

**BreastScreen Aotearoa**  
**MONITORING REPORT No. 3**

**Women screened  
between 1 October and 31 December, 1999**

**BreastScreen Aotearoa Independent Monitoring Group  
Report to the Health Funding Authority**

**29 June 2000**

Technical Report No. 23  
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Under contract with the Health Funding Authority the monitoring group is required to monitor and evaluate aspects of BreastScreen Aotearoa, the national breast screening programme. The measures of performance assessed by the monitoring group are specified by the Health Funding Authority. The list of agreed measures of performance to be included in quarterly and annual monitoring reports to the Health Funding Authority is given in Appendix A of the first report. The monitoring group can also recommend to the Health Funding Authority additional monitoring and evaluation that it considers to be required.

Data for this report was received by the monitoring group on March 2, 2000. The draft report was written in April 2000 and discussed by the monitoring group at a meeting on May 5, 2000. The draft was sent to the Health Funding Authority on May 29, 2000 for comment and feedback.

## CONTENTS

Executive Summary .....	iv
Data and service issues encountered .....	vii
Recommendations regarding service issues encountered .....	ix
Recommendations regarding data issues encountered .....	x
<b>Section 1 – Data summary</b>	
1.1 Registration rate - overall .....	1
1.2 Registration rate - ethnicity .....	2
1.3 Coverage rate - overall .....	3
1.4 Coverage rate – age group .....	5
1.5 Coverage rate - ethnicity .....	6
<b>Section 2 – Provision of high quality screening and assessment</b>	
2.1 Screened women who have no more than 4 films taken .....	7
2.2 Technical recall rate .....	8
2.3 Technical repeat rate .....	9
2.3.1 Technical repeat rate definition 1 .....	9
2.3.2 Technical repeat rate definition 2 .....	9
2.4 Assessment rate .....	10
2.5 Assessment records of the national monitoring data set .....	11
2.5.1 Outstanding assessment records for women screened up to 30 June 1999 .....	11
2.5.2 Outstanding assessment records for women screened up to 30 Sept. 1999 .....	13
2.5.3 Outstanding assessment records for women screened up to 31 Dec 1999 .....	14
2.6 False positive rate .....	17
2.7 Open surgical biopsy rate .....	18
2.8 Benign biopsy weight .....	18
2.9 Needle biopsy rates .....	20
2.10 Specificity of programme .....	21
<b>Section 3 – Early detection of breast cancer</b>	
3.1 Cancer detection rate .....	22
<b>Section 4 – Summary of treatment</b> .....	24
<b>Section 5 – Provision of an appropriate and acceptable service</b>	
5.1 Time taken providing results of screening .....	25
5.2 Time taken from screening visit to first offer of an assessment appointment ..	26
5.3 Time taken from assessment to final diagnostic biopsy .....	27
5.4 Time taken from final diagnostic biopsy to reporting assessment results .....	28
5.5 Time taken from reporting assessment results to first date offered for primary treatment .....	29
<b>Appendix A</b>	
<b>Population Projections BreastScreen Aotearoa (1999/2000)</b> .....	30

## **Executive Summary**

The national monitoring data set recorded that 64,437 women aged 50-64 were screened by BreastScreen Aotearoa up to December 31, 1999. Thus, 27.2% of the eligible population have been screened since the beginning of the programme in December 1998. Currently coverage of Maori and Pacific women is lower than other ethnic groups. The national monitoring data set records that 252 women have had a diagnosis of breast cancer through BreastScreen Aotearoa up to December 31, 1999. Performance measures for the October to December quarter of 1999 and cumulative results up to December 31, 1999 are provided in this report. Some monitoring of the assessment process of four of the six lead providers was possible from the national monitoring data set. A major concern of the monitoring group has been incomplete records of women referred to assessment where the outcome of assessment has not been recorded in the national monitoring data set. This is currently being investigated by the Health Funding Authority.

While many measures of performance were satisfactory, some of the four lead providers do not appear to have met the targets set in the Interim National Quality Standards. In some areas this may have been due to data entry errors but in others areas this is considered an unlikely explanation. Specific recommendations have been made by the monitoring group in some areas to encourage attainment of the targets set. A summary of performance measures of the lead providers obtained from the national monitoring data set is shown in Table 1. The key identifying the lead providers listed can be found in the section titled "Data Summary" on page 1.

**Table 1. Summary of lead provider and BreastScreen Aotearoa results against targets to 31.12.99**

Indicator	Lead Providers						
	ABS	HWL	MCH	HVH	BSS	HCO	BSA
<b>Coverage (%)</b> <i>- Target &gt; 70%</i>							
<b>Overall</b>	23.0	*	30.1	26.5	29.2	37.0	27.2
<b>Maori</b>	17.1	*	13.4	13.2	11.2	12.1	14.7
<b>Pacific</b>	15.9	*	15.7	11.5	16.3	19.4	15.3
<b>Other</b>	22.8	*	30.2	26.0	25.2	36.5	25.9
<b>(not stated)†</b>	(988)	*	(883)	(507)	(2290)	(252)	(4920)
<b>Technical recall (%)</b> <i>- Target (Fixed &lt; 0.5%; Mobile &lt;3%)</i>							
<b>Fixed</b>	0.1	*	0.4	0.7	*	0.2	0.3
<b>Mobile</b>	0	*	6.2	0.4	*	0.2	1.4
<b>Technical repeat (definition 2) (%)</b> <i>Target &lt;3%</i>							
<b>Fixed</b>	1.3	*	1.3	2.1	*	1.0	1.4
<b>Mobile</b>	0.1	*	0.6	0.3	*	0.1	0.2
<b>Assessment (%)</b> <i>Target - prevalence screen - target is &lt;10%, expected target is &lt;7%</i> <i>- incidence screen - target is &lt;5%, expected target is &lt;4%</i>							
	*	*	4.8	5.8	6.2	8.2	6.1
<b>False positive rate (%)</b> <i>Target - prevalence round, target is &lt;9%, expected target &lt;6%</i> <i>- incidence round, target is &lt;4%, expected target &lt;3%</i>							
	*	*	3.9	4.7	5.4	6.9	3.0
<b>Open surgical biopsy rate (%)</b> <i>Target &lt;1%</i>							
	*	*	0.3	0.2	0.2	0.7	0.3
<b>Benign biopsy rate (%)</b> <i>Target 80% or more benign open biopsy should weigh &lt;20g</i>							
	*	*	64.3	41.7	34.8	85.0	63.1

† number of women where ethnicity was not recorded

....continued

**Table 1. Summary of lead provider and BreastScreen Aotearoa results against targets to 31.12.99** *...continued*

Indicator	LEAD PROVIDERS						
	ABS	HWL	MCH	HVH	BSS	HCO	BSA
<b>Needle biopsy rate (%)</b>							
<i>Target – none</i>							
<b>FNA</b>	*	*	0.1	0.2	1.0	0.6	0.5
<b>Core needle</b>	*	*	1.2	0.6	1.5	0.6	1.1
<b>Both</b>	*	*	0	1.3	0.1	0.03	0.3
<b>Specificity (%)</b>							
<i>Target &gt;93%</i>							
	*	*	96.0	95.3	94.6	93.0	94.8
<b>Cancer detection rate (per thousand women screened)</b>							
<i>Target - prevalence - ≥ 6 per 1000 women screened</i>							
<i>- incidence - ≥ 3 per 1000 women screened</i>							
	*	*	6.4	5.7	6.3	5.0	6.0
<b>Time taken providing results of screening (%)</b>							
<i>Target – 95% notified within 10 days</i>							
	97.0	*	99.1	98.2	98.0	81.1	95.8
<b>Time taken from screening visit to first offer of an assessment appointment (%)</b>							
<i>Target – at least 90% offered an assessment appointment within 14 working days of their final screening visit</i>							
	*	*	87.6	93.6	77.1	36.1	72.6
<b>Time taken from assessment to final diagnostic biopsy (%)</b>							
<i>Target 1 – at least 90% of women requiring needle biopsy procedure have that procedure completed within 7 days of their assessment</i>							
	*	*	92.8	97.1	88.3	96.9	92.1
<i>Target 2 – at least 90% of women requiring open biopsy procedure offered that procedure within 3 weeks of their assessment</i>							
	*	*	30.8	58.8	73.6	84.6	64.1
<b>Time taken from final diagnostic biopsy to reporting assessment result (%)</b>							
<i>Target – results reported to at least 90% of women within 7 days of final diagnostic biopsy</i>							
	*	*	79.7	85.1	51.9	56.6	64.9
<b>Time taken from reporting assessment results to first date offered for primary treatment (%)</b>							
<i>Target – at least 90% of women offered primary treatment within 3 weeks of the final diagnosis being reported to the women</i>							
	*	*	*	*	*	*	*

\* Invalid or insufficient data available for reporting

## **Data and service issues encountered**

### *Missing data*

The HFA advised that BreastScreen Midland continued to have incomplete records for screening and assessment in the national monitoring data set. The HFA have investigated this and reported that measures are being undertaken by the lead provider to resolve this issue.

