BreastScreen Aotearoa

Independent Māori Monitoring Report 4b: **Treatment** of Women with BSA Detected Cancers, ages 45–69 years

(Women screened July 2006 to June 2011)

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OVERVIEW

Breast cancer is the most common cancer diagnosed among Māori and non-Māori women in New Zealand. Māori mortality rates from breast cancer are disproportionately higher than non-Māori rates and more equitable outcomes could be achieved if more Māori women were diagnosed at an earlier stage. Screening aims to detect cancers at an early stage when tumours are more amenable to treatment and a properly organised breast screening programme can significantly reduce mortality from the disease. BreastScreen Aotearoa (BSA) offers free two-yearly mammographic screening to women aged 45 to 69 years and plays a crucial part in reducing breast cancer mortality.

This report is the first report on treatment indicators in a new time series of independent Māori monitoring reports, and the first to report on detection and treatment of breast cancer for Māori women aged 45 to 49 years and 50 to 69 years. Previous independent Māori monitoring reports have only reported on women aged 50 to 64 years. Data are presented for women screened during the five-year period July 2006 to June 2011.

Summary of key findings

Although targets for the early detection and treatment indicators were generally met or exceeded for Māori women, the targets for the timeliness of treatment were not met. Māori women had higher invasive cancer detection rates than non-Māori women, including rates of small tumours. The proportion of cancers diagnosed as DCIS was smaller for Māori compared to non-Māori. Treatment indicators were similar for Māori and non-Māori women.

The proportion of women receiving their first surgical treatment within 20 working days was well below target and deserves further investigation, including by District Health Board. No Lead Provider met the target for this indicator. The proportion of Māori women receiving timely surgical treatment was also lower than the proportion of non-Māori women for total BSA.

Early detection of DCIS or invasive breast cancer

Women aged 45 to 49 years

Among women aged 45 to 49 years, Māori women were nearly twice as likely to have invasive breast cancer detected on their initial or subsequent screen as non-Māori women. For both Māori and non-Māori women, the detection rate in this age group was around half the rate of detection in women aged 50 to 69 years.

The proportions of invasive cancers that were ≤10mm, ≤15mm, or had no nodal involvement were similar for Māori and non-Māori. They were also generally similar to the proportions of cancers detected among women aged 50 to 69 years.

The rates of cancers ≤10mm or ≤15mm detected per 10,000 screens, were around twice as high for Māori than for non-Māori women.

The proportion of screen detected cancers for women in this age group that were diagnosed as DCIS was half the non-Māori proportion (15% compared to 31%).

Women aged 50 to 69 years

The five year invasive cancer detection rates for Māori women aged 50 to 69 years exceeded the target values for initial and subsequent screens. Among women having initial screens the invasive cancer detection rate for Māori women (13.0 per 1,000 screens) was twice the non-Māori rate (6.6

per 1,000 screens. For those having subsequent screens the detection rate was 62% higher for Māori (6.3 per 1,000 screens) compared to non-Māori women (3.9 per 1,000 screens).

The proportions of screen-detected cancers that were small (≤10mm or ≤15mm), or had no nodal involvement, were on or above target for Māori women. These indicators were similar for Māori and non-Māori women.

The rates of screen-detected invasive cancers ≤10mm or ≤15mm per 10,000 screens exceeded the target values, and were significantly higher among Māori women than non-Māori women having initial or subsequent screens.

The proportion of cancers detected among Māori women that were DCIS was 16% compared to 22% of cancers detected among non-Māori women (target range 10% to 25%).

Treatment

Women aged 45 to 49 years

Almost all women aged 45 to 49 years who were diagnosed with invasive cancer (99%) had a surgical axillary procedure. Of those whose cancer was ≤20mm 81% of Māori and 71% of non-Māori women had breast conserving surgery (BCS). 89% of Māori and 94% of non-Māori women who had BCS went on to have radiotherapy. There were few differences in the proportions of Māori and non-Māori women in this age group who had chemotherapy or endocrine therapy (apart from one diagnostic group in which Māori were less likely than non-Māori to receive chemotherapy).

No women in this age group who were diagnosed with DCIS had an axillary dissection. The majority of women with DCIS ≤20mm were treated with BCS (81% of Māori and 71% of non-Māori women). Of those who had BCS, 40% of Māori women and 60% of non-Māori women went on to have radiotherapy.

Women aged 50 to 69 years

In general, targets for treatment indicators were met for Māori women aged 50 to 69 years who were diagnosed with invasive breast cancer or DCIS, and there was little difference between the indicators for Māori and non-Māori women.

Of women aged 50 to 69 years who were diagnosed with invasive cancer, 98% of Māori and non-Māori women had a surgical axillary procedure (target >95%). Of women whose invasive cancers were ≤20mm 72% of Māori and 76% of non-Māori had BCS (target >50%), with most going to have radiotherapy (92% of Māori and 94% of non-Māori women, target ≥95%).

No targets have been set for the receipt of chemotherapy or endocrine therapy and there was little difference between Māori and non-Māori women receiving these treatments, apart from one diagnostic group in which Māori were more likely to receive chemotherapy.

Of women who were diagnosed with DCIS, 96% of Māori women and 99% of non-Māori did not have an axillary dissection (target >95%). Of those whose screen-detected DCIS was ≤20mm, 78% of Māori and 83% of non-Māori had BCS (target >50%). 50% of Māori women and 63% of non-Māori women with DCIS only, who had BCS went on to have radiotherapy (no target).

Timeliness of first surgical treatment

Overall, only 57% of Māori women and 63% of non-Māori women aged 45 to 49 years received their first surgical treatment within 20 working days of receiving their final diagnostic results.

Among women aged 50 to 69 years, only 54% of Māori and 64% of non-Māori women received surgery within 20 working days (target 90%). BSCM had the lowest proportions of Māori women (19%) and non-Māori women (31%) receiving timely surgery. No Lead Provider reached the target.

Discussion points

- The rates of Māori women diagnosed with invasive cancer are significantly higher than the rates of non-Māori women, and the proportions of cancers that are ≤10mm, ≤15mm and without nodal involvement are similar. This indicates a maturing of the programme for Māori women.

- The reasons for the high proportion of DCIS diagnosed among non-Māori women compared to Māori women may need investigation.

- The low proportions of women receiving surgical treatment within 20 working days requires more detailed statistical analysis (e.g. by DHB, and using survival analysis methods to examine the difference in times to surgery between Māori and non-Māori) and policy analysis.

- Should the treatment indicators and acceptability indicators for women aged 45 to 49 years be different from those for women aged 50 to 69 years? If not, should we use the same targets for these sets of indicators? Or if so, should targets be developed for women aged 45 to 49 years?

INDIVIDUAL LEAD PROVIDER PROFILES

Introduction

The intention of this section is to provide a clear overview for each Lead Provider of how well they are achieving the targets for Māori women, and which indicators require continued focus.

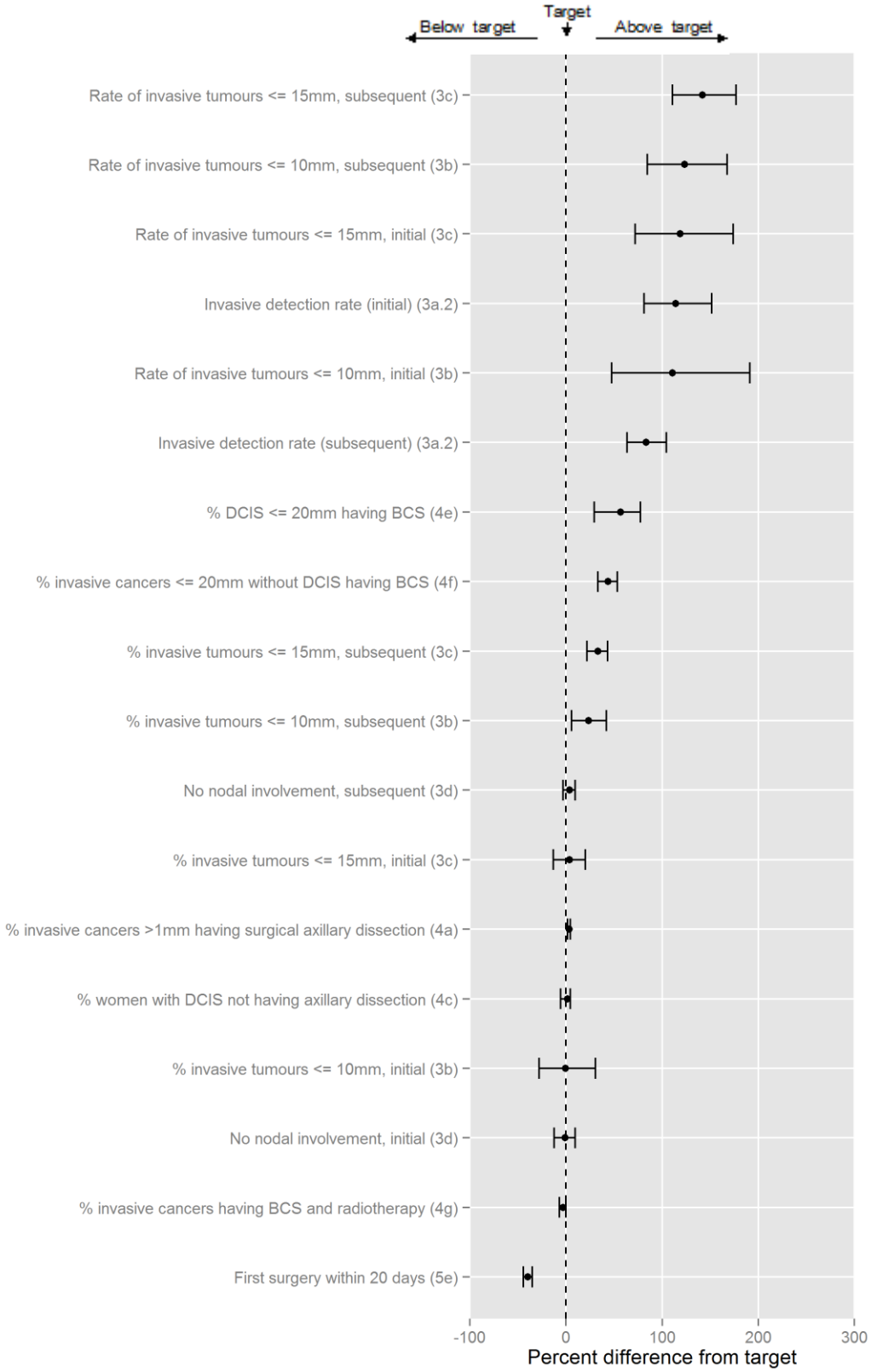
The section provides a summary for each Lead Provider of their indicators against the targets, for Māori women screened in their region, aged 50 to 69 years. Data is provided for the five-year period 1 July 2006 to 30 June 2011 in order to maximise numbers and increase statistical precision. Indicators which do not have targets are not included.

The data presented in the graphs demonstrates whether the target for each indicator was achieved for Māori women, and the proportional 'distance' of each indicator from the target.[1] The central line of the graph represents the target and all indicators with bars to the right of this line achieved the target, those to the left did not achieve the target, although for many the target lies within the confidence interval.

[1] DCIS results (3e) have not been included in the graphs. All providers met the target range of 10% to 25%.

All BreastScreen Aotearoa

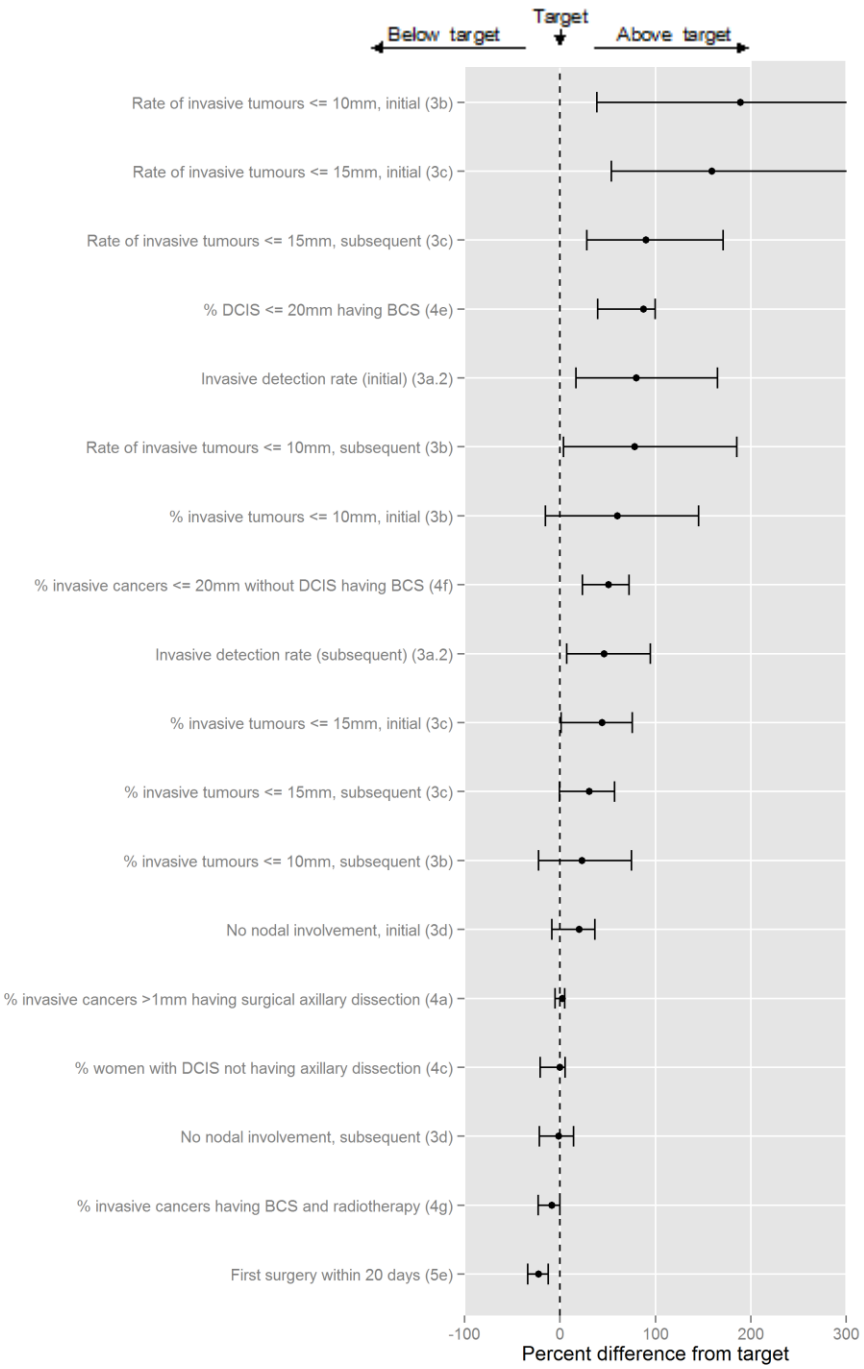
Figure 1: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2006 to June 2011, all BSA



BreastScreen Waitemata and Northland (BSWN)

Over the 5-year period, BSWN was either on target or exceeded targets for Māori and non-Māori women aged 50–69 years for all early detection and treatment indicators. The only target not achieved was the percentage of women receiving their first surgical treatment within 20 working days (70% of Māori women and 73% of non-Māori women, target 90%).

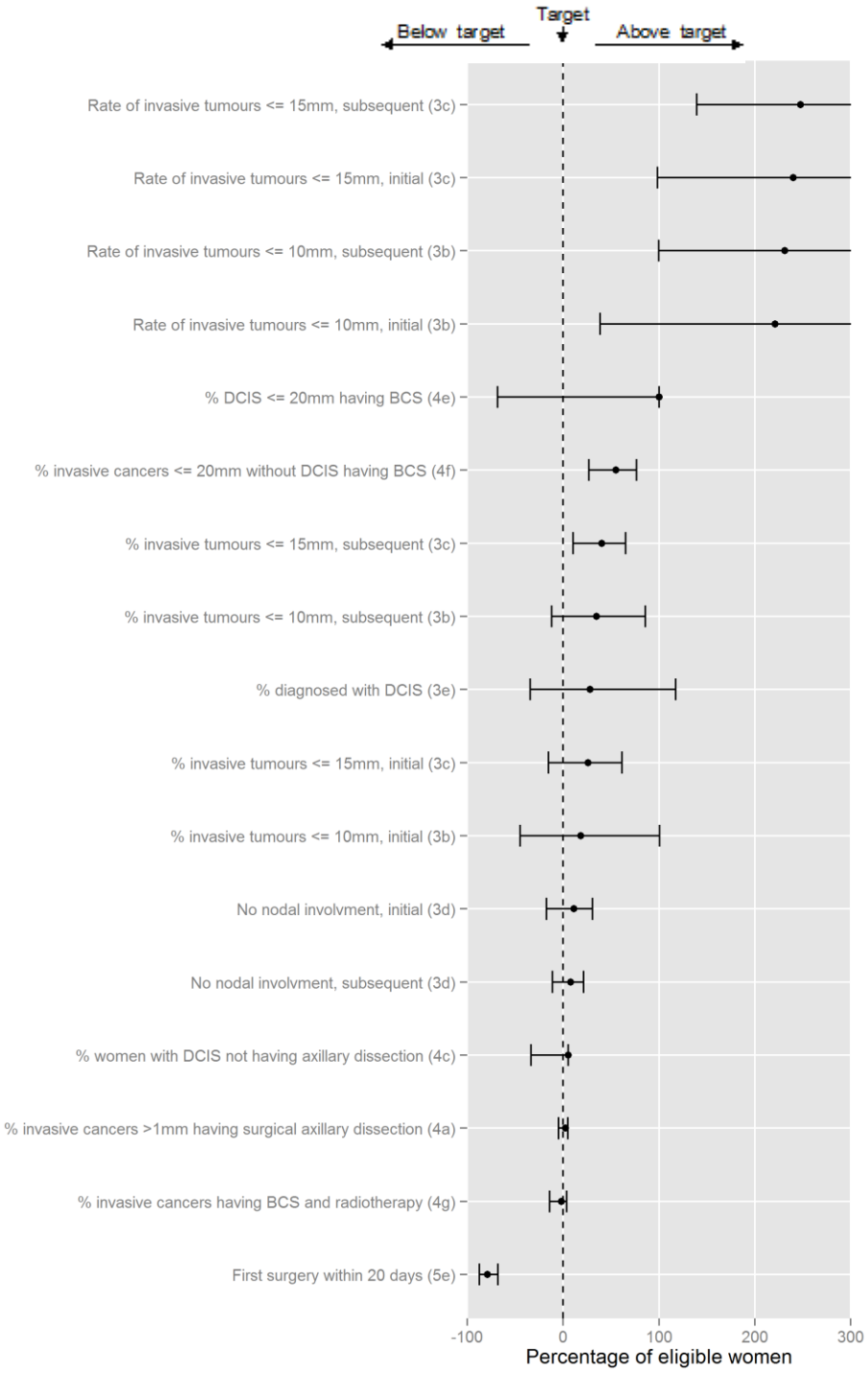
Figure 2: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2006 to June 2011, BSWN



BreastScreen Counties Manukau (BSCM)

BSCM exceeded the target values for Māori and non-Māori women aged 50–69 years for all early detection and treatment indicators during the 5-year period. However, only 19% of Māori women received their first surgical treatment within 20 working days, 35% below the non-Māori percentage (31%) and well below the target of 90%. Among women aged 45–49 years only 6% of Māori women and 22% of non-Māori women received timely surgery.

