

BreastScreen Aotearoa

Independent Māori Monitoring Report 5

Second in new time series

Screening and Assessment July 2011 to June
2013

Ages 45 to 69 years

A report prepared by
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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 second 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) for women aged 50 to 69 years, 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 2011 to June 2013, while data on early detection are presented for the five-year period July 2008 to June 2013 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 July 2010 to June 2012.

Coverage

BSA screened 45,148 Māori women aged 45 to 69 years during the period July 2011 to June 2013, of whom 32,349 were aged between and 50 and 69 years.

Māori participation in breast screening continued to increase steadily from 63.5% in the previous biennium to 64.9% of women aged 50 to 69 years. Relative inequalities between Māori and non-Māori coverage continued to reduce (from 11% lower to 9% lower).

BreastScreen South Limited (BSSL) continued to exceed the target coverage of Māori women in each age group. BreastScreen Waitemata and North (BSWN) achieved the target for women and BreastScreen Counties Manukau (BSCM) came very close at 68%. Most other providers showed sustained increases, apart from BreastScreen Central (BSC) which showed a small decrease (65.6% to 62.7%). BreastScreen Midland (BSM) screened 57% of the eligible Māori population (increasing two percentage points). BreastScreen Coast to Coast (BSCtoC) screened 65%.¹

The proportion of Māori women rescreened within 27 months was 81% (target >85%). Some LPs showed a possible decreasing trend (BSWN, BSM, BSC).

Among Māori women aged 45 to 49 years, coverage increased from 61% to 63%, with non-Māori coverage at 73%. The proportion rescreened within 27 months was 75% (non-Māori 84%).

Screening and assessment quality

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

¹ Coverage is calculated as the number of women screened by a LP divided by the estimated eligible population. However, the women screened may not necessarily reside in the LP's region. The coverage reported by DHBs may provide a more accurate estimate of coverage for some LPs as it measures the participation of women residing in their districts. This issue does not apply to total BSA coverage.

The proportion of Māori women aged 50–69 years receiving four films or fewer when screened in a mobile unit was below target for BSCtoC (67%, target >80%), and for those screened in a fixed unit by BSCM (68%).

Technical recall targets were not met for Māori women screened in mobile units by BSAL (4.6%) or BSM (4.4%) (target <3%).

The referral rate and false positive rate for Māori women having an initial screen in BSWN continued to increase while BSCM improved in both indicators.

Early detection

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

For women aged 50 to 69 years having initial screens, the rate of referral to assessment was 25% higher for Māori women than for non-Māori women, specificity was similar, while the positive predictive value (ppv) was 25% higher and the cancer detection rate 56% higher (invasive cancer 50% higher).

For women having subsequent screens, the rate of referral to assessment was 7% higher for Māori than for non-Māori women, specificity was similar, while the ppv was 36% higher and the cancer detection rate 45% higher (invasive cancer 46% higher).

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

Among women aged 45 to 49 years, the proportion of screen detected cancers that were DCIS was twice as high for non-Māori as for Māori, and among those aged 50 to 69 years, the proportion was 40% higher for non-Māori women.

Appropriate and acceptable service

The target for each timeliness indicator was 90%. Almost all women (98%) were notified of their screening results within 10 working days, although BSHC showed a decreasing trend. The proportion receiving their needle biopsy within five working days of their first level assessment exceeded the target at 96%.

However there appears to be a decreasing trend in the proportion of women who were offered their first assessment appointment within 15 working days (77%), and there was no improvement in the percentage who received their final biopsy results within 5 working days (84%). The proportion of Māori women aged 50 to 69 years having their open biopsy within 20 working days remained low at 43% (56% of Māori women aged 45 to 49 years).

Summary

Coverage of Māori women continued to increase steadily but at a slower rate than previously and needs to accelerate to achieve the target value during the next five years. 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

Māori participation in breast screening has continued to increase steadily, but the focus needs to continue to reach the target of 70% in the next biennium. This could include consideration of Māori satisfaction, mobile placements and schedules, analysis and reporting by DHB, providing

opportunities for Lead Providers and Independent Service Providers to share their successful strategies. As the screening coverage of Māori women comes close to reaching the target level, LPs could consider how to achieve equitable rates of participation between Māori and non-Māori (beyond reaching the target). The higher incidence of breast cancer among Māori women underscores the importance of maximising participation.

Regular timely rescreening has the greatest mortality risk reduction. Timely receipt of assessment, definitive diagnostic procedures, and initiation of treatment are also important factors in achieving the greatest benefit from breast screening. Further investigation of Māori women's journeys through the screening pathway could help to identify barriers and facilitators to a smooth pathway through care. These may include factors at the system, organisation, practitioner/client interaction, and client levels. Methodologies such as the track and trace method may be useful.

The evident decrease in technical recall rates supports the move to digital technology. However, the increase in the proportion of Māori women having more than 4 films shows the need to continue monitoring this indicator.

Overall, BSA is continuing to move towards equitable screening outcomes for Māori and non-Māori women and could be promoted as an example of continuous equity improvement.

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 2011 to 30 June 2013, however some detection data is provided for the 5-year period 1 July 2008 to 30 June 2013 in order to maximise numbers and increase statistical precision. Indicators which cover the 5-year time period are:

- 2g.1 Benign biopsy weight
- 3c.1 The proportion of invasive cancers less than or equal to 15mm
- 3d The proportion of invasive cancers with no nodal involvement

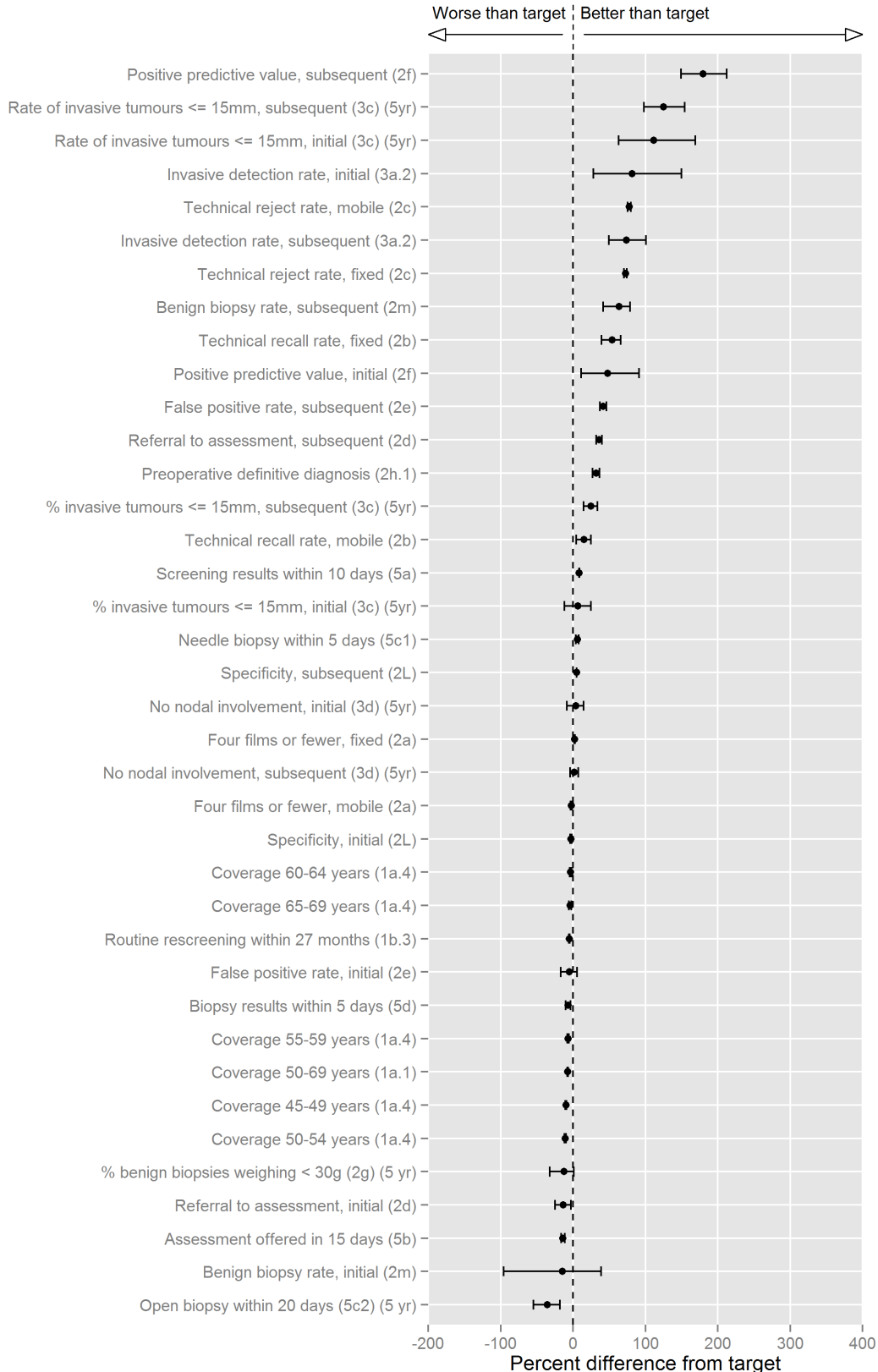
The data presented in the graphs shows the percentage difference of each indicator from the target value. The central line of the graph represents the target and all indicators with bars to the right of this line achieved or exceeded the target, those to the left did not achieve the target value, if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

Indicator 3e, the proportion of cancers that were DCIS, is not presented on the graphs because the target is a range of values. This indicator was within the target range for Māori in all Lead Providers.

In some cases an indicator is not presented on the graph if there is no relevant data (for example where there are no open biopsies). These omissions are noted beneath the graph.

Total BreastScreen Aotearoa

Figure i: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2011 to June 2013, 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 was maintained at 70%, although rescreening rates could improve. For women having their initial screen, the rate of referral for assessment appears a little high. Timely offers of assessment appointments could improve.

Coverage

Coverage was maintained at the target value of 70%, consistent across most age groups.

The proportion rescreened within 27 months was 80% (target >85%).

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 (17%) and the false positive rate (14%) continued to be outside the expected values, and specificity was below target (85%). Four women out of 386 who had an initial screen had a benign biopsy producing a rate of 10.4 per 1,000, but the target of ≤ 3.5 was within the confidence interval. The positive predictive value and invasive cancer detection rate were above target.

Early detection

The proportion and rates of invasive cancers that were 15mm or less, or without nodal involvement met or exceeded the target values, as did the proportion of screen-detected cancers that were DCIS.

Appropriate and acceptable service

The target values of 90% 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 (79%) and the proportion receiving their open biopsy within 20 working days (33%, comprising 2 out of 6 women in the five year period).

The proportion of women receiving their final diagnostic biopsy results within 5 working days increased to 89% (on target).

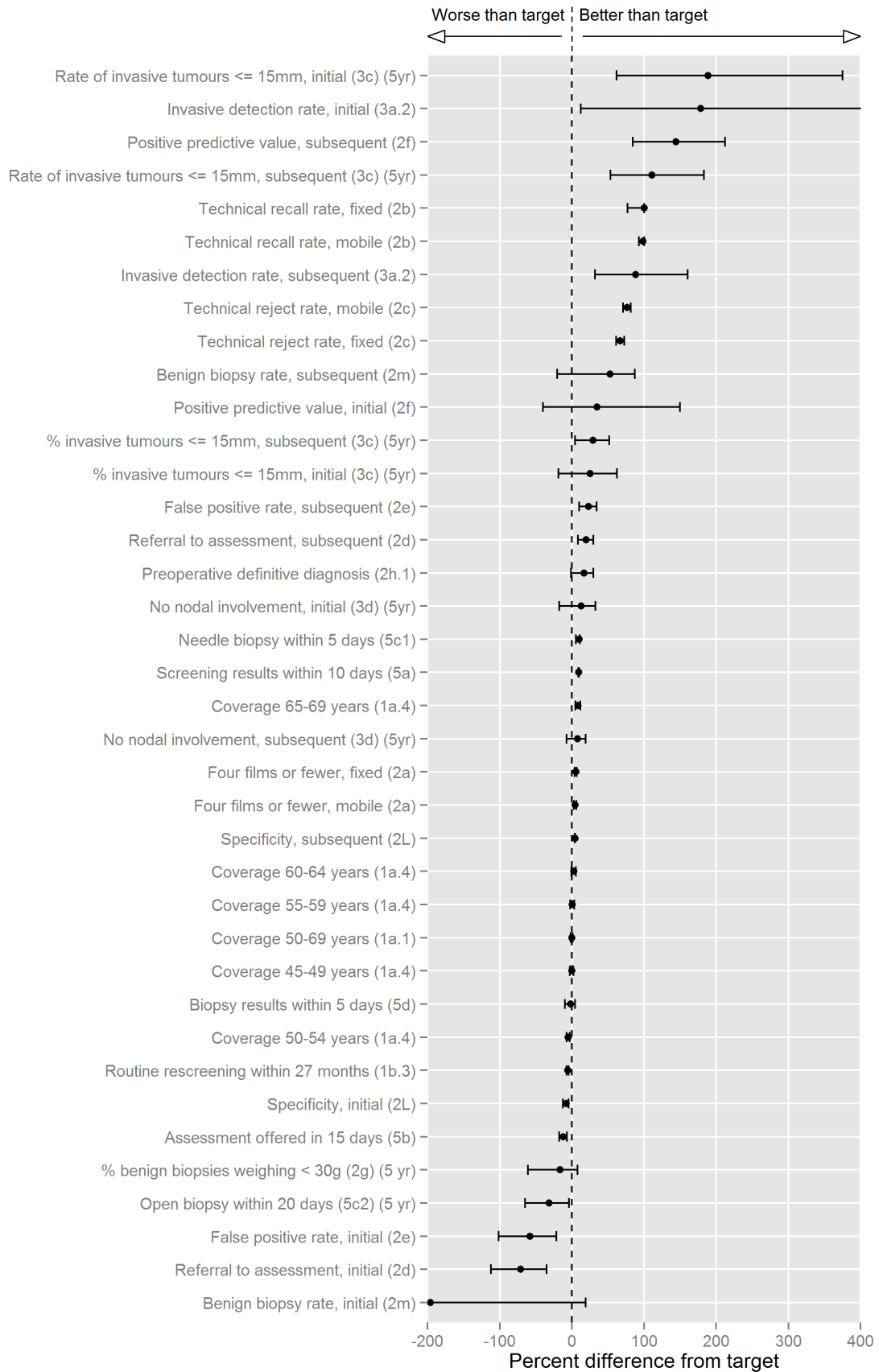
In summary:

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

Indicators not reaching target values included

- the proportion rescreened within 27 months
- referral rate (possibly trending up), false positive rate and specificity for initial screens
- the proportions receiving their first offer of assessment appointment within 15 working days, and open biopsy within 20 working days.

Figure ii: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2011 to June 2013, 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 was maintained at 68% and was close to 70% across most age groups. The proportion of eligible Māori women who were rescreened within 27 months remained under target at 75% (target 85%).

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. Targets were also met for the preoperative diagnosis rate and the benign biopsy rates.

The proportion of Māori women having four films or fewer did not meet the 80% target in fixed sites (68%) or mobile units (75%).

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 and false positive rate had improved since the previous report and the target values were within the confidence interval. The positive predictive value and invasive detection rate met the target values.

Early detection

Targets were met for Māori women for the proportions of invasive cancers ≤ 15 mm in diameter, the proportions without nodal involvement detected from initial and subsequent screens, and the percentage of all 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 open biopsy within 20 working days (3 open biopsies were conducted), and the timely receipt of final diagnostic biopsy results.

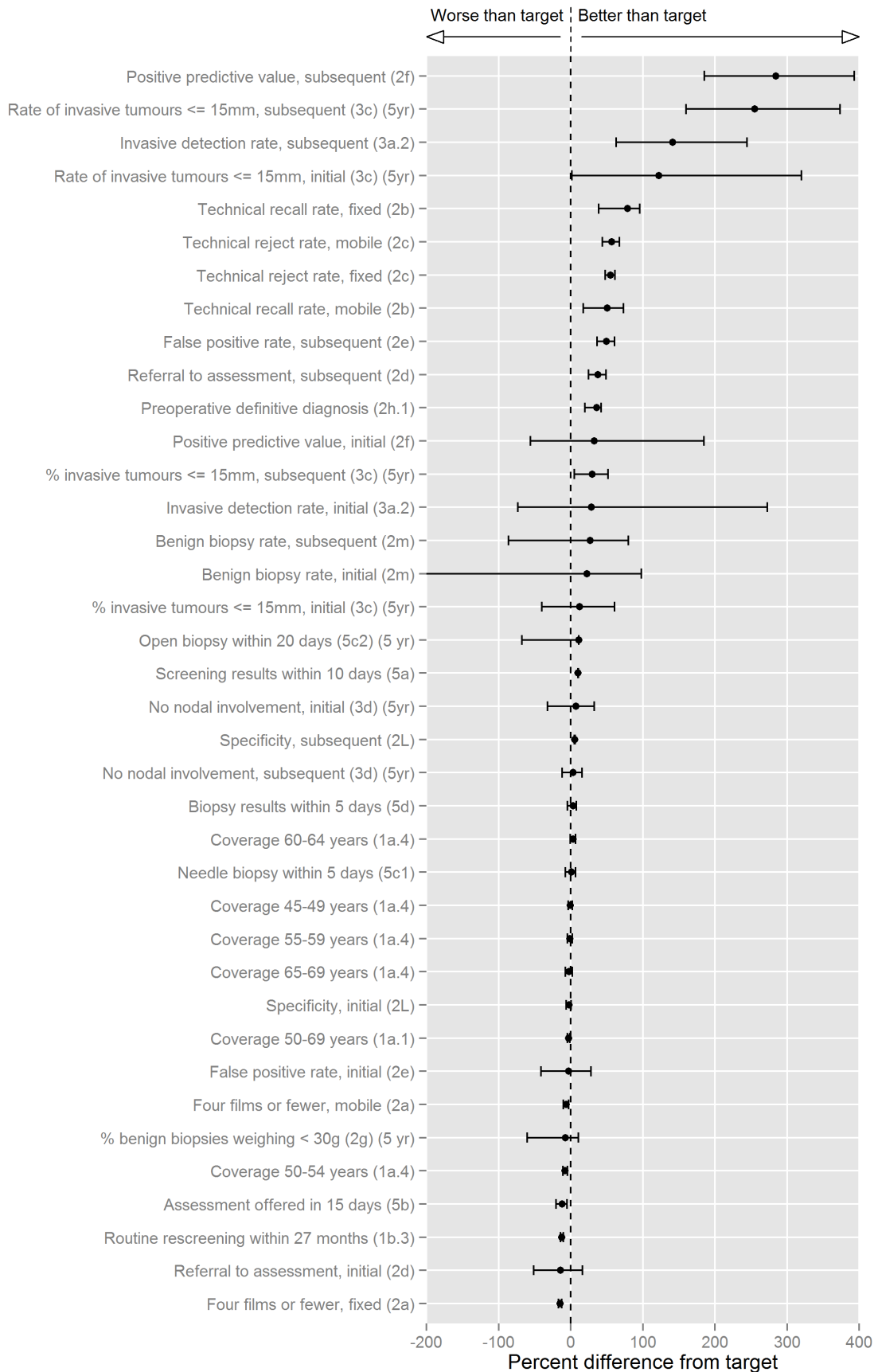
The indicator for time taken from screening to first offer of assessment was not met (79%, target value 90%).

In summary, BSCM met or exceeded the target values for most screening and assessment quality, early detection and timeliness targets. The coverage of Māori women remained very close to target in most age groups, and reached 70% for women aged 45-49 years and 60-64 years.

Targets were not met for:

- Rescreening which remained static at 75%.
- The proportion of women having 4 films or fewer in fixed sites (340 more Māori women required to reach the target) and mobile units (47 more required).
- The timely first offer of assessment. The target would have been reached if 16 more women had received their first offer within 15 working days of screening.

Figure iii: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2011 to June 2013, BSCM



BreastScreen Auckland Limited

BSAL met the target values for most indicators for Māori women aged 50 to 69 years apart from coverage, technical recall in mobile units, and timely offer of first assessment.

Coverage

Coverage of Māori women aged 50 to 69 years continued to improve, reaching 65% (target 70%). There was slightly higher coverage in the younger age groups.

The proportion rescreened within 27 months was on target at 85%.

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 at fixed sites, rejected films, the pre-operative diagnosis rate, the benign open biopsy rate, and the proportion of benign open biopsies weighing <30g.

The target was not met for the percentage of Māori women screened at mobile sites who were recalled for technical reasons (4.6%, target <3%). This may be an upward trend.

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 15mm or less, or with no nodal involvement were above target, and the percentage of screen detected cancers that were DCIS was within the target range.

Only 6 invasive cancers were diagnosed from initial screens over the five years, one of which was 15mm or less (target within the confidence interval). Four had no nodal involvement (on target).

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 was within the confidence interval for the time taken from final diagnostic biopsy to reporting assessment results. There were no open biopsies among Māori women in this biennium.

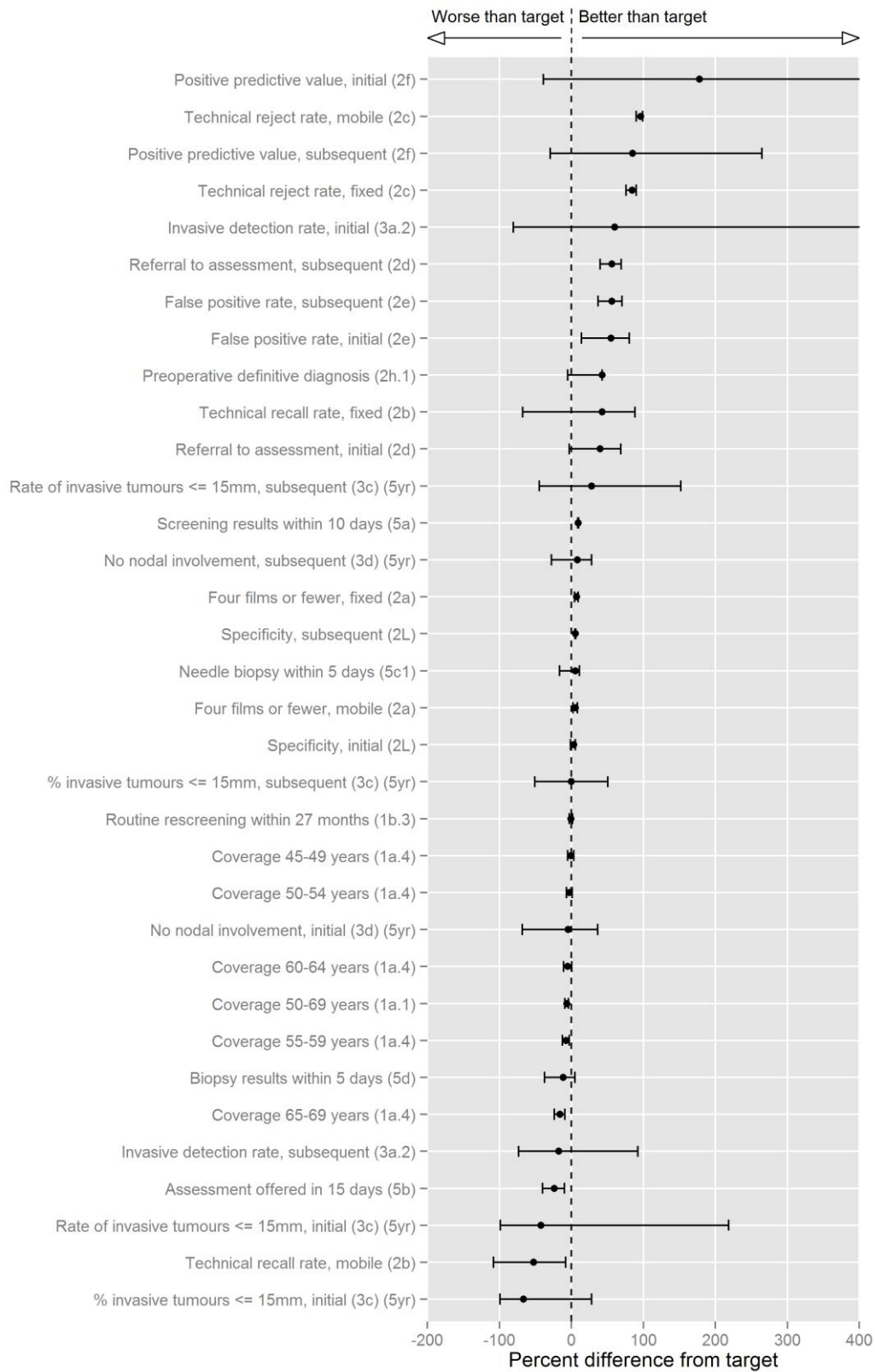
The proportion of Māori women offered their first assessment appointment within 15 working days was 69% (below 90% target) but the trend is increasing.

In summary:

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

Indicators below target include coverage (in each age group), technical recall in mobile units, 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.

Figure iv: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2011 to June 2013, BSAL



No Māori women had open biopsies during this biennium. Therefore indicators 2m (benign open biopsy rates) and 5c2 (open biopsy in 20 days) do not appear in this figure.

BreastScreen Midland

The BreastScreen Midland (BSM) region includes a quarter 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, some timeliness indicators, and the technical recall rate in mobile units.

Coverage

Participation of Māori women aged 50 to 69 years increased two percentage points from 55% in the biennium ending mid-2012 to 57% during this biennium. This was 13% lower than the non-Māori participation rate in BSM. Coverage increased with age, but did not exceed 60% in any age group.

The proportion of Māori women aged 50 to 69 years who were rescreened within 27 months was 74% (below 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 quite met for the proportions of women having four films or fewer (77%, target >80%), or technical recalls (4.4%, target <3%), but was met for rejected films.

The targets for pre-operative definitive diagnosis, benign biopsy rates, and benign biopsies weighing less than 30g were met or were within the confidence interval.

For women having initial or subsequent screens the targets were met for referrals to assessment, false positives, positive predictive value, specificity of subsequent screens, and the invasive detection rate. Specificity of initial screens was slightly under target (90%, target >93%).

Early detection

For both initial and subsequent screens, the target values were met or exceeded for the proportion and rates of invasive cancers, ≤ 15 mm, and without nodal involvement. The proportion of screen-detected cancers that were DCIS was within the target range.

Appropriate and acceptable service

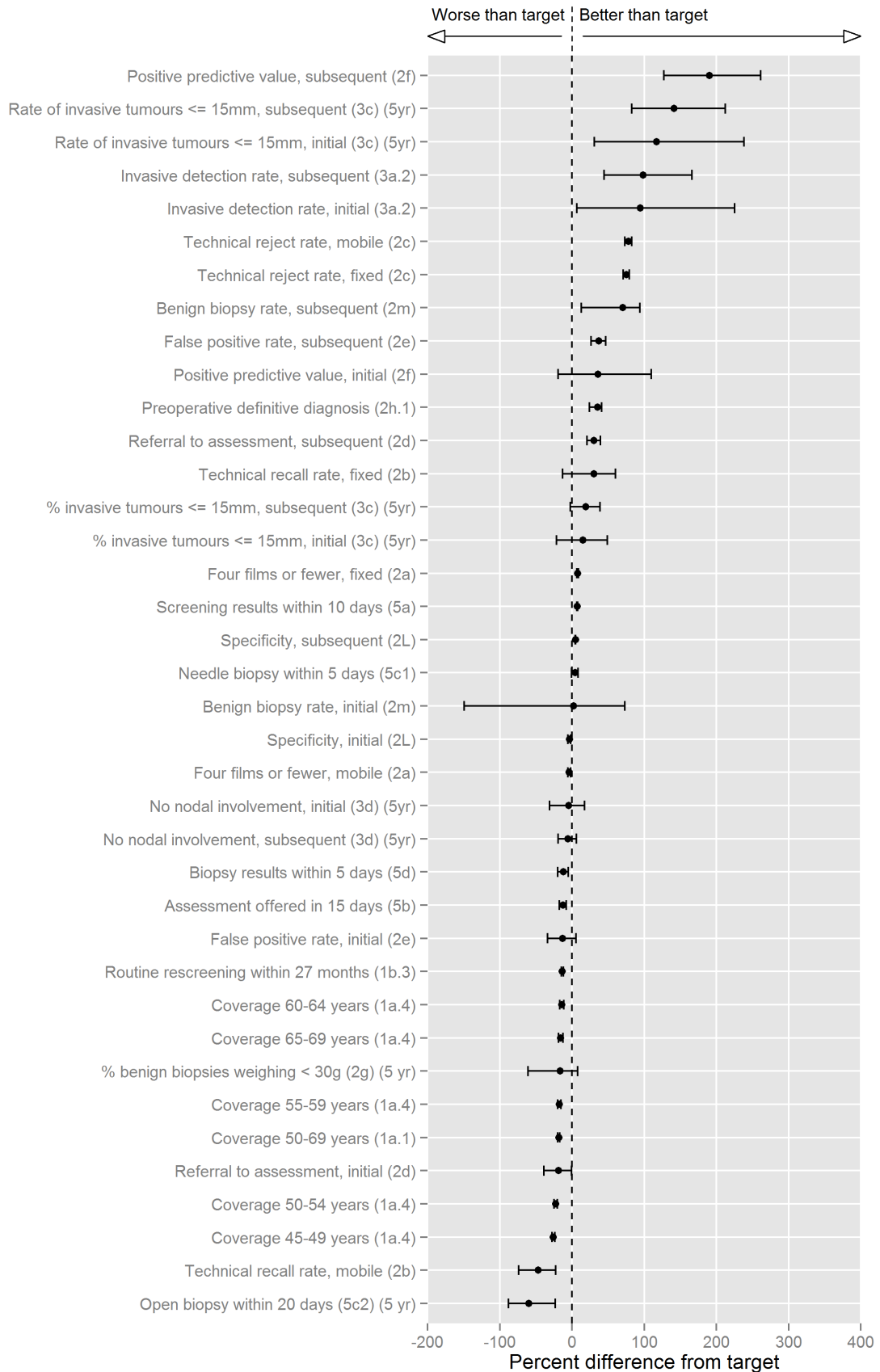
The targets were met for indicators of timely receipt of screening results, and needle biopsies, but not for time to first offer of assessment, time to receipt of open biopsy procedure, or time to receipt of biopsy results. Some of these may be trending down.

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:

- Proportion having four films or fewer in mobile units (77%, target >80%)
- Technical recall rate in mobile units (4.4%, target <3%)
- Percentage offered first assessment appointment in 15 working days (79%, target 90%)
- Percentage receiving open biopsy within 20 working days (27%, target 90%)
- Percentage receiving final diagnostic biopsy results within 5 working days (79%, 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 2011 to June 2013, BSM



BreastScreen Coast to Coast

BreastScreen Coast to Coast (BSCtoC) includes the second largest proportion of the eligible Māori population (19%). BSCtoC met the target values for most indicators for Māori women aged 50 to 69 years apart from coverage (which continued to increase), the proportion receiving 4 films or fewer in mobile units, and some of timeliness indicators.

Coverage

Coverage of Māori women aged 50 to 69 years was 65% in this biennium, continuing to show a sustained increasing trend. Inequalities continued to decrease to 13% lower coverage of Māori compared to non-Māori. Māori participation increased with age, ranging from 63% of women aged 50 to 54 to 69% of women aged 65 to 69 years.

At 87%, BSCtoC exceeded the target of 85% for the proportion returning for a routine re-screen within 27 months (a level that has been consistently maintained).

Screening and assessment quality

The target values were met for Māori women for the technical recall rate, rejected films, the pre-operative definitive diagnosis rate, the proportion of women having 4 films or fewer in fixed units, and the proportion of open biopsies weighing less than 30g. Only 66.5% of women screened in mobile units had 4 films or fewer (target >80%) – this has not changed since the previous report.

Among Māori women having a subsequent or initial screen, target values were met or were within the confidence interval 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 or were within the confidence interval for the proportion and rate of invasive cancers $\leq 15\text{mm}$ and invasive cancers without nodal involvement. The proportion of all cancers that were DCIS was also within the target range.