### *Outstanding data*

Assessment records of the national monitoring data set continue to be incomplete. The process of reporting assessment results only occurs when the assessment process is complete. This system of reporting, results in incomplete records and BSAIMG has no indication within the national monitoring data set why the result is incomplete. The HFA are currently investigating the reporting process for women with incomplete records.

### *Age Range*

An interim policy was adopted by the HFA where women who were aged less than 65 at registration would be screened even if they were over 65 by the time they received an appointment (up to age 65 years and 6 months). However, women aged less than 50 and 65 years or more at screening have been excluded from the data for this report. A summary of the screening of these women will be provided in the annual report of BSAIMG.

### *Duplicate NHI numbers*

Seventy-seven duplicate NHI numbers were received in the national monitoring data set. The HFA provided BSAIMG with a list of women who had transferred region from January 1999 to January 2000 with details from and to which lead provider they had transferred. BSAIMG have excluded these women from the registration, screening and assessment tables in this report, as assignation of these results to one lead provider would not be appropriate.

The national monitoring data set also included a list of 18 duplicate entries in the registration data file. The duplicate entries were deleted by BSAIMG. BSAIMG have been advised that a duplicate entry probably occurs when a woman registered with one lead provider moves and is screened through another provider.

BSAIMG also deleted an additional 32 duplicate entries from the screening detail file of the national monitoring data set. These records contained identical NHI numbers but different lead providers codes. In the registration file of the national monitoring data set, 42 entries recorded by NHI number had more than one source of identification recorded, or more than one date of birth, or more than one domicile code registered with more than one lead provider. These duplicate entries were also excluded from the data set used for this report.

### *Screening episode and round number*

The data field for screening episode is the field that BSAIMG intends to use to calculate results for incident and prevalent screens. The HFA are currently investigating the use of this field to ensure that all lead providers use it consistently. The Data Management Manual states that screening episode is "01" for a woman's first screen and thereafter "02..." or greater number should be recorded. If a woman has an incomplete first screen, BSAIMG would not receive her record because it is incomplete, and would not know that the screening episode was a prevalence screen. If the woman presents for another screen, it will be recorded as screening episode 2 and the national monitoring data set would not have a record of the first screen.

### *Ethnic affiliation*

No specific ethnic affiliation was recorded for 1,881 (9.4%) of the screening records for this quarter. The cumulative number of women with no specific ethnicity stated, excluding BreastScreen Midland, was 4,920 (8.9% of all women screened).

### *Type of screening unit*

BreastScreen Midland recorded four screening sites in the national monitoring data set when only two values were valid.

The national monitoring data set for BreastScreen South records some women were screened on a mobile unit during this quarter but the HFA have advised BSAIMG that the record of the type of screening unit in the national monitoring data set received from NZHIS for this lead provider continued to be inaccurate. Also, the data of the previous quarter, that incorrectly indicated all women were screened at the fixed unit, had not been corrected.

### *Technical repeat and recall rates*

The HFA are currently working with lead providers to develop a consistent understanding of definitions associated with these data items. Sample scenarios are also to be entered into lead provider information systems to ensure that results are being accurately recorded.

### *Referral to assessment*

Two lead providers have been excluded from this section of the report. The national monitoring data set contained an error for BreastScreen Auckland and North in the number of women referred for assessment. Prior to 15 February, 2000, the majority of BreastScreen Auckland and North records were excluded from the national monitoring data set because the entries in the B18.06 field resulted in their rejection by NZHIS. The HFA, lead provider and software vendor attempted to suppress this field in time for the data to be accepted for the current quarter but the resulting data contained an anomalous number of "recall to assessment" records, about 2,400 instead of the actual figure of nearly 600 for the quarter. For this reason, assessment data of BreastScreen Auckland and North have been excluded from this report.

BreastScreen Midland had incomplete screening and assessment records due to difficulties with their information system. Therefore, no assessment performance measures have been calculated for this lead provider.

### *Benign biopsy rate*

Some specimen weights for benign biopsies continue to be very small, for example, there are specimen weights of one gram, four grams and five grams recorded.

## ***Recommendations regarding service issues encountered***

### ***1. Ethnic coverage.***

If lower screening coverage of Maori and Pacific women recorded in this report persists, the invitation process may need to be reviewed to establish whether it is due to a lack of, or inappropriate, invitation for these women. If many Maori and Pacific women are declining despite an appropriate invitation then appropriate health education services may be required by some or all lead providers. Some preliminary investigation of reasons for the lower coverage of Maori and Pacific women is required.

### ***2. Referral rates.***

Epidemiological measures of the quality of the assessment process should produce an appropriate combination of referral to assessment rate, cancer detection rate, sensitivity, specificity and false positive rate. Four of these measures of performance are calculated for four lead providers in this report. BreastScreen HealthCare continues to have relatively high rates of referral to assessment. It is possible that this is the result of radiological practice by this lead provider. The reasons for the relatively high rate of referral need to be investigated to determine its cause and efforts to reduce the referral rate should be undertaken. If the relatively high rate of referral is due to a particular practice of a radiologist then some retraining with subsequent re-evaluation of performance should be undertaken.

### ***3. Extended assessment.***

The incomplete assessment records in the national monitoring data set raise concern that some women may be undergoing extended assessment. Sometimes this is called early recall. This is where a clear decision of the outcome of assessment is deferred. This is not considered by the monitoring group, or we believe internationally, to be best practice. If this were occurring it would be of concern. Some women in this group may develop clinical cancer while no decision of screening is reached while for many asymptomatic women considerable anxiety from an abnormal result would not be alleviated. Under current data collection processes, the assessment records of these women may not become part of the national monitoring data set until their assessment has been completed and this may be up to two years after the date of screening. As a consequence, BSAIMG is unable to monitor the practice of extended assessment. This needs to be explored urgently by the Health Funding Authority and made transparent in the national monitoring data set. Extended assessment is considered by BSAIMG to be inappropriate.

### ***4. Needle biopsy rate.***

Explanation of the different use of needle biopsy procedures by BreastScreen Central should be requested by the HFA.

### ***5. Timeliness of reporting screening results.***

The national monitoring data set indicates that BreastScreen HealthCare needs to improve the timeliness of the reporting of screening results to women. This is an administrative matter that requires identifying who is responsible within each lead provider for ensuring timely reporting of screening results and monitoring their performance.

6. *Timeliness of first offer of an assessment appointment.*

Only one of the four lead providers for whom this measure of performance could be calculated from the national monitoring data set met the target for this performance measure. The organisation of assessment clinics and the demand placed upon them should be reviewed by lead providers not meeting this target. Of the four providers, BreastScreen South and BreastScreen HealthCare had a considerable proportion of women referred for assessment who were not offered first assessment within 14 days. This should not be acceptable and requires investigation and immediate improvement. This is an administrative matter that requires identifying who is responsible for the first offer of an assessment appointment to women and ensuring sufficient numbers of accessible assessment clinics are available to meet the demand generated.

7. *Timeliness of open biopsy.*

From the national monitoring data set BreastScreen Coast to Coast, BreastScreen South and BreastScreen HealthCare have been unable to offer women who need it an open surgical biopsy within three weeks of their assessment appointment. The number of women affected is currently relatively small but timeliness should be investigated and improved. This is an administrative matter that requires ensuring sufficient and accessible resources are available to women who require open biopsy.

8. *Time taken from final diagnostic biopsy to reporting assessment results.*

The national monitoring data set indicated that some lead providers have had considerable difficulty in reaching the target for this performance measure. Considerable improvement needs to be made by some lead providers for this target to be met. The administration of this reporting process needs to be reviewed and improvements made by lead providers not meeting this target.

***Recommendations regarding data issues encountered***

1. *Accuracy and consistency of the use of fields in the national monitoring data set.*

Some values for fields of the national monitoring data set were not compatible with valid values of the Data Management Manual, for example, screening site (field B04.03). This lack of accuracy and consistency needs to be overcome.

