

BreastScreen Victoria
2000
Annual Statistical Report

*maintaining
momentum*

BreastScreen Victoria

Victorian Breast Cancer Screening Program

BreastScreen Victoria provides free mammography to asymptomatic women through an organised screening service incorporating recruitment and recall for screening every two years. The Program's aim is to reduce morbidity and mortality associated with breast cancer through early detection.

BreastScreen Victoria is a joint initiative of the Victorian and Commonwealth Governments and is part of BreastScreen Australia. Victoria is serviced by a network of eight assessment centres, around forty screening centres, a mobile van and a relocatable unit. A system of accreditation is in place whereby each service is regularly assessed by an independent team to ensure that national accreditation standards are met.

BreastScreen Victoria focuses its Program on women aged 50–69 years, the age group in whom studies have demonstrated a benefit. Women and their nominated general practitioners are notified of their screening results within two weeks.

Where an abnormality is found on screening, or where a woman reports a suspicious symptom at the screening visit, referral for specialist medical assessment at a BreastScreen Victoria centre provides free assessment to the point of definite diagnosis.

While a doctor's referral is not required to attend the service, BreastScreen Victoria liaises closely with general practitioners.

For further details, refer to the website at www.breastscreen.org.au.

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BreastScreen Victoria 2000 highlights

Attendance

In 2000, more than 177,000 women attended the BreastScreen Victoria Program. Of these, 75% were in the 50–69 year target age group.

Of all Victorian women aged 50–69 years, 59% participated in the BreastScreen Program during the two-year period 1 January 1999 to 31 December 2000.

The participation rate for women of non-English-speaking background aged 50–69 years was 61% for the period 1 January 1999 to 31 December 2000.

Of women aged 50–69 years who were screened in 1998, 83% returned for rescreening within 27 months.

Assessment procedures

Among women aged 50–69 years, 6.7% of first attenders and 11.1% of subsequent attenders who were recommended for assessment were diagnosed with a malignant lesion.

Of the women aged 50–69 years who were recommended for further assessment, 75% received a definitive outcome after further x-rays, ultrasound or clinical examination only. Of those women aged 50–69 years for whom a biopsy was required, the majority (84%) underwent a fine needle or core biopsy rather than an open surgical biopsy.

Eighty-eight per cent of women diagnosed with breast cancer¹ received their definitive diagnosis without requiring an open biopsy.

Cancer detection

There were 1,077 screen-detected breast cancers diagnosed within the BreastScreen Victoria Program in 2000: 876 invasive and 201 ductal carcinoma in situ (DCIS). Of these, 71% were in women aged 50–69 years.

Of invasive cancers diagnosed, 66% were 15 mm or less in size, 33% were classified as Grade 1 and 78% were node negative.

Cancer treatment

Seventy-five per cent of women with invasive breast cancer and 81% of women with DCIS were treated by breast conservation surgery.

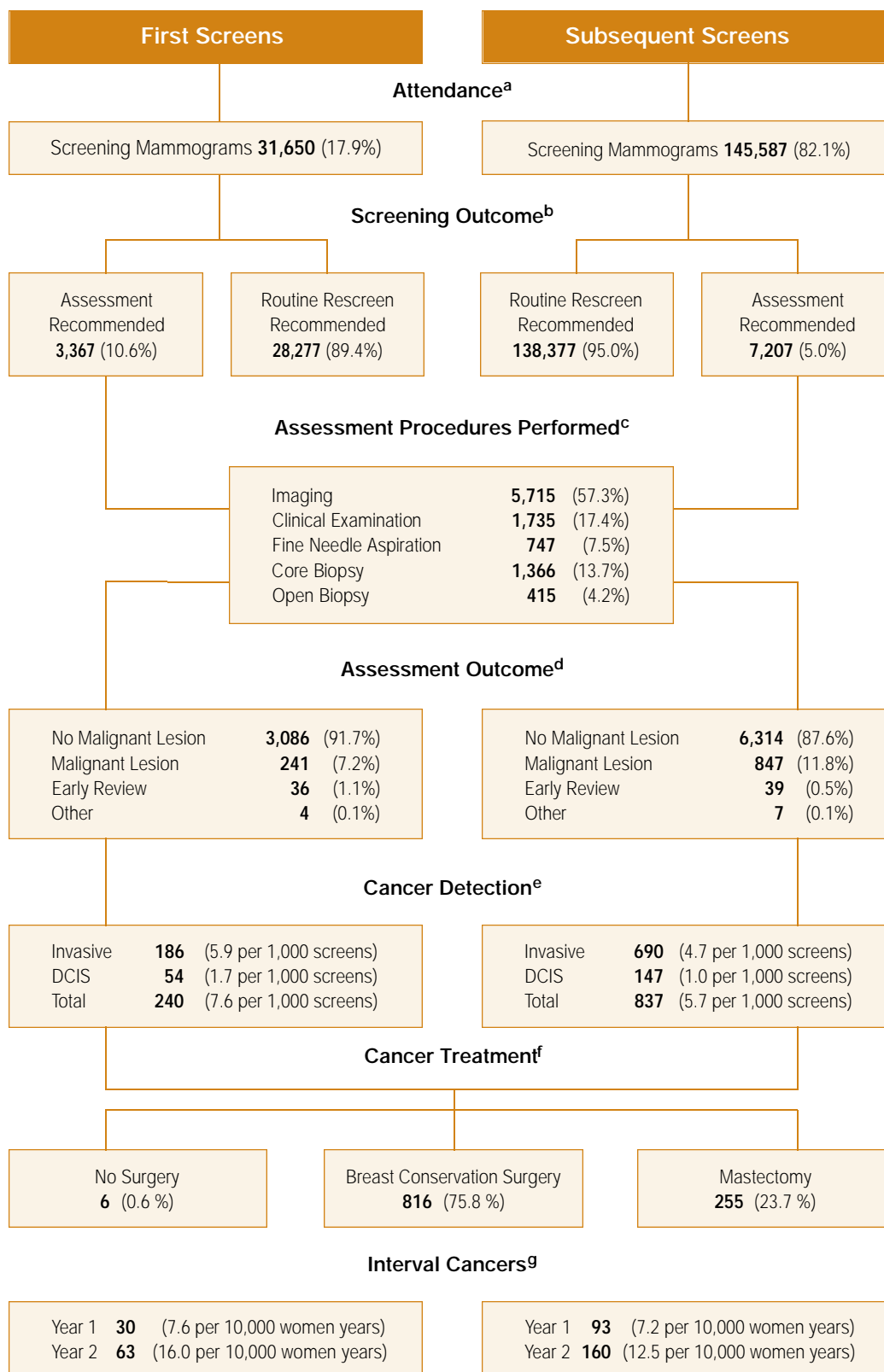
Seven per cent of women diagnosed with DCIS underwent removal of some axillary nodes. As in previous years, none of these women were found to have positive nodes.

Thirty-seven per cent of women diagnosed with breast cancer and who were living in rural areas underwent mastectomy, compared with 20% of women living in urban areas.

Ninety-five per cent of women diagnosed with invasive breast cancer and 47% of women diagnosed with DCIS received some form of adjuvant therapy.

¹ For consistency with BreastScreen Australia the general term 'breast cancer' includes cases of invasive cancer as well as cases of ductal carcinoma in situ (DCIS).

Table 1: Summary of outcomes of breast cancer screening in 2000²



SOURCE: ^a Table 2, ^b Table 19, ^c Table 20, ^d Table 21, ^e Table 30, ^f Table 36, ^g Tables 33, 34

² The source tables used may exclude data for a small number of women. Details are provided in footnotes to the table/s.

Introduction

This Annual Statistical Report provides information about BreastScreen Victoria, the Victorian breast cancer screening program, and relates only to women screened in the Victorian Program. It provides summary data on women who attended for screening during 2000³ and the results of their screening. In addition, interval cancer and rescreen data are presented for women screened in 1998. Participation data refers to the period 1 January 1999 to 31 December 2000.

Statistical Reports are produced annually and present comparable data so that time trends can be readily identified. Where appropriate, limitations of the data in this report are described. More detailed information about the structure and processes of BreastScreen Victoria can be found in its Annual Reports.

Reference to national accreditation standards,⁴ where appropriate, is also included. A summary of BreastScreen Victoria's performance against selected standards is given in the Appendix.

In some sections of this report, the numbers presented are quite small; it is important to recognise the limitations in terms of interpretation of results and comparison of trends over time. Simple descriptive statistics are provided as a 'snapshot' of the BreastScreen Victoria Program. A companion statistical report is currently being developed, which will allow more meaningful analysis to be conducted on a larger data set for women screened between 1994 and 1999.

Very sincere thanks are extended to all staff of BreastScreen Victoria without whom the production of this report would not have been possible. BreastScreen Victoria particularly thanks Ms Genevieve Chappell, Manager, Registry and Information Services, Information Manager Ms Suzen Maljevac, and Consultant Epidemiologist Dr Anne Kavanagh for their expert advice and assistance.

This is the Program's seventh Annual Statistical Report.

3 All data in this Statistical Report exclude three women who attended for screening in 2000 but who were aged less than 40 years.

4 National Program for the Early Detection of Breast Cancer (1994), National Accreditation Requirements – March 1994, Canberra: Commonwealth Department of Human Services and Health.

Attendance

Most of the information in the following eight tables comes from a questionnaire that each woman completes before her mammography examination.

Type of attendance

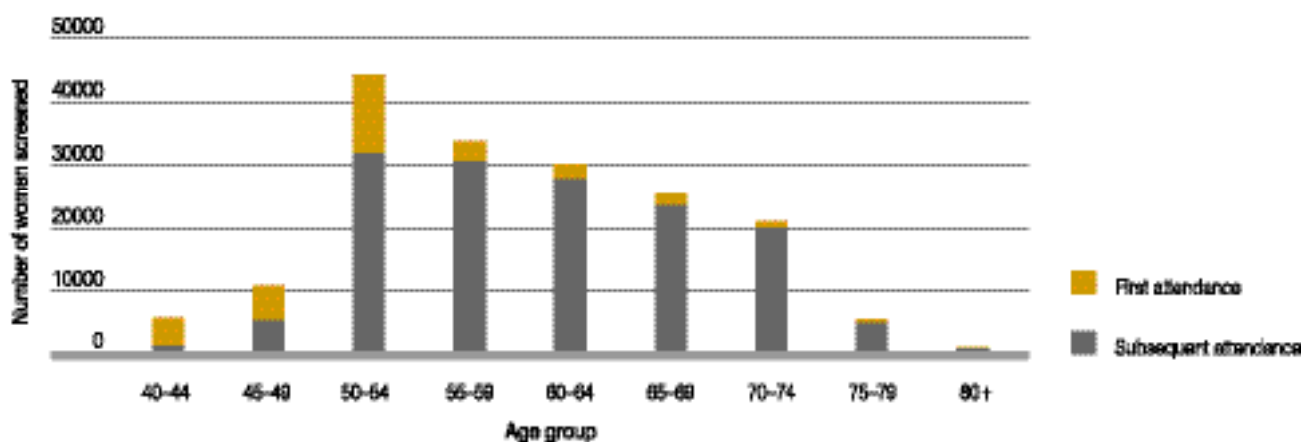
Table 2 shows the type of attendance⁵ by age group for women who were screened during 2000. Classification of attendance status is based on attendance within BreastScreen Victoria; it is acknowledged that first attenders to BreastScreen may have had previous mammography outside of the Victorian Program.

BreastScreen screened more than 177,000 women during 2000. The proportion of attendances accounted for by women who have previously attended BreastScreen Victoria continues to increase. During 2000, 82.1% of all attendances were subsequent attendances compared with 80.9% in 1999, 76.5% in 1998 and 71.3% in 1997. Among women aged 50–69 years, 85.2% of attendances were subsequent attendances in 2000, compared with 84.8% in 1999.

Table 2: Attendance by age and round⁶

Type of attendance	Age group									50–69	Total
	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80+		
First attendance	4519 80.8%	5545 51.8%	12395 28.0%	3180 9.4%	2471 8.2%	1750 6.9%	874 4.2%	623 11.4%	293 29.1%	19796 14.8%	31650 17.9%
Subsequent attendance	1071 19.2%	5155 48.2%	31837 72.0%	30608 90.6%	27736 91.8%	23617 93.1%	19993 95.8%	4857 88.6%	713 70.9%	113798 85.2%	145587 82.1%
Total	5590 100%	10700 100%	44232 100%	33788 100%	30207 100%	25367 100%	20867 100%	5480 100%	1006 100%	133594 100%	177237 100%

Figure 1: Number of women screened by age and type of attendance



⁵ Data in this Statistical Report is classified according to whether the woman's attendance was the first to BreastScreen Victoria or a subsequent attendance. The accuracy of this approach is greater than using the prevalent/incident round classification of the National Accreditation Requirements which is based on women's self-report about mammography during the previous five years.