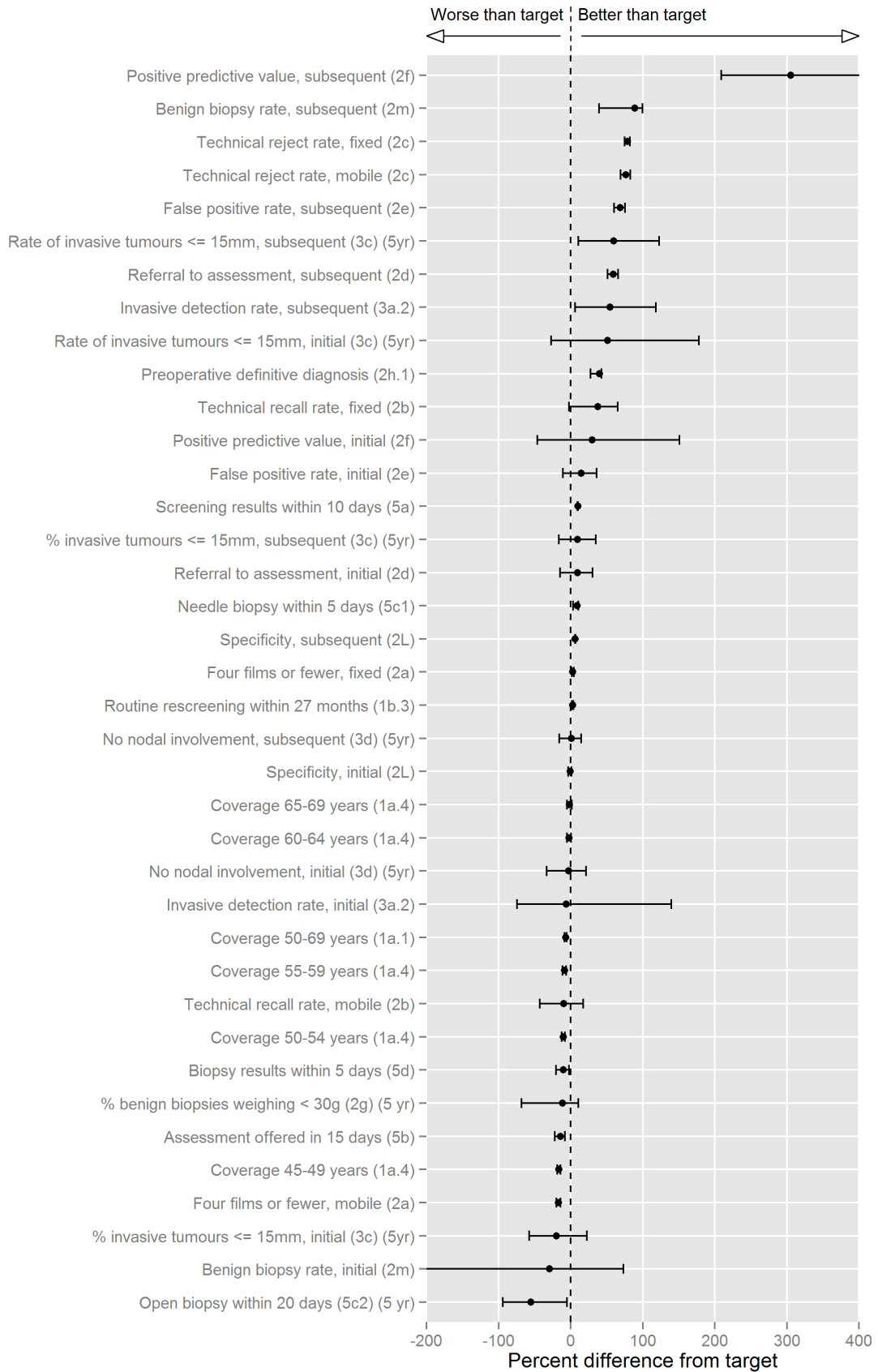
Appropriate and acceptable service

Target values (90%) were met for the timely notification of screening results and the timely receipt of needle biopsy. Indicators that didn't meet the target included the percentage offered their first assessment appointment within 15 working days (77%), and the percentage receiving biopsy results within 5 days (81%). Neither of the two women who had an open biopsy received it within 20 working days.

In summary: BSC met the target values for Māori women aged 50 to 69 years for most screening and assessment quality indicators, all early detection indicators and some of the timeliness indicators. The rescreening target was also met, and coverage in those aged 60 years and over.

Indicators for which the targets were not met included: the proportion in mobile units having 4 films or fewer; the proportions offered assessment within 15 working days; timely receipt of biopsy results; open biopsy within 20 working days; and coverage. Coverage steadily increased, but needs to accelerate. More focus on increasing coverage in the younger age groups may help to lift the overall coverage.

Figure vi: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2011 to June 2013, BSCtoC



BreastScreen Central

BreastScreen Central (BSC) met or exceeded the targets for Māori women aged 50 to 69 years for most indicators, apart from coverage and the percentage who received their biopsy results within five working days.

Coverage

After trending up, coverage of Māori women aged 50 to 69 years appears to have decreased during this biennium from 66% to 63%. The proportion of screens that were initial continued to decline.

The proportion rescreened within 27 months was 80%, showing a possible decreasing trend.

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, the preoperative diagnosis rate, and the proportion of benign open biopsies weighing less than 30 grams.

For Māori women having a subsequent or initial 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.

Early detection

For Māori women having initial or subsequent screens, the target was met or was within the confidence interval for the proportions and rates of invasive cancers that were ≤ 15 mm in diameter, without nodal involvement and the proportion of all cancers that were DCIS.

Appropriate and acceptable service

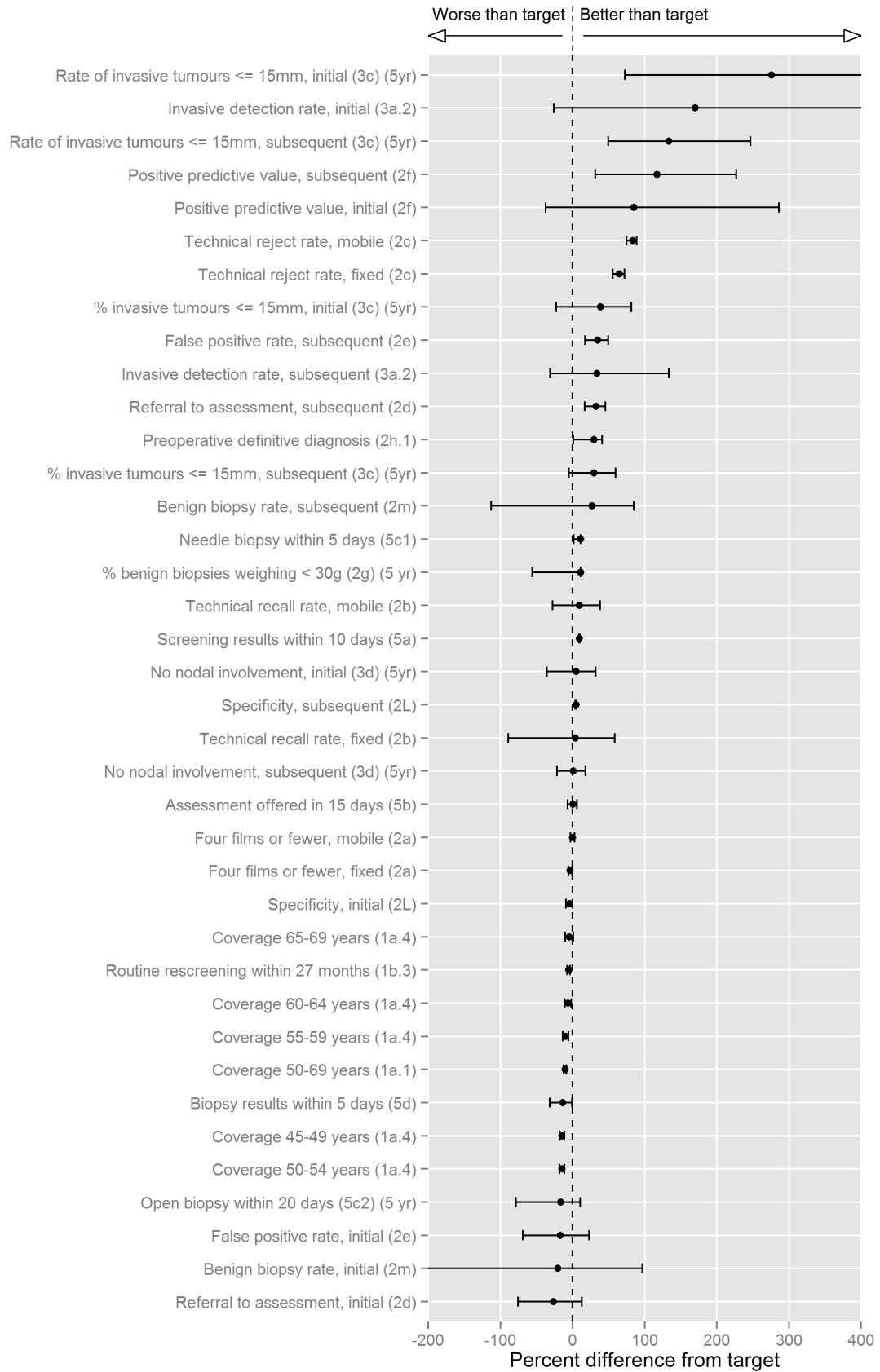
The target value of 90% was met for the timely receipt of screening results, offer of a first assessment appointment, and receipt of needle biopsy within five days. The target was within the confidence interval for the indicator on time to receipt of open biopsy (2 out of 4 open biopsies were received within 20 working days).

The proportion who received their biopsy results within 5 days was under target at 78%, showing a possible declining trend. There were 9 Māori women who didn't receive their results within 5 days. Only 5 more were needed to reach the 90% target.

In summary: Coverage of Māori women did not continue to increase during this period and appears to have stalled at 63%.

For all other indicators, apart from the timely receipt of biopsy results, 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 2011 to June 2013, BSC



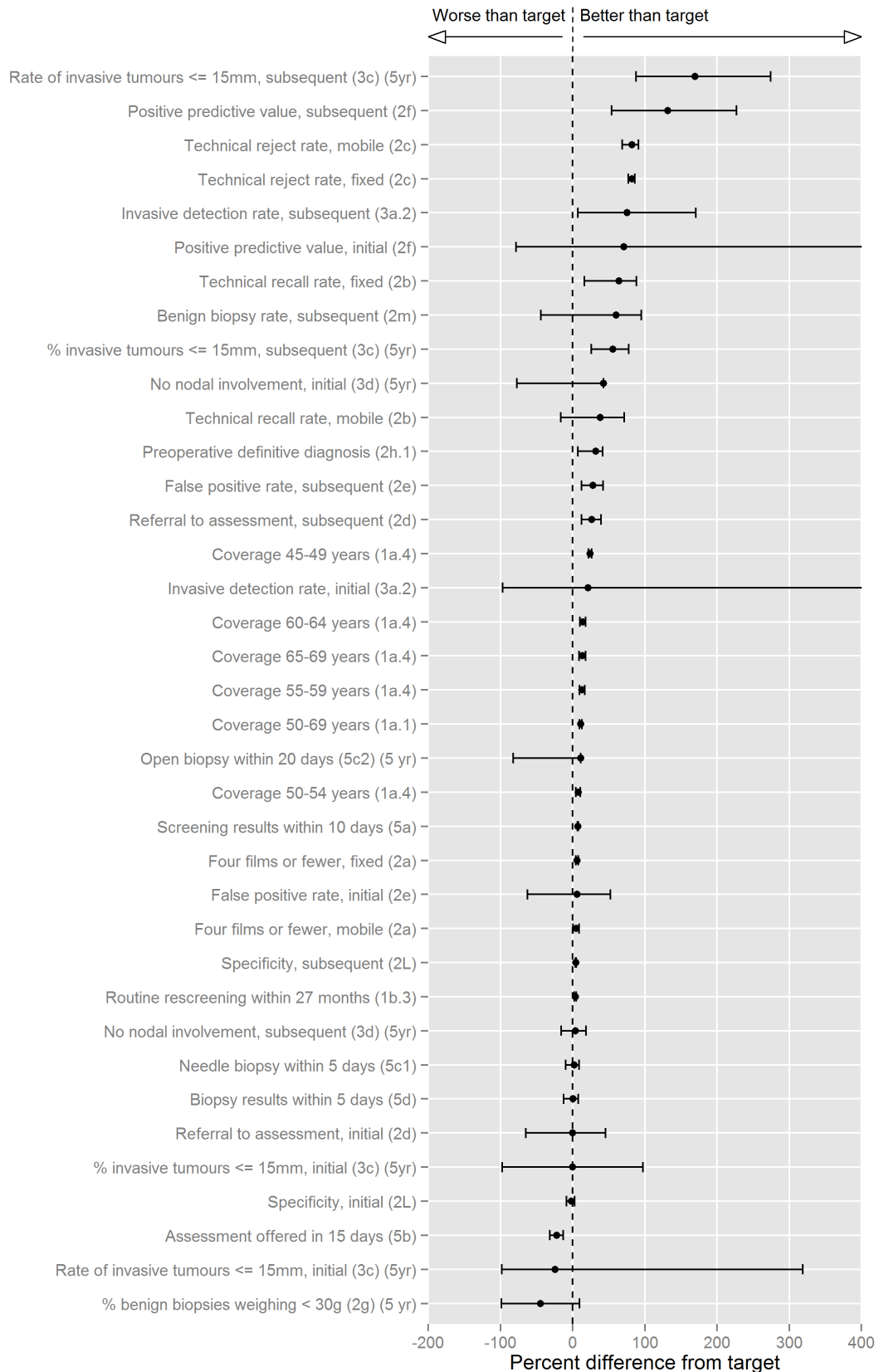
BreastScreen South Limited

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 ongoing challenges resulting from the Canterbury earthquakes.

The only indicator that was below the target value was the percentage of women offered their first assessment appointment within 15 working days (70%, target 90%). This indicator continued to show a declining trend.

There were only three benign open biopsies among Māori women during the five years July 2008 to June 2013, two of which weighed less than 30g.

Figure viii: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2011 to June 2013, BSSL



There were no benign open biopsies among Māori women having an initial screen during this biennium, so indicator 2m (initial screen) does not appear in this figure.

BreastScreen Health Care

BreastScreen Health Care (BSHC) met the target values for Māori women aged 50 to 69 years for the majority of indicators. Coverage is increasing but remains relatively low compared to non-Māori. Some timeliness indicators were well below target.

Coverage

The coverage of Māori women aged 50 to 69 years is trending upwards in BSHC and reached 61% (target 70%). The gap has narrowed but Māori coverage is still 20% below that of non-Māori (26% lower in previous report). Participation in breast screening increased in each 5-year age group from the previous biennium. The proportion of Māori women rescreened within 27 months was 87% (target >85%).

Screening and assessment quality

The target value or expected value was met or exceeded 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 two year period.

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

There were only 86 initial screens among Māori women aged 50 to 69 during the two years with only six women referred for assessment, among whom two women had cancers detected. All screening and assessment indicators for initial screens met the targets.

Early detection

During the five year period July 2008 to June 2013, 10 Māori women were diagnosed with invasive breast cancer from subsequent screens and 3 from initial screens. The targets were met or were within the confidence interval for the indicators on invasive cancers that were 15mm or less, or without nodal involvement for both initial and subsequent screens. The proportion of all screen-detected cancers that were DCIS was also within the target range

Appropriate and acceptable service

BSHC met the targets for the time from first level assessment to needle biopsy. There were no open biopsies. The percentage of women notified of their screening results within 10 working days was just under target at 87% (target 90%).

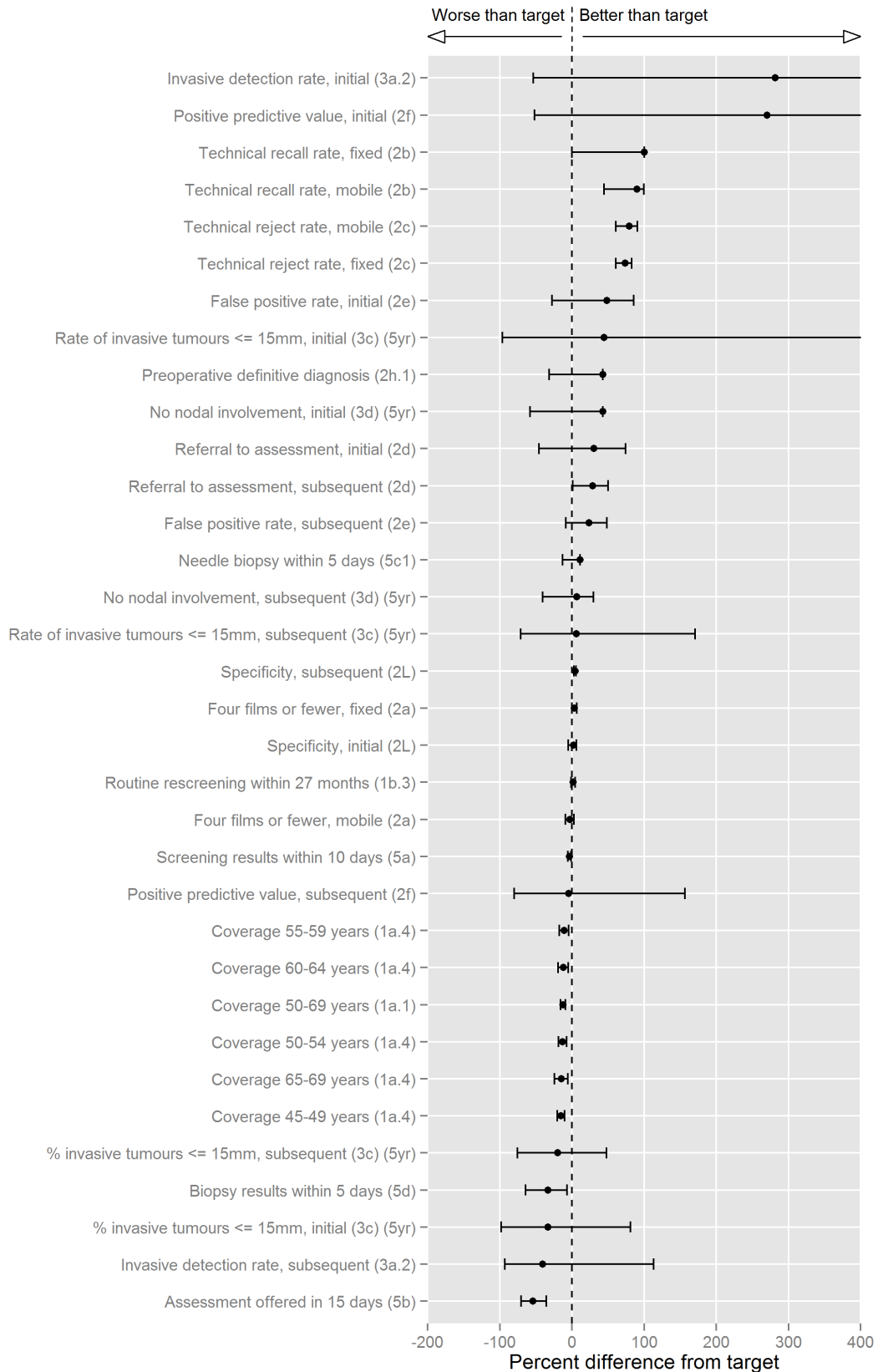
Only 42% of Māori women were offered a first assessment appointment within 15 working days (target 90%), and 60% received their final diagnostic biopsy results within 5 working days (target 90%).

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, and half of the acceptability (timeliness) indicators.

Indicators significantly below the target value included the proportion offered their first assessment appointment in 15 working days, (which has remained static over recent biennia), the proportion receiving their biopsy diagnostic results in a timely manner, and coverage in each age group.

Figure ix: Indicators above and below target for Māori women aged 50 to 69 years, screened during July 2011 to June 2013, BSHC



No Māori women had benign open biopsies during this biennium. Therefore indicators 2m and 5c2 do not appear in this figure.

INTRODUCTION

This Screening and Assessment report is the second 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 women screened during the two-year period July 2011 to June 2013, while early cancer detection indicators are presented for the five-year period July 2008 to June 2013 due to the smaller numbers involved. Treatment indicators are reported in an accompanying Treatment report for the period July 2007 to June 2012.

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 possible².

Disparities in breast cancer outcomes between Māori and non-Māori women are substantial. During the years 2005 to 2007 the breast cancer registration rate for Māori women aged 50 to 64 years was 66% higher than that of non-Māori women, while the breast cancer mortality rate was 84% higher³. During the period 2000–2004, New Zealand Cancer Registry data shows that Māori women were significantly less likely than non-Māori to be diagnosed at localised stage and more likely to be diagnosed at distant stage of disease spread.⁴ Earlier diagnosis, prompt follow-up and timely treatment of breast cancers among Māori women could contribute substantially to reduced disparities in breast cancer outcomes.

BreastScreen Aotearoa plays a vital role in 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.⁵

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

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

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

³ Ministry of Health. 2011. *Tatau Kura Tangata: Health of Older Maori Chartbook 2011*. Wellington: Ministry of Health.

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

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

BACKGROUND

BreastScreen Aotearoa⁶

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

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

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

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

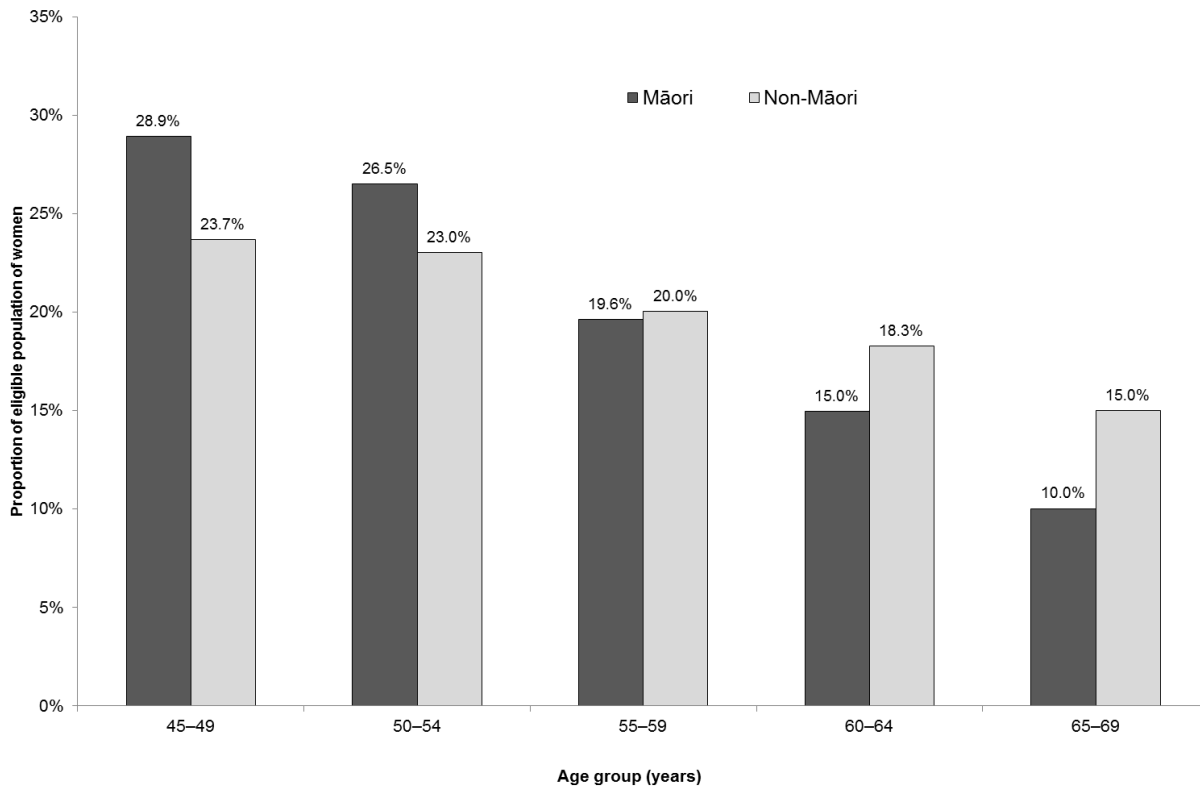
Age extension

Since 1999, BSA has offered free mammography screening for all eligible women aged 50–64 years. The age range of women screened by BSA was extended in June 2004 to include the age groups 45–49 years and 65–69 years. Following this extension, a prioritisation system was put into place. Providers needed to screen in the following order: rescreens, 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.

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

Figure x: Age distribution of Māori and non-Māori eligible populations, 2012



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).

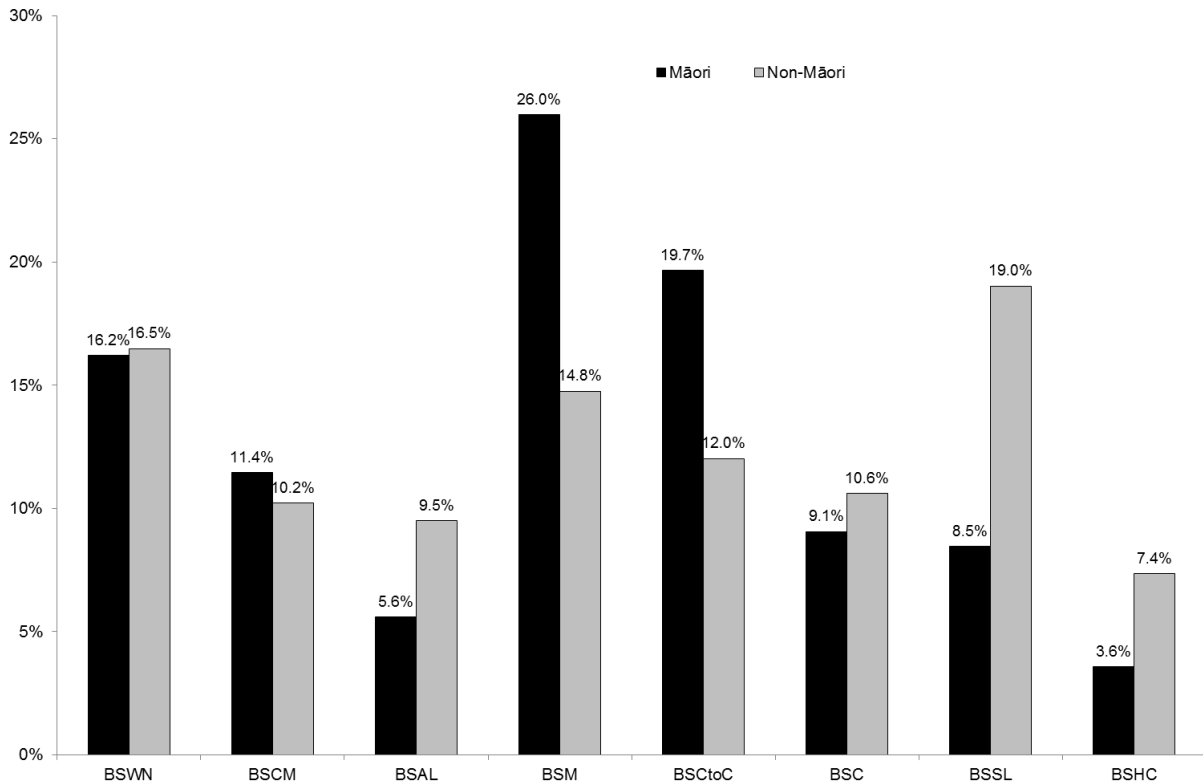
Changes to Lead Providers:

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

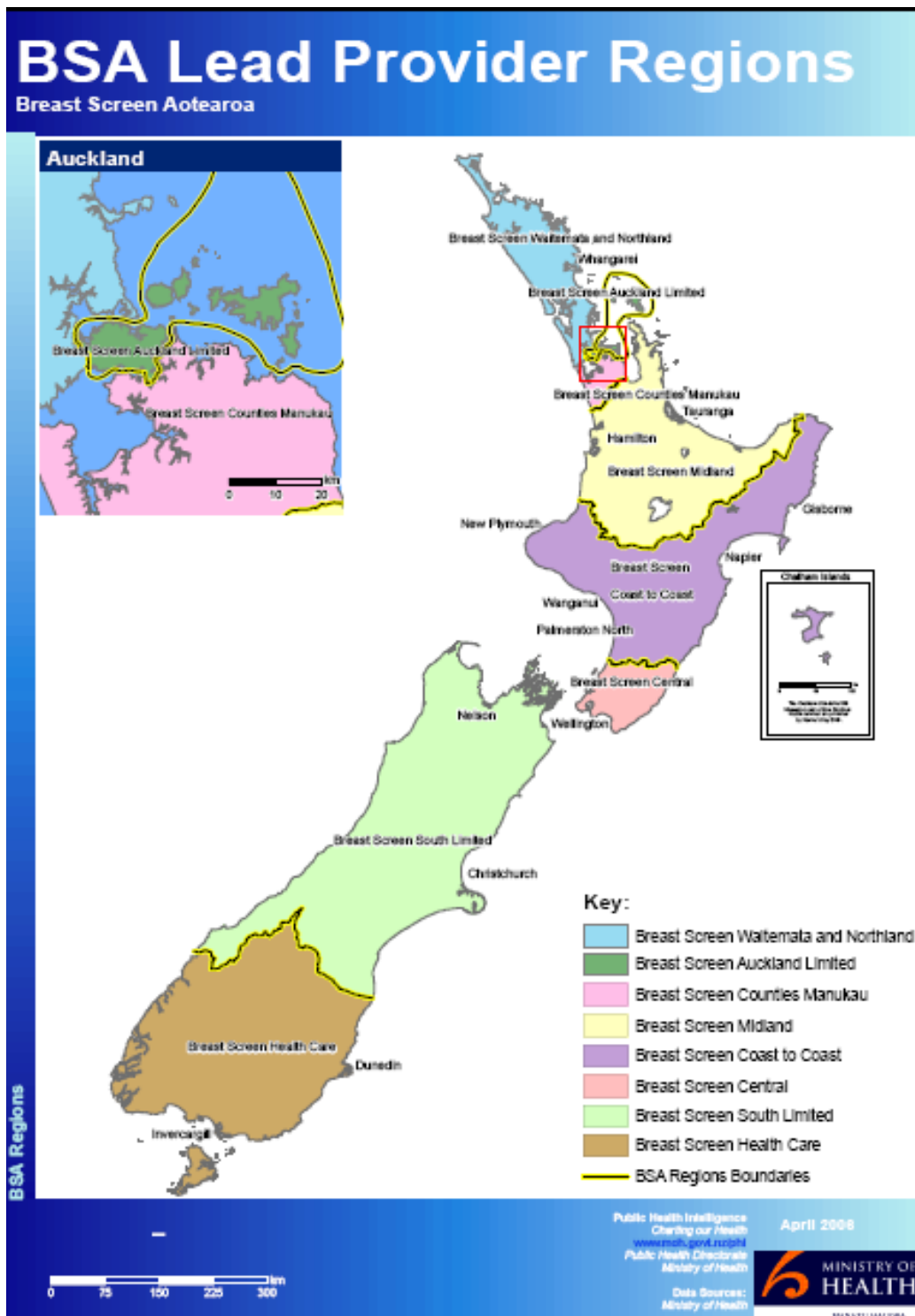
Figure xi: Distribution of Māori and non-Māori women aged 45–69 years by Lead Provider region, 2012



Source: Statistics NZ Population Projections mid-year 2012 (provided by NSU)

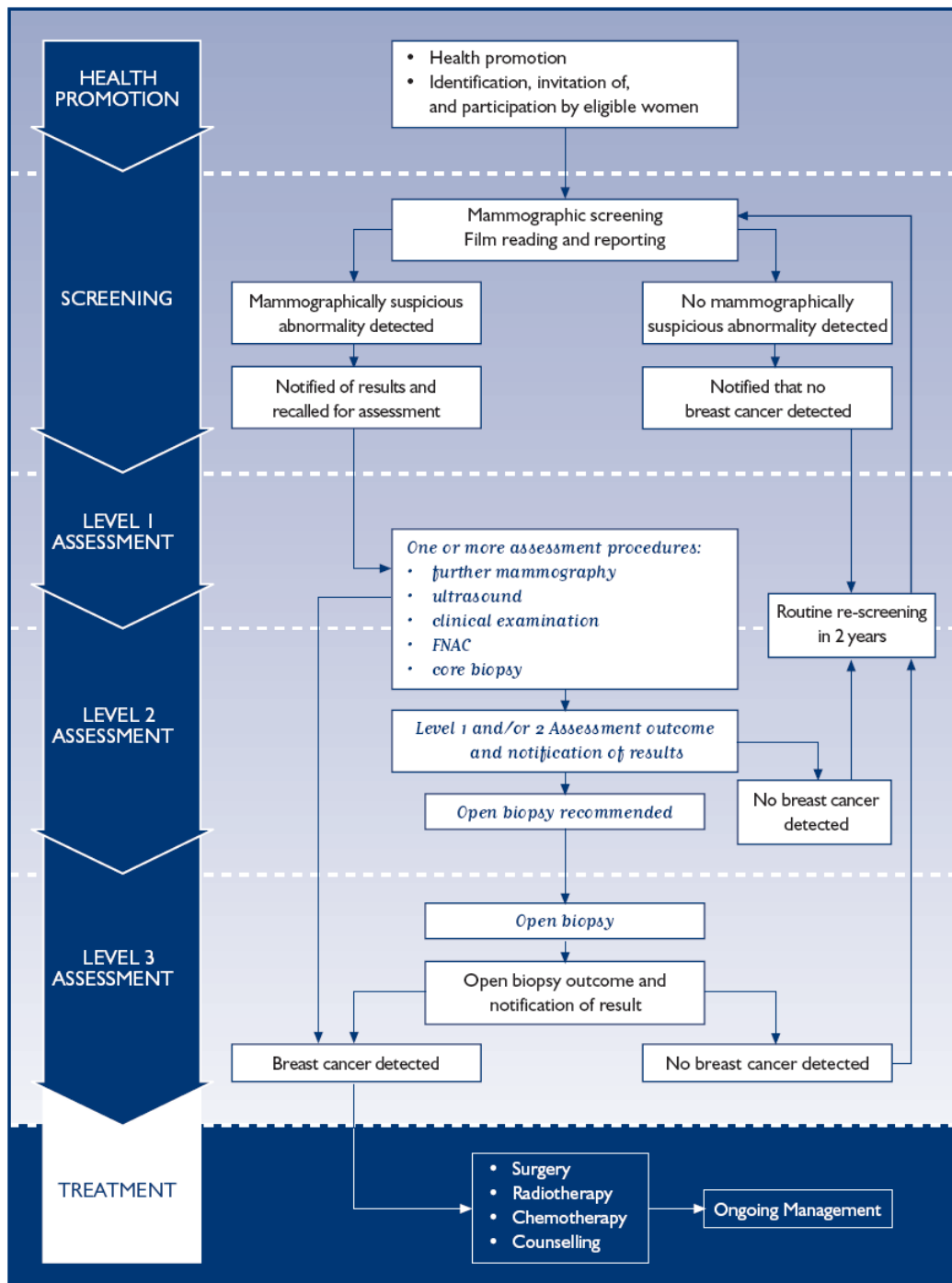
Figure xi shows the national distribution of Māori and non-Māori women aged 45–69 years in the regions covered by each Lead Provider. This is the potential population for BreastScreen Aotearoa, and does not necessarily reflect the numbers enrolled in a provider. It is important to recognise the regions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

Figure xii: Map of BSA Lead Provider Regions



The Breast Screening pathway⁷

Figure xiii: The Breast Screening Pathway



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

BSA monitoring process

This section describes the process used to produce the 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 Whātua, 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 Māmoe, 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 Māmoe, 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 collected from the most recent screening episode, apart from the re-screening indicator. This means that some women who were coded as non-Māori in a previous report may be classified as Māori in this report. For example, in the data extracted for this report, there were approximately 300 more women coded as Māori who were classified as non-Māori in the previous report.

