

**BREASTSCREEN AOTEAROA**  
**INDEPENDENT MONITORING REPORT:**

**TREATMENT OF WOMEN WITH BSA DETECTED CANCERS**  
**(WOMEN SCREENED JANUARY 2005-DECEMBER 2006)**

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**TABLE OF CONTENTS**

- MEMBERS OF THE BSA ADVISORY GROUP** ..... 3
- EXECUTIVE SUMMARY** ..... 4
- BSA ADVISORY GROUP COMMENTS** ..... 6
- FOREWORD: BSA MONITORING PROCESS** ..... 7
- TECHNICAL NOTES FOR INTERPRETING THIS REPORT** ..... 8
- AT A GLANCE: BIENNIAL INDICATORS FOR WOMEN 50-69 YEARS** ..... 10
- 3. EARLY DETECTION OF DCIS OR INVASIVE BREAST CANCER**..... 19
  - 3.a.3. Treatment data completeness, 2 years** ..... 19
  - 3.a.2b. Invasive cancer detection, 6 months and 2 years** ..... 20
  - 3.b. Detection of invasive cancers  $\leq 10$  mm** ..... 21
  - 3.c. Detection of invasive cancers  $<15$  mm**..... 22
  - 3.d. Nodal involvement** ..... 27
  - 3.e. DCIS diagnosis** ..... 28
- 4. TREATMENT**..... 30
  - 4.a. Women with invasive cancer  $> 1$  mm, having a surgical axillary procedure**..... 30
  - 4.b. Women with invasive cancer having a single excision** ..... 31
  - 4.c. Proportion of women with DCIS where no axillary dissection was carried out** ..... 32
  - 4.e. Women with DCIS having breast conserving surgery** ..... 33
  - 4.f. Women with invasive cancer  $\leq 20$  mm having breast conserving surgery** ..... 34
  - 4.g. Proportion of women with invasive cancer having radiotherapy** ..... 35
  - 4.h. Proportion of women with DCIS having radiotherapy**..... 36
  - 4.i. Proportion of women with invasive cancer having chemotherapy** ..... 37
  - 4.j. Proportion of women with invasive cancer having endocrine therapy** ..... 38
- 5. PROVISION OF AN APPROPRIATE AND ACCEPTABLE SERVICE**..... 39
  - 5.e. First surgical treatment within 20 working days** ..... 39
- APPENDIX A: GLOSSARY OF TERMS**..... 41
- APPENDIX B: Map of BSA Lead Provider Regions** ..... 43

## MEMBERS OF THE BSA ADVISORY GROUP

Pru Wood	BreastCare Nurse
Barbara Holland	Consumer Reference Group Representative
Scott McWilliams	Data Manager
Prof Richard Taylor	Epidemiologist
Dr Mary Obele	GP Representative
Lillian Ward	Health Promoter
Mhairi Porteous	Lead Provider Manager
Dr Sue Crengle	Maori Reference Group Representative
Dr Glenys Round	Medical Oncologist
Jeremy Nicoll	Medical Physicist
Marie-Therese Borland	Medical Radiation Technologist
Dr Juliet Walker	Pacific Representative
Dr Reena Ramsaroop	Pathologist
Dr Glyn Thomas	Radiologist
Mr David Moss	Surgeon
Margreet Simpson	Treatment Data Collector

## EXECUTIVE SUMMARY

This report presents cross-sectional data for the 2 year period January 2005-December 2006 and trend data from programme inception to December 2006 for BreastScreen Aotearoa treatment indicators. Screening and assessment indicators are located in a companion report.<sup>1</sup> BreastScreen Aotearoa (BSA) has offered government funded biennial mammography screening for all NZ women aged 50-64 years since 1999. In July 2004 the target age group was extended to include women aged 45-49 years and 65-69 years. For the period covered in this report, a biennium of for these extended age groups has elapsed, and for this report data relating to women aged 50-69 years are presented. Trend data for key indicators are presented for women aged 50-64 years, however, a new times-series has also been established for this aggregated target age group of women aged 50-69 years. Significant numbers of 45-49 year old women were not screened until July 2005, and therefore these data are not included in this report. Some indicators in this report have 'expected' and 'desirable' targets. In the text of this Executive Summary quoted targets relate to 'expected' target values.