2. *Validation procedures for some fields.*

Some of the fields used to calculate technical recall and technical repeat rates need to be validated. A sample of records where technical repeats or technical recalls have occurred should be reviewed to see whether the information has been appropriately captured in the national monitoring data set.

3. *Incomplete assessment records.*

There is a danger that the number of incomplete assessment records may get too great for them to be corrected. This could jeopardise the ability of the BSAIMG to monitor many aspects of the assessment process. BSAIMG has identified records of women for whom assessment records of the national monitoring data set were incomplete. The case records of these women should be checked to determine what their outcome of assessment has been or whether they are part of an extended assessment process. BSAIMG understands that this is being conducted by the HFA.

# 1. Data Summary

***The key to the tables which appear in this document is:***

*ABS = BreastScreen Auckland and North*

*HWL = BreastScreen Midland*

*MCH = BreastScreen Coast to Coast*

*HVH = BreastScreen Central*

*BSS = BreastScreen South*

*HCO = BreastScreen HealthCare*

## 1.1 Registration rate - overall

Registration is completed when a woman has completed a registration and informed consent form. The registration rate was 5.8% in this quarter with an overall registration rate of 30.5% for the year ending December 31, 1999. The date of registration is not recorded and BSAIMG is only able to calculate total registrations in the national monitoring data set. Numbers of registrations for the quarter are then calculated by the difference in total registrations between periods. BreastScreen Central has only two women recorded as registered for the quarter. This occurred because BreastScreen Central initially omitted to send a complete data set to NZHIS for inclusion in the national monitoring data set for the quarter ending September 30, 1999. BSAIMG accepted an additional set of data for BreastScreen Central in late January 2000, which included updated registrations to the time the data was resent. In addition BreastScreen Central did not forward January 2000 data for inclusion of the national monitoring data set to ensure assessment records were updated. The consequence of this is that fewer registrations were recorded for this lead provider. This overestimated BreastScreen Central registrations in the previous quarter, which reduced numbers for this quarter.

The numbers of women registered by BreastScreen Aotearoa are shown in Table 1.1.

Table 1.1. Overall registration rates by lead provider.

Lead provider	Quarterly number registered (% of projected population)		Cumulative number registered (% of projected population)	
ABS	4,172	(4.4)	26,197	(27.3)
HWL	2,279	(5.1)	15,195	(33.7)
MCH	4,222	(10.9)	12,435	(32.2)
HVH	2	(0.01)	8,228	(26.6)
BSS	4,151	(8.2)	15,700	(31.1)
HCO	1,566	(7.4)	8,292	(39.2)
TOTAL	16,392	(5.8)	86,047	(30.5)

**Recommendation - None**

## 1.2 Registration rate – ethnicity

Of the 86,047 women registered with the programme, 4,406 were Maori, 1,600 were Pacific Island, 73,002 were of other ethnicity and for 7,039 ethnicity was not stated. This represented 18.1%, 18.7% and 31.5% of the Maori, Pacific Island and other ethnic groups (includes those of solely European descent), respectively. The proportion of women for whom ethnicity was not stated at registration varied by lead provider from 3.2% for BreastScreen HealthCare to 22.1% for BreastScreen South.

Lead provider	Quarterly number registered (% of projected population)			Cumulative number registered (% of projected population)			
	Maori	PI	Other	Maori	PI	Other	Not stated
ABS				1,714 (20.9)	1,163 (19.2)	22,276 (27.1)	1,044
HWL				1,374 (21.1)	156 (36.0)	11,843 (30.9)	1,822
MCH				693 (14.4)	47 (16.0)	10,761 (32.3)	934
HVH				282 (13.2)	154 (11.6)	7,287 (26.2)	505
BSS				226 (12.1)	58 (17.9)	12,947 (26.8)	2,469
HCO				117 (13.5)	22 (20.4)	7,888 (38.7)	265
TOTAL				4,406 (18.1)	1,600 (18.7)	73,002 (31.5)	7039

**Recommendation - None**

### 1.3 Coverage - overall

**Definition** – this is a population-based measure of the proportion of women 50-64 years of age who have had a screening mammogram in the programme.

**Target** - > 70% of women aged 50-64 are to be screened by the programme within each two year screening cycle.

From the national monitoring data set, at least 64,437 women had a screening mammogram as part of BreastScreen Aotearoa up to December 31, 1999 (Table 1.3). Overall, approximately 27% of all women aged 50-64 years were screened in the programme.

Coverage has been measured by dividing the number of eligible women screened by the number of eligible women expected from projected annual mean usually-resident population projections derived from the 1996 census. Coverage rates are shown as percentages for each lead provider and for the whole country. The target screening coverage for BreastScreen Aotearoa is greater than 70% of women aged 50-64 years after two years of screening.

Table 1.3. Overall number of women screened and per cent coverage by lead provider.

Lead provider	Quarterly number screened (% of projected population)		Cumulative number screened since December 1998 (% of projected population)	
	ABS	7,104	(7.4)	22,708
HWL	1,876	(4.2)	*	
MCH	3,420	(8.9)	11,615	(30.1)
HVH	2,360	(7.6)	8,193	(26.5)
BSS	3,215	(6.4)	14,730	(29.2)
HCO	1,951	(9.2)	7,821	(37.0)
TOTAL	19,926	(7.1)	64,437	(27.2)

\* BreastScreen Midland cumulative figure excluded

The HFA advised that BreastScreen Midland continued to have difficulties with information systems during this quarter. As a result a number of screening records have not been forwarded for inclusion in the national monitoring data set. Outstanding records from previous quarters had also not been updated before the data was transferred for this report. As a consequence, performance measures that are expressed as a percentage of women screened have not been calculated for BreastScreen Midland.

An interim policy was adopted by the HFA where women who were aged less than 65 at registration would be screened even if they were over 65 by the time they received an appointment (up to age 65 years and 6 months). In this quarter, 106 women aged less than 50 years of age and 65 years or greater were screened and included in the national monitoring data set. Six women were under 50 years of age at the time of screening and seven women were greater than 65.5 years. Overall details by lead provider were 53 women from BreastScreen Auckland and North, 15 women from BreastScreen Midland, 8 women from BreastScreen Coast to Coast, 8 women from BreastScreen Central, 16 women from BreastScreen South and 6 women from BreastScreen HealthCare. The records for these women have been excluded from the data set used for this report.

In each three-month quarter, based on a target of 70% coverage, lead providers would need to screen, on average, just under 9% of eligible women. For the twelve months to December 31, 1999, this target represents 35% of eligible women. Due to delays in the start of screening and the availability of mobile screening units, some lead providers will have lower than expected coverage for 1999. From the data provided for this report BreastScreen Auckland and North continue to have the lowest overall screening coverage and BreastScreen HealthCare the highest coverage of the five lead providers for whom coverage was calculated. All lead providers assessed except BreastScreen Central had a reduced coverage rate compared to the previous quarter. BreastScreen South had the lowest coverage for the quarter at 6.4% of the projected population. Lower coverage for the quarter October to December is likely to be, in part, due to reduced screening because of the Christmas period. This is likely to affect coverage rates for the first quarter of each year also.

However, this would be expected to be managed by higher coverage during the two quarters April to June and July to September in each year. Slippage in coverage has the effect of reducing the effectiveness of the screening programme.

**Recommendation - None**

#### 1.4 Coverage - by age group

The number of women screened and coverage for the 50-54, 55-59 and 60-64 year age groups are shown by lead provider in Table 1.4. Overall coverage of about 7% was achieved in each age group for this quarter. To the year ending December 31, slightly higher coverage was achieved in each successively older age group.

Table 1.4. Age specific number of women screened and per cent coverage by lead provider.

Lead provider	Quarterly number screened (% of projected population)			Cumulative number screened (% of projected population)		
	50-54	55-59	60-64	50-54	55-59	60-64
ABS	3,004 (7.4)	2,273 (7.4)	1,827 (7.6)	9,170 (22.5)	7,027 (22.7)	5,881 (24.3)
HWL	643 (3.6)	658 (4.5)	575 (4.6)	*	*	*
MCH	1,455 (9.3)	1,045 (8.5)	920 (8.6)	4,586 (29.4)	3,698 (30.0)	3,331 (31.1)
HVH	959 (7.3)	794 (8.1)	607 (7.7)	3,266 (24.8)	2,810 (28.5)	2,117 (26.9)
BSS	1,352 (6.4)	976 (6.1)	887 (6.6)	6,050 (28.8)	4,621 (28.9)	4,059 (30.0)
HCO	849 (9.8)	610 (9.1)	492 (8.5)	3,095 (35.7)	2,622 (39.2)	2,104 (36.3)
TOTAL	8,262 (7.1)	6,356 (7.0)	5,308 (7.1)	26,167 (26.4)	20,778 (27.4)	17,492 (28.2)

\* BreastScreen Midland cumulative figure excluded

For this quarter, BreastScreen Midland again appears to have experienced lower coverage in the youngest age group from the sample of records available.