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 2013 shows the indicator value for the 2-year period ending 30 June 2013.

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.

The trend lines are recalculated from the new data extractions for each new report. This means the trends for earlier years may look different to those presented in previous reports.

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 2012 projected population was used. This is the same population that is used for all BSA quality and contract monitoring for the period July 2011 to June 2013. 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 distribution⁸. 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.

Cancer detection indicators

The rates of cancers detected are calculated as the number of cancers *per 1,000 screens* during the two-year or five-year period, rather than the number of cancers *per 1,000 women screened*. As some women have more than one screen within a two-year or five-year period, the rate is slightly lower than would be reported if calculated from the most recent screen only for each woman.

Changes to indicator calculations

Since the previous report, minor changes have been made to the way data is extracted or calculated for the following indicators:

- 1b3 Routine rescreening
- 3e Proportion of screen detected cancers that are DCIS

In addition, indicator 3b, the proportion and rate of invasive cancers $\leq 10\text{mm}$, is no longer reported.

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

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

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

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)⁹

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.

⁹ 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 2011 to June 2013)

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	2,246	17,449	3,220	24,600	69.8 (68.1, 71.3)	70.9 (70.4, 71.5)	0.98 (0.96, 1.01)
BSCM	1,704	11,556	2,450	16,130	69.6 (67.7, 71.4)	71.6 (70.9, 72.3)	0.97 (0.94, 0.998)
BSAL	756	10,717	1,090	15,500	69.4 (66.5, 72.1)	69.1 (68.4, 69.9)	1.00 (0.96, 1.05)
BSM	2,691	12,529	5,190	19,360	51.8 (50.5, 53.2)	64.7 (64.0, 65.4)	0.80 (0.78, 0.82)
BSCtoC	2,300	11,109	3,930	15,440	58.5 (57.0, 60.1)	71.9 (71.2, 72.7)	0.81 (0.79, 0.84)
BSC	1,125	10,506	1,880	16,020	59.8 (57.6, 62.1)	65.6 (64.8, 66.3)	0.91 (0.88, 0.95)
BSSL	1,520	22,877	1,750	26,230	86.9 (85.2, 88.4)	87.2 (86.8, 87.6)	1.00 (0.98, 1.02)
BSHC	457	6,989	770	9,895	59.4 (55.8, 62.8)	70.6 (69.7, 71.5)	0.84 (0.79, 0.89)
BSA Total	12,799	103,732	20,280	143,175	63.1 (62.4, 63.8)	72.5 (72.2, 72.7)	0.87 (0.86, 0.88)
50–69 years							
BSWN	5,697	51,291	8,150	75,050	69.9 (68.9, 70.9)	68.3 (68.0, 68.7)	1.02 (1.01, 1.04)
BSCM	3,795	30,921	5,580	45,690	68.0 (66.8, 69.2)	67.7 (67.2, 68.1)	1.01 (0.99, 1.02)
BSAL	1,852	28,797	2,830	41,970	65.4 (63.7, 67.2)	68.6 (68.2, 69.1)	0.95 (0.93, 0.98)
BSM	7,445	45,962	13,030	69,910	57.1 (56.3, 58.0)	65.7 (65.4, 66.1)	0.87 (0.86, 0.88)
BSCtoC	6,422	42,862	9,860	57,260	65.1 (64.2, 66.1)	74.9 (74.5, 75.2)	0.87 (0.86, 0.88)
BSC	2,809	33,617	4,480	48,165	62.7 (61.3, 64.1)	69.8 (69.4, 70.2)	0.90 (0.88, 0.92)
BSSL	3,264	70,431	4,190	88,755	77.9 (76.6, 79.1)	79.4 (79.1, 79.6)	0.98 (0.97, 0.998)
BSHC	1,065	26,317	1,740	34,585	61.2 (58.9, 63.5)	76.1 (75.6, 76.5)	0.80 (0.77, 0.84)
BSA Total	32,349	330,198	49,860	461,385	64.9 (64.5, 65.3)	71.6 (71.4, 71.7)	0.91 (0.90, 0.91)

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%. Coverage is the number of women screened by the LP divided by the estimated population of that region but it is important to note that the women screened may not necessarily reside in the region.

* Eligible population is based on the mid-year 2012 projected population

The overall coverage of Māori women aged 50–69 years continued to increase steadily, reaching 64.9% in the July 2011–June 2013 period. The gap between Māori and non-Māori closed from 11% to 9% lower. BSSL continued to exceed the target of 70% for Māori women in this age group at 78%. BSWN maintained target coverage and BSCM stayed steady at 68%. Coverage increased in BSAL (from 60.3% to 65.4%), BSM (55.2% to 57.1%) and BSHC (54.7% to 61.2%).

For women aged 45–49 years overall BSA coverage increased from 61% to 63% for Māori and from 71% to 73% for non-Māori. BSSL achieved 87% coverage of Māori women in this age group. In the BSM region Māori coverage in this age group increased from 48% to 52%, compared to an increase from 62% to 65% for non-Māori women.

Figure 1a.1a: Trends in biennial coverage for Māori women aged 45–49 years July 2006 to June 2013

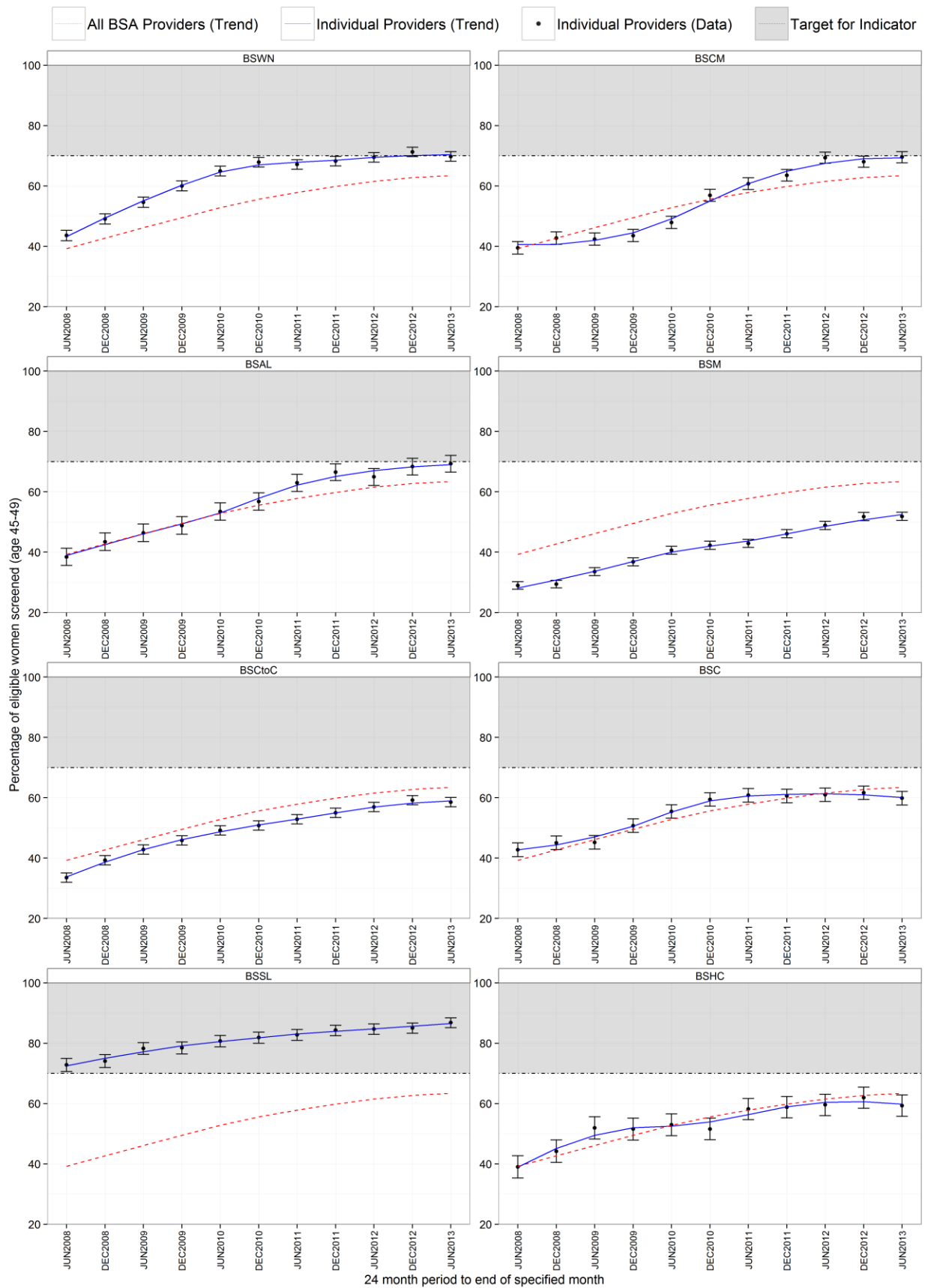
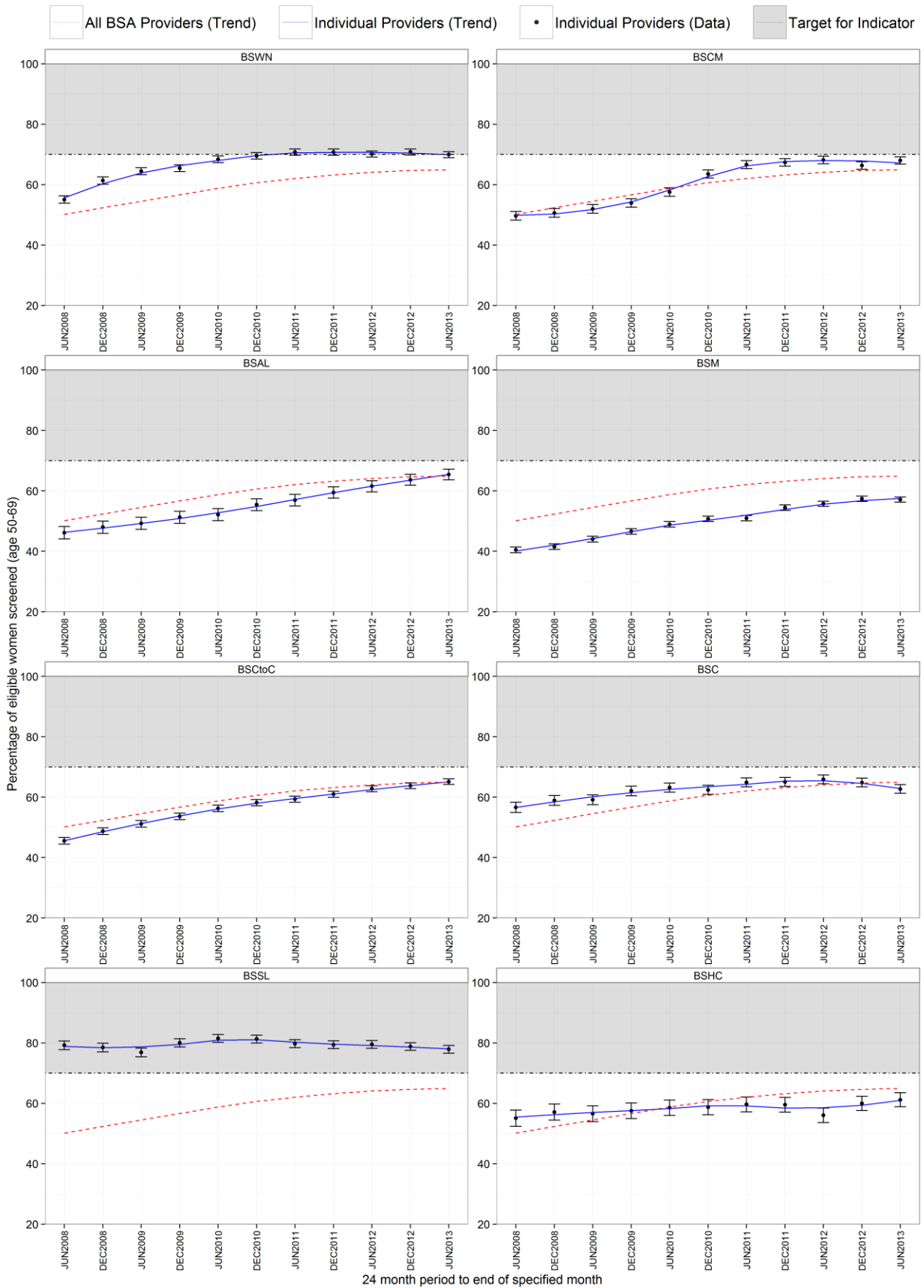


Figure 1a.1b: Trends in biennial coverage for Māori women aged 50–69 years July 2006 to June 2013



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 2011 to June 2013), 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	989	8,406	2,246	17,449	44.0 (42.0, 46.1)	48.2 (47.4, 48.9)	0.91 (0.87, 0.96)
BSCM	892	5,591	1,704	11,556	52.3 (49.9, 54.7)	48.4 (47.5, 49.3)	<i>1.08 (1.03, 1.14)</i>
BSAL	360	4,879	756	10,717	47.6 (44.0, 51.2)	45.5 (44.6, 46.5)	1.05 (0.97, 1.13)
BSM	1,571	6,439	2,691	12,529	58.4 (56.5, 60.3)	51.4 (50.5, 52.3)	<i>1.14 (1.10, 1.18)</i>
BSCtoC	1,157	4,651	2,300	11,109	50.3 (48.2, 52.4)	41.9 (40.9, 42.8)	<i>1.20 (1.15, 1.26)</i>
BSC	566	5,123	1,125	10,506	50.3 (47.3, 53.3)	48.8 (47.8, 49.7)	1.03 (0.97, 1.10)
BSSL	662	9,257	1,520	22,877	43.6 (41.0, 46.1)	40.5 (39.8, 41.1)	<i>1.08 (1.01, 1.14)</i>
BSHC	234	3,387	457	6,989	51.2 (46.5, 55.9)	48.5 (47.3, 49.6)	1.06 (0.96, 1.16)
BSA Total	6,431	47,733	12,799	103,732	50.2 (49.4, 51.1)	46.0 (45.7, 46.3)	<i>1.09 (1.07, 1.11)</i>
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	1,257	9,043	2,246	17,449	56.0 (53.9, 58.0)	51.8 (51.1, 52.6)	<i>1.08 (1.04, 1.12)</i>
BSCM	812	5,965	1,704	11,556	47.7 (45.3, 50.1)	51.6 (50.7, 52.5)	0.92 (0.88, 0.97)
BSAL	396	5,838	756	10,717	52.4 (48.8, 56.0)	54.5 (53.5, 55.4)	0.96 (0.90, 1.03)
BSM	1,120	6,090	2,691	12,529	41.6 (39.7, 43.5)	48.6 (47.7, 49.5)	0.86 (0.82, 0.90)
BSCtoC	1,143	6,458	2,300	11,109	49.7 (47.6, 51.8)	58.1 (57.2, 59.1)	<i>0.85 (0.82, 0.89)</i>
BSC	559	5,383	1,125	10,506	49.7 (46.7, 52.7)	51.2 (50.3, 52.2)	0.97 (0.91, 1.03)
BSSL	858	13,620	1,520	22,877	56.4 (53.9, 59.0)	59.5 (58.9, 60.2)	0.95 (0.91, 0.99)
BSHC	223	3,602	457	6,989	48.8 (44.1, 53.5)	51.5 (50.4, 52.7)	0.95 (0.86, 1.04)
BSA Total	6,368	55,999	12,799	103,732	49.8 (48.9, 50.6)	54.0 (53.7, 54.3)	<i>0.92 (0.90, 0.94)</i>

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

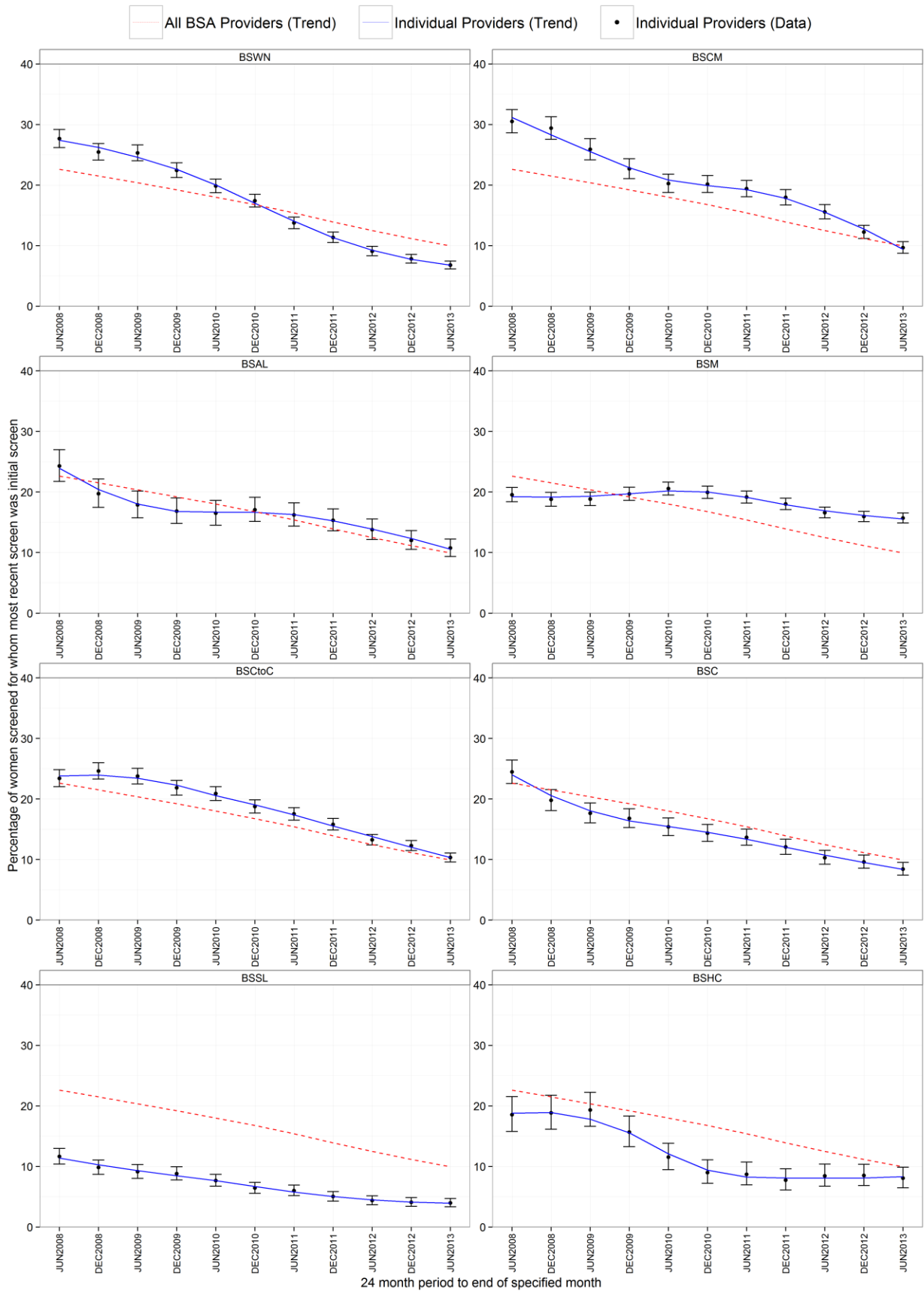
Among Māori women aged 45–49 years, just over half were initial screens. This ranged from 44% in BSWN and BSSL to 58% in BSM.

Table 1a.2b: Proportion of screens that are initial or subsequent screens, 2 years (July 2011 to June 2013), 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	386	4,283	5,697	51,291	6.8 (6.1, 7.5)	8.4 (8.1, 8.6)	0.81 (0.73, 0.90)
BSCM	367	3,249	3,795	30,921	9.7 (8.7, 10.7)	10.5 (10.2, 10.9)	0.92 (0.83, 1.02)
BSAL	199	3,102	1,852	28,797	10.7 (9.4, 12.2)	10.8 (10.4, 11.1)	1.00 (0.87, 1.14)
BSM	1,169	3,754	7,445	45,962	15.7 (14.9, 16.5)	8.2 (7.9, 8.4)	1.92 (1.81, 2.04)
BSCtoC	663	2,129	6,422	42,862	10.3 (9.6, 11.1)	5.0 (4.8, 5.2)	2.08 (1.91, 2.26)
BSC	237	2,313	2,809	33,617	8.4 (7.4, 9.5)	6.9 (6.6, 7.2)	1.23 (1.08, 1.39)
BSSL	130	1,960	3,264	70,431	4.0 (3.3, 4.7)	2.8 (2.7, 2.9)	1.43 (1.20, 1.70)
BSHC	86	1,230	1,065	26,317	8.1 (6.5, 9.9)	4.7 (4.4, 4.9)	1.73 (1.40, 2.13)
BSA Total	3,237	22,020	32,349	330,198	10.0 (9.7, 10.3)	6.7 (6.6, 6.8)	1.50 (1.45, 1.55)
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	5,311	47,008	5,697	51,291	93.2 (92.5, 93.9)	91.6 (91.4, 91.9)	1.02 (1.01, 1.02)
BSCM	3,428	27,672	3,795	30,921	90.3 (89.3, 91.3)	89.5 (89.1, 89.8)	1.01 (1.00, 1.02)
BSAL	1,653	25,695	1,852	28,797	89.3 (87.8, 90.6)	89.2 (88.9, 89.6)	1.00 (0.98, 1.02)
BSM	6,276	42,208	7,445	45,962	84.3 (83.5, 85.1)	91.8 (91.6, 92.1)	0.92 (0.91, 0.93)
BSCtoC	5,759	40,733	6,422	42,862	89.7 (88.9, 90.4)	95.0 (94.8, 95.2)	0.94 (0.94, 0.95)
BSC	2,572	31,304	2,809	33,617	91.6 (90.5, 92.6)	93.1 (92.8, 93.4)	0.98 (0.97, 0.99)
BSSL	3,134	68,471	3,264	70,431	96.0 (95.3, 96.7)	97.2 (97.1, 97.3)	0.99 (0.98, 0.99)
BSHC	979	25,087	1,065	26,317	91.9 (90.1, 93.5)	95.3 (95.1, 95.6)	0.96 (0.95, 0.98)
BSA Total	29,112	308,178	32,349	330,198	90.0 (89.7, 90.3)	93.3 (93.2, 93.4)	0.96 (0.96, 0.97)

Among Māori women aged 50–69 years screened during July 2011 to June 2013, only 10% were initial screens and 90% were subsequent screens. The proportion of initial screens is decreasing over time in most Lead Providers as expected for a mature programme. This reflects the increasing coverage and rescreening rates of Māori women in this age group. The proportion of Māori women having initial screens was 50% higher than the proportion of non-Māori women. BSSL had the lowest proportions of initial screens among both Māori (4%) and non-Māori (2.8%). BSM had the highest proportion of initial screens among Māori women (15.7%).

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 2011 to June 2013), 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	1,369	13,437	2,246	17,449	61.0 (58.9, 63.0)	77.0 (76.4, 77.6)	0.79 (0.77, 0.82)
BSCM	1,329	9,511	1,704	11,556	78.0 (75.9, 79.9)	82.3 (81.6, 83.0)	0.95 (0.93, 0.97)
BSAL	422	7,521	756	10,717	55.8 (52.2, 59.4)	70.2 (69.3, 71.0)	0.80 (0.75, 0.85)
BSM	1,761	9,097	2,691	12,529	65.4 (63.6, 67.2)	72.6 (71.8, 73.4)	0.90 (0.88, 0.93)
BSCtoC	1,789	9,901	2,300	11,109	77.8 (76.0, 79.5)	89.1 (88.5, 89.7)	0.87 (0.85, 0.89)
BSC	663	6,798	1,125	10,506	58.9 (56.0, 61.8)	64.7 (63.8, 65.6)	0.91 (0.87, 0.96)
BSSL	1,344	21,057	1,520	22,877	88.4 (86.7, 90.0)	92.0 (91.7, 92.4)	0.96 (0.94, 0.98)
BSHC	317	4,529	457	6,989	69.4 (64.9, 73.6)	64.8 (63.7, 65.9)	1.07 (1.01, 1.14)
BSA Total	8,994	81,851	12,799	103,732	70.3 (69.5, 71.1)	78.9 (78.7, 79.2)	0.89 (0.88, 0.90)
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	877	4,012	2,246	17,449	39.0 (37.0, 41.1)	23.0 (22.4, 23.6)	1.70 (1.60, 1.80)
BSCM	375	2,045	1,704	11,556	22.0 (20.1, 24.1)	17.7 (17.0, 18.4)	1.24 (1.13, 1.37)
BSAL	334	3,196	756	10,717	44.2 (40.6, 47.8)	29.8 (29.0, 30.7)	1.48 (1.36, 1.61)
BSM	930	3,432	2,691	12,529	34.6 (32.8, 36.4)	27.4 (26.6, 28.2)	1.26 (1.19, 1.34)
BSCtoC	511	1,208	2,300	11,109	22.2 (20.5, 24.0)	10.9 (10.3, 11.5)	2.04 (1.86, 2.24)
BSC	462	3,708	1,125	10,506	41.1 (38.2, 44.0)	35.3 (34.4, 36.2)	1.16 (1.08, 1.25)
BSSL	176	1,820	1,520	22,877	11.6 (10.0, 13.3)	8.0 (7.6, 8.3)	1.46 (1.26, 1.68)
BSHC	140	2,460	457	6,989	30.6 (26.4, 35.1)	35.2 (34.1, 36.3)	0.87 (0.76, 1.00)
BSA Total	3,805	21,881	12,799	103,732	29.7 (28.9, 30.5)	21.1 (20.8, 21.3)	1.41 (1.37, 1.45)

Among Māori women aged 45–49 years, 70% were screened in fixed units. Around 30% of Māori women were screened in mobile units, compared to 21% of non-Māori women.

Lead Providers with the highest proportions of Māori women screened in mobile units were BSAL, and BSC, with over 40% followed by BSWN at 39%. BSSL had the lowest proportion at 12%. In BSHC the proportion screened in mobile units was slightly higher for non-Māori (35%) than for Māori women (31%).

Table 1a.3b: Percentage of women screened by type of screening unit, 2 years (July 2011 to June 2013), 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	3,212	38,065	5,697	51,291	56.4 (55.1, 57.7)	74.2 (73.8, 74.6)	0.76 (0.74, 0.78)
BSCM	2,852	24,749	3,795	30,921	75.2 (73.7, 76.5)	80.0 (79.6, 80.5)	0.94 (0.92, 0.96)
BSAL	1,042	20,706	1,852	28,797	56.3 (54.0, 58.5)	71.9 (71.4, 72.4)	0.78 (0.75, 0.82)
BSM	4,584	31,529	7,445	45,962	61.6 (60.5, 62.7)	68.6 (68.2, 69.0)	0.90 (0.88, 0.92)
BSCtoC	4,815	37,466	6,422	42,862	75.0 (73.9, 76.0)	87.4 (87.1, 87.7)	0.86 (0.85, 0.87)
BSC	1,665	21,077	2,809	33,617	59.3 (57.4, 61.1)	62.7 (62.2, 63.2)	0.95 (0.92, 0.98)
BSSL	2,780	63,971	3,264	70,431	85.2 (83.9, 86.4)	90.8 (90.6, 91.0)	0.94 (0.92, 0.95)
BSHC	734	16,937	1,065	26,317	68.9 (66.0, 71.7)	64.4 (63.8, 64.9)	1.07 (1.03, 1.12)
BSA Total	21,684	254,500	32,349	330,198	67.0 (66.5, 67.5)	77.1 (76.9, 77.2)	0.87 (0.86, 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	2,485	13,226	5,697	51,291	43.6 (42.3, 44.9)	25.8 (25.4, 26.2)	1.69 (1.64, 1.75)
BSCM	943	6,172	3,795	30,921	24.8 (23.5, 26.3)	20.0 (19.5, 20.4)	1.25 (1.17, 1.32)
BSAL	810	8,091	1,852	28,797	43.7 (41.5, 46.0)	28.1 (27.6, 28.6)	1.56 (1.47, 1.64)
BSM	2,861	14,433	7,445	45,962	38.4 (37.3, 39.5)	31.4 (31.0, 31.8)	1.22 (1.19, 1.26)
BSCtoC	1,607	5,396	6,422	42,862	25.0 (24.0, 26.1)	12.6 (12.3, 12.9)	1.99 (1.89, 2.09)
BSC	1,144	12,540	2,809	33,617	40.7 (38.9, 42.6)	37.3 (36.8, 37.8)	1.09 (1.04, 1.14)
BSSL	484	6,460	3,264	70,431	14.8 (13.6, 16.1)	9.2 (9.0, 9.4)	1.62 (1.48, 1.76)
BSHC	331	9,380	1,065	26,317	31.1 (28.3, 34.0)	35.6 (35.1, 36.2)	0.87 (0.80, 0.96)
BSA Total	10,665	75,698	32,349	330,198	33.0 (32.5, 33.5)	22.9 (22.8, 23.1)	1.44 (1.41, 1.46)

Among Māori women aged 50–69 years, two-thirds were screened in fixed units and one third in mobile units. BSAL, BSWN, BSC, BSM 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 2011 to June 2013)

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	2,246	17,449	3,220	24,600	69.8 (68.1, 71.3)	70.9 (70.4, 71.5)	0.98 (0.96, 1.01)
BSCM	1,704	11,556	2,450	16,130	69.6 (67.7, 71.4)	71.6 (70.9, 72.3)	0.97 (0.94, 0.998)
BSAL	756	10,717	1,090	15,500	69.4 (66.5, 72.1)	69.1 (68.4, 69.9)	1.00 (0.96, 1.05)
BSM	2,691	12,529	5,190	19,360	51.8 (50.5, 53.2)	64.7 (64.0, 65.4)	0.80 (0.78, 0.82)
BSCtoC	2,300	11,109	3,930	15,440	58.5 (57.0, 60.1)	71.9 (71.2, 72.7)	0.81 (0.79, 0.84)
BSC	1,125	10,506	1,880	16,020	59.8 (57.6, 62.1)	65.6 (64.8, 66.3)	0.91 (0.88, 0.95)
BSSL	1,520	22,877	1,750	26,230	86.9 (85.2, 88.4)	87.2 (86.8, 87.6)	1.00 (0.98, 1.02)
BSHC	457	6,989	770	9,895	59.4 (55.8, 62.8)	70.6 (69.7, 71.5)	0.84 (0.79, 0.89)
BSA Total	12,799	103,732	20,280	143,175	63.1 (62.4, 63.8)	72.5 (72.2, 72.7)	0.87 (0.86, 0.88)
Age 50–54 years							
BSWN	2,068	15,177	3,120	22,960	66.3 (64.6, 67.9)	66.1 (65.5, 66.7)	1.00 (0.98, 1.03)
BSCM	1,323	9,655	2,050	14,630	64.5 (62.4, 66.6)	66.0 (65.2, 66.8)	0.98 (0.95, 1.01)
BSAL	727	9,268	1,070	13,790	67.9 (65.1, 70.7)	67.2 (66.4, 68.0)	1.01 (0.97, 1.06)
BSM	2,567	12,344	4,740	19,940	54.2 (52.7, 55.6)	61.9 (61.2, 62.6)	0.88 (0.85, 0.90)
BSCtoC	2,245	11,998	3,580	16,460	62.7 (61.1, 64.3)	72.9 (72.2, 73.6)	0.86 (0.84, 0.88)
BSC	1,054	9,925	1,770	14,860	59.5 (57.2, 61.8)	66.8 (66.0, 67.5)	0.89 (0.86, 0.93)
BSSL	1,189	20,457	1,580	26,180	75.3 (73.0, 77.4)	78.1 (77.6, 78.6)	0.96 (0.94, 0.99)
BSHC	408	7,927	670	10,390	60.9 (57.1, 64.6)	76.3 (75.5, 77.1)	0.80 (0.75, 0.85)
BSA Total	11,581	96,751	18,580	139,210	62.3 (61.6, 63.0)	69.5 (69.3, 69.7)	0.90 (0.89, 0.91)
Age 55–59 years							
BSWN	1,529	13,345	2,170	19,500	70.5 (68.5, 72.4)	68.4 (67.8, 69.1)	1.03 (1.00, 1.06)
BSCM	1,094	8,231	1,580	11,990	69.2 (66.9, 71.5)	68.6 (67.8, 69.5)	1.01 (0.97, 1.05)
BSAL	517	7,985	800	11,470	64.6 (61.2, 67.9)	69.6 (68.8, 70.5)	0.93 (0.88, 0.98)
BSM	2,152	11,508	3,720	18,220	57.8 (56.2, 59.4)	63.2 (62.5, 63.9)	0.92 (0.89, 0.94)
BSCtoC	1,750	10,941	2,740	14,905	63.9 (62.0, 65.7)	73.4 (72.7, 74.1)	0.87 (0.85, 0.90)
BSC	771	8,735	1,220	12,590	63.2 (60.4, 65.9)	69.4 (68.6, 70.2)	0.91 (0.87, 0.95)
BSSL	863	18,471	1,090	23,375	79.2 (76.6, 81.5)	79.0 (78.5, 79.5)	1.00 (0.97, 1.03)
BSHC	274	6,818	440	9,040	62.3 (57.6, 66.8)	75.4 (74.5, 76.3)	0.83 (0.77, 0.89)
BSA Total	8,950	86,034	13,760	121,090	65.0 (64.2, 65.8)	71.0 (70.8, 71.3)	0.92 (0.90, 0.93)
Age 60–64 years							
BSWN	1,227	12,421	1,710	17,680	71.8 (69.6, 73.9)	70.3 (69.6, 70.9)	1.02 (0.99, 1.05)
BSCM	859	7,246	1,190	10,510	72.2 (69.5, 74.7)	68.9 (68.0, 69.8)	1.05 (1.01, 1.09)
BSAL	385	6,563	580	9,510	66.4 (62.4, 70.2)	69.0 (68.1, 69.9)	0.96 (0.91, 1.02)
BSM	1,616	11,562	2,690	16,990	60.1 (58.2, 61.9)	68.1 (67.3, 68.8)	0.88 (0.86, 0.91)
BSCtoC	1,436	10,874	2,100	14,100	68.4 (66.3, 70.4)	77.1 (76.4, 77.8)	0.89 (0.86, 0.91)
BSC	610	8,244	930	11,470	65.6 (62.4, 68.6)	71.9 (71.0, 72.7)	0.91 (0.87, 0.96)
BSSL	719	17,407	900	21,705	79.9 (77.1, 82.5)	80.2 (79.7, 80.7)	1.00 (0.96, 1.03)
BSHC	240	6,463	390	8,425	61.5 (56.5, 66.4)	76.7 (75.8, 77.6)	0.80 (0.74, 0.87)
BSA Total	7,092	80,780	10,490	110,390	67.6 (66.7, 68.5)	73.2 (72.9, 73.4)	0.92 (0.91, 0.94)

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	873	10,348	1,150	14,910	75.9 (73.3, 78.4)	69.4 (68.7, 70.1)	1.09 (1.06, 1.13)
BSCM	519	5,789	760	8,560	68.3 (64.8, 71.6)	67.6 (66.6, 68.6)	1.01 (0.96, 1.06)
BSAL	223	4,981	380	7,200	58.7 (53.6, 63.7)	69.2 (68.1, 70.2)	0.85 (0.78, 0.92)
BSM	1,110	10,548	1,880	14,760	59.0 (56.8, 61.3)	71.5 (70.7, 72.2)	0.83 (0.80, 0.86)
BSCtoC	991	9,049	1,440	11,795	68.8 (66.4, 71.2)	76.7 (75.9, 77.5)	0.90 (0.87, 0.93)
BSC	374	6,713	560	9,245	66.8 (62.7, 70.7)	72.6 (71.7, 73.5)	0.92 (0.87, 0.98)
BSSL	493	14,096	620	17,495	79.5 (76.1, 82.6)	80.6 (80.0, 81.2)	0.99 (0.95, 1.03)
BSHC	143	5,109	240	6,730	59.6 (53.1, 65.8)	75.9 (74.9, 76.9)	0.79 (0.71, 0.87)
BSA Total	4,726	66,633	7,030	90,695	67.2 (66.1, 68.3)	73.5 (73.2, 73.8)	0.92 (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 63% and 62% in the two youngest age groups to 68% and 67% in the two oldest age groups. BSSL 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.

