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BREASTSCREEN VICTORIA 1996 HIGHLIGHTS

Attendance

- A total of 151,921 women were screened in the BreastScreen Victoria Program. Of these women, 116,244 (76%) were aged 50–69 years, the age group at which the screening program is directly targeted.

Participation rates

- The participation rate for Victorian women aged 50–69 years during the period 1 January 1995 to 31 December 1996 was 56.5%. Participation for the same period among women of non-English speaking background was 41.9%.

Recall to assessment

- Assessment was recommended for 7,822 (5.1%) women following screening; this number comprises 4,533 (6.9%) first attenders and 3,289 subsequent attenders (3.8%).

Detection rate for breast cancer

- With 864 breast cancers diagnosed during 1996, the breast cancer detection rate was 5.7 per 1,000 women screened.
- Among asymptomatic women attending for the first time, the rate of breast cancer diagnosis was 6.8 per 1,000 screened women. For subsequent round attenders, 4.0 cases per 1,000 screened women were diagnosed. These rates include cases of invasive cancer as well as cases of ductal carcinoma in situ (DCIS).

Size of breast cancer

- Among first attenders, 25% of the cancers were 10mm or less in diameter and 58% were 15mm or less in diameter. Among subsequent attenders, 39% of cancers were 10mm or less in diameter and 72% were 15mm or less in diameter.

INTRODUCTION

This Statistical Report provides information about the Victorian Breast Screening Program and relates only to women screened in the Victorian Program. It is intended to provide summary data on women who attended for screening during 1996 and the results of their screening. More detailed information about the structure and processes of the Victorian Breast Screening Program can be found in the Annual Reports of BreastScreen Victoria.

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. Comparative data from the 1996 Census of Population and Housing is provided for some demographic characteristics.

Reference to national accreditation standards¹, where appropriate, is also included. A summary of BreastScreen Victoria's performance against selected standards is given in Appendix 2.

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

Victorian Breast 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 32 screening centres, eight assessment centres, a relocatable unit and a mobile van. 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 is targeted at women aged 50–69. Women and their nominated general practitioners are notified of their screening results within two weeks.

Where an abnormality is found on screening, or where women report 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 phone Ms Onella Stagoll on 03 9660 6888.

¹ Commonwealth Department of Human Services and Health. National Program for the Early Detection of Breast Cancer (1994). *National Accreditation Requirements – March 1994*. Canberra: the Department.

1 CHARACTERISTICS OF WOMEN ATTENDING FOR SCREENING

The information in Sections 1.1 to 1.10 (inclusive) comes from a self-completed questionnaire that each woman completes prior to her mammography examination.

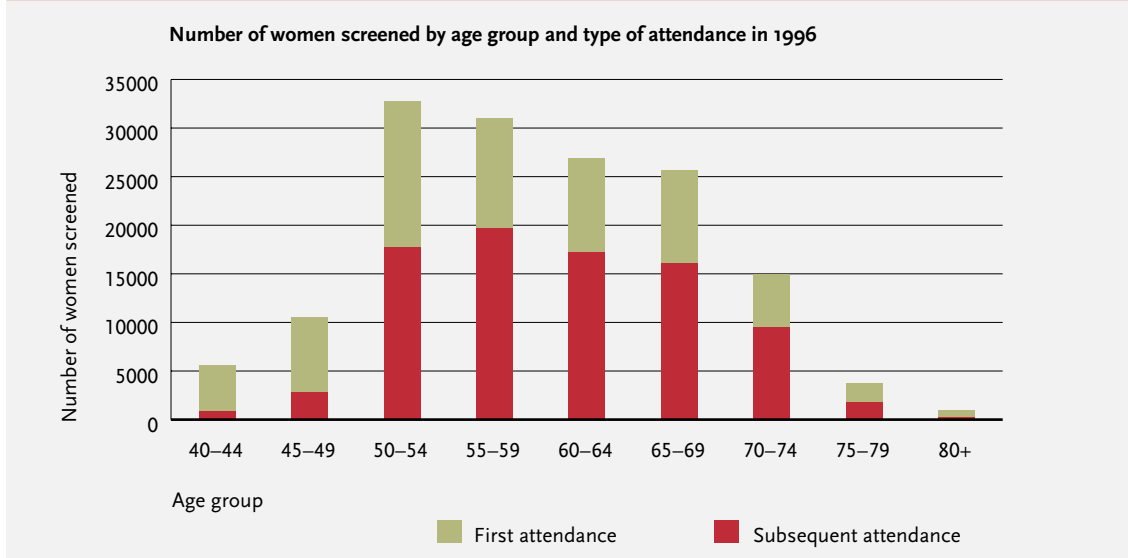
1.1 Type of attendance

This table shows the type of attendance by age group for women who were screened during 1996². Classification of attendance status is based on attendance within BreastScreen Victoria; it is acknowledged that first attenders to BreastScreen Victoria may have had previous mammography outside of the BreastScreen Victoria Program.

As expected, with the increasing longevity of the BreastScreen Victoria Program, a much greater proportion of all attenders are women returning for rescreening after a first attendance. During 1996, 56.8% of all attenders were subsequent attendances, compared with 16.5% during 1995 and 7.5% during 1994.

Among women aged 40–49 years, both the absolute number of attendances and the proportion they represent of all attenders continue to decline. During 1996, there were 16,063 attendances from women aged 40–49 years, representing 10.6% of all women screened. The comparable figures for 1995 were 19,888 attendances (14.8% of all women screened) and, for 1994, 20,407 attendances (17.5% of all women screened).

Type of attendance ³	Age group									Total
	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80+	
First attendance	4633	7623	14933	11291	9648	9485	5452	1860	693	65618
	83.7%	72.4%	45.5%	36.5%	35.9%	37.1%	36.5%	50.6%	69.7%	43.2%
Subsequent attendance	905	2902	17863	19680	17246	16098	9494	1814	301	86303
	16.3%	27.6%	54.5%	63.5%	64.1%	62.9%	63.5%	49.4%	30.3%	56.8%
Total ⁴	5538	10525	32796	30971	26894	25583	14946	3674	994	151921
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%



2 All data in this Statistical Report excludes four women who attended for screening in 1996 but who were aged less than 40 years.

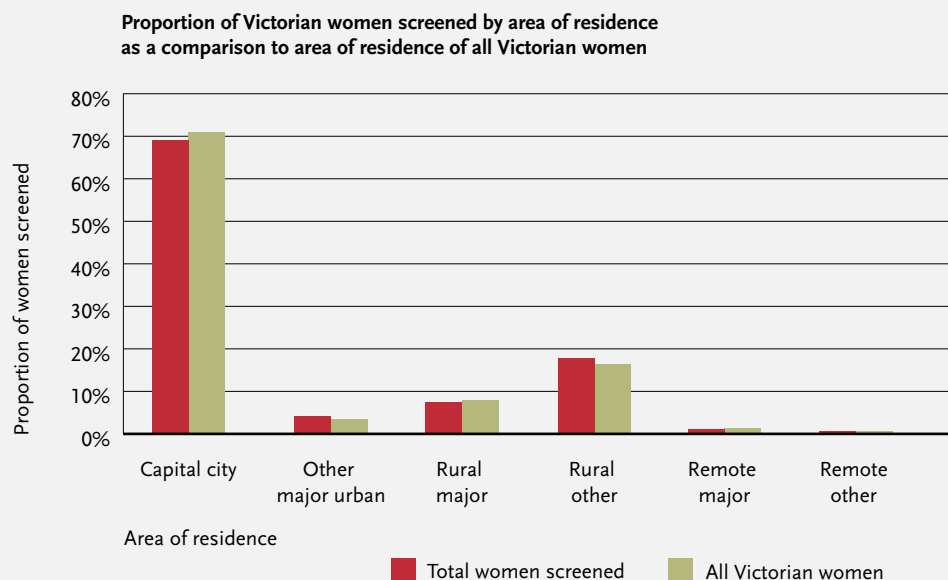
3 Data in this Statistical Report is classified according to whether the woman's attendance was the first to the Victorian BreastScreen Program or a later attendance. The validity of this approach is higher than using the prevalent/incident round classification of the National Accreditation Requirements which are based on women's self-report about mammography during the previous five years.

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

1.2 Area of residence

This table shows the area of residence of the women who attended for screening. Classification of the geographic areas of Victoria is according to the 'Rural/Remote Areas Classification' of the Commonwealth Department of Health and Family Services, January 1994. For comparison, the area of residence for all Victorian women from the 1996 Census is listed⁵. The geographic distribution of the women screened is very similar to that of 1995; it suggests that there is a small degree of over-representation of women from outside the capital city.