⁶ In all tables, percentages may not add to 100% due to rounding.

Area of residence

The geographic distribution of women screened in 2000 was similar to previous years and matches the profile for all Victorian women closely. Of all Victorian women screened, 73.9% lived in urban areas⁷ and 26.1% lived in rural areas.⁸ Based on the 1996 Census, 74.4% of the female population in Victoria aged 40 years or more lived in urban areas and 25.6% lived in rural areas.

Country of birth

Table 3⁹ shows the country of birth by age group for the women who attended for screening in 2000. In the 1996 Census, 62% of the female population of Victoria aged 40 years or more were identified as having been born in Australia.

Table 3: Attendance by age and country of birth

Country of birth	Age group					50-69	Total
	40-49	50-59	60-69	70-79	80+		
Australia	11052 67.8%	48681 62.4%	34491 62.1%	18784 71.3%	766 76.1%	83172 62.3%	113774 64.2%
United Kingdom	1001 6.1%	7126 9.1%	5304 9.5%	2159 8.2%	104 10.3%	12430 9.3%	15694 8.9%
Italy	361 2.2%	3528 4.5%	3921 7.1%	1277 4.8%	19 1.9%	7449 5.6%	9106 5.1%
Greece	229 1.4%	2688 3.4%	2248 4.0%	394 1.5%	5 0.5%	4936 3.7%	5564 3.1%
The former Yugoslavia	303 1.9%	1898 2.4%	1265 2.3%	290 1.1%	5 0.5%	3163 2.4%	3761 2.1%
Germany	100 0.6%	1386 1.8%	874 1.6%	490 1.9%	13 1.3%	2260 1.7%	2863 1.6%
Netherlands	140 0.9%	1153 1.5%	862 1.6%	393 1.5%	14 1.4%	2015 1.5%	2562 1.4%
Malta	190 1.2%	1259 1.6%	735 1.3%	209 0.8%	3 0.3%	1994 1.5%	2396 1.4%
Vietnam	506 3.1%	718 0.9%	436 0.8%	102 0.4%	1 0.1%	1154 0.9%	1763 1.0%
New Zealand	234 1.4%	721 0.9%	303 0.5%	123 0.5%	6 0.6%	1024 0.8%	1387 0.8%
Poland	112 0.7%	437 0.6%	371 0.7%	405 1.5%	19 1.9%	808 0.6%	1344 0.8%
China	150 0.9%	492 0.6%	459 0.8%	100 0.4%	3 0.3%	951 0.7%	1204 0.7%

⁷ References to 'urban' include capital city and other major urban according to the 'Rural/Remote Areas Classification' of the Commonwealth Department of Health and Family Services, January 1994.

⁸ References to 'rural' include rural major, rural other, remote major and remote other according to the 'Rural/Remote Areas Classification' of the Commonwealth Department of Health and Family Services, January 1994.

⁹ The data presented in Tables 3 to 4 show the proportion of women who attend BreastScreen by country of birth and ATSI status. Comparisons between the profile of women attending BreastScreen Victoria and the total Victorian female population are made in the text; it would be ideal to calculate participation rates by these key variables. However, the only information currently available on area/country of birth, NESB and ATSI status is from the ABS Census of Population and Housing 1996. More comprehensive participation analyses will be conducted when 2001 Census data becomes available.

India	107 0.7%	537 0.7%	309 0.6%	122 0.5%	0 0.0%	846 0.6%	1075 0.6%
Sri Lanka	127 0.8%	479 0.6%	273 0.5%	105 0.4%	6 0.6%	752 0.6%	990 0.6%
Malaysia	165 1.0%	555 0.7%	189 0.3%	45 0.2%	1 0.1%	744 0.6%	955 0.5%
Philippines	157 1.0%	509 0.7%	100 0.2%	26 0.1%	0 0.0%	609 0.5%	792 0.4%
Egypt	48 0.3%	367 0.5%	256 0.5%	117 0.4%	1 0.1%	623 0.5%	789 0.4%
Republic of Ireland	48 0.3%	322 0.4%	281 0.5%	104 0.4%	1 0.1%	603 0.5%	756 0.4%
Cyprus	56 0.3%	335 0.4%	235 0.4%	49 0.2%	1 0.1%	570 0.4%	676 0.4%
South Africa	93 0.6%	303 0.4%	177 0.3%	62 0.2%	1 0.1%	480 0.4%	636 0.4%
Other	1111 6.8%	4526 5.8%	2485 4.5%	991 3.8%	37 3.7%	7011 5.2%	9150 5.2%
Total	16290 100%	78020 100%	55574 100%	26347 100%	1006 100%	133594 100%	177237 100%

Language spoken at home

Twenty per cent of all women who attended for screening in 2000 indicated that they usually speak a language other than English at home. This proportion differed across age groups, with 20.9% of women aged 50–69 years, 18.6% of women aged 40–49 years and 15.2% of women aged 70–79 years usually speaking a language other than English at home. In the 1996 Census, 21% of the Victorian female population aged 40 years or more identified that they spoke a language other than English at home.

Aboriginal and/or Torres Strait Islander (ATSI) status

Table 4 shows the number of women who attended for screening and identified themselves as being Aboriginal and/or Torres Strait Islander (ATSI). The figure of 269 is larger than prior years: 1999 (253), 1998 (223), 1997 (224), 1996 (168), 1995 (190) and 1994 (91).

In the 1996 Census, 0.2% of the female population of Victoria aged 40 years or more identified themselves as ATSI.

Table 4: Attendance by age and Aboriginal and/or Torres Strait Islander (ATSI) status

ATSI status	Age group					50–69	Total
	40–49	50–59	60–69	70–79	80+		
Yes	38 0.2%	129 0.2%	77 0.1%	25 0.1%	0 0.0%	206 0.2%	269 0.2%
No	16234 99.7%	77796 99.7%	55395 99.7%	26263 99.7%	1000 99.4%	133191 99.7%	176688 99.7%
Not stated	18 0.1%	95 0.1%	102 0.2%	59 0.2%	6 0.6%	197 0.1%	280 0.2%
Total	16290 100%	78020 100%	55574 100%	26347 100%	1006 100%	133594 100%	177237 100%

Symptom status

The BreastScreen Program is designed for well women without breast symptoms or problems. It differs from a diagnostic service designed to investigate breast symptoms which may or may not be suspicious of breast cancer. Women complete a questionnaire before screening. The questionnaire asks, among other things, whether they have any breast symptoms and the nature of these. Although BreastScreen encourages women with symptoms to see their own doctor, BreastScreen services will screen women who arrive for their appointment and report a symptom.

Table 5 shows the symptom status of women at the time of screening. A total of 94.8% of all women screened reported no breast symptoms at the time of screening. As in previous years, younger women report symptoms more frequently than older women.

Table 5: Attendance by age and symptom status

Symptom status	Age group						Total
	40-49	50-59	60-69	70-79	80+	50-69	
Breast lump and/or nipple discharge ¹⁰	715 4.4%	1623 2.1%	632 1.1%	194 0.7%	18 1.8%	2255 1.7%	3182 1.8%
Other breast symptoms ¹¹	1179 7.2%	2625 3.4%	1450 2.6%	709 2.7%	102 10.1%	4075 3.1%	6065 3.4%
No breast symptoms	14396 88.4%	73772 94.6%	53492 96.3%	25444 96.6%	886 88.1%	127264 95.3%	167990 94.8%
Total	16290 100%	78020 100%	55574 100%	26347 100%	1006 100%	133594 100%	177237 100%

Among the 3,182 women with a breast lump and/or nipple discharge, there were 585 women with symptoms (18%) that were considered suspicious of breast cancer, and for which recall for assessment was recommended under the policies of BreastScreen Victoria. This number comprises 437 women with a lump that had been present for less than 12 months which had not been investigated by a medical practitioner, and 148 women with a current bloodstained or watery nipple discharge. The proportion of women reporting a breast lump and/or nipple discharge who were recommended for assessment remained stable between 1997 and 2000, the period for which this BreastScreen Victoria policy has been in place.

¹⁰ The category 'breast lump and/or nipple discharge' includes women reporting a breast lump, or a bloodstained or watery nipple discharge.

¹¹ The category 'other breast symptoms' includes a variety of symptoms, particularly women with breast pain or tenderness.

Family history of breast cancer

In Table 6, a 'strong family history' is defined as a woman whose mother, sister or daughter was diagnosed with breast cancer before 50 years of age, or whose father, brother or son was diagnosed with breast cancer at any age. Women who nominate other family members with breast cancer were classified as 'other family history'.

Women aged 40–49 years who attended for screening reported a family history of breast cancer more often than women aged 50 years and older.

Table 6: Attendance by age and family history of breast cancer

Family history of breast cancer	Age group						Total
	40–49	50–59	60–69	70–79	80+	50–69	
Yes	1252	2399	1940	1204	58	4339	6853
Strong family history	7.7%	3.1%	3.5%	4.6%	5.8%	3.2%	3.9%
Other family history	3240	10816	6948	3358	185	17764	24547
	19.9%	13.9%	12.5%	12.7%	18.4%	13.3%	13.8%
No	11684	64280	46423	21657	758	110703	144802
	71.7%	82.4%	83.5%	82.2%	75.3%	82.9%	81.7%
Not stated	114	525	263	128	5	788	1035
	0.7%	0.7%	0.5%	0.5%	0.5%	0.6%	0.6%
Total	16290	78020	55574	26347	1006	133594	177237
	100%	100%	100%	100%	100%	100%	100%

Personal history of breast cancer

In general, women with a personal history of breast cancer are discouraged from attending BreastScreen Victoria. It is advisable that these women have annual mammography and regular clinical examinations. From time to time, they may also need additional assessment. Women treated with breast conservation therapy for breast cancer have changes in the remaining breast tissue that can make mammographic interpretation difficult. Extra views may be required before a satisfactory examination is achieved. For these reasons, it is felt that the screening program is not suitable for their particular needs.

However, a small number of women with a personal history do attend for screening. The data in the Table 7 should not be interpreted as representing the prevalence of breast cancer among the female population of Victoria.

The proportion of attenders nominating a personal history of breast cancer (0.3%) is the same as for 1999. As in earlier years, the proportion of women with a personal history of breast cancer increased with age.

Table 7: Attendance by age and personal history of breast cancer

Personal history of breast cancer	Age group						Total
	40-49	50-59	60-69	70-79	80+	50-69	
Yes	17 0.1%	93 0.1%	153 0.3%	156 0.6%	33 3.3%	246 0.2%	452 0.3%
No	16273 99.9%	77927 99.9%	55421 99.7%	26191 99.4%	973 96.7%	133348 99.8%	176785 99.7%
Total	16290 100%	78020 100%	55574 100%	26347 100%	1006 100%	133594 100%	177237 100%

Breast implant status

The proportion of women who nominated that they had breast implants at the time of attending for screening is the same as for 1999.

Table 8: Attendance by age and breast implant status

Breast implant status	Age group						Total
	40-49	50-59	60-69	70-79	80+	50-69	
Yes	119 0.7%	578 0.7%	156 0.3%	21 0.1%	1 0.1%	734 0.5%	875 0.5%
No	16171 99.3%	77442 99.3%	55418 99.7%	26326 99.9%	1005 99.9%	132860 99.5%	176362 99.5%
Total	16290 100%	78020 100%	55574 100%	26347 100%	1006 100%	133594 100%	177237 100%

Hormone replacement therapy use

Table 9 shows the number of women who nominated that they were taking hormone replacement therapy (HRT) at the time of attending for screening. A total of 25.5% of women attending for screening reported HRT use at the time of screening. HRT use was most prevalent in women aged 50–59 years (32.9%) and 60–69 years (24.6%).

Reported HRT use among women aged 40–49 years is 16.1% and is similar to the 15.8% reported in 1999. Previous years had shown a steady decrease from a high of 20.4% in 1995. Reported HRT use among women aged 50–59 years is 32.9% and is similar to the 33.1% reported in 1999. Previous years had shown a steady decrease from a high of 37.8% in 1995. Among women aged 60 years and older screened in 2000, 20.4% reported HRT use. This proportion has steadily increased over time.

