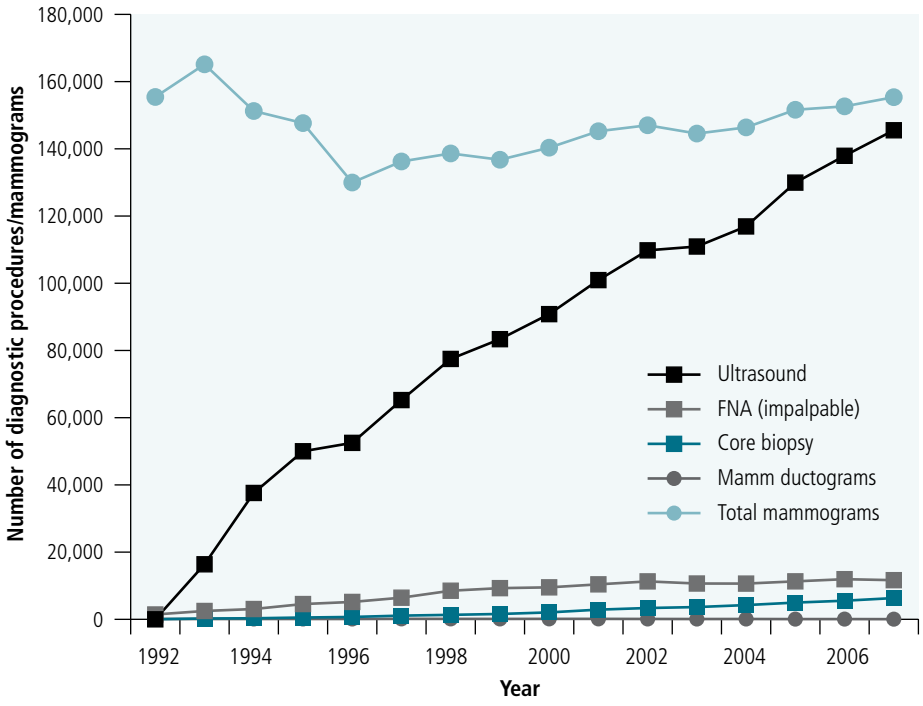
7.3.2 TRENDS IN MBS-FUNDED DIAGNOSTIC SERVICES FOR BREAST CANCER

Evaluation question 13: What are the trends in MBS-funded breast cancer diagnostic procedures since the beginning of the BreastScreen Australia Program in 1991?

The Evaluation analysed trends in several MBS-funded breast-related diagnostic procedures over the period 1991–2007, including ultrasound,[36] FNA,[37] core biopsy[38] and mammary ductogram[39]. The analysis shows a steady increase in the number of MBS-funded FNAs, core biopsies and mammary ductograms and a dramatic increase in the total number of ultrasounds[40] claimed over this period (Figure 7.12). The number of MBS-funded mammograms is also included for comparison.

Figure 7.12 Annual number of MBS-funded breast-related diagnostic services compared with annual number of MBS-funded bilateral mammograms for women aged 50–69 years, 1992–2007



Note: Data begin at 1992 due to an incomplete data set for items in 1991–1992. Includes MBS-funded diagnostic items 55070, 55073, 55076, 55079, 31533, 31530, 31548 and 59306 and MBS-funded mammography items 59303 and 59300.

Source: MBS Mammography Analysis Project

36 Ultrasound MBS items used in this analysis included referred and non-referred ultrasounds of both breasts (MBS items 55076 and 55079) and referred and non-referred ultrasounds of one breast (MBS items 55070 and 55076). Non-referred ultrasounds are most likely to occur when the radiologist taking the mammogram observes a sign and decides to follow up with an ultrasound.

37 FNA refers to MBS item number 31533 (impalpable breast lesions). FNA of palpable lesions (MBS item 73049 and 73051 was also reviewed in the analysis however these items do not refer specifically to breast lesions so are therefore not presented in this section of the report.

38 MBS items 31530 and 31548

39 MBS item 59306

40 Total number of ultrasounds includes ultrasounds for one and both breasts, referred and non-referred

Age-specific rates, obtained for 2007 only, indicate that women aged 45–49 years had the highest age-specific rate of referred bilateral ultrasounds (6,160 per 100,000 women) followed by women aged 40–44 years (5,604 per 100,000 women) (Figure 7.13). In some women, particularly younger women, ultrasound is preferred as the sole imaging technique due to breast density. In older women, usually those over 40 years, ultrasounds are commonly used in conjunction with mammography to undertake a breast examination (NBCC 2002). The overall increase in use over time of ultrasounds is likely to due to its recommended use as part of the 'triple test', the investigative pathway used to assess breast changes to confirm a diagnosis of breast cancer.

Similarly, the steady increase in use of FNA for impalpable breast lesions and core biopsy (Figure 7.12) is also likely to be because of the inclusion of these procedures in the 'triple test'[41] approach to diagnosis. In addition, Kricker and Clements (1999) attributed the increase in these procedures to increased experience with the procedures by health professionals, greater expertise in reporting results and improved reliability of test results.

Figure 7.13 Annual age-specific rate of MBS-funded bilateral ultrasound (referred and non-referred) by age group, 2007

Source: MBS Mammography Analysis Project

41 The triple test is made up of three diagnostic components: (1) clinical breast examination, including medical history; (2) imaging – mammography and/or ultrasound; (3) pathology via non-excisional biopsy – FNA cytology and/or core biopsy (NBCC 2002).