Area of residence	Age group									Total	All Victorian women
	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+		
Capital city	3625 65.5%	7241 68.8%	23387 71.3%	21748 70.2%	18404 68.4%	17102 66.8%	10158 68.0%	2497 68.0%	613 61.7%	104775 69.0%	71.0%
Other major urban	268 4.8%	494 4.7%	1408 4.3%	1210 3.9%	1071 4.0%	1067 4.2%	660 4.4%	165 4.5%	45 4.5%	6388 4.2%	3.3%
Rural major	460 8.3%	800 7.6%	2314 7.1%	2225 7.2%	1960 7.3%	2072 8.1%	1144 7.7%	244 6.6%	94 9.5%	11313 7.4%	7.9%
Rural other	934 16.9%	1708 16.2%	5299 16.2%	5407 17.5%	5113 19.0%	4972 19.4%	2758 18.5%	695 18.9%	204 20.5%	27090 17.8%	16.3%
Remote major	148 2.7%	169 1.6%	178 0.5%	164 0.5%	164 0.6%	159 0.6%	94 0.6%	32 0.9%	16 1.6%	1124 0.7%	1.0%
Remote other	69 1.2%	67 0.6%	162 0.5%	158 0.5%	132 0.5%	161 0.6%	101 0.7%	26 0.7%	15 1.5%	891 0.6%	0.5%
Interstate	34 0.6%	46 0.4%	48 0.1%	59 0.2%	50 0.2%	50 0.2%	31 0.2%	15 0.4%	7 0.7%	340 0.2%	
Total	5538 100%	10525 100%	32796 100%	30971 100%	26894 100%	25583 100%	14946 100%	3674 100%	994 100%	151921 100%	



1.3 Area/country of birth

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

A detailed listing of country of birth is shown in Appendix 1.

Area/country of birth	Age group					Total
	40-49	50-59	60-69	70-79	80+	
Oceania and Antarctica	10635 66.2%	41085 64.4%	35241 67.2%	13547 72.8%	792 79.7%	101300 66.7%
Australia	10416 64.8%	40495 63.5%	34949 66.6%	13455 72.3%	787 79.2%	100102 65.9%
Europe and former USSR	3796 23.6%	18702 29.3%	14717 28.0%	4464 24.0%	172 17.3%	41851 27.5%
United Kingdom	1248 7.8%	6201 9.7%	4689 8.9%	1669 9.0%	91 9.2%	13898 9.1%
Italy	515 3.2%	3325 5.2%	3125 6.0%	691 3.7%	20 2.0%	7676 5.1%
Greece	353 2.2%	2471 3.9%	1382 2.6%	139 0.7%	2 0.2%	4347 2.9%
South-East Asia	691 4.3%	1246 2.0%	725 1.4%	138 0.7%	6 0.6%	2806 1.8%
Southern Asia	201 1.3%	733 1.1%	519 1.0%	127 0.7%	3 0.3%	1583 1.0%
Mid-East Asia and far North Africa	163 1.0%	560 0.9%	400 0.8%	111 0.6%	5 0.5%	1239 0.8%
North-East Asia	179 1.1%	422 0.7%	334 0.6%	71 0.4%	4 0.4%	1010 0.7%
The Americas	219 1.4%	437 0.7%	197 0.4%	54 0.3%	3 0.3%	910 0.6%
Africa excluding far North Africa	152 0.9%	472 0.7%	254 0.5%	66 0.4%	5 0.5%	949 0.6%
Not stated	27 0.2%	110 0.2%	90 0.2%	42 0.2%	4 0.4%	273 0.2%
Total	16063 100%	63767 100%	52477 100%	18620 100%	994 100%	151921 100%

1.4 Language spoken at home

This table presents information on the language that is usually spoken at home for the women who were screened. In the 1996 Census, 75% of the Victorian female population aged 40 years or more were identified as speaking only English at home.

There has been a slight decline in the proportion of attenders who usually speak a language other than English at home (19.6% in 1994, 19.8% in 1995, 18.3% in 1996).

Language spoken at home	Age group					Total
	40-49	50-59	60-69	70-79	80+	
Usually English	13188 82.1%	51208 80.3%	42647 81.3%	16133 86.6%	917 92.3%	124093 81.7%
Usually other than English	2874 17.9%	12552 19.7%	9820 18.7%	2486 13.4%	77 7.7%	27809 18.3%
Not stated	1 0.01%	7 0.01%	10 0.02%	1 0.01%	0 0.00%	19 0.01%
Total	16063 100%	63767 100%	52477 100%	18620 100%	994 100%	151921 100%

1.5 Aboriginality

This table shows the number of women who attended for screening and identified themselves as being of Aboriginal or Torres Strait Islander (ATSI) descent. The number is very similar to 1995.

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

ATSI descent	Age group					Total
	40-49	50-59	60-69	70-79	80+	
Yes	38 0.2%	72 0.1%	46 0.1%	12 0.1%	0 0.0%	168 0.1%
No	15989 99.5%	63512 99.6%	52280 99.6%	18526 99.5%	988 99.4%	151295 99.6%
Not stated	36 0.2%	183 0.3%	151 0.3%	82 0.4%	6 0.6%	458 0.3%
Total	16063 100%	63767 100%	52477 100%	18620 100%	994 100%	151921 100%

1.6 Symptom status

This table shows the symptom status of the women at the time of screening. The category 'breast lump and/or nipple discharge' includes women reporting a current breast lump which has not been reported to a doctor, or a blood-stained or serous nipple discharge. The category 'other breast symptoms' includes a variety of symptoms, particularly women with breast pain or tenderness.

The proportion of women reporting 'no breast symptoms' has increased from 90.5% in 1995 to 92.6% in 1996. Younger women continue to report symptoms more frequently than older women.

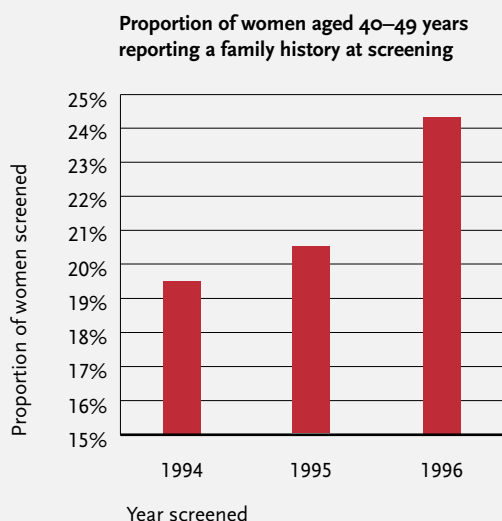
Symptom status	Age group					Total
	40-49	50-59	60-69	70-79	80+	
Breast lump and/or nipple discharge	990 6.2%	1614 2.5%	694 1.3%	223 1.2%	26 2.6%	3547 2.3%
Other breast symptoms	1564 9.7%	3166 5.0%	2010 3.8%	866 4.7%	102 10.3%	7708 5.1%
No breast symptoms	13509 84.1%	58987 92.5%	49773 94.8%	17531 94.2%	866 87.1%	140666 92.6%
Total	16063 100%	63767 100%	52477 100%	18620 100%	994 100%	151921 100%

1.7 Family history of breast cancer

In this table, a 'strong family history' is defined as a woman whose mother, sister or daughter was diagnosed with breast cancer before 50 years of age. All other women who nominate one or more family members with breast cancer are classified as 'other family history'.

Since BreastScreen Victoria's inception, an increasing proportion of women aged 40–49 years attending for screening are reporting a family history of breast cancer; the proportion was 19.6% in 1994, 20.6% in 1995 and 24.4% in 1996. The increase is evident among both the 'strong family history' and the 'other family history' subgroups.

Family history	Age group					Total
	40–49	50–59	60–69	70–79	80+	
Yes						
• Strong family history	1019 6.3%	1866 2.9%	1675 3.2%	785 4.2%	59 5.9%	5404 3.6%
• Other family history	2910 18.1%	8118 12.7%	6037 11.5%	2183 11.7%	133 13.4%	19381 12.8%
No	11982 74.6%	53287 83.6%	44408 84.6%	15482 83.1%	789 79.4%	125948 82.9%
Not stated	152 0.9%	496 0.8%	357 0.7%	170 0.9%	13 1.3%	1188 0.8%
Total	16063 100%	63767 100%	52477 100%	18620 100%	994 100%	151921 100%



1.8 Personal history of breast cancer

In general, women with a personal history of breast cancer are discouraged from attending BreastScreen Victoria as it is felt that the screening program may not be suitable for their particular needs. Therefore the data in the following table should not be interpreted as representing the prevalence of breast cancer among the female population of Victoria.

The overall proportion of attenders nominating a personal history of breast cancer (0.5%) is very similar to the proportion in 1994 and 1995. As in these earlier years, the proportion of women with a personal history of breast cancer increased with age.

Personal history	Age group					Total
	40-49	50-59	60-69	70-79	80+	
Yes	21 0.1%	165 0.3%	317 0.6%	210 1.1%	40 4.0%	753 0.5%
No	16042 99.9%	63602 99.7%	52160 99.4%	18410 98.9%	954 96.0%	151168 99.5%
Total	16063 100%	63767 100%	52477 100%	18620 100%	994 100%	151921 100%

1.9 Breast implant status

This table shows the number of women in each age group who nominated that they had breast implants in place at the time of attending for screening. These figures are very similar to those of 1994 and 1995.

Breast implant status	Age group					Total
	40-49	50-59	60-69	70-79	80+	
Yes	137 0.9%	391 0.6%	87 0.2%	7 <0.1%	0 0.0%	622 0.4%
No	15926 99.1%	63376 99.4%	52390 99.8%	18613 >99.9%	994 100.0%	151299 99.6%
Total	16063 100%	63767 100%	52477 100%	18620 100%	994 100%	151921 100%

1.10 Hormone replacement therapy use

This table shows the number of women by age group who nominated that they were taking hormone replacement therapy (HRT) at the time of attending for screening.