Treatment of women with BSA detected cancers is not carried out by BSA Lead Providers. Surgery is performed by 21 District Health Board (DHB) Services and oncology services are provided by 6 Cancer Treatment Centres.

An additional development from the previous reporting period, which continues to impact upon data for the current reporting period, was the restructure of BreastScreen Auckland & North (BSAN) into three Lead Providers BreastScreen Auckland Limited (BSAL), BreastScreen Counties Manukau (BSCM), and BreastScreen Waitemata (BSWN). This occurred during the July to December (2005) reporting period, with BSCM beginning screens in September 2005.

### 1. Early detection of DCIS or invasive breast cancer

#### *DCIS*

The proportion of DCIS of all cancers (invasive and DCIS) for this age group over the biennium was 23.0% (target range 10-25%).

#### *Invasive cancer detection rate*

The BSA biennial invasive cancer detection for women aged 50-69 years was 6.8 per 1,000 women screened for initial screens (achieving the target of  $\geq 6.1$  per 1,000), and 4.3 per 1,000 for subsequent screens (achieving the target of  $\geq 3.45$  per 1,000). This represented 1,211 invasive cancers detected by BSA for the 2-year period. The overall proportion of node negative cancers (of all invasive cancers) was 71.5% for initial screens and 77.8% for subsequent screens.

For women 50-69 years the overall proportion of screen detected invasive cancers  $\leq 10$ mm in size for the 2-year period was 29.9% for initial screens and 38.0% for subsequent screens. The corresponding detection rates per 10,000 women screened for invasive cancers  $\leq 10$ mm were above the target at 20.3 for initial screens (target  $\geq 15.2$  per 10,000 screens) and 16.6 for subsequent screens (target  $\geq 10.45$  per 10,000 screens).

For women 50-69 years the overall proportion of screen detected invasive cancers  $< 15$ mm in size for the 2-year period was 46.3% for initial screens and 56.2% for subsequent screens. The corresponding detection rates per 10,000 women screened for invasive cancers  $< 15$ mm were above the target at 31.5 for initial screens (target  $> 30.5$  per 10,000 screens) and 24.5 for subsequent screens (target  $\geq 17.3$  per 10,000 screens).

### 2. Treatment

Target values were exceeded for DCIS cases and for invasive cases  $\leq 20$  mm having breast conserving surgery (BCS). The overall proportion of screen detected DCIS having BCS was 83.6%, and for invasive cancers having BCS was 77.6%, both of which were greater than the target value of  $> 50\%$ .

The overall proportion of invasive cancers having a surgical axillary procedure was 96.5%, which was on target (target value of 95%). The overall proportion of women who had surgery for DCIS who did not have an axillary dissection was 97.2%, which was also on target (target value 95%).

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<sup>1</sup> Page A, Taylor R. BreastScreen Aotearoa: Independent Monitoring Report: July-December, 2006. BreastScreen Aotearoa: Wellington 2007.

The overall proportion of women diagnosed with invasive cancer who had BCS, and went on to have radiotherapy was 96.4%, which was on target (target value of  $\geq 95\%$ ).

### **3. Provision of an appropriate and acceptable service**

There is only one indicator in this section of the treatment report. The overall proportion of women offered first surgical treatment within 20 working days was below the target value of 90%. The biennial estimate for women 50-69 years was 64.6%. Trend data for this indicator show a continued decrease relative to earlier periods of the programme.

### **4. Conclusion**

Overall, targets for key treatment indicators are being exceeded, or are close to being achieved. There is variation for some indicators across Lead Providers. Areas where target values were not met by BSA in the period covered in this report, and where differences between observed and expected values were of greatest magnitude, included:

- %Receiving timely surgical treatment within 20 days (5e)

## **BSA ADVISORY GROUP COMMENTS**

The BSA Advisory Group is concerned at the failure of all Lead Providers to meet the timely surgical treatment target. Of particular concern is the worsening trend in this indicator across all Lead Providers. The BSA Advisory Group considers this reflects issues with the resourcing of the surgical treatment of breast cancer in New Zealand, and until this is addressed, the target for this indicator is unlikely to be met. It is noted that treatment surgery is provided by 21 District Health Boards (DHB) in the eight Lead Provider regions. There is limited ability to influence this indicator outside the DHB

## **FOREWORD: BSA MONITORING PROCESS**

Data are sent monthly from the eight BreastScreen Aotearoa Lead Providers (LPs) to the New Zealand Health Information Service of the Ministry of Health (NZHIS). The data are checked at NZHIS, amalgamated into a single file and sent to the National Screening Unit (NSU). The NSU runs further checks, encrypts the National Health Index (NHI) numbers and produces 6-monthly data extraction and tables of performance indicators by lead provider for the preceding 6 months and preceding 2 years of the reporting period.