Table 9: Attendance by age and hormone replacement therapy use

HRT use	Age group						Total
	40–49	50–59	60–69	70–79	80+	50–69	
Yes	2620 16.1%	25662 32.9%	13685 24.6%	3138 11.9%	68 6.8%	39347 29.5%	45173 25.5%
No	13654 83.8%	52295 67.0%	41805 75.2%	23155 87.9%	933 92.7%	94100 70.4%	131842 74.4%
Not stated	16 0.1%	63 0.1%	84 0.2%	54 0.2%	5 0.5%	147 0.1%	222 0.1%
Total	16290 100%	78020 100%	55574 100%	26347 100%	1006 100%	133594 100%	177237 100%

Participation

The following four tables show participation rates for Victorian women who were screened by BreastScreen Victoria during the period 1 January 1999 to 31 December 2000 (a period of 24 months).

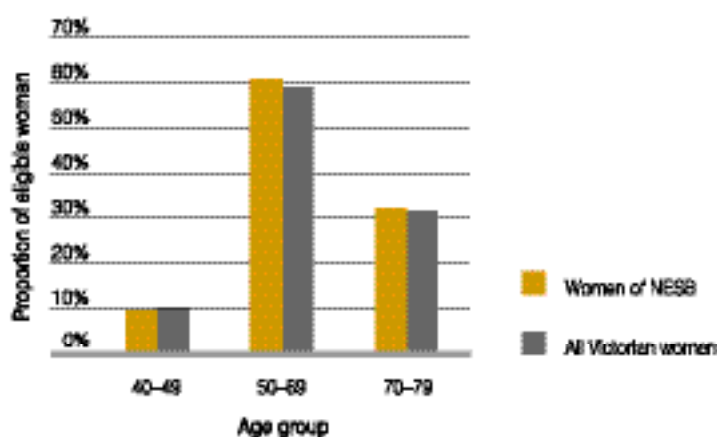
Participation rates by language spoken at home

Table 10 shows the participation rate for all Victorian women and for women of non-English-speaking background (NESB) as defined by language usually spoken at home. The screening program directly targets women aged 50–69 years. The participation rate for all women aged 50–69 years was 58.9%, an improvement on the 1999 figure of 58.0%. The participation rate among women aged 40–49 was 9.9%. Among women aged 70–79 years, the participation rate has increased from 29.6% in 1999 to 31.5% in 2000.¹² Participation among women of NESB aged 50–69 years was 60.9%, which is an increase from 57.2% in 1999.¹³

Table 10: Participation rates by age and language spoken at home, 1 January 1999 to 31 December 2000

Language spoken at home	Age group		
	40–49	50–69	70–79
All women			
Estimated number of eligible women resident in Victoria ¹⁴	336994	443751	156442
Number of women screened	33410	261281	49263
Participation rate	9.9%	58.9%	31.5%
NESB women			
Estimated number of eligible NESB women resident in Victoria ¹⁵	65633	91004	23420
Number of NESB women screened	6177	55395	7520
Participation rate	9.4%	60.9%	32.1%

Figure 2: Participation of women by age and language spoken at home, 1 January 1999 to 31 December 2000



¹² Participation rates were calculated using the average of the 1999 and 2000 Estimated Resident Populations (ERP) of Victoria as the denominator (eligible women).

¹³ This estimate of the participation rate among women of NESB was based on figures from the 1996 Census as projections for inter-Census years are not available specifically for women of NESB. Using 1996 Census data as the denominator may partly account for an increase in participation rates for women of NESB. Once 2001 Census data are available, more reliable estimates of participation by NESB will be calculated.

¹⁴ Australian Bureau of Statistics, Estimated Resident Population 1999; Australian Bureau of Statistics, Estimated Resident Population 2000. Counts are for women residing in postcodes allocated to Victorian catchments. Women in the Albury/Wodonga catchment are excluded.

¹⁵ Australian Bureau of Statistics, Census of Population and Housing 1996. Counts are for women residing in postcodes allocated to Victorian catchments. Women in the Albury/Wodonga catchment are excluded.

Participation rates by area of residence

Table 11 shows the participation rates by area of residence (capital city versus other) for all women and for women of NESB. The category 'capital city' includes Melbourne and surrounding suburbs. Among women in the target age group, total participation continues to be lower in the capital city than in the remainder of Victoria; however, among NESB women, participation is slightly higher in the capital city.

Table 11: Participation rates by age, area of residence and language spoken at home, 1 January 1999 to 31 December 2000

Language spoken at home	Age group		
	40–49	50–69	70–79
All women			
Capital city			
Estimated number of eligible women resident in Victoria ¹⁶	250071	323668	110593
Number of women screened	22971	182454	32731
Participation rate	9.2%	56.4%	29.6%
Other than capital city			
Estimated number of eligible women resident in Victoria ¹⁶	86923	120083	45849
Number of women screened	10439	78827	16532
Participation rate	12.0%	65.6%	36.1%
NESB women			
Capital city			
Estimated number of eligible NESB women resident in Victoria ¹⁷	60971	83555	20674
Number of NESB women screened	5733	51025	6655
Participation rate	9.4%	61.1%	32.2%
Other than capital city			
Estimated number of eligible NESB women resident in Victoria ¹⁷	4662	7449	2746
Number of NESB women screened	444	4370	865
Participation rate	9.5%	58.7%	31.5%

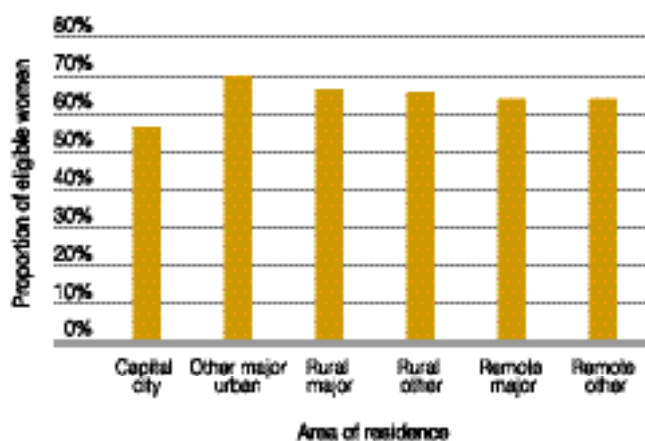
The national accreditation standard seeks to maximise the proportion of women aged 50–69 years who are screened, with the aim of screening 70% of this group. The national accreditation standard for participation by women of NESB in urban areas is at least 50% of the rate for the general population.

Table 12 shows participation by area of residence classified according to the 'Rural/Remote Areas Classification' of the Commonwealth Department of Health and Family Services, January 1994. The classifications of capital city, other major urban, rural major, rural other, remote major and remote other are based on population size and density. In areas that are neither wholly rural nor remote, judgements about relative remoteness are applied. Among women aged 50–69 years, participation rates varied from 56.4% in the capital city to 69.5% in other major urban areas. Participation in the capital city, at 56.4%, was slightly lower than the overall rate of 58.9%. Similar rates were found in other major urban, rural and remote areas.

Table 12: Participation rates by age and area of residence, 1 January 1999 to 31 December 2000¹⁸

Area of residence		Age group		
		40–49	50–69	70–79
Capital city	Estimated number of eligible women resident in Victoria	250071	323668	110593
	Number of women screened	22971	182454	32731
	Participation rate	9.2%	56.4%	29.6%
Other major urban	Estimated number of eligible women resident in Victoria	10338	14643	6111
	Number of women screened	1491	10180	2268
	Participation rate	14.4%	69.5%	37.1%
Rural major	Estimated number of eligible women resident in Victoria	22805	30347	12362
	Number of women screened	2451	20021	4350
	Participation rate	10.7%	66.0%	35.2%
Rural other	Estimated number of eligible women resident in Victoria	49361	68742	24955
	Number of women screened	5498	44870	8933
	Participation rate	11.1%	65.3%	35.8%
Remote major	Estimated number of eligible women resident in Victoria	3168	4343	1632
	Number of women screened	727	2772	640
	Participation rate	22.9%	63.8%	39.2%
Remote other	Estimated number of eligible women resident in Victoria	1251	2008	789
	Number of women screened	305	1282	385
	Participation rate	24.4%	63.8%	48.8%
Total	Estimated number of eligible women resident in Victoria	336994	443751	156442
	Number of women screened	33443	261579	49307
	Participation rate	9.9%	58.9%	31.5%

Figure 3: Participation of women aged 50–69 years by area of residence, 1 January 1999 to 31 December 2000



18 Australian Bureau of Statistics, Estimated Resident Population 1999; Australian Bureau of Statistics, Estimated Resident Population 2000.

Participation rates by socio-economic status

Table 13 presents participation rates by socio-economic status. An Index of Disadvantage¹⁹ value is allocated to each postcode by the Australian Bureau of Statistics, and is available for 99.5% of Victorian women screened during the period 1 January 1999 to 31 December 2000.²⁰ In the table, the index has been grouped into quintiles,²¹ ranging from low to high socio-economic status. The first quintile, for example, indicates an area of relatively low income, low educational attainment, high unemployment and significant NESB population.

In women aged 50–69 years, participation rates were similar across all socio-economic groups.

Table 13: Participation rates by age and socio-economic status, 1 January 1999 to 31 December 2000

Socio-economic status	Age group		
	40–49	50–69	70–79
1st quintile (1–20%); lowest SES			
Estimated number of eligible women resident in Victoria	58824	91248	34128
Number of women screened	5830	51600	10382
Participation rate	9.9%	56.5%	30.4%
2nd quintile (21–40%)			
Estimated number of eligible women resident in Victoria	64175	88219	33909
Number of women screened	6351	53285	10926
Participation rate	9.9%	60.4%	32.2%
3rd quintile (41–60%)			
Estimated number of eligible women resident in Victoria	70892	88434	30345
Number of women screened	6613	49799	9183
Participation rate	9.3%	56.3%	30.3%
4th quintile (61–80%)			
Estimated number of eligible women resident in Victoria	72516	85285	28073
Number of women screened	7103	50336	8743
Participation rate	9.8%	59.0%	31.1%
5th quintile (81–100%); highest SES			
Estimated number of eligible women resident in Victoria	70587	90565	29987
Number of women screened	7303	54921	9874
Participation rate	10.3%	60.6%	32.9%

19 Australian Bureau of Statistics, Socio-Economic Indexes for Areas 1996.

20 An Index of Disadvantage is not available for a small number of Victorian postcodes.

21 Index values for Victorian postcodes were arranged in ascending order and the number of eligible women in 1999–2000 sorted by postcode of residence. The total number of eligible women was then divided into quintiles of approximately equal size to determine the cut-off points (index values) for each quintile.

Response to invitations based on the electoral roll

BreastScreen targets women in the age group 50–69 years as mammography has been found to be most effective in this group. BreastScreen has been permitted access to the electoral roll to invite for screening women who are approaching the age of 50 and who have not previously attended BreastScreen Victoria. In 2000, a more extensive invitation program included all women in the target age group who had not previously attended BreastScreen Victoria. Women are sent a written invitation for screening; if no response is received within one month, a second invitation letter is posted.

A total of 34,773 women were sent an invitation for screening during 2000. Appointments for screening were made for 8,290 of those women, representing a response rate of 24%. This result is lower than the response rate of 37% in 1999 and 36% in 1998, and can be accounted for by the more extensive invitation program.

It is not certain that all of these appointments were made solely in response to the invitation letter based on the electoral roll; some of the women may have responded to other recruitment initiatives such as newspaper articles or television advertisements. Of all invitations sent, 3% were returned, unable to be delivered.

Rescreen rates

Response to routine rescreen invitations

Women in the age group 50–74 years receive a reminder for rescreening 23 months²² after their last attendance if no further appointment has been made at the woman’s initiative. For women aged 40–49 years, reminders are only sent if there is a strong family history of breast cancer, a personal history of breast cancer or a significant abnormality (defined as lobular carcinoma in situ or atypical ductal hyperplasia). If there is no response within six months, a second reminder letter is posted.

A total of 150,504 women were sent reminder letters for rescreening during 2000. Appointments for rescreening were made for 123,877 of these women, representing a response rate of 82%, which is comparable to the rate of 81% in 1999.

Of these invitations, 2% of the letters were returned, unable to be delivered.