1b3 Routine re-screening

Description:

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

Target for women aged 50–69 years:

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

Table 1b.3: Percentage of women eligible for re-screen who are re-screened within 27 months, 2 years (July 2009 to June 2011)

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							
BSWN	1,675	2,282	73.4(71.5, 75.2)	12,902	16,657	77.5(76.8, 78.1)	0.95(0.92, 0.97)
BSCM	963	1,487	64.8(62.3, 67.2)	8,010	10,222	78.4(77.5, 79.2)	0.83(0.79, 0.86)
BSAL	591	719	82.2(79.2, 84.9)	8,622	10,035	85.9(85.2, 86.6)	0.96(0.92, 0.99)
BSM	1,485	2,245	66.1(64.1, 68.1)	8,598	11,582	74.2(73.4, 75.0)	0.89(0.86, 0.92)
BSCtoC	1,764	2,121	83.2(81.5, 84.7)	10,338	11,353	91.1(90.5, 91.6)	0.91(0.90, 0.93)
BSC	886	1,142	77.6(75.1, 80.0)	8,703	10,195	85.4(84.7, 86.0)	0.91(0.88, 0.94)
BSSL	1,203	1,432	84.0(82.0, 85.9)	20,397	22,653	90.0(89.6, 90.4)	0.93(0.91, 0.95)
BSHC	372	454	81.9(78.1, 85.4)	6,343	6,945	91.3(90.6, 92.0)	0.90(0.86, 0.94)
Total BSA	8,939	11,882	75.2(74.4, 76.0)	83,913	99,642	84.2(84.0, 84.4)	0.89(0.88, 0.90)
Women aged 50–69 years							
BSWN	3,804	4,754	80.0(78.9, 81.1)	36,472	43,581	83.7(83.3, 84.0)	0.96(0.94, 0.97)
BSCM	2,305	3,092	74.5(73.0, 76.1)	20,637	24,850	83.0(82.6, 83.5)	0.90(0.88, 0.92)
BSAL	1,162	1,374	84.6(82.6, 86.4)	20,164	22,759	88.6(88.2, 89.0)	0.95(0.93, 0.98)
BSM	4,065	5,520	73.6(72.5, 74.8)	29,823	37,348	79.9(79.4, 80.3)	0.92(0.91, 0.94)
BSCtoC	4,245	4,865	87.3(86.3, 88.2)	33,235	35,691	93.1(92.9, 93.4)	0.94(0.93, 0.95)
BSC	1,934	2,406	80.4(78.7, 82.0)	25,670	29,618	86.7(86.3, 87.1)	0.93(0.91, 0.95)
BSSL	2,434	2,760	88.2(86.9, 89.4)	55,840	60,244	92.7(92.5, 92.9)	0.95(0.94, 0.96)
BSHC	731	845	86.5(84.0, 88.7)	20,582	22,367	92.0(91.7, 92.4)	0.94(0.92, 0.97)
Total BSA	20,680	25,616	80.7(80.2, 81.2)	242,423	276,458	87.7(87.6, 87.8)	0.92(0.92, 0.93)

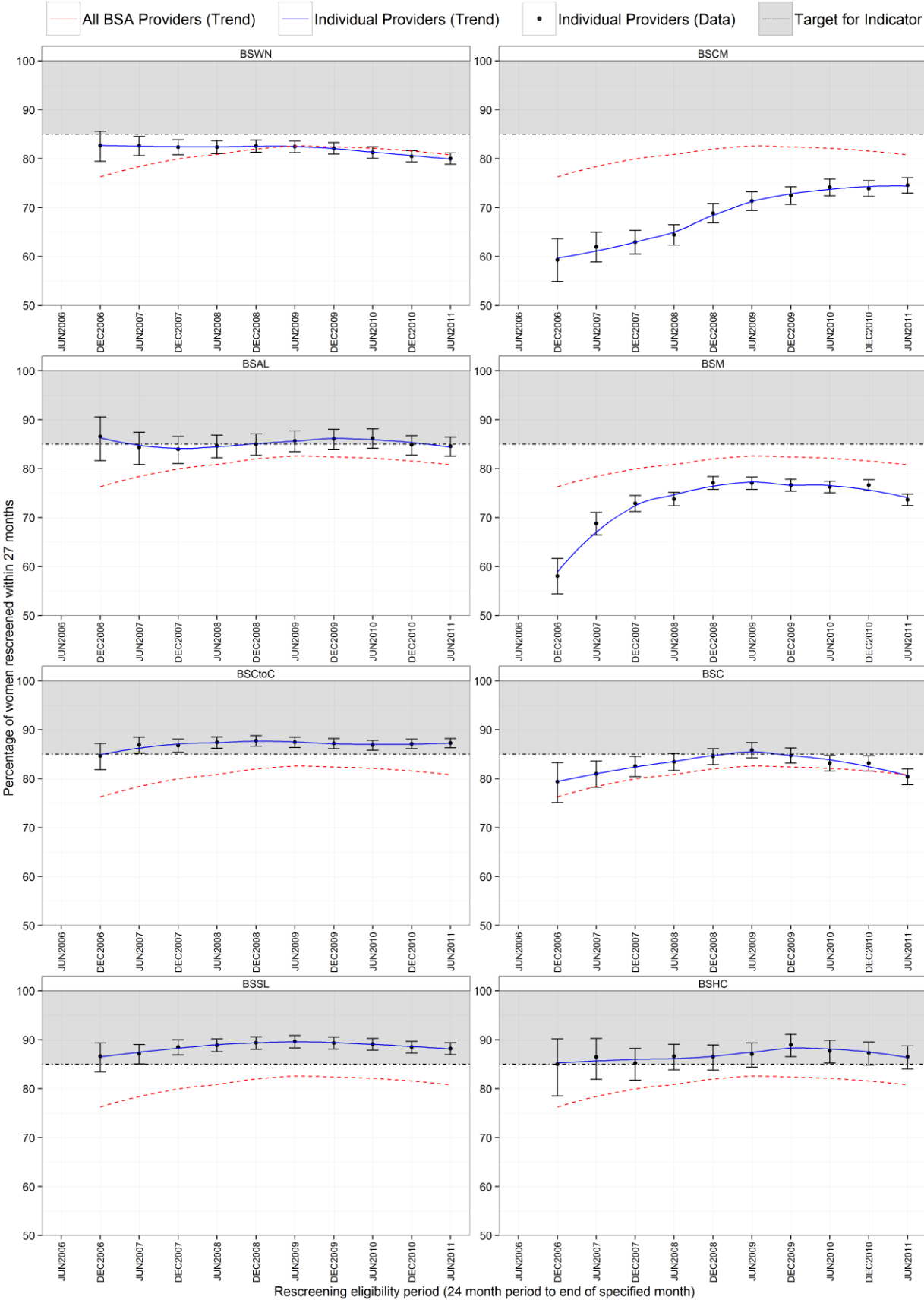
Ratios below one are unfavourable to Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Shaded boxes show confidence interval excludes target of >85%.

*If a woman was under 70 years of age within 821 days of a screen they were counted as eligible to be rescreened.

The proportion of eligible Māori women aged 50–69 years rescreened within 27 months was 81%, below the target of >85% and 8% lower than the proportion of non-Māori rescreened on time. However, four LPs maintained the target of 85% or more. BSWN, BSM and BSC may be trending down.

For Māori women aged 45–49 years, 75% were rescreened within 27 months compared to 84% of non-Māori.

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



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 for women aged 50–69 years:

>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 2011 to June 2013)

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	1,192	1,369	87.1(85.2, 88.8)	11,980	13,437	89.2(88.6, 89.7)	0.98(0.96, 0.998)
BSCM	993	1,329	74.7(72.3, 77.0)	7,921	9,511	83.3(82.5, 84.0)	0.90(0.87, 0.93)
BSAL	366	422	86.7(83.1, 89.8)	6,644	7,521	88.3(87.6, 89.1)	0.98(0.95, 1.02)
BSM	1,515	1,761	86.0(84.3, 87.6)	8,318	9,097	91.4(90.8, 92.0)	0.94(0.92, 0.96)
BSCtoC	1,538	1,789	86.0(84.3, 87.5)	9,144	9,901	92.4(91.8, 92.9)	0.93(0.91, 0.95)
BSC	533	663	80.4(77.2, 83.3)	5,807	6,798	85.4(84.6, 86.3)	0.94(0.91, 0.98)
BSSL	1,143	1,344	85.0(83.0, 86.9)	18,426	21,057	87.5(87.1, 87.9)	0.97(0.95, 0.99)
BSHC	275	317	86.8(82.5, 90.3)	4,021	4,529	88.8(87.8, 89.7)	0.98(0.94, 1.02)
Total BSA	7,555	8,994	84.0(83.2, 84.8)	72,261	81,851	88.3(88.1, 88.5)	0.95(0.94, 0.96)
Mobile unit							
BSWN	771	877	87.9(85.6, 90.0)	3,611	4,012	90.0(89.0, 90.9)	0.98(0.95, 1.00)
BSCM	297	375	79.2(74.7, 83.2)	1,804	2,045	88.2(86.7, 89.6)	0.90(0.85, 0.95)
BSAL	289	334	86.5(82.4, 90.0)	2,791	3,196	87.3(86.1, 88.5)	0.99(0.95, 1.04)
BSM	704	930	75.7(72.8, 78.4)	2,936	3,432	85.5(84.3, 86.7)	0.89(0.85, 0.92)
BSCtoC	372	511	72.8(68.7, 76.6)	1,072	1,208	88.7(86.8, 90.5)	0.82(0.78, 0.87)
BSC	392	462	84.8(81.2, 88.0)	3,304	3,708	89.1(88.1, 90.1)	0.95(0.92, 0.99)
BSSL	151	176	85.8(79.7, 90.6)	1,635	1,820	89.8(88.4, 91.2)	0.96(0.90, 1.02)
BSHC	116	140	82.9(75.6, 88.7)	2,164	2,460	88.0(86.6, 89.2)	0.94(0.87, 1.02)
Total BSA	3,092	3,805	81.3(80.0, 82.5)	19,317	21,881	88.3(87.8, 88.7)	0.92(0.91, 0.94)

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, just over 80% of Māori women had no more than four films taken in both fixed and mobile units. There has been a small increase since the previous report.

Table 2a.2: Percentage of women aged 50–69 years having 4 films or fewer by type of screening unit, 2 years (July 2011 to June 2013)

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	2,704	3,212	84.2(82.9, 85.4)	33,852	38,065	88.9(88.6, 89.2)	0.95(0.93, 0.96)
BSCM	1,949	2,852	68.3(66.6, 70.0)	20,004	24,749	80.8(80.3, 81.3)	0.85(0.82, 0.87)
BSAL	892	1,042	85.6(83.3, 87.7)	18,652	20,706	90.1(89.7, 90.5)	0.95(0.93, 0.98)
BSM	3,955	4,584	86.3(85.2, 87.3)	29,086	31,529	92.3(92.0, 92.5)	0.94(0.92, 0.95)
BSCtoC	3,959	4,815	82.2(81.1, 83.3)	34,205	37,466	91.3(91.0, 91.6)	0.90(0.89, 0.91)
BSC	1,289	1,665	77.4(75.3, 79.4)	18,071	21,077	85.7(85.3, 86.2)	0.90(0.88, 0.93)
BSSL	2,361	2,780	84.9(83.5, 86.2)	55,780	63,971	87.2(86.9, 87.5)	0.97(0.96, 0.99)
BSHC	607	734	82.7(79.8, 85.4)	14,671	16,937	86.6(86.1, 87.1)	0.96(0.92, 0.99)
Total BSA	17,716	21,684	81.7(81.2, 82.2)	224,321	254,500	88.1(88.0, 88.3)	0.93(0.92, 0.93)
Mobile unit							
BSWN	2,077	2,485	83.6(82.1, 85.0)	11,687	13,226	88.4(87.8, 88.9)	0.95(0.93, 0.96)
BSCM	706	943	74.9(72.0, 77.6)	5,298	6,172	85.8(84.9, 86.7)	0.87(0.84, 0.91)
BSAL	683	810	84.3(81.6, 86.8)	7,060	8,091	87.3(86.5, 88.0)	0.97(0.94, 0.997)
BSM	2,198	2,861	76.8(75.2, 78.4)	12,570	14,433	87.1(86.5, 87.6)	0.88(0.86, 0.90)
BSCtoC	1,069	1,607	66.5(64.2, 68.8)	4,612	5,396	85.5(84.5, 86.4)	0.78(0.75, 0.81)
BSC	914	1,144	79.9(77.5, 82.2)	11,144	12,540	88.9(88.3, 89.4)	0.90(0.87, 0.93)
BSSL	406	484	83.9(80.3, 87.0)	5,818	6,460	90.1(89.3, 90.8)	0.93(0.90, 0.97)
BSHC	257	331	77.6(72.8, 82.0)	7,999	9,380	85.3(84.5, 86.0)	0.91(0.86, 0.97)
Total BSA	8,310	10,665	77.9(77.1, 78.7)	66,188	75,698	87.4(87.2, 87.7)	0.89(0.88, 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 value of >80%.

Among Māori women aged 50–69 years screened in fixed units, 82% had no more than four films (a slightly increase since the previous report). BSCM had the lowest proportion of Māori women having four films or fewer (68%).

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 (67%). This proportion was the same as the previous report.

The proportions were lower for Māori women than for 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 for women aged 50–69 years:

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 2011 to June 2013)

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	2	1,369	0.1(0.0, 0.5)	3	13,437	0.0(0.0, 0.1)	6.54(1.09, 39.13)
BSCM	2	1,329	0.2(0.0, 0.5)	18	9,511	0.2(0.1, 0.3)	0.80(0.19, 3.42)
BSAL	4	422	0.9(0.3, 2.4)	30	7,521	0.4(0.3, 0.6)	2.38(0.84, 6.71)
BSM	13	1,761	0.7(0.4, 1.3)	79	9,097	0.9(0.7, 1.1)	0.85(0.47, 1.53)
BSCtoC	6	1,789	0.3(0.1, 0.7)	11	9,901	0.1(0.1, 0.2)	3.02(1.12, 8.15)
BSC	6	663	0.9(0.3, 2.0)	59	6,798	0.9(0.7, 1.1)	1.04(0.45, 2.41)
BSSL	3	1,344	0.2(0.0, 0.7)	62	21,057	0.3(0.2, 0.4)	0.76(0.24, 2.41)
BSHC	0	317	0.0(0.0, 1.2)	1	4,529	0.0(0.0, 0.1)	0.00(0.00, 557.20)
Total BSA	36	8,994	0.4(0.3, 0.6)	263	81,851	0.3(0.3, 0.4)	1.25(0.88, 1.76)
Mobile site							
BSWN	1	877	0.1(0.0, 0.6)	0	4,012	0.0(0.0, 0.1)	Inf(0.12, Inf)
BSCM	8	375	2.1(0.9, 4.2)	28	2,045	1.4(0.9, 2.0)	1.56(0.72, 3.39)
BSAL	14	334	4.2(2.3, 6.9)	121	3,196	3.8(3.2, 4.5)	1.11(0.64, 1.90)
BSM	47	930	5.1(3.7, 6.7)	165	3,432	4.8(4.1, 5.6)	1.05(0.77, 1.44)
BSCtoC	13	511	2.5(1.4, 4.3)	31	1,208	2.6(1.8, 3.6)	0.99(0.52, 1.88)
BSC	18	462	3.9(2.3, 6.1)	104	3,708	2.8(2.3, 3.4)	1.39(0.85, 2.27)
BSSL	0	176	0.0(0.0, 2.1)	22	1,820	1.2(0.8, 1.8)	0.00(0.00, 1.89)
BSHC	1	140	0.7(0.0, 3.9)	33	2,460	1.3(0.9, 1.9)	0.53(0.07, 3.87)
Total BSA	102	3,805	2.7(2.2, 3.2)	504	21,881	2.3(2.1, 2.5)	1.16(0.94, 1.44)

Ratios above one are unfavourable to Māori.

Among Māori women aged 45–49 years, 0.4% of women screened in fixed sites were recalled for technical reasons and 2.7% of those screened in mobile units.

Table 2b.2: Percentage of women aged 50–69 years having technical recall as a percentage of women screened, 2 years (July 2011 to June 2013)

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	3,212	0(0.0, 0.1)	13	38,065	0(0.0, 0.1)	0.00(0.00, 3.89)
BSCM	3	2,852	0.1(0.0, 0.3)	10	24,749	0(0.0, 0.1)	2.60(0.72, 9.45)
BSAL	3	1,042	0.3(0.1, 0.8)	41	20,706	0.2(0.1, 0.3)	1.45(0.45, 4.69)
BSM	16	4,584	0.3(0.2, 0.6)	195	31,529	0.6(0.5, 0.7)	0.56(0.34, 0.94)
BSCtoC	15	4,815	0.3(0.2, 0.5)	88	37,466	0.2(0.2, 0.3)	1.33(0.77, 2.29)
BSC	8	1,665	0.5(0.2, 0.9)	110	21,077	0.5(0.4, 0.6)	0.92(0.45, 1.88)
BSSL	5	2,780	0.2(0.1, 0.4)	88	63,971	0.1(0.1, 0.2)	1.31(0.53, 3.22)
BSHC	0	734	0(0.0, 0.5)	7	16,937	0(0.0, 0.1)	0.00(0.00, 16.01)
Total BSA	50	21,684	0.2(0.2, 0.3)	552	254,500	0.2(0.2, 0.2)	1.06(0.80, 1.42)
Mobile site							
BSWN	1	2,485	0(0.0, 0.2)	7	13,226	0.1(0.0, 0.1)	0.76(0.09, 6.18)
BSCM	14	943	1.5(0.8, 2.5)	104	6,172	1.7(1.4, 2.0)	0.88(0.51, 1.53)
BSAL	37	810	4.6(3.2, 6.2)	312	8,091	3.9(3.4, 4.3)	1.19(0.85, 1.65)
BSM	126	2,861	4.4(3.7, 5.2)	574	14,433	4.0(3.7, 4.3)	1.11(0.92, 1.34)
BSCtoC	53	1,607	3.3(2.5, 4.3)	157	5,396	2.9(2.5, 3.4)	1.13(0.83, 1.54)
BSC	31	1,144	2.7(1.8, 3.8)	270	12,540	2.2(1.9, 2.4)	1.26(0.87, 1.82)
BSSL	9	484	1.9(0.9, 3.5)	93	6,460	1.4(1.2, 1.8)	1.29(0.66, 2.54)
BSHC	1	331	0.3(0.0, 1.7)	148	9,380	1.6(1.3, 1.9)	0.19(0.03, 1.36)
Total BSA	272	10,665	2.6(2.3, 2.9)	1,665	75,698	2.2(2.1, 2.3)	1.16(1.02, 1.32)

Ratios above one are unfavourable to Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Targets 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. BSAL and BSM did not meet the target of <3% for Māori or non-Māori women screened in mobile sites. We look forward to these decreasing now that the mobile units have digital technology.

BSHC has shown a decreasing trend and BSWN 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

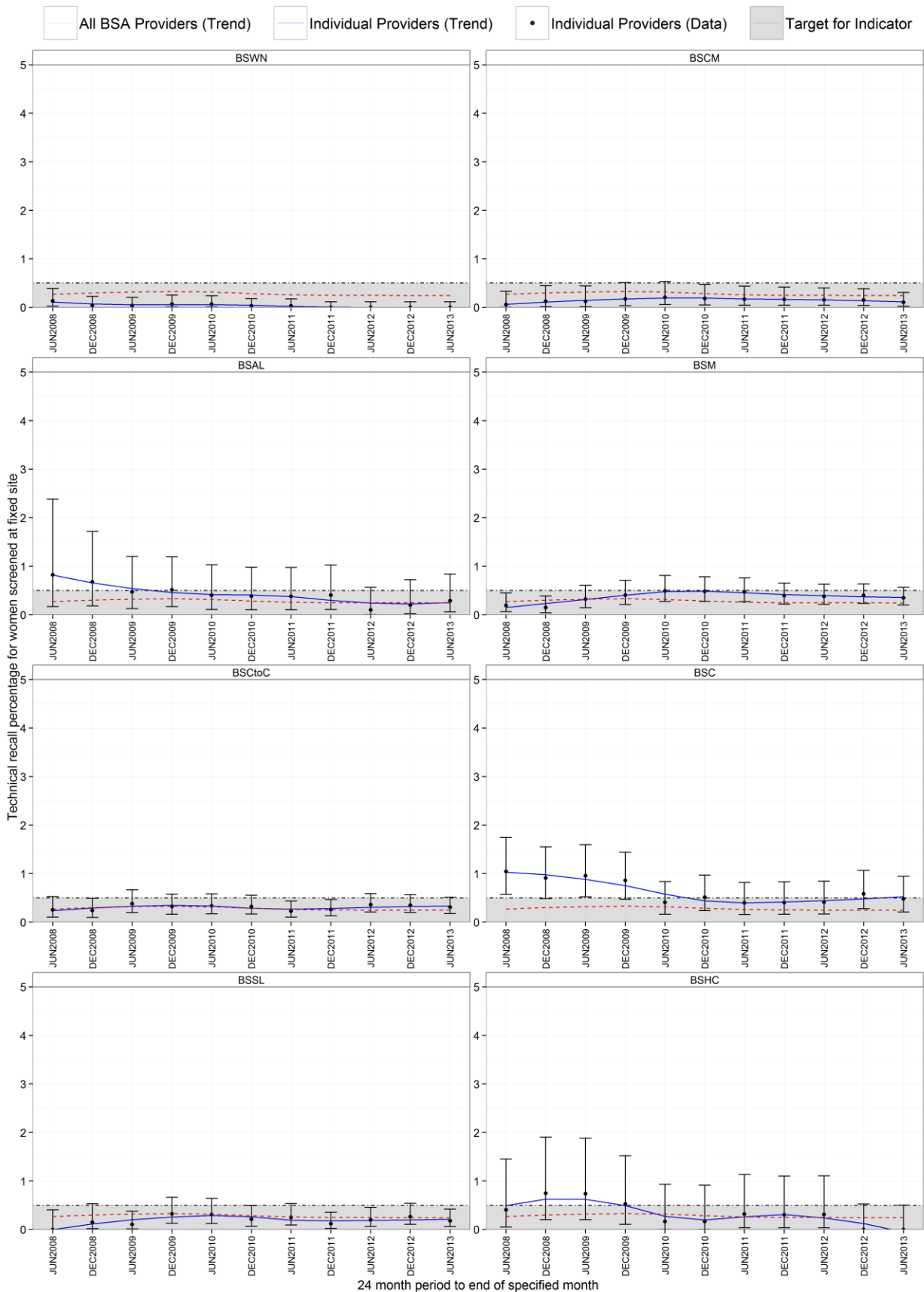
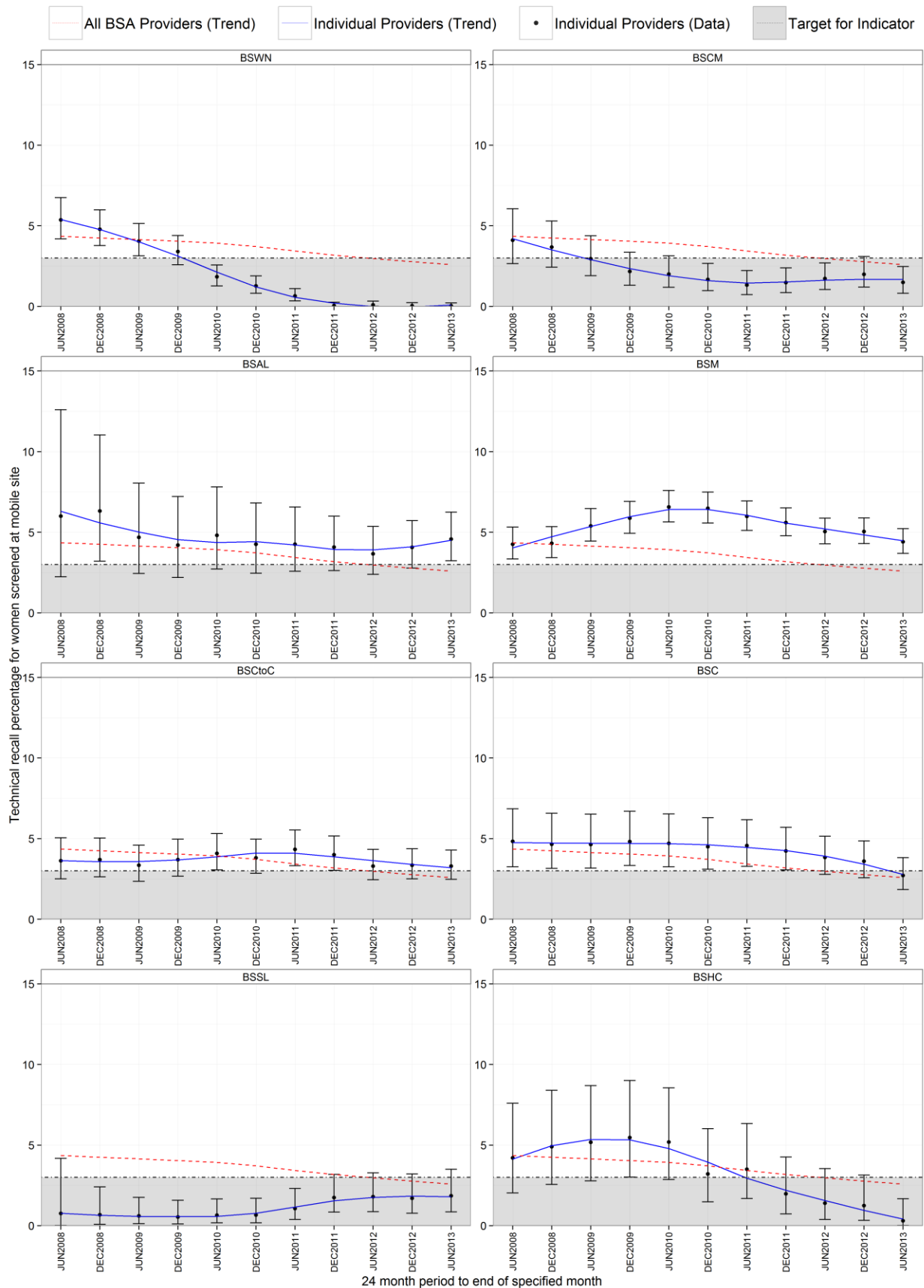


Figure 2b.1b: Trends in technical recall rates for Māori women aged 50–69 years screened in mobile units



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 for women aged 50–69 years:

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 2011 to June 2013)

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	58	5,770	1.0 (0.8, 1.3)	561	56,380	1.0 (0.9, 1.1)	1.01(0.77, 1.32)
BSCM	72	5,868	1.2 (1.0, 1.5)	467	40,839	1.1 (1.0, 1.3)	1.07(0.84, 1.37)
BSAL	14	1,816	0.8 (0.4, 1.3)	231	31,973	0.7 (0.6, 0.8)	1.07(0.62, 1.83)
BSM	45	7,477	0.6 (0.4, 0.8)	284	37,977	0.7 (0.7, 0.8)	0.81(0.59, 1.10)
BSCtoC	41	7,552	0.5 (0.4, 0.7)	260	40,840	0.6 (0.6, 0.7)	0.85(0.61, 1.18)
BSC	34	2,837	1.2 (0.8, 1.7)	366	28,687	1.3 (1.1, 1.4)	0.94(0.66, 1.33)
BSSL	37	5,681	0.7 (0.5, 0.9)	531	88,237	0.6 (0.6, 0.7)	1.08(0.78, 1.51)
BSHC	10	1,336	0.7 (0.4, 1.4)	122	18,927	0.6 (0.5, 0.8)	1.16(0.61, 2.21)
Total BSA	311	38,337	0.8 (0.7, 0.9)	2,822	343,860	0.8 (0.8, 0.9)	0.99(0.88, 1.11)
Mobile unit							
BSWN	23	3,671	0.6 (0.4, 0.9)	149	16,756	0.9 (0.8, 1.0)	0.71(0.46, 1.09)
BSCM	18	1,642	1.1 (0.7, 1.7)	74	8,588	0.9 (0.7, 1.1)	1.27(0.76, 2.12)
BSAL	0	1,407	0 (0.0, 0.3)	9	13,468	0.1 (0.0, 0.1)	0.00(0.00, 4.85)
BSM	32	4,092	0.8 (0.5, 1.1)	127	14,569	0.9 (0.7, 1.0)	0.90(0.61, 1.32)
BSCtoC	13	2,305	0.6 (0.3, 1.0)	28	5,077	0.6 (0.4, 0.8)	1.02(0.53, 1.97)
BSC	1	1,975	0.1 (0.0, 0.3)	33	15,454	0.2 (0.1, 0.3)	0.24(0.03, 1.73)
BSSL	1	751	0.1 (0.0, 0.7)	42	7,603	0.6 (0.4, 0.7)	0.24(0.03, 1.75)
BSHC	1	596	0.2 (0.0, 0.9)	66	10,231	0.6 (0.5, 0.8)	0.26(0.04, 1.87)
Total BSA	89	16,439	0.5 (0.4, 0.7)	528	91,746	0.6 (0.5, 0.6)	0.94(0.75, 1.18)

Ratios above one are unfavourable to Māori.

Very low proportions of films were rejected for technical reasons among both Māori and non-Māori women.