The tables are sent to the BSA Independent Monitoring Group (IMG) at the University of Queensland (Australia). The IMG produces an Independent Monitoring Report (IMR) including calculations of confidence intervals (CI's), time trend graphs, an analysis of data against national indicators and targets, explanatory notes and commentary. The IMG can request additional tabulations where it is felt appropriate. The IMG sends the first draft of IMR to NSU for verification and review, after which the IMR is updated.

The updated IMR draft is sent to members of the BSA Advisory Group (AG) prior to a collective meeting, where multidisciplinary and consumer context is added to comments regarding outliers. The draft report is then circulated to LPs for further comment and a final version is produced. The NSU publishes the final report and distributes to providers.

This BSA Independent Monitoring Report was reviewed by the BSA Advisory Group on 29 October, 2008.

## TECHNICAL NOTES FOR INTERPRETING THIS REPORT

### Developments in presentation of age extension data

A biennium has elapsed since BSA began collecting data for women aged 45-49 and 65-69 years. This report has aggregated the upper age group and presents data for women aged 50-69 years as the target age group. Interpreting trends in this report should take into consideration that indicators for a comparable age group are not available for periods prior to Jul-Dec, 2006. Trend data are still presented for women age 50-64 years for the programme from the first reporting period in 2001 to the June 2006, after which time-series data are broken and a new series has been established for women aged 50-69 years.

### Changes to BSA Lead Providers

BreastScreen Auckland and North was split into 3 separate Lead Providers during the current reporting period: BSAL, BSCM, BSWN. The following table provides a listing of Lead Providers clarifying these changes.

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

### Trends in programme indicators

As noted above, this report presents trend data for women 50-64 years from the first reporting period in 2001 to June 2007. For the current reporting period a new time series has been established for women aged 50-69 years, which aggregates the first biennium of data for women aged 65-69 years with women aged 50-64 years. Given the large number of indicators and the fact that, for many indicators, large stochastic variations are evident over time (due to small underlying case numbers), trend data has been presented for: (1) key programme indicators relating to participation, referral to assessment, and cancer detection; and (2) for other indicators where noteworthy trends were evident.

### Confidence Intervals (CI's)

95% CI's have been reported for all indicators in this report. From the Central Limit Theorem, the estimate for a particular indicator - for example, invasive cancer detection rate for the 2 year period - is assumed to come from a hypothetical distribution of values for that indicator. The overall average value of this hypothetical distribution is the universal or 'true' invasive cancer detection rate for the population being studied. The 95% confidence interval indicates that there is a 1 in 20 chance that the 'true' population rate (or proportion, or mean) lies outside the range of values contained by the 95% confidence interval. Thus, the wider the 95% confidence interval, the less precise the estimate is to the true population parameter. Additionally, different statistical distributions provide more accurate and appropriate estimations of the 95% confidence intervals, and depend upon the type of indicator being studied, and the frequency of the event. For this report, 95% confidence intervals for rare events occurring in a population have been calculated using the Poisson distribution. For indicators with small numbers where proportions represent cases and non-cases the 95% confidence interval is based on the Exact Binomial distribution.