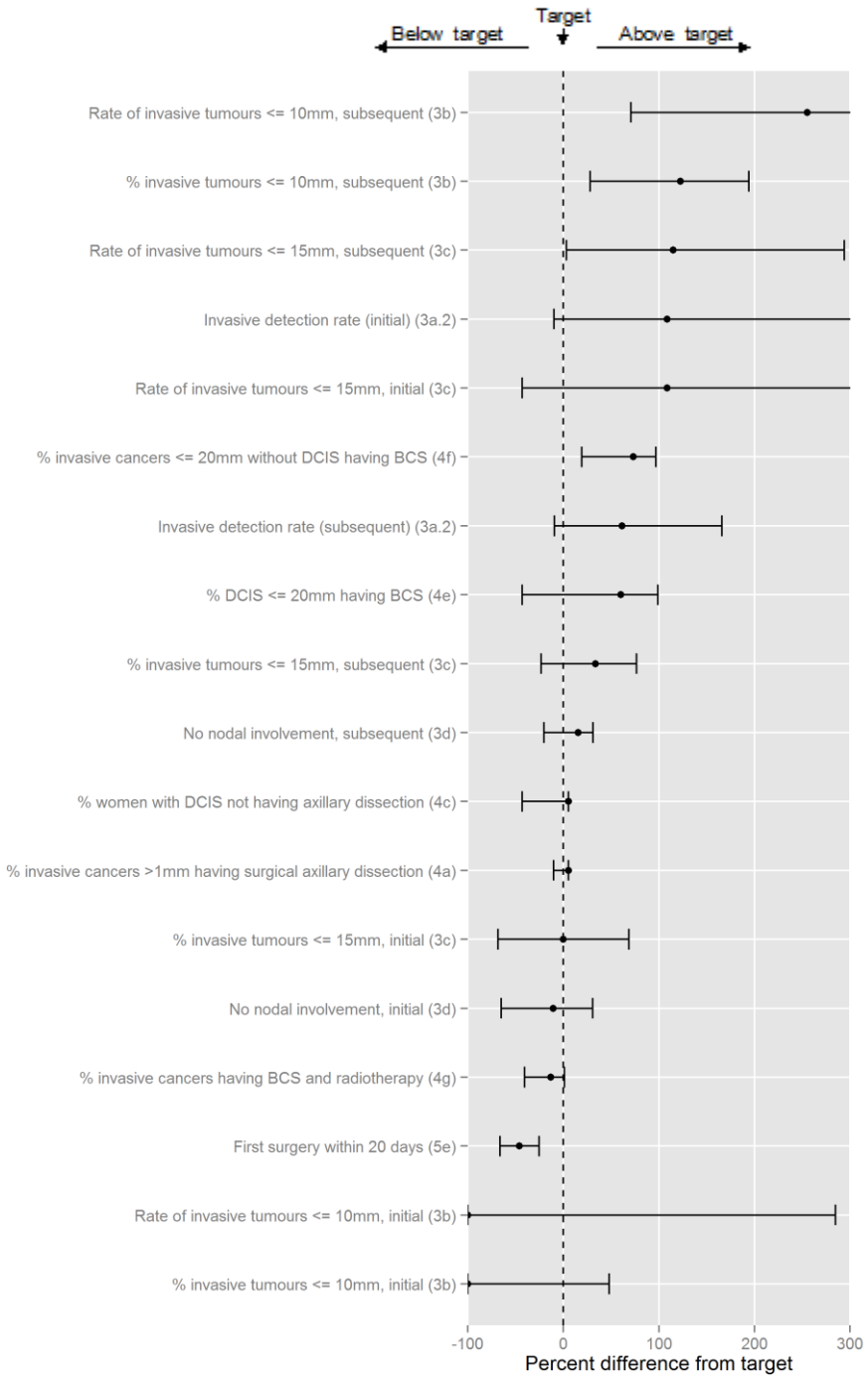
Figure 3: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2006 to June 2011, BSCM



BreastScreen Auckland Limited (BSAL)

BSAL exceeded or was on target for most early detection and treatment indicators for Māori and non-Māori women aged 50–69 years during the 5-year period. The rate of invasive cancers detected from initial screens 16.5 per 1,000 screens for Māori women, over twice the non-Māori rate of 6.8 per 1,000 screens and well above the target of ≥6.9. Only 8 cancers were detected among Māori women having initial screens, none of which were ≤10mm in diameter. The target was not achieved for the percentage of women who received their first surgical treatment within 20 working days (48% of Māori women and 63% of non-Māori women, target 90%).

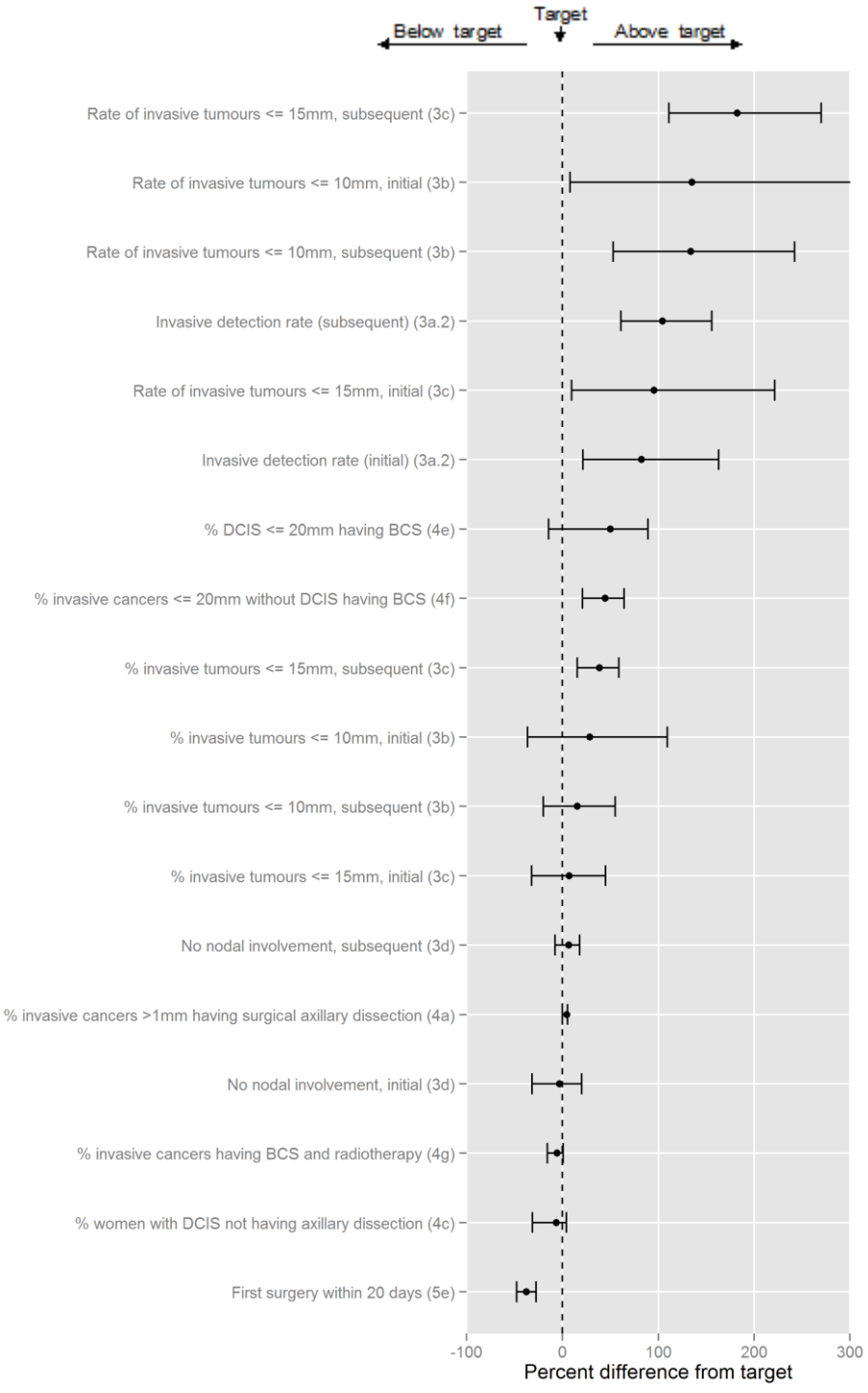
Figure 4: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2006 to June 2011, BSAL



BreastScreen Midland (BSM)

BSM exceeded or achieved the target for all detection and treatment indicators for Māori and non-Māori women aged 50–69 years during the 5-year period. The target of 90% was not achieved for the percentage of women receiving their first surgical treatment within 20 working days (56% of Māori women and 67% of non-Māori women).

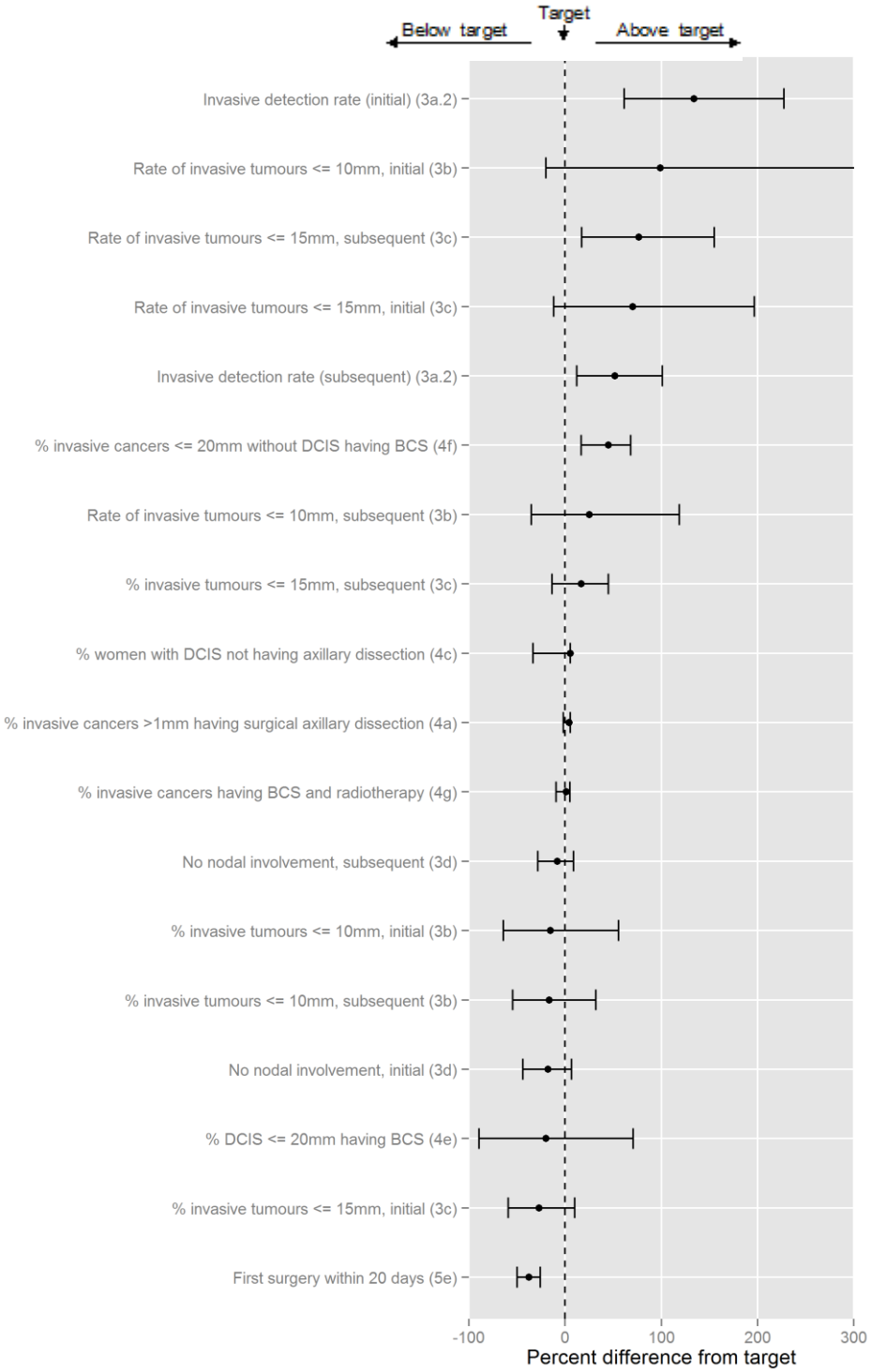
Figure 5: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2006 to June 2011, BSM



BreastScreen Coast to Coast (BSCtoC)

All detection and treatment targets were met or were within the confidence interval for Māori and non-Māori women aged 50–69 years during the 5-year period. The target of 90% was not met for the percentage of women having surgical treatment within 20 working days (56% of Māori women and 69% of non-Māori women).

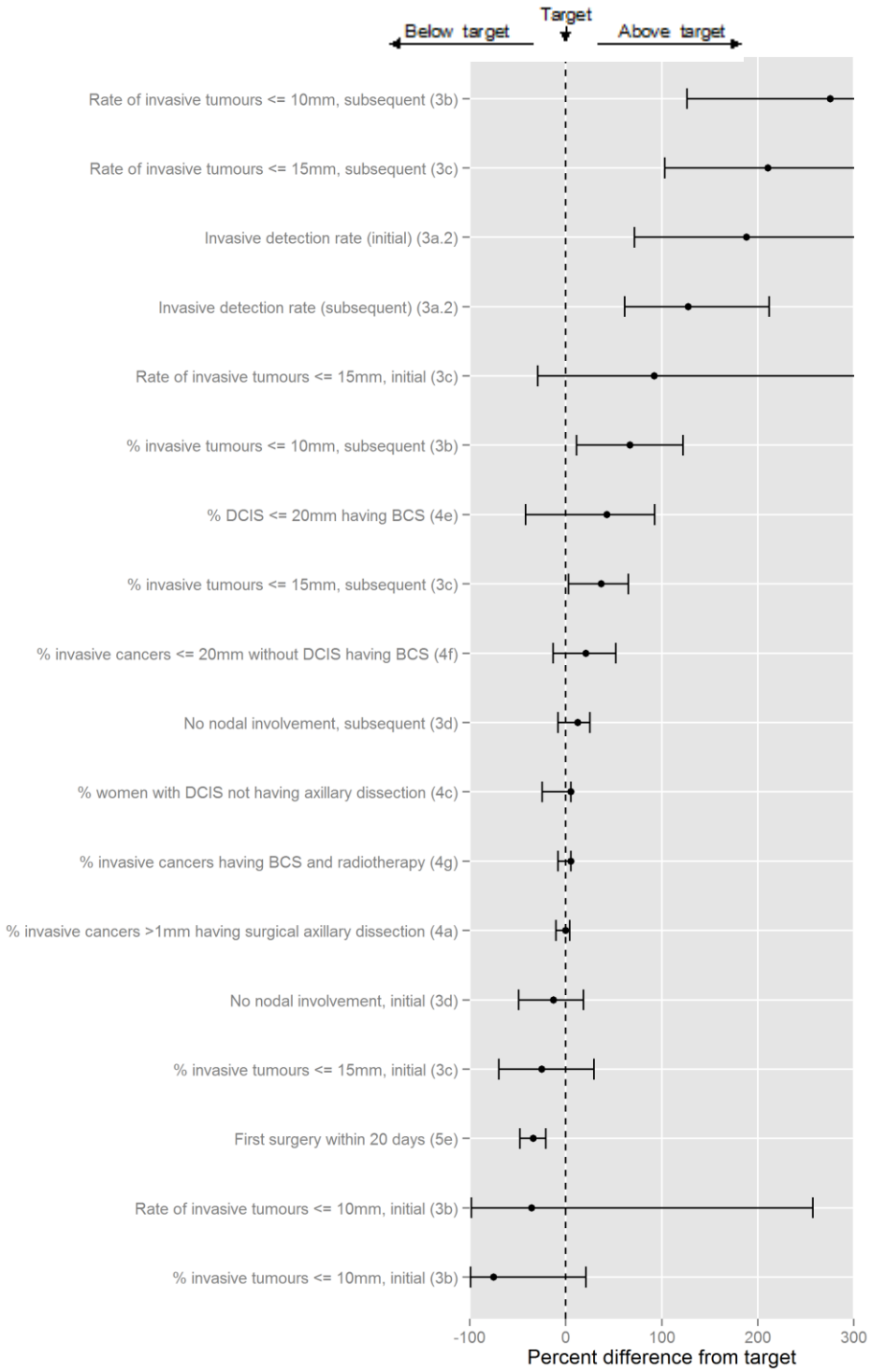
Figure 6: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2006 to June 2011, BSCtoC



BreastScreen Central (BSC)

The detection and treatment targets were met or were within the confidence interval for Māori and non-Māori women aged 50–69 years who were screened during the five-year period. The target for the percentage of women receiving their first treatment surgery within 20 days was not met (59% of both Māori and non-Māori women, target 90%).

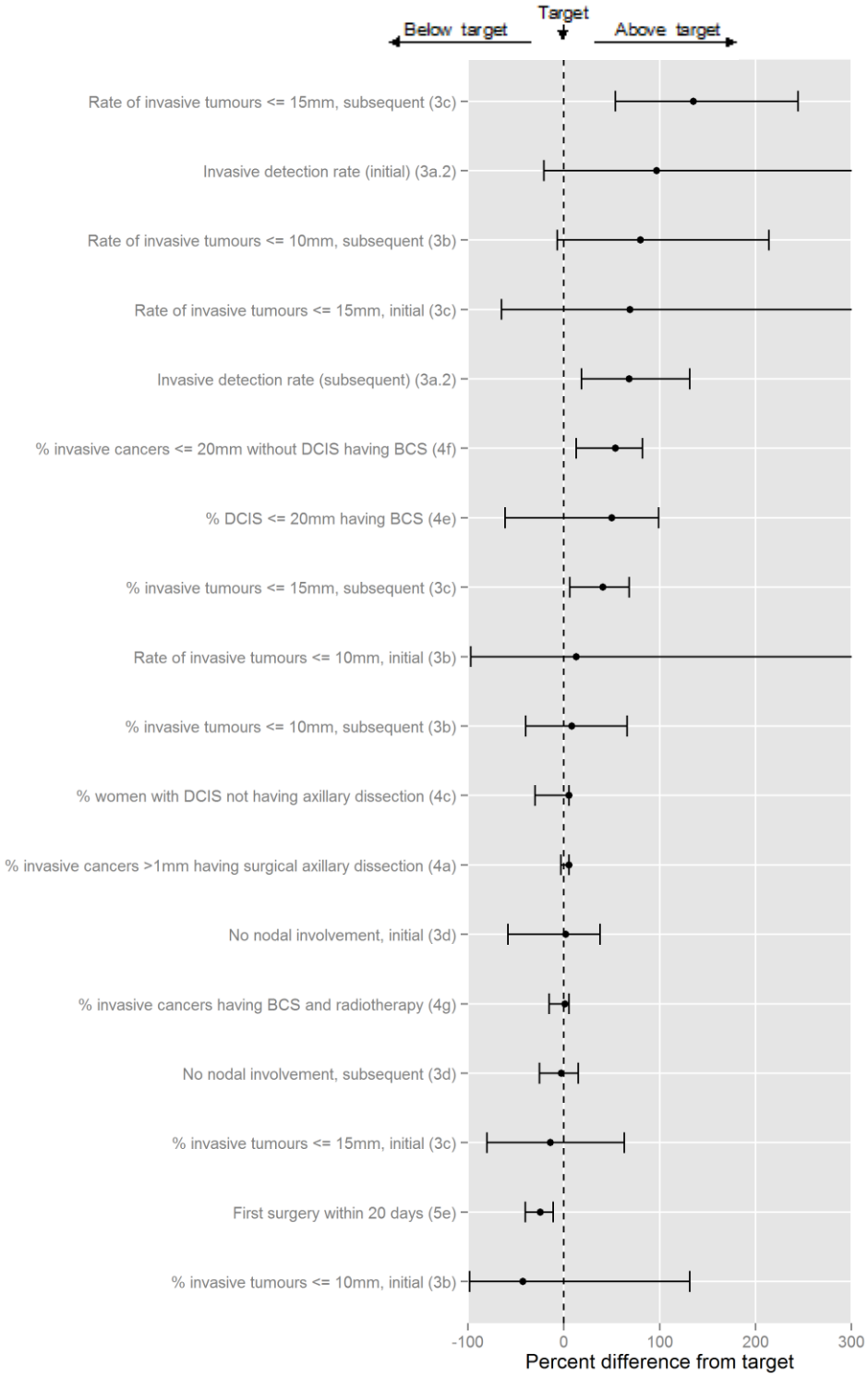
Figure 7: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2006 to June 2011, BSC



BreastScreen South Limited (BSSL)

BSSL met or exceeded all detection and treatment indicators for Māori and non-Māori women aged 50–69 years, screened during the five-year period, despite the disruption of the Christchurch earthquakes. The target of 90% was not achieved for the percentage of women receiving their first surgical treatment within 20 working days (68% of Māori and 71% of non-Māori women).