Compared with 1994 and 1995, there has been a slight reduction within each age group in the proportion of women taking HRT at the time of attending for screening.

HRT use	Age group					Total
	40–49	50–59	60–69	70–79	80+	
Yes	3146 19.6%	22292 35.0%	9685 18.5%	1683 9.0%	53 5.3%	36859 24.3%
No	12894 80.3%	41400 64.9%	42700 81.4%	16898 90.8%	939 94.5%	114831 75.6%
Not stated	23 0.1%	75 0.1%	92 0.2%	39 0.2%	2 0.2%	231 0.2%
Total	16063 100%	63767 100%	52477 100%	18620 100%	994 100%	151921 100%

1.11 Response to invitations based on the electoral roll

Women in the age range 50–69 years who are listed on the electoral roll and who appear never to have been screened are sent an invitation for screening. If no response is made within one month of this invitation being sent, a second invitation letter is posted.

During 1996, a total of 76,476 women were sent an invitation for screening. 25,089 appointments for screening were made for this group of women, representing a response rate of 33%. It is not certain that all of these appointments were made solely in response to the letter of invitation; some of the women may have responded to other recruitment initiatives such as newspaper articles or television advertisements.

5.7% of the letters were returned unable to be delivered.

1.12 Response to routine rescreen invitations

Women in the age group 50–74 years receive a reminder for rescreening 23 months 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 family history of breast cancer or a personal history of 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 97,540 women were sent reminder letters for rescreening during 1996. Appointments for rescreening were made for 77,850 of these women, representing a response rate of 79.8%. This response rate is unchanged from 1995.

1.13 Rescreen rate

This table shows the proportion of women screened during 1994 who were rescreened by BreastScreen Victoria within 27 months of their attendance. The nominated age ranges refer to the ages of the women in 1994.

Rescreen rates ⁶ for women screened from 1 January 1994 to 31 December 1994	Age group		
	40-49	50-69	70-79
Women screened during 1994	20367	84211	10219
Women rescreened within following 27 months	6473	66844	5709
Rescreen rate	31.8%	79.4%	55.9%

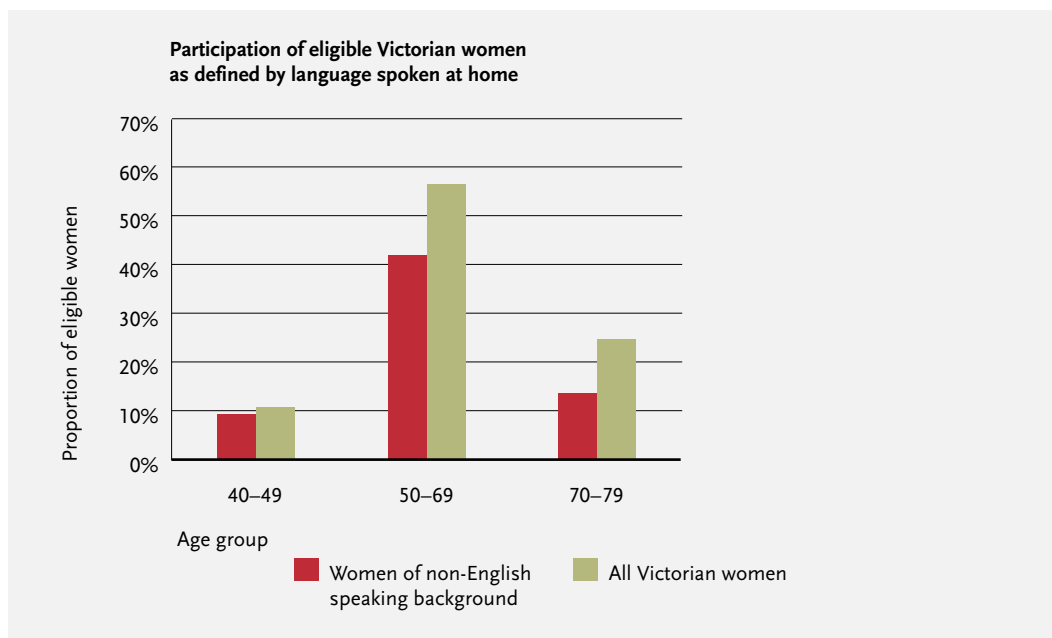
⁶ Rescreen rates correspond to a 'crude' rescreen rate for women screened between 1 January 1994 and 31 December 1994. The table excludes women at high risk who were recommended for annual screening. A woman was counted as 'rescreened within following 27 months' if she returned to be rescreened within 821 days from her previous 1994 mammogram.

1.14 Participation rates

This table shows the participation rate for all Victorian women during the period 1 January 1995 to 31 December 1996 (a period of 24 months), and participation rates for non-English speaking background (NESB) women for the same period. The screening program is directly targeted at women aged 50–69 years. The participation rate for women aged 50–69 years was 56.5%. Participation among NESB women is lower (41.9%), but still well above the relevant national accreditation standard.

Participation rates 1 January 1995 to 31 December 1996	Age group		
	40–49	50–69	70–79
Estimated number of eligible women resident in Victoria ⁷	313994	376929	134595
Number of women screened	33576	212912	33122
Participation rate	10.7%	56.5%	24.6%
Estimated number of eligible NESB women resident in Victoria ⁸	71489	102495	31781
Number of NESB women screened	6720	42947	4312
Participation rate	9.4%	41.9%	13.6%

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 of women of non-English speaking background in urban areas is at least 50% of the rate for the general population.



⁷ Australian Bureau of Statistics, *Census of Population and Housing 1996*.

⁸ *ibid.*

The following table shows the participation rates by area (capital city versus other) for all women and for NESB women. The category 'capital city' includes Melbourne and suburbs. Among all women, participation was lower in the capital city in every age group. By contrast, for NESB women participation rates tended to be higher in the capital city.

Participation rates 1 January 1995 to 31 December 1996	Age group		
	40-49	50-69	70-79
Total women			
Capital city			
Estimated number of eligible women resident in Victoria ⁹	232238	273449	94894
Number of women screened	24049	146835	22107
Participation rate	10.4%	53.7%	23.3%
Other than capital city			
Estimated number of eligible women resident in Victoria ¹⁰	81756	103480	39701
Number of women screened	11527	66077	11015
Participation rate	14.1%	63.9%	27.7%
NESB women			
Capital city			
Estimated number of eligible NESB women resident in Victoria ¹¹	66029	91831	26450
Number of NESB women screened	6153	38931	3735
Participation rate	9.3%	42.4%	14.1%
Other than capital city			
Estimated number of eligible NESB women resident in Victoria ¹²	5460	10664	5331
Number of NESB women screened	567	4016	577
Participation rate	10.4%	37.7%	10.8%

⁹ ibid.

¹⁰ ibid.

¹¹ ibid.

¹² ibid.

2 RESULTS OF SCREENING

2.1 Number of films

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

The following table shows the number of women by age group who had four or more films taken or recommended to be taken. 'Technical reasons' for additional films include positioning problems, and over- and under-exposure of films. 'Other reasons' for additional films include large breasts and breast implants.

Number of women by films taken or recommended to be taken	Age group					Total
	40-49	50-59	60-69	70-79	80+	
Four films	13571 84.5%	53182 83.4%	43076 82.1%	15101 81.1%	806 81.1%	125736 82.8%
More than four films						
• Technical reasons	1293 8.0%	5337 8.4%	4730 9.0%	1947 10.5%	120 12.1%	13427 8.8%
• Other reasons	1199 7.5%	5248 8.2%	4671 8.9%	1572 8.4%	68 6.8%	12758 8.4%
Total	16063 100%	63767 100%	52477 100%	18620 100%	994 100%	151921 100%

*The national accreditation standard requires that less than 3% of **total films taken** are technical repeat films. The last published technical repeat rate for BreastScreen Victoria was 2% which clearly meets the required standard¹³. As distinct from total films, the above table shows the **number of women** who were recommended for four or more films and does not equate to the accreditation standard for technical repeats.*

2.2 Outcome of screening

This table¹⁴ shows, among first attenders and among 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' includes some women with breast implants, some of the women with a personal history of breast cancer, and some of the women with 'other breast symptoms' as per Section 1.6. While 6.9% of first attenders have assessment recommended, the comparable figure for subsequent attenders is 3.8%. This feature is evident across all age groups.