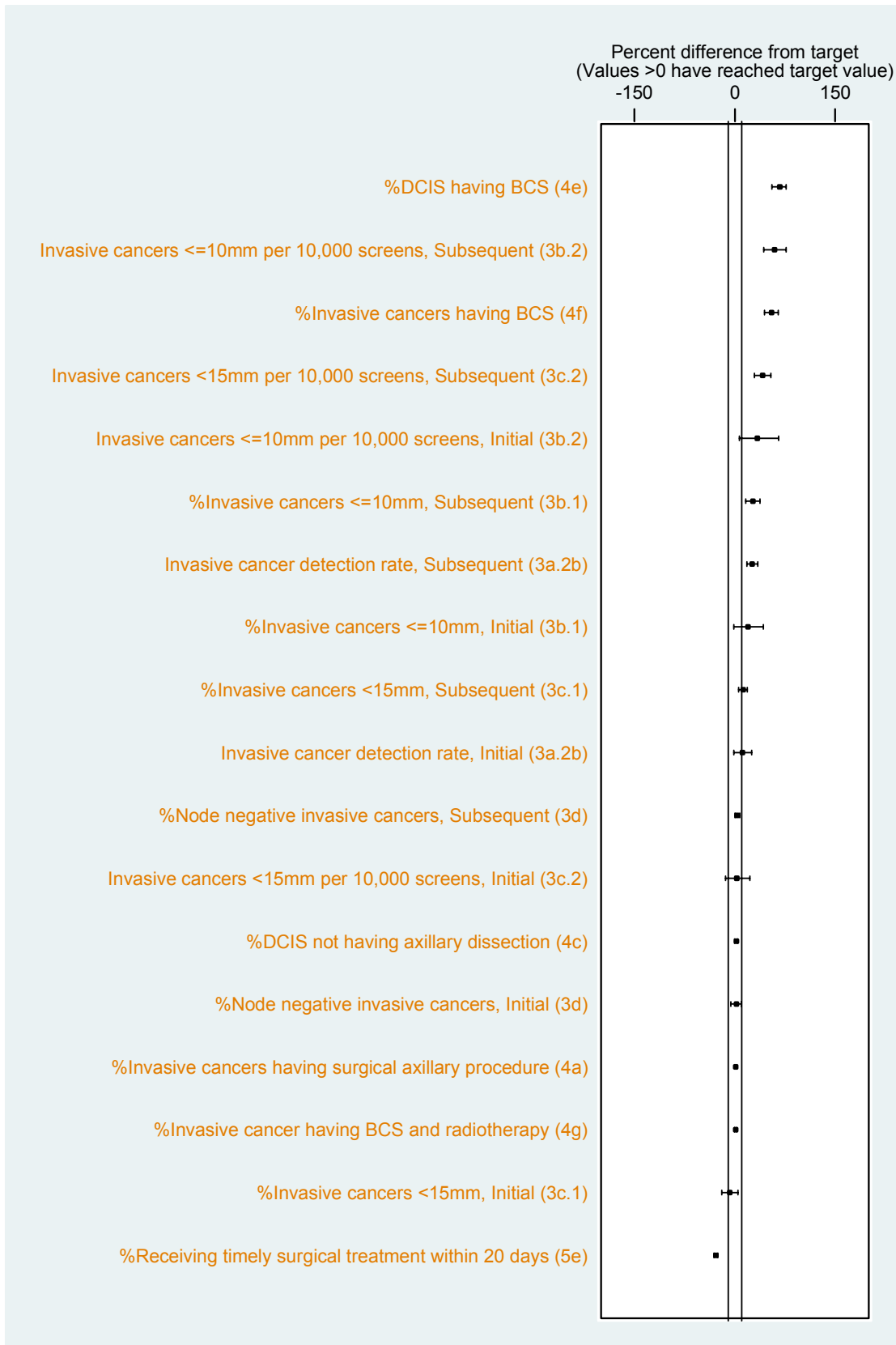
### **Differences between observed and target values**

The magnitude of the difference between the observed value and the target value is important in the interpretation of each indicator. In this report, differences of  $\geq 5\%$  that are statistically significantly different from the target value based on 95% confidence intervals are noted as important differences, and are indicated by '✓✓' if better than the target, or 'xx' if worse than the target. Differences of  $\geq 10\%$  that are statistically significant (from the target value) are indicated by '✓✓✓' if better than the target, or 'xxx' if worse than the target. Differences of  $<5\%$  from the target value and/or differences which are not significantly different from the target value are indicated by '✓' and are considered 'on target'. For each indicator, differences between the observed value and the target value need to be interpreted in the context and meaning of the indicator under investigation. If the standard is 80% then a 10% difference would contain values ranging from 72%-88%. If the standard is 10%, then a 10% difference would contain values ranging from 9%-11%. As a guide, slight differences can be considered to be of a relative magnitude of 0-5%, moderate differences of 5-9%, and large differences  $>10\%$ .