Rescreen rates by language spoken at home

Table 14 shows the proportion of women screened during 1998 who were rescreened by BreastScreen Victoria within 27 months of their previous attendance.²³ The nominated age ranges refer to the ages of the women at the time of their 1998 screen. Rates for all women and women of non-English-speaking background (NESB) are given.

A 2% increase in rescreen rates is evident among the target age group, with 82.6% of women aged 50–69 years in 1998 returning for rescreening within 27 months. In the 1999 Annual Statistical Report, the rescreen rates were reported as 79.7% for women aged 50–59 years, 82.2% for women aged 60–69 years and 80.7% for women aged 50–69 years.

Rescreen rates among women of NESB were slightly lower than among all women across all age groups.

Table 14: Rescreen rates by age and language spoken at home, for women who attended in 1998

Language spoken at home	Age group					
	40–49	50–59	60–69	70–79	80+	50–69
All women						
Women screened during 1998	18034	72770	52988	23034	910	125758
Women rescreened within following 27 months	7154	59115	44819	14311	116	103934
Rescreen rate	39.7%	81.2%	84.6%	62.1%	12.7%	82.6%
NESB women						
NESB women screened during 1998	3256	14379	10960	3257	76	25339
NESB women rescreened within following 27 months	1277	11505	8908	1988	7	20413
Rescreen rate	39.2%	80.0%	81.3%	61.0%	9.2%	80.6%

The national accreditation standard is that the rescreen rate for women aged 50–69 years should be at least 75%.

22 Women who are recommended for annual screening will receive an invitation after 11 months if no appointment has been made.

23 Rescreen rates correspond to a 'crude' rescreen rate for women screened between 1 January 1998 and 31 December 1998. The table excludes women at high risk who were recommended for annual screening and women resident interstate at the time of their 1998 screening. A woman was counted as 'rescreened within the following 27 months' if she returned to be rescreened within 821 days of the previous 1998 mammogram.

Rescreen rates by area of residence

Table 15 presents rescreen rates for women living in urban and rural areas. The rescreen rates for women living in urban²⁴ areas were very similar to those for women living in rural²⁵ areas.

Table 15: Rescreen rates by age and area of residence, for women who attended in 1998

Area of residence	Age group					50-69
	40-49	50-59	60-69	70-79	80+	
Urban						
Women screened during 1998	13324	54973	38652	16597	622	93625
Women rescreened within following 27 months	5150	44487	32663	10286	74	77150
Rescreen rate	38.7%	80.9%	84.5%	62.0%	11.9%	82.4%
Rural						
Women screened during 1998	4710	17797	14336	6437	288	32133
Women rescreened within following 27 months	2004	14628	12156	4025	42	26784
Rescreen rate	42.5%	82.2%	84.8%	62.5%	14.6%	83.4%

24 References to 'urban' include capital city and other major urban according to the 'Rural/Remote Areas Classification' of the Commonwealth Department of Health and Family Services, January 1994.

25 References to 'rural' include rural major, rural other, remote major and remote other according to the 'Rural/Remote Areas Classification' of the Commonwealth Department of Health and Family Services, January 1994.

Rescreen rates by socio-economic status

Table 16 presents rescreen rates by socio-economic status. Data is presented for 99.5% of Victorian women screened during 1998 where an Index of Disadvantage value is available. These data indicate consistent rescreen rates across different socio-economic groups.

Table 16: Rescreen rates by age and socio-economic status, for women who attended in 1998

Socio-economic status	Age group					50-69
	40-49	50-59	60-69	70-79	80+	
1st quintile (1-20%); lowest SES						
Women screened during 1998	3263	13760	11560	4701	186	25320
Women rescreened within following 27 months	1386	11093	9568	2831	20	20661
Rescreen rate	42.5%	80.6%	82.8%	60.2%	10.8%	81.6%
2nd quintile (21-40%)						
Women screened during 1998	3528	14247	11352	4946	198	25599
Women rescreened within following 27 months	1355	11558	9534	3020	26	21092
Rescreen rate	38.4%	81.1%	84.0%	61.1%	13.1%	82.4%
3rd quintile (41-60%)						
Women screened during 1998	3646	14370	10155	4459	168	24525
Women rescreened within following 27 months	1440	11704	8632	2855	22	20336
Rescreen rate	39.5%	81.4%	85.0%	64.0%	13.1%	82.9%
4th quintile (61-80%)						
Women screened during 1998	3685	14113	9540	4117	157	23653
Women rescreened within following 27 months	1489	11545	8209	2561	23	19754
Rescreen rate	40.4%	81.8%	86.0%	62.2%	14.6%	83.5%
5th quintile (81-100%); highest SES						
Women screened during 1998	3804	15856	10171	4750	199	26027
Women rescreened within following 27 months	1448	12865	8690	3009	25	21555
Rescreen rate	38.1%	81.1%	85.4%	63.3%	12.6%	82.8%

Results of screening

Number of films

Women who attend for screening generally have two x-rays of each breast, giving a total of four films.

Table 17 shows the number of women by age group who had four or more films taken. 'Technical reasons' for additional films include over- and under-exposure of films. 'Other reasons' for additional films include large breasts, positioning problems and breast implants. Results are highly comparable with previous years.

Table 17: Number of films taken per woman by age

Number of films taken	Age group						Total
	40-49	50-59	60-69	70-79	80+	50-69	
Four films	13796 84.7%	64809 83.1%	45430 81.7%	21365 81.1%	823 81.8%	110239 82.5%	146223 82.5%
More than four films							
Technical reasons	784 4.8%	3785 4.9%	2628 4.7%	1258 4.8%	54 5.4%	6413 4.8%	8509 4.8%
Other reasons	1710 10.5%	9426 12.1%	7516 13.5%	3724 14.1%	129 12.8%	16942 12.7%	22505 12.7%
Total	16290 100%	78020 100%	55574 100%	26347 100%	1006 100%	133594 100%	177237 100%

The percentage of films taken as technical repeat films is shown in Table 18. Overall, 1.4% of all films taken were technical repeat films, with the percentage varying little across women of different age groups.

Table 18: Number of technical repeat films taken by age

Number of technical repeat films taken	Age group						Total
	40-49	50-59	60-69	70-79	80+	50-69	
Films taken	70338	339812	242627	114761	4325	582439	771863
Technical repeat films taken	1036	4890	3239	1511	73	8129	10749
Proportion of technical repeat films	1.5%	1.4%	1.3%	1.3%	1.7%	1.4%	1.4%

The national accreditation standard requires that less than 3% of total films taken are technical repeat films.

Outcome of screening

Table 19²⁶ shows, among first attenders and subsequent attenders, the number of women within each age group who were recommended for routine rescreening and the number recommended for further assessment. 'Assessment recommended – other' mainly comprises women with breast implants and women with 'other' symptoms²⁷ but normal mammography. It also includes a small number of women with a personal history of breast cancer and women who were called back for repeat mammography because of technical reasons but who were not subsequently cleared for routine rescreen. While 10.6% of first attenders had assessment recommended, the comparable figure for subsequent attenders was 5.0%. These figures show a slight increase from 1999 when 9.9% of first attenders and 4.8% of subsequent attenders were recommended for assessment.

Table 19: Outcome of screening by age and round

Type of attendance	Age group					50-69	Total
	40-49	50-59	60-69	70-79	80+		
First attendance							
Routine rescreen recommended	8964 89.1%	13856 89.0%	3842 91.1%	1357 90.6%	258 88.1%	17698 89.4%	28277 89.4%
Assessment recommended							
Abnormal mammography	876 8.7%	1439 9.2%	328 7.8%	124 8.3%	32 10.9%	1767 8.9%	2799 8.8%
Symptoms/signs of possible breast cancer	87 0.9%	69 0.4%	11 0.3%	5 0.3%	0 0.0%	80 0.4%	172 0.5%
Abnormal mammography and symptoms/signs	20 0.2%	29 0.2%	7 0.2%	3 0.2%	2 0.7%	36 0.2%	61 0.2%
Other	115 1.1%	180 1.2%	31 0.7%	8 0.5%	1 0.3%	211 1.1%	335 1.1%
Subtotal for assessment recommended	1098 10.9%	1717 11.0%	377 8.9%	140 9.4%	35 11.9%	2094 10.6%	3367 10.6%
Subtotal	10062 100%	15573 100%	4219 100%	1497 100%	293 100%	19792 100%	31644 100%
Subsequent attendance							
Routine rescreen recommended	5799 93.1%	59090 94.6%	48982 95.4%	23836 95.9%	670 94.0%	108072 95.0%	138377 95.0%
Assessment recommended							
Abnormal mammography	333 5.3%	2686 4.3%	2070 4.0%	932 3.8%	34 4.8%	4756 4.2%	6055 4.2%
Symptoms/signs of possible breast cancer	35 0.6%	149 0.2%	90 0.2%	26 0.1%	4 0.6%	239 0.2%	304 0.2%
Abnormal mammography and symptoms/signs	6 0.1%	20 0.03%	13 0.03%	9 0.04%	0 0.0%	33 0.03%	48 0.03%
Other	53 0.9%	500 0.8%	197 0.4%	45 0.2%	5 0.7%	697 0.6%	800 0.5%
Subtotal for assessment recommended	427 6.9%	3355 5.4%	2370 4.6%	1012 4.1%	43 6.0%	5725 5.0%	7207 5.0%
Subtotal	6226 100%	62445 100%	51352 100%	24848 100%	713 100%	113797 100%	145584 100%

The national accreditation standard is that less than 10% of women screened should be recalled for mammographic assessment at the prevalent round, and less than 5% at the incident round.

²⁶ The information in the above table excludes data for six first attenders and three subsequent attenders where the outcome of screening is unknown. These women were requested to return for further films but elected not to attend.

²⁷ See footnote 11.

Results of assessment

Range of assessment procedures

Of the 10,574 women who were recommended for assessment (see Table 19), 61 women either declined or failed to attend for assessment, and 503 women were assessed privately. This left 10,010 women assessed within the BreastScreen Victoria Program; 32 of these women were cleared for routine rescreen without any further investigations being performed.

For the 9,978 women who underwent assessment investigations within BreastScreen Victoria, Table 20 shows the investigations performed for these women.

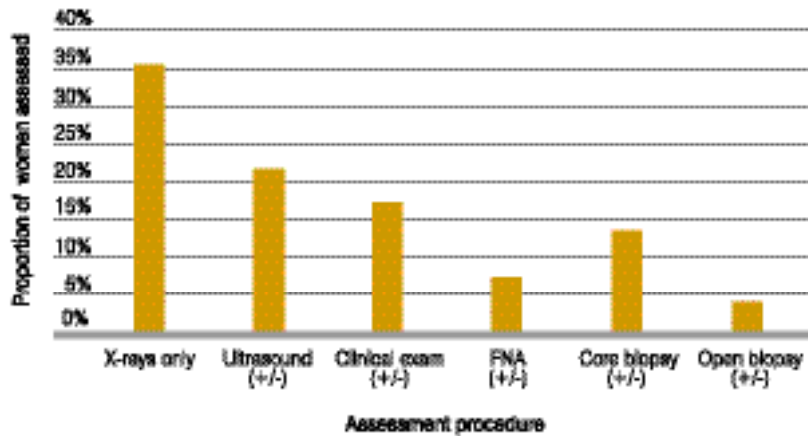
Table 20: Range of assessment procedures performed by age²⁸

Assessment procedures performed	Number of women by age group					50-69	Total
	40-49	50-59	60-69	70-79	80+		
X-rays only	489 33.8%	1714 36.4%	938 35.6%	384 34.3%	19 27.1%	2652 36.1%	3544 35.5%
Ultrasound +/- x-rays	304 21.0%	1027 21.8%	598 22.7%	228 20.3%	14 20.0%	1625 22.1%	2171 21.8%
Clinical examination +/- ultrasound +/- x-rays	333 23.0%	865 18.4%	392 14.9%	135 12.0%	10 14.3%	1257 17.1%	1735 17.4%
Fine needle aspiration +/- clinical examination +/- ultrasound +/- x-rays	112 7.7%	320 6.8%	204 7.7%	101 9.0%	10 14.3%	524 7.1%	747 7.5%
Core biopsy +/- fine needle aspiration +/- clinical examination +/- ultrasound +/- x-rays	157 10.8%	593 12.6%	394 15.0%	207 18.5%	15 21.4%	987 13.4%	1366 13.7%
Open biopsy +/- core biopsy +/- fine needle aspiration +/- clinical examination +/- ultrasound +/- x-rays	53 3.7%	186 4.0%	108 4.1%	66 5.9%	2 2.9%	294 4.0%	415 4.2%
Total	1448 100%	4705 100%	2634 100%	1121 100%	70 100%	7339 100%	9978 100%

²⁸ Of the 415 women who had an open biopsy, 257 (62%) had the procedure performed within the BreastScreen Victoria Program and 158 (38%) had the procedure performed elsewhere.