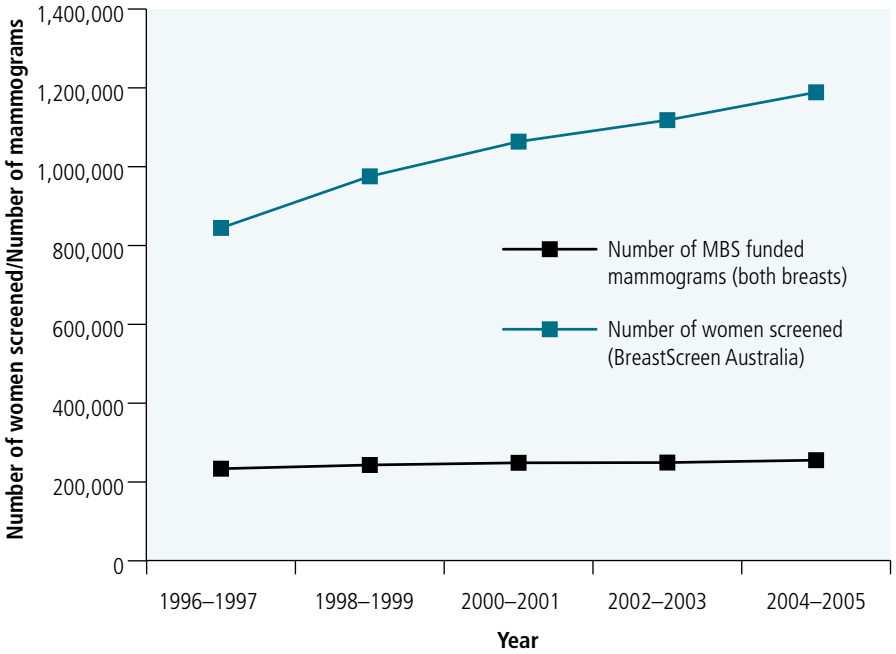
7.3.3 PARTICIPATION IN BREASTSCREEN AUSTRALIA AND MBS-FUNDED MAMMOGRAPHY

Evaluation question 14: To what extent are women using MBS-funded mammography when they could be accessing BreastScreen Australia services?

The MBS Mammography Analysis Project compared participation rates in BreastScreen Australia to MBS-funded mammography by LGA, state and territory, geographic region and socio-economic status.

Overall, the number of women screened through BreastScreen Australia has gradually increased over time. By comparison the number of MBS-funded mammograms has remained relatively steady (Figure 7.14). In 2004–2005, 1,118,720 women aged 50–69 years were screened through BreastScreen Australia (AIHW 2008). The number of MBS-funded mammograms conducted in women in this age group over the same 2-year period totalled 255,350 services. These figures should be interpreted with caution, as the number of MBS-funded mammograms is likely to comprise mammograms for both diagnostic and non-diagnostic purposes.

Figure 7.14 Number of mammograms conducted by BreastScreen Australia and mammograms funded through the MBS for women aged 50–69 years, 1996–2005



Note: A 2-year time period was used as BreastScreen Australia reports participation figures on a 2-yearly basis to correspond with the biennial screening interval

Source: Prepared using data from the Participation and Performance Trends Project and the MBS Mammography Analysis Project

Data on mammograms provided through BreastScreen Australia and the MBS were analysed to determine an attendance rate for both services. While women who have a mammogram through the BreastScreen Australia Program are essentially participating in the Program, this same distinction does not apply to MBS-funded mammography. It would be incorrect to assume women are 'participating' in the MBS, as the data presented in this section include MBS-funded mammograms for both diagnostic and non-diagnostic purposes. To address this issue, the term 'attendance rate' has been used instead of 'participation rate'.

Attendance was presented by LGA, geographic region, socio-economic status and jurisdiction. The rate presented for each indicator was an annual attendance rate that had been averaged over the 5-year periods 1996–2000 and 2001–2005 to allow better comparison of trends. This rate in relation to BreastScreen Australia is lower than participation rates reported in other sections of this report, as the rate has not been presented in the usual Program 2-yearly screening interval.

BreastScreen Australia and MBS-funded mammography by LGA, all ages

Analysis by LGA, in which the proportion of women participating in BreastScreen Australia was plotted against the proportion of women receiving MBS-funded mammograms, found no clear trends. Analysis by individual LGA may provide a clearer picture of any apparent trends.

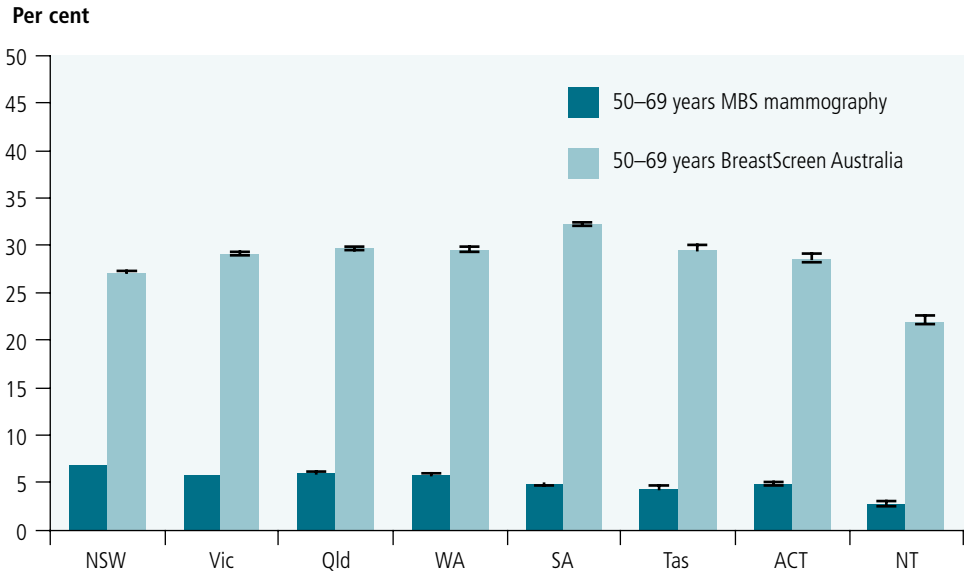
BreastScreen Australia and MBS-funded mammography for women aged 50–69 years

BreastScreen Australia annual attendance rates remained relatively stable or increased slightly over time for women aged 50–69 years. In 2001–2005, the average annual participation rate in Australia was 28.9% (95% CI: 28.8–28.9), ranging from 32.2% (95% CI: 31.9–32.5) for South Australia to 21.8% (95% CI: 21.0–22.6) for the Northern Territory (Figure 7.15).