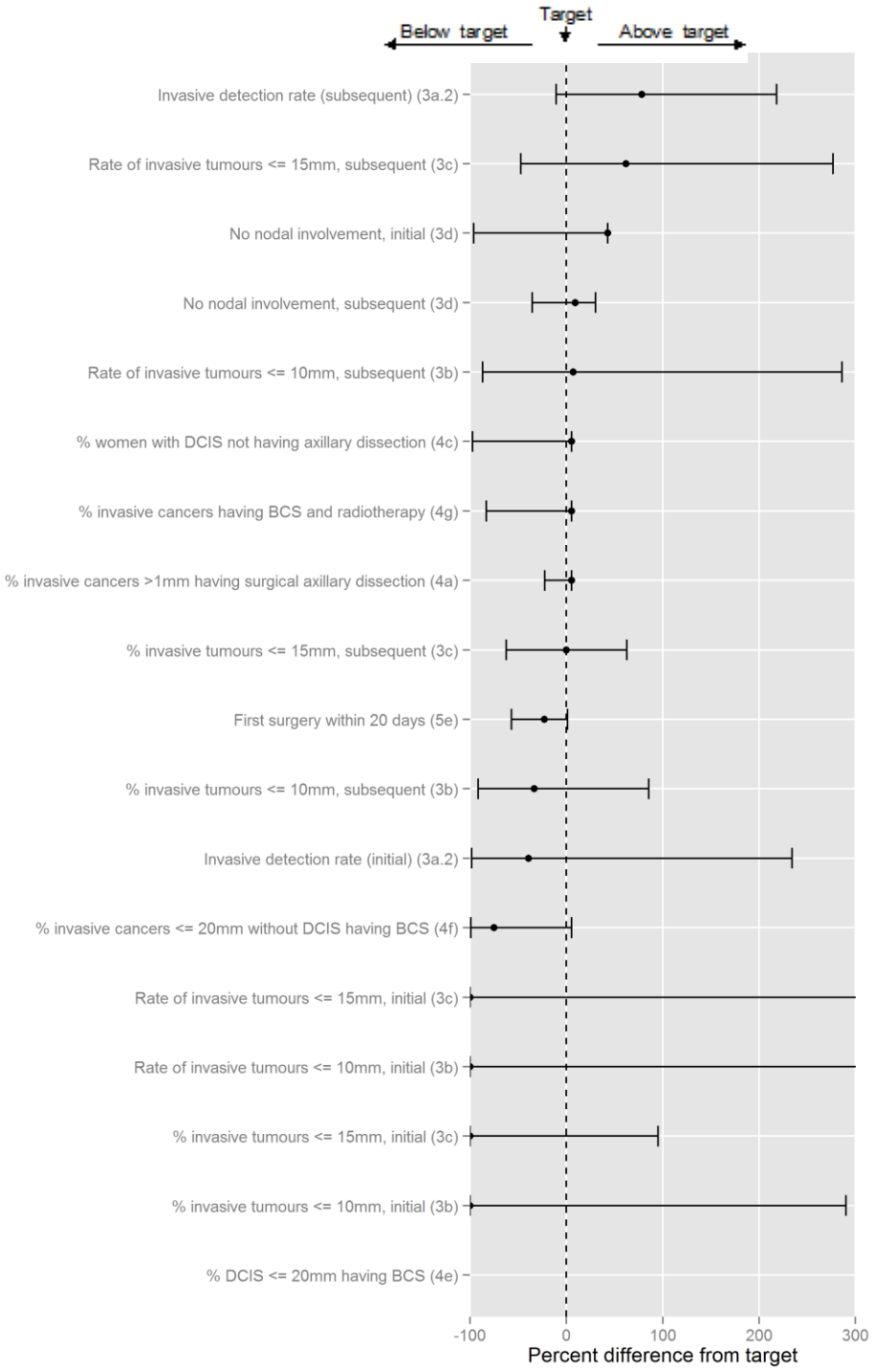
Figure 8: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2006 to June 2011, BSSL



BreastScreen Health Care (BSHC)

The targets were met or were within the confidence interval for all indicators for Māori women aged 50–69 years screened during the 5-year period. No invasive cancers detected from initial screens among Māori were less than 15 mm in diameter, but the numbers were very low. Only 1 Māori woman was diagnosed with DCIS. Only 69% of Māori women and 60% of non-Māori women received their first surgical treatment within 20 working days (target 90%).

Figure 9: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2006 to June 2011, BSHC



INTRODUCTION

This report is the first in a new time series of independent Māori monitoring reports commissioned to measure the quality of BreastScreen Aotearoa (BSA) services for Māori women aged 45–49 years and 50–69 years. Previous Māori monitoring reports have presented data on women aged 50–64 years only. Using the standard indicators and targets developed by the National Screening Unit, it presents the results for Māori and non-Māori women and the Māori/non-Māori ratios for each indicator as a measure of equality or inequality. Quality indicators on breast cancer detection, treatment, and timeliness of surgical treatment are presented for women screened during the five-year period 1 July 2006 to 30 June 2011.

The right to the highest attainable standard of health for all is reflected in the overarching aim of the New Zealand Cancer Control Strategy to reduce inequalities with respect to cancer. The vision of the National Screening Unit is to save lives, reduce inequalities and build health by leading the delivery of high quality screening programmes, including BSA. Screening contributes to reduced morbidity and mortality from breast cancer by identifying cancers at an early stage, allowing treatment to be commenced sooner than might otherwise have been possible[2].

Disparities in breast cancer outcomes between Māori and non-Māori women are substantial. During the year 2010 the age-standardised breast cancer registration rate for Māori women was 57% higher than that of non-Māori women, while the age-standardised breast cancer mortality rate was 84% higher[3]. During the period 2000–2004, New Zealand Cancer Registry data shows that Māori women were significantly less likely than non-Māori to be diagnosed at localised stage and more likely to be diagnosed at distant stage of disease spread.[4] Earlier diagnosis, prompt follow-up and timely treatment of breast cancers among Māori women could contribute substantially to reduced disparities in breast cancer outcomes.

BreastScreen Aotearoa plays a vital role in improving breast cancer outcomes and eliminating inequalities, firstly by finding breast cancer tumours at a very early and treatable stage, and, secondly by systematic follow-up of women whose cancer is found by the screening programme to ensure timely pathways through the cancer care continuum. BSA's commitment to reducing inequalities is reflected in its identification of Māori women as a priority group for invitation, screening, re-screening and treatment.[5]

Appropriate monitoring of BSA quality indicators for Māori women is fundamental to improving the effectiveness of the service in reducing Māori women's morbidity and mortality from breast cancer and reducing disparities in outcomes. Without good quality information, plans and actions taken to improve quality may not lead to more equitable and effective screening service delivery.

This series of Māori monitoring reports tracks progress towards the equity goals of the programme. It illuminates those areas where effective breast screening and treatment is being provided to Māori women. We hope it will also inform Māori communities in our considerations of how the right to health might best be fulfilled in regard to breast cancer and screening.

[2] National Screening Unit. 2003. *Strategic Plan 2003-2008*. Auckland: Ministry of Health.

[3] Ministry of Health. 2013. *Cancer: New registrations and deaths 2010*. Wellington: Ministry of Health.

[4] Cormack D, Purdie G, Robson B. 2007. Cancer. In B. Robson, R. Harris (eds*). Hauora: Māori Standards of Health IV. A study of the years 2000-2005*. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare.

[5] BSA 2004. *BSA National Policy and Quality Standards* Version 1A. Introduction page 11.

BACKGROUND

BreastScreen Aotearoa[6]

Prior to 1991 there was an ad hoc approach to screening for breast cancer. Women who were aware of the importance of mammography screening, and could afford it, sought out services if they were available in the region. In 1991, two pilot mammography programmes were conducted in the Waikato and Otago regions, and in June 1995 the Minister of Health announced that the Government would be introducing a nationwide breast cancer screening programme for women aged 50 to 64 years of age. Between 1996 and 1998 work was undertaken on the development of national targets and indicators, a national monitoring and evaluation system and an information system to support the programme.

It was decided that BSA services would be delivered through six Lead Provider organisations. Two-yearly, two-view mammography screening for asymptomatic women would be offered to women aged 50 to 64 years. The age range was to be reviewed at a later date. The decision to restrict screening to this age range was in response to concerns that the health service may not have had sufficient trained staff such as MRTs and radiologists to operate a breast screening programme, and that there may have been major flow-on effects for breast surgery and radiation oncology departments.

In June 1996 the Ministry of Health (MoH) published the Interim National Quality Standards. Following a tendering process for the services in 1997, contracts were entered into with six main Lead Providers in 1998.

BreastScreen Aotearoa was launched nationally in December 1998 with services being offered in each of the Lead Provider regions from that time.

Age extension

Since 1999, BSA has offered free mammography screening for all eligible women aged 50–64 years. The age range of women screened by BSA was extended in June 2004 to include the age groups 45–49 years and 65–69 years. Following this extension, a prioritisation system was put into place. Providers needed to screen in the following order: rescreens, age 65–69, 50–69 then 45–49 years. This meant that many providers were unable to start inviting women aged 45–49 to register until July 2005. For the 65–69 year age group, invitations commenced July 2004.

The National Screening Unit

The National Screening Unit (NSU) is a separate unit of the Ministry of Health and is responsible for:

- National management and oversight of BreastScreen Aotearoa
- Funding of BSA providers
- National co-ordination of Providers
- National recruitment and retention activities
- National strategy and policy development
- National monitoring, evaluation and audit

[6] Extracted from BreastScreen Aotearoa National Policy and Quality Standards, February 2004

BSA Providers

A BreastScreen Aotearoa Provider is defined as being any Lead Provider, subcontracted Provider or Independent Service Provider that delivers services on behalf of BreastScreen Aotearoa.

Independent Service Providers

Independent Service Providers (ISPs) are contracted by the NSU to provide health promotion, invitation and support services directly to specific groups of women who might otherwise not be reached by Lead Providers, that is, Māori and Pacific women. Lead Providers and ISPs work in partnership with each other while being accountable to the NSU.

BSA Lead Providers

Each Lead Provider is responsible for services in their region such as health promotion, invitation to the screening programme, screening, assessment, referral to treatment and quality assurance. A Lead Provider may provide these services directly or subcontract to another provider, except those services provided by an Independent Service Provider in their region. Screening is provided at both fixed and mobile sites throughout each region. Originally in 1998, six Lead Providers were established (see Table 1).

Changes to Lead Providers:

In July 2005 BreastScreen Auckland and North (BSAN) was restructured into three Lead Providers: BreastScreen Auckland Limited (BSAL), BreastScreen Counties Manukau (BSCM), and BreastScreen Waitemata Northland (BSWN). BSCM began screening in September 2005.

Table 1: BSA Lead Providers' abbreviations and period in programme

Abbreviation	Lead Provider	Inception and period of programme
BSAN	BreastScreen Auckland and North	1999 to June 2005
BSAL	BreastScreen Auckland Limited	July 2005 to present
BSCM	BreastScreen Counties Manukau	October 2005 to present
BSWN	BreastScreen Waitemata Northland	February 2006 to present
BSM	BreastScreen Midland	1999 to present
BSCtoC	BreastScreen Coast to Coast	1999 to present
BSC	BreastScreen Central	1999 to present
BSSL	BreastScreen South Limited	Dec 1998 to present
BSHC	BreastScreen HealthCare	1999 to present

Figure 10: Map of BSA Lead Provider Regions

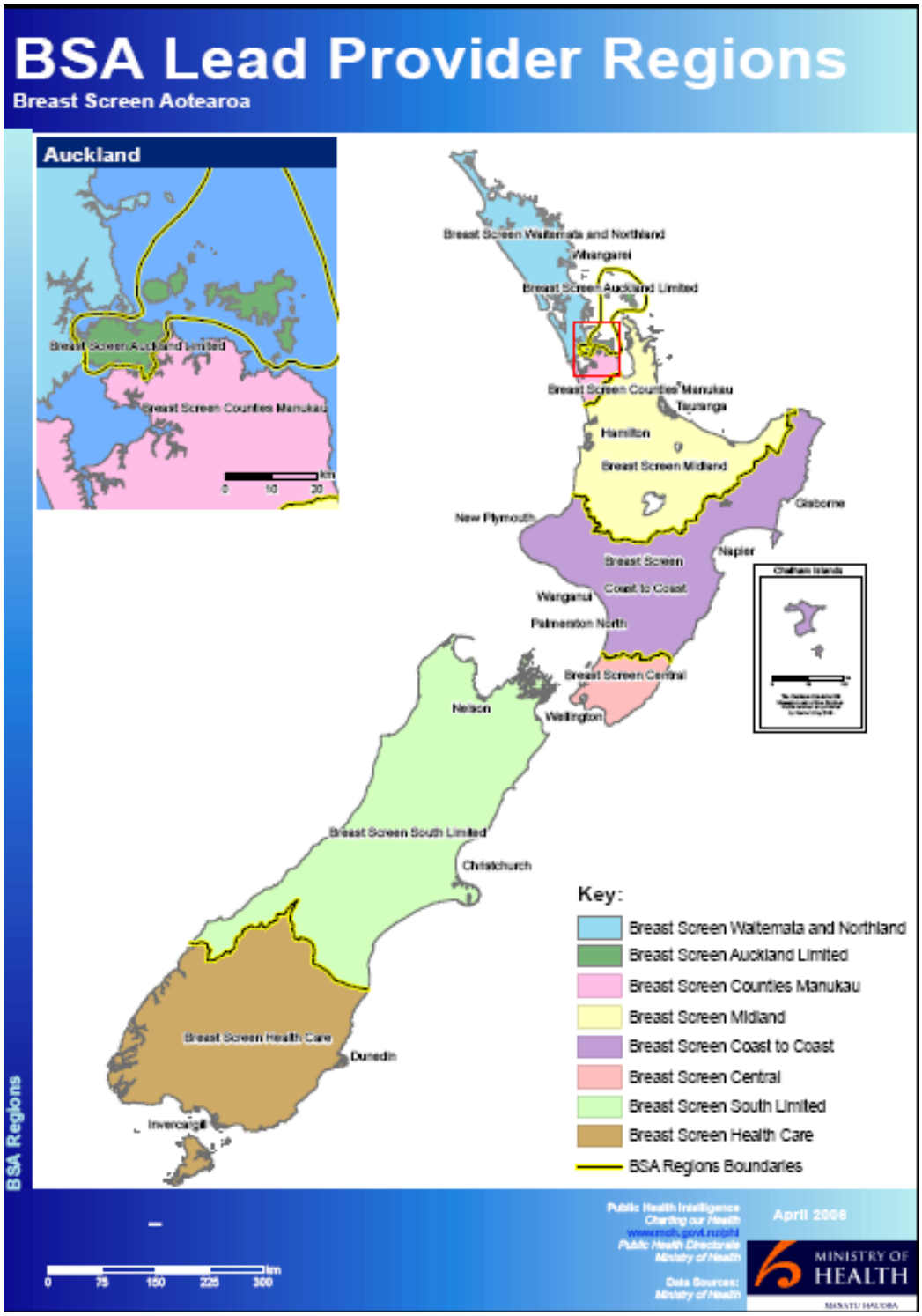
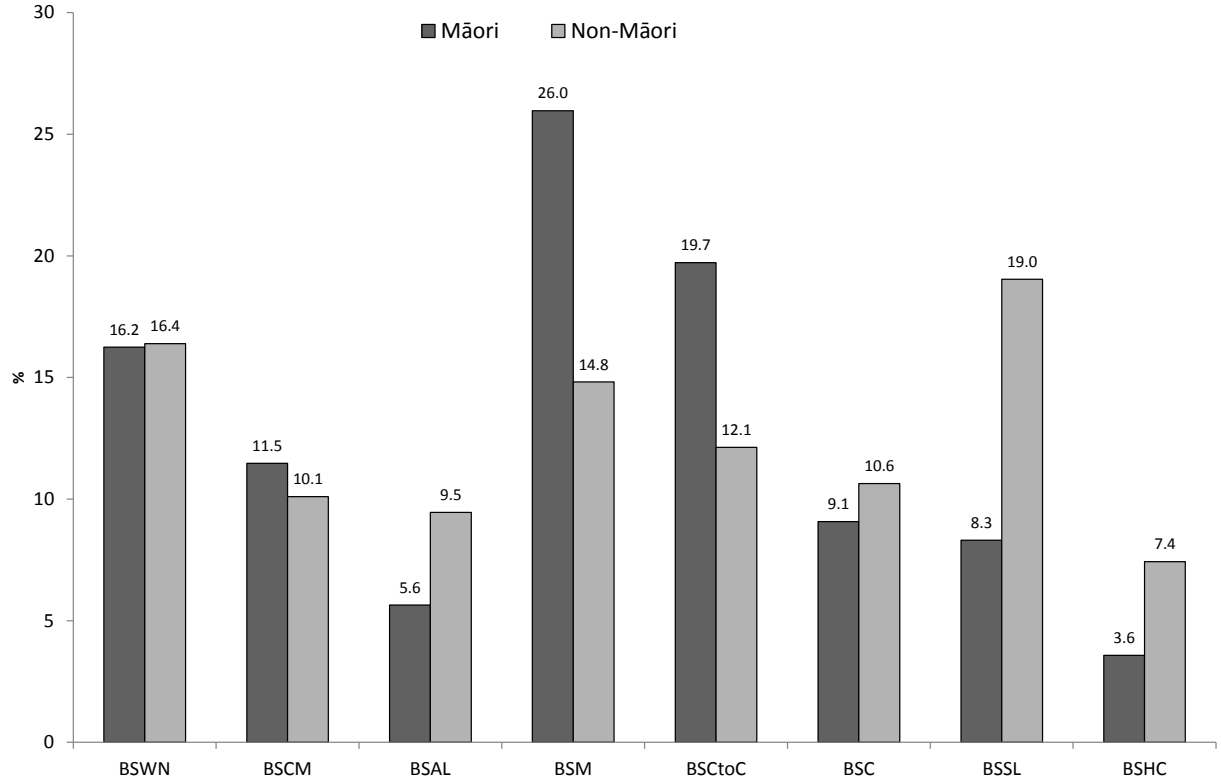


Figure 11: Distribution of Māori and non-Māori women aged 45 to 69 years by Lead Provider region 2011



Source: Statistics NZ Population Projections mid-year 2011 (provided by BSA)

Figure xi shows the national distribution of Māori and non-Māori women aged 45–69 years by the regions covered by each Lead Provider. This is the potential population for BreastScreen Aotearoa, and does not necessarily reflect the numbers enrolled in a provider.

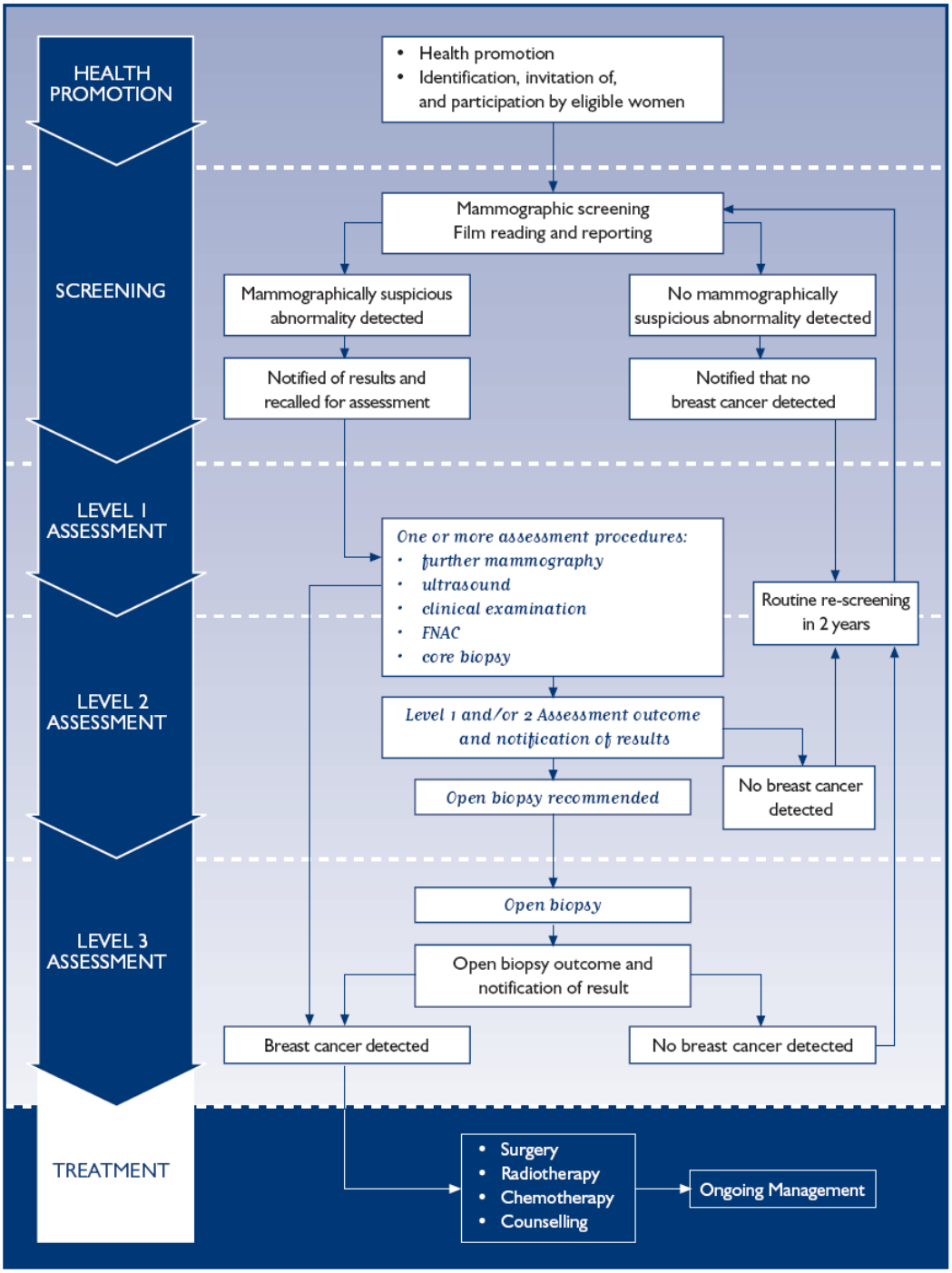
It is important to recognise the Lead Providers that serve large proportions of Māori women in the target age group, as the performance of BSA in these regions will have considerable impact on the Māori population as a whole. The BSM region includes 26% of the eligible Māori population, BSCtoC 20%, and BSWN 16%.