Outcome of screening	Age group					Total
	40–49	50–59	60–69	70–79	80+	
First attendance						
Routine rescreen	11268 91.9%	24300 92.7%	18008 94.1%	6861 93.8%	646 93.2%	61083 93.1%
Assessment recommended						
• Abnormal mammography	765 6.2%	1719 6.6%	1046 5.5%	410 5.6%	42 6.1%	3982 6.1%
• Symptoms/signs of possible breast cancer	134 1.1%	101 0.4%	41 0.2%	20 0.3%	1 0.1%	297 0.5%
• Abnormal mammography and symptoms/signs	30 0.2%	42 0.2%	13 0.1%	10 0.1%	1 0.1%	96 0.1%
• Other	59 0.5%	60 0.2%	25 0.1%	11 0.2%	3 0.4%	158 0.2%
Subtotal	12256 100%	26222 100%	19133 100%	7312 100%	693 100%	65616 100%
Subsequent attendance						
Routine rescreen	3612 94.9%	36032 96.0%	32183 96.5%	10898 96.4%	286 95.0%	83011 96.2%
Assessment recommended						
• Abnormal mammography	149 3.9%	1337 3.6%	1038 3.1%	362 3.2%	7 2.3%	2893 3.4%
• Symptoms/signs of possible breast cancer	22 0.6%	75 0.2%	37 0.1%	13 0.1%	2 0.7%	149 0.2%
• Abnormal mammography and symptoms/signs	8 0.2%	23 0.1%	11 <0.1%	5 <0.1%	1 0.3%	48 0.1%
• Other	16 0.4%	75 0.2%	75 0.2%	28 0.2%	5 1.7%	199 0.2%
Subtotal	3807 100%	37542 100%	33344 100%	11306 100%	301 100%	86300 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.

¹⁴ The information in the above table excludes data for two first attenders and three subsequent attenders where the outcome of screening was unknown; these women were requested to return for further films but elected not to attend.

3 RESULTS OF ASSESSMENT

3.1 Types of assessment procedures

This table gives a count of the number of assessment procedures performed within BreastScreen Victoria. In this first table an individual woman may be counted in more than one category if she had multiple procedures performed at assessment. A small number of additional assessment procedures are known to have been performed outside the screening program; exact numbers of these are unknown and they have been excluded from the following table.

Type of assessment	Age group					Total
	40–49	50–59	60–69	70–79	80+	
Further x-rays	880 39.0%	2889 43.6%	1986 43.0%	730 41.3%	48 37.8%	6533 42.4%
Ultrasound	461 20.4%	1331 20.1%	898 19.4%	316 17.9%	26 20.5%	3032 19.7%
Clinical examination	592 26.3%	1411 21.3%	924 20.0%	382 21.6%	33 26.0%	3342 21.7%
Biopsy						
• Fine needle aspiration	166 7.4%	474 7.2%	337 7.3%	132 7.5%	13 10.2%	1122 7.3%
• Core biopsy	110 4.9%	369 5.6%	346 7.5%	159 9.0%	6 4.7%	990 6.4%
• Open biopsy	46 2.0%	150 2.3%	127 2.8%	49 2.8%	1 0.8%	373 ¹⁵ 2.4%
Total number of procedures	2255 100%	6624 100%	4618 100%	1768 100%	127 100%	15392 100%

As in 1995, core biopsies continued to be the dominant type of tissue biopsy performed, with core biopsies comprising 73% of these investigations and open biopsies comprising 27%.

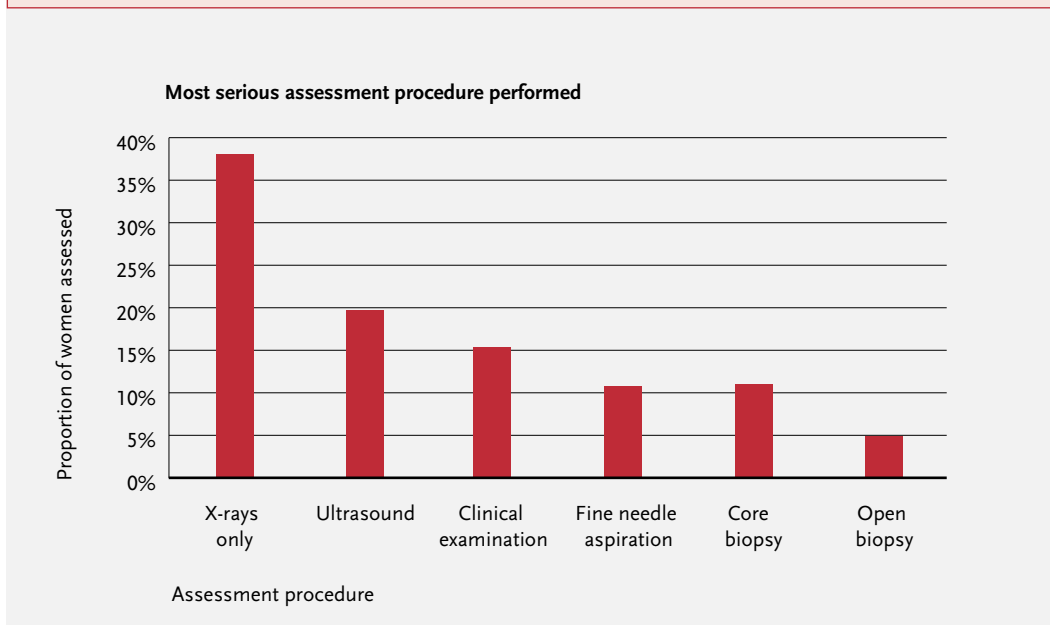
For the 7,618 women who underwent assessment investigations within the BreastScreen Victoria Program, the next table shows the most ‘serious’ investigation performed for each woman.

More than one-third of the women (38.1%) received further x-rays only. An additional 19.7% had ultrasound ± x-rays and 15.4% received clinical examination ± ultrasound ± x-rays. Thus 73% of the 7,618 women were able to have their status ascertained without the use of fine needle aspiration or biopsy.

There was little variation in the type of assessment procedure by age with the exception of women aged 40–49 years and 80 years or more who were more likely to have clinical examination and less likely to have core or open biopsy.

¹⁵ Some of these open biopsies were performed privately but all other assessment procedures were performed in the BreastScreen Victoria Program.

Type of assessment per woman	Age group					Total
	40-49	50-59	60-69	70-79	80+	
X-rays only	384 33.4%	1363 40.6%	844 38.0%	299 35.9%	16 27.1%	2906 38.1%
Ultrasound ± x-rays	233 20.3%	706 21.0%	416 18.7%	137 16.4%	8 13.6%	1500 19.7%
Clinical examination ± ultrasound ± x-rays	268 23.3%	471 14.0%	301 13.5%	118 14.2%	16 27.1%	1174 15.4%
Fine needle aspiration ± clinical examination ± ultrasound ± x-rays	126 11.0%	354 10.6%	245 11.0%	87 10.4%	12 20.3%	824 10.8%
Core biopsy ± fine needle aspiration ± clinical examination ± ultrasound ± x-rays	92 8.0%	310 9.2%	290 13.0%	143 17.2%	6 10.2%	841 11.0%
Open biopsy ± core biopsy ± fine needle aspiration ± clinical examination ± ultrasound ± x-rays	46 4.0%	150 4.5%	127 5.7%	49 5.9%	1 1.7%	373 ¹⁶ 4.9%
Total	1149 100%	3354 100%	2223 100%	833 100%	59 100%	7618 100%



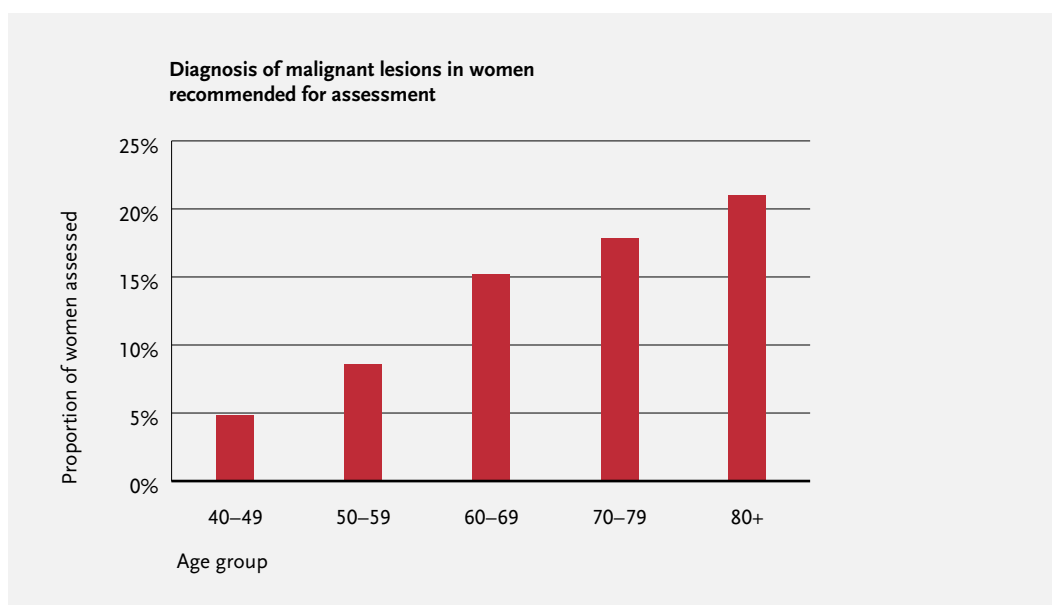
¹⁶ See footnote 15.

3.2 Outcome of assessment

7,822 women were recommended for assessment for reasons that are listed in Section 2.2. This table shows the final outcome of assessment for each of these women. 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 ductal carcinoma in situ. Most of the women in the 'incomplete assessment' category were still undergoing early review of abnormalities detected at screening.