**Recommendation - None**

## 1.5 Coverage - ethnicity

Coverage up to December 31, 1999, was lower among Maori and Pacific women compared to other, mainly European, ethnic groups. In this quarter, the lower coverage among Maori and Pacific women was not as marked as that for the entire year. This may represent improvements made by lead providers in reaching Maori and Pacific women and greater use of mobile screening in this quarter.

Table 1.5. Overall number of women screened and per cent coverage by ethnic group.

Lead provider	Quarterly number screened (% of projected population)				Cumulative number screened (% of projected population)			
	Maori	Pacific	Other	Not stated	Maori	Pacific	Other	Not stated
ABS	669 (8.2)	351 (5.8)	5,895 (7.2)	189	1,402 (17.1)	963 (15.9)	18,725 (22.8)	988
HWL	266 (4.1)	13 (3.0)	1,433 (3.7)	164	*	*	*	
MCH	183 (3.8)	7 (2.4)	2,752 (8.3)	478	644 (13.4)	46 (15.7)	10,042 (30.2)	883
HVH	79 (3.7)	54 (4.1)	2,011 (7.2)	216	282 (13.2)	153 (11.5)	7,251 (26.0)	507
BSS	62 (3.3)	6 (1.8)	2,343 (4.8)	804	208 (11.2)	53 (16.3)	12,179 (25.2)	2,290
HCO	33 (3.8)	3 (2.8)	1,885 (9.3)	30	105 (12.1)	21 (19.4)	7,443 (36.5)	252
TOTAL	1,292 (5.3)	434 (5.1)	16,319 (6.5)	1,881	2,641 (14.7)	1,236 (15.3)	55,049 (25.9)	4,920

\* BreastScreen Midland cumulative figure excluded

If improvements in the proportion of Maori and Pacific women screened are made, the differences in coverage between ethnic groups may not be as great at the end of the two-year screening cycle. However, if coverage continues to be low, the lack of information about the number of women identified and invited will make discernment of the reasons for low coverage difficult, as it will not be known if the cause is a lack of personal invitation or rejection of the invitation. Therefore, it will be difficult to target possible remedies for low coverage.

### Recommendation 1 – service issue

If lower screening coverage of Maori and Pacific women recorded in this report persists, the invitation process may need to be reviewed to establish whether it is due to a lack of, or inappropriate, invitation for these women. If many Maori and Pacific women are declining despite an appropriate invitation then appropriate health education services may be required by some or all lead providers. Some preliminary investigation of reasons for the lower coverage of Maori and Pacific women is required.

## 2. Provision of high quality screening and assessment

The national monitoring data set was more complete for this report but still lacked sufficient data to provide a report of the measures of performance of the screening and assessment procedures of all lead providers.

Several important departures in the coding of data fields continued during this quarter. In the data up to December 31, 1999, BreastScreen Midland continued to code three screening sites in the national monitoring data set (field B04.03) when only two valid values, fixed and mobile sites, were possible. BreastScreen South coded two screening sites but the HFA have advised the BSAIMG that values recorded within the field were inaccurate. These coding errors meant that it was not possible to calculate: the proportion of women having four films or less at screening, the technical recall rate, or the technical repeat rate (definitions one and two) by mobile and fixed sites for these lead providers.

### 2.1 Screened women who have no more than 4 films taken.

**Target** - Minimum of 80% of women screened have 4 films or less.

From the data available, the number of films per women by lead provider and mobile and fixed screening centers, are shown in Table 2.1.

Table 2.1. Proportion of women having 4 films or less at screening by lead provider.

Lead Provider	Quarter (%)		Cumulative rate (%)	
	Fixed	Mobile	Fixed	Mobile
ABS	92.5	97.2	90.9	96.4
HWL*				
MCH	87.5	90.6	87.6	92.4
HVH	92.0	98.0	89.9	97.9
BSS**				
HCO	76.4	88.1	74.7	76.3
TOTAL	88.5	94.1	88.2	87.7

\* BreastScreen Midland records excluded (see section 1.3)

\*\* BreastScreen South records excluded (see section 2)

BreastScreen HealthCare continues not to meet the target for the proportion of women screened who had four films or less at screening. Other lead providers with results recorded appear to have met this target. However, BreastScreen HealthCare uses small films and it would be difficult for a provider to achieve this target while maintaining quality and using only small size films.

### Recommendation – 1 – data issue

Some values for fields of the national monitoring data set were not compatible with valid values of the Data Management Manual, for example, screening site (field B04.03). This lack of accuracy and consistency needs to be overcome.

## 2.2 Technical recall rate

**Definition** - Number of women recalled for technical repeats as a percentage of number screened.

**Target** - Mobile < 3%  
 - Fixed < 0.5%

The target given above has been taken from the Data Management Manual and is different from that listed in the Interim National Quality Standards. The number of women recalled for technical reasons as a percentage of the number of women screened is shown in Table 2.2.

Table 2.2. Technical recall rates per 100 women screened (per cent) by lead provider.

Lead Provider	Quarter (%)		Cumulative rate (%)	
	Fixed	Mobile	Fixed	Mobile
ABS	0.03	0	0.1	0
HWL*				
MCH	0.4	6.0	0.4	6.2
HVH	0.7	0.6	0.7	0.4
BSS**				
HCO	0.3	0.3	0.2	0.2
TOTAL	0.2	1.3	0.3	1.4

\* BreastScreen Midland records excluded (see section 1.3)

\*\* BreastScreen South records excluded (see section 2)

Three of the four lead providers assessed continue to have a very low recall rate of women to mobile units. BreastScreen Coast to Coast recorded a result above the target. As in Monitoring Report Number 2 it is suggested that the values in the fields (used to calculate technical repeat rates) in the national monitoring data set require validation.

### Recommendation 2 – data issue

Some of the fields used to calculate technical recall and technical repeat rates need to be validated. A sample of records where technical repeats or technical recalls have occurred should be reviewed to see whether the information has been appropriately captured in the national monitoring data set.

## 2.3 Technical repeat rate

### 2.3.1 Technical repeat rate – Definition 1

**Definition 1 (from the Data Management Manual)** – Number of women with technical repeats (including technical recalls) as a percentage of number screened.

**Target** - <3%.

BSAIMG consider that the definition of technical repeats in the Data Management Manual is incorrect. This will be addressed in the review of the Interim National Quality Standards. The definition preferred by BSAIMG, is Definition 2, the number of technical repeat films as a percentage of the total number of films taken.

**Recommendation** - None

### 2.3.2 Technical repeat rate – Definition 2

**Definition 2** - Number of technical repeat films as a percentage of the total number of films taken.

**Target** - < 3%.

The technical repeat rate (per cent) as defined by the monitoring group (definition 2) is shown in Table 2.3.2.

Table 2.3.2. Technical repeat rate per 100 films taken by lead provider.

Lead Provider	Quarterly technical repeat rate		Cumulative technical repeat rate	
	Fixed	Mobile	Fixed	Mobile
ABS	0.9	0.1	1.3	0.1
HWL*				
MCH	1.0	1.3	1.3	0.6
HVH	1.4	0.3	2.1	0.3
BSS**				
HCO	1.0	0.1	1.0	0.1
TOTAL	1.0	0.4	1.4	0.2

\* BreastScreen Midland records excluded (see section 1.3)

\*\* BreastScreen South records excluded (see section 2)

From the data provided, the four lead providers appear to have easily met the target of less than three per 100 films taken for technical reasons to repeat a mammographic view. The rates continue to be considerably lower than the target. However, it is possible that either the target has been set high, or the relevant data is not accurately recorded in the national monitoring data set. BSAIMG Monitoring Report Number 2 suggested that entry of the values in the relevant fields of the national monitoring indicator set requires validation.

