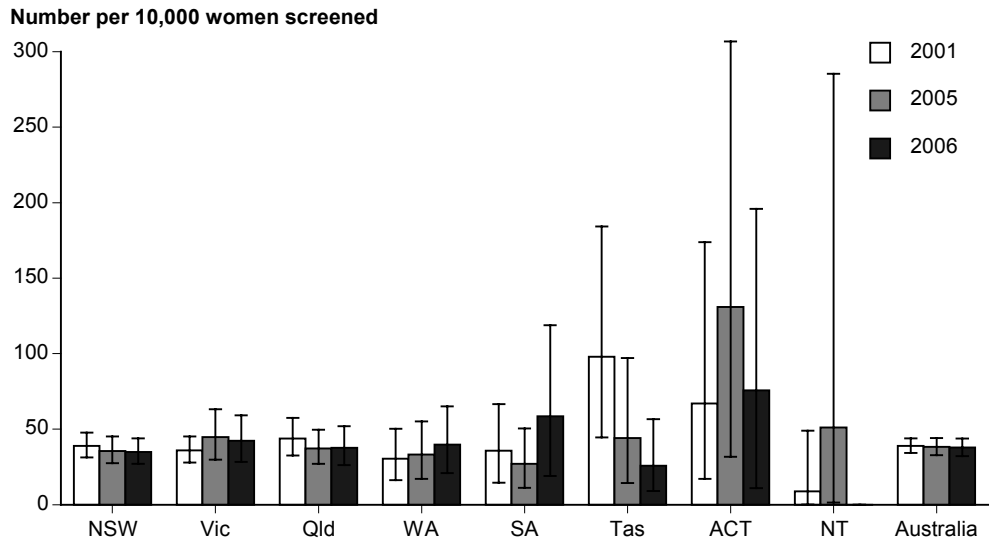
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
First screening round											
Rate	32.7*	33.6*	35.8*	37.7*	38.7*	38.8*	41.5*	40.8*	44.8*	38.2*	37.7*
95% CI	29.9–35.7	30.3–37.2	32.2–39.8	33.1–42.7	33.8–44.0	34.1–44.0	36.0–47.5	34.9–47.2	38.5–51.7	32.7–44.3	32.2–43.8
Subsequent screening rounds											
Rate	24.4	24.7	24.9	26.6	28.6	27.9	28.3	27.5	27.6	26.6	26.9
95% CI	22.5–26.3	23.1–26.5	23.4–26.6	25.1–28.2	27.1–30.2	26.4–29.4	26.9–29.8	26.1–28.9	26.2–29.0	25.3–28.0	25.6–28.3

* Statistically significantly different from subsequent screening rounds.

Note: Rates are the number of women with 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 detection rate of small invasive breast cancers in the first screening round was statistically significantly higher than it was for subsequent screening rounds for all years from 1996 to 2006.
- Detection of small invasive breast cancers in the first screening round in women aged 50–69 years only increased slightly between 1996 and 2006, peaking between the years 2002 and 2004.
- In subsequent screening rounds in women aged 50–69 years, detection of small invasive breast cancers peaked between the years 2000 and 2002.

Small invasive cancer detection by state and territory, first screening round



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 2.6: Small (≤15 mm) invasive breast cancer detection in women aged 50–69 years, by state and territory, first screening round, 2001, 2005 and 2006

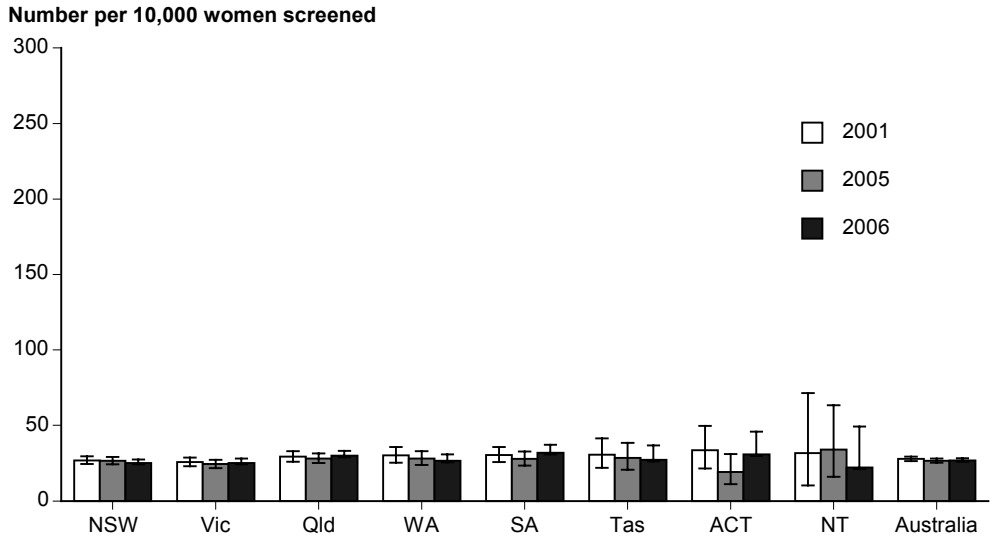
Table 2.8: Small (≤15 mm) invasive breast cancer detection in women aged 50–69 years, by state and territory, first screening round, 2001, 2005 and 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
2006 rate	34.8	42.3	37.6	39.7	58.6	25.7	75.7	0.0	37.7
95% CI	27.0–43.9	28.3–59.2	26.1–52.1	20.8–65.1	19.0–118.7	9.1–56.7	11.0–195.9	. .	32.2–43.8
2005 rate	35.5	44.8	37.1	33.2	27.0	44.2	130.9	51.2	38.2
95% CI	27.4–45.0	29.7–63.2	26.9–49.6	17.2–55.2	11.1–50.4	14.4–97.1	31.7–306.9	1.3–285.4	32.7–44.3
2001 rate	38.8	35.8	43.7	30.3	35.6	98.0	66.9	8.8	38.8
95% CI	31.2–47.7	27.8–45.2	32.5–57.4	16.1–50.2	14.5–66.6	44.5–184.2	17.0–173.8	0.2–49.1	34.1–44.0

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

- Across states and territories, there were no statistically significant differences found between 2005 and 2006 in small invasive breast cancer detection for women aged 50–69 years for the first screening round.

Small invasive cancer detection by state and territory, subsequent screening rounds



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 2.7: Small (≤15 mm) invasive breast cancer detection in women aged 50–69 years, by state and territory, subsequent screening rounds, 2001, 2005 and 2006

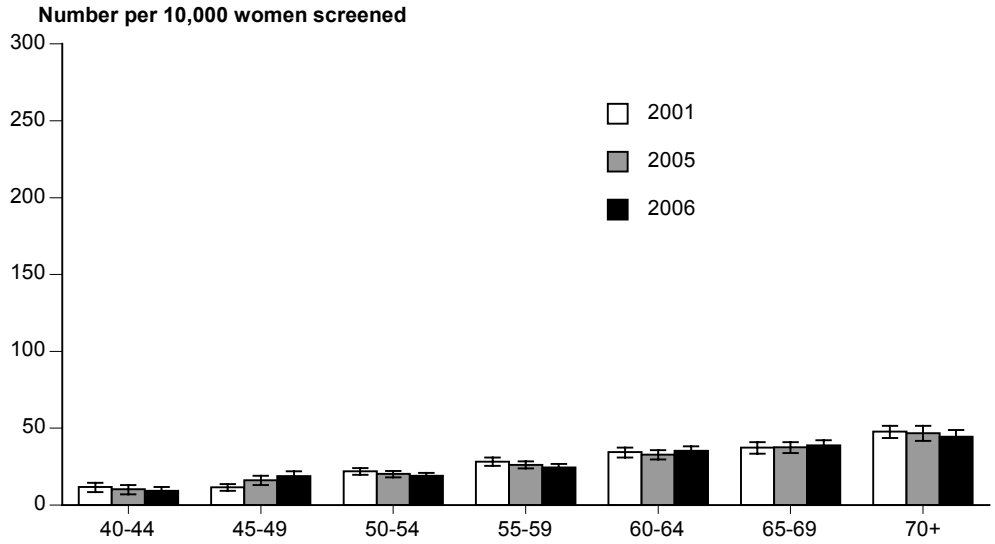
Table 2.9: Small (≤15 mm) invasive breast cancer detection in women aged 50–69 years, by state and territory, subsequent screening rounds, 2001, 2005 and 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
2006 rate	25.2	25.2	29.9	26.5	31.8	27.2	30.8	26.3	26.9
95% CI	23.0–27.5	22.6–28.0	26.8–33.2	22.6–30.9	27.0–37.2	19.6–36.8	19.7–45.8	10.0–55.3	25.6–28.3
2005 rate	26.6	24.4	28.1	28.1	27.8	28.6	19.3	34.1	26.6
95% CI	24.3–29.1	21.8–27.1	25.1–31.4	23.8–32.9	23.4–32.8	20.7–38.5	11.1–31.1	15.9–63.3	25.3–28.0
2001 rate	26.9	25.7	29.3	30.2	30.4	30.6	33.5	31.7	27.9
95% CI	24.4–29.5	22.9–28.8	25.9–33.1	25.4–35.6	25.7–35.7	22.0–41.4	21.6–49.6	10.2–71.5	26.4–29.4

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

- In 2006, small invasive cancer detection per 10,000 women screened for women aged 50–69 years attending a BreastScreen Australia service for their subsequent screen was 26.9. This is statistically significantly lower than for first round attendances of 37.7.
- In 2006, the small invasive cancer detection per 10,000 women screened was relatively similar across the states and territories for women aged 50–69 years for subsequent screens, ranging between 25.2 and 31.8.
- There were no statistically significant differences found between 2005 and 2006 in the small invasive breast cancer detection for women aged 50–69 years across states and territories.

Small invasive cancer detection by age



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 2.8: Small invasive breast cancer detection, by age, all screening rounds, 2001, 2005 and 2006

Table 2.10: Small invasive breast cancer detection, by age, all screening rounds, 2001, 2005 and 2006

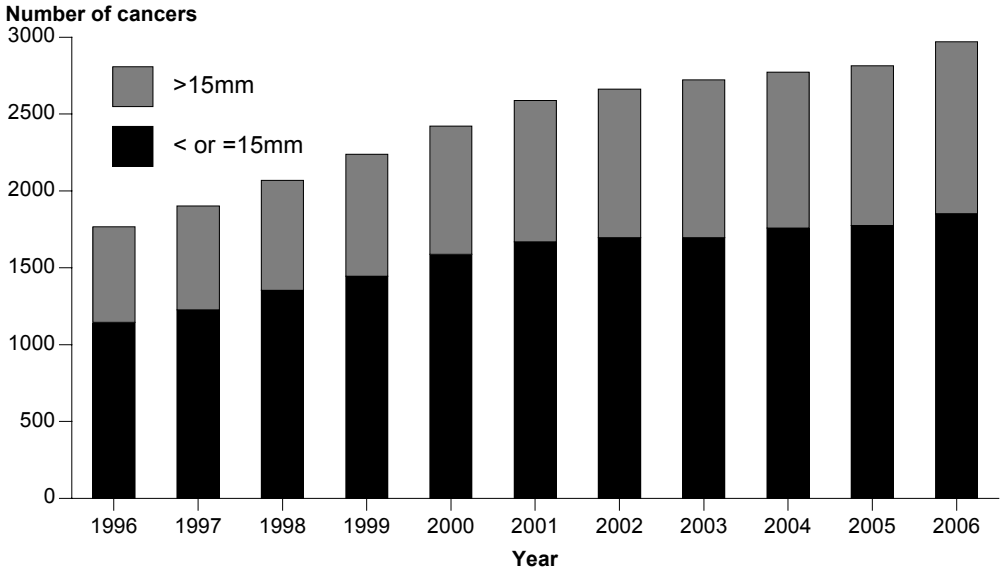
	Age group (years)						
	40–44	**45–49**	**50–54**	**55–59**	**60–64**	**65–69**	**70+**
2006 rate	9.3	19.0#	19.1	24.6	35.3	38.8	44.4
95% CI	6.7–12.6	16.0–22.4	17.2–21.2	22.4–26.9	32.4–38.4	35.4–42.5	39.9–49.2
2005 rate	10.4	16.3	20.3	26.2	32.8	37.6	46.8
95% CI	7.6–13.8	13.5–19.5	18.3–22.4	23.9–28.7	29.9–35.8	34.2–41.3	42.1–51.9
2001 rate	11.8	11.7	22.0	28.3	34.4	37.3	47.7
95% CI	9.1–15.0	9.6–14.1	19.9–24.3	25.7–31.0	31.3–37.8	33.7–41.1	43.8–51.8

Statistically significantly different from 2001 rates.

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

- In 2005 and 2006, small invasive cancer detection per 10,000 women screened was lowest for the 40–44 years age group and highest for the 70 years or over age group.
- Between 2001 and 2006, there was a statistically significant increase in small invasive cancer detection per 10,000 women screened for women aged 45–49 years, from 11.7 in 2001 to 19.0 in 2006.

Proportion of small invasive cancers detected over time



Source: AIHW analysis of BreastScreen Australia data.

Figure 2.9: Number of small (≤15 mm) invasive breast cancers to other size (>15mm) invasive breast cancers detected in women aged 50–69 years, all screening rounds, 1996–2006

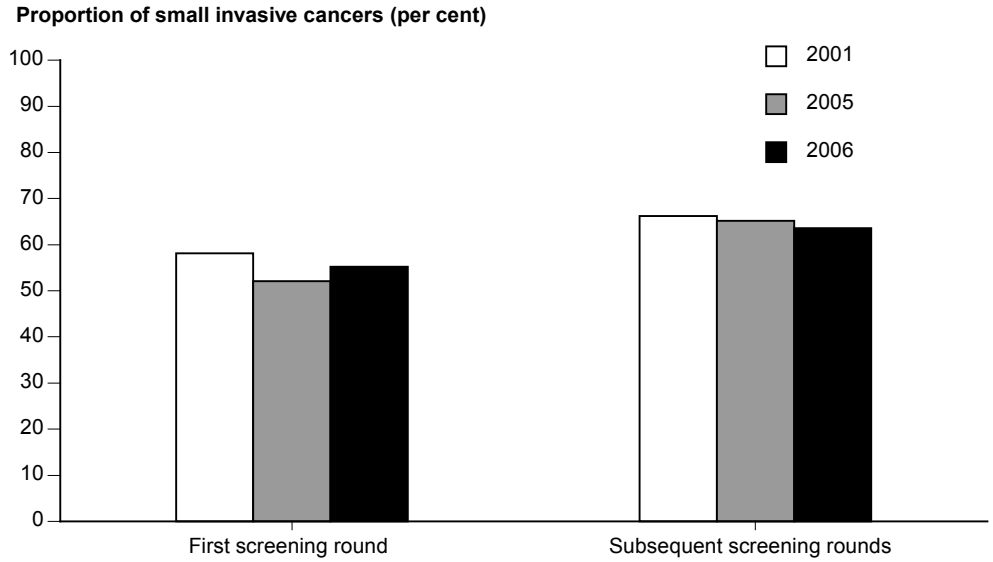
Table 2.11 Number and proportion of small (≤15 mm) invasive breast cancers to other size (>15mm) invasive breast cancers detected in women aged 50–69 years, all screening rounds, 1996–2006

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Small size (≤15mm)	1,145	1,227	1,352	1,445	1,588	1,669	1,697	1,696	1,758	1,775	1,858
Other size (>15mm)	621	674	716	793	834	918	965	1,027	1,015	1,039	1,121
Proportion of small size cancers	64.8	64.5	65.4	64.6	65.6	64.5	63.7	62.3	63.4	63.1	62.4

Note: Rates are the number of women with small invasive cancers detected as a proportion of the number of women with invasive cancers detected.

- Although the number of small invasive breast cancers detected in women aged 50–69 years by the BreastScreen Australia Program increased from 1,145 cancers in 1996 to 1,858 cancers in 2006, the proportion of small cancers detected decreased marginally from 64.8% to 62.4% over this period.

Proportion of small invasive cancers detected, first and subsequent screening rounds



Source: AIHW analysis of BreastScreen Australia data.

Figure 2.10: Proportion of small (≤15 mm) invasive breast cancers detected in women aged 50–69 years, first and subsequent screening rounds, 1996–2006

Table 2.12 Proportion of small (≤15 mm) invasive cancers detected, first and subsequent screening rounds, 2001, 2005 and 2006

	2001	2005	2006
		(per cent)	
First screening round			
Women aged 50–69 years	58.0	52.6	55.2
Women aged 40 years or over	56.6	52.9	52.4
Subsequent screening rounds			
Women aged 50–69 years	66.1	65.2	63.6
Women aged 40 years or over	66.5	65.0	64.0

Note: Rates are the number of women with small invasive cancers detected as a proportion of the number of women with invasive cancers detected.

- The proportion of small invasive cancers detected was higher in subsequent screening rounds compared with the first screening round (63.6% compared with 55.2% in 2006), which demonstrates that a higher proportion of women attending the Program for the first time have breast cancers larger than 15 mm compared with those who have been screened previously.

Indicator 3 Sensitivity

Interval cancer and program sensitivity rates give an indication of the ability of the BreastScreen Australia Program to detect invasive breast cancers in women attending for screening.

Key points

- Between the index years of 1999–2001 and 2002–2004, the interval cancer rate decreased and program sensitivity increased (although statistical significance was rarely reached), indicating that the effectiveness of the Program in detecting invasive breast cancers in asymptomatic women has increased over this time.
- In the index years 2002–2004, the interval cancer rate was lowest in the 0–12 months follow-up after a woman's screen at 6.1 per 10,000 woman-years for the first screening round, and 6.3 for subsequent screening rounds.
- The interval cancer rate in the 13–24 months after a woman's screen was around twice that of the 0–12 months follow-up, at 11.6 and 12.6 per 10,000 woman-years for the first and subsequent screening rounds, respectively.
- In the index years 2002–2004, program sensitivity ranged between 91.6% for the 0–12 months follow-up after the first screening round and 73.9% for the 0–24 months follow-up after subsequent screening rounds.

Interval cancers and program sensitivity

The ability of screening mammography in the target age group (50-69 years) to successfully detect invasive breast cancer in women screened can be assessed by considering the relative number of:

1. invasive breast cancers detected at screening episodes
2. invasive breast cancers diagnosed 0–12 months after a screening episode detected no cancer
3. invasive breast cancers diagnosed 13–24 months after a screening episode detected no cancer.

The goal of the Program is to have a high proportion of these cancers in category 1 and a low proportion in category 2 and 3. This is especially important for category 2, because a breast cancer detected 0–12 months after a negative screen is much more likely to represent a failure of the screening process to detect a cancer than if detected after 13–24 months. However, aggressive breast cancers in some women can emerge in the period between scheduled screening episodes and grow very rapidly, and therefore not represent any failure in detection. Further, due to the characteristics of the cancer or the breast tissue, some cancers may be occult (not apparent) on screening mammography, and therefore not able to be detected by breast cancer screening.

States and territories are required to audit interval cancers and, in some jurisdictions, over 80% of interval cancer are found to be true interval cancers; that is, are aggressive breast

cancers that grew between screening intervals, or breast cancers in dense tissue that are not visible on mammography.

Indicator 3 measures the numbers and rates of the category 2 and 3 cancers (known as interval cancers) and measures cancers in category 1 as a percentage of total cancers found in screened women (sensitivity).

Indicator 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 (see glossary for definition of 'woman-year'). It is presented by 10-year age groups for women aged 40 years or 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).

The 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. 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.

In principle, screening should be done only with women who have no breast cancer symptoms. However, in practice this is not always practical, so the data presented here include both symptomatic and asymptomatic women. Both interval cancer and program sensitivity rates in each state and territory are affected by the policy of management of symptomatic women in that jurisdiction. For example, in some jurisdictions 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 subsequently 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.

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

The National Accreditation Standards for 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 (NAS 2.4.2(a)).

The following summary table shows the interval cancer rates for the BreastScreen Australia Program for the index years 1999–2001 and 2002–2004. The objective of less than 7.5 per 10,000 women-years was achieved in index years 2002–2004 for all screening rounds, which is an improvement of the index years 1999–2001, for which this objective was not met.

Interval cancer rate summary table

Table 3.1: Interval cancer rate for women aged 40 years or over and 50–69 years, screened during index years 1999, 2000, 2001 and 2002, 2003, 2004, first and subsequent screening rounds, 0–12 months and 13–24 months follow-up

	Objective[(a)]	Index years 1999, 2000 and 2001	Index years 2002, 2003 and 2004
First screening round 0–12 months			
Rate for women aged 50–69 years	<7.5	7.8	6.1
95% CI		6.6–9.0	4.9–7.4
Rate for women aged 40 years or over	. .	7.8	6.2
95% CI		6.9–8.8	5.3–7.2
Subsequent screening rounds 0–12 months			
Rate for women aged 50–69 years	<7.5	8.0	6.3*
95% CI		7.5–8.5	5.9–6.8
Rate for women aged 40 years or over	. .	7.9	6.7*
95% CI		7.5–8.3	6.3–7.0
First screening round 13–24 months			
Rate for women aged 50–69 years	. .	13.7	11.6
95% CI		12.2–15.4	10.0–13.4
Rate for women aged 40 years or over	. .	12.9	11.6
95% CI		11.7–14.1	10.3–13.0
Subsequent screening rounds 13–24 months			
Rate for women aged 50–69 years	. .	13.4	12.6
95% CI		12.8–14.1	12.0–13.2
Rate for women aged 40 years or over	. .	12.9	12.3
95% CI		12.4–13.5	11.8–12.8

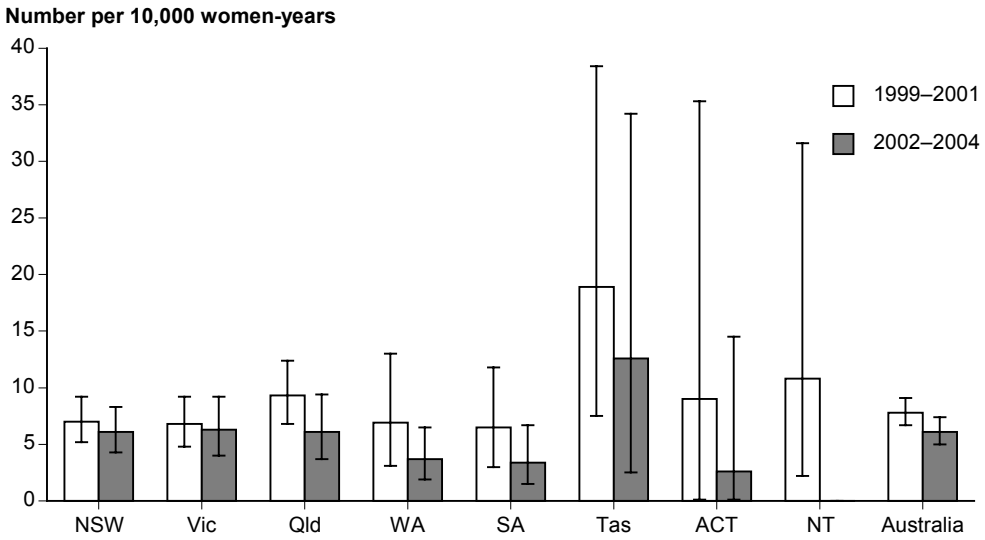
* Statistically significantly different from Index years 1999, 2000 and 2001.

(a) Performance objective of the BreastScreen Australia Program as set out in the National Accreditation Standard (NQMC 2004).

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

Interval cancer results

Interval cancer rate by state and territory, first screening round, 0–12 months follow-up



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 3.1: Interval cancer rate for women aged 50–69 years, screened during index years 1999– 2001 and 2002–2004, by state and territory, first screening round, 0–12 months follow-up

Table 3.2: Interval cancer rate for women aged 50–69 years, screened during index years 1999–2001 and 2002– 2004, by state and territory, first screening round, 0–12 months follow-up

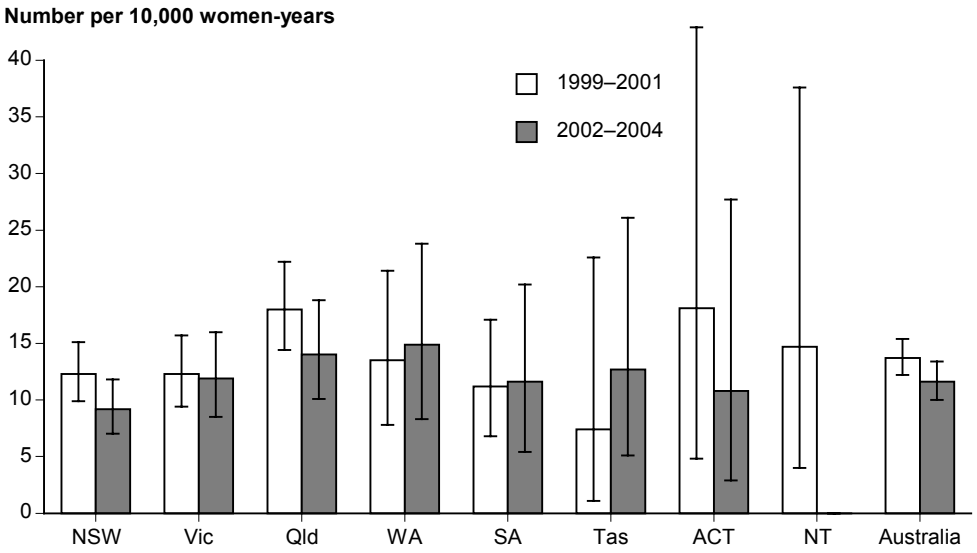
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Index years 2002–2004									
Rate	6.1	6.3	6.1	3.7	3.4	12.6	2.6	0.0	6.1
95% CI	4.3–8.3	4.0–9.2	3.7–9.3	1.9–6.5	1.4–6.6	2.6–34.3	0.1–14.5	. .	4.9–7.4
Index years 1999–2001									
Rate	7.0	6.8	9.3	6.9	6.5	18.9	9.0	10.8	7.8
95% CI	5.2–9.2	4.8–9.3	6.9–12.4	3.1–13.0	2.9–11.7	7.5–38.4	0.1–35.3	2.2–31.7	6.6–9.0

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.

- The number of interval cancers per 10,000 women-years for women aged 50–69 years 0–12 months after their first screen decreased between the index years 1999–2001 and 2002–2004 from 7.8 to 6.1. The decrease was not found to be statistically significant.

Interval cancer rate by state and territory, first screening round, 13–24 months follow-up



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 3.2: Interval cancer rate for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, first screening round, 13–24 months follow-up

Table 3.3: Interval cancer rate for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, first screening round, 13–24 months follow-up

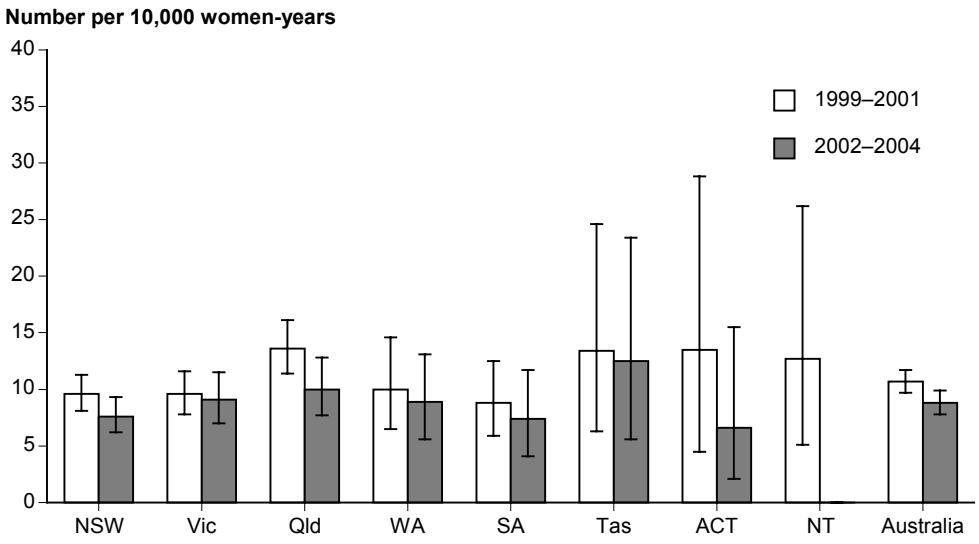
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Index years 2002–2004									
Rate	9.2	11.9	14.0	14.9	11.6	12.7	10.8	0.0	11.6
95% CI	7.0–11.9	8.4–16.0	10.1–18.8	8.3–23.9	5.4–20.2	5.1–26.1	3.0–27.7	. .	10.0–13.4
Index years 1999–2001									
Rate	12.3	12.3	18.0	13.5	11.2	7.4	18.1	14.7	13.7
95% CI	9.9–15.1	9.5–15.7	14.4–22.3	7.8–21.4	6.7–17.1	1.1–22.6	4.8–42.9	4.0–37.6	12.2–15.4

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.

- The number of interval cancers per 10,000 women-years for women aged 50–69 years 13–24 months after their first screen decreased between 1999–2001 and 2002–2004 from 13.7 to 11.6. However, the decrease was not found to be statistically significant.

Interval cancer rate by state and territory, first screening round, 0–24 months follow-up



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 3.3: Interval cancer rate for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, first screening round, 0–24 months follow-up

Table 3.4: Interval cancer rate for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, first screening round, 0–24 months follow-up

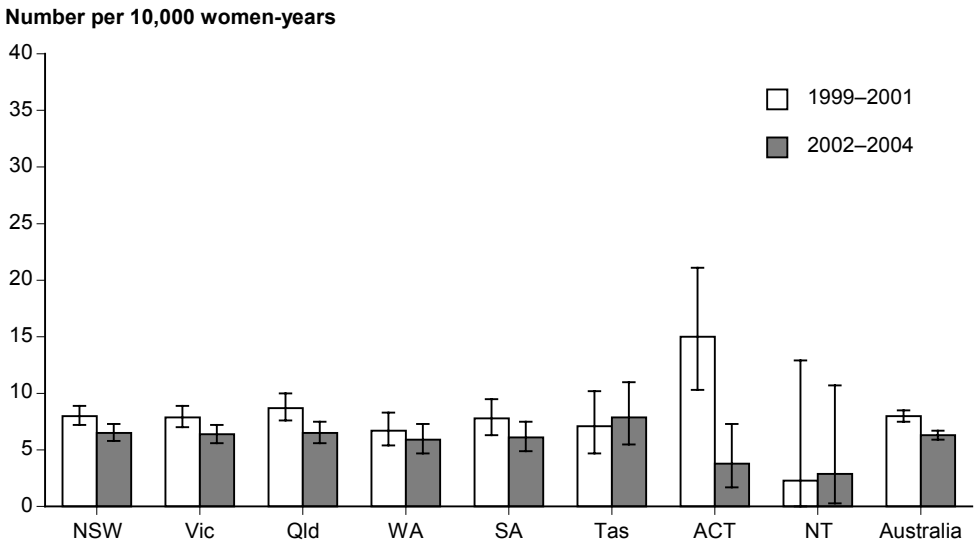
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Index years 2002–2004									
Rate	7.6	9.1	10.0	8.9	7.4	12.5	6.6	0.0	8.8
95% CI	6.2–9.3	7.0–11.5	7.6–12.7	5.6–13.1	4.1–11.7	5.6–23.4	2.2–15.5	. .	7.8–9.9
Index years 1999–2001									
Rate	9.6	9.6	13.6	10.0	8.8	13.4	13.5	12.7	10.7
95% CI	8.1–11.3	7.8–11.6	11.4–16.1	6.5–14.6	5.8–12.5	6.3–24.6	4.5–28.8	5.1–26.3	9.7–11.7

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.

- The number of interval cancers per 10,000 women-years for women aged 50–69 years 0–24 months after their first screen decreased between 1999–2001 and 2002–2004 from 10.7 to 8.8. The decrease was not found to be statistically significant.

Interval cancer rate by state and territory, subsequent screening rounds, 0–12 months follow-up



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 3.4: Interval cancer rate for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, subsequent screening rounds, 0–12 months follow-up

Table 3.5: Interval cancer rate for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, subsequent screening rounds, 0–12 months follow-up

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Index years 2002–2004									
Rate	6.5	6.4	6.5*	5.9	6.1	7.9	3.8*	2.9	6.3*
95% CI	5.8–7.3	5.6–7.2	5.6–7.4	4.8–7.3	4.9–7.5	5.5–11.0	1.8–7.3	0.3–10.8	5.9–6.8
Index years 1999–2001									
Rate	8.0	7.9	8.7	6.7	7.8	7.1	15.0	2.3	8.0
95% CI	7.2–8.9	7.0–8.9	7.6–10.0	5.3–8.2	6.4–9.5	4.7–10.2	10.3–21.1	0.1–13.0	7.5–8.5

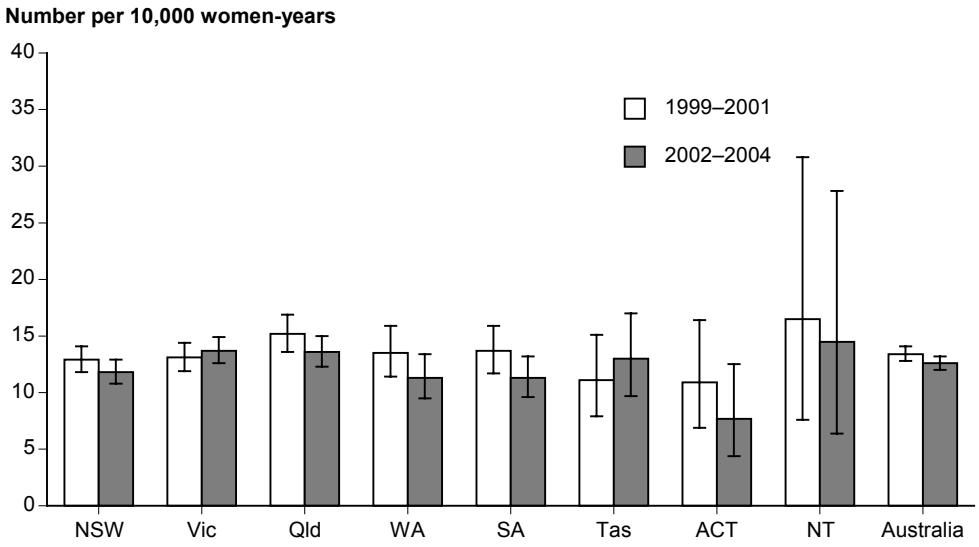
* Statistically significantly different from Index years 1999– 2001.

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.

- The number of interval cancers per 10,000 women-years for women aged 50–69 years 0–12 months after subsequent screens decreased between index years 1999–2001 and 2002–2004 from 8.0 to 6.1. This decrease is statistically significant.
- Queensland and the Australian Capital Territory both had statistically significant decreases in the number of interval cancer per 10,000 women-years between index years 1999–2001 and 2002–2004.