Figure 4 shows the range of assessment procedures performed, using the same sequence of investigations as in Table 20. For example, if a woman underwent a core biopsy but not an open biopsy, she is counted in the core biopsy column; she may also have undergone a combination of further x-rays, ultrasound, clinical examination and fine needle aspiration prior to the core biopsy.

Figure 4: Range of assessment procedures performed



More than one-third of the women (35.5%) received only further x-rays. An additional 21.8% had ultrasound \pm x-rays and 17.4% received clinical examination \pm ultrasound \pm x-rays. Thus, 75% of the 9,978 women were able to have their status ascertained without the need for an invasive procedure, namely fine needle aspiration or tissue biopsy.

Outcome of assessment

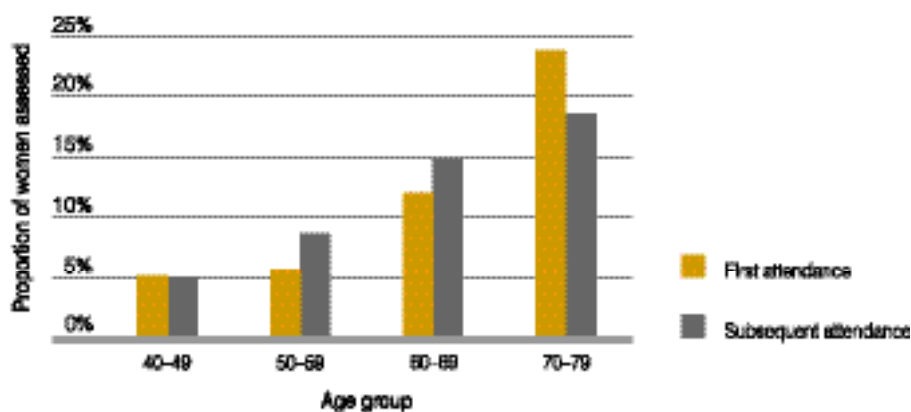
A total of 10,574 women were recommended for assessment for reasons that are listed in Table 19. Table 21 shows, among first and subsequent attenders, the final outcome of assessment, and includes outcomes for women assessed within and outside the BreastScreen Victoria Program. Where a woman was determined to have multiple lesions, only the most significant of these is counted. 'Malignant lesion' includes a diagnosis of invasive cancer or DCIS.

Table 21: Outcome of assessment by age and round

Type of attendance	Age group					50-69	Total
	40-49	50-59	60-69	70-79	80+		
First attendance							
No malignant lesion	1031 93.9%	1606 93.5%	324 85.9%	103 73.6%	22 62.9%	1930 92.2%	3086 91.7%
Malignant lesion	55 5.0%	96 5.6%	45 11.9%	33 23.6%	12 34.3%	141 6.7%	241 7.2%
Early review	10 0.9%	13 0.8%	8 2.1%	4 2.9%	1 2.9%	21 1.0%	36 1.1%
Other	2 0.2%	2 0.1%	0 0.0%	0 0.0%	0 0.0%	2 0.1%	4 0.1%
Total	1098 100%	1717 100%	377 100%	140 100%	35 100%	2094 100%	3367 100%
Subsequent attendance							
No malignant lesion	402 94.1%	3049 90.9%	2008 84.7%	818 80.8%	37 86.0%	5057 88.3%	6314 87.6%
Malignant lesion	21 4.9%	287 8.6%	347 14.6%	186 18.4%	6 14.0%	634 11.1%	847 11.8%
Early review	4 0.9%	16 0.5%	14 0.6%	5 0.5%	0 0.0%	30 0.5%	39 0.5%
Other	0 0.0%	3 0.1%	1 0.0%	3 0.3%	0 0.0%	4 0.1%	7 0.1%
Total	427 100%	3355 100%	2370 100%	1012 100%	43 100%	5725 100%	7207 100%

A total of 1,088 malignant lesions were diagnosed. Among women recommended for assessment, the proportion for whom a malignancy was diagnosed increased with age, as shown in Figure 5.

Figure 5: Diagnosis of malignant lesions in women recommended for assessment by age



Tables 22–25 show results for invasive assessment investigations performed within BreastScreen Victoria.

Fine needle aspiration biopsy results

Table 22 lists the results of 1,290 fine needle aspiration biopsies. One fine needle aspiration is counted per woman; i.e. if a woman undergoes multiple fine needle aspirations, the most significant result is counted. Of women aged 50–69 years who underwent a fine needle biopsy, 23.1% had a malignant result. One hundred and seventy-five women (19.2%) in the 50–69 year age group were reported as having no definitive result.

Table 22: Outcome of fine needle aspiration biopsy by age

FNA biopsy result	Age group					50–69	Total
	40–49	50–59	60–69	70–79	80+		
Inadequate specimen	33 18.2%	68 12.7%	47 12.5%	19 10.4%	2 12.5%	115 12.6%	169 13.1%
Benign	69 38.1%	174 32.5%	79 21.1%	32 17.5%	2 12.5%	253 27.8%	356 27.6%
Atypical/Equivocal	12 6.6%	34 6.4%	26 6.9%	11 6.0%	1 6.3%	60 6.6%	84 6.5%
Suspicious	7 3.9%	44 8.2%	26 6.9%	22 12.0%	1 6.3%	70 7.7%	100 7.8%
Malignant	17 9.4%	82 15.3%	128 34.1%	68 37.2%	8 50.0%	210 23.1%	303 23.5%
Cyst fluid aspirated	43 23.8%	133 24.9%	69 18.4%	31 16.9%	2 12.5%	202 22.2%	278 21.6%
Total	181 100%	535 100%	375 100%	183 100%	16 100%	910 100%	1290 100%

Core biopsy results

Table 23 lists the results of 1,563 core biopsies. One core biopsy is counted per woman; i.e. if a woman undergoes multiple core biopsies, the most significant result is counted. Of women aged 50–69 years who underwent a core biopsy, 51.7% had a malignant result. Eighty-two women (7.2%) in the 50–69 year age group were reported as having no definitive result.

Table 23: Outcome of core biopsy by age

Core biopsy result	Age group						Total
	40–49	50–59	60–69	70–79	80+	50–69	
Inadequate specimen	5 2.8%	9 1.3%	9 2.0%	6 2.5%	2 12.5%	18 1.6%	31 2.0%
Benign	107 59.8%	319 46.5%	114 25.6%	64 27.1%	4 25.0%	433 38.3%	608 38.9%
Atypical/Equivocal	8 4.5%	43 6.3%	21 4.7%	10 4.2%	0 0.0%	64 5.7%	82 5.2%
Suspicious	4 2.2%	8 1.2%	3 0.7%	4 1.7%	0 0.0%	11 1.0%	19 1.2%
Malignant	52 29.1%	294 42.9%	291 65.2%	146 61.9%	9 56.3%	585 51.7%	792 50.7%
Atypical ductal hyperplasia	3 1.7%	12 1.7%	7 1.6%	6 2.5%	1 6.3%	19 1.7%	29 1.9%
Lobular carcinoma in situ	0 0.0%	1 0.1%	1 0.2%	0 0.0%	0 0.0%	2 0.2%	2 0.1%
Total	179 100%	686 100%	446 100%	236 100%	16 100%	1132 100%	1563 100%

Open biopsy results

In Table 20, 415 women were reported as undergoing an open biopsy. Open biopsy was recommended for 408 of these women. The remaining seven women chose to have an open biopsy. Table 24 lists the results for the 408 women who were recommended for open biopsy. One open biopsy is counted per woman; i.e. if a woman undergoes multiple open biopsies, the most significant result is counted. Of women aged 50–69 years who underwent an open biopsy, 27.9% had a malignant result. Only one women (0.3%) in the 50–69 year age group was reported as having no definitive result.

Table 24: Outcome of open biopsy by age

Open biopsy result	Age group						Total
	40–49	50–59	60–69	70–79	80+	50–69	
Malignancy – breast	15 28.3%	43 23.6%	38 35.2%	24 38.7%	2 66.7%	81 27.9%	122 29.9%
Benign	38 71.7%	138 75.8%	70 64.8%	37 59.7%	0 0.0%	208 71.7%	283 69.4%
No definitive result	0 0.0%	1 0.5%	0 0.0%	1 1.6%	0 0.0%	1 0.3%	2 0.5%
Malignancy – other site	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 33.3%	0 0.0%	1 0.2%
Total	53 100%	182 100%	108 100%	62 100%	3 100%	290 100%	408 100%

Preoperative diagnosis of breast cancer

Of the 1,088 women diagnosed with breast cancer in 2000, 1,078 women were assessed within the BreastScreen Victoria Program. Table 25 shows the most invasive biopsy performed for these 1,078 women.

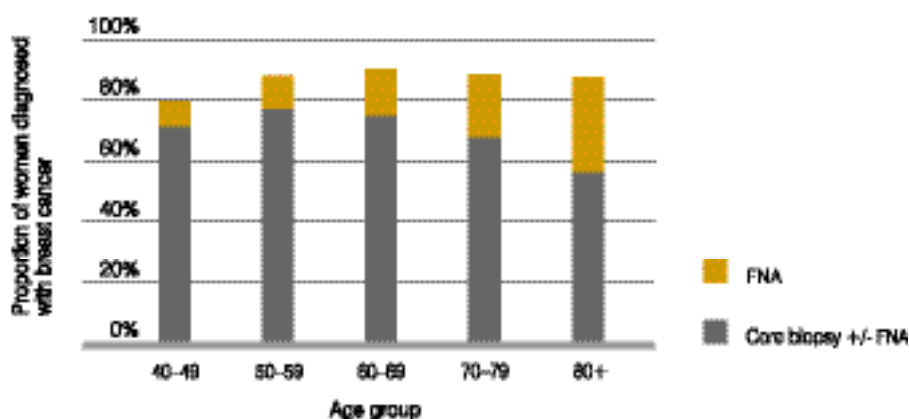
Table 25: Breast cancer diagnosis by age and most invasive biopsy

Most invasive biopsy	Age group					50-69	Total
	40-49	50-59	60-69	70-79	80+		
Fine needle aspiration	6 8.1%	42 11.0%	60 15.4%	45 20.7%	5 31.3%	102 13.2%	158 14.7%
Core biopsy +/- fine needle aspiration	53 71.6%	294 77.2%	292 74.9%	147 67.7%	9 56.3%	586 76.0%	795 73.7%
Open biopsy +/- core biopsy +/- fine needle aspiration	15 20.3%	45 11.8%	38 9.7%	25 11.5%	2 12.5%	83 10.8%	125 11.6%
Total	74 100%	381 100%	390 100%	217 100%	16 100%	771 100%	1078 100%

For women who have breast cancer, it is preferable that a definite diagnosis is reached without the need for open biopsy, otherwise described as a preoperative diagnosis. More than 88% of women who were diagnosed with breast cancer received their diagnosis without requiring an open biopsy.

Figure 6 shows the proportion of women diagnosed with breast cancer whose most invasive procedure was fine needle aspiration or core biopsy. The proportion receiving a preoperative diagnosis was lowest in women aged 40-49 years.

Figure 6: Preoperative diagnosis of breast cancer by age²⁹



²⁹ The BreastScreen Victoria 1999 Annual Statistical Report (page 30) included a similar chart containing several errors. The Y axis label should be 'Proportion of women diagnosed with breast cancer', the final age range on the X axis '70-79', and the legend labels reversed.

Recommendation for routine rescreening

Of the 177,237 women who attended for screening, 166,654 were recommended for routine rescreening without requiring assessment (see Table 19). Of the 10,574 women who were recommended for assessment, the 9,400 women who were assessed as having no malignant lesion were also recommended for routine rescreening (see Table 21). Thus, a total of 176,054 (99.3%) women were ultimately recommended for routine rescreening.

Table 26 shows the distribution by age group of the recommendations for routine rescreening. The usual recommendation is for routine rescreening at two years.³⁰ Only 0.4% of all women screened were advised to return at one year. Annual screening was more frequently recommended for older women than other age groups. These figures are similar to those in 1999. Reasons for a recommendation for rescreening at one year include a personal history of mastectomy for breast cancer, atypical ductal hyperplasia or lobular carcinoma in situ.

