

BreastScreen Aotearoa

Independent Māori Monitoring Report 4
New Time Series Report
Screening and Assessment July 2010 to June
2012
Ages 45 to 69 years

A report prepared by
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April 2014

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This document will be available on the National Screening Unit website: <http://www.nsu.govt.nz>

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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 in a new time series of independent Māori monitoring reports commissioned to measure the quality of BSA services for Māori women. Using the standard indicators and targets developed by the National Screening Unit (NSU), this report presents the results for Māori and non-Māori women aged 45 to 49 years and 50 to 69 years screened by BSA and the Māori/non-Māori ratios for each indicator as a measure of equality or inequality.

Data on coverage, screening and assessment quality, some detection indicators, and timeliness indicators are reported for the two-year period July 2010 to June 2012, while data on early detection are presented for the five-year period July 2007 to June 2012 due to the smaller numbers involved. Time trends are presented in graphs for selected two-year indicators. The previous Māori monitoring report presented indicators for women aged 50 to 64 years screened during the period January 2008 to December 2009.

Coverage

BSA screened 42,616 Māori women aged 45 to 69 years during the period July 2010 to June 2012, of whom 30,162 were aged between 50 and 69 years.

Māori participation in breast screening continued to increase, with 64% of women aged 50 to 69 years screened (an increase of 10 percentage points since the Jan 2008–Dec 2009 period). Inequalities between Māori and non-Māori coverage continued to reduce (from 20% lower to 11% lower).

A further 3,100 Māori women needed to be screened to reach the target of 70% of eligible women aged 50 to 69 years, with half of these aged 50 to 54 years.

Breast Screen South Limited (BSSL) continued to exceed the target coverage of Māori women in each age group. Other providers showed sustained increases, with some reaching the target. BreastScreen Midland screened 55% of the eligible Māori population, requiring a further 1,800 women screened to reach 70%. BreastScreen Coast to Coast screened 62%, requiring a further 735 to reach the target value.

The proportion of Māori women rescreened within 27 months was 79% (target >85%). BSCM showed an increasing trend while BSWN showed a decreasing trend, as did BSHC.

Among Māori women aged 45 to 49 years, coverage was 61%, 15% lower than the coverage of non-Māori women (71%). The proportion rescreened within 27 months was 74%, 11% lower than the percentage of non-Māori (83%).

Screening and assessment quality

Target values for screening and assessment quality indicators were generally met or exceeded.

Early detection

Targets were met for early cancer detection indicators for Māori women having initial and subsequent screens.

For women having initial screens, the rate of referral to assessment was 20% higher for Māori women than for non-Māori women, specificity was similar, while the positive predictive value (ppv) was 44% higher and the cancer detection rate 74% higher (invasive cancer 93% higher).

For women having subsequent screens, the rate of referral to assessment, and specificity was similar for Māori and non-Māori, while the ppv was 32% higher and the cancer detection rate 36% higher (invasive cancer 43% higher).

The proportions of small tumours and cancers without nodal involvement were similar for Māori and non-Māori women.

Non-Māori women had a higher proportion of cancers detected that were DCIS (22%) than Māori women (15%).

Appropriate and acceptable service

Almost 100% of women were notified of their screening results within 10 working days, and 94% received their needle biopsy within five working days of their first level assessment.

The target of 90% was not reached for the percentage of Māori women offered their first assessment appointment within 15 working days (79%), or for women having their open biopsy within 20 working days (42%). 85% received their final biopsy results within 5 working days.

Summary

There were significant improvements in the coverage of Māori women and the target coverage is likely to be reached in the next biennium if the momentum continues. Target values were generally met or exceeded for the screening, assessment, and early detection indicators. Māori women participating in breast screening were more likely than non-Māori to be diagnosed with breast cancer by BSA, with similar proportions of small tumours and node-negative cancers.

Given the higher background incidence of breast cancer among Māori women, the screening programme provided by BreastScreen Aotearoa should translate into significant health gain for Māori.

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 $\leq 10\text{mm}$, $\leq 15\text{mm}$ and without nodal involvement are similar. This indicates a maturing of the programme for Māori women.
- Should the indicators for coverage, high quality screening and assessment, and provision of an appropriate and acceptable service for women aged 50 to 69 years be different from those for women aged 45 to 49 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?
- The high rates of invasive breast cancer detection among Māori women underscore the urgency of increasing coverage for Māori women in the regions that have high numbers of eligible Māori women (Midlands and Coast to Coast). It may be useful to examine coverage by DHB for these two Lead Providers and to ensure they are sufficiently supported to increase the recruitment and retention of Māori women in the programme.

- For those Lead Providers where the proportion of Māori rescreened within 27 months is trending down or staying static, while the coverage remains high (BSWN) or is increasing (BSM), it may be worth investigating whether a substantial proportion are rescreening soon after the 27 months, and to examine whether there are differences by DHB.
- Lead Providers could consider investigating the reasons for the decreasing trend in the proportions of women receiving their first assessment in a timely manner. Is the capacity keeping up with the increased numbers of screens? Are there differences in waiting times between assessment centres?
- The decreasing trend in the proportion of women receiving their open biopsy within 20 working days may indicate inadequate resourcing for symptomatic services, which limits BSA's ability to meet this target. If so, this would require discussion with the Ministry of Health and District Health Boards. More detailed investigation of the patterns of waiting times could be undertaken.
- The accuracy of the ethnicity data for women screened by BSA is currently unknown, yet the Māori monitoring reports depend on accurate ethnicity data. The Ministry of Health has recently released a three stage ethnicity data audit toolkit¹ for primary care which could be adapted for use by BSA Lead Providers.

¹ Ministry of Health. 2013. *Primary Care Ethnicity Data Audit Toolkit: A toolkit for assessing ethnicity data quality*. Wellington: Ministry of Health. <http://www.health.govt.nz/publication/primary-care-ethnicity-data-audit-toolkit>

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 for most indicators is for the two year time period 1 July 2010 to 30 June 2012, however some detection data is provided for the 5-year period 1 July 2007 to 30 June 2012 in order to maximise numbers and increase statistical precision. Indicators which cover the 5-year time period are:

- 2g.1 Benign biopsy weight
- 3b.1 The proportion of invasive cancers less than or equal to 10mm
- 3c.1 The proportion of invasive cancers less than or equal to 15mm
- 3d The proportion of invasive cancers with no nodal involvement
- 3e The proportion of DCIS as a percentage of all screen detected cancers

The data presented in the graphs shows the percentage difference of each indicator from the target value.² The central line of the graph represents the target and all indicators with bars to the right of this line achieved or exceeded the target, those to the left were outside the target value, if the confidence interval did not include the target value (central line).

² DCIS results (3e) have been interpreted as below target if the proportion of screen-detected cancers diagnosed as DCIS lies outside the target range of 10% to 25%.

Total BreastScreen Aotearoa

Figure i: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2010 to June 2012, Total BSA



BreastScreen Waitemata Northland

BreastScreen Waitemata Northland (BSWN) met or exceeded the target values for Māori women aged 50 to 69 years for almost all indicators.

Coverage

Coverage continued to increase to reach the target value of 70%, consistent across most age groups. The proportion rescreened within 27 months was 78%, below the target of 85%, with a possible downward trend.

Screening and Assessment quality

BSWN met the target values for Māori women for the proportion having 4 films or fewer, technical recall rates, rejected films, the proportion of benign open biopsies weighing <30g, and the pre-operative diagnosis rate.

For Māori women having subsequent screens, the indicators were within the desired value or above target for referral to assessment, false positive rate, positive predictive value, specificity, and invasive cancer detection.

For Māori women having initial screens, the rate of referral to assessment and the false positive rate were outside the expected values, and specificity was below target but the positive predictive value and invasive cancer detection rate were well above target.

Early detection

The proportions of invasive cancers that were $\leq 10\text{mm}$, $\leq 15\text{mm}$, or without nodal involvement all met or exceeded the target values, as did the proportion of screen-detected cancers that were DCIS.

Appropriate and acceptable service

The target values were exceeded for time taken for provision of screening results, and time from assessment to needle biopsy completion.

Indicators below target included: the proportion offered their first assessment appointment within 15 working days (80%, target 90%), the proportion receiving their open biopsy within 20 working days (38%, target 90%). The proportion of women receiving their final diagnostic biopsy results within 5 working days was 65%, (target 90%) and showed a possible decreasing trend. These indicators were also below target for non-Māori women.

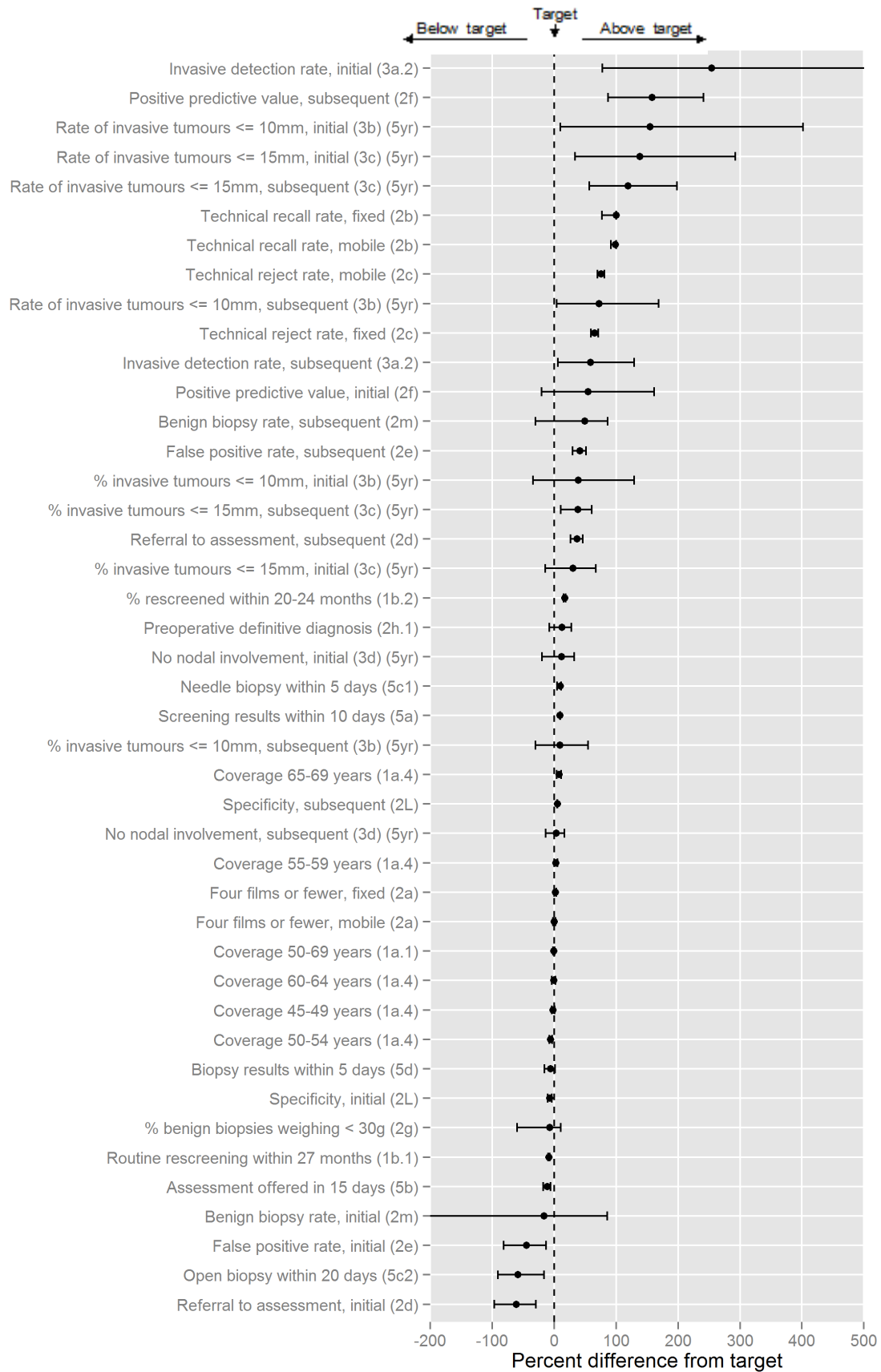
In summary:

For most indicators, the target value was exceeded or was within the confidence interval.

Indicators not reaching target values include: Rescreening within 27 months; the referral rate, false positive rate and specificity for initial screens; and timely receipt of first assessment appointment, open biopsy, and biopsy results.

Indicators showing a possible declining trend included rescreening, time to first appointment, and time to receipt of biopsy results.

Figure ii: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2010 to June 2012, BSWN



BreastScreen Counties Manukau

BreastScreen Counties Manukau (BSCM) met or exceeded the target for Māori women aged 50–69 years for nearly all indicators.

Coverage

Coverage of Māori women aged 50–69 years increased significantly to reach 68% and was close to 70% across each age group, including those aged 45–49 years. There was a steady decline in the proportion of screens that were initial, as coverage increased. The proportion of Māori women aged 50–69 years who were rescreened within 27 months increased steadily, reaching 71% in this biennium (target 85%), with 85% of these rescreened within 20–24 months (target >75%).

Screening and assessment quality

Targets were exceeded for screening and assessment indicators for the proportion of Māori women having technical recalls, and technical rejects for women screened in mobile and fixed units. The proportion of women having four films or fewer met the target of 80% in fixed units, but not in mobile units (66%). Targets were also met for the preoperative diagnosis rate and the benign biopsy rates.

For Māori women having subsequent screens, the rate of referral to assessment, the false positive rate were within the desired value, the positive predictive value, specificity and the invasive cancer detection rate were all above target.

For Māori women having initial screens, the rate of referral to assessment (16%) was above the expected value of <10% as was the false positive rate (12%, expected value <9%), but the positive predictive value (12%) was above the target value of ≥ 9%, as was the invasive cancer detection rate (12.5%, target ≥ 6.9).

Early detection

Targets were met for Māori women for the proportions of invasive cancers ≤ 10mm and ≤ 15mm in diameter, the proportions without nodal involvement, and the percentage of cancers that were DCIS.

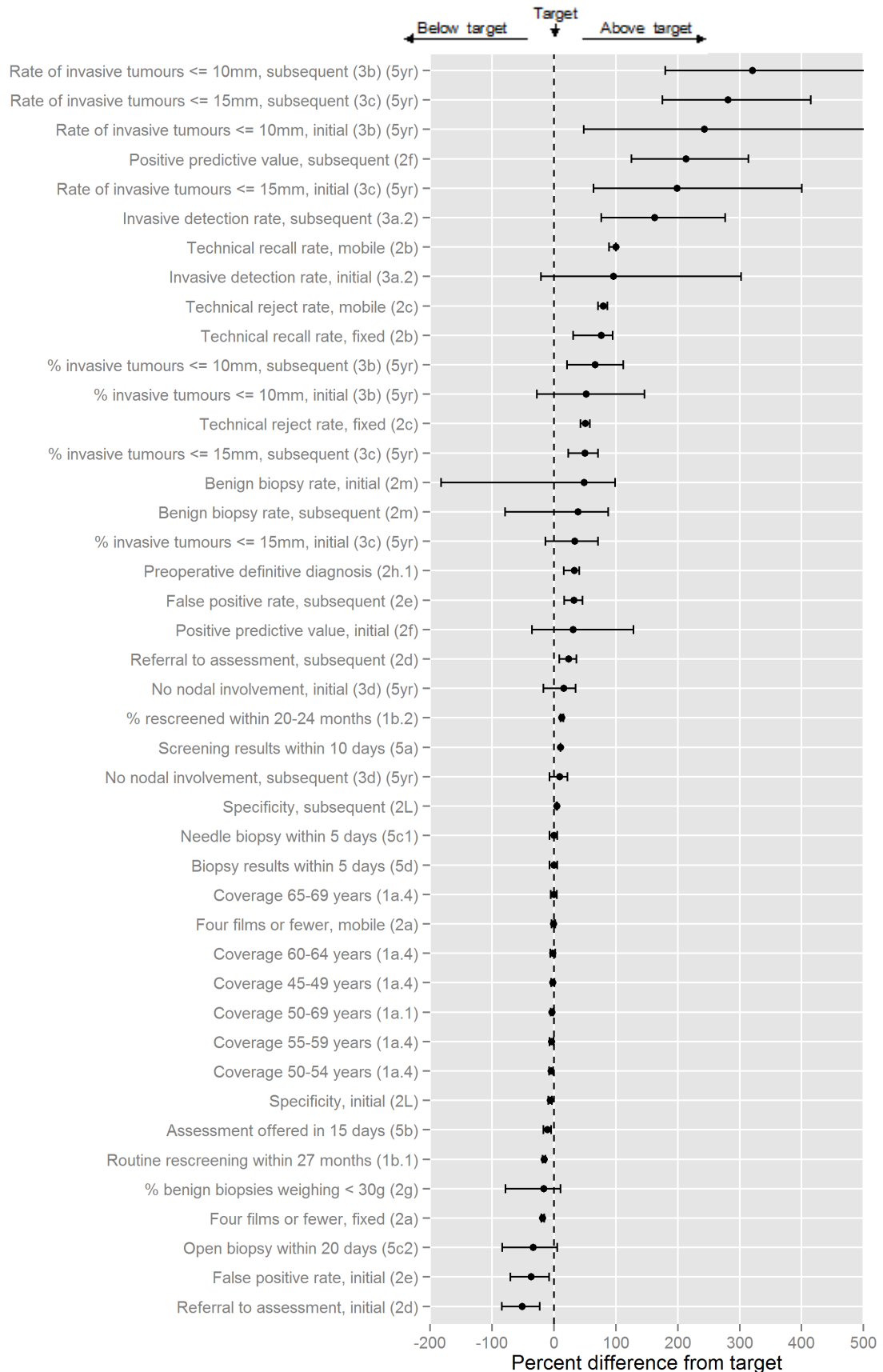
Acceptability and appropriateness

Targets were met for the timely provision of screening results, timely receipt of needle biopsy, the receipt of final diagnostic biopsy results. The target for the proportion receiving their open biopsy within 20 working days was within the confidence interval for this indicator (only 5 open biopsies were received by Māori women in this biennium).

The indicator for time taken from screening to first offer of assessment was not met (81%, target value 90%).

In summary, coverage of Māori women increased across all age groups, and the rescreening indicator also improved. Screening and assessment quality targets were generally met or exceeded. For women having initial screens the rate of referral to assessment and false positives were higher than expected, but the early detection indicators were all above target. Targets were met for most timeliness targets apart from the time to first offer of assessment.

Figure iii: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2010 to June 2012, BSCM



BreastScreen Auckland Limited

BSAL met the target values for most indicators for Māori women aged 50 to 69 years apart from coverage.

Coverage

Coverage of Māori women aged 50 to 69 years improved steadily but remained 10 percentage points below target (60%, target 70%). There was slightly higher coverage in the younger age groups. The proportion rescreened within 27 months was on target (83%, target >85%) and a high proportion of those were screened within 20-24 months (94%, target >75%).

Screening and assessment quality

The target value was met or within the confidence interval for the proportion of women having 4 films or fewer, technical recall rates, rejected films, the pre-operative diagnosis rate, the benign open biopsy rate, and the proportion of benign open biopsies weighing <30g.

For Māori women having an initial or a subsequent screen, the target was met or within the confidence interval for the assessment rate, the false positive rate, the positive predictive value, specificity, and the invasive detection rate.

Early detection

For subsequent screens, the indicators for invasive cancers $\leq 10\text{mm}$ and $< 15\text{mm}$, and with no nodal involvement were above target, and the percentage of screen detected cancers that were DCIS was within the target range.

For initial screens, none of the 9 invasive cancers were $\leq 10\text{mm}$ but numbers were small and the confidence interval includes the target value of $\geq 25\%$. The proportions of invasive cancers $\leq 15\text{mm}$ (44%) and without nodal involvement (66%) both included the target value within the confidence interval.

Appropriate and acceptable service

The target value of 90% was met for the following indicators: time taken for provision of screening results, time taken from assessment to final diagnostic needle biopsy and open biopsy, and was within the confidence interval for the time taken from final diagnostic biopsy to reporting assessment results.

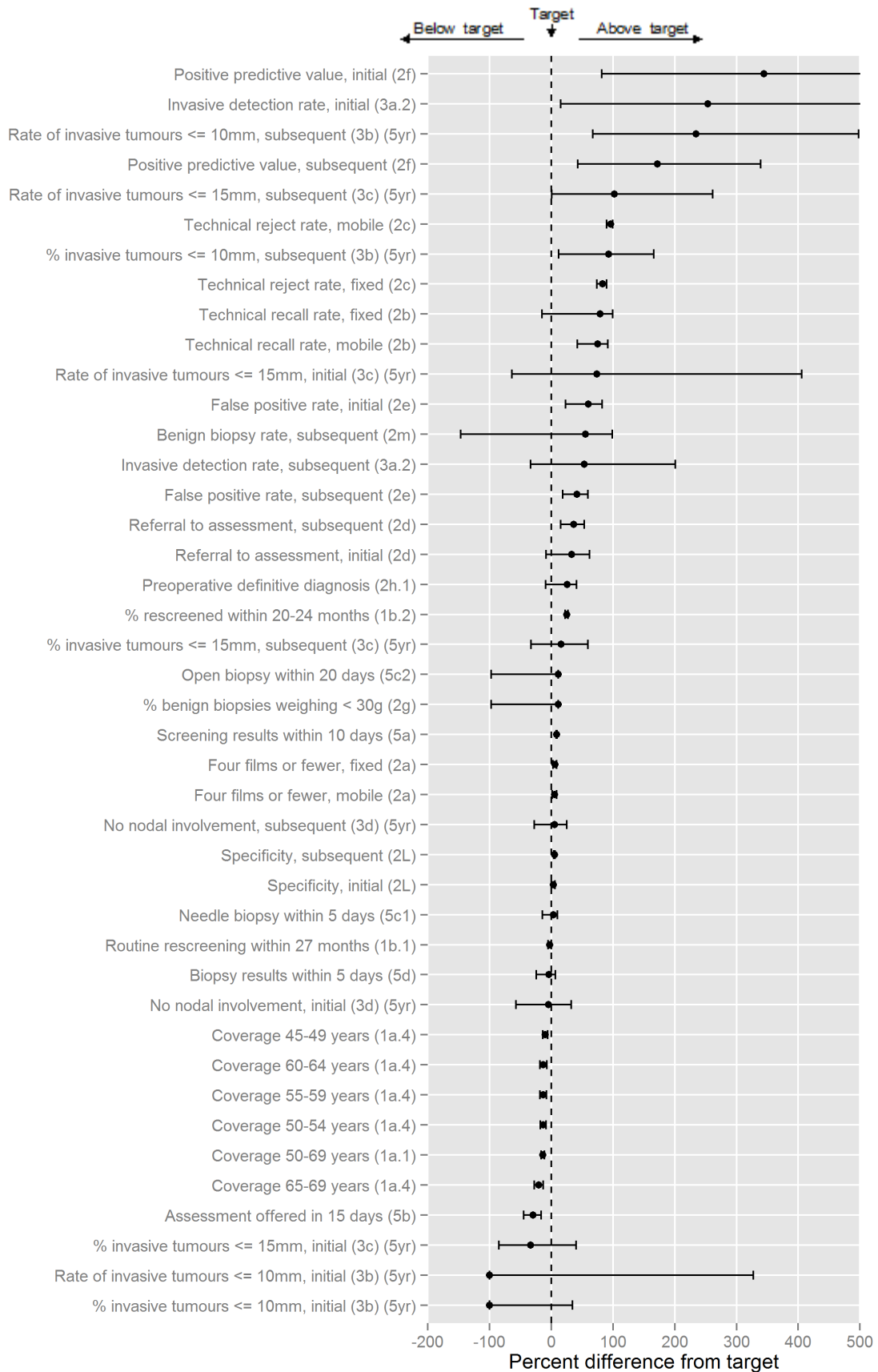
The proportion of women offered their first assessment appointment within 15 working days did not meet the target for Māori (63%) or non-Māori women (75%).

In summary:

Quality indicator targets were met by BSAL for all screening and assessment and early detection indicators, and most timeliness indicators.

Indicators below target include coverage (in each age group), and timely offer of first assessment appointment. Coverage of Māori women aged 50 to 69 years is steadily increasing, but the momentum needs to be maintained or accelerated to reach 70% coverage in the next biennium. In this period, an additional 264 Māori women needed to be screened to reach the target.

Figure iv: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2010 to June 2012, BSAL



BreastScreen Midland

The BreastScreen Midland (BSM) region includes a third of the eligible population of Māori women. It therefore has a substantial impact on the national BSA indicators for Māori women.

BSM met or exceeded the target values for Māori women aged 50 to 69 years for the majority of indicators, apart from coverage and some timeliness indicators.

Coverage

Although the coverage of Māori women is steadily increasing in the BSM region, only 55% of eligible women aged 50 to 69 years participated in breast screening during this biennium. This was 15% lower than the non-Māori rate in BSM. Coverage increased with age, but did not exceed 60% in any age group. To meet the 70% target, an additional 1,844 Māori women needed to be screened over the 2 years.

The proportion of Māori women rescreened within 27 months was 72%. A further 677 Māori women were required to meet the target of 85%.

Screening and assessment quality

The target values were met for Māori women screened in fixed units for the proportions of women having 4 films or fewer, technical recall, and rejected films. For women screened in mobile units, the target was not met for the proportions of women having four films or fewer, or technical recalls, but was met for rejected films.

The pre-operative diagnosis target was met and the benign biopsy rates were met, but the proportion of benign biopsies weighing less than 30g was under target.

For women having initial or subsequent screens the targets were met for referrals to assessment, false positives, positive predictive value, specificity, and the invasive detection rate.

Early detection

For both initial and subsequent screens, the target values were met or exceeded for the proportion of invasive cancers $\leq 10\text{mm}$, $\leq 15\text{mm}$, and without nodal involvement. The proportion of screen-detected cancers that were DCIS was within the target range.

Appropriate and acceptable service

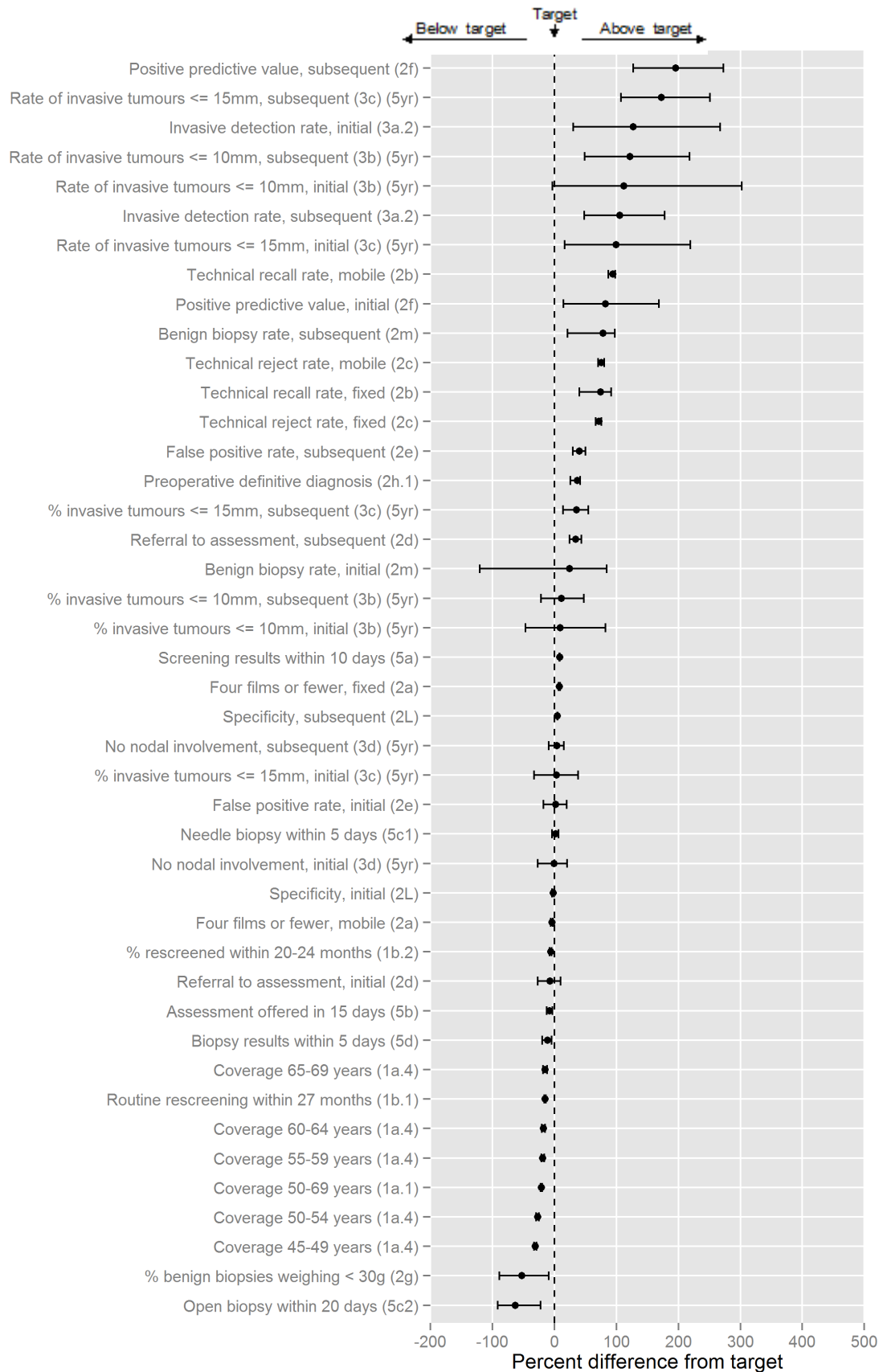
The targets were met for indicators of timely receipt of screening results, and needle biopsies, but not for time to first offer of assessment, time to receipt of open biopsy procedure, or time to receipt of biopsy results.

In summary, BSM met the target values for assessment and early detection indicators for Māori women but the targets were not met for the following indicators:

- Technical recall rate in mobile units (5%, target <3%)
- Percentage of benign biopsies <30g (47%, target >90%)
- Percentage offered first assessment appointment in 15 working days (83%, target 90%)
- Percentage receiving open biopsy within 20 working days (33%, target 90%)
- Percentage receiving final diagnostic biopsy results within 5 working days (80%, target 90%)
- Coverage in each age group and the percentage rescreened within 27 months.

Substantial increases in the number of Māori women screened are needed to achieve 70% coverage.

Figure v: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2010 to June 2012, BSM



BreastScreen Coast to Coast

BreastScreen Coast to Coast (BSCtoC) includes the second largest proportion of the eligible Māori population (19%).

Coverage

Coverage of Māori women aged 50 to 69 years was 62% in this biennium, showing a sustained increasing trend. Inequalities have decreased from 25% to 15% lower coverage of Māori compared to non-Māori. To reach the 70% coverage target an additional 735 women needed to be screened. Māori participation increased with age, ranging from 59% of women aged 50 to 54 to 67% of women aged 65 to 69 years.

BSC achieved the target of 85% of Māori women returning for a routine re-screen within 27 months (a level that has been consistently maintained), with 81% of these screened within 20 to 24 months (target >75%).

Screening and assessment quality

The target value was met for Māori women for indicators on the technical recall rate, rejected films, the pre-operative diagnosis rate, the benign biopsy rate, the proportion of benign biopsies weighing <30 g, and the proportion of women having 4 films or fewer in fixed units. Only 66% of women screened in mobile units had 4 films or fewer (target >80%).

Among Māori women having a subsequent or initial screen, target values were for referrals to assessment, false positives, the positive predictive value, specificity, and the invasive cancer detection rate.

Early detection

For Māori women having initial or subsequent screens, the target values were met for the proportion of invasive cancers ≤10mm, and were within the confidence interval for invasive cancers ≤15mm and cancers without nodal involvement. The proportion of cancers that were DCIS was also within the target range.

Appropriate and acceptable service

Target values (90%) were met for the timely notification of screening results, timely receipt of needle biopsy, and timely notification of biopsy results.

Indicators that didn't meet the 90% target included the proportion offered their first assessment appointment within 15 working days (72%) and the time to open biopsy. Only three women had an open biopsy in this period, none of whom received it within 20 working days.

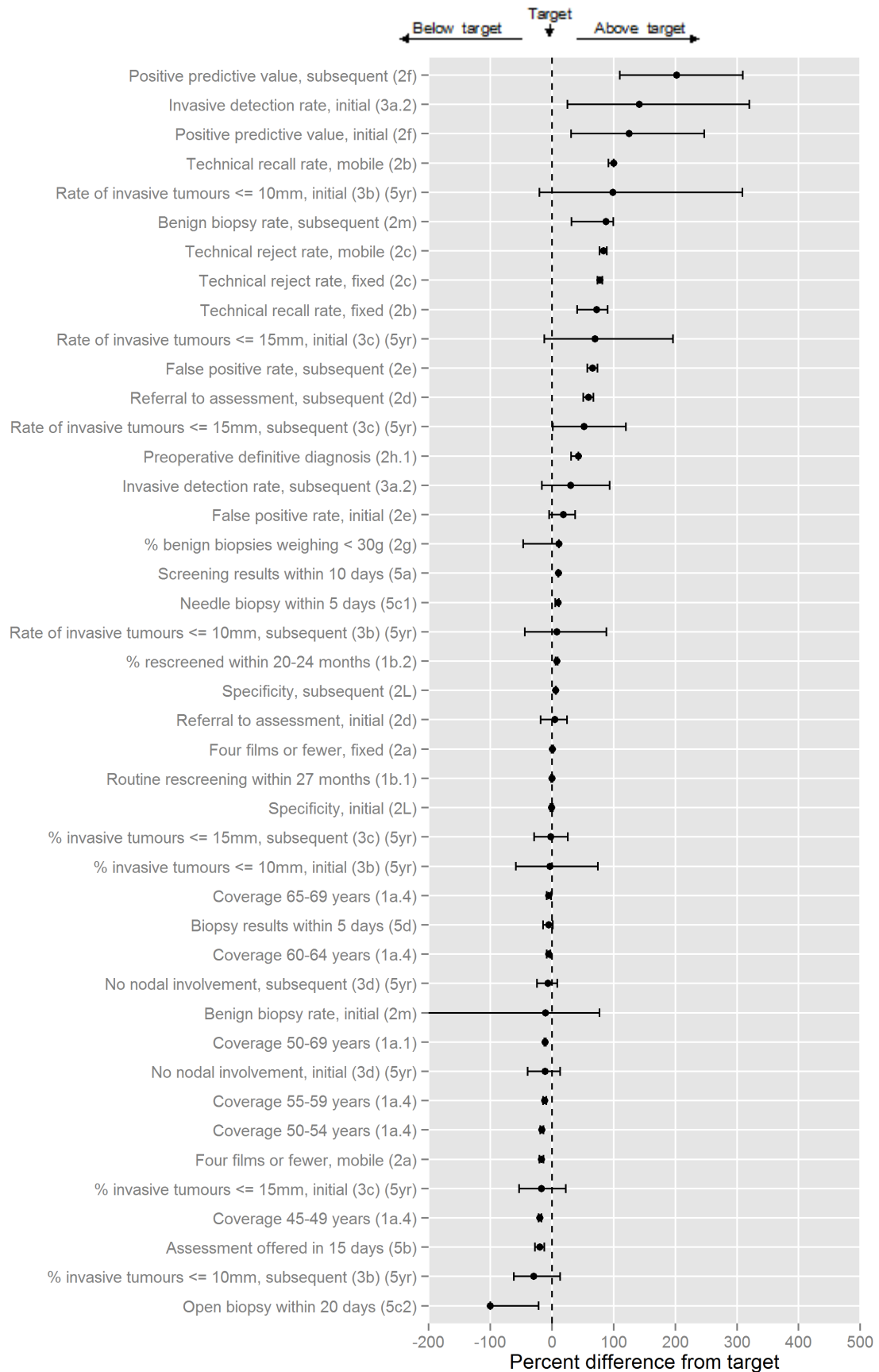
In summary: BSC met the target values for Māori women aged 50 to 69 years for all screening and assessment quality indicators, early detection indicators and most of the timeliness indicators. The rescreening indicators were also met.

Indicators for which the targets were not met included:

- The proportion of women screened in mobile units having 4 films or fewer
- The proportion offered assessment within 15 working days
- The proportion receiving open biopsy within 20 working days
- Coverage in each age group.

Coverage steadily increased, but the momentum needs to accelerate to reach the target value of 70% in the next biennium.

Figure vi: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2010 to June 2012, BSCtoC



BreastScreen Central

BreastScreen Central (BSC) met or exceeded the targets for Māori women aged 50 to 69 years for most indicators.

Coverage

Coverage of Māori women aged 50 to 69 years increased steadily, reaching 66% in this biennium, only 4% below the target of 70%. 185 more Māori women needed to be screened to reach the target. The proportion of screens that were initial declined steadily. However, the proportion of women rescreened within 27 months remained steady at 80%, not reaching the target of >85%.

Screening and assessment quality

Targets were met by BSC or were within the confidence interval for the proportion having 4 films or fewer in mobile units (just below target for fixed units); technical recall rates in both fixed and mobile sites, technical reject rates, and the preoperative diagnosis rate. Five out of the six benign open biopsies weighed less than 30 grams.

For Māori women having a subsequent screen, target or desired values were met for the rate of referral to assessment, false positive rate, positive predictive value, specificity, the benign biopsy rate, and the invasive cancer detection rate. For Māori women having an initial screen the target or expected value was also met, or was within the confidence interval for each of these indicators.