Outcome of assessment	Age group					Total
	40-49	50-59	60-69	70-79	80+	
No malignant lesion	1095 92.6%	3054 89.0%	1857 81.2%	675 78.6%	48 77.4%	6729 86.0%
Malignant lesion	57 4.8%	294 8.6%	347 15.2%	153 17.8%	13 21.0%	864 11.0%
Incomplete assessment	26 2.2%	76 2.2%	70 3.1%	27 3.1%	1 1.6%	200 2.6%
Unknown	5 0.4%	8 0.2%	12 0.5%	4 0.5%	0 0.0%	29 ¹⁷ 0.4%
Total	1183 100%	3432 100%	2286 100%	859 100%	62 100%	7822 100%

A total of 864 malignant lesions were diagnosed. Among women recommended for assessment, the probability of a malignancy being diagnosed increased with age as shown in the following graph.



¹⁷ These 29 women chose to be assessed outside of BreastScreen Victoria.

3.3 Recommendation for routine rescreening

Of the 151,921 women who attended for screening, 144,094 were recommended for routine rescreening without requiring assessment (see Section 2.2). Of the 7,822 women who were recommended for assessment, the 6,729 women who were assessed as having no malignant lesion were also recommended for routine rescreening (see Section 3.2). Thus a total of 150,823 women were ultimately recommended for routine rescreening.

The table below shows the distribution of recommendations for routine rescreening interval by age. The usual recommendation is for routine rescreening at two years. Only 0.6% of the women were advised to return at one year, with older women being more likely to be represented in this category. Common 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.

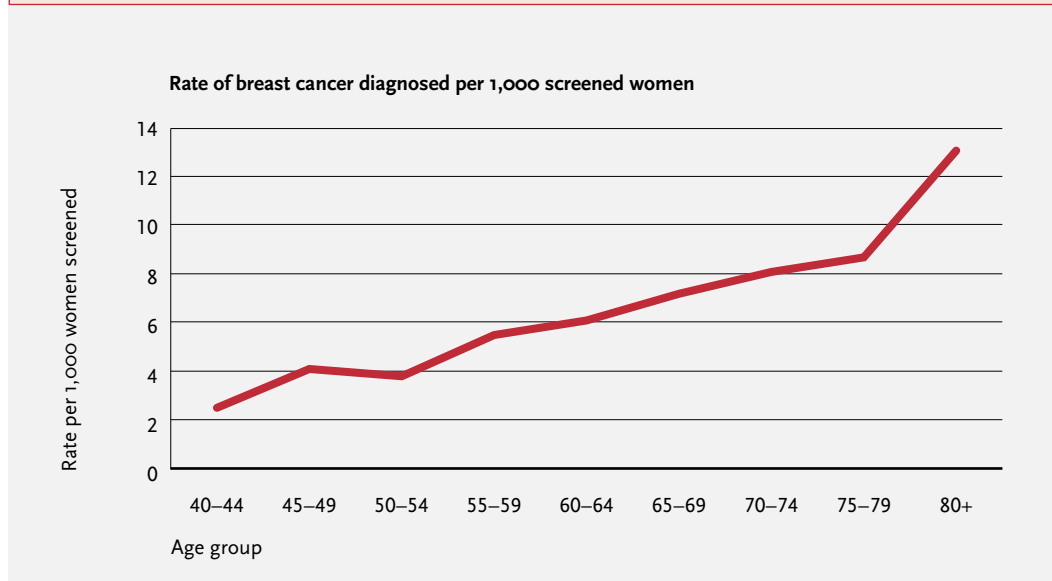
Recommendation for routine rescreen	Age group					Total
	40-49	50-59	60-69	70-79	80+	
Rescreen at 2 years	15937 99.8%	63176 99.7%	51707 99.3%	18215 98.8%	938 95.7%	149973 99.4%
Rescreen at 1 year	38 0.2%	210 0.3%	341 0.7%	219 1.2%	42 4.3%	850 0.6%
Total	15975 100%	63386 100%	52048 100%	18434 100%	980 100%	150823 100%

4 BREAST CANCER DETECTION RATE

4.1 Breast cancer diagnosis rate

With 864 breast cancers¹⁸ being diagnosed among the 151,921 women who attended for screening, the crude rate of breast cancer was 5.7 per 1,000 women screened. This rate is lower than the rates in 1995 (6.1 per 1,000 women screened) and 1994 (6.6 per 1,000 women screened). This decline is attributable to the increasing proportion of women attending for second or later round screening when fewer cancers are present.

	Age group									Total
	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+	
Number of women diagnosed with breast cancer	14	43	125	169	164	183	121	32	13	864
Rate of breast cancer per 1,000 screened women	2.5	4.1	3.8	5.5	6.1	7.2	8.1	8.7	13.1	5.7



¹⁸ For consistency with BreastScreen Australia the general term 'breast cancer' includes cases of invasive cancer as well as cases of ductal carcinoma in situ.

4.2 Breast cancer diagnosis rate by attendance round

This table 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 5-year age group. A symptomatic woman was defined as a woman with a breast lump and/or blood-stained nipple discharge. The category 'other breast symptoms' includes a variety of symptoms, most commonly breast pain or tenderness.

Among asymptomatic women with no personal history of breast cancer who were attending BreastScreen Victoria for the first time, the average rate of breast cancer diagnosis was 6.8 per 1,000 attenders. The average rate among asymptomatic subsequent attenders was 4.0 per 1,000 attenders. These rates are higher than the comparable figures for 1995 (asymptomatic first attenders: 6.0 per 1,000 attenders; asymptomatic subsequent attenders: 3.2 per 1,000 attenders). Symptomatic women have rates of breast cancer diagnosis that are three to four times higher than asymptomatic women.

Breast cancer detection rate per 1,000 screened women	Age group									Total av. rate (95% C.I.) ¹⁹
	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+	
For first attendance										
• Radiographic abnormality; in asymptomatic women with no personal history of breast cancer										
Number of cancers	9	26	62	74	75	80	50	17	10	403
Rate per 1,000 women screened	2.4	4.0	4.6	7.1	8.4	9.0	9.9	10.4	17.3	6.8 (6.2-7.5)
• Symptomatic and/or personal history of breast cancer ²⁰										
Number of cancers	2	8	11	10	9	6	10	2	1	59
Rate per 1,000 women screened	5.6	18.0	20.0	32.3	38.6	27.5	79.4	32.8	28.6	25.2 (18.8-31.7)
• 'Other breast symptoms', no personal history of breast cancer and radiographic abnormality										
Number of cancers	1	1	4	4	4	3	8	5	0	30
Rate per 1,000 women screened	1.9	1.4	4.3	6.4	9.2	7.2	28.4	30.7	0.0	7.2 (4.6-9.7)
For subsequent attendance										
• Radiographic abnormality; in asymptomatic women with no personal history of breast cancer										
Number of cancers	2	6	40	72	71	87	39	6	1	324
Rate per 1,000 women screened	2.6	2.4	2.4	3.9	4.3	5.7	4.3	3.6	4.0	4.0 (3.6-4.4)
• Symptomatic and/or personal history of breast cancer ²⁰										
Number of cancers	0	1	4	4	1	5	7	1	0	23
Rate per 1,000 women screened	0.0	7.0	8.3	9.3	3.4	19.2	38.0	16.7	0.0	11.8 (7.0-16.6)
• 'Other breast symptoms', no personal history of breast cancer and radiographic abnormality										
Number of cancers	0	1	4	5	4	2	7	1	1	25
Rate per 1,000 women screened	0.0	4.6	5.0	6.2	6.5	3.8	22.1	11.2	55.6	7.2 (4.4-10.0)

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

¹⁹ The 95% confidence interval (C.I.) gives information about the precision of the estimate. A narrow range of values for the 95% confidence interval implies that the estimate is reasonably precise. A wide range of values for the 95% confidence interval indicates that the estimate is not very precise.

²⁰ These women may or may not have had a radiographic abnormality.

4.3 Histologic type of breast cancer

Of the total 864 cases of breast cancer diagnosed, 719 (83%) were diagnosed at an invasive stage and 143 (17%) as ductal carcinoma in situ (DCIS). Morphology for two cases is not known.