Treatment providers

District Health Boards (DHBs) are responsible for providing treatment to women with breast cancer detected by BSA. Some Lead Providers have more than one DHB in their region. For example, BSWN includes Northern DHB and Waitemata DHB. Most breast cancers can be treated in a secondary care hospital. But if a woman requires a tertiary cancer centre level of care, the treatment centre may be outside of the LP region. The main Cancer Centres providing oncology services are in Auckland, Waikato, Palmerston North, Wellington, Christchurch and Dunedin hospitals. In some regions, private providers also treat breast cancer.

The Breast Screening pathway[7]

Figure 12: The Breast Screening Pathway



[7] June 2008 – BreastScreen Aotearoa National Policy & Quality Standards VERSION 2

BSA monitoring process

This section describes the process used to produce the independent Māori monitoring reports for BSA.

Data are sent monthly from the eight BSA Lead Providers (LPs) to the Information Directorate of the Ministry of Health. The data are checked at the Information Directorate, amalgamated into a single file, and sent to the National Screening Unit (NSU). The NSU runs further checks, then sends anonymised unit record data to the Eru Pōmare Māori Health Research Centre at the University of Otago, Wellington - the Independent Māori Monitoring Group (IMMG). The IMMG produces the indicator tables, including ratios of Māori:non-Māori data, and calculates confidence intervals. The report is then produced, including an analysis of actual data against national indicators and targets, explanatory notes and commentary.

The IMMG sends the first draft of the Independent Māori Monitoring Reports (IMMR) to BSA for verification and review. After discussion of any factual errors, inaccuracies or omissions, the draft IMMR is updated and sent back to BSA. The updated IMMR draft is sent to members of the NSU Māori Monitoring and Equity Group (MMEG) prior to a collective meeting, where it is presented and discussed. The MMEG provides consumer and provider context for the report and makes recommendations for programme improvement. The final draft report is then circulated to Lead Providers (LPs) for comment. Any factual errors are corrected prior to publication.

Māori Monitoring and Equity Group

In 2003 the NSU established the Māori Advisory Group in order to support the NSU to achieve its mission. The group comprises up to 12 members who have particular expertise on Māori health issues and screening programmes. In 2011 the group's title changed and they became the NSU's Māori Monitoring and Equity Group (MMEG). The members are:

- **Beth Quinlan** - Ngāti Whatua, Ngāpuhi, Primary Health Whānau Ora Nurse (Cervical Screening) Ki A Ora Ngatiwai Health Trust, Whangarei, Smear Taker Representative
- **Sandra Corbett** - Te Arawa, Kaiwhakahaere/Māori co-ordinator, National Cervical Screening Programme, Hawkes Bay DHB, Kaimahi Representative
- **Hinarata Campin** - Ngāti Porou, Ngāpuhi, Ngāti Wai, Health Promotion Co-ordinator, BreastScreen South, Kaimahi Representative, MMEG Deputy Chair
- **Barbara Greer** - Kāi Tahu, Kāti Mamoe, Ngāti Porou, Ngāti Apa, Member of Quality Improvement Committee (QIC), Māori Women's Welfare League Representative
- **Deborah Rowe** - Ngāi Tahu, Nurse Consultant/Lecturer, joint appointment between Auckland DHB and University of Auckland, Clinical Representative, MMEG Chairperson
- **Gary Thompson** - Ngāti Paoa Ngāti Haua – Midland Smokefree Programme Director – Midland DHB HealthShare Ltd
- **Whaea Jo Barnaby** - Ngāti Awa, Te Arawa, Manager Te Teko Hauora, Ex-NCSP Health Promoter/Smear Taker, Kaumātua representative
- **Pania Coote** – Ngāi Tahu, Ngāti Kauwhata, Ngāti Porou, Tumu Whakarae Representative, Southern DHB, District Manager Māori Health
- **Donna Cormack** - Kāi Tahu, Kāti Mamoe, University of Auckland/University of Otago

Technical notes for interpreting this report

Ethnicity classification

Ethnicity data is derived from the BSA registration form. The BSA policy is that providers use the standard ethnicity question as outlined in the Ministry of Health Ethnicity Data Protocols and for data entry systems to allow for coding multiple ethnic groups. Most indicators use ethnicity data from the most recent screening episode, apart from the re-screening indicator.

In this report, non-Māori data is derived from the total number of women minus those classified as Māori. This means that records with missing ethnicity data are counted as non-Māori. However, it is estimated that less than 1% of records have ethnicity missing.

Calculation of five year cancer detection rates

The indicators in this report cover the five year period 1 July 2006 to 30 June 2011. This provides some stability in the indicators that have small numbers. Reporting the rates of cancers detected for a *five year period* requires that the denominator be changed from *number of distinct women screened* (which works reasonably well for any two year period since most women are only screened once in the period) to *number of screens performed*.

Confidence intervals

In this report, 95% confidence intervals were calculated for all indicators assuming they are being considered individually. Values in this report (rates, ratios) are calculated estimates of the 'true' values in the population. The 95% confidence interval indicates that there is a 5% chance that the 'true' value lies outside the range of values contained by the confidence interval (CI). Therefore, the wider the CI, the less precise the estimate is to the true population parameter.

All calculations were conducted in R3.01. All reported confidence intervals are 95% coverage confidence intervals.

Confidence intervals for the indicators (estimates for Māori and non-Māori) were calculated based on the binomial distribution (using the binom.exact function.)

Ratios of Māori to non-Māori values are provided throughout this report as an indicator of ethnic disparity for each of the targets. A ratio of 1.0 indicates no difference between the two ethnic groups. For each target, a footnote beneath each table helps to interpret that ratio or, where relevant, states whether a ratio above or below 1.0 is unfavourable to Māori. 95% confidence intervals are provided for ratios. Should the CI include 1.0, it is possible that the 'true' ratio for the population is 1.0 and therefore does not indicate a disparity between Māori and non-Māori. Such ratios are considered to be not statistically significant.

Confidence intervals for ratios were calculated using the binomial distribution[8]. For ratios with no women in either numerator, the Poisson distribution was used to construct confidence intervals using the poisson.exact function in R. This provides a wider confidence interval than would be expected using the binomial distribution (if it was possible to use it in these cases).

[8] Standard error for the ratios here is calculated on the log scale; resulting 95% Wald confidence intervals for the log(ratio) are then exponentiated for reporting as ratios.

$$se(\ln(RR)) = \sqrt{\frac{1}{Maori_{IND}} + \frac{1}{Maori_{TOTAL}} + \frac{1}{Non-Maori_{IND}} + \frac{1}{Non-Maori_{TOTAL}}}$$

where e.g. $Maori_{IND}$ is numerator for Māori (i.e. count of Māori women with indicator); and $Maori_{ALL}$ is denominator (i.e. count of Māori women both with and without indicator.)

Targets

Targets have been set for women aged 50 to 69 years, but not for women aged 45 to 49 years. Proportions or rates that have not met the BSA targets have been shaded in each table throughout this report. They are only shaded if the confidence interval does not include the target.

SECTION 3: EARLY DETECTION OF DCIS OR INVASIVE BREAST CANCER

3a.3 Treatment data completeness, 5 years

Description:

Lead Providers have 9 months to complete data entry for women referred to treatment.

Target:

≥ 90%

Table 3a.5: Treatment data completeness, 5 years (July 2006–June 2011)

	Māori								Non-Māori							
Lead Provider	**BSWN**	**BSCM**	**BSAL**	**BSM**	**BSCtoC**	**BSC**	**BSSL**	**BSHC**	**BSWN**	**BSCM**	**BSAL**	**BSM**	**BSCtoC**	**BSC**	**BSSL**	**BSHC**
45–49 years																
No. of women referred for Treatment	38	17	12	34	25	18	17	2	167	90	115	112	86	104	183	59
% Staging Complete	100	100	100	100	100	100	100	100	100	100	99.1	100	100	100	100	100
% Surgical Complete	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% Endocrine Complete	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% Radiotherapy Complete	97.4	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% Chemotherapy Complete	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
50–69 years																
No. of women referred for Treatment	96	86	32	126	91	70	53	14	700	376	356	576	473	462	821	276
% Staging Complete	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% Surgical Complete	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% Endocrine Complete	100	100	100	100	100	100	100	100	100	100	100	100	98.3	99.8	100	100
% Radiotherapy Complete	100	100	100	100	100	100	100	100	100	100	100	100	99.6	99.8	100	100
% Chemotherapy Complete	100	100	100	100	100	100	100	100	100	100	100	100	99.4	100	100	100

Shaded boxes show confidence interval excludes target.

All Lead Providers exceeded the target of ≥ 90% treatment data completeness.

3a.2 Detection of invasive breast cancer, 5 years

Description:

The number of women who have invasive breast cancer detected within BSA, expressed as a rate per 1,000 women screened.

Target:

Initial (prevalent) round: ≥ 6.1 per 1,000 screens
Subsequent (incident) round: ≥ 3.45 per 1,000 screens

Table 3a.2a: Detection rate of invasive breast cancer per 1,000 screens, 5 years (July 2006–June 2011), women aged 45–49 years

Lead provider	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)
	Number with breast cancer	Rate per 1,000 screens (95% CI)	Number with breast cancer	Rate per 1,000 screens (95% CI)	
Initial screens					
BSWN	21	6.3(3.9, 9.6)	77	3.2(2.5, 4.0)	*1.98(1.22, 3.20)*
BSCM	10	4.5(2.2, 8.2)	50	3.3(2.5, 4.4)	1.35(0.69, 2.66)
BSAL	8	7.7(3.3, 15.0)	50	3.6(2.7, 4.8)	*2.10(1.00, 4.42)*
BSM	25	7.9(5.1, 11.6)	45	3.0(2.2, 4.0)	*2.65(1.63, 4.32)*
BSCtoC	17	6.0(3.5, 9.5)	43	2.9(2.1, 4.0)	*2.02(1.16, 3.54)*
BSC	12	7.9(4.1, 13.7)	50	3.8(2.8, 5.0)	*2.08(1.11, 3.89)*
BSSL	6	3.1(1.1, 6.7)	77	2.6(2.0, 3.2)	1.20(0.53, 2.76)
BSHC	1	1.8(0.0, 9.9)	27	2.9(1.9, 4.3)	0.61(0.08, 4.45)
Total	**100**	**6.0(4.9, 7.3)**	**419**	**3.1(2.8, 3.4)**	***1.94(1.56, 2.41)***
Subsequent screens					
BSWN	9	6.0(2.8, 11.5)	33	2.4(1.7, 3.4)	*2.50(1.20, 5.21)*
BSCM	2	2.9(0.3, 10.3)	11	1.9(0.9, 3.3)	1.55(0.34, 6.98)
BSAL	2	3.8(0.5, 13.5)	14	1.9(1.0, 3.2)	1.97(0.45, 8.64)
BSM	4	2.6(0.7, 6.7)	29	2.8(1.9, 4.0)	0.94(0.33, 2.68)
BSCtoC	2	1.3(0.2, 4.7)	16	1.5(0.9, 2.4)	0.87(0.20, 3.78)
BSC	4	4.4(1.2, 11.2)	25	2.7(1.7, 3.9)	1.64(0.57, 4.69)
BSSL	10	6.8(3.3, 12.5)	42	1.6(1.2, 2.2)	*4.26(2.14, 8.47)*
BSHC	0	0.0(0.0, 11.0)	18	2.5(1.5, 3.9)	0.00(0.00, 4.92)
Total	**33**	**3.9(2.7, 5.4)**	**188**	**2.1(1.8, 2.4)**	***1.88(1.30, 2.72)***

A ratio above 1.0 shows Māori women have a higher rate of detection than non-Māori women. No targets have been set for this age group. Ratios in italics show a statistically significant difference between Māori and non-Māori.

Māori women aged 45–49 years were twice as likely as non-Māori to be diagnosed with invasive breast cancer on their initial screen during the 5-year period July 2006 to June 2011.

Among those having subsequent screens, Māori women were nearly 90% more likely to be diagnosed with invasive cancer as non-Māori women.

Table 3a.2b: Detection rate of invasive breast cancer per 1,000 screens, 5 years (July 2006–June 2011), women aged 50–69 years

Lead provider	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)
	Number with breast cancer	Rate per 1,000 screens (95% CI)	Number with breast cancer	Rate per 1,000 screens (95% CI)	
Initial					
BSWN	25	11.0(7.1, 16.2)	139	7.7(6.5, 9.1)	1.42(0.93, 2.17)
BSCM	27	16.5(10.9, 23.9)	75	6.8(5.4, 8.5)	*2.42(1.56, 3.75)*
BSAL	8	12.7(5.5, 24.9)	63	6.2(4.8, 8.0)	2.04(0.98, 4.25)
BSM	28	11.1(7.4, 16.0)	54	5.6(4.2, 7.3)	*2.00(1.27, 3.15)*
BSCtoC	33	14.3(9.8, 20.0)	49	5.1(3.8, 6.7)	*2.81(1.81, 4.36)*
BSC	18	17.6(10.5, 27.6)	59	7.1(5.4, 9.2)	*2.46(1.46, 4.16)*
BSSL	7	12.0(4.8, 24.6)	67	7.4(5.8, 9.4)	1.61(0.74, 3.50)
BSHC	1	3.7(0.1, 20.4)	22	4.8(3.0, 7.3)	0.77(0.10, 5.67)
Total	**147**	**13.1(11.0, 15.3)**	**528**	**6.6(6.0, 7.2)**	***1.99(1.66, 2.38)***
Subsequent					
BSWN	46	5.0(3.7, 6.7)	398	4.1(3.7, 4.5)	1.23(0.91, 1.66)
BSCM	47	8.6(6.3, 11.4)	197	4.0(3.4, 4.6)	*2.15(1.56, 2.95)*
BSAL	15	5.6(3.1, 9.2)	166	3.5(3.0, 4.1)	1.58(0.93, 2.67)
BSM	75	7.0(5.5, 8.8)	389	4.3(3.9, 4.7)	*1.64(1.28, 2.10)*
BSCtoC	48	5.2(3.9, 6.9)	336	4.0(3.6, 4.4)	1.32(0.97, 1.78)
BSC	38	7.8(5.6, 10.8)	275	3.9(3.5, 4.4)	*2.01(1.43, 2.82)*
BSSL	37	5.8(4.1, 8.0)	581	3.7(3.4, 4.0)	*1.57(1.13, 2.19)*
BSHC	11	6.2(3.1, 11.0)	201	3.6(3.1, 4.1)	1.70(0.93, 3.12)
Total	**317**	**6.3(5.6, 7.1)**	**2,543**	**3.9(3.7, 4.1)**	***1.62(1.44, 1.82)***

A ratio above 1.0 shows Māori have a higher rate of screen detected cancers than non-Māori. The target values are ≥ 6.1 per 1,000 initial screens and ≥3.45 per 1,000 subsequent screens. Ratios in italics show a statistically significant difference between Māori and non-Māori.

The rate of invasive cancer detected among Māori women aged 50–69 years having an initial screen during the 5-year period July 2006 to June 2011 was twice as high as the non-Māori rate of detection.

Among women having subsequent screens, the rate of detection among Māori women was nearly two-thirds higher than the non-Māori rate.

The cancer detection rate among Māori women was almost twice the target value for total BSA for both initial and subsequent screens. For non-Māori women the detection rate was around the target values.

3b Detection of invasive cancers that are less than or equal to 10mm in size

Description:

Proportion and rate of primary invasive breast cancer of diameter ≤10mm.

Target:

Initial (prevalent) round: ≥25%, which gives a rate of ≥ 15.2 per 10,000 screens
Subsequent (incident) round: ≥30%, which gives a rate of ≥10.45 per 10,000 screens

Table 3b.1a: Proportion of invasive cancers less than or equal to 10mm, 5 years (July 2006–June 2011), women aged 45–49 years

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Invasive cancers ≤10mm	Total invasive cancers	% of invasive cancers ≤10mm	Invasive cancers ≤10mm	Total invasive cancers	% of invasive cancers ≤10mm	
Initial screens							
BSWN	6	21	28.6(11.3, 52.2)	25	77	32.5(22.2, 44.1)	0.88(0.42, 1.86)
BSCM	3	9	33.3(7.5, 70.1)	10	48	20.8(10.5, 35.0)	1.60(0.55, 4.69)
BSAL	1	8	12.5(0.3, 52.7)	14	49	28.6(16.6, 43.3)	0.44(0.07, 2.88)
BSM	6	24	25.0(9.8, 46.7)	14	42	33.3(19.6, 49.5)	0.75(0.33, 1.69)
BSCtoC	2	17	11.8(1.5, 36.4)	15	43	34.9(21.0, 50.9)	0.34(0.09, 1.32)
BSC	4	11	36.4(10.9, 69.2)	12	48	25.0(13.6, 39.6)	1.45(0.58, 3.66)
BSSL	2	6	33.3(4.3, 77.7)	23	76	30.3(20.2, 41.9)	1.10(0.34, 3.59)
BSHC	1	1	100.0(2.5, 100.0)	5	27	18.5(6.3, 38.1)	*5.40(2.45, 11.91)*
Total BSA	**25**	**97**	**25.8(17.4, 35.7)**	**118**	**410**	**28.8(24.4, 33.4)**	**0.90(0.62, 1.30)**
Subsequent screens							
BSWN	4	9	44.4(13.7, 78.8)	16	32	50.0(31.9, 68.1)	0.89(0.40, 2.00)
BSCM	2	2	100.0(15.8, 100.0)	3	11	27.3(6.0, 61.0)	*3.67(1.40, 9.62)*
BSAL	0	2	0.0(0.0, 84.2)	6	14	42.9(17.7, 71.1)	0.00(0.00, 5.95)
BSM	0	4	0.0(0.0, 60.2)	11	29	37.9(20.7, 57.7)	0.00(0.00, 2.89)
BSCtoC	0	2	0.0(0.0, 84.2)	3	16	18.8(4.0, 45.6)	0.00(0.00, 19.36)
BSC	2	4	50.0(6.8, 93.2)	7	25	28.0(12.1, 49.4)	1.79(0.56, 5.72)
BSSL	5	10	50.0(18.7, 81.3)	11	40	27.5(14.6, 43.9)	1.82(0.82, 4.04)
BSHC	0	0	--	1	18	5.6(0.1, 27.3)	--
Total BSA	**13**	**33**	**39.4(22.9, 57.9)**	**58**	**185**	**31.4(24.7, 38.6)**	**1.26(0.78, 2.02)**

Ratios below one are unfavourable to Māori. No targets have been set for this age group. Ratios in italics show a statistically significant difference between Māori and non-Māori.

Although no targets have been set for women aged 45–49 years, for both initial and subsequent screens the proportions of cancers ≤10mm detected among Māori and non-Māori women met the target values for 50–69 year old women.

There were no significant differences between the proportions of small cancers detected among Māori and non-Māori women in this age group.