Early detection

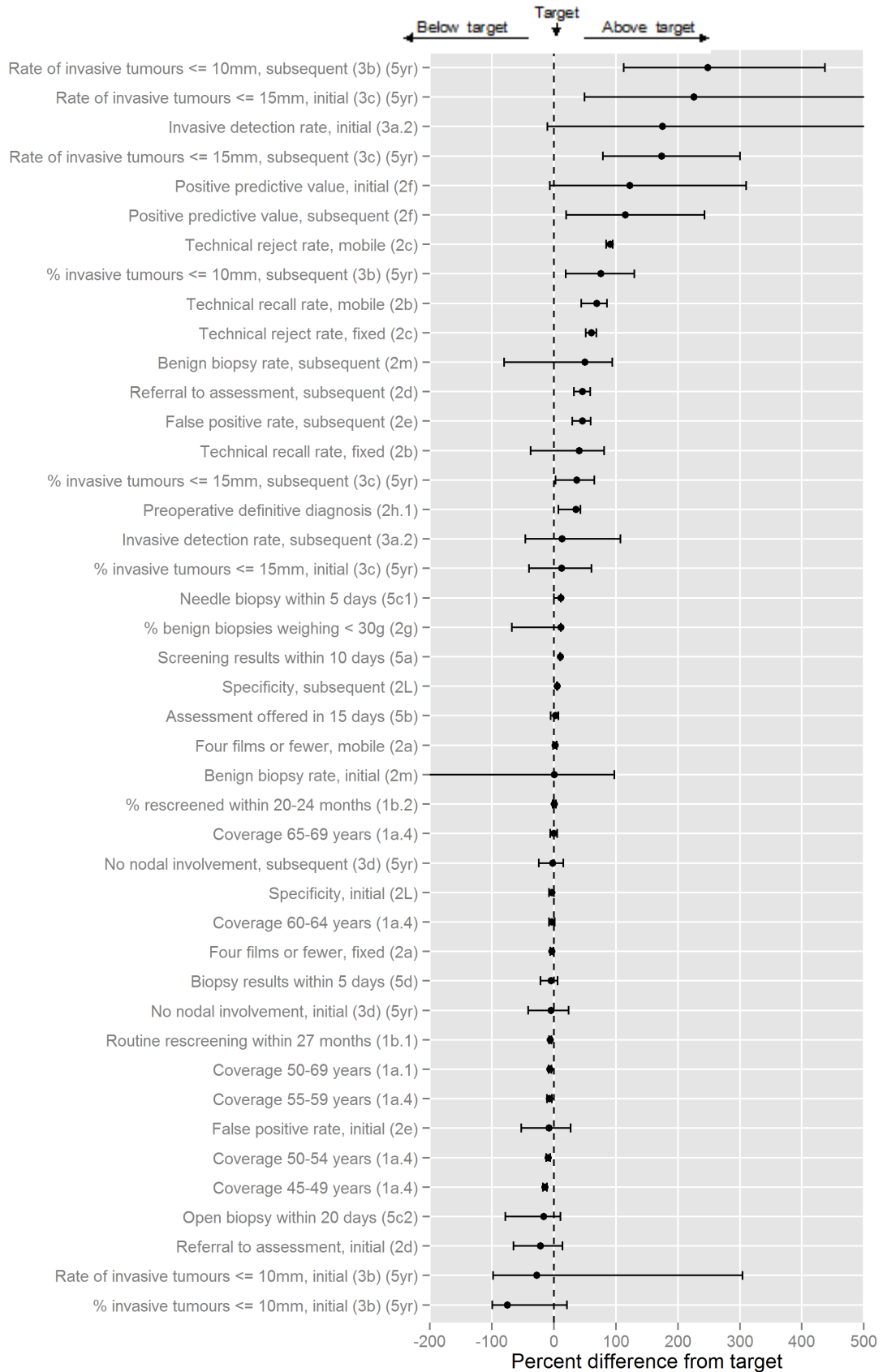
For Māori women having initial or subsequent screens, the target was met or was within the confidence interval for the proportion of cancers that were $\leq 10\text{mm}$, $\leq 15\text{mm}$ in diameter, without nodal involvement and the proportion that were DCIS.

Appropriate and acceptable service

The target value of 90% was met for the timely notification of screening results, first offer of an assessment appointment, receipt of needle biopsy, and the reporting of biopsy results. The target was within the confidence interval for the indicator on time to receipt of open biopsy.

In summary: If coverage continues to increase at the same rate, the target participation rate of 70% of Māori women should be reached by BSC in the next biennium. The proportion rescreened within 27 months needed to increase 5 percentage points (or 114 additional women) to meet the target value of 85%. For all other indicators, including quality of screening and assessment, early detection, and timeliness indicators, the target value was met or was within the confidence interval.

Figure vii: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2010 to June 2012, BSC



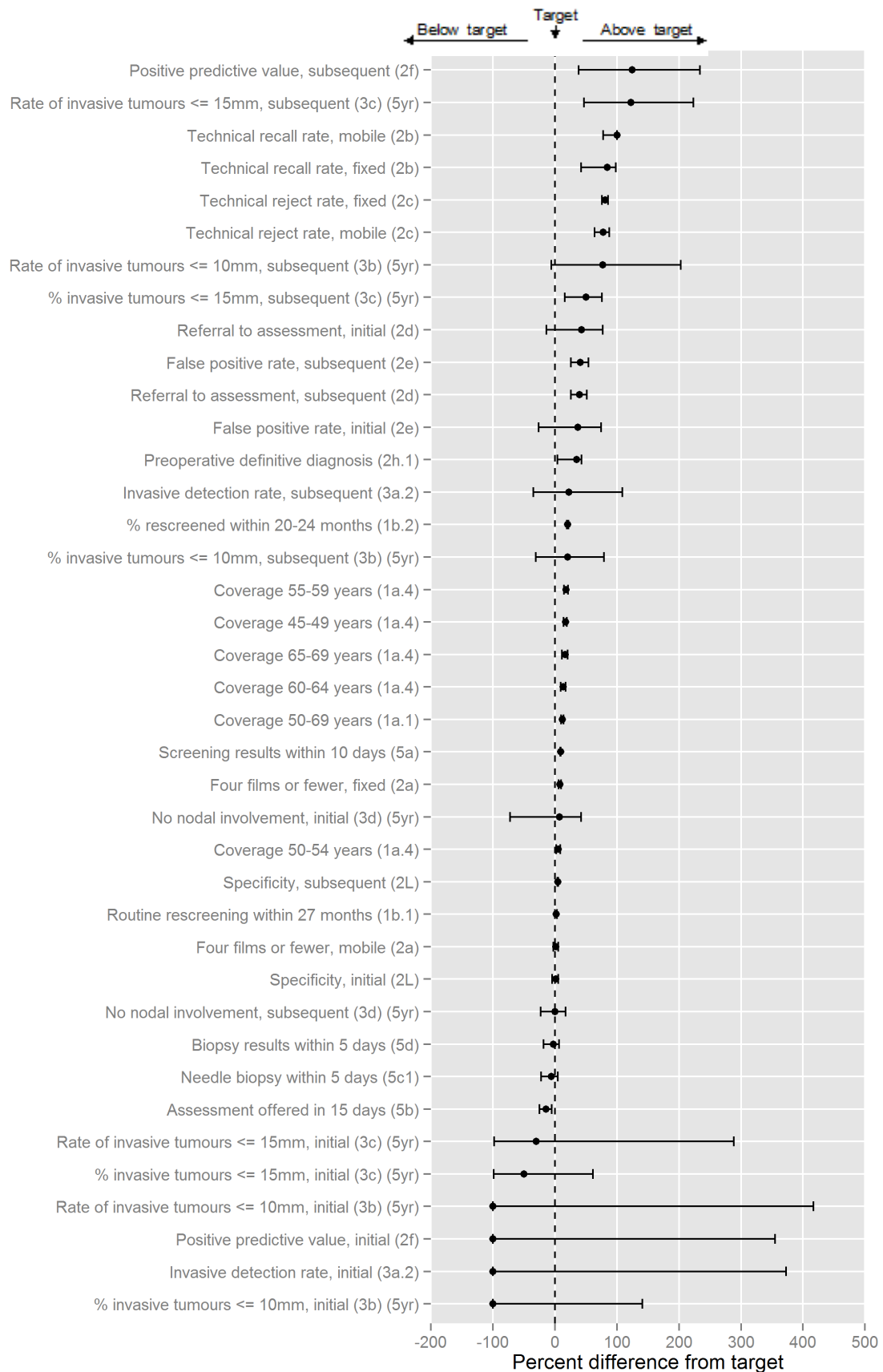
BreastScreen South Limited

BreastScreen South Ltd (BSSL) continued to meet or exceed the target values for Māori women aged 50 to 69 years for nearly all indicators, maintaining high and equitable coverage and quality, despite the challenges of the Canterbury earthquakes during this period.

The only indicator that was below the target value was the percentage of women offered their first assessment appointment within 15 working days (77%, target 90%). This indicator showed a declining trend.

Due to the high coverage of Māori women across each age group, including those aged 45 to 49 years, very few Māori women aged 50 to 69 years had an initial screen during this 2 year period and no cancers were detected from initial screens. This explains the detection indicators related to initial screens at the bottom of the graph.

Figure viii: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2010 to June 2012, BSSL



BreastScreen Health Care

BreastScreen Health Care (BSHC) met the target values for Māori women aged 50 to 69 years for the majority of indicators, but coverage remained relatively low.

Coverage

The coverage of Māori women aged 50 to 69 years is trending upwards in BSHC, but only reached 55% (target >70%) during this 2 year period, 26% below the non-Māori coverage. Participation in breast screening was low for each age group, with women aged 55 to 59 years the only group to reach 60% coverage. The oldest age group (65 to 69 years) had the lowest coverage (49%).

The proportion of Māori women rescreened within 27 months was 80% (target >85% which was within the confidence interval), slightly lower than previous periods, but of those women, 80% were rescreened within 20 to 24 months (target >75%).

Screening and assessment quality

The target value or expected value was met or was within the confidence interval for the indicators on women having no more than four films, technical recall, rejected films, pre-operative diagnosis rate. There were no open biopsies among Māori women aged 50 to 69 years during this period.

For women having subsequent screens the target was met or was within the confidence interval for referrals to assessment, false positives, positive predictive value, specificity, and invasive cancer detection.

There were only 77 initial screens among Māori women during the 2 years with only 4 women referred for assessment, and no cancers detected. Specificity was within the target range.

Early detection

During the five year period, among Māori women having subsequent screens, the targets were met or were within the confidence intervals for cancers that were $\leq 10\text{m}$, $\leq 15\text{mm}$, and without nodal involvement met the targets, as did the proportion of cancers that were DCIS.

Only 1 invasive cancer was detected among Māori women having initial screens during the 5-year period and none in the 2-year period. This explains the indicators at the bottom of the graph.

Appropriate and acceptable service

BSHC met the targets for the timely notification of screening results, and time from first level assessment to needle biopsy. There were no open biopsies.

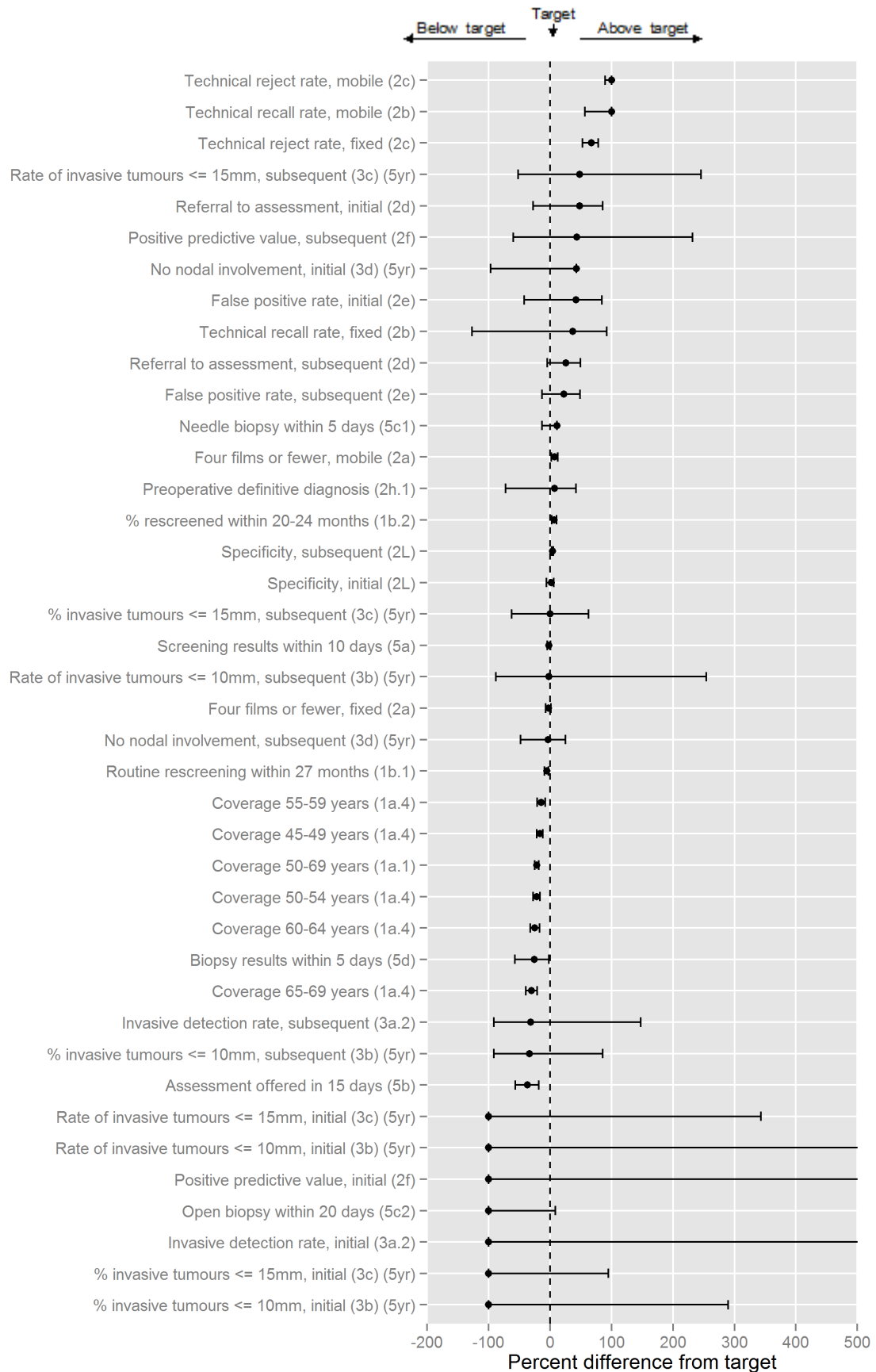
Only 57% of Māori women were offered a first assessment appointment within 15 working days (target 90%), and 67% received their final diagnostic biopsy results within 5 working days (90%).

In summary:

The target values were met or were within the confidence interval for Māori women screened by BSHC for most screening and assessment quality indicators, early detection indicators (among women having subsequent screens), and half of the acceptability (timeliness) indicators.

Indicators significantly below the target value included the time to first assessment appointment offer, (which has remained static over recent biennia), the time to reporting biopsy diagnostic results, and coverage in each age group. To reach the target participation of Māori women aged 50 to 69 years, an additional 255 women needed to be screened during this period. This included 97 aged 50 to 54 years, 43 aged 55 to 59 years, 64 aged 60 to 64 years, and 51 aged 65 to 69 years.

Figure ix: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2010 to June 2012, BSHC



INTRODUCTION

This Screening and Assessment report is the first in a new time series of reports that include data on the quality of services provided by BreastScreen Aotearoa (BSA) to Māori women aged 45 to 49 years and 50 to 69 years. Previous Māori monitoring reports included only women aged 50 to 64 years. 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. Indicators of coverage, screening and assessment quality, and acceptability (timeliness) are presented for the two-year period July 2010 to June 2012, while early cancer detection indicators are presented for the five-year period July 2007 to June 2012 due to the smaller numbers involved. Treatment indicators are reported in a separate Treatment report for the period July 2006 to 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 possible³.

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% higher⁴. 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.⁵ 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 fulfilling the right to health for all and the elimination of inequalities in breast cancer outcomes, 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.⁶

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 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.

³ National Screening Unit. 2003. *Strategic Plan 2003-2008*. Auckland: Ministry of Health.

⁴ Ministry of Health. 2013. *Cancer: New registrations and deaths 2010*. Wellington: Ministry of Health.

⁵ 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.

⁶ BSA 2004. *BSA National Policy and Quality Standards* Version 1A. Introduction page 11.

BACKGROUND

BreastScreen Aotearoa⁷

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 50–64 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.

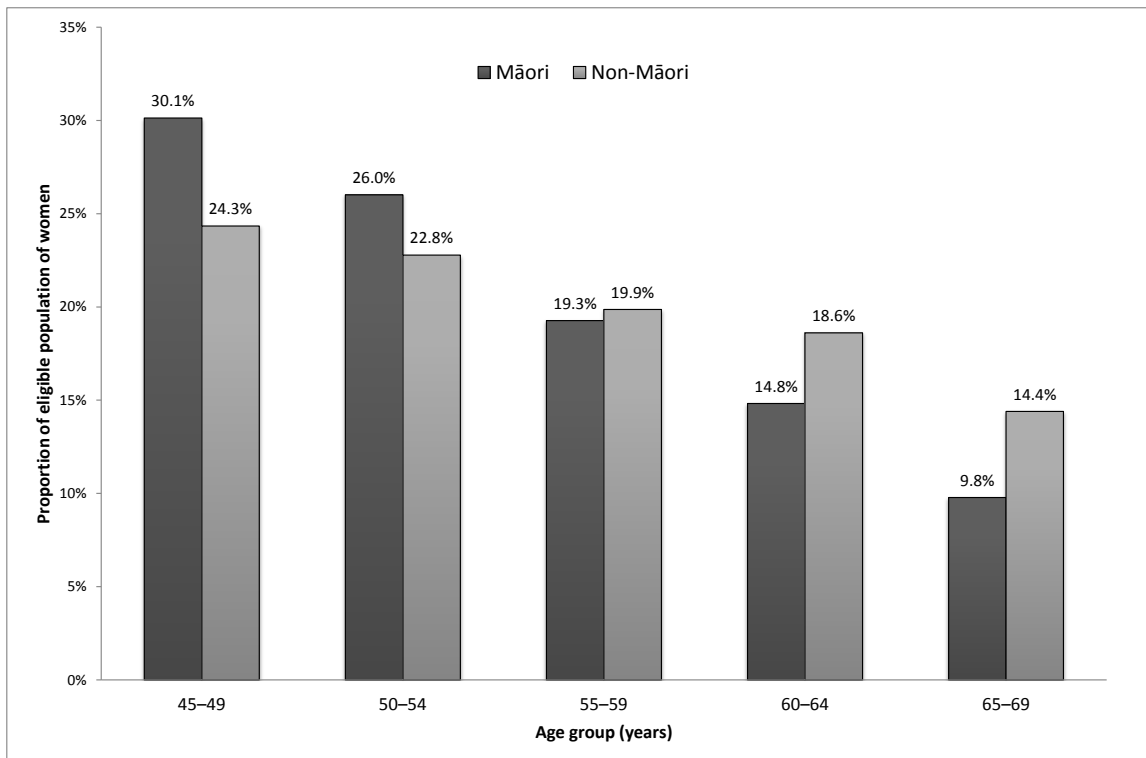
Age extension

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, ages 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. This is the first report to present all screening and assessment indicators for Māori and non-Māori women aged 45–49 years and for those aged 50–69 years.

Figure x below shows the Māori population of eligible women has a younger age distribution than the non-Māori population. For example 30% of eligible Māori women are aged 45–49 years compared to 24% of non-Māori women, and 10% are aged 65–69 years compared to 14% of non-Māori.

⁷ Extracted from BreastScreen Aotearoa National Policy and Quality Standards, February 2004

Figure x: Age distribution of Māori and non-Māori eligible populations, 2011



The National Screening Unit

The National Screening Unit (NSU) is within the National Health Board of the Ministry of Health and is responsible for the development, management and monitoring of nationally-organised population-based screening in New Zealand. It 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.

BSA Providers

A BreastScreen Aotearoa Provider is defined as being any Lead Provider, subcontracted Provider or Independent Service Provider who deliver 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).

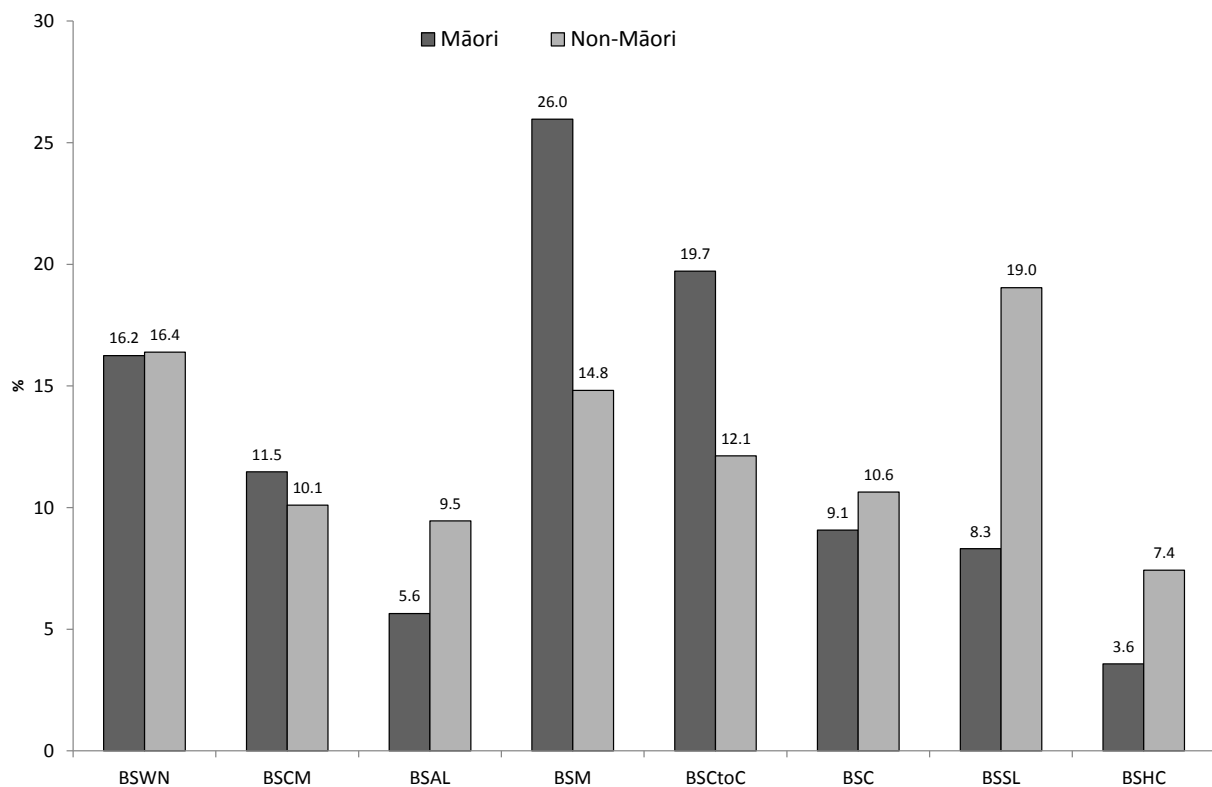
Changes to Lead Providers:

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 xi: Distribution of Māori and non-Māori women aged 45–69 years by Lead Provider region, 2011



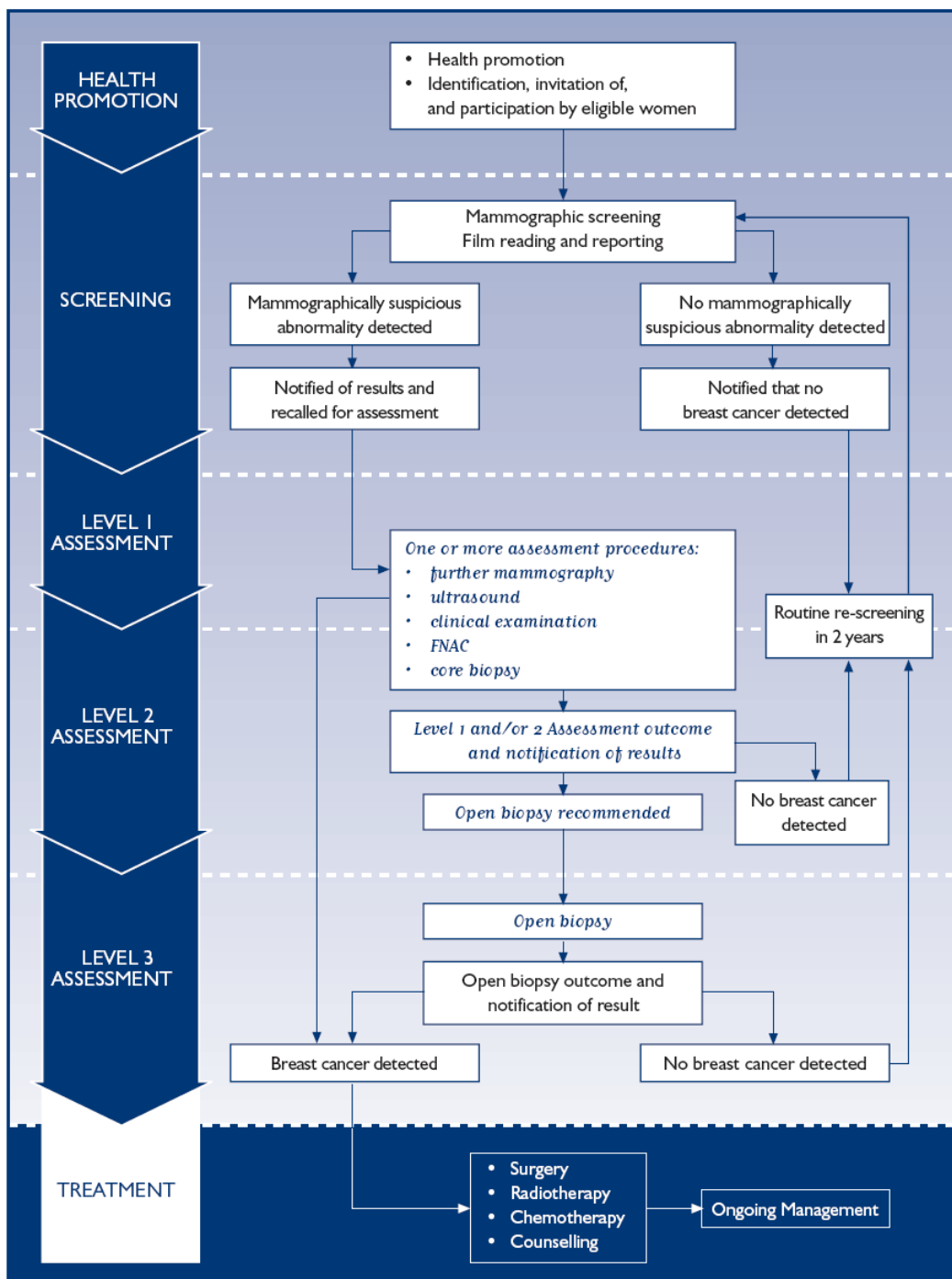
Source: Statistics NZ Population Projections mid-year 2011 (provided by NSU)

Figure xi shows the national distribution of Māori and non-Māori women aged 45–69 years in 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 regions which include high 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 Midlands region covers a quarter of the eligible Māori population, and Coast to Coast covers a fifth. Waitemata and North has the third highest proportion of Māori women.

The Breast Screening pathway⁸

Figure xii: The Breast Screening Pathway



⁸ June 2008 – BreastScreen Aotearoa National Policy & Quality Standards VERSION 2

BSA monitoring process

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

Data are sent monthly from the eight BreastScreen Aotearoa 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 extracts the relevant data for Māori and non-Māori women, produces report tables, including proportions or rates, Māori:non-Māori ratios, calculates confidence intervals, time trends, Lead Provider summaries, and an analysis of data against national targets, explanatory notes and commentary.

The IMMG sends the first draft of the Independent Māori Monitoring Report (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), Maori 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.

Time trends for indicators

In this report, time trends are presented for Māori women aged 50–69 years in graphic form using data for rolling two-year time periods at six-monthly intervals starting from July 2006. The shaded areas on the graph show the target range. Each graph shows the total BSA trend line, the trend line for the Lead Provider, and the indicator point estimate with confidence intervals for the 2-year period ending at that date. For example, the point estimate at June 2012 shows the indicator value for the 2-year period ending 30 June 2012.

Trends for the figures were calculated using "locally estimated scatterplot smoothing" (LOESS) methods. These curves do not necessarily pass through all of the datapoints in a figure, but use information from adjacent and surrounding time periods ("local") to estimate the curve presented. Conceptually, these can be thought of as trend lines that are less strongly influenced by individual periods where there are particularly high or low levels of an indicator (relative to other years.) Both the individual provider and overall BSA trend lines displayed were calculated using these methods.

Population denominators

The eligible populations in these reports have been calculated from projected resident populations in each Lead Provider district, provided by Statistics New Zealand. The projections are based on the 2006 New Zealand Census, assuming medium fertility, medium mortality, medium inter-ethnic mobility and medium migration.

The mid-year 2011 projected population was used. This is the same population that is used for all BSA quality and contract monitoring for the period July 2010 to June 2012. Denominator data is provided in Appendix A. These data are used to calculate coverage, but are not used for most other indicators.

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 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 distribution⁹. 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).

Targets

Indicators that have not met the BSA targets for women aged 50–69 years have been shaded in each table throughout this report. They are only shaded if the confidence interval does not include the target. Other than coverage, indicators for women aged 45–49 years have not been shaded because targets have not been set for this age group.

⁹ 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 Māori_{ALL} is denominator (i.e. count of Māori women both with and without indicator.)

Screening test validity

No screening test is perfect. False positive and false negative results may be produced during screening and can be potentially harmful, leading to either unnecessary diagnostic tests or treatment (false positive) or an undetected condition (false negative). Therefore, there are four possible test results in any form of screening: true positive, true negative, false positive and false negative. These can be summarised in the following diagram.

Figure xiii: Template for calculation of test validity

		DISEASE	
		Positive	Negative
TEST	Positive	True Positive (TP)	False Positive (FP)
	Negative	False Negative (FN)	True Negative (TN)

Source: Adapted from Grimes and Schulz (2002)¹⁰

Four measures of screening test validity are commonly used:

Sensitivity = $TP / (TP+FN)$

This is the probability of testing positive when the disease is present (out of those who have cancer, how many screened positive?)

Specificity = $TN / (TN+FP)$

This is the probability of screening negative if the disease is truly absent (out of those who don't have cancer, how many screened negative?)

Positive predictive value (PPV) = $TP / (TP+FP)$

The probability that an individual with a positive test actually has the disease (out of those who screen positive, how many have cancer?)

Negative predictive value (NPV) = $TN / (TN+FN)$

The probability that an individual with a negative test is truly disease free (out of those who screen negative, how many do not have cancer?)

Sensitivity and specificity are inversely related, there is some trade-off between them, which depends on the cut-off point for the test.

PPV and NPV depend on the prevalence of the disease in the population, and the sensitivity and specificity of the test.

¹⁰ Grimes and Schulz (2002) Uses and abuses of screening tests. The Lancet 359:9, 881-884

SECTION 1: COVERAGE

1a.1 Overall coverage of eligible women

Description: The number and percentage of women in the target age group (50–69 years) who have had a screening mammogram in the programme.

Target: >70% of eligible women receive a screen within the most recent 24 month period

Table 1a.1: Overall coverage of eligible women, 2 years (July 2010 to June 2012)

Lead provider	Number screened		Total eligible population*		Coverage %		Māori/non-Māori Ratio (95% CI)
	Māori	Non-Māori	Māori	Non-Māori	Māori (95% CI)	Non-Māori (95% CI)	
45–49 years							
BSWN	2,260	17,599	3,290	24,570	68.7 (67.1, 70.3)	71.6 (71.1, 72.2)	0.96 (0.94, 0.98)
BSCM	1,692	11,213	2,460	16,020	68.8 (66.9, 70.6)	70.0 (69.3, 70.7)	0.98 (0.96, 1.01)
BSAL	713	10,421	1,130	15,480	63.1 (60.2, 65.9)	67.3 (66.6, 68.1)	0.94 (0.90, 0.98)
BSM	2,519	12,333	5,200	19,810	48.4 (47.1, 49.8)	62.3 (61.6, 62.9)	0.78 (0.76, 0.80)
BSCtoC	2,243	11,286	3,980	16,035	56.4 (54.8, 57.9)	70.4 (69.7, 71.1)	0.80 (0.78, 0.82)
BSC	1,151	10,633	1,920	16,055	59.9 (57.7, 62.1)	66.2 (65.5, 67.0)	0.91 (0.87, 0.94)
BSSL	1,432	23,014	1,750	26,645	81.8 (79.9, 83.6)	86.4 (86.0, 86.8)	0.95 (0.93, 0.97)
BSHC	444	6,579	760	10,230	58.4 (54.8, 62.0)	64.3 (63.4, 65.2)	0.91 (0.85, 0.97)
BSA Total	12,454	103,078	20,490	144,845	60.8 (60.1, 61.5)	71.2 (70.9, 71.4)	0.85 (0.84, 0.86)
50–69 years							
BSWN	5,403	50,567	7,760	72,990	69.6 (68.6, 70.6)	69.3 (68.9, 69.6)	1.01 (0.99, 1.02)
BSCM	3,622	29,146	5,340	44,100	67.8 (66.6, 69.1)	66.1 (65.6, 66.5)	1.03 (1.01, 1.05)
BSAL	1,633	26,671	2,710	40,780	60.3 (58.4, 62.1)	65.4 (64.9, 65.9)	0.92 (0.89, 0.95)
BSM	6,878	44,635	12,460	68,380	55.2 (54.3, 56.1)	65.3 (64.9, 65.6)	0.85 (0.83, 0.86)
BSCtoC	5,867	40,886	9,430	56,120	62.2 (61.2, 63.2)	72.9 (72.5, 73.2)	0.85 (0.84, 0.87)
BSC	2,790	34,182	4,250	47,255	65.6 (64.2, 67.1)	72.3 (71.9, 72.7)	0.91 (0.89, 0.93)
BSSL	3,055	68,859	3,900	86,675	78.3 (77.0, 79.6)	79.4 (79.2, 79.7)	0.99 (0.97, 1.00)
BSHC	914	25,125	1,670	33,990	54.7 (52.3, 57.1)	73.9 (73.4, 74.4)	0.74 (0.71, 0.77)
BSA Total	30,162	320,071	47,520	450,290	63.5 (63.0, 63.9)	71.1 (70.9, 71.2)	0.89 (0.89, 0.90)

Ratios below one are unfavourable to Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Shaded boxes show confidence interval excludes target of >70%.

* Eligible population is based on the mid-year 2011 projected population

The overall coverage of Māori women aged 50–69 years continued to increase steadily, reaching 63.5% in the July 2010–June 2012 period, but still 11% lower than coverage of non-Māori women. BSSL continued to exceed the target of 70% for Māori women in this age group at 78%. BSWN maintained target coverage and BSCM reached 68%. Coverage improved in most other Lead Providers apart from BSHC which showed a decreasing trend. Coverage was lowest in BSHC and BSM, both at 55%.

For women aged 45–49 years overall BSA coverage was 61% for Māori compared to 71% for non-Māori. BSSL achieved 82% coverage of Māori women in this age group. In the BSM region just under 50% of Māori women were screened, compared to just over 60% of non-Māori women.

