

National Screening Unit Internal Analysis - Report 1

**for BSA Women
Screened between July and December 2002**

August 2004

In 1998, the Ministry of Health contracted with the University of Otago to coordinate the BreastScreen Aotearoa Independent Monitoring Group (IMG), established to monitor key aspects of BreastScreen Aotearoa (BSA), the national breast-screening programme, against agreed national monitoring indicators.

The National Screening Unit (NSU) of the Ministry of Health entered into contract negotiations with the University of Otago in September 2002 to extend this contract. Despite protracted negotiations, the parties were unable to progress the outstanding issues. The NSU has therefore begun a tender process for a new provider. These proposals for the independent monitoring of BSA are currently being reviewed.

In the interim, it has been necessary to ensure that the data previously analysed by the IMG is updated and made available to Lead Providers. This allows providers to compare their practise with each other, and also provides additional information for the NSU's ongoing monitoring of BSA.

This report is the first such "internal" monitoring report.

As with previous Independent Monitoring Reports, the data was sent by Lead Providers on a monthly basis to NZHIS and was subject to internal validation checks, before being sent to the BreastScreen Aotearoa Data Manager, who carried out further validation checks and aggregated the data into the relevant six-month period.

As part of the interim process, the Data Manager duplicated the IMG reporting tables using data from the screening period July 2002 to December 2002, and these were peer reviewed by the Public Health Intelligence Unit (PHI) of the Ministry of Health. PHI is a unit of epidemiologists and statisticians in the Public Health directorate.

After alterations, this report was sent, with a spreadsheet of areas for improvement, to Lead Providers for comment. The resultant tables were used to inform quarterly Lead Provider site visits by the NSU BreastScreen Aotearoa team, and for identifying and resolving quality issues with Lead Providers.

As this current report has already been acted upon, it is of historic interest only. It is published now to ensure that the data from BSA is available for public scrutiny, and to allow an unbroken set of data from the inception of the programme in December 1998.

The next two monitoring reports (relating to the screening periods January to June 2003 and July to December 2003) are currently being analysed by the University of Auckland, with advice from the BSA Advisory group.

The measures of performance in the monitoring reports were specified by the NSU, but the NSU expects that analysts will make recommendations to continually improve the reports and the performance indicators. The list of agreed measures of performance to be included in six-monthly and annual monitoring reports is contained in Appendix A.

Technical terms are used throughout the report, and an understanding of these terms is likely to be necessary to interpret some parts of the report.

1. Coverage

1.3 Coverage - overall

Definition:

Percentage of women aged 50-64 that are screened by the programme within each two year screening cycle

Target:

>= 70%

Table 1.3 Overall coverage of eligible women

Lead Provider	Eligible Population*	Total for last 6 months		Total for last 2 years	
		Jul 2002 to Dec 2002		Jan 2001 to Dec 2002	
		Number of Women Screened	Coverage %	Number of Women Screened	Coverage %
BSAN	104002	13348	12.8%	55394	53.3%
BSM	48051	7504	15.6%	28789	59.9%
BSCtoC	40792	5367	13.2%	24833	60.9%
BSC	32664	4409	13.5%	20225	61.9%
BSS	54074	11382	21.0%	43237	80.0%
BSHC	22215	3961	17.8%	16319	73.5%
BSA Total	301798	45971	15.2%	188797	62.6%

* Eligible population is based on the estimated population for the 2001/2002 screening round

Table 1.3a The percentage of screens that are Prevalent and Incident screens

Lead Provider	Jan 2001 to Dec 2002				
	Prevalent Screens		Incident Screens		Total Screens
	Number of Women Screened	Prevalent %	Number of Women Screened	Incident %	
BSAN	19922	36%	35472	64%	55394
BSM	8804	31%	19985	69%	28789
BSCtoC	7953	32%	16880	68%	24833
BSC	6878	34%	13347	66%	20225
BSS	14267	33%	28970	67%	43237
BSHC	3495	21%	12824	79%	16319
BSA Total	61319	32%	127478	68%	188797

Table 1.3b The percentage of Women Screened by Type of Screening Unit

Lead Provider	Jan 2001 to Dec 2002				
	Fixed Site		Mobile Site		Total Screens
	Number of Women Screened	Fixed %	Number of Women Screened	Mobile %	
BSAN	48760	88%	6634	12%	55394
BSM	20756	72%	8033	28%	28789
BSCtoC	19406	78%	5427	22%	24833
BSC	13753	68%	6472	32%	20225
BSS	37517	87%	5720	13%	43237
BSHC	11247	69%	5072	31%	16319
BSA Total	151439	80%	37358	20%	188797

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 below

Target:
 >= 70%

Table 1.4a Coverage of 50-54 year old eligible women

Lead Provider	Eligible Population*	Total for last 6 months		Total for last 2 years	
		Jul 2002 to Dec 2002		Jan 2001 to Dec 2002	
		Number of Women Screened	Coverage %	Number of Women Screened	Coverage %
BSAN	42824	5987	14.0%	22623	52.8%
BSM	18629	2756	14.8%	10532	56.5%
BSCtoC	16181	2359	14.6%	9747	60.2%
BSC	13430	1938	14.4%	8160	60.8%
BSS	21878	4987	22.8%	18128	82.9%
BSHC	8983	1651	18.4%	6359	70.8%
BSA Total	121925	19678	16.1%	75549	62.0%