Interval cancer rate by state and territory, subsequent screening rounds, 13–24 months follow-up



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 3.5: Interval cancer rate for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, subsequent screening rounds, 13–24 months follow-up

Table 3.6: Interval cancer rate for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, subsequent screening rounds, 13–24 months follow-up

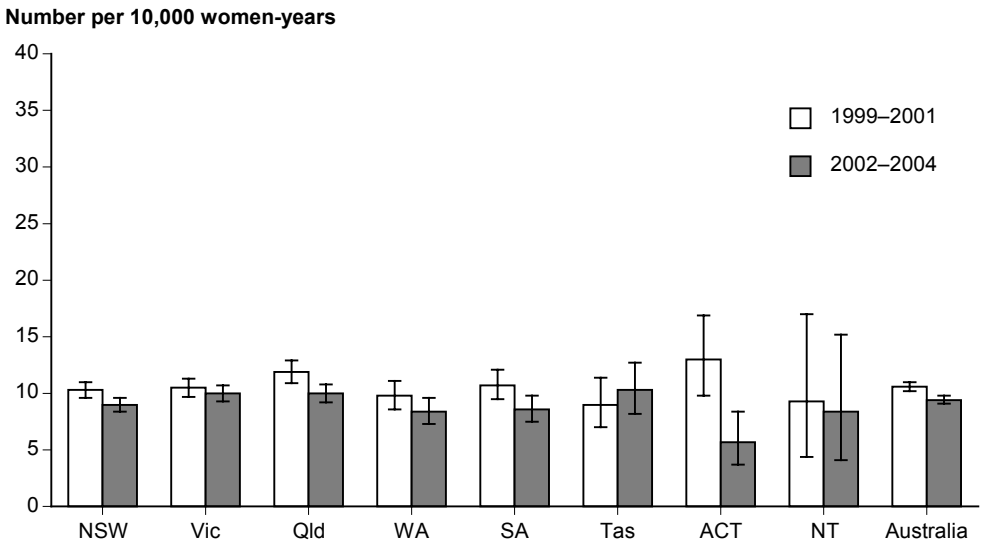
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Index years 2002–2004									
Rate	11.8	13.7	13.6	11.3	11.3	13.0	7.7	13.8	12.6
95% CI	10.8–12.9	12.6–14.9	12.3–15.0	9.5–13.4	9.6–13.3	9.7–17.0	4.4–12.5	6.2–26.5	12.0–13.2
Index years 1999–2001									
Rate	12.9	13.1	15.2	13.5	13.7	11.1	10.9	16.5	13.4
95% CI	11.8–14.0	11.9–14.4	13.6–16.9	11.4–15.9	11.7–16.0	7.9–15.1	6.9–16.4	7.6–30.8	12.8–14.1

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.

- The number of interval cancers per 10,000 women-years for women aged 50–69 years 13–24 months after subsequent screens decreased between 1999–2001 and 2002–2004 from 13.4 to 12.6. However, the decrease was not found to be statistically significant.

Interval cancer rate by state and territory, subsequent screening rounds, 0–24 months follow-up



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 3.6: Interval cancer rate for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, subsequent screening rounds, 0–24 months follow-up

Table 3.7: Interval cancer rate for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, subsequent screening rounds, 0–24 months follow-up

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Index years 2002–2004									
Rate	9.0	10.0	10.0*	8.4	8.6	10.3	5.7*	8.0	9.4*
95% CI	8.4–9.7	9.3–10.8	9.2–10.8	7.3–9.5	7.5–9.7	8.3–12.7	3.7–8.3	3.9–14.5	9.0–9.7
Index years 1999–2001									
Rate	10.3	10.5	11.9	9.8	10.7	9.0	13.0	9.3	10.6
95% CI	9.6–11.0	9.7–11.3	10.9–12.9	8.6–11.1	9.4–12.0	7.0–11.4	9.8–16.9	4.5–17.0	10.2–11.0

* Statistically significantly different from Index years 1999– 2001.

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.

- The number of interval cancers per 10,000 women-years for women aged 50–69 years 0–24 months after subsequent screens decreased between index years 1999–2001 and 2002–2004 from 10.6 to 9.4. This decrease is statistically significant.
- Queensland and the Australian Capital Territory both had statistically significant decreases in the number of interval cancer per 10,000 women-years between index years 1999–2001 and 2002–2004.

Indicator 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 presented by 10-year age groups for women aged 40 years or over and, for the target age group (50–69 years), time since screen (0–12 months and 0–24 months) and screening round (first or subsequent).

The program 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 Program.

As detailed for the interval cancer indicator, both interval cancers and sensitivity rates in each state and territory are affected by the policy of management of symptomatic clients in that jurisdiction, which affects the comparability of this indicator between jurisdictions.

There are no National Accreditation Standards for the sensitivity indicator.

The following summary table shows that program sensitivity for the BreastScreen Australia Program improved between the index years 1999–2001 and 2002–2004 for all screening rounds, but that this increase in program sensitivity was only statistically significant for the 0–24 months after subsequent screening rounds.

Program sensitivity summary table

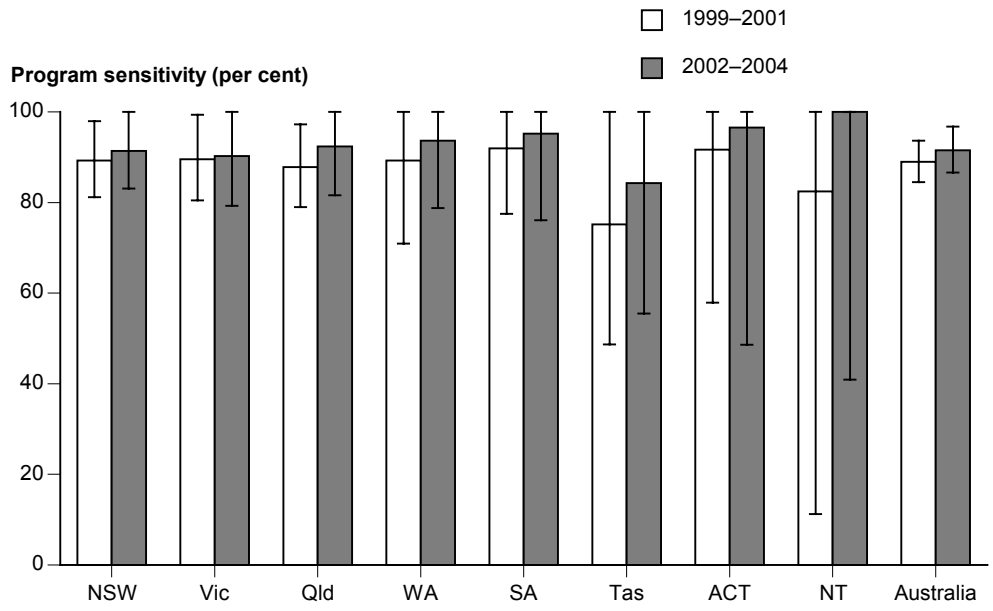
Table 3.8: Program sensitivity for women aged 40 years or over and 50–69 years, screened during index years 1999, 2000, 2001 and 2002, 2003, 2004, first and subsequent screening rounds, 0–24 months follow-up

	Index years 1999, 2000 and 2001	Index years 2002, 2003 and 2004
	(per cent)	
First screening round 0–24 months		
Rate for women 50–69 years	75.7	81.7
95% CI	71.9–79.7	77.2–86.4
Rate for women aged 40 years or over	74.1	79.9
95% CI	71.1–77.2	76.4–83.5
Subsequent screening round 0–24 months		
Rate for women 50–69 years	67.7	73.1*
95% CI	65.9–69.5	71.4–74.9
Rate for women aged 40 years or over	65.6	70.8*
95% CI	64.0–67.2	69.2–72.4

* Statistically significantly different from Index years 1999, 2000 and 2001.

Program sensitivity results

Program sensitivity by state and territory, first screening round, 0–12 months follow-up



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 3.7: Program sensitivity for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, first screening round, 0–12 months follow-up

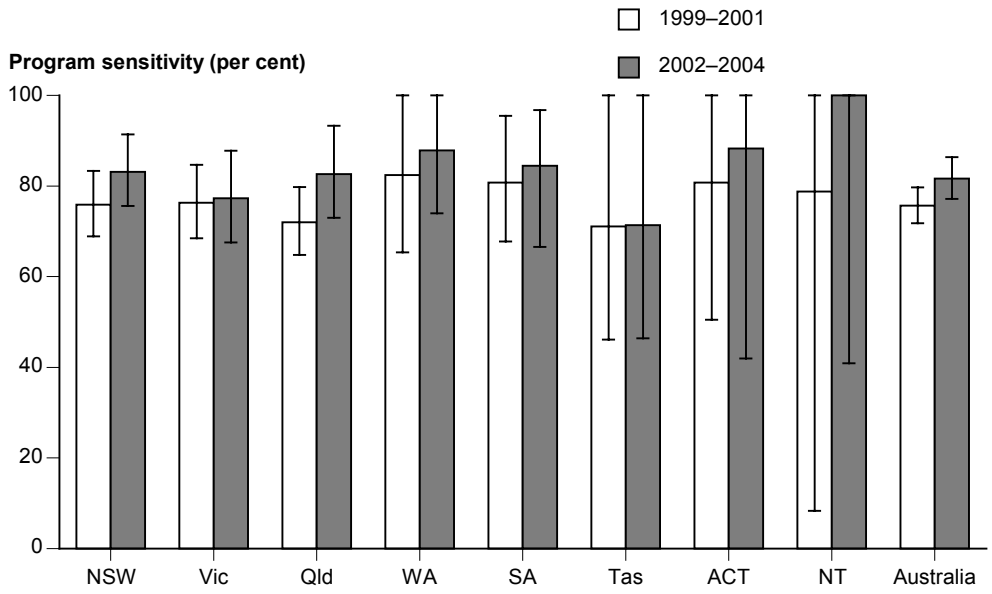
Table 3.9: Program sensitivity for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, first screening round, 0–12 months follow-up

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
Index years 2002–2004									
Rate	91.4	90.3	92.4	93.7	95.2	84.3	96.6	100.0	91.6
95% CI	83.1–100.0	79.3–100.0	81.6–100.0	78.7–100.0	76.2–100.0	55.5–100.0	48.6–100.0	40.9–100.0	86.6–96.8
Index years 1999–2001									
Rate	89.3	89.6	87.8	89.3	92.0	75.2	91.7	82.5	89.0
95% CI	81.2–98.1	80.6–99.4	79.0–97.4	71.0–100.0	77.4–100.0	48.7–100.0	57.9–100.0	11.2–100.0	84.5–93.7

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 included both symptomatic and asymptomatic women.

Program sensitivity by state and territory, first screening round, 0–24 months follow-up



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 3.8: Program sensitivity for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, first screening round, 0–24 months follow-up

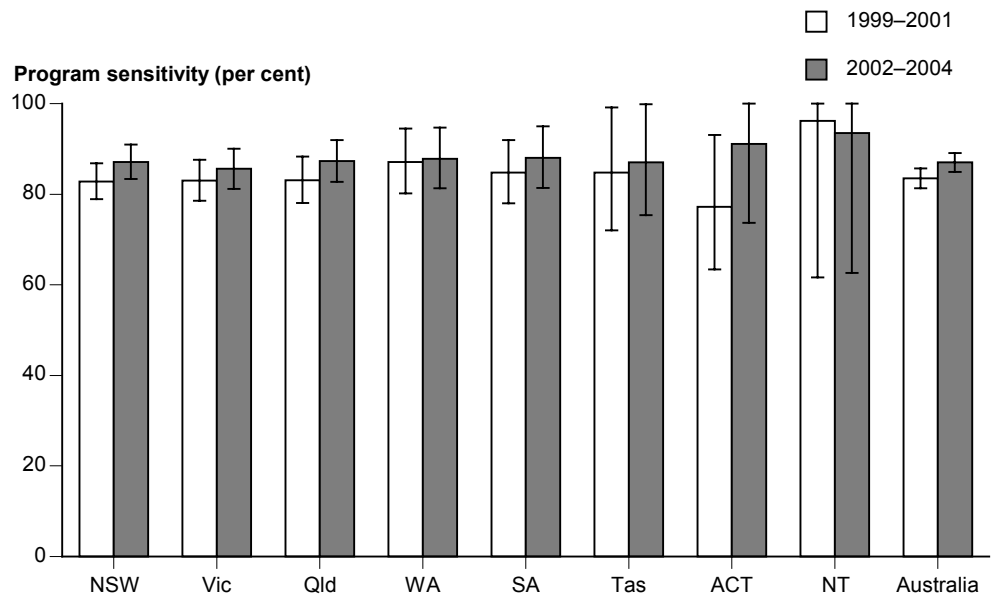
Table 3.10: Program sensitivity for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, first screening round, 0–24 months follow-up

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
Index years 2002–2004									
Rate	83.2	77.3	82.7	87.9	84.5	71.4	88.3	100.0	81.7
95% CI	75.6–91.4	67.6–87.8	73.0–93.3	74.0–100.0	66.9–100.0	46.4–100.0	42.0–100.0	40.9–100.0	77.2–86.4
Index years 1999–2001									
Rate	75.9	76.3	72.0	82.5	80.8	71.1	80.8	78.8	75.7
95% CI	69.0–83.4	68.6–84.7	64.8–79.8	65.4–100.0	67.7–95.5	46.1–100.0	50.4–100.0	8.2–100.0	71.9–79.7

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 included both symptomatic and asymptomatic women.

Program sensitivity by state and territory, subsequent screening rounds, 0–12 months follow-up



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 3.9: Program sensitivity for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, subsequent screening rounds, 0–12 months follow-up

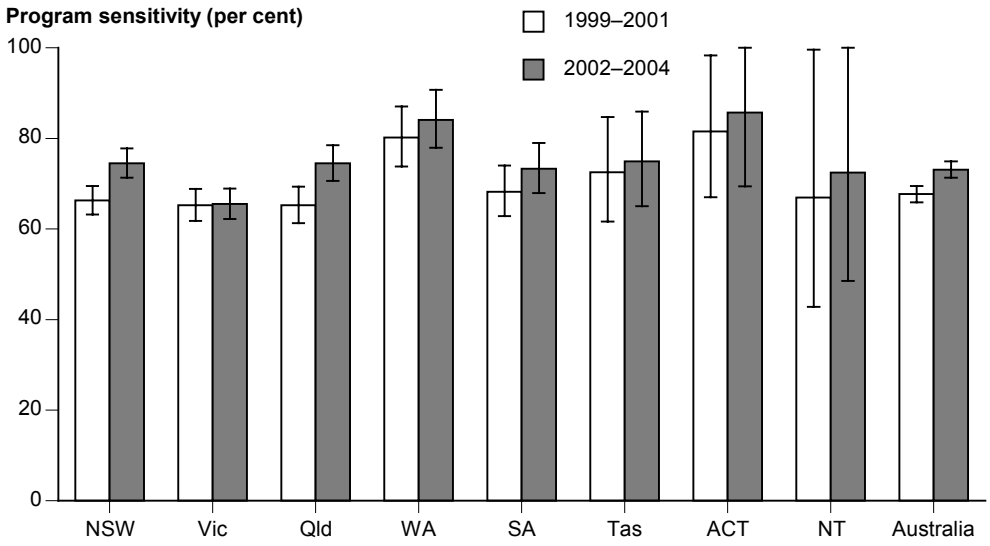
Table 3.11: Program sensitivity for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, subsequent screening rounds, 0–12 months follow-up

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
Index years 2002–2004									
Rate	87.1	85.6	87.3	87.8	88.0	87.0	91.1	93.5	87.0
95% CI	83.4–91.0	81.2–90.1	82.7–92.0	81.3–94.6	81.4–95.0	75.3–99.8	73.8–100.0	62.5–100.0	84.9–89.2
Index years 1999–2001									
Rate	82.8	83.0	83.1	87.1	84.8	84.8	77.2	96.2	83.5
95% CI	78.9–86.8	78.6–87.5	78.2–88.3	80.2–94.5	78.1–92.0	72.0–99.2	63.4–93.1	61.6–100.0	81.4–85.8

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 included both symptomatic and asymptomatic women.

Program sensitivity by state and territory, subsequent screening rounds, 0–24 months follow-up



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 3.10: Program sensitivity for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, by state and territory, subsequent screening rounds, 0–24 months follow-up

Table 3.12: Program sensitivity for women aged 50–69 years, screened during index years 1999–2001 and 2002–2004, subsequent screening rounds, 0–24 months follow-up

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
Index years 2002–2004									
Rate	74.5*	65.5	74.5*	84.1	73.3	74.9	85.7	72.6	73.1*
95% CI	71.3–77.8	62.2–68.9	70.6–78.5	77.8–90.6	67.8–79.0	64.9–85.9	69.3–100.0	48.5–100.0	71.4–74.9
Index years 1999–2001									
Rate	66.3	65.2	65.2	80.2	68.2	72.5	81.5	66.9	67.7
95% CI	63.2–69.5	61.8–68.8	61.4–69.3	73.8–86.9	62.8–74.0	61.7–84.8	67.0–98.3	42.8–99.6	65.9–69.5

* Statistically significantly different from Index years 1999– 2001.

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 included both symptomatic and asymptomatic women.

- The program sensitivity rate for women aged 50–69 years 0–24 months after subsequent screens increased between index years 1999–2001 and 2002–2004 from 67.7% to 73.1%. This increase is statistically significant.

Indicator 4 Detection of ductal carcinoma in situ

Although much is not yet understood about DCIS and the development of invasive breast cancer, there is evidence that treating DCIS may lower a woman's risk of developing invasive cancer. Therefore, the BreastScreen Australia Program aims to maximise the detection of DCIS.

Key points

- The detection rate of DCIS in the BreastScreen Australia Program in 2006 was 10.4 per 10,000 women screened.
- Similar to the detection of invasive breast cancer, detection of DCIS was statistically significantly higher for a woman's first screening round (18.8 per 10,000 women screened for women aged 50–69 years in 2006) than for subsequent screening rounds (9.5 per 10,000 women screened).

Ductal carcinoma in situ detection rate

The ductal carcinoma in situ (DCIS) detection rate is the number of women with DCIS per 10,000 women screened, presented by 10-year age groups for women aged 40 years or over 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 cases of 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 most cases and is usually detected as a change on a mammogram or as a chance finding on a breast biopsy for another condition (NQMC 2004). Before the introduction of nationwide screening mammography 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 (NQMC 2004). 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 that:

- ≥12 per 10,000 women aged 50–69 years who attend for their first screen are diagnosed with DCIS (NAS 2.3.1)
- ≥7 per 10,000 women aged 50–69 years who attend for their second or subsequent screen are diagnosed with DCIS (NAS 2.3.2).

The following summary table shows that the DCIS detection objective of ≥12 cases per 10,000 women screened for the first screening round and ≥7 cases per 10,000 women screened for subsequent screening rounds was achieved in 2001, 2005 and 2006.

DCIS summary table

Table 4.1 Ductal carcinoma in situ detection rate in women aged 50–60 and women aged 40 years or over, 2001, 2005 and 2006

	Objective[(a)]	2001	2005	2006
First screening round				
Rate for women aged 50–69 years	≥12	19.1*	14.5	18.8*
95% CI		15.9–22.7	11.4–18.1	15.1–23.0
Rate for women aged 40 years or over	. .	17.7	16.0	17.5
95% CI		15.2–20.5	12.6–19.8	14.2–21.1
Subsequent screening rounds				
Rate for women aged 50–69 years	≥7	10.2	11.0	9.5
95% CI		9.3–11.1	10.1–11.9	8.7–10.3
Rate for women aged 40 years or over	. .	9.5	10.3	9.1
95% CI		8.8–10.2	9.5–11.1	8.4–9.8

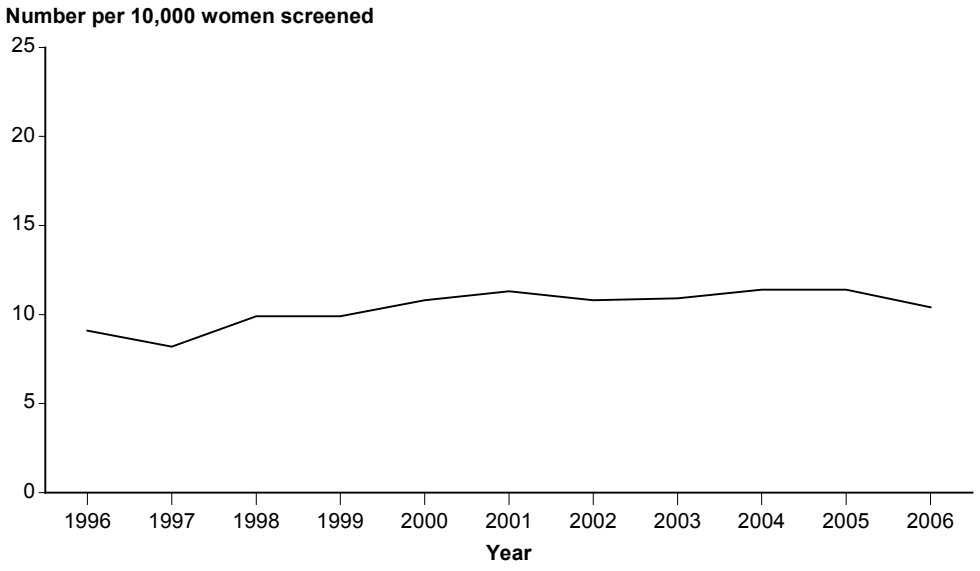
* Statistically significantly different from subsequent screening rounds

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

Note: Prior to 2001, the then National Accreditation Requirements capped the number of DCIS cases detected within the Program at <20% of all cancers detected

DCIS detection results

Ductal carcinoma in situ detection, by year



Source: AIHW analysis of BreastScreen Australia data.

Figure 4.1: Ductal carcinoma in situ detection in women aged 50–69 years, all screening rounds, 1996–2006

Table 4.2: Ductal carcinoma in situ detection in women aged 50–69 years, all screening rounds, 1996–2006

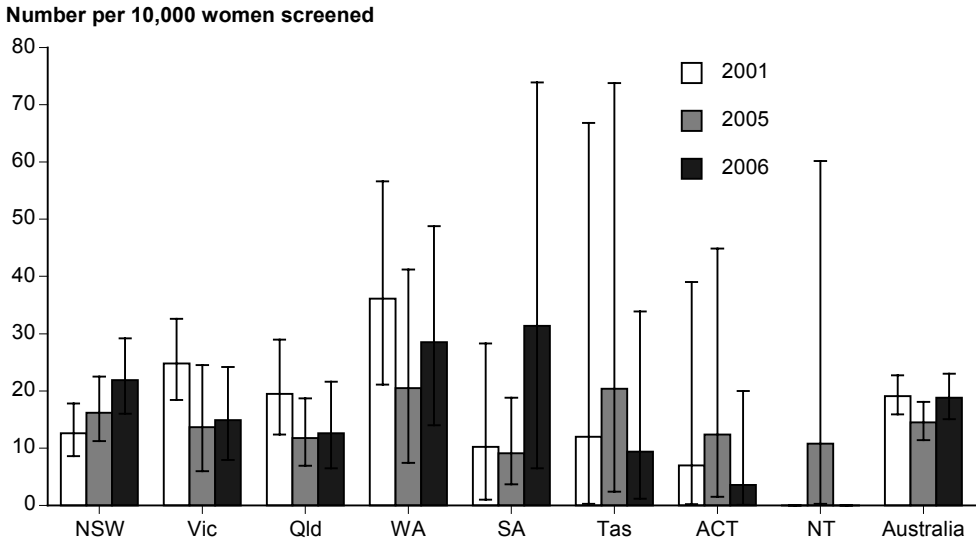
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Rate	9.1	8.2	9.9	9.9	10.8	11.3*	10.8	10.9	11.4*	11.4*	10.4
95% CI	8.2–10.1	7.4–9.1	9.0–10.8	9.0–10.8	10.0–11.7	10.5–12.3	9.9–11.6	10.1–11.8	10.5–12.3	10.6–12.3	9.7–11.2

* Statistically significantly different from the 1996 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.

- The number of DCIS cases detected for all screening rounds in women aged 50–69 years increased from 376 in 1996 to 687 in 2006.
- DCIS detection per 10,000 women screened for women aged 50–69 years remained relatively constant between 1996 and 2006 at between 9 and 11 cases detected per 10,000 women screened, for all screening rounds.

Ductal carcinoma in situ detection by state and territory, first screening round



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 4.2: Ductal carcinoma in situ detection in women aged 50–69 years, by state and territory, first screening round, 2001, 2005 and 2006

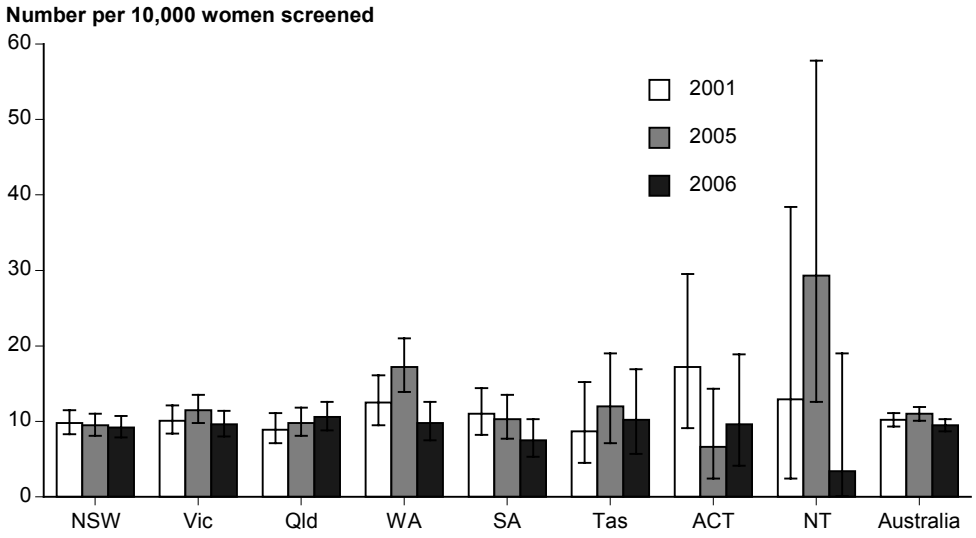
Table 4.3: Ductal carcinoma in situ detection in women aged 50–69 years, by state and territory, first screening round, 2001, 2005 and 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
2006 rate	21.9	14.9	12.6	28.5	31.4	9.4	3.6	0.0	18.8
95% CI	15.9–29.1	7.9–24.2	6.6–21.6	14.0–48.8	6.5–73.8	1.1–33.8	0.1–20.0	. .	15.1–23.0
2005 rate	16.2	13.7	11.8	20.5	9.1	20.4	12.4	10.8	14.5
95% CI	11.2–22.4	6.0–24.5	6.8–18.7	7.4–41.1	3.7–18.8	2.5–73.8	1.5–45.0	0.3–60.2	11.4–18.1
2001 rate	12.6	24.8	19.5	36.1	10.2	12.0	7.0	0.0	19.1
95% CI	8.5–17.8	18.4–32.6	12.4–29.0	21.1–56.7	1.0–28.2	0.3–66.8	0.2–39.0	. .	15.9–22.7

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 188 women attending for their first screening round in 2006, including 128 cases in women aged 50–69 years.
- In 2006, the DCIS detection rate for women aged 50–69 in the first screening round was 18.8 per 10,000 women screened.

Ductal carcinoma in situ detection by state and territory, subsequent screening rounds



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 4.3: Ductal carcinoma in situ detection in women aged 50–69 years, by state and territory, subsequent screening rounds, 2001, 2005 and 2006

Table 4.4: Ductal carcinoma in situ detection in women aged 50–69 years, by state and territory, subsequent screening rounds, 2001, 2005 and 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
2006 rate	9.2	9.6	10.6	9.8	7.5	10.2	9.6	3.4	9.5
95% CI	7.9–10.7	8.0–11.4	8.8–12.6	7.5–12.6	5.2–10.3	5.7–16.9	4.2–19.0	0.1–19.0	8.7–10.3
2005 rate	9.5	11.5	9.8	17.2	10.3	12.0	6.6	29.3	11.0
95% CI	8.1–11.0	9.8–13.5	8.1–11.8	13.9–21.1	7.7–13.5	7.1–19.0	2.4–14.3	12.6–57.8	10.1–11.9
2001 rate	9.8	10.1	8.9	12.5	11.0	8.7	17.2	12.9	10.2
95% CI	8.3–11.5	8.4–12.0	7.1–11.1	9.5–16.0	8.2–14.4	4.5–15.3	9.2–29.5	2.4–38.4	9.3–11.1

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 690 women attending for subsequent screening rounds in 2006, including 559 cases in women aged 50–69 years.
- In 2006, DCIS detection per 10,000 women screened was relatively similar across the states and territories for women aged 50–69 years for subsequent screens, at between 9 and 10 for most states and territories (although wide confidence intervals in smaller states and territories make comparisons difficult).

Indicator 5 Recall to assessment

The BreastScreen Australia Program aims to maximise the number of cancers detected, while minimising the number of unnecessary recalls and investigations.

Key points

- The recall to assessment rate for women aged 50–69 years for mammographic reasons for the first screening round increased statistically significantly from 5.8% in 1996 to 10.0% in 2006.
- The recall to assessment rate for women aged 50–69 years for mammographic reasons for subsequent screening rounds increased statistically significantly from 3.2% in 1996 to 4.0% in 2006, although this was relatively stable at around 4.0% for most years.

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, presented by 5-year age groups for women aged 40 years or over and for the target age group (50–69 years).

The recall to assessment indicator

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).

The recall to assessment indicator measures the rate of women who are recalled for assessment following attendance for routine screening at a BreastScreen Australia service.

This indicator only reports recall to assessment for mammographic reasons, which means that the recall is made because a woman's screening mammogram shows signs that there may be breast cancer. During assessment, a woman might undergo further tests, such as additional mammography, physical examination, ultrasound and, if required, a biopsy.

Women attending the BreastScreen Australia Program for the first time have a higher all-size cancer detection rate than those who have previously been screened, because the first screening round detects prevalent cancers rather than just incident cancers. This equates to a higher recall to assessment rate for women who attend for their first screening round compared with those who attend for subsequent screening rounds.

The National Accreditation Standards for recall to assessment require that:

- <10% of women aged 50–69 years who attend for their first screen are recalled for assessment (NAS 2.6.1)
- <5% of women aged 50–69 years who attend for their second or subsequent screen are recalled for assessment (NAS 2.6.2).

The following summary table shows that the objective of <10% of women recalled to assessment for the first screening round was achieved in 2001 and 2005 but not in 2006 when the rate was 10.0%. However, the objective of <5% of women recalled to assessment for subsequent screening rounds was achieved in these years.

Recall to assessment summary table

Table 5.1: Age-standardised recall to assessment rates for women aged 40 years or over and 50–69 years, mammographic reasons, 2001, 2005 and 2006

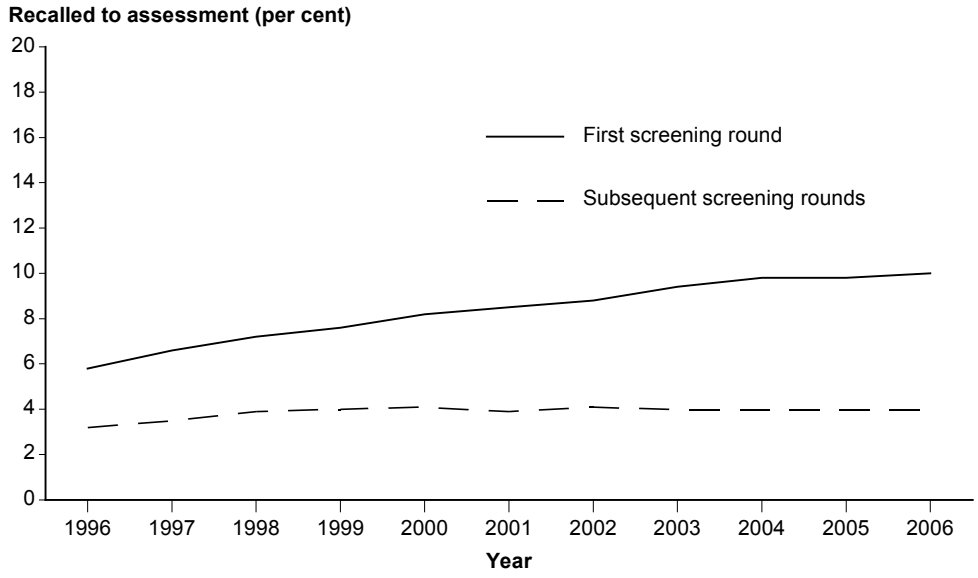
	Objective[(a)]	2001	2005	2006
		(per cent)		
First screening round				
Rate for women aged 50–69 years	<10	8.5*	9.8*	10.0*
95% CI		8.3–8.7	9.6–10.1	9.7–10.2
Rate for women aged 40 years or over	. .	8.3	9.8	10.0
95% CI		8.2–8.5	9.5–10.0	9.7–10.2
Subsequent screening rounds				
Rate for women aged 50–69 years	<5	3.9	4.0	4.0
95% CI		3.9–4.0	3.9–4.0	3.9–4.0
Rate for women aged 40 years or over	. .	4.0	4.2	4.3
95% CI		4.0–4.1	4.1–4.2	4.3–4.4

[#] Statistically significantly different from subsequent screening rounds.

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

Recall to assessment results

Recall to assessment rate by year, mammographic reasons, all screening rounds



Source: AIHW analysis of BreastScreen Australia data.