By comparison, MBS-funded mammography attendance decreased for most jurisdictions over the same time period. In 2001–2005, the national rate was 6.0% (95% CI: 6.0–6.1), ranging from 6.9% (95% CI: 6.6–6.9) for NSW to 2.8% (95% CI: 2.5–3.0) for the Northern Territory.

This trend is likely to be reflective of the availability of the BreastScreen Australia Program, which specifically targets women in this age group.

Figure 7.15 Average annual attendance rates through BreastScreen Australia and MBS mammography for women aged 50–69 years, by state and territory, 2001–2005



Source: MBS Mammography Analysis Project

No significant findings were seen across geographical regions (major cities, inner regional, outer regional, remote and very remote), as attendance at BreastScreen Australia dominated over MBS-funded mammography attendance in all areas. In 2001–2005, MBS-funded mammography attendance tended to be higher in major cities (6.5; 95% CI: 6.5–6.6) and inner regional areas (5.8; 95% CI: 5.7–5.8), while the rate was lowest in very remote areas (3.5; 95% CI: 3.1–3.9).

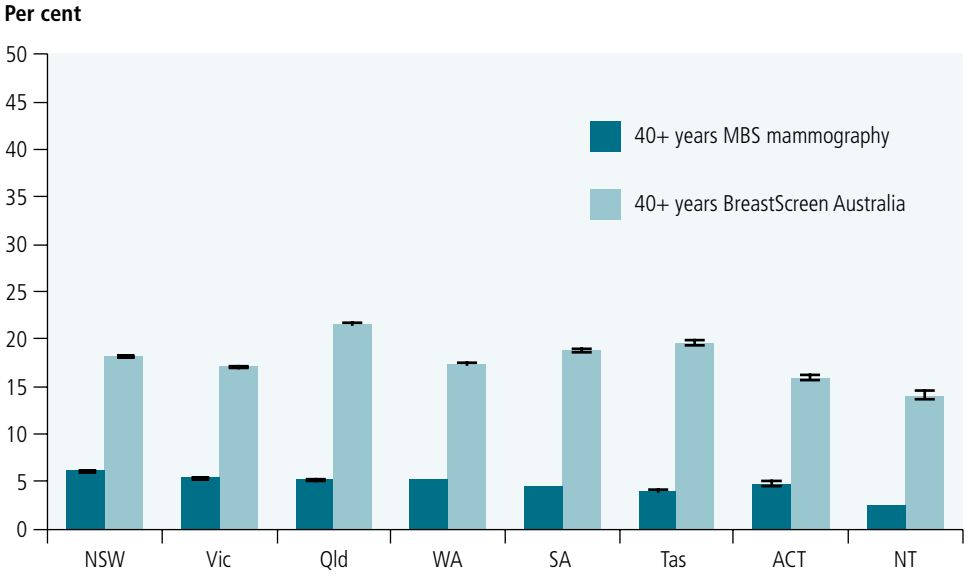
Little difference in BreastScreen Australia participation was seen between the second, third, fourth or fifth (lowest) quintiles of socio-economic status in 2001–2005. The first quintile (highest) had the lowest attendance at 25.2% (95% CI: 25.0–25.3). In contrast, MBS-funded mammography attendance was similar across the third, fourth and fifth (lowest) quintiles and was highest in the first quintile (highest) at 7.4% (95% CI: 7.3–7.5).

BreastScreen Australia and MBS-funded mammography for women aged 40–49 years

There was a substantial decrease in participation in BreastScreen Australia by women aged 40–49 years in most states and territories between 1996 and 2005. MBS-funded mammography rates also decreased in this age group over the same time period. Annual attendance at BreastScreen Australia in 2001–2005 for women 40–49 years was 9.4% (95% CI: 9.3–9.4), while MBS-funded mammography attendance was 6.1% (95% CI: 6.1–6.1).

Some variation is apparent by jurisdictions. NSW and Victoria had highest usage of MBS-funded mammography in 2001–2005 (Figure 7.16). Over this time period, the MBS-funded mammography rate was 6.7% (95% CI: 6.6–6.8) in NSW and 6.5% (95% CI: 6.4–6.6) in Victoria. Tasmania and the Northern Territory had the lowest MBS-funded mammography attendance rates at 4.4% (95% CI: 4.2–4.6) and 3.2% (95% CI: 2.9–3.5), respectively in 2001–2005.

Figure 7.16 Average annual attendance rates through BreastScreen Australia and MBS-funded mammography for women aged 40–49 years, by state and territory, 2001–2005