Table 3b.1b: Proportion of invasive cancers less than or equal to 10mm, 5 years (July 2006–June 2011), women aged 50–69 years

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Invasive cancers ≤10mm	Total invasive cancers	% of invasive cancers ≤10mm	Invasive cancers ≤10mm	Total invasive cancers	% of invasive cancers ≤10mm	
Initial screens							
BSWN	10	25	40.0(21.1, 61.3)	45	139	32.4(24.7, 40.8)	1.24(0.72, 2.11)
BSCM	8	27	29.6(13.8, 50.2)	21	74	28.4(18.5, 40.1)	1.04(0.53, 2.07)
BSAL	0	8	0.0(0.0, 36.9)	34	63	54.0(40.9, 66.6)	*0.00(0.00, 0.90)*
BSM	9	28	32.1(15.9, 52.4)	11	53	20.8(10.8, 34.1)	1.55(0.73, 3.29)
BSCtoC	7	33	21.2(9.0, 38.9)	12	49	24.5(13.3, 38.9)	0.87(0.38, 1.97)
BSC	1	16	6.2(0.2, 30.2)	14	56	25.0(14.4, 38.4)	0.25(0.04, 1.76)
BSSL	1	7	14.3(0.4, 57.9)	22	67	32.8(21.8, 45.4)	0.44(0.07, 2.76)
BSHC	0	1	0.0(0.0, 97.5)	5	22	22.7(7.8, 45.4)	0.00(0.00, 24.01)
Total BSA	**36**	**145**	**24.8(18.0, 32.7)**	**164**	**523**	**31.4(27.4, 35.5)**	**0.79(0.58, 1.08)**
Subsequent screens							
BSWN	17	46	37.0(23.2, 52.5)	166	397	41.8(36.9, 46.8)	0.88(0.60, 1.31)
BSCM	19	47	40.4(26.4, 55.7)	69	196	35.2(28.5, 42.3)	1.15(0.77, 1.71)
BSAL	10	15	66.7(38.4, 88.2)	64	165	38.8(31.3, 46.7)	*1.72(1.15, 2.58)*
BSM	26	75	34.7(24.0, 46.5)	170	388	43.8(38.8, 48.9)	0.79(0.57, 1.10)
BSCtoC	12	48	25.0(13.6, 39.6)	115	335	34.3(29.3, 39.7)	0.73(0.44, 1.22)
BSC	19	38	50.0(33.4, 66.6)	107	274	39.1(33.2, 45.1)	1.28(0.90, 1.82)
BSSL	12	37	32.4(18.0, 49.8)	237	576	41.1(37.1, 45.3)	0.79(0.49, 1.27)
BSHC	2	10	20.0(2.5, 55.6)	74	199	37.2(30.5, 44.3)	0.54(0.15, 1.88)
Total BSA	**117**	**316**	**37.0(31.7, 42.6)**	**1,002**	**2,530**	**39.6(37.7, 41.5)**	**0.93(0.80, 1.09)**

Ratios below one are unfavourable to Māori. Target values are ≥25% for initial screens and ≥30% for subsequent screens. Ratios in italics show a statistically significant difference between Māori and non-Māori.

For women aged 50–69 years, the target values for the proportion of screen-detected cancers less than or equal to 10mm in in diameter were met for initial screens and subsequent screens for both Māori and non-Māori women. The proportions were not significantly different between Māori and non-Māori.

Table 3b.2a: Rate of invasive cancers less than or equal to 10mm, per 10,000 screens, 5 years (July 2006–June 2011), women aged 45–49 years

Lead provider	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)
	Number with breast cancer ≤10mm	Rate per 10,000 screens (95% CI)	Number with breast cancer ≤10mm	Rate per 10,000 screens (95% CI)	
Initial screens					
BSWN	6	18.0(6.6, 39.1)	25	10.3(6.7, 15.2)	1.74(0.72, 4.24)
BSCM	3	13.5(2.8, 39.3)	10	6.6(3.2, 12.2)	2.03(0.56, 7.37)
BSAL	1	9.6(0.2, 53.3)	14	10.2(5.6, 17.1)	0.94(0.12, 7.12)
BSM	6	18.9(6.9, 41.1)	14	9.2(5.0, 15.5)	2.05(0.79, 5.32)
BSCtoC	2	7.0(0.8, 25.3)	15	10.3(5.8, 16.9)	0.68(0.16, 2.98)
BSC	4	26.3(7.2, 67.1)	12	9.1(4.7, 15.9)	2.89(0.93, 8.94)
BSSL	2	10.3(1.3, 37.3)	23	7.7(4.9, 11.6)	1.34(0.32, 5.69)
BSHC	1	17.8(0.5, 98.7)	5	5.4(1.8, 12.7)	3.27(0.38, 27.97)
Total	**25**	**15.0(9.7, 22.2)**	**118**	**8.7(7.2, 10.5)**	***1.72(1.12, 2.64)***
Subsequent screens					
BSWN	4	26.9(7.3, 68.7)	16	11.8(6.7, 19.1)	2.29(0.77, 6.83)
BSCM	2	28.7(3.5, 103.3)	3	5.0(1.0, 14.8)	5.68(0.95, 33.95)
BSAL	0	0.0(0.0, 69.2)	6	8.2(3.0, 17.8)	0.00(0.00, 11.70)
BSM	0	0.0(0.0, 24.0)	11	10.5(5.2, 18.8)	0.00(0.00, 2.72)
BSCtoC	0	0.0(0.0, 24.0)	3	2.8(0.6, 8.2)	0.00(0.00, 16.84)
BSC	2	21.9(2.7, 78.9)	7	7.5(3.0, 15.4)	2.92(0.61, 14.05)
BSSL	5	34.0(11.0, 79.1)	11	4.2(2.1, 7.5)	*8.13(2.83, 23.37)*
BSHC	0	0.0(0.0, 109.8)	1	1.4(0.0, 7.7)	0.00(0.00, 843.87)
Total	**13**	**15.3(8.1, 26.1)**	**58**	**6.4(4.8, 8.2)**	***2.40(1.31, 4.37)***

Ratios above 1.0 show Māori have a higher rate than non-Māori of screen-detected cancers ≤10mm. No targets have been set for this age group. Ratios in italics show a statistically significant difference between Māori and non-Māori.

The rate of screen-detected cancers less than or equal to 10mm in diameter was 72% higher for Māori women aged 45–49 years than for non-Māori women among those having an initial screen. Among those having a subsequent screen the rate for Māori was 140% higher than the non-Māori rate.

Table 3b.2b: Rate of invasive cancers less than or equal to 10mm, per 10,000 screens, 5 years (July 2006–June 2011), women aged 50–69 years

Lead provider	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)
	Number with breast cancer ≤10mm	Rate per 10,000 screens (95% CI)	Number with breast cancer ≤10mm	Rate per 10,000 screens (95% CI)	
Initial screens					
BSWN	10	43.9(21.1, 80.6)	45	25.0(18.2, 33.4)	1.76(0.89, 3.48)
BSCM	8	48.8(21.1, 95.9)	21	19.0(11.8, 29.1)	*2.56(1.14, 5.78)*
BSAL	0	0.0(0.0, 58.5)	34	33.6(23.3, 46.9)	0.00(0.00, 1.85)
BSM	9	35.8(16.4, 67.8)	11	11.3(5.7, 20.3)	*3.15(1.31, 7.60)*
BSCtoC	7	30.3(12.2, 62.2)	12	12.4(6.4, 21.7)	2.43(0.96, 6.18)
BSC	1	9.8(0.2, 54.3)	14	16.9(9.3, 28.4)	0.58(0.08, 4.38)
BSSL	1	17.2(0.4, 95.2)	22	24.4(15.3, 37.0)	0.70(0.09, 5.20)
BSHC	0	0.0(0.0, 135.2)	5	10.9(3.6, 25.5)	0.00(0.00, 18.41)
Total	**36**	**32.0(22.4, 44.3)**	**164**	**20.4(17.4, 23.8)**	***1.57(1.09, 2.25)***
Subsequent screens					
BSWN	17	18.6(10.8, 29.8)	166	17.1(14.6, 19.9)	1.09(0.66, 1.79)
BSCM	19	34.6(20.8, 54.0)	69	14.0(10.9, 17.7)	*2.48(1.49, 4.12)*
BSAL	10	37.1(17.8, 68.2)	64	13.6(10.5, 17.4)	*2.73(1.40, 5.30)*
BSM	26	24.4(16.0, 35.8)	170	18.7(16.0, 21.8)	1.30(0.86, 1.97)
BSCtoC	12	13.1(6.8, 22.8)	115	13.6(11.2, 16.3)	0.96(0.53, 1.74)
BSC	19	39.2(23.6, 61.2)	107	15.2(12.4, 18.3)	*2.58(1.59, 4.21)*
BSSL	12	18.8(9.7, 32.8)	237	15.0(13.2, 17.1)	1.25(0.70, 2.23)
BSHC	2	11.2(1.4, 40.3)	74	13.3(10.4, 16.7)	0.84(0.21, 3.42)
Total	**117**	**23.3(19.3, 28.0)**	**1,002**	**15.4(14.4, 16.3)**	***1.52(1.25, 1.84)***

Ratios above 1.0 show Māori have a higher rate than non-Māori of screen-detected cancers ≤10mm. Target values are ≥ 15.2 per 10,000 initial screens and ≥ 10.45 per 10,000 subsequent screens. Ratios in italics show a statistically significant difference between Māori and non-Māori.

Among women aged 50–69 years the rate of detection of invasive breast cancers less than or equal to 10mm was 32 per 10,000 initial screens, twice the target value of 15.2 and 57% higher than the rate for non-Māori women.

For women having subsequent screens the rate for Māori was 23 per 10,000 screens, also twice the target value of 10.45 and 52% higher than the non-Māori rate. The target for subsequent screens was exceeded by all LPs.

3c Proportion of invasive cancers that are less than or equal to 15mm in size

Description:

Rate and proportion of primary invasive breast cancer of diameter ≤15mm.

Target:

Initial (prevalent) round: >50%, which gives a rate of >30.5 per 10,000 women screened.
Subsequent (incident) round: >50%, which gives a rate of > 17.3 per 10,000 women screened

Table 3c.1a: Proportion of invasive cancers less or equal to 15mm, 5 years (July 2006–June 2011), women aged 45–49 years

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Invasive cancers ≤15mm	Total invasive cancers	% of invasive cancers ≤15mm	Invasive cancers ≤15mm	Total invasive cancers	% of invasive cancers <15mm	
Initial screens							
BSWN	10	21	47.6(25.7, 70.2)	38	77	49.4(37.8, 61.0)	0.96(0.58, 1.59)
BSCM	4	9	44.4(13.7, 78.8)	18	48	37.5(24.0, 52.6)	1.19(0.52, 2.68)
BSAL	5	8	62.5(24.5, 91.5)	25	49	51.0(36.3, 65.6)	1.22(0.67, 2.24)
BSM	13	24	54.2(32.8, 74.4)	24	42	57.1(41.0, 72.3)	0.95(0.60, 1.49)
BSCtoC	6	17	35.3(14.2, 61.7)	20	43	46.5(31.2, 62.3)	0.76(0.37, 1.56)
BSC	6	11	54.5(23.4, 83.3)	25	48	52.1(37.2, 66.7)	1.05(0.57, 1.92)
BSSL	5	6	83.3(35.9, 99.6)	38	76	50.0(38.3, 61.7)	*1.67(1.09, 2.54)*
BSHC	1	1	100.0(2.5, 100.0)	15	27	55.6(35.3, 74.5)	*1.80(1.28, 2.52)*
Total	**50**	**97**	**51.5(41.2, 61.8)**	**203**	**410**	**49.5(44.6, 54.5)**	**1.04(0.84, 1.29)**
Subsequent screens							
BSWN	8	9	88.9(51.8, 99.7)	23	32	71.9(53.3, 86.3)	1.24(0.90, 1.70)
BSCM	2	2	100.0(15.8, 100.0)	4	11	36.4(10.9, 69.2)	*2.75(1.26, 6.01)*
BSAL	0	2	0.0(0.0, 84.2)	10	14	71.4(41.9, 91.6)	0.00(0.00, 3.12)
BSM	1	4	25.0(0.6, 80.6)	18	29	62.1(42.3, 79.3)	0.40(0.07, 2.25)
BSCtoC	0	2	0.0(0.0, 84.2)	10	16	62.5(35.4, 84.8)	0.00(0.00, 3.57)
BSC	4	4	100.0(39.8, 100.0)	13	25	52.0(31.3, 72.2)	*1.92(1.32, 2.80)*
BSSL	5	10	50.0(18.7, 81.3)	21	40	52.5(36.1, 68.5)	0.95(0.48, 1.89)
BSHC	0	0	--	4	18	22.2(6.4, 47.6)	--
Total	**20**	**33**	**60.6(42.1, 77.1)**	**103**	**185**	**55.7(48.2, 63.0)**	**1.09(0.80, 1.47)**

Ratios below one are unfavourable to Māori. No targets have been set for this age group. Ratios in italics show a statistically significant difference between Māori and non-Māori.

Half of the invasive breast cancer tumours detected by initial screens were 15mm or less for both Māori and non-Māori women aged 45–49 years.

Over half of the invasive cancers detected by subsequent screens were 15 mm or less among Māori (61%) and non-Māori (56%).

Table 3c.1b: Proportion of invasive cancers less than or equal to 15mm, 5 years (July 2006–June 2011), women aged 50–69 years

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Invasive cancers ≤15mm	Total invasive cancers	% of invasive cancers ≤15mm	Invasive cancers ≤15mm	Total invasive cancers	% of invasive cancers ≤15mm	
Initial screens							
BSWN	18	25	72.0(50.6, 87.9)	85	139	61.2(52.5, 69.3)	1.18(0.89, 1.55)
BSCM	17	27	63.0(42.4, 80.6)	37	74	50.0(38.1, 61.9)	1.26(0.87, 1.82)
BSAL	4	8	50.0(15.7, 84.3)	46	63	73.0(60.3, 83.4)	0.68(0.34, 1.39)
BSM	15	28	53.6(33.9, 72.5)	28	53	52.8(38.6, 66.7)	1.01(0.66, 1.56)
BSCtoC	12	33	36.4(20.4, 54.9)	23	49	46.9(32.5, 61.7)	0.77(0.45, 1.33)
BSC	6	16	37.5(15.2, 64.6)	33	56	58.9(45.0, 71.9)	0.64(0.33, 1.24)
BSSL	3	7	42.9(9.9, 81.6)	41	67	61.2(48.5, 72.9)	0.70(0.29, 1.68)
BSHC	0	1	0.0(0.0, 97.5)	8	22	36.4(17.2, 59.3)	0.00(0.00, 12.89)
Total	**75**	**145**	**51.7(43.3, 60.1)**	**301**	**523**	**57.6(53.2, 61.8)**	**0.90(0.76, 1.07)**
Subsequent screens							
BSWN	30	46	65.2(49.8, 78.6)	287	397	72.3(67.6, 76.6)	0.90(0.72, 1.12)
BSCM	33	47	70.2(55.1, 82.7)	121	196	61.7(54.5, 68.6)	1.14(0.92, 1.41)
BSAL	10	15	66.7(38.4, 88.2)	106	165	64.2(56.4, 71.5)	1.04(0.71, 1.51)
BSM	52	75	69.3(57.6, 79.5)	262	388	67.5(62.6, 72.2)	1.03(0.87, 1.21)
BSCtoC	28	48	58.3(43.2, 72.4)	212	335	63.3(57.9, 68.5)	0.92(0.72, 1.19)
BSC	26	38	68.4(51.3, 82.5)	188	274	68.6(62.8, 74.1)	1.00(0.79, 1.26)
BSSL	26	37	70.3(53.0, 84.1)	416	576	72.2(68.4, 75.8)	0.97(0.78, 1.21)
BSHC	5	10	50.0(18.7, 81.3)	129	199	64.8(57.8, 71.4)	0.77(0.41, 1.45)
Total	**210**	**316**	**66.5(61.0, 71.6)**	**1,721**	**2,530**	**68.0(66.2, 69.8)**	**0.98(0.90, 1.06)**

Ratios below one are unfavourable to Māori. Target values are >50% for both initial and subsequent screens.

For women aged 50–69 years the proportion of cancers detected by initial screens that were less than or equal to 15mm was 52% for Māori women and 58% for non-Māori women, meeting the target of greater than 50%.

Of the cancers detected from subsequent screens, two-thirds were 15mm or less among both Māori (67%) and non-Māori (68%) women, well above the 50% target.

Note: In previous reports this indicator included only cancers that were less than 15mm. This report includes cancers that were less than or equal to 15mm diameter which includes a larger number of cancers.

Table 3c.2a: Rate of invasive cancers less than or equal to 15mm, per 10,000 screens, 5 years (July 2006–June 2011), women aged 45–49 years

Lead provider	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)
	Number with breast cancer ≤15mm	Rate per 10,000 screens (95% CI)	Number with breast cancer ≤15mm	Rate per 10,000 screens (95% CI)	
Initial screens					
BSWN	10	30.0(14.4, 55.0)	38	15.7(11.1, 21.5)	1.91(0.95, 3.83)
BSCM	4	18.0(4.9, 45.9)	18	12.0(7.1, 18.9)	1.50(0.51, 4.44)
BSAL	5	47.9(15.6, 111.4)	25	18.2(11.8, 26.9)	*2.63(1.01, 6.84)*
BSM	13	40.9(21.8, 69.9)	24	15.8(10.1, 23.5)	*2.59(1.32, 5.08)*
BSCtoC	6	21.0(7.7, 45.7)	20	13.7(8.4, 21.1)	1.54(0.62, 3.82)
BSC	6	39.4(14.5, 85.5)	25	19.0(12.3, 28.0)	2.08(0.85, 5.06)
BSSL	5	25.9(8.4, 60.3)	38	12.7(9.0, 17.5)	2.03(0.80, 5.16)
BSHC	1	17.8(0.5, 98.7)	15	16.3(9.1, 26.9)	1.09(0.14, 8.25)
Total	**50**	**30.0(22.3, 39.6)**	**203**	**15.0(13.0, 17.2)**	***2.00(1.47, 2.72)***
Subsequent screens					
BSWN	8	53.8(23.2, 105.7)	23	16.9(10.7, 25.3)	*3.18(1.43, 7.10)*
BSCM	2	28.7(3.5, 103.3)	4	6.7(1.8, 17.2)	4.26(0.78, 23.23)
BSAL	0	0.0(0.0, 69.2)	10	13.7(6.6, 25.1)	0.00(0.00, 6.15)
BSM	1	6.5(0.2, 36.3)	18	17.2(10.2, 27.1)	0.38(0.05, 2.84)
BSCtoC	0	0.0(0.0, 24.0)	10	9.4(4.5, 17.2)	0.00(0.00, 3.10)
BSC	4	43.8(11.9, 111.8)	13	13.9(7.4, 23.8)	*3.15(1.03, 9.63)*
BSSL	5	34.0(11.0, 79.1)	21	8.0(4.9, 12.2)	*4.26(1.61, 11.28)*
BSHC	0	0.0(0.0, 109.8)	4	5.5(1.5, 14.2)	0.00(0.00, 32.78)
Total	**20**	**23.5(14.4, 36.3)**	**103**	**11.3(9.2, 13.7)**	***2.08(1.29, 3.35)***

Ratios above 1.0 show Māori have a higher rate than non-Māori of screen-detected cancers ≤15mm. No targets have been set for this age group. Ratios in italics show a statistically significant difference between Māori and non-Māori.

For initial and subsequent screens the rate of cancers per 10,000 screens that were less than or equal to 15mm in diameter was twice as high for Māori women than for non-Māori women aged 45–49 years.

Table 3c.2b: Rate of invasive cancers less than or equal to 15mm, per 10,000 screens, 5 years (July 2006–June 2011), women aged 50–69 years

Lead provider	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)
	Number with breast cancer ≤15mm	Rate per 10,000 screens (95% CI)	Number with breast cancer ≤15mm	Rate per 10,000 screens (95% CI)	
Initial screens					
BSWN	18	79.1(46.9, 124.6)	85	47.2(37.7, 58.3)	*1.67(1.01, 2.78)*
BSCM	17	103.7(60.5, 165.6)	37	33.6(23.6, 46.2)	*3.09(1.74, 5.48)*
BSAL	4	63.6(17.4, 162.0)	46	45.4(33.3, 60.5)	1.40(0.51, 3.88)
BSM	15	59.6(33.4, 98.1)	28	28.9(19.2, 41.7)	*2.06(1.10, 3.86)*
BSCtoC	12	51.9(26.8, 90.4)	23	23.8(15.1, 35.7)	*2.18(1.08, 4.37)*
BSC	6	58.6(21.5, 127.1)	33	39.9(27.5, 56.0)	1.47(0.62, 3.49)
BSSL	3	51.5(10.6, 149.6)	41	45.5(32.7, 61.7)	1.13(0.35, 3.64)
BSHC	0	0.0(0.0, 135.2)	8	17.5(7.6, 34.5)	0.00(0.00, 9.88)
Total	**75**	**66.6(52.5, 83.5)**	**301**	**37.5(33.4, 41.9)**	***1.78(1.38, 2.29)***
Subsequent screens					
BSWN	30	32.8(22.2, 46.9)	287	29.6(26.3, 33.2)	1.11(0.76, 1.62)
BSCM	33	60.1(41.4, 84.3)	121	24.5(20.3, 29.2)	*2.46(1.67, 3.60)*
BSAL	10	37.1(17.8, 68.2)	106	22.6(18.5, 27.3)	1.65(0.86, 3.14)
BSM	52	48.8(36.5, 64.0)	262	28.9(25.5, 32.6)	*1.69(1.26, 2.28)*
BSCtoC	28	30.5(20.3, 44.1)	212	25.1(21.8, 28.7)	1.22(0.82, 1.80)
BSC	26	53.7(35.1, 78.6)	188	26.7(23.0, 30.8)	*2.01(1.34, 3.03)*
BSSL	26	40.7(26.6, 59.6)	416	26.4(23.9, 29.0)	*1.54(1.04, 2.29)*
BSHC	5	28.0(9.1, 65.1)	129	23.2(19.4, 27.5)	1.21(0.49, 2.94)
Total	**210**	**41.9(36.4, 47.9)**	**1,721**	**26.4(25.1, 27.7)**	***1.59(1.38, 1.83)***

Ratios above 1.0 show Māori have a higher rate than non-Māori of screen-detected cancers ≤15mm. Target values are >30.5 per 10,000 initial screens and >17.3 per 10,000 subsequent screens. Ratios in italics show a statistically significant difference between Māori and non-Māori.