Figure 1a.1a: Trends in biennial coverage for Māori women aged 45–49 years July 2006 to June 2012

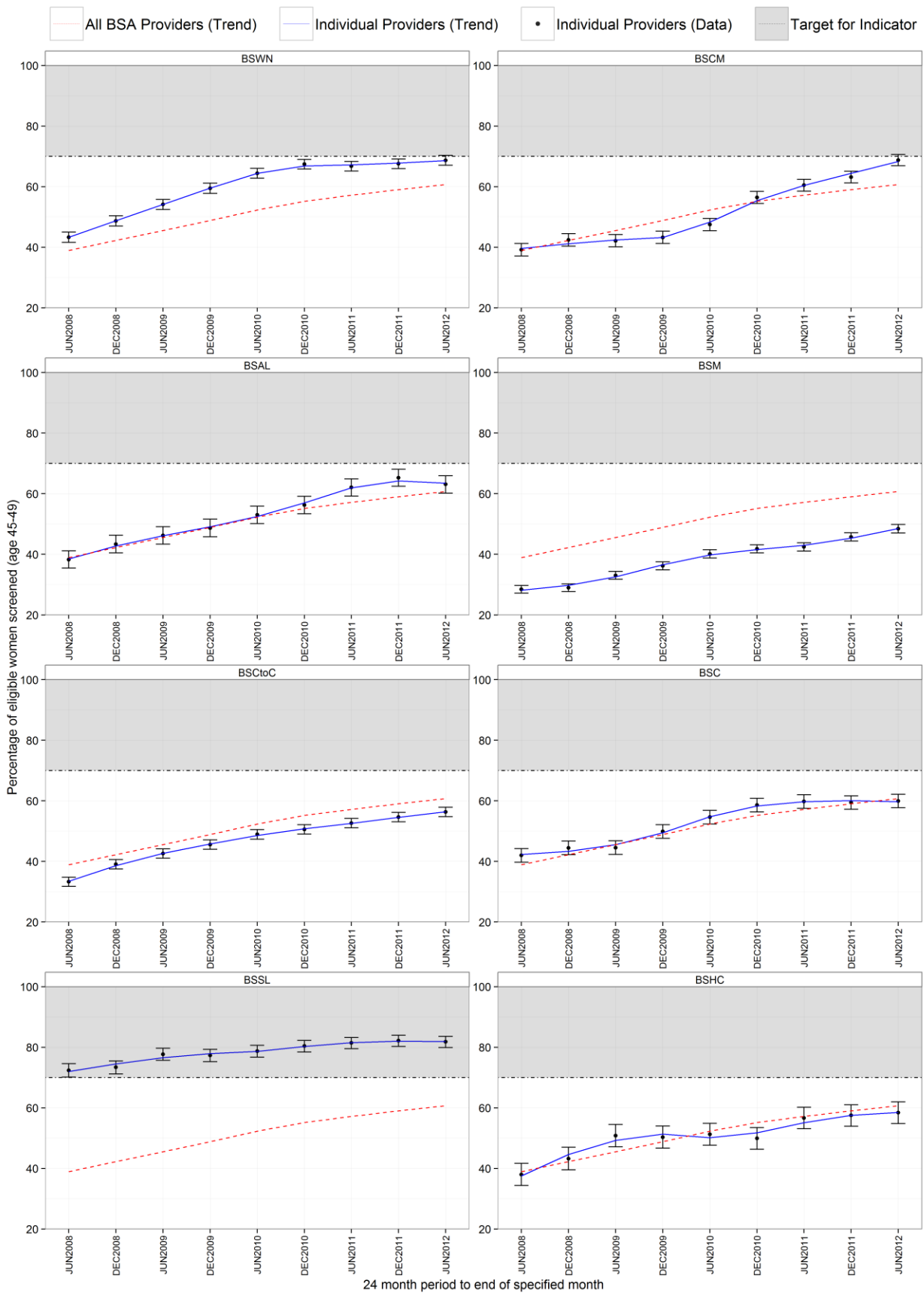
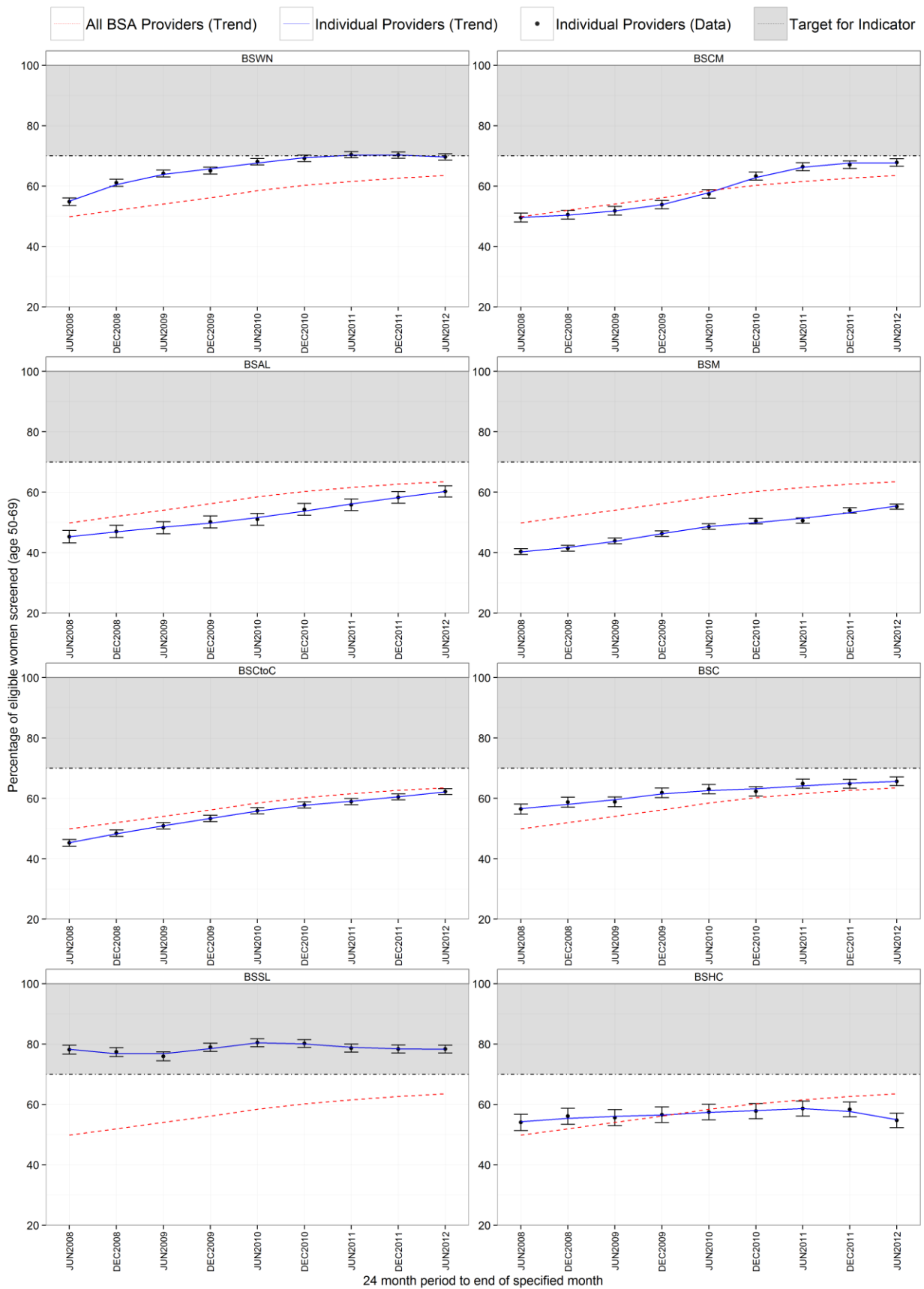


Figure 1a.1b: Trends in biennial coverage for Māori women aged 50–69 years July 2006 to June 2012



1a.2 Proportion of screens that are initial and subsequent screens

Table 1a.2a: Proportion of screens that are initial or subsequent screens, 2 years (July 2010 to June 2012), 45–49 years

Lead provider	Initial screens		Number of women screened		% of screens that were initial(95% CI)		Māori/non-Māori ratio (95% CI)
	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori	
BSWN	1,115	8,629	2,260	17,599	49.3 (47.3, 51.4)	49.0 (48.3, 49.8)	1.01 (0.96, 1.05)
BSCM	1,032	6,037	1,692	11,213	61.0 (58.6, 63.3)	53.8 (52.9, 54.8)	<i>1.13 (1.09, 1.18)</i>
BSAL	353	5,142	713	10,421	49.5 (45.8, 53.2)	49.3 (48.4, 50.3)	1.00 (0.93, 1.08)
BSM	1,472	6,345	2,519	12,333	58.4 (56.5, 60.4)	51.4 (50.6, 52.3)	<i>1.14 (1.09, 1.18)</i>
BSCtoC	1,119	4,958	2,243	11,286	49.9 (47.8, 52.0)	43.9 (43.0, 44.9)	<i>1.14 (1.08, 1.19)</i>
BSC	567	5,087	1,151	10,633	49.3 (46.3, 52.2)	47.8 (46.9, 48.8)	1.03 (0.97, 1.10)
BSSL	607	8,795	1,432	23,014	42.4 (39.8, 45.0)	38.2 (37.6, 38.8)	<i>1.11 (1.04, 1.18)</i>
BSHC	225	2,795	444	6,579	50.7 (45.9, 55.4)	42.5 (41.3, 43.7)	<i>1.19 (1.08, 1.31)</i>
BSA Total	6,490	47,788	12,454	103,078	52.1 (51.2, 53.0)	46.4 (46.1, 46.7)	1.12 (1.10, 1.14)
Lead provider	Subsequent screens		Number of women screened		% of screens that were subsequent (95% CI)		Māori/non-Māori ratio (95% CI)
	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori	
BSWN	1,145	8,970	2,260	17,599	50.7 (48.6, 52.7)	51.0 (50.2, 51.7)	0.99 (0.95, 1.04)
BSCM	660	5,176	1,692	11,213	39.0 (36.7, 41.4)	46.2 (45.2, 47.1)	0.85 (0.79, 0.90)
BSAL	360	5,279	713	10,421	50.5 (46.8, 54.2)	50.7 (49.7, 51.6)	1.00 (0.92, 1.07)
BSM	1,047	5,988	2,519	12,333	41.6 (39.6, 43.5)	48.6 (47.7, 49.4)	0.86 (0.81, 0.90)
BSCtoC	1,124	6,328	2,243	11,286	50.1 (48.0, 52.2)	56.1 (55.1, 57.0)	<i>0.89 (0.85, 0.93)</i>
BSC	584	5,546	1,151	10,633	50.7 (47.8, 53.7)	52.2 (51.2, 53.1)	0.97 (0.92, 1.03)
BSSL	825	14,219	1,432	23,014	57.6 (55.0, 60.2)	61.8 (61.2, 62.4)	<i>0.93 (0.89, 0.98)</i>
BSHC	219	3,784	444	6,579	49.3 (44.6, 54.1)	57.5 (56.3, 58.7)	<i>0.86 (0.78, 0.94)</i>
BSA Total	5,964	55,290	12,454	103,078	47.9 (47.0, 48.8)	53.6 (53.3, 53.9)	0.89 (0.88, 0.91)

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

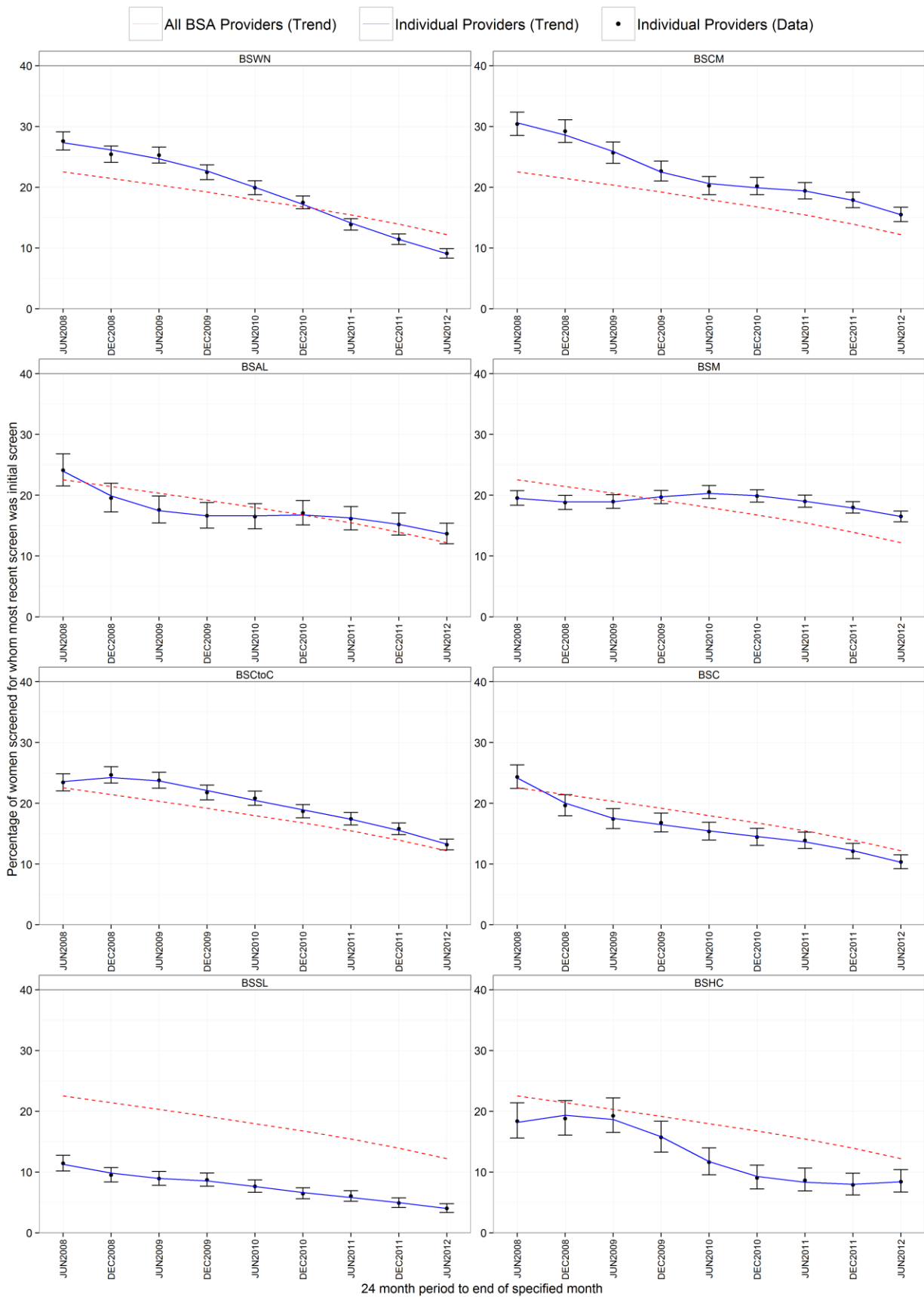
Among Māori women aged 45–49 years, just over half were initial screens. This ranged from 42% in BSSL (which has the highest coverage of Māori women, and therefore a higher proportion of subsequent screens) to 61% in BSCM.

Table 1a.2b: Proportion of screens that are initial or subsequent screens, 2 years (July 2010 to June 2012), 50–69 years

Lead provider	Initial screens		Number of women screened		% of screens that were initial (95% CI)		Māori/non-Māori ratio (95% CI)	
	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori		
BSWN	491	5,066	5,403	50,567	9.1 (8.3, 9.9)	10.0 (9.8, 10.3)	0.91 (0.83, 0.99)	
BSCM	561	4,045	3,622	29,146	15.5 (14.3, 16.7)	13.9 (13.5, 14.3)	1.12 (1.03, 1.21)	
BSAL	223	3,685	1,633	26,671	13.7 (12.0, 15.4)	13.8 (13.4, 14.2)	0.99 (0.87, 1.12)	
BSM	1,135	3,747	6,878	44,635	16.5 (15.6, 17.4)	8.4 (8.1, 8.7)	1.97 (1.85, 2.09)	
BSCtoC	774	2,635	5,867	40,886	13.2 (12.3, 14.1)	6.4 (6.2, 6.7)	2.05 (1.90, 2.21)	
BSC	288	2,635	2,790	34,182	10.3 (9.2, 11.5)	7.7 (7.4, 8.0)	1.34 (1.19, 1.50)	
BSSL	123	2,063	3,055	68,859	4.0 (3.4, 4.8)	3.0 (2.9, 3.1)	1.34 (1.12, 1.61)	
BSHC	77	1,144	914	25,125	8.4 (6.7, 10.4)	4.6 (4.3, 4.8)	1.85 (1.48, 2.31)	
BSA Total	3,672	25,020	30,162	320,071	12.2 (11.8, 12.5)	7.8 (7.7, 7.9)	1.56 (1.51, 1.61)	
Lead provider	Subsequent screens		Number of women screened		% of screens that were subsequent (95% CI)		Māori/non-Māori ratio (95% CI)	
	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori		
BSWN	4,912	45,501	5,403	50,567	90.9 (90.1, 91.7)	90.0 (89.7, 90.2)	1.01 (1.00, 1.02)	
BSCM	3,061	25,101	3,622	29,146	84.5 (83.3, 85.7)	86.1 (85.7, 86.5)	0.98 (0.97, 1.00)	
BSAL	1,410	22,986	1,633	26,671	86.3 (84.6, 88.0)	86.2 (85.8, 86.6)	1.00 (0.98, 1.02)	
BSM	5,743	40,888	6,878	44,635	83.5 (82.6, 84.4)	91.6 (91.3, 91.9)	0.91 (0.90, 0.92)	
BSCtoC	5,093	38,251	5,867	40,886	86.8 (85.9, 87.7)	93.6 (93.3, 93.8)	0.93 (0.92, 0.94)	
BSC	2,502	31,547	2,790	34,182	89.7 (88.5, 90.8)	92.3 (92.0, 92.6)	0.97 (0.96, 0.98)	
BSSL	2,932	66,796	3,055	68,859	96.0 (95.2, 96.6)	97.0 (96.9, 97.1)	0.99 (0.98, 1.00)	
BSHC	837	23,981	914	25,125	91.6 (89.6, 93.3)	95.4 (95.2, 95.7)	0.96 (0.94, 0.98)	
BSA Total	26,490	295,051	30,162	320,071	87.8 (87.5, 88.2)	92.2 (92.1, 92.3)	0.95 (0.95, 0.96)	

Among Māori women aged 50–69 years screened during July 2010 to June 2012, only 12% were initial screens and 88% were subsequent screens. The proportion of initial screens is decreasing over time in most Lead Providers, apart from BSHC. This reflects the increasing coverage and rescreening rates of Māori women. The proportion of Māori women having initial screens was 56% higher than the proportion of non-Māori women. BSSL had the lowest proportions of initial screens among both Māori (4% and non-Māori (3%). BSM had the highest proportion of initial screens among Māori women (16.5%).

Figure 1a.2: Trends in the percentage of screens of Māori women aged 50–69 years that were initial



1a.3 Percentage of women screened by type of screening unit

Table 1a.3a: Percentage of women screened by type of screening unit, 2 years (July 2010 to June 2012), 45–49 years

Lead provider	Number screened in fixed unit		Total number screened		% screened in fixed unit (95% CI)		Māori/non-Māori ratio (95% CI)
	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori	
BSWN	1,416	14,383	2,260	17,599	62.7 (60.6, 64.7)	81.7 (81.1, 82.3)	0.77 (0.74, 0.79)
BSCM	1,238	8,755	1,692	11,213	73.2 (71.0, 75.3)	78.1 (77.3, 78.8)	0.94 (0.91, 0.97)
BSAL	404	7,483	713	10,421	56.7 (52.9, 60.3)	71.8 (70.9, 72.7)	0.79 (0.74, 0.84)
BSM	1,477	8,690	2,519	12,333	58.6 (56.7, 60.6)	70.5 (69.6, 71.3)	0.83 (0.80, 0.86)
BSCtoC	1,768	10,006	2,243	11,286	78.8 (77.1, 80.5)	88.7 (88.1, 89.2)	0.89 (0.87, 0.91)
BSC	683	7,206	1,151	10,633	59.3 (56.4, 62.2)	67.8 (66.9, 68.7)	0.88 (0.83, 0.92)
BSSL	1,207	20,746	1,432	23,014	84.3 (82.3, 86.1)	90.1 (89.8, 90.5)	0.94 (0.91, 0.96)
BSHC	332	4,366	444	6,579	74.8 (70.5, 78.8)	66.4 (65.2, 67.5)	1.13 (1.06, 1.19)
BSA Total	8,525	81,635	12,454	103,078	68.5 (67.6, 69.3)	79.2 (78.9, 79.4)	0.86 (0.85, 0.88)
Lead provider	Number screened in mobile unit		Total number screened		% screened in mobile unit (95% CI)		Māori/non-Māori ratio (95% CI)
	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori	
BSWN	844	3,216	2,260	17,599	37.3 (35.3, 39.4)	18.3 (17.7, 18.9)	2.04 (1.92, 2.17)
BSCM	454	2,458	1,692	11,213	26.8 (24.7, 29.0)	21.9 (21.2, 22.7)	1.22 (1.12, 1.33)
BSAL	309	2,938	713	10,421	43.3 (39.7, 47.1)	28.2 (27.3, 29.1)	1.54 (1.41, 1.68)
BSM	1,042	3,643	2,519	12,333	41.4 (39.4, 43.3)	29.5 (28.7, 30.4)	1.40 (1.33, 1.48)
BSCtoC	475	1,280	2,243	11,286	21.2 (19.5, 22.9)	11.3 (10.8, 11.9)	1.87 (1.70, 2.05)
BSC	468	3,427	1,151	10,633	40.7 (37.8, 43.6)	32.2 (31.3, 33.1)	1.26 (1.17, 1.36)
BSSL	225	2,268	1,432	23,014	15.7 (13.9, 17.7)	9.9 (9.5, 10.2)	1.59 (1.41, 1.81)
BSHC	112	2,213	444	6,579	25.2 (21.2, 29.5)	33.6 (32.5, 34.8)	0.75 (0.64, 0.88)
BSA Total	3,929	21,443	12,454	103,078	31.5 (30.7, 32.4)	20.8 (20.6, 21.1)	1.52 (1.47, 1.56)

Among Māori women aged 45–49 years, close to 70% were screened in fixed units. Around 30% of Māori women were screened in mobile units, compared to 20% of non-Māori women. The highest proportions of mobile screens were in BSAL, BSM and BSC, with around 40% of Māori women in these regions screened in mobile units. In BSHC the proportion screened in mobile units was higher for non-Māori (34%) than for Māori women (25%).

Table 1a.3b: Percentage of women screened by type of screening unit, 2 years (July 2010 to June 2012), 50–69 years

Lead provider	Number screened in fixed unit		Total number screened		% screened in fixed unit (95% CI)			Māori/non-Māori ratio (95% CI)
	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori		
BSWN	3,174	40,991	5,403	50,567	58.7 (57.4, 60.1)	81.1 (80.7, 81.4)	0.72 (0.71, 0.74)	
BSCM	2,528	22,359	3,622	29,146	69.8 (68.3, 71.3)	76.7 (76.2, 77.2)	0.91 (0.89, 0.93)	
BSAL	966	19,347	1,633	26,671	59.2 (56.7, 61.6)	72.5 (72.0, 73.1)	0.82 (0.78, 0.85)	
BSM	3,892	29,877	6,878	44,635	56.6 (55.4, 57.8)	66.9 (66.5, 67.4)	0.85 (0.83, 0.86)	
BSCtoC	4,390	35,714	5,867	40,886	74.8 (73.7, 75.9)	87.4 (87.0, 87.7)	0.86 (0.84, 0.87)	
BSC	1,698	22,448	2,790	34,182	60.9 (59.0, 62.7)	65.7 (65.2, 66.2)	0.93 (0.90, 0.96)	
BSSL	2,502	61,625	3,055	68,859	81.9 (80.5, 83.2)	89.5 (89.3, 89.7)	0.92 (0.90, 0.93)	
BSHC	634	16,447	914	25,125	69.4 (66.3, 72.3)	65.5 (64.9, 66.0)	1.06 (1.01, 1.11)	
BSA Total	19,784	248,808	30,162	320,071	65.6 (65.1, 66.1)	77.7 (77.6, 77.9)	0.84 (0.84, 0.85)	
Lead provider	Number screened in mobile unit		Total number screened		% screened in mobile unit (95% CI)			Māori/non-Māori ratio (95% CI)
	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori		
BSWN	2,229	9,576	5,403	50,567	41.3 (39.9, 42.6)	18.9 (18.6, 19.3)	2.18 (2.10, 2.26)	
BSCM	1,094	6,787	3,622	29,146	30.2 (28.7, 31.7)	23.3 (22.8, 23.8)	1.30 (1.23, 1.37)	
BSAL	667	7,324	1,633	26,671	40.8 (38.4, 43.3)	27.5 (26.9, 28.0)	1.49 (1.40, 1.58)	
BSM	2,986	14,758	6,878	44,635	43.4 (42.2, 44.6)	33.1 (32.6, 33.5)	1.31 (1.27, 1.35)	
BSCtoC	1,477	5,172	5,867	40,886	25.2 (24.1, 26.3)	12.6 (12.3, 13.0)	1.99 (1.89, 2.09)	
BSC	1,092	11,734	2,790	34,182	39.1 (37.3, 41.0)	34.3 (33.8, 34.8)	1.14 (1.09, 1.20)	
BSSL	553	7,234	3,055	68,859	18.1 (16.8, 19.5)	10.5 (10.3, 10.7)	1.72 (1.59, 1.86)	
BSHC	280	8,678	914	25,125	30.6 (27.7, 33.7)	34.5 (34.0, 35.1)	0.89 (0.80, 0.98)	
BSA Total	10,378	71,263	30,162	320,071	34.4 (33.9, 34.9)	22.3 (22.1, 22.4)	1.55 (1.52, 1.57)	

Among Māori women aged 50–69 years, two-thirds were screened in fixed units and one third in mobile units. BSWN, BSAL, BSM and BSC had the highest proportions of Māori women screened in mobile units (around 40% each). A lower proportion of non-Māori women were screened in mobile units in all Lead Provider regions apart from BSHC.

1a.4 Age-specific coverage, women aged 45–69 years

Table 1a.4: Coverage by age group, 2 years (July 2010 to June 2012)

Lead provider	Number of women screened in last 2 years		Eligible population		% coverage in last 2 years (95% CI)		Māori/non-Māori ratio (95% CI)
	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori	
Age 45–49 years							
BSWN	2,260	17,599	3,290	24,570	68.7 (67.1, 70.3)	71.6 (71.1, 72.2)	0.96 (0.94, 0.98)
BSCM	1,692	11,213	2,460	16,020	68.8 (66.9, 70.6)	70.0 (69.3, 70.7)	0.98 (0.96, 1.01)
BSAL	713	10,421	1,130	15,480	63.1 (60.2, 65.9)	67.3 (66.6, 68.1)	0.94 (0.90, 0.98)
BSM	2,519	12,333	5,200	19,810	48.4 (47.1, 49.8)	62.3 (61.6, 62.9)	0.78 (0.76, 0.80)
BSCtoC	2,243	11,286	3,980	16,035	56.4 (54.8, 57.9)	70.4 (69.7, 71.1)	0.80 (0.78, 0.82)
BSC	1,151	10,633	1,920	16,055	59.9 (57.7, 62.1)	66.2 (65.5, 67.0)	0.91 (0.87, 0.94)
BSSL	1,432	23,014	1,750	26,645	81.8 (79.9, 83.6)	86.4 (86.0, 86.8)	0.95 (0.93, 0.97)
BSHC	444	6,579	760	10,230	58.4 (54.8, 62.0)	64.3 (63.4, 65.2)	0.91 (0.85, 0.97)
BSA Total	12,454	103,078	20,490	144,845	60.8 (60.1, 61.5)	71.2 (70.9, 71.4)	0.85 (0.84, 0.86)
Age 50–54 years							
BSWN	1,949	14,913	2,950	22,320	66.1 (64.3, 67.8)	66.8 (66.2, 67.4)	0.99 (0.96, 1.02)
BSCM	1,310	8,986	1,960	14,030	66.8 (64.7, 68.9)	64.0 (63.2, 64.8)	1.04 (1.01, 1.08)
BSAL	615	8,446	1,010	13,350	60.9 (57.8, 63.9)	63.3 (62.4, 64.1)	0.96 (0.91, 1.01)
BSM	2,338	11,905	4,590	19,430	50.9 (49.5, 52.4)	61.3 (60.6, 62.0)	0.83 (0.81, 0.86)
BSCtoC	1,989	11,318	3,400	16,120	58.5 (56.8, 60.2)	70.2 (69.5, 70.9)	0.83 (0.81, 0.86)
BSC	1,069	10,032	1,680	14,525	63.6 (61.3, 65.9)	69.1 (68.3, 69.8)	0.92 (0.89, 0.96)
BSSL	1,082	19,428	1,470	25,605	73.6 (71.3, 75.8)	75.9 (75.3, 76.4)	0.97 (0.94, 1.00)
BSHC	344	7,466	630	10,215	54.6 (50.6, 58.5)	73.1 (72.2, 73.9)	0.75 (0.70, 0.80)
BSA Total	10,696	92,494	17,690	135,595	60.5 (59.7, 61.2)	68.2 (68.0, 68.5)	0.89 (0.88, 0.90)
Age 55–59 years							
BSWN	1,487	13,175	2,070	18,880	71.8 (69.8, 73.8)	69.8 (69.1, 70.4)	1.03 (1.00, 1.06)
BSCM	1,023	7,805	1,520	11,600	67.3 (64.9, 69.7)	67.3 (66.4, 68.1)	1.00 (0.96, 1.04)
BSAL	463	7,383	760	11,240	60.9 (57.3, 64.4)	65.7 (64.8, 66.6)	0.93 (0.87, 0.98)
BSM	1,986	11,217	3,500	17,700	56.7 (55.1, 58.4)	63.4 (62.7, 64.1)	0.90 (0.87, 0.92)
BSCtoC	1,618	10,658	2,620	14,635	61.8 (59.9, 63.6)	72.8 (72.1, 73.5)	0.85 (0.82, 0.88)
BSC	761	8,952	1,170	12,405	65.0 (62.2, 67.8)	72.2 (71.4, 73.0)	0.90 (0.86, 0.94)
BSSL	851	18,554	1,030	22,825	82.6 (80.2, 84.9)	81.3 (80.8, 81.8)	1.02 (0.99, 1.05)
BSHC	258	6,571	430	8,950	60.0 (55.2, 64.7)	73.4 (72.5, 74.3)	0.82 (0.76, 0.88)
BSA Total	8,447	84,315	13,100	118,235	64.5 (63.7, 65.3)	71.3 (71.1, 71.6)	0.90 (0.89, 0.92)
Age 60–64 years							
BSWN	1,145	12,473	1,650	17,770	69.4 (67.1, 71.6)	70.2 (69.5, 70.9)	0.99 (0.96, 1.02)
BSCM	785	6,955	1,140	10,400	68.9 (66.1, 71.5)	66.9 (66.0, 67.8)	1.03 (0.99, 1.07)
BSAL	354	6,357	580	9,400	61.0 (56.9, 65.0)	67.6 (66.7, 68.6)	0.90 (0.84, 0.96)
BSM	1,506	11,669	2,610	17,240	57.7 (55.8, 59.6)	67.7 (67.0, 68.4)	0.85 (0.82, 0.88)
BSCtoC	1,336	10,528	2,020	14,205	66.1 (64.0, 68.2)	74.1 (73.4, 74.8)	0.89 (0.86, 0.92)
BSC	596	8,610	880	11,540	67.7 (64.5, 70.8)	74.6 (73.8, 75.4)	0.91 (0.87, 0.95)
BSSL	658	17,598	830	21,760	79.3 (76.4, 82.0)	80.9 (80.3, 81.4)	0.98 (0.95, 1.02)
BSHC	195	6,309	370	8,435	52.7 (47.5, 57.9)	74.8 (73.9, 75.7)	0.70 (0.64, 0.78)
BSA Total	6,575	80,499	10,080	110,750	65.2 (64.3, 66.2)	72.7 (72.4, 72.9)	0.90 (0.88, 0.91)

Lead provider	Number of women screened in last 2 years		Eligible population		% coverage in last 2 years (95% CI)		Māori/non-Māori ratio (95% CI)
	Māori	Non-Māori	Māori	Non-Māori	Māori	Non-Māori	
Age 65-69 years							
BSWN	822	10,006	1,090	14,020	75.4 (72.7, 77.9)	71.4 (70.6, 72.1)	1.06 (1.02, 1.09)
BSCM	504	5,400	720	8,070	70.0 (66.5, 73.3)	66.9 (65.9, 67.9)	1.05 (0.99, 1.10)
BSAL	201	4,485	360	6,790	55.8 (50.5, 61.0)	66.1 (64.9, 67.2)	0.85 (0.77, 0.93)
BSM	1,048	9,844	1,760	14,010	59.5 (57.2, 61.8)	70.3 (69.5, 71.0)	0.85 (0.81, 0.88)
BSCtoC	924	8,382	1,390	11,160	66.5 (63.9, 69.0)	75.1 (74.3, 75.9)	0.89 (0.85, 0.92)
BSC	364	6,588	520	8,785	70.0 (65.9, 73.9)	75.0 (74.1, 75.9)	0.93 (0.88, 0.99)
BSSL	464	13,279	570	16,485	81.4 (78.0, 84.5)	80.6 (79.9, 81.2)	1.01 (0.97, 1.05)
BSHC	117	4,779	240	6,390	48.8 (42.3, 55.3)	74.8 (73.7, 75.8)	0.65 (0.57, 0.74)
BSA Total	4,444	62,763	6,650	85,710	66.8 (65.7, 68.0)	73.2 (72.9, 73.5)	0.91 (0.90, 0.93)

Ratios below one are unfavourable to Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Shaded boxes show confidence interval excludes target of >70%.

* Eligible population is based on the mid-year 2011 projected population

Coverage of Māori women generally increased with age, with total BSA coverage rising from 61% in the two youngest age groups to 67% in the oldest age group. BSS exceeded the target of 70% coverage of Māori women in each age group.

Note that the number of eligible women decreases with age among both Māori and non-Māori, although a higher proportion of Māori are in the younger age groups. To reach 70% coverage of Māori women in each age group, and in each Lead Provider, additional numbers of women needed to screen¹¹ were 1,740 for the 50–54 year age group, 891 for 55–59 years, 558 for 60–64 years, and 335 for the 65–69 year age group. In each age group, half of the additional screens needed were from the BSM region.

For 70% of Māori women aged 45–49 to be screened, a further 1,889 screens would have been needed.

¹¹ These numbers exclude the Lead Providers which exceeded 70% of Māori women in that age group.

1b Routine re-screening

Description: The proportion of enrolled eligible women who are re-screened. This measures the acceptability of the programme.

Target:

>85% of women who are eligible for rescreen are re-screened within 27 months

>75% of women who return for a screen are re-screened between 20 to 24 months of their previous screen.

Table 1b.1: Percentage of women eligible for re-screen who are re-screened within 27 months, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratios (95% CI)
	Women rescreened within 27 months of previous screen	Number of women eligible for re-screen	% of eligible women rescreened within 27 months (95% CI)	Women rescreened within 27 months of previous screen	Number of women eligible for re-screen	% of eligible women rescreened within 27 months (95% CI)	
Women aged 45–49 years (previous screen 1/4/2008 to 1/4/2010)							
BSWN	1,602	2,240	71.5(69.6, 73.4)	12,569	16,023	78.4(77.8, 79.1)	<i>0.91(0.89, 0.94)</i>
BSCM	754	1,171	64.4(61.6, 67.1)	6,821	8,846	77.1(76.2, 78.0)	<i>0.84(0.80, 0.87)</i>
BSAL	487	629	77.4(74.0, 80.6)	6,917	8,167	84.7(83.9, 85.5)	<i>0.91(0.88, 0.95)</i>
BSM	1,408	2,159	65.2(63.2, 67.2)	8,314	11,388	73.0(72.2, 73.8)	<i>0.89(0.86, 0.92)</i>
BSCtoC	1,610	1,994	80.7(78.9, 82.5)	9,666	10,890	88.8(88.2, 89.3)	<i>0.91(0.89, 0.93)</i>
BSC	850	1,083	78.5(75.9, 80.9)	8,454	9,803	86.2(85.5, 86.9)	<i>0.91(0.88, 0.94)</i>
BSSL	1,118	1,386	80.7(78.5, 82.7)	19,886	22,573	88.1(87.7, 88.5)	<i>0.92(0.89, 0.94)</i>
BSHC	316	397	79.6(75.3, 83.5)	6,101	7,092	86.0(85.2, 86.8)	<i>0.93(0.88, 0.97)</i>
Total BSA	8,145	11,059	73.7(72.8, 74.5)	78,728	94,782	83.1(82.8, 83.3)	0.89(0.88, 0.90)
Women aged 50–69 years (previous screen 1/4/2008 to 1/4/2010)							
BSWN	3,546	4,565	77.7(76.4, 78.9)	35,466	42,470	83.5(83.2, 83.9)	<i>0.93(0.92, 0.95)</i>
BSCM	1,927	2,700	71.4(69.6, 73.1)	18,109	22,334	81.1(80.6, 81.6)	<i>0.88(0.86, 0.90)</i>
BSAL	1,031	1,243	82.9(80.7, 85.0)	17,862	20,604	86.7(86.2, 87.2)	<i>0.96(0.93, 0.98)</i>
BSM	3,845	5,320	72.3(71.1, 73.5)	29,565	37,581	78.7(78.3, 79.1)	<i>0.92(0.90, 0.93)</i>
BSCtoC	3,883	4,579	84.8(83.7, 85.8)	31,657	35,025	90.4(90.1, 90.7)	<i>0.94(0.93, 0.95)</i>
BSC	1,842	2,301	80.1(78.4, 81.7)	25,555	29,095	87.8(87.5, 88.2)	<i>0.91(0.89, 0.93)</i>
BSSL	2,310	2,671	86.5(85.1, 87.8)	55,341	60,828	91.0(90.7, 91.2)	<i>0.95(0.94, 0.97)</i>
BSHC	651	810	80.4(77.5, 83.1)	19,625	22,257	88.2(87.7, 88.6)	<i>0.91(0.88, 0.94)</i>
Total BSA	19,035	24,189	78.7(78.2, 79.2)	233,180	270,194	86.3(86.2, 86.4)	0.91(0.91, 0.92)

Ratios below one are unfavourable to Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Shaded boxes show confidence interval excludes target of >85%.

Just under 80% of eligible Māori women aged 50–69 years were rescreened within 27 months, below the target of 85% and 9% lower than the proportion of non-Māori rescreened on time. There has been little change in this proportion for total BSA Māori women since 2008, although BSCM shows an increasing trend, while BSWN and BSHC show a decreasing trend (Figure 1b). Importantly the rate for BSM has plateaued at just over 70%. As coverage has continued to improve overall, this may indicate an increase in the number of Māori women who are rescreening later than 27 months.

For Māori women aged 45–49 years, 74% were rescreened within 27 months compared to 83% of non-Māori.