**Recommendation** - None

## 2.4 Assessment rate

**Definition** - Number referred to assessment as a percentage of number screened.

**Target** – prevalence screen: target is < 10% and the expected target is < 7%  
incidence screen: target is < 5% and the expected target is < 4%

Women with positive screening tests are referred for assessment. The number referred is determined by the underlying prevalence of breast cancer in the population and by the sensitivity and specificity of the screening test. Also, referral to assessment would be high if symptomatic women were being screened in the programme.

The national monitoring data set records for BreastScreen Midland have been excluded due to 271 entries for which an invalid value (0), for the final decision by the radiologist, has been recorded in the data set (field B07.03). Incomplete screening records also meant that performance measures expressed, as a percentage of women screened could not be accurately calculated.

The rates of referral to assessment for four lead providers are shown in Table 2.4 below.

BreastScreen South in the cumulative record of the national monitoring data set had a void entry for two women for the decision by the radiologist (field B07.03). BreastScreen HealthCare also had one radiological decision with a void entry.

Table 2.4. The rate of referral to assessment per 100 women screened by lead provider.

Lead Provider	Quarterly assessment rate (%)	Cumulative assessment rate (%)
ABS*		
HWL**		
MCH	4.6	4.8
HVH	5.5	5.8
BSS	7.0	6.2
HCO	9.0	8.2
TOTAL	6.3	6.1

\* BreastScreen Auckland and North records excluded (see section 2.1).

\*\* BreastScreen Midland records excluded (see section 1.3)

From the data available, BreastScreen HealthCare, a pilot study area that is expected to be mainly carrying out incidence screens, had a rate of referral to assessment of 9.0% in this quarter, up from 8.4% from the previous quarter and 7% for the first six months of the programme. This quarterly result and the cumulative result of 8.2% appears high considering this lead provider will be mainly screening women who have already been screened before and exceeds the minimum assessment rate target of less than 5% for incidence screens. BSAIMG Monitoring Report Number 2 recommended that BreastScreen HealthCare examine their referral to assessment protocols to reduce the rate of referral to assessment. This would still appear to be required.

## **Recommendation 2 – service issue**

Epidemiological measures of the quality of the assessment process should produce an appropriate combination of referral to assessment rate, cancer detection rate, sensitivity, specificity and false positive rate. Four of these measures of performance are calculated for four lead providers in this report. BreastScreen HealthCare continues to have relatively high rates of referral to assessment. It is possible that this is the result of the radiological practice by this lead provider. The reasons for the relatively high rate of referral need to be investigated to determine its cause and efforts to reduce the referral rate should be undertaken. If the relatively high rate of referral is due to a particular practice of a radiologist then some retraining with subsequent re-evaluation of performance should be undertaken.

### **2.5 Assessment records of the national monitoring data set**

As indicated in the previous report, assessment records of the national monitoring data set continued to be incomplete. Many records of the national monitoring data set do not have an outcome of assessment recorded. The number of these outstanding records severely limits monitoring of this vital aspect of the quality of the programme against the targets set. An additional months screening and assessment records were included in the extract for this report because women screened towards the end of December may not have completed the assessment process until the following month.

It is the responsibility of BreastScreen Aotearoa to ensure that women with abnormal mammograms receive appropriate and timely follow-up. BSAIMG has identified women who had abnormal mammograms, but there is no information about what happened to these women subsequently. Some of these women had their abnormal mammograms over a year ago. It is vital that we find out what has happened to these women, and make sure that they have received the appropriate investigations (and treatment, if necessary). Women who have had abnormal mammograms may have breast cancer. In the worst case scenario, the lack of information on a women who has been referred for assessment, may mean that the woman never received her results or her assessment appointment. This would represent a failure of the national screening programme, and would be unacceptable.

#### ***2.5.1 Outstanding assessment records for women screened up to 30<sup>th</sup> June 1999.***

In the first monitoring report 394 women referred to assessment had no assessment entries. On receiving the national monitoring data set for this report a check was made of outstanding records from previous months. The number of outstanding assessment records in the national monitoring data set for each lead provider by month of screening is given in Table 2.5.1 to Table 2.5.9 below.

Previous reports recorded that 394 assessment records were outstanding to June 30, 1999, and 257 (65.2%) remained outstanding as at September 30, 1999. This figure has increased slightly, with the latest transfer of the national monitoring indicator data to 265 outstanding records to December 31, 1999. Some of these outstanding records date back to January, 1999.

Table 2.5.1. Outstanding assessments for women screened in January, 1999.

Lead provider	Number outstanding as at 30 September, 1999	Updated number outstanding as at 31 December, 1999
ABS	1	1
HCO	10	10
Total	11	11

Table 2.5.2. Outstanding assessments for women screened in February, 1999.

Lead provider	Number outstanding as at 30 September, 1999	Updated number outstanding as at 31 December, 1999
ABS	5	5
HVH	1	1
HCO	17	17
Total	23	23

Table 2.5.3. Outstanding assessments for women screened in March, 1999.

Lead provider	Number outstanding as at 30 September, 1999	Updated number outstanding as at 31 December, 1999
ABS	4	4
BSS	1	1
HCO	8	9
Total	13	14

Table 2.5.4. Outstanding assessments for women screened in April, 1999.

Lead provider	Number outstanding as at 30 September, 1999	Updated number outstanding as at 31 December, 1999
ABS	4	3
HWL	6	7
HVH	2	2
HCO	1	1
Total	13	13

Table 2.5.5. Outstanding assessments for women screened in May, 1999.

Lead provider	Number outstanding as at 30 September, 1999	Updated number outstanding as at 31 December, 1999
ABS	65	63
HWL	19	20
HVH	2	2
HCO	3	3
Total	89	88

Table 2.5.6. Outstanding assessments for women screened in June, 1999.

Lead provider	Number outstanding as at 30 September, 1999	Updated number outstanding as at 31 December, 1999
ABS	76	75
HWL	20	26
HVH	11	10
BSS	1	1
Total	108	112

### 2.5.2 Outstanding assessment records for women screened July to September 1999

Outstanding assessment records for the period 1 July – 30 September 1999, are recorded in Tables 2.5.7, 2.5.8 and 2.5.9.

Table 2.5.7. Outstanding assessments for women screened in July, 1999.

Lead provider	Number outstanding as at 30 September, 1999	Updated number outstanding as at 31 December, 1999
HVH	1	1
HCO	1	1
Total	2	2

\* BreastScreen Auckland and North and BreastScreen Midland records excluded (see section 1.3)

Table 2.5.8. Outstanding assessments for women screened in August, 1999.

Lead provider	Number outstanding as at 30 September, 1999	Updated number outstanding as at 31 December, 1999
MCH	5	4
BSS	8	6
HCO	2	1
Total	15	11

\* BreastScreen Auckland and North and BreastScreen Midland records excluded (see section 1.3)

Table 2.5.9. Outstanding assessments for women screened in September, 1999.

Lead provider	Number outstanding as at 30 September, 1999	Updated number outstanding as at 31 December, 1999
MCH	47	6
HVH	5	5
BSS	77	3
HCO	10	1
Total	139	15

\* BreastScreen Auckland and North and BreastScreen Midland records excluded (see section 1.3)

### 2.5.3 Outstanding assessment records for women screened October to December 1999

Outstanding assessment records for the period 1 October – 31 December 1999, are recorded in Tables 2.5.10, 2.5.11 and 2.5.12.

Table 2.5.10. Outstanding assessments for women screened in October, 1999.

Lead provider	Number referred in October, 1999	Number outstanding for October 1999 at 31 January, 2000	Percentage outstanding for October 1999 at 31 January, 2000
MCH	76	1	1.3
HVH	42	3	7.1
BSS	99	4	4.0
HCO	69	5	7.2
Total	286	13	4.6

\* BreastScreen Auckland and North records excluded (see section 2)  
BreastScreen Midland records excluded (see section 1.3)

Table 2.5.11. Outstanding assessments for women screened in November, 1999.

Lead provider	Number referred in November 1999	Number outstanding for November 1999 at 31 January, 2000	Percentage outstanding for November 1999 at 31 January, 2000
MCH	54	2	3.7
HVH	71	2	2.8
BSS	99	8	8.1
HCO	88	6	6.8
Total	312	18	5.8

\* BreastScreen Auckland and North records excluded (see section 2)  
BreastScreen Midland records excluded (see section 1.4)

Table 2.5.12. Outstanding assessments for women screened in December 1999.

Lead provider	Number referred in December, 1999	Number outstanding for December 1999 at 31 January 2000	Percentage outstanding for December, 1999 at 31 January 2000
MCH	27	2	7.4
BSS	28	2	7.1
HCO	16	1	6.3
Total	71	5	7.0

\* BreastScreen Auckland and North records excluded (see section 2)  
BreastScreen Midland records excluded (see section 1.3).