Table 2c.2: Rejected films as a percentage of total films taken among women aged 50–69 years, 2 years (July 2011 to June 2013)

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	134	13,584	1.0 (0.8, 1.2)	1,487	158,554	0.9 (0.9, 1.0)	1.05 (0.88, 1.25)
BSCM	174	12,887	1.4 (1.2, 1.6)	1,253	106,571	1.2 (1.1, 1.2)	1.15 (0.98, 1.34)
BSAL	21	4,456	0.5 (0.3, 0.7)	426	86,562	0.5 (0.4, 0.5)	0.96 (0.62, 1.48)
BSM	142	19,309	0.7 (0.6, 0.9)	855	130,208	0.7 (0.6, 0.7)	1.12 (0.94, 1.34)
BSCtoC	131	20,531	0.6 (0.5, 0.8)	1,008	154,443	0.7 (0.6, 0.7)	0.98 (0.82, 1.17)
BSC	77	7,237	1.1 (0.8, 1.3)	928	88,487	1.0 (1.0, 1.1)	1.02 (0.81, 1.28)
BSSL	63	11,735	0.5 (0.4, 0.7)	1,430	266,898	0.5 (0.5, 0.6)	1.00 (0.78, 1.29)
BSHC	25	3,139	0.8 (0.5, 1.2)	596	70,915	0.8 (0.8, 0.9)	0.95 (0.64, 1.41)
Total BSA	767	92,878	0.8 (0.8, 0.9)	7,983	1,062,638	0.8(0.7, 0.8)	1.10 (1.02, 1.18)
Mobile unit							
BSWN	74	10,522	0.7 (0.6, 0.9)	516	55,173	0.9 (0.9, 1.0)	0.75 (0.59, 0.96)
BSCM	54	4,189	1.3 (1.0, 1.7)	310	26,145	1.2 (1.1, 1.3)	1.09 (0.82, 1.45)
BSAL	4	3,455	0.1 (0.0, 0.3)	25	34,056	0.1 (0.0, 0.1)	1.58 (0.55, 4.53)
BSM	82	12,548	0.7 (0.5, 0.8)	369	60,526	0.6 (0.5, 0.7)	1.07 (0.84, 1.36)
BSCtoC	52	7,406	0.7 (0.5, 0.9)	113	22,855	0.5 (0.4, 0.6)	1.42 (1.02, 1.97)
BSC	25	4,925	0.5 (0.3, 0.7)	120	52,089	0.2 (0.2, 0.3)	2.20 (1.43, 3.39)
BSSL	11	2,078	0.5 (0.3, 0.9)	138	26,821	0.5 (0.4, 0.6)	1.03 (0.56, 1.90)
BSHC	9	1,439	0.6 (0.3, 1.2)	260	39,362	0.7 (0.6, 0.7)	0.95 (0.49, 1.84)
Total BSA	311	46,562	0.7 (0.6, 0.7)	1,851	317,027	0.6(0.6, 0.6)	1.14 (1.02, 1.29)

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 for women aged 50–69 years:

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 2011 to June 2013)

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	119	989	12.0(10.1, 14.2)	867	8,406	10.3(9.7, 11.0)	1.17(0.98, 1.40)
BSCM	88	892	9.9(8.0, 12.0)	434	5,591	7.8(7.1, 8.5)	<i>1.27(1.02, 1.58)</i>
BSAL	30	360	8.3(5.7, 11.7)	314	4,879	6.4(5.8, 7.2)	1.30(0.90, 1.85)
BSM	168	1,571	10.7(9.2, 12.3)	629	6,439	9.8(9.1, 10.5)	1.10(0.93, 1.29)
BSCtoC	83	1,157	7.2(5.8, 8.8)	286	4,651	6.1(5.5, 6.9)	1.17(0.92, 1.48)
BSC	36	566	6.4(4.5, 8.7)	370	5,123	7.2(6.5, 8.0)	0.88(0.63, 1.23)
BSSL	78	662	11.8(9.4, 14.5)	846	9,257	9.1(8.6, 9.7)	<i>1.29(1.04, 1.60)</i>
BSHC	14	234	6.0(3.3, 9.8)	250	3,387	7.4(6.5, 8.3)	0.81(0.48, 1.37)
Total BSA	616	6,431	9.6(8.9, 10.3)	3,996	47,733	8.4(8.1, 8.6)	<i>1.14(1.06, 1.24)</i>
Subsequent screen							
BSWN	63	1,257	5.0(3.9, 6.4)	419	9,043	4.6(4.2, 5.1)	1.08(0.84, 1.40)
BSCM	37	812	4.6(3.2, 6.2)	214	5,965	3.6(3.1, 4.1)	1.27(0.90, 1.79)
BSAL	14	396	3.5(1.9, 5.9)	191	5,838	3.3(2.8, 3.8)	1.08(0.63, 1.84)
BSM	45	1,120	4.0(2.9, 5.3)	272	6,090	4.5(4.0, 5.0)	0.90(0.66, 1.25)
BSCtoC	23	1,143	2.0(1.3, 3.0)	159	6,458	2.5(2.1, 2.9)	0.82(0.53, 1.26)
BSC	16	559	2.9(1.6, 4.6)	221	5,383	4.1(3.6, 4.7)	0.70(0.42, 1.15)
BSSL	41	858	4.8(3.5, 6.4)	677	13,620	5.0(4.6, 5.3)	0.96(0.71, 1.31)
BSHC	14	223	6.3(3.5, 10.3)	131	3,602	3.6(3.0, 4.3)	<i>1.73(1.01, 2.95)</i>
Total BSA	253	6,368	4.0(3.5, 4.5)	2,284	55,999	4.1(3.9, 4.2)	<i>0.97(0.86, 1.11)</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 14% 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 2011 to June 2013)

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	66	386	17.1(13.5, 21.2)	508	4,283	11.9(10.9, 12.9)	1.44(1.14, 1.82)
BSCM	42	367	11.4(8.4, 15.2)	299	3,249	9.2(8.2, 10.2)	1.24(0.92, 1.69)
BSAL	12	199	6.0(3.2, 10.3)	209	3,102	6.7(5.9, 7.7)	0.90(0.51, 1.57)
BSM	139	1,169	11.9(10.1, 13.9)	360	3,754	9.6(8.7, 10.6)	1.24(1.03, 1.49)
BSCtoC	60	663	9.0(7.0, 11.5)	156	2,129	7.3(6.3, 8.5)	1.24(0.93, 1.64)
BSC	30	237	12.7(8.7, 17.6)	189	2,313	8.2(7.1, 9.4)	1.55(1.08, 2.22)
BSSL	13	130	10.0(5.4, 16.5)	170	1,960	8.7(7.5, 10.0)	1.15(0.68, 1.97)
BSHC	6	86	7.0(2.6, 14.6)	109	1,230	8.9(7.3, 10.6)	0.79(0.36, 1.74)
Total BSA	368	3,237	11.4(10.3, 12.5)	2,000	22,020	9.1(8.7, 9.5)	1.25(1.13, 1.39)
Subsequent screen							
BSWN	214	5,311	4.0(3.5, 4.6)	1,544	47,008	3.3(3.1, 3.4)	1.23(1.07, 1.41)
BSCM	107	3,428	3.1(2.6, 3.8)	764	27,672	2.8(2.6, 3.0)	1.13(0.93, 1.38)
BSAL	36	1,653	2.2(1.5, 3.0)	686	25,695	2.7(2.5, 2.9)	0.82(0.59, 1.14)
BSM	218	6,276	3.5(3.0, 4.0)	1,395	42,208	3.3(3.1, 3.5)	1.05(0.91, 1.21)
BSCtoC	118	5,759	2.0(1.7, 2.4)	705	40,733	1.7(1.6, 1.9)	1.18(0.98, 1.44)
BSC	87	2,572	3.4(2.7, 4.2)	959	31,304	3.1(2.9, 3.3)	1.10(0.89, 1.37)
BSSL	115	3,134	3.7(3.0, 4.4)	2,406	68,471	3.5(3.4, 3.7)	1.04(0.87, 1.26)
BSHC	35	979	3.6(2.5, 4.9)	710	25,087	2.8(2.6, 3.0)	1.26(0.91, 1.76)
Total BSA	930	29,112	3.2(3.0, 3.4)	9,169	308,178	3.0(2.9, 3.0)	1.07(1.01, 1.15)

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. Proportions that excluded the expected values 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 11.4%, outside the expected value of <10%, and 25% higher than the non-Māori proportion.

BSWN continued to show an increasing trend in referral rates for Māori having an initial screen, with a rate of 17.1% in this biennium (44% higher than the referral rate for non-Māori). The false positive rate for this LP was also higher than the target for this period.

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

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

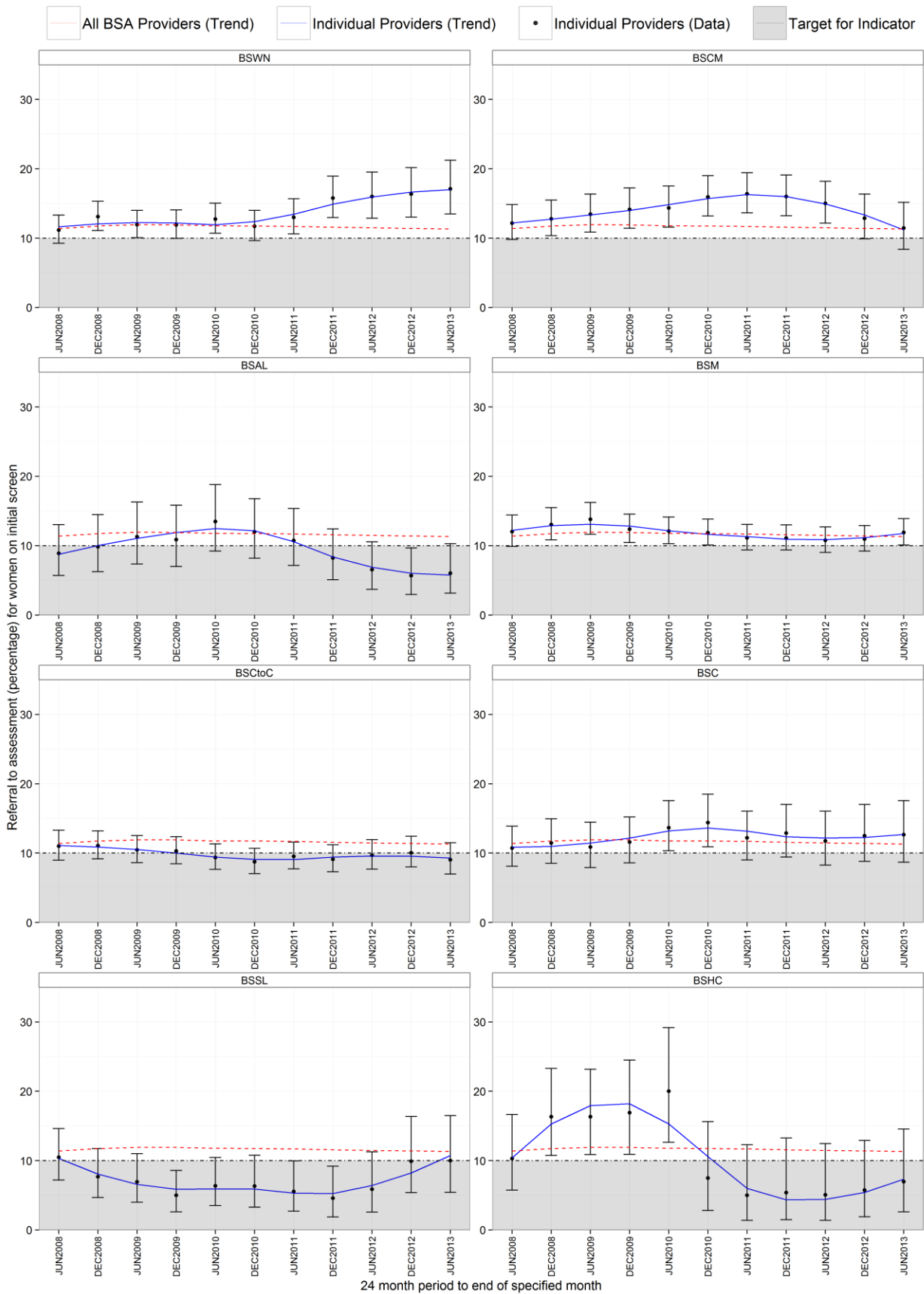
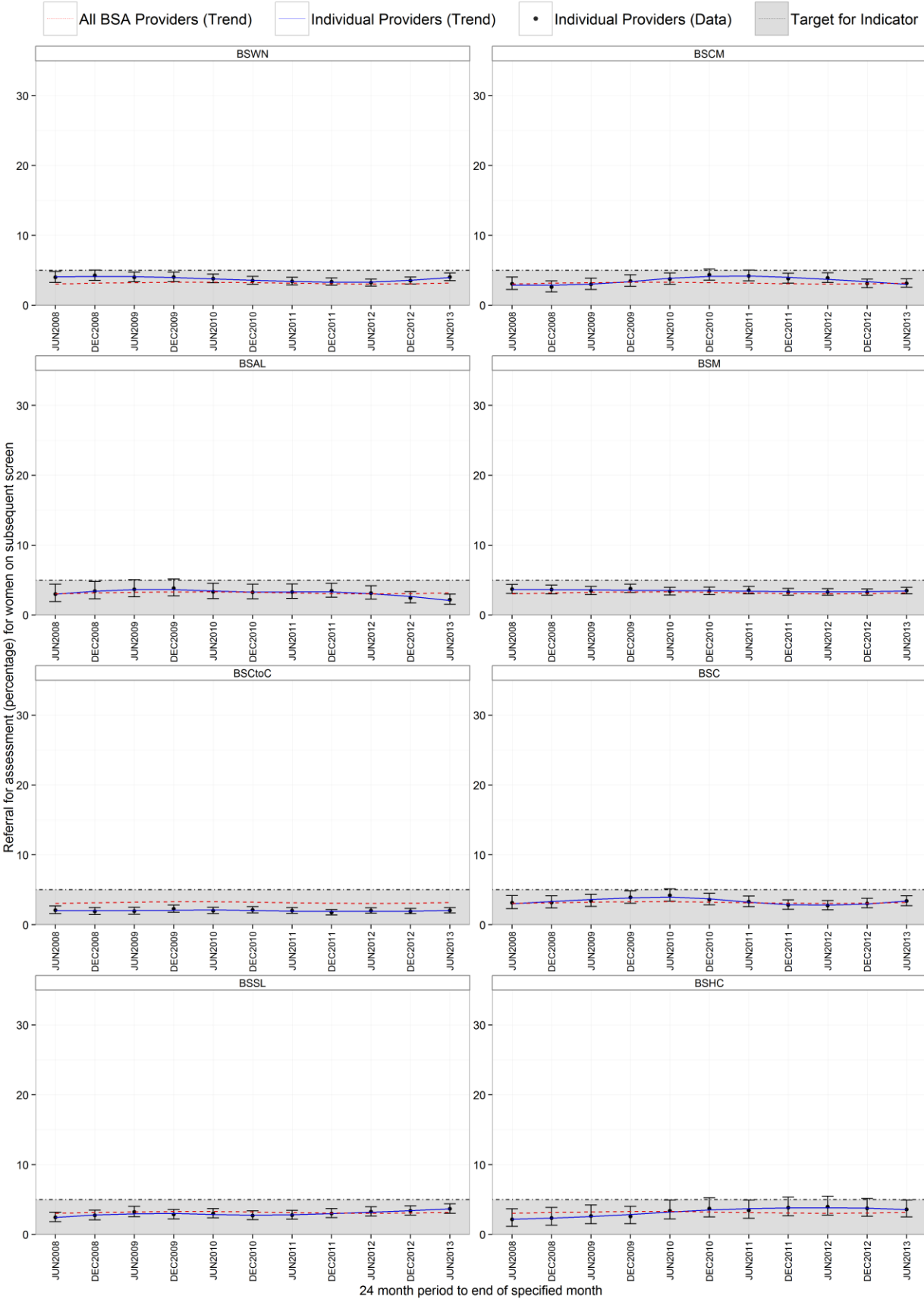


Figure 2d.1b: Trends in referral to assessment for Māori women aged 50–69 years having a subsequent screen



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 for women aged 50–69 years:

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 2011 to June 2013)

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	106	989	10.7(8.9, 12.8)	794	8,406	9.4(8.8, 10.1)	1.14(0.94, 1.37)
BSCM	78	892	8.7(7.0, 10.8)	387	5,591	6.9(6.3, 7.6)	1.26(1.00, 1.59)
BSAL	24	360	6.7(4.3, 9.8)	293	4,879	6.0(5.4, 6.7)	1.11(0.74, 1.66)
BSM	156	1,571	9.9(8.5, 11.5)	591	6,439	9.2(8.5, 9.9)	1.08(0.92, 1.28)
BSCtoC	75	1,157	6.5(5.1, 8.1)	266	4,651	5.7(5.1, 6.4)	1.13(0.88, 1.45)
BSC	35	566	6.2(4.3, 8.5)	348	5,123	6.8(6.1, 7.5)	0.91(0.65, 1.28)
BSSL	73	662	11.0(8.7, 13.7)	798	9,257	8.6(8.1, 9.2)	1.28(1.02, 1.60)
BSHC	13	234	5.6(3.0, 9.3)	230	3,387	6.8(6.0, 7.7)	0.82(0.48, 1.41)
Total BSA	560	6,431	8.7(8.0, 9.4)	3,707	47,733	7.8(7.5, 8.0)	1.12(1.03, 1.22)
Subsequent screen							
BSWN	55	1,257	4.4(3.3, 5.7)	388	9,043	4.3(3.9, 4.7)	1.02(0.77, 1.34)
BSCM	25	812	3.1(2.0, 4.5)	197	5,965	3.3(2.9, 3.8)	0.93(0.62, 1.40)
BSAL	10	396	2.5(1.2, 4.6)	165	5,838	2.8(2.4, 3.3)	0.89(0.48, 1.68)
BSM	41	1,120	3.7(2.6, 4.9)	256	6,090	4.2(3.7, 4.7)	0.87(0.63, 1.20)
BSCtoC	17	1,143	1.5(0.9, 2.4)	136	6,458	2.1(1.8, 2.5)	0.71(0.43, 1.17)
BSC	16	559	2.9(1.6, 4.6)	196	5,383	3.6(3.2, 4.2)	0.79(0.48, 1.299)
BSSL	36	858	4.2(3.0, 5.8)	616	13,620	4.5(4.2, 4.9)	0.93(0.67, 1.29)
BSHC	10	223	4.5(2.2, 8.1)	114	3,602	3.2(2.6, 3.8)	1.21(0.75, 2.67)
Total BSA	210	6,368	3.3(2.9, 3.8)	2,068	55,999	3.7(3.5, 3.9)	0.89(0.78, 1.03)

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

The false positive rate for Māori women aged 45–49 years having an initial screen decreased slightly from 9.5% to 8.7% since the previous biennium, but remained 12% higher than the non-Māori rate.

There was no difference in the false positive rates for Māori and non-Māori women having subsequent screens.

Table 2e.2: Number with false positive results as a percentage of women screened, aged 50–69 years, 2 years (July 2011 to June 2013)

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	55	386	14.2(10.9, 18.1)	453	4,283	10.6(9.7, 11.5)	1.35(1.04, 1.75)
BSCM	34	367	9.3(6.5, 12.7)	251	3,249	7.7(6.8, 8.7)	1.20(0.85, 1.69)
BSAL	8	199	4.0(1.8, 7.8)	174	3,102	5.6(4.8, 6.5)	0.72(0.39, 1.44)
BSM	119	1,169	10.2(8.5, 12.1)	319	3,754	8.5(7.6, 9.4)	1.20(0.98, 1.46)
BSCtoC	51	663	7.7(5.8, 10.0)	134	2,129	6.3(5.3, 7.4)	1.23(0.90, 1.67)
BSC	25	237	10.5(6.9, 15.2)	164	2,313	7.1(6.1, 8.2)	1.49(0.998, 2.22)
BSSL	11	130	8.5(4.3, 14.6)	151	1,960	7.7(6.6, 9.0)	1.10(0.61, 1.98)
BSHC	4	86	4.7(1.3, 11.5)	95	1,230	7.7(6.3, 9.4)	0.60(0.28, 1.60)
Total BSA	307	3,237	9.5(8.5, 10.5)	1,741	22,020	7.9(7.6, 8.3)	1.20(1.07, 1.35)
Subsequent screen							
BSWN	164	5,311	3.1(2.6, 3.6)	1,247	47,008	2.7(2.5, 2.8)	1.17(0.99, 1.37)
BSCM	69	3,428	2.0(1.6, 2.5)	585	27,672	2.1(1.9, 2.3)	0.95(0.74, 1.22)
BSAL	29	1,653	1.8(1.2, 2.5)	531	25,695	2.1(1.9, 2.2)	0.85(0.59, 1.23)
BSM	158	6,276	2.5(2.1, 2.9)	1,162	42,208	2.8(2.6, 2.9)	0.91(0.78, 1.08)
BSCtoC	73	5,759	1.3(1.0, 1.6)	487	40,733	1.2(1.1, 1.3)	1.06(0.83, 1.35)
BSC	67	2,572	2.6(2.0, 3.3)	773	31,304	2.5(2.3, 2.6)	1.06(0.83, 1.35)
BSSL	90	3,134	2.9(2.3, 3.5)	1,996	68,471	2.9(2.8, 3.0)	0.99(0.80, 1.21)
BSHC	30	979	3.1(2.1, 4.3)	559	25,087	2.2(2.0, 2.4)	1.38(0.96, 1.98)
Total BSA	680	29,112	2.3(2.2, 2.5)	7,340	308,178	2.4(2.3, 2.4)	0.98(0.98, 1.06)

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 around the expected value for Māori and non-Māori women, but 20% higher for Māori than for non-Māori. BSWN exceeded the expected value of <9% for Māori women and showed an increasing trend for Māori women.

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

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

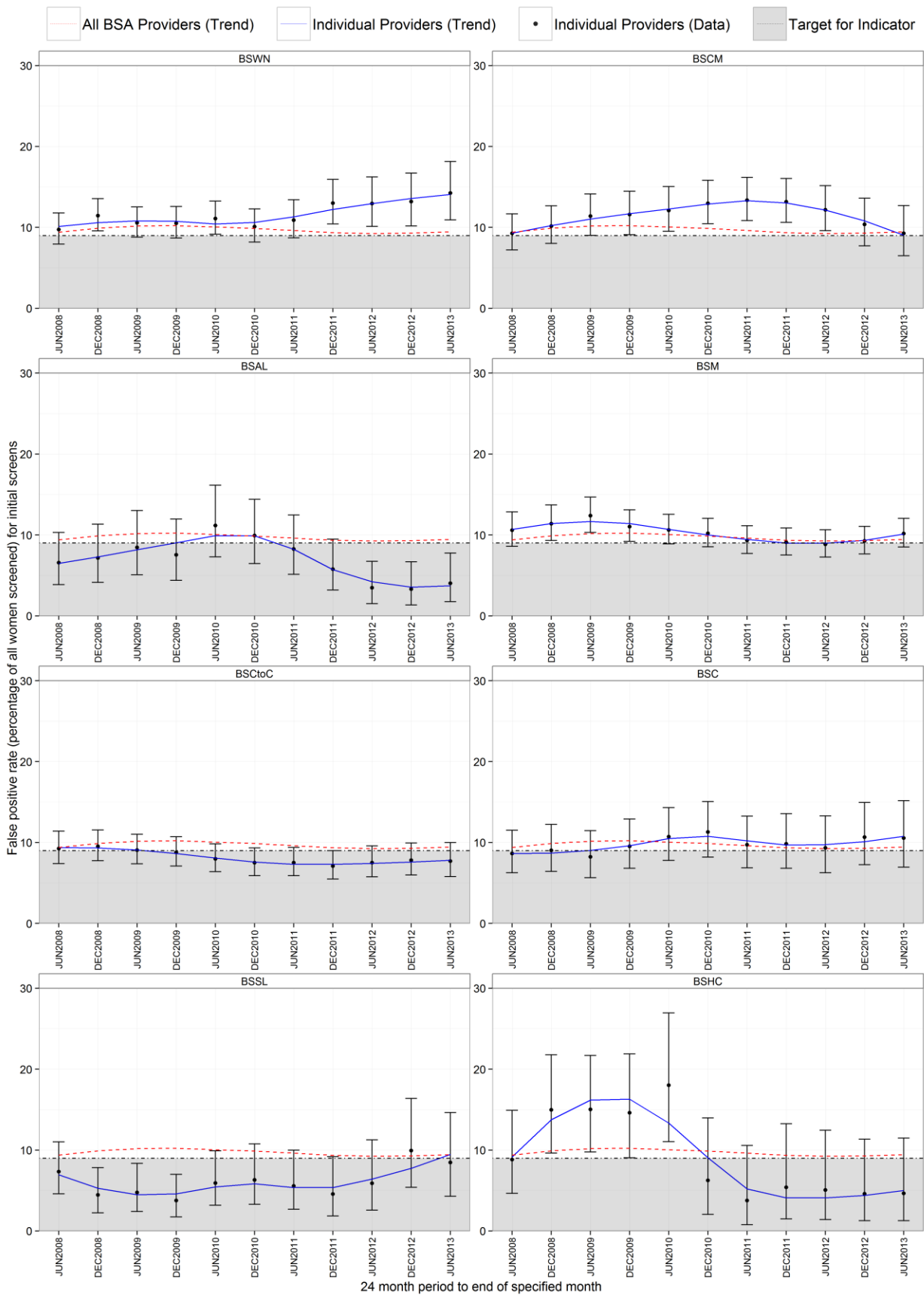
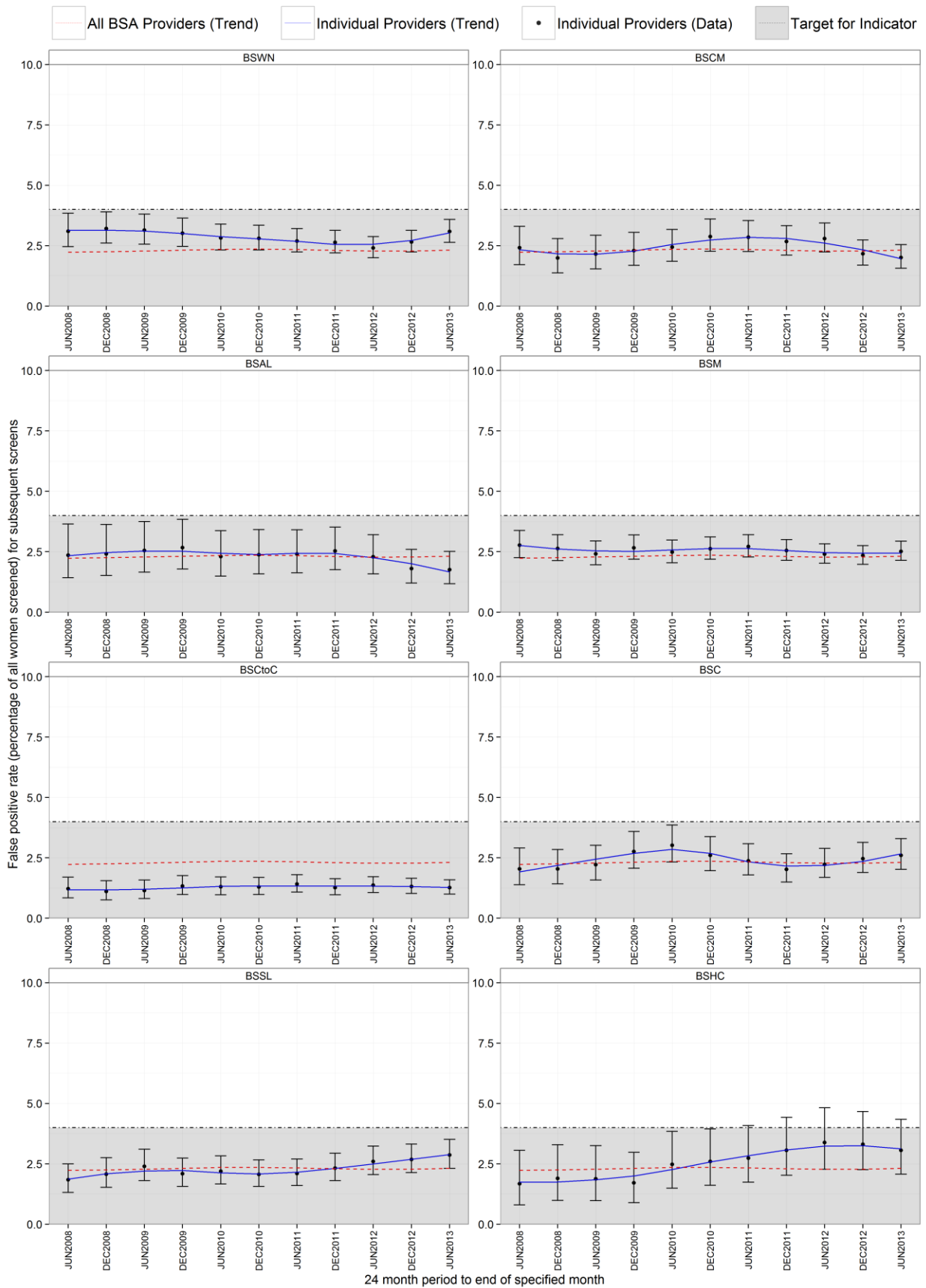


Figure 2e.2 Trends in false positive rates for Māori women aged 50–69 years having a subsequent screen



2f Positive predictive value of screening mammogram

Description:

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

Target for women aged 50–69 years:

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 2011 to June 2013)

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	9	119	7.6(3.5, 13.9)	52	867	6.0(4.5, 7.8)	1.26(0.64, 2.49)
BSCM	9	88	10.2(4.8, 18.5)	31	434	7.1(4.9, 10.0)	1.43(0.71, 2.90)
BSAL	5	30	16.7(5.6, 34.7)	13	314	4.1(2.2, 7.0)	4.03(1.54, 10.52)
BSM	10	168	6.0(2.9, 10.7)	35	629	5.6(3.9, 7.7)	1.07(0.54, 2.12)
BSCtoC	7	83	8.4(3.5, 16.6)	18	286	6.3(3.8, 9.8)	1.34(0.58, 3.09)
BSC	1	36	2.8(0.1, 14.5)	19	370	5.1(3.1, 7.9)	0.54(0.08, 3.92)
BSSL	5	78	6.4(2.1, 14.3)	41	846	4.8(3.5, 6.5)	1.32(0.54, 3.25)
BSHC	1	14	7.1(0.2, 33.9)	18	250	7.2(4.3, 11.1)	0.99(0.14, 6.91)
Total	47	616	7.6(5.7, 10.0)	227	3,996	5.7(5.0, 6.4)	1.34(0.99, 1.82)
Subsequent screen							
BSWN	6	63	9.5(3.6, 19.6)	28	419	6.7(4.5, 9.5)	1.43(0.62, 3.31)
BSCM	11	37	29.7(15.9, 47.0)	14	214	6.5(3.6, 10.7)	4.54(2.24, 9.23)
BSAL	3	14	21.4(4.7, 50.8)	25	191	13.1(8.7, 18.7)	1.64(0.56, 4.76)
BSM	4	45	8.9(2.5, 21.2)	15	272	5.5(3.1, 8.9)	1.61(0.56, 4.64)
BSCtoC	5	23	21.7(7.5, 43.7)	23	159	14.5(9.4, 20.9)	1.50(0.63, 3.56)
BSC	0	16	0.0(0.0, 20.6)	24	221	10.9(7.1, 15.7)	0.00(0.00, 2.295)
BSSL	5	41	12.2(4.1, 26.2)	57	677	8.4(6.4, 10.8)	1.45(0.61, 3.42)
BSHC	4	14	28.6(8.4, 58.1)	16	131	12.2(7.1, 19.1)	2.34(0.91, 6.03)
Total	38	253	15.0(10.9, 20.0)	202	2,284	8.8(7.7, 10.1)	1.70(1.23, 2.34)

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

Among women aged 45–49 years having initial screens who were referred for assessment, Māori women were a third more likely than non-Māori women to be diagnosed with breast cancer, but this difference not statistically significant.

Among women having subsequent screens who were referred for assessment, Māori women were 70% 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 2011 to June 2013)

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	66	12.1(5.4, 22.5)	41	508	8.1(5.9, 10.8)	1.50(0.74, 3.06)
BSCM	5	42	11.9(4.0, 25.6)	31	299	10.4(7.2, 14.4)	1.15(0.47, 2.79)
BSAL	3	12	25.0(5.5, 57.2)	30	209	14.4(9.9, 19.9)	1.74(0.62, 4.90)
BSM	17	139	12.2(7.3, 18.9)	38	360	10.6(7.6, 14.2)	1.16(0.68, 1.98)
BSCtoC	7	60	11.7(4.8, 22.6)	20	156	12.8(8.0, 19.1)	0.91(0.41, 2.04)
BSC	5	30	16.7(5.6, 34.7)	25	189	13.2(8.7, 18.9)	1.26(0.52, 3.04)
BSSL	2	13	15.4(1.9, 45.4)	14	170	8.2(4.6, 13.4)	1.87(0.48, 7.35)
BSHC	2	6	33.3(4.3, 77.7)	14	109	12.8(7.2, 20.6)	2.60(0.76, 8.90)
Total BSA	49	368	13.3(10.0, 17.2)	213	2,000	10.6(9.3, 12.1)	1.25(0.94, 1.68)
Subsequent screen							
BSWN	47	214	22.0(16.6, 28.1)	267	1,544	17.3(15.4, 19.3)	1.27(0.96, 1.67)
BSCM	37	107	34.6(25.6, 44.4)	162	764	21.2(18.4, 24.3)	1.63(1.22, 2.19)
BSAL	6	36	16.7(6.4, 32.8)	139	686	20.3(17.3, 23.5)	0.82(0.39, 1.73)
BSM	57	218	26.1(20.4, 32.5)	226	1,395	16.2(14.3, 18.2)	1.61(1.25, 2.08)
BSCtoC	43	118	36.4(27.8, 45.8)	202	705	28.7(25.3, 32.1)	1.27(0.98, 1.69)
BSC	17	87	19.5(11.8, 29.4)	170	959	17.7(15.4, 20.3)	1.10(0.70, 1.73)
BSSL	24	115	20.9(13.9, 29.4)	391	2,406	16.3(14.8, 17.8)	1.28(0.89, 1.85)
BSHC	3	35	8.6(1.8, 23.1)	138	710	19.4(16.6, 22.5)	0.44(0.15, 1.32)
Total BSA	234	930	25.2(22.4, 28.1)	1,695	9,169	18.5(17.7, 19.3)	1.36(1.21, 1.53)

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 decreased to 13.3% (down from 16.4% in the previous report). This was not significantly different from the non-Māori positive predictive value of 10.6%.