Figure 5.1: Recall to assessment rate for women aged 50–69 years, mammographic reasons, first and subsequent screening rounds, 1996–2006

Table 5.2: Recall to assessment rate for women aged 50–69 years, mammographic reasons, first and subsequent screening rounds, 1996–2006

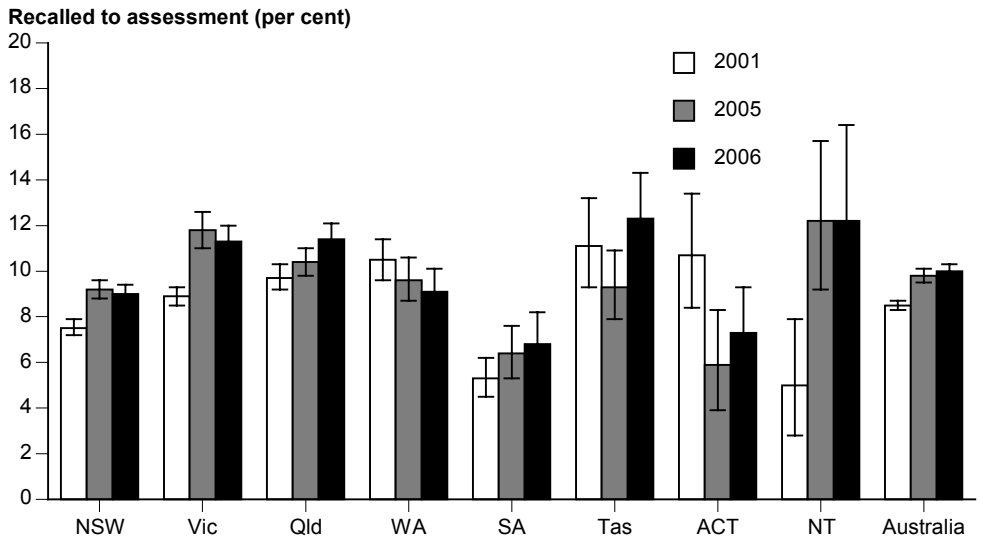
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
						(per cent)					
First screening round											
Rate	5.8*	6.6*	7.2*	7.6*	8.2*	8.5*	8.8*	9.4*	9.8*	9.8*	10.0*
95% CI	5.7–5.9	6.4–6.7	7.1–7.4	7.4–7.8	8.0–8.5	8.3–8.7	8.6–9.1	9.1–9.6	9.6–10.1	9.6–10.1	9.7–10.2
Subsequent screening rounds											
Rate	3.2	3.5	3.9	4.0	4.1	3.9	4.1	4.0	4.0	4.0	4.0
95% CI	3.1–3.3	3.4–3.6	3.9–4.0	3.9–4.1	4.0–4.1	3.9–4.0	4.0–4.1	4.0–4.1	4.0–4.1	3.9–4.0	3.9–4.0

* *Statistically s*ignificantly 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.

- The recall to assessment rate for women aged 50–69 years for mammographic reasons for the first screening round increased statistically significantly from 5.8% in 1996 to 10.0% in 2006.
- The recall to assessment rate for women aged 50–69 years for mammographic reasons for subsequent rounds, after increasing from 3.2% in 1996, was relatively stable between 1998 and 2006, ranging between 3.9% and 4.1%.

Recall to assessment rate by state and territory, mammographic reasons, first screening round



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 5.2: Recall to assessment rate for women aged 50–69 years, mammographic reasons, by state and territory, first screening round, 2001, 2005 and 2006

Table 5.3: Recall to assessment rate for women aged 50–69 years, mammographic reasons, by state and territory, first screening round, 2001, 2005 and 2006

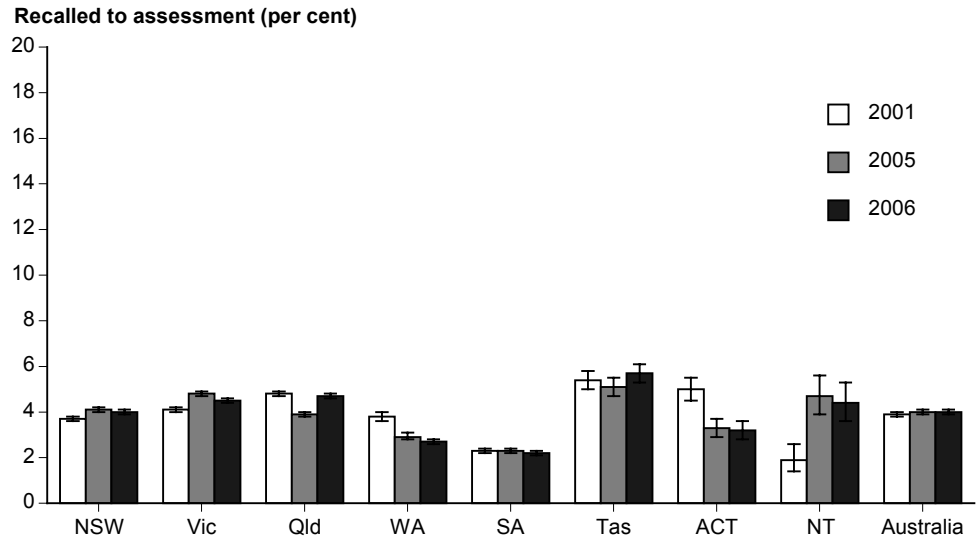
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
2006 rate	9.0*	11.3*	11.4*	9.1	6.8	12.3	7.3	12.2*	10.0*
95% CI	8.6–9.4	10.6–12.0	10.8–12.1	8.2–10.1	5.5–8.2	10.5–14.3	5.6–9.2	8.6–16.4	9.7–10.2
2005 rate	9.2	11.8	10.4	9.6	6.4	9.3	5.9	12.2	9.8
95% CI	8.8–9.6	11.1–12.7	9.8–11.0	8.7–10.6	5.3–7.6	7.8–10.9	3.9–8.3	9.2–15.7	9.6–10.1
2001 rate	7.5	8.9	9.7	10.5	5.3	11.1	10.7	5.0	8.5
95% CI	7.2–7.9	8.5–9.3	9.1–10.2	9.6–11.4	4.5–6.2	9.3–13.2	8.3–13.3	2.8–7.9	8.3–8.7

[#] Statistically significantly different from the 2001 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 2006, 10.0%of women aged 50–69 years attending for their first screen were recalled for assessment for mammographic reasons. This was a statistically significant increase compared with the 8.5% recalled in 2001.
- Between 2001 and 2006, a statistically significant increase in recall to assessment for a women's first screen occurred in New South Wales, Victoria, Queensland and the Northern Territory.
- Across states and territories in 2006, the highest recall to assessment rate was recorded in Tasmania (12.3%) and the lowest in South Australia (6.8%).

Recall to assessment rate by state and territory, mammographic reasons, subsequent screening rounds



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 5.3: Recall to assessment rate for women aged 50–69 years, by state and territory, mammographic reasons, subsequent screening rounds, 2001, 2005 and 2006

Table 5.4: Recall to assessment rate for women aged 50–69 years, by state and territory, mammographic reasons, subsequent screening rounds, 2001, 2005 and 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
2006 rate	4.0#	4.5#	4.7*	2.7#	2.2	5.7	3.2#	4.4#	4.0
95% CI	3.9–4.1	4.3–4.6	4.5–4.8	2.6–2.9	2.1–2.3	5.3–6.1	2.8–3.6	3.6–5.3	3.9–4.0
2005 rate	4.1	4.8	3.9	2.9	2.3	5.1	3.3	4.7	4.0
95% CI	4.0–4.2	4.6–4.9	3.8–4.0	2.8–3.1	2.2–2.5	4.7–5.5	2.9–3.7	3.9–5.6	3.9–4.0
2001 rate	3.7	4.1	4.8	3.8	2.3	5.4	5.0	1.9	3.9
95% CI	3.6–3.8	4.0–4.2	4.7–5.0	3.6–4.0	2.2–2.5	5.0–5.8	4.5–5.6	1.3–2.5	3.9–4.0

* Statistically significantly different from the 2005 rate.

Statistically significantly different from the 2001 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 2006, of the women aged 50–69 years who attended subsequent screening rounds, 4.0% were recalled for assessment for mammographic reasons.

Indicator 6 Rescreening

Maintaining high rescreening rates is important to both increase the likelihood of breast cancers being detected early in screened women and to maintain overall participation.

Key points

- Rescreening rates of women aged 50–67 years in the BreastScreen Australia Program increased with screening round. In 2004, 62.7% of women who attended their first screen were rescreened within 27 months, 70.5%of women who attended their second screen were rescreened within 27 months, and 80.9% of women who attended their third or subsequent screen were rescreened within 27 months.

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 2 years and who returned for a screen within 27 months. This rate is presented by 5-year age groups for women aged 40 years or over, 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 because women aged 68–69 years in the index year were outside the target age group 27 months after their index screen.

The rescreen indicator

One of the objectives of the BreastScreen Australia Program is 'To rescreen all women in the Program at 2-yearly intervals' (NQMC 2004).

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 participation. The anticipated reductions in mortality can be achieved only if a high proportion of women aged 50–69 years attend for screening every 2 years. By having a mammogram every 2 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 interval of 27 months used in this indicator includes an additional 3 months to allow for potential delays in screening availability and data transfer.

Women aged 50–69 years 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. Although in principle the denominator should be adjusted to remove women who have died, or developed an interval cancer, in practice the denominator includes all women recommended for rescreen.

The National Accreditation Standards for rescreen require that:

- ≥75% of women aged 50–67 years who attend for their first screening round within the Program are rescreened within 27 months (NAS 1.2.1)
- ≥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 (NAS 1.2.2).

The following summary table shows that the proportion of women who were screened in 2004 who returned within 27 months increased with the number of screens previously attended, from 62.7% after the first screening round, to 70.5% after the second screening round, and 80.9% after the third and subsequent screening rounds for women aged 50–67 years.

However, despite a statistically significant increase in rescreen rates between 2003 and 2004 for women attending their first or third and subsequent screening rounds, rescreening objectives were not met in either 2003 or 2004.

Rescreen summary table

Table 6.1: Age-standardised rescreen rates for women aged 40 years or over and 50–67 years, screened during 2003 and 2004

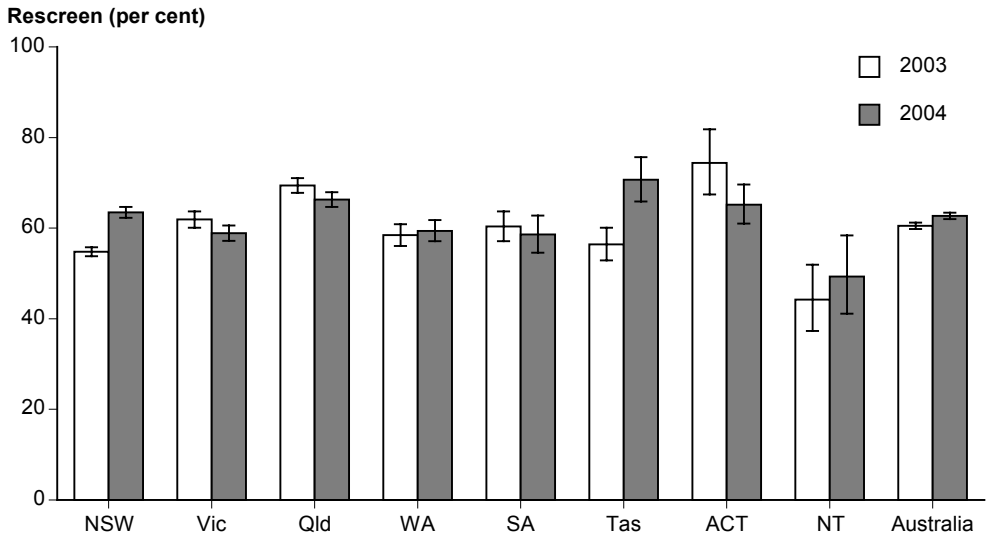
	Objective[(a)]	2003	2004
		(per cent)	
First screening round			
Rate for women aged 50–67 years	≥75	60.5	62.7*
95% CI		59.8–61.2	62.0–63.4
Rate for women aged 40 years or over	. .	52.1	53.4*
95% CI		51.6–52.6	52.8–53.9
Second screening round			
Rate for women aged 50–67 years	≥90	69.5	70.5
95% CI		68.8–70.1	69.8–71.2
Rate for women aged 40 years or over	. .	61.0	61.2
95% CI		60.5–61.4	60.7–61.7
Third and subsequent screening rounds			
Rate for women aged 50–67 years	≥90	80.1	80.9*
95% CI		79.8–80.4	80.6–81.2
Rate for women aged 40 years or over	. .	70.9	71.4
95% CI		70.7–71.2	71.1–71.6

* Statistically significantly different from the 2003 rate.

(a) Performance objective of the BreastScreen Australia Program as set out in the National Accreditation Standard (NQMC 2004).

Rescreen results

Rescreen rate by state and territory, first screening round



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 6.1: Rescreen rate for women aged 50–67 years, screened during 2003 and 2004, by state and territory, first screening round

Table 6.2: Rescreen rate for women aged 50–67 years, screened during 2003 and 2004, by state and territory, first screening round

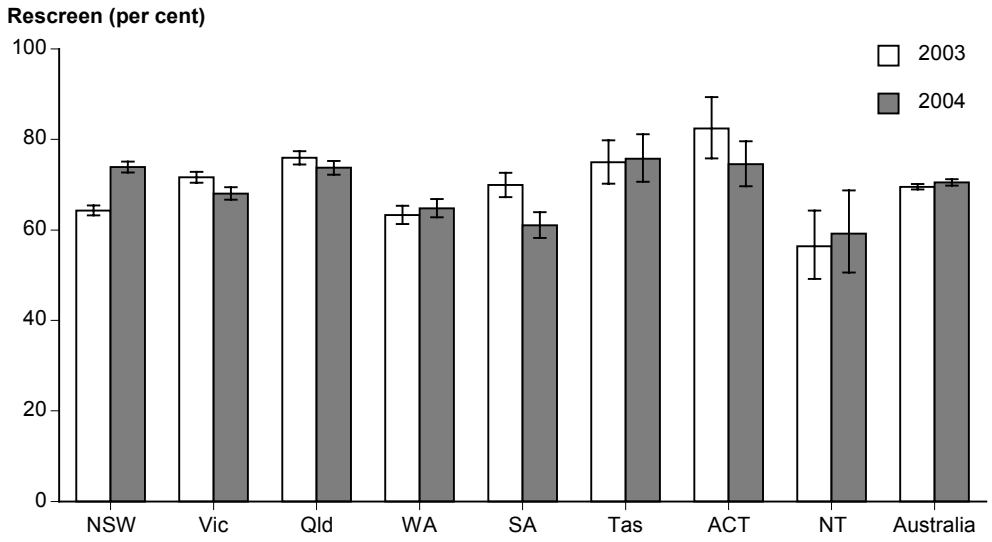
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
2004 rate	63.5*	58.9	66.3	59.4	58.6	70.7*	65.2	49.3	62.7*
95% CI	62.4–64.7	57.1–60.6	64.7–67.8	57.1–61.7	54.6–62.8	65.9–75.7	61.0–69.6	41.0–58.4	62.0–63.4
2003 rate	54.8	61.9	69.4	58.5	60.4	56.4	74.4	44.2	60.5
95% CI	53.7–55.8	60.1–63.7	67.8–71.0	56.1–61.0	57.2–63.8	52.9–60.1	67.5–81.9	37.2–51.8	59.8–61.2

* Statistically significantly different from the 2003 rate.

Note: Rates are the number of women attending for rescreening within 27 months as a percentage of women screened and age-standardised to the population of women attending a BreastScreen Australia service in 1998.

- The rescreen rate for women aged 50–67 years returning for screening within 27 months of attending a BreastScreen Australia service in 2004 for the first time was 62.7%, which is a statistically significant increase compared with 60.5% in 2003.
- Across states and territories, there was a statistically significant increase in the rescreen rate for women screened for the first time in 2004 compared with 2003 in New South Wales (from 54.8% in 2003 to 63.5% in 2004) and in Tasmania (from 56.4% in 2003 to 70.7% in 2004).

Rescreen rate by state and territory, second screening round



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 6.2: Rescreen rate for women aged 50–67 years, screened during 2003 and 2004, by state and territory, second screening round

Table 6.3: Rescreen rate for women aged 50–67 years, screened during 2003 and 2004, by state and territory, second screening round

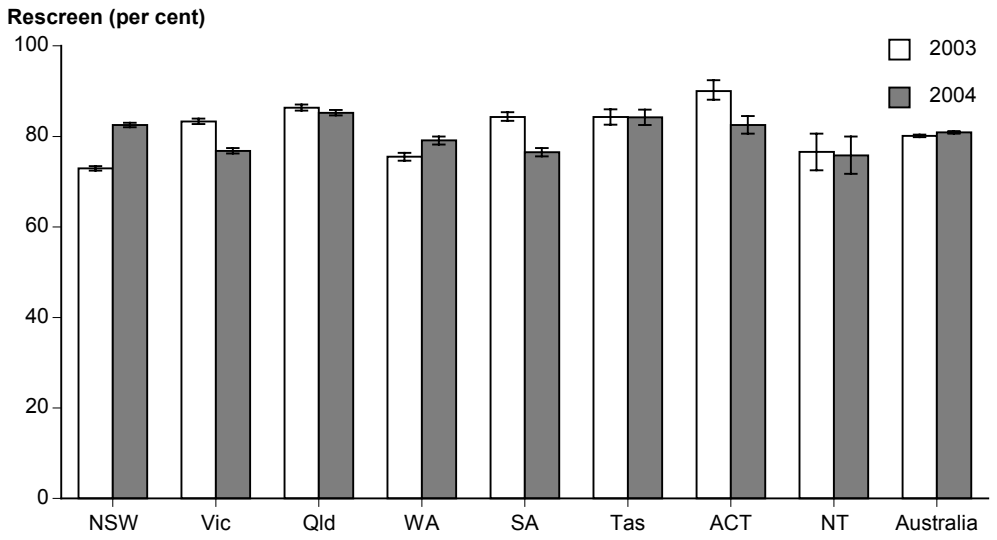
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
2004 rate	73.9*	68.0*	73.7	64.8	61.0*	75.7	74.5	59.2	70.5
95% CI	72.7–75.0	66.7–69.4	72.2–75.2	62.8–66.8	58.2–63.8	70.5–81.1	69.6–79.6	50.6–68.7	69.8–71.2
2003 rate	64.3	71.6	75.9	63.3	69.9	74.9	82.4	56.4	69.5
95% CI	63.3–65.4	70.5–72.9	74.4–77.4	61.3–65.4	67.2–72.7	70.3–79.8	75.8–89.4	49.2–64.3	68.8–70.1

* Statistically significantly different from the 2003 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 rescreen rate for women aged 50–67 years returning for screening within 27 months of attending the BreastScreen Australia service in 2004 for the second time was 70.5%. This is statistically significantly higher than the rate for women attending for their first visit (62.7%).
- Across states and territories, there was a statistically significant increase in the rescreen rate for women screened for the second time in 2004 compared with 2003 in New South Wales (from 64.3% in 2003 to 73.9% in 2004), and a statistically significant decrease in Victoria (from 71.6% in 2003 to 68.0% in 2004) and in South Australia (from 69.9% in 2003 to 61.0% in 2004).

Rescreen rate by state and territory, third and subsequent screening rounds



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW analysis of BreastScreen Australia data.

Figure 6.3: Rescreen rate for women aged 50–67 years, screened during 2003 and 2004, by state and territory, third and subsequent screening rounds

Table 6.4: Rescreen rate for women aged 50–67 years, screened during 2003 and 2004, by state and territory, third and subsequent screening rounds

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
2004 rate	82.5*	76.8*	85.2	79.1*	76.5*	84.2	82.5*	75.8	80.9*
95% CI	82.0–83.0	76.2–77.4	84.6–85.8	78.2–80.0	75.6–77.4	82.6–85.9	80.6–84.5	71.7–80.0	80.6–81.2
2003 rate	72.9	83.3	86.3	75.5	84.3	84.3	90.0	76.6	80.1
95% CI	72.4–73.4	82.7–84.0	85.6–86.9	74.6–76.4	83.3–85.3	82.6–86.0	87.6–92.4	72.7–80.6	79.8–80.4

* Statistically significantly different from the 2003 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 rescreen rate for women aged 50–67 years returning for screening within 27 months of attending a BreastScreen Australia service in 2004 for their third or subsequent visit was 80.9%. This is statistically significantly higher than the rescreen rates for women returning after their first or second visits (62.7% and 70.5%, respectively).
- The rescreen rate for third and subsequent screening rounds increased from 80.1% for women screened in 2003 to 80.9% for women screened in 2004. This increase is statistically significant.

- Across states and territories, there was a statistically significant increase in the rescreen rate for women screened for third and subsequent screens in 2004 compared with 2003 in New South Wales (from 72.9% in 2003 to 82.5% in 2004) and Western Australia (from 75.5% in 2003 to 79.1% in 2004), and a statistically significant decrease in Victoria (from 83.3% in 2003 to 76.8% in 2004), South Australia (from 84.3% in 2003 to 76.5% in 2004), and the Australian Capital Territory (from 91.0% in 2003 to 82.5% in 2004).

Indicator 7 Incidence

Incidence rates are based on all Australian women, and include new cases of breast cancer (for incidence of breast cancer) or new cases of DCIS (for incidence of DCIS) in women both within and outside the BreastScreen Australia Program.

Key points

- Between 1991, when the BreastScreen Australia Program commenced, and 2005, the latest year for which data are available, the incidence of breast cancer in Australia for women aged 50–69 years increased from 229.9 new cases per 100,000 women in 1991 to 279.1 in 2005, with a peak of 304.8 in 2001.
- In 2005, the peak incidence of breast cancer was in women aged 65–69 years, with 339.6 new cases per 100,000 women.
- There was a statistically significant increase in the incidence of DCIS in Australia for women aged 50-69 years from 29.1 per 100,000 women in 1995 (the first year for which data are available) to 44.2 per 100,000 women in 2005.

Indicator 7a Incidence rate of breast cancer

The incidence of breast cancer is calculated per 100,000 women in a 12–month period, presented by 5-year age groups for women of all ages, and for the target age group (50–69 years).

The incidence of breast cancer indicator

Registration of cancer cases is required by law in each of the states and territories. The data are collected by state and territory cancer registries and compiled in a national database: the Australian Cancer Database (formerly the National Cancer Statistics Clearing House), which is held by the AIHW. The data include clinical and demographic information about people with newly diagnosed cancer. The incidence indicator measures the number of new cases of breast cancer in the community each year. It does not distinguish between screen-detected cancer and cancers detected by other methods.

Incidence data provide information about the underlying level of breast cancer in the Australian community. This knowledge can be used to assist in developing policies on breast cancer screening. For example, looking at the trends in breast cancer incidence in different age groups helps to establish the ages at which women are most at risk of developing breast cancer. Incidence data can also be used to set performance standards for breast cancer detection.

This chapter reports the rates of breast cancer from 1982 to 2005, the latest national data available, and on breast cancer incidence by state and territory, and by geographical region.

The following summary table shows that the incidence of breast cancer for women aged 50–69 years decreased from 295.2 new cases per 100,000 women in 2000 to 288.9 in 2004, and further decreased to 279.1 in 2005. The decrease between 2000 and 2005 is statistically significant. Similarly, the incidence of breast cancer for women of all ages decreased from 115.6 new cases per 100,000 women in 2000 to 113.0 in 2004, and further decreased to 110.9 in 2005, with the decrease between 2000 and 2005 again found to be statistically significant.

Breast cancer incidence summary table

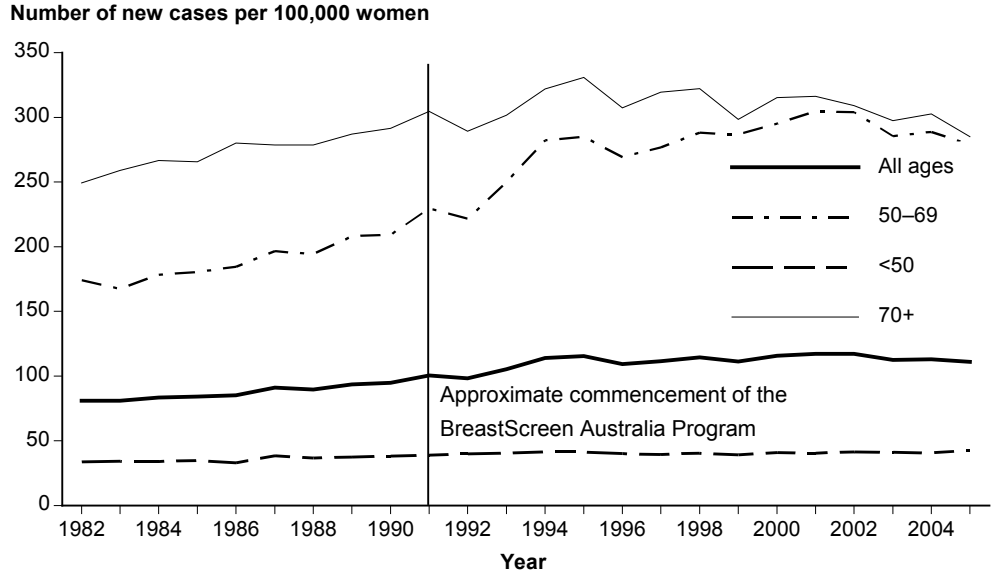
Table 7.1: Incidence of breast cancer per 100,000 women in women aged 50–69 years and all women, 2000, 2004 and 2005

	2000	2004	2005
Rate for women aged 50–69 years	295.2	288.9	279.1
95% CI	287.4–303.1	281.6–296.3	272.0–286.2
Rate for all women	115.6	113.0	110.9
95% CI	113.5–117.7	111.0–115.1	108.9–112.9

Note: Rates are the number of breast cancers detected per 100,000 women and age-standardised to the Australian population at 30 June 2001.

Breast cancer incidence results

Incidence of breast cancer by year



Source: AIHW Australian Cancer Database.

Figure 7.1: Incidence of breast cancer per 100,000 women, 1982–2005

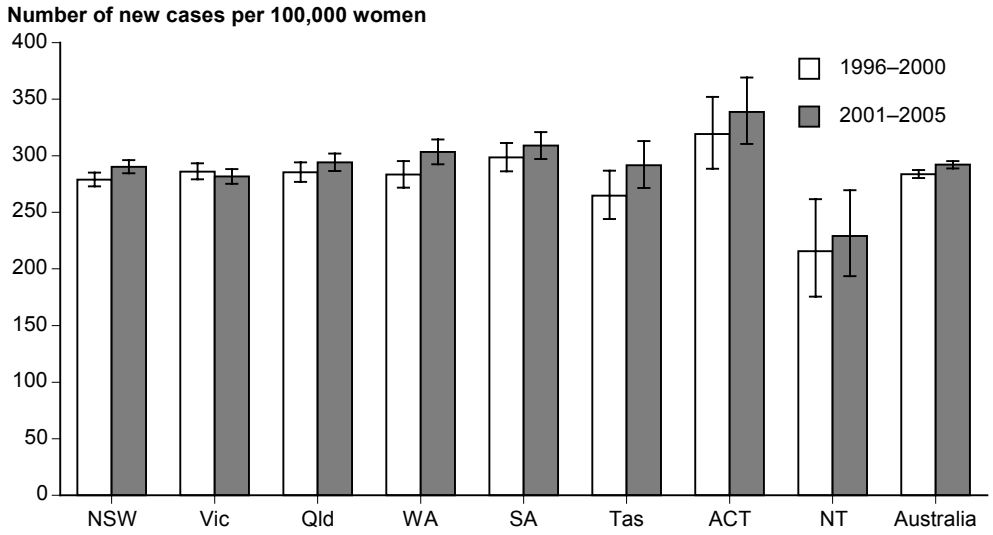
Table 7.2: Incidence of breast cancer per 100,000 women, 1982–2005

	Age group (years)			
Year of diagnosis	All ages	<50	50–69	70+
1982	80.8	33.8	174.2	249.3
1983	80.8	34.3	167.6	258.8
1984	83.4	34.0	178.5	266.5
1985	84.2	34.7	180.4	265.6
1986	85.2	33.1	184.5	280.1
1987	91.1	38.3	196.8	278.8
1988	89.5	36.7	194.4	278.8
1989	93.4	37.3	208.0	287.1
1990	94.7	38.2	209.2	291.5
1991	100.4	38.9	229.9	304.5
1992	98.2	39.9	221.9	289.4
1993	105.3	40.4	250.4	301.7
1994	114.0	41.3	282.5	321.8
1995	115.5	41.5	285.2	330.9
1996	109.2	40.1	269.2	307.3
1997	111.4	39.5	277.0	319.4
1998	114.5	40.3	288.4	322.2
1999	111.2	39.1	286.8	298.4
2000	115.6	40.8	295.2	315.2
2001	117.3	40.5	304.8	316.1
2002	117.2	41.4	304.0	309.1
2003	112.4	41.2	285.6	297.4
2004	113.0	40.6	288.9	302.6
2005	110.9	42.4	279.1	285.2

Note: Rates are the number of breast cancers detected per 100,000 women and age-standardised to the Australian population at 30 June 2001.

- Between 1991, when the BreastScreen Australia Program commenced, and 2005, the latest year for which data are available, the incidence of breast cancer in Australia for women aged 50–69 years increased from 229.9 new cases per 100,000 women in 1991 to 279.1 in 2005, with a peak of 304.8 in 2001.

Incidence of breast cancer by state and territory



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW Australian Cancer Database.

Figure 7.2: Incidence of breast cancer in women aged 50–69 years, by state and territory, 1996–2000 and 2001–2005

Table 7.3: Incidence of breast cancer in women aged 50–69 years, by state and territory, 1996–2000 and 2001–2005

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Rate									
2001–2005	290.2	281.6*	294.1	303.3	308.9*	291.6	338.8*	229.2*	292.0#
95% CI	284.5–296.0	275.0–288.2	286.5–301.9	292.4–314.5	297.1–321.0	271.4–312.9	310.4–369.1	193.5–269.5	288.7–295.4
Rate									
1996–2000	278.9	286.0	285.4	283.3	298.6	264.8	319.1*	215.6*	283.7
95% CI	272.9–284.9	279.0–293.2	277.0–293.9	271.7–295.3	286.1–311.4	244.0–286.8	288.5–352.0	175.7–261.8	280.1–287.2

* Statistically significantly different from the Australian rate.

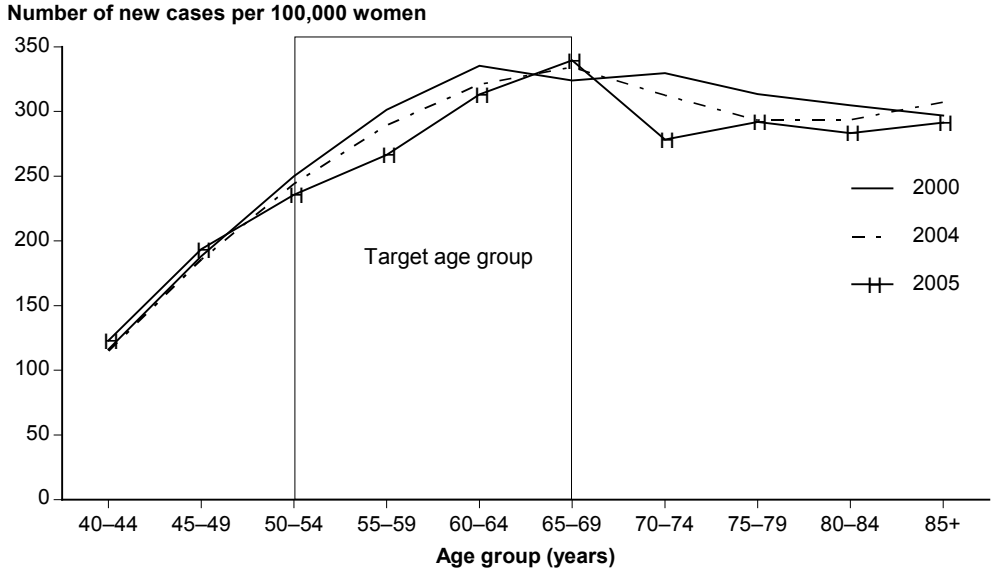
Statistically significantly different from the 1996–2000 rate.

Note: Rates are the number of breast cancers detected per 100,000 women and age-standardised to the Australian population at 30 June 2001.

- The national incidence for 2001–2005 was 292.0 new cases per 100,000 women, which is statistically significantly higher than the 283.7 new cases per 100,000 women recorded for the 1996–2000 period.

- In 2001–2005, across the states and territories, the incidence per 100,000 women ranged from 229.2 new cases in the Northern Territory to 338.8 in the Australian Capital Territory. The incidence in South Australia and the Australian Capital Territory was statistically significantly higher (308.9 and 338.8 new cases, respectively), and in Victoria and the Northern Territory was statistically significantly lower (281.6 and 229.2 new cases, respectively), than the national rate of 292.0.
- In 1996–2000, across the states and territories, the incidence per 100,000 women ranged from 215.6 new cases in the Northern Territory to 319.1 in the Australian Capital Territory.

Incidence of breast cancer by age groups



Source: AIHW Australian Cancer Database.

Figure 7.3: Age-specific incidence rates for breast cancer in women, by age, 2000, 2004 and 2005

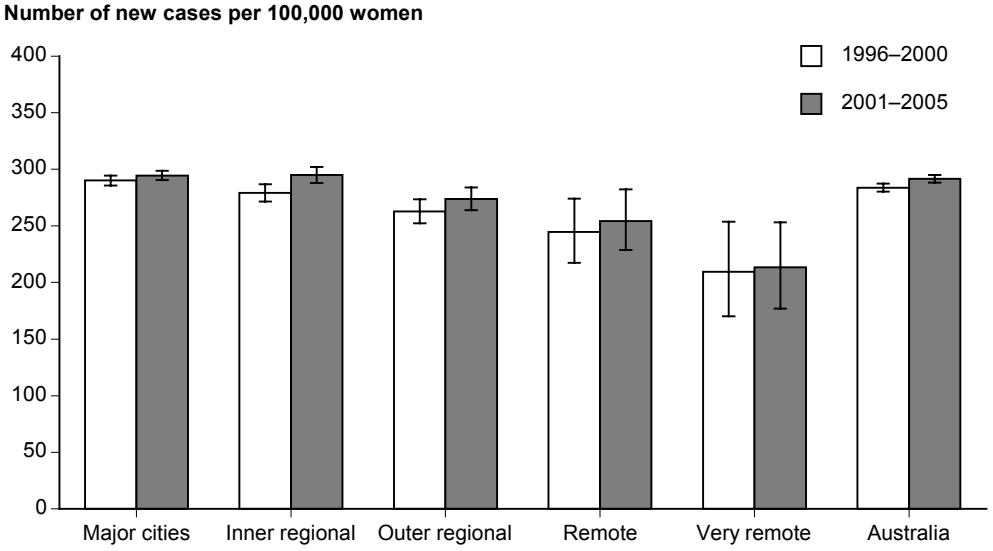
Table 7.4: Age-specific incidence rates for breast cancer in women, by age, 2000, 2004 and 2005

	Age group (years)									
	40–44	**45–49**	**50–54**	**55–59**	**60–64**	**65–69**	**70–74**	**75–79**	**80–84**	**85+**
2005 rate	123.1	193.6	235.5	266.5	313.1	339.6	278.3	291.8	283.2	291.3
2004 rate	115.2	185.7	244.2	289.5	321.0	334.5	312.7	293.5	293.7	307.2
2000 rate	116.1	188.1	249.9	301.4	335.4	324.0	329.7	313.5	304.7	296.9

Note: Rates are the number of breast cancers detected per 100,000 women.

- In 2000, the highest breast cancer incidence per 100,000 women was in the 60–64 year age group (335.4 new cases). In 2004 and 2005, the incidence peak shifted to the 65–69 year age group, with 334.5 and 339.6 new cases, respectively.

Incidence of breast cancer by geographic region



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW Australian Cancer Database.