Resolution of these outstanding assessment records is required urgently lest the task of tracking and recording what happened to these women becomes too onerous.

Table 2.5.13 provides a summary of the outstanding assessment results for the quarter.

Table 2.5.13. Summary of the number of women referred to assessment in this quarter for which no outcome of assessment is recorded in national monitoring data set.

Lead provider	Number of women referred to assessment October to December 1999	Number of women referred to assessment with no outcome of assessment recorded as at 31 January 2000	Percentage of women referred to assessment with no outcome of assessment recorded as at 31 January 2000	Number of women known to have exited lead provider assessment before result known
ABS* HWL**				
MCH	157	5	3.2	0
HVH	129	5	3.9	2
BSS	226	14	6.2	0
HCO	173	12	6.9	0
Total	685	36	5.3	2

\* BreastScreen Auckland and North records excluded (see section 2)

\*\* BreastScreen Midland records excluded (see section 1.3)

Table 2.5.14 summaries the cumulative number of outstanding assessment results for women screened in the national programme to December 31, 1999.

Table 2.5.14. The cumulative percentage and number (n) of assessment records where the outcome of assessment is not recorded in the national monitoring data set as at 31 January 2000.

Lead provider	Percentage of assessment results with assessment result not recorded as at 31 January 2000 (n)	Percentage of women screened with assessment result not recorded as at 31 January 2000	Number of women exited lead provider assessment before result known
ABS* HWL**			
MCH	2.7 (15)	0.1	5
HVH	5.5 (26)	0.3	6
BSS	2.8 (25)	0.2	2
HCO	8.6 (55)	0.7	0
TOTAL	4.7 (121)	0.3	13

\* BreastScreen Auckland and North records excluded (see section 2)

\*\* Breast Screen Midland records excluded (see section 1.3)

The lack of a complete outcome of assessment records is a major concern for BSAIMG. Women referred to assessment have a greater chance of having breast cancer than other women and the national monitoring data set of the programme currently is unable to record the outcome of assessment for many of these women. BSAIMG has provided to the HFA a list of records of women referred for assessment but for whom no outcome of assessment has been recorded in the national monitoring data set so that the case records can be reviewed.

### **Recommendation 3 – service issue**

The incomplete assessment records in the national monitoring data set raise concern that some women may be undergoing extended assessment. Sometimes this is called early recall. This is where a clear decision of the outcome of assessment is deferred. This is not considered by the monitoring group, or we believe internationally, to be best practice. If this were occurring it would be of concern. Some women in this group may develop clinical cancer while no decision of screening is reached while for many asymptomatic women considerable anxiety from an abnormal result would not be alleviated. Under current data collection processes, the assessment records of these women may not become part of the national monitoring data set until their assessment has been completed and this may be up to two years after the date of screening. As a consequence, BSAIMG is unable to monitor the practice of extended assessment. This needs to be explored urgently by the Health Funding Authority and made transparent in the national monitoring data set. Extended assessment is considered by BSAIMG to be inappropriate.

### **Recommendation 3 – data issue**

There is a danger that the number of incomplete assessment records may get too great for them to be corrected. This could jeopardise the ability of the BSAIMG to monitor many aspects of the assessment process. BSAIMG has identified records of women for whom assessment records of the national monitoring data set were incomplete. The case records of these women should be checked to determine what their outcome of assessment has been or whether they are part of an extended assessment process. BSAIMG understands that this is being conducted by the HFA.

## 2.6 False positive rate

**Definition** - Number with false positive screening results as a percentage of number screened.

**Target** - prevalence round: target is < 9% and the expected target is < 6%  
- incidence round: target is < 4% and the expected target is < 3%

Sufficient data was available to calculate the false positive rate for four lead providers compared to only two in the previous quarterly report. Overall, the programme false positive rate as estimated from four of the six lead providers is well within the target (Table 2.6). However, considerable variation between the four lead providers existed.

Table 2.6. False positive rate per 100 women screened by lead provider.

Lead Provider	Quarterly false positive rate (per 100 women)	Cumulative false positive rate (per 100 women)
ABS*		
HWL**		
MCH	3.8	3.9
HVH	4.3	4.7
BSS	6.1	5.4
HCO	7.8	6.9
TOTAL	5.3	3.0

\* BreastScreen Auckland and North records excluded (see section 2)

\*\* BreastScreen Midland records excluded (see section 1.3)

From the data provided, three lead providers who are predominantly conducting prevalent screening met the target for the false positive rate per 100 women screened.

BreastScreen HealthCare, which is predominantly conducting incident screening, had a higher false positive rate for this quarter than the target with almost 8% of women without breast cancer being referred for assessment. This trend continues for this lead provider. The higher rate of referral to assessment suggests that proportionally more of the referrals to assessment for this lead provider were for women without breast cancer. This resulted in a lower specificity (refer Table 2.10) for this lead provider compared to the other lead providers listed. BSAIMG have recommended that BreastScreen HealthCare investigate the reasons for the relatively high referral to assessment rate. If this rate is reduced it is likely to reduce the high false positive rate.

**Recommendation** – None

## 2.7 Open surgical biopsy rate

**Definition** - Number of women having open biopsy as a percentage of women screened.

**Target** - < 1%

The open surgical biopsy rate is shown in Table 2.7. This parameter of performance was available for four lead providers.

Table 2.7. Rate of open surgical biopsy per 100 women screened and numbers of women by lead provider.

Lead Provider	Quarterly open surgical biopsy rate per 100 women screened (number of women)	Cumulative open surgical biopsy rate per 100 women screened (number of women)
ABS*		
HWL**		
MCH	0.6 (21)	0.3 (37)
HVH	0.2 (4)	0.2 (17)
BSS	0.1 (4)	0.2 (32)
HCO	0.4 (7)	0.7 (51)
TOTAL	0.3 (36)	0.3 (137)

\* BreastScreen Auckland and North records excluded (see section 2)

\*\* BreastScreen Midland records excluded (see section 1.3)

From the data available all four lead providers listed have met this target.

**Recommendation** - None

## 2.8 Benign biopsy weight

**Definition** - Number with benign open biopsy where weight of benign lesion is less than 20 grams as a percentage of number with benign open biopsy.

**Target** - 80% or more of open biopsies (benign result) should weigh < 20gm.

The percentage of open biopsies weighing less than 20 grams is shown in Table 2.8.

Table 2.8. Per cent of open biopsies weighing < 20gm per 100 women screened and numbers of women with open biopsies <20gm by lead provider.

Lead Provider	Quarterly percent of benign biopsies weighing less than 20gm (n)	Cumulative percent of benign biopsies weighing less than 20gm (n)
ABS*		
HWL**		
MCH	42.9 (6)	64.3 (18)
HVH	50.0 (1)	41.7 (5)
BSS	50.0 (1)	34.8 (8)
HCO	60.0 (3)	85.0 (34)
TOTAL†	47.8 (11)	63.1 (65)

\* BreastScreen Auckland and North records excluded (see section 2)

\*\* BreastScreen Midland records excluded (see section 1.3)

Thus far, three of four lead providers have not reached the target. If this continues an audit of the procedure for these women should be conducted. In view of the somewhat low rate of open surgical biopsy, it is possible that open biopsy is being reserved for women with large abnormalities with greater biopsy specimen weight.

Some benign specimen weights recorded in the national monitoring data set for this quarter were very small. For example, two benign specimens were recorded as less than five grams and four specimens were equal to five grams. BreastScreen Midland had no open biopsy results recorded in the data set.

In addition, there were four open surgical biopsies weighing less than or equal to five grams, where the final outcome was cancer.

**Recommendation** - None

## 2.9 Needle biopsy rates

### Definition

- Number of women undergoing fine needle aspiration (FNA) as a percentage of number screened.
- Number of women undergoing core biopsy as a percentage of number screened.

**Target** - None set

The needle biopsy rates for four lead providers are shown in Table 2.9.

Table 2.9. Rate of needle biopsy per 100 women screened and numbers of women undergoing needle biopsy (n) by lead provider.