* Eligible population is based on the estimated population for the 2001/2002 screening round

Table 1.4b Coverage of 55-59 year old eligible women

Lead Provider	Eligible Population*	Total for last 6 months		Total for last 2 years	
		Jul 2002 to Dec 2002		Jan 2001 to Dec 2002	
		Number of Women Screened	Coverage %	Number of Women Screened	Coverage %
BSAN	34287	4115	12.0%	17985	52.5%
BSM	15692	2646	16.9%	9222	58.8%
BSCtoC	13146	1615	12.3%	7927	60.3%
BSC	10675	1389	13.0%	6672	62.5%
BSS	17432	3523	20.2%	13526	77.6%
BSHC	7015	1174	16.7%	5175	73.8%
BSA Total	98247	14462	14.7%	60507	61.6%

* Eligible population is based on the estimated population for the 2001/2002 screening round

Table 1.4c Coverage of 60-64 year old eligible women

Lead Provider	Eligible Population*	Total for last 6 months		Total for last 2 years	
		Jul 2002 to Dec 2002		Jan 2001 to Dec 2002	
		Number of Women Screened	Coverage %	Number of Women Screened	Coverage %
BSAN	26891	3246	12.1%	14786	55.0%
BSM	13730	2102	15.3%	9035	65.8%
BSCtoC	11465	1393	12.2%	7159	62.4%
BSC	8559	1082	12.6%	5393	63.0%
BSS	14764	2872	19.5%	11583	78.5%
BSHC	6217	1136	18.3%	4785	77.0%
BSA Total	81626	11831	14.5%	52741	64.6%

* Eligible population is based on the estimated population for the 2001/2002 screening round

1.5 Coverage by Ethnicity

The number of women screened and coverage by Ethnicity Group is shown below

Target:

>= 70%

Table 1.5 Coverage by Ethnicity, Summary for last 2 years

Lead Provider	Jan 2001 to Dec 2002						
	Maori		Pacific		Other		Not Stated
	Number of Women Screened	Coverage %	Number of Women Screened	Coverage %	Number of Women Screened	Coverage %	Number of Women Screened
BSAN	3986	45.0%	2942	44.2%	47975	53.6%	491
BSM	2725	38.6%	228	47.2%	25823	63.2%	13
BSCtoC	1973	37.8%	140	41.4%	22597	64.4%	123
BSC	989	42.4%	427	28.5%	18783	64.3%	26
BSS	1174	55.6%	227	62.2%	41505	80.4%	331
BSHC	419	44.1%	45	39.8%	15598	73.4%	257
BSA Total	11266	42.5%	4009	42.4%	172281	64.4%	1241

Table 1.5a Coverage of Maori women

Lead Provider	Eligible Population*	Six Monthly Totals		Total for last 2 years	
		Jul 2002 to Dec 2002		Jan 2001 to Dec 2002	
		Number of Women Screened	Coverage %	Number of Women Screened	Coverage %
BSAN	8860	1023	11.5%	3986	45.0%
BSM	7060	577	8.2%	2725	38.6%
BSCtoC	5220	353	6.8%	1973	37.8%
BSC	2330	258	11.1%	989	42.4%
BSS	2110	340	16.1%	1174	55.6%
BSHC	950	119	12.5%	419	44.1%
BSA Total	26530	2670	10.1%	11266	42.5%

Table 1.5b Coverage of Pacific women

Lead Provider	Eligible Population*	Total for last 6 months		Total for last 2 years	
		Jul 2002 to Dec 2002		Jan 2001 to Dec 2002	
		Number of Women Screened	Coverage %	Number of Women Screened	Coverage %
BSAN	6655	1014	15.2%	2942	44.2%
BSM	483	51	10.6%	228	47.2%
BSCtoC	338	22	6.5%	140	41.4%
BSC	1498	153	10.2%	427	28.5%
BSS	365	52	14.2%	227	62.2%
BSHC	113	13	11.5%	45	39.8%
BSA Total	9452	1305	13.8%	4009	42.4%

Table 1.5c Coverage of Other women

Lead Provider	Eligible Population*	Total for last 6 months		Total for last 2 years	
		Jul 2002 to Dec 2002		Jan 2001 to Dec 2002	
		Number of Women Screened	Coverage %	Number of Women Screened	Coverage %
BSAN	89485	11165	12.5%	47975	53.6%
BSM	40875	6875	16.8%	25823	63.2%
BSCtoC	35095	4947	14.1%	22597	64.4%
BSC	29225	3996	13.7%	18783	64.3%
BSS	51645	10904	21.1%	41505	80.4%
BSHC	21265	3763	17.7%	15598	73.4%
BSA Total	267590	41650	15.6%	172281	64.4%

* Eligible population is based on the estimated population for the 2001/2002 screening round

2. Provision of high quality screening and assessment

2.1 Screened women who have no more than four films taken

Definition:

The percentage of women who have no more than four films taken

Target:

Minimum of 80% of women screened have four films or less.