Figure 1b: Trends in percentage of eligible Māori women aged 50–69 years routinely rescreened within 27 months

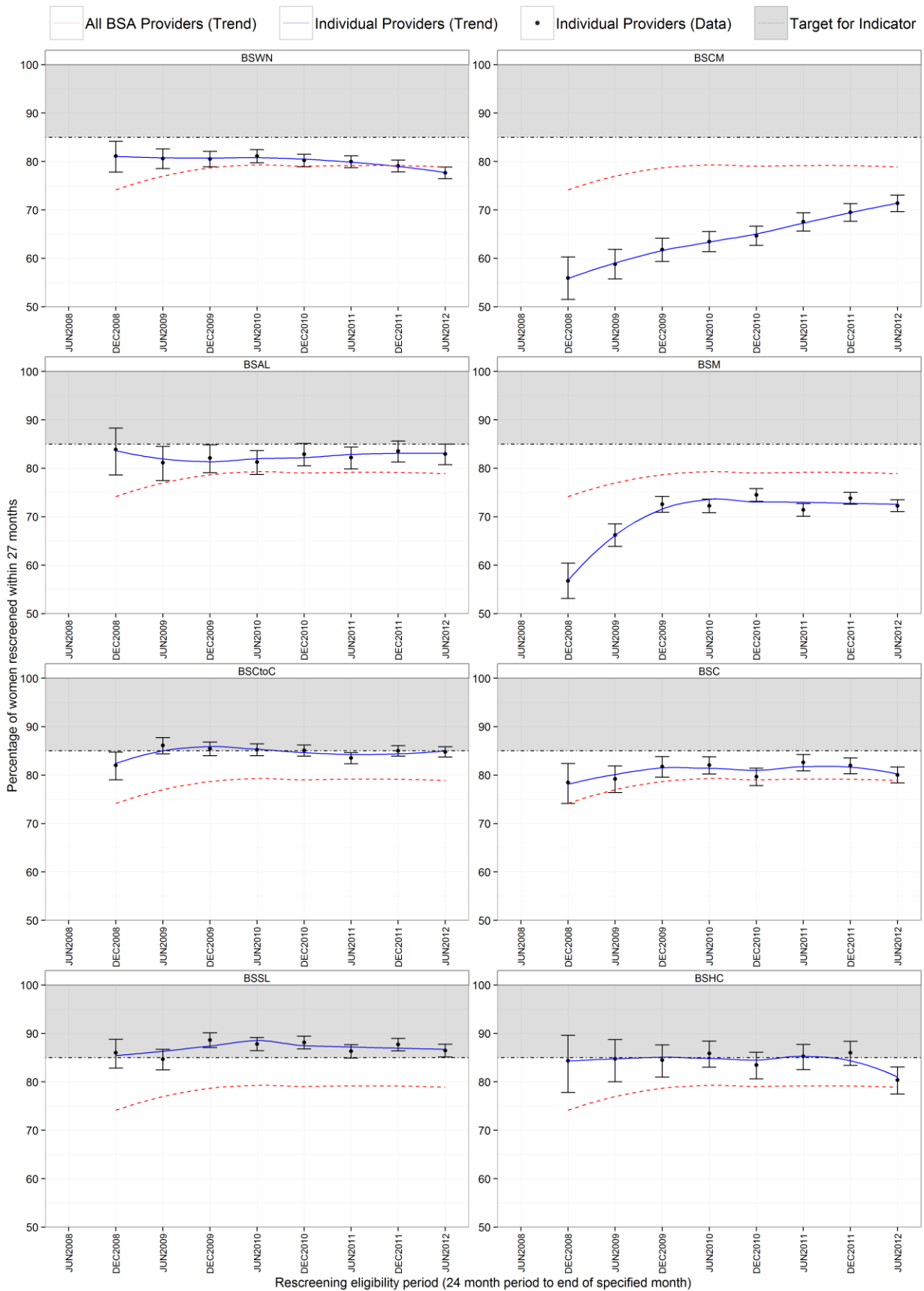


Table 1b.2: Percentage of women who return for a screen who are re-screened within 20–24 months, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Number of women rescreened within 20 to 24 months of previous screen	Number of women rescreened within 27 months	% of eligible women rescreened within 20 to 24 months (95% CI)	Number of women rescreened within 20 to 24 months of previous screen	Number of women rescreened within 27 months	% of eligible women rescreened within 20 to 24 months (95% CI)	
45–49 years (previous screen 1/4/2008 to 1/4/2010)							
BSWN	1,366	1,602	85.3(83.4, 87.0)	10,568	12,569	84.1(83.4, 84.7)	1.01(0.99, 1.04)
BSCM	607	754	80.5(77.5, 83.3)	5,956	6,821	87.3(86.5, 88.1)	0.92(0.89, 0.96)
BSAL	445	487	91.4(88.5, 93.7)	6,487	6,917	93.8(93.2, 94.3)	0.97(0.95, 1.00)
BSM	975	1,408	69.2(66.8, 71.7)	4,924	8,314	59.2(58.2, 60.3)	1.17(1.12, 1.22)
BSCtoC	1,277	1,610	79.3(77.3, 81.3)	7,316	9,666	75.7(74.8, 76.5)	1.05(1.02, 1.08)
BSC	648	850	76.2(73.2, 79.1)	6,327	8,454	74.8(73.9, 75.8)	1.02(0.98, 1.06)
BSSL	985	1,118	88.1(86.1, 89.9)	17,913	19,886	90.1(89.7, 90.5)	0.98(0.96, 1.00)
BSHC	258	316	81.6(76.9, 85.8)	5,193	6,101	85.1(84.2, 86.0)	0.96(0.91, 1.01)
Total BSA	6,561	8,145	80.6(79.7, 81.4)	64,684	78,728	82.2(81.9, 82.4)	0.98(0.97, 0.99)
50–69 years (previous screen 1/4/2008 to 1/4/2010)							
BSWN	3,111	3,546	87.7(86.6, 88.8)	30,448	35,466	85.9(85.5, 86.2)	1.02(1.01, 1.04)
BSCM	1,631	1,927	84.6(83.0, 86.2)	16,333	18,109	90.2(89.8, 90.6)	0.94(0.92, 0.96)
BSAL	966	1,031	93.7(92.0, 95.1)	16,793	17,862	94.0(93.7, 94.4)	1.00(0.98, 1.01)
BSM	2,705	3,845	70.4(68.9, 71.8)	18,406	29,565	62.3(61.7, 62.8)	1.13(1.11, 1.16)
BSCtoC	3,138	3,883	80.8(79.5, 82.0)	24,294	31,657	76.7(76.3, 77.2)	1.05(1.04, 1.07)
BSC	1,391	1,842	75.5(73.5, 77.5)	19,383	25,555	75.8(75.3, 76.4)	1.00(0.97, 1.02)
BSSL	2,088	2,310	90.4(89.1, 91.6)	50,412	55,341	91.1(90.9, 91.3)	0.99(0.98, 1.01)
BSHC	522	651	80.2(76.9, 83.2)	16,034	19,625	81.7(81.2, 82.2)	0.98(0.94, 1.02)
Total BSA	15,552	19,035	81.7(81.1, 82.2)	192,103	233,180	82.4(82.2, 82.5)	0.99(0.98, 1.00)

Ratios below one are unfavourable to Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Shaded boxes show confidence interval excludes target of >75%.

Of women who were rescreened within 27 months, over 80% in both age groups were rescreened within 24 months. There was little difference between Māori and non-Māori women. BSM did not meet the target for Māori or non-Māori women.

SECTION 2: PROVISION OF HIGH QUALITY SCREENING AND ASSESSMENT

2a Screened women who have no more than four films taken

Description: The percentage of women screened who have no more than four films taken.

Target: >80% of women screened have four or less films taken.

Table 2a.1: Percentage of women aged 45–49 years having 4 films or fewer by type of screening unit, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Women having 4 films or fewer	Number of women screened	% of women screened who had 4 films or fewer (95% CI)	Women having 4 films or fewer	Number of women screened	% of women screened who had 4 films or fewer (95% CI)	
Fixed Unit							
BSWN	1,187	1,416	83.8(81.8, 85.7)	12,820	14,383	89.1(88.6, 89.6)	0.94(0.92, 0.96)
BSCM	860	1,238	69.5(66.8, 72.0)	7,085	8,755	80.9(80.1, 81.7)	0.86(0.83, 0.89)
BSAL	344	404	85.1(81.3, 88.5)	6,655	7,483	88.9(88.2, 89.6)	0.96(0.92, 1.00)
BSM	1,274	1,477	86.3(84.4, 88.0)	7,887	8,690	90.8(90.1, 91.4)	0.95(0.93, 0.97)
BSCtoC	1,515	1,768	85.7(84.0, 87.3)	9,237	10,006	92.3(91.8, 92.8)	0.93(0.91, 0.95)
BSC	530	683	77.6(74.3, 80.7)	6,107	7,206	84.7(83.9, 85.6)	0.92(0.88, 0.95)
BSSL	1,045	1,207	86.6(84.5, 88.5)	18,461	20,746	89.0(88.6, 89.4)	0.97(0.95, 1.00)
BSHC	284	332	85.5(81.3, 89.1)	3,804	4,366	87.1(86.1, 88.1)	0.98(0.94, 1.03)
Total BSA	7,039	8,525	82.6(81.7, 83.4)	72,056	81,635	88.3(88.0, 88.5)	0.94(0.93, 0.94)
Mobile unit							
BSWN	723	844	85.7(83.1, 88.0)	2,844	3,216	88.4(87.3, 89.5)	0.97(0.94, 1.00)
BSCM	361	454	79.5(75.5, 83.1)	2,195	2,458	89.3(88.0, 90.5)	0.89(0.85, 0.93)
BSAL	248	309	80.3(75.4, 84.5)	2,509	2,938	85.4(84.1, 86.7)	0.94(0.89, 1.00)
BSM	801	1,042	76.9(74.2, 79.4)	3,135	3,643	86.1(84.9, 87.2)	0.89(0.86, 0.93)
BSCtoC	343	475	72.2(67.9, 76.2)	1,144	1,280	89.4(87.6, 91.0)	0.81(0.76, 0.86)
BSC	389	468	83.1(79.4, 86.4)	3,086	3,427	90.0(89.0, 91.0)	0.92(0.88, 0.96)
BSSL	187	225	83.1(77.6, 87.8)	2,050	2,268	90.4(89.1, 91.6)	0.92(0.87, 0.98)
BSHC	100	112	89.3(82.0, 94.3)	2,020	2,213	91.3(90.0, 92.4)	0.98(0.92, 1.04)
Total BSA	3,152	3,929	80.2(78.9, 81.5)	18,983	21,443	88.5(88.1, 89.0)	0.91(0.89, 0.92)

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

Among women aged 45–49 years, around 80% of Māori women had no more than four films taken in both fixed and mobile units.

Table 2a.2: Percentage of women aged 50–69 years having 4 films or fewer by type of screening unit, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Women having 4 films or fewer	Number of women screened	% of women screened who had 4 films or fewer (95% CI)	Women having 4 films or fewer	Number of women screened	% of women screened who had 4 films or fewer (95% CI)	
Fixed Unit							
BSWN	2,585	3,174	81.4(80.0, 82.8)	36,249	40,991	88.4(88.1, 88.7)	0.92(0.91, 0.94)
BSCM	1,653	2,528	65.4(63.5, 67.2)	17,573	22,359	78.6(78.1, 79.1)	0.83(0.81, 0.86)
BSAL	819	966	84.8(82.4, 87.0)	17,331	19,347	89.6(89.1, 90.0)	0.95(0.92, 0.97)
BSM	3,370	3,892	86.6(85.5, 87.6)	27,443	29,877	91.9(91.5, 92.2)	0.94(0.93, 0.95)
BSCtoC	3,535	4,390	80.5(79.3, 81.7)	32,765	35,714	91.7(91.5, 92.0)	0.88(0.86, 0.89)
BSC	1,314	1,698	77.4(75.3, 79.4)	19,288	22,448	85.9(85.5, 86.4)	0.90(0.88, 0.92)
BSSL	2,162	2,502	86.4(85.0, 87.7)	54,995	61,625	89.2(89.0, 89.5)	0.97(0.95, 0.98)
BSHC	494	634	77.9(74.5, 81.1)	13,922	16,447	84.6(84.1, 85.2)	0.92(0.88, 0.96)
Total BSA	15,932	19,784	80.5(80.0, 81.1)	219,566	248,808	88.2(88.1, 88.4)	0.91(0.91, 0.92)
Mobile unit							
BSWN	1,782	2,229	79.9(78.2, 81.6)	8,360	9,576	87.3(86.6, 88.0)	0.92(0.90, 0.94)
BSCM	869	1,094	79.4(76.9, 81.8)	6,029	6,787	88.8(88.1, 89.6)	0.89(0.87, 0.92)
BSAL	562	667	84.3(81.3, 86.9)	6,309	7,324	86.1(85.3, 86.9)	0.98(0.95, 1.01)
BSM	2,289	2,986	76.7(75.1, 78.2)	12,891	14,758	87.3(86.8, 87.9)	0.88(0.86, 0.90)
BSCtoC	980	1,477	66.4(63.9, 68.8)	4,433	5,172	85.7(84.7, 86.7)	0.77(0.75, 0.80)
BSC	891	1,092	81.6(79.2, 83.9)	10,622	11,734	90.5(90.0, 91.0)	0.90(0.88, 0.93)
BSSL	449	553	81.2(77.7, 84.4)	6,485	7,234	89.6(88.9, 90.3)	0.91(0.87, 0.94)
BSHC	241	280	86.1(81.5, 89.9)	7,760	8,678	89.4(88.8, 90.1)	0.96(0.92, 1.01)
Total BSA	8,063	10,378	77.7(76.9, 78.5)	62,889	71,263	88.2(88.0, 88.5)	0.88(0.87, 0.89)

Ratios below one are unfavourable to Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Shaded boxes show confidence interval excludes target value of >80%.

Among Māori women aged 50–69 years screened in fixed units, 80% had no more than four films. BSCM had the lowest proportion of Māori women having four films or fewer (66%).

Among those screened in mobile units, the percentage was 78%, just under the target of 80%, with the lowest proportion for Māori women in BSCtoC (66%). Note that the change to digital processing in mobile units was still underway during this period and these results are likely to change once all mobile units are digital.

The proportions were lower among Māori women than non-Māori women in all Lead Providers.

2b Technical recall rate

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

Target:

Fixed <0.5%

Mobile <3%

Table 2b.1: Percentage of women aged 45–49 years having technical recall as a percentage of women screened, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Women having technical recall	Number of women screened	% of women screened who had technical recall (95% CI)	Women having technical recall	Number of women screened	% of women screened who had technical recall (95% CI)	
Fixed site							
BSWN	3	1,416	0.2(0.0, 0.6)	6	14,383	0.0(0.0, 0.1)	5.08(1.27, 20.3)
BSCM	4	1,238	0.3(0.1, 0.8)	18	8,755	0.2(0.1, 0.3)	1.57(0.53, 4.64)
BSAL	4	404	1.0(0.3, 2.5)	21	7,483	0.3(0.2, 0.4)	3.53(1.22, 10.23)
BSM	13	1,477	0.9(0.5, 1.5)	66	8,690	0.8(0.6, 1.0)	1.16(0.64, 2.10)
BSCtoC	3	1,768	0.2(0.0, 0.5)	22	10,006	0.2(0.1, 0.3)	0.77(0.23, 2.58)
BSC	9	683	1.3(0.6, 2.5)	60	7,206	0.8(0.6, 1.1)	1.58(0.79, 3.18)
BSSL	1	1,207	0.1(0.0, 0.5)	57	20,746	0.3(0.2, 0.4)	0.30(0.04, 2.18)
BSHC	0	332	0.0(0.0, 1.1)	1	4,366	0.0(0.0, 0.1)	0.00(0.00, 512.87)
Total BSA	37	8,525	0.4(0.3, 0.6)	251	81,635	0.3(0.3, 0.3)	1.41(1.00, 2.00)
Mobile site							
BSWN	1	844	0.1(0.0, 0.7)	0	3,216	0.0(0.0, 0.1)	Inf(0.098, Inf)
BSCM	14	454	3.1(1.7, 5.1)	46	2,458	1.9(1.4, 2.5)	1.65(0.91, 2.97)
BSAL	16	309	5.2(3.0, 8.3)	116	2,938	3.9(3.3, 4.7)	1.31(0.79, 2.18)
BSM	58	1,042	5.6(4.3, 7.1)	165	3,643	4.5(3.9, 5.3)	1.23(0.92, 1.64)
BSCtoC	16	475	3.4(1.9, 5.4)	36	1,280	2.8(2.0, 3.9)	1.20(0.67, 2.14)
BSC	27	468	5.8(3.8, 8.3)	133	3,427	3.9(3.3, 4.6)	1.49(0.99, 2.22)
BSSL	1	225	0.4(0.0, 2.5)	25	2,268	1.1(0.7, 1.6)	0.40(0.06, 2.96)
BSHC	2	112	1.8(0.2, 6.3)	59	2,213	2.7(2.0, 3.4)	0.67(0.17, 2.71)
Total BSA	135	3,929	3.4(2.9, 4.1)	580	21,443	2.7(2.5, 2.9)	1.27(1.06, 1.53)

Ratios above one are unfavourable to Māori.

Table 2b.2: Percentage of women aged 50–69 years having technical recall as a percentage of women screened, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Women having technical recall	Number of women screened	% of women screened who had technical recall (95% CI)	Women having technical recall	Number of women screened	% of women screened who had technical recall (95% CI)	
Fixed site							
BSWN	0	3,174	0.0(0.0, 0.1)	10	40,991	0.0(0.0, 0.0)	0.00(0.00, 5.76)
BSCM	4	2,528	0.2(0.0, 0.4)	9	22,359	0.0(0.0, 0.1)	3.93(1.21, 12.76)
BSAL	1	966	0.1(0.0, 0.6)	44	19,347	0.2(0.2, 0.3)	0.46(0.06, 3.30)
BSM	15	3,892	0.4(0.2, 0.6)	228	29,877	0.8(0.7, 0.9)	0.51(0.30, 0.85)
BSCtoC	15	4,390	0.3(0.2, 0.6)	70	35,714	0.2(0.2, 0.2)	1.74(0.999, 3.04)
BSC	7	1,698	0.4(0.2, 0.8)	110	22,448	0.5(0.4, 0.6)	0.84(0.39, 1.80)
BSSL	4	2,502	0.2(0.0, 0.4)	102	61,625	0.2(0.1, 0.2)	0.97(0.36, 2.62)
BSHC	2	634	0.3(0.0, 1.1)	7	16,447	0.0(0.0, 0.1)	7.41(1.54, 35.61)
Total BSA	48	19,784	0.2(0.2, 0.3)	580	248,808	0.2(0.2, 0.3)	1.04(0.78, 1.40)
Mobile site							
BSWN	2	2,229	0.1(0.0, 0.3)	5	9,576	0.1(0.0, 0.1)	1.72(0.33, 8.85)
BSCM	18	1,094	1.6(1.0, 2.6)	127	6,787	1.9(1.6, 2.2)	0.88(0.54, 1.44)
BSAL	24	667	3.6(2.3, 5.3)	249	7,324	3.4(3.0, 3.8)	1.06(0.70, 1.60)
BSM	152	2,986	5.1(4.3, 5.9)	591	14,758	4.0(3.7, 4.3)	1.27(1.07, 1.51)
BSCtoC	49	1,477	3.3(2.5, 4.4)	180	5,172	3.5(3.0, 4.0)	0.95(0.70, 1.30)
BSC	41	1,092	3.8(2.7, 5.1)	345	11,734	2.9(2.6, 3.3)	1.28(0.93, 1.76)
BSSL	10	553	1.8(0.9, 3.3)	118	7,234	1.6(1.4, 2.0)	1.11(0.58, 2.10)
BSHC	4	280	1.4(0.4, 3.6)	271	8,678	3.1(2.8, 3.5)	0.46(0.17, 1.22)
Total BSA	300	10,378	2.9(2.6, 3.2)	1,886	71,263	2.6(2.5, 2.8)	1.09(0.97, 1.23)

Ratios above one are unfavourable to Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Target are <0.5% for fixed sites and <3% for mobile sites.

Among women aged 50–69 years, the targets for technical recall rates were met for both Māori and non-Māori women in fixed and mobile units for Total BSA. BSM did not meet the target of <3% for mobile sites.

BSWN has shown a decreasing trend and has maintained a very low rate of technical recall in mobile units.

Figure 2b.1a: Trends in technical recall rates for Māori women aged 50–69 years screened in fixed sites

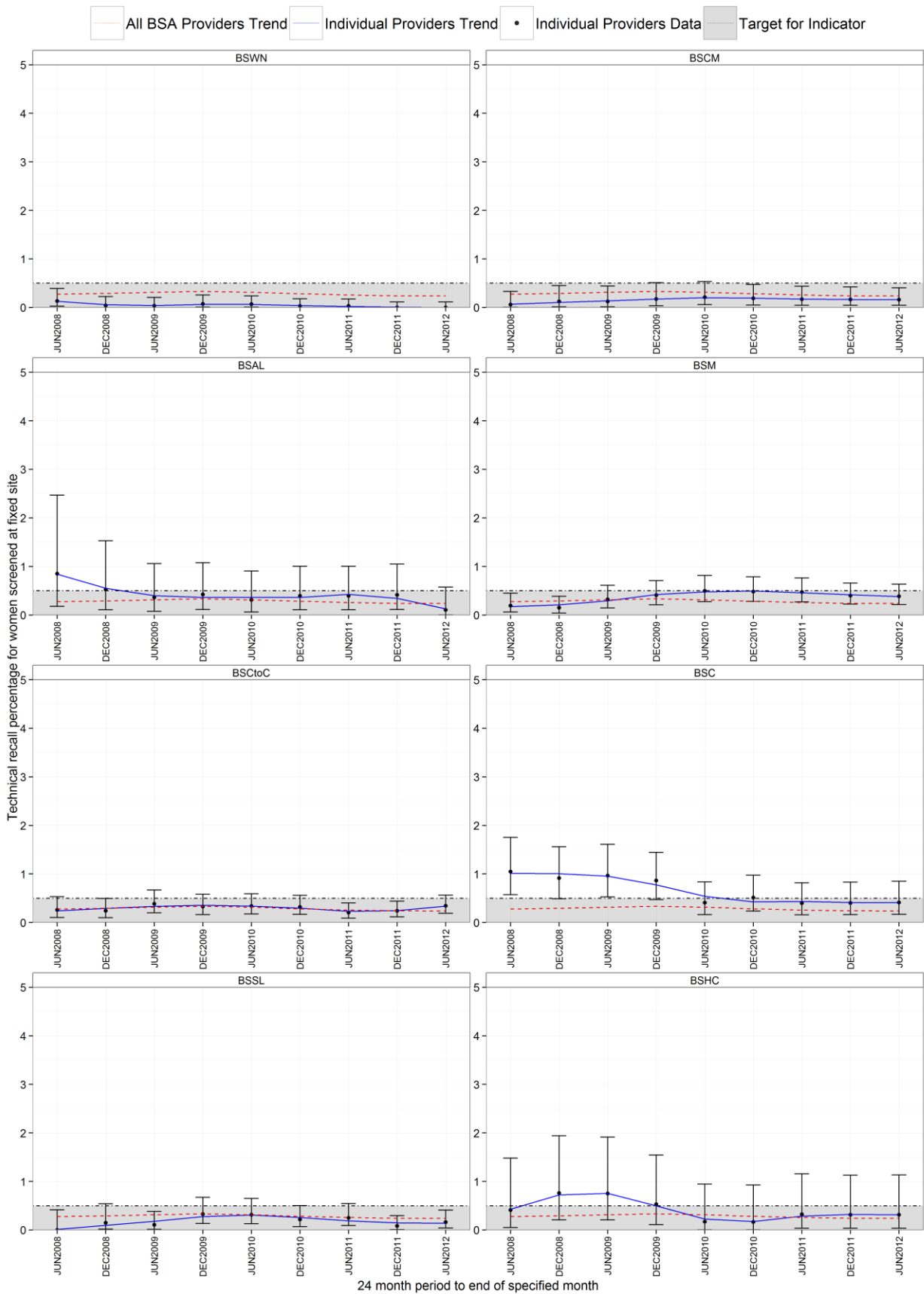
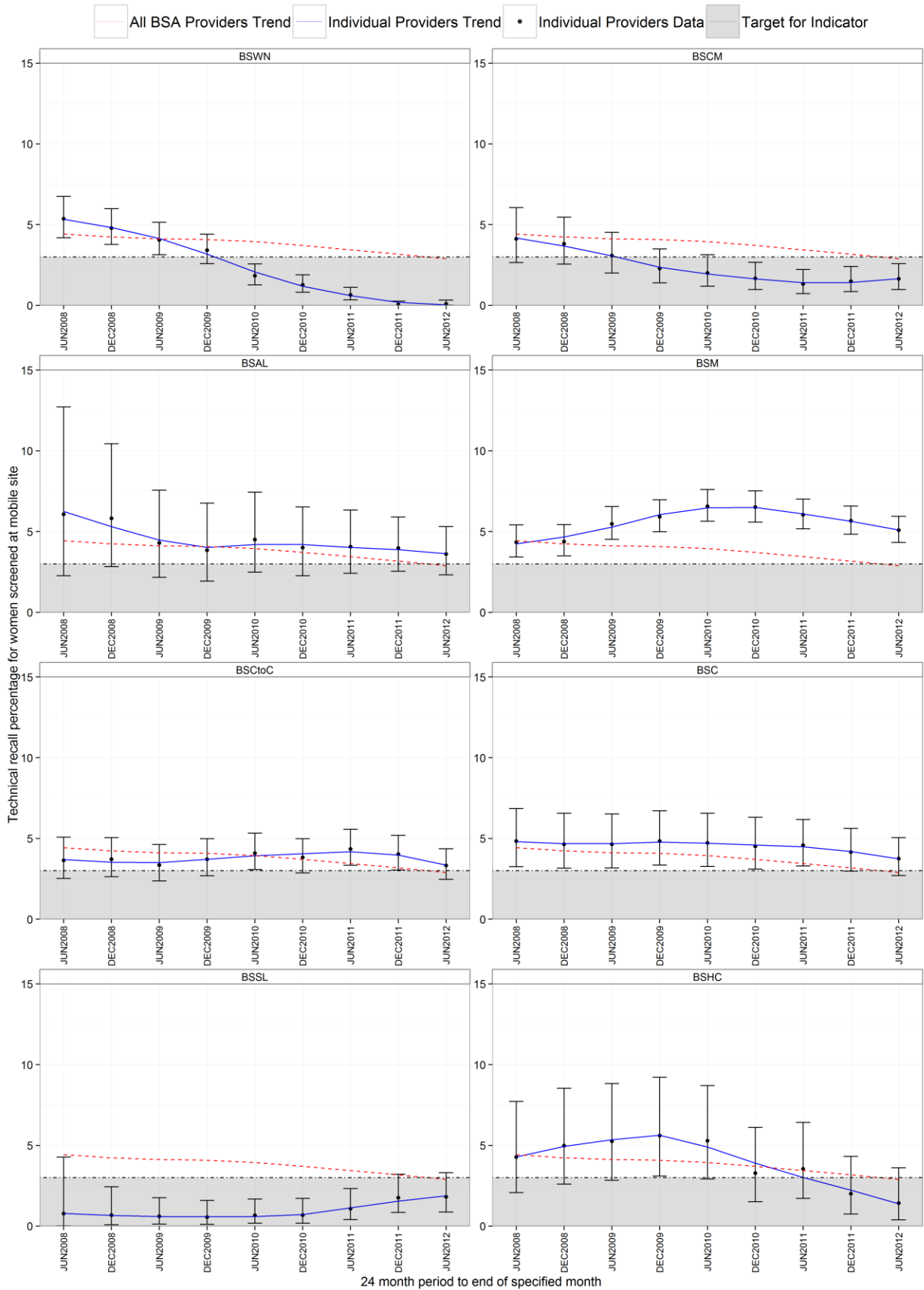


Figure 2b.1b: Trends in technical recall rates for Māori women aged 50–69 years screened in mobile units



2c Technical reject rate

Description:

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

Target:

Fixed: <3%

Mobile: <3%

Table 2c.1: Rejected films as a percentage of total films taken among women aged 45–49 years, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Total films rejected	Total films taken	% of films taken that were rejected (95% CI)	Total films rejected	Total films taken	% of films taken that were rejected (95% CI)	
Fixed unit							
BSWN	69	6,037	1.1(0.9, 1.4)	604	60,366	1.0(0.9, 1.1)	1.14(0.89, 1.46)
BSCM	78	5,601	1.4(1.1, 1.7)	445	37,857	1.2(1.1, 1.3)	1.18(0.93, 1.50)
BSAL	15	1,752	0.9(0.5, 1.4)	202	31,713	0.6(0.6, 0.7)	1.34(0.80, 2.27)
BSM	56	6,256	0.9(0.7, 1.2)	350	36,429	1.0(0.9, 1.1)	0.93(0.70, 1.23)
BSCtoC	34	7,480	0.5(0.3, 0.6)	249	41,271	0.6(0.5, 0.7)	0.75(0.53, 1.08)
BSC	44	2,958	1.5(1.1, 2.0)	437	30,511	1.4(1.3, 1.6)	1.04(0.76, 1.41)
BSSL	36	5,079	0.7(0.5, 1.0)	580	86,586	0.7(0.6, 0.7)	1.06(0.76, 1.48)
BSHC	12	1,412	0.8(0.4, 1.5)	161	18,334	0.9(0.7, 1.0)	0.97(0.54, 1.74)
Total BSA	344	36,575	0.9(0.8, 1.0)	3,028	343,067	0.9(0.9, 0.9)	1.07(0.95, 1.19)
Mobile unit							
BSWN	27	3,555	0.8(0.5, 1.1)	130	13,527	1.0(0.8, 1.1)	0.79(0.52, 1.19)
BSCM	12	1,997	0.6(0.3, 1.0)	69	10,316	0.7(0.5, 0.8)	0.90(0.49, 1.66)
BSAL	1	1,343	0.1(0.0, 0.4)	9	12,485	0.1(0.0, 0.1)	1.03(0.13, 8.15)
BSM	39	4,569	0.9(0.6, 1.2)	127	15,416	0.8(0.7, 1.0)	1.04(0.72, 1.48)
BSCtoC	23	2,145	1.1(0.7, 1.6)	35	5,373	0.7(0.5, 0.9)	1.65(0.98, 2.78)
BSC	2	2,020	0.1(0.0, 0.4)	33	14,273	0.2(0.2, 0.3)	0.43(0.10, 1.78)
BSSL	4	965	0.4(0.1, 1.1)	55	9,463	0.6(0.4, 0.8)	0.71(0.26, 1.96)
BSHC	2	468	0.4(0.1, 1.5)	21	9,182	0.2(0.1, 0.3)	1.87(0.44, 7.95)
Total BSA	110	17,062	0.6(0.5, 0.8)	479	90,035	0.5(0.5, 0.6)	1.21(0.99, 1.49)

Ratios above one are unfavourable to Māori.

Table 2c.2: Rejected films as a percentage of total films taken among women aged 50–69 years, 2 years (July 2010 to June 2012)

Lead Provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Total films rejected	Total films taken	% of films taken that were rejected (95% CI)	Total films rejected	Total films taken	% of films taken that were rejected (95% CI)	
Fixed unit							
BSWN	141	13,602	1.0(0.9, 1.2)	1,610	171,366	0.9(0.9, 1.0)	1.10(0.93, 1.31)
BSCM	171	11,564	1.5(1.3, 1.7)	1,200	97,045	1.2(1.2, 1.3)	<i>1.20(1.02, 1.40)</i>
BSAL	21	4,126	0.5(0.3, 0.8)	377	81,012	0.5(0.4, 0.5)	1.09(0.71, 1.70)
BSM	140	16,381	0.9(0.7, 1.0)	999	123,528	0.8(0.8, 0.9)	1.06(0.89, 1.26)
BSCtoC	126	18,867	0.7(0.6, 0.8)	900	147,039	0.6(0.6, 0.7)	1.09(0.91, 1.31)
BSC	87	7,399	1.2(0.9, 1.4)	1,163	94,344	1.2(1.2, 1.3)	0.95(0.77, 1.18)
BSSL	59	10,496	0.6(0.4, 0.7)	1,507	255,492	0.6(0.6, 0.6)	0.95(0.74, 1.24)
BSHC	27	2,760	1.0(0.6, 1.4)	678	69,378	1.0(0.9, 1.1)	1.00(0.68, 1.47)
Total BSA	772	85,195	0.9(0.8, 1.0)	8,434	1,039,204	0.8(0.8, 0.8)	<i>1.12(1.04, 1.20)</i>
Mobile unit							
BSWN	69	9,576	0.7(0.6, 0.9)	380	40,099	0.9(0.9, 1.0)	0.76(0.59, 0.98)
BSCM	29	4,790	0.6(0.4, 0.9)	170	28,499	0.6(0.5, 0.7)	1.01(0.69, 1.50)
BSAL	3	2,838	0.1(0.0, 0.3)	20	31,021	0.1(0.0, 0.1)	1.64(0.49, 5.51)
BSM	95	13,124	0.7(0.6, 0.9)	456	61,839	0.7(0.7, 0.8)	0.98(0.79, 1.22)
BSCtoC	33	6,809	0.5(0.3, 0.7)	127	21,919	0.6(0.5, 0.7)	0.84(0.57, 1.23)
BSC	13	4,703	0.3(0.1, 0.5)	44	48,626	0.1(0.1, 0.1)	<i>3.05(1.65, 5.67)</i>
BSSL	16	2,400	0.7(0.4, 1.1)	192	30,123	0.6(0.6, 0.7)	1.05(0.63, 1.74)
BSHC	0	1,188	0.0(0.0, 0.3)	48	36,143	0.1(0.1, 0.2)	0.00(0.00, 2.43)
Total BSA	258	45,428	0.6(0.5, 0.6)	1,437	298,269	0.5(0.5, 0.5)	<i>1.18(1.03, 1.35)</i>

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

All Lead Providers met the target of less than 3% of films rejected.

2d Assessment rate

Description:

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

Target:

Initial (prevalent) screen: expected value <10% and the desired value is <7%

Subsequent (incident) screen: expected value <5% and the desired value is <4%

Table 2d.1: Referral to assessment as a percentage of women aged 45–49 years, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of women referred to assessment	No. of women screened	% of women screened referred to assessment (95% CI)	No. of women referred to assessment	No. of women screened	% of women screened referred to assessment (95% CI)	
Initial screen							
BSWN	141	1,115	12.6(10.8, 14.7)	912	8,629	10.6(9.9, 11.2)	<i>1.20(1.01, 1.41)</i>
BSCM	130	1,032	12.6(10.6, 14.8)	549	6,037	9.1(8.4, 9.8)	<i>1.39(1.16, 1.66)</i>
BSAL	39	353	11.0(8.0, 14.8)	353	5,142	6.9(6.2, 7.6)	<i>1.61(1.18, 2.20)</i>
BSM	159	1,472	10.8(9.3, 12.5)	620	6,345	9.8(9.1, 10.5)	1.11(0.94, 1.30)
BSCtoC	77	1,119	6.9(5.5, 8.5)	295	4,958	5.9(5.3, 6.6)	1.16(0.91, 1.47)
BSC	40	567	7.1(5.1, 9.5)	408	5,087	8.0(7.3, 8.8)	0.88(0.64, 1.20)
BSSL	63	607	10.4(8.1, 13.1)	742	8,795	8.4(7.9, 9.0)	1.23(0.96, 1.57)
BSHC	18	225	8.0(4.8, 12.3)	266	2,795	9.5(8.5, 10.7)	0.84(0.53, 1.33)
Total BSA	667	6,490	10.3(9.5, 11.0)	4,145	47,788	8.7(8.4, 8.9)	<i>1.18(1.10, 1.28)</i>
Subsequent screen							
BSWN	69	1,145	6.0(4.7, 7.6)	387	8,970	4.3(3.9, 4.8)	<i>1.40(1.09, 1.79)</i>
BSCM	33	660	5.0(3.5, 7.0)	216	5,176	4.2(3.6, 4.8)	1.20(0.84, 1.71)
BSAL	12	360	3.3(1.7, 5.8)	180	5,279	3.4(2.9, 3.9)	0.98(0.55, 1.74)
BSM	40	1,047	3.8(2.7, 5.2)	276	5,988	4.6(4.1, 5.2)	0.83(0.60, 1.15)
BSCtoC	15	1,124	1.3(0.7, 2.2)	153	6,328	2.4(2.1, 2.8)	0.55(0.33, 0.93)
BSC	21	584	3.6(2.2, 5.4)	217	5,546	3.9(3.4, 4.5)	0.92(0.59, 1.43)
BSSL	45	825	5.5(4.0, 7.2)	671	14,219	4.7(4.4, 5.1)	1.16(0.86, 1.55)
BSHC	19	219	8.7(5.3, 13.2)	147	3,784	3.9(3.3, 4.6)	<i>2.23(1.41, 3.53)</i>
Total BSA	254	5,964	4.3(3.8, 4.8)	2,247	55,290	4.1(3.9, 4.2)	<i>1.05(0.92, 1.19)</i>

Ratios above one indicate a higher rate of referral to assessment for Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori referral rates.

Among women aged 45–49 years, Māori women having initial screens were 18% more likely to be referred for assessment than non-Māori. Referral rates were similar for Māori and non-Māori having subsequent screens.

Table 2d.2: Referral to assessment as a percentage of women aged 50–69 years, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of women referred to assessment	No. of women screened	% of women screened who were referred to assessment (95% CI)	No. of women referred to assessment	No. of women screened	% of women screened who were referred to assessment (95% CI)	
Initial screen							
BSWN	79	491	16.1(13.0, 19.6)	627	5,066	12.4(11.5, 13.3)	1.30(1.05, 1.61)
BSCM	85	561	15.2(12.3, 18.4)	423	4,045	10.5(9.5, 11.4)	1.45(1.17, 1.80)
BSAL	15	223	6.7(3.8, 10.9)	269	3,685	7.3(6.5, 8.2)	0.92(0.56, 1.52)
BSM	122	1,135	10.7(9.0, 12.7)	349	3,747	9.3(8.4, 10.3)	1.15(0.95, 1.40)
BSCtoC	74	774	9.6(7.6, 11.9)	204	2,635	7.7(6.7, 8.8)	1.23(0.96, 1.59)
BSC	35	288	12.2(8.6, 16.5)	240	2,635	9.1(8.0, 10.3)	1.33(0.96, 1.86)
BSSL	7	123	5.7(2.3, 11.4)	163	2,063	7.9(6.8, 9.2)	0.72(0.35, 1.50)
BSHC	4	77	5.2(1.4, 12.8)	112	1,144	9.8(8.1, 11.7)	0.53(0.20, 1.40)
Total BSA	421	3,672	11.5(10.5, 12.5)	2,387	25,020	9.5(9.2, 9.9)	1.20(1.09, 1.33)
Subsequent screen							
BSWN	155	4,912	3.2(2.7, 3.7)	1,431	45,501	3.1(3.0, 3.3)	1.00(0.85, 1.18)
BSCM	117	3,061	3.8(3.2, 4.6)	788	25,101	3.1(2.9, 3.4)	1.22(1.01, 1.47)
BSAL	45	1,410	3.2(2.3, 4.2)	618	22,986	2.7(2.5, 2.9)	1.19(0.88, 1.60)
BSM	188	5,743	3.3(2.8, 3.8)	1,315	40,888	3.2(3.0, 3.4)	1.02(0.88, 1.18)
BSCtoC	103	5,093	2.0(1.7, 2.4)	638	38,251	1.7(1.5, 1.8)	1.21(0.99, 1.49)
BSC	67	2,502	2.7(2.1, 3.4)	874	31,547	2.8(2.6, 3.0)	0.97(0.76, 1.24)
BSSL	89	2,932	3.0(2.4, 3.7)	2,140	66,796	3.2(3.1, 3.3)	0.95(0.77, 1.17)
BSHC	31	837	3.7(2.5, 5.2)	731	23,981	3.0(2.8, 3.3)	1.22(0.85, 1.73)
Total BSA	795	26,490	3.0(2.8, 3.2)	8,535	295,051	2.9(2.8, 3.0)	1.04(0.97, 1.11)

Ratios above one indicate a higher referral to assessment rate for Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Rates that exceeded the expected value of <10% for initial screens and <5% for subsequent screens within the confidence interval have been shaded.

The proportion of Māori women aged 50–69 years referred for assessment from initial screens was 11.5%, outside the expected value of <10%, and 20% higher than the non-Māori proportion. BSWN and BSCM exceeded the expected value for Māori women having initial screens, with BSWN showing an increasing trend in referral rates for Māori. The referral rates for Māori women in these two LPs were 30% and 45% higher respectively than the rates for non-Māori women.

The rate of referral to assessment from subsequent screens was within the desired value of <4% for Māori and non-Māori in all Lead Providers.