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 36% 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

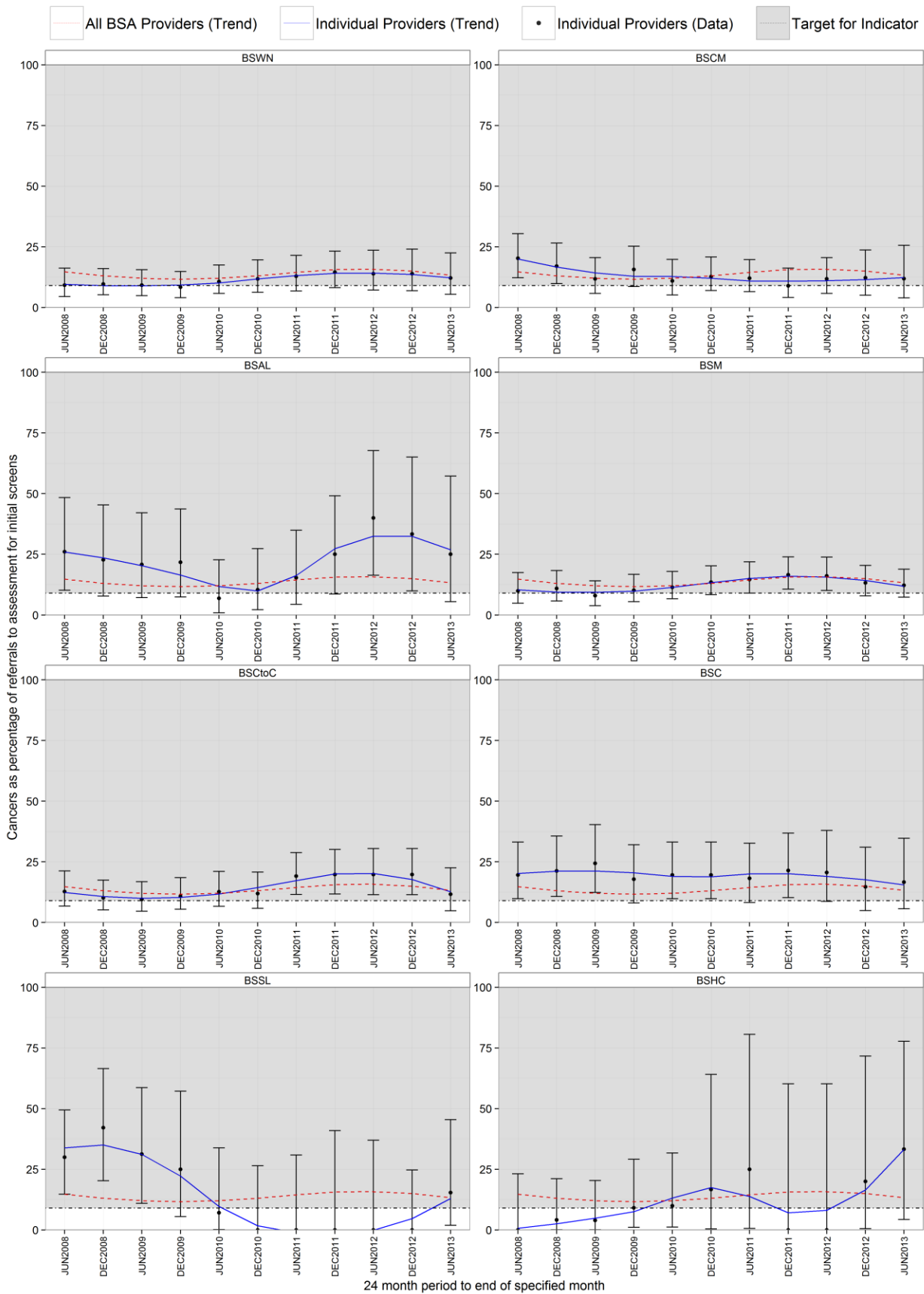
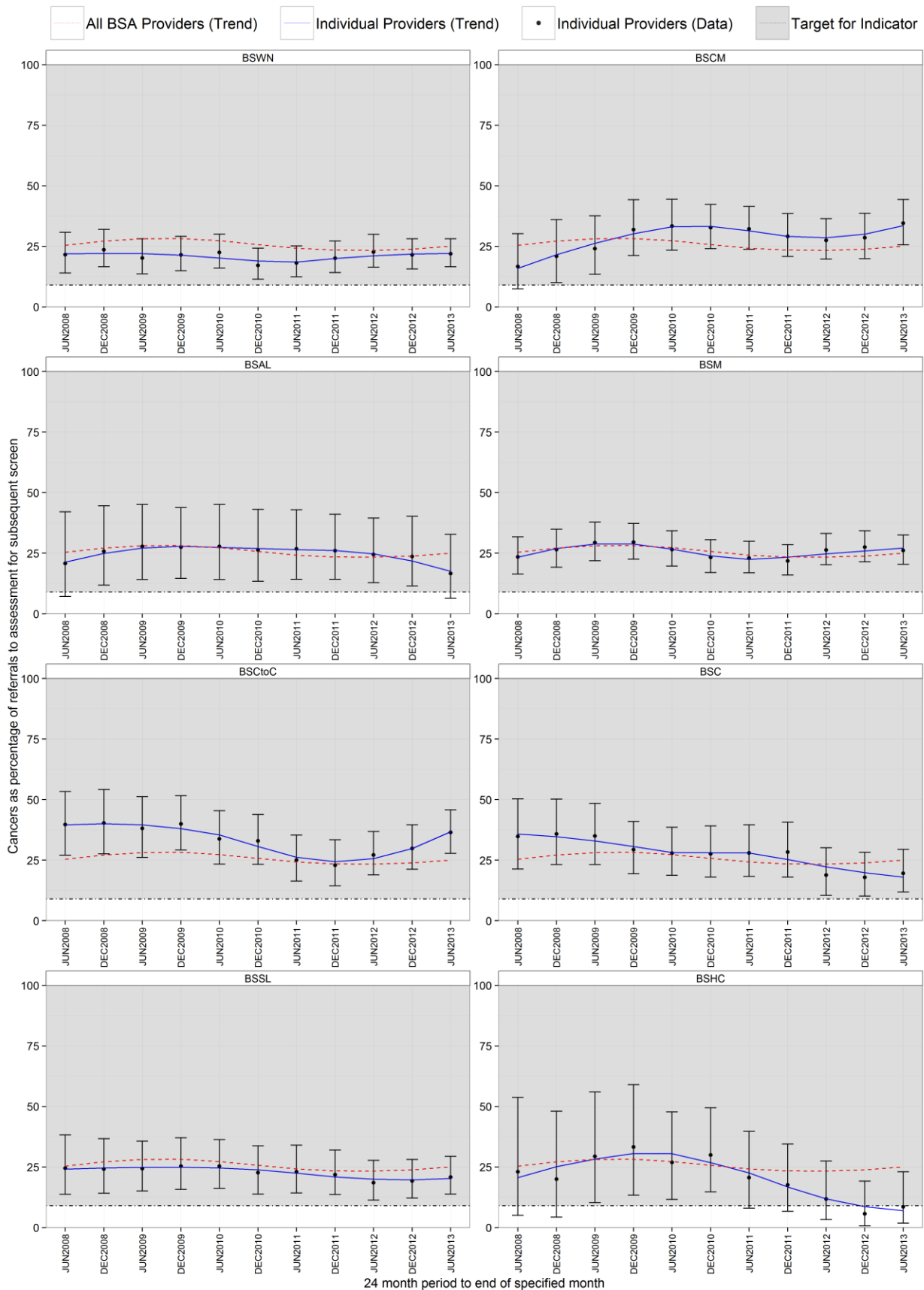


Figure 2f.2: Trends in the proportion of referrals to assessment that were diagnosed as breast cancer (DCIS and invasive) among Māori women aged 50–69 years having a subsequent screen



2g Benign biopsy weight

Description:

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

Target for women aged 50–69 years:

>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 2008 to June 2013)

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)	86	100	86.0(77.6, 92.1)	1.04(0.88, 1.24)
BSCM	8	9	88.9(51.8, 99.7)	31	40	77.5(61.5, 89.2)	1.15(0.86, 1.53)
BSAL	2	4	50.0(6.8, 93.2)	44	49	89.8(77.8, 96.6)	0.56(0.21, 1.49)
BSM	11	14	78.6(49.2, 95.3)	36	55	65.5(51.4, 77.8)	1.20(0.86, 1.68)
BSCtoC	3	3	100.0(29.2, 100.0)	10	18	55.6(30.8, 78.5)	1.80(1.19, 2.72)
BSC	0	0	--	18	25	72.0(50.6, 87.9)	--
BSSL	3	5	60.0(14.7, 94.7)	38	49	77.6(63.4, 88.2)	0.77(0.37, 1.61)
BSHC	3	3	100.0(29.2, 100.0)	21	26	80.8(60.6, 93.4)	1.24(1.03, 1.49)
Total BSA	47	57	82.5(70.1, 91.3)	284	362	78.5(73.9, 82.6)	1.05(0.92, 1.20)
50–69 years							
BSWN	16	18	88.9(65.3, 98.6)	119	143	83.2(76.1, 88.9)	1.07(0.89, 1.28)
BSCM	7	10	70.0(34.8, 93.3)	59	74	79.7(68.8, 88.2)	0.88(0.58, 1.34)
BSAL	2	3	66.7(9.4, 99.2)	47	52	90.4(79.0, 96.8)	0.74(0.33, 1.65)
BSM	11	16	68.8(41.3, 89.0)	68	92	73.9(63.7, 82.5)	0.93(0.65, 1.32)
BSCtoC	9	11	81.8(48.2, 97.7)	15	28	53.6(33.9, 72.5)	1.53(0.98, 2.38)
BSC	6	7	85.7(42.1, 99.6)	29	35	82.9(66.4, 93.4)	1.03(0.74, 1.45)
BSSL	2	3	66.7(9.4, 99.2)	52	74	70.3(58.5, 80.3)	0.95(0.42, 2.14)
BSHC	1	2	50.0(1.3, 98.7)	34	44	77.3(62.2, 88.5)	0.65(0.16, 2.61)
Total BSA	54	70	77.1(65.6, 86.3)	423	542	78.0(74.3, 81.5)	0.99(0.86, 1.13)

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 2008 to June 2013 there were 57 benign open biopsies among Māori women aged 45–49 years and 70 among Māori women aged 50–69 years.

Among women aged 50–69 years, the target of >90% was not met for Māori (77%) or non-Māori (78%).

The proportion of benign open biopsies weighing <30g was similar among Māori and non-Māori women in both age groups.

Table 2g.2: Distribution of open biopsies by weight, 5 years (July 2008 to June 2013)

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	0.0	0.0	86.0	10.0	1.0	0.0	3.0
BSCM	88.9	0.0	11.1	0.0	0.0	77.5	22.5	0.0	0.0	0.0
BSAL	50.0	25.0	25.0	0.0	0.0	89.8	10.2	0.0	0.0	0.0
BSM	78.6	0.0	21.4	0.0	0.0	65.5	25.5	3.6	3.6	1.8
BSCtoC	100.0	0.0	0.0	0.0	0.0	55.6	11.1	0.0	0.0	33.3
BSC	NaN	NaN	NaN	NaN	NaN	72.0	24.0	0.0	0.0	4.0
BSSL	60.0	20.0	20.0	0.0	0.0	77.6	16.3	4.1	2.0	0.0
BSHC	100.0	0.0	0.0	0.0	0.0	80.8	7.7	3.8	7.7	0.0
Total	82.5	7.0	10.5	0.0	0.0	78.5	15.5	1.7	1.4	3.0
50–69 years										
BSWN	88.9	0.0	5.6	0.0	5.6	83.2	9.8	0.7	2.8	3.5
BSCM	70.0	30.0	0.0	0.0	0.0	79.7	14.9	1.4	4.1	0.0
BSAL	66.7	0.0	0.0	33.3	0.0	90.4	9.6	0.0	0.0	0.0
BSM	68.8	12.5	6.2	12.5	0.0	73.9	15.2	5.4	3.3	2.2
BSCtoC	81.8	0.0	0.0	0.0	18.2	53.6	21.4	0.0	3.6	21.4
BSC	85.7	14.3	0.0	0.0	0.0	82.9	8.6	5.7	2.9	0.0
BSSL	66.7	33.3	0.0	0.0	0.0	70.3	21.6	5.4	2.7	0.0
BSHC	50.0	50.0	0.0	0.0	0.0	77.3	11.4	4.5	6.8	0.0
Total	77.1	11.4	2.9	4.3	4.3	78.0	13.7	2.8	3.1	2.4

Note there were no open biopsies among Māori women aged 45–49 years having an initial screen in the BSC region during this five year period.

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 for women aged 50–69 years:

>90% (desired target)

>70% (expected target)

Table 2h: Percentage of women with a preoperative diagnosis of cancer, 2 years (July 2011 to June 2013)

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	10	15	66.7(38.4, 88.2)	42	80	52.5(41.0, 63.8)	1.27(0.84, 1.92)
BSCM	20	20	100.0(83.2, 100.0)	37	45	82.2(67.9, 92.0)	1.22(1.06, 1.39)
BSAL	7	8	87.5(47.3, 99.7)	29	38	76.3(59.8, 88.6)	1.15(0.84, 1.57)
BSM	13	14	92.9(66.1, 99.8)	46	50	92.0(80.8, 97.8)	1.01(0.85, 1.19)
BSCtoC	12	12	100.0(73.5, 100.0)	38	41	92.7(80.1, 98.5)	1.08(0.99, 1.176)
BSC	1	1	100.0(2.5, 100.0)	38	43	88.4(74.9, 96.1)	1.13(1.02, 1.26)
BSSL	10	10	100.0(69.2, 100.0)	83	98	84.7(76.0, 91.2)	1.18(1.09, 1.28)
BSHC	4	5	80.0(28.4, 99.5)	26	34	76.5(58.8, 89.3)	1.05(0.65, 1.68)
Total	77	85	90.6(82.3, 95.8)	339	429	79.0(74.9, 82.8)	1.15(1.05, 1.25)
50–69 years							
BSWN	45	55	81.8(69.1, 90.9)	220	308	71.4(66.0, 76.4)	1.15(0.99, 1.32)
BSCM	40	42	95.2(83.8, 99.4)	187	193	96.9(93.4, 98.9)	0.98(0.91, 1.06)
BSAL	9	9	100.0(66.4, 100.0)	125	169	74.0(66.7, 80.4)	1.35(1.27, 1.48)
BSM	70	74	94.6(86.7, 98.5)	247	264	93.6(89.9, 96.2)	1.01(0.95, 1.08)
BSCtoC	49	50	98.0(89.4, 99.9)	220	222	99.1(96.8, 99.9)	0.99(0.95, 1.03)
BSC	20	22	90.9(70.8, 98.9)	182	195	93.3(88.9, 96.4)	0.97(0.85, 1.12)
BSSL	24	26	92.3(74.9, 99.1)	371	405	91.6(88.5, 94.1)	1.01(0.90, 1.13)
BSHC	5	5	100.0(47.8, 100.0)	124	152	81.6(74.5, 87.4)	1.27(1.14, 1.32)
Total	262	283	92.6(88.9, 95.3)	1,676	1,908	87.8(86.3, 89.3)	1.05(1.02, 1.09)

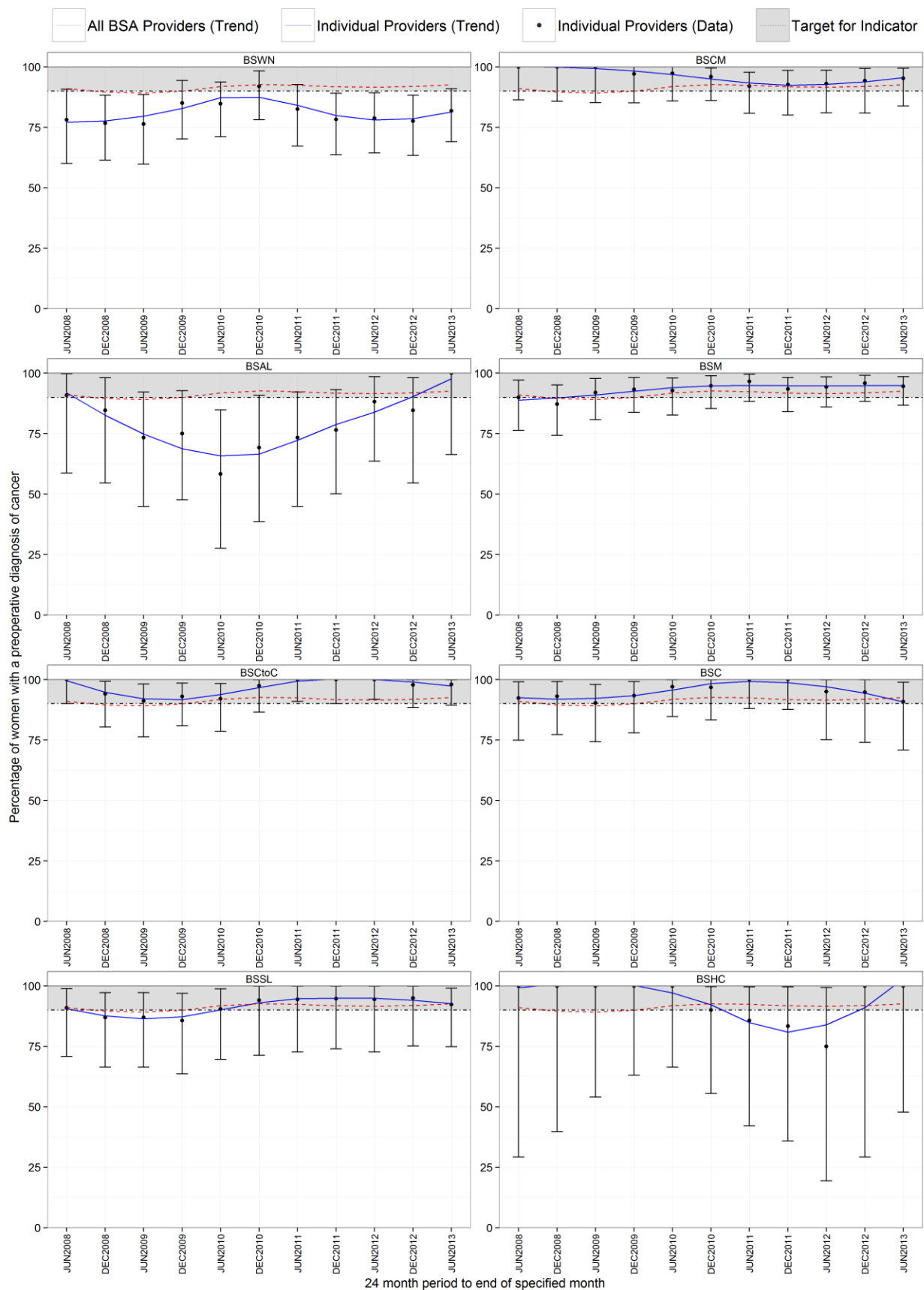
Ratios below one are unfavourable to Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori.

Of the 85 Māori women aged 45–49 years diagnosed with cancer, 91% had their definitive pre-operative diagnosis from a needle biopsy, compared to 79% of non-Māori women.

Among women aged 50–69 years, 93% of Māori and 88% 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)



2I 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 for women aged 50–69 years:

>93%

Table 2I.1: Estimated specificity of BSA by Lead provider, by type of screen (initial and subsequent), 2 years (July 2011 to June 2013), 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	870	976	89.1(87.0, 91.0)	7,539	8,333	90.5(89.8, 91.1)	0.99(0.96, 1.01)
BSCM	804	882	91.2(89.1, 92.9)	5,157	5,544	93.0(92.3, 93.7)	0.98(0.96, 1.00)
BSAL	330	354	93.2(90.1, 95.6)	4,565	4,858	94.0(93.3, 94.6)	0.99(0.96, 1.02)
BSM	1,403	1,559	90.0(88.4, 91.4)	5,810	6,401	90.8(90.0, 91.5)	0.99(0.97, 1.01)
BSCtoC	1,074	1,149	93.5(91.9, 94.8)	4,365	4,631	94.3(93.5, 94.9)	0.99(0.98, 1.01)
BSC	530	565	93.8(91.5, 95.6)	4,753	5,101	93.2(92.5, 93.9)	1.01(0.98, 1.03)
BSSL	584	657	88.9(86.2, 91.2)	8,411	9,209	91.3(90.7, 91.9)	0.97(0.95, 1.00)
BSHC	220	233	94.4(90.6, 97.0)	3,137	3,367	93.2(92.3, 94.0)	1.01(0.98, 1.05)
Total BSA	5,815	6,375	91.2(90.5, 91.9)	43,737	47,444	92.2(91.9, 92.4)	0.99(0.98, 1.00)
Subsequent screens							
BSWN	1,194	1,249	95.6(94.3, 96.7)	8,624	9,012	95.7(95.3, 96.1)	1.00(0.99, 1.01)
BSCM	775	800	96.9(95.4, 98.0)	5,751	5,948	96.7(96.2, 97.1)	1.00(0.99, 1.02)
BSAL	382	392	97.4(95.4, 98.8)	5,647	5,812	97.2(96.7, 97.6)	1.00(0.99, 1.02)
BSM	1,075	1,116	96.3(95.0, 97.4)	5,818	6,074	95.8(95.2, 96.3)	1.01(0.99, 1.02)
BSCtoC	1,120	1,137	98.5(97.6, 99.1)	6,299	6,435	97.9(97.5, 98.2)	1.01(1.00, 1.01)
BSC	543	559	97.1(95.4, 98.4)	5,162	5,358	96.3(95.8, 96.8)	1.01(0.99, 1.02)
BSSL	817	853	95.8(94.2, 97.0)	12,943	13,559	95.5(95.1, 95.8)	1.00(0.99, 1.02)
BSHC	209	219	95.4(91.8, 97.8)	3,471	3,585	96.8(96.2, 97.4)	0.99(0.96, 1.02)
Total BSA	6,115	6,325	96.7(96.2, 97.1)	53,715	55,783	96.3(96.1, 96.4)	1.00(1.00, 1.01)

*RRS=return to routine screening

There were no differences in the estimated specificity between Māori and non-Māori aged 45–49 years.

Table 21.2: Estimated specificity of BSA by Lead provider, by type of screen (initial and subsequent), 2 years (July 2011 to June 2013), 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	320	375	85.3(81.3, 88.8)	3,775	4,228	89.3(88.3, 90.2)	0.96(0.92, 1.00)
BSCM	325	359	90.5(87.0, 93.4)	2,950	3,201	92.2(91.2, 93.1)	0.98(0.95, 1.02)
BSAL	187	195	95.9(92.1, 98.2)	2,893	3,067	94.3(93.4, 95.1)	1.02(0.99, 1.05)
BSM	1,030	1,149	89.6(87.7, 91.3)	3,394	3,713	91.4(90.5, 92.3)	0.98(0.96, 1.00)
BSCtoC	603	654	92.2(89.9, 94.1)	1,973	2,107	93.6(92.5, 94.6)	0.98(0.96, 1.01)
BSC	207	232	89.2(84.5, 92.9)	2,124	2,288	92.8(91.7, 93.9)	0.96(0.92, 1.01)
BSSL	117	128	91.4(85.1, 95.6)	1,790	1,941	92.2(90.9, 93.4)	0.99(0.94, 1.05)
BSHC	80	84	95.2(88.3, 98.7)	1,121	1,216	92.2(90.5, 93.6)	1.03(0.98, 1.09)
Total BSA	2,869	3,176	90.3(89.3, 91.3)	20,020	21,761	92.0(91.6, 92.4)	0.98(0.97, 0.99)
Subsequent screens							
BSWN	5,097	5,261	96.9(96.4, 97.3)	45,464	46,711	97.3(97.2, 97.5)	1.00(0.99, 1.00)
BSCM	3,321	3,390	98.0(97.4, 98.4)	26,908	27,493	97.9(97.7, 98.0)	1.00(1.00, 1.01)
BSAL	1,617	1,646	98.2(97.5, 98.8)	25,009	25,540	97.9(97.7, 98.1)	1.00(1.00, 1.01)
BSM	6,058	6,216	97.5(97.0, 97.8)	40,813	41,975	97.2(97.1, 97.4)	1.00(1.00, 1.01)
BSCtoC	5,641	5,714	98.7(98.4, 99.0)	40,028	40,515	98.8(98.7, 98.9)	1.00(1.00, 1.00)
BSC	2,485	2,552	97.4(96.7, 98.0)	30,345	31,118	97.5(97.3, 97.7)	1.00(0.99, 1.01)
BSSL	3,019	3,109	97.1(96.5, 97.7)	66,065	68,061	97.1(96.9, 97.2)	1.00(0.99, 1.01)
BSHC	944	974	96.9(95.6, 97.9)	24,377	24,936	97.8(97.6, 97.9)	0.99(0.98, 1.00)
Total BSA	28,182	28,862	97.6(97.5, 97.8)	299,009	306,349	97.6(97.5, 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 (90%) and non-Māori women (92%). BSWN showed the lowest specificity for Māori (85.3%) and non-Māori (89.3%) women having an initial screen.

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 for women aged 50–69 years:

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 2011 to June 2013)

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	1	989	1.0(0.0, 5.6)	25	8,406	3.0(1.9, 4.4)	0.34(0.05, 2.51)
BSCM	1	892	1.1(0.0, 6.2)	10	5,591	1.8(0.9, 3.3)	0.63(0.08, 4.89)
BSAL	-	360	--	9	4,879	1.8(0.8, 3.5)	--
BSM	6	1,571	3.8(1.4, 8.3)	19	6,439	3.0(1.8, 4.6)	1.29(0.52, 3.24)
BSCtoC	1	1,157	0.9(0.0, 4.8)	9	4,651	1.9(0.9, 3.7)	0.4(0.06, 3.52)
BSC	-	566	--	9	5,123	1.8(0.8, 3.3)	--
BSSL	2	662	3.0(0.4, 10.9)	20	9,257	2.2(1.3, 3.3)	1.40(0.33, 5.97)
BSHC	-	234	--	9	3,387	2.7(1.2, 5.0)	--
Total BSA	11	6,431	1.7(0.9, 3.1)	110	47,733	2.3(1.9, 2.8)	0.74(0.40, 1.38)
Subsequent screen							
BSWN	3	1,257	2.4(0.5, 7.0)	14	9,043	1.5(0.8, 2.6)	1.54(0.44, 5.34)
BSCM	-	812	--	8	5,965	1.3(0.6, 2.6)	--
BSAL	-	396	--	5	5,838	0.9(0.3, 2.0)	--
BSM	-	1,120	--	5	6,090	0.8(0.3, 1.9)	--
BSCtoC	-	1,143	--	1	6,458	0.2(0.0, 0.9)	--
BSC	-	559	--	2	5,383	0.4(0.0, 1.3)	--
BSSL	1	858	1.2(0.0, 6.5)	6	13,620	0.4(0.2, 1.0)	2.65(0.32, 21.95)
BSHC	1	223	4.5(0.1, 24.7)	4	3,602	1.1(0.3, 2.8)	4.04(0.45, 35.98)
Total BSA	5	6,368	0.8(0.3, 1.8)	45	55,999	0.8(0.6, 1.1)	0.98(0.39, 2.47)

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

There were low numbers of open biopsies among Māori women aged 45–49 years during this two year period: 11 among Māori women having an initial screen and 5 among those having a subsequent screen.

Table 2m.2: Benign open biopsies as a proportion of women screened, aged 50–69 years, 2 years (July 2011 to June 2013)

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	4	386	10.4(2.8, 26.3)	9	4,283	2.1(1.0, 4.0)	4.93(1.53, 15.94)
BSCM	1	367	2.7(0.1, 15.1)	7	3,249	2.2(0.9, 4.4)	1.27(0.16, 10.25)
BSAL	-	199	--	4	3,102	1.3(0.4, 3.3)	--
BSM	4	1,169	3.4(0.9, 8.7)	12	3,754	3.2(1.7, 5.6)	1.07(0.35, 3.31)
BSCtoC	3	663	4.5(0.9, 13.2)	7	2,129	3.3(1.3, 6.8)	1.38(0.36, 5.31)
BSC	1	237	4.2(0.1, 23.3)	3	2,313	1.3(0.3, 3.8)	3.25(0.34, 31.15)
BSSL	-	130	--	9	1,960	4.6(2.1, 8.7)	--
BSHC	-	86	--	6	1,230	4.9(1.8, 10.6)	--
Total BSA	13	3,237	4.0(2.1, 6.9)	57	22,020	2.6(2.0, 3.4)	1.55(0.85, 2.81)
Subsequent screen							
BSWN	4	5,311	0.8(0.2, 1.9)	51	47,008	1.1(0.8, 1.4)	0.69(0.25, 1.92)
BSCM	4	3,428	1.2(0.3, 3.0)	19	27,672	0.7(0.4, 1.1)	1.70(0.58, 4.99)
BSAL	-	1,653	--	14	25,695	0.5(0.3, 0.9)	--
BSM	3	6,276	0.5(0.1, 1.4)	23	42,208	0.5(0.3, 0.8)	0.88(0.26, 2.92)
BSCtoC	1	5,759	0.2(0.0, 1.0)	10	40,733	0.2(0.1, 0.5)	0.71(0.09, 5.52)
BSC	3	2,572	1.2(0.2, 3.4)	12	31,304	0.4(0.2, 0.7)	3.04(0.86, 10.78)
BSSL	2	3,134	0.6(0.1, 2.3)	34	68,471	0.5(0.3, 0.7)	1.29(0.31, 5.35)
BSHC	-	979	--	18	25,087	0.7(0.4, 1.1)	--
Total BSA	17	29,112	0.6(0.3, 0.9)	181	308,178	0.6(0.5, 0.7)	0.99(0.61, 1.63)

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 aged 50–69 years 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 2011 to June 2013)

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	9	8.7(4.0, 16.5)	52	6.1(4.6, 8.0)	1.42(0.70, 2.88)
BSCM	9	9.7(4.4, 18.3)	31	5.3(3.6, 7.5)	1.82(0.87, 3.82)
BSAL	5	13.0(4.2, 30.1)	13	2.5(1.4, 4.4)	<i>5.11(1.83, 14.26)</i>
BSM	10	6.3(3.0, 11.6)	35	5.4(3.8, 7.5)	1.17(0.58, 2.36)
BSCtoC	7	5.8(2.3, 11.9)	18	3.7(2.2, 5.8)	1.57(0.66, 3.74)
BSC	1	1.7(0.0, 9.7)	19	3.7(2.2, 5.7)	0.48(0.06, 3.56)
BSSL	5	7.4(2.4, 17.2)	41	4.3(3.1, 5.8)	1.73(0.69, 4.37)
BSHC	1	4.3(0.1, 23.5)	18	5.3(3.1, 8.3)	0.81(0.11, 6.02)
Total BSA	47	7.1(5.2, 9.4)	227	4.6(4.0, 5.3)	1.53(1.12, 2.09)
Subsequent screen					
BSWN	6	4.5(1.7, 9.8)	28	3.1(2.0, 4.4)	1.48(0.61, 3.56)
BSCM	11	13.0(6.5, 23.2)	14	2.2(1.2, 3.7)	<i>5.84(2.66, 12.82)</i>
BSAL	3	7.1(1.5, 20.6)	25	4.0(2.6, 6.0)	1.76(0.53, 5.81)
BSM	4	3.5(1.0, 8.9)	15	2.4(1.4, 4.0)	1.43(0.48, 4.299)
BSCtoC	5	4.2(1.4, 9.7)	23	3.4(2.2, 5.1)	1.23(0.47, 3.23)
BSC	0	0.0(0.0, 6.5)	24	4.4(2.8, 6.5)	0.00(0.00, 1.60)
BSSL	5	5.5(1.8, 12.8)	57	4.0(3.0, 5.2)	1.38(0.56, 3.44)
BSHC	4	17.9(4.9, 45.1)	16	4.4(2.5, 7.2)	<i>4.04(1.36, 11.98)</i>
Total BSA	38	5.7(4.1, 7.9)	202	3.5(3.0, 4.0)	1.64(1.16, 2.32)

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.

Māori women aged 45-49 years were 53% more likely to have breast cancer (DCIS or invasive) detected on their initial screen than non-Māori women.

Among women having a subsequent screen, Māori women were 64% more likely to be diagnosed with breast cancer than non-Māori women.

Table 3a.1b: Detection rate of DCIS and invasive breast cancer per 1,000 screens, aged 50–69 years, 2 years (July 2011 to June 2013)

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	19.4(8.4, 37.9)	41	9.5(6.8, 12.9)	2.05(0.97, 4.34)
BSCM	5	13.1(4.3, 30.2)	31	9.2(6.3, 13.0)	1.42(0.56, 3.63)
BSAL	3	14.6(3.0, 42.2)	30	9.2(6.2, 13.1)	1.59(0.49, 5.18)
BSM	17	14.4(8.4, 23.0)	38	10.0(7.1, 13.8)	1.44(0.81, 2.53)
BSCtoC	7	10.0(4.0, 20.6)	20	8.9(5.5, 13.7)	1.12(0.48, 2.65)
BSC	5	20.6(6.7, 47.4)	25	10.6(6.9, 15.6)	1.94(0.75, 5.03)
BSSL	2	14.8(1.8, 52.5)	14	6.9(3.8, 11.6)	2.14(0.49, 9.30)
BSHC	2	23.3(2.8, 81.5)	14	11.3(6.2, 19.0)	2.05(0.47, 8.87)
Total BSA	49	14.7(10.9, 19.3)	213	9.4(8.2, 10.8)	1.56(1.14, 2.12)
Subsequent screen					
BSWN	47	8.5(6.2, 11.3)	267	5.6(5.0, 6.3)	1.51(1.11, 2.05)
BSCM	37	10.3(7.2, 14.1)	162	5.6(4.8, 6.5)	1.84(1.29, 2.62)
BSAL	6	3.4(1.3, 7.4)	139	5.1(4.3, 6.0)	0.67(0.30, 1.52)
BSM	57	8.9(6.7, 11.5)	226	5.3(4.6, 6.0)	1.67(1.25, 2.24)
BSCtoC	43	7.2(5.2, 9.6)	202	4.7(4.1, 5.4)	1.52(1.092, 2.11)
BSC	17	6.5(3.8, 10.4)	170	5.3(4.5, 6.2)	1.23(0.75, 2.02)
BSSL	24	7.3(4.7, 10.8)	391	5.4(4.9, 6.0)	1.35(0.89, 2.03)
BSHC	3	3.1(0.6, 8.9)	138	5.5(4.6, 6.5)	0.56(0.18, 1.75)
Total BSA	234	7.7(6.8, 8.8)	1,695	5.3(5.1, 5.6)	1.46(1.27, 1.67)

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 2011 to June 2013, 49 breast cancers (DCIS and invasive) were detected among Māori and 213 were detected among non-Māori. The rate of cancer detected from initial screens was 56% higher among Māori women aged 50–69 years (14.7 per 1,000 screens) than non-Māori women (9.4 per 1,000 screens).