Figure 7.4: Incidence of breast cancer in women aged 50–69 years, by geographic region, 1996–2000 and 2001–2005

Table 7.5: Incidence of breast cancer in women aged 50–69 years, by geographic region, 1996–2000 and 2001–2005

	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Rate 2001–2005	294.5	295.0#	273.7*	254.4*	213.4*	291.5#
95% CI	290.4–298.7	288.0–302.1	263.9–283.8	228.6–282.4	177.1–253.2	288.2–294.8
Rate 1996–2000	290.0	279.0	262.7*	244.6*	209.4*	283.7
95% CI	285.6–294.5	271.5–286.7	252.4–273.4	217.3–274.0	170.3–253.7	280.1–287.2

* Statistically significantly different from the Australian rate

Statistically significantly different from the 1996–2000 rate.

Note: Rates are the number of breast cancers detected per 100,000 women and age-standardised to the Australian population at 30 June 2001.

- In 1996–2000 and 2001–2005, the breast cancer incidence rate was statistically significantly lower in *Outer regional, Remote* and *Very remote* areas compared with the national rate.
- Between 1996–2000 and 2001–2005, there was a statistically significant increase in the breast cancer incidence rate at the national level as well as in *Inner regional* areas.

Indicator 7b Incidence rate of ductal carcinoma in situ

The incidence of DCIS is calculated per 100,000 women in a 5-year period, presented by 10-year age groups for women of all ages, and for the target age group (50–69 years).

The incidence of ductal carcinoma in situ indicator

The data on the incidence of DCIS provide information about the underlying level of the condition among Australian women. Data are required to build more knowledge about DCIS, which was rarely detected before screening was introduced. Since the introduction of screening mammography, the detection of DCIS has increased (NBCC et al. 2000). More information is given on DCIS in the chapter headed Indicator 4.

DCIS incidence summary table

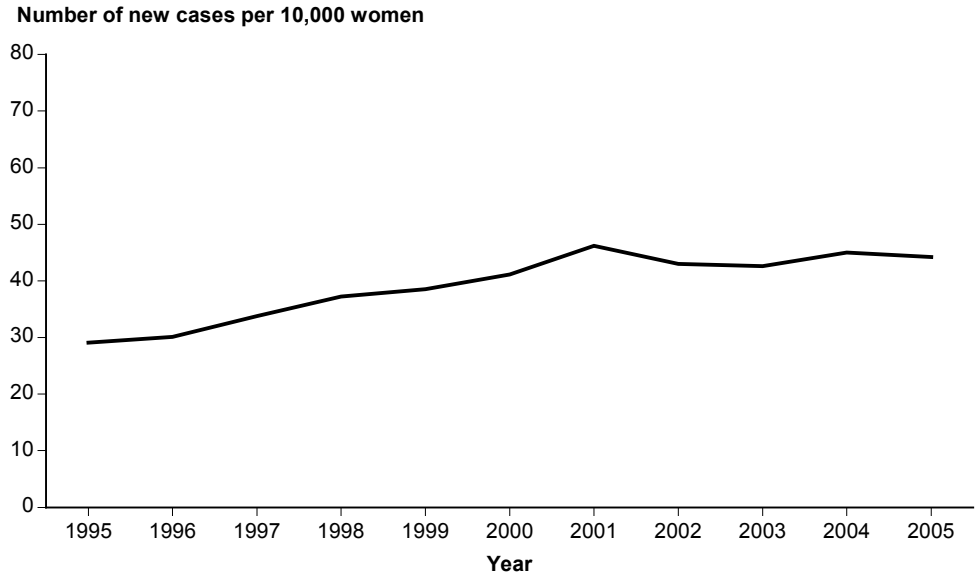
Table 7.6: Incidence of ductal carcinoma in situ per 100,000 in women aged 50-69 years and all women, 1996–2000 and 2001–2005

	1996–2000	2001–2005
Rate for women aged 50–69 years	36.3	44.2
95% CI	35.0–37.6	42.9–45.5
Rate for all women	11.9	14.0
95% CI	11.6–12.2	13.7–14.4

Note: Rates are the number of DCIS detected per 100,000 women and age-standardised to the Australian population at 30 June 2001.

DCIS incidence results

Incidence of ductal carcinoma in situ by year



Source: Australian Cancer Database.

Figure 7.5: Incidence in ductal carcinoma in situ in women aged 50–69 years, 1995–2005

Table 7.7: Incidence of ductal carcinoma in situ in women aged 50–69 years, 1995–2005

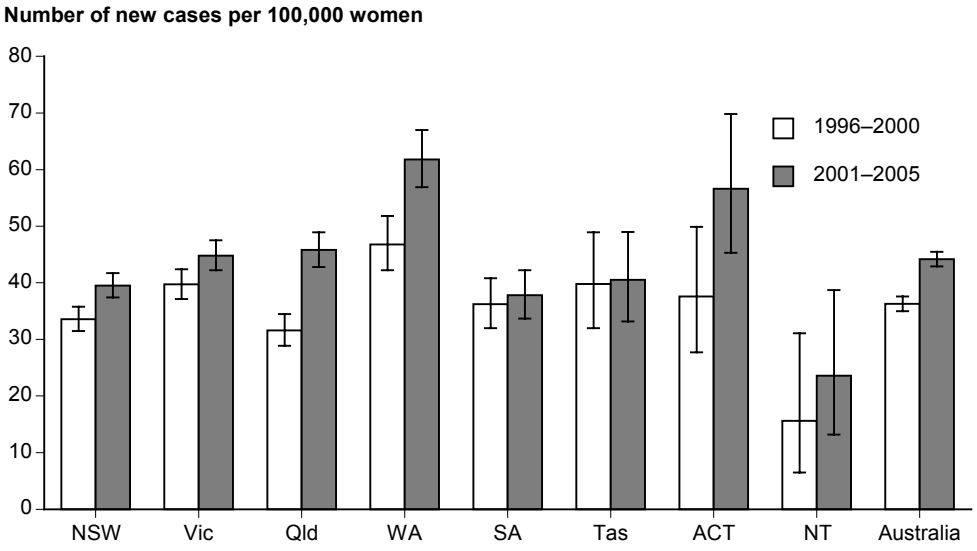
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Rate	29.1*	30.1*	33.8*	37.2*	38.5	41.1	46.2	43.0	42.6	45.0	44.2
95% CI	26.5–31.9	27.4–32.9	31.0–36.7	34.4–40.2	35.7–41.5	38.2–44.2	43.2–49.4	40.1–46.0	39.8–45.5	42.2–48.0	41.4–47.1

* Statistically significantly different from the 2005 rate.

Note: Rates are the number of DCIS detected per 100,000 women and age-standardised to the Australian population at 30 June 2001.

- DCIS incidence per 100,000 women increased steadily for women aged 50–69 years from 29.1 in 1995 to 46.2 in 2001. In 2005, DCIS incidence per 100,000 women was 44.2, which was not found to be statistically significantly different from the 2004 rate of 45.0.

Incidence of ductal carcinoma in situ by state and territory



Note: Bars on columns represent 95% confidence intervals.

Source: Australian Cancer Database.

Figure 7.6: Incidence of ductal carcinoma in situ in women aged 50–69 years, by state and territory, 1996–2000 and 2001–2005

Table 7.8: Incidence of ductal carcinoma in situ in women aged 50–69 years, by state and territory, 1996–2000 and 2001–2005

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Rate									
2001–2005	39.5#	44.8	45.8#	61.8#	37.8*	40.5	56.6	23.6	44.2#
95% CI	37.4–41.7	42.3–47.5	42.8–49.0	56.9–66.9	33.7–42.2	33.2–49.0	45.3–69.8	13.2–38.7	42.9–45.5
Rate									
1996–2000	33.6	39.7	31.6	46.8	36.2	39.8	37.6	15.6	36.3
95% CI	31.5–35.7	37.1–42.4	28.9–34.5	42.2–51.9	31.9–40.8	32.0–48.9	27.7–49.9	6.5–31.1	35.0–37.6

* Statistically significantly different from the Australian rate.

Statistically significantly different from the 1996–2000 rate.

Note: Rates are the number of DCIS detected per 100,000 women and age-standardised to the Australian population at 30 June 2001.

- For the period 2001–2005, the national incidence of DCIS per 100,000 women for women aged 50–69 years was 44.2, which is a statistically significant increase from the 1996–2000 rate of 36.3. This increase was reflected across the state and territory (although statistically significantly only in the larger states of New South Wales, Queensland and Western Australia).

Indicator 8 Mortality

The BreastScreen Australia Program aims to reduce mortality from breast cancer. Mortality rates are based on all Australian women, including deaths from breast cancer in women both within and outside the BreastScreen Australia Program.

Key points

- In 2006, breast cancer was the second most common cause of cancer death in Australian women, with 2,618 women dying from the disease.
- Mortality from breast cancer declined in women aged 50-69 years from 66.9 deaths per 100,000 women in 1991, when the BreastScreen Australia Program began, to 47.5 deaths per 100,000 women in 2006, the latest year for which data are available.
- Mortality rates increase with age. In 2006, the mortality rate for women aged 40–44 years was 13.9 deaths per 100,000 women, which increased to 181.4 deaths per 100,000 for women aged 85 years or over.
- In the 2002–2006 period, mortality from breast cancer in Aboriginal and Torres Strait Islander women was not found to be statistically significantly different to mortality in non-Indigenous women (although small numbers, and hence large confidence intervals, for Aboriginal and Torres Strait Islander women mean that comparisons should be interpreted with caution).

Mortality rate

The mortality rate for deaths from breast cancer is calculated per 100,000 women in a 12-month period, presented by 5-year age groups for women of all ages, and for the target age group (50–69 years).

The mortality indicator

Mortality statistics are one of the most comprehensively collected national data sets. Registration of death is a legal requirement in Australia and, as a result, compliance is virtually complete. Registration of deaths is the responsibility of the Registrar of Births, Deaths and Marriages in each state and territory. The registrars provide the mortality data to the Australian Bureau of Statistics (ABS) for coding the cause of death and compilation into national statistics. The AIHW also holds these data in a national mortality database, from which the data presented here, are taken. The analysis for this report is based on the year of death, except for 2006, which is based on year of registration of death. Note that about 5% of deaths are not registered until the year following the death (ABS 2002). This is different to previous reports, in which mortality was based on year of registration of death for all years.

The mortality rates presented in this chapter are for the total female population of Australia, not just for those women who participated in the BreastScreen Australia Program.

This chapter shows the trend in breast cancer mortality from 1982 to 2006, the latest national data available, and on breast cancer mortality by state and territory, by age, by geographic region and by Aboriginal and Torres Strait Islander status.

The following summary table shows that deaths from breast cancer have fallen from 61.4 per 100,000 women in 1996 to 47.5 in 2006 in women aged 50–69 years, and from 28.1 to 22.1 in women of all ages.

Breast cancer mortality summary table

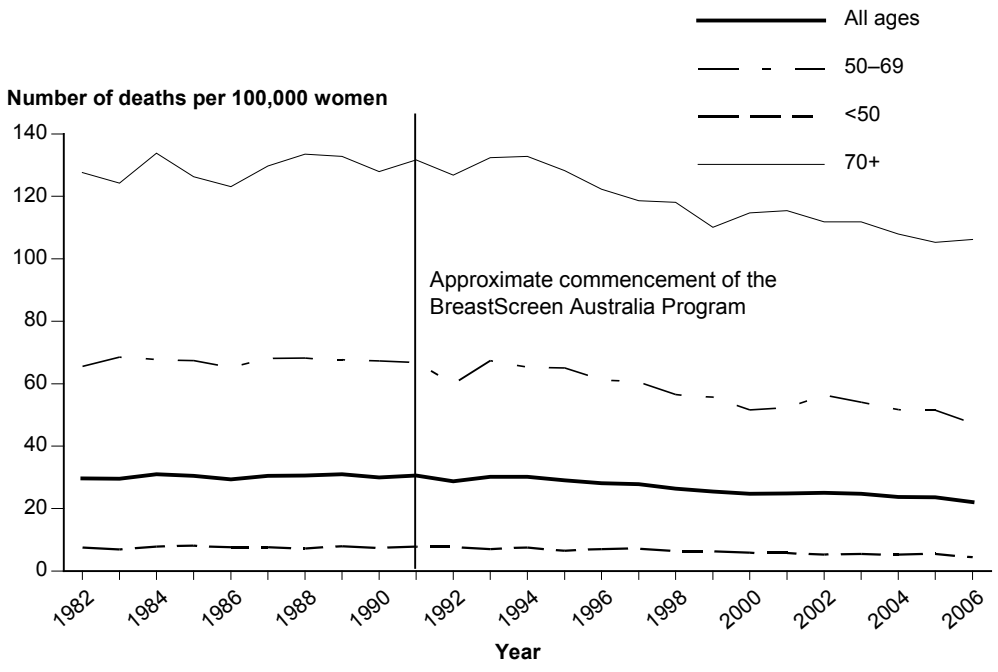
Table 8.1: Number of deaths from breast cancer per 100,000 in women aged 50–69 years and all women, 1996 and 2006

	1996	2006
Rate for women aged 50–69 years	61.4	47.5
95% CI	57.6–65.3	44.7–50.5
Rate for all women	28.1	22.1
95% CI	27.0–29.2	21.3–23.0

Note: Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

Breast cancer mortality results

Mortality from breast cancer by year



Source: AIHW National Mortality Database.

Figure 8.1: Number of deaths from breast cancer per 100,000 women, 1982–2006

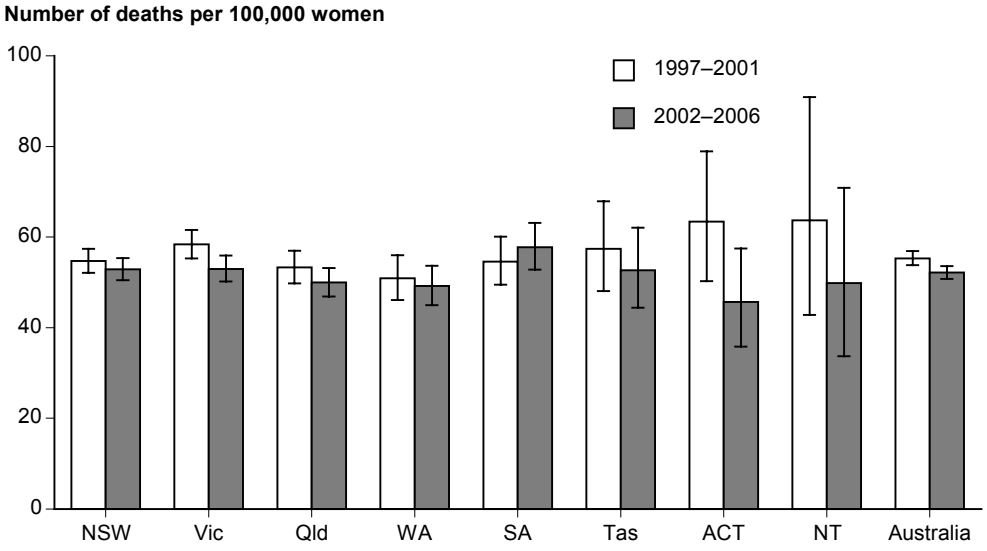
Table 8.2: Number of deaths from breast cancer per 100,000 women, 1982–2006

	Age group (years)			
	All ages	<50	50–69	70+
1982	29.7	7.5	65.6	127.6
1983	29.6	6.9	68.5	124.2
1984	31.0	7.8	67.8	133.9
1985	30.5	8.2	67.4	126.3
1986	29.3	7.6	65.3	123.1
1987	30.5	7.6	68.0	129.8
1988	30.6	7.2	68.2	133.6
1989	31.0	8.0	67.7	132.8
1990	30.0	7.4	67.3	127.9
1991	30.6	7.8	66.9	131.7
1992	28.7	7.7	60.0	126.8
1993	30.2	7.0	67.4	132.4
1994	30.2	7.5	65.4	132.8
1995	29.0	6.5	65.1	128.2
1996	28.1	7.0	61.4	122.3
1997	27.8	7.2	60.6	118.6
1998	26.4	6.4	56.6	118.1
1999	25.5	6.4	55.8	110.1
2000	24.7	5.9	51.7	114.7
2001	24.8	5.8	52.3	115.4
2002	25.0	5.3	56.5	111.9
2003	24.7	5.5	54.1	111.9
2004	23.7	5.3	51.8	108.0
2005	23.6	5.5	51.6	105.3
2006	22.1	4.5	47.5	106.2

Note: Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

- Breast cancer mortality for women aged 50–69 years changed little between 1982 and 1990 (65.6 and 67.3 deaths per 100,000 women, respectively).
- Since 1990, mortality from breast cancer declined in women aged 50-69 years from 66.9 deaths per 100,000 women in 1991, when the BreastScreen Australia Program began, to 47.5 in 2006, the latest year for which data are available.
- Similar patterns of decline in mortality rates can be observed in women aged 70 years or over, women aged less than 50 years and women of all ages.

Mortality from breast cancer by state and territory



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW National Mortality Database.

Figure 8.2: Number of deaths from breast cancer per 100,000 women in women aged 50–69 years, by state and territory, 1997–2001 and 2002–2006

Table 8.3: Number of deaths from breast cancer per 100,000 women in women aged 50–69 years, by state and territory, 1997–2001 and 2002–2006

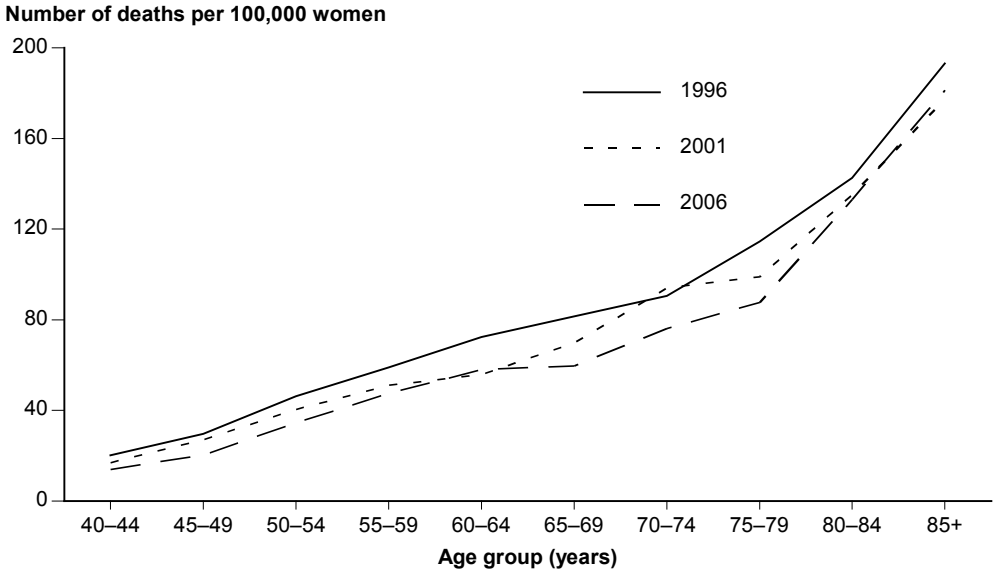
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Rate 2002–2006	52.9	53.0	50.0	49.2	57.8	52.7	45.7	49.9	52.2*
95% CI	50.5–55.3	50.2–55.8	46.9–53.2	45.0–53.8	52.8–63.1	44.5–62.1	35.8–57.5	33.7–70.9	50.8–53.6
Rate 1997–2001	54.7	58.4	53.3	50.9	54.6	57.4	63.4	63.7	55.3
95% CI	52.1–57.4	55.3–61.6	49.8–57.0	46.2–56.0	49.5–60.2	48.1–67.9	50.2–78.9	42.8–90.9	53.7–56.8

*Statistically significantly different from the 1997–2001 rate.

Note: Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

- Mortality from breast cancer in women aged 50–69 years declined between 1997–2001 and 2002–2006 from 55.3 to 52.2 deaths per 100,000 women. This difference is statistically significant.
- Across states and territories, no statistically significant differences in mortality rates were found between 1997–2001 and 2002–2006.

Mortality from breast cancer by age



Source: AIHW National Mortality Database.

Figure 8.3: Age-specific mortality rates for breast cancer, 1996, 2001 and 2006

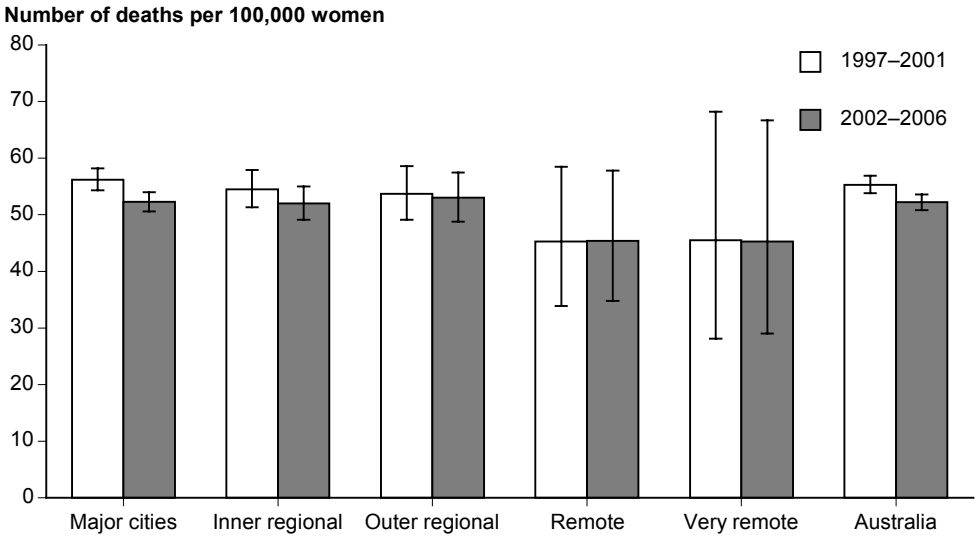
Table 8.4: Age-specific mortality rates for breast cancer, 1996, 2001 and 2006

	Age group (years)									
	40–44	**45–49**	**50–54**	**55–59**	**60–64**	**65–69**	**70–74**	**75–79**	**80–84**	**85+**
2006	13.9	20.3	34.6	47.5	58.0	59.7	76.1	87.7	133.2	181.4
2001	17.1	27.2	40.3	52.0	56.1	70.9	92.3	97.9	136.8	178.9
1996	21.1	29.4	46.9	58.2	71.7	81.2	89.9	113.0	142.6	193.1

Note: Rates are the number of deaths from breast cancer per 100,000 women.

- Mortality from breast cancer increased consistently with age. In 1996, the rate for women aged 40–44 was 21.1 deaths per 100,000 women, increasing to 193.1 for women aged 85 years or over. In 2006, the rate for women aged 40–44 years was 13.9 deaths per 100,000 women, increasing to 181.4 for women aged 85 years or over.
- The mean age at death for women dying from breast cancer increased from 65.3 years in 1996 to 67.7 years in 2006. The median age at death increased from 66 years in 1996 to 68 years in 2006.

Mortality from breast cancer by geographic region for women aged 50–69 years



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW National Mortality Database.

Figure 8.4: Number of deaths from breast cancer per 100,000 women, by geographic region, for women aged 50–69 years, 1997–2001 and 2002–2006

Table 8.5: Number of deaths from breast cancer per 100,000 women, by geographic region, for women aged 50–69 years, 1997–2001 and 2002–2006

	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Rate 2002–2006	52.3*	52.0	53.0	45.4	45.3	52.2*
95% CI	50.6–54.1	49.1–55.0	48.7–57.5	34.8–57.8	29.0–66.7	50.8–53.6
Rate 1997–2001	56.2	54.5	53.7	45.3	45.5	55.3
95% CI	54.3–58.1	51.3–57.9	49.2–58.6	34.0–58.5	28.1–68.2	53.7–56.8

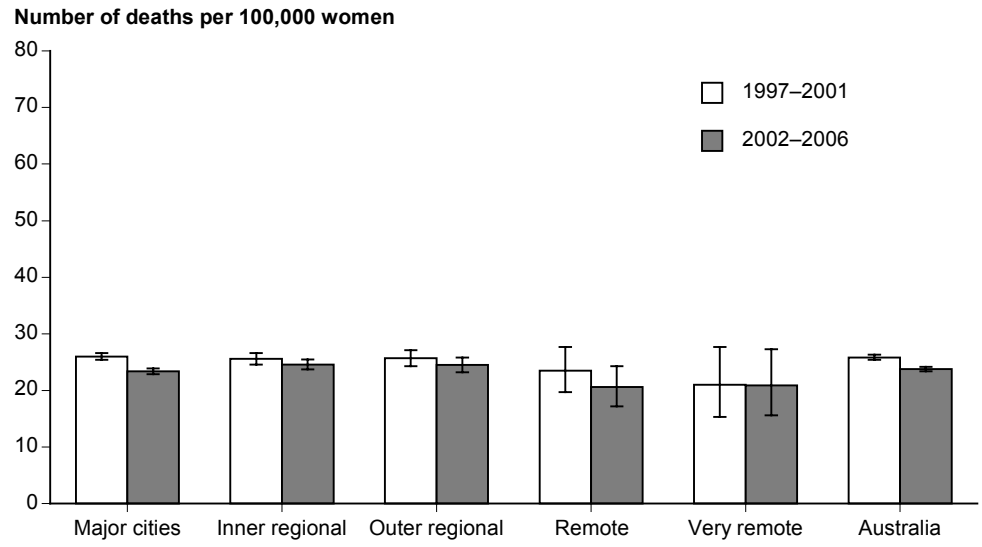
*Statistically significantly different from the 1997–2001 rate.

Notes

1. Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.
2. The Australian Standard Geographical Classification was used to create the above categories (ABS 2001) and applied to the area of usual residence of deceased persons.

- For women aged 50–69 years, breast cancer mortality in 2002–2006 was highest in *Outer regional* areas with 53.0 deaths per 100,000 women and lowest in *Remote* and *Very remote* areas with 45.4 and 45.3 deaths, respectively.
- For women aged 50–69 years, national mortality decreased statistically significantly from 55.3 deaths per 100,000 women in 1997–2001 to 52.2 in 2002–2006. The rates in *Major cities* also decreased statistically significantly from 56.2 in 1997–2001 to 52.3 in 2002–2006.

Mortality from breast cancer by geographic region for women of all ages



Note: Bars on columns represent 95% confidence intervals.

Source: AIHW National Mortality Database.

Figure 8.5: Number of deaths from breast cancer per 100,000 women, by geographic region, for women of all ages, 1997–2001 and 2002–2006

Table 8.6: Number of deaths from breast cancer per 100,000 women, by geographic region, for women of all ages, 1997–2001 and 2002–2006

	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Rate 2002–2006	23.4	24.6	24.5	20.6	20.9	23.8
95% CI	22.9–23.9	23.7–25.5	23.2–25.9	17.2–24.3	15.6–27.3	23.4–24.2
Rate 1997–2001	26.0	25.6	25.7	23.5	21.0	25.8
95% CI	25.4–26.5	24.7–26.6	24.3–27.1	19.6–27.7	15.3–27.7	25.3–26.2

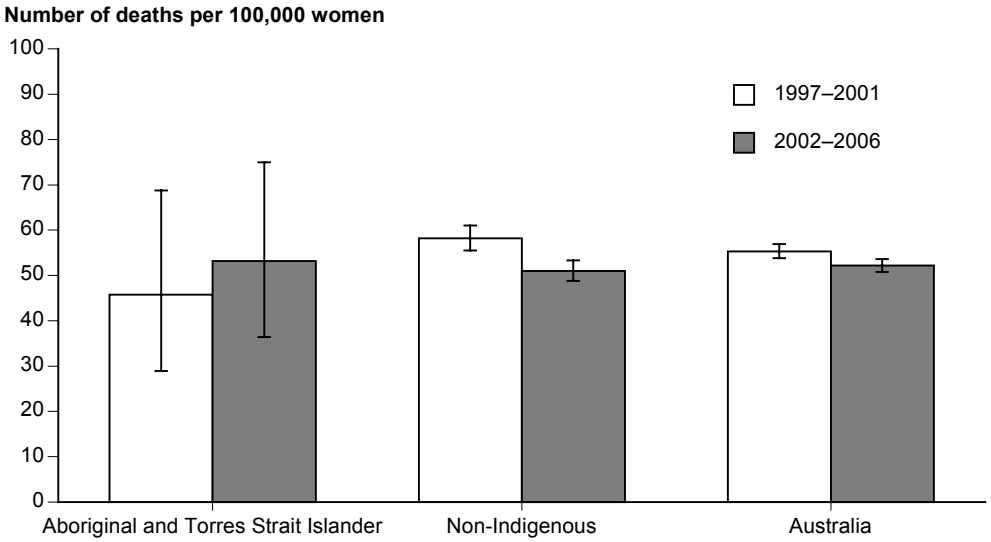
* Statistically significantly different from the 1997–2001 rate.

Notes

1. Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.
2. The Australian Standard Geographical Classification was used to create the above categories (ABS 2001) and applied to the area of usual residence of deceased persons.

- For women of all ages, national mortality decreased statistically significantly from 25.8 deaths per 100,000 women in 1997–2001 to 23.8 in 2002–2006.
- Mortality in *Major cities* decreased statistically significantly from 26.0 deaths per 100,000 women in 1997–2001 to 23.4 in 2002–2006.
- In 2002–2006, for women of all ages, mortality was highest in *Inner regional* and *Outer regional* areas with 24.6 and 24.5 deaths per 100,000 women, respectively, and lowest in *Remote* and *Very remote* areas, with 20.6 and 20.9 deaths, respectively.

Mortality from breast cancer by Aboriginal and Torres Strait Islander status for women aged 50–69 years



Notes

1. Bars on columns represent 95% confidence intervals.

2. 'Aboriginal and Torres Strait Islander' and 'Non-Indigenous' are for Qld, WA, SA and NT only. 'Australia' includes all states and territories.

Source: AIHW National Mortality Database.

Figure 8.6: Number of deaths from breast cancer per 100,000 women, by Aboriginal and Torres Strait Islander status, for women aged 50–69 years, Queensland, Western Australia, South Australia and the Northern Territory 1997–2001 and 2002–2006

Table 8.7: Number of deaths from breast cancer per 100,000 women, by Aboriginal and Torres Strait Islander status, for women aged 50–69 years, Queensland, Western Australia, South Australia and the Northern Territory 1997–2001 and 2002–2006

	Qld, WA, SA and NT[a]		
	Aboriginal and Torres Strait Islander	Non-Indigenous	Australia[b]
Rate 2002–2006	53.2	51.0	52.2
95% CI	36.4–74.9	48.8–53.3	50.8–53.6
Rate 1997–2001	45.8	58.2	55.3
95% CI	28.9–68.8	55.4–61.0	53.7–56.8

***** Statistically significantly different from the 1997–2001 rate.

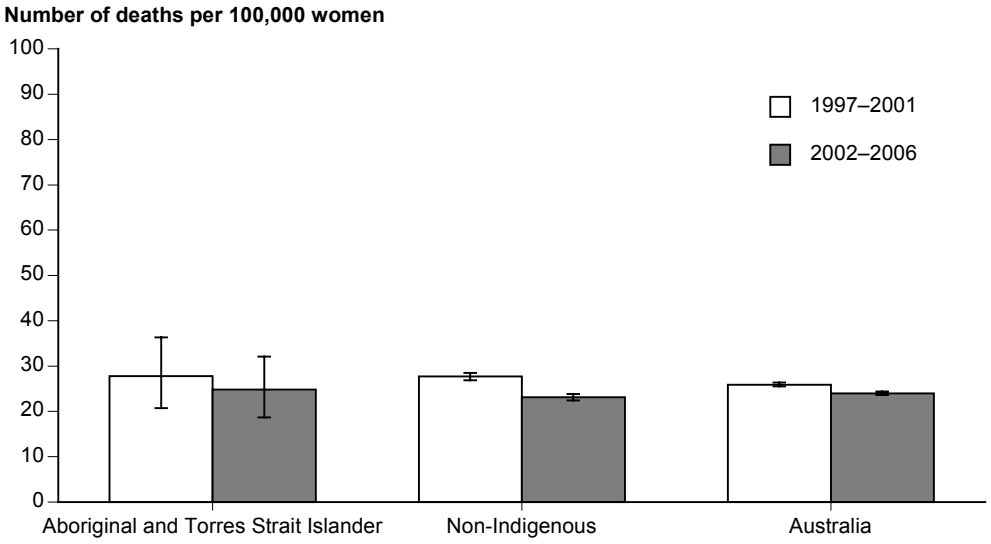
(a) 'Aboriginal and Torres Strait Islander' and 'non-Indigenous' are for Queensland, Western Australia, South Australia and the Northern Territory only. Data from these jurisdictions are considered to have adequate levels of Indigenous identification in death registration data at the time this report was prepared. Queensland data are reliable from 1998 onwards and thus are included from this year onwards.

(b) All women in Australia, which includes Aboriginal and Torres Strait Islander, non-Indigenous and women in the 'not-stated' category for Aboriginal and Torres Strait Islander status.

Note: Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

- For women aged 50–69 years in 2002–2006, mortality for Aboriginal and Torres Strait Islander women in Queensland, Western Australia, South Australia and the Northern Territory combined was 53.2 deaths per 100,000 women, which was not found to be statistically significantly different to that of 51.0 deaths for non-Indigenous women. Similarly, in 1997–2001, no statistically significant difference in the mortality rates was found between Aboriginal and Torres Strait Islander and non-Indigenous women (45.8 and 58.2 deaths per 100,000 women, respectively).
- From 1997–2001 to 2002–2006, national mortality from breast cancer per 100,000 women decreased statistically significantly from 55.3 deaths to 52.2 deaths. Mortality for non-Indigenous women also decreased statistically significantly from 58.2 deaths in 1997–2001 to 51.0 deaths per 100,000 women in 2002–2006. For Aboriginal and Torres Strait Islander women, mortality per 100,000 women increased from 45.8 deaths in 1997–2001 to 53.2 deaths in 2002–2006, but this change was not found to be statistically significant.

Mortality from breast cancer by Aboriginal and Torres Strait Islander status for women of all ages



Notes

1. Bars on columns represent 95% confidence intervals.

2. 'Aboriginal and Torres Strait Islander' and 'non-Indigenous' are for Qld, WA, SA and NT only. 'Australia' includes all states and territories.

Source: AIHW National Mortality Database.