Table 26: Recommendation for routine rescreen by age

Routine rescreen recommendation	Age group						Total
	40-49	50-59	60-69	70-79	80+	50-69	
Rescreen at 2 years	16168 99.8%	77403 99.7%	54925 99.6%	25907 99.2%	949 96.1%	132328 99.7%	175352 99.6%
Rescreen at 1 year	28 0.2%	198 0.3%	231 0.4%	207 0.8%	38 3.9%	429 0.3%	702 0.4%
Total	16196 100%	77601 100%	55156 100%	26114 100%	987 100%	132757 100%	176054 100%

Breast cancer detection

There were 1,088 breast cancers diagnosed among the 177,237 women who attended for screening in 2000. Of these 1,088 cancers, eleven meet the criteria of interval cancer. Five cancers were diagnosed at early review more than six months after the screening examination; six cancers were diagnosed at early rescreen at which time a lump and/or bloodstained or watery nipple discharge was present in the same breast in which the cancer was diagnosed. Tables 27–32 and 35–41 include only the 1,077 cancers that are considered screen-detected cancers.

Breast cancer diagnosis rate by attendance round

Table 27 shows the rate of breast cancer per 1,000 women screened by attendance round, mammographic status, symptom status and personal history of breast cancer for each ten-year age group. As in Table 5, a symptomatic woman was defined as a woman with a breast lump and/or bloodstained or watery nipple discharge.

Among asymptomatic women with no personal history of breast cancer who were attending BreastScreen Victoria for the first time, the crude rate of breast cancer diagnosis was 6.4 per 1,000 women screened. The crude rate among asymptomatic subsequent attenders was 5.5 per 1,000 attenders. In 1999, the comparable figures for asymptomatic attenders were 5.8 per 1,000 first round attenders and 4.9 per 1,000 subsequent round attenders.

As in previous years, symptomatic women and/or women with a personal history of breast cancer have rates of breast cancer diagnosis that are three to four times higher than asymptomatic women. The rate of diagnosis of breast cancer is lower among subsequent attenders because women at first round screening may have cancers that have recently developed or cancers that have been present for some years.

Figure 7: Breast cancer detection rate by age and attendance round

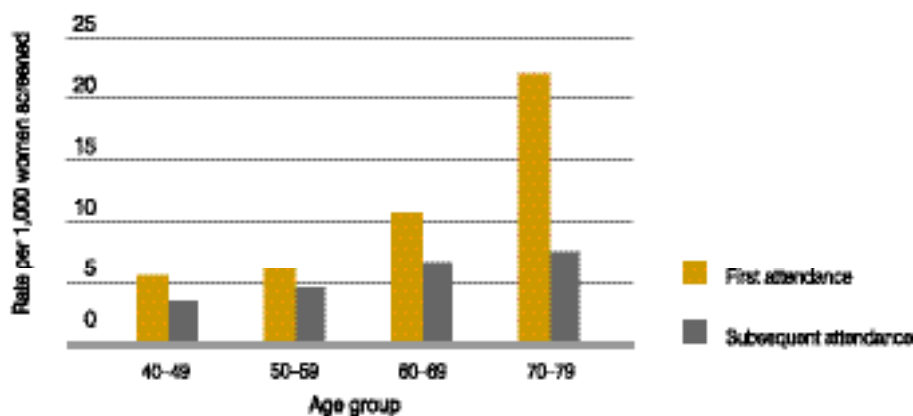


Table 27: Breast cancer detection rate by age, round, mammography status, symptom status and personal history of breast cancer

Type of attendance	Age group						Total Av. rate (95% C.I.) ³¹
	40-49	50-59	60-69	70-79	80+	50-69	
First attendance							
Radiographic abnormality; asymptomatic women with no personal history of breast cancer							
Number of cancers	41	74	35	26	6	109	182
Rate per 1,000 women screened	4.7	5.2	9.0	19.4	25.9	6.0	6.4 (5.5-7.4)
Symptomatic and/or personal history of breast cancer ³²							
Number of cancers	8	12	7	1	4	19	32
Rate per 1,000 women screened	16.5	24.0	66.0	22.7	222.2	31.4	27.8 (19.6-39.2)
'Other' breast symptoms; no personal history of breast cancer and radiographic abnormality							
Number of cancers	6	9	3	6	2	12	26
Rate per 1,000 women screened	7.6	12.4	14.4	52.6	46.5	12.9	13.8 (9.4-20.3)
Subsequent attendance							
Radiographic abnormality; asymptomatic women with no personal history of breast cancer							
Number of cancers	20	257	321	169	4	578	771
Rate per 1,000 women screened	3.6	4.3	6.5	7.1	6.4	5.3	5.5 (5.2-6.0)
Symptomatic and/or personal history of breast cancer ³²							
Number of cancers	0	18	7	9	1	25	35
Rate per 1,000 women screened	0.0	14.8	10.3	29.5	30.3	13.2	14.1 (10.1-19.7)
'Other' breast symptoms; no personal history of breast cancer and radiographic abnormality							
Number of cancers	1	9	12	8	1	21	31
Rate per 1,000 women screened	2.6	4.7	9.7	13.6	17.9	6.7	7.4 (5.2-10.6)

The national accreditation standard is that at least 5 cancers per 1,000 women screened should be detected at the prevalent screening round and at least 2 cancers per 1,000 women screened at incident screening rounds.

³¹ The 95% confidence interval (C.I.) provides a measure of the extent of variation that might be expected by chance for a given estimate. The larger the number of observations, the narrower the confidence interval and thus the more meaningful the estimate. Wider confidence intervals indicate less stability in the estimate and hamper comparison of data across years.

³² These women may or may not have had a radiographic abnormality.

Size of breast cancer

Tables 28 and 29 show the number and rate of breast cancer diagnosis by size of tumour for each ten-year age group and by attendance round. This information is only presented for invasive breast cancers, as dimensions of ductal carcinoma in situ (DCIS) are not usually given.

Among first round attenders, 52% of breast cancers were 15 mm or less in diameter (51% in 1999). Among subsequent attenders, 69% of breast cancers were 15 mm or less in diameter (70% in 1999). A small diameter tumour at diagnosis is generally considered predictive of an improved prognosis.

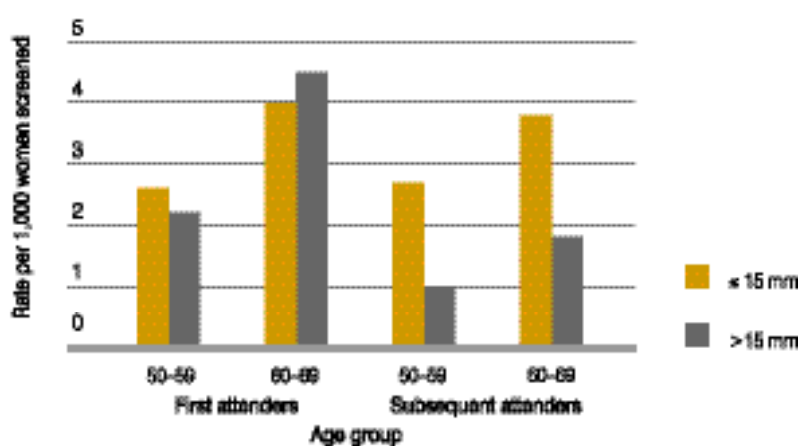
The rates of invasive cancers 10 mm or less in size were 1.4 and 1.9 per 1,000 women screened for first and subsequent attenders respectively.

Table 28: Breast cancer detection rate by age and size of invasive breast cancer for first attendance

Size	Age group						Total Av. rate (95% C.I.)
	40-49	50-59	60-69	70-79	80+	50-69	
10 mm or less							
Number of cancers	11	15	6	10	2	21	44
	30.6%	20.0%	16.7%	34.5%	20.0%	18.9%	23.7%
Rate per 1,000 women screened	1.1	1.0	1.4	6.7	6.8	1.1	1.4 (1.0-1.9)
11 mm to 15 mm							
Number of cancers	7	25	11	9	0	36	52
	19.4%	33.3%	30.6%	31.0%	0.0%	32.4%	28.0%
Rate per 1,000 women screened	0.7	1.6	2.6	6.0	0.0	1.8	1.6 (1.3-2.2)
More than 15 mm							
Number of cancers	15	35	19	9	6	54	84
	41.7%	46.7%	52.8%	31.0%	60.0%	48.6%	45.2%
Rate per 1,000 women screened	1.5	2.2	4.5	6.0	20.5	2.7	2.7 (2.1-3.3)
Unknown							
Number of cancers	3	0	0	1	2	0	6
	8.3%	0.0%	0.0%	3.4%	20.0%	0.0%	3.2%
Rate per 1,000 women screened	0.3	0.0	0.0	0.7	6.8	0.0	0.2 (0.1-0.4)
Total							
Number of cancers	36	75	36	29	10	111	186
	100%	100%	100%	100%	100%	100%	100%
Rate per 1,000 women screened	3.6	4.8	8.5	19.4	34.1	5.6	5.9 (5.1-6.8)

Table 29: Breast cancer detection rate by age and size of invasive breast cancer for subsequent attendance

Size	Age group						Total Av. rate (95% C.I.)
	40-49	50-59	60-69	70-79	80+	50-69	
10 mm or less							
Number of cancers	7	94	106	69	1	200	277
	46.7%	41.4%	36.7%	45.1%	16.7%	38.8%	40.1%
Rate per 1,000 women screened	1.1	1.5	2.1	2.8	1.4	1.8	1.9 (1.7-2.1)
11 mm to 15 mm							
Number of cancers	5	72	88	34	2	160	201
	33.3%	31.7%	30.4%	22.2%	33.3%	31.0%	29.1%
Rate per 1,000 women screened	0.8	1.2	1.7	1.4	2.8	1.4	1.4 (1.2-1.6)
More than 15 mm							
Number of cancers	3	61	90	47	3	151	204
	20.0%	26.9%	31.1%	30.7%	50.0%	29.3%	29.6%
Rate per 1,000 women screened	0.5	1.0	1.8	1.9	4.2	1.3	1.4 (1.2-1.6)
Unknown							
Number of cancers	0	0	5	3	0	5	8
	0.0%	0.0%	1.7%	2.0%	0.0%	1.0%	1.2%
Rate per 1,000 women screened	0.0	0.0	0.1	0.1	0.0	0.0	0.1 (0.03-0.11)
Total							
Number of cancers	15	227	289	153	6	516	690
	100%	100%	100%	100%	100%	100%	100%
Rate per 1,000 women screened	2.4	3.6	5.6	6.2	8.4	4.5	4.7 (4.4-5.1)

Figure 8: Breast cancer detection rate by age, size and attendance round

The national accreditation standard is that at least 0.8 cancers per 1,000 women screened have a diameter of 10 mm or less.

Histologic type of breast cancer

Of the 1,077 cases of breast cancer diagnosed in total, 876 (81%) were invasive and 201 (19%) were DCIS. Of the 240 cases of breast cancer among first attenders, 78% were invasive in nature; 22% were diagnosed as DCIS. Among subsequent attenders, 82% of the 837 cases were invasive in nature; 18% were DCIS.

Table 30 shows the number and rate of breast cancer diagnosis by type (invasive or DCIS) for each ten-year age group. Among women aged 50–69 years, the rate of invasive cancer detection was 5.6 per 1,000 women screened for first attenders, and 4.5 per 1,000 women for subsequent attenders. The rate of diagnosis of DCIS was 1.5 per 1,000 women screened among first attenders in the target age group, and 0.9 among subsequent attenders.

Table 30: Invasive breast cancer and DCIS detection rate by age and round

Type of attendance	Age group					50–69	Total Av. rate (95% C.I.)
	40–49	50–59	60–69	70–79	80+		
First attendance							
Invasive							
Number of cancers	36	75	36	29	10	111	186
Rate per 1,000 women screened	3.6	4.8	8.5	19.4	34.1	5.6	5.9 (5.1–6.8)
Ductal carcinoma in situ							
Number of cancers	19	20	9	4	2	29	54
Rate per 1,000 women screened	1.9	1.3	2.1	2.7	6.8	1.5	1.7 (1.3–2.2)
Subsequent attendance							
Invasive							
Number of cancers	15	227	289	153	6	516	690
Rate per 1,000 women screened	2.4	3.6	5.6	6.2	8.4	4.5	4.7 (4.4–5.1)
Ductal carcinoma in situ							
Number of cancers	6	57	51	33	0	108	147
Rate per 1,000 women screened	1.0	0.9	1.0	1.3	0.0	0.9	1.0 (0.9–1.2)
Total							
Number of cancers	76	379	385	219	18	764	1077
Rate per 1,000 women screened	4.7	4.9	6.9	8.3	17.9	5.7	6.1 (5.7–6.5)

The national accreditation standard is that 10–20% of the cancers detected should be ductal carcinoma in situ.