From subsequent screens, 234 cancers were detected among Māori women and 1,695 among non-Māori women. The detection rate was 46% higher for Māori (7.7 per 1,000 screens) than non-Māori women (5.3 per 1,000 screens).

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

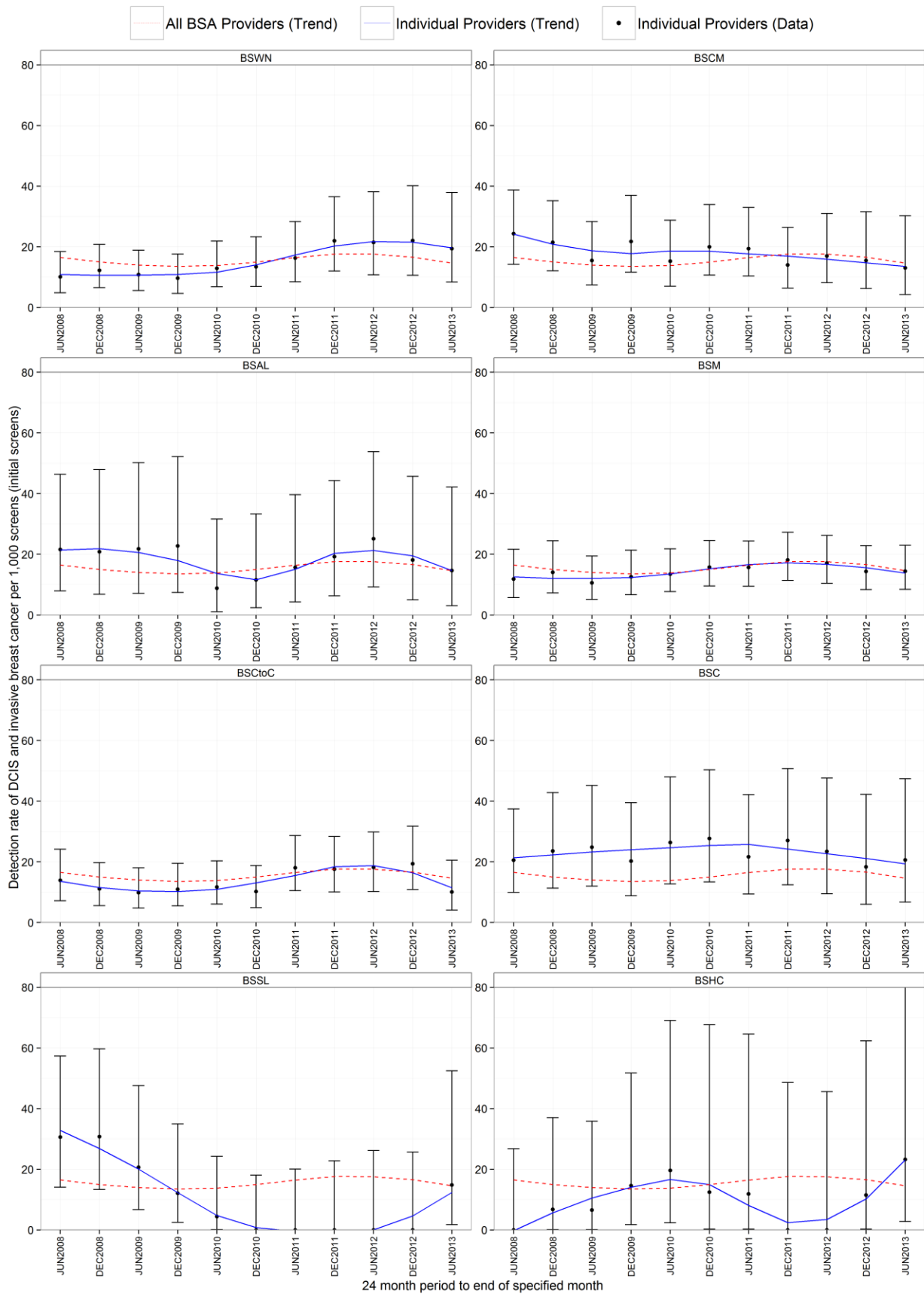
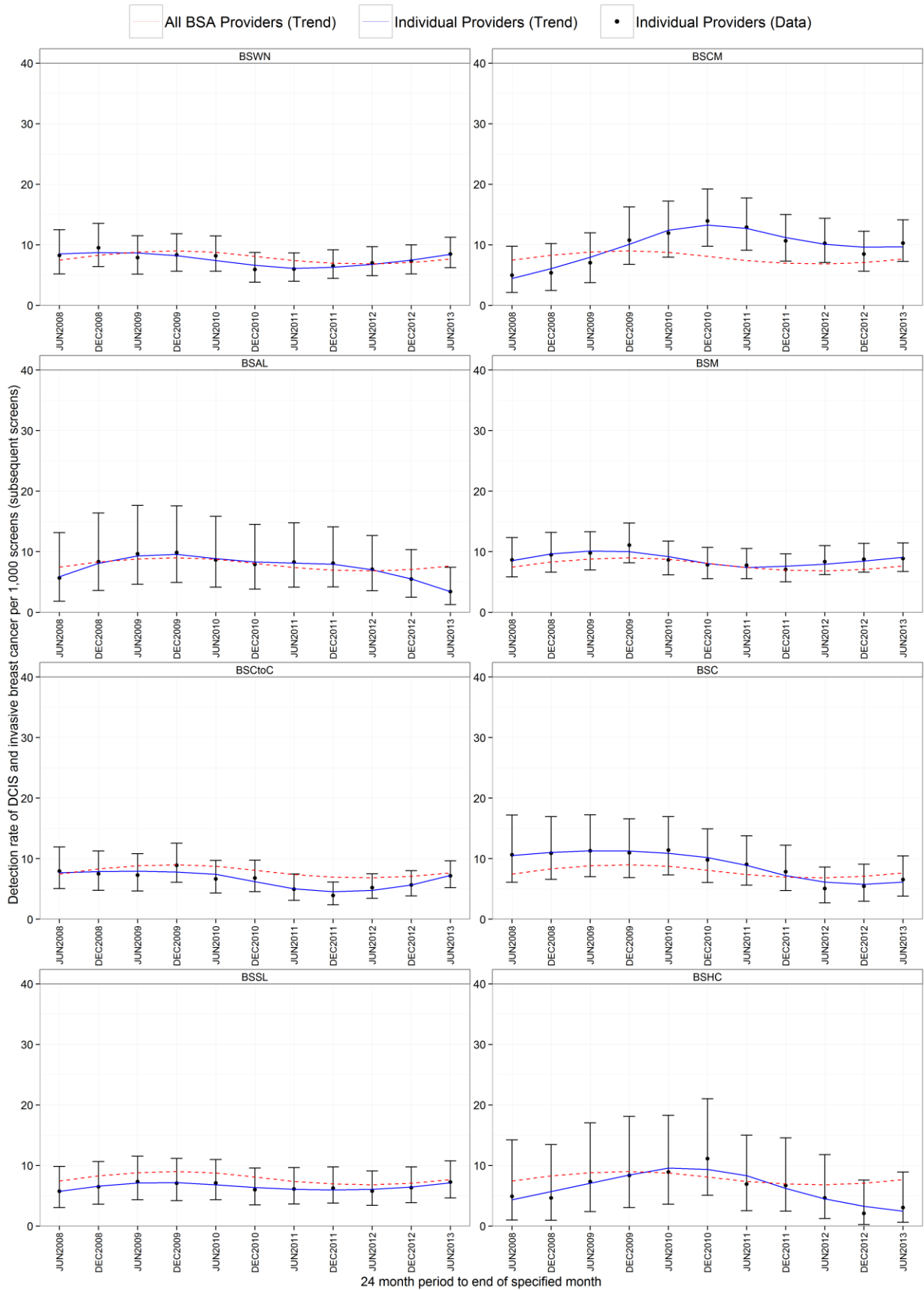


Figure 3a.1b: Trends in the detection rate of DCIS and invasive breast cancer among Māori women aged 50–69 years having a subsequent screen



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 screens.

Target for women aged 50–69 years:

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 2011 to June 2013)

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	7	6.8(2.7, 13.9)	33	3.9(2.7, 5.5)	1.74(0.77, 3.93)
BSCM	7	7.5(3.0, 15.5)	22	3.8(2.4, 5.7)	2.00(0.86, 4.66)
BSAL	3	7.8(1.6, 22.7)	11	2.2(1.1, 3.9)	3.62(1.02, 12.94)
BSM	8	5.0(2.2, 9.9)	24	3.7(2.4, 5.5)	1.37(0.61, 3.03)
BSCtoC	6	4.9(1.8, 10.7)	12	2.5(1.3, 4.3)	2.01(0.76, 5.36)
BSC	1	1.7(0.0, 9.7)	11	2.1(1.1, 3.8)	0.82(0.11, 6.37)
BSSL	5	7.4(2.4, 17.2)	24	2.5(1.6, 3.7)	2.96(1.13, 7.73)
BSHC	0	0.0(0.0, 15.6)	9	2.6(1.2, 5.0)	0.00(0.00, 7.36)
Total	37	5.6(3.9, 7.7)	146	3.0(2.5, 3.5)	1.87(1.31, 2.69)
Subsequent screen					
BSWN	6	4.5(1.7, 9.8)	21	2.3(1.4, 3.5)	1.97(0.80, 4.87)
BSCM	8	9.5(4.1, 18.6)	11	1.8(0.9, 3.1)	5.40(2.18, 13.40)
BSAL	3	7.1(1.5, 20.6)	18	2.9(1.7, 4.6)	2.45(0.72, 8.27)
BSM	4	3.5(1.0, 8.9)	14	2.3(1.2, 3.8)	1.53(0.51, 4.65)
BSCtoC	5	4.2(1.4, 9.7)	13	1.9(1.0, 3.3)	2.18(0.78, 6.09)
BSC	0	0.0(0.0, 6.5)	18	3.3(2.0, 5.2)	0.00(0.00, 2.19)
BSSL	3	3.3(0.7, 9.6)	42	2.9(2.1, 4.0)	1.13(0.35, 3.62)
BSHC	3	13.4(2.8, 38.6)	12	3.3(1.7, 5.8)	4.04(1.15, 14.21)
Total	32	4.8(3.3, 6.8)	149	2.6(2.2, 3.0)	1.87(1.28, 2.74)

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 or a subsequent screen, Māori women were 87% more likely to be diagnosed with invasive breast cancer than non-Māori women.

Table 3a.2b: Detection rate of invasive breast cancer per 1,000 screens, aged 50–69 years, 2 years (July 2011 to June 2013)

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	7	17.0(6.9, 34.7)	28	6.5(4.3, 9.4)	2.62(1.15, 5.97)
BSCM	3	7.8(1.6, 22.7)	23	6.8(4.3, 10.2)	1.15(0.35, 3.81)
BSAL	2	9.8(1.2, 34.8)	25	7.7(5.0, 11.3)	1.28(0.30, 5.34)
BSM	14	11.9(6.5, 19.8)	31	8.2(5.6, 11.6)	1.45(0.77, 2.74)
BSCtoC	4	5.7(1.6, 14.6)	16	7.1(4.1, 11.6)	0.80(0.27, 2.39)
BSC	4	16.5(4.5, 41.6)	22	9.3(5.9, 14.1)	1.77(0.63, 5.08)
BSSL	1	7.4(0.2, 40.6)	12	5.9(3.1, 10.4)	1.25(0.16, 9.51)
BSHC	2	23.3(2.8, 81.5)	10	8.1(3.9, 14.9)	2.87(0.64, 12.89)
Total BSA	37	11.1(7.8, 15.2)	167	7.4(6.3, 8.6)	1.50(1.05, 2.14)
Subsequent screen					
BSWN	36	6.5(4.6, 9.0)	198	4.2(3.6, 4.8)	1.56(1.09, 2.22)
BSCM	30	8.3(5.6, 11.9)	117	4.0(3.3, 4.8)	2.06(1.38, 3.07)
BSAL	5	2.8(0.9, 6.6)	99	3.6(2.9, 4.4)	0.79(0.32, 1.93)
BSM	44	6.8(5.0, 9.2)	183	4.3(3.7, 5.0)	1.60(1.15, 2.22)
BSCtoC	32	5.3(3.7, 7.5)	155	3.6(3.1, 4.2)	1.47(1.01, 2.15)
BSC	12	4.6(2.4, 8.0)	132	4.1(3.4, 4.9)	1.12(0.62, 2.02)
BSSL	20	6.0(3.7, 9.3)	299	4.1(3.7, 4.6)	1.47(0.94, 2.30)
BSHC	2	2.0(0.2, 7.3)	109	4.3(3.5, 5.2)	0.47(0.12, 1.99)
Total BSA	181	6.0(5.2, 6.9)	1,292	4.1(3.8, 4.3)	1.48(1.27, 1.73)

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

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

The invasive cancer detection rate was 50% higher for Māori than for non-Māori women having an initial screen or subsequent screen.

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 2011 to June 2013)

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	17.1	85.3	12.1	19.4	11.9	89.3	8.1	9.5
BSCM	11.4	90.5	11.9	13.1	9.2	92.2	10.4	9.2
BSAL	6.0	95.9	25.0	14.6	6.7	94.3	14.4	9.2
BSM	11.9	89.6	12.2	14.4	9.6	91.4	10.6	10.0
BSCtoC	9.0	92.2	11.7	10.0	7.3	93.6	12.8	8.9
BSC	12.7	89.2	16.7	20.6	8.2	92.8	13.2	10.6
BSSL	10.0	91.4	15.4	14.8	8.7	92.2	8.2	6.9
BSHC	7.0	95.2	33.3	23.3	8.9	92.2	12.8	11.3
BSA Total	11.4	90.3	13.3	14.7	9.1	92.0	10.6	9.4
Subsequent screens								
BSWN	4.0	96.9	22.0	8.5	3.3	97.3	17.3	5.6
BSCM	3.1	98.0	34.6	10.3	2.8	97.9	21.2	5.6
BSAL	2.2	98.2	16.7	3.4	2.7	97.9	20.3	5.1
BSM	3.5	97.5	26.1	8.9	3.3	97.2	16.2	5.3
BSCtoC	2.0	98.7	36.4	7.2	1.7	98.8	28.7	4.7
BSC	3.4	97.4	19.5	6.5	3.1	97.5	17.7	5.3
BSSL	3.7	97.1	20.9	7.3	3.5	97.1	16.3	5.4
BSHC	3.6	96.9	8.6	3.1	2.8	97.8	19.4	5.5
BSA Total	3.2	97.6	25.2	7.7	3.0	97.6	18.5	5.3

The summary tables 3a.3a 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 screens

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 2011 to June 2013)

Lead Provider	Initial screens				Subsequent screens			
	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
BSWN	1.44	0.96	1.50	2.05	1.23	1.00	1.27	1.51
BSCM	1.24	0.98	1.15	1.42	1.13	1.00	1.63	1.84
BSAL	0.90	1.02	1.74	1.59	0.82	1.00	0.82	0.67
BSM	1.24	0.98	1.16	1.44	1.05	1.00	1.61	1.67
BSCtoC	1.24	0.98	0.91	1.12	1.18	1.00	1.27	1.52
BSC	1.55	0.96	1.26	1.94	1.10	1.00	1.10	1.23
BSSL	1.15	0.99	1.87	2.14	1.04	1.00	1.28	1.35
BSHC	0.79	1.03	2.60	2.05	1.26	0.99	0.44	0.56
BSA Total	1.25	0.98	1.25	1.56	1.07	1.00	1.36	1.46

For women having an **initial screen** the referral rate was 25% higher for Māori women than non-Māori women, the positive predictive value also 25% higher and the detection rate 56% higher, for BSA overall. Specificity was similar for both groups.

For women having a **subsequent screen**, the referral rate was only 7% higher for Māori women compared to non-Māori women, while the positive predictive value was 36% higher and the detection rate 46% higher. Specificity was the same for Māori and non-Māori.

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 screens

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.

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 for women aged 50–69 years:

Initial (prevalent) round: $>50\%$, which gives a rate of >30.5 per 10,000 screens.

Subsequent (incident) round: $>50\%$, which gives a rate of > 17.3 per 10,000 screens

Table 3c.1a: Proportion of invasive cancers less than or equal to 15mm, aged 45–49 years, 5 years (July 2008 to June 2013)

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	14	19	73.7(48.8, 90.9)	46	75	61.3(49.4, 72.4)	1.20(0.87, 1.66)
BSCM	4	13	30.8(9.1, 61.4)	23	52	44.2(30.5, 58.7)	0.70(0.29, 1.66)
BSAL	4	9	44.4(13.7, 78.8)	18	36	50.0(32.9, 67.1)	0.89(0.40, 1.98)
BSM	15	24	62.5(40.6, 81.2)	26	45	57.8(42.2, 72.3)	1.08(0.73, 1.61)
BSCtoC	9	20	45.0(23.1, 68.5)	18	41	43.9(28.5, 60.3)	1.03(0.57, 1.86)
BSC	3	7	42.9(9.9, 81.6)	24	45	53.3(37.9, 68.3)	0.80(0.33, 1.97)
BSSL	5	9	55.6(21.2, 86.3)	34	68	50.0(37.6, 62.4)	1.11(0.59, 2.09)
BSHC	1	1	100.0(2.5, 100.0)	16	24	66.7(44.7, 84.4)	1.50(1.13, 1.99)
Total BSA	55	102	53.9(43.8, 63.8)	205	386	53.1(48.0, 58.2)	1.02(0.83, 1.24)
Subsequent screen							
BSWN	9	14	64.3(35.1, 87.2)	37	52	71.2(56.9, 82.9)	0.90(0.59, 1.39)
BSCM	5	10	50.0(18.7, 81.3)	11	20	55.0(31.5, 76.9)	0.91(0.44, 1.90)
BSAL	2	5	40.0(5.3, 85.3)	18	31	58.1(39.1, 75.5)	0.69(0.23, 2.10)
BSM	2	7	28.6(3.7, 71.0)	22	37	59.5(42.1, 75.2)	0.48(0.15, 1.60)
BSCtoC	1	6	16.7(0.4, 64.1)	13	25	52.0(31.3, 72.2)	0.32(0.05, 2.00)
BSC	3	3	100.0(29.2, 100.0)	15	31	48.4(30.2, 66.9)	2.07(1.44, 2.97)
BSSL	8	13	61.5(31.6, 86.1)	42	73	57.5(45.4, 69.0)	1.07(0.67, 1.72)
BSHC	2	3	66.7(9.4, 99.2)	9	22	40.9(20.7, 63.6)	1.63(0.63, 4.19)
Total BSA	32	61	52.5(39.3, 65.4)	167	291	57.4(51.5, 63.1)	0.91(0.71, 1.18)

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.

During the five year period July 2008 to June 2013 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. Just over half of all invasive breast cancers were 15mm or less for all groups.

Table 3c.1b: Proportion of invasive cancers less than or equal to 15mm, aged 50–69 years, 5 years (July 2008 to June 2013)

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	24	62.5(40.6, 81.2)	65	101	64.4(54.2, 73.6)	0.97(0.69, 1.37)
BSCM	9	16	56.2(29.9, 80.2)	37	74	50.0(38.1, 61.9)	1.13(0.69, 1.83)
BSAL	1	6	16.7(0.4, 64.1)	44	67	65.7(53.1, 76.8)	0.25(0.04, 1.53)
BSM	19	33	57.6(39.2, 74.5)	31	60	51.7(38.4, 64.8)	1.11(0.76, 1.63)
BSCtoC	10	25	40.0(21.1, 61.3)	24	45	53.3(37.9, 68.3)	0.75(0.43, 1.30)
BSC	9	13	69.2(38.6, 90.9)	36	64	56.2(43.3, 68.6)	1.23(0.81, 1.88)
BSSL	1	2	50.0(1.3, 98.7)	19	39	48.7(32.4, 65.2)	1.03(0.25, 4.26)
BSHC	1	3	33.3(0.8, 90.6)	7	19	36.8(16.3, 61.6)	0.91(0.16, 4.98)
Total BSA	65	122	53.3(44.0, 62.4)	263	469	56.1(51.5, 60.6)	0.95(0.79, 1.14)
Subsequent screen							
BSWN	44	68	64.7(52.2, 75.9)	320	468	68.4(63.9, 72.6)	0.95(0.79, 1.10)
BSCM	46	71	64.8(52.5, 75.8)	136	252	54.0(47.6, 60.2)	1.20(0.98, 1.48)
BSAL	8	16	50.0(24.7, 75.3)	125	211	59.2(52.3, 65.9)	0.84(0.51, 1.40)
BSM	57	96	59.4(48.9, 69.3)	291	428	68.0(63.3, 72.4)	0.87(0.73, 1.04)
BSCtoC	34	62	54.8(41.7, 67.5)	215	363	59.2(54.0, 64.3)	0.93(0.73, 1.18)
BSC	24	37	64.9(47.5, 79.8)	192	308	62.3(56.7, 67.8)	1.04(0.81, 1.34)
BSSL	35	45	77.8(62.9, 88.8)	484	662	73.1(69.6, 76.5)	1.06(0.90, 1.25)
BSHC	4	10	40.0(12.2, 73.8)	151	232	65.1(58.6, 71.2)	0.62(0.29, 1.32)
Total BSA	252	405	62.2(57.3, 67.0)	1,914	2,924	65.5(63.7, 67.2)	0.95(0.88, 1.03)

Ratios below one are unfavourable to Māori. Ratios in italics show a statistically significant difference between Māori and non-Māori. Target values are >50% for initial and for subsequent screens.

The proportion of invasive cancers less than or equal to 15mm in diameter was 53% for Māori women having an initial screen during the five year period July 2008 – June 2013 and 62% for Māori women having a subsequent screen, meeting the target of >50%. These proportions were similar to those for non-Māori women.

Table 3c.2b: Detection rate of invasive breast cancer less than or equal to 15mm per 10,000 screens, aged 45–49 years, 5 years (July 2008 to June 2013)

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	14	45.1(24.7, 75.6)	46	21.2(15.5, 28.3)	2.13(1.17, 3.86)
BSCM	4	17.2(4.7, 44.0)	23	15.6(9.9, 23.4)	1.10(0.38, 3.19)
BSAL	4	40.0(10.9, 102.2)	18	13.2(7.8, 20.9)	3.03(1.03, 8.94)
BSM	15	40.2(22.5, 66.3)	26	16.2(10.6, 23.7)	2.48(1.32, 4.68)
BSCtoC	9	29.5(13.5, 56.0)	18	13.4(7.9, 21.1)	2.21(0.99, 4.92)
BSC	3	20.2(4.2, 59.0)	24	18.3(11.7, 27.2)	1.11(0.33, 3.68)
BSSL	5	28.8(9.3, 67.0)	34	13.9(9.7, 19.5)	2.06(0.81, 5.27)
BSHC	1	16.7(0.4, 92.8)	16	18.8(10.7, 30.4)	0.89(0.12, 6.71)
Total BSA	55	32.3(24.4, 42.0)	205	16.3(14.2, 18.7)	1.98(1.47, 2.67)
Subsequent screen					
BSWN	9	33.7(15.4, 63.9)	37	17.5(12.3, 24.1)	1.93(0.93, 4.00)
BSCM	5	33.1(10.7, 77.0)	11	9.2(4.6, 16.5)	3.58(1.25, 10.30)
BSAL	2	21.8(2.6, 78.4)	18	14.3(8.5, 22.6)	1.52(0.35, 6.54)
BSM	2	8.6(1.0, 31.1)	22	15.9(10.0, 24.1)	0.54(0.13, 2.30)
BSCtoC	1	4.0(0.1, 22.3)	13	8.7(4.6, 14.9)	0.46(0.06, 3.53)
BSC	3	23.2(4.8, 67.6)	15	11.9(6.7, 19.6)	1.95(0.56, 6.72)
BSSL	8	38.7(16.7, 76.1)	42	12.1(8.7, 16.4)	3.20(1.50, 6.80)
BSHC	2	39.8(4.8, 143.2)	9	10.1(4.6, 19.1)	3.95(0.86, 18.23)
Total BSA	32	23.2(15.9, 32.8)	167	12.8(10.9, 14.9)	1.82(1.25, 2.65)

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.

The rate of invasive cancers 15mm or less detected among Māori women aged 45–49 years having initial screens was twice the rate of non-Māori women during the five year period.

For those having subsequent screens, the rate of small cancers was 82% higher among 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 2008 to June 2013)

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	88.1(49.4, 144.9)	65	48.1(37.1, 61.2)	<i>1.83(1.05, 3.21)</i>
BSCM	9	67.7(31.0, 128.1)	37	37.2(26.2, 51.3)	<i>1.82(0.88, 3.76)</i>
BSAL	1	17.5(0.4, 97.2)	44	46.8(34.0, 62.7)	<i>0.37(0.05, 2.71)</i>
BSM	19	66.1(39.9, 103.1)	31	31.7(21.5, 44.9)	<i>2.09(1.18, 3.69)</i>
BSCtoC	10	46.2(22.2, 84.7)	24	31.3(20.1, 46.6)	<i>1.47(0.71, 3.08)</i>
BSC	9	114.6(52.6, 216.5)	36	51.5(36.1, 71.3)	<i>2.23(1.08, 4.60)</i>
BSSL	1	23.0(0.6, 127.7)	19	30.9(18.6, 48.2)	<i>0.75(0.10, 5.56)</i>
BSHC	1	44.1(1.1, 243.0)	7	20.8(8.4, 42.8)	<i>2.12(0.26, 17.16)</i>
Total BSA	65	64.4(49.8, 82.0)	263	39.4(34.8, 44.4)	1.64(1.25, 2.15)
Subsequent screen					
BSWN	44	36.5(26.5, 48.9)	320	28.4(25.4, 31.7)	<i>1.28(0.94, 1.76)</i>
BSCM	46	61.4(45.0, 81.8)	136	21.8(18.3, 25.8)	<i>2.82(2.02, 3.94)</i>
BSAL	8	22.2(9.6, 43.6)	125	21.4(17.8, 25.5)	<i>1.03(0.51, 2.11)</i>
BSM	57	41.7(31.6, 54.0)	291	28.6(25.4, 32.0)	<i>1.46(1.10, 1.94)</i>
BSCtoC	34	27.6(19.1, 38.5)	215	22.2(19.4, 25.4)	<i>1.24(0.86, 1.78)</i>
BSC	24	40.3(25.9, 60.0)	192	25.0(21.6, 28.8)	<i>1.61(1.06, 2.46)</i>
BSSL	35	46.6(32.5, 64.8)	484	28.3(25.8, 30.9)	<i>1.65(1.17, 2.32)</i>
BSHC	4	18.3(5.0, 46.8)	151	24.9(21.1, 29.2)	<i>0.74(0.27, 1.98)</i>
Total BSA	252	38.9(34.2, 44.0)	1,914	25.9(24.7, 27.0)	1.50(1.32, 1.72)

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 64% more likely than non-Māori women to be diagnosed with a cancer ≤15mm. Among those having subsequent screens, the rate for Māori women was 50% 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 for women aged 50–69 years:

Initial (prevalent) round: >70%

Subsequent (incident) round: >75%

Table 3d.1: Invasive cancers without nodal involvement, women aged 45–49 years, 5 years (July 2008 to June 2013)

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	16	19	84.2(60.4, 96.6)	56	76	73.7(62.3, 83.1)	1.14(0.90, 1.45)
BSCM	8	14	57.1(28.9, 82.3)	33	54	61.1(46.9, 74.1)	0.94(0.57, 1.54)
BSAL	7	9	77.8(40.0, 97.2)	24	37	64.9(47.5, 79.8)	1.20(0.79, 1.83)
BSM	17	24	70.8(48.9, 87.4)	36	48	75.0(60.4, 86.4)	0.95(0.70, 1.28)
BSCtoC	13	20	65.0(40.8, 84.6)	29	41	70.7(54.5, 83.9)	0.92(0.63, 1.34)
BSC	5	7	71.4(29.0, 96.3)	31	48	64.6(49.5, 77.8)	1.11(0.66, 1.85)
BSSL	5	9	55.6(21.2, 86.3)	49	70	70.0(57.9, 80.4)	0.79(0.43, 1.45)
BSHC	1	1	100.0(2.5, 100.0)	15	24	62.5(40.6, 81.2)	1.60(1.17, 2.18)
Total BSA	72	103	69.9(60.1, 78.5)	273	398	68.6(63.8, 73.1)	1.02(0.88, 1.18)
Subsequent screen							
BSWN	8	14	57.1(28.9, 82.3)	34	52	65.4(50.9, 78.0)	0.87(0.53, 1.43)
BSCM	6	10	60.0(26.2, 87.8)	15	20	75.0(50.9, 91.3)	0.80(0.45, 1.41)
BSAL	4	5	80.0(28.4, 99.5)	25	31	80.6(62.5, 92.5)	0.99(0.62, 1.59)
BSM	3	7	42.9(9.9, 81.6)	24	37	64.9(47.5, 79.8)	0.66(0.27, 1.61)
BSCtoC	4	6	66.7(22.3, 95.7)	16	25	64.0(42.5, 82.0)	1.04(0.55, 1.97)
BSC	3	3	100.0(29.2, 100.0)	17	31	54.8(36.0, 72.7)	1.82(1.33, 2.51)
BSSL	10	13	76.9(46.2, 95.0)	55	76	72.4(60.9, 82.0)	1.06(0.77, 1.48)
BSHC	2	3	66.7(9.4, 99.2)	15	23	65.2(42.7, 83.6)	1.02(0.44, 2.40)
Total BSA	40	61	65.6(52.3, 77.3)	201	295	68.1(62.5, 73.4)	0.96(0.79, 1.17)

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.

Two-thirds of Māori and non-Maori women aged 45–49 years diagnosed with screen-detected invasive breast cancer had no nodal involvement. There were no differences between Māori and non-Māori women.

Table 3d.2: Invasive cancers without nodal involvement, women aged 50–69 years, 5 years (July 2008 to June 2013)

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	19	24	79.2(57.8, 92.9)	77	101	76.2(66.7, 84.1)	1.04(0.82, 1.32)
BSCM	12	16	75.0(47.6, 92.7)	53	77	68.8(57.3, 78.9)	1.09(0.79, 1.50)
BSAL	4	6	66.7(22.3, 95.7)	54	67	80.6(69.1, 89.2)	0.83(0.46, 1.47)
BSM	22	33	66.7(48.2, 82.0)	43	61	70.5(57.4, 81.5)	0.95(0.71, 1.27)
BSCtoC	17	25	68.0(46.5, 85.1)	29	45	64.4(48.8, 78.1)	1.06(0.75, 1.49)
BSC	11	15	73.3(44.9, 92.2)	42	66	63.6(50.9, 75.1)	1.15(0.81, 1.64)
BSSL	2	2	100.0(15.8, 100.0)	25	39	64.1(47.2, 78.8)	1.56(1.23, 1.97)
BSHC	3	3	100.0(29.2, 100.0)	13	19	68.4(43.4, 87.4)	1.46(1.08, 1.98)
Total BSA	90	124	72.6(63.8, 80.2)	336	475	70.7(66.4, 74.8)	1.03(0.91, 1.16)
Subsequent screen							
BSWN	55	68	80.9(69.5, 89.4)	369	468	78.8(74.9, 82.5)	1.03(0.91, 1.16)
BSCM	55	71	77.5(66.0, 86.5)	191	253	75.5(69.7, 80.7)	1.03(0.89, 1.19)
BSAL	13	16	81.2(54.4, 96.0)	166	215	77.2(71.0, 82.6)	1.05(0.82, 1.35)
BSM	68	96	70.8(60.7, 79.7)	341	432	78.9(74.8, 82.7)	0.90(0.78, 1.03)
BSCtoC	47	62	75.8(63.3, 85.8)	280	366	76.5(71.8, 80.8)	0.99(0.85, 1.15)
BSC	28	37	75.7(58.8, 88.2)	232	310	74.8(69.6, 79.6)	1.01(0.83, 1.23)
BSSL	35	45	77.8(62.9, 88.8)	534	664	80.4(77.2, 83.4)	0.97(0.82, 1.14)
BSHC	8	10	80.0(44.4, 97.5)	180	236	76.3(70.3, 81.5)	1.05(0.76, 1.44)
Total BSA	309	405	76.3(71.8, 80.4)	2,293	2,944	77.9(76.3, 79.4)	0.98(0.93, 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 were no differences 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 for women aged 50–69 years:

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 2008 to June 2013)

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	4	38	10.5(2.9, 24.8)	61	194	31.4(25.0, 38.5)	0.33(0.13, 0.87)
BSCM	7	31	22.6(9.6, 41.1)	25	100	25.0(16.9, 34.7)	0.90(0.43, 1.88)
BSAL	3	18	16.7(3.6, 41.4)	35	107	32.7(24.0, 42.5)	0.51(0.18, 1.48)
BSM	5	37	13.5(4.5, 28.8)	38	123	30.9(22.9, 39.9)	0.44(0.19, 1.03)
BSCtoC	4	31	12.9(3.6, 29.8)	28	94	29.8(20.8, 40.1)	0.43(0.16, 1.14)
BSC	1	12	8.3(0.2, 38.5)	40	119	33.6(25.2, 42.8)	0.25(0.04, 1.65)
BSSL	3	25	12.0(2.5, 31.2)	65	212	30.7(24.5, 37.3)	0.39(0.13, 1.15)
BSHC	3	7	42.9(9.9, 81.6)	20	68	29.4(19.0, 41.7)	1.46(0.57, 3.70)
Total BSA	30	199	15.1(10.4, 20.8)	312	1,017	30.7(27.9, 33.6)	0.49(0.35, 0.69)
50–69 years							
BSWN	21	117	17.9(11.5, 26.1)	177	755	23.4(20.5, 26.6)	0.77(0.51, 1.15)
BSCM	13	100	13.0(7.1, 21.2)	104	439	23.7(19.8, 28.0)	0.55(0.32, 0.94)
BSAL	5	30	16.7(5.6, 34.7)	98	409	24.0(19.9, 28.4)	0.70(0.31, 1.58)
BSM	24	157	15.3(10.0, 21.9)	125	621	20.1(17.0, 23.5)	0.76(0.51, 1.13)
BSCtoC	11	98	11.2(5.7, 19.2)	80	492	16.3(13.1, 19.8)	0.69(0.38, 1.25)
BSC	12	65	18.5(9.9, 30.0)	115	493	23.3(19.7, 27.3)	0.79(0.46, 1.35)
BSSL	10	57	17.5(8.7, 29.9)	183	888	20.6(18.0, 23.4)	0.85(0.48, 1.52)
BSHC	2	16	12.5(1.6, 38.3)	58	318	18.2(14.2, 22.9)	0.69(0.18, 2.56)
Total BSA	98	640	15.3(12.6, 18.3)	940	4,415	21.3(20.1, 22.5)	0.72(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 28% 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 for women aged 50–69 years:

90-95% notified within 10 working days.