The rate of invasive cancers less than or equal to 15mm was 67 per 10,000 initial screens for Māori women aged 50 to 69 years, more than twice the target of >30.5 per 10,000 and 78% higher than the non-Māori rate.

For subsequent screens, the Māori rate was 42 per 10,000, over twice the target value of 17.3 per 10,000 screens and 59% higher than the non-Māori rate.

3d Nodal involvement

Description:

The proportion of women with invasive screen detected breast cancer that do not have nodal involvement. Note: this is calculated as 1 minus the proportion of women with invasive screen detected breast cancer who have nodal involvement.

Target:

Initial (prevalent) round: >70%
Subsequent (incident) round: >75%

Table 3da: Invasive cancers without nodal involvement, 5 years (July 2006–June 2011), women aged 45–49 years

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Women with invasive cancers with no nodal involvement	Total invasive cancers	% of invasive cancers with no nodal involvement	Women with invasive cancers with no nodal involvement	Total invasive cancers	% of invasive cancers with no nodal involvement	
Initial screens							
BSWN	18	21	85.7(63.7, 97.0)	54	77	70.1(58.6, 80.0)	1.22(0.97, 1.53)
BSCM	7	10	70.0(34.8, 93.3)	30	50	60.0(45.2, 73.6)	1.17(0.73, 1.86)
BSAL	8	8	100.0(63.1, 100.0)	30	50	60.0(45.2, 73.6)	*1.67(1.33, 2.09)*
BSM	16	25	64.0(42.5, 82.0)	29	45	64.4(48.8, 78.1)	0.99(0.69, 1.43)
BSCtoC	10	17	58.8(32.9, 81.6)	30	43	69.8(53.9, 82.8)	0.84(0.54, 1.31)
BSC	8	12	66.7(34.9, 90.1)	34	50	68.0(53.3, 80.5)	0.98(0.63, 1.53)
BSSL	5	6	83.3(35.9, 99.6)	50	77	64.9(53.2, 75.5)	1.28(0.87, 1.90)
BSHC	1	1	100.0(2.5, 100.0)	16	27	59.3(38.8, 77.6)	*1.69(1.23, 2.31)*
Total	**73**	**100**	**73.0(63.2, 81.4)**	**273**	**419**	**65.2(60.4, 69.7)**	**1.12(0.98, 1.29)**
Subsequent screens							
BSWN	7	9	77.8(40.0, 97.2)	23	32	71.9(53.3, 86.3)	1.08(0.72, 1.63)
BSCM	1	2	50.0(1.3, 98.7)	5	11	45.5(16.7, 76.6)	1.10(0.24, 5.08)
BSAL	2	2	100.0(15.8, 100.0)	10	14	71.4(41.9, 91.6)	*1.40(1.01, 1.95)*
BSM	2	4	50.0(6.8, 93.2)	19	29	65.5(45.7, 82.1)	0.76(0.28, 2.11)
BSCtoC	1	2	50.0(1.3, 98.7)	9	16	56.2(29.9, 80.2)	0.89(0.21, 3.80)
BSC	3	4	75.0(19.4, 99.4)	13	25	52.0(31.3, 72.2)	1.44(0.73, 2.85)
BSSL	8	10	80.0(44.4, 97.5)	27	42	64.3(48.0, 78.4)	1.24(0.85, 1.83)
BSHC	0	0	--	11	18	61.1(35.7, 82.7)	--
Total	**24**	**33**	**72.7(54.5, 86.7)**	**117**	**187**	**62.6(55.2, 69.5)**	**1.16(0.92, 1.47)**

Ratios below one are unfavourable to Māori. No targets have been set for this age group. Ratios in italics show a statistically significant difference between Māori and non-Māori.

The proportion of screen-detected invasive cancers without nodal involvement was 73% for Māori women aged 45–49 years having initial screens and subsequent screens.

Table 3db: Invasive cancers without nodal involvement, 5 years (July 2006–June 2011), women aged 50–69 years

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Women with invasive cancers with no nodal involvement	Total initial invasive cancers	% of initial invasive cancers with no nodal involvement	Women with invasive cancers with no nodal involvement	Total invasive cancers	% of invasive cancers with no nodal involvement	
Initial screens							
BSWN	21	25	84.0(63.9, 95.5)	107	139	77.0(69.1, 83.7)	1.09(0.90, 1.32)
BSCM	21	27	77.8(57.7, 91.4)	55	75	73.3(61.9, 82.9)	1.06(0.83, 1.35)
BSAL	5	8	62.5(24.5, 91.5)	52	63	82.5(70.9, 90.9)	0.76(0.44, 1.31)
BSM	19	28	67.9(47.6, 84.1)	31	54	57.4(43.2, 70.8)	1.18(0.84, 1.67)
BSCtoC	19	33	57.6(39.2, 74.5)	33	49	67.3(52.5, 80.1)	0.85(0.60, 1.22)
BSC	11	18	61.1(35.7, 82.7)	43	58	74.1(61.0, 84.7)	0.82(0.55, 1.23)
BSSL	5	7	71.4(29.0, 96.3)	50	67	74.6(62.5, 84.5)	0.96(0.59, 1.56)
BSHC	1	1	100.0(2.5, 100.0)	14	22	63.6(40.7, 82.8)	*1.57(1.15, 2.16)*
Total	**102**	**147**	**69.4(61.3, 76.7)**	**385**	**527**	**73.1(69.0, 76.8)**	**0.95(0.84, 1.07)**
Subsequent screens							
BSWN	34	46	73.9(58.9, 85.7)	320	398	80.4(76.2, 84.2)	0.92(0.77, 1.10)
BSCM	38	47	80.9(66.7, 90.9)	157	197	79.7(73.4, 85.1)	1.01(0.87, 1.19)
BSAL	13	15	86.7(59.5, 98.3)	136	166	81.9(75.2, 87.5)	1.06(0.86, 1.31)
BSM	60	75	80.0(69.2, 88.4)	310	388	79.9(75.6, 83.8)	1.00(0.88, 1.13)
BSCtoC	33	48	68.8(53.7, 81.3)	258	335	77.0(72.1, 81.4)	0.89(0.73, 1.09)
BSC	32	38	84.2(68.7, 94.0)	210	275	76.4(70.9, 81.3)	1.10(0.95, 1.28)
BSSL	27	37	73.0(55.9, 86.2)	453	580	78.1(74.5, 81.4)	0.93(0.76, 1.14)
BSHC	9	11	81.8(48.2, 97.7)	149	200	74.5(67.9, 80.4)	1.10(0.82, 1.47)
Total	**246**	**317**	**77.6(72.6, 82.1)**	**1,993**	**2,539**	**78.5(76.8, 80.1)**	**0.99(0.93, 1.05)**

Ratios below one are unfavourable to Māori. Target values are >70% for initial screens and >75% for subsequent screens. Ratios in italics show a statistically significant difference between Māori and non-Māori.

Among women aged 50–69 years the target of >70% of cancers detected by initial screens having no nodal involvement was met for Māori and non-Māori women. Similarly the target of >75% for subsequent screens was met for Māori and non-Māori women overall. There were no differences between the proportions for Māori and non-Māori women.

3e Ductal carcinoma

Description:

The percentage of all women with screen detected cancer who are diagnosed as having Ductal Carcinoma in Situ (DCIS) as their primary lesion.

Target:

10-25% of all cancers detected by the programme are DCIS.

Table 3e: Women with DCIS as a percentage of all screen detected cancers, 5 years (July 2006–June 2011)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Number of DCIS	Total number of cancers	% of total cancer that are DCIS (95% CI)	Number of DCIS	Total number of cancers	% of total cancers that are DCIS (95% CI)	
45–49 years							
BSWN	7	38	18.4(7.7, 34.3)	51	167	30.5(23.7, 38.1)	0.60(0.30, 1.22)
BSCM	4	17	23.5(6.8, 49.9)	26	90	28.9(19.8, 39.4)	0.81(0.33, 2.04)
BSAL	1	12	8.3(0.2, 38.5)	38	114	33.3(24.8, 42.8)	0.25(0.04, 1.66)
BSM	4	34	11.8(3.3, 27.5)	38	112	33.9(25.3, 43.5)	*0.35(0.13, 0.90)*
BSCtoC	5	25	20.0(6.8, 40.7)	27	87	31.0(21.5, 41.9)	0.64(0.28, 1.50)
BSC	1	18	5.6(0.1, 27.3)	28	104	26.9(18.7, 36.5)	0.21(0.03, 1.42)
BSSL	1	17	5.9(0.1, 28.7)	58	183	31.7(25.0, 39.0)	0.19(0.03, 1.26)
BSHC	1	2	50.0(1.3, 98.7)	14	59	23.7(13.6, 36.6)	2.11(0.49, 9.07)
Total	**24**	**163**	**14.7(9.7, 21.1)**	**280**	**916**	**30.6(27.6, 33.7)**	***0.48(0.33, 0.71)***
50–69 years							
BSWN	21	96	21.9(14.1, 31.5)	151	700	21.6(18.6, 24.8)	1.01(0.68, 1.52)
BSCM	11	86	12.8(6.6, 21.7)	93	376	24.7(20.5, 29.4)	*0.52(0.29, 0.92)*
BSAL	7	32	21.9(9.3, 40.0)	92	356	25.8(21.4, 30.7)	0.85(0.43, 1.67)
BSM	20	126	15.9(10.0, 23.4)	127	576	22.0(18.7, 25.7)	0.72(0.47, 1.11)
BSCtoC	10	91	11.0(5.4, 19.3)	86	475	18.1(14.7, 21.9)	0.61(0.33, 1.12)
BSC	12	70	17.1(9.2, 28.0)	123	463	26.6(22.6, 30.8)	0.65(0.38, 1.10)
BSSL	9	53	17.0(8.1, 29.8)	170	820	20.7(18.0, 23.7)	0.82(0.44, 1.51)
BSHC	1	14	7.1(0.2, 33.9)	49	274	17.9(13.5, 22.9)	0.40(0.06, 2.69)
Total	**91**	**568**	**16.0(13.1, 19.3)**	**891**	**4,040**	**22.1(20.8, 23.4)**	***0.73(0.60, 0.88)***

Ratios below 1 show Māori women had a lower proportion of screen-detected cancers that were DCIS than non-Māori women. Ratios in italics show a statistically significant difference between Māori and non-Māori.

The proportions of screen-detected cancers among Māori women that were diagnosed as DCIS were significantly lower than the proportions among non-Māori women in both age groups.

In women aged 45–49 years, 15% of cancers detected in Māori women were DCIS while the proportion for non-Māori was 31%.

In women aged 50–69 years, the proportions of cancers that were DCIS were in the target range of 12%-25% for both Māori (16%) and non-Māori (22%).

SECTION 4: TREATMENT

4a Proportion of invasive cancers having a surgical axillary procedure

Description:

Percentage of all women who are operated on for a screen detected invasive cancer, over 1mm in size, who have a surgical axillary procedure.

Target:

95% of women operated on for invasive cancer over 1mm in size, should normally have a surgical axillary procedure.

Table 4a: Percentage of invasive cancers having a surgical axillary procedure, 5 years (July 2006–June 2011)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Number having a surgical axillary procedure for invasive cancers >1mm	Number having an operation for invasive cancers >1mm	% of invasive cancers, >1mm, having a surgical axillary procedure	Number having a surgical axillary procedure for invasive cancers >1mm	Number having an operation for invasive cancers >1mm	% of invasive cancers, >1mm, having a surgical axillary procedure	
45–49 years							
BSWN	30	30	100.0(88.4, 100.0)	108	108	100.0(96.6, 100.0)	1.00(1.00, 1.00)
BSCM	11	11	100.0(71.5, 100.0)	60	61	98.4(91.2, 100.0)	1.02(0.98, 1.05)
BSAL	9	10	90.0(55.5, 99.7)	63	63	100.0(94.3, 100.0)	0.90(0.73, 1.11)
BSM	29	29	100.0(88.1, 100.0)	74	74	100.0(95.1, 100.0)	1.00(1.00, 1.00)
BSCtoC	19	19	100.0(82.4, 100.0)	56	57	98.2(90.6, 100.0)	1.02(0.98, 1.05)
BSC	16	16	100.0(79.4, 100.0)	74	75	98.7(92.8, 100.0)	1.01(0.99, 1.04)
BSSL	16	16	100.0(79.4, 100.0)	117	117	100.0(96.9, 100.0)	1.00(1.00, 1.00)
BSHC	1	1	100.0(2.5, 100.0)	45	45	100.0(92.1, 100.0)	1.00(1.00, 1.00)
Total	**131**	**132**	**99.2(95.9, 100.0)**	**597**	**600**	**99.5(98.5, 99.9)**	**1.00(0.98, 1.01)**
50–69 years							
BSWN	69	71	97.2(90.2, 99.7)	525	532	98.7(97.3, 99.5)	0.98(0.95, 1.03)
BSCM	72	74	97.3(90.6, 99.7)	261	268	97.4(94.7, 98.9)	1.00(0.96, 1.04)
BSAL	23	23	100.0(85.2, 100.0)	225	226	99.6(97.6, 100.0)	1.00(1.00, 1.01)
BSM	102	103	99.0(94.7, 100.0)	427	437	97.7(95.8, 98.9)	1.01(0.99, 1.04)
BSCtoC	77	78	98.7(93.1, 100.0)	375	377	99.5(98.1, 99.9)	0.99(0.97, 1.02)
BSC	53	56	94.6(85.1, 98.9)	327	329	99.4(97.8, 99.9)	0.95(0.89, 1.01)
BSSL	44	44	100.0(92.0, 100.0)	628	641	98.0(96.6, 98.9)	*1.02(1.01, 1.03)*
BSHC	12	12	100.0(73.5, 100.0)	217	219	99.1(96.7, 99.9)	1.01(1.00, 1.02)
Total	**452**	**461**	**98.0(96.3, 99.1)**	**2,985**	**3,029**	**98.5(98.1, 98.9)**	**0.99(0.98, 1.01)**

Ratios below one are unfavourable to Māori.

The target proportion of 95% of invasive cancers over 1mm having a surgical axillary procedure was met for both Māori and non-Māori women in each Lead Provider.

4b Proportion of invasive cancers having a single excisional procedure

Description:

The proportion of women with invasive cancer who have a single excisional breast treatment procedure.

Target: No target.

Table 4b: Proportion of invasive cancers having a single excisional breast treatment procedure, 5 years (July 2006–June 2011)

	Māori			Non-Māori			
Lead provider	No. having a single excisional procedure for invasive cancer	No. of invasive cancers having surgical breast procedure	% of invasive cancers having a single excisional breast treatment procedure (95% CI)	No. having a single excisional procedure for invasive cancer	No. of invasive cancers having surgical breast procedure	% of invasive cancers having a single excisional breast treatment procedure (95% CI)	Māori/non-Māori ratio (95% CI)
45–49 years							
BSWN	25	31	80.6(62.5, 92.5)	87	112	77.7(68.8, 85.0)	1.04(0.85, 1.27)
BSCM	12	12	100.0(73.5, 100.0)	49	61	80.3(68.2, 89.4)	*1.25(1.10, 1.41)*
BSAL	8	11	72.7(39.0, 94.0)	62	72	86.1(75.9, 93.1)	0.85(0.58, 1.23)
BSM	25	29	86.2(68.3, 96.1)	58	74	78.4(67.3, 87.1)	1.10(0.91, 1.33)
BSCtoC	13	19	68.4(43.4, 87.4)	46	59	78.0(65.3, 87.7)	0.88(0.63, 1.23)
BSC	11	16	68.8(41.3, 89.0)	59	75	78.7(67.7, 87.3)	0.87(0.62, 1.24)
BSSL	12	16	75.0(47.6, 92.7)	94	118	79.7(71.3, 86.5)	0.94(0.70, 1.27)
BSHC	1	1	100.0(2.5, 100.0)	38	45	84.4(70.5, 93.5)	*1.18(1.05, 1.34)*
Total	**107**	**135**	**79.3(71.4, 85.8)**	**493**	**616**	**80.0(76.7, 83.1)**	**0.99(0.90, 1.09)**
50–69 years							
BSWN	61	72	84.7(74.3, 92.1)	447	542	82.5(79.0, 85.6)	1.03(0.92, 1.14)
BSCM	65	74	87.8(78.2, 94.3)	254	273	93.0(89.3, 95.8)	0.94(0.86, 1.03)
BSAL	22	24	91.7(73.0, 99.0)	215	252	85.3(80.3, 89.4)	1.07(0.94, 1.23)
BSM	85	104	81.7(72.9, 88.6)	359	444	80.9(76.9, 84.4)	1.01(0.91, 1.12)
BSCtoC	65	80	81.2(71.0, 89.1)	311	384	81.0(76.7, 84.8)	1.00(0.89, 1.13)
BSC	45	56	80.4(67.6, 89.8)	272	333	81.7(77.1, 85.7)	0.98(0.86, 1.13)
BSSL	35	44	79.5(64.7, 90.2)	572	648	88.3(85.5, 90.6)	0.90(0.77, 1.05)
BSHC	11	12	91.7(61.5, 99.8)	185	226	81.9(76.2, 86.7)	1.12(0.93, 1.34)
Total	**389**	**466**	**83.5(79.8, 86.7)**	**2,615**	**3,102**	**84.3(83.0, 85.6)**	**0.99(0.95, 1.03)**

Ratios in italics show a statistically significant difference between Māori and non-Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori.

There is no target for this indicator.

79% of Māori women aged 45–49 years and 84% of those aged 50–69 years had a single excisional breast treatment procedure. These proportions were similar for non-Māori women.

4c Proportion of DCIS where no axillary dissection was carried out

Description:

The proportion of women who have surgery for DCIS who do not have an axillary dissection

Target:

>95%

Table 4c: Proportion of women with DCIS not having axillary dissection, 5 years (July 2006–June 2011)

	Māori			Non-Māori			
Lead provider	Number having surgery for DCIS who do not have an axillary dissection	Number. having surgery for DCIS	% of DCIS women not having axillary dissection (95% CI)	Number having surgery for DCIS who do not have an axillary dissection	Number. having surgery for DCIS	% of DCIS women not having axillary dissection (95% CI)	Māori/non-Māori ratio (95% CI)
45–49 years							
BSWN	6	6	100.0(54.1, 100.0)	36	36	100.0(90.3, 100.0)	1.00(1.00, 1.00)
BSCM	3	3	100.0(29.2, 100.0)	13	13	100.0(75.3, 100.0)	1.00(1.00, 1.00)
BSAL	1	1	100.0(2.5, 100.0)	27	27	100.0(87.2, 100.0)	1.00(1.00, 1.00)
BSM	3	3	100.0(29.2, 100.0)	29	29	100.0(88.1, 100.0)	1.00(1.00, 1.00)
BSCtoC	4	4	100.0(39.8, 100.0)	22	22	100.0(84.6, 100.0)	1.00(1.00, 1.00)
BSC	0	0	--	19	19	100.0(82.4, 100.0)	--
BSSL	0	0	--	44	44	100.0(92.0, 100.0)	--
BSHC	1	1	100.0(2.5, 100.0)	10	10	100.0(69.2, 100.0)	1.00(1.00, 1.00)
Total	**18**	**18**	**100.0(81.5, 100.0)**	**200**	**200**	**100.0(98.2, 100.0)**	**1.00(1.00, 1.00)**
50–69 years							
BSWN	19	20	95.0(75.1, 99.9)	128	130	98.5(94.6, 99.8)	0.96(0.87, 1.07)
BSCM	8	8	100.0(63.1, 100.0)	80	80	100.0(95.5, 100.0)	1.00(1.00, 1.00)
BSAL	6	6	100.0(54.1, 100.0)	78	78	100.0(95.4, 100.0)	1.00(1.00, 1.00)
BSM	16	18	88.9(65.3, 98.6)	113	114	99.1(95.2, 100.0)	0.90(0.76, 1.06)
BSCtoC	8	8	100.0(63.1, 100.0)	79	80	98.8(93.2, 100.0)	1.01(0.99, 1.04)
BSC	11	11	100.0(71.5, 100.0)	100	100	100.0(96.4, 100.0)	1.00(1.00, 1.00)
BSSL	9	9	100.0(66.4, 100.0)	154	156	98.7(95.4, 99.8)	1.01(1.00, 1.03)
BSHC	1	1	100.0(2.5, 100.0)	42	43	97.7(87.7, 99.9)	1.02(0.98, 1.07)
Total	**78**	**81**	**96.3(89.6, 99.2)**	**774**	**781**	**99.1(98.2, 99.6)**	**0.97(0.93, 1.01)**

Ratios below one are unfavourable to Māori. This indicator excludes women who have had immediate reconstruction. Sentinel node biopsies and nodal sampling are not coded as axillary dissection.