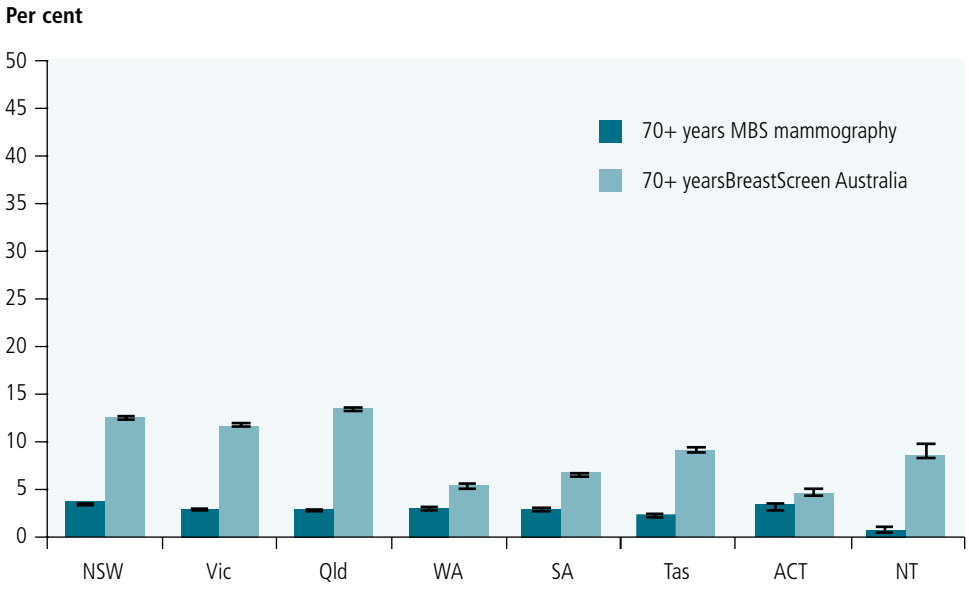
Source: MBS Mammography Analysis Project

BreastScreen Australia and MBS-funded mammography for women aged 70+ years

Participation by women aged 70+ years in the BreastScreen Australia Program has increased over time. Nationally, annual attendance at BreastScreen Australia in 2001–2005 for women aged 70+ years was 10.1% (95% CI: 11.1–11.2) compared with 2.9% (95% CI: 3.1–3.1) for MBS-funded mammography.

While annual attendance rates in women aged 70+ years were higher for BreastScreen Australia than for MBS-funded mammography for all jurisdictions, there were some exceptions. In 2001–2005, annual attendance in BreastScreen Australia for Western Australia and the ACT was only slightly above MBS-funded mammography attendance. In Western Australia, BreastScreen Australia attendance was 5.0% (95% CI: 5.2–5.6) compared with the MBS-funded mammography rate at 2.9% (95% CI: 2.9–3.2); in the ACT, the attendance rate was 4.4% (95% CI: 4.3–5.1) for BreastScreen Australia compared with 3.1% (95% CI: 2.9–3.6) for MBS-funded mammography attendance.

Figure 7.17 Average annual attendance rates through BreastScreen Australia and MBS-funded mammography for women aged 70+ years by state and territory, 2001–2005



Source: MBS Mammography Analysis Project

7.3.4 IMPACT OF MBS-FUNDED MAMMOGRAPHY ON BREASTSCREEN AUSTRALIA

Evaluation question 15: What is the impact, on the Program, of mammography outside the Program?

The MBS Mammography Analysis Project estimated the proportion of mammography undertaken through the MBS for diagnostic or surveillance purposes and for non-diagnostic purposes. It could be assumed that non-diagnostic mammography for women in BreastScreen Australia's target age range could be undertaken through BreastScreen Australia.

The MBS data set provides information on the number of services provided and reimbursed but not the reason for the service or its outcome. In order to estimate MBS-funded diagnostic and non-diagnostic mammography, a set of assumptions was developed[42] about patterns of mammography and use of breast-related diagnostic procedures that could allow classification of mammograms as either diagnostic or non-diagnostic.

The assumptions are detailed in Figure 7.18. Assumption 2, for example, is that bilateral mammograms that occurred on the same day as other breast-related diagnostic procedures (excluding bilateral ultrasounds) could be assumed to be diagnostic, as these procedures were probably requested at the same time by the same doctor. Bilateral ultrasounds were excluded from the other breast-related diagnostic procedures in assumption two because of the common clinical

42 Assumptions were developed by the MBS Mammography Analysis Project sponsors (EAC members) and endorsed by the EAC

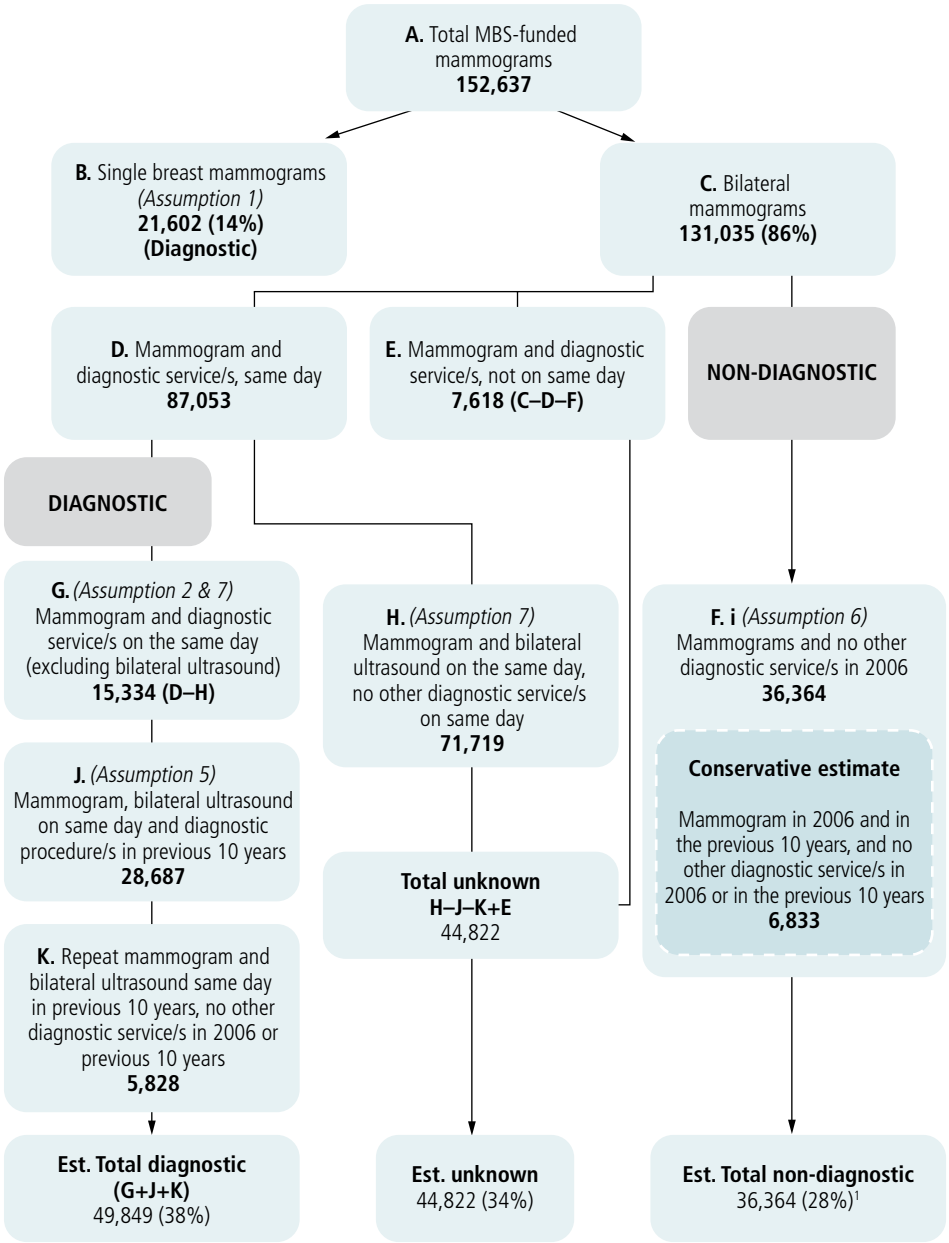
practice of ordering mammograms and ultrasounds together, which may not always necessarily be for the purpose of investigating breast signs or symptoms. Mammograms and bilateral ultrasounds performed on the same day were therefore categorised as 'unknown' (assumption 7).