Target values relate only to biennial rates for women in the target age-group (50-69 years) for all indicators, and ticks and crosses for 6-month rates are not presented.

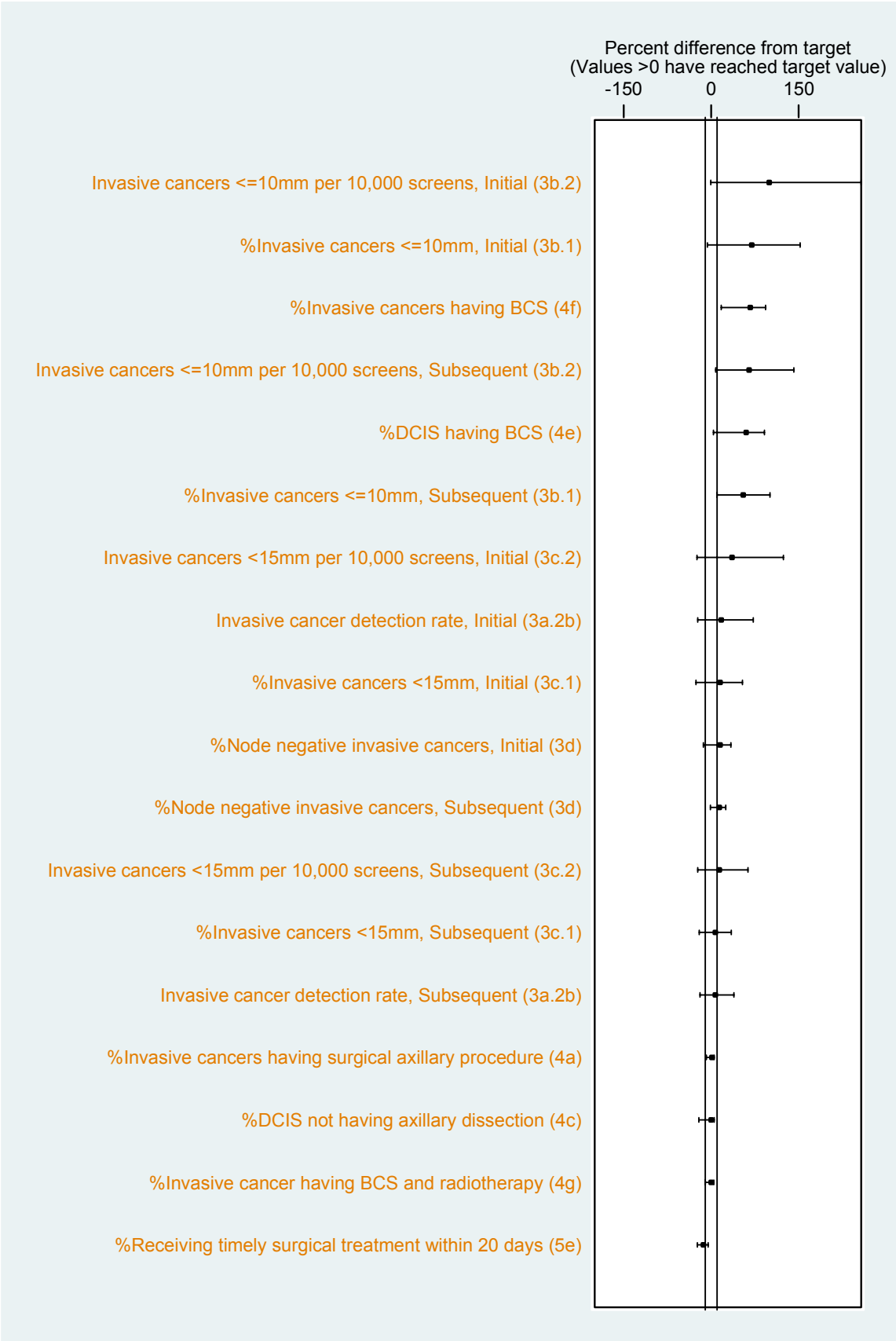
AT A GLANCE: BIENNIAL INDICATORS FOR WOMEN 50-69 YEARS

Figure 1: Biennial indicators ‘on target’, ‘better than target’, or ‘worse than target’ for BSA as measured by percent difference between observed and target value (Table reference in brackets)