Figure 8.7: Number of deaths from breast cancer per 100,000 women, by Aboriginal and Torres Strait Islander status, for women of all ages, Queensland, Western Australia, South Australia and the Northern Territory 1997–2001 and 2002–2006

Table 8.8: Number of deaths from breast cancer per 100,000 women, by Aboriginal and Torres Strait Islander status, for women of all ages, Queensland, Western Australia, South Australia and the Northern Territory 1997–2001 and 2002–2006

	Qld, WA, SA & NT[(a)]		
	Aboriginal and Torres Strait Islander	Non-Indigenous	Australia[(b)]
Rate 2002–2006	24.8	23.1	24.0
95% CI	18.7–32.1	22.4–23.8	23.6–24.4
Rate 1997–2001	27.8	27.7	25.9
95% CI	20.7–36.3	26.9–28.5	25.5–26.4

***** Statistically significantly different from the 1997–2001 rate.

(a) 'Aboriginal and Torres Strait Islander' and 'non-Indigenous' are for Queensland, Western Australia, South Australia and the Northern Territory only. Data from these jurisdictions are considered to have adequate levels of Indigenous identification in death registration data at the time this report was prepared. Queensland data are reliable from 1998 onwards and thus are included from this year onwards.

(b) All women in Australia, which includes Aboriginal and Torres Strait Islander, non-Indigenous and women in the 'not-stated' category for Aboriginal and Torres Strait Islander status.

Note: Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

- For women of all ages in 2002–2006, mortality from breast cancer for Aboriginal and Torres Strait Islander women in Queensland, Western Australia, South Australia and the Northern Territory combined of 24.8 deaths per 100,000 women was not found to be statistically significantly different to that for non-Indigenous women of 23.1 deaths, or the national rate of 24.0 deaths.
- From 1997–2001 to 2002–2006, national mortality from breast cancer decreased statistically significantly from 25.9 deaths to 24.0 deaths per 100,000 women. Mortality for non-Indigenous women also decreased statistically significantly from 27.7 deaths per 100,000 women in 1997–2001 to 23.1 deaths in 2002–2006. For Aboriginal and Torres Strait Islander women, mortality decreased from 27.8 deaths per 100,000 women in 1997–2001 to 24.8 deaths in 2002–2006, but this change was not found to be statistically significant.

Appendix A Additional data tables

Indicator 1 Participation

Table A1: Number of women participating in BreastScreen Australia, by age, state and territory, 2005–2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	15,031	12,741	39,655	8,973	6,324	4,050	76	450	87,300
45–49	26,277	21,411	55,567	17,048	11,717	6,369	1,197	1,099	140,685
50–54	117,609	90,952	72,155	36,465	30,272	8,896	5,890	2,281	364,520
55–59	115,524	87,911	72,655	35,950	30,057	9,765	6,158	2,118	360,138
60–64	93,509	70,700	57,520	27,187	24,701	7,798	4,273	1,385	287,073
65–69	75,901	57,322	44,583	22,107	20,119	6,294	3,007	732	230,065
70–74	14,373	42,366	31,086	5,998	6,679	4,389	720	104	105,715
75–79	7,656	12,277	9,786	2,701	3,489	894	246	58	37,107
80–84	2,401	1,861	1,919	748	924	254	87	11	8,205
85+	448	340	511	174	150	37	10	3	1,673
Ages 40+ years									
	468,729	**397,881**	**385,437**	**157,351**	**134,432**	**48,746**	**21,664**	**8,241**	**1,622,481**
Ages 50–69 years									
	402,543	**306,885**	**246,913**	**121,709**	**105,149**	**32,753**	**19,328**	**6,516**	**1,241,796**

Note: Period covers 1 January 2005 to 31 December 2006.

Source: AIHW analysis of BreastScreen Australia data.

Table A2: Percentage of women participating in BreastScreen Australia, by age, state and territory, 2005–2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
40–44	5.9	6.6	25.9	11.5	10.9	22.2	0.6	5.8	11.3
45–49	10.7	11.7	38.1	22.6	20.2	34.3	9.5	15.1	18.8
50–54	53.1	54.6	54.4	52.8	56.0	51.6	50.6	36.0	53.7
55–59	56.6	56.9	58.7	58.7	58.6	59.5	59.7	44.0	57.5
60–64	58.3	59.7	60.4	60.2	62.3	60.5	61.1	46.1	59.6
65–69	57.5	58.4	60.7	60.7	61.1	59.9	59.2	42.0	58.9
70–74	12.8	50.5	53.2	20.3	23.6	50.6	18.3	9.9	32.4
75–79	7.3	15.8	18.7	10.5	12.7	11.5	7.4	7.8	12.4
80–84	2.9	3.0	4.7	3.8	4.1	4.0	3.1	2.4	3.5
85+	0.6	0.6	1.4	1.0	0.7	0.6	0.5	0.9	0.8
Ages 40+ years									
Crude rate	29.4	33.4	42.2	34.4	34.2	39.8	30.3	24.6	34.0
AS rate (A)	29.7	33.9	42.4	34.1	34.7	40.1	29.4	23.6	34.2
95% CI	29.6–29.8	33.8–34.0	42.3–42.6	33.9–34.3	34.5–34.9	39.7–40.5	29.0–29.8	23.0–24.1	34.2–34.3
Ages 50–69 years									
Crude rate	56.1	57.1	58.1	57.4	59.1	57.4	56.8	41.0	57.0
AS rate (A)	55.9	57.0	58.0	57.3	59.0	57.1	56.8	41.3	56.9
95% CI	55.8–56.1	56.8–57.2	57.7–58.2	57.0–57.7	58.6–59.3	56.5–57.7	56.0–57.7	40.3–42.4	56.8–57.0

Notes

1. Period covers 1 January 2005 to 31 December 2006.
2. Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the 2005 and 2006 Australian Bureau of Statistics estimated resident population and age-standardised to the Australian population at 30 June 2001.
3. BreastScreen Australia services are not provided in some remote areas of the Northern Territory. This may affect the Northern Territory's participation.

Source: AIHW analysis of BreastScreen Australia data.

Table A3: Participation in BreastScreen Australia, by age and geographic region, 2005–2006

Age group (years)	Number/ Rate	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
40–44	Number	51,289	19,489	13,049	2,240	1,233	87,300
	Rate	9.8	12.3	17.4	19.1	21.0	11.3
45–49	Number	83,020	31,719	20,739	3,531	1,676	140,685
	Rate	16.7	20.3	28.2	31.4	31.7	18.9
50–54	Number	236,496	81,524	38,976	5,355	2,168	364,520
	Rate	52.2	56.7	57.9	54.8	47.5	53.7
55–59	Number	228,446	84,581	40,098	5,136	1,877	360,138
	Rate	55.0	61.6	63.2	61.1	50.8	57.4
60–64	Number	176,267	72,175	33,147	4,158	1,326	287,073
	Rate	57.0	65.0	65.5	65.1	51.1	59.8
65–69	Number	140,109	59,274	26,848	2,947	886	230,065
	Rate	55.6	64.2	65.0	62.7	49.9	58.7
70–74	Number	62,274	28,776	12,875	1,323	467	105,715
	Rate	29.2	37.7	39.3	36.8	35.9	32.3
75–79	Number	22,370	9,324	4,622	590	201	37,107
	Rate	11.2	13.7	16.2	20.8	20.3	12.3
80–84	Number	5,005	1,924	1,052	172	51	8,205
	Rate	3.1	3.7	4.9	8.5	8.0	3.4
85+	Number	1,014	358	249	41	11	1,673
	Rate	0.7	0.8	1.3	2.1	2.1	0.8
Ages 40+ years	**Number**	**1,006,291**	**389,145**	**191,656**	**25,494**	**9,896**	**1,622,481**
	Crude rate	31.7	37.3	40.5	40.7	36.3	34.0
	AS rate (A)	32.2	37.1	40.1	40.2	35.7	34.2
	95% CI	32.2–32.3	36.9–37.2	39.9–40.3	39.7–40.7	34.9–36.4	34.2–34.3
Ages 50–69 years	**Number**	**781,318**	**297,555**	**139,070**	**17,595**	**6,258**	**1,241,796**
	Crude rate	54.6	61.4	62.5	60.1	49.5	57.0
	AS rate (A)	54.6	61.1	62.2	60.1	49.5	56.9
	95% CI	54.5–54.7	60.9–61.3	61.9–62.5	59.2–61.0	48.3–50.8	56.8–57.0

Notes

1. Period covers 1 January 2005 to 31 December 2006.
2. Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the 2005 and 2006 Australian Bureau of Statistics estimated resident population and age-standardised to the Australian population at 30 June 2001.
3. The Australian Standard Geographical Classification was used to create the above categories (ABS 2001).
4. Totals may not add up due to rounding.

Source: AIHW analysis of BreastScreen Australia data.

Table A4: Participation in BreastScreen Australia, by age and socioeconomic status, 2005–2006

Age group (years)	Number/ Rate	1 (Lowest)	2	3	4	5 (Highest)	Australia
40–44	Number	14,622	17,872	20,105	19,101	15,599	87,300
	Rate	10.4	11.8	13.1	11.8	9.3	11.3
45–49	Number	23,976	28,925	31,739	30,039	26,006	140,685
	Rate	17.8	19.8	21.6	19.4	15.9	18.8
50–54	Number	65,172	71,777	73,975	73,207	80,389	364,520
	Rate	52.9	53.7	55.9	53.0	52.9	53.7
55–59	Number	65,919	73,057	73,219	70,520	77,423	360,138
	Rate	57.4	58.1	60.9	56.0	55.5	57.5
60–64	Number	54,984	61,279	58,869	53,659	58,282	287,073
	Rate	60.7	60.8	62.1	57.2	57.3	59.6
65–69	Number	46,488	51,135	47,530	41,871	43,041	230,065
	Rate	60.5	60.6	60.5	57.1	55.6	58.9
70–74	Number	19,611	22,159	22,795	22,046	19,104	105,715
	Rate	30.4	31.5	34.5	36.0	29.7	32.4
75–79	Number	6,420	7,742	7,898	7,638	7,409	37,107
	Rate	11.2	12.4	13.0	13.5	11.9	12.4
80–84	Number	1,323	1,716	1,751	1,619	1,796	8,205
	Rate	3.1	3.7	3.7	3.5	3.3	3.5
85+	Number	262	335	370	344	362	1,673
	Rate	0.7	0.9	0.9	0.8	0.7	0.8
Ages 40+ years	**Number**	**298,778**	**335,997**	**338,252**	**320,044**	**329,411**	**1,622,481**
	Crude rate	33.9	35.0	35.9	33.6	31.8	34.0
	AS rate (A)	33.8	34.7	36.4	34.1	32.3	34.2
	95% CI	33.7–33.9	34.6–34.9	36.2–36.5	34.0–34.2	32.2–32.4	34.2–34.3
Ages 50–69 years	**Number**	**232,563**	**257,248**	**253,594**	**239,256**	**259,134**	**1,241,796**
	Crude rate	57.4	57.9	59.5	55.5	55.1	57.0
	AS rate (A)	57.1	57.6	59.4	55.4	55.0	56.9
	95% CI	56.9–57.4	57.4–57.8	59.2–59.6	55.2–55.7	54.8–55.2	56.8–57.0

Notes

1. Period covers 1 January 2005 to 31 December 2006.
2. Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the 2005 and 2006 Australian Bureau of Statistics estimated resident population and age-standardised to the Australian population at 30 June 2001.
3. 1 corresponds to the most disadvantaged socioeconomic status and 5 to the least disadvantaged socioeconomic status.
4. Totals may not add up due to rounding.

Source: AIHW analysis of BreastScreen Australia data.

Table A5: Participation in BreastScreen Australia by age and Aboriginal and Torres Strait Islander status, 2005–2006

Age group (years)	Number/Rate	Aboriginal and Torres Strait Islander	Non-Indigenous	Australia[(a)]
40–44	Number	1,455	85,643	87,300
	Rate	9.4	11.3	11.3
45–49	Number	1,935	138,331	140,685
	Rate	15.8	18.8	18.8
50–54	Number	3,118	358,331	364,520
	Rate	32.6	53.5	53.7
55–59	Number	2,737	354,443	360,138
	Rate	39.2	57.2	57.5
60–64	Number	1,924	283,481	287,073
	Rate	42.0	59.4	59.6
65–69	Number	1,376	227,371	230,065
	Rate	42.1	58.7	58.9
70–74	Number	484	104,387	105,715
	Rate	22.9	32.2	32.4
75+	Number	234	46,326	46,985
	Rate	9.6	6.2	6.3
Ages 40+ years	**Number**	**13,263**	**1,598,313**	**1,622,481**
	Crude rate	23.4	33.9	34.0
	AS rate (A)	24.5	34.0	34.1
	95% CI	24.1–25.0	34.0–34.1	34.1–34.2
Ages 50–69 years	**Number**	**9,155**	**1,223,626**	**1,241,796**
	Crude rate	37.5	56.8	57.0
	AS rate (A)	38.1	56.7	56.9
	95% CI	37.3–38.9	56.6–56.8	56.8–57.0

(a) Includes women in the 'not-stated' category for Aboriginal and Torres Strait Islander status.

Notes

1. Period covers 1 January 2005 to 31 December 2006.
2. Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the 2005 and 2006 Australian Bureau of Statistics estimated resident population and age-standardised to the Australian population at 30 June 2001.

Source: AIHW analysis of BreastScreen Australia data.

Table A6: Participation in BreastScreen Australia, by age and main language spoken at home, 2005–2006

Age group (years)	Number/Rate	English–speaking	Non-English–speaking	Australia[(a)]
40–44	Number	77,304	9,844	87,300
	Rate	12.1	7.4	11.3
45–49	Number	122,664	17,640	140,685
	Rate	19.7	14.1	18.8
50–54	Number	315,468	47,773	364,520
	Rate	55.3	44.1	53.7
55–59	Number	313,108	45,591	360,138
	Rate	59.1	47.2	57.5
60–64	Number	249,440	36,468	287,073
	Rate	63.3	41.6	59.6
65–69	Number	194,940	34,057	230,065
	Rate	61.5	46.4	58.9
70–74	Number	91,293	13,828	105,715
	Rate	33.3	26.4	32.4
75–79	Number	33,036	3,851	37,107
	Rate	13.0	8.5	12.4
80–84	Number	7,450	710	8,205
	Rate	3.5	2.7	3.5
85+	Number	1,549	113	1,673
	Rate	0.8	0.5	0.8
Ages 40+ years	**Number**	**1,406,252**	**209,875**	**1,622,481**
	Crude rate	35.1	27.2	34.0
	AS rate (A)	35.6	26.6	34.2
	95% CI	35.6–35.7	26.4–26.7	34.2–34.3
Ages 50–69 years	**Number**	**1,072,956**	**163,889**	**1,241,796**
	Crude rate	59.2	44.8	57.0
	AS rate (A)	59.1	44.8	56.9
	95% CI	59.0–59.2	44.6–45.0	56.8–57.0

(a) Includes women in the 'not-stated' category for main language other than English spoken at home.

Notes

1. Period covers 1 January 2005 to 31 December 2006.
2. Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the 2005 and 2006 Australian Bureau of Statistics estimated resident population and age-standardised to the Australian population at 30 June 2001.

Source: AIHW analysis of BreastScreen Australia data.

Indicator 2 Detection of invasive cancers

All-size invasive cancers

Table A7: Number of women screened and cases of all-size cancer detected, first screening round, by age, state and territory, 2006

Age group (years)	Number	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	Screened	6,109	5,052	11,929	2,903	1,920	1,346	3	122	29,384
	Cases	14	12	30	4	0	4	0	1	65
45–49	Screened	5,811	5,674	6,725	2,969	1,807	1,042	21	166	24,215
	Cases	19	28	29	7	6	9	0	2	100
50–54	Screened	14,557	15,439	6,561	5,079	2,887	838	1,235	411	47,007
	Cases	60	65	38	25	13	7	3	1	212
55–59	Screened	6,792	2,708	2,891	1,285	515	410	393	168	15,162
	Cases	32	21	25	10	3	1	6	0	98
60–64	Screened	3,917	1,410	1,717	604	250	228	158	67	8,351
	Cases	39	12	17	5	5	1	0	0	79
65–69	Screened	2,516	902	1,130	366	145	133	68	26	5,286
	Cases	19	8	3	5	4	0	2	1	42
70–74	Screened	625	383	376	113	68	43	10	9	1,627
	Cases	7	4	7	1	1	1	0	0	21
75–79	Screened	290	232	248	58	38	27	6	10	909
	Cases	1	5	3	1	0	0	0	0	10
80–84	Screened	106	81	105	44	11	15	6	1	369
	Cases	3	1	0	2	0	0	0	0	6
85+	Screened	30	16	42	12	6	3	0	1	110
	Cases	0	0	2	0	0	0	0	0	2
Ages 40+ years										
	Screened	**40,753**	**31,897**	**31,724**	**13,433**	**7,647**	**4,085**	**1,900**	**981**	**132,420**
	Cases	**194**	**156**	**154**	**60**	**32**	**23**	**11**	**5**	**635**
Ages 50–69 years										
	Screened	**27,782**	**20,459**	**12,299**	**7,334**	**3,797**	**1,609**	**1,854**	**672**	**75,806**
	Cases	**150**	**106**	**83**	**45**	**25**	**9**	**11**	**2**	**431**

Source: AIHW analysis of BreastScreen Australia data.

Table A8: Detection rates of all-size invasive cancers, first screening round, by age, state and territory, 2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	22.9	23.8	25.1	13.8	0.0	29.7	0.0	82.0	22.1
45–49	32.7	49.3	43.1	23.6	33.2	86.4	0.0	120.5	41.3
50–54	41.2	42.1	57.9	49.2	45.0	83.5	24.3	24.3	45.1
55–59	47.1	77.5	86.5	77.8	58.3	24.4	152.7	0.0	64.6
60–64	99.6	85.1	99.0	82.8	200.0	43.9	0.0	0.0	94.6
65–69	75.5	88.7	26.5	136.6	275.9	0.0	294.1	384.6	79.5
70–74	112.0	104.4	186.2	88.5	147.1	232.6	0.0	0.0	129.1
75–79	34.5	215.5	121.0	172.4	0.0	0.0	0.0	0.0	110.0
80–84	283.0	123.5	0.0	454.5	0.0	0.0	0.0	0.0	162.6
85+	0.0	0.0	476.2	0.0	0.0	0.0	. .	0.0	181.8
Ages 40+ years									
Crude rate	47.6	48.9	48.5	44.7	41.8	56.3	57.9	51.0	48.0
AS rate	60.5	71.2	73.3	74.8	101.8	61.7	. .	77.2	68.2
95% CI	50.0–72.1	55.5–89.0	57.5–91.1	48.4–106.8	54.8–163.0	22.4–115.3	. .	-1.1–231.9	61.0–75.9
Ages 50–69 years									
Crude rate	54.0	51.8	67.5	61.4	65.8	55.9	59.3	29.8	56.9
AS rate	62.3	69.9	68.3	81.1	127.6	43.2	104.7	82.8	67.8
95% CI	51.8–74.2	52.3–90.2	53.2–86.1	51.8–117.6	66.4–210.3	18.0–84.9	31.9–219.4	0.0–360.9	60.4–75.8

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

Source: AIHW analysis of BreastScreen Australia data.

Table A9: Number of women screened and cases of all-size invasive cancer detected, subsequent screening rounds, by age, state and territory, 2006

Age group (years)	Number	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	Screened	2,125	989	8,204	1,631	1,014	675	14	99	14,751
	Cases	2	1	15	5	2	1	0	1	27
45–49	Screened	9,778	4,720	22,089	6,036	3,857	2,156	501	327	49,464
	Cases	31	14	68	19	7	3	4	1	147
50–54	Screened	49,862	32,780	30,330	15,390	11,887	3,590	1,907	777	146,523
	Cases	130	81	97	47	38	9	4	2	408
55–59	Screened	56,215	41,720	35,740	19,466	14,908	4,576	2,851	932	176,408
	Cases	218	165	139	63	68	17	8	2	680
60–64	Screened	47,395	34,047	28,599	15,185	12,530	3,833	2,077	636	144,302
	Cases	248	166	159	86	75	18	14	4	770
65–69	Screened	38,407	28,193	22,325	12,340	10,057	3,173	1,400	318	116,213
	Cases	200	150	165	69	71	20	13	2	690
70–74	Screened	7,369	21,029	15,796	3,194	3,340	2,320	359	42	53,449
	Cases	47	117	105	20	14	6	3	0	312
75–79	Screened	3,888	6,096	4,959	1,480	1,705	407	129	20	18,684
	Cases	25	50	39	9	11	5	1	1	141
80–84	Screened	1,176	834	951	424	461	124	36	3	4,009
	Cases	11	8	11	3	3	0	2	0	38
85+	Screened	243	155	277	87	70	20	3	1	856
	Cases	3	1	2	0	0	1	0	0	7
Ages 40+ years										
	Screened	**216,458**	**170,563**	**169,270**	**75,233**	**59,829**	**20,874**	**9,277**	**3,155**	**724,659**
	Cases	**915**	**753**	**800**	**321**	**289**	**80**	**49**	**13**	**3,220**
Ages 50–69 years										
	Screened	**191,879**	**136,740**	**116,994**	**62,381**	**49,382**	**15,172**	**8,235**	**2,663**	**583,446**
	Cases	**796**	**562**	**560**	**265**	**252**	**64**	**39**	**10**	**2,548**

Source: AIHW analysis of BreastScreen Australia data.

Table A10: Detection rates of all-size invasive cancers, subsequent screening rounds, by age, state and territory, 2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	9.4	10.1	18.3	30.7	19.7	14.8	0.0	101.0	18.3
45–49	31.7	29.7	30.8	31.5	18.1	13.9	79.8	30.6	29.7
50–54	26.1	24.7	32.0	30.5	32.0	25.1	21.0	25.7	27.8
55–59	38.8	39.5	38.9	32.4	45.6	37.2	28.1	21.5	38.5
60–64	52.3	48.8	55.6	56.6	59.9	47.0	67.4	62.9	53.4
65–69	52.1	53.2	73.9	55.9	70.6	63.0	92.9	62.9	59.4
70–74	63.8	55.6	66.5	62.6	41.9	25.9	83.6	0.0	58.4
75–79	64.3	82.0	78.6	60.8	64.5	122.9	77.5	500.0	75.5
80–84	93.5	95.9	115.7	70.8	65.1	0.0	555.6	0.0	94.8
85+	123.5	64.5	72.2	0.0	0.0	500.0	0.0	0.0	81.8
Ages 40+ years									
Crude rate	42.3	44.1	47.3	42.7	48.3	38.3	52.8	41.2	44.4
AS rate	40.0	39.0	46.0	42.0	42.8	36.8	55.7	54.0	41.7
95% CI	36.9–43.2	35.5–42.7	42.8–49.3	37.0–47.5	37.5–48.6	28.8–46.3	38.9–76.6	20.7–104.6	40.2–43.3
Ages 50–69 years									
Crude rate	41.5	41.1	47.9	42.5	51.0	42.2	47.4	37.6	43.7
AS rate	40.2	39.4	47.2	41.7	49.2	40.4	47.1	40.1	42.4
95% CI	37.5–43.2	36.2–42.9	43.3–51.3	36.8–47.1	43.2–55.7	31.0–51.8	33.2–64.7	18.4–75.1	40.7–44.1

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

Source: AIHW analysis of BreastScreen Australia data.

Small (≤15 mm) invasive cancers

Table A11: Number of women screened and cases of small (≤15 mm) invasive cancer detected, first screening round, by age, state and territory, 2006

Age group (years)	Number	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	Screened	6,109	5,052	11,929	2,903	1,920	1,346	3	122	29,384
	Cases	8	5	6	1	0	2	0	1	23
45–49	Screened	5,811	5,674	6,725	2,969	1,807	1,042	21	166	24,215
	Cases	9	17	14	5	2	5	0	1	53
50–54	Screened	14,557	15,439	6,561	5,079	2,887	838	1,235	411	47,007
	Cases	34	39	17	15	8	5	2	0	120
55–59	Screened	6,792	2,708	2,891	1,285	515	410	393	168	15,162
	Cases	17	10	11	6	1	1	2	0	48
60–64	Screened	3,917	1,410	1,717	604	250	228	158	67	8,351
	Cases	23	6	11	2	2	0	0	0	44
65–69	Screened	2,516	902	1,130	366	145	133	68	26	5,286
	Cases	10	7	3	2	2	0	2	0	26
70–74	Screened	625	383	376	113	68	43	10	9	1,627
	Cases	3	0	4	1	1	1	0	0	10
75–79	Screened	290	232	248	58	38	27	6	10	909
	Cases	0	3	2	1	0	0	0	0	6
80–84	Screened	106	81	105	44	11	15	6	1	369
	Cases	1	0	0	1	0	0	0	0	2
85+	Screened	30	16	42	12	6	3	0	1	110
	Cases	0	0	1	0	0	0	0	0	1
Ages 40+ years										
	Screened	**40,753**	**31,897**	**31,724**	**13,433**	**7,647**	**4,085**	**1,900**	**981**	**132,420**
	Cases	**105**	**87**	**69**	**34**	**16**	**14**	**6**	**2**	**333**
Ages 50–69 years										
	Screened	**27,782**	**20,459**	**12,299**	**7,334**	**3,797**	**1,609**	**1,854**	**672**	**75,806**
	Cases	**84**	**62**	**42**	**25**	**13**	**6**	**6**	**0**	**238**

Source: AIHW analysis of BreastScreen Australia data.

Table A12: Detection rates of small (≤15 mm) invasive cancers, first screening round, by age, state and territory, 2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	13.1	9.9	5.0	3.4	0.0	14.9	0.0	82.0	7.8
45–49	15.5	30.0	20.8	16.8	11.1	48.0	0.0	60.2	21.9
50–54	23.4	25.3	25.9	29.5	27.7	59.7	16.2	0.0	25.5
55–59	25.0	36.9	38.0	46.7	19.4	24.4	50.9	0.0	31.7
60–64	58.7	42.6	64.1	33.1	80.0	0.0	0.0	0.0	52.7
65–69	39.7	77.6	26.5	54.6	137.9	0.0	294.1	0.0	49.2
70–74	48.0	0.0	106.4	88.5	147.1	232.6	0.0	0.0	61.5
75–79	0.0	129.3	80.6	172.4	0.0	0.0	0.0	0.0	66.0
80–84	94.3	0.0	0.0	227.3	0.0	0.0	0.0	0.0	54.2
85+	0.0	0.0	238.1	0.0	0.0	0.0	. .	0.0	90.9
Ages 40+ years									
Crude rate	25.8	27.3	21.8	25.3	20.9	34.3	31.6	20.4	25.1
AS rate	31.1	36.8	40.0	43.5	52.8	43.9	. .	14.2	36.4
95% CI	24.0–39.3	26.3–49.2	28.1–54.2	22.5–70.7	18.6–102.6	8.5–96.9	. .	1.7–51.5	31.2–42.1
Ages 50–69 years									
Crude rate	30.2	30.3	34.1	34.1	34.2	37.3	32.4	0.0	31.4
AS rate	34.8	42.3	37.6	39.7	58.6	25.7	75.7	0.0	37.7
95% CI	27.0–43.9	28.3–59.2	26.1–52.1	20.8–65.1	19.0–118.7	9.1–56.7	11.0–195.9	. .	32.2–43.8

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

Source: AIHW analysis of BreastScreen Australia data.

Table A13: Number of women screened and cases of small (≤15 mm) invasive cancer detected, subsequent screening rounds, by age, state and territory, 2006

Age group (years)	Number	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	Screened	2,125	989	8,204	1,631	1,014	675	14	99	14,751
	Cases	0	0	10	5	1	1	0	1	18
45–49	Screened	9,778	4,720	22,089	6,036	3,857	2,156	501	327	49,464
	Cases	17	12	39	12	3	2	1	1	87
50–54	Screened	49,862	32,780	30,330	15,390	11,887	3,590	1,907	777	146,523
	Cases	78	54	55	27	27	6	3	1	251
55–59	Screened	56,215	41,720	35,740	19,466	14,908	4,576	2,851	932	176,408
	Cases	131	97	92	44	44	9	4	2	423
60–64	Screened	47,395	34,047	28,599	15,185	12,530	3,833	2,077	636	144,302
	Cases	163	107	100	55	48	13	9	3	498
65–69	Screened	38,407	28,193	22,325	12,340	10,057	3,173	1,400	318	116,213
	Cases	127	99	110	44	43	15	9	1	448
70–74	Screened	7,369	21,029	15,796	3,194	3,340	2,320	359	42	53,449
	Cases	31	84	69	10	10	4	3	0	211
75–79	Screened	3,888	6,096	4,959	1,480	1,705	407	129	20	18,684
	Cases	19	36	25	6	8	3	1	1	99
80–84	Screened	1,176	834	951	424	461	124	36	3	4,009
	Cases	8	5	6	2	1	0	0	0	22
85+	Screened	243	155	277	87	70	20	3	1	856
	Cases	2	0	2	0	0	0	0	0	4
Ages 40+ years										
	Screened	**216,458**	**170,563**	**169,270**	**75,233**	**59,829**	**20,874**	**9,277**	**3,155**	**724,659**
	Cases	**576**	**494**	**508**	**205**	**185**	**53**	**30**	**10**	**2,061**
Ages 50–69 years										
	Screened	**191,879**	**136,740**	**116,994**	**62,381**	**49,382**	**15,172**	**8,235**	**2,663**	**583,446**
	Cases	**499**	**357**	**357**	**170**	**162**	**43**	**25**	**7**	**1,620**

Source: AIHW analysis of BreastScreen Australia data.

Table A14: Detection rates of small (≤15 mm) invasive cancers, subsequent screening rounds, by age, state and territory, 2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	0.0	0.0	12.2	30.7	9.9	14.8	0.0	101.0	12.2
45–49	17.4	25.4	17.7	19.9	7.8	9.3	20.0	30.6	17.6
50–54	15.6	16.5	18.1	17.5	22.7	16.7	15.7	12.9	17.1
55–59	23.3	23.3	25.7	22.6	29.5	19.7	14.0	21.5	24.0
60–64	34.4	31.4	35.0	36.2	38.3	33.9	43.3	47.2	34.5
65–69	33.1	35.1	49.3	35.7	42.8	47.3	64.3	31.4	38.5
70–74	42.1	39.9	43.7	31.3	29.9	17.2	83.6	0.0	39.5
75–79	48.9	59.1	50.4	40.5	46.9	73.7	77.5	500.0	53.0
80–84	68.0	60.0	63.1	47.2	21.7	0.0	0.0	0.0	54.9
85+	82.3	0.0	72.2	0.0	0.0	0.0	0.0	0.0	46.7
Ages 40+ years									
Crude rate	26.6	29.0	30.0	27.2	30.9	25.4	32.3	31.7	28.4
AS rate	24.8	25.7	29.1	27.0	27.2	24.2	32.5	44.8	26.7
95% CI	22.5–27.2	23.0–28.6	26.6–31.7	22.9–31.5	23.0–31.8	17.9–32.1	20.4–48.4	13.5–95.2	25.4–27.9
Ages 50–69 years									
Crude rate	26.0	26.1	30.5	27.3	32.8	28.3	30.4	26.3	27.8
AS rate	25.2	25.2	29.9	26.5	31.8	27.2	30.8	26.3	26.9
95% CI	23.0–27.5	22.6–28.0	26.8–33.2	22.6–30.9	27.0–37.2	19.6–36.8	19.7–45.8	10.0–55.3	25.6–28.3

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

Source: AIHW analysis of BreastScreen Australia data.

Indicator 3a Interval cancer

Table A15: Numbers and age-specific rates of interval cancer in women screened during 2002, 2003 and 2004, first screening round, 0–12 months, state and territory

Age group (years)	Number/ rate	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–49	Number	38	30	27	9	9	3	0	0	116
	Rate	6.2	10.4	5.4	5.7	8.0	5.1	0.0	0.0	6.7
50–59	Number	30	37	15	12	8	2	1	0	105
	Rate	5.6	7.7	5.4	6.4	5.7	5.9	4.5	0.0	6.2
60–69	Number	13	3	7	0	0	2	0	0	25
	Rate	6.8	4.3	7.0	0.0	0.0	22.1	0.0	0.0	5.9
70+	Number	2	2	3	1	1	1	0	0	10
	Rate	2.7	6.7	8.2	11.4	17.4	40.2	0.0	0.0	6.3
Ages 40+ years										
	Number	**83**	**72**	**52**	**22**	**18**	**8**	**1**	**0**	**256**
	Crude rate	5.9	8.3	5.7	5.6	6.6	7.7	3.3	0.0	6.4
	AS rate	5.7	7.2	6.2	5.1	6.1	14.5	1.7	0.0	6.2
	95% CI	4.3–7.3	5.2–9.7	4.2–8.7	2.2–9.0	2.0–11.9	3.5–33.3	0.0–9.7	. .	5.3–7.2
Ages 50–69 years										
	Number	**43**	**40**	**22**	**12**	**8**	**4**	**1**	**0**	**130**
	Crude rate	5.9	7.3	5.8	5.4	5.2	9.4	3.7	0.0	6.1
	AS rate	6.1	6.3	6.1	3.7	3.4	12.6	2.6	0.0	6.1
	95% CI	4.3–8.3	4.0–9.2	3.7–9.3	1.9–6.5	1.4–6.6	2.6–34.3	0.1–14.5	. .	4.9–7.4

Note: 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.

Source: AIHW analysis of BreastScreen Australia data.

Table A16: Numbers and age-specific rates of interval cancer in women screened during 2002, 2003 and 2004, first screening round, 13–24 months, state and territory

Age group (years)	Number/ rate	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–49	Number	56	48	53	7	11	8	0	1	184
	Rate	9.5	16.7	11.0	5.1	10.4	14.5	0.0	10.0	11.0
50–59	Number	54	63	31	19	20	7	4	0	198
	Rate	10.6	13.1	11.5	11.2	14.7	21.7	18.5	0.0	12.2
60–69	Number	13	7	17	6	1	0	0	0	44
	Rate	7.3	10.2	17.5	20.2	7.2	0.0	0.0	0.0	10.9
70+	Number	13	2	2	1	1	0	0	0	19
	Rate	18.8	6.7	5.6	14.2	17.4	0.0	0.0	0.0	12.6
Ages 40+ years										
	Number	**136**	**120**	**103**	**33**	**33**	**15**	**4**	**1**	**445**
	Crude rate	10.1	13.8	11.6	9.6	12.6	15.2	14.0	4.3	11.6
	AS rate	10.5	12.2	12.3	12.8	12.1	11.5	7.2	2.1	11.6
	95% CI	8.5–12.8	9.5–15.4	9.4–15.7	7.3–20.0	6.2–19.7	5.7–20.0	2.0–18.5	0.1–11.5	10.3–13.0
Ages 50–69 years										
	Number	**67**	**70**	**48**	**25**	**21**	**7**	**4**	**0**	**242**
	Crude rate	9.8	12.7	13.1	12.5	14.0	16.8	15.5	0.0	11.9
	AS rate	9.2	11.9	14.0	14.9	11.6	12.7	10.8	0.0	11.6
	95% CI	7.0–11.9	8.4–16.0	10.1–18.8	8.3–23.9	5.4–20.2	5.1–26.1	3.0–27.7	. .	10.0–13.4

Note: 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.

Source: AIHW analysis of BreastScreen Australia data.