Lead Provider	Quarterly			Cumulative		
	FNA % (n)	Core needle % (n)	Both†† % (n)	FNA % (n)	Core needle % (n)	Both†† % (n)
ABS*						
HWL**						
MCH	0.1 (2)	0.9 (32)	0 (0)	0.1 (10)	1.2 (142)	0 (0)
HVH	0.1 (2)	0.6 (14)	0.9 (20)	0.2 (17)	0.6 (52)	1.3 (106)
BSS	0.8 (24)	1.6 (52)	0.1 (3)	1.0 (149)	1.5 (216)	0.1 (11)
HCO	0.1 (18)	0.1 (10)	0 (0)	0.6 (49)	0.6 (45)	0.03 (2)
TOTAL	0.4 (46)	1.0 (108)	0.2 (23)	0.5 (230)	1.1 (455)	0.3 (119)

\* BreastScreen Auckland and North records excluded (see section 2)

\*\* BreastScreen Midland records excluded (see section 1.3)

†† Women who have both FNA and core needle procedures

BreastScreen Central had a different pattern in the use of biopsy procedures, with a greater preference for both core needle and FNA. This may reflect a desire for greater security in the final diagnosis for this lead provider.

### Recommendation – 4 service issue

Explanation of the different use of needle biopsy procedures by BreastScreen Central should be requested by the HFA.

## 2.10 Specificity of the Programme

**Definition** - Number with true negative screening results as a percentage of this number plus the number with false positive screening results.

**Target** - > 93%

Specificity is a measure of the proportion of women without breast cancer who undergo further investigation after screening. Further investigation creates considerable anxiety for women and if too frequent can be expensive for the programme.

The specificity of the programme for lead providers during this quarter and up to the end of 1999 is shown in Table 2.10.

Table 2.10. Specificity of the programme by lead provider.

Lead Provider	Quarterly specificity (%)	Cumulative specificity (%)
ABS*		
HWL**		
MCH	96.1	96.0
HVH	95.6	95.3
BSS	93.9	94.6
HCO	92.1	93.0
TOTAL	94.6	94.8

\* BreastScreen Auckland and North records excluded (see section 2)

\*\* BreastScreen Midland records excluded (see section 1.3)

Overall, the specificity of the programme as measured by these four lead providers met the target set. However, BreastScreen HealthCare continued to have lower specificity than the target.

**Recommendation** - None

### 3. Early detection of breast cancer

#### 3.1 Cancer detection rate

Definition – number with diagnosed breast cancer per 1000 women screened.

Target - prevalence round: target is  $\geq 6$  per 1000 women screened  
 - incidence round: target is  $\geq 3$  per 1000 women screened

Quarterly and cumulative cancer detection rates are shown in Table 3.1. BreastScreen South exceeded the quarterly target but cumulative results for the three lead providers predominately screening women in their prevalent round are close to the expected target.

BreastScreen HealthCare continues to exceed the incident screening target for women detected with breast cancer during subsequent screening rounds.

Table 3.1. Cancer detection rate by lead provider per 1000 women screened and the number of women with cancer detected.

Lead Provider	Quarterly cancer detection rate (number with cancer detected)	Cumulative cancer detection rate (number with cancer detected)
ABS*		
HWL**		
MCH	6.1 (21)	6.4 (74)
HVH	5.9 (14)	5.7 (47)
BSS	7.2 (23)	6.3 (92)
HCO	4.7 (9)	5.0 (39)
TOTAL†	5.2 (67)	6.0 (252)

\* BreastScreen Auckland and North (see section 2)

\*\* BreastScreen Midland records excluded (see section 1.3)

A summary of referral to assessment, specificity, the false positive rate and the cancer detection rate is recorded in Table 3.2 by lead provider for the quarter 1/10/99 to 31/12/99.

Table 3.2 Referral to assessment, specificity, false positive and cancer detection rate by lead provider for this quarter.

Lead provider	Referral to assessment per 100 women screened	Specificity (%)	False positive rate per 100 women screened	Cancer detection rate per 1000 women screened
ABS*				
HWL**				
MCH	4.6	96.1	3.8	6.1 (21)
HVH	5.5	95.6	4.3	5.9 (14)
BSS	7.0	93.9	6.1	7.2 (23)
HCO	9.0	92.1	7.8	4.7 (9)
TOTAL	6.3	94.6	5.3	5.2

\* BreastScreen Auckland and North records excluded (see section 2)

\*\* BreastScreen Midland records excluded (see section 1.3)

An increase in referral to assessment rate is often associated with an increase in the false positive rate and a reduction in specificity. This is evident in Table 3.2. The results for BreastScreen HealthCare reflect this relationship with, relative to other providers, a high rate of referral to assessment, a high false positive rate and lower specificity. Examination of the referral to assessment protocol for this lead provider may reduce the referral to assessment and false positive rate and increase specificity.

**Recommendation - None**

#### **4. Summary of treatment**

Due to delays in the finalising a national treatment data set and related collection of treatment data, treatment data was not received by the monitoring group. Therefore, this section has not been completed in this report.

The Health Funding Authority has advised that all treatment data up to December 31, 1999, will be in the national monitoring data set by June 30, 2000. This data is expected to be transferred to BSAIMG by the end of July, 2000.

## 5. Provision of an appropriate and acceptable service

### 5.1 Time taken providing results of screening

**Definition** - Date of providing results to women minus date of final screening visit.

**Target** - 95% notified within 10 working days.

From the national monitoring data set the time taken to provide the results of screening to women for each lead provider is shown in Table 5.1.

Table 5.1. Time taken to provide results of screening to women for each lead provider.

Lead Provider	Quarterly % notified within 10 working days (number of women)	Cumulative % notified within 10 working days (number of women)
ABS	95.3 (6,773)	97.0 (21,408)
HWL*		
MCH	98.9 (3,383)	99.1 (11,514)
HVH	99.0 (2,336)	98.2 (8,048)
BSS	96.7 (3,110)	98.0 (14,434)
HCO	46.7 (911)	81.1 (6,339)
TOTAL	91.5 (16,513)	95.8 (61,743)

\* BreastScreen Midland records excluded (see section 1.3)

Overall, from the five lead providers for which data was assessed, the programme has not met this target for this quarter. However, up to December 31, 1999, the programme did meet this target.

All lead providers listed except BreastScreen HealthCare have met the target of 95% of women notified of their screening result within 10 working days of screening in this quarter and up to the end of 1999. Also, BreastScreen HealthCare did not meet this target in the previous quarter. The result for this quarter indicates a considerably poorer performance with only 46.7% of women being notified within 10 days of their screening mammogram. Immediate action is needed to rectify this.

#### **Recommendation 5 – service issue**

BreastScreen HealthCare needs to improve the timeliness of the reporting of screening results to women. This is an administrative matter that requires identifying who is responsible within each lead provider for ensuring timely reporting of screening results and monitoring their performance.

## 5.2 Time taken from screening visit to first offer of an assessment appointment

**Definition** - Date of first available appointment offered for assessment minus date of final screening visit.

**Target** – At least 90% of women offered an assessment appointment within 14 working days of their final screening mammogram.

The time taken from screening visit to first offer of an assessment appointment is shown in Table 5.2.

Table 5.2. Time taken from screening visit to first offer of an assessment appointment for the women screened by each lead provider.

Lead Provider	Quarterly % offered assessment within 14 working days (number of women)	Cumulative % offered assessment within 14 working days (number of women)
ABS*		
HWL**		
MCH	89.5 (136)	87.6 (470)
HVH	97.5 (115)	93.6(409)
BSS	63.6 (140)	77.1 (686)
HCO	41.6 (67)	36.1 (210)
<b>TOTAL</b>	<b>70.4 (458)</b>	<b>72.6 (1,775)</b>

\* BreastScreen Auckland and North records excluded (see section 2)

\*\* BreastScreen Midland records excluded (see section 1.3)

Overall, from the four lead providers listed, only one has exceeded the target of 90% of women offered an assessment appointment within 14 working days of their final screening mammogram visit. BreastScreen South and BreastScreen HealthCare were considerably below the target for this measure of performance. It is recommended that the HFA seek further explanation from lead providers as to why women are not being offered an assessment appointment within 14 working days of their final screening visit.

### Recommendation 6 – service issue

Only one the four lead providers for whom this measure of performance could be calculated from the national monitoring data set met the target for this performance measure. The organisation of assessment clinics and the demand placed upon them should be reviewed by lead providers not meeting this target. Of the four providers, BreastScreen South and BreastScreen HealthCare had a considerable proportion of women referred for assessment who were not offered first assessment within 14 days. This should not be acceptable and requires investigation and immediate improvement. This is an administrative matter that requires identifying who is responsible for the first offer of an assessment appointment to women and ensuring sufficient numbers of accessible assessment clinics are available to meet the demand generated.