Among the 201 cases of DCIS diagnosed, 103 (51%) were classified as high grade, 52 (26%) as intermediate grade and 46 (23%) as low grade.

age

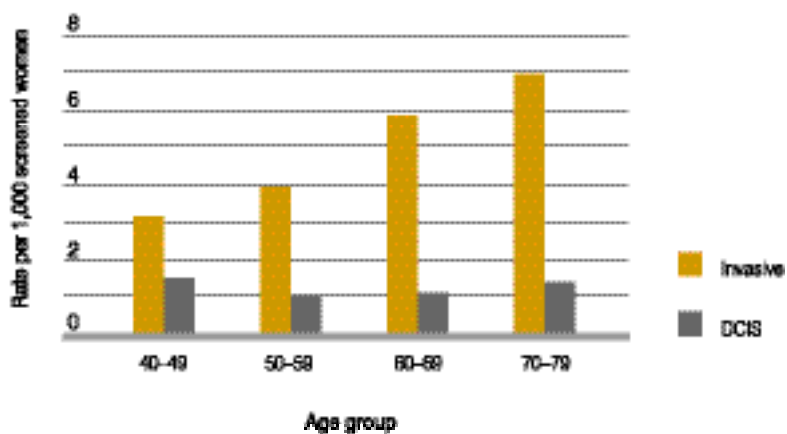


Table 31 shows invasive breast cancer diagnoses by histologic type and size. The distribution is very similar to that reported in previous years.

Table 31: Invasive breast cancer diagnosis by size and histologic type

Histologic type	Invasive			Unknown	Total
	0-10 mm	11-15 mm	>15 mm		
Invasive ductal carcinoma not otherwise stated	257 37.6%	199 29.1%	217 31.7%	11 1.6%	684 100%
Lobular classical carcinoma	19 22.6%	24 28.6%	40 47.6%	1 1.2%	84 100%
Mixed ductal/lobular carcinoma	8 20.5%	12 30.8%	19 48.7%	0 0.0%	39 100%
Tubular carcinoma	22 64.7%	8 23.5%	3 8.8%	1 2.9%	34 100%
Lobular variant carcinoma	6 46.2%	3 23.1%	3 23.1%	1 7.7%	13 100%
Mucinous carcinoma	6 46.2%	6 46.2%	1 7.7%	0 0.0%	13 100%
Other	3 33.3%	1 11.1%	5 55.6%	0 0.0%	9 100%
Total	321 36.6%	253 28.9%	288 32.9%	14 1.6%	876 100%

Tumour grade

Information about tumour grade was known for 93% of the 876 women diagnosed with invasive breast cancer. Table 32 shows the tumour grade by size. Tumour grade is an important prognostic indicator. Tumours that are well differentiated (Grade 1) are associated with a better prognosis. A greater proportion of smaller tumours are well differentiated.

Table 32: Invasive breast cancer by tumour grade and size

Tumour grade	0–10 mm	11–15 mm	Invasive >15 mm	Unknown	Total
Grades unknown	27	14	13	8	62
Grades known					
Grade 1 (Well differentiated)	147 50.0%	77 32.2%	46 16.7%	0 0.0%	270 33.2%
Grade 2 (Moderately differentiated)	124 42.2%	121 50.6%	150 54.5%	2 33.3%	397 48.8%
Grade 3 (Poorly differentiated)	23 7.8%	41 17.2%	79 28.7%	4 66.7%	147 18.1%
Subtotal	294 100%	239 100%	275 100%	6 100%	814 100%

Interval cancer rate

Interval cancers are cases of invasive breast cancer that are diagnosed during the time interval after a negative screen and prior to the next scheduled screening examination. This period is usually 24 months.

The following points are relevant to the interval cancer rates that are presented in Tables 33 and 34.

- The interval cancer rates in the tables relate to women screened at BreastScreen Victoria from 1 January 1998 to 31 December 1998.³³
- Interval cancer rates are calculated separately for women who were first round attenders in 1998 and for women who were subsequent attenders in 1998.
- Within each table, separate rates are presented for three groups of women:
 - women who were asymptomatic at the time of their 1998 screening
 - women who indicated a breast lump and/or a bloodstained or watery nipple discharge at the time of their 1998 screening
 - women who indicated 'other' breast symptoms³⁴ at the time of their 1998 screening.

These rates are presented separately as it is expected that the interval cancer rate will differ between women who were symptomatic and asymptomatic at the time of screening.

Interval cancer rates are reported using the national definition endorsed by the BreastScreen Australia National Advisory Committee in November 1998.³⁵ The national definition excludes DCIS for reporting purposes, and corresponds with that used in the BreastScreen Victoria 1999 Annual Statistical Report.

³³ Measurement of interval cancer rates is made possible by the generous assistance of the staff of the Cancer Epidemiology Centre at the Cancer Council of Victoria.

³⁴ See footnote 11.

³⁵ Kavanagh AM, Amos AF and Marr GM (1999), The ascertainment and reporting of interval cancers within the BreastScreen Australia Program, NHMRC National Breast Cancer Centre.

A total of 93 interval cancers were identified among the first round attenders in 1998. Of these, 30 were diagnosed during the first year and 63 during the second year. Table 33 shows the interval cancer rate for the three groups of first attenders during the first and second years after their 1998 screening.

Table 33: Interval cancer rate by age and symptom status for women who were first attenders in 1998

Year after screening	Age group					50-69	Total Av. rate (95% C.I.)
	40-49	50-59	60-69	70-79	80+		
Year 1							
Asymptomatic women							
Number of women years at risk	10431	19110	4097	2113	322	23207	36073
Number of interval cancers	4	14	4	4	0	18	26
Rate per 10,000 women years	3.8	7.3	9.8	18.9	0.0	7.8	7.2 (4.7-10.6)
Symptoms – lump or discharge							
Number of women years at risk	525	523	83	39	15	606	1185
Number of interval cancers	0	1	2	0	0	3	3
Rate per 10,000 women years	0.0	19.1	241.0	0.0	0.0	49.5	25.3 (5.2-73.8)
Symptoms – 'other'							
Number of women years at risk	877	907	230	125	45	1137	2184
Number of interval cancers	0	1	0	0	0	1	1
Rate per 10,000 women years	0.0	11.0	0.0	0.0	0.0	8.8	4.6 (0.1-25.5)
Year 2							
Asymptomatic women							
Number of women years at risk	10427	19090	4092	2109	322	23182	36040
Number of interval cancers	16	23	8	5	0	31	52
Rate per 10,000 women years	15.3	12.0	19.6	23.7	0.0	13.4	14.4 (10.8-18.9)
Symptoms – lump or discharge							
Number of women years at risk	524	520	83	39	15	603	1181
Number of interval cancers	2	3	0	0	0	3	5
Rate per 10,000 women years	38.2	57.7	0.0	0.0	0.0	49.8	42.3 (13.8-98.5)
Symptoms – 'other'							
Number of women years at risk	877	907	228	124	44	1135	2180
Number of interval cancers	0	5	1	0	0	6	6
Rate per 10,000 women years	0.0	55.1	43.9	0.0	0.0	52.9	27.5 (10.1-59.8)

Among asymptomatic first round attenders aged 50-69 years in 1998, 18 invasive breast cancers were diagnosed during the first 12 months after screening, giving an interval cancer rate of 7.8 cancers per 10,000 women (95% C.I. 4.6-12.3). During the second year after the 1998 screening, 31 invasive breast cancers were diagnosed among asymptomatic first round attenders aged 50-69 years, giving an interval cancer rate of 13.4 cancers per 10,000 women (95% C.I. 9.1-19.0).

A total of 253 interval cancers were identified among subsequent attenders in 1998. Of these, 93 were diagnosed during the first year and 160 during the second year.

Table 34 shows the interval cancer rate for the three groups of subsequent attenders during the first and second years after their 1998 screening. As in Table 33, the interval cancer rate among asymptomatic women during the second year after screening was almost two times that found during the first year after screening.

Table 34: Interval cancer rate by age and symptom status for women who were subsequent attenders in 1998

Year after screening	Age group					50-69	Total Av. rate (95% C.I.)
	40-49	50-59	60-69	70-79	80+		
Year 1							
Asymptomatic women							
Number of women years at risk	5586	49609	46895	20110	474	96504	122674
Number of interval cancers	9	32	34	10	0	66	85
Rate per 10,000 women years	16.1	6.5	7.3	5.0	0.0	6.8	6.9 (5.5-8.6)
Symptoms – lump or discharge							
Number of women years at risk	251	985	481	142	14	1466	1873
Number of interval cancers	0	2	2	0	1	4	5
Rate per 10,000 women years	0.0	20.3	41.6	0.0	714.3	27.3	26.7 (8.7-62.2)
Symptoms – 'other'							
Number of women years at risk	384	1726	1267	524	42	2993	3943
Number of interval cancers	0	2	1	0	0	3	3
Rate per 10,000 women years	0.0	11.6	7.9	0.0	0.0	10.0	7.6 (1.6-22.2)
Year 2							
Asymptomatic women							
Number of women years at risk	5569	49526	46827	20081	472	96353	122475
Number of interval cancers	6	57	59	24	0	116	146
Rate per 10,000 women years	10.8	11.5	12.6	12.0	0.0	12.0	11.9 (10.1-14.0)
Symptoms – lump or discharge							
Number of women years at risk	250	980	477	142	14	1457	1863
Number of interval cancers	0	5	0	0	0	5	5
Rate per 10,000 women years	0.0	51.0	0.0	0.0	0.0	34.3	26.8 (8.7-62.5)
Symptoms – 'other'							
Number of women years at risk	383	1721	1264	524	42	2985	3934
Number of interval cancers	0	2	6	1	0	8	9
Rate per 10,000 women years	0.0	11.6	47.5	19.1	0.0	26.8	22.9 (10.5-43.4)

Among asymptomatic subsequent round attenders aged 50-69 years in 1998, 66 invasive breast cancers were diagnosed during the first 12 months after screening, giving an interval cancer rate of 6.8 cancers per 10,000 women (95% C.I. 5.3-8.7). During the second year after the 1998 screening, 116 invasive breast cancers were diagnosed among asymptomatic subsequent round attenders aged 50-69 years, giving an interval cancer rate of 12.0 cancers per 10,000 women (95% C.I. 9.9-14.4).

The national accreditation standard is that less than 6 per 10,000 women screened are diagnosed with breast cancer (including DCIS but excluding LCIS) in the 12 months following screening. There is currently no national accreditation standard for interval cancers diagnosed in the 12 to 24 month period following screening. This standard is being revised to reflect the change in national definition.

Breast cancer treatment

Nodal status

Table 35 shows nodal status by tumour type and size. Just over 9% of the 876 women diagnosed with invasive breast cancer did not undergo axillary node dissection, a figure similar to previous years. Among those women who had an axillary node dissection, nodes were positive for 11.9% of the women whose breast cancer was 10 mm or less in diameter, for 17.4% of the women whose breast cancer was 11–15 mm in diameter, and for 37.1% of the women whose breast cancer was more than 15 mm in diameter. Comparative figures for 1999 were 5.1% (10 mm or less), 18.2% (11–15 mm), and 42.3% (more than 15 mm).

Seven per cent of the 201 women diagnosed with DCIS underwent axillary node dissection, compared with 10% in 1999, 10% in 1998, 20% in 1997 and 22% in 1996. As in previous years, all women with DCIS who underwent axillary dissection were node negative.

Table 35: Nodal status for invasive breast cancer (by size) and for DCIS

Nodal status	Invasive				Invasive total	DCIS	Total
	0–10 mm	11–15 mm	>15 mm	Unknown			
No dissection	43	17	13	8	81	187	268
Dissection performed							
Node negative	245 88.1%	195 82.6%	173 62.9%	5 83.3%	618 77.7%	14 100.0%	632 78.1%
Node positive	33 11.9%	41 17.4%	102 37.1%	1 16.7%	177 22.3%	0 0.0%	177 21.9%
Subtotal	278 100%	236 100%	275 100%	6 100%	795 100%	14 100%	809 100%

Type of treatment

Treatment details were recorded for all women diagnosed with invasive breast cancer. The percentage of women who underwent breast conservation surgery (76%) is similar to 1999 (77%) and higher than in previous years (73% in 1998 and 1997, and 65% in 1996). Treatment details were recorded for all of the women who were diagnosed with DCIS. Nineteen per cent of these women underwent a mastectomy compared with 20% in 1999, 18% in 1998, 22% in 1997 and 30% in 1996.