Figure 2d.1a: Trends in referral to assessment for Māori women aged 50–69 years having an initial screen

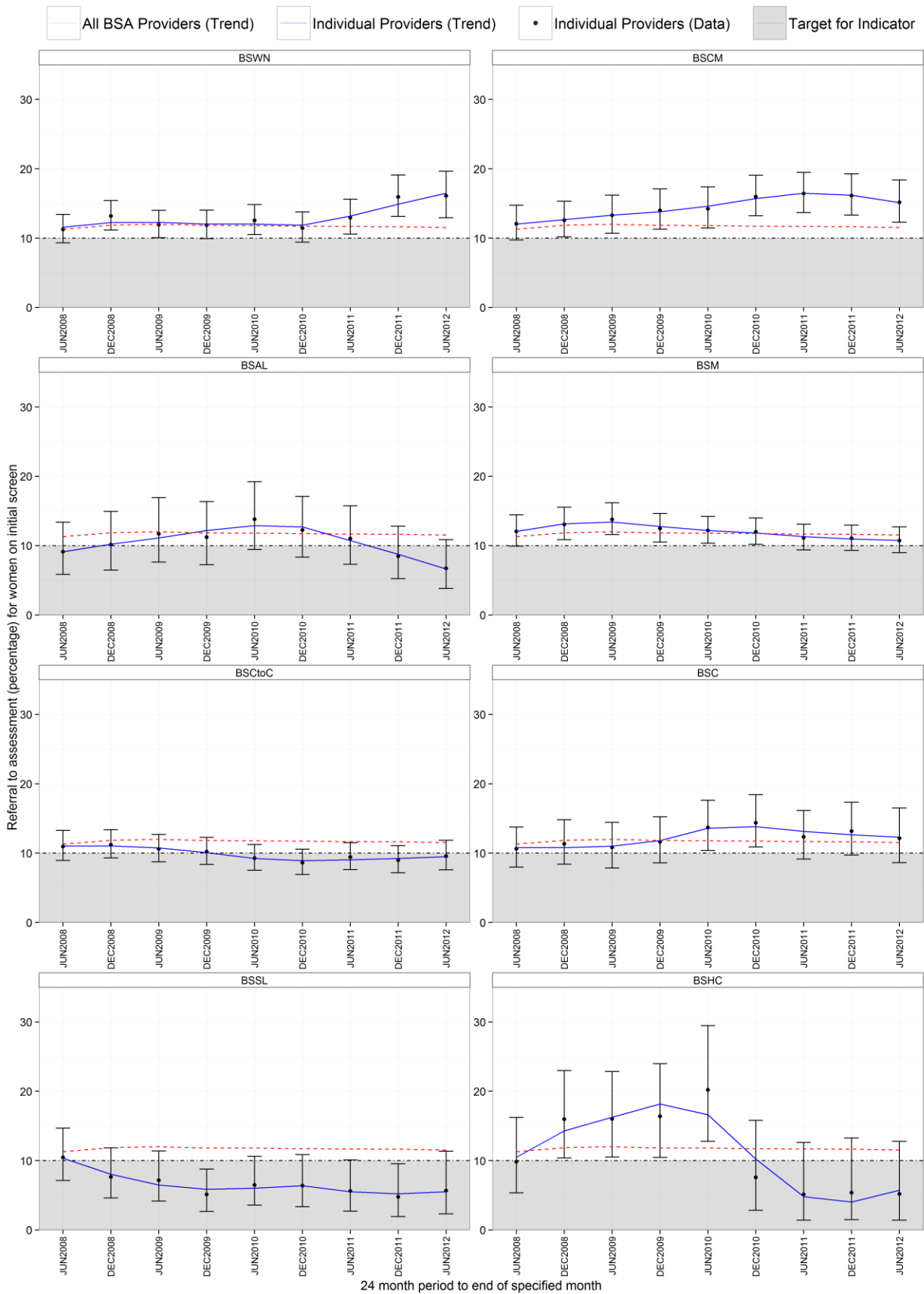
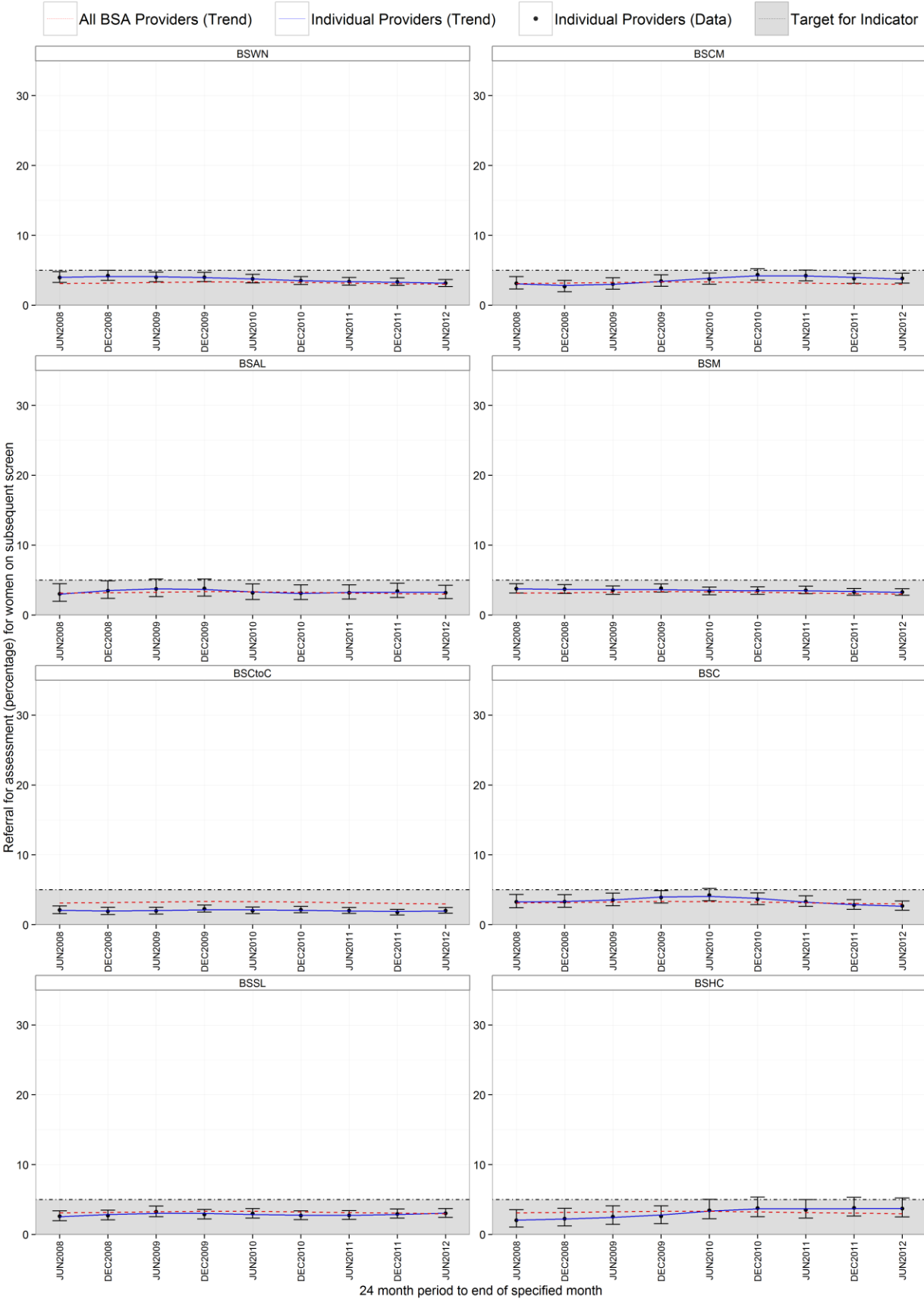


Figure 2d.1b: Trends in referral to assessment for Māori women aged 50–69 years having a subsequent screen



2e False positive rate

Description:

Measures the proportion of women who are recalled to assessment, but after assessment are found not to have cancer.

Target:

Initial (prevalent) screen: expected value <9%, desired target <6%

Subsequent (incident) screen: expected value <4%, desired target <3%

Table 2e.1: Number with false positive results as a percentage of women screened, aged 45–49 years, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of false positives	No. of women screened	% of women screened who had a false positive (95% CI)	No. of false positives	No. of women screened	% of women screened who had a false positive (95% CI)	
Initial screen							
BSWN	130	1,115	11.7(9.8, 13.7)	845	8,629	9.8(9.2, 10.4)	<i>1.19(1.00, 1.42)</i>
BSCM	119	1,032	11.5(9.6, 13.6)	498	6,037	8.2(7.6, 9.0)	<i>1.40(1.16, 1.69)</i>
BSAL	34	353	9.6(6.8, 13.2)	326	5,142	6.3(5.7, 7.0)	<i>1.52(1.09, 2.13)</i>
BSM	146	1,472	9.9(8.4, 11.6)	580	6,345	9.1(8.4, 9.9)	1.09(0.91, 1.29)
BSCtoC	71	1,119	6.3(5.0, 7.9)	271	4,958	5.5(4.8, 6.1)	1.16(0.90, 1.50)
BSC	37	567	6.5(4.6, 8.9)	370	5,087	7.3(6.6, 8.0)	0.90(0.65, 1.24)
BSSL	61	607	10.0(7.8, 12.7)	707	8,795	8.0(7.5, 8.6)	1.25(0.98, 1.60)
BSHC	17	225	7.6(4.5, 11.8)	249	2,795	8.9(7.9, 10.0)	0.85(0.53, 1.36)
Total BSA	615	6,490	9.5(8.8, 10.2)	3,846	47,788	8.0(7.8, 8.3)	<i>1.18(1.09, 1.28)</i>
Subsequent screen							
BSWN	63	1,145	5.5(4.3, 7.0)	355	8,970	4.0(3.6, 4.4)	<i>1.39(1.07, 1.80)</i>
BSCM	24	660	3.6(2.3, 5.4)	198	5,176	3.8(3.3, 4.4)	0.95(0.63, 1.44)
BSAL	9	360	2.5(1.1, 4.7)	152	5,279	2.9(2.4, 3.4)	0.87(0.45, 1.69)
BSM	37	1,047	3.5(2.5, 4.8)	253	5,988	4.2(3.7, 4.8)	0.84(0.60, 1.17)
BSCtoC	10	1,124	0.9(0.4, 1.6)	130	6,328	2.1(1.7, 2.4)	0.43(0.23, 0.82)
BSC	18	584	3.1(1.8, 4.8)	198	5,546	3.6(3.1, 4.1)	0.86(0.54, 1.39)
BSSL	38	825	4.6(3.3, 6.3)	625	14,219	4.4(4.1, 4.7)	1.05(0.76, 1.44)
BSHC	16	219	7.3(4.2, 11.6)	128	3,784	3.4(2.8, 4.0)	<i>2.16(1.31, 3.57)</i>
Total BSA	215	5,964	3.6(3.1, 4.1)	2,039	55,290	3.7(3.5, 3.8)	<i>0.98(0.85, 1.12)</i>

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

Table 2e.2: Number with false positive results as a percentage of women screened, aged 50–69 years, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of false positives	No. of women screened	% of women screened (95% CI)	No. of false positives	No. of women screened	% of women screened (95% CI)	
Initial screen							
BSWN	64	491	13.0(10.2, 16.3)	553	5,066	10.9(10.1, 11.8)	1.19(0.94, 1.52)
BSCM	69	561	12.3(9.7, 15.3)	349	4,045	8.6(7.8, 9.5)	1.43(1.12, 1.82)
BSAL	8	223	3.6(1.6, 6.9)	204	3,685	5.5(4.8, 6.3)	0.65(0.32, 1.30)
BSM	100	1,135	8.8(7.2, 10.6)	313	3,747	8.4(7.5, 9.3)	1.05(0.85, 1.31)
BSCtoC	57	774	7.4(5.6, 9.4)	177	2,635	6.7(5.8, 7.7)	1.10(0.82, 1.46)
BSC	28	288	9.7(6.6, 13.7)	202	2,635	7.7(6.7, 8.7)	1.27(0.87, 1.85)
BSSL	7	123	5.7(2.3, 11.4)	134	2,063	6.5(5.5, 7.6)	0.88(0.42, 1.83)
BSHC	4	77	5.2(1.4, 12.8)	101	1,144	8.8(7.2, 10.6)	0.59(0.22, 1.56)
Total BSA	337	3,672	9.2(8.3, 10.2)	2,033	25,020	8.1(7.8, 8.5)	1.13(1.01, 1.26)
Subsequent screen							
BSWN	115	4,912	2.3(1.9, 2.8)	1,160	45,501	2.5(2.4, 2.7)	0.92(0.76, 1.11)
BSCM	83	3,061	2.7(2.2, 3.4)	614	25,101	2.4(2.3, 2.6)	1.11(0.88, 1.39)
BSAL	33	1,410	2.3(1.6, 3.3)	488	22,986	2.1(1.9, 2.3)	1.10(0.78, 1.56)
BSM	137	5,743	2.4(2.0, 2.8)	1,071	40,888	2.6(2.5, 2.8)	0.91(0.76, 1.09)
BSCtoC	69	5,093	1.4(1.1, 1.7)	435	38,251	1.1(1.0, 1.2)	1.19(0.93, 1.53)
BSC	54	2,502	2.2(1.6, 2.8)	689	31,547	2.2(2.0, 2.4)	0.99(0.75, 1.30)
BSSL	69	2,932	2.4(1.8, 3.0)	1,794	66,796	2.7(2.6, 2.8)	0.88(0.69, 1.11)
BSHC	26	837	3.1(2.0, 4.5)	588	23,981	2.5(2.3, 2.7)	1.27(0.86, 1.86)
Total BSA	586	26,490	2.2(2.0, 2.4)	6,839	295,051	2.3(2.3, 2.4)	0.95(0.88, 1.04)

Ratios above one are unfavourable to Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Proportions that exceeded the expected value of <9% for initial screens and <4% for subsequent screens within the confidence interval have been shaded.

For initial screens the false positive rate for total BSA was within the expected value for Māori and non-Māori women, but 13% higher for Māori than for non-Māori. BSWN and BSCM exceeded the expected value of <9% for Māori women, with BSWN showing an increasing trend and BSCM showing a disparity between Māori and non-Māori women.

For subsequent screens all Lead Providers were within the desired target of <3% for both Māori and non-Māori.

Figure 2e.1: Trends in false positive rates for Māori women aged 50–69 years having an initial screen

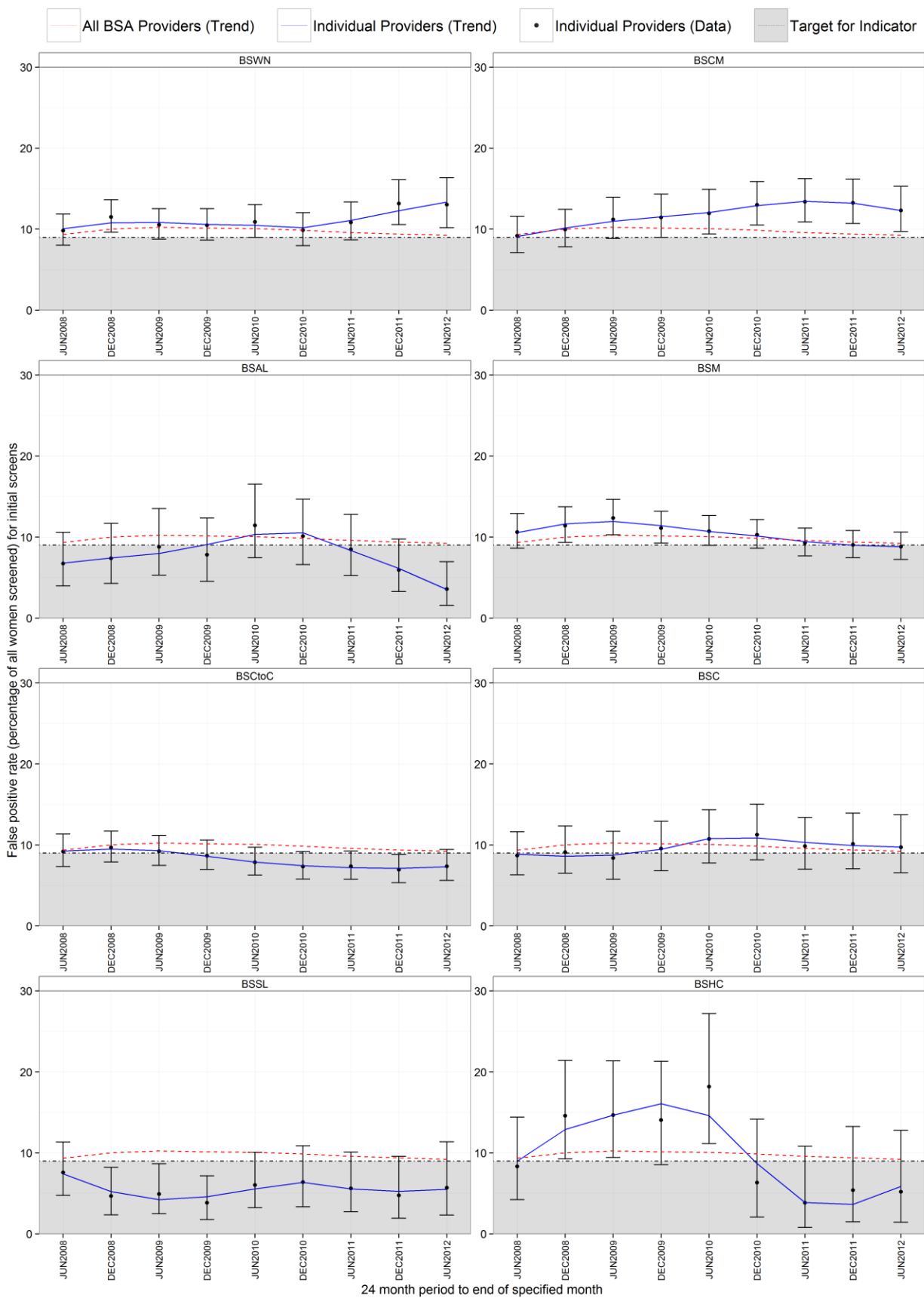
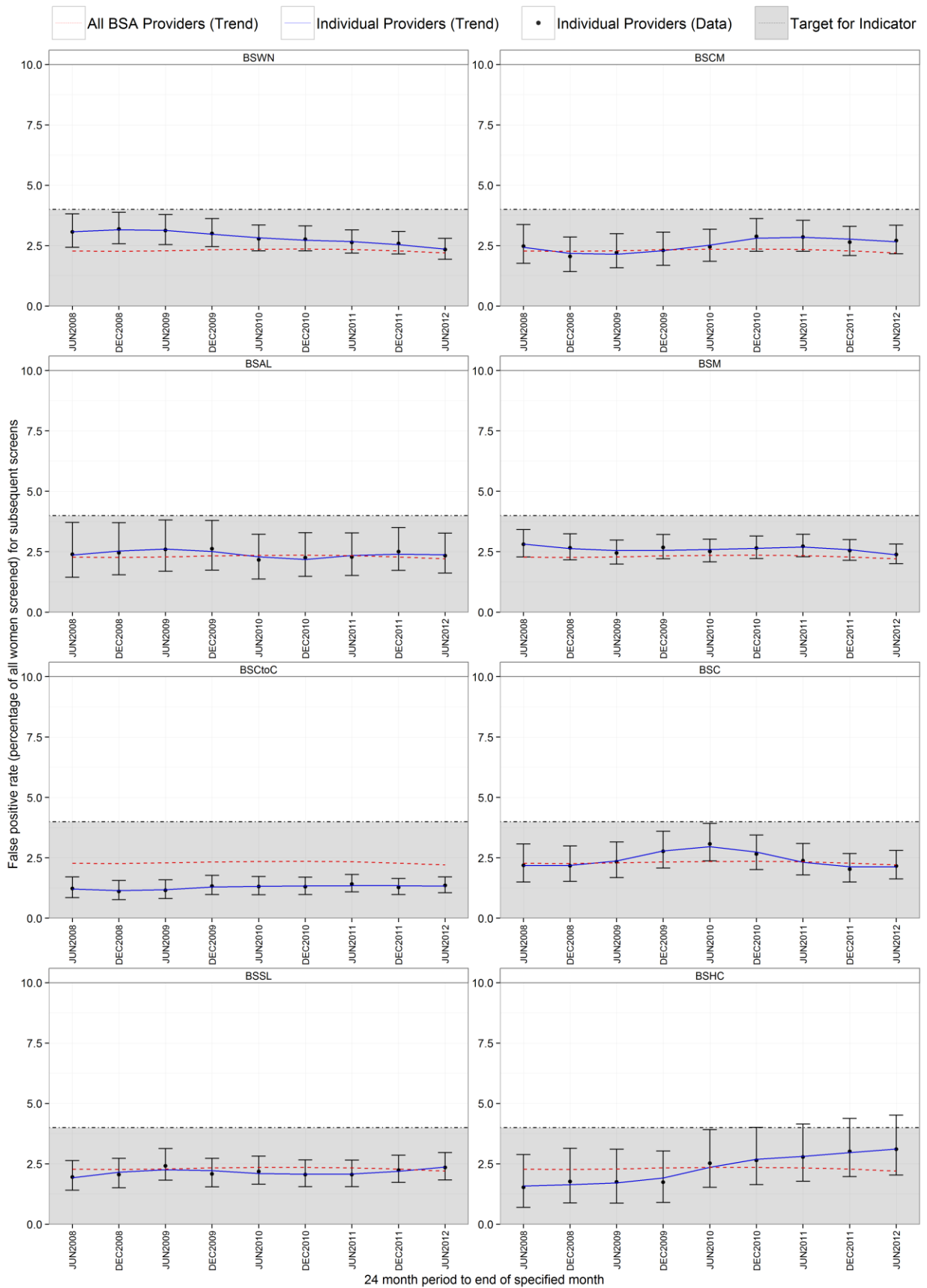


Figure 2e.2 Trends in false positive rates for Māori women aged 50–69 years having a subsequent screen



2f Positive predictive value of screening mammogram

Description:

The proportion of women screened positive who are ultimately diagnosed as having cancer.

Target:

The number with diagnosed cancer as a percentage of the number referred to assessment $\geq 9\%$

Table 2f.1: Cancers as a percentage of referrals to assessment, women aged 45–49 years, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of cancers	No. of referrals	% of referrals that were cancers (95% CI)	No. of cancers	No. of referrals	% of referrals that were cancers (95% CI)	
Initial screen							
BSWN	8	141	5.7(2.5, 10.9)	49	912	5.4(4.0, 7.0)	1.06(0.51, 2.18)
BSCM	8	130	6.2(2.7, 11.8)	31	549	5.6(3.9, 7.9)	1.09(0.51, 2.31)
BSAL	4	39	10.3(2.9, 24.2)	18	353	5.1(3.0, 7.9)	2.01(0.72, 5.64)
BSM	11	159	6.9(3.5, 12.0)	34	620	5.5(3.8, 7.6)	1.26(0.65, 2.43)
BSCtoC	5	77	6.5(2.1, 14.5)	20	295	6.8(4.2, 10.3)	0.96(0.37, 2.47)
BSC	2	40	5.0(0.6, 16.9)	34	408	8.3(5.8, 11.5)	0.60(0.15, 2.41)
BSSL	1	63	1.6(0.0, 8.5)	29	742	3.9(2.6, 5.6)	0.41(0.06, 2.93)
BSHC	1	18	5.6(0.1, 27.3)	12	266	4.5(2.4, 7.7)	1.23(0.17, 8.95)
Total	40	667	6.0(4.3, 8.1)	227	4,145	5.5(4.8, 6.2)	1.10(0.79, 1.52)
Subsequent screen							
BSWN	6	69	8.7(3.3, 18.0)	28	387	7.2(4.9, 10.3)	1.20(0.52, 2.79)
BSCM	7	33	21.2(9.0, 38.9)	13	216	6.0(3.2, 10.1)	3.52(1.52, 8.19)
BSAL	3	12	25.0(5.5, 57.2)	26	180	14.4(9.7, 20.4)	1.73(0.61, 4.91)
BSM	3	40	7.5(1.6, 20.4)	22	276	8.0(5.1, 11.8)	0.94(0.30, 3.00)
BSCtoC	4	15	26.7(7.8, 55.1)	21	153	13.7(8.7, 20.2)	1.94(0.77, 4.92)
BSC	3	21	14.3(3.0, 36.3)	19	217	8.8(5.4, 13.3)	1.63(0.53, 5.06)
BSSL	6	45	13.3(5.1, 26.8)	44	671	6.6(4.8, 8.7)	2.03(0.92, 4.52)
BSHC	2	19	10.5(1.3, 33.1)	17	147	11.6(6.9, 17.9)	0.91(0.23, 3.64)
Total	34	254	13.4(9.5, 18.2)	190	2,247	8.5(7.3, 9.7)	1.58(1.13, 2.23)

Ratios above one indicate a higher positive predictive for Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori.

Among women aged 45–49 years having initial screens, there was no difference between Māori and non-Māori women in the positive predictive value of the screening mammograms.

However, among women having subsequent screens who were referred for assessment, Māori women were 58% more likely to be diagnosed with breast cancer than non-Māori women.

Table 2f.2: Cancers as a percentage of referrals to assessment, women aged 50–69 years, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of cancers	No. of referrals	% of referrals that were cancers (95% CI)	No. of cancers	No. of referrals	% of referrals that were cancers (95% CI)	
Initial screen							
BSWN	11	79	13.9(7.2, 23.5)	55	627	8.8(6.7, 11.3)	1.59(0.87, 2.90)
BSCM	10	85	11.8(5.8, 20.6)	47	423	11.1(8.3, 14.5)	1.06(0.56, 2.01)
BSAL	6	15	40.0(16.3, 67.7)	46	269	17.1(12.8, 22.1)	2.34(1.19, 4.59)
BSM	20	122	16.4(10.3, 24.2)	33	349	9.5(6.6, 13.0)	1.73(1.04, 2.90)
BSCtoC	15	74	20.3(11.8, 31.2)	24	204	11.8(7.7, 17.0)	1.72(0.96, 3.10)
BSC	7	35	20.0(8.4, 36.9)	33	240	13.8(9.7, 18.8)	1.45(0.70, 3.03)
BSSL	0	7	0.0(0.0, 41.0)	22	163	13.5(8.7, 19.7)	0.00(0.00, 4.25)
BSHC	0	4	0.0(0.0, 60.2)	11	112	9.8(5.0, 16.9)	0.00(0.00, 11.16)
Total BSA	69	421	16.4(13.0, 20.3)	271	2,387	11.4(10.1, 12.7)	1.44(1.13, 1.84)
Subsequent screen							
BSWN	36	155	23.2(16.8, 30.7)	244	1,431	17.1(15.1, 19.1)	1.36(1.00, 1.85)
BSCM	33	117	28.2(20.3, 37.3)	162	788	20.6(17.8, 23.6)	1.37(1.00, 1.89)
BSAL	11	45	24.4(12.9, 39.5)	118	618	19.1(16.1, 22.4)	1.28(0.75, 2.19)
BSM	50	188	26.6(20.4, 33.5)	235	1,315	17.9(15.8, 20.1)	1.49(1.14, 1.94)
BSCtoC	28	103	27.2(18.9, 36.8)	188	638	29.5(26.0, 33.2)	0.92(0.66, 1.29)
BSC	13	67	19.4(10.8, 30.9)	166	874	19.0(16.4, 21.8)	1.02(0.62, 1.70)
BSSL	18	89	20.2(12.4, 30.1)	332	2,140	15.5(14.0, 17.1)	1.30(0.85, 1.99)
BSHC	4	31	12.9(3.6, 29.8)	129	731	17.6(15.0, 20.6)	0.73(0.29, 1.85)
Total BSA	193	795	24.3(21.3, 27.4)	1,574	8,535	18.4(17.6, 19.3)	1.32(1.16, 1.50)

Ratios above one indicate a higher positive predictive value for Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Target value is $\geq 9\%$.

Among Māori women aged 50–69 years having initial screens who were referred for assessment, the proportion diagnosed with cancer was 16%, 44% higher than the proportion of non-Māori women. No cancers were detected among Māori women having initial screens in BSSL or BSHC, where there were very few referrals (referrals 7 and 4 respectively) and relatively small numbers of Māori women having initial screens (123 and 77 respectively). The positive predictive value for initial screens may be trending upwards for Māori women.

The positive predictive value was significantly higher for subsequent screens compared to that for initial screens, among both Māori and non-Māori. The target value of $\geq 9\%$ was exceeded by all LPs. Māori women who were referred for assessment from a subsequent screen were 32% more likely to be diagnosed with cancer than non-Māori women.

Figure 2f.1: Trends in the proportion of referrals to assessment that were diagnosed as breast cancer (DCIS and invasive) among Māori women aged 50–69 years having an initial screen

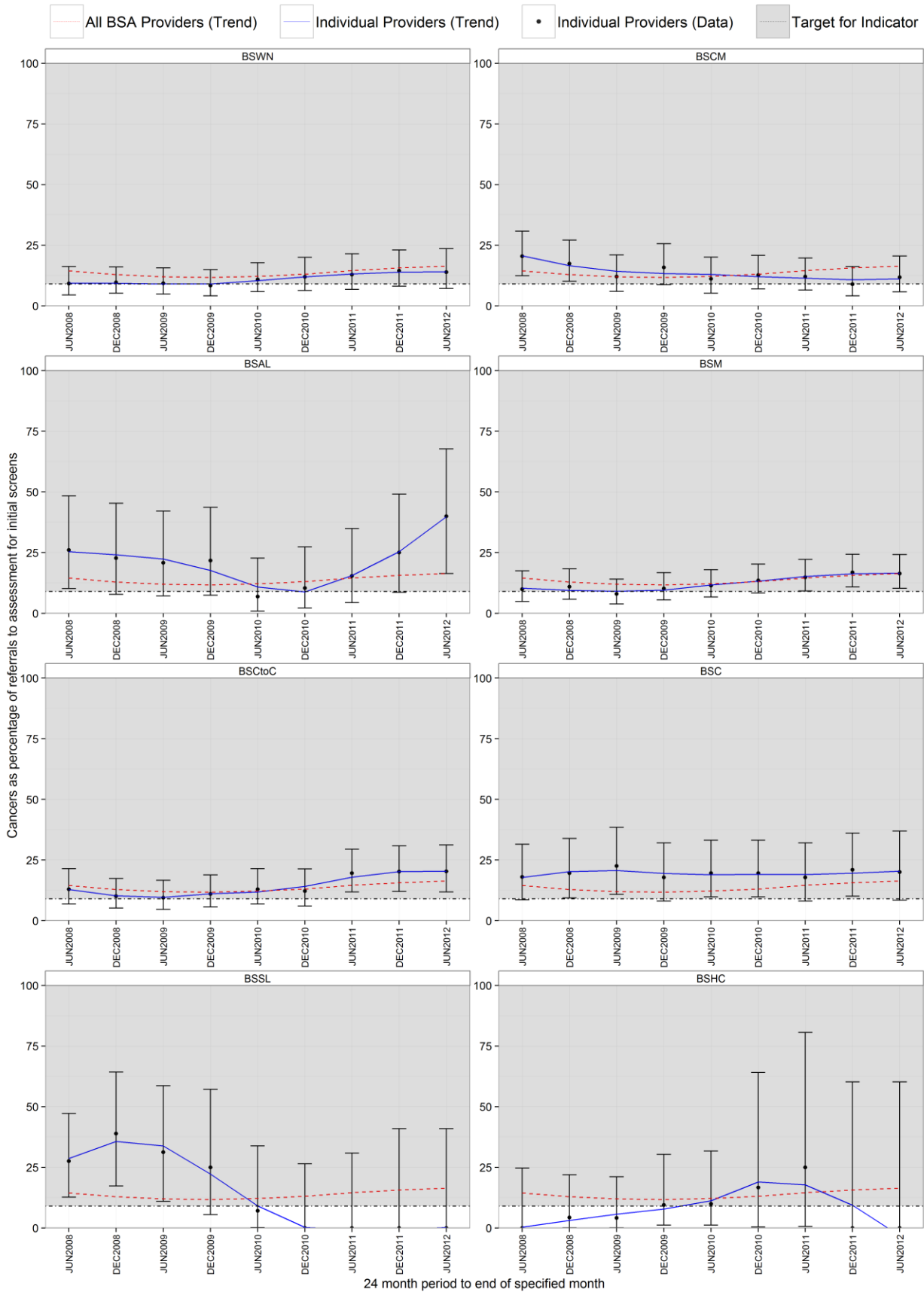
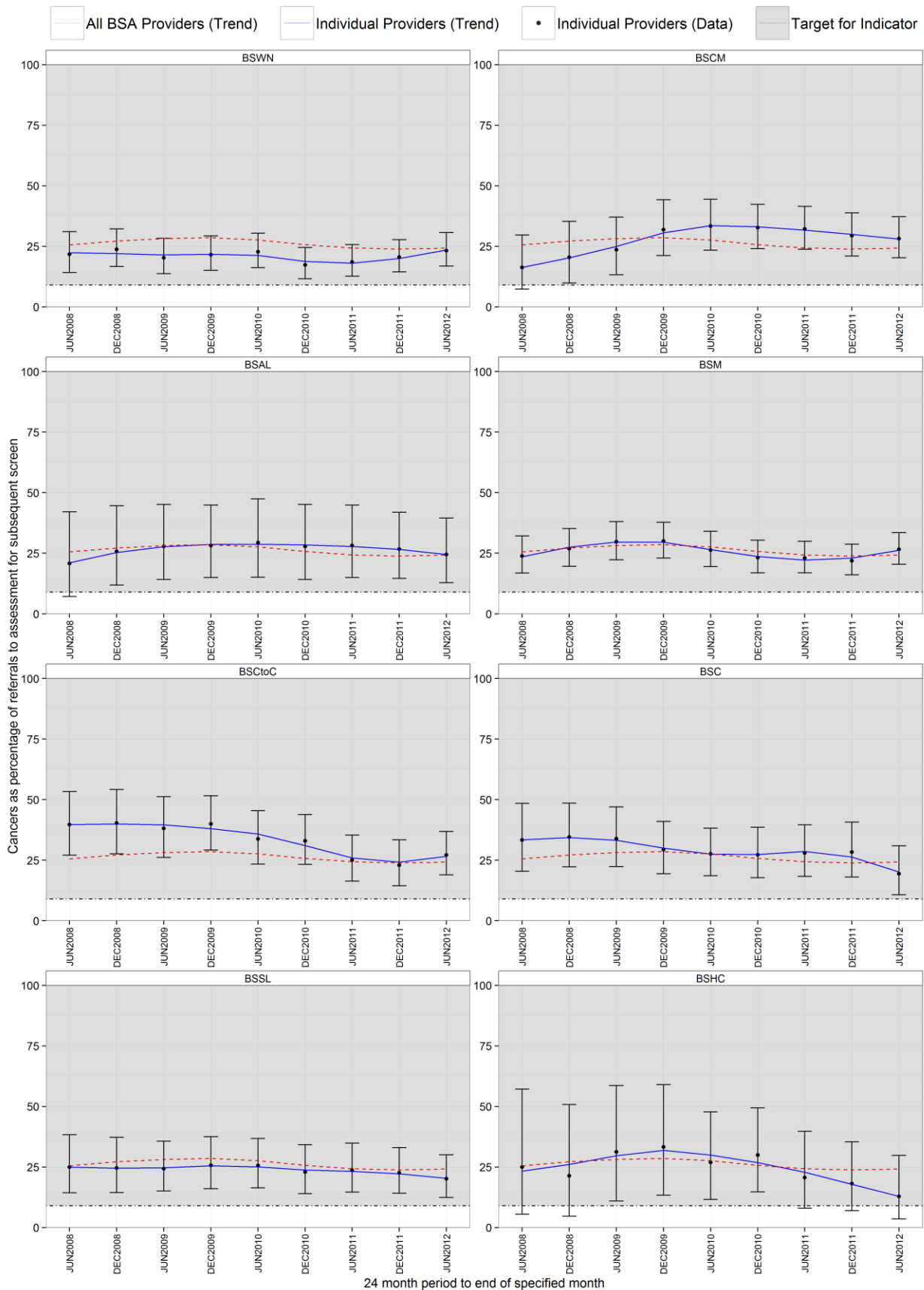


Figure 2f.2: Trends in the proportion of referrals to assessment that were diagnosed as breast cancer (DCIS and invasive) among Māori women aged 50–69 years having a subsequent screen



2g Benign biopsy weight

Description:

Measures the weight of the open biopsy specimen presented to the pathologist.

Target:

>90% of open biopsies, which prove to be benign, should weigh <30g.

Table 2g.1: Benign open biopsies weighing <30g as a percent of all benign open biopsies, 5 years (July 2007 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Number of benign open biopsies <30g	Total benign open biopsies	% of Benign Open Biopsies <30g (95% CI)	Number of benign open biopsies <30g	Total benign open biopsies	% of Benign Open Biopsies <30g (95% CI)	
45–49 years							
BSWN	17	19	89.5(66.9, 98.7)	78	90	86.7(77.9, 92.9)	1.03(0.87, 1.23)
BSCM	8	9	88.9(51.8, 99.7)	23	32	71.9(53.3, 86.3)	1.24(0.90, 1.70)
BSAL	2	4	50.0(6.8, 93.2)	46	51	90.2(78.6, 96.7)	0.55(0.21, 1.48)
BSM	9	12	75.0(42.8, 94.5)	34	49	69.4(54.6, 81.7)	1.08(0.74, 1.57)
BSCtoC	3	3	100.0(29.2, 100.0)	12	20	60.0(36.1, 80.9)	1.67(1.17, 2.38)
BSC	0	1	0.0(0.0, 97.5)	18	24	75.0(53.3, 90.2)	0.00(0.00, 5.46)
BSSL	4	4	100.0(39.8, 100.0)	30	43	69.8(53.9, 82.8)	1.43(1.18, 1.75)
BSHC	4	5	80.0(28.4, 99.5)	22	26	84.6(65.1, 95.6)	0.95(0.59, 1.51)
Total BSA	47	57	82.5(70.1, 91.3)	263	335	78.5(73.7, 82.8)	1.05(0.92, 1.20)
50–69 years							
BSWN	16	18	88.9(65.3, 98.6)	115	144	79.9(72.4, 86.1)	1.11(0.93, 1.34)
BSCM	6	9	66.7(29.9, 92.5)	50	63	79.4(67.3, 88.5)	0.84(0.52, 1.36)
BSAL	3	4	75.0(19.4, 99.4)	53	60	88.3(77.4, 95.2)	0.85(0.48, 1.51)
BSM	7	15	46.7(21.3, 73.4)	75	101	74.3(64.6, 82.4)	0.63(0.36, 1.09)
BSCtoC	8	9	88.9(51.8, 99.7)	14	25	56.0(34.9, 75.6)	1.59(1.05, 2.41)
BSC	5	6	83.3(35.9, 99.6)	34	44	77.3(62.2, 88.5)	1.08(0.73, 1.60)
BSSL	2	2	100.0(15.8, 100.0)	46	62	74.2(61.5, 84.5)	1.35(1.16, 1.56)
BSHC	2	3	66.7(9.4, 99.2)	30	42	71.4(55.4, 84.3)	0.93(0.41, 2.12)
Total BSA	49	66	74.2(62.0, 84.2)	417	541	77.1(73.3, 80.6)	0.96(0.83, 1.12)

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

During the five year period July 2007 to June 2012 there were 57 benign open biopsies among Māori women aged 45–49 years and 66 among Māori women aged 50–69 years.

The proportion of benign open biopsies weighing <30g was similar among Māori and non-Māori women aged 45–49 years.

Among women aged 50–69 years, the target of >90% was not met for Māori (74%) or non-Māori (77%).