Table 2.1a Percentage of women having 4 films or less by Lead Provider, last 6 months

Lead Provider	Jul 2002 to Dec 2002					
	Fixed			Mobile		
	Women having 4 films or less	Number of Women Screened	% of Women Screened	Women having 4 films or less	Number of Women Screened	% of Women Screened
BSAN	9852	11718	84.1%	1270	1630	77.9%
BSM	4721	5356	88.1%	1749	2148	81.4%
BSCtoC	3318	3789	87.6%	1286	1578	81.5%
BSC	2222	2904	76.5%	1215	1505	80.7%
BSS	8192	10098	81.1%	1020	1284	79.4%
BSHC	2493	3068	81.3%	773	893	86.6%
BSA Total	30798	36933	83.4%	7313	9038	80.9%

Table 2.1b Percentage of women having 4 films or less by Lead Provider, last 2 years

Lead Provider	Jan 2001 to Dec 2002					
	Fixed			Mobile		
	Women having 4 films or less	Number of Women Screened	% of Women Screened	Women having 4 films or less	Number of Women Screened	% of Women Screened
BSAN	41062	48760	84.2%	6015	6634	90.7%
BSM	18327	20756	88.3%	6509	8033	81.0%
BSCtoC	17152	19406	88.4%	4451	5427	82.0%
BSC	10544	13753	76.7%	5327	6472	82.3%
BSS	31273	37517	83.4%	4693	5720	82.0%
BSHC	8730	11247	77.6%	4206	5072	82.9%
BSA Total	127088	151439	83.9%	31201	37358	83.5%

2.2 Technical recall rate

Definition:

The number of women who have to return to a screening unit (either Fixed or Mobile) for further films to complete their screening episode, expressed as a percentage of the number screened.

Target:

Mobile: <3%

Fixed: <0.5%

Table 2.2a Women having Technical Recalls as a percentage of Women Screened, last 6 months

Lead Provider	Jul 2002 to Dec 2002					
	Fixed			Mobile		
	Women having Technical Recall	Number of Women Screened	% of Women Screened	Women having Technical Recall	Number of Women Screened	% of Women Screened
BSAN	9	11718	0.1%	79	1630	4.8%
BSM	5	5356	0.1%	86	2148	4.0%
BSCtoC	5	3789	0.1%	87	1578	5.5%
BSC	27	2904	0.9%	73	1505	4.9%
BSS	49	10098	0.5%	39	1284	3.0%
BSHC	15	3068	0.5%	7	893	0.8%
BSA Total	110	36933	0.3%	371	9038	4.1%

Table 2.2b Women having Technical Recalls as a percentage of Women Screened, last 2 years

Lead Provider	Jan 2001 to Dec 2002					
	Fixed			Mobile		
	Women having Technical Recall	Number of Women Screened	% of Women Screened	Women having Technical Recall	Number of Women Screened	% of Women Screened
BSAN	129	48760	0.3%	178	6634	2.7%
BSM	33	20756	0.2%	333	8033	4.1%
BSCtoC	25	19406	0.1%	280	5427	5.2%
BSC	139	13753	1.0%	369	6472	5.7%
BSS	161	37517	0.4%	84	5720	1.5%
BSHC	54	11247	0.5%	50	5072	1.0%
BSA Total	541	151439	0.4%	1294	37358	3.5%

2.3 Technical reject rate

Definition:

The number of films rejected as a percentage of the number of films taken, calculated separately for women who are screened in a fixed unit and a mobile unit.

Target:

< 3 %

Table 2.3a Rejected films as a percentage of total films taken, last 6 Months

Lead Provider	Jul 2002 to Dec 2002					
	Fixed			Mobile		
	Total Films Rejected	Total Films Taken	% of Total Films	Total Films Rejected	Total Films Taken	% of Total Films
BSAN	656	49540	1.3%	34	7095	0.5%
BSM	156	22538	0.7%	45	9329	0.5%
BSCtoC	143	15872	0.9%	146	6823	2.1%
BSC	93	12637	0.7%	7	6464	0.1%
BSS	492	43469	1.1%	46	5604	0.8%
BSHC	160	13259	1.2%	4	3766	0.1%
BSA Total	1700	157315	1.1%	282	39081	0.7%

Table 2.3b Rejected films as a percentage of total films taken, last 2 Years

Lead Provider	Jan 2001 to Dec 2002					
	Fixed			Mobile		
	Total Films Rejected	Total Films Taken	% of Total Films	Total Films Rejected	Total Films Taken	% of Total Films
BSAN	2180	206357	1.1%	98	27518	0.4%
BSM	735	87331	0.8%	209	34845	0.6%
BSCtoC	736	80873	0.9%	404	23471	1.7%
BSC	888	60031	1.5%	78	27611	0.3%
BSS	1878	159810	1.2%	115	24708	0.5%
BSHC	715	49846	1.4%	41	22068	0.2%
BSA Total	7132	644248	1.1%	945	160221	0.6%