Table A17: Numbers and age-specific rates of interval cancer in women screened during 2002, 2003 and 2004, first screening round, 0–24 months, state and territory

Age group (years)	Number/ rate	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–49	Number	94	78	80	16	20	11	0	1	300
	Rate	7.8	13.6	8.2	5.4	9.2	9.6	0.0	4.7	8.8
50–59	Number	84	100	46	31	28	9	5	0	303
	Rate	8.1	10.4	8.4	8.6	10.2	13.6	11.4	0.0	9.1
60–69	Number	26	10	24	6	1	2	0	0	69
	Rate	7.0	7.3	12.2	9.4	3.5	10.9	0.0	0.0	8.3
70+	Number	15	4	5	2	2	1	0	0	29
	Rate	10.6	6.7	6.9	12.6	17.4	23.0	0.0	0.0	9.4
Ages 40+ years										
	Number	**219**	**192**	**155**	**55**	**51**	**23**	**5**	**1**	**701**
	Crude rate	7.9	11.1	8.6	7.5	9.6	11.3	8.5	2.1	8.9
	AS rate	8.0	9.7	9.2	8.7	9.0	13.2	4.4	1.0	8.9
	95% CI	6.8–9.4	8.0–11.7	7.4–11.2	5.6–12.4	5.3–13.5	6.1–22.9	1.4–10.3	0.0–5.4	8.1–9.7
Ages 50–69 years										
	Number	**110**	**110**	**70**	**37**	**29**	**11**	**5**	**0**	**372**
	Crude rate	7.8	10.0	9.4	8.8	9.5	13.0	9.5	0.0	9.0
	AS rate	7.6	9.1	10.0	8.9	7.4	12.5	6.6	0.0	8.8
	95% CI	6.2–9.3	7.0–11.5	7.6–12.7	5.6–13.1	4.1–11.7	5.6–23.4	2.2–15.5	. .	7.8–9.9

Note: 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.

Source: AIHW analysis of BreastScreen Australia data.

Table A18: Numbers and age-specific rates of interval cancer in women screened during 2002, 2003 and 2004, subsequent screening rounds, 0–12 months, state and territory

Age group (years)	Number/ rate	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–49	Number	65	23	71	21	15	7	0	1	203
	Rate	6.7	14.0	8.5	10.0	8.9	8.5	0.0	5.7	8.1
50–59	Number	171	138	126	52	55	18	6	1	567
	Rate	6.6	6.5	7.0	6.2	6.7	7.3	4.2	2.0	6.6
60–69	Number	132	107	70	36	33	17	3	1	399
	Rate	6.4	6.2	5.6	5.6	5.2	8.8	3.3	4.3	6.0
70+	Number	86	39	35	10	7	4	1	0	182
	Rate	6.2	4.8	6.3	8.7	4.5	5.9	6.4	0.0	5.9
Ages 40+ years										
	Number	**454**	**307**	**302**	**119**	**110**	**46**	**10**	**3**	**1,351**
	Crude rate	6.5	6.4	6.8	6.6	6.2	7.8	3.6	3.0	6.5
	AS rate	6.5	7.7	6.9	7.1	6.5	7.8	3.4	3.1	6.7
	95% CI	5.9–7.1	6.5–9.1	6.1–7.7	5.8–8.6	5.2–7.9	5.6–10.4	1.4–6.5	0.6–9.2	6.3–7.0
Ages 50–69 years										
	Number	**303**	**245**	**196**	**88**	**88**	**35**	**9**	**2**	**966**
	Crude rate	6.5	6.3	6.5	5.9	6.0	7.9	3.9	2.7	6.3
	AS rate	6.5	6.4	6.5	5.9	6.1	7.9	3.8	2.9	6.3
	95% CI	5.8–7.3	5.6–7.2	5.6–7.4	4.8–7.3	4.9–7.5	5.5–11.0	1.8–7.3	0.3–10.8	5.9–6.8

Note: 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.

Source: AIHW analysis of BreastScreen Australia data.

Table A19: Numbers and age-specific rates of interval cancer in women screened during 2002, 2003 and 2004, subsequent screening rounds, 13–24 months, state and territory

Age group (years)	Number/ rate	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–49	Number	122	21	97	26	16	4	3	0	289
	Rate	13.4	12.8	12.2	16.4	11.1	5.6	11.0	0.0	12.7
50–59	Number	283	282	229	78	94	31	9	6	1,012
	Rate	12.0	13.2	13.3	11.3	12.3	13.7	7.1	13.5	12.6
60–69	Number	213	247	170	59	58	21	7	3	778
	Rate	11.5	14.4	14.0	11.4	9.9	12.0	8.5	14.4	12.6
70+	Number	127	80	59	7	13	4	0	0	290
	Rate	10.3	10.0	10.8	8.2	8.3	7.6	0.0	0.0	10.0
Ages 40+ years										
	Number	**745**	**630**	**555**	**170**	**181**	**60**	**19**	**9**	**2,369**
	Crude rate	11.7	13.1	13.0	11.7	11.0	11.4	7.5	10.4	12.2
	AS rate	12.0	13.0	13.0	12.0	10.9	10.8	7.4	9.2	12.3
	95% CI	11.1–12.9	11.7–14.5	11.9–14.1	10.1–14.1	9.2–12.8	8.2–13.9	4.2–11.9	4.1–17.7	11.8–12.8
Ages 50–69 years										
	Number	**496**	**529**	**399**	**137**	**152**	**52**	**16**	**9**	**1,790**
	Crude rate	11.8	13.7	13.6	11.3	11.3	12.9	7.6	13.8	12.6
	AS rate	11.8	13.7	13.6	11.3	11.3	13.0	7.7	13.8	12.6
	95% CI	10.8–12.9	12.6–14.9	12.3–15.0	9.5–13.4	9.6–13.3	9.7–17.0	4.4–12.5	6.2–26.5	12.0–13.2

Note: 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.

Source: AIHW analysis of BreastScreen Australia data.

Table A20: Numbers and age-specific rates of interval cancer in women screened during 2002, 2003 and 2004, subsequent screening rounds, 0–24 months, by state and territory

Age group (years)	Number/ rate	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–49	Number	187	44	168	47	31	11	3	1	492
	Rate	9.9	13.4	10.3	12.7	10.0	7.1	5.0	3.1	10.3
50–59	Number	454	420	355	130	149	49	15	7	1,579
	Rate	9.2	9.8	10.1	8.5	9.4	10.3	5.6	7.3	9.5
60–69	Number	345	354	240	95	91	38	10	4	1,177
	Rate	8.8	10.3	9.8	8.2	7.5	10.3	5.8	9.1	9.2
70+	Number	213	119	94	17	20	8	1	0	472
	Rate	8.2	7.4	8.5	8.5	6.4	6.6	3.2	0.0	7.9
Ages 40+ years										
	Number	**1,199**	**937**	**857**	**289**	**291**	**106**	**29**	**12**	**3,720**
	Crude rate	9.0	9.7	9.8	8.9	8.5	9.5	5.4	6.5	9.2
	AS rate	9.1	10.4	9.9	9.3	8.6	9.2	5.2	6.0	9.4
	95% CI	8.6–9.6	9.4–11.4	9.2–10.5	8.1–10.5	7.5–9.7	7.5–11.1	3.4–7.7	3.0–10.6	9.1–9.7
Ages 50–69 years										
	Number	**799**	**774**	**595**	**225**	**240**	**87**	**25**	**11**	**2,756**
	Crude rate	9.0	10.0	10.0	8.3	8.6	10.3	5.6	7.9	9.3
	AS rate	9.0	10.0	10.0	8.4	8.6	10.3	5.7	8.0	9.4
	95% CI	8.4–9.7	9.3–10.8	9.2–10.8	7.3–9.5	7.5–9.7	8.3–12.7	3.7–8.3	3.9–14.5	9.0–9.7

Note: 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.

Source: AIHW analysis of BreastScreen Australia data.

Indicator 3b Program sensitivity

Table A21: Program sensitivity rates for women screened during 2002, 2003 and 2004, first screening round, 0–12 months, by state and territory

Age group years	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
40–49	81.4	76.2	86.1	86.0	75.0	83.3	100.0	100.0	82.0
50–59	90.6	86.2	91.6	90.8	91.8	85.0	94.1	100.0	89.8
60–69	92.5	96.0	93.6	97.7	100.0	83.3	100.0	100.0	94.1
70+	98.1	96.2	95.8	100.0	93.8	75.0	100.0	100.0	96.7
Ages 40+ years									
Crude rate	89.7	86.2	90.6	91.9	89.7	83.3	95.7	100.0	89.3
AS rate	90.2	88.1	91.5	92.9	90.9	82.9	97.7	100.0	90.3
95% CI	83.6–97.1	79.5–97.3	83.3–100.0	80.5–100.0	75.7–100.0	59.5–100.0	46.7–100.0	51.2–100.0	86.4–94.3
Ages 50–69 years									
Crude rate	91.3	88.3	92.4	92.5	93.4	84.4	95.0	100.0	91.1
AS rate	91.4	90.3	92.4	93.7	95.2	84.3	96.6	100.0	91.6
95% CI	83.1–100.0	79.3–100.0	81.6–100.0	78.7–100.0	76.2–100.0	55.5–100.0	48.6–100.0	40.9–100.0	86.6–96.8

Note: 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.

Source: AIHW analysis of BreastScreen Australia data.

Table A22: Program sensitivity rates for women screened during 2002, 2003 and 2004, first screening round, 0–24 months, state and territory

Age group years	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
40–49	68.0	55.2	72.9	82.7	57.4	65.2	100.0	85.7	67.1
50–59	79.8	69.8	81.5	86.9	76.3	63.0	80.0	100.0	77.6
60–69	88.0	87.8	84.4	89.4	96.0	83.3	100.0	100.0	87.6
70+	87.3	92.7	97.2	91.7	88.2	75.0	100.0	100.0	91.1
Ages 40+ years									
Crude rate	79.3	70.1	80.7	86.9	75.4	68.2	84.6	94.4	77.8
AS rate	80.6	74.6	82.5	87.3	79.3	70.6	92.2	97.0	79.9
95% CI	74.7–86.8	67.1–82.7	75.1–90.4	75.7–100.0	65.7–94.7	49.9–96.5	41.9–100.0	48.8–100.0	76.4–83.5
Ages 50–69 years									
Crude rate	82.6	73.4	82.6	87.5	79.7	69.2	82.6	100.0	80.4
AS rate	83.2	77.3	82.7	87.9	84.5	71.4	88.3	100.0	81.7
95% CI	75.6–91.4	67.6–87.8	73.0–93.3	74.0–100.0	66.9–100.0	46.4–100.0	42.0–100.0	40.9–100.0	77.2–86.4

Note: 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.

Source: AIHW analysis of BreastScreen Australia data.

Table A23: Program sensitivity rates for women screened during 2002, 2003 and 2004, subsequent screening rounds, 0–12 months, state and territory

Age group years	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
40–49	73.4	61.7	73.4	63.9	72.2	69.6	100.0	75.0	72.1
50–59	85.2	83.8	84.6	86.3	85.2	87.9	88.7	94.7	85.0
60–69	89.9	88.0	91.0	89.8	92.0	85.6	94.5	91.7	89.8
70+	91.2	92.4	91.9	91.1	94.5	98.0	92.3	100.0	92.0
Ages 40+ years									
Crude rate	87.7	86.7	86.8	86.8	88.6	87.3	92.8	92.3	87.4
AS rate	84.8	81.5	85.0	83.2	85.6	84.7	93.1	90.4	84.5
95% CI	81.4–88.3	76.3–86.7	81.1–89.0	76.8–90.0	78.8–92.6	73.8–96.7	76.9–100.0	61.8–100.0	82.6–86.5
Ages 50–69 years									
Crude rate	87.7	86.0	87.7	88.0	88.8	86.7	91.7	93.5	87.5
AS rate	87.1	85.6	87.3	87.8	88.0	87.0	91.1	93.5	87.0
95% CI	83.4–91.0	81.2–90.1	82.7–92.0	81.3–94.6	81.4–95.0	75.3–99.8	73.8–100.0	62.5–100.0	84.9–89.2

Note: 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.

Source: AIHW analysis of BreastScreen Australia data.

Table A24: Program sensitivity rates for women screened during 2002, 2003 and 2004, subsequent screening round, 0–24 months, state and territory

Age group years	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
40–49	51.9	45.7	60.1	55.7	55.7	64.0	85.0	75.0	55.9
50–59	71.1	63.0	71.5	83.0	68.0	73.4	83.9	72.0	70.2
60–69	79.2	68.9	78.6	85.6	80.7	77.0	88.1	73.3	77.3
70+	82.5	79.8	84.2	95.8	85.7	92.5	100.0	100.0	83.2
Ages 40+ years									
Crude rate	75.2	68.2	74.8	83.4	74.6	77.0	87.1	75.0	74.3
AS rate	70.8	63.2	72.7	79.6	71.2	74.8	87.3	76.5	70.8
95% CI	68.1–73.6	59.3–67.1	69.4–76.1	73.7–85.9	65.8–76.9	65.1–85.4	72.1–100.0	51.0–100.0	69.2–72.4
Ages 50–69 years									
Crude rate	75.3	66.0	74.9	84.2	74.4	75.2	86.1	72.5	73.7
AS rate	74.5	65.5	74.5	84.1	73.3	74.9	85.7	72.6	73.1
95% CI	71.3–77.8	62.2–68.9	70.6–78.5	77.8–90.6	67.8–79.0	64.9–85.9	69.3–100.0	48.5–100.0	71.4–74.9

Note: 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.

Source: AIHW analysis of BreastScreen Australia data.

Indicator 4 Detection of DCIS

Table A25: Number of women screened and cases of DCIS detected, first screening round, by age, state and territory, 2006

Age group (years)	Number	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–49	Screened	11,920	10,726	18,654	5,872	3,727	2,388	24	288	53,599
	Cases	11	8	19	9	2	2	0	2	53
50–59	Screened	21,349	18,147	9,452	6,364	3,402	1,248	1,628	579	62,169
	Cases	35	24	11	17	6	2	1	0	96
60–69	Screened	6,433	2,312	2,847	970	395	361	226	93	13,637
	Cases	19	4	4	3	2	0	0	0	32
70+	Screened	1,051	712	771	227	123	88	22	21	3,015
	Cases	2	2	2	1	0	0	0	0	7
Ages 40+ years										
	Screened	**40,753**	**31,897**	**31,724**	**13,433**	**7,647**	**4,085**	**1,900**	**981**	**132,420**
	Cases	**67**	**38**	**36**	**30**	**10**	**4**	**1**	**2**	**188**
Ages 50–69 years										
	Screened	**27,782**	**20,459**	**12,299**	**7,334**	**3,797**	**1,609**	**1,854**	**672**	**75,806**
	Cases	**54**	**28**	**15**	**20**	**8**	**2**	**1**	**0**	**128**

Source: AIHW analysis of BreastScreen Australia data.

Table A26: Detection rate of DCIS, first screening round, by age, state and territory, 2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–49	9.2	7.5	10.2	15.3	5.4	8.4	0.0	69.4	9.9
50–59	16.4	13.2	11.6	26.7	17.6	16.0	6.1	0.0	15.4
60–69	29.5	17.3	14.0	30.9	50.6	0.0	0.0	0.0	23.5
70+	19.0	28.1	25.9	44.1	0.0	0.0	0.0	0.0	23.2
Ages 40+ years									
Crude rate	16.4	11.9	11.3	22.3	13.1	9.8	5.3	20.4	14.2
AS rate	18.9	15.0	13.8	27.7	22.1	8.0	2.4	14.4	17.5
95% CI	13.7–25.1	8.4–23.4	7.8–21.5	13.6–46.2	5.0–49.6	1.3–22.3	0.1–13.4	1.7–52.0	14.2–21.1
Ages 50–69 years									
Crude rate	19.4	13.7	12.2	27.3	21.1	12.4	5.4	0.0	16.9
AS rate	21.9	14.9	12.6	28.5	31.4	9.4	3.6	0.0	18.8
95% CI	15.9–29.1	7.9–24.2	6.6–21.6	14.0–48.8	6.5–73.8	1.1–33.8	0.1–20.0	. .	15.1–23.0

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.

Source: AIHW analysis of BreastScreen Australia data.

Table A27: Number of women screened and cases of DCIS detected, subsequent screening round, by age, state and territory, 2006

Age group (years)	Number	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–49	Screened	11,903	5,709	30,293	7,667	4,871	2,831	515	426	64,215
	Cases	12	6	10	5	3	1	1	0	38
50–59	Screened	106,077	74,500	66,070	34,856	26,795	8,166	4,758	1,709	322,931
	Cases	88	60	54	29	19	11	2	1	264
60–69	Screened	85,802	62,240	50,924	27,525	22,587	7,006	3,477	954	260,515
	Cases	90	73	71	33	18	4	6	0	295
70+	Screened	12,676	28,114	21,983	5,185	5,576	2,871	527	66	76,998
	Cases	16	27	26	13	3	6	1	2	94
Ages 40+ years										
	Screened	**216,458**	**170,563**	**169,270**	**75,233**	**59,829**	**20,874**	**9,277**	**3,155**	**724,659**
	Cases	**206**	**166**	**161**	**80**	**43**	**22**	**10**	**3**	**691**
Ages 50–69 years										
	Screened	**191,879**	**136,740**	**116,994**	**62,381**	**49,382**	**15,172**	**8,235**	**2,663**	**583,446**
	Cases	**178**	**133**	**125**	**62**	**37**	**15**	**8**	**1**	**559**

Source: AIHW analysis of BreastScreen Australia data.

Table A28: Detection rate of DCIS, subsequent screening round, by age, state and territory, 2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–49	10.1	10.5	3.3	6.5	6.2	3.5	19.4	0.0	5.9
50–59	8.3	8.1	8.2	8.3	7.1	13.5	4.2	5.9	8.2
60–69	10.5	11.7	13.9	12.0	8.0	5.7	17.3	0.0	11.3
70+	12.6	9.6	11.8	25.1	5.4	20.9	19.0	303.0	12.2
Ages 40+ years									
Crude rate	9.5	9.7	9.5	10.6	7.2	10.5	10.8	9.5	9.5
AS rate	9.8	9.8	9.2	11.1	6.9	10.2	12.8	40.0	9.1
95% CI	8.2–11.6	7.8–12.1	7.8–10.8	8.6–14.0	4.8–9.6	6.3–15.5	4.3–26.6	3.2–129.2	8.4–9.8
Ages 50–69 years									
Crude rate	9.3	9.7	10.7	9.9	7.5	9.9	9.7	3.8	9.6
AS rate	9.2	9.6	10.6	9.8	7.5	10.2	9.6	3.4	9.5
95% CI	7.9–10.7	8.0–11.4	8.8–12.6	7.5–12.6	5.2–10.3	5.7–16.9	4.2–19.0	0.1–19.0	8.7–10.3

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.

Source: AIHW analysis of BreastScreen Australia data.

Indicator 5 Recall to assessment

Table A29: Number of women screened and women recalled for assessment, mammographic reasons, first screening round, by age, state and territory, 2006

Age group (years)	Number	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	Screened	6,109	5,052	11,929	2,903	1,920	1,346	3	122	29,384
	Cases	483	553	1,151	255	74	192	0	19	2,727
45–49	Screened	5,811	5,674	6,725	2,969	1,807	1,042	21	166	24,215
	Cases	534	681	754	320	103	152	2	37	2,583
50–54	Screened	14,559	15,439	6,561	5,079	2,887	838	1,235	411	47,009
	Cases	1,339	1,891	771	516	176	119	89	52	4,953
55–59	Screened	6,792	2,708	2,891	1,285	515	410	393	168	15,162
	Cases	614	315	315	111	34	55	34	18	1,496
60–64	Screened	3,917	1,410	1,717	604	250	228	158	67	8,351
	Cases	354	160	196	50	15	27	7	7	816
65–69	Screened	2,516	902	1,130	366	145	133	68	26	5,286
	Cases	215	82	130	33	13	11	6	4	494
70–74	Screened	625	383	376	113	68	43	10	9	1,627
	Cases	52	37	44	9	7	5	2	0	156
75–79	Screened	290	232	248	58	38	27	6	10	909
	Cases	23	28	17	5	2	3	0	0	78
80–84	Screened	106	81	105	44	11	15	6	1	369
	Cases	10	14	8	8	1	3	0	0	44
85+	Screened	30	16	42	12	6	3	0	1	110
	Cases	6	4	10	2	0	1	0	0	23
Ages 40+ years										
	Screened	**40,755**	**31,897**	**31,724**	**13,433**	**7,647**	**4,085**	**1,900**	**981**	**132,422**
	Cases	**3,630**	**3,765**	**3,396**	**1,309**	**425**	**568**	**140**	**137**	**13,370**
Ages 50–69 years										
	Screened	**27,784**	**20,459**	**12,299**	**7,334**	**3,797**	**1,609**	**1,854**	**672**	**75,808**
	Cases	**2,522**	**2,448**	**1,412**	**710**	**238**	**212**	**136**	**81**	**7,759**

Source: AIHW analysis of BreastScreen Australia data.

Table A30: Recall to assessment rates, mammographic reasons, first screening round, by age, state and territory, 2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
40–44	7.9	10.9	9.6	8.8	3.9	14.3	0.0	15.6	9.3
45–49	9.2	12.0	11.2	10.8	5.7	14.6	9.5	22.3	10.7
50–54	9.2	12.2	11.8	10.2	6.1	14.2	7.2	12.7	10.5
55–59	9.0	11.6	10.9	8.6	6.6	13.4	8.7	10.7	9.9
60–64	9.0	11.3	11.4	8.3	6.0	11.8	4.4	10.4	9.8
65–69	8.5	9.1	11.5	9.0	9.0	8.3	8.8	15.4	9.3
70–74	8.3	9.7	11.7	8.0	10.3	11.6	20.0	0.0	9.6
75–79	7.9	12.1	6.9	8.6	5.3	11.1	0.0	0.0	8.6
80–84	9.4	17.3	7.6	18.2	9.1	20.0	0.0	0.0	11.9
85+	20.0	25.0	23.8	16.7	0.0	33.3	. .	0.0	20.9
Ages 40+ years									
Crude rate	8.9	11.8	10.7	9.7	5.6	13.9	7.4	14.0	10.1
AS rate	8.9	11.3	11.1	9.3	6.7	12.8	. .	12.2	10.0
95% CI	8.5–9.2	10.8–11.9	10.6–11.7	8.5–10.1	5.5–7.8	11.2–14.4	. .	9.6–15.2	9.7–10.2
Ages 50–69 years									
Crude rate	9.1	12.0	11.5	9.7	6.3	13.2	7.3	12.1	10.2
AS rate	9.0	11.3	11.4	9.1	6.8	12.3	7.3	12.2	10.0
95% CI	8.6–9.4	10.6–12.0	10.8–12.1	8.2–10.1	5.5–8.2	10.5–14.3	5.6–9.2	8.6–16.4	9.7–10.2

Note: Rates are 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.

Source: AIHW analysis of BreastScreen Australia data.

Table A31: Number of women screened and women recalled for assessment, mammographic reasons, subsequent screening rounds, by age, state and territory, 2006

Age group (years)	Number	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	Screened	2,125	989	8,204	1,631	1,014	675	14	99	14,751
	Cases	107	73	496	89	32	66	2	10	875
45–49	Screened	9,778	4,720	22,089	6,036	3,857	2,156	501	327	49,464
	Cases	529	305	1,231	295	106	171	23	14	2,674
50–54	Screened	49,860	32,780	30,330	15,390	11,887	3,590	1,907	777	146,521
	Cases	2,136	1,660	1,553	460	255	241	59	44	6,408
55–59	Screened	56,215	41,720	35,740	19,466	14,908	4,576	2,851	932	176,408
	Cases	2,174	1,763	1,542	493	307	235	81	30	6,625
60–64	Screened	47,395	34,047	28,599	15,185	12,529	3,833	2,077	636	144,301
	Cases	1,871	1,431	1,278	388	274	200	64	27	5,533
65–69	Screened	38,407	28,193	22,325	12,340	10,058	3,173	1,400	318	116,214
	Cases	1,481	1,148	1,034	335	254	171	53	13	4,489
70–74	Screened	7,369	21,029	15,796	3,194	3,340	2,320	359	42	53,449
	Cases	320	816	703	80	80	114	12	5	2,130
75–79	Screened	3,888	6,096	4,959	1,480	1,705	407	129	20	18,684
	Cases	172	250	241	55	40	20	5	3	786
80–84	Screened	1,176	834	951	424	461	124	36	3	4,009
	Cases	55	35	46	13	13	2	2	0	166
85+	Screened	243	155	277	87	70	20	3	1	856
	Cases	8	7	12	4	1	1	0	1	34
Ages 40+ years										
	Screened	**216,456**	**170,563**	**169,270**	**75,233**	**59,829**	**20,874**	**9,277**	**3,155**	**724,657**
	Cases	**8,853**	**7,488**	**8,136**	**2,212**	**1,362**	**1,221**	**301**	**147**	**29,720**
Ages 50–69 years										
	Screened	**191,877**	**136,740**	**116,994**	**62,381**	**49,382**	**15,172**	**8,235**	**2,663**	**583,444**
	Cases	**7,662**	**6,002**	**5,407**	**1,676**	**1,090**	**847**	**257**	**114**	**23,055**

Source: AIHW analysis of BreastScreen Australia data.

Table A32: Recall to assessment rates, mammographic reasons, subsequent screening rounds, by age, state and territory, 2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
40–44	5.0	7.4	6.0	5.5	3.2	9.8	14.3	10.1	5.9
45–49	5.4	6.5	5.6	4.9	2.7	7.9	4.6	4.3	5.4
50–54	4.3	5.1	5.1	3.0	2.1	6.7	3.1	5.7	4.4
55–59	3.9	4.2	4.3	2.5	2.1	5.1	2.8	3.2	3.8
60–64	3.9	4.2	4.5	2.6	2.2	5.2	3.1	4.2	3.8
65–69	3.9	4.1	4.6	2.7	2.5	5.4	3.8	4.1	3.9
70–74	4.3	3.9	4.5	2.5	2.4	4.9	3.3	11.9	4.0
75–79	4.4	4.1	4.9	3.7	2.3	4.9	3.9	15.0	4.2
80–84	4.7	4.2	4.8	3.1	2.8	1.6	5.6	0.0	4.1
85+	3.3	4.5	4.3	4.6	1.4	5.0	0.0	100.0	4.0
Ages 40+ years									
Crude rate	4.1	4.4	4.8	2.9	2.3	5.8	3.2	4.7	4.1
AS rate	4.3	4.9	4.9	3.2	2.4	6.2	4.3	5.9	4.3
95% CI	4.2–4.4	4.7–5.1	4.8–5.0	3.1–3.4	2.2–2.5	5.8–6.6	2.7–6.0	4.6–7.4	4.3–4.4
Ages 50–69 years									
Crude rate	4.0	4.4	4.6	2.7	2.2	5.6	3.1	4.3	4.0
AS rate	4.0	4.5	4.7	2.7	2.2	5.7	3.2	4.4	4.0
95% CI	3.9–4.1	4.3–4.6	4.5–4.8	2.6–2.9	2.1–2.3	5.3–6.1	2.8–3.6	3.6–5.3	3.9–4.0

Note: Rates are 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.

Source: AIHW analysis of BreastScreen Australia data.

Table A33: Number of women screened and women recalled for assessment, other reasons, first screening round, by age, state and territory, 2006

Age group (years)	Number	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	Screened	6,109	5,052	11,929	2,903	1,920	1,346	3	122	29,384
	Cases	8	77	299	27	0	0	0	0	411
45–49	Screened	5,811	5,674	6,725	2,969	1,807	1,042	21	166	24,215
	Cases	8	65	168	19	0	0	0	0	260
50–54	Screened	14,559	15,439	6,561	5,079	2,887	838	1,235	411	47,009
	Cases	13	89	111	30	0	0	0	0	243
55–59	Screened	6,792	2,708	2,891	1,285	515	410	393	168	15,162
	Cases	1	16	38	6	0	0	0	0	61
60–64	Screened	3,917	1,410	1,717	604	250	228	158	67	8,351
	Cases	2	4	21	3	0	0	0	0	30
65–69	Screened	2,516	902	1,130	366	145	133	68	26	5,286
	Cases	0	4	12	2	0	0	0	0	18
70–74	Screened	625	383	376	113	68	43	10	9	1,627
	Cases	1	4	5	0	0	0	0	0	10
75–79	Screened	290	232	248	58	38	27	6	10	909
	Cases	0	3	5	0	0	0	0	0	8
80–84	Screened	106	81	105	44	11	15	6	1	369
	Cases	0	0	2	0	0	0	0	0	2
85+	Screened	30	16	42	12	6	3	0	1	110
	Cases	0	0	1	0	0	0	0	0	1
Ages 40+ years										
	Screened	**40,755**	**31,897**	**31,724**	**13,433**	**7,647**	**4,085**	**1,900**	**981**	**132,422**
	Cases	**33**	**262**	**662**	**87**	**0**	**0**	**0**	**0**	**1,044**
Ages 50–69 years										
	Screened	**27,784**	**20,459**	**12,299**	**7,334**	**3,797**	**1,609**	**1,854**	**672**	**75,808**
	Cases	**16**	**113**	**182**	**41**	**0**	**0**	**0**	**0**	**352**

Source: AIHW analysis of BreastScreen Australia data.

Table A34: Recall to assessment rates, other reasons, first screening round, by age, state and territory, 2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
40–44	0.1	1.5	2.5	0.9	0.0	0.0	0.0	0.0	1.4
45–49	0.1	1.1	2.5	0.6	0.0	0.0	0.0	0.0	1.1
50–54	0.1	0.6	1.7	0.6	0.0	0.0	0.0	0.0	0.5
55–59	0.0	0.6	1.3	0.5	0.0	0.0	0.0	0.0	0.4
60–64	0.1	0.3	1.2	0.5	0.0	0.0	0.0	0.0	0.4
65–69	0.0	0.4	1.1	0.5	0.0	0.0	0.0	0.0	0.3
70–74	0.2	1.0	1.3	0.0	0.0	0.0	0.0	0.0	0.6
75–79	0.0	1.3	2.0	0.0	0.0	0.0	0.0	0.0	0.9
80–84	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.5
85+	0.0	0.0	2.4	0.0	0.0	0.0	. .	0.0	0.9
Ages 40+ years									
Crude rate	0.1	0.8	2.1	0.6	0.0	0.0	0.0	0.0	0.8
AS rate	0.1	0.7	1.6	0.5	0.0	0.0	. .	0.0	0.6
95% CI	0.0–0.1	0.6–0.9	1.4–1.8	0.4–0.7	. .	. .	. .	. .	0.6–0.7
Ages 50–69 years									
Crude rate	0.1	0.6	1.5	0.6	0.0	0.0	0.0	0.0	0.5
AS rate	0.0	0.5	1.4	0.5	0.0	0.0	0.0	0.0	0.4
95% CI	0.0–0.1	0.4–0.6	1.2–1.6	0.3–0.8	. .	. .	. .	. .	0.4–0.5

Note: Rates are 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.

Source: AIHW analysis of BreastScreen Australia data.

Table A35: Number of women screened and women recalled for assessment, other reasons, subsequent screening rounds, by age, state and territory, 2006

Age group (years)	Number	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	Screened	2,125	989	8,204	1,631	1,014	675	14	99	14,751
	Cases	0	10	148	8	0	0	0	0	166
45–49	Screened	9,778	4,720	22,089	6,036	3,857	2,156	501	327	49,464
	Cases	3	49	329	34	0	0	0	0	415
50–54	Screened	49,860	32,780	30,330	15,390	11,887	3,590	1,907	777	146,521
	Cases	19	146	348	55	0	0	0	0	568
55–59	Screened	56,215	41,720	35,740	19,466	14,908	4,576	2,851	932	176,408
	Cases	11	117	323	39	0	0	0	0	490
60–64	Screened	47,395	34,047	28,599	15,185	12,529	3,833	2,077	636	144,301
	Cases	12	91	216	24	0	0	0	0	343
65–69	Screened	38,407	28,193	22,325	12,340	10,058	3,173	1,400	318	116,214
	Cases	8	67	183	23	0	0	0	0	281
70–74	Screened	7,369	21,029	15,796	3,194	3,340	2,320	359	42	53,449
	Cases	1	41	116	8	0	0	0	0	166
75–79	Screened	3,888	6,096	4,959	1,480	1,705	407	129	20	18,684
	Cases	2	16	56	0	0	0	0	0	74
80–84	Screened	1,176	834	951	424	461	124	36	3	4,009
	Cases	1	5	22	1	0	0	0	0	29
85+	Screened	243	155	277	87	70	20	3	1	856
	Cases	0	0	10	0	0	0	0	0	10
Ages 40+ years										
	Screened	**216,456**	**170,563**	**169,270**	**75,233**	**59,829**	**20,874**	**9,277**	**3,155**	**724,657**
	Cases	**57**	**542**	**1,751**	**192**	**0**	**0**	**0**	**0**	**2,542**
Ages 50–69 years										
	Screened	**191,877**	**136,740**	**116,994**	**62,381**	**49,382**	**15,172**	**8,235**	**2,663**	**583,444**
	Cases	**50**	**421**	**1,070**	**141**	**0**	**0**	**0**	**0**	**1,682**

Source: AIHW analysis of BreastScreen Australia data.

Table A36: Recall to assessment rates, other reasons, subsequent screening rounds, by age, state and territory, 2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
40–44	0.0	1.0	1.8	0.5	0.0	0.0	0.0	0.0	1.1
45–49	0.0	1.0	1.5	0.6	0.0	0.0	0.0	0.0	0.8
50–54	0.0	0.4	1.1	0.4	0.0	0.0	0.0	0.0	0.4
55–59	0.0	0.3	0.9	0.2	0.0	0.0	0.0	0.0	0.3
60–64	0.0	0.3	0.8	0.2	0.0	0.0	0.0	0.0	0.2
65–69	0.0	0.2	0.8	0.2	0.0	0.0	0.0	0.0	0.2
70–74	0.0	0.2	0.7	0.3	0.0	0.0	0.0	0.0	0.3
75–79	0.1	0.3	1.1	0.0	0.0	0.0	0.0	0.0	0.4
80–84	0.1	0.6	2.3	0.2	0.0	0.0	0.0	0.0	0.7
85+	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	1.2
Ages 40+ years									
Crude rate	0.0	0.3	1.0	0.3	0.0	0.0	0.0	0.0	0.4
AS rate	0.0	0.5	1.1	0.3	0.0	0.0	0.0	0.0	0.4
95% CI	0.0–0.0	0.4–0.5	1.0–1.1	0.2–0.3	. .	. .	. .	. .	0.4–0.5
Ages 50–69 years									
Crude rate	0.0	0.3	0.9	0.2	0.0	0.0	0.0	0.0	0.3
AS rate	0.0	0.3	0.9	0.2	0.0	0.0	0.0	0.0	0.3
95% CI	0.0–0.0	0.3–0.4	0.9–1.0	0.2–0.3	. .	. .	. .	. .	0.3–0.3

Note: Rates are 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.