Table 36: Surgical treatment for invasive breast cancer (by size) and for DCIS

Type of surgical treatment	Invasive				Invasive total	DCIS	Total
	0–10 mm	11–15 mm	>15 mm	Unknown			
No surgery	0 0.0%	0 0.0%	0 0.0%	6 42.9%	6 0.7%	0 0.0%	6 0.6%
Local diagnostic	9 2.8%	1 0.4%	0 0.0%	1 7.1%	11 1.3%	21 10.4%	32 3.0%
Wide local excision	265 82.6%	199 78.7%	174 60.4%	5 35.7%	643 73.4%	141 70.1%	784 72.8%
Mastectomy	47 14.6%	53 20.9%	114 39.6%	2 14.3%	216 24.7%	39 19.4%	255 23.7%
Total	321 100%	253 100%	288 100%	14 100%	876 100%	201 100%	1077 100%

The majority of women (73%) with a diagnosis of invasive cancer or DCIS underwent a wide local excision.

Of the 876 cases of invasive breast cancer, 663 (76%) were diagnosed among women living in urban³⁶ areas and 213 (24%) among women living in rural³⁷ areas. Of the 201 cases of DCIS, 162 (81%) were diagnosed among women living in urban areas and 39 (19%) were diagnosed among women living in rural areas.

Table 37 shows surgical treatment by area of residence. A greater proportion of women living in rural areas (37.3%) underwent mastectomy than women living in urban areas (19.5%). Comparative rates for 1999 were rural (40%) and urban (16.6%), and for 1998 the rates were rural (42.9%) and urban (19.3%).

The mastectomy rate for women living in rural areas did not vary as greatly with tumour size as it did for women living in urban areas. For women living in rural areas, 33% with small tumours (10 mm or less in diameter), were treated by mastectomy. The mastectomy rate for those women increased to 51% for tumors more than 15 mm in diameter. The comparable rates for women living in urban areas were 9.2% and 36.2% respectively.

Table 37: Surgical treatment for invasive breast cancer (by size) and for DCIS by area of residence

Area of residence	Invasive				Invasive total	DCIS	Total
	0–10 mm	11–15 mm	>15 mm	Unknown			
Urban							
No surgery	0 0.0%	0 0.0%	0 0.0%	3 30.0%	3 0.5%	0 0.0%	3 0.4%
Local diagnostic excision	6 2.4%	0 0.0%	0 0.0%	0 0.0%	6 0.9%	15 9.3%	21 2.5%
Wide local excision	220 88.4%	156 85.2%	141 63.8%	5 50.0%	522 78.7%	118 72.8%	640 77.6%
Mastectomy	23 9.2%	27 14.8%	80 36.2%	2 20.0%	132 19.9%	29 17.9%	161 19.5%
Subtotal	249 100%	183 100%	221 100%	10 100%	663 100%	162 100%	825 100%
Rural							
No surgery	0 0.0%	0 0.0%	0 0.0%	3 75.0%	3 1.4%	0 0.0%	3 1.2%
Local diagnostic excision	3 4.2%	1 1.4%	0 0.0%	1 25.0%	5 2.3%	6 15.4%	11 4.4%
Wide local excision	45 62.5%	43 61.4%	33 49.3%	0 0.0%	121 56.8%	23 59.0%	144 57.1%
Mastectomy	24 33.3%	26 37.1%	34 50.7%	0 0.0%	84 39.4%	10 25.6%	94 37.3%
Subtotal	72 100%	70 100%	67 100%	4 100%	213 100%	39 100%	252 100%

36 References to 'urban' include capital city and other major urban according to the 'Rural/Remote Areas Classification' of the Commonwealth Department of Health and Family Services, January 1994.

37 References to 'rural' include rural major, rural other, remote major and remote other according to the 'Rural/Remote Areas Classification' of the Commonwealth Department of Health and Family Services, January 1994.

Information about the use of adjuvant therapy was available for 93% of the 1,077 women who were diagnosed with breast cancer. Adjuvant therapy is given in addition to the primary treatment (usually surgery) to try to destroy any remaining cancer cells. Radiotherapy, chemotherapy and hormonal therapy may be used as adjuvant therapy.

Among those women with known information, 86% of women with breast cancer received some type of adjuvant therapy. Among women with invasive breast cancer, 95% received adjuvant therapy, compared with 93% in 1999, 94% in 1998 and 90% in 1997. Table 38 shows the range of adjuvant therapy used for women with invasive breast cancer of known size.

Table 38: Adjuvant therapy for invasive breast cancer by size

Type of adjuvant therapy	0–10 mm	Invasive 11–15 mm	> 15 mm
Unknown	21	19	23
Information available			
No adjuvant therapy	19 6.3%	12 5.1%	10 3.8%
Radiotherapy only	51 17.0%	22 9.4%	23 8.7%
Chemotherapy only	6 2.0%	10 4.3%	35 13.2%
Hormonal therapy only	69 23.0%	44 18.8%	30 11.3%
Radiotherapy & hormonal therapy	135 45.0%	107 45.7%	63 23.8%
Radiotherapy & chemotherapy	9 3.0%	18 7.7%	50 18.9%
Chemotherapy & hormonal therapy	2 0.7%	5 2.1%	16 6.0%
Radiotherapy & chemotherapy & hormonal therapy	9 3.0%	16 6.8%	38 14.3%
Subtotal	300 100%	234 100%	265 100%

Of the women diagnosed with DCIS, 47% received adjuvant therapy, compared with 41% in 1999, 29% in 1998 and 27% in 1997. Of the 187 women with DCIS for whom information about the use of adjuvant therapy was available, 44 (24%) received radiotherapy alone, 37 (20%) received hormonal therapy, six (3%) received a combination of radiotherapy and hormonal therapy, and 100 (53%) received no adjuvant therapy.

Table 39 shows the use of radiotherapy for women with invasive cancer and known nodal status who underwent breast conservation surgery or mastectomy.³⁸ The majority of women who underwent breast conservation surgery received adjuvant radiotherapy: 91% of women with node positive breast cancer (82% in 1999, 93% in 1998) and 87% of women with node negative breast cancer (78% in 1999, 73% in 1998). Most women (84%) who underwent a mastectomy did not receive radiotherapy.

Table 39: Adjuvant radiotherapy for invasive breast cancer by type of surgery and nodal status

Adjuvant radiotherapy	Breast conservation surgery		Invasive Mastectomy	
	Node positive	Node negative	Node positive	Node negative
Unknown	8	33	1	17
Information available				
Radiotherapy	93 91.2%	388 86.8%	22 33.3%	8 6.6%
No radiotherapy	9 8.8%	59 13.2%	44 66.7%	113 93.4%
Subtotal	102 100%	447 100%	66 100%	121 100%

Table 40 shows the use of radiotherapy for women with invasive cancer of known size who underwent breast conservation surgery.³⁸ Eighty-four per cent of these women received radiotherapy. Of women with tumours 11 mm or greater in diameter, 89% underwent radiotherapy (86% in 1999, 79% in 1998) as opposed to 78% of women with tumours 10 mm or less in diameter (64% in 1999, 68% in 1998).

Table 40: Adjuvant radiotherapy for invasive breast cancer treated with breast conservation surgery by size

Adjuvant radiotherapy	0-10 mm	Invasive		Total
		11-15 mm	>15 mm	
Unknown	16	14	14	44
Information available				
Radiotherapy	202 78.3%	160 86.0%	148 92.5%	510 84.4%
No radiotherapy	56 21.7%	26 14.0%	12 7.5%	94 15.6%
Subtotal	258 100%	186 100%	160 100%	604 100%

Table 41 shows systemic adjuvant therapy for women with invasive breast cancer and known nodal status by age group.³⁹ The age groups given are used to approximate menopausal status, 50 years or less for pre-menopause and more than 50 years for post-menopause.⁴⁰ Almost all women had some form of systemic adjuvant therapy.

Table 41: Systemic adjuvant therapy for invasive breast cancer by age and nodal status

Systemic adjuvant therapy	Node positive		Node negative	
	50 years	> 50 years	50 years	> 50 years
Unknown	0	9	3	47
Information available				
No systemic	1 4.3%	4 2.9%	3 6.3%	27 6.2%
Chemotherapy	15 65.2%	54 38.8%	12 25.0%	44 10.0%
Hormonal therapy	1 4.3%	41 29.5%	24 50.0%	339 77.2%
Chemotherapy & hormonal therapy	6 26.1%	40 28.8%	9 18.8%	29 6.6%
Subtotal	23 100%	139 100%	48 100%	439 100%

³⁹ These women may or may not have had radiotherapy in addition to systemic therapy. Table excludes women who had radiotherapy only.

⁴⁰ This is likely to be inaccurate, however no other measure of menopausal status is currently available.

Appendix

Performance against national accreditation standards in 2000

Minimum standards and requirements are in place for accredited services operating within BreastScreen Australia. Notwithstanding present limitations of the data, this Appendix summarises the performance of BreastScreen Victoria for a selection of standards measurable using the information in this report.

Appendix: Performance against national accreditation standards

Standard	Performance objective	Minimum standard	BreastScreen Victoria
1.2	To maximise the number of women screened who are aged 50–69 with the aim of screening 70% of this group.	Participation by 60% of the target group (50–69) after five years in the Program. ⁴¹	Standard yet to be achieved. 58.9% of eligible Victorian women aged 50–69 years were screened during the 24 months from 1 January 1999 to 31 December 2000. This is an improvement on the rate of 58.0% in 1999.
1.3	To maximise participation by women of non-English-speaking background (NESB).	Participation for women of NESB in urban areas will be at least 50% of the rate for the general population.	Standard achieved. Participation of women aged 50–69 years of NESB across Victoria was 103% of the rate for all Victorian women. ⁴²
2.9	To minimise the number of women recalled for mammographic assessment.	Assessment recalls <10% of women screened at prevalent round and <5% at incident round.	Standard not achieved. Assessment was recommended for 10.6% of women attending for first screens and 5.0% of subsequent attenders. If confined to women recommended for assessment on the basis of abnormal mammography, the percentages are 9.0% for first attenders and 4.2% for subsequent attenders. ⁴³
2.23	To maximise the number of cancers detected.	> 5 cancers per 1,000 screened women should be detected at the prevalent screening round. At incident rounds, at least 2 cancers per 1,000 screened women should be detected.	Standard achieved. The average rate of breast cancer diagnosis ⁴⁴ was 6.4 per 1,000 among first attenders and 5.5 per 1,000 among subsequent attenders.
2.24	To maximise the number of minimal invasive cancers detected.	> 0.8 cancers per 1,000 screened women will have a diameter of 10 mm.	Standard achieved. The average rate of cancers 10 mm or less in diameter was 1.8 per 1,000 women screened.
2.25	To detect a representative proportion of ductal carcinoma in situ (DCIS) at the prevalent screening round.	10–20% of cancers detected will be DCIS.	Standard not achieved. 23% of cancers detected in first attenders were DCIS.
2.26	To minimise the number of interval cancers.	< 6 per 10,000 screened women develop breast cancer (including DCIS but excluding LCIS) in the 12 months following screening.	Standard not achieved. Average rate of interval cancers for women aged 50–69 years was 8.8 per 10,000 among first attenders and 7.2 per 10,000 among subsequent attenders during the first 12 months after screening. ⁴⁵

41 This standard applies only to screening and assessment services established for five years and granted full accreditation. In 2000, seven of eight BreastScreen Victoria assessment services had been operating for five years.

42 Comparison with national accreditation standard 1.3 is not accurate because NESB Census 1996 counts are being compared with an average of ERP 1999–2000 counts. This is likely an overestimate of the true proportion.

43 Data by prevalent and incident screening round, as distinct from first and subsequent attendance, are not utilised in this publication.

44 Rates given are for asymptomatic women with no personal history of breast cancer.

45 This rate is given for all women screened, asymptomatic and symptomatic at the time of screening and excludes cases of DCIS.

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BreastScreen Victoria provides a free mammography screening service
to women without breast symptoms aged 50 and over.
To arrange a free appointment phone 13 20 50.

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