2.4 Assessment rate

Definition:

Number referred to assessment as a percentage of number screened

Target:

prevalence screen: <10% and the expected value is <7%

incidence screen: <5% and the expected value is <4%

Table 2.4a Referral to Assessment as a percentage of Women screened, last 6 Months

Lead Provider	Jul 2002 to Dec 2002					
	Prevalence			Incidence		
	Referral to Assessment	Number of Women Screened	% of Women Screened	Referral to Assessment	Number of Women Screened	% of Women Screened
BSAN	380	4911	7.7%	337	8437	4.0%
BSM	124	1784	7.0%	227	5720	4.0%
BSCtoC	118	1813	6.5%	101	3554	2.8%
BSC	203	1576	12.9%	101	2833	3.6%
BSS	307	3175	9.7%	341	8207	4.2%
BSHC	82	1097	7.5%	55	2864	1.9%
BSA Total	1214	14356	8.5%	1162	31615	3.7%

Table 2.4b Referral to Assessment as a percentage of Women screened, last 2 Years

Lead Provider	Jan 2001 to Dec 2002					
	Prevalence			Incidence		
	Referral to Assessment	Number of Women Screened	% of Women Screened	Referral to Assessment	Number of Women Screened	% of Women Screened
BSAN	1721	19922	8.6%	1585	35472	4.5%
BSM	582	8804	6.6%	657	19985	3.3%
BSCtoC	537	7953	6.8%	524	16880	3.1%
BSC	719	6878	10.5%	489	13347	3.7%
BSS	1336	14267	9.4%	1244	28970	4.3%
BSHC	307	3495	8.8%	265	12824	2.1%
BSA Total	5202	61319	8.5%	4764	127478	3.7%

2.6 False Positive Rate

Definition:

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

Target:

prevalence round: < 9% and the expected value is < 6%

incidence round: < 4% and the expected value is < 3%

The false positive rate measures the proportion of women who are recalled to assessment, but after assessment are found not to have cancer.

Table 2.6 False positives as a percentage of Women Screened

Lead Provider	Total for last 6 months			Total for last 2 years		
	Jul 2002 to Dec 2002			Jan 2001 to Dec 2002		
	Prevalence	Incidence	Total	Prevalence	Incidence	Total
BSAN	6.4%	3.3%	4.4%	7.3%	3.8%	5.1%
BSM	6.0%	3.4%	4.1%	5.9%	2.7%	3.7%
BSCtoC	5.7%	2.2%	3.4%	5.7%	2.5%	3.6%
BSC	11.9%	3.2%	6.3%	9.6%	3.0%	5.3%
BSS	8.8%	3.5%	4.9%	8.6%	3.7%	5.3%
BSHC	6.6%	1.4%	2.8%	8.0%	1.6%	3.0%
BSA Total	7.4%	3.1%	4.4%	7.5%	3.1%	4.5%

2.7 Open surgical biopsy rate

Definition:

Number of women having open biopsy as a percentage of women screened.

Target:

< 1 %

Table 2.7 Open Surgical Biopsy as a percentage of Women Screened

Lead Provider	Total for last 6 months			Total for last 2 years		
	Jul 2002 to Dec 2002			Jan 2001 to Dec 2002		
	Open Biopsy	Number of Women Screened	% of Women Screened	Open Biopsy	Number of Women Screened	% of Women Screened
BSAN	34	13348	0.3%	148	55394	0.3%
BSM	12	7504	0.2%	50	28789	0.2%
BSCtoC	9	5367	0.2%	38	24833	0.2%
BSC	15	4409	0.3%	72	20225	0.4%
BSS	16	11382	0.1%	61	43237	0.1%
BSHC	15	3961	0.4%	43	16319	0.3%
BSA Total	101	45971	0.2%	412	188797	0.2%

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 the number with Benign Open Biopsy.

Target:

80% or more of open biopsies (benign result) should weigh < 20g.

Table 2.8 Benign Open Biopsies weighing <20g as a percent of all Benign Open Biopsies

Lead Provider	Total for last 6 months			Total for last 2 years		
	Jul 2002 to Dec 2002			Jan 2001 to Dec 2002		
	Benign Open Biopsies < 20g	Benign Open Biopsies	% of Benign Open Biopsies	Benign Open Biopsies < 20g	Benign Open Biopsies	% of Benign Open Biopsies
BSAN	16	24	66.7%	68	114	59.6%
BSM	10	11	90.9%	25	37	67.6%
BSCtoC	*	*	*	*	*	*
BSC	10	12	83.3%	37	46	80.4%
BSS	5	14	35.7%	30	53	56.6%
BSHC	5	9	55.6%	20	26	76.9%
BSA Total	46	70	65.7%	180	276	65.2%

* 80% of the benign open biopsies had a default weight recorded within the national monitoring data set so results for BreastScreen Coast to Coast have not been reported.