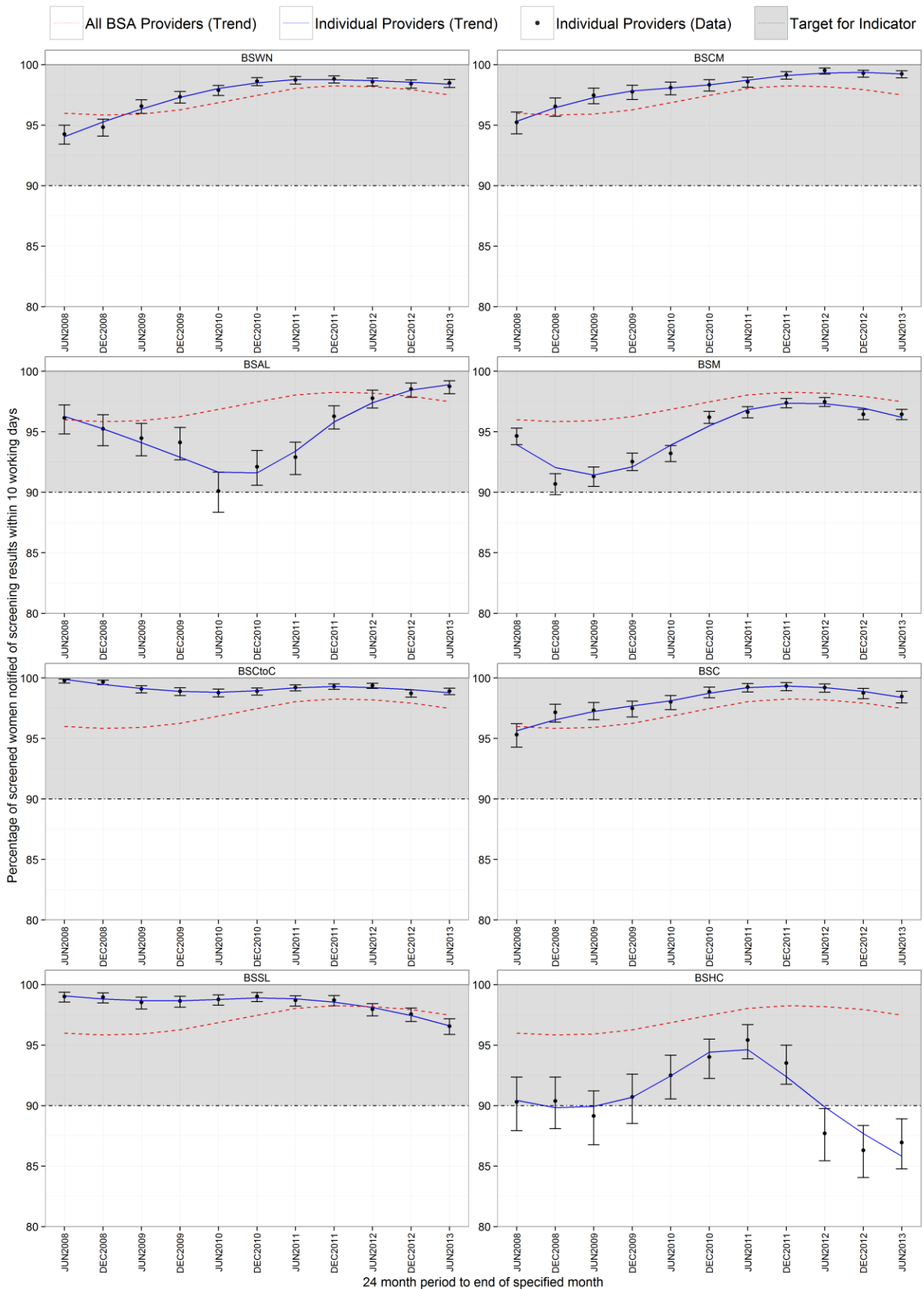
Table 5a: Percentage of women notified of screening results within 10 working days, 2 years (July 2011 to June 2013)

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	2,189	2,246	97.5(96.7, 98.1)	16,993	17,449	97.4(97.1, 97.6)	1.00(0.99, 1.01)
BSCM	1,691	1,704	99.2(98.7, 99.6)	11,446	11,556	99.0(98.9, 99.2)	1.00(0.997, 1.01)
BSAL	734	756	97.1(95.6, 98.2)	10,456	10,717	97.6(97.3, 97.8)	1.00(0.98, 1.01)
BSM	2,559	2,691	95.1(94.2, 95.9)	11,930	12,529	95.2(94.8, 95.6)	1.00(0.99, 1.01)
BSCtoC	2,282	2,300	99.2(98.8, 99.5)	11,040	11,109	99.4(99.2, 99.5)	1.00(0.99, 1.00)
BSC	1,105	1,125	98.2(97.3, 98.9)	10,308	10,506	98.1(97.8, 98.4)	1.00(0.99, 1.01)
BSSL	1,447	1,520	95.2(94.0, 96.2)	21,894	22,877	95.7(95.4, 96.0)	1.00(0.98, 1.01)
BSHC	401	457	87.7(84.4, 90.6)	6,037	6,989	86.4(85.6, 87.2)	1.02(0.98, 1.05)
Total BSA	12,408	12,799	96.9(96.6, 97.2)	100,104	103,732	96.5(96.4, 96.6)	1.01(1.00, 1.01)
50–69 years							
BSWN	5,610	5,697	98.5(98.1, 98.8)	50,584	51,291	98.6(98.5, 98.7)	1.00(0.995, 1.00)
BSCM	3,766	3,795	99.2(98.9, 99.5)	30,689	30,921	99.2(99.1, 99.3)	1.00(0.997, 1.00)
BSAL	1,829	1,852	98.8(98.1, 99.2)	28,466	28,797	98.9(98.7, 99.0)	1.00(0.99, 1.00)
BSM	7,180	7,445	96.4(96.0, 96.8)	44,358	45,962	96.5(96.3, 96.7)	1.00(0.995, 1.00)
BSCtoC	6,352	6,422	98.9(98.6, 99.1)	42,651	42,862	99.5(99.4, 99.6)	0.99(0.99, 0.997)
BSC	2,766	2,809	98.5(97.9, 98.9)	33,177	33,617	98.7(98.6, 98.8)	1.00(0.99, 1.00)
BSSL	3,152	3,264	96.6(95.9, 97.2)	68,381	70,431	97.1(97.0, 97.2)	1.00(0.99, 1.00)
BSHC	926	1,065	86.9(84.8, 88.9)	22,919	26,317	87.1(86.7, 87.5)	1.00(0.98, 1.02)
Total BSA	31,581	32,349	97.6(97.5, 97.8)	321,225	330,198	97.3(97.2, 97.3)	1.00(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. BSHC did not meet the target of 90-95%.

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 for women aged 50–69 years:

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 2011 to June 2013)

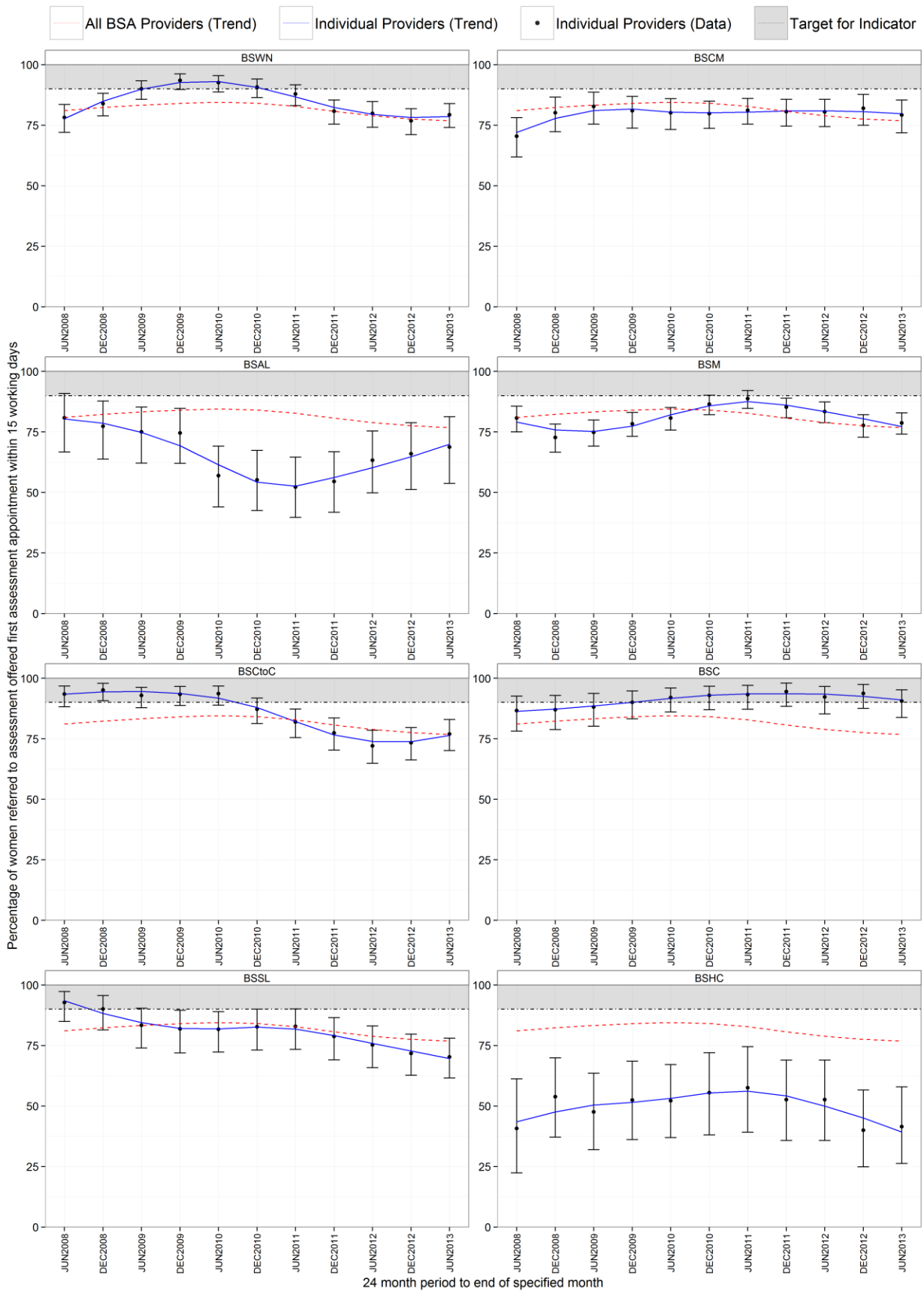
Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	No. of women offered assessment within 15 working days	No. of women referred to assessment	% of women referred to assessment (95% CI)	No. of women offered assessment within 15 working days	No. of women referred to assessment	% of women referred to assessment (95% CI)	
45–49 years							
BSWN	144	182	79.1(72.5, 84.8)	1,052	1,286	81.8(79.6, 83.9)	0.97(0.89, 1.05)
BSCM	108	125	86.4(79.1, 91.9)	555	648	85.6(82.7, 88.3)	1.01(0.94, 1.09)
BSAL	39	44	88.6(75.4, 96.2)	396	505	78.4(74.6, 81.9)	1.13(1.01, 1.27)
BSM	157	213	73.7(67.3, 79.5)	693	901	76.9(74.0, 79.6)	0.96(0.88, 1.05)
BSCtoC	81	106	76.4(67.2, 84.1)	387	445	87.0(83.5, 90.0)	0.88(0.79, 0.99)
BSC	49	52	94.2(84.1, 98.8)	559	591	94.6(92.4, 96.3)	1.00(0.93, 1.07)
BSSL	87	119	73.1(64.2, 80.8)	1,125	1,523	73.9(71.6, 76.1)	1.00(0.88, 1.11)
BSHC	10	28	35.7(18.6, 55.9)	117	381	30.7(26.1, 35.6)	1.16(0.69, 1.96)
Total BSA	675	869	77.7(74.8, 80.4)	4,884	6,280	77.8(76.7, 78.8)	1.00(0.96, 1.01)
50–69 years							
BSWN	222	280	79.3(74.1, 83.9)	1,658	2,052	80.8(79.0, 82.5)	0.98(0.92, 1.05)
BSCM	118	149	79.2(71.8, 85.4)	897	1,063	84.4(82.1, 86.5)	0.94(0.86, 1.02)
BSAL	33	48	68.8(53.7, 81.3)	739	895	82.6(79.9, 85.0)	0.83(0.69, 1.01)
BSM	281	357	78.7(74.1, 82.8)	1,352	1,755	77.0(75.0, 79.0)	1.02(0.96, 1.09)
BSCtoC	137	178	77.0(70.1, 82.9)	733	861	85.1(82.6, 87.4)	0.90(0.83, 0.98)
BSC	106	117	90.6(83.8, 95.2)	1,070	1,148	93.2(91.6, 94.6)	0.97(0.92, 1.03)
BSSL	90	128	70.3(61.6, 78.1)	1,941	2,576	75.3(73.6, 77.0)	0.93(0.83, 1.05)
BSHC	17	41	41.5(26.3, 57.9)	271	819	33.1(29.9, 36.4)	1.25(0.86, 1.83)
Total BSA	1,004	1,298	77.3(75.0, 79.6)	8,661	11,169	77.5(76.8, 78.3)	1.00(0.97, 1.03)

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

Only 77% of women were offered their first assessment appointment within 15 working days. Apart from BSC, most LPs did not achieve the target value of 90%. There appears to be a decreasing trend in this indicator for Māori women aged 50–69 years in some LPs that have previously attained the target and an increasing trend in others. The lowest proportions of Māori and non-Māori women offered timely assessment appointments were in BSHC (41% and 33% respectively).

Among women aged 45–49 years 78% were offered their first assessment appointment within 15 working days. The lowest proportions were in BSHC (36% of Māori and 31% of non-Māori women) and highest in BSC (94% of Māori and 95% of non-Māori women).

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 for women aged 50–69 years:

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 2011 to June 2013)

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	63	65	96.9 (89.3, 99.6)	373	376	99.2(97.7, 99.8)	0.98(0.94, 1.02)
BSCM	74	77	96.1 (89.0, 99.2)	283	293	96.6(93.8, 98.4)	1.00(0.95, 1.05)
BSAL	19	20	95.0 (75.1, 99.9)	171	184	92.9(88.2, 96.2)	1.02(0.98, 1.14)
BSM	75	78	96.2 (89.2, 99.2)	226	242	93.4(89.5, 96.2)	1.03(0.98, 1.09)
BSCtoC	51	51	100.0 (93.0, 100.0)	136	137	99.3(96.0, 100.0)	1.01(0.99, 1.02)
BSC	13	13	100.0 (75.3, 100.0)	121	122	99.2(95.5, 100.0)	1.01(0.99, 1.03)
BSSL	26	33	78.8 (61.1, 91.0)	403	460	87.6(84.2, 90.5)	0.90(0.75, 1.08)
BSHC	9	9	100.0 (66.4, 100.0)	109	121	90.1(83.3, 94.8)	1.11(1.05, 1.18)
Total BSA	330	346	95.4 (92.6, 97.3)	1,822	1,935	94.2(93.0, 95.2)	1.01(0.99, 1.04)
50–69 years							
BSWN	113	114	99.1(95.2, 100.0)	695	710	97.9(96.5, 98.8)	1.01(0.99, 1.03)
BSCM	90	99	90.9(83.4, 95.8)	470	492	95.5(93.3, 97.2)	0.95(0.89, 1.02)
BSAL	19	20	95.0(75.1, 99.9)	357	380	93.9(91.1, 96.1)	1.01(0.91, 1.12)
BSM	145	154	94.2(89.2, 97.3)	558	587	95.1(93.0, 96.7)	0.99(0.95, 1.03)
BSCtoC	101	103	98.1(93.2, 99.8)	393	394	99.7(98.6, 100.0)	0.98(0.96, 1.01)
BSC	40	40	100.0(91.2, 100.0)	328	334	98.2(96.1, 99.3)	1.02(1.00, 1.03)
BSSL	47	51	92.2(81.1, 97.8)	733	837	87.6(85.1, 89.7)	1.05(0.97, 1.15)
BSHC	15	15	100.0(78.2, 100.0)	318	330	96.4(93.7, 98.1)	1.04(1.02, 1.06)
Total BSA	570	596	95.6(93.7, 97.1)	3,852	4,064	94.8(94.1, 95.4)	1.01(0.99, 1.03)

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.

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

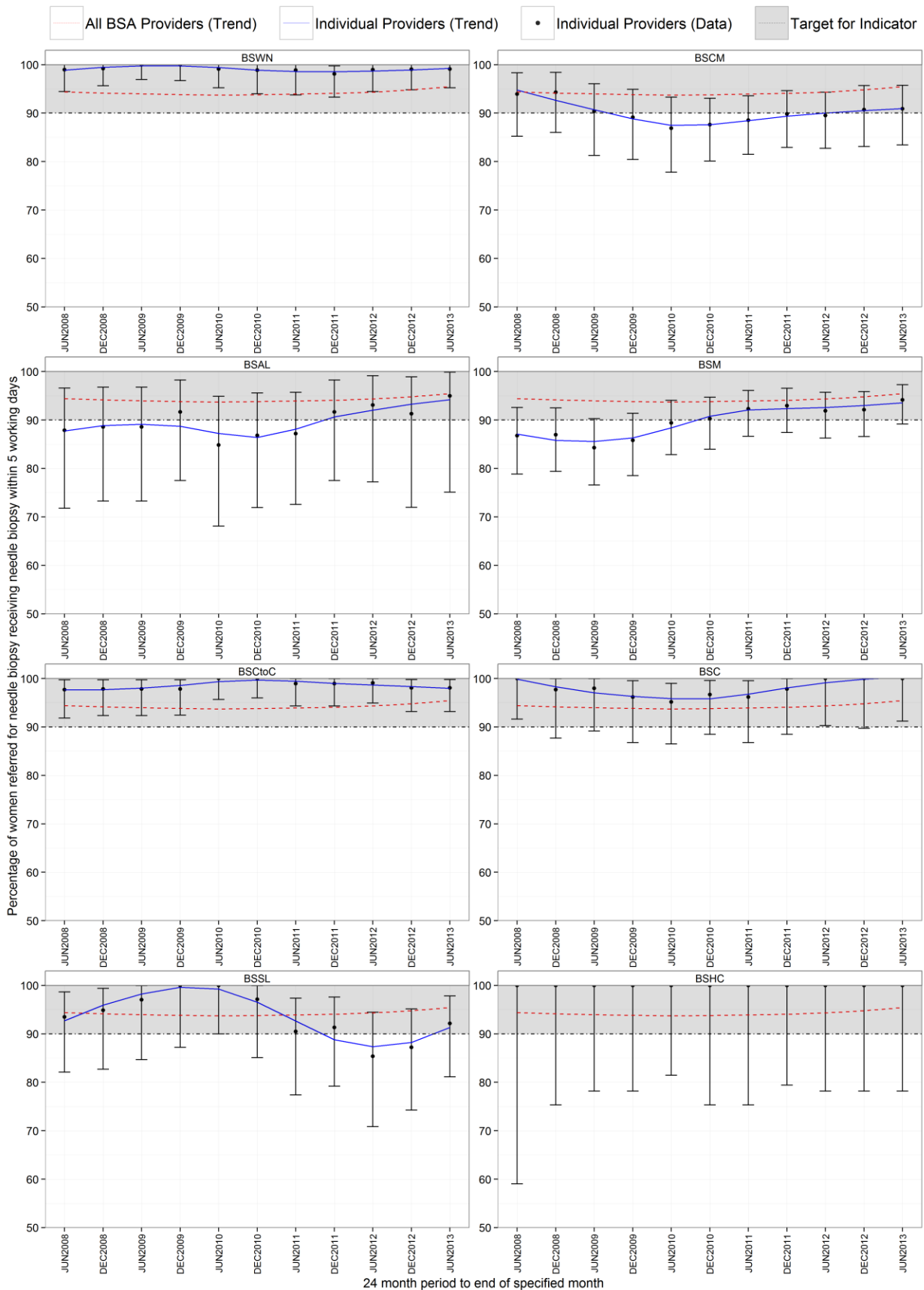
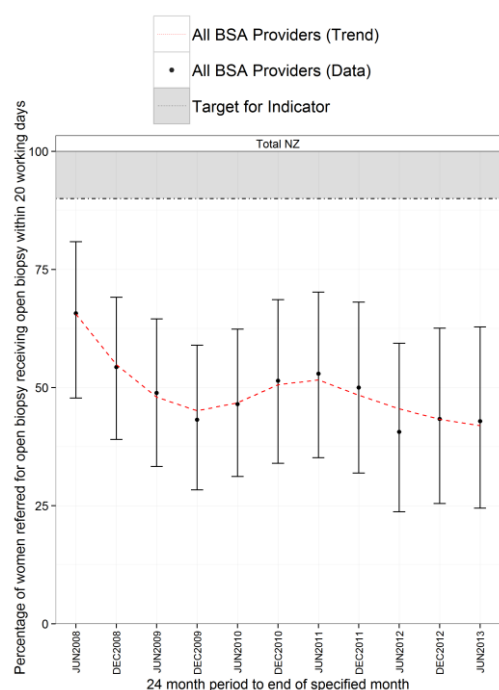


Table 5c.2: Women receiving open biopsy procedure within 20 working days of notification of the need for the operation, 2 years (July 2011 to June 2013)

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	0	1	0.0(0.0, 97.5)	6	11	54.5(23.4, 83.3)	0.00(0.00, 9.34)
BSCM	0	0	--	1	8	12.5(0.3, 52.7)	--
BSAL	1	1	100.0(2.5, 100.0)	11	15	73.3(44.9, 92.2)	1.36(1.01, 1.85)
BSM	5	8	62.5(24.5, 91.5)	19	27	70.4(49.8, 86.2)	0.89(0.49, 1.60)
BSCtoC	0	0	--	1	4	25.0(0.6, 80.6)	--
BSC	0	0	--	4	11	36.4(10.9, 69.2)	--
BSSL	1	1	100.0(2.5, 100.0)	22	24	91.7(73.0, 99.0)	1.09(0.97, 1.23)
BSHC	0	0	--	1	2	50.0(1.3, 98.7)	--
Total BSA	7	11	63.6(30.8, 89.1)	65	102	63.7(53.6, 73.0)	1.00(0.62, 1.60)
50–69 years							
BSWN	2	6	33.3(4.3, 77.7)	11	25	44.0(24.4, 65.1)	0.76(0.23, 2.55)
BSCM	3	3	100.0(29.2, 100.0)	2	10	20.0(2.5, 55.6)	5.00(1.45, 17.27)
BSAL	0	0	--	15	19	78.9(54.4, 93.9)	--
BSM	3	11	27.3(6.0, 61.0)	38	52	73.1(59.0, 84.4)	0.37(0.14, 0.99)
BSCtoC	0	2	0.0(0.0, 84.2)	3	11	27.3(6.0, 61.0)	0.00(0.00, 13.31)
BSC	2	4	50.0(6.8, 93.2)	12	23	52.2(30.6, 73.2)	0.96(0.33, 2.75)
BSSL	2	2	100.0(15.8, 100.0)	34	42	81.0(65.9, 91.4)	1.24(1.07, 1.43)
BSHC	0	0	--	5	10	50.0(18.7, 81.3)	--
Total BSA	12	28	42.9(24.5, 62.8)	120	192	62.5(55.2, 69.4)	0.69(0.44, 1.07)

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 43% compared with 63% of non-Māori women. These were well below the target of 90%. There has been little improvement in this indicator since the previous report

Among women aged 45–49 years, the proportions were 64% for both Māori and 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 for women aged 50–69 years:

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 2011 to June 2013)

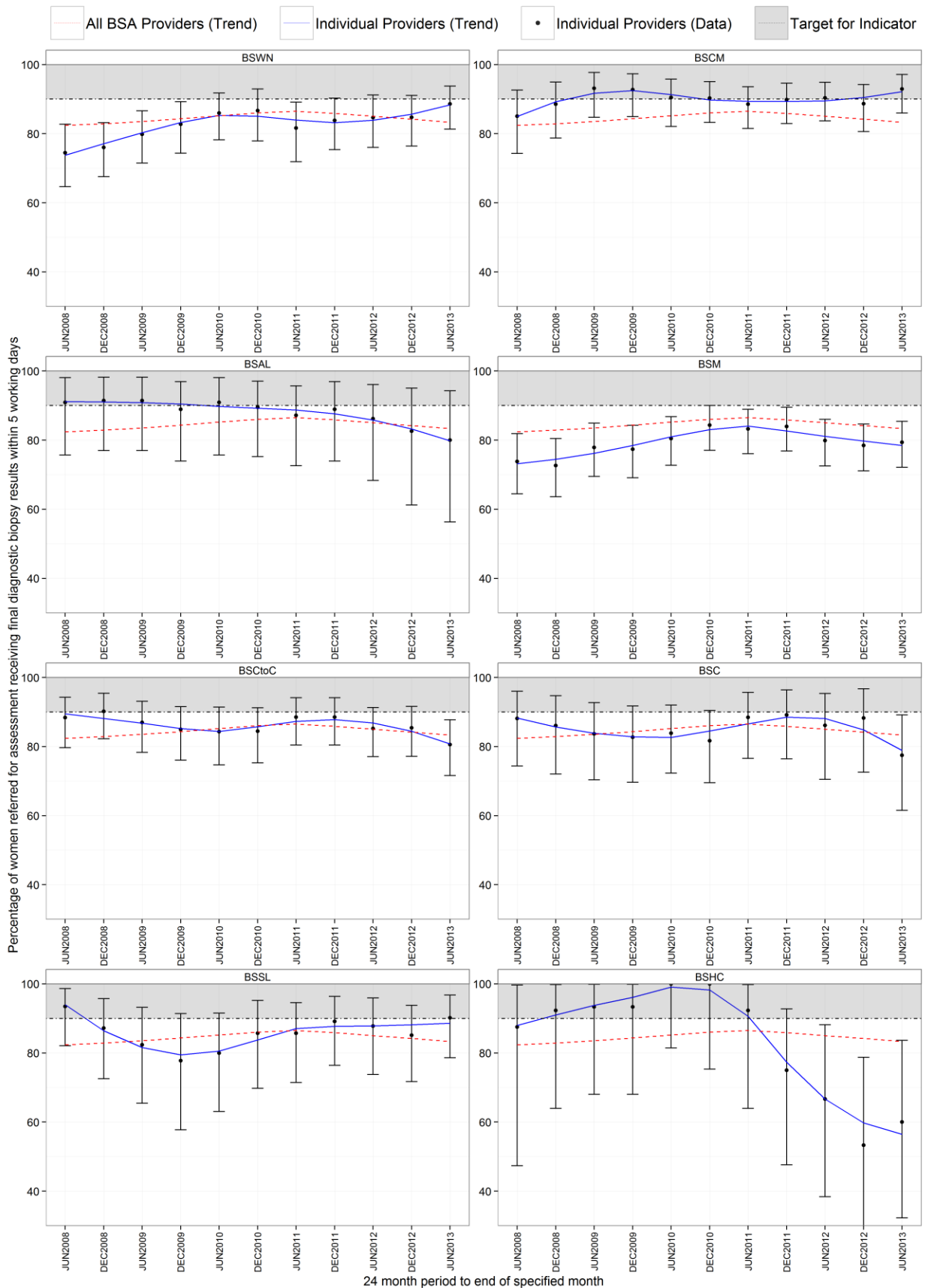
Lead provider	Māori			Non-Māori			Māori/non-Māori ratio (95% CI)
	Results reported within 5 working days of final biopsy	Number with final diagnostic biopsy	% received final biopsy results within 5 working days (95% CI)	Results reported within 5 working days of final biopsy	Number with final diagnostic biopsy	% received final biopsy results within 5 working days (95% CI)	
45–49 years							
BSWN	57	65	87.7(77.2, 94.5)	324	378	85.7(81.8, 89.1)	1.02(0.93, 1.13)
BSCM	71	77	92.2(83.8, 97.1)	258	293	88.1(83.8, 91.5)	1.05(0.97, 1.13)
BSAL	18	20	90.0(68.3, 98.8)	147	186	79.0(72.5, 84.6)	1.14(0.98, 1.34)
BSM	64	78	82.1(71.7, 89.8)	175	242	72.3(66.2, 77.9)	1.14(0.997, 1.29)
BSCtoC	38	51	74.5(60.4, 85.7)	119	137	86.9(80.0, 92.0)	0.86(0.72, 1.02)
BSC	11	13	84.6(54.6, 98.1)	103	122	84.4(76.8, 90.4)	1.00(0.79, 1.28)
BSSL	31	33	93.9(79.8, 99.3)	426	461	92.4(89.6, 94.7)	1.02(0.93, 1.11)
BSHC	9	9	100.0(66.4, 100.0)	90	120	75.0(66.3, 82.5)	1.34(1.20, 1.48)
Total BSA	299	346	86.4(82.3, 89.8)	1,642	1,939	84.7(83.0, 86.3)	1.02(0.98, 1.07)
50–69 years							
BSWN	101	114	88.6(81.3, 93.8)	606	715	84.8(81.9, 87.3)	1.05(0.98, 1.12)
BSCM	92	99	92.9(86.0, 97.1)	435	491	88.6(85.4, 91.3)	1.05(0.99, 1.12)
BSAL	16	20	80.0(56.3, 94.3)	294	381	77.2(72.6, 81.3)	1.04(0.83, 1.30)
BSM	123	155	79.4(72.1, 85.4)	473	590	80.2(76.7, 83.3)	0.99(0.91, 1.09)
BSCtoC	83	103	80.6(71.6, 87.7)	347	394	88.1(84.5, 91.1)	0.92(0.83, 1.02)
BSC	31	40	77.5(61.5, 89.2)	287	335	85.7(81.5, 89.2)	0.91(0.77, 1.08)
BSSL	46	51	90.2(78.6, 96.7)	795	839	94.8(93.0, 96.2)	0.96(0.87, 1.05)
BSHC	9	15	60.0(32.3, 83.7)	235	331	71.0(65.8, 75.8)	0.85(0.56, 1.29)
Total BSA	501	597	83.9(80.7, 86.8)	3,472	4,076	85.2(84.1, 86.3)	0.99(0.95, 1.02)

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

Among women aged 50–69 years, 84% of Māori women and 85% 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 overall, although some LPs are remaining steady or increasing.

The proportions were similar for women aged 45–49 years (86% of Māori women and 85% 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 2012 population has been used. This is the same population that is used for all BSA quality and contract monitoring for the period July 2011 to June 2013.

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 2012 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	3220	2450	1090	5190	3930	1880	1750	770	20280
50–69	8150	5580	2830	13030	9860	4480	4190	1740	49860
Total	11370	8030	3920	18220	13790	6360	5940	2510	70140
Non-Māori									
45–49	24600	16130	15500	19360	15440	16020	26230	9895	143175
50–69	75050	45690	41970	69910	57260	48165	88755	34585	461385
Total	99650	61820	57470	89270	72700	64185	114985	44480	604560

Table A2: Mid-year population projections 2012 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	3220	2450	1090	5190	3930	1880	1750	770	20280
50–54	3120	2050	1070	4740	3580	1770	1580	670	18580
55–59	2170	1580	800	3720	2740	1220	1090	440	13760
60–64	1710	1190	580	2690	2100	930	900	390	10490
65–69	1150	760	380	1880	1440	560	620	240	7030
Non-Māori									
45–49	24600	16130	15500	19360	15440	16020	26230	9895	143175
50–54	22960	14630	13790	19940	16460	14860	26180	10390	139210
55–59	19500	11990	11470	18220	14905	12590	23375	9040	121090
60–64	17680	10510	9510	16990	14100	11470	21705	8425	110390
65–69	14910	8560	7200	14760	11795	9245	17495	6730	90695

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.