Assumptions were also developed to account for the number of women at high risk due to a personal history or family history of breast cancer, as these women are eligible to access diagnostic mammography under the MBS item description. Assumption 5 in relation to possible personal history is that these women will have claimed mammograms and invasive breast-related diagnostic services (FNA, core biopsy or ductogram) in the last 10 years. An assumption in relation to family history was not made due to the lack of a standard definition of 'family history'; however, it was presumed that these women will have claimed repeat mammograms and ultrasounds occurring on the same day in the last 10 years, but not invasive diagnostic procedures such as FNA, core biopsy or ductogram.

Data and assumptions were used to form a flowchart separating mammography into three 'streams' – 'diagnostic', 'non-diagnostic' and 'unknown' (Figure 7.18). The 'unknown' category was included where there was insufficient information available to form a judgement as to whether a procedure was conducted for diagnostic or non-diagnostic purposes. The 'non-diagnostic' estimate is likely to be an underestimate, as it excluded women who had any other breast-related diagnostic services. It is likely that a proportion of women were classified in the 'diagnostic' category because another breast-related diagnostic service was performed as a result of the mammogram, when the original purpose of the mammogram was in fact for non-diagnostic purposes.

Within the 'non-diagnostic' classification, the category labelled 'conservative non-diagnostic' mammography (subset of box F; Figure 7.18), provides a likely estimate of women who regularly use MBS-funded mammography for non-diagnostic purposes.

Figure 7.18 Estimate of the proportion of MBS-funded mammography used for diagnostic and non-diagnostic purposes in women aged 50–69 years, 2006



Assumptions

1. Single breast mammograms are diagnostic.
2. Bilateral mammogams and other breast-related diagnostic procedures occurring on the same day... are assumed to be diagnostic.
3. Ultrasounds of one breast (referred and non-referred) are diagnostic.[2]
4. Non-referred ultrasounds of both breasts are diagnostic.[2]
5. Women at high risk due to a personal history of breast cancer will have had a previous breast related procedure in the last 10 years.
6. Repeat mammograms with no diagnostic procedures completed over a period of 10 years are for non-diagnostic purposes.
7. Referred bilateral ultrasounds without any other breast-related diagnostic service on the same day (excluding mammograms) cannot be assumed to be diagnostic.

Footnotes

1. Estimation of women who would otherwise be likely to be eligible or targeted for BreastScreen Australia services.
2. Assumptions 3 and 4 would be split across several boxes of the flow chart.

Source: MBS Mammography Analysis Project

Using the same assumptions, the proportion of MBS-funded diagnostic and non-diagnostic mammography was estimated for all women in the age groups 40 years and over, 40–49 years, 50–69 years and 70–74 years (Table 7.10).

Table 7.10 Annual number of MBS-funded bilateral mammograms and estimated proportion of diagnostic, non-diagnostic and unknown mammography for selected age groups, 2006

Age group	Total bilateral mammograms	Mammograms per 100,000 women	Estimated diagnostic	Estimated non-diagnostic	Estimated unknown
40+ years	276,716	6,812	45%	23%	32%
40–49 years	97,238	6,374	58%	15%	26%
50–69 years	131,035	5,931	38%	28%	34%
70–74 years	16,583	5,067	24%	34%	42%

Source: MBS Mammography Analysis Project

Based on these estimates, the proportion of MBS-funded mammograms conducted for diagnostic purposes appears to decrease with age, while those undertaken for non-diagnostic and unknown purposes increase with age. It is difficult to identify possible reasons for the differences across age groups, as breast cancer incidence and risk factors vary by age and these estimates are only based on data for 1 year (2006). The increase in the 'unknown' category may be due to older women undergoing mammography and ultrasound for surveillance purposes following a breast cancer diagnosis, as this combination of procedures has been categorised according to assumptions for the 'unknown' group.