2.9 Needle biopsy rates

Definition:

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

Target:

none set

Table 2.9a Number and percentage of women having needle biopsy, last 6 Months

Lead Provider	Jul 2002 to Dec 2002									
	FNA only		Core Needle only		Both*		Other **		Total	
	Number of Women	% of Screens	Number of Women	% of Screens	Number of Women	% of Screens	Number of Women	% of Screens	Number of Women	% of Screens
BSAN	41	0.3%	164	1.2%	17	0.1%	126	0.9%	348	2.6%
BSM	18	0.2%	100	1.3%	4	0.1%	0	0.0%	122	1.6%
BSCtoC	7	0.1%	79	1.5%	0	0.0%	0	0.0%	86	1.6%
BSC	7	0.2%	77	1.7%	6	0.1%	0	0.0%	90	2.0%
BSS	73	0.6%	154	1.4%	11	0.1%	0	0.0%	238	2.1%
BSHC	9	0.2%	26	0.7%	7	0.2%	0	0.0%	42	1.1%
BSA Total	155	0.3%	600	1.3%	45	0.1%	126	0.3%	926	2.0%

* Women who have both FNA and core needle procedures.

Table 2.9b Number and percentage of women having needle biopsy, last 2 Years

Lead Provider	Jan 2001 to Dec 2002									
	FNA only		Core Needle only		Both*		Other **		Total	
	Number of Women	% of Screens	Number of Women	% of Screens	Number of Women	% of Screens	Number of Women	% of Screens	Number of Women	% of Screens
BSAN	108	0.2%	645	1.2%	78	0.1%	442	0.8%	1273	2.3%
BSM	54	0.2%	358	1.2%	14	0.0%	4	0.0%	430	1.5%
BSCtoC	33	0.1%	334	1.3%	1	0.0%	0	0.0%	368	1.5%
BSC	28	0.1%	326	1.6%	25	0.1%	0	0.0%	379	1.9%
BSS	313	0.7%	626	1.4%	42	0.1%	0	0.0%	981	2.3%
BSHC	43	0.3%	92	0.6%	15	0.1%	0	0.0%	150	0.9%
BSA Total	579	0.3%	2381	1.3%	175	0.1%	446	0.2%	3581	1.9%

* Women who have both FNA and core needle procedures.

**** Note:** In previous reports Mammotome biopsies were not included. These biopsies are now included, in the "Other" column

2.10 Specificity

Definition:

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

Specificity is the proportion of women without breast cancer at screening that have a negative screen result. This is estimated by expressing the number of women who have a negative screen result as a proportion of all women screened less the number with cancer detected at the time of screening. Although false negative results are included in both the numerator and the denominator, the number of false negatives is so small in comparison to the number of true negatives that a reasonable estimate of specificity can be made. One minus the specificity is the proportion of women without breast cancer at screening who have a positive result. Positive results require further investigation to determine whether or not cancer is present.

Target:

> 93 %

Table 2.10 Estimated Specificity of BSA by Lead Provider

Lead Provider	Total for last 6 months			Total for last 2 years		
	Jul 2002 to Dec 2002			Jan 2001 to Dec 2002		
	Prevalence	Incidence	Total	Prevalence	Incidence	Total
BSAN	93.5%	96.7%	95.5%	92.6%	96.2%	94.9%
BSM	93.9%	96.5%	95.9%	94.1%	97.2%	96.3%
BSCtoC	94.2%	97.8%	96.6%	94.2%	97.4%	96.4%
BSC	88.0%	96.7%	93.6%	90.4%	96.9%	94.7%
BSS	91.2%	96.5%	95.0%	91.3%	96.3%	94.7%
BSHC	93.4%	98.6%	97.2%	92.0%	98.4%	97.0%
BSA Total	92.5%	96.9%	95.6%	92.4%	96.8%	95.4%

3 Early Detection of DCIS or Invasive Breast Cancer

3.1 Detection of DCIS or Invasive Breast Cancer

Definition:

Number with diagnosed DCIS or breast cancer per 1000 women screened

Target:

prevalence round: ≥ 6 per 1000 women screened

incidence round: ≥ 3 per 1000 women screened

Table 3.1 Detection rate of DCIS and invasive breast cancer per 1000 women screened

Lead Provider	Total for last 6 months				Total for last 2 years			
	Jul 2002 to Dec 2002				Jan 2001 to Dec 2002			
	Prevalence		Incidence		Prevalence		Incidence	
	Number	Rate per 1000	Number	Rate per 1000	Number	Rate per 1000	Number	Rate per 1000
BSAN	39	7.9	54	6.4	208	10.4	210	5.9
BSM	15	8.4	29	5.1	61	6.9	105	5.3
BSCtoC	10	5.5	20	5.6	69	8.7	86	5.1
BSC	14	8.9	8	2.8	54	7.9	81	6.1
BSS	27	8.5	54	6.6	94	6.6	171	5.9
BSHC	8	7.3	15	5.2	24	6.9	54	4.2
BSA Total	113	7.9	180	5.7	510	8.3	707	5.5