Source: AIHW analysis of BreastScreen Australia data.

Indicator 6 Rescreening

Table A37: Number of women screened during 2004 and number of those women who returned for screening within 27 months, first screening round, by age, state and territory

Age group (years)	Number	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	Screened	8,814	4,482	11,006	2,675	1,693	1,093	139	181	30,083
	Returned	1,059	801	7,276	1,457	879	805	85	91	12,453
45–49	Screened	7,376	5,091	6,262	2,789	1,729	864	172	159	24,442
	Returned	2,532	1,879	3,938	1,568	899	594	94	73	11,577
50–54	Screened	10,305	16,865	6,048	5,069	4,188	740	947	270	44,432
	Returned	6,601	10,500	3,827	3,011	2,283	523	639	137	27,521
55–59	Screened	5,516	2,132	3,035	1,223	518	367	405	116	13,312
	Returned	3,494	1,169	1,970	690	269	256	240	57	8,145
60–64	Screened	3,270	1,120	1,908	664	287	205	245	56	7,755
	Returned	2,081	657	1,316	421	161	144	170	30	4,980
65–69	Screened	2,191	673	1,288	394	158	118	154	15	4,991
	Returned	1,021	386	901	191	64	85	74	5	2,727
70–74	Screened	869	320	599	125	68	41	54	10	2,086
	Returned	91	173	357	29	18	22	15	0	705
75–79	Screened	491	237	387	95	47	23	24	2	1,306
	Returned	46	38	68	23	7	10	4	0	196
80–84	Screened	201	109	164	47	22	14	6	1	564
	Returned	13	7	24	9	5	2	1	0	61
85+	Screened	53	20	50	8	10	2	4	1	148
	Returned	1	1	9	0	0	0	0	1	12
Ages 40+ years										
	Screened	**39,086**	**31,049**	**30,747**	**13,089**	**8,720**	**3,467**	**2,150**	**811**	**129,119**
	Returned	**16,939**	**15,611**	**19,686**	**7,399**	**4,585**	**2,441**	**1,322**	**394**	**68,377**
Ages 50–67 years										
	Screened	**20,568**	**20,562**	**11,887**	**7,233**	**5,058**	**1,391**	**1,697**	**450**	**68,846**
	Returned	**13,098**	**12,587**	**7,761**	**4,283**	**2,771**	**981**	**1,113**	**227**	**42,821**

Source: AIHW analysis of BreastScreen Australia data.

Table A38: Age-specific and age-standardised rescreen rates for women screened during 2004, first screening round, by age, state and territory

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
40–44	12.0	17.9	66.1	54.5	51.9	73.7	61.2	50.3	41.4
45–49	34.3	36.9	62.9	56.2	52.0	68.8	54.7	45.9	47.4
50–54	64.1	62.3	63.3	59.4	54.5	70.7	67.5	50.7	61.9
55–59	63.3	54.8	64.9	56.4	51.9	69.8	59.3	49.1	61.2
60–64	63.6	58.7	69.0	63.4	56.1	70.2	69.4	53.6	64.2
65–69	46.6	57.4	70.0	48.5	40.5	72.0	48.1	33.3	54.6
70–74	10.5	54.1	59.6	23.2	26.5	53.7	27.8	0.0	33.8
75–79	9.4	16.0	17.6	24.2	14.9	43.5	16.7	0.0	15.0
80–84	6.5	6.4	14.6	19.1	22.7	14.3	16.7	0.0	10.8
85+	1.9	5.0	18.0	0.0	0.0	0.0	0.0	100.0	8.1
Ages 40+ years									
Crude rate	43.3	50.3	64.0	56.5	52.6	70.4	61.5	48.6	53.0
AS rate	46.9	50.3	63.2	52.7	48.0	67.8	56.2	41.8	53.4
95% CI	46.1–47.7	49.0–51.7	62.0–64.5	50.9–54.5	45.6–50.5	63.8–71.8	52.8–59.8	36.2–47.9	52.8–53.9
Ages 50–67 years									
Crude rate	63.7	61.2	65.3	59.2	54.8	70.5	65.6	50.4	62.2
AS rate	63.5	58.9	66.3	59.4	58.6	70.7	65.2	49.3	62.7
95% CI	62.4–64.7	57.1–60.6	64.7–67.8	57.1–61.7	54.6–62.8	65.9–75.7	61.0–69.6	41.0–58.4	62.0–63.4

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.

Source: AIHW analysis of BreastScreen Australia data.

Table A39: Number of women screened during 2004 and number of those women who returned for screening within 27 months, second screening round, by age, state and territory

Age group (years)	Number	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	Screened	5,301	859	5,725	1,004	888	416	105	78	14,376
	Returned	903	349	4,386	676	567	330	74	48	7,333
45–49	Screened	7,037	2,649	6,190	2,230	1,588	624	318	120	20,756
	Returned	2,760	1,316	4,438	1,441	962	481	223	71	11,692
50–54	Screened	10,779	14,409	6,556	5,160	4,044	664	633	241	42,486
	Returned	8,122	9,973	4,828	3,443	2,575	501	467	149	30,058
55–59	Screened	6,731	3,769	3,757	1,909	1,183	360	465	95	18,269
	Returned	4,957	2,441	2,714	1,205	646	282	328	59	12,632
60–64	Screened	3,829	2,217	2,285	980	433	183	230	46	10,203
	Returned	2,805	1,536	1,713	630	258	134	176	27	7,279
65–69	Screened	2,803	1,664	1,710	663	285	117	122	24	7,388
	Returned	1,440	1,155	1,288	331	131	82	73	7	4,507
70–74	Screened	1,330	1,064	929	136	65	67	23	8	3,622
	Returned	181	644	592	36	19	38	4	2	1,516
75–79	Screened	751	277	295	106	79	30	18	2	1,558
	Returned	80	80	38	29	9	6	4	0	246
80–84	Screened	322	101	77	52	43	9	12	2	618
	Returned	26	22	19	30	7	0	2	0	106
85+	Screened	71	32	30	10	11	1	2	0	157
	Returned	6	3	9	1	3	0	0	0	22
Ages 40+ years										
	Screened	**38,954**	**27,041**	**27,554**	**12,250**	**8,619**	**2,471**	**1,928**	**616**	**119,433**
	Returned	**21,280**	**17,519**	**20,025**	**7,822**	**5,177**	**1,854**	**1,351**	**363**	**75,391**
Ages 50–67 years										
	Screened	**23,141**	**21,499**	**13,724**	**8,482**	**5,823**	**1,279**	**1,402**	**397**	**75,747**
	Returned	**17,169**	**14,719**	**10,098**	**5,556**	**3,593**	**971**	**1,031**	**242**	**53,379**

Source: AIHW analysis of BreastScreen Australia data.

Table A40: Age-specific and age-standardised rescreen rates for women screened during 2004, second screening round, by age, state and territory

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
40–44	17.0	40.6	76.6	67.3	63.9	79.3	70.5	61.5	51.0
45–49	39.2	49.7	71.7	64.6	60.6	77.1	70.1	59.2	56.3
50–54	75.4	69.2	73.6	66.7	63.7	75.5	73.8	61.8	70.7
55–59	73.6	64.8	72.2	63.1	54.6	78.3	70.5	62.1	69.1
60–64	73.3	69.3	75.0	64.3	59.6	73.2	76.5	58.7	71.3
65–69	51.4	69.4	75.3	49.9	46.0	70.1	59.8	29.2	61.0
70–74	13.6	60.5	63.7	26.5	29.2	56.7	17.4	25.0	41.9
75–79	10.7	28.9	12.9	27.4	11.4	20.0	22.2	0.0	15.8
80–84	8.1	21.8	24.7	57.7	16.3	0.0	16.7	0.0	17.2
85+	8.5	9.4	30.0	10.0	27.3	0.0	0.0	. .	14.0
Ages 40+ years									
Crude rate	54.6	64.8	72.7	63.9	60.1	75.0	70.1	58.9	63.1
AS rate	54.5	61.2	70.6	58.6	53.9	71.4	64.2	. .	61.2
95% CI	53.8–55.3	60.1–62.4	69.5–71.8	57.0–60.2	51.7–56.1	67.5–75.4	60.3–68.2	. .	60.7–61.7
Ages 50–67 years									
Crude rate	74.2	68.5	73.6	65.5	61.7	75.9	73.5	61.0	70.5
AS rate	73.9	68.0	73.7	64.8	61.0	75.7	74.5	59.2	70.5
95% CI	72.7–75.0	66.7–69.4	72.2–75.2	62.8–66.8	58.2–63.8	70.5–81.1	69.6–79.6	50.6–68.7	69.8–71.2

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.

Source: AIHW analysis of BreastScreen Australia data.

Table A41: Number of women screened during 2004 and number of those women who returned for screening within 27 months, third and subsequent screening rounds, by age, state and territory

Age group (years)	Number	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
40–44	Screened	1,878	102	2,155	406	312	144	61	32	5,090
	Returned	503	66	1,845	342	224	120	51	26	3,177
45–49	Screened	15,912	1,888	14,917	3,394	2,823	1,363	816	257	41,370
	Returned	8,277	1,224	12,347	2,658	2,106	1,136	636	186	28,570
50–54	Screened	30,498	17,991	23,665	8,804	8,819	3,051	2,134	526	95,488
	Returned	24,898	13,422	19,816	6,869	6,532	2,534	1,727	404	76,202
55–59	Screened	39,965	36,091	29,886	14,424	14,301	4,131	3,158	732	142,688
	Returned	33,098	27,394	25,492	11,267	10,849	3,522	2,612	558	114,792
60–64	Screened	34,280	30,668	23,101	11,856	11,304	3,235	2,398	436	117,278
	Returned	28,573	24,334	19,984	9,523	8,862	2,722	2,014	326	96,338
65–69	Screened	29,142	25,530	18,516	9,667	9,740	2,738	1,799	225	97,357
	Returned	17,683	20,177	15,927	6,298	6,058	2,307	1,153	126	69,729
70–74	Screened	19,471	20,387	14,281	2,734	3,166	1,973	416	103	62,531
	Returned	2,991	13,024	10,164	1,395	1,638	1,294	176	8	30,690
75–79	Screened	13,485	5,413	4,252	1,067	1,603	295	146	43	26,304
	Returned	1,426	918	1,215	499	721	134	64	9	4,986
80–84	Screened	4,899	582	830	286	366	77	36	23	7,099
	Returned	374	159	412	129	142	36	11	1	1,264
85+	Screened	973	87	192	43	46	8	4	3	1,356
	Returned	59	28	92	20	15	2	2	0	218
Ages 40+ years										
	Screened	**190,503**	**138,739**	**131,795**	**52,681**	**52,480**	**17,015**	**10,968**	**2,380**	**596,561**
	Returned	**117,882**	**100,746**	**107,294**	**39,000**	**37,147**	**13,807**	**8,446**	**1,644**	**425,966**
Ages 50–67 years										
	Screened	**123,100**	**100,840**	**88,399**	**41,150**	**40,382**	**12,179**	**8,816**	**1,847**	**416,713**
	Returned	**101,713**	**78,027**	**75,472**	**32,627**	**31,086**	**10,282**	**7,295**	**1,401**	**337,903**

Source: AIHW analysis of BreastScreen Australia data.

Table A42: Age-specific and age-standardised rescreen rates for women screened during 2004, third and subsequent screening rounds, by age, state and territory

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					(per cent)				
40–44	26.8	64.7	85.6	84.2	71.8	83.3	83.6	81.3	62.4
45–49	52.0	64.8	82.8	78.3	74.6	83.3	77.9	72.4	69.1
50–54	81.6	74.6	83.7	78.0	74.1	83.1	80.9	76.8	79.8
55–59	82.8	75.9	85.3	78.1	75.9	85.3	82.7	76.2	80.4
60–64	83.4	79.3	86.5	80.3	78.4	84.1	84.0	74.8	82.1
65–69	60.7	79.0	86.0	65.1	62.2	84.3	64.1	56.0	71.6
70–74	15.4	63.9	71.2	51.0	51.7	65.6	42.3	7.8	49.1
75–79	10.6	17.0	28.6	46.8	45.0	45.4	43.8	20.9	19.0
80–84	7.6	27.3	49.6	45.1	38.8	46.8	30.6	4.3	17.8
85+	6.1	32.2	47.9	46.5	32.6	25.0	50.0	0.0	16.1
Ages 40+ years									
Crude rate	61.9	72.6	81.4	74.0	70.8	81.1	77.0	69.1	71.4
AS rate	62.7	70.9	81.6	73.7	70.2	80.8	74.5	65.3	71.4
95% CI	62.3–63.1	69.5–72.3	81.1–82.2	72.7–74.7	69.2–71.3	79.0–82.6	72.1–76.9	61.4–69.3	71.1–71.6
Ages 50–67 years									
Crude rate	82.6	77.4	85.4	79.3	77.0	84.4	82.7	75.9	81.1
AS rate	82.5	76.8	85.2	79.1	76.5	84.2	82.5	75.8	80.9
95% CI	82.0–83.0	76.2–77.4	84.6–85.8	78.2–80.0	75.6–77.4	82.6–85.9	80.6–84.5	71.7–80.0	80.6–81.2

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.

Source: AIHW analysis of BreastScreen Australia data.

Indicator 7a Incidence of breast cancer

Table A43: Number of new cases of breast cancer in women, by age, 1991–2005

Age group (years)	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
0–4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15–19	0	0	0	0	1	0	2	3	0	2	0	1	1	0	0
20–24	10	6	14	7	8	6	13	15	12	5	8	7	7	10	13
25–29	51	47	55	58	57	44	51	51	49	56	44	55	45	55	49
30–34	180	182	171	196	200	196	178	196	187	189	172	204	186	208	185
35–39	400	383	412	401	397	421	444	421	441	442	453	431	479	426	472
40–44	721	719	782	778	755	766	760	850	818	846	921	903	915	896	956
45–49	859	1,012	1,025	1,136	1,230	1,188	1,164	1,163	1,151	1,268	1,221	1,321	1,314	1,344	1,430
50–54	852	860	977	1,110	1,249	1,183	1,325	1,465	1,505	1,557	1,656	1,632	1,510	1,621	1,585
55–59	800	814	935	1,032	1,142	1,127	1,174	1,259	1,281	1,427	1,527	1,645	1,676	1,721	1,644
60–64	892	790	965	1,108	1,061	1,018	1,085	1,145	1,242	1,331	1,445	1,410	1,402	1,441	1,473
65–69	955	935	993	1,214	1,093	1,059	1,079	1,133	1,092	1,118	1,162	1,280	1,205	1,254	1,310
70–74	796	780	906	1,015	1,024	987	1,030	1,059	992	1,100	1,103	1,042	934	1,019	905
75–79	669	646	692	776	829	740	862	876	835	902	902	926	907	878	874
80–84	487	490	466	533	578	575	578	595	554	579	619	615	702	674	668
85+	370	366	390	374	418	432	446	493	494	520	568	585	558	609	605
All ages															
	8,042	**8,030**	**8,783**	**9,738**	**10,043**	**9,742**	**10,191**	**10,724**	**10,653**	**11,342**	**11,801**	**12,057**	**11,841**	**12,156**	**12,170**
Ages 50–69 years															
	3,499	**3,399**	**3,870**	**4,464**	**4,545**	**4,387**	**4,663**	**5,002**	**5,120**	**5,433**	**5,790**	**5,967**	**5,793**	**6,037**	**6,012**

Source: AIHW Australian Cancer Database.

Table A44: Age-specific and age-standardised incidence rates for breast cancer in women, by age, 1991–2005

Age group (years)	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
15–19	0.0	0.0	0.0	0.0	0.2	0.0	0.3	0.5	0.0	0.3	0.0	0.1	0.1	0.0	0.0
20–24	1.5	0.9	2.0	1.0	1.1	0.9	1.9	2.3	1.9	0.8	1.2	1.1	1.0	1.5	1.8
25–29	7.3	6.8	8.1	8.5	8.3	6.2	7.0	7.0	6.7	7.7	6.2	8.0	6.6	8.1	7.2
30–34	25.3	25.1	23.4	26.7	27.4	27.1	24.9	27.6	26.3	26.3	23.3	26.9	24.2	27.1	24.2
35–39	60.2	56.5	59.9	57.5	55.7	57.7	59.8	56.0	58.2	58.4	60.3	58.0	65.0	57.8	63.3
40–44	112.8	112.0	120.8	118.4	113.1	112.8	109.9	121.0	114.5	116.1	123.7	118.7	118.6	115.2	123.1
45–49	170.9	187.9	178.9	190.6	199.5	185.7	181.1	177.9	173.0	188.1	178.6	190.2	185.5	185.7	193.6
50–54	206.2	202.7	225.1	245.0	262.4	237.8	246.6	255.8	251.7	249.9	255.5	251.7	230.4	244.2	235.5
55–59	223.1	222.2	248.8	267.6	288.7	276.5	278.7	290.4	283.0	301.4	307.9	306.9	293.6	289.5	266.5
60–64	241.0	216.3	268.4	310.4	297.4	285.4	298.4	307.4	323.2	335.4	354.1	336.2	325.5	321.0	313.1
65–69	271.9	264.9	279.4	342.5	308.6	298.5	306.3	324.6	315.5	324.0	334.9	360.9	331.1	334.5	339.6
70–74	282.0	266.6	298.5	319.9	317.1	301.8	313.4	319.9	297.6	329.7	329.4	313.7	284.2	312.7	278.3
75–79	296.7	282.0	300.8	340.7	355.2	303.5	336.1	325.9	297.3	313.5	308.9	314.7	305.2	293.5	291.8
80–84	334.9	323.5	294.4	318.8	335.2	325.6	321.4	326.8	302.6	304.7	306.7	291.5	318.4	293.7	283.2
85+	336.3	316.5	320.1	293.3	311.2	305.1	298.6	314.5	297.4	296.9	309.9	308.9	287.8	307.2	291.3
All ages															
Crude rate	92.8	91.5	99.0	108.6	110.6	105.9	109.4	113.9	111.8	117.6	120.6	121.8	118.2	119.9	118.5
AS rate (A)	100.4	98.2	105.3	114.0	115.5	109.2	111.4	114.5	111.2	115.6	117.3	117.2	112.4	113.0	110.9
95% CI	98.2–102.6	96.1–100.4	103.0–107.5	111.8–116.4	113.3–117.8	107.1–111.4	109.3–113.6	112.3–116.7	109.1–113.3	113.5–117.7	115.2–119.4	115.1–119.3	110.3–114.4	111.0–115.1	108.9–112.9
Ages 50–69 years															
Crude rate	234.3	225.3	253.8	288.0	287.2	271.4	278.5	289.5	287.5	295.5	304.9	304.6	286.6	290.0	280.1
AS rate (A)	229.9	221.9	250.4	282.5	285.2	269.2	277.0	288.4	286.8	295.2	304.8	304.0	285.6	288.9	279.1
95% CI	222.2–237.8	214.4–229.6	242.5–258.6	274.2–291.0	276.9–293.7	261.2–277.3	269.0–285.0	280.5–296.5	279.0–294.8	287.4–303.1	297.0–312.8	296.4–311.8	278.3–293.1	281.6–296.3	272.0–286.2

Note: Rates are the number of cases of invasive cancers per 100,000 women and age-standardised to the Australian population at 30 June 2001.

Source: AIHW Australian Cancer Database.

Table A45: Number of new cases of breast cancer in women, by age, state and territory, 2001–2005

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0
10–14	0	0	1	0	0	0	0	0	1
15–19	1	0	0	1	0	0	0	0	2
20–24	18	12	4	2	8	1	0	0	45
25–29	81	76	40	21	23	4	2	1	248
30–34	309	249	182	93	69	21	24	8	955
35–39	761	584	435	208	169	50	29	25	2,261
40–44	1,588	1,102	880	434	338	121	91	37	4,591
45–49	2,156	1,647	1,331	696	450	171	127	52	6,630
50–54	2,561	1,968	1,475	880	698	191	171	60	8,004
55–59	2,751	1,956	1,594	787	698	217	167	43	8,213
60–64	2,456	1,659	1,425	678	619	193	102	39	7,171
65–69	2,111	1,508	1,154	585	573	174	92	14	6,211
70–74	1,771	1,300	922	403	390	143	65	9	5,003
75–79	1,625	1,137	752	357	413	126	68	9	4,487
80–84	1,164	848	545	299	302	84	32	4	3,278
85+	1,010	799	462	252	293	75	31	3	2,925
All ages	**20,363**	**14,845**	**11,202**	**5,696**	**5,043**	**1,571**	**1,001**	**304**	**60,025**
Ages 50–69 years	**9,879**	**7,091**	**5,648**	**2,930**	**2,588**	**775**	**532**	**156**	**29,599**

Source: AIHW Australian Cancer Database.

Table A46: Age-Specific and age-standardised incidence rates for breast cancer in women, by age, state and territory, 2001–2005

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.1
20–24	1.6	1.4	0.6	0.6	3.3	1.4	0.0	0.0	1.3
25–29	6.9	8.8	6.1	6.4	9.7	5.7	3.1	2.3	7.2
30–34	24.2	25.6	25.3	25.5	25.9	25.8	36.4	17.6	25.2
35–39	61.7	62.0	61.5	56.5	61.3	59.2	46.2	61.3	60.9
40–44	124.2	116.5	119.8	113.5	114.9	129.7	141.3	96.7	119.8
45–49	183.5	188.5	196.9	193.0	161.2	193.8	205.4	152.6	186.8
50–54	236.6	243.0	234.0	267.7	262.3	229.6	292.4	205.6	243.4
55–59	293.7	282.1	292.4	294.7	300.1	295.8	363.8	214.6	291.8
60–64	333.4	306.6	344.5	331.9	344.0	330.4	332.0	313.0	329.3
65–69	335.2	324.1	350.7	349.2	368.5	357.1	398.6	194.8	340.1
70–74	306.8	306.2	320.5	279.9	267.0	327.8	345.3	186.4	303.8
75–79	311.3	294.9	297.2	289.5	297.0	323.7	401.9	274.5	302.7
80–84	299.7	299.3	289.9	331.7	288.3	282.3	263.8	187.1	298.4
85+	296.0	315.7	281.8	302.5	313.5	286.2	317.2	192.7	300.8
All ages									
Crude rate	121.2	119.0	117.2	116.9	130.2	129.6	121.7	63.2	119.8
AS rate (A)	114.1	112.2	115.1	115.3	114.2	115.9	129.2	88.6	114.0
95% CI	112.5–115.7	110.4–114.0	113.0–117.3	112.3–118.3	111.1–117.5	110.2–121.8	121.2–137.5	77.5–100.6	113.1–115.0
Ages 50–69 years									
Crude rate	291.8	282.6	294.4	302.8	310.2	293.9	336.3	226.6	292.9
AS rate (A)	290.2	281.6	294.1	303.3	308.9	291.6	338.8	229.2	292.0
95% CI	284.5–296.0	275.0–288.2	286.5–301.9	292.4–314.5	297.1–321.0	271.4–312.9	310.4–369.1	193.5–269.5	288.7–295.4

Note: Rates are the number of cases of invasive cancers per 100,000 women and age-standardised to the Australian population at 30 June 2001.

Source: AIHW Australian Cancer Database.

Table A47: Number of new cases of breast cancer in women, by age and geographic region, 2001–2005

Age group (years)	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0	0	0	0	0	0
5–9	0	0	0	0	0	0
10–14	1	0	0	0	0	1
15–19	1	0	1	0	0	2
20–24	34	6	4	1	0	45
25–29	180	44	13	3	8	248
30–34	674	167	92	16	6	955
35–39	1,591	418	205	35	12	2,261
40–44	3,124	919	444	72	31	4,591
45–49	4,509	1,328	654	97	43	6,630
50–54	5,389	1,715	742	115	44	8,004
55–59	5,463	1,831	782	100	36	8,213
60–64	4,579	1,731	737	94	30	7,171
65–69	3,961	1,508	678	47	17	6,211
70–74	3,245	1,237	460	47	14	5,003
75–79	2,990	1,066	395	25	11	4,487
80–84	2,234	742	265	33	3	3,278
85+	1,991	621	284	20	8	2,925
All ages	**39,967**	**13,334**	**5,755**	**704**	**264**	**60,025**
Ages 50–69 years	**19,392**	**6,785**	**2,939**	**355**	**128**	**29,599**

Note: Because some postcodes cross regional boundaries, totals may not add up due to rounding.

Source: AIHW Australian Cancer Database.

Table A48: Age-specific and age-standardised incidence rates for breast cancer in women, by age and geographic region, 2001–2005

Age group (years)	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.0	0.0	0.3	0.0	0.0	0.1
20–24	1.4	1.2	1.5	2.3	0.0	1.4
25–29	7.3	7.8	4.4	5.2	20.9	7.3
30–34	25.5	24.3	26.1	24.9	16.5	25.2
35–39	63.5	56.6	56.0	56.9	36.3	61.0
40–44	123.5	113.3	113.8	119.2	102.8	120.1
45–49	192.3	175.5	182.4	179.9	168.6	187.3
50–54	246.3	243.9	222.6	240.5	196.1	243.0
55–59	297.1	291.3	264.5	253.7	213.9	291.3
60–64	331.0	338.9	307.8	317.1	249.2	329.6
65–69	338.5	344.9	343.6	206.8	202.8	338.3
70–74	303.2	318.4	272.5	262.0	211.4	302.8
75–79	302.9	313.6	274.9	181.0	240.9	301.3
80–84	301.8	301.5	257.1	335.6	93.2	297.2
85+	300.1	287.1	306.2	224.8	295.1	297.1
All ages						
Crude rate	119.9	127.3	115.0	92.3	63.2	120.1
AS rate (A)	115.5	113.6	106.8	100.7	86.1	113.9
95% CI	114.3–116.6	111.7–115.6	104.1–109.6	93.3–108.5	75.6–97.5	113.0–114.8
Ages 50–69 years						
Crude rate	294.7	297.7	275.8	255.0	212.8	292.3
AS rate (A)	294.5	295.0	273.7	254.4	213.4	291.5
95% CI	290.4–298.7	288.0–302.1	263.9–283.8	228.6–282.4	177.1–253.2	288.2–294.8

Note: Rates are the number of cases of invasive cancers per 100,000 women and age-standardised to the Australian population at 30 June 2001.

Source: AIHW Australian Cancer Database.

Indicator 7b Incidence of ductal carcinoma in situ

Table A49: Number of new cases of ductal carcinoma in situ, by age, state and territory, 2001–2005

Age group (years)	NSW	VIC	Qld	WA	SA	Tas	ACT	NT	Australia
0–19	0	0	0	1	0	0	0	0	1
20–29	2	11	3	4	1	0	0	0	21
30–39	83	61	51	22	18	3	5	0	243
40–49	444	313	273	160	70	22	27	5	1314
50–59	725	646	478	328	189	62	52	11	2491
60–69	616	480	399	268	126	45	36	5	1975
70+	462	315	240	131	83	30	11	0	1272
All ages	**2,332**	**1,826**	**1,444**	**914**	**487**	**162**	**131**	**21**	**7,317**
Ages 50–69 years	**1,341**	**1,126**	**877**	**596**	**315**	**107**	**88**	**16**	**4,466**

Source: AIHW analysis of state and territory cancer registry data.

Table A50: Age-specific and age-standardised rates of ductal carcinoma in situ, by age, state and territory, 2001–2005

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–19	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
20–29	0.1	0.6	0.2	0.6	0.2	0.0	0.0	0.0	0.3
30–39	3.3	3.2	3.6	3.0	3.3	1.8	3.9	0.0	3.2
40–49	18.1	17.2	19.4	21.5	12.2	12.1	21.4	6.9	17.8
50–59	35.9	43.0	40.7	55.1	37.9	39.6	49.8	22.4	40.8
60–69	45.1	47.7	53.7	72.1	37.6	42.0	66.9	25.5	49.3
70+	25.3	23.4	26.9	29.7	17.2	21.7	19.1	0.0	24.5
All ages									
Crude rate	13.9	14.6	15.1	18.8	12.6	13.4	15.9	4.4	14.6
AS rate (A)	13.2	14.0	14.8	18.5	11.3	12.0	16.6	5.6	14.0
95% CI	12.7–13.8	13.4–14.7	14.1–15.6	17.3–19.8	10.3–12.3	10.2–14.0	13.8–19.7	3.4–8.7	13.7–14.4
Ages 50–69 years									
Crude rate	39.6	44.9	45.7	61.6	37.8	40.6	55.6	23.2	44.2
AS rate (A)	39.5	44.8	45.8	61.8	37.8	40.5	56.6	23.6	44.2
95% CI	37.4–41.7	42.3–47.5	42.8–49.0	56.9–66.9	33.7–42.2	33.2–49.0	45.3–69.8	13.2–38.7	42.9–45.5

Note: Rates are the number of cases of DCIS per 100,000 women and age-standardised to the Australian population at 30 June 2001.

Source: AIHW analysis of state and territory cancer registry data.

Table A51: Number of new cases of ductal carcinoma in situ, by age, 1995–2005

Age group (years)	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
0–19	0	0	1	0	0	0	0	0	1	0	0
20–29	5	2	10	6	4	2	5	4	4	5	3
30–39	45	38	45	42	39	52	42	56	38	46	61
40–49	162	199	225	230	230	238	259	251	254	283	267
50–59	263	267	318	352	399	451	491	481	481	522	516
60–69	195	220	248	293	287	305	387	361	379	415	433
70+	176	161	159	216	188	240	246	224	268	263	271
All ages	**846**	**887**	**1,006**	**1,139**	**1,147**	**1,288**	**1,430**	**1,377**	**1,425**	**1,534**	**1,551**
Ages 50–69 years	**458**	**487**	**566**	**645**	**686**	**756**	**878**	**842**	**860**	**937**	**949**

Source: AIHW analysis of state and territory cancer registry data.

Table A52: Age-specific and age-standardised rates of ductal carcinoma in situ, by age, 1995–2005

Age group (years)	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
0–19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20–29	0.4	0.1	0.7	0.4	0.3	0.1	0.4	0.3	0.3	0.4	0.2
30–39	3.1	2.6	3.1	2.9	2.7	3.5	2.8	3.7	2.5	3.0	4.0
40–49	12.6	15.1	16.9	17.0	16.7	17.0	18.1	17.2	17.1	18.8	17.6
50–59	30.2	29.5	33.2	35.0	38.0	41.1	42.9	40.6	39.2	41.5	40.0
60–69	27.4	30.9	34.6	40.6	39.3	41.1	51.3	46.7	47.7	50.4	50.6
70+	20.4	18.1	17.4	23.0	19.5	24.3	24.3	21.8	25.8	25.0	25.4
All ages											
Crude rate	21.3	22.1	24.2	27.1	26.8	29.2	31.9	29.7	30.4	32.0	31.4
AS rate (A)	21.7	22.5	24.6	27.4	27.2	29.5	32.2	29.9	30.5	32.0	31.3
95% CI	21.1–22.4	21.9–23.2	24.0–25.3	26.7–28.1	26.5–27.9	28.8–30.2	31.4–32.9	29.2–30.6	29.8–31.2	31.3–32.7	30.6–32.0
Ages 50–69 years											
Crude rate	28.9	30.1	33.8	37.3	38.5	41.1	46.2	43.0	42.6	45.0	44.2
AS rate (A)	29.1	30.1	33.8	37.2	38.5	41.1	46.2	43.0	42.6	45.0	44.2
95% CI	26.5–31.9	27.4–32.9	31.0–36.7	34.4–40.2	35.7–41.5	38.2–44.2	43.2–49.4	40.1–46.0	39.8–45.5	42.2–48.0	41.4–47.1

Note: Rates are the number of cases of DCIS per 100,000 women and age-standardised to the Australian population at 30 June 2001.

Source: AIHW analysis of state and territory cancer registry data.

Indicator 8 Mortality

Table A53: Number of deaths from breast cancer in women, by age, 1991–2006

Age group (years)	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
0–4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5–9	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15–19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
20–24	2	1	0	1	1	0	1	2	2	1	1	0	0	0	0	2
25–29	12	3	2	2	5	9	7	9	4	5	2	5	3	6	3	3
30–34	25	38	33	20	25	29	38	26	20	27	19	23	27	23	25	13
35–39	80	74	75	90	54	89	85	67	63	60	66	68	64	53	49	53
40–44	155	132	115	143	117	143	133	126	138	126	127	110	116	113	130	107
45–49	172	205	196	208	210	188	215	199	209	188	186	169	186	191	194	153
50–54	233	214	222	240	221	233	266	260	253	255	261	294	247	227	268	237
55–59	228	212	254	249	249	237	239	227	263	246	258	290	309	304	298	302
60–64	265	230	275	257	277	256	236	255	266	237	229	270	285	266	296	286
65–69	302	274	310	292	314	288	289	244	215	215	246	254	258	291	252	236
70–74	302	285	269	307	292	294	288	274	285	294	309	241	253	259	232	249
75–79	256	254	288	286	280	275	293	295	276	280	286	307	316	279	283	263
80–84	214	213	257	250	256	252	240	243	227	240	276	282	267	292	301	319
85+	229	245	262	271	282	273	274	314	291	347	328	368	379	360	375	395
All ages																
	2,475	**2,380**	**2,559**	**2,616**	**2,582**	**2,568**	**2,604**	**2,541**	**2,512**	**2,521**	**2,594**	**2,681**	**2,710**	**2,664**	**2,707**	**2,618**
Ages 50–69 years																
	1,028	**930**	**1,061**	**1,038**	**1,061**	**1,014**	**1,030**	**986**	**997**	**953**	**994**	**1,108**	**1,099**	**1,088**	**1,114**	**1,061**

Note: See Appendix C Mortality data section for explanation on changes to the coding and processing of mortality data.

Source: AIHW National Mortality Database.