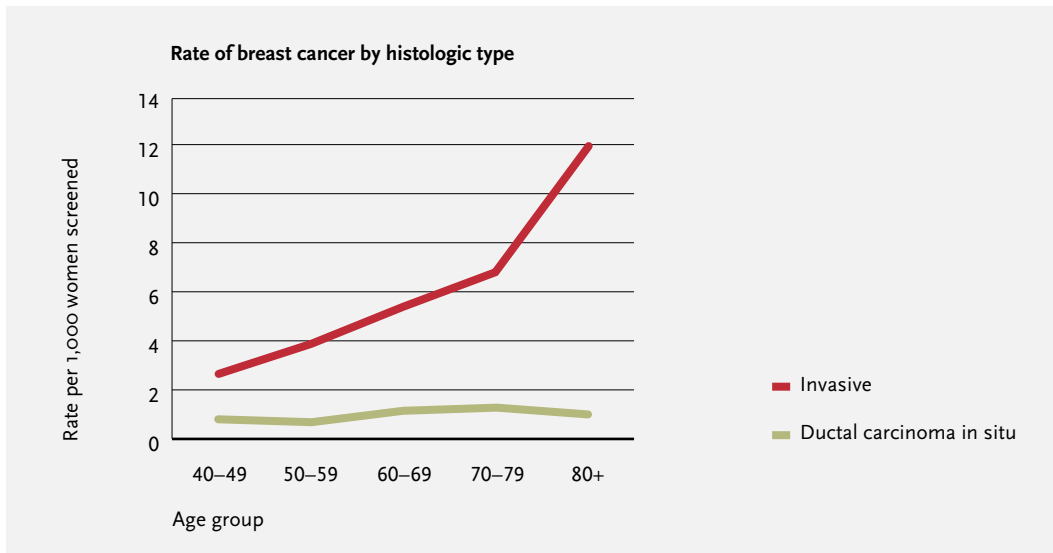
Of the 490 cases of breast cancer with known morphology among first attenders, 81% were invasive in nature; 19% were diagnosed as DCIS. Among subsequent attenders, of the 372 cases with known morphology, 87% were invasive in nature; 13% were DCIS.

This table shows the number and rate of breast cancer diagnosis by type for each age group.

Breast cancer detection rate by histologic type per 1,000 women screened	Age group					Total av. rate (95% C.I.)
	40–49	50–59	60–69	70–79	80+	
First attendance						
• Invasive						
Number of cancers	35	137	139	75	11	397
Rate per 1,000 women screened	2.86	5.22	7.26	10.26	15.87	6.05 (5.46–6.65)
• Ductal carcinoma in situ						
Number of cancers	11	28	38	16	0	93
Rate per 1,000 women screened	0.90	1.07	1.99	2.19	0.00	1.42 (1.13–1.71)
Subsequent attendance						
• Invasive						
Number of cancers	8	113	147	53	1	322
Rate per 1,000 women screened	2.10	3.01	4.41	4.69	3.32	3.73 (3.32–4.14)
• Ductal carcinoma in situ						
Number of cancers	2	16	23	8	1	50
Rate per 1,000 women screened	0.53	0.43	0.69	0.71	3.32	0.58 (0.42–0.74)
Total						
Number of cancers	56	294	347	152	13	862 ²¹
Rate per 1,000 women screened	3.49	4.61	6.61	8.16	13.08	5.67 (5.30–6.05)

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

²¹ This table excludes data for two first attenders where type of breast cancer diagnosed was unknown.



This next table shows the frequency of diagnosis of the various types of invasive breast cancer. The distribution is very similar to that reported in 1995.

Invasive breast cancer diagnosis by histologic type	Number	Percentage
Invasive duct carcinoma NOS	541	76%
Lobular classical carcinoma	66	9%
Mixed ductal/lobular carcinoma	39	5%
Tubular carcinoma	35	5%
Lobular variant carcinoma	15	2%
Other	23	3%
Total	719	100%

Among the 143 cases of ductal carcinoma in situ diagnosed, 82 (57%) were classified as high grade, 26 (18%) as intermediate grade, and 35 (24%) as low grade.

4.4 Size of breast cancer

This table shows the rate of breast cancer diagnosis by size of tumour for each age group and by attendance round for women with invasive breast cancer.

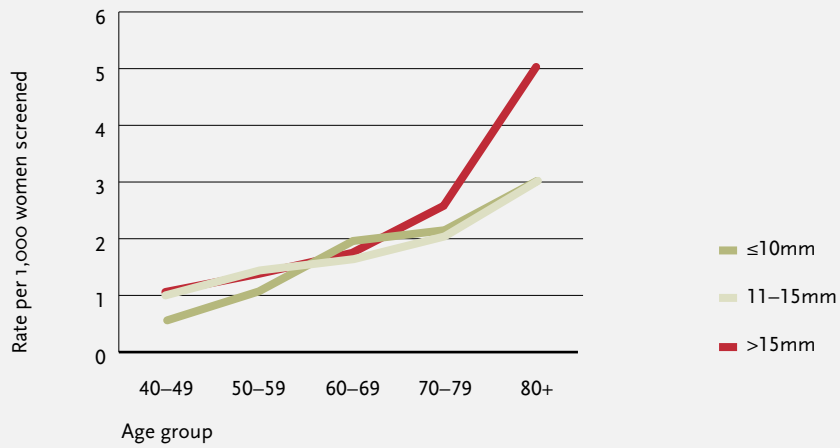
Among first round attenders, 25% of the cancers were 10mm or less in diameter and 58% were 15mm or less in diameter. Among subsequent attenders, the proportions were substantially greater with 39% of the cancers being 10mm or less in diameter and 72% being 15mm or less in diameter.

Dimensions of ductal carcinoma in situ are usually not given.

Breast cancer detection rate by size of invasive breast cancer	Age group					Total av. rate (95% C.I.)
	40-49	50-59	60-69	70-79	80+	
First attendance						
• 10mm or less						
Number of cancers	7	32	36	21	2	98
	20.0%	23.4%	25.9%	28.0%	18.2%	24.7%
Rate per 1,000 women screened	0.57	1.22	1.88	2.87	2.89	1.49 (1.20-1.79)
• 11mm to 15mm						
Number of cancers	11	53	39	21	3	127
	31.4%	38.7%	28.1%	28.0%	27.3%	32.0%
Rate per 1,000 women screened	0.90	2.02	2.04	2.87	4.33	1.94 (1.60-2.27)
• More than 15mm						
Number of cancers	16	50	59	31	5	161
	45.7%	36.5%	42.4%	41.3%	45.5%	40.6%
Rate per 1,000 women screened	1.31	1.91	3.08	4.24	7.22	2.45 (2.07-2.83)
• Unknown						
Number of cancers	1	2	5	2	1	11
	2.9%	1.5%	3.6%	2.7%	9.1%	2.8%
Rate per 1,000 women screened	0.08	0.08	0.26	0.27	1.44	0.17 (0.07-0.27)
Subtotal						
Number of cancers	35	137	139	75	11	397
	100%	100%	100%	100%	100%	100%
Rate per 1,000 women screened	2.86	5.22	7.26	10.26	15.87	6.05 (5.46-6.65)

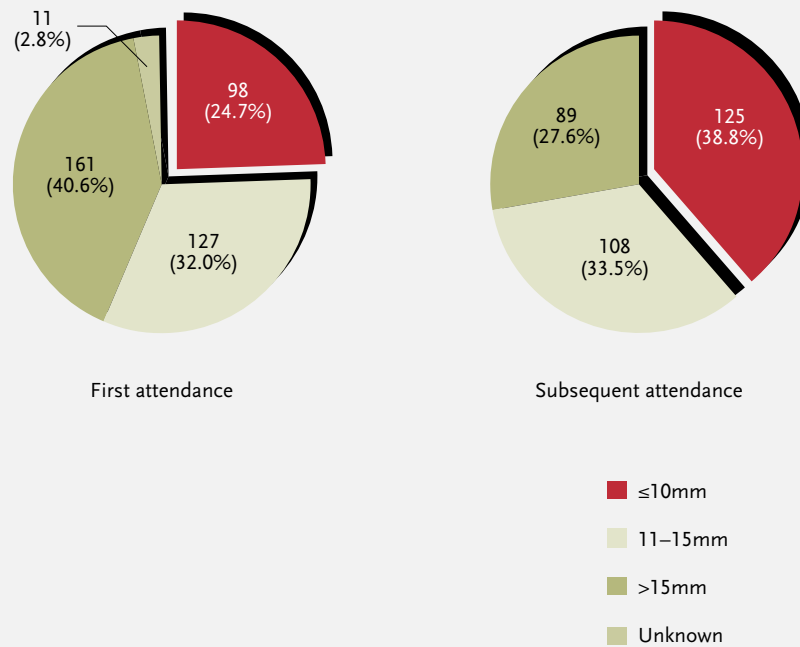
Breast cancer detection rate by size of invasive breast cancer	Age group					Total av. rate (95% C.I.)
	40-49	50-59	60-69	70-79	80+	
Subsequent attendance						
• 10mm or less						
Number of cancers	2	36	67	19	1	125
	25.0%	31.9%	45.6%	35.8%	100.0%	38.8%
Rate per 1,000 women screened	0.53	0.96	2.01	1.68	3.32	1.45 (1.19-1.70)
• 11mm to 15mm						
Number of cancers	5	39	47	17	0	108
	62.5%	34.5%	32.0%	32.1%	0.0%	33.5%
Rate per 1,000 women screened	1.31	1.04	1.41	1.50	0.00	1.25 (1.02-1.49)
• More than 15mm						
Number of cancers	1	38	33	17	0	89
	12.5%	33.6%	22.4%	32.1%	0.0%	27.6%
Rate per 1,000 women screened	0.26	1.01	0.99	1.50	0.00	1.03 (0.82-1.25)
Subtotal						
Number of cancers	8	113	147	53	1	322
	100%	100%	100%	100%	100%	100%
Rate per 1,000 women screened	2.10	3.01	4.41	4.69	3.32	3.73 (3.32-4.14)
Total						
Number of invasive cancers	43	250	286	128	12	719
	100%	100%	100%	100%	100%	100%
Rate per 1,000 women screened	2.68	3.92	5.45	6.87	12.07	4.73 (4.39-5.08)

Rate of invasive breast cancer by size per 1,000 screened women



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

Number and proportion of invasive breast cancers by size



4.5 Interval cancer rate

Interval cancers are cases of invasive breast cancer or DCIS that are not diagnosed as a result of attending for screening but which are diagnosed during the time interval until the next screening attendance was recommended; this period is usually 24 months.