Summary

Summary of Referral to Assessment, Specificity, False Positive Rate and Detection Rate of DCIS and Invasive Cancer

Table 3.1a Summary for prevalence screening by Lead Provider

Lead Provider	Total for last 6 months				Total for last 2 years			
	Jul 2002 to Dec 2002				Jan 2001 to Dec 2002			
	Referral to Assessment as % of Women screened	Specificity	False Positives as % of Women screened	Detection rate per 1000 women screened	Referral to Assessment as % of Women screened	Specificity	False Positives as % of Women screened	Detection rate per 1000 women screened
BSAN	7.7%	93.5%	6.4%	7.9	8.6%	92.6%	7.3%	10.4
BSM	7.0%	93.9%	6.0%	8.4	6.6%	94.1%	5.9%	6.9
BSCtoC	6.5%	94.2%	5.7%	5.5	6.8%	94.2%	5.7%	8.7
BSC	12.9%	88.0%	11.9%	8.9	10.5%	90.4%	9.6%	7.9
BSS	9.7%	91.2%	8.8%	8.5	9.4%	91.3%	8.6%	6.6
BSHC	7.5%	93.4%	6.6%	7.3	8.8%	92.0%	8.0%	6.9
BSA Total	8.5%	92.5%	7.4%	7.9	8.5%	92.4%	7.5%	8.3

Table 3.1b Summary for incidence screening by Lead Provider

Lead Provider	Total for last 6 months				Total for last 2 years			
	Jul 2002 to Dec 2002				Jan 2001 to Dec 2002			
	Referral to Assessment as % of Women screened	Specificity	False Positives as % of Women screened	Detection rate per 1000 women screened	Referral to Assessment as % of Women screened	Specificity	False Positives as % of Women screened	Detection rate per 1000 women screened
BSAN	4.0%	96.7%	3.3%	6.4	4.5%	96.2%	3.8%	5.9
BSM	4.0%	96.5%	3.4%	5.1	3.3%	97.2%	2.7%	5.3
BSCtoC	2.8%	97.8%	2.2%	5.6	3.1%	97.4%	2.5%	5.1
BSC	3.6%	96.7%	3.2%	2.8	3.7%	96.9%	3.0%	6.1
BSS	4.2%	96.5%	3.5%	6.6	4.3%	96.3%	3.7%	5.9
BSHC	1.9%	98.6%	1.4%	5.2	2.1%	98.4%	1.6%	4.2
BSA Total	3.7%	96.9%	3.1%	5.7	3.7%	96.8%	3.1%	5.5

3.2 DCIS and Invasive Cancer

There is an inevitable delay in the recording of details about DCIS or invasive breast cancer diagnosed as a result of screening, due to the time required to arrange treatment and the subsequent recording of treatment data by lead providers.

To make allowance for this delay cancer details recorded within this six-month monitoring period have been provided for women screened up to the end of March 2002 (three months prior to the start of this reporting period).

All lead providers achieved 90% completion of cancer detail records from the commencement of screening to the end of March 2002

Table 3.2 Summary of Cancers Detected

Lead Provider	For Women Screened from December 1998 to March 2002						
	DCIS		Invasive		Total Cancers	Total Screened Women	Cancer Detection Rate per 1000 Women Screened
	Number	% of all Cancers	Number	% of all Cancers			
BSAN	171	27%	453	73%	624	56294	11.1
BSM	57	23%	189	77%	246	32916	7.5
BSCtoC	35	15%	195	85%	230	25762	8.9
BSC	29	15%	168	85%	197	19723	10.0
BSS	72	20%	297	80%	369	44308	8.3
BSHC	22	18%	101	82%	123	17540	7.0
BSA Total	386	22%	1403	78%	1789	196543	9.1

3.3 Invasive Cancer

Definition:

Number of women screened who are diagnosed with invasive breast cancer per 1000 women screened

Target:

>= 4.8 per 1000 women screened

Table 3.3 Tumour classification (number of women) and Invasive cancer detection rate

Lead	For Women Screened from December 1998 to March 2002									Invasive Rate per 1000 Screens
	pT0	pT1a	pT1b	pT1c	pT2	pT3	pT4	pTX	Total Invasive	
BSAN	1	58	133	163	81	7	8	2	453	8.0
BSM	0	15	45	94	34	1	0	0	189	5.7
BSCtoC	0	23	45	80	45	1	1	0	195	7.6
BSC	0	15	58	76	19	0	0	0	168	8.5
BSS	0	43	78	128	44	2	2	0	297	6.7
BSHC	0	10	37	38	12	3	1	0	101	5.8
BSA Total	1	164	396	579	235	14	12	2	1403	7.1

Table 3.3.1 Tumour Classification (Percentage of all Invasive Cancers)