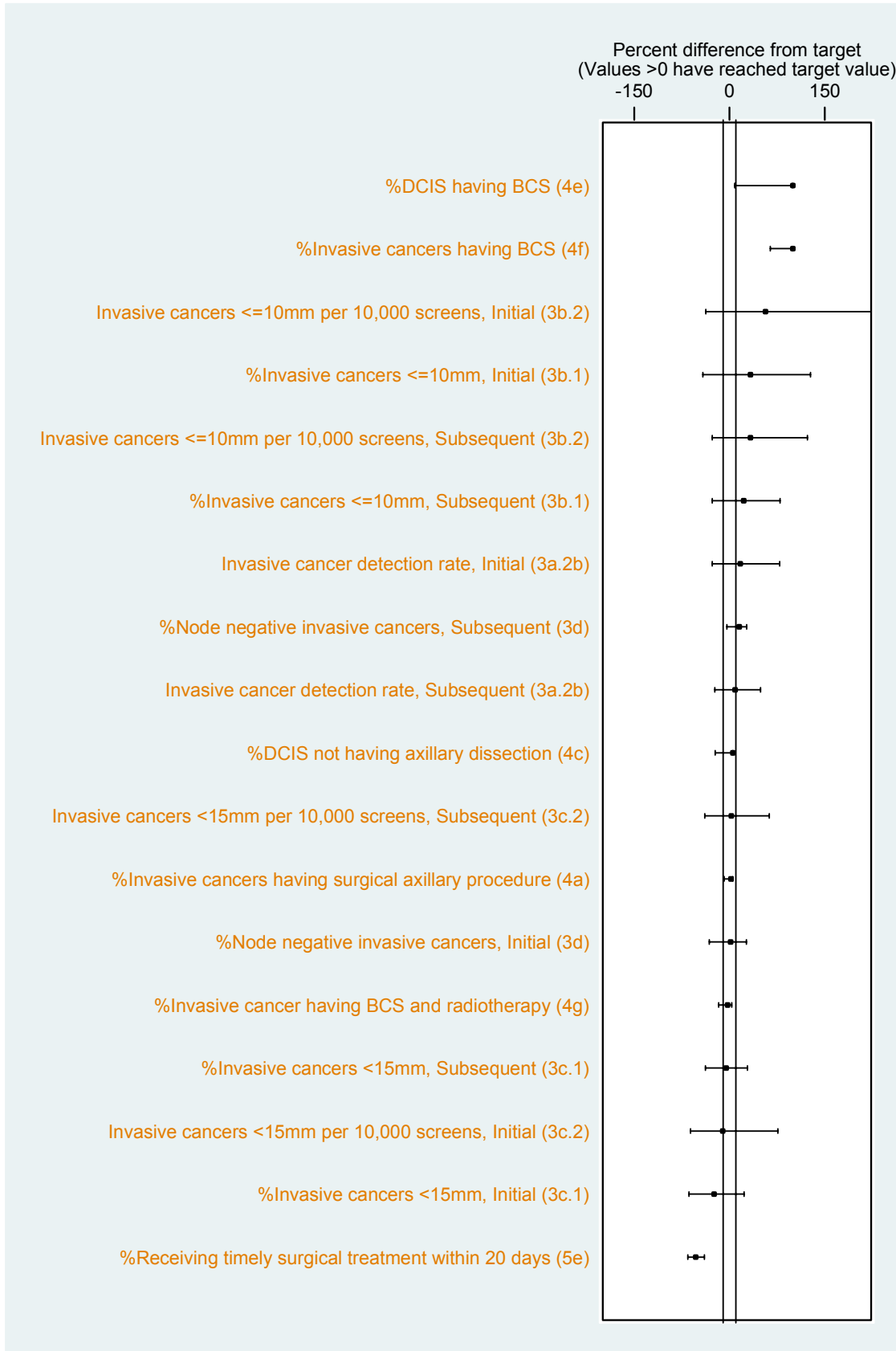
NB: The vertical line represent a  $\pm 10\%$  difference between the observed value and the target value

**Figure 2: Biennial indicators ‘on target’, ‘better than target’, or ‘worse than target’ for BSWN as measured by percent difference between observed and target value (Table reference in brackets). Note: These data are for an incomplete biennium following re-distribution of BSA areas.**