The following points are relevant to the interval cancer rates²² that are presented in this section:

- The interval cancer rates relate to women who were first round attenders at BreastScreen Victoria during 1994. Insufficient women attended for second round screening in 1994 to allow interval cancer rates to be calculated for this group of women.
- Separate rates are presented for three groups of women:
 - women who were asymptomatic at the time of their 1994 screening;
 - women who indicated a breast lump and/or clear/blood-stained nipple discharge at the time of their 1994 screening (see Section 1.6);
 - women who indicated ‘other’ breast symptoms at the time of their 1994 screening.
- Cancers that were diagnosed among women who were recommended for early review were not counted as interval cancers unless the woman had been cleared for routine rescreening or more than 12 months had elapsed from the date of the first attendance in 1994, whichever was earlier.
- If a woman was rescreened by BreastScreen Victoria between 21 and 24 months after the 1994 screening and declared at the time of the second screening that she currently had a breast lump and/or a clear/blood-stained nipple discharge and a cancer was diagnosed at this second screening, then this cancer was classified as an interval cancer.

Using this approach, a total of 211 interval cancers were identified among the first round attenders in 1994. This number comprises 200 women with invasive breast cancer and 11 women with DCIS. Of the 200 invasive breast cancers, 74 were diagnosed during the first year and 126 during the second year. Of the 11 cases of DCIS, two were diagnosed during the first year and nine during the second year.

The following table shows the interval cancer rate for the three groups of women during the first and second years after their 1994 screening. During the first year after screening, the interval cancer rate was approximately seven times higher among women who declared a lump or nipple discharge at the time of their 1994 screening compared with asymptomatic women. Women who declared ‘other’ breast symptoms had approximately twice as many interval cancers during both the first and second years after screening compared with asymptomatic women.

²² The data in this section is drawn from a research project being undertaken by Kavanagh AA, Mitchell H and Giles GG. *Interval cancers in the Victorian mammographic screening program* (work in progress).

Interval cancer rate in first attenders during 1994 per 10,000 women screened	Age group					Total av. rate (95% C.I.)
	40-49	50-59	60-69	70-79	80+	
Year 1						
• Asymptomatic women						
Number of cancers	14	21	17	4	0	56
Rate per 10,000 women screened	8.53	5.24	5.63	4.80	0.00	5.85 (4.4-7.6)
• Symptoms – ‘other’						
Number of cancers	3	1	4	1	0	9
Rate per 10,000 women screened	14.63	3.48	20.81	15.17	0.00	11.86 (5.4-22.5)
• Symptoms – lump or discharge						
Number of cancers	6	4	1	0	0	11
Rate per 10,000 women screened	54.55	37.95	24.88	0.00	0.00	40.64 (20.3-72.7)
Year 2						
• Asymptomatic women						
Number of cancers	22	50	31	11	0	114
Rate per 10,000 women screened	13.41	12.48	10.28	13.22	0.00	11.91 (9.8-14.3)
• Symptoms – ‘other’						
Number of cancers	3	10	3	2	0	18
Rate per 10,000 women screened	14.64	34.83	15.63	30.40	0.00	23.73 (14.1-37.5)
• Symptoms – lump or discharge						
Number of cancers	1	2	0	0	0	3
Rate per 10,000 women screened	9.13	19.03	0.00	0.00	0.00	11.12 (2.2-32.5)

Among asymptomatic first round attenders aged 50–69 years in 1994, 38 cancers were diagnosed during the first 12 months after screening giving an interval cancer rate of 5.41 cancers per 10,000 women (95% C.I. 3.8–7.4). During the second year after the 1994 screening, 81 cancers were diagnosed giving an interval cancer rate of 11.53 per 10,000 women (95% C.I. 9.2–14.3).

The national accreditation standard is that the interval cancer rate should be less than 6 cancers per 10,000 women in the 12 months following screening.

5 BREAST CANCER CHARACTERISTICS AND TREATMENT

5.1 Nodal status

Ninety-two percent of the women diagnosed with invasive breast cancer underwent axillary node dissection. Nodes were positive for 12% of the women whose breast cancer was 10mm or less in diameter, 18% of the women whose breast cancer was 11–15mm in diameter and 41% of the women whose breast cancer was more than 15mm in diameter.

Twenty-two percent of the 143 women with DCIS underwent axillary node dissection; none of these women were found to have positive nodes.

Nodes	Invasive				Invasive total	DCIS	Total
	0–10mm	11–15mm	>15mm	unknown			
No dissection	30	16	9	2	57	111	168
Dissection performed							
• No nodes positive	169 87.6%	180 82.2%	142 58.9%	6 66.7%	497 75.1%	32 100.0%	529 76.2%
• Nodes positive	24 12.4%	39 17.8%	99 41.1%	3 33.3%	165 24.9%	0 0.0%	165 23.8%
Subtotal	193 100%	219 100%	241 100%	9 100%	662 100%	32 100%	694 ²³ 100%

5.2 Tumour grade

Ninety-two percent of the women with invasive breast cancer had the grade of their tumour classified. This table shows the grade by tumour size. Tumours which were smaller tended to be of low grade. Conversely, larger tumours tended to be of high grade.

Tumour grades	Invasive				Total	
	0–10mm	11–15mm	>15mm	unknown		
Grades unknown		24	18	15	2	59
Grades known						
• Grade – 1	90 45.2%	71 32.7%	39 16.6%	3 33.3%		203 30.8%
• Grade – 2	76 38.2%	114 52.5%	114 48.5%	4 44.4%		308 46.7%
• Grade – 3	33 16.6%	32 14.7%	82 34.9%	2 22.2%		149 22.6%
Subtotal	199 100%	217 100%	235 100%	9 100%		660 100%

²³ This table excludes data for two women who were discharged with breast cancer of an unknown type; histology for these two women was not available.

5.3 Type of treatment

Treatment details were recorded for 96% of the women who were diagnosed with invasive breast cancer. Thirty-five percent of these women underwent a mastectomy, 62% a wide local excision and 3% diagnostic local excision. Thus 65% underwent some form of breast conserving surgery.

Treatment details were recorded for 93% of the women with DCIS. Thirty percent of these women underwent a mastectomy, 54% a wide local excision and 15% diagnostic local excision. Thus 69% of these women underwent some form of breast conserving surgery.

Treatment	Invasive	DCIS	Type unknown	Total
Unknown	28	10	0	38
Information available				
• No surgery	1 0.1%	1 0.8%	1 50.0%	3 0.4%
• Local diagnostic excision	23 3.3%	20 15.0%	0 0.0%	43 5.2%
• Wide local excision	426 61.6%	72 54.1%	1 50.0%	499 60.4%
• Mastectomy	241 34.9%	40 30.1%	0 0.0%	281 34.0%
Subtotal	691 100%	133 100%	2 100%	826 100%

APPENDIX 1

Additional information about country of birth for attenders to BreastScreen Victoria

Country of birth	Age group					Total
	40-49	50-59	60-69	70-79	80+	
Australia	10416 64.8%	40495 63.5%	34949 66.6%	13455 72.3%	787 79.2%	100102 65.9%
United Kingdom	1301 8.1%	6399 10.0%	4855 9.3%	1723 9.3%	93 9.4%	14371 9.5%
Italy	515 3.2%	3325 5.2%	3125 6.0%	691 3.7%	20 2.0%	7676 5.1%
Greece	353 2.2%	2471 3.9%	1382 2.6%	139 0.7%	2 0.2%	4347 2.9%
The former Yugoslavia	291 1.8%	1354 2.1%	872 1.7%	135 0.7%	3 0.3%	2655 1.7%
Germany	229 1.4%	955 1.5%	906 1.7%	305 1.6%	3 0.3%	2398 1.6%
Netherlands	212 1.3%	999 1.6%	806 1.5%	267 1.4%	13 1.3%	2297 1.5%
Malta	254 1.6%	906 1.4%	592 1.1%	98 0.5%	1 0.1%	1851 1.2%
Poland	104 0.6%	340 0.5%	510 1.0%	383 2.1%	17 1.7%	1354 0.9%
Vietnam	300 1.9%	457 0.7%	348 0.7%	67 0.4%	3 0.3%	1175 0.8%
New Zealand	189 1.2%	499 0.8%	254 0.5%	83 0.4%	5 0.5%	1030 0.7%
India	99 0.6%	425 0.7%	288 0.5%	59 0.3%	1 0.1%	872 0.6%
Egypt	70 0.4%	307 0.5%	240 0.5%	64 0.3%	2 0.2%	683 0.4%
Sri Lanka	94 0.6%	286 0.4%	223 0.4%	64 0.3%	2 0.2%	669 0.4%
Republic of Ireland	57 0.4%	259 0.4%	264 0.5%	77 0.4%	2 0.2%	659 0.4%
China	82 0.5%	269 0.4%	246 0.5%	52 0.3%	4 0.4%	653 0.4%