Table 2g.2: Distribution of open biopsies by weight, 5 years (July 2007 to June 2012)

Lead Provider	Māori					Non-Māori				
	<30g	30-49g	50-69g	≥70 g	Unknown weight	<30g	30-49g	50-69g	≥70 g	Unknown weight
45-49 years										
BSWN	89.5	10.5	0	0	0	86.7	10.0	1.1	0	2.2
BSCM	88.9	0	11.1	0	0	71.9	28.1	0	0	0
BSAL	50.0	25.0	25.0	0	0	90.2	9.8	0	0	0
BSM	75.0	0	25.0	0	0	69.4	22.4	4.1	2.0	2.0
BSCtoC	100	0	0	0	0	60.0	10.0	0	0	30.0
BSC	0	0	0	0	100	75.0	12.5	0	0	12.5
BSS	100	0	0	0	0	69.8	23.3	4.7	2.3	0
BSHC	80.0	0	0	20	0	84.6	3.8	3.8	7.7	0
Total	82.5	5.3	8.8	1.8	1.8	78.5	14.9	1.8	1.2	3.6
50-69 years										
BSWN	88.9	0	0	0	11.1	79.9	14.6	0.7	2.8	2.1
BSCM	66.7	33.3	0	0	0	79.4	15.9	1.6	3.2	0
BSAL	75.0	0	0	25.0	0	88.3	11.7	0	0	0
BSM	46.7	26.7	6.7	20.0	0	74.3	14.9	4.0	4.0	3.0
BSCtoC	88.9	0	0	0	11.1	56.0	28.0	0	4.0	12.0
BSC	83.3	16.7	0	0	0	77.3	11.4	6.8	2.3	2.3
BSS	100	0	0	0	0	74.2	17.7	6.5	1.6	0
BSHC	66.7	33.3	0	0	0	71.4	14.3	7.1	7.1	0
Total	74.2	13.6	1.5	6.1	4.5	77.1	15.2	3.0	3.0	1.8

2h Pre-operative diagnosis rate

Description:

The number of women in which a needle biopsy provides the definitive diagnosis (pre-operative diagnosis), as a percentage of all women diagnosed with breast cancer in the programme.

Target:

>90% (desired target)

>70% (expected target)

Table 2h: Percentage of women with a preoperative diagnosis of cancer, 2 years (July 2010 to June 2012)

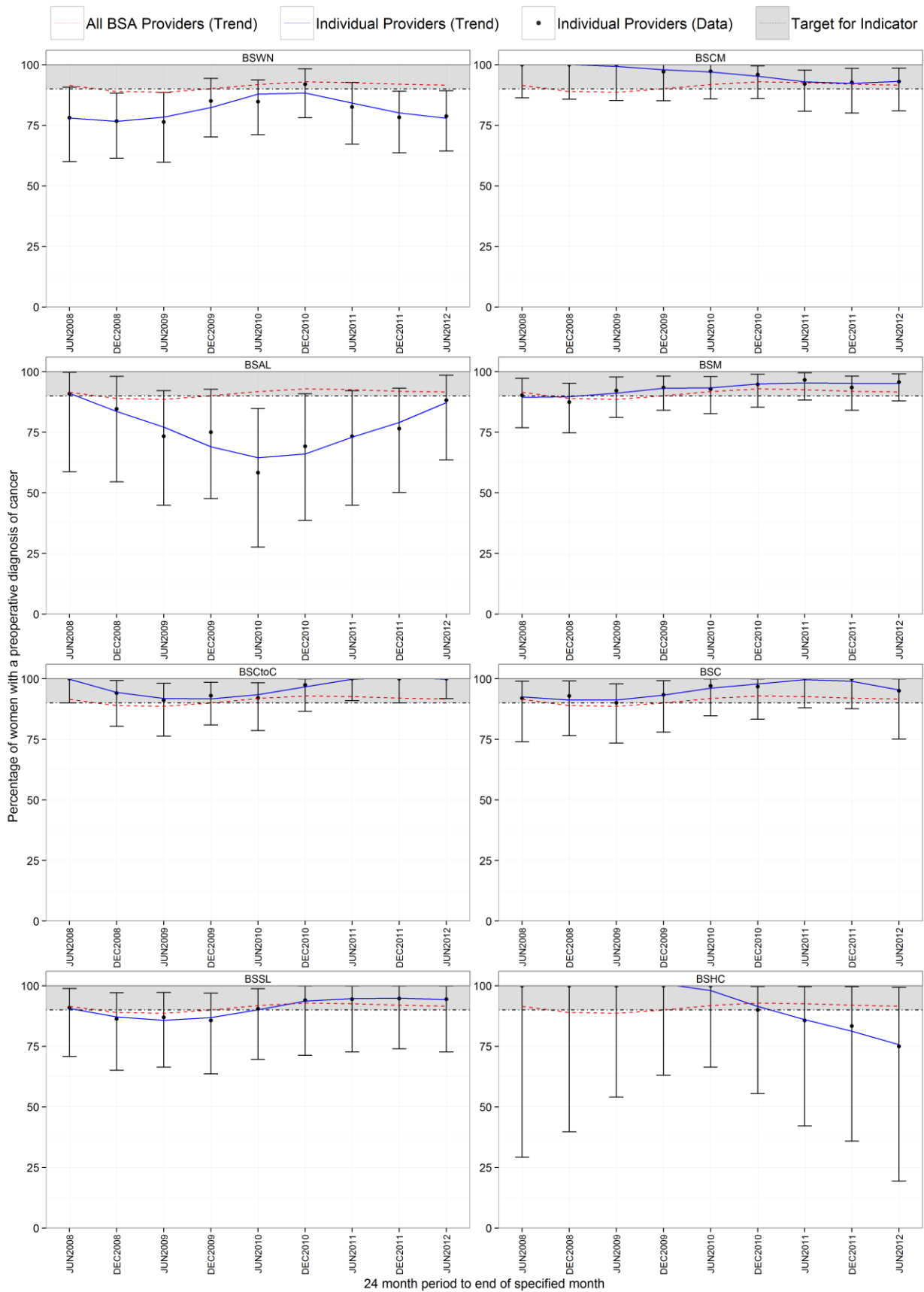
Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Number with pre-operative diagnosis of cancer	Number of cancers	% of cancers with a pre-operative diagnosis (95% CI)	Number with pre-operative diagnosis of cancer	Number of cancers	% of cancers with a pre-operative diagnosis (95% CI)	
45–49 years							
BSWN	9	14	64.3(35.1, 87.2)	45	77	58.4(46.6, 69.6)	1.10(0.71, 1.70)
BSCM	15	15	100.0(78.2, 100.0)	34	44	77.3(62.2, 88.5)	<i>1.29(1.10, 1.52)</i>
BSAL	7	7	100.0(59.0, 100.0)	34	44	77.3(62.2, 88.5)	<i>1.29(1.10, 1.52)</i>
BSM	13	14	92.9(66.1, 99.8)	53	56	94.6(85.1, 98.9)	0.98(0.84, 1.15)
BSCtoC	9	9	100.0(66.4, 100.0)	38	41	92.7(80.1, 98.5)	1.08(0.99, 1.18)
BSC	4	5	80.0(28.4, 99.5)	47	53	88.7(77.0, 95.7)	0.90(0.58, 1.41)
BSSL	7	7	100.0(59.0, 100.0)	66	73	90.4(81.2, 96.1)	<i>1.11(1.03, 1.19)</i>
BSHC	3	3	100.0(29.2, 100.0)	22	29	75.9(56.5, 89.7)	<i>1.32(1.07, 1.62)</i>
Total	67	74	90.5(81.5, 96.1)	339	417	81.3(77.2, 84.9)	1.11(1.02, 1.21)
50–69 years							
BSWN	37	47	78.7(64.3, 89.3)	226	299	75.6(70.3, 80.3)	1.04(0.89, 1.22)
BSCM	40	43	93.0(80.9, 98.5)	200	209	95.7(92.0, 98.0)	0.97(0.89, 1.06)
BSAL	15	17	88.2(63.6, 98.5)	120	164	73.2(65.7, 79.8)	1.21(0.99, 1.47)
BSM	67	70	95.7(88.0, 99.1)	244	268	91.0(87.0, 94.2)	1.05(0.99, 1.12)
BSCtoC	43	43	100.0(91.8, 100.0)	209	212	98.6(95.9, 99.7)	1.01(1.00, 1.03)
BSC	19	20	95.0(75.1, 99.9)	187	200	93.5(89.1, 96.5)	1.02(0.91, 1.13)
BSSL	17	18	94.4(72.7, 99.9)	331	354	93.5(90.4, 95.8)	1.01(0.90, 1.13)
BSHC	3	4	75.0(19.4, 99.4)	129	140	92.1(86.4, 96.0)	0.81(0.46, 1.44)
Total	241	262	92.0(88.0, 95.0)	1,646	1,846	89.2(87.7, 90.5)	1.03(0.99, 1.07)

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

Of the 74 Māori women aged 45–49 years diagnosed with cancer, 91% had their definitive pre-operative diagnosis from a needle biopsy, compared to 81% of non-Māori women.

Among women aged 50–69 years, 92% of Māori and 89% of non-Māori women had a pre-operative diagnosis. All LPs met the expected or desired target for this indicator for both Māori and non-Māori.

Figure 2h: Trends in the percentage of Māori women aged 50–69 years with a preoperative diagnosis of cancer (DCIS and invasive)



21 Specificity

Description:

Specificity is the proportion of women without breast cancer at screening with 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. This is calculated as: Number with true negative screening results as a percentage of this number plus the number with false positive screening results.

Target:

>93%

Table 21.1: Estimated specificity of BSA by Lead provider, by type of screen (initial and subsequent), 2 years (July 2010 to June 2012), women aged 45–49 years

Lead provider	Māori			Non-Māori			Māori/non-Maori ratio (95% CI)
	Negative screens (RRS* from screen)	Negative screens plus false positives	Estimated specificity (95% CI)	Negative screens (RRS from screen)	Negative screens plus false positives	Estimated specificity (95% CI)	
Initial screens							
BSWN	974	1,104	88.2(86.2, 90.1)	7,717	8,562	90.1(89.5, 90.8)	0.98(0.96, 1.00)
BSCM	902	1,021	88.3(86.2, 90.2)	5,488	5,986	91.7(91.0, 92.4)	0.96(0.94, 0.99)
BSAL	314	348	90.2(86.6, 93.1)	4,789	5,115	93.6(92.9, 94.3)	0.96(0.93, 1.00)
BSM	1,313	1,459	90.0(88.3, 91.5)	5,725	6,305	90.8(90.1, 91.5)	0.99(0.97, 1.01)
BSCtoC	1,042	1,113	93.6(92.0, 95.0)	4,663	4,934	94.5(93.8, 95.1)	0.99(0.97, 1.01)
BSC	527	564	93.4(91.1, 95.3)	4,679	5,049	92.7(91.9, 93.4)	1.01(0.99, 1.03)
BSSL	544	605	89.9(87.2, 92.2)	8,053	8,760	91.9(91.3, 92.5)	0.98(0.95, 1.01)
BSHC	207	224	92.4(88.1, 95.5)	2,529	2,778	91(89.9, 92.1)	1.02(0.98, 1.06)
Total BSA	5,823	6,438	90.4(89.7, 91.2)	43,643	47,489	91.9(91.7, 92.1)	0.98(0.98, 0.99)
Subsequent screens							
BSWN	1,076	1,139	94.5(93.0, 95.7)	8,583	8,938	96.0(95.6, 96.4)	0.98(0.97, 1.00)
BSCM	627	651	96.3(94.6, 97.6)	4,960	5,158	96.2(95.6, 96.7)	1.00(0.99, 1.02)
BSAL	348	357	97.5(95.3, 98.8)	5,099	5,251	97.1(96.6, 97.5)	1.00(0.99, 1.02)
BSM	1,007	1,044	96.5(95.1, 97.5)	5,712	5,965	95.8(95.2, 96.3)	1.01(0.99, 1.02)
BSCtoC	1,109	1,119	99.1(98.4, 99.6)	6,175	6,305	97.9(97.6, 98.3)	1.01(1.01, 1.02)
BSC	563	581	96.9(95.1, 98.2)	5,329	5,527	96.4(95.9, 96.9)	1.01(0.99, 1.02)
BSSL	780	818	95.4(93.7, 96.7)	13,548	14,173	95.6(95.2, 95.9)	1.00(0.98, 1.01)
BSHC	200	216	92.6(88.2, 95.7)	3,637	3,765	96.6(96.0, 97.2)	0.96(0.92, 1.00)
Total BSA	5,710	5,925	96.4(95.9, 96.8)	53,043	55,082	96.3(96.1, 96.5)	1.00(1.00, 1.01)

*RRS=return to routine screening

Table 21.2: Estimated specificity of BSA by Lead provider, by type of screen (initial and subsequent), 2 years (July 2010 to June 2012), women aged 50–69 years

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Negative screens (RRS* from screen)	Negative screens plus false positives	Estimated specificity (95% CI)	Negative screens (RRS* from screen)	Negative screens plus false positives	Estimated specificity (95% CI)	
Initial screens							
BSWN	412	476	86.6(83.2, 89.5)	4,439	4,992	88.9(88.0, 89.8)	0.97(0.94, 1.01)
BSCM	476	545	87.3(84.3, 90.0)	3,622	3,971	91.2(90.3, 92.1)	0.96(0.93, 0.99)
BSAL	208	216	96.3(92.8, 98.4)	3,416	3,620	94.4(93.6, 95.1)	1.02(0.99, 1.05)
BSM	1,013	1,113	91.0(89.2, 92.6)	3,398	3,711	91.6(90.6, 92.4)	0.99(0.97, 1.01)
BSCtoC	700	757	92.5(90.4, 94.2)	2,431	2,608	93.2(92.2, 94.1)	0.99(0.97, 1.01)
BSC	253	281	90.0(85.9, 93.3)	2,395	2,597	92.2(91.1, 93.2)	0.98(0.94, 1.02)
BSSL	116	123	94.3(88.6, 97.7)	1,900	2,034	93.4(92.2, 94.5)	1.01(0.97, 1.06)
BSHC	73	77	94.8(87.2, 98.6)	1,032	1,133	91.1(89.3, 92.7)	1.04(0.98, 1.10)
Total BSA	3,251	3,588	90.6(89.6, 91.5)	22,633	24,666	91.8(91.4, 92.1)	0.99(0.98, 1.00)
Subsequent screens							
BSWN	4,757	4,872	97.6(97.2, 98.0)	44,070	45,230	97.4(97.3, 97.6)	1.00(1.00, 1.01)
BSCM	2,944	3,027	97.3(96.6, 97.8)	24,313	24,927	97.5(97.3, 97.7)	1.00(0.99, 1.00)
BSAL	1,365	1,398	97.6(96.7, 98.4)	22,368	22,856	97.9(97.7, 98.0)	1.00(0.99, 1.01)
BSM	5,555	5,692	97.6(97.2, 98.0)	39,573	40,644	97.4(97.2, 97.5)	1.00(1.00, 1.01)
BSCtoC	4,990	5,059	98.6(98.3, 98.9)	37,613	38,048	98.9(98.7, 99.0)	1.00(0.99, 1.00)
BSC	2,435	2,489	97.8(97.2, 98.4)	30,673	31,362	97.8(97.6, 98.0)	1.00(0.99, 1.01)
BSSL	2,843	2,912	97.6(97.0, 98.2)	64,656	66,450	97.3(97.2, 97.4)	1.00(1.00, 1.01)
BSHC	806	832	96.9(95.5, 97.9)	23,250	23,838	97.5(97.3, 97.7)	0.99(0.98, 1.01)
Total BSA	25,695	26,281	97.8(97.6, 97.9)	286,516	293,355	97.7(97.6, 97.7)	1.00(1.00, 1.00)

Shaded boxes show confidence interval excludes target of >93%.

*RRS=return to routine screening

Overall, specificity for initial screens was just under target for Māori women aged 50–69 years (91%) and non-Māori women (92%).

All LPs met the target value of >93% estimated specificity for subsequent screens for Māori and non-Māori women aged 50–69 years.

2m Benign biopsy rate

Description:

The number of open biopsies that turn out to be benign lesions, expressed as a proportion of women screened.

Target:

Initial (prevalent) screen: ≤ 3.5 per 1,000 women screened

Subsequent (incident) screen: ≤ 1.6 per 1,000 women screened

Table 2m.1: Benign open biopsies as a proportion of women screened, aged 45–49 years, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Benign open biopsies	Number of women screened	Benign biopsies per 1,000 women screened (95% CI)	Benign open biopsies	Number of women screened	Benign biopsies per 1,000 women screened (95% CI)	
Initial screen							
BSWN	6	1,115	5.4(2.0, 11.7)	22	8,629	2.5(1.6, 3.9)	2.11(0.86, 5.19)
BSCM	6	1,032	5.8(2.1, 12.6)	8	6,037	1.3(0.6, 2.6)	4.39(1.53, 12.62)
BSAL	1	353	2.8(0.1, 15.7)	14	5,142	2.7(1.5, 4.6)	1.04(0.14, 7.89)
BSM	6	1,472	4.1(1.5, 8.9)	15	6,345	2.4(1.3, 3.9)	1.72(0.67, 4.44)
BSCtoC	1	1,119	0.9(0.0, 5.0)	9	4,958	1.8(0.8, 3.4)	0.49(0.06, 3.88)
BSC	-	567	--	7	5,087	1.4(0.6, 2.8)	--
BSSL	1	607	1.6(0.0, 9.1)	18	8,795	2.0(1.2, 3.2)	0.80(0.11, 6.02)
BSHC	-	225	--	5	2,795	1.8(0.6, 4.2)	--
Total BSA	21	6,490	3.2(2.0, 4.9)	98	47,788	2.1(1.7, 2.5)	1.58(0.99, 2.53)
Subsequent screen							
BSWN	6	1,145	5.2(1.9, 11.4)	11	8,970	1.2(0.6, 2.2)	4.27(1.58, 11.53)
BSCM	-	660	--	8	5,176	1.5(0.7, 3.0)	--
BSAL	1	360	2.8(0.1, 15.4)	4	5,279	0.8(0.2, 1.9)	3.67(0.41, 32.71)
BSM	-	1,047	--	2	5,988	0.3(0.0, 1.2)	--
BSCtoC	-	1,124	--	1	6,328	0.2(0.0, 0.9)	--
BSC	-	584	--	2	5,546	0.4(0.0, 1.3)	--
BSSL	-	825	--	3	14,219	0.2(0.0, 0.6)	--
BSHC	1	219	4.6(0.1, 25.2)	1	3,784	0.3(0.0, 1.5)	17.28(1.08, 275.32)
Total BSA	8	5,964	1.3(0.6, 2.6)	32	55,290	0.6(0.4, 0.8)	2.32(1.07, 5.03)

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

Table 2m.2: Benign open biopsies as a proportion of women screened, aged 50–69 years, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Benign open biopsies	Number of women screened	Benign biopsies per 1,000 women screened (95% CI)	Benign open biopsies	Number of women screened	Benign biopsies per 1,000 women screened (95% CI)	
Initial screen							
BSWN	2	491	4.1(0.5, 14.6)	13	5,066	2.6(1.4, 4.4)	1.59(0.36, 7.01)
BSCM	1	561	1.8(0.0, 9.9)	8	4,045	2.0(0.9, 3.9)	0.90(0.11, 7.19)
BSAL	-	223	--	9	3,685	2.4(1.1, 4.6)	--
BSM	3	1,135	2.6(0.5, 7.7)	10	3,747	2.7(1.3, 4.9)	0.99(0.27, 3.59)
BSCtoC	3	774	3.9(0.8, 11.3)	6	2,635	2.3(0.8, 4.9)	1.70(0.43, 6.79)
BSC	1	288	3.5(0.1, 19.2)	3	2,635	1.1(0.2, 3.3)	3.05(0.32, 29.22)
BSSL	-	123	--	6	2,063	2.9(1.1, 6.3)	--
BSHC	-	77	--	2	1,144	1.7(0.2, 6.3)	--
Total BSA	10	3,672	2.7(1.3, 5.0)	57	25,020	2.3(1.7, 3.0)	1.20(0.61, 2.34)
Subsequent screen							
BSWN	4	4,912	0.8(0.2, 2.1)	48	45,501	1.1(0.8, 1.4)	0.77(0.28, 2.14)
BSCM	3	3,061	1.0(0.2, 2.9)	15	25,101	0.6(0.3, 1.0)	1.64(0.48, 5.66)
BSAL	1	1,410	0.7(0.0, 3.9)	9	22,986	0.4(0.2, 0.7)	1.81(0.23, 14.29)
BSM	2	5,743	0.3(0.0, 1.3)	31	40,888	0.8(0.5, 1.1)	0.46(0.11, 1.92)
BSCtoC	1	5,093	0.2(0.0, 1.1)	5	38,251	0.1(0.0, 0.3)	1.50(0.18, 12.85)
BSC	2	2,502	0.8(0.1, 2.9)	13	31,547	0.4(0.2, 0.7)	1.94(0.44, 8.59)
BSSL	-	2,932	--	25	66,796	0.4(0.2, 0.6)	--
BSHC	-	837	--	12	23,981	0.5(0.3, 0.9)	--
Total BSA	13	26,490	0.5(0.3, 0.8)	158	295,051	0.5(0.5, 0.6)	0.92(0.52, 1.61)

Ratios above one are unfavourable to Māori. The targets are ≤ 3.5 per 1,000 women having initial screens and ≤ 1.6 per 1,000 women having subsequent screens.

The targets for open biopsies that turned out to be benign lesions were met for both Māori and non-Māori women having initial and subsequent screens.

SECTION 3: EARLY DETECTION OF DCIS OR INVASIVE BREAST CANCER

3a.1 Detection of DCIS or invasive breast cancer

Description:

The number of women who have breast cancer detected within BSA, expressed as a rate per 1,000 screens. Targets now only apply to invasive breast cancers.

Table 3a.1a: Detection rate of DCIS and invasive breast cancer per 1,000 screens, aged 45–49 years, 2 years (July 2010 to June 2012)

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 screen					
BSWN	8	6.9(3.0, 13.6)	49	5.6(4.1, 7.4)	1.25(0.59, 2.63)
BSCM	8	7.4(3.2, 14.5)	31	4.9(3.3, 6.9)	1.52(0.70, 3.29)
BSAL	4	10.4(2.8, 26.3)	18	3.1(1.8, 4.9)	3.32(1.13, 9.77)
BSM	11	7.3(3.7, 13.1)	34	5.3(3.6, 7.3)	1.40(0.71, 2.75)
BSCtoC	5	4.2(1.4, 9.8)	20	3.9(2.4, 6.1)	1.07(0.40, 2.86)
BSC	2	3.5(0.4, 12.4)	34	6.5(4.5, 9.1)	0.53(0.13, 2.20)
BSSL	1	1.6(0.0, 8.8)	29	3.2(2.1, 4.5)	0.51(0.07, 3.70)
BSHC	1	4.4(0.1, 24.4)	12	4.3(2.2, 7.5)	1.03(0.14, 7.92)
Total BSA	40	5.9(4.2, 8.1)	227	4.6(4.0, 5.2)	1.30(0.93, 1.82)
Subsequent screen					
BSWN	6	5.1(1.9, 11.0)	28	3.0(2.0, 4.4)	1.68(0.70, 4.05)
BSCM	7	10.1(4.1, 20.7)	13	2.4(1.3, 4.1)	4.19(1.68, 10.48)
BSAL	3	7.6(1.6, 22.1)	26	4.5(3.0, 6.6)	1.68(0.51, 5.53)
BSM	3	2.8(0.6, 8.2)	22	3.6(2.2, 5.4)	0.78(0.23, 2.61)
BSCtoC	4	3.4(0.9, 8.6)	21	3.3(2.0, 5.0)	1.04(0.36, 3.02)
BSC	3	5.0(1.0, 14.6)	19	3.4(2.0, 5.3)	1.49(0.44, 5.03)
BSSL	6	7.0(2.6, 15.1)	44	2.9(2.1, 3.9)	2.40(1.03, 5.63)
BSHC	2	9.1(1.1, 32.5)	17	4.5(2.6, 7.1)	2.04(0.47, 8.77)
Total BSA	34	5.5(3.8, 7.7)	190	3.3(2.8, 3.8)	1.66(1.16, 2.39)

A ratio above 1.0 shows Māori have a higher rate of screen-detected cancer than non-Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori.

There was no significant difference in the cancer detection rate between Māori and non-Māori women aged 45–49 years having an initial screen.

Among women in this age group having a subsequent screen, Māori women were 66% more likely to be diagnosed with breast cancer (DCIS or invasive) than non-Māori women.

Table 3a.1b: Detection rate of DCIS and invasive breast cancer per 1,000 women screened, aged 50–69 years, 2 years (July 2010 to June 2012)

Lead provider	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)
	Number with breast cancer	Rate per 1,000 women screened (95% CI)	Number with breast cancer	Rate per 1,000 women screened (95% CI)	
Initial screen					
BSWN	11	21.6(10.8, 38.3)	55	10.6(8.0, 13.8)	<i>2.04(1.07, 3.87)</i>
BSCM	10	17.1(8.2, 31.3)	47	11.1(8.1, 14.7)	<i>1.55(0.79, 3.05)</i>
BSAL	6	25.9(9.5, 55.4)	46	11.2(8.2, 15.0)	<i>2.30(0.99, 5.33)</i>
BSM	20	17.3(10.6, 26.6)	33	8.7(6.0, 12.1)	<i>2.00(1.15, 3.47)</i>
BSCtoC	15	18.4(10.3, 30.2)	24	8.9(5.7, 13.2)	<i>2.07(1.09, 3.94)</i>
BSC	7	23.5(9.5, 47.8)	34	12.6(8.8, 17.6)	<i>1.86(0.83, 4.16)</i>
BSSL	0	0.0(0.0, 28.9)	22	10.2(6.4, 15.4)	0.00(0.00, 3.13)
BSHC	0	0.0(0.0, 46.8)	11	9.6(4.8, 17.1)	0.00(0.00, 5.95)
Total BSA	69	18.2(14.2, 23.0)	272	10.4(9.2, 11.8)	<i>1.74(1.34, 2.26)</i>
Subsequent screen					
BSWN	36	7.0(4.9, 9.7)	244	5.2(4.5, 5.9)	<i>1.36(0.96, 1.93)</i>
BSCM	33	10.3(7.1, 14.5)	162	6.1(5.2, 7.1)	<i>1.68(1.16, 2.45)</i>
BSAL	11	7.3(3.6, 13.0)	118	4.8(4.0, 5.7)	<i>1.51(0.82, 2.80)</i>
BSM	50	8.4(6.3, 11.1)	235	5.6(4.9, 6.4)	<i>1.50(1.11, 2.04)</i>
BSCtoC	28	5.2(3.5, 7.6)	188	4.8(4.2, 5.6)	<i>1.09(0.73, 1.62)</i>
BSC	13	5.1(2.7, 8.6)	166	5.1(4.4, 6.0)	<i>0.99(0.56, 1.73)</i>
BSSL	18	5.8(3.5, 9.2)	332	4.7(4.2, 5.2)	<i>1.24(0.77, 1.99)</i>
BSHC	4	4.7(1.3, 12.1)	129	5.3(4.4, 6.3)	<i>0.89(0.33, 2.41)</i>
Total BSA	193	7.0(6.0, 8.1)	1,574	5.1(4.9, 5.4)	<i>1.36(1.17, 1.58)</i>

A ratio above 1.0 shows Māori have a higher rate of screen-detected cancer than non-Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori.

Among women aged 50–69 years having an initial screen during the two-year period July 2010 to June 2012, 69 cancers (DCIS and invasive) were detected among Māori and 272 were detected among non-Māori. The rate of cancer (DCIS and invasive) detected from initial screens was 74% higher among Māori women aged 50–69 years (18.2 per 1,000 women screened) than non-Māori women (10.4 per 1,000 women screened). No cancers were detected among Māori in the BSSL and BSHC regions (where there were small numbers of initial screens).

From subsequent screens, 193 cancers were detected among Māori women and 1,574 among non-Māori women. The detection rate was 36% higher for Māori than non-Māori women.

Figure 3a.1a: Trends in the detection rate of DCIS and invasive breast cancer among Māori women aged 50–69 years having an initial screen

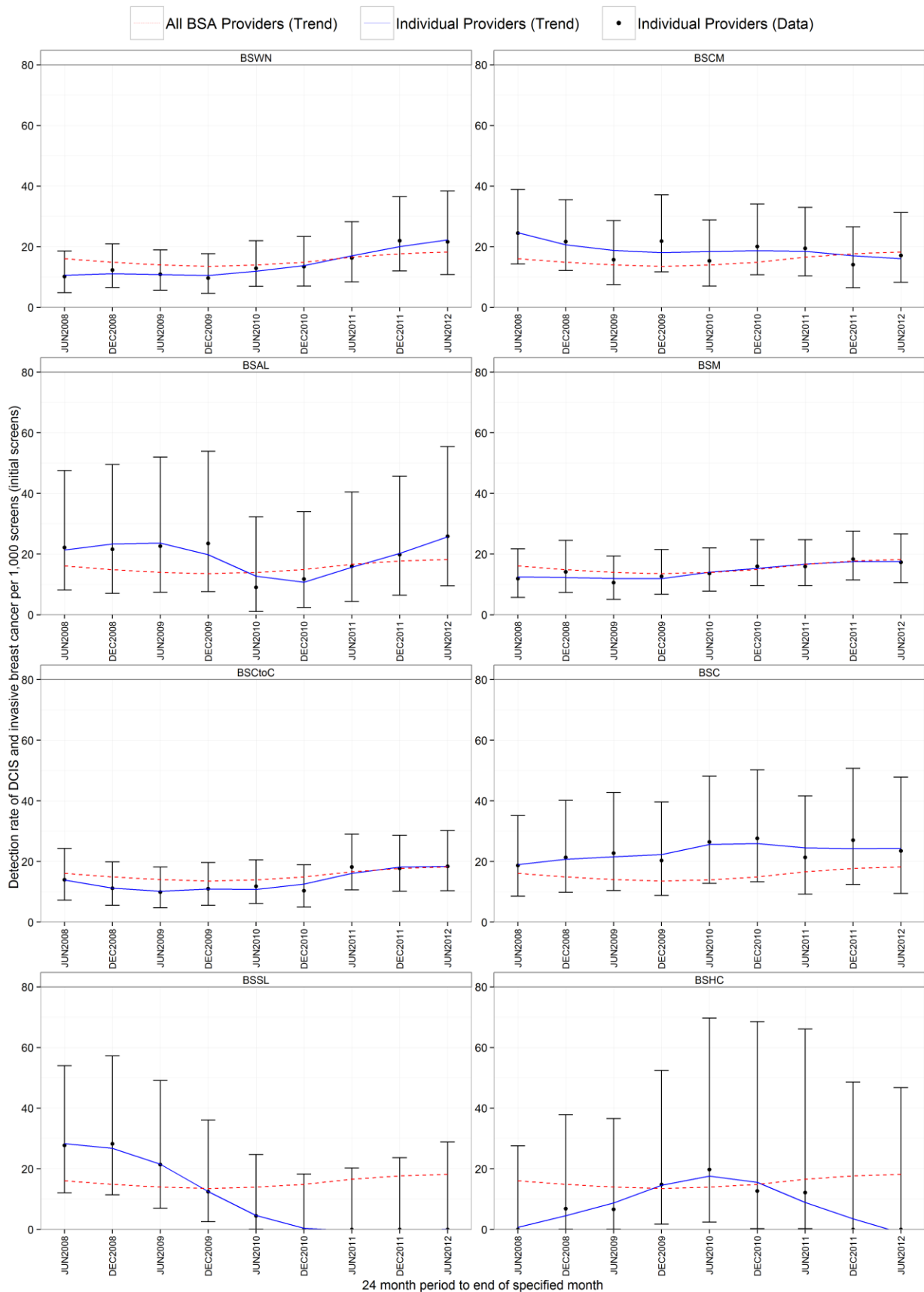
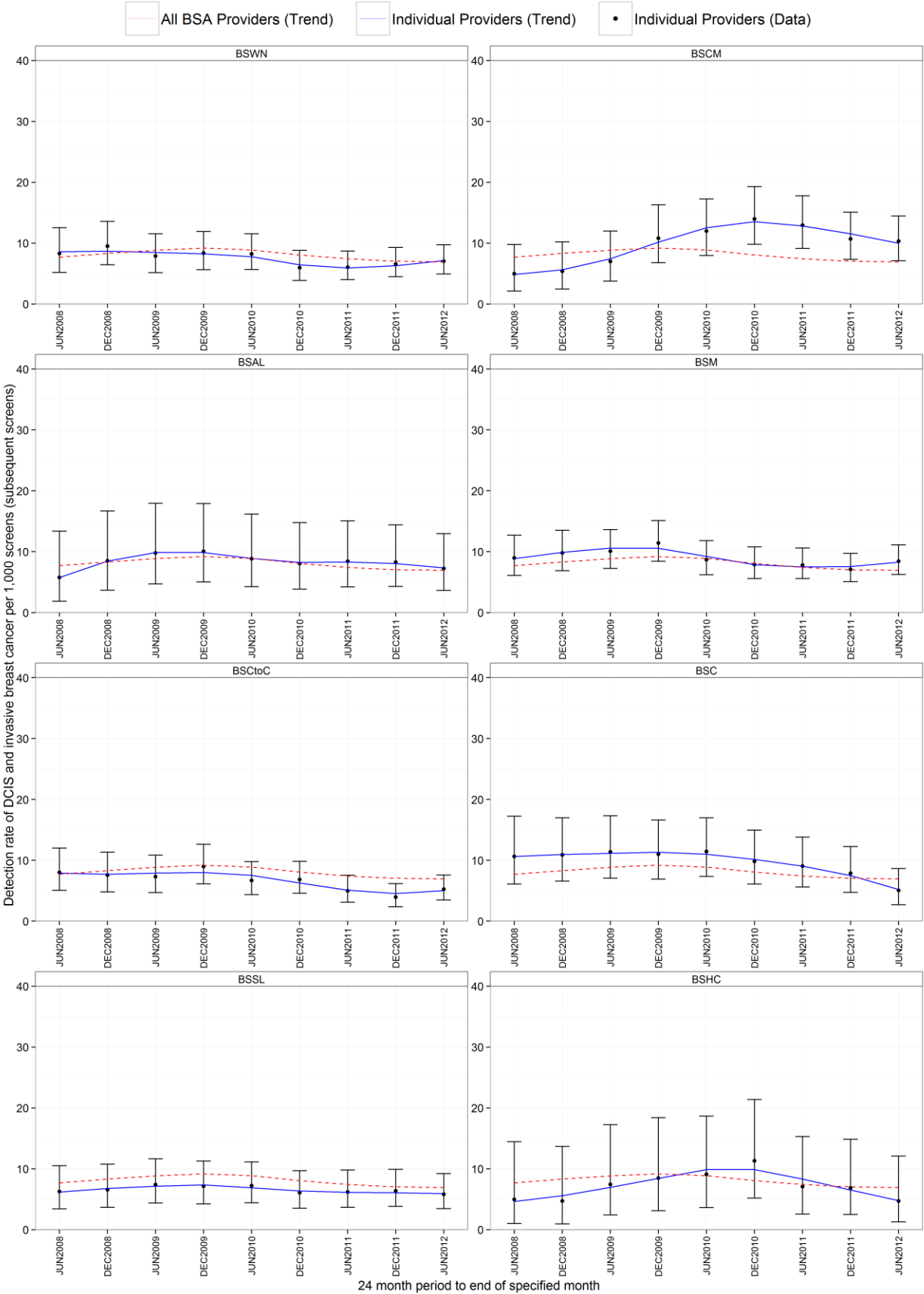


Figure 3a.1b: Trends in the detection rate of DCIS and invasive breast cancer among Māori women aged 50–69 years having a subsequent screen



3a.2 Detection of invasive breast cancer

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, aged 45–49 years, 2 years (July 2010 to June 2012)

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 screen					
BSWN	5	4.3(1.4, 10.1)	28	3.2(2.1, 4.6)	1.36(0.53, 3.53)
BSCM	8	7.4(3.2, 14.5)	23	3.6(2.3, 5.4)	2.04(0.92, 4.56)
BSAL	2	5.2(0.6, 18.6)	12	2.1(1.1, 3.6)	2.49(0.56, 11.09)
BSM	8	5.3(2.3, 10.5)	21	3.2(2.0, 5.0)	1.65(0.73, 3.71)
BSCtoC	5	4.2(1.4, 9.8)	13	2.6(1.4, 4.4)	1.65(0.59, 4.63)
BSC	2	3.5(0.4, 12.4)	25	4.8(3.1, 7.1)	0.72(0.17, 3.04)
BSSL	1	1.6(0.0, 8.8)	20	2.2(1.3, 3.4)	0.73(0.10, 5.45)
BSHC	0	0.0(0.0, 16.2)	8	2.9(1.2, 5.6)	0.00(0.00, 7.27)
Total	31	4.6(3.1, 6.5)	150	3.0(2.6, 3.5)	1.53(1.04, 2.24)
Subsequent screen					
BSWN	6	5.1(1.9, 11.0)	20	2.2(1.3, 3.3)	2.35(0.95, 5.84)
BSCM	4	5.8(1.6, 14.7)	8	1.5(0.6, 2.9)	3.89(1.18, 12.90)
BSAL	3	7.6(1.6, 22.1)	20	3.5(2.1, 5.4)	2.19(0.65, 7.33)
BSM	3	2.8(0.6, 8.2)	19	3.1(1.9, 4.8)	0.91(0.27, 3.06)
BSCtoC	3	2.5(0.5, 7.4)	12	1.9(1.0, 3.2)	1.36(0.39, 4.83)
BSC	3	5.0(1.0, 14.6)	12	2.1(1.1, 3.7)	2.36(0.67, 8.35)
BSSL	6	7.0(2.6, 15.1)	33	2.2(1.5, 3.1)	3.21(1.35, 7.63)
BSHC	1	4.5(0.1, 25.1)	15	3.9(2.2, 6.5)	1.16(0.15, 8.71)
Total	29	4.7(3.1, 6.7)	139	2.4(2.0, 2.9)	1.94(1.30, 2.89)

A ratio above 1.0 shows Māori have a higher rate of screen-detected cancer than non-Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori.

Among women aged 45–49 years having an initial screen, Māori women were 53% more likely to be diagnosed with invasive breast cancer than non-Māori women.

Among those having a subsequent screen, Māori women were 94% more likely to have an invasive cancer detected than non-Māori women.