To determine the impact of MBS-funded mammography on the BreastScreen Australia Program, the non-diagnostic proportion of mammograms was used to calculate likely participation rates if these women were to join the Program (Table 7.11). Addition of the 'non-diagnostic' and 'conservative non-diagnostic' mammograms adds little to the current Program rate of 56.2%. At most, the addition of 'non-diagnostic' mammograms would increase participation by 3.5%, increasing participation to 59.7% nationally.

Table 7.11 High, medium and low estimates of participation for BreastScreen Australia with the addition of MBS-funded non-diagnostic mammograms for women aged 50–69 years, based on 2006 data

Estimations	Non-diagnostic	Conservative non-diagnostic
Estimated number of biennial MBS-funded mammograms	73,380	13,104
Revised number of women screened (BreastScreen Australia and MBS-funded mammograms)	1,262,100	1,201,824
Current participation rate (BreastScreen Australia) (%)	56.2	56.2
Revised participation rate (BreastScreen Australia) (%)[3]	59.7	56.8
Percentage change in participation rate (%)	+3.5	+0.6

Notes:

a. Annual number of mammograms is calculated as a percentage of the total number of bilateral mammograms estimated to be non-diagnostic from Table 7.10

b. Biennial mammograms calculated by doubling annual mammograms

c. Revised number of women screened calculated by adding the estimated number of biennial mammograms (from the Medicare system) to the current number of women screened (AIHW 2008)

d. Revised participation rate calculated by dividing the revised number of women screened by the Estimated Resident Population (ERP) figure for women 50–69 years

Source: Prepared using data from the MBS Mammography Analysis Project and the Participation and Performance Trends Project

7.4 ANALYSIS

The Evaluation showed an increase in BreastScreen Australia participation rates over time for women in the target age group (50–69 years) from 51.4% in 1996–1997 to 56.2% in 2004–2005. Participation has remained fairly steady over the last several years. While the target participation rate of 70% has not been achieved, the actual number of women attending the Program has increased over this 10-year period.

The 70% participation rate target was set on the basis that a high participation rate among women aged 50–69 years is necessary to maximise the reduction in mortality from breast cancer as a result of population-based breast cancer screening. The Breast Cancer Screening Evaluation Steering Committee's report to AHMAC in 1990 estimated that a participation rate of 70% would reduce the number of deaths from breast cancer among Australian women by 16% (AHMAC 1990). Despite the lower Program participation rate, the results of the Poisson regression analysis and proportional hazards regression analysis, completed in the Mortality Ecological Study and discussed in Chapter 6, indicate that the Program has achieved a mortality reduction greater than 16%.[43] This mortality reduction is likely to be due in part to improvements in treatment. Regardless of the mortality benefit seen, a participation rate that is lower than the 70% target is likely to result in a smaller-than-ideal mortality benefit and reduces the overall cost-effectiveness of the Program. A key finding of the Evaluation is that the overall BreastScreen Australia participation rate requires improvement in order to maximise the mortality benefit from the Program.

Evaluation findings based on analysis of participation data for different populations within the target age range are summarised below.

- Participation rates vary across jurisdictions, with data from 2004–2005 showing that participation by women aged 50–69 years was highest in South Australia (61.9%) and lowest in the Northern Territory (41.1%), where participation appears to be declining. Participation is also relatively low in NSW
- Participation is low among Aboriginal and Torres Strait Islander women, women who speak a language other than English at home and women living in very remote regions of Australia. However, there is evidence of improvement in participation for each of these groups.
- There is little variation in participation by socio-economic status, with a small but significant difference in participation rates of 0.5% between the highest and lowest quintiles seen over the 10-year period 1996–2005.
- Participation is lower for women living in major cities than for those living in inner and outer regional areas. There are many possible explanations as to why this occurring, including the possible effect of higher numbers of women in major cities who speak a language other than English at home. At this stage, the specific reasons for this trend are unclear and further research is required. One plausible explanation for the higher participation rate in remote and outer metropolitan areas could be the use of mobile screening units, which visit rural communities on a 2-yearly basis. Local publicity and women receiving their invitation or rescreen letters when the mobile unit is in their local region could contribute to higher participation rates. In addition, the participation rate decreased in metropolitan areas after

43 See Chapter 6, section 6.1 for findings from the Mortality Ecological Study

a peak in 2000–2001, despite an increase in the number of women aged 50–69 years attending the Program (in line with significant population growth in the target age group). This trend may be an indication that capacity is not keeping up with demand.

- The proportion of women at higher risk of breast cancer due to personal or family history or presence of symptoms[44] among screening participants varies by jurisdiction. For women with a personal or family history of breast cancer, this proportion is tending to increase over time.

Participation has decreased over time in age groups outside the target age (40–49 years and 70 years and over). This could reflect capacity issues, given that higher numbers of women within the target age group are being screened. It may also be the result of policy changes in some jurisdictions.

Analysis of participation trends over time, particularly at the national level, highlights a number of areas of the Program that require improvement. This includes participation by Aboriginal and Torres Strait Islander women, women who speak a language other than English at home and women living in very remote geographic areas. The lower participation rates reported for these population sub-groups reflect the barriers to participation identified for sub-populations in the Participation Qualitative Study, which included problems with accessing health services and a perceived lack of cultural sensitivity in services provided by BreastScreen Australia. The qualitative research supports the need to improve the availability of breast screening for women living in rural and remote areas as well as addressing barriers to participation for Aboriginal and Torres Strait Islander women and women who speak a language other than English at home. Although some women in lower socio-economic groups cited limited opening hours as a barrier to participation, Program data show little difference in participation rates by socio-economic status, suggesting that this barrier may be a perception rather than reality.

Awareness of communication materials for Aboriginal and Torres Strait Islander women and women from specific culturally and linguistically diverse communities was low. Targeted communication strategies to raise awareness of the Program could enhance participation of these sub-populations. Communication aimed at women with disabilities may also reassure those who wish to attend that it is possible for them to do so.