Country of birth	Age group					Total
	40-49	50-59	60-69	70-79	80+	
Malaysia	139 0.9%	293 0.5%	124 0.2%	10 0.1%	0 0.0%	566 0.4%
Hungary	40 0.2%	208 0.3%	204 0.4%	95 0.5%	5 0.5%	552 0.4%
Cyprus	69 0.4%	228 0.4%	176 0.3%	32 0.2%	0 0.0%	505 0.3%
Turkey	126 0.8%	246 0.4%	72 0.1%	14 0.1%	0 0.0%	458 0.3%
Other	1123 7.0%	3046 4.8%	2041 3.9%	807 4.3%	31 3.1%	7048 4.6%
Total	16063 100%	63767 100%	52477 100%	18620 100%	994 100%	151921 100%

APPENDIX 2

Performance against national accreditation standards in 1996

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

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 ²⁴ .	56.5% of eligible Victorian women aged 50–69 were screened during the 24 months from 1 January 1995 to 31 December 1996.
1.3	To maximise participation by women of non-English speaking background.	Participation for women of non-English speaking background in urban areas will be at least 50% of the rate for the general population.	Participation for women aged 50–69 of non-English speaking background across Victoria (urban and rural) was 74% of the rate for all Victorian women.
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 rounds.	Mammographic assessment was recommended for 6.2% of women attending for first screens and 3.5% for subsequent attenders ²⁵ .
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.	Average rate of breast cancer diagnosis ²⁶ was 6.8 per 1,000 among first attenders and 4.0 among subsequent attenders ²⁵ .
2.24	To maximise the number of minimal invasive cancers detected.	>0.8 cancers per 1,000 screened women will have a diameter of ≤10mm.	Average rate of cancers ≤10mm was 1.47 per 1,000 screened women.
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.	19% of cancers with known morphology detected in first attenders were DCIS ²⁵ .
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.	Average rate of interval cancers among first attenders in 1994 aged 50–69 years was 6.27 per 10,000 screened women during the first 12 months after screening ²⁷ .

²⁴ This standard applies only to screening and assessment services established for five years and granted full accreditation. In 1996, only one BreastScreen Victoria service had been operating for four years.

²⁵ Data by prevalent and incident screening round, as distinct from first and subsequent attendance, are not utilised in this publication.

²⁶ Rates given are for asymptomatic women with no personal history of breast cancer.

²⁷ This rate is given for all women screened; asymptomatic and symptomatic at the time of screening.

APPENDIX 3

National and international comparisons

Participation rate

At the First National Breast Cancer Screening Conference held in Canberra in August 1997, States and Territories reported participation rates between 39% and 63% for women aged 50–69 years. These participation rates cover a 27 month period from 1 January 1995 to 31 March 1997. Victoria reported the highest participation rate for women in this age group.

Detection rate for breast cancer

The rate of breast cancer diagnosis in BreastScreen Victoria during 1996 among asymptomatic women was 6.8 per 1,000 screened women (for first round attenders) and 4.0 cases per 1,000 screened women (for subsequent round attenders).

These rates compare favourably to those reported by BreastScreen Australia in its Statistical Report of 1994 and 1995. BreastScreen Australia reported a cancer detection rate in 1995 of 6.5 per 1,000 screened women (for initial round attenders) and 3.5 cases per 1,000 screened women (for subsequent round attenders).

The following table compares rates of cancer diagnosis during 1996 among women attending State programs that are part of BreastScreen Australia. Rates are shown for all women (first and subsequent round attendances) and for women attending subsequent screening rounds. Rates may vary between programs depending on the local policy about screening symptomatic women.

Breast cancer detection rate per 1,000 screened women	All screens	Rescreens
Victoria	5.7	4.3
New South Wales ²⁸	4.8	4.3
Queensland ²⁸	4.6	3.9
Tasmania ²⁸	4.1	2.9
South Australia ²⁸	5.5	4.6
Western Australia ²⁸	4.1	3.5

Among women aged 50–64 years invited for screening in the United Kingdom in 1995–96, the rate of breast cancer diagnosis was 6.3 per 1,000 screened women (first attenders) and 4.3 cases per 1,000 screened women (subsequent attenders)²⁹. The UK program offers triennial screening and is directly targeted at the age group 50–64 years.

²⁸ Data presented as posters at the First National Breast Cancer Screening Conference, Canberra, August 1997.

²⁹ Department of Health, *NHS Breast Screening Programme Review 1997*, p.22–23.

Size of breast cancer

Among first round attenders, 57% of the cancers diagnosed by BreastScreen Victoria were 15mm or less in diameter; among subsequent attenders, 72.4% of the cancers were 15mm or less in diameter.

In its Statistical Report of 1994 and 1995, BreastScreen Australia reported that 61% of the breast cancers were diagnosed at 15mm or less in diameter, (analysis confined to cases where diameter was given). Separate figures were not given for first round attenders and subsequent attenders.

In the United Kingdom, among women invited for a first screen in 1995–96, 52% of cancers diagnosed were 15mm or less in diameter; among subsequent attenders 54% of the cancers were 15mm or less in diameter³⁰.

The next table compares the rate of invasive breast cancer diagnosis among women attending State programs by size of tumour for all women (first and subsequent attendances) and for women attending subsequent screening rounds.

Small (≤ 10mm) invasive breast cancer detection rate per 1,000 screened women	All screens	Rescreens
Victoria	1.47	1.45
New South Wales ³¹	1.12	1.30
Queensland ³¹	1.21	1.04
Tasmania ³¹	1.19	0.96
South Australia ³¹	1.43	1.25
Western Australia ³¹	2.12	0.66

³⁰ *ibid.*

³¹ See footnote 28.

Interval cancer rate

Comparative data on interval cancer rates (per 10,000 women screened) by time since screening is shown in the following table.

Program	Age group	Interval cancer rate during year 1	Interval cancer rate during year 2
Victoria ³²	50–69	6.3	12.6
Queensland ³³	50–69	6.7	n/a
South Australia ³³	50–69	6.9	n/a
Tasmania ³³	50–69	5.5	n/a
East Anglia (UK) ³⁴	50–64	5.2	12.8
North Western (UK) ³⁵	50–64	5.7	9.7

³² See footnote 27.

³³ Data presented at the First National Breast Cancer Screening Conference, Canberra, August 1997.

³⁴ Day N, McCann J, Camilleri-Ferante C, Britton P, Hurst G, Cush S et al (1995). 'Monitoring interval cancers in breast screening programmes: the East Anglian experience'. *J Med Scr* 2:180–185. Note that these rates exclude cases of carcinoma in situ.

³⁵ Woodman CBJ, Threlfall AG, Boggis CRM, Prior P (1995). 'Is the three year breast screening interval too long? Occurrence of interval cancers in NHS breast screening programme's North Western region'. *BMJ* 310:224–226. Note that these rates exclude cases of carcinoma in situ.

APPENDIX 4

Staff of BreastScreen Victoria

SCREENING AND ASSESSMENT CENTRES

Bendigo Regional BreastScreen

Director	Dr Neale Walters
Manager	Mrs Philippa Hartney
Data Manager	Ms Kaye Jarman

Central Highlands & Wimmera BreastScreen

Director	Dr Clifford Trotman
Manager	Ms Jennifer Slattery
Data Manager	Mrs Glenda Cairns

City & North Eastern BreastScreen

Director	Dr Jennifer Cawson
Manager	Dr Catherine Galbraith
Data Manager	Mrs Karen Winch

Geelong Screening & Assessment Service

Director	Dr Linda West
Manager	Mrs Maggie Arnold (resigned June 1996)
Acting Manager	Ms Carol Belfrage-Richmond
Data Manager	Mr Phillip Kelly

Gippsland BreastScreen

Director	Dr Robert Brownlee
Manager	Ms Michele Thompson
Data Manager	Mr Geoff Duffell

Monash BreastScreen & Principal Assessment Centre

Director	Mr Stewart Hart
Manager	Ms Louise Bowen
Data Manager	Ms Janita Bettio

Maroondah BreastScreen

Director	Dr Rodney Taft
Manager	Ms Catriona King
Data Manager	Ms Cathy Krishnan

The Royal Melbourne Hospital Essendon BreastScreen and Principal Assessment Centre

Director	Mr Ian Russell
Manager	Ms Mary Hevern
Data Manager	Ms Susy Alessandri

VICTORIAN BREASTSCREEN COORDINATION UNIT

Director	Ms Onella Stagoll
Senior Policy Officer	Ms Pauline Sanders
Administration Officer	Ms Brenda Meyers

VICTORIAN BREASTSCREEN REGISTRY

Director	Dr Heather Mitchell
Coordinator	Ms Vicky Higgins
Information Manager	Ms Helen Farrugia (resigned June 1996)
Information Manager	Ms Debra Rabe (October 1996–March 1997)
Information Manager	Ms Siân Fereday
Assistant Information Manager	
	Ms Suzen Maljevac
Data Manager	Ms Esther Cukier
Computer Staff	Mr John Siddham
	Mr Darren Firth
	Mr Ross Irvine

NOTES