The target of over 95% of women with DCIS where no axillary dissection was carried out was met for both Māori (96%) and non-Māori women (99%).

4e Proportion of DCIS having breast conserving surgery

Definition:

The proportion of women diagnosed with sole DCIS of pathological diameter ≤ 20mm who have breast conserving surgery (BCS).

Target:

The majority (>50%) of screen-detected DCIS ≤20mm are treated by BCS.

Table 4e: Proportion of DCIS having BCS, 5 years (July 2006–June 2011)

	Māori			Non-Māori			
Lead provider	No. of DCIS ≤20mm having BCS	No. of DCIS ≤ 20mm who are operated on	% of DCIS ≤20mm who have BCS (95% CI)	No. of DCIS ≤20mm having BCS	No. of DCIS <= 20mm who are operated on	% of DCIS ≤20mm who have BCS (95% CI)	Māori/non-Māori ratio (95% CI)
45–49 years							
BSWN	4	5	80.0(28.4, 99.5)	24	25	96.0(79.6, 99.9)	0.83(0.53, 1.30)
BSCM	1	2	50.0(1.3, 98.7)	8	10	80.0(44.4, 97.5)	0.62(0.15, 2.59)
BSAL	0	0	--	16	17	94.1(71.3, 99.9)	--
BSM	3	3	100.0(29.2, 100.0)	21	24	87.5(67.6, 97.3)	1.14(0.98, 1.33)
BSCtoC	3	3	100.0(29.2, 100.0)	9	13	69.2(38.6, 90.9)	*1.44(1.01, 2.08)*
BSC	0	1	0.0(0.0, 97.5)	13	15	86.7(59.5, 98.3)	0.00(0.00, 4.92)
BSSL	0	0	--	29	31	93.5(78.6, 99.2)	--
BSHC	0	1	0.0(0.0, 97.5)	4	9	44.4(13.7, 78.8)	0.00(0.00, 13.63)
Total	**11**	**15**	**73.3(44.9, 92.2)**	**124**	**144**	**86.1(79.4, 91.3)**	**0.85(0.62, 1.16)**
50–69 years							
BSWN	15	16	93.8(69.8, 99.8)	81	94	86.2(77.5, 92.4)	1.09(0.94, 1.26)
BSCM	2	2	100.0(15.8, 100.0)	35	45	77.8(62.9, 88.8)	*1.29(1.10, 1.50)*
BSAL	4	5	80.0(28.4, 99.5)	41	51	80.4(66.9, 90.2)	1.00(0.63, 1.57)
BSM	9	12	75.0(42.8, 94.5)	62	73	84.9(74.6, 92.2)	0.88(0.63, 1.24)
BSCtoC	2	5	40.0(5.3, 85.3)	40	52	76.9(63.2, 87.5)	0.52(0.18, 1.54)
BSC	5	7	71.4(29.0, 96.3)	68	81	84.0(74.1, 91.2)	0.85(0.53, 1.37)
BSSL	3	4	75.0(19.4, 99.4)	89	99	89.9(82.2, 95.0)	0.83(0.47, 1.47)
BSHC	0	0	--	19	31	61.3(42.2, 78.2)	--
Total	**40**	**51**	**78.4(64.7, 88.7)**	**435**	**526**	**82.7(79.2, 85.8)**	**0.95(0.82, 1.10)**

Ratios below one are unfavourable to Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori.

The target of over 50% of women with sole DCIS ≤20mm having breast conserving surgery was met for both Māori (78%) and non-Māori (83%) women aged 50–69 years. 73% of Māori women and 86% of non- Māori women aged 45–49 years had BCS.

4f Proportion of invasive cancers having breast conserving surgery

Description:

The proportion of women diagnosed with invasive cancer, without a DCIS component, of pathological diameter ≤20mm who have breast conserving surgery (BCS).

Target:

The majority (> 50%) of screen-detected cancers ≤20mm are treated by BCS

Table 4f: Proportion of invasive cancers ≤20mm, without DCIS, having BCS, 5 years (July 2006–June 2011)

	Māori			Non-Māori			
Lead provider	No. of invasive cancers without DCIS ≤20mm having BCS	No. of invasive cancers without DCIS ≤20mm who are operated on	% of invasive cancers without DCIS ≤20mm who have BCS (95% CI)	No. of invasive cancers, without DCIS ≤20mm having BCS	No. of invasive cancers without DCIS ≤20mm who are operated on	% of invasive cancers, without DCIS ≤20mm who have BCS (95% CI)	Māori/non-Māori ratio (95% CI)
45–49 years							
BSWN	19	22	86.4(65.1, 97.1)	54	65	83.1(71.7, 91.2)	1.04(0.85, 1.27)
BSCM	4	6	66.7(22.3, 95.7)	13	25	52.0(31.3, 72.2)	1.28(0.65, 2.53)
BSAL	4	5	80.0(28.4, 99.5)	21	29	72.4(52.8, 87.3)	1.10(0.68, 1.81)
BSM	15	18	83.3(58.6, 96.4)	41	48	85.4(72.2, 93.9)	0.98(0.77, 1.24)
BSCtoC	5	9	55.6(21.2, 86.3)	31	39	79.5(63.5, 90.7)	0.70(0.38, 1.28)
BSC	7	9	77.8(40.0, 97.2)	27	40	67.5(50.9, 81.4)	1.15(0.76, 1.74)
BSSL	12	13	92.3(64.0, 99.8)	43	70	61.4(49.0, 72.8)	*1.50(1.18, 1.92)*
BSHC	1	1	100.0(2.5, 100.0)	15	27	55.6(35.3, 74.5)	*1.80(1.28, 2.52)*
Total	**67**	**83**	**80.7(70.6, 88.6)**	**245**	**343**	**71.4(66.3, 76.2)**	***1.13(1.00, 1.28)***
50–69 years							
BSWN	40	53	75.5(61.7, 86.2)	321	402	79.9(75.6, 83.7)	0.95(0.80, 1.11)
BSCM	38	49	77.6(63.4, 88.2)	130	179	72.6(65.5, 79.0)	1.07(0.90, 1.27)
BSAL	13	15	86.7(59.5, 98.3)	132	153	86.3(79.8, 91.3)	1.00(0.82, 1.24)
BSM	52	72	72.2(60.4, 82.1)	270	329	82.1(77.5, 86.1)	0.88(0.76, 1.02)
BSCtoC	37	51	72.5(58.3, 84.1)	185	257	72.0(66.1, 77.4)	1.01(0.84, 1.21)
BSC	23	38	60.5(43.4, 76.0)	186	233	79.8(74.1, 84.8)	*0.76(0.58, 0.99)*
BSSL	20	26	76.9(56.4, 91.0)	323	464	69.6(65.2, 73.8)	1.11(0.89, 1.38)
BSHC	1	8	12.5(0.3, 52.7)	101	154	65.6(57.5, 73.0)	0.19(0.03, 1.20)
Total	**224**	**312**	**71.8(66.5, 76.7)**	**1,648**	**2,171**	**75.9(74.1, 77.7)**	**0.95(0.88, 1.02)**

Ratios below one are unfavourable to Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori.

The target of more than 50% of screen-detected invasive cancers ≤20mm diameter treated by breast conserving surgery was met for both Māori (72%) and non-Māori (76%) women aged 50–69 years.

Among women aged 45–49 years, 81% of Māori women and 71% of non-Māori women had breast conserving surgery (13% higher for Māori compared to non-Māori).

4g Proportion of women with invasive cancer having radiotherapy

Description:

The proportion of women diagnosed with invasive cancer, who have breast conserving surgery (BCS) who go on to have radiotherapy

Target:

≥95%

Table 4g: Proportion of invasive cancers, having BCS and having radiotherapy, 5 years (July 2006–June 2011)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of invasive cancers having BCS who have radiotherapy	No. of invasive cancers having BCS	% of invasive cancers having BCS who have radiotherapy (95% CI)	No. of invasive cancers having BCS who have radiotherapy	No. of invasive cancers having BCS	% of invasive cancers, having BCS who have radiotherapy (95% CI)	
45–49 years							
BSWN	20	23	87.0(66.4, 97.2)	68	71	95.8(88.1, 99.1)	0.91(0.77, 1.07)
BSCM	8	8	100.0(63.1, 100.0)	23	25	92.0(74.0, 99.0)	1.09(0.97, 1.22)
BSAL	6	8	75.0(34.9, 96.8)	31	38	81.6(65.7, 92.3)	0.92(0.60, 1.41)
BSM	16	20	80.0(56.3, 94.3)	54	58	93.1(83.3, 98.1)	0.86(0.68, 1.08)
BSCtoC	6	6	100.0(54.1, 100.0)	35	37	94.6(81.8, 99.3)	1.06(0.98, 1.14)
BSC	9	10	90.0(55.5, 99.7)	34	34	100.0(89.7, 100.0)	0.90(0.73, 1.11)
BSSL	13	13	100.0(75.3, 100.0)	55	58	94.8(85.6, 98.9)	1.05(0.99, 1.12)
BSHC	1	1	100.0(2.5, 100.0)	21	21	100.0(83.9, 100.0)	1.00(1.00, 1.00)
Total	**79**	**89**	**88.8(80.3, 94.5)**	**321**	**342**	**93.9(90.8, 96.2)**	**0.95(0.87, 1.02)**
50–69 years							
BSWN	39	45	86.7(73.2, 94.9)	358	381	94.0(91.1, 96.1)	0.92(0.82, 1.04)
BSCM	42	45	93.3(81.7, 98.6)	144	155	92.9(87.7, 96.4)	1.00(0.92, 1.10)
BSAL	14	17	82.4(56.6, 96.2)	168	199	84.4(78.6, 89.2)	0.98(0.78, 1.23)
BSM	61	68	89.7(79.9, 95.8)	300	331	90.6(87.0, 93.5)	0.99(0.91, 1.08)
BSCtoC	47	49	95.9(86.0, 99.5)	221	232	95.3(91.7, 97.6)	1.01(0.94, 1.07)
BSC	27	27	100.0(87.2, 100.0)	208	214	97.2(94.0, 99.0)	*1.03(1.01, 1.05)*
BSSL	25	26	96.2(80.4, 99.9)	373	381	97.9(95.9, 99.1)	0.98(0.91, 1.06)
BSHC	2	2	100.0(15.8, 100.0)	126	129	97.7(93.4, 99.5)	1.02(1.00, 1.05)
Total	**257**	**279**	**92.1(88.3, 95.0)**	**1,898**	**2,022**	**93.9(92.7, 94.9)**	**0.98(0.95, 1.02)**

Ratios below one are unfavourable to Māori. Shaded boxes show the confidence interval excludes the target of ≥95%. Ratios in italics show a statistically significant difference between Māori and non-Māori.

92% of Māori and 94% of non-Māori women aged 50–69 years with invasive cancer who had BCS went on to have radiotherapy, close to the target of 95%.

Among women aged 45–49 years, the proportions were 89% for Māori women and 94% for non-Māori women.

4h Proportion of women with DCIS having radiotherapy

Description:

The proportion of women diagnosed solely with DCIS, who have Breast Conserving Surgery (BCS), who go on to have radiotherapy.

Target:

No target.

Table 4h: Proportion of women with DCIS, having BCS and having radiotherapy, 5 years (July 2006–June 2011)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of DCIS, having BCS, who have radiotherapy	No. of DCIS, having BCS	% of DCIS, having BCS, who have radiotherapy (95% CI)	No. of DCIS, having BCS, who have radiotherapy	No. of DCIS, having BCS	% of DCIS, having BCS, who have radiotherapy (95% CI)	
45–49 years							
BSWN	3	4	75.0(19.4, 99.4)	23	35	65.7(47.8, 80.9)	1.14(0.62, 2.11)
BSCM	1	2	50.0(1.3, 98.7)	6	10	60.0(26.2, 87.8)	0.83(0.19, 3.64)
BSAL	0	1	0.0(0.0, 97.5)	15	26	57.7(36.9, 76.6)	0.00(0.00, 7.25)
BSM	2	4	50.0(6.8, 93.2)	18	30	60.0(40.6, 77.3)	0.83(0.30, 2.32)
BSCtoC	0	4	0.0(0.0, 60.2)	3	12	25.0(5.5, 57.2)	0.00(0.00, 7.26)
BSC	0	0	--	7	18	38.9(17.3, 64.3)	--
BSSL	0	0	--	30	39	76.9(60.7, 88.9)	--
BSHC	0	0	--	3	4	75.0(19.4, 99.4)	--
Total	**6**	**15**	**40.0(16.3, 67.7)**	**105**	**174**	**60.3(52.7, 67.7)**	**0.66(0.35, 1.25)**
50–69 years							
BSWN	9	17	52.9(27.8, 77.0)	84	108	77.8(68.8, 85.2)	0.68(0.43, 1.08)
BSCM	2	4	50.0(6.8, 93.2)	34	51	66.7(52.1, 79.2)	0.75(0.28, 2.04)
BSAL	1	6	16.7(0.4, 64.1)	30	68	44.1(32.1, 56.7)	0.38(0.06, 2.31)
BSM	7	14	50.0(23.0, 77.0)	69	102	67.6(57.7, 76.6)	0.74(0.43, 1.27)
BSCtoC	1	3	33.3(0.8, 90.6)	20	48	41.7(27.6, 56.8)	0.80(0.16, 4.10)
BSC	6	9	66.7(29.9, 92.5)	33	80	41.2(30.4, 52.8)	1.62(0.95, 2.75)
BSSL	4	6	66.7(22.3, 95.7)	87	115	75.7(66.8, 83.2)	0.88(0.50, 1.57)
BSHC	0	1	0.0(0.0, 97.5)	16	24	66.7(44.7, 84.4)	0.00(0.00, 6.22)
Total	**30**	**60**	**50.0(36.8, 63.2)**	**373**	**596**	**62.6(58.6, 66.5)**	**0.80(0.62, 1.04)**

There is no target for this indicator.

Among Māori women who were diagnosed solely with DCIS and had breast conserving surgery, 40% of those aged 45–49 years and 50% of those aged 50–69 years went on to have radiotherapy.

Among non-Māori women, the proportions were 60% and 63% respectively.

4i Proportion of women with invasive cancer having chemotherapy

Description:

The proportion of women diagnosed with invasive cancer who have chemotherapy, reported by disease character groups.

Table 4i.1: The proportion of women aged 45–49 years with invasive cancers who have chemotherapy, by disease character group, 5 years (July 2006–June 2011)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of invasive cancers in group having chemotherapy	No. of invasive cancers, in group	% of invasive cancers, in group, having chemotherapy	No. of invasive cancers, in group, having chemotherapy	No. of invasive cancers, in group	% of invasive cancers, in group having chemotherapy	
Group 1: Node positive, ER/PR negative							
BSWN	0	0	--	2	3	66.7(9.4, 99.2)	--
BSCM	0	0	--	1	1	100.0(2.5, 100.0)	--
BSAL	0	0	--	2	2	100.0(15.8, 100.0)	--
BSM	0	0	--	4	4	100.0(39.8, 100.0)	--
BSCtoC	3	3	100.0(29.2, 100.0)	1	1	100.0(2.5, 100.0)	1.00(1.00, 1.00)
BSC	0	0	--	1	1	100.0(2.5, 100.0)	--
BSSL	0	0	--	1	1	100.0(2.5, 100.0)	--
BSHC	0	0	--	2	2	100.0(15.8, 100.0)	--
Total	**3**	**3**	**100.0(29.2, 100.0)**	**14**	**15**	**93.3(68.1, 99.8)**	**1.15(0.95, 1.41)**
Group 2: Node negative, high risk, and ER/PR negative							
BSWN	2	2	100.0(15.8, 100.0)	9	12	75.0(42.8, 94.5)	1.33(0.96, 1.85)
BSCM	1	1	100.0(2.5, 100.0)	3	4	75.0(19.4, 99.4)	1.33(0.76, 2.35)
BSAL	1	2	50.0(1.3, 98.7)	2	3	66.7(9.4, 99.2)	0.75(0.15, 3.72)
BSM	0	0	--	1	1	100.0(2.5, 100.0)	--
BSCtoC	1	1	100.0(2.5, 100.0)	2	3	66.7(9.4, 99.2)	1.50(0.67, 3.34)
BSC	0	0	--	1	1	100.0(2.5, 100.0)	--
BSSL	0	0	--	5	6	83.3(35.9, 99.6)	--
BSHC	0	0	--	2	2	100.0(15.8, 100.0)	--
Total	**5**	**6**	**83.3(35.9, 99.6)**	**25**	**32**	**78.1(60.0, 90.7)**	**1.07(0.71, 1.59)**
Group 3: Node positive, either ER or PR positive							
BSWN	2	5	40.0(5.3, 85.3)	24	29	82.8(64.2, 94.2)	0.48(0.16, 1.43)
BSCM	2	4	50.0(6.8, 93.2)	19	25	76.0(54.9, 90.6)	0.66(0.24, 1.80)
BSAL	0	0	--	21	24	87.5(67.6, 97.3)	--
BSM	5	11	45.5(16.7, 76.6)	17	22	77.3(54.6, 92.2)	0.59(0.30, 1.17)
BSCtoC	5	5	100.0(47.8, 100.0)	17	19	89.5(66.9, 98.7)	1.12(0.96, 1.30)
BSC	3	5	60.0(14.7, 94.7)	22	27	81.5(61.9, 93.7)	0.74(0.35, 1.54)
BSSL	3	3	100.0(29.2, 100.0)	36	41	87.8(73.8, 95.9)	*1.17(1.03, 1.33)*
BSHC	0	0	--	16	16	100.0(79.4, 100.0)	--
Total	**20**	**33**	**60.6(42.1, 77.1)**	**172**	**203**	**84.7(79.0, 89.4)**	***0.72(0.55, 0.96)***

Ratios in italics show a statistically significant difference between Māori and non-Māori.

Table 4i.1 continued

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of invasive cancers in group having chemotherapy	No. of invasive cancers, in group	% of invasive cancers, in group, having chemotherapy	No. of invasive cancers in group having chemotherapy	No. of invasive cancers, in group	% of invasive cancers, in group having chemotherapy	
Group 4: Node negative, high risk-either ER or PR positive							
BSWN	1	10	10.0(0.3, 44.5)	10	34	29.4(15.1, 47.5)	0.32(0.05, 2.22)
BSCM	1	2	50.0(1.3, 98.7)	4	16	25.0(7.3, 52.4)	0.90(0.13, 6.35)
BSAL	4	8	50.0(15.7, 84.3)	5	23	21.7(7.5, 43.7)	2.40(0.85, 6.81)
BSM	4	7	57.1(18.4, 90.1)	6	26	23.1(9.0, 43.6)	1.38(0.45, 4.26)
BSCtoC	2	5	40.0(5.3, 85.3)	12	19	63.2(38.4, 83.7)	0.62(0.20, 1.89)
BSC	2	7	28.6(3.7, 71.0)	5	21	23.8(8.2, 47.2)	1.10(0.29, 4.18)
BSSL	3	10	30.0(6.7, 65.2)	14	46	30.4(17.7, 45.8)	1.03(0.36, 2.92)
BSHC	0	1	0.0(0.0, 97.5)	8	13	61.5(31.6, 86.1)	0.00(0.00, 8.11)
Total	**17**	**50**	**34.0(21.2, 48.8)**	**64**	**198**	**32.3(25.9, 39.3)**	**0.90(0.57, 1.42)**

Among women aged 45–49 years, Māori women who were node positive and ER or PR positive (Group 3) were 28% less likely than non-Māori women in the same diagnostic group to receive chemotherapy. There were no significant differences between Māori and non-Māori in the receipt of chemotherapy in the other diagnostic groups.