Lead Provider	For Women Screened from December 1998 to March 2002							
	pT0	pT1a	pT1b	pT1c	pT2	pT3	pT4	pTX
BSAN	0%	13%	29%	36%	18%	2%	2%	0%
BSM	0%	8%	24%	50%	18%	1%	0%	0%
BSCtoC	0%	12%	23%	41%	23%	1%	1%	0%
BSC	0%	9%	35%	45%	11%	0%	0%	0%
BSS	0%	14%	26%	43%	15%	1%	1%	0%
BSHC	0%	10%	37%	38%	12%	3%	1%	0%
BSA Total	0%	12%	28%	41%	17%	1%	1%	0%

3.4 Nodal Involvement

Definition:

Number with Invasive cancer detected which involve axillary nodes as a percentage of the number with diagnosed invasive cancer

Target:

At least 70% of women with Invasive breast cancers detected by the programme should be node negative.

Table 3.4a Summary of Nodal Status of Women with Invasive Breast Cancer

Lead Provider	For Women Screened from December 1998 to March 2002								
	pN0	%	pN1	%	pN2	%	pNX	%	Total Invasive
BSAN	327	72.2%	110	24.3%	0	0.0%	16	3.5%	453
BSM	135	71.4%	45	23.8%	0	0.0%	9	4.8%	189
BSCtoC	138	70.8%	51	26.2%	3	1.5%	3	1.5%	195
BSC	126	75.0%	37	22.0%	0	0.0%	5	3.0%	168
BSS	219	73.7%	67	22.6%	3	1.0%	8	2.7%	297
BSHC	76	75.2%	23	22.8%	0	0.0%	2	2.0%	101
BSA Total	1021	72.8%	333	23.7%	6	0.4%	43	3.1%	1403

Table 3.4b Summary of Women with invasive breast cancer who have no nodal involvement

Lead Provider	For Women Screened from December 1998 to March 2002		
	No Nodal Involvement (pN0)	Total Invasive Cancers (less pNX)	% of Invasive Cancers (less pNX) with no Nodal Involvement
BSAN	327	437	74.8%
BSM	135	180	75.0%
BSCtoC	138	192	71.9%
BSC	126	163	77.3%
BSS	219	289	75.8%
BSHC	76	99	76.8%
BSA Total	1021	1360	75.1%

3.5 Ductal Carcinoma in Situ

Definition:

Number of Women with DCIS as a percentage of the number of women diagnosed with cancer

Target:

10-25% of all cancers detected by the programme

Table 3.5 Number with DCIS as a percentage of the total cancers

Lead Provider	For Women Screened from December 1998 to March 2002		
	DCIS	Total Cancers	% of Total Cancers
BSAN	171	624	27.4%
BSM	57	246	23.2%
BSCtoC	35	230	15.2%
BSC	29	197	14.7%
BSS	72	369	19.5%
BSHC	22	123	17.9%
BSA Total	386	1789	21.6%

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

Table 5.1 Percentage of women notified of screening results within 10 working days

Lead Provider	Total for last 6 months			Total for last 2 years		
	Jul 2002 to Dec 2002			Jan 2001 to Dec 2002		
	# notified within 10 working days	Number of Women Screened	% notified within 10 working days	# notified within 10 working days	Number of Women Screened	% notified within 10 working days
BSAN	12701	13348	95.2%	53426	55394	96.4%
BSM	7447	7504	99.2%	28272	28789	98.2%
BSCtoC	5300	5367	98.8%	24529	24833	98.8%
BSC	4373	4409	99.2%	20085	20225	99.3%
BSS	11329	11382	99.5%	42937	43237	99.3%
BSHC	3860	3961	97.5%	15615	16319	95.7%
BSA Total	45010	45971	97.9%	184864	188797	97.9%

5.2 Time taken from screening visit to first offer of assessment

Definition:

Date of first available appointment offered for assessment minus date of final screening visit

Target:

90% offered an assessment appointment within 14 working days

Table 5.2 Percentage of Women offered 1st assessment appointment within 14 working days

Lead Provider	Total for last 6 months			Total for last 2 years		
	Jul 2002 to Dec 2002			Jan 2001 to Dec 2002		
	# offered assessment within 14 working days	Number Referred to Assessed	% offered apptment within 14 working days	# offered assessment within 14 working days	Number Referred to Assessed	% offered apptment within 14 working days
BSAN	612	717	85.4%	2754	3306	83.3%
BSM	338	351	96.3%	1142	1239	92.2%
BSCtoC	192	219	87.7%	873	1061	82.3%
BSC	285	304	93.8%	1143	1208	94.6%
BSS	605	648	93.4%	2421	2580	93.8%
BSHC	103	137	75.2%	408	572	71.3%
BSA Total	2135	2376	89.9%	8741	9966	87.7%

5.3 Time Taken from Assessment to Final Diagnostic Biopsy

Definition:

Date of Needle Biopsy minus date of 1st Level Assessment

Date first offered for Open Surgical Biopsy minus date of 1st Level Assessment

Target:

At least 90% of women requiring needle biopsy have that procedure completed within seven days of their assessment

At least 90% of women requiring open biopsy procedure are offered that procedure within three weeks of their assessment

Table 5.3.1 Percentage of women receiving Needle Biopsy within 7 days of assessment.