### 5.3 Time taken from assessment to final diagnostic biopsy.

#### Definition

- Date of needle biopsy minus date of first level assessment.
- Date first offered for open surgical biopsy minus date of first level assessment.

#### Target

- At least 90% of women requiring needle biopsy procedure have that procedure completed within 7 days of their assessment.
- At least 90% of women requiring open biopsy procedure are offered that procedure within 3 weeks of their assessment.

This measure of performance is shown in Table 5.3 for four lead providers.

Table 5.3. Percentage and numbers of women (n) receiving biopsy within 7 days of the date of first level of assessment for needle biopsy and 3 weeks for open surgical biopsy.

Lead Provider	Quarterly		Cumulative	
	Percentage for which needle biopsy completed within 7 days of assessment (n)	Percentage for which open biopsy offered within 3 weeks of assessment (n)	Percentage for which needle biopsy completed within 7 days of assessment (n)	Percentage for which open biopsy offered within 3 weeks of assessment (n)
ABS*				
HWL**				
MCH	100 (34)	28.6 (6)	92.8 (141)	30.8 (12)
HVH	100 (36)	100 (4)	97.1 (169)	58.8 (10)
BSS	79.8 (63)	75.0 (3)	88.3 (332)	73.6 (25)
HCO	92.9 (26)	85.7 (6)	96.9 (93)	84.6 (44)
TOTAL	89.8 (159)	52.7 (19)	92.1 (735)	64.1 (91)

\* BreastScreen Auckland and North records excluded (see section 2)

\*\* BreastScreen Midland records excluded, no open biopsy recorded for the quarter (see section 1.3)

Delays in determining a final decision following a positive mammogram create considerable anxiety for women and may reduce later participation in breast screening. Delays in receiving needle biopsy were commonest for women of BreastScreen South in this quarter. Delays in receiving open biopsy beyond the target set have occurred for all lead providers up to the end of 1999. BreastScreen Central had a cumulative record of only 31% of women being offered an open biopsy procedure within three weeks of their assessment. This is significantly below the target and is of concern. The organisation and availability of these diagnostic services needs to be investigated by all lead providers and improved immediately.

#### Recommendation 7 – service issue

From the national monitoring data set, BreastScreen Coast to Coast, BreastScreen South and BreastScreen HealthCare have been unable to offer women who need it an open surgical biopsy within three weeks of their assessment appointment. The number of women affected is currently relatively small but timeliness should be investigated and improved. This is an administrative matter that requires ensuring sufficient and accessible resources are available to women who require open biopsy.

#### 5.4 Time taken from final diagnostic biopsy to reporting assessment results.

**Definition** - Date of reporting final biopsy results to woman minus date of final diagnostic biopsy.

**Target** - Results reported to at least 90% of women within 7 days of final diagnostic biopsy.

For four lead providers, the percentage of women receiving results within 7 days of their final diagnostic biopsy is shown in Table 5.4.

Table 5.4. Time taken from final diagnostic biopsy to reporting assessment results for women of each lead provider.

Lead Provider	Quarterly % results within 7 days (number of women)	Cumulative % results within 7 days (number of women)
ABS*		
HWL**		
MCH	71.2 (37)	79.7 (145)
HVH	94.4 (34)	85.1 (148)
BSS	50.0 (40)	51.9 (202)
HCO	100.0 (31)	56.6 (77)
TOTAL	71.4 (142)	64.9 (572)

\* BreastScreen Auckland and North records excluded (see section 2)

\*\* BreastScreen Midland records excluded (see section 1.3)

From the national monitoring data set, up to the end of 1999, none of the four lead providers had been able to meet the target and overall, the programme was performing well below the target set. However, in the most recent quarter, two lead providers, BreastScreen Central and BreastScreen HealthCare, achieved the target. The results of Table 5.2 and Table 5.3 suggest that assessment services and reporting processes of many lead providers may not be sufficiently organised to meet the targets and need to be reassessed by lead providers to see where improvements can be made. It is recommended that lead providers reassess their processes for receipt of diagnostic results and the subsequent reporting of the results to women.

#### **Recommendation 8 – service issue**

The national monitoring data set indicated that some lead providers have had considerable difficulty in reaching the target for this performance measure. Considerable improvement needs to be made by some lead providers for this target to be met. The administration of this reporting process needs to be reviewed and improvements made by lead providers not meeting this target.

**5.5 Time taken from reporting assessment results to first date offered for primary treatment.**

**Definition** - Date first offered primary treatment minus date of reporting final biopsy results to woman.

**Target** – At least 90% of women offered primary treatment within 3 weeks of the final diagnosis being reported to the woman.

As treatment data is not yet recorded as part of the national monitoring data set this target cannot be measured. Table 5.5 has been left blank.

Table 5.5. Time from reporting assessment results to first date offered primary treatment for women of each lead provider.

Lead Provider	Quarterly % women offered primary treatment within 3 weeks	Cumulative % women offered primary treatment within 3 weeks
ABS		
HWL		
MCH		
HVH		
BSS		
HCO		
TOTAL		

## Appendix A

### Population Projections BreastScreen Aotearoa (1999/2000)

#### Population denominator data

The eligible populations in these reports have been calculated from projected resident populations in each lead provider district, provided by Statistics New Zealand. The projections are based on the New Zealand Census 1996, assuming medium fertility, medium mortality, medium inter-ethnic mobility and medium migration. The populations have been calculated as the mean of the projected populations for the years 1999 and 2000.

Table 1. Population projections BreastScreen Aotearoa (1999/2000).

<b>Population Projections BreastScreen Aotearoa (1999/2000)</b>	
BreastScreen Auckland & North	95,855
BreastScreen Midland	45,085
BreastScreen Coast to Coast	38,627
BreastScreen Central	30,901
BreastScreen South	50,524
BreastScreen HealthCare	21,155
Total	282,147
70% coverage over two years	197,502
Number screened per annum at 70% coverage	98,751

Table 2. Population projections (1999/2000) by age group.

<b>Population Projections (1999/2000) Summary by age group</b>				
	50-54	55-59	60-64	Total
BreastScreen Auckland	40773	30922	24160	95855
BreastScreen Midland	17881	14641	12563	45085
BreastScreen Coast to Coast	15575	12328	10724	38627
BreastScreen Central	13171	9860	7870	30901
BreastScreen South	21031	15976	13517	50524
BreastScreen HealthCare	8675	6690	5790	21155
Total	117,106	90,417	74,624	282,147

## Ethnic group denominators

The denominators for each ethnic group are also taken from the census. Statistics New Zealand utilise a confidentiality assurance technique of randomly rounding census statistics to base three. This enables the greatest amount of census data to be released without compromising the privacy of individual responses. As a consequence the ethnicity denominator in Table 3 differs from the overall coverage denominator in Table 1.

In the census it is possible to choose more than one ethnic group. Where more than one category has been chosen, priority is given to certain ethnic groups for the purposes of classification by the New Zealand Health Information Service (NZHIS). Thus, if a woman chooses more than one category and one of these is Maori, she is counted as Maori.

Table 3. Population projections (1999/2000) by ethnicity.

<b>Population Projections (1999/2000)</b>				
<b>Summary by ethnicity</b>				
	Maori	Pacific	Other	Total
BreastScreen Auckland	8,190	6,045	82,290	96,525
BreastScreen Midland	6,515	433	38,355	45,303
BreastScreen Coast to Coast	4,815	293	33,308	38,416
BreastScreen Central	2,143	1,333	27,855	31,331
BreastScreen South	1,865	325	48,340	50,530
BreastScreen HealthCare	868	108	20,380	21,356
Total	24,396	8,537	250,528	283,461

The priority for multiple ethnic group reporting is shown below:

Table 4 Multiple ethnic group reporting priority list.

<b>Ethnic group</b>	<b>Priority for multiple ethnic group reporting</b>
European not further defined	20
NZ European / Pakeha	21
Other European	19
Maori	1
Pacific Island not further defined	9
Samoan	7
Cook Island Maori	6
Tongan	5
Niuean	4
Toleauan	2
Fijian	3
Other Pacific	8
Asian not further defined	14
South East Asian	10
Chinese	12
Indian	11
Other Asian	13
Middle Eastern	17
Latin American / Hispanic	15
African	16
Other	18
Not stated	99

Source: New Zealand Health Information Service. Data Dictionary Appendix Revision 4.3. Wellington: NZHIS, 1997.