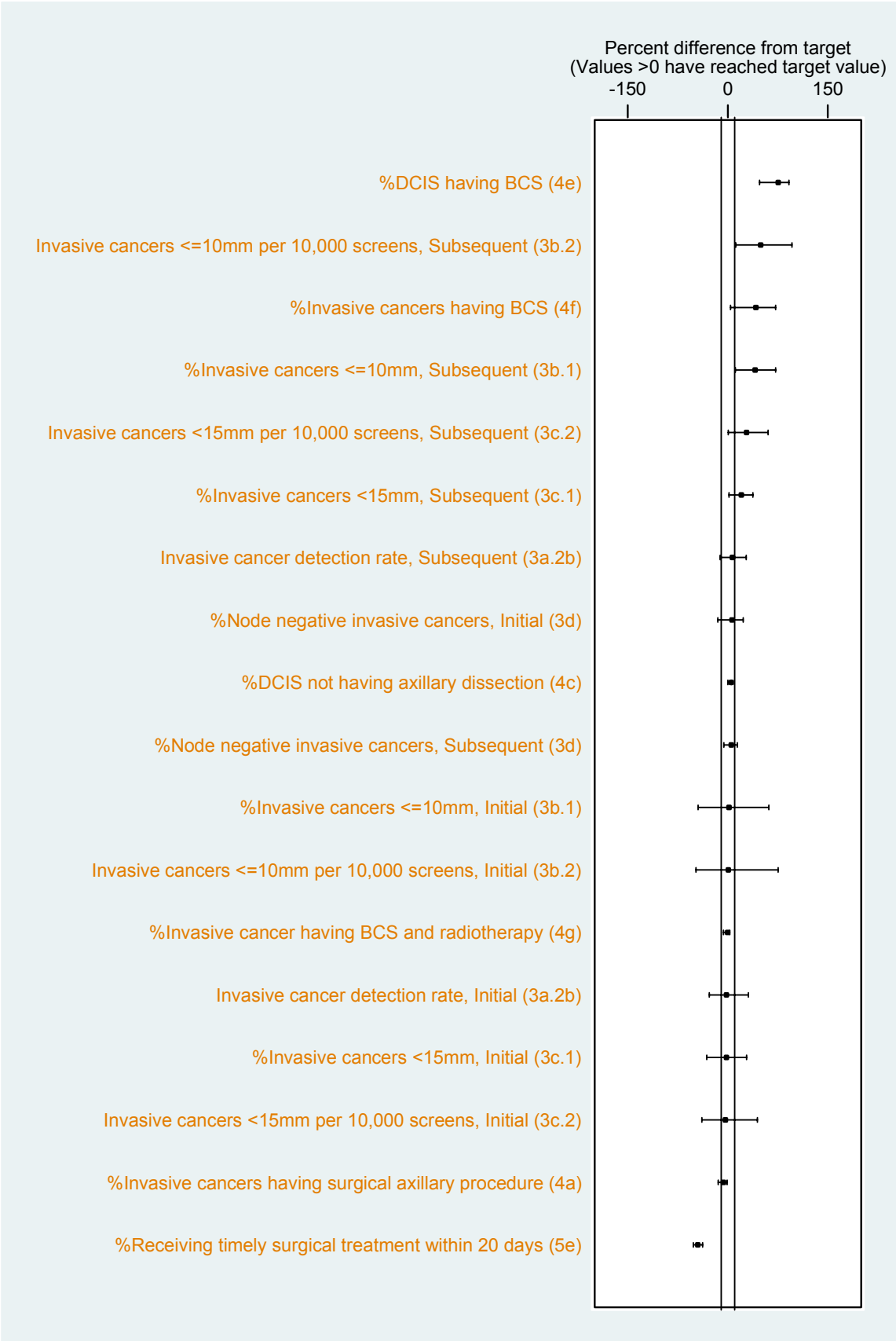
NB: The vertical line represent a  $\pm 10\%$  difference between the observed value and the target value

**Figure 3: Biennial indicators ‘on target’, ‘better than target’, or ‘worse than target’ for BSCM as measured by percent difference between observed and target value (Table reference in brackets). Note: These data are for an incomplete biennium following re-distribution of BSAN areas.**