Table 3a.2b: Detection rate of invasive breast cancer per 1,000 screens, aged 50–69 years, 2 years (July 2010 to June 2012)

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 screen					
BSWN	11	21.6(10.8, 38.3)	38	7.3(5.2, 10.0)	2.95(1.52, 5.74)
BSCM	7	12.0(4.8, 24.5)	37	8.7(6.1, 12.0)	1.38(0.62, 3.07)
BSAL	5	21.6(7.0, 49.6)	26	6.4(4.2, 9.3)	3.39(1.31, 8.75)
BSM	16	13.9(7.9, 22.4)	25	6.6(4.3, 9.7)	2.11(1.13, 3.94)
BSCtoC	12	14.7(7.6, 25.6)	19	7.0(4.2, 11.0)	2.10(1.02, 4.30)
BSC	5	16.8(5.5, 38.7)	28	10.4(6.9, 15.0)	1.61(0.63, 4.15)
BSSL	0	0.0(0.0, 28.9)	17	7.9(4.6, 12.6)	0.00(0.00, 4.15)
BSHC	0	0.0(0.0, 46.8)	9	7.8(3.6, 14.8)	0.00(0.00, 7.56)
Total BSA	56	14.8(11.2, 19.1)	199	7.6(6.6, 8.8)	1.93(1.44, 2.59)
Subsequent screen					
BSWN	28	5.5(3.6, 7.9)	185	3.9(3.4, 4.5)	1.40(0.94, 2.08)
BSCM	29	9.1(6.1, 13.0)	113	4.3(3.5, 5.1)	2.12(1.41, 3.19)
BSAL	8	5.3(2.3, 10.4)	78	3.2(2.5, 4.0)	1.66(0.81, 3.44)
BSM	42	7.1(5.1, 9.6)	186	4.4(3.8, 5.1)	1.60(1.14, 2.23)
BSCtoC	24	4.5(2.9, 6.7)	153	3.9(3.3, 4.6)	1.15(0.75, 1.76)
BSC	10	3.9(1.9, 7.2)	128	4.0(3.3, 4.7)	0.98(0.52, 1.87)
BSSL	13	4.2(2.2, 7.2)	272	3.9(3.4, 4.3)	1.09(0.63, 1.90)
BSHC	2	2.4(0.3, 8.5)	99	4.1(3.3, 5.0)	0.58(0.14, 2.36)
Total BSA	156	5.7(4.8, 6.6)	1,214	4.0(3.7, 4.2)	1.43(1.21, 1.68)

Ratios above 1 mean Māori have higher rates of screen detected cancer than non-Māori. Target values are ≥ 6.1 per 1,000 women screened for initial screens and ≥ 3.45 per 1,000 women screened for subsequent screens.

All LPs met the target values for invasive cancer detection for both Māori and non-Māori women aged 50–69 years having initial and subsequent screens.

The invasive cancer detection rate was 93% higher for Māori than for non-Māori women having an initial screen. The rate was 43% higher for Māori than for non-Māori women having subsequent screens.

3a.3 Summary of referral to assessment, specificity, false positives and detection rate of DCIS and invasive cancer

Table 3a.3a: Summary of Referral to Assessment, Specificity, False Positives and Detection Rate of DCIS and Invasive Cancer, women aged 50–69 years, 2 years (July 2010 to June 2012)

Lead Provider	Māori				Non-Māori			
	Referral to assessment as % of women screened	Estimated specificity %	Positive Predictive Value %	Detection rate per 1,000 screens	Referral to assessment as % of women screened	Estimated Specificity %	Positive Predictive Value %	Detection rate per 1,000 screens
Initial screens								
BSWN	16.1	86.6	13.9	21.6	12.4	88.9	8.8	10.6
BSCM	15.2	87.3	11.8	17.1	10.5	91.2	11.1	11.1
BSAL	6.7	96.3	40.0	25.9	7.3	94.4	17.1	11.2
BSM	10.7	91.0	16.4	17.3	9.3	91.6	9.5	8.7
BSCtoC	9.6	92.5	20.3	18.4	7.7	93.2	11.8	8.9
BSC	12.2	90.0	20.0	23.5	9.1	92.2	13.8	12.6
BSSL	5.7	94.3	0.0	0.0	7.9	93.4	13.5	10.2
BSHC	5.2	94.8	0.0	0.0	9.8	91.1	9.8	9.6
BSA Total	11.5	90.6	16.4	18.2	9.5	91.8	11.4	10.4
Subsequent screens								
BSWN	3.2	97.6	23.2	7.0	3.1	97.4	17.1	5.2
BSCM	3.8	97.3	28.2	10.3	3.1	97.5	20.6	6.1
BSAL	3.2	97.6	24.4	7.3	2.7	97.9	19.1	4.8
BSM	3.3	97.6	26.6	8.4	3.2	97.4	17.9	5.6
BSCtoC	2.0	98.6	27.2	5.2	1.7	98.9	29.5	4.8
BSC	2.7	97.8	19.4	5.1	2.8	97.8	19.0	5.1
BSSL	3.0	97.6	20.2	5.8	3.2	97.3	15.5	4.7
BSHC	3.7	96.9	12.9	4.7	3.0	97.5	17.6	5.3
BSA Total	3.0	97.8	24.3	7.0	2.9	97.7	18.4	5.1

The summary tables 3a.3 and 3a.3b provide an overview of some of the data from Sections Two and Three.

Referral to assessment as percentage of women screened

Referrals to assessment are presented in Table 2d.2. For initial screens, the expected value is <10% and the desired value is <7%. For subsequent screens, the expected value is <5% and the desired value is <4%.

Estimated specificity

Estimated specificity relates to Table 2l.2. Specificity refers to the probability of screening negative if a cancer is truly absent. The target is >93%.

Positive predictive value

Positive predictive values are detailed in Section 2f.2. This indicates the probability that an individual with a positive test actually has cancer. The desired target is $\geq 9\%$ of all referrals.

Detection rate per 1,000 women screened

Detection rates of DCIS plus invasive cancers are detailed in Table 3a.1b.

Table 3a.3b: Māori/non-Māori summary ratios, women aged 50–69 years, 2 years (July 2010 to June 2012)

Lead Provider	Initial screens				Subsequent screens			
	Referral to assessment as % of women screened	Estimated specificity	Positive Predictive Value	Detection rate per 1,000 women screened	Referral to assessment as % of women screened	Estimated Specificity	Positive Predictive Value	Detection rate per 1,000 women screened
BSWN	1.30	0.97	1.59	2.04	1.00	1.00	1.36	1.36
BSCM	1.45	0.96	1.06	1.55	1.22	1.00	1.37	1.68
BSAL	0.92	1.02	2.34	2.30	1.19	1.00	1.28	1.51
BSM	1.15	0.99	1.73	2.00	1.02	1.00	1.49	1.50
BSCtoC	1.23	0.99	1.72	2.07	1.21	1.00	0.92	1.09
BSC	1.33	0.98	1.45	1.86	0.97	1.00	1.02	0.99
BSSL	0.72	1.01	0.00	0.00	0.95	1.00	1.30	1.24
BSHC	0.53	1.04	0.00	0.00	1.22	0.99	0.73	0.89
BSA Total	1.20	0.99	1.44	1.74	1.04	1.00	1.32	1.36

In **initial screens** the referral rate was 20% higher for Māori women than non-Māori women, the positive predictive value 44% higher and the detection rate 74% higher, for BSA overall. Specificity was similar for both groups.

In **subsequent screens**, the referral rate and specificity were similar for Māori women compared to non-Māori women, while the positive predictive value was 32% higher and the detection rate 36% higher.

Ratios

Referral to assessment

A ratio **above 1.0** indicates a higher proportion of Māori are being referred than non-Māori.

Estimated specificity

A ratio **below 1.0** indicates that the probability of screening negative if the cancer is truly absent is lower for Māori than non-Māori, therefore more false positives.

Positive predictive value

A ratio **above 1.0** indicates that of all patients tested positive for breast cancer, the proportion of Māori who actually have the disease is greater than the proportion of non-Māori.

Detection rate per 1,000 women screened

A ratio **above 1.0** demonstrates that a higher proportion of Māori women screened had cancers detected (both DCIS and invasive cancers). While it is beneficial that these are being detected through the screening programme, it is indicative of a higher background cancer incidence.

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 ≤ 10 mm.

Target:

Initial (prevalent) round: $\geq 25\%$, which gives a rate of ≥ 15.2 per 10,000 screens

Subsequent (incident) round: $\geq 30\%$, which gives a rate of ≥ 10.45 per 10,000 screens

Table 3b.1a: Proportion of invasive cancers less than or equal to 10mm, aged 45–49 years, 5 years (July 2007 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Invasive cancers ≤ 10 mm	Total invasive cancers	% of invasive cancers ≤ 10 mm	Invasive cancers ≤ 10 mm	Total invasive cancers	% of invasive cancers ≤ 10 mm	
Initial screen							
BSWN	6	18	33.3(13.3, 59.0)	25	75	33.3(22.9, 45.2)	1.00(0.48, 2.07)
BSCM	3	12	25.0(5.5, 57.2)	10	49	20.4(10.2, 34.3)	1.22(0.40, 3.77)
BSAL	1	9	11.1(0.3, 48.2)	12	41	29.3(16.1, 45.5)	0.38(0.06, 2.56)
BSM	6	25	24.0(9.4, 45.1)	16	44	36.4(22.4, 52.2)	0.66(0.30, 1.47)
BSCtoC	2	16	12.5(1.6, 38.3)	12	42	28.6(15.7, 44.6)	0.44(0.11, 1.74)
BSC	2	9	22.2(2.8, 60.0)	14	48	29.2(17.0, 44.1)	0.76(0.21, 2.79)
BSSL	1	5	20.0(0.5, 71.6)	20	68	29.4(19.0, 41.7)	0.68(0.11, 4.08)
BSHC	1	1	100.0(2.5, 100.0)	7	25	28.0(12.1, 49.4)	3.57(1.90, 6.70)
Total BSA	22	95	23.2(15.1, 32.9)	116	392	29.6(25.1, 34.4)	0.78(0.53, 1.16)
Subsequent screen							
BSWN	5	14	35.7(12.8, 64.9)	21	43	48.8(33.3, 64.5)	0.73(0.34, 1.57)
BSCM	3	5	60.0(14.7, 94.7)	5	13	38.5(13.9, 68.4)	1.56(0.58, 4.21)
BSAL	0	4	0.0(0.0, 60.2)	10	23	43.5(23.2, 65.5)	0.00(0.00, 2.57)
BSM	1	7	14.3(0.4, 57.9)	13	36	36.1(20.8, 53.8)	0.40(0.06, 2.56)
BSCtoC	0	5	0.0(0.0, 52.2)	5	22	22.7(7.8, 45.4)	0.00(0.00, 4.80)
BSC	2	3	66.7(9.4, 99.2)	8	31	25.8(11.9, 44.6)	2.58(0.95, 7.01)
BSSL	6	12	50.0(21.1, 78.9)	19	61	31.1(19.9, 44.3)	1.61(0.82, 3.16)
BSHC	0	1	0.0(0.0, 97.5)	4	24	16.7(4.7, 37.4)	0.00(0.00, 36.36)
Total BSA	17	51	33.3(20.8, 47.9)	85	253	33.6(27.8, 39.8)	0.99(0.65, 1.52)

Ratios below one are unfavourable to Māori.

There were no significant differences between the proportions of screen-detected cancers that were less than or equal to 10mm among Māori or non-Māori women aged 45–49 years.

Table 3b.1b: Proportion of invasive cancers less than or equal to 10mm, aged 50–69 years, 5 years (July 2007 to June 2012)

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 screen							
BSWN	8	23	34.8(16.4, 57.3)	45	125	36.0(27.6, 45.1)	0.97(0.53, 1.77)
BSCM	8	21	38.1(18.1, 61.6)	20	76	26.3(16.9, 37.7)	1.45(0.75, 2.81)
BSAL	0	9	0.0(0.0, 33.6)	34	66	51.5(38.9, 64.0)	0.00(0.00, 0.84)
BSM	9	33	27.3(13.3, 45.5)	15	58	25.9(15.3, 39.0)	1.05(0.52, 2.14)
BSCtoC	7	29	24.1(10.3, 43.5)	10	50	20.0(10.0, 33.7)	1.21(0.52, 2.83)
BSC	1	16	6.2(0.2, 30.2)	15	60	25.0(14.7, 37.9)	0.25(0.04, 1.75)
BSSL	0	4	0.0(0.0, 60.2)	12	46	26.1(14.3, 41.1)	0.00(0.00, 4.14)
BSHC	0	1	0.0(0.0, 97.5)	4	23	17.4(5.0, 38.8)	0.00(0.00, 34.84)
Total BSA	33	136	24.3(17.3, 32.4)	155	504	30.8(26.7, 35.0)	0.79(0.57, 1.09)
Subsequent screen							
BSWN	19	58	32.8(21.0, 46.3)	170	434	39.2(34.6, 43.9)	0.84(0.57, 1.23)
BSCM	28	56	50.0(36.3, 63.7)	77	235	32.8(26.8, 39.2)	<i>1.53(1.11, 2.10)</i>
BSAL	11	19	57.9(33.5, 79.7)	79	193	40.9(33.9, 48.2)	1.41(0.93, 2.15)
BSM	29	87	33.3(23.6, 44.3)	172	396	43.4(38.5, 48.5)	0.77(0.56, 1.05)
BSCtoC	12	57	21.1(11.4, 33.9)	117	348	33.6(28.7, 38.9)	0.63(0.37, 1.06)
BSC	20	38	52.6(35.8, 69.0)	116	303	38.3(32.8, 44.0)	1.37(0.98, 1.92)
BSSL	13	36	36.1(20.8, 53.8)	250	604	41.4(37.4, 45.4)	0.87(0.56, 1.36)
BSHC	2	10	20.0(2.5, 55.6)	78	213	36.6(30.1, 43.5)	0.55(0.16, 1.91)
Total BSA	134	361	37.1(32.1, 42.3)	1,059	2,726	38.8(37.0, 40.7)	0.96(0.83, 1.10)

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

The target values for the proportion of invasive cancers less than or equal to 10mm were met for Māori and non-Māori women having initial and subsequent screens during the 5-year period July 2007 to June 2012.

Table 3b.2a: Detection rate of invasive breast cancer less than or equal to 10mm per 10,000 screens, aged 45–49 years, 5 years (July 2007 to June 2012)

Lead provider	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)
	Number with breast cancer ≤10mm	Rate of breast cancer ≤10mm per 10,000 screens (95% CI)	Number with breast cancer ≤10mm	Rate of breast cancer ≤10mm per 10,000 screens (95% CI)	
Initial screen					
BSWN	6	18.2(6.7, 39.5)	25	10.8(7.0, 16.0)	1.68(0.69, 4.09)
BSCM	3	12.9(2.7, 37.7)	10	6.6(3.2, 12.1)	1.96(0.54, 7.11)
BSAL	1	10.3(0.3, 57.2)	12	9.2(4.7, 16.0)	1.12(0.15, 8.60)
BSM	6	17.3(6.4, 37.7)	16	10.4(5.9, 16.8)	1.67(0.65, 4.27)
BSCtoC	2	6.6(0.8, 23.8)	12	8.5(4.4, 14.8)	0.78(0.17, 3.47)
BSC	2	13.0(1.6, 46.7)	14	10.7(5.8, 17.9)	1.21(0.28, 5.34)
BSSL	1	6.0(0.2, 33.6)	20	8.0(4.9, 12.4)	0.75(0.10, 5.58)
BSHC	1	16.1(0.4, 89.2)	7	7.4(3.0, 15.2)	2.17(0.27, 17.65)
Total BSA	22	13.0(8.2, 19.7)	116	9.0(7.5, 10.8)	1.44(0.91, 2.27)
Subsequent screen					
BSWN	5	23.7(7.7, 55.1)	21	11.8(7.3, 18.0)	2.01(0.76, 5.32)
BSCM	3	28.0(5.8, 81.7)	5	5.6(1.8, 13.1)	4.99(1.19, 20.86)
BSAL	0	0.0(0.0, 51.7)	10	9.9(4.8, 18.3)	0.00(0.00, 6.30)
BSM	1	4.9(0.1, 27.5)	13	10.2(5.4, 17.4)	0.49(0.06, 3.71)
BSCtoC	0	0.0(0.0, 17.6)	5	3.7(1.2, 8.7)	0.00(0.00, 6.98)
BSC	2	17.0(2.1, 61.2)	8	6.8(2.9, 13.4)	2.51(0.53, 11.78)
BSSL	6	31.5(11.6, 68.5)	19	5.6(3.4, 8.8)	5.58(2.23, 13.97)
BSHC	0	0.0(0.0, 88.3)	4	4.7(1.3, 12.1)	0.00(0.00, 30.76)
Total BSA	17	14.8(8.6, 23.6)	85	7.3(5.8, 9.0)	2.03(1.21, 3.42)

Ratios above 1 mean Māori have higher rates of screen detected cancer ≤10mm than non-Māori. No targets have been set for this age group.

Among women aged 45–49 years having a subsequent screen, Māori women were twice as likely as non-Māori to be diagnosed with invasive cancer less than or equal to 10mm in diameter.

Table 3b.2b: Detection rate of invasive breast cancer less than or equal to 10mm per 10,000 screens, aged 50–69 years, 5 years (July 2007 to June 2012)

Lead provider	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)
	Number with breast cancer ≤10mm	Rate of breast cancer ≤10mm per 10,000 screens (95% CI)	Number with breast cancer ≤10mm	Rate of breast cancer ≤10mm per 10,000 screens (95% CI)	
Initial screen					
BSWN	8	38.8(16.7, 76.2)	45	28.3(20.6, 37.8)	1.37(0.65, 2.90)
BSCM	8	52.1(22.5, 102.4)	20	18.6(11.4, 28.7)	<i>2.80(1.24, 6.35)</i>
BSAL	0	0.0(0.0, 65.0)	34	35.5(24.6, 49.6)	0.00(0.00, 1.94)
BSM	9	32.2(14.8, 61.1)	15	15.7(8.8, 25.9)	2.06(0.90, 4.69)
BSCtoC	7	30.2(12.1, 62.1)	10	11.6(5.6, 21.3)	2.60(0.99, 6.83)
BSC	1	11.0(0.3, 61.4)	15	19.9(11.1, 32.8)	0.56(0.07, 4.20)
BSSL	0	0.0(0.0, 78.5)	12	17.1(8.8, 29.8)	0.00(0.00, 5.41)
BSHC	0	0.0(0.0, 135.2)	4	9.1(2.5, 23.4)	0.00(0.00, 24.46)
Total BSA	33	30.2(20.8, 42.4)	155	21.1(17.9, 24.7)	1.43(0.98, 2.08)
Subsequent screen					
BSWN	19	18.0(10.8, 28.1)	170	16.2(13.8, 18.8)	1.11(0.69, 1.79)
BSCM	28	44.0(29.2, 63.5)	77	14.0(11.0, 17.5)	<i>3.15(2.04, 4.85)</i>
BSAL	11	35.0(17.5, 62.5)	79	14.8(11.7, 18.4)	<i>2.37(1.26, 4.44)</i>
BSM	29	23.2(15.5, 33.2)	172	17.9(15.4, 20.8)	1.29(0.87, 1.91)
BSCtoC	12	11.3(5.8, 19.7)	117	13.0(10.8, 15.6)	0.87(0.48, 1.57)
BSC	20	36.4(22.2, 56.2)	116	15.5(12.8, 18.6)	<i>2.35(1.46, 3.77)</i>
BSSL	13	18.5(9.9, 31.7)	250	15.1(13.3, 17.1)	1.22(0.70, 2.14)
BSHC	2	10.3(1.2, 37.0)	78	13.3(10.5, 16.6)	0.77(0.19, 3.14)
Total BSA	134	23.2(19.5, 27.5)	1,059	15.2(14.3, 16.1)	1.53(1.28, 1.83)

Ratios above 1 mean Māori have higher rates of screen detected cancer ≤10mm than non-Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Target values are ≥ 15.2 per 10,000 screens for initial screens and ≥10.45 per 10,000 screens for subsequent screens.

The target values for the rate of screen detected cancers less than or equal to 10mm were met for Māori and non-Māori women aged 50–69 years having initial or subsequent screens.

Among women having subsequent screens, the rate was 53% higher for Māori than for non-Māori women.

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

Description:

Proportion and rate of primary invasive breast cancer of diameter ≤ 15 mm.

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 than or equal to 15mm, aged 45–49 years, 5 years (July 2007 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Invasive cancers ≤ 15 mm	Total invasive cancers	% of invasive cancers ≤ 15 mm	Invasive cancers ≤ 10 mm	Total invasive cancers	% of invasive cancers ≤ 15 mm	
Initial screen							
BSWN	10	18	55.6(30.8, 78.5)	44	75	58.7(46.7, 69.9)	0.95(0.60, 1.49)
BSCM	4	12	33.3(9.9, 65.1)	17	49	34.7(21.7, 49.6)	0.96(0.40, 2.33)
BSAL	5	9	55.6(21.2, 86.3)	18	41	43.9(28.5, 60.3)	1.27(0.64, 2.50)
BSM	14	25	56.0(34.9, 75.6)	25	44	56.8(41.0, 71.7)	0.99(0.64, 1.52)
BSCtoC	5	16	31.2(11.0, 58.7)	18	42	42.9(27.7, 59.0)	0.73(0.33, 1.63)
BSC	4	9	44.4(13.7, 78.8)	28	48	58.3(43.2, 72.4)	0.76(0.35, 1.64)
BSSL	4	5	80.0(28.4, 99.5)	32	68	47.1(34.8, 59.6)	1.70(1.03, 2.82)
BSHC	1	1	100.0(2.5, 100.0)	17	25	68.0(46.5, 85.1)	1.47(1.12, 1.92)
Total BSA	47	95	49.5(39.1, 59.9)	199	392	50.8(45.7, 55.8)	0.97(0.78, 1.22)
Subsequent screen							
BSWN	10	14	71.4(41.9, 91.6)	32	43	74.4(58.8, 86.5)	0.96(0.66, 1.40)
BSCM	4	5	80.0(28.4, 99.5)	6	13	46.2(19.2, 74.9)	1.73(0.83, 3.61)
BSAL	2	4	50.0(6.8, 93.2)	16	23	69.6(47.1, 86.8)	0.72(0.26, 1.99)
BSM	2	7	28.6(3.7, 71.0)	21	36	58.3(40.8, 74.5)	0.49(0.15, 1.63)
BSCtoC	0	5	0.0(0.0, 52.2)	15	22	68.2(45.1, 86.1)	0.00(0.00, 1.23)
BSC	3	3	100.0(29.2, 100.0)	16	31	51.6(33.1, 69.8)	1.94(1.38, 2.72)
BSSL	7	12	58.3(27.7, 84.8)	33	61	54.1(40.8, 66.9)	1.08(0.63, 1.83)
BSHC	0	1	0.0(0.0, 97.5)	8	24	33.3(15.6, 55.3)	0.00(0.00, 14.06)
Total BSA	28	51	54.9(40.3, 68.9)	147	253	58.1(51.8, 64.3)	0.94(0.72, 1.24)

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

Overall, there was no difference between Māori and non-Māori women aged 45–49 years in the proportion of screen-detected cancers that were less than or equal to 15mm, for initial or subsequent screens.

Table 3c.1b: Proportion of invasive cancers less than or equal to 15mm, aged 50–69 years, 5 years (July 2007 to June 2012)

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 screen							
BSWN	15	23	65.2(42.7, 83.6)	76	125	60.8(51.7, 69.4)	1.07(0.77, 1.49)
BSCM	14	21	66.7(43.0, 85.4)	38	76	50.0(38.3, 61.7)	1.33(0.91, 1.94)
BSAL	3	9	33.3(7.5, 70.1)	48	66	72.7(60.4, 83.0)	0.46(0.18, 1.17)
BSM	17	33	51.5(33.5, 69.2)	33	58	56.9(43.2, 69.8)	0.91(0.61, 1.35)
BSCtoC	12	29	41.4(23.5, 61.1)	23	50	46.0(31.8, 60.7)	0.90(0.53, 1.52)
BSC	9	16	56.2(29.9, 80.2)	34	60	56.7(43.2, 69.4)	0.99(0.61, 1.61)
BSSL	1	4	25.0(0.6, 80.6)	23	46	50.0(34.9, 65.1)	0.50(0.09, 2.80)
BSHC	0	1	0.0(0.0, 97.5)	7	23	30.4(13.2, 52.9)	0.00(0.00, 15.96)
Total BSA	71	136	52.2(43.5, 60.8)	282	504	56.0(51.5, 60.3)	0.93(0.78, 1.12)
Subsequent screen							
BSWN	40	58	69.0(55.5, 80.5)	305	434	70.3(65.7, 74.5)	0.98(0.82, 1.18)
BSCM	42	56	75.0(61.6, 85.6)	135	235	57.4(50.9, 63.9)	1.31(1.08, 1.57)
BSAL	11	19	57.9(33.5, 79.7)	124	193	64.2(57.0, 71.0)	0.90(0.61, 1.34)
BSM	59	87	67.8(56.9, 77.4)	277	396	69.9(65.2, 74.4)	0.97(0.83, 1.14)
BSCtoC	28	57	49.1(35.6, 62.7)	212	348	60.9(55.6, 66.1)	0.81(0.61, 1.06)
BSC	26	38	68.4(51.3, 82.5)	200	303	66.0(60.4, 71.3)	1.04(0.82, 1.31)
BSSL	27	36	75.0(57.8, 87.9)	431	604	71.4(67.6, 74.9)	1.05(0.86, 1.28)
BSHC	5	10	50.0(18.7, 81.3)	139	213	65.3(58.5, 71.6)	0.77(0.41, 1.43)
Total BSA	238	361	65.9(60.8, 70.8)	1,823	2,726	66.9(65.1, 68.6)	0.99(0.91, 1.07)

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

The proportion of invasive cancers less than or equal to 15mm in diameter was 52% for Māori women having an initial screen during the 5-year period July 2007 – June 2012 and 66% for Māori women having a subsequent screen, meeting the target of >50%. These proportions were similar to those for non-Māori.

Table 3c.2a: Detection rate of invasive breast cancer less than or equal to 15mm per 10,000 screens, aged 45–49 years, 5 years (July 2007 to June 2012)

Lead provider	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)
	Number with breast cancer ≤15mm	Rate of breast cancer ≤15mm per 10,000 screens (95% CI)	Number with breast cancer ≤15mm	Rate of breast cancer ≤15mm per 10,000 screens (95% CI)	
Initial screen					
BSWN	10	30.3(14.5, 55.7)	44	19.1(13.9, 25.6)	1.59(0.80, 3.15)
BSCM	4	17.2(4.7, 44.0)	17	11.2(6.5, 17.9)	1.54(0.52, 4.56)
BSAL	5	51.4(16.7, 119.6)	18	13.8(8.2, 21.8)	3.73(1.39, 10.03)
BSM	14	40.4(22.1, 67.7)	25	16.2(10.5, 23.9)	2.50(1.30, 4.80)
BSCtoC	5	16.5(5.3, 38.4)	18	12.7(7.5, 20.1)	1.29(0.48, 3.48)
BSC	4	25.9(7.1, 66.2)	28	21.3(14.2, 30.8)	1.21(0.43, 3.46)
BSSL	4	24.1(6.6, 61.7)	32	12.9(8.8, 18.2)	1.87(0.66, 5.29)
BSHC	1	16.1(0.4, 89.2)	17	18.0(10.5, 28.7)	0.90(0.12, 6.72)
Total BSA	47	27.8(20.4, 36.9)	199	15.5(13.4, 17.8)	1.79(1.30, 2.46)
Subsequent screen					
BSWN	10	47.3(22.7, 86.9)	32	18.0(12.3, 25.3)	2.64(1.30, 5.35)
BSCM	4	37.4(10.2, 95.4)	6	6.7(2.5, 14.7)	5.55(1.57, 19.62)
BSAL	2	28.1(3.4, 101.1)	16	15.9(9.1, 25.8)	1.77(0.41, 7.66)
BSM	2	9.9(1.2, 35.7)	21	16.4(10.2, 25.1)	0.60(0.14, 2.56)
BSCtoC	0	0.0(0.0, 17.6)	15	11.2(6.3, 18.4)	0.00(0.00, 1.78)
BSC	3	25.5(5.3, 74.3)	16	13.6(7.8, 22.0)	1.88(0.55, 6.44)
BSSL	7	36.8(14.8, 75.6)	33	9.8(6.8, 13.8)	3.75(1.66, 8.47)
BSHC	0	0.0(0.0, 88.3)	8	9.5(4.1, 18.7)	0.00(0.00, 11.89)
Total BSA	28	24.3(16.2, 35.1)	147	12.6(10.6, 14.8)	1.93(1.29, 2.90)

Ratios above 1 mean Māori have higher rates of screen detected cancer ≤15mm than non-Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. No targets have been set for this age group.

Among women aged 45–49 years having an initial screen, the rate of screen-detected cancers less than or equal to 15mm in diameter was 79% higher for Māori than for non-Māori women.

Among those having a subsequent screen the rate was 93% higher for Māori women compared to non-Māori women.

Table 3c.2b: Detection rate of invasive breast cancer less than or equal to 15mm per 10,000 screens, aged 50–69 years, 5 years (July 2007 to June 2012)

Lead provider	Māori		Non-Māori		Māori/non-Māori ratio (95% CI)
	Number with breast cancer ≤15mm	Rate of breast cancer ≤15mm per 10,000 screens (95% CI)	Number with breast cancer ≤15mm	Rate of breast cancer ≤15mm per 10,000 screens (95% CI)	
Initial screen					
BSWN	15	72.7(40.7, 119.6)	76	47.8(37.6, 59.7)	1.52(0.88, 2.64)
BSCM	14	91.2(49.9, 152.6)	38	35.3(25.0, 48.5)	2.58(1.40, 4.75)
BSAL	3	53.0(10.9, 154.1)	48	50.2(37.0, 66.4)	1.06(0.33, 3.38)
BSM	17	60.9(35.5, 97.3)	33	34.5(23.8, 48.4)	1.77(0.98, 3.16)
BSCtoC	12	51.8(26.8, 90.3)	23	26.7(16.9, 40.0)	1.94(0.97, 3.89)
BSC	9	99.4(45.6, 187.9)	34	45.1(31.3, 63.0)	2.20(1.06, 4.58)
BSSL	1	21.4(0.5, 118.5)	23	32.7(20.7, 49.0)	0.65(0.09, 4.83)
BSHC	0	0.0(0.0, 135.2)	7	16.0(6.4, 32.9)	0.00(0.00, 11.20)
Total BSA	71	65.0(50.8, 82.0)	282	38.4(34.1, 43.2)	1.69(1.31, 2.19)
Subsequent screen					
BSWN	40	37.9(27.1, 51.5)	305	29.0(25.8, 32.4)	1.31(0.94, 1.82)
BSCM	42	66.0(47.6, 89.0)	135	24.5(20.5, 29.0)	2.69(1.91, 3.80)
BSAL	11	35.0(17.5, 62.5)	124	23.2(19.3, 27.7)	1.51(0.81, 2.79)
BSM	59	47.1(35.9, 60.7)	277	28.9(25.6, 32.5)	1.63(1.23, 2.16)
BSCtoC	28	26.3(17.5, 38.0)	212	23.6(20.5, 26.9)	1.12(0.75, 1.66)
BSC	26	47.3(30.9, 69.3)	200	26.8(23.2, 30.7)	1.77(1.18, 2.66)
BSSL	27	38.5(25.4, 55.9)	431	26.1(23.7, 28.7)	1.47(1.00, 2.17)
BSHC	5	25.7(8.3, 59.8)	139	23.6(19.9, 27.9)	1.08(0.45, 2.64)
Total BSA	238	41.2(36.2, 46.8)	1,823	26.1(24.9, 27.3)	1.58(1.38, 1.81)

Ratios above 1 mean Māori have higher rates of screen detected cancer ≤15mm than non-Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Target values are ≥ 30.5 per 10,000 screens for initial screens and ≥17.3 per 10,000 screens for subsequent screens.

The target values for the rate of cancers less than or equal to 15mm were met for Māori and non-Māori women aged 50–69 years having initial or subsequent screens, by all LPs.

Among women having initial screens Māori women were 69% more likely than non-Māori women to be diagnosed with a cancer ≤15mm. Among those having subsequent screens, the rate for Māori women was 58% 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 3d.1: Invasive cancers without nodal involvement, women aged 45–49 years, 5 years (July 2007 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Node negative invasive cancers	Total initial invasive cancers	% of initial invasive cancers with no nodal involvement	Node negative invasive cancers	Total invasive cancers	% of invasive cancers with no nodal involvement	
Initial screen							
BSWN	15	18	83.3(58.6, 96.4)	55	75	73.3(61.9, 82.9)	1.14(0.89, 1.46)
BSCM	8	13	61.5(31.6, 86.1)	30	51	58.8(44.2, 72.4)	1.05(0.64, 1.70)
BSAL	7	9	77.8(40.0, 97.2)	26	42	61.9(45.6, 76.4)	1.26(0.82, 1.92)
BSM	16	26	61.5(40.6, 79.8)	35	45	77.8(62.9, 88.8)	0.79(0.56, 1.11)
BSCtoC	9	16	56.2(29.9, 80.2)	30	42	71.4(55.4, 84.3)	0.79(0.49, 1.26)
BSC	6	10	60.0(26.2, 87.8)	35	50	70.0(55.4, 82.1)	0.86(0.50, 1.47)
BSSL	3	5	60.0(14.7, 94.7)	44	69	63.8(51.3, 75.0)	0.94(0.45, 1.97)
BSHC	1	1	100.0(2.5, 100.0)	16	25	64.0(42.5, 82.0)	1.56(1.16, 2.10)
Total BSA	65	98	66.3(56.1, 75.6)	271	399	67.9(63.1, 72.5)	0.98(0.84, 1.14)
Subsequent screen							
BSWN	9	14	64.3(35.1, 87.2)	30	43	69.8(53.9, 82.8)	0.92(0.60, 1.43)
BSCM	3	5	60.0(14.7, 94.7)	8	13	61.5(31.6, 86.1)	0.97(0.42, 2.25)
BSAL	4	4	100.0(39.8, 100.0)	19	23	82.6(61.2, 95.0)	1.21(1.00, 1.46)
BSM	3	7	42.9(9.9, 81.6)	22	36	61.1(43.5, 76.9)	0.70(0.29, 1.71)
BSCtoC	3	5	60.0(14.7, 94.7)	13	22	59.1(36.4, 79.3)	1.02(0.46, 2.25)
BSC	3	3	100.0(29.2, 100.0)	16	31	51.6(33.1, 69.8)	1.94(1.38, 2.72)
BSSL	10	12	83.3(51.6, 97.9)	44	63	69.8(57.0, 80.8)	1.19(0.88, 1.61)
BSHC	0	1	0.0(0.0, 97.5)	15	25	60.0(38.7, 78.9)	0.00(0.00, 6.97)
Total BSA	35	51	68.6(54.1, 80.9)	167	256	65.2(59.1, 71.1)	1.05(0.86, 1.29)

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

There were no differences between Māori and non-Māori women aged 45–49 years in the proportions of screen-detected cancers that had no nodal involvement.

Table 3d.2: Invasive cancers without nodal involvement, women aged 50–69 years, 5 years (July 2007 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Node negative invasive cancers	Total initial invasive cancers	% of initial invasive cancers with no nodal involvement	Node negative invasive cancers	Total invasive cancers	% of invasive cancers with no nodal involvement	
Initial screen							
BSWN	18	23	78.3(56.3, 92.5)	96	125	76.8(68.4, 83.9)	1.02(0.80, 1.29)
BSCM	17	21	81.0(58.1, 94.6)	55	78	70.5(59.1, 80.3)	1.15(0.89, 1.48)
BSAL	6	9	66.7(29.9, 92.5)	55	66	83.3(72.1, 91.4)	0.80(0.50, 1.29)
BSM	23	33	69.7(51.3, 84.4)	39	59	66.1(52.6, 77.9)	1.05(0.79, 1.41)
BSCtoC	18	29	62.1(42.3, 79.3)	33	50	66.0(51.2, 78.8)	0.94(0.66, 1.33)
BSC	12	18	66.7(41.0, 86.7)	43	62	69.4(56.3, 80.4)	0.96(0.67, 1.39)
BSSL	3	4	75.0(19.4, 99.4)	32	46	69.6(54.2, 82.3)	1.08(0.59, 1.96)
BSHC	1	1	100.0(2.5, 100.0)	16	23	69.6(47.1, 86.8)	1.44(1.10, 1.88)
Total BSA	98	138	71.0(62.7, 78.4)	369	509	72.5(68.4, 76.3)	0.98(0.87, 1.10)
Subsequent screen							
BSWN	45	58	77.6(64.7, 87.5)	343	435	78.9(74.7, 82.6)	0.98(0.85, 1.14)
BSCM	46	56	82.1(69.6, 91.1)	180	235	76.6(70.7, 81.9)	1.07(0.93, 1.23)
BSAL	15	19	78.9(54.4, 93.9)	157	194	80.9(74.7, 86.2)	0.98(0.77, 1.24)
BSM	68	87	78.2(68.0, 86.3)	312	398	78.4(74.0, 82.3)	1.00(0.88, 1.13)
BSCtoC	40	57	70.2(56.6, 81.6)	267	350	76.3(71.5, 80.6)	0.92(0.77, 1.10)
BSC	28	38	73.7(56.9, 86.6)	231	305	75.7(70.5, 80.4)	0.97(0.80, 1.19)
BSSL	27	36	75.0(57.8, 87.9)	485	606	80.0(76.6, 83.1)	0.94(0.77, 1.14)
BSHC	8	11	72.7(39.0, 94.0)	159	216	73.6(67.2, 79.4)	0.99(0.68, 1.43)
Total BSA	277	362	76.5(71.8, 80.8)	2,134	2,739	77.9(76.3, 79.5)	0.98(0.92, 1.04)

Ratios below one are unfavourable to Māori. Target values are >70% for initial screens and >75% for subsequent screens.

The targets for the proportion of invasive cancers without nodal involvement were met for Māori and non-Māori having initial and subsequent screens during the five year period. There was no difference between the proportions for Māori and non-Māori.