Lead Provider	Total for last 6 months			Total for last 2 years		
	Jul 2002 to Dec 2002			Jan 2001 to Dec 2002		
	Women having needle biopsy within 7 days of assessment	Women having Needle Biopsy	% receiving Needle Biopsy within 7 days	Women having needle biopsy within 7 days of assessment	Women having Needle Biopsy	% receiving Needle Biopsy within 7 days
BSAN	270	348	77.6%	917	1273	72.0%
BSM	96	122	78.7%	334	430	77.7%
BSCtoC	76	86	88.4%	341	368	92.7%
BSC	83	90	92.2%	357	379	94.2%
BSS	197	238	82.8%	821	981	83.7%
BSHC	39	42	92.9%	134	150	89.3%
BSA Total	761	926	82.2%	2904	3581	81.1%

Table 5.3.2 Percentage of women with Date Offered for Open Biopsy within 3 weeks of assessment

Lead Provider	Total for last 6 months			Total for last 2 years		
	Jul 2002 to Dec 2002			Jan 2001 to Dec 2002		
	Women with Date Offered for Open Biopsy within 3 weeks of assessment	Women having Open Biopsy	% Date Offered for Open Biopsy within 3 weeks	Women with Date Offered for Open Biopsy within 3 weeks of assessment	Women having Open Biopsy	% Date Offered for Open Biopsy within 3 weeks
BSAN	10	34	29.4%	51	148	34.5%
BSM	4	12	33.3%	14	50	28.0%
BSCtoC	3	9	33.3%	13	38	34.2%
BSC	11	15	73.3%	43	72	59.7%
BSS	8	16	50.0%	36	61	59.0%
BSHC	11	15	73.3%	33	43	76.7%
BSA Total	47	101	46.5%	190	412	46.1%

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 seven days of final diagnostic biopsy.

Table 5.4 Percentage of Women receiving final diagnostic biopsy results within 7 days

Lead Provider	Total for last 6 months			Total for last 2 years		
	Jul 2002 to Dec 2002			Jan 2001 to Dec 2002		
	# with results reported within 7 days of final biopsy	# with final diagnostic biopsy	% receiving final biopsy results within 7 days	# with results reported within 7 days of final biopsy	# with final diagnostic biopsy	% receiving final biopsy results within 7 days
BSAN	332	364	91.2%	1135	1343	84.5%
BSM	103	123	83.7%	337	437	77.1%
BSCtoC	74	88	84.1%	333	381	87.4%
BSC	80	90	88.9%	328	384	85.4%
BSS	232	238	97.5%	954	985	96.9%
BSHC	46	46	100.0%	149	163	91.4%
BSA Total	867	949	91.4%	3236	3693	87.6%

5.5 Time Taken from reporting assessment results to first date offered for primary surgical treatment

Definition:

Date first offered primary surgical treatment minus date of reporting final biopsy results to the woman

Target:

At least 90% of women are offered primary surgical treatment within three weeks of the final diagnosis being reported to the woman

Table 5.5 Percentage of Women offered Primary Surgical Treatment within three weeks

Lead Provider	December 1998 to March 2002		
	Offered Surgical treatment within 3 weeks	Surgical treatment as first Treatment Procedure	% offered surgical treatment within 3 weeks
BSAN	327	607	53.9%
BSM	157	243	64.6%
BSCtoC	162	215	75.3%
BSC	152	192	79.2%
BSS	252	366	68.9%
BSHC	98	121	81.0%
BSA Total	1148	1744	65.8%

Note: Lead Providers have advised they are unable to collect the date first offered surgical treatment and that the date recorded is usually the date of first surgical treatment procedure.

Appendix A

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 2001 and 2002.

Table 1. Population projections BreastScreen Aotearoa (2001/2002).

Lead Provider	Summary by Age Group			Total Eligible Population
	50-54	55-59	60-64	
BSAN	42824	34287	26891	104002
BSM	18629	15692	13730	48051
BSCtoC	16181	13146	11465	40792
BSC	13430	10675	8559	32664
BSS	21878	17432	14764	54074
BSHC	8983	7015	6217	22215
BSA Total	121925	98247	81626	301798

Ethnic group denominators

The denominators for each ethnic group are also taken from the census and calculated from projected resident populations in each lead provider district, provided by Statistics New Zealand. 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 2.

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 2 below uses the prioritised definition of ethnicity.

Table 2. Population projections (2001/2002) by ethnicity.

Lead Provider	Summary by Ethnicity			Total
	Maori	Pacific	Other	
BSAN	8860	6655	89485	105000
BSM	7060	483	40875	48418
BSCtoC	5220	338	35095	40653
BSC	2330	1498	29225	33053
BSS	2110	365	51645	54120
BSHC	950	113	21265	22328
BSA Total	26530	9452	267590	303572