Table 4i.2: The proportion of women aged 50–69 years with invasive cancers who have chemotherapy, by disease character group, 5 years (July 2006–June 2011)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of invasive cancers in group having chemotherapy	No. of invasive cancers in group	% of invasive cancers in group having chemotherapy	No. of invasive cancers in group having chemotherapy	No. of invasive cancers in group	% of invasive cancers in group having chemotherapy	
Group 1: Node positive, and ER and PR negative							
BSWN	0	1	0.0(0.0, 97.5)	18	21	85.7(63.7, 97.0)	0.00(0.00, 4.78)
BSCM	2	3	66.7(9.4, 99.2)	10	11	90.9(58.7, 99.8)	0.73(0.32, 1.67)
BSAL	0	0	--	8	8	100.0(63.1, 100.0)	--
BSM	2	2	100.0(15.8, 100.0)	9	9	100.0(66.4, 100.0)	1.00(1.00, 1.00)
BSCtoC	1	1	100.0(2.5, 100.0)	8	9	88.9(51.8, 99.7)	1.12(0.89, 1.42)
BSC	2	3	66.7(9.4, 99.2)	12	13	92.3(64.0, 99.8)	0.72(0.32, 1.63)
BSSL	1	1	100.0(2.5, 100.0)	16	16	100.0(79.4, 100.0)	1.00(1.00, 1.00)
BSHC	1	1	100.0(2.5, 100.0)	4	4	100.0(39.8, 100.0)	1.00(1.00, 1.00)
Total	**9**	**12**	**75.0(42.8, 94.5)**	**85**	**91**	**93.4(86.2, 97.5)**	**0.81(0.58, 1.13)**
Group 2: Node negative, high risk, and ER or PR negative							
BSWN	3	4	75.0(19.4, 99.4)	35	53	66.0(51.7, 78.5)	1.14(0.62, 2.06)
BSCM	2	3	66.7(9.4, 99.2)	13	26	50.0(29.9, 70.1)	1.33(0.55, 3.24)
BSAL	0	0	--	13	18	72.2(46.5, 90.3)	--
BSM	2	2	100.0(15.8, 100.0)	15	26	57.7(36.9, 76.6)	*1.73(1.25, 2.41)*
BSCtoC	3	3	100.0(29.2, 100.0)	13	28	46.4(27.5, 66.1)	*2.15(1.45, 3.21)*
BSC	3	3	100.0(29.2, 100.0)	10	28	35.7(18.6, 55.9)	*2.64(1.66, 4.20)*
BSSL	1	3	33.3(0.8, 90.6)	33	51	64.7(50.1, 77.6)	0.52(0.10, 2.59)
BSHC	1	1	100.0(2.5, 100.0)	12	19	63.2(38.4, 83.7)	*1.54(1.12, 2.12)*
Total	**15**	**19**	**78.9(54.4, 93.9)**	**144**	**249**	**57.8(51.4, 64.0)**	***1.36(1.05, 1.75)***

Table 4i.2 continued

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of invasive cancers in group having chemotherapy	No. of invasive cancers in group	% of invasive cancers in group having chemotherapy	No. of invasive cancers in group having chemotherapy	No. of invasive cancers in group	% of invasive cancers in group having chemotherapy	
Group 3: Node positive, and either ER or PR positive							
BSWN	6	15	40.0(16.3, 67.7)	37	89	41.6(31.2, 52.5)	0.99(0.51, 1.93)
BSCM	5	12	41.7(15.2, 72.3)	23	49	46.9(32.5, 61.7)	0.71(0.30, 1.67)
BSAL	1	5	20.0(0.5, 71.6)	13	39	33.3(19.1, 50.2)	0.60(0.10, 3.66)
BSM	10	22	45.5(24.4, 67.8)	46	93	49.5(38.9, 60.0)	0.92(0.56, 1.52)
BSCtoC	10	28	35.7(18.6, 55.9)	46	84	54.8(43.5, 65.7)	0.65(0.38, 1.11)
BSC	6	10	60.0(26.2, 87.8)	41	67	61.2(48.5, 72.9)	1.01(0.58, 1.73)
BSSL	5	11	45.5(16.7, 76.6)	70	128	54.7(45.7, 63.5)	0.83(0.43, 1.62)
BSHC	1	1	100.0(2.5, 100.0)	42	57	73.7(60.3, 84.5)	*1.36(1.16, 1.58)*
Total	**44**	**104**	**42.3(32.7, 52.4)**	**318**	**606**	**52.5(48.4, 56.5)**	**0.79(0.62, 1.01)**
Group 4: Node negative, high risk, and either ER or PR positive							
BSWN	5	30	16.7(5.6, 34.7)	11	171	6.4(3.3, 11.2)	*2.95(1.08, 8.03)*
BSCM	2	27	7.4(0.9, 24.3)	15	100	15.0(8.6, 23.5)	0.48(0.12, 1.98)
BSAL	1	9	11.1(0.3, 48.2)	8	81	9.9(4.4, 18.5)	0.90(0.13, 6.44)
BSM	10	59	16.9(8.4, 29.0)	26	171	15.2(10.2, 21.5)	1.14(0.59, 2.21)
BSCtoC	3	34	8.8(1.9, 23.7)	27	155	17.4(11.8, 24.3)	0.53(0.17, 1.65)
BSC	1	24	4.2(0.1, 21.1)	12	120	10.0(5.3, 16.8)	0.35(0.05, 2.56)
BSSL	7	20	35.0(15.4, 59.2)	25	287	8.7(5.7, 12.6)	*3.68(1.80, 7.54)*
BSHC	0	7	0.0(0.0, 41.0)	13	82	15.9(8.7, 25.6)	0.00(0.00, 3.88)
Total	**29**	**210**	**13.8(9.4, 19.2)**	**137**	**1167**	**11.7(9.9, 13.7)**	**1.15(0.79, 1.67)**

Ratios in italics show a statistically significant difference between Māori and non-Māori.

There were no statistically significant differences between the proportions of Māori and non-Māori women aged 50–69 years receiving chemotherapy in each diagnostic group, except for Group 2 (Node negative, high risk, and oestrogen receptor and progesterone receptor status negative) among whom Māori women were 36% more likely to have chemotherapy.

There is no target for this indicator.

4j Proportion of women with invasive cancer having endocrine therapy

Description:

The proportion of women diagnosed with invasive cancer who have endocrine therapy reported by disease character group.

Table 4j.1: Proportion of women aged 45–49 years diagnosed with invasive cancer who had endocrine therapy by disease character group, 5 years (July 2006–June 2011)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of invasive cancers, in group having endocrine therapy	No. of invasive cancers, in group	% of invasive cancers, in group, having endocrine therapy	No. of invasive cancers, in group, having endocrine therapy	No. of invasive cancers, in group	% of invasive cancers, in group having endocrine therapy	
Group 1: Node positive and either ER or PR positive							
BSWN	5	5	100.0(47.8, 100.0)	27	29	93.1(77.2, 99.2)	1.07(0.97, 1.19)
BSCM	4	4	100.0(39.8, 100.0)	23	25	92.0(74.0, 99.0)	1.09(0.97, 1.22)
BSAL	0	0	--	21	24	87.5(67.6, 97.3)	--
BSM	11	11	100.0(71.5, 100.0)	20	22	90.9(70.8, 98.9)	1.10(0.96, 1.26)
BSCtoC	5	5	100.0(47.8, 100.0)	19	19	100.0(82.4, 100.0)	1.00(1.00, 1.00)
BSC	4	5	80.0(28.4, 99.5)	27	27	100.0(87.2, 100.0)	0.80(0.52, 1.24)
BSSL	3	3	100.0(29.2, 100.0)	37	41	90.2(76.9, 97.3)	1.11(1.00, 1.23)
BSHC	0	0	--	15	16	93.8(69.8, 99.8)	--
Total	**32**	**33**	**97.0(84.2, 99.9)**	**189**	**203**	**93.1(88.7, 96.2)**	**1.04(0.97, 1.12)**
Group 2: Node negative, high risk, and either ER or PR positive							
BSWN	10	11	90.9(58.7, 99.8)	27	35	77.1(59.9, 89.6)	1.18(0.91, 1.53)
BSCM	3	5	60.0(14.7, 94.7)	10	18	55.6(30.8, 78.5)	1.08(0.47, 2.47)
BSAL	5	8	62.5(24.5, 91.5)	16	24	66.7(44.7, 84.4)	0.94(0.51, 1.72)
BSM	8	9	88.9(51.8, 99.7)	26	29	89.7(72.6, 97.8)	0.99(0.76, 1.29)
BSCtoC	5	5	100.0(47.8, 100.0)	17	20	85.0(62.1, 96.8)	1.18(0.98, 1.41)
BSC	7	7	100.0(59.0, 100.0)	26	27	96.3(81.0, 99.9)	1.04(0.96, 1.12)
BSSL	7	10	70.0(34.8, 93.3)	29	48	60.4(45.3, 74.2)	1.16(0.73, 1.85)
BSHC	0	1	0.0(0.0, 97.5)	15	16	93.8(69.8, 99.8)	0.00(0.00, 4.46)
Total	**45**	**56**	**80.4(67.6, 89.8)**	**166**	**217**	**76.5(70.3, 82.0)**	**1.05(0.91, 1.22)**
Group 3: Node negative, low risk, and either ER or PR positive							
BSWN	1	11	9.1(0.2, 41.3)	5	30	16.7(5.6, 34.7)	0.55(0.07, 4.16)
BSCM	0	2	0.0(0.0, 84.2)	2	12	16.7(2.1, 48.4)	0.00(0.00, 31.95)
BSAL	1	1	100.0(2.5, 100.0)	4	16	25.0(7.3, 52.4)	*4.00(1.71, 9.35)*
BSM	8	10	80.0(44.4, 97.5)	16	18	88.9(65.3, 98.6)	0.90(0.63, 1.28)
BSCtoC	4	5	80.0(28.4, 99.5)	5	11	45.5(16.7, 76.6)	1.76(0.81, 3.85)
BSC	2	3	66.7(9.4, 99.2)	14	16	87.5(61.7, 98.4)	0.76(0.34, 1.73)
BSSL	1	3	33.3(0.8, 90.6)	8	21	38.1(18.1, 61.6)	0.88(0.16, 4.75)
BSHC	0	0	--	2	9	22.2(2.8, 60.0)	--
Total	**17**	**35**	**48.6(31.4, 66.0)**	**56**	**133**	**42.1(33.6, 51.0)**	**1.15(0.78, 1.71)**

There were no statistically significant differences between Māori and non-Māori women receiving endocrine therapy in any diagnostic group.

Table 4j.2: Proportion of women aged 50–69 years diagnosed with invasive cancer who had endocrine therapy by disease character group, 5 years (July 2006–June 2011)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of invasive cancers, in group having endocrine therapy	No. of invasive cancers, in group	% of invasive cancers, in group, having endocrine therapy	No. of invasive cancers, in group, having endocrine therapy	No. of invasive cancers, in group	% of invasive cancers, in group having endocrine therapy	
Group 1: Node positive, and either ER or PR positive							
BSWN	15	15	100.0(78.2, 100.0)	84	89	94.4(87.4, 98.2)	*1.06(1.01, 1.11)*
BSCM	10	12	83.3(51.6, 97.9)	46	49	93.9(83.1, 98.7)	0.89(0.68, 1.15)
BSAL	5	5	100.0(47.8, 100.0)	35	39	89.7(75.8, 97.1)	*1.11(1.00, 1.24)*
BSM	22	22	100.0(84.6, 100.0)	91	93	97.8(92.4, 99.7)	1.02(0.99, 1.05)
BSCtoC	28	28	100.0(87.7, 100.0)	80	84	95.2(88.3, 98.7)	*1.05(1.00, 1.10)*
BSC	9	10	90.0(55.5, 99.7)	66	67	98.5(92.0, 100.0)	0.91(0.74, 1.13)
BSSL	10	11	90.9(58.7, 99.8)	119	128	93.0(87.1, 96.7)	0.98(0.81, 1.19)
BSHC	1	1	100.0(2.5, 100.0)	56	57	98.2(90.6, 100.0)	1.02(0.98, 1.05)
Total	**100**	**104**	**96.2(90.4, 98.9)**	**577**	**606**	**95.2(93.2, 96.8)**	**1.01(0.97, 1.05)**
Group 2: Node negative, high risk, and either ER or PR positive							
BSWN	18	30	60.0(40.6, 77.3)	138	177	78.0(71.1, 83.8)	0.77(0.57, 1.04)
BSCM	17	30	56.7(37.4, 74.5)	61	108	56.5(46.6, 66.0)	1.00(0.70, 1.43)
BSAL	8	11	72.7(39.0, 94.0)	58	89	65.2(54.3, 75.0)	1.12(0.75, 1.65)
BSM	54	59	91.5(81.3, 97.2)	168	181	92.8(88.0, 96.1)	0.99(0.90, 1.08)
BSCtoC	24	35	68.6(50.7, 83.1)	118	167	70.7(63.1, 77.4)	0.97(0.76, 1.24)
BSC	24	26	92.3(74.9, 99.1)	111	128	86.7(79.6, 92.1)	1.06(0.93, 1.21)
BSSL	17	22	77.3(54.6, 92.2)	156	289	54.0(48.0, 59.8)	*1.43(1.11, 1.84)*
BSHC	6	7	85.7(42.1, 99.6)	50	90	55.6(44.7, 66.0)	*1.54(1.08, 2.20)*
Total	**168**	**220**	**76.4(70.2, 81.8)**	**860**	**1,229**	**70.0(67.3, 72.5)**	***1.09(1.01, 1.18)***
Group 3: Node negative, low risk, and either ER or PR positive							
BSWN	2	20	10.0(1.2, 31.7)	35	189	18.5(13.3, 24.8)	0.54(0.14, 2.08)
BSCM	0	25	0.0(0.0, 13.7)	3	70	4.3(0.9, 12.0)	0.00(0.00, 6.78)
BSAL	1	8	12.5(0.3, 52.7)	13	88	14.8(8.1, 23.9)	0.85(0.13, 5.66)
BSM	17	19	89.5(66.9, 98.7)	118	127	92.9(87.0, 96.7)	0.96(0.82, 1.13)
BSCtoC	9	13	69.2(38.6, 90.9)	39	84	46.4(35.5, 57.6)	1.49(0.97, 2.29)
BSC	8	13	61.5(31.6, 86.1)	73	93	78.5(68.8, 86.3)	0.78(0.50, 1.22)
BSSL	0	5	0.0(0.0, 52.2)	55	153	35.9(28.4, 44.1)	0.00(0.00, 2.12)
BSHC	0	2	0.0(0.0, 84.2)	9	46	19.6(9.4, 33.9)	0.00(0.00, 11.65)
Total	**37**	**105**	**35.2(26.2, 45.2)**	**345**	**850**	**40.6(37.3, 44.0)**	**0.87(0.66, 1.14)**

Ratios in italics show a statistically significant difference between Māori and non-Māori.

There were no statistically significant differences between Māori and non-Māori women overall in the receipt of endocrine therapy apart from women in Group 2 (who were node negative, high risk and either ER or PR positive). In this group Māori women were 9% more likely than non-Māori women to receive endocrine therapy.

There is no target for this indicator.

SECTION 5: PROVISION OF AN APPROPRIATE AND ACCEPTABLE SERVICE

5e First surgical treatment within 20 working days

Description:

The time from when a woman receives her final diagnostic results to the date of her first surgical treatment.

Target:

90% of women should normally receive their first surgical treatment within 20 working days of receiving their final diagnostic results.

Table 5e: Proportion of women receiving first surgical treatment within 20 working days, 5 years (July 2006–June 2011)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	First surgical treatment within 20 working days	Total number having surgery	% receiving first surgery within 20 working days (95% CI)	First surgical treatment within 20 working days	Total number having surgery	% receiving first surgery within 20 working days (95% CI)	
45–49 years							
BSWN	24	38	63.2(46.0, 78.2)	117	164	71.3(63.8, 78.1)	0.89(0.68, 1.15)
BSCM	1	16	6.2(0.2, 30.2)	19	85	22.4(14.0, 32.7)	0.28(0.04, 1.94)
BSAL	9	12	75.0(42.8, 94.5)	60	111	54.1(44.3, 63.6)	1.39(0.96, 2.01)
BSM	16	33	48.5(30.8, 66.5)	77	112	68.8(59.3, 77.2)	0.71(0.49, 1.02)
BSCtoC	18	25	72.0(50.6, 87.9)	64	86	74.4(63.9, 83.2)	0.97(0.74, 1.27)
BSC	11	18	61.1(35.7, 82.7)	65	104	62.5(52.5, 71.8)	0.98(0.66, 1.46)
BSSL	11	17	64.7(38.3, 85.8)	120	176	68.2(60.8, 75.0)	0.95(0.66, 1.37)
BSHC	1	2	50.0(1.3, 98.7)	41	59	69.5(56.1, 80.8)	0.72(0.18, 2.91)
Total	**91**	**161**	**56.5(48.5, 64.3)**	**563**	**897**	**62.8(59.5, 65.9)**	**0.90(0.78, 1.04)**
50–69 years							
BSWN	65	93	69.9(59.5, 79.0)	505	694	72.8(69.3, 76.0)	0.96(0.83, 1.11)
BSCM	16	85	18.8(11.2, 28.8)	112	366	30.6(25.9, 35.6)	*0.63(0.39, 0.98)*
BSAL	15	31	48.4(30.2, 66.9)	213	340	62.6(57.3, 67.8)	0.78(0.53, 1.12)
BSM	69	123	56.1(46.9, 65.0)	381	572	66.6(62.6, 70.5)	*0.84(0.71, 0.995)*
BSCtoC	50	89	56.2(45.3, 66.7)	322	470	68.5(64.1, 72.7)	*0.82(0.68, 0.995)*
BSC	41	69	59.4(46.9, 71.1)	269	458	58.7(54.1, 63.3)	1.01(0.82, 1.25)
BSSL	36	53	67.9(53.7, 80.1)	583	819	71.2(67.9, 74.3)	0.95(0.79, 1.15)
BSHC	9	13	69.2(38.6, 90.9)	165	275	60.0(53.9, 65.8)	1.15(0.79, 1.68)
Total	**301**	**556**	**54.1(49.9, 58.3)**	**2,550**	**3,994**	**63.8(62.3, 65.3)**	***0.85(0.78, 0.92)***

Ratios below one are unfavourable to Māori. Shaded boxes show confidence interval excludes target of 90% or more. Ratios in italics show a statistically significant difference between Māori and non-Māori.

Just over half of Māori women and close to two-thirds of non-Māori women in both age groups received their first surgical treatment within 20 working days. Among women aged 50–69 years Māori women were 15% less likely than non-Māori women to receive timely surgery. BSCM had the lowest proportions of Māori women receiving timely surgery in both age groups, (16% in 45–49 years and 19% in 50–69 years). No Lead Provider reached the target of 90%.

APPENDIX A: GLOSSARY OF TERMS

Assessment
A follow-up investigation if something of concern is seen on a mammogram.

Assessment rate
Number of women referred to assessment as a percentage of all women screened.

Asymptomatic
Women who do not have symptoms of breast cancer.

Axillary lymph nodes
Lymph nodes located in the armpits.

BCS
Breast conserving surgery

Biopsy
A sample of a breast abnormality, or the whole abnormality, is removed and examined under a microscope by a pathologist to determine whether it is cancer.

Benign biopsy weight
The weight of the open biopsy specimen presented to the pathologist.

Benign biopsy rate
Number of open biopsies that turn out to be benign lesions, expressed as a proportion of women screened.

BSA
BreastScreen Aotearoa.

Coverage
Population-based measure of the percentage of women in the target age group (45–49, 50–69 years) who have had a screening mammogram in the programme.

ER
Estrogen Receptor

False negative
A negative screening test result in a woman who actually does have cancer at the time the screening is conducted.

False positive result
The proportion of women recalled to assessment, but after assessment are found not to have cancer.

FNAC
Fine needle aspiration cytology

IMMG
Independent Māori Monitoring Group

IMMR
Independent Māori Monitoring Report

Initial screen
A woman's first screening mammogram at any BSA Lead Provider.

Lead Provider
A service provider who contracts with the National Screening Unit to provide services purchased as a result of the *Request for Proposal*. This term encompasses those individuals or organisations who act as a nominee, agent or subcontracted provider to a Lead Provider.

MAG
Māori Advisory Group

MMEG
Māori Monitoring and Equity Group

Negative predictive value (NPV)
The proportion of women screened negative who are ultimately diagnosed as not having cancer.

Node negative
Axillary lymph nodes (in armpit) do not contain cancer cells

Node positive
Axillary lymph nodes (in armpit) contain cancer cells

Positive predictive value (PPV)
The proportion of women screened positive who are ultimately diagnosed as having cancer.

PR
Progesterone receptor

Pre-operative diagnosis rate
Number of women for whom a needle biopsy provides the definitive diagnosis (pre-operative diagnosis), as a percentage of all women diagnosed with breast cancer in the programme.

Rescreen
A screening mammogram undertaken two years after the previous screen. In this report, rescreen refers to women who returned for screening within 27 months following their previous screen.

Sensitivity
The proportion of truly diseased persons in the screened population who are identified as diseased by the screening test. Sensitivity is a measure of the probability of correctly diagnosing a case, or the probability that any given case will be identified by the test.

Specificity
The proportion of women without breast cancer at screening who have a negative screen result. This is estimated by expressing the number of women who have a negative screen result as a percentage of all women screened excluding the women screened positive with cancer.

Subsequent screen
A woman's screening mammogram at a BSA Lead Provider when she has previously attended BSA.

Technical recall rate
Number of women who have to return to a screening unit (either Fixed or Mobile) for further films to complete their screening episode, after radiologist's review, (not technicians' review) expressed as a percentage of the number screened. This indicator has changed from earlier reports which also included recalls by technicians before the woman left the clinic.

Technical reject rate
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.