Table A54: Age-specific and age-standardised mortality rates for breast cancer in women, by age, 1991–2006

Age group (years)	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
20–24	0.3	0.1	0.0	0.1	0.1	0.0	0.1	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.3
25–29	1.7	0.4	0.3	0.3	0.7	1.2	1.0	1.2	0.5	0.7	0.3	0.7	0.4	0.9	0.4	0.4
30–34	3.6	5.3	4.6	2.7	3.4	4.1	5.3	3.7	2.8	3.8	2.6	3.0	3.5	3.0	3.3	1.7
35–39	12.1	11.0	11.0	12.9	7.6	12.2	11.4	8.9	8.3	7.9	8.8	9.2	8.7	7.2	6.6	6.9
40–44	24.2	20.6	17.7	21.8	17.5	21.1	19.2	17.9	19.3	17.3	17.1	14.5	15.0	14.5	16.7	13.9
45–49	34.3	38.0	34.2	34.9	34.0	29.4	33.5	30.4	31.4	27.9	27.2	24.3	26.3	26.4	26.3	20.3
50–54	56.5	50.4	51.3	53.0	46.5	46.9	49.5	45.4	42.3	40.9	40.3	45.3	37.7	34.2	39.8	34.6
55–59	63.7	57.8	67.6	64.5	62.9	58.2	56.7	52.4	58.1	52.0	52.0	54.1	54.1	51.1	48.3	47.5
60–64	71.5	63.0	76.6	71.9	77.7	71.7	64.9	68.5	69.2	59.7	56.1	64.4	66.2	59.3	62.9	58.0
65–69	85.9	77.7	87.1	82.4	88.5	81.2	82.0	69.9	62.1	62.3	70.9	71.6	70.9	77.6	65.3	59.7
70–74	106.9	97.5	88.5	96.7	90.4	89.9	87.6	82.8	85.5	88.1	92.3	72.5	77.0	79.5	71.3	76.1
75–79	113.4	110.8	125.3	125.6	120.1	113.0	114.2	109.7	98.3	97.3	97.9	104.3	106.3	93.3	94.5	87.7
80–84	146.9	140.4	162.2	149.5	148.3	142.6	133.4	133.5	124.0	126.3	136.8	133.7	121.1	127.2	127.6	133.2
85+	208.4	211.9	214.7	212.9	210.1	193.1	183.5	200.3	175.2	198.1	178.9	194.3	195.4	181.6	180.6	181.4
All ages																
Crude rate	28.6	27.1	28.9	29.2	28.4	27.9	28.0	27.0	26.4	26.1	26.5	27.1	27.0	26.3	26.4	25.1
AS rate (A)	30.6	28.7	30.2	30.2	29.0	28.1	27.8	26.4	25.5	24.7	24.8	25.0	24.7	23.7	23.6	22.1
95% CI	29.4–31.9	27.6–29.9	29.0–31.4	29.0–31.3	27.9–30.1	27.0–29.2	26.7–28.9	25.3–27.4	24.5–26.5	23.8–25.7	23.8–25.8	24.0–26.0	23.8–25.6	22.8–24.7	22.7–24.5	21.3–23.0
Ages 50–69 years																
Crude rate	68.8	61.6	69.6	67.0	67.1	62.8	61.5	57.1	56.0	51.8	52.3	56.6	54.4	52.3	51.9	48.0
AS rate (A)	66.9	60.0	67.4	65.4	65.1	61.4	60.6	56.6	55.8	51.7	52.3	56.5	54.1	51.8	51.6	47.5
95% CI	62.8–71.2	56.1–64.0	63.4–71.7	61.4–69.5	61.2–69.2	57.6–65.3	56.9–64.4	53.1–60.3	52.4–59.4	48.5–55.1	49.1–55.6	53.2–59.9	51.0–57.4	48.8–55.0	48.6–54.7	44.7–50.5

Note: Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

Source: AIHW National Mortality Database.

Table A55: Number of deaths from breast cancer in women, by age, state and territory, 2002–2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0	0	0	0	0	0	0	0	0
5–9	0	0	0	0	0	0	0	0	0
10–14	0	0	0	0	0	0	0	0	0
15–19	1	0	0	0	0	0	0	0	1
20–24	0	1	1	0	0	0	0	0	2
25–29	6	8	2	2	1	0	0	1	20
30–34	34	35	18	14	3	2	1	4	111
35–39	101	70	40	24	36	10	4	2	287
40–44	187	147	113	54	44	15	14	2	576
45–49	298	230	165	87	68	28	12	5	893
50–54	415	337	229	101	123	40	20	8	1,273
55–59	518	372	260	140	147	36	19	11	1,503
60–64	488	337	267	137	107	38	22	7	1,403
65–69	430	329	245	116	122	30	12	7	1,291
70–74	439	328	199	109	109	30	18	2	1,234
75–79	523	409	225	102	133	38	13	5	1,448
80–84	483	390	241	126	156	42	21	2	1,461
85+	646	520	293	147	204	49	18	0	1,877
All ages	**4,569**	**3,513**	**2,298**	**1,159**	**1,253**	**358**	**174**	**56**	**13,380**
Ages 50–69 years	**1,851**	**1,375**	**1,001**	**494**	**499**	**144**	**73**	**33**	**5,470**

Note: State refers to the state of usual residence.

Source: AIHW National Mortality Database.

Table A56: Age-specific and age-standardised mortality rates for breast cancer in women, by age, state and territory, 2002–2006

Age group (years)	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20–24	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1
25–29	0.5	0.9	0.3	0.6	0.4	0.0	0.0	2.3	0.6
30–34	2.7	3.6	2.5	3.8	1.1	2.5	1.5	8.8	2.9
35–39	8.2	7.4	5.6	6.5	13.1	11.9	6.4	4.9	7.7
40–44	14.6	15.4	15.1	14.0	15.0	16.2	21.8	5.2	14.9
45–49	24.9	25.8	23.7	23.7	24.0	31.1	19.3	14.3	24.7
50–54	38.1	41.2	35.6	30.2	46.0	47.5	34.3	26.6	38.3
55–59	53.1	51.1	45.0	49.4	60.4	46.6	39.2	51.0	50.9
60–64	64.2	60.2	61.0	64.5	57.4	62.7	68.1	51.9	62.0
65–69	67.0	69.2	71.3	66.9	76.8	59.8	50.0	90.2	68.9
70–74	76.9	77.7	68.8	75.0	75.7	68.8	94.3	39.9	75.3
75–79	100.1	105.6	87.6	81.3	95.9	97.7	76.9	144.0	97.2
80–84	120.8	132.7	123.6	134.6	143.9	137.1	164.0	91.0	128.6
85+	183.3	199.1	170.7	171.0	211.2	180.6	175.5	0.0	186.4
All ages									
Crude rate	27.0	27.8	23.5	23.5	32.1	29.3	21.0	11.5	26.4
AS rate (A)	23.9	24.7	22.3	22.5	25.7	24.6	22.9	19.1	23.8
95% CI	23.2–24.6	23.8–25.5	21.4–23.2	21.2–23.8	24.3–27.2	22.0–27.3	19.6–26.7	13.7–25.7	23.4–24.2
Ages 50–69 years									
Crude rate	53.4	53.3	50.0	49.2	58.3	52.9	44.8	45.2	52.5
AS rate (A)	52.9	53.0	50.0	49.2	57.8	52.7	45.7	49.9	52.2
95% CI	50.5–55.3	50.2–55.8	46.9–53.2	45.0–53.8	52.8–63.1	44.5–62.1	35.8–57.5	33.7–70.9	50.8–53.6

Notes

1. Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.
2. State refers to the state of usual residence.

Source: AIHW National Mortality Database.

Table A57: Number of deaths from breast cancer in women, by age and geographic region, 2002–2006

Age group (years)	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0	0	0	0	0	0
5–9	0	0	0	0	0	0
10–14	0	0	0	0	0	0
15–19	1	0	0	0	0	1
20–24	1	1	0	0	0	2
25–29	13	6	0	1	0	20
30–34	72	22	11	1	4	111
35–39	182	64	37	2	2	287
40–44	395	119	51	8	3	576
45–49	555	227	96	9	6	893
50–54	830	287	140	12	4	1,273
55–59	1,000	328	150	20	5	1,503
60–64	916	314	151	17	4	1,403
65–69	825	301	139	15	12	1,291
70–74	782	288	144	14	5	1,234
75–79	929	378	126	12	2	1,448
80–84	984	331	134	9	3	1,461
85+	1,248	409	197	16	6	1,877
All ages	**8,735**	**3,076**	**1,375**	**137**	**56**	**13,380**
Ages 50–69 years	**3,572**	**1,230**	**580**	**64**	**25**	**5,470**

Notes

1. The Australian Standard Geographical Classification was used to create the above categories (ABS 2001).
2. Because some postcodes cross regional boundaries, totals may not add up due to rounding.

Source: AIHW National Mortality Database.

Table A58: Age-specific and age-standardised mortality rates for breast cancer in women, by age and geographic region, 2002–2006

Age group (years)	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
0–4	0.0	0.0	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0	0.0	0.0
15–19	0.0	0.0	0.0	0.0	0.0	0.0
20–24	0.0	0.2	0.0	0.0	0.0	0.1
25–29	0.5	1.0	0.0	1.8	0.0	0.6
30–34	2.7	3.3	3.3	2.4	10.2	2.9
35–39	7.2	8.8	10.3	2.6	6.2	7.7
40–44	15.4	14.8	13.1	13.5	9.7	14.9
45–49	23.1	29.7	26.4	15.9	22.9	24.7
50–54	37.4	40.5	41.9	25.6	17.5	38.3
55–59	51.5	50.2	49.1	50.0	29.2	50.9
60–64	63.4	59.6	61.9	56.1	35.4	62.0
65–69	68.5	67.4	69.0	63.3	133.9	68.9
70–74	73.3	74.8	86.4	78.9	80.0	75.3
75–79	93.5	111.1	88.0	87.0	46.7	97.2
80–84	127.8	131.0	128.0	94.6	80.3	128.6
85+	181.0	183.6	208.6	179.6	233.8	186.4
All ages						
Crude rate	25.7	29.3	27.6	18.0	13.5	26.4
AS rate (A)	23.4	24.6	24.5	20.6	20.9	23.8
95% CI	22.9–23.9	23.7–25.5	23.2–25.9	17.2–24.3	15.6–27.3	23.4–24.2
Ages 50–69 years						
Crude rate	52.5	52.7	53.5	45.2	41.0	52.5
AS rate (A)	52.3	52.0	53.0	45.4	45.3	52.2
95% CI	50.6–54.1	49.1–55.0	48.7–57.5	34.8–57.8	29.0–66.7	50.8–53.6

Notes

1. Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.
2. The Australian Standard Geographical Classification was used to create the above categories (ABS 2001).

Source: AIHW National Mortality Database.

Table A59: Number of deaths from breast cancer by Aboriginal and Torres Strait Islander status, Queensland, Western Australia, South Australia and the Northern Territory, by age, 2002–2006

	Qld, WA, SA and NT[a]		
Age group (years)	Aboriginal and Torres Strait islander	Non-Indigenous	Australia[b]
0–4	0	0	0
5–9	0	0	0
10–14	0	0	0
15–19	0	0	1
20–24	0	1	2
25–29	1	5	20
30–34	3	36	111
35–39	4	98	287
40–44	7	204	576
45–49	10	311	893
50–54	7	450	1,273
55–59	6	550	1,503
60–64	9	507	1,403
65–69	11	473	1,291
70–74	6	407	1,234
75+	9	1,608	4,786
All ages	**73**	**4,650**	**13,380**
Ages 50–69 years	**33**	**1,980**	**5,470**

(a) 'Aboriginal and Torres Strait Islander' and 'non-Indigenous' are for Queensland, Western Australia, South Australia and the Northern Territory only. Data from these jurisdictions are considered to have adequate levels of Indigenous identification in death registration data at the time this report was prepared. Queensland data are reliable from 1998 onwards and thus are included from this year onwards.

(b) All women in Australia, which includes Aboriginal and Torres Strait Islander, non-Indigenous and women in the 'not-stated' category for Aboriginal and Torres Strait Islander status.

Source: AIHW National Mortality Database.

Table A60: Age-standardised and age-specific mortality rates for breast cancer by Aboriginal and Torres Strait Islander status, Queensland, Western Australia, South Australia and the Northern Territory, by age, 2002–2006

	Qld, WA, SA and NT[a]		
Age group (years)	Aboriginal and Torres Strait islander	Non-Indigenous	Australia[b]
0–4	0.0	0.0	0.0
5–9	0.0	0.0	0.0
10–14	0.0	0.0	0.0
15–19	0.0	0.0	0.0
20–24	0.0	0.1	0.1
25–29	1.7	0.4	0.6
30–34	5.1	2.7	2.9
35–39	7.8	7.2	7.7
40–44	15.9	14.3	14.9
45–49	29.4	23.1	24.7
50–54	25.9	36.1	38.3
55–59	32.4	49.7	50.9
60–64	67.8	60.6	62.0
65–69	118.2	70.1	68.9
70–74	98.3	70.5	75.3
75+	117.8	126.4	131.7
All ages			
Crude rate	9.9	25.3	26.4
AS rate (A)	24.8	23.1	24.0
95% CI	18.7–32.1	22.4–23.8	23.6–24.4
Ages 50–69 years			
Crude rate	48.5	51.2	52.5
AS rate (A)	53.2	51.0	52.2
95% CI	36.4–74.9	48.8–53.3	50.8–53.6

(a) 'Aboriginal and Torres Strait Islander' and 'non-Indigenous' are for Queensland, Western Australia, South Australia and the Northern Territory only. Data from these jurisdictions are considered to have adequate levels of Indigenous identification in death registration data at the time this report was prepared. Queensland data are reliable from 1998 onwards and thus are included from this year onwards.

(b) All women in Australia, which includes Aboriginal and Torres Strait Islander, non-Indigenous and women in the 'not-stated' category for Aboriginal and Torres Strait Islander status.

Note: Rates are the number of deaths from breast cancer per 100,000 women and age-standardised to the Australian population at 30 June 2001.

Source: AIHW National Mortality Database.

Appendix B BreastScreen Australia Program information

BreastScreen Australia Program definitions

Target population

BreastScreen Australia selects women on the basis of age alone. BreastScreen Australia actively targets women aged 50–69 years through recruitment strategies and reminder letters. Although women aged 40–49 year and 70 years or over can also attend, these women are not actively recruited.

Eligible population

Because BreastScreen Australia selects women on the basis of age alone, the eligible population, used as the denominator for the calculation of participation, is defined as women aged 50–69 years.

Aboriginal and Torres Strait Islander status

The *BreastScreen Australia data dictionary* (AIHW & DoHA) specifies that Aboriginal and Torres Strait Islander status (currently appears as Indigenous status in the *Dictionary*) should be coded as

- Aboriginal
- Torres Strait Islander
- both Aboriginal and Torres Strait Islander
- not Indigenous or
- not stated.

For the purposes of this report, these categories were amalgamated and the data stratified into three categories:

- Aboriginal and Torres Strait Islander
- not Indigenous or
- not stated.

In addition, some jurisdictions do not use the 'Not stated' category. If Aboriginal and Torres Strait Islander status is not given, it is set to a default value. The default used is not the same for all jurisdictions. Therefore there are likely to be some Aboriginal and Torres Strait Islander women who are being incorrectly assigned non-Indigenous status. This means that the analysis based upon Aboriginal and Torres Strait Islander status should be interpreted with caution.

Aboriginal and Torres Strait Islander women comprise a small proportion of women both in the population and within the BreastScreen Australia Program. In 2006, 1.2% of the Australian female population aged 50–69 years were Aboriginal and Torres Strait Islander women, based

on estimates in Aboriginal and Torres Strait Islander population projections 2001–2009 (ABS 2004). Further, of the 1,622,481 women aged 40 years or over participating in screening through the BreastScreen Australia Program in 2005–2006, 13,263 (0.8%) identified as Aboriginal or Torres Strait Islander. The comparison of rates between Aboriginal and Torres Strait Islander and non-Indigenous women should therefore be treated with caution.

Main language spoken at home

The *BreastScreen Australia data dictionary* (AIHW & DoHA) recommends that main language spoken at home be coded according to the four-digit ABS Australian Standard Classification of Languages, 1998 (ABS cat. no. 1267.0). This report has collapsed the classification into the simple dichotomy of 'English' and 'Other language'.

Although this stratification is reported as the 'main language spoken at home', practice varies between the jurisdictions as to how this information is collected. In some jurisdictions, there may thus be some lack of comparability with the *BreastScreen Australia data dictionary* definition of 'main language'.

In addition, some jurisdictions do not use the 'Not stated' category. If the main language spoken at home is not given, it is set to a default value. The default used is not the same for all jurisdictions. This means that the analysis based upon the main language spoken at home should be interpreted with caution.

Further, of the 1,622,481 women aged 40 years or over participating in screening through the BreastScreen Australia Program in 2005–2006, 209,870 (12.9%) identified as not having English as their main language spoken at home. Therefore comparisons of rates between English-speaking and non-English-speaking women should be treated with caution.

Tumour size

Tumour size is the size in millimetres of the malignant lesion, and applies to invasive cancers only. For more details about this stratification, see the definition given in the *BreastScreen Australia data dictionary* (AIHW & DoHA).

Screening round

The *BreastScreen Australia data dictionary* distinguishes between a woman's screening round in the national program and her round in the state or territory program. Round in the national program is used for this stratification in this report. However, it is not always possible to determine round in the national program, so, for some women, this stratification has been collected as the round number in the state or territory program.

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Appendix C Data sources and classifications

Data sources

Data used in this report are derived from multiple sources and are summarised below. All data are based on calendar years.

Indicator	Description	Data source
1	Participation	BreastScreen Australia state and territory services
2	Cancer detection	BreastScreen Australia state and territory services
3	Sensitivity	BreastScreen Australia state and territory services
4	DCIS detection	BreastScreen Australia state and territory services
5	Recall to assessment	BreastScreen Australia state and territory services
6	Rescreening	BreastScreen Australia state and territory services
7a	Incidence (ICD-10 C50)	Australian Cancer Database , AIHW
7b	Incidence of DCIS	State and territory cancer registries
8	Mortality (ICD-9 174, ICD-10 C50)	National Mortality Database, AIHW

BreastScreen Australia Program data

The BreastScreen Australia Program has both national and state and territory components. Although policy is usually decided at a national level, coordination of screening activity is the responsibility of the individual state or territory. Data for participation, cancer detection, sensitivity, DCIS detection, recall to assessment and rescreening are provided by each state and territory BreastScreen program, and then compiled into national figures to allow national monitoring of the BreastScreen Australia Program.

Population data

The ABS estimated resident female population was used to calculate participation, incidence and mortality rates in this report.

Participation was calculated using the average of the 2005 and 2006 estimated resident female populations. The only exception to this was participation by socioeconomic status, by language spoken at home and by Aboriginal and Torres Strait Islander status.

Because the ABS does not calculate the estimated resident population (ERP) by socioeconomic status or language spoken at home, alternative methods were used to calculate the denominators for these rates. In the case of language spoken at home, the denominator was calculated by applying the age-specific distribution from the language question in the 2001 national population Census to the relevant age-specific ERP counts. The denominator for rates

based on socioeconomic status was calculated by applying an ABS concordance between statistical local area (SLA) and socioeconomic status to the relevant ERP by SLA counts.

The average of the ABS projected populations for 2005 and 2006 (ABS 2004) was used as the denominator for Aboriginal and Torres Strait Islander women participation.

The age-standardised rates in this publication were calculated using the total estimated resident Australian population at June 2001. Where appropriate, rates are also standardised to the World Health Organization (WHO) World Standard Population for international comparison.

Incidence data

Incidence data in this report come from the Australian Cancer Database (formerly the National Cancer Statistics Clearing House)—a national collection of cancer statistics held and operated by the AIHW. The Australian Cancer Database receives data from individual state and territory cancer registries on cancers diagnosed in residents of Australia and produces reports on national incidence.

Mortality data

Mortality data in this report come from the AIHW's National Mortality Database, which is a national collection of de-identified information for all deaths in Australia maintained by the AIHW. Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the ABS. Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year.

Mortality data in this report are given for 1992–2006. During this time, changes have been made to the coding and processing of mortality data that affect comparability of the data. Data for holdings for 1987–1996 were manually coded using the ninth revision of the International Classification of Diseases (ICD-9). Data holdings for 1997 onwards were coded using ICD-10, using an automated system with slightly different coding rules.

The change to the coding and processing of mortality data introduced a break in the data time series. The ABS has developed comparability factors, which are applied to pre-1997 data, so that a single time series may still be derived (ABS 2006). For breast cancer, the comparability factor is close to 1 (0.98).

The applications of a comparability factor cause the number of deaths before 1997 to be non-integer. Rounding has been used to put the number of deaths into whole numbers.

Data have been analysed using the year of occurrence of death for the period 1992–2005 and year of registration of death for 2006. This is because mortality data by year of occurrence of death is a more accurate reflection of mortality during a particular year than year of registration data; however, owing to late registrations, year of occurrence data for 2006 are still incomplete.

All states and territories have provision for the identification of Aboriginal and Torres Strait Islander deaths on their death registration forms. However, the coverage of deaths identified as Aboriginal and Torres Strait Islander varies across states and territories and over time. Although the identification of Aboriginal and Torres Strait Islander deaths is incomplete in all state and territory registration systems, four jurisdictions (Queensland, Western Australia,

South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. These four jurisdictions represent approximately 60% of the Aboriginal and Torres Strait Islander population of Australia.

Some mortality figures are based on a reporting period of 4 years rather than 12 months. This longer period allows for a greater aggregation of information on issues that are subject to wide fluctuations and for a more confident and meaningful estimate of the outcomes.

Classifications

Age

The data in this report are presented either stratified by the age of the women at the time of screening (for the screening data), at the time of diagnosis (for the cancer incidence data) or at the time of death (for the cancer mortality data).

State or territory

The state or territory reported is the one where screening took place (for the screening data) or where the diagnosis was made (for the cancer incidence data) or the place of usual residence (for the cancer mortality data).

This means that it is possible for a woman to be double-counted in the screening data. If she was screened in one jurisdiction and then screened again less than 2 years later in another jurisdiction, both screens may be included in participation. This should, however, have a negligible effect on the reported participation.

Geographic region

Geographic regions are classified according to the ABS's Australian Standard Geographical Classification (ASGC) Remoteness Structure, which groups geographic areas into six categories. These categories, called Remoteness Areas (RAs), are based on Census Collection Districts (CDs) and defined using the Accessibility/Remoteness Index for Australia (ARIA). ARIA is a measure of the remoteness of a location from the services provided by large towns or cities. Accessibility is judged purely on distance to one of the metropolitan centres. A higher ARIA score denotes a more remote location. The six RAs of the ASGC Remoteness Structure are listed in the table below; the sixth 'Migratory' area is not used in this publication.

Remoteness areas for the ASGC

Geographic region	Collection districts within region
Major cities of Australia	CDs with an average ARIA index value of 0 to 0.2
Inner regional Australia	CDs with an average ARIA index value greater than 0.2 and less than or equal to 2.4
Outer regional Australia	CDs with an average ARIA index value greater than 2.4 and less than or equal to 5.92
Remote Australia	CDs with an average ARIA index value greater than 5.92 and less than or equal to 10.53
Very remote Australia	CDs with an average ARIA index value greater than 10.53
Migratory	Areas composed of off-shore, shipping and migratory CDs

Residential address postcodes of participants were mapped to CDs and then classified to the five main RAs, ranging from *Major cities* to *Very remote* areas. As some postcodes can span different RAs, a weighting for each RA is attributed to the postcode. This can result in non-integer counts for remoteness classifications. For example, the Northern Territory postal area 0822 is classified as 70.54% *Very Remote*, 6.64% *Remote* and 22.82% *Outer Regional*. Participants with postcode 0822 have their counts apportioned accordingly.

Tables in this report based on geographical location are rounded to integer values. Where figures are rounded, discrepancies may occur between totals and sums of the component items.

Socioeconomic status

Socioeconomic status classifications are based on the ABS Index of Relative Socioeconomic Disadvantage (IRSD). Geographic areas are assigned a score based on attributes such as low income, low educational attainment, high unemployment and jobs in relatively unskilled occupations. The score does not refer to the socioeconomic situation of a particular individual but instead refers to the area in which a person lives. A low score means an area has many low income families, people with little training and high unemployment, and may be considered disadvantaged relative to other areas. Areas with high index scores may be considered less disadvantaged relative to other areas.

Socioeconomic status groups based on the level of the index are used for analysis where 1 lowest represents the most disadvantaged and 5 highest the least disadvantaged.

BreastScreen Australia Program classifications

See Appendix B for classifications specific to the BreastScreen Australia Program.

Appendix D Statistical methods

Comparisons and tests of statistical significance

This report includes statistical tests of the significance of comparisons of rates between population groups. Any statistical comparison applied to one variable must take account of any other potentially relevant variables. For example, any comparison of participation by state must also take account of differences in the distribution of age and sex between the states. These other variables are known as 'confounding' variables.

Crude rates

A crude rate is defined as the number of events over a specified period of time (for example, a year) divided by the total population. For example, a crude cancer incidence rate is similarly defined as the number of new cases of cancer in a specified period of time divided by the population at risk. Crude mortality rates and cancer incidence rates are expressed in this report as number of deaths or new cases per 100,000 population. Crude participation is expressed as a percentage.

Age-specific rates

Age-specific rates are calculated by dividing the number of cases occurring in each specified age group by the corresponding population in the same age group expressed as a percentage or a number per 1,000 or 100,000 population. This rate may be calculated for particular age and sex groupings; for example:

Age-specific breast cancer incidence rate in females aged 50–54 years

$$= \frac{\text{New cases aged 50 – 54 years}}{\text{Female population aged 50 – 54 years}} \times 100{,}000$$

$$= \frac{1{,}585}{673{,}077} \times 100{,}000$$

= 235.5 per 100,000

Age-standardised rates (AS rates)

Rates are adjusted for age to facilitate comparisons between populations that have different age structures; for example, between youthful and ageing communities. There are two different methods commonly used to adjust for age. This publication uses direct standardisation, in which the age-specific rates are multiplied by a constant population. This effectively removes the influence of the age structure on the summary rate.

As the *National health data dictionary* recommends the use of the 2001 Australian total ERP as the standard population for health statistics, this population has been used for age-standardising mortality, incidence and participation.

For statistics based on the population of women screened—that is, cancer detection rates, interval cancer rates and program sensitivity—rates are standardised to the 1998 population of women screened by BreastScreen Australia.

The method used for this calculation comprises three steps:

1. Calculate the age-specific rate (as shown above) for each age group.
2. Calculate the expected number of cases in each 5-year age group by multiplying the age-specific rates by the corresponding standard population and dividing by the appropriate factor (that is, 100,000 for mortality and incidence rates and 100 for participation).
3. To give the age-standardised rate, sum the expected number of cases in each group, divide by the total of the standard population and multiply by the appropriate factor (that is, 100,000 for mortality and incidence rate and 100 for participation).

Confidence intervals

Population numbers for incidence and mortality and screening have a natural level of variability for a single year above and below what might be expected in the mean over many years. The percentage variability is small for large population numbers but high for small numbers such as mortality in a young age group. One measure of the likely difference is the standard error, which indicates the extent to which a population number might have varied by chance in only 1 year of data. In the 95% confidence interval, there are about 19 chances in 20 that the difference will be less than two standard errors.

The 95% confidence intervals in this report were calculated using a method developed by Dobson et al. (1991). This method calculates approximate confidence intervals for a weighted sum of Poisson parameters.

Where indicators include a comparison (such as between states and territories), a 95% confidence interval is presented along with the rates. This is because the observed value of a rate may vary due to chance, even where there is no variation in underlying value of the rate. The 95% confidence interval represents a range (interval) over which variation in the observed rate is consistent with this chance variation. In other words, there is a 95% confidence that the true value of the rate is somewhere within this range.

These confidence intervals can be used as a guide to whether differences in a particular rate are consistent with chance variation. Where the confidence intervals do not overlap, the difference between rates is greater than that which could be explained by chance and is regarded as statistically significant.

It is important to note that overlapping confidence intervals does not imply that the difference between two rates is definitely due to chance. Instead, an overlapping confidence interval represents a difference in rates that is too small to allow differentiation between a real difference and one which is due to chance variation. It can therefore only be stated that no statistically significant differences were found, and not that no differences exist.

The approximate comparisons presented might understate the statistical significance of some differences, but they are sufficiently accurate for the purposes of this report.

As with all statistical comparisons, care should be exercised in interpreting the results of the comparison. If two rates are statistically significantly different from each other, this means that the difference is unlikely to have arisen by chance. Judgment should, however, be exercised in deciding whether or not the difference is of any clinical significance.

Glossary

Administrative databases: observations about events that are routinely recorded or required by law to be recorded. Such events include births, deaths, hospital separations and cancer incidence. Administrative databases include the National Mortality Database, the National Hospital Morbidity Database and the Australian Cancer Database.

Age-specific rate: a rate for a specific age group. The numerator and denominator relate to the same age group.

Age-standardised rate: weighted average of age-specific rates according to a standard distribution of the population by age to eliminate the effect of different age distributions and thus facilitate valid comparison of groups with differing age compositions.

Assessment: further investigation of a mammographic abnormality or symptom reported at screening. This includes women who choose assessment outside the Program.

Benign: not cancerous.

Cancer (malignant neoplasm): a term used to describe one of several diseases that result when the process of cell division, by which tissues normally grow and renew themselves, becomes uncontrolled and leads to the development of malignant cells. These cancer cells multiply in an uncoordinated way, independently of normal growth control mechanisms, to form a tumour. The tumour can expand locally by invasion or systemically by metastasis via the lymphatic or vascular systems. If left untreated, most malignant tumours eventually result in death.

Cancer death: a death where the underlying cause is indicated as cancer. People with cancer who died of other causes are not counted in the death statistics in this publication.

Confidence interval: a range determined by variability in data, within which there is a specified (usually 95%) chance that the true value of a calculated parameter (for example, relative risk) lies.

Core biopsy: removal of a cylindrical sample of breast tissue under a local or general anaesthetic through a needle for microscopic examination.

Data: refers to the building blocks of health information, including observations from administrative databases and health survey data sets.

Ductal carcinoma in situ: a non-invasive tumour of the mammary gland (breast) arising from cells lining the ducts.

Early review: the recall of a woman to a second assessment within 12 months of the screening date and following an equivocal assessment visit. Early review within 6 months of the screening date is considered part of the screening episode, but early review at 6 months or more occurs after the screening episode is complete.

Epidemiology: the quantitative study of the distribution and determinants of health-related states and events in populations and the application of this study to the control of health problems.

False negative: means that the test has incorrectly observed that the disease is not present.

False positive: means that the test has incorrectly observed that the disease is present.

Film reading: viewing of a radiographic depiction of the breast (a mammogram) to determine the presence or absence of an abnormality indicative of a tumour.

Fine needle aspiration biopsy: the sampling of cells from breast tissue for examination by a pathologist.

First screening round: see *Screening round.*

Incidence: see *New cancer case.*

Index screening year: the year for which the interval cancer rate and the program sensitivity rate are determined.

Index screens: all screening examinations performed within the index screening year.

Indicators: observations about data that have been analysed to provide a means of comparing measures of health within and between population groups.

Information: observations about data that have been analysed to provide a means of comparing measures of health within and between population groups.

International Classification of Diseases: World Health Organization's internationally accepted classification of death and disease. The 10th revision (ICD-10) is currently in use.

Interval cancer—invasive (as defined for national reporting purposes by Kavanagh et al. (1999), with minor changes endorsed by the National Advisory Committee):

- an invasive breast cancer diagnosed after completion of a negative screening episode and before the next screening examination (within 24 months from the date of the previous screen)
- a case of invasive breast cancer that is diagnosed at early review or in the interval between assessment and early review, where the recommendation for early review is 6 months or more from the screening date
- breast cancer diagnosed in a woman by BreastScreen Australia within 24 months of a negative screen (early rescreen) if the woman presents with a breast lump and/or clear or blood-stained nipple discharge in the breast in which the breast cancer was diagnosed
- an invasive breast cancer diagnosed between 6 and 24 months after a recommendation for assessment is made and a woman fails to attend assessment.

Invasive cancer: a tumour whose cells have invaded healthy or normal tissue.

Lymph node: masses of lymphatic tissue, often bean-shaped, that produce lymphocytes and through which lymph filters. These are located throughout the body.

Mammogram: a radiographic depiction of the breast.

Metastasis: the process by which a disease is transferred from one part of the body to another—for example, via the lymphatic system or the bloodstream.

Mortality: see *Cancer death.*

New cancer case: a person who has a new cancer diagnosed for the first time. One person can have more than one cancer and therefore may be counted twice in incidence statistics if it is decided that the two cancers are not of the same origin. This decision is based on a series of principles set out in more detail in a publication by Jensen et al. (1991).

Next scheduled screening examination: 24 months after previous screen unless the woman is recommended for annual rescreening, when the next scheduled screening examination is 12 months.

Population estimates: official population numbers compiled by the ABS at both state and territory and statistical local area levels, by age and sex, as at 30 June each year. These estimates allow comparisons to be made between geographic areas of differing population sizes and age structures.

Prevalence: the number of instances of a specific disease or other condition in a given population at a designated time.

Recruitment: strategies that aim to promote participation of women in the BreastScreen Australia Program through direct contact with women in the target age group (50–69 years) and education of health practitioners and the general public. Women are encouraged to attend every 2 years.

Rescreening: the next screening examination after the screening episode in the index screening year.

Risk factor: an attribute or exposure that is associated with an increased probability of a specified outcome, such as the occurrence of a disease. Risk factors are not necessarily the causes of disease.

Screening: the performance of tests on apparently well people in order to detect a medical condition at an earlier stage than would otherwise be the case. Because a screening test is not intended to be diagnostic, a person with a positive or suspicious result must be referred for diagnosis and treatment.

Screening episode: a screening episode includes all attendances for screening and assessment within 6 months relating to a particular round of screening. It starts at the date of attendance for screening. It is completed when:

- a recommendation is made to return the woman to routine rescreening
- a recommendation is made for early review at 6 months or more from the screening date
- a diagnosis of cancer is made
- the woman fails to attend for technical recall or assessment within 6 months
- the woman dies.

Screening round: the first screening round is a woman's first visit to a mammography screening service; a subsequent screening round means that she has been screened before. If she attends for the fourth screening round, she has been screened three times before.

Screening round (first): a woman's first visit to a BreastScreen Australia mammography screening service.

Screening round (subsequent): a woman's visit to a BreastScreen Australia mammography screening service when she has attended such a service before.

Sensitivity: the proportion of people with a disease who have a positive test result for the disease.

Significant difference: where rates are referred to as significantly different, or one rate is deemed significantly higher or lower than another, and these differences are statistically significant. Rates are deemed statistically significantly different when their confidence

intervals do not overlap, because their difference is greater than what could be explained by chance. See 'confidence intervals' in Appendix D for more information.

Symptom: any evidence of disease apparent to the patient. For the purposes of this report, symptoms refer to a self-reported breast lump and/or blood-stained or watery nipple discharge.

Ultrasound: diagnostic method based on the reflection of ultrasonic sound waves generated through scanning of, in this case, the breast. The reflections are viewed on a computer screen or photograph and checked for variations in images.

Unit record file: observations containing person-specific records from health surveys and administrative databases that are unanalysed and not tabulated. This is the most basic form of data and cannot be accessed for general use without appropriate confidentiality measures being in place.

Women-years 'at risk' of interval or screen-detected breast cancer are:

- all women screened aged 50–69 years who are resident in the service catchment area in which they are screened at the time of screening who have not reported a personal history of invasive cancer or DCIS
- women who are recommended for annual rescreening are only at risk of interval cancer up until 12 months after the screening examination
- women who are recommended for routine rescreening are only at risk of an interval cancer up until 24 months after the screening examination.

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