Overall, levels of satisfaction with BreastScreen Australia services and communication activities were high amongst women and health professionals. However, the Participation Qualitative Study identified that there are opportunities to improve women's understanding and appreciation of the benefits and reasons to participate in the Program, including raising awareness of age as a risk factor for breast cancer. It may also be beneficial to provide women outside the eligible age group with information in relation to age as a risk factor for breast cancer and the need to be breast aware. Eligibility for inclusion and exclusion in the Program should be clearly defined and consistent nationally to ensure women and health professionals have a clear understanding of options for participation in the Program.

44 Definitions (as defined in the Participation and Performance Trends Project report):
Personal History: a self-reported history of breast cancer or DCIS;
Family History: self-reported and limited to a first degree relative (mother, sister or daughter) with a history of breast cancer;
Symptoms: self-reported and includes a lump or nipple discharge (clear or blood-stained).

There is a need to explore and develop innovative ways to recruit lapsed participants and women who have not previously participated in response to initial invitations.

Although the research indicates that many women feel well informed in deciding whether to participate in breast cancer screening, the lack of awareness by women about key aspects of the Program indicates they may not read or retain the information provided in the consent form or general literature provided to them at BreastScreen Australia services. A review of materials, including communication and presentation style, will be important to ensure that key messages are communicated to and understood by women, especially in relation to the potential for interval cancer.

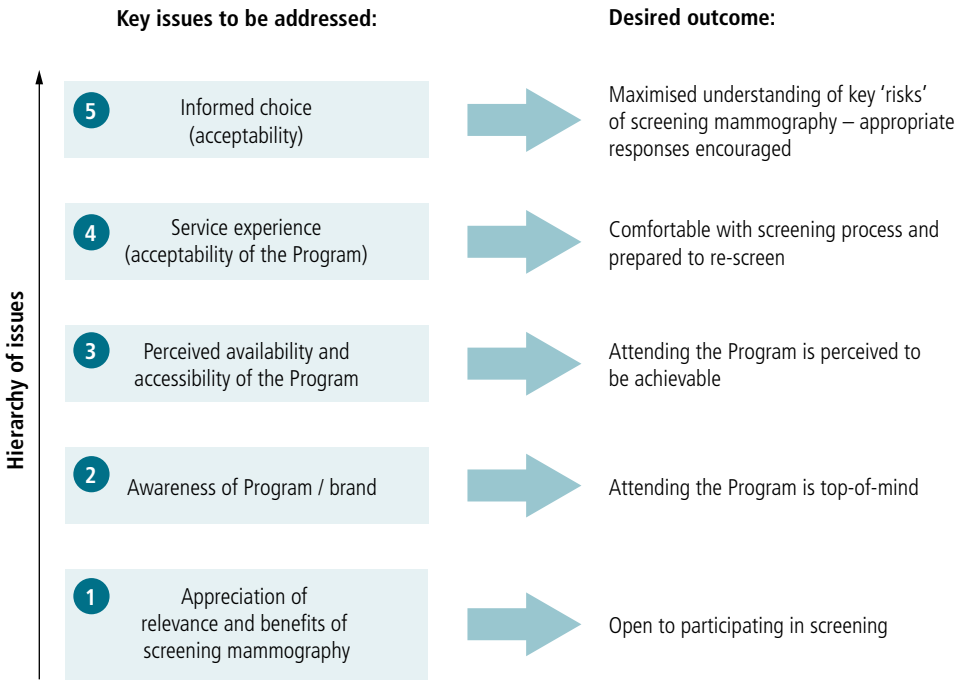
Some participants felt they were not adequately prepared for the screening process at their first visit. This finding was common across audiences but was particularly acute among Aboriginal and Torres Strait Islander women. There is a need to prepare women more effectively for their first screening attendance by providing information on the screening process, the low rate of diagnosis of breast cancer among women who are recalled for further investigation through BreastScreen Australia and the importance of prompt reporting of breast changes or symptoms of breast cancer appearing in the screening interval to their GP. There is scope to improve the first screening experience through the development of service protocols and appropriate training for BreastScreen Australia staff as well as by addressing pain as a barrier to participation.

GPs were broadly supportive of the Program but recognised there were gaps in their knowledge of the Program, including confusion about the age eligibility criteria, which they felt impaired their ability to promote the Program effectively. Some, especially male and younger female GPs, also wanted information on the process and procedure of screening to facilitate discussion with women who are concerned about using BreastScreen Australia for the first time. Ways to increase GPs' awareness of the BreastScreen Australia operational and policy process should therefore be explored to facilitate discussion between GPs and their patients.

Findings from the Participation Qualitative Study indicated that some women choose to have a mammogram for screening outside BreastScreen Australia for a number of reasons, including faster results, convenience and the availability of ultrasounds. In some cases, women aged 40–49 years reported using private services because they and/or their GP were not aware that they would be eligible for free screening through BreastScreen Australia. The research also found that some GPs prefer to refer women to private services. Improving the time taken to receive results, extending opening hours and promoting the availability of services and adherence to quality standards adopted are possible options to improve participation rates in BreastScreen Australia.

Key issues identified in relation to participation, access and equity could be considered in a hierarchy of women's attitudes towards screening, as presented in Figure 7.19.

Figure 7.19 Key issues identified in qualitative study and ideal outcomes



Source: Participation Qualitative Study

The hierarchy indicates the different stages involved in a woman's decision to participate in breast cancer screening. Women firstly need to understand the relevance and potential benefits of breast cancer screening if they are to be open to participating in the Program. Once women are open to participating, they must be made aware of the Program and most must be reminded to attend at appropriate intervals. In order to actually take up the invitation to participate, women must perceive services to be available and accessible to them. Their experience of the service then has an influence on whether or not they will attend for rescreening. Finally, all women should understand the potential harms involved and be armed with appropriate information to help them make informed decisions about their participation. This hierarchy highlights the need to ensure not only that clear communication strategies and messages are targeted to a range of different audiences but that messages should take account of the issues that impact on a woman's decision to participate in breast cancer screening.