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 2007 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Number of DCIS	Total number of cancers	% of total cancer (95% CI)	Number of DCIS	Total number of cancers	% of total cancers (95% CI)	
45–49 years							
BSWN	5	38	13.2(4.4, 28.1)	59	185	31.9(25.2, 39.1)	0.41(0.18, 0.96)
BSCM	6	25	24.0(9.4, 45.1)	26	94	27.7(18.9, 37.8)	0.87(0.40, 1.87)
BSAL	2	16	12.5(1.6, 38.3)	36	108	33.3(24.6, 43.1)	0.38(0.10, 1.41)
BSM	5	40	12.5(4.2, 26.8)	41	123	33.3(25.1, 42.4)	0.38(0.16, 0.88)
BSCtoC	5	27	18.5(6.3, 38.1)	30	96	31.2(22.2, 41.5)	0.59(0.25, 1.38)
BSC	1	15	6.7(0.2, 31.9)	35	117	29.9(21.8, 39.1)	0.22(0.03, 1.51)
BSSL	1	18	5.6(0.1, 27.3)	55	191	28.8(22.5, 35.8)	0.19(0.03, 1.31)
BSHC	2	4	50.0(6.8, 93.2)	15	66	22.7(13.3, 34.7)	2.20(0.75, 6.45)
Total BSA	27	183	14.8(10.0, 20.7)	297	980	30.3(27.4, 33.3)	0.49(0.34, 0.70)
50–69 years							
BSWN	21	107	19.6(12.6, 28.4)	162	737	22.0(19.0, 25.1)	0.89(0.59, 1.34)
BSCM	13	92	14.1(7.7, 23.0)	100	426	23.5(19.5, 27.8)	0.60(0.35, 1.02)
BSAL	7	38	18.4(7.7, 34.3)	97	390	24.9(20.7, 29.5)	0.74(0.37, 1.48)
BSM	25	151	16.6(11.0, 23.5)	135	600	22.5(19.2, 26.1)	0.74(0.50, 1.08)
BSCtoC	8	98	8.2(3.6, 15.5)	78	487	16.0(12.9, 19.6)	0.51(0.25, 1.02)
BSC	10	68	14.7(7.3, 25.4)	119	492	24.2(20.5, 28.2)	0.61(0.34, 1.10)
BSSL	9	49	18.4(8.8, 32.0)	168	822	20.4(17.7, 23.4)	0.90(0.49, 1.65)
BSHC	2	15	13.3(1.7, 40.5)	56	297	18.9(14.6, 23.8)	0.71(0.19, 2.62)
Total BSA	95	618	15.4(12.6, 18.5)	915	4,251	21.5(20.3, 22.8)	0.71(0.59, 0.87)

The proportions of cancers that were DCIS were within the target range of 10-25% for Māori and non-Māori women aged 50–69 years. The proportion was 29% lower for Māori than for non-Māori women in this age group.

Among women aged 45–49 years, the proportion of screen-detected cancers that were DCIS was 51% lower for Māori than for non-Māori women.

SECTION 5: PROVISION OF AN APPROPRIATE AND ACCEPTABLE SERVICE

5a Time taken for provision of screening results

Description:

The time since screening that it takes for a woman to be sent the results of her mammogram.

Target:

90-95% notified within 10 working days.

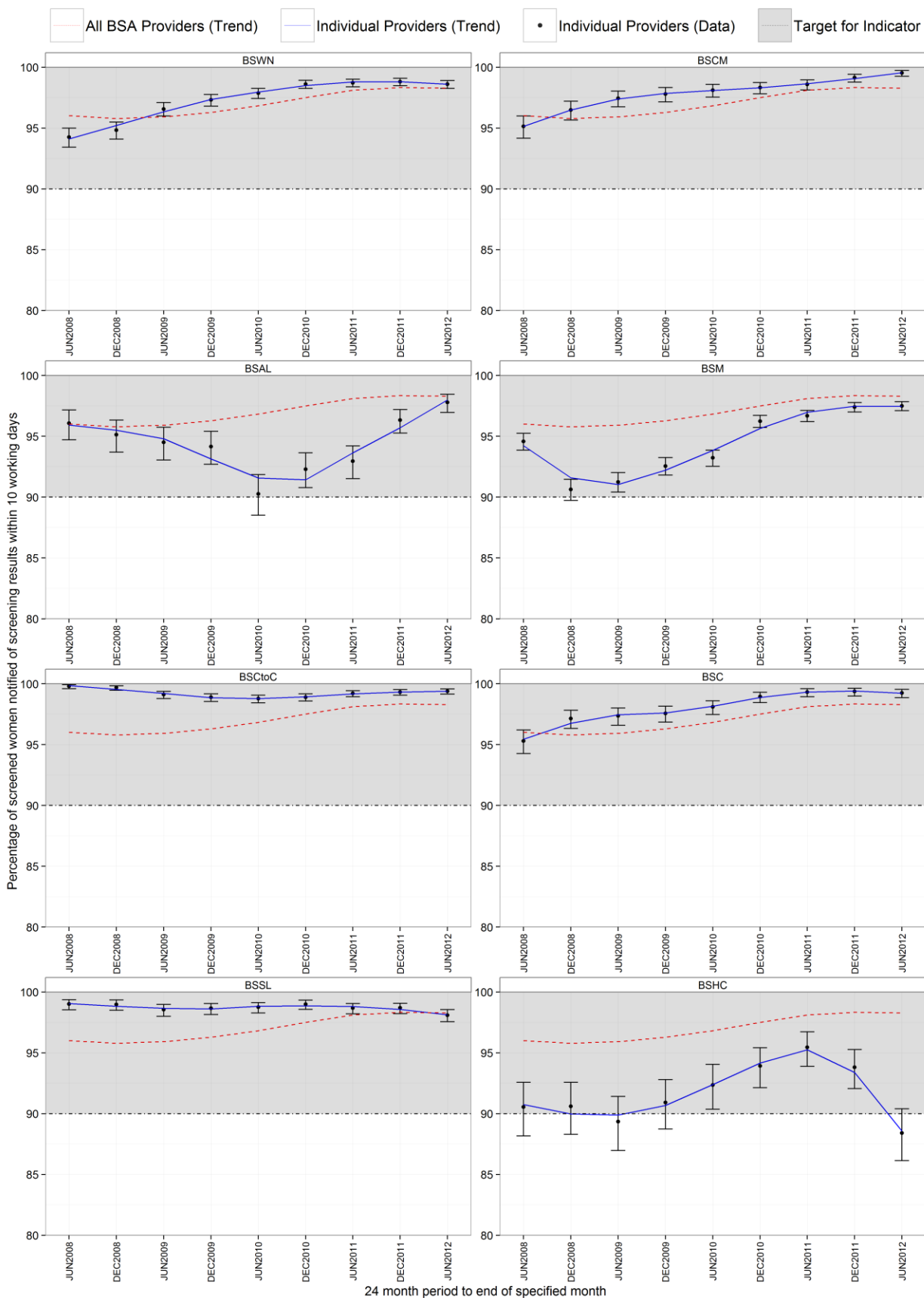
Table 5a: Percentage of women notified of screening results within 10 working days, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of women notified within 10 working days	No. of women screened	% notified within 10 working days (95% CI)	No. of women notified within 10 working days	No. of women screened	% notified within 10 working days (95% CI)	
45–49 years							
BSWN	2,206	2,260	97.6(96.9, 98.2)	17,150	17,599	97.4(97.2, 97.7)	1.00(0.99, 1.01)
BSCM	1,669	1,692	98.6(98.0, 99.1)	11,112	11,213	99.1(98.9, 99.3)	1.00(0.99, 1.00)
BSAL	690	713	96.8(95.2, 97.9)	10,045	10,421	96.4(96.0, 96.7)	1.00(0.99, 1.02)
BSM	2,414	2,519	95.8(95.0, 96.6)	11,897	12,333	96.5(96.1, 96.8)	0.99(0.98, 1.00)
BSCtoC	2,226	2,243	99.2(98.8, 99.6)	11,214	11,286	99.4(99.2, 99.5)	1.00(0.99, 1.00)
BSC	1,132	1,151	98.3(97.4, 99.0)	10,510	10,633	98.8(98.6, 99.0)	1.00(0.99, 1.00)
BSSL	1,382	1,432	96.5(95.4, 97.4)	22,407	23,014	97.4(97.1, 97.6)	0.99(0.98, 1.00)
BSHC	385	444	86.7(83.2, 89.7)	5,646	6,579	85.8(85.0, 86.7)	1.01(0.97, 1.05)
Total BSA	12,104	12,454	97.2(96.9, 97.5)	99,981	103,078	97.0(96.9, 97.1)	1.00(1.00, 1.01)
50–69 years							
BSWN	5,328	5,403	98.6(98.3, 98.9)	49,887	50,567	98.7(98.6, 98.8)	1.00(1.00, 1.00)
BSCM	3,605	3,622	99.5(99.2, 99.7)	28,965	29,146	99.4(99.3, 99.5)	1.00(1.00, 1.00)
BSAL	1,597	1,633	97.8(97.0, 98.5)	26,170	26,671	98.1(98.0, 98.3)	1.00(0.99, 1.00)
BSM	6,706	6,878	97.5(97.1, 97.9)	43,607	44,635	97.7(97.6, 97.8)	1.00(0.99, 1.00)
BSCtoC	5,831	5,867	99.4(99.2, 99.6)	40,693	40,886	99.5(99.5, 99.6)	1.00(1.00, 1.00)
BSC	2,769	2,790	99.2(98.9, 99.5)	33,867	34,182	99.1(99.0, 99.2)	1.00(1.00, 1.01)
BSSL	2,997	3,055	98.1(97.6, 98.6)	67,753	68,859	98.4(98.3, 98.5)	1.00(0.99, 1.00)
BSHC	808	914	88.4(86.1, 90.4)	21,649	25,125	86.2(85.7, 86.6)	1.03(1.00, 1.05)
Total BSA	29,641	30,162	98.3(98.1, 98.4)	312,591	320,071	97.7(97.6, 97.7)	1.01(1.00, 1.01)

Ratios below one are unfavourable to Māori.

Over 95% of Māori and non-Māori women received their screening results within 10 working days, in both age groups. There was a decreasing trend in BSHC.

Figure 5a: Trends in the percentage of Māori women aged 50–69 years notified of screening results within 10 working days



5b Time taken from screening visit to first offer of an assessment

Description:

The time between screening and the earliest appointment date the woman is offered for assessment. In some cases this date may not coincide with the actual date of assessment due to the fact that many women arrange for a time that suits them better.

Target:

90% offered an assessment appointment within 15 working days.

Table 5b: Percentage of women offered first assessment appointment within 15 working days, 2 years (July 2010 to June 2012)

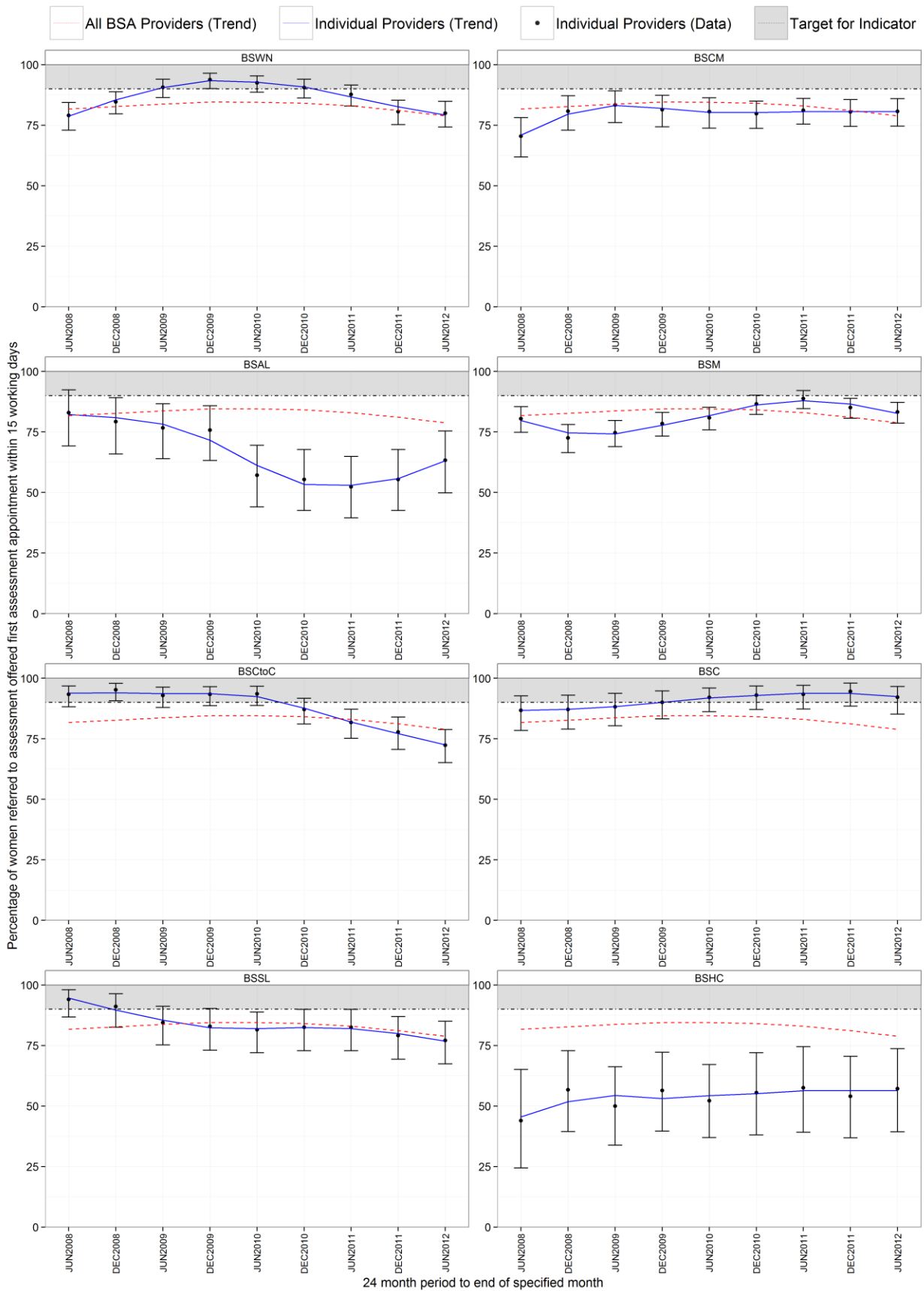
Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of women offered assessment within 15 working days	No. of women referred to assessment	% of women referred to assessment (95% CI)	No. of women offered assessment within 15 working days	No. of women referred to assessment	% of women referred to assessment (95% CI)	
45–49 years							
BSWN	172	210	81.9(76.0, 86.9)	1,068	1,299	82.2(80.0, 84.3)	1.00(0.93, 1.07)
BSCM	137	163	84.0(77.5, 89.3)	642	765	83.9(81.1, 86.5)	1.00(0.93, 1.08)
BSAL	43	51	84.3(71.4, 93.0)	379	533	71.1(67.1, 74.9)	1.19(1.04, 1.35)
BSM	154	199	77.4(70.9, 83.0)	757	896	84.5(81.9, 86.8)	0.92(0.85, 0.99)
BSCtoC	69	92	75.0(64.9, 83.4)	388	448	86.6(83.1, 89.6)	0.87(0.77, 0.98)
BSC	59	61	96.7(88.7, 99.6)	603	625	96.5(94.7, 97.8)	1.00(0.95, 1.05)
BSSL	88	108	81.5(72.9, 88.3)	1,185	1,413	83.9(81.8, 85.7)	0.97(0.89, 1.07)
BSHC	21	37	56.8(39.5, 72.9)	201	413	48.7(43.8, 53.6)	1.17(0.87, 1.57)
Total BSA	743	921	80.7(78.0, 83.2)	5,223	6,392	81.7(80.7, 82.7)	0.99(0.95, 1.02)
50–69 years							
BSWN	187	234	79.9(74.2, 84.9)	1,704	2,058	82.8(81.1, 84.4)	0.97(0.90, 1.03)
BSCM	163	202	80.7(74.6, 85.9)	1,004	1,211	82.9(80.7, 85.0)	0.97(0.91, 1.05)
BSAL	38	60	63.3(49.9, 75.4)	662	887	74.6(71.6, 77.5)	0.85(0.70, 1.03)
BSM	258	310	83.2(78.6, 87.2)	1,411	1,664	84.8(83.0, 86.5)	0.98(0.93, 1.04)
BSCtoC	128	177	72.3(65.1, 78.8)	716	842	85.0(82.4, 87.4)	0.85(0.77, 0.94)
BSC	94	102	92.2(85.1, 96.6)	1,054	1,114	94.6(93.1, 95.9)	0.97(0.92, 1.03)
BSSL	74	96	77.1(67.4, 85.0)	1,940	2,303	84.2(82.7, 85.7)	0.92(0.82, 1.02)
BSHC	20	35	57.1(39.4, 73.7)	403	843	47.8(44.4, 51.2)	1.20(0.89, 1.61)
Total BSA	962	1,216	79.1(76.7, 81.4)	8,894	10,922	81.4(80.7, 82.2)	0.97(0.94, 1.00)

Ratios below one are unfavourable to Māori. Shaded boxes show confidence interval excludes target of 90% or more.

Most LPs did not achieve the target value of 90% of women offered their first assessment appointment within 15 working days (apart from BSC). There appears to be a decreasing trend in this indicator for Māori women aged 50–69 years in BSWN, BSCtoC, and BSSL regions, each of which have previously attained the target. The lowest proportions of Māori and non-Māori women offered timely assessment appointments were in BSHC (57% and 48% respectively).

The results were similar for women aged 45–49 years in most providers.

Figure 5b: Trends in percentage of Māori women aged 50–69 years offered first assessment appointment within 15 working days



5c Time taken from assessment to final diagnostic biopsy

Description:

The time between first level assessment and the final assessment procedure producing a diagnosis.

Targets:

At least 90% of women requiring **needle biopsy** have that procedure completed within **five working** days of their assessment.

At least 90% of women requiring **open biopsy** should have this performed within **20 working days** of being notified of the need for this operation.

Table 5c.1: Women receiving needle biopsy within 5 working days of assessment, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Needle biopsies within 5 days of assessment	Total needle biopsies	% of needle biopsies (95% CI)	Needle biopsies within 5 days of assessment	Total needle biopsies	% of needle biopsies (95% CI)	
45–49 years							
BSWN	70	71	98.6(92.4, 100.0)	372	376	98.9(97.3, 99.7)	1.00(0.97, 1.03)
BSCM	70	76	92.1(83.6, 97.0)	309	331	93.4(90.1, 95.8)	0.99(0.92, 1.06)
BSAL	17	17	100.0(80.5, 100.0)	225	243	92.6(88.5, 95.6)	1.08(1.04, 1.12)
BSM	73	80	91.2(82.8, 96.4)	215	232	92.7(88.5, 95.7)	0.98(0.91, 1.06)
BSCtoC	46	46	100.0(92.3, 100.0)	133	135	98.5(94.8, 99.8)	1.02(0.99, 1.04)
BSC	16	16	100.0(79.4, 100.0)	136	137	99.3(96.0, 100.0)	1.01(0.99, 1.02)
BSSL	27	33	81.8(64.5, 93.0)	300	345	87.0(82.9, 90.3)	0.94(0.80, 1.11)
BSHC	9	10	90.0(55.5, 99.7)	88	90	97.8(92.2, 99.7)	0.92(0.75, 1.13)
Total BSA	328	349	94.0(90.9, 96.2)	1,778	1,889	94.1(93.0, 95.1)	1.00(0.97, 1.03)
50–69 years							
BSWN	96	97	99.0(94.4, 100.0)	690	706	97.7(96.3, 98.7)	1.01(0.99, 1.04)
BSCM	109	121	90.1(83.3, 94.8)	525	556	94.4(92.2, 96.2)	0.95(0.90, 1.02)
BSAL	27	29	93.1(77.2, 99.2)	388	421	92.2(89.2, 94.5)	1.01(0.91, 1.12)
BSM	136	148	91.9(86.3, 95.7)	522	552	94.6(92.3, 96.3)	0.97(0.92, 1.02)
BSCtoC	107	108	99.1(94.9, 100.0)	392	394	99.5(98.2, 99.9)	1.00(0.98, 1.02)
BSC	36	36	100.0(90.3, 100.0)	333	338	98.5(96.6, 99.5)	1.02(1.00, 1.03)
BSSL	34	40	85.0(70.2, 94.3)	622	690	90.1(87.7, 92.3)	0.94(0.83, 1.08)
BSHC	15	15	100.0(78.2, 100.0)	294	303	97.0(94.4, 98.6)	1.03(1.01, 1.05)
Total BSA	560	594	94.3(92.1, 96.0)	3,766	3,960	95.1(94.4, 95.8)	0.99(0.97, 1.01)

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

The proportions of women receiving their needle biopsy within 5 working days of assessment were over 90% for Māori and non-Māori women in both age groups. There may be a decreasing trend for Māori women aged 50–69 years screened in BSSL.

Figure 5c.1: Trends in the percentage of Māori women aged 50–69 years receiving needle biopsy within 5 working days of assessment

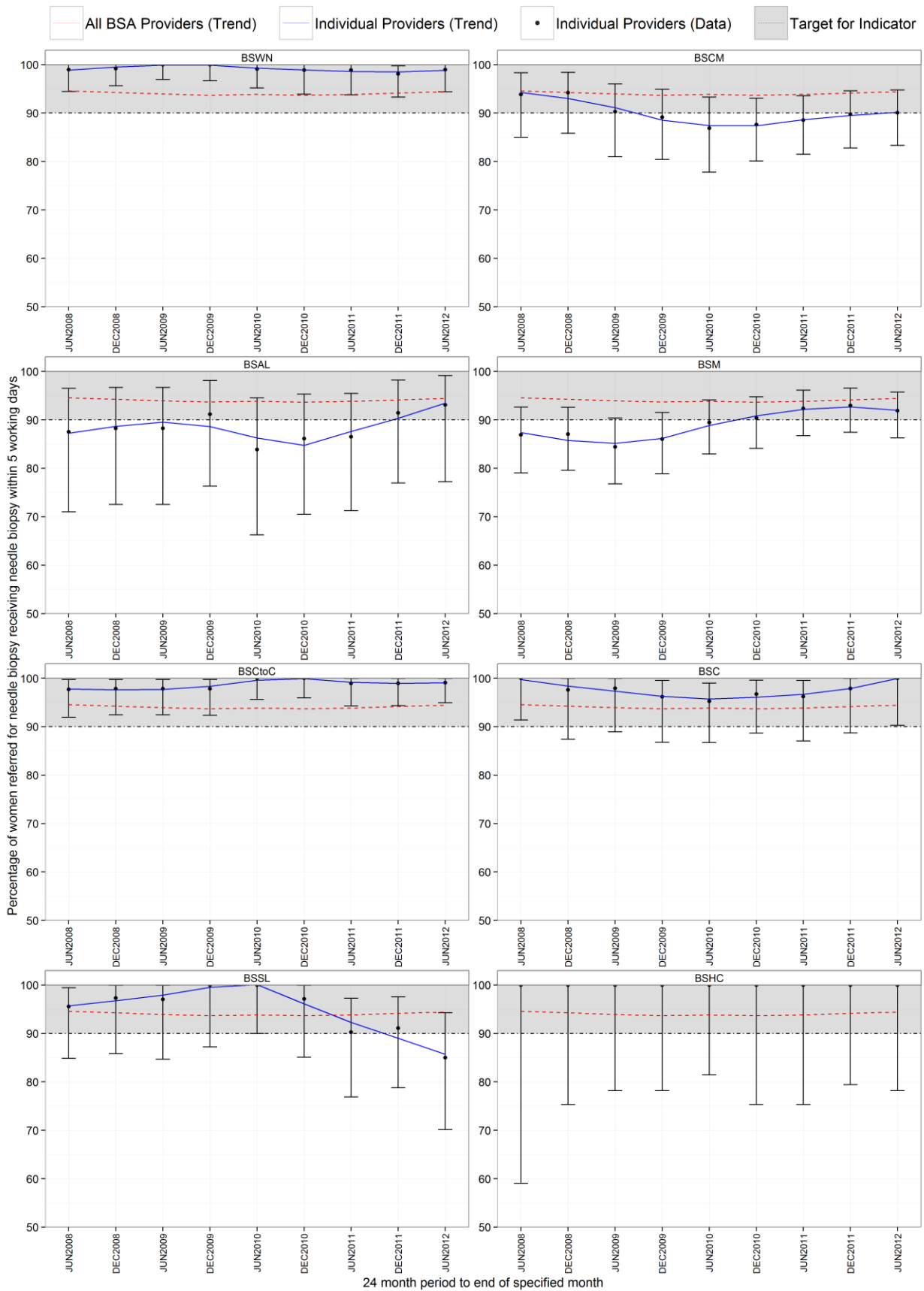
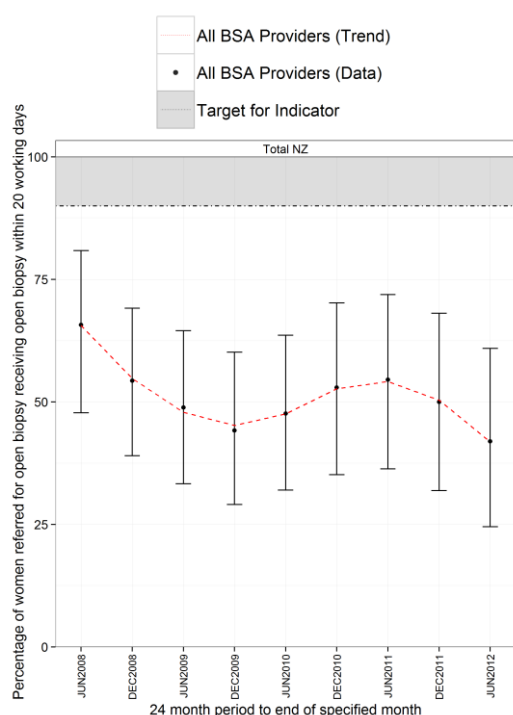


Table 5c.2: Women receiving open biopsy procedure within 20 working days of notification of the need for the operation, 2 years (July 2010 to June 2012)

Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Open biopsies within 20 working days of notification	Total open biopsies	% of open biopsies (95% CI)	Open biopsies within 20 working days of notification	Total open biopsies	% of open biopsies (95% CI)	
45–49 years							
BSWN	4	7	57.1(18.4, 90.1)	13	18	72.2(46.5, 90.3)	0.79(0.39, 1.60)
BSCM	1	5	20.0(0.5, 71.6)	6	17	35.3(14.2, 61.7)	0.57(0.09, 3.67)
BSAL	3	3	100.0(29.2, 100.0)	17	19	89.5(66.9, 98.7)	1.12(0.96, 1.30)
BSM	5	7	71.4(29.0, 96.3)	17	22	77.3(54.6, 92.2)	0.92(0.55, 1.56)
BSCtoC	0	0	--	3	6	50.0(11.8, 88.2)	--
BSC	1	1	100.0(2.5, 100.0)	3	12	25.0(5.5, 57.2)	4.00(1.50, 10.66)
BSSL	0	0	--	18	19	94.7(74.0, 99.9)	--
BSHC	0	0	--	3	4	75.0(19.4, 99.4)	--
Total BSA	14	23	60.9(38.5, 80.3)	80	117	68.4(59.1, 76.7)	0.89(0.63, 1.26)
50–69 years							
BSWN	3	8	37.5(8.5, 75.5)	30	42	71.4(55.4, 84.3)	0.52(0.21, 1.31)
BSCM	3	5	60.0(14.7, 94.7)	4	25	16.0(4.5, 36.1)	3.75(1.19, 11.82)
BSAL	1	1	100.0(2.5, 100.0)	22	29	75.9(56.5, 89.7)	1.32(1.07, 1.62)
BSM	3	9	33.3(7.5, 70.1)	42	62	67.7(54.7, 79.1)	0.49(0.19, 1.26)
BSCtoC	0	3	0.0(0.0, 70.8)	4	9	44.4(13.7, 78.8)	0.00(0.00, 4.54)
BSC	3	4	75.0(19.4, 99.4)	16	21	76.2(52.8, 91.8)	0.98(0.53, 1.82)
BSSL	0	0	--	33	40	82.5(67.2, 92.7)	--
BSHC	0	1	0.0(0.0, 97.5)	5	9	55.6(21.2, 86.3)	0.00(0.00, 9.82)
Total BSA	13	31	41.9(24.5, 60.9)	156	237	65.8(59.4, 71.8)	0.64(0.42, 0.97)

Ratios below one are unfavourable to Māori. Shaded boxes show confidence interval excludes target of 90%.

Figure 5c.2: Trends in the percentage of Māori women aged 50–69 years receiving open biopsy within 20 working days of notification of the need for the operation



The proportion of Māori women aged 50–69 years who received their open biopsy procedure within 20 working days of notification was only 42% compared with 66% of non-Māori women. This was well below the target of 90%. There appears to be a decreasing trend in this indicator.

Among women aged 45–49 years, the proportions were 61% for Māori and 68% for non-Māori.

5d Time taken from final diagnostic biopsy to reporting assessment results

Description:

The time taken from the final biopsy procedure to reporting the diagnosis to the women.

Target:

Results reported to at least 90% of women within five working days of final diagnostic biopsy.

Table 5d: Percentage of women receiving final diagnostic biopsy results within 5 working days, 2 years (July 2010 to June 2012)

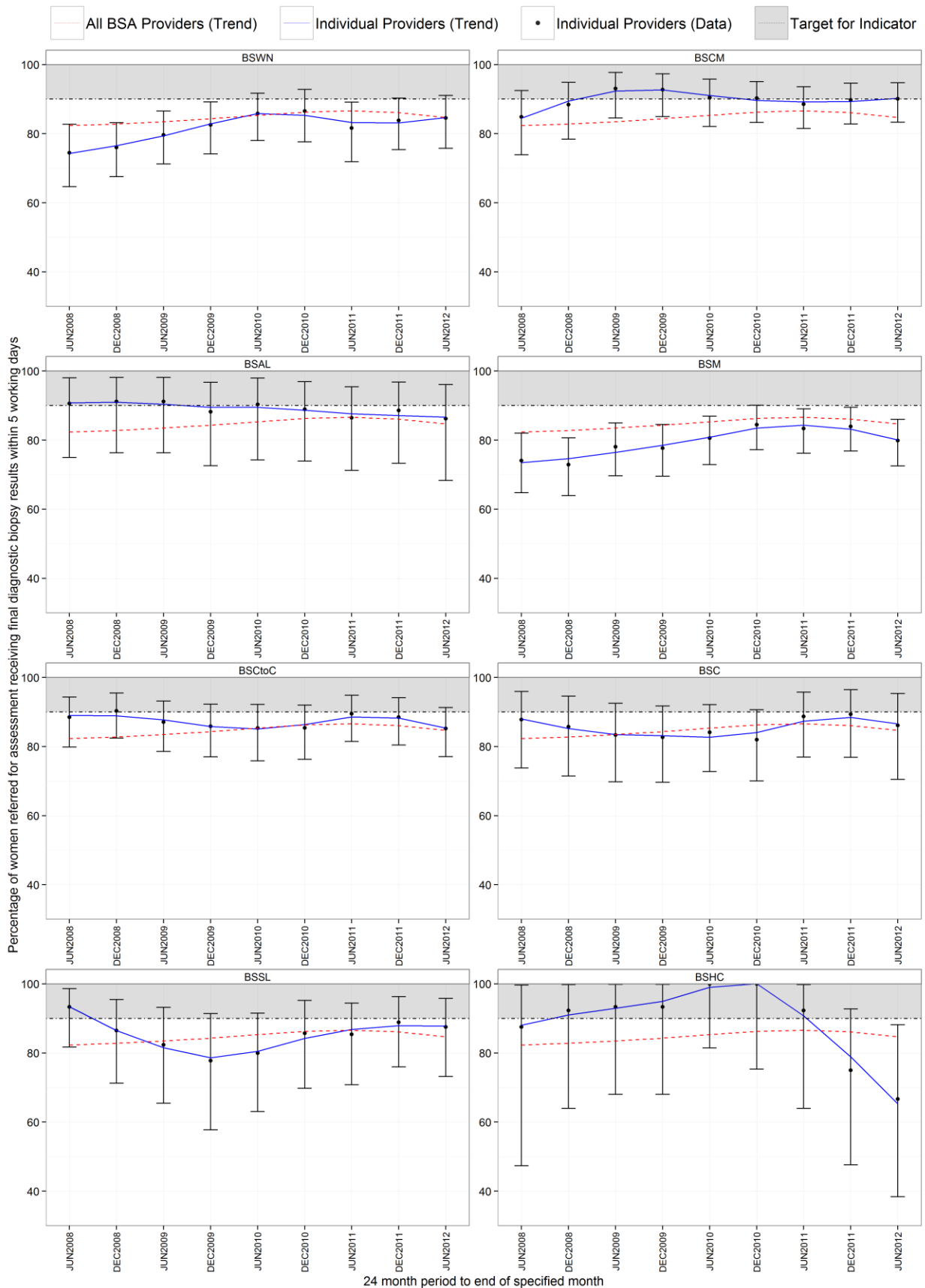
Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Results reported within 5 working days of final biopsy	Number with final diagnostic biopsy	% received final biopsy results within 5 working days (95% CI)	Results reported within 5 working days of final biopsy	Number with final diagnostic biopsy	% received final biopsy results within 5 working days (95% CI)	
45–49 years							
BSWN	56	71	78.9(67.6, 87.7)	329	377	87.3(83.5, 90.5)	0.90(0.80, 1.03)
BSCM	70	76	92.1(83.6, 97.0)	292	331	88.2(84.2, 91.5)	1.04(0.97, 1.13)
BSAL	14	17	82.4(56.6, 96.2)	193	247	78.1(72.5, 83.1)	1.05(0.84, 1.33)
BSM	63	80	78.8(68.2, 87.1)	183	232	78.9(73.1, 83.9)	1.00(0.88, 1.14)
BSCtoC	31	46	67.4(52.0, 80.5)	125	136	91.9(86.0, 95.9)	0.73(0.60, 0.90)
BSC	14	16	87.5(61.7, 98.4)	123	137	89.8(83.4, 94.3)	0.97(0.80, 1.18)
BSSL	31	33	93.9(79.8, 99.3)	314	347	90.5(86.9, 93.4)	1.04(0.95, 1.14)
BSHC	8	10	80.0(44.4, 97.5)	77	90	85.6(76.6, 92.1)	0.94(0.68, 1.29)
Total BSA	287	349	82.2(77.8, 86.1)	1,636	1,897	86.2(84.6, 87.8)	0.95(0.91, 1.00)
50–69 years							
BSWN	82	97	84.5(75.8, 91.1)	609	715	85.2(82.4, 87.7)	0.99(0.91, 1.09)
BSCM	109	121	90.1(83.3, 94.8)	492	556	88.5(85.5, 91.0)	1.02(0.95, 1.09)
BSAL	25	29	86.2(68.3, 96.1)	320	423	75.7(71.3, 79.7)	1.14(0.98, 1.33)
BSM	119	149	79.9(72.5, 86.0)	443	554	80.0(76.4, 83.2)	1.00(0.91, 1.09)
BSCtoC	92	108	85.2(77.1, 91.3)	360	394	91.4(88.1, 93.9)	0.93(0.86, 1.01)
BSC	31	36	86.1(70.5, 95.3)	295	338	87.3(83.2, 90.6)	0.99(0.86, 1.13)
BSSL	35	40	87.5(73.2, 95.8)	659	690	95.5(93.7, 96.9)	0.92(0.81, 1.03)
BSHC	10	15	66.7(38.4, 88.2)	269	303	88.8(84.7, 92.1)	0.75(0.52, 1.08)
Total BSA	503	595	84.5(81.4, 87.3)	3,447	3,973	86.8(85.7, 87.8)	0.97(0.94, 1.01)

Ratios below one are unfavourable to Māori. Shaded boxes show confidence interval excludes target of at least 90%.

Among women aged 50–69 years, 85% of Māori women and 87% of non-Māori women received their final diagnostic biopsy results within 5 working days, both below the target of >90%. There appears to be a decreasing trend in this indicator for Māori women.

The proportions were similar for women aged 45–49 years (82% of Māori women and 86% of non-Māori women).

Figure 5d: Trends in the percentage of Māori women aged 50–69 years receiving final diagnostic biopsy results within 5 working days



APPENDIX A: POPULATION DENOMINATORS

The eligible populations in these reports have been calculated from projected resident populations in each Lead Provider district, provided by Statistics New Zealand. The projections are based on the 2006 New Zealand Census, assuming medium fertility, medium mortality, medium inter-ethnic mobility and medium migration.

The projected mid-year 2011 population has been used. This is the same population that is used for all BSA quality and contract monitoring for the period July 2010 to June 2012.

The denominators for each ethnic group are also taken from the census and calculated from mid-year projected resident populations in each Lead Provider district, provided by Statistics New Zealand.

In the census it is possible to choose more than one ethnic group. Where more than one category has been chosen, priority is given to certain ethnic groups for the purposes of classification. Thus, if a woman chooses more than one category and one of these is Māori, she is counted as Māori.

Tables A1 and A2 below use the prioritised definition of ethnicity.

Table A1: Mid-year population projections 2011 by ethnicity, Lead Provider, 45–49 and 50–69 years

Age group (yrs)	BSWN	BSCM	BSAL	BSM	BSCtoC	BSC	BSSL	BSHC	BSA Total
Māori									
45–49	3,290	2,460	1,130	5,200	3,980	1,920	1,750	760	20,490
50–69	7,760	5,340	2,710	12,460	9,430	4,250	3,900	1,670	47,520
Total	11,050	7,800	3,840	17,660	13,410	6,170	5,650	2,430	68,010
Non-Māori									
45–49	24,570	16,020	15,480	19,810	16,035	16,055	26,645	10,230	144,845
50–69	72,990	44,100	40,780	68,380	56,120	47,255	86,675	33,990	450,290
Total	97,560	60,120	56,260	88,190	72,155	63,310	113,320	44,220	595,135

Table A2: Mid-year population projections 2011 by ethnicity, Lead Provider, and 5-year age group

Age group (yrs)	BSWN	BSCM	BSAL	BSM	BSCtoC	BSC	BSSL	BSHC	BSA Total
Māori									
45–49	3,290	2,460	1,130	5,200	3,980	1,920	1,750	760	20,490
50–54	2,950	1,960	1,010	4,590	3,400	1,680	1,470	630	17,690
55–59	2,070	1,520	760	3,500	2,620	1,170	1,030	430	13,100
60–64	1,650	1,140	580	2,610	2,020	880	830	370	10,080
65–69	1,090	720	360	1,760	1,390	520	570	240	6,650
Non-Māori									
45–49	24,570	16,020	15,480	19,810	16,035	16,055	26,645	10,230	144,845
50–54	22,320	14,030	13,350	19,430	16,120	14,525	25,605	10,215	135,595
55–59	18,880	11,600	11,240	17,700	14,635	12,405	22,825	8,950	118,235
60–64	17,770	10,400	9,400	17,240	14,205	11,540	21,760	8,435	110,750
65–69	14,020	8,070	6,790	14,010	11,160	8,785	16,485	6,390	85,710

APPENDIX B: 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, expressed as a percentage of the number screened.

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.