The issues identified in the qualitative research would be best dealt with by developing a range of communication, market research and service delivery strategies. Strategies should include Program-wide and jurisdiction based marketing, including materials targeted at specific audiences, GPs and community health workers such as Aboriginal and Torres Strait Islander health workers.

The availability of mammography within the private sector has been considered a possible contributor to the lower than expected participation rate in BreastScreen Australia. Analysis of MBS-funded mammography demonstrates a significant decline in both the number and

age-specific rate of MBS-funded bilateral mammograms since the introduction of the BreastScreen Australia Program in 1991. The decline was most pronounced in younger age groups eligible to access BreastScreen Australia (40–44, 45–49 and 50–54 years).

Examination of data related to MBS-funded mammography indicates that a considerable proportion of MBS-funded mammography is undertaken for women who have had other breast-related diagnostic services such as FNA or core biopsy. This suggests that these women have accessed MBS-funded mammography appropriately through diagnostic services. Estimates of non-diagnostic bilateral mammography as a proportion of all MBS-funded bilateral mammography in 2006 ranged from 15% for women aged 40–49 years to 34% for women aged 70–74 years. For women in the target age group of 50–69 years, the estimated proportion of non-diagnostic MBS-funded bilateral mammography was 28%, which equates to 36,364 of the MBS-funded mammograms undertaken in 2006. Had these mammograms been undertaken through BreastScreen Australia, the Program participation rate would have increased by 3.5% to 59.7%. Results should be interpreted with caution, as the analysis of MBS data was based largely on assumptions about patterns of use. Thus, it appears that the availability of MBS-funded mammography is not impacting significantly on the ability of BreastScreen Australia to reach its 70% target participation rate as has been suggested previously.

Analysis of annual attendance rates for mammography through BreastScreen Australia or through the MBS also supports the finding that MBS-mammography is not impacting significantly on the Program. Over 2001–2005, in the target age group of 50–69 years, national annual attendance at BreastScreen Australia was 28.9% compared with 6% for MBS-funded mammography. These data, together with trend data examining MBS-funded bilateral mammography over time, suggest that the establishment of the BreastScreen Australia Program has impacted upon MBS-mammography rates. Rates of attendance over this period for MBS-funded mammography were highest in major cities and inner regional areas and were lowest in very remote areas. This is likely to be the result of availability of health services and medical professionals offering a mammography service. Analysis of participation by socio-economic status suggested that attendance for MBS-funded mammography is highest in the first (higher) quintile compared with the lower quintiles. Further analysis of this trend is required, as it is not possible to tell from the data why this may be occurring. Attendance at BreastScreen Australia was higher than MBS-funded mammography attendance for women 40–49 years and 70+ years; however, attendance at BreastScreen Australia for women in these age groups was significantly lower than for women aged 50–69 years. In the 70+ age group, there was little difference in attendance rates for either mammography service, particularly in Western Australia and the ACT. Again, it is not possible to tell from the data why this may be occurring.

8. PROGRAM PERFORMANCE

Key findings

1. BreastScreen Australia Program performance data showed that the all-size invasive cancer detection rate for women in the target age group of 50–69 years increased from 56.3 cancers per 10,000 women screened in 1996–2000 to 62.9 per 10,000 in 2001–2005 in the first screening round and from 39.2 to 43.4 cancers per 10,000 women screened in subsequent screening rounds. The cancer detection rate exceeded the NAS at both time points. The small cancer detection rate also met the NAS.
2. The all-size and small cancer detection rate for Aboriginal and Torres Strait Islander women aged 50–69 years increased over time but is still below the national rate.
3. Program sensitivity 0–24 months following subsequent screening rounds increased significantly from 66.9% in 1996–1999 to 71.0% in 2000–2003 for women aged 50–69 years.
4. The recall to assessment rate increased significantly between 1996–2000 and 2001–2005 from 6.9% to 9.2% in the first screening round and from 3.8% to 4.0% in subsequent rounds. These rates met the NAS.
5. The rescreening rate following first, second and subsequent screening rounds decreased significantly over time and does not meet the NAS. Data from 2003 showed that only 60.5% of women returned for rescreening within the recommended 2-year period after their first screen, while 80.1% returned after their third and subsequent screen.
6. The rate of technical repeat performed in 2001–2005 was 3.6% for women aged 50–69 years, with a decline seen since 1996–2000. The rate of technical repeat was higher in Aboriginal and Torres Strait Islander women at 4.5% in 2001–2005.
7. Timeliness of providing assessment to women with a screen-detected abnormality declined between 1996–2000 and 2001–2005. Of all women recalled for assessment, 79.2% were assessed within 28 days of their screening episode in 2001–2005, well below the NAS of >90%.
8. The use of FNA decreased from 14.0% of assessments in 1996–2000 to 10.0% in 2001–2005, whilst use of core biopsy increased over the same time period from 10.8% to 16.5% of assessments. The proportion of biopsies providing a definitive diagnosis increased between 1996–2000 and 2001–2005 from 67.8% to 73.2% for FNA and from 88.6% to 90.7% for core biopsy.
9. Program performance appears to vary by age group with higher age-standardised cancer detection rates seen for women aged 50–69 years and 70 years and over compared with women aged 40–49 years.
10. The Evaluation demonstrated the wealth of data collected at various levels within the Program, but highlighted the lack of coordination of data collection and the underutilisation of data at a national level. While there is value in using Program data to inform policy and research to improve the Program, current data inconsistencies inherent in multiple jurisdictional databases present challenges to data analysis and interpretation at the national level.