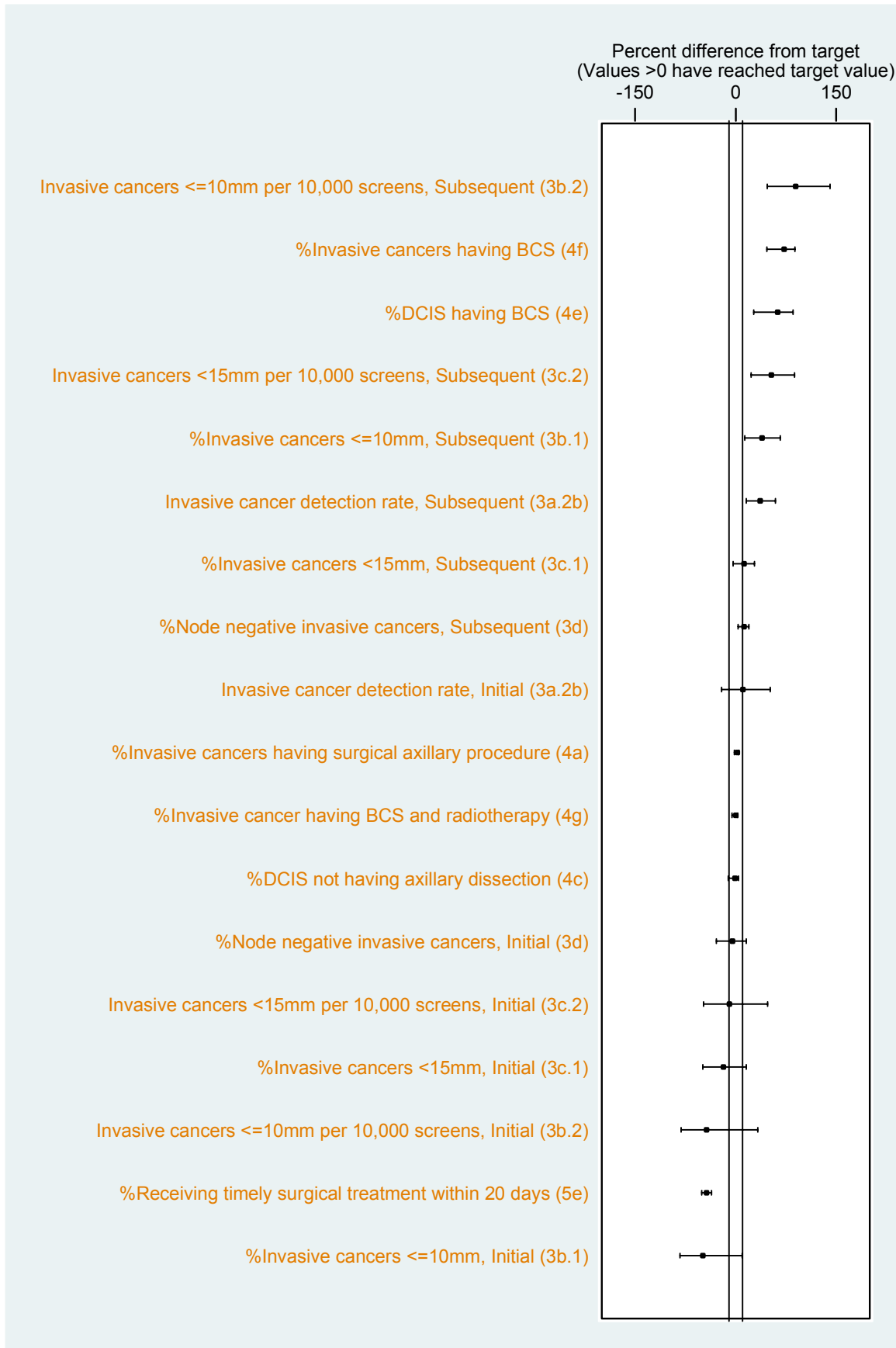
**NB:** The vertical line represent a  $\pm 10\%$  difference between the observed value and the target value

**Figure 4: Biennial indicators ‘on target’, ‘better than target’, or ‘worse than target’ for BSAL as measured by percent difference between observed and target value (Table reference in brackets). Note: These data are for an incomplete biennium following re-distribution of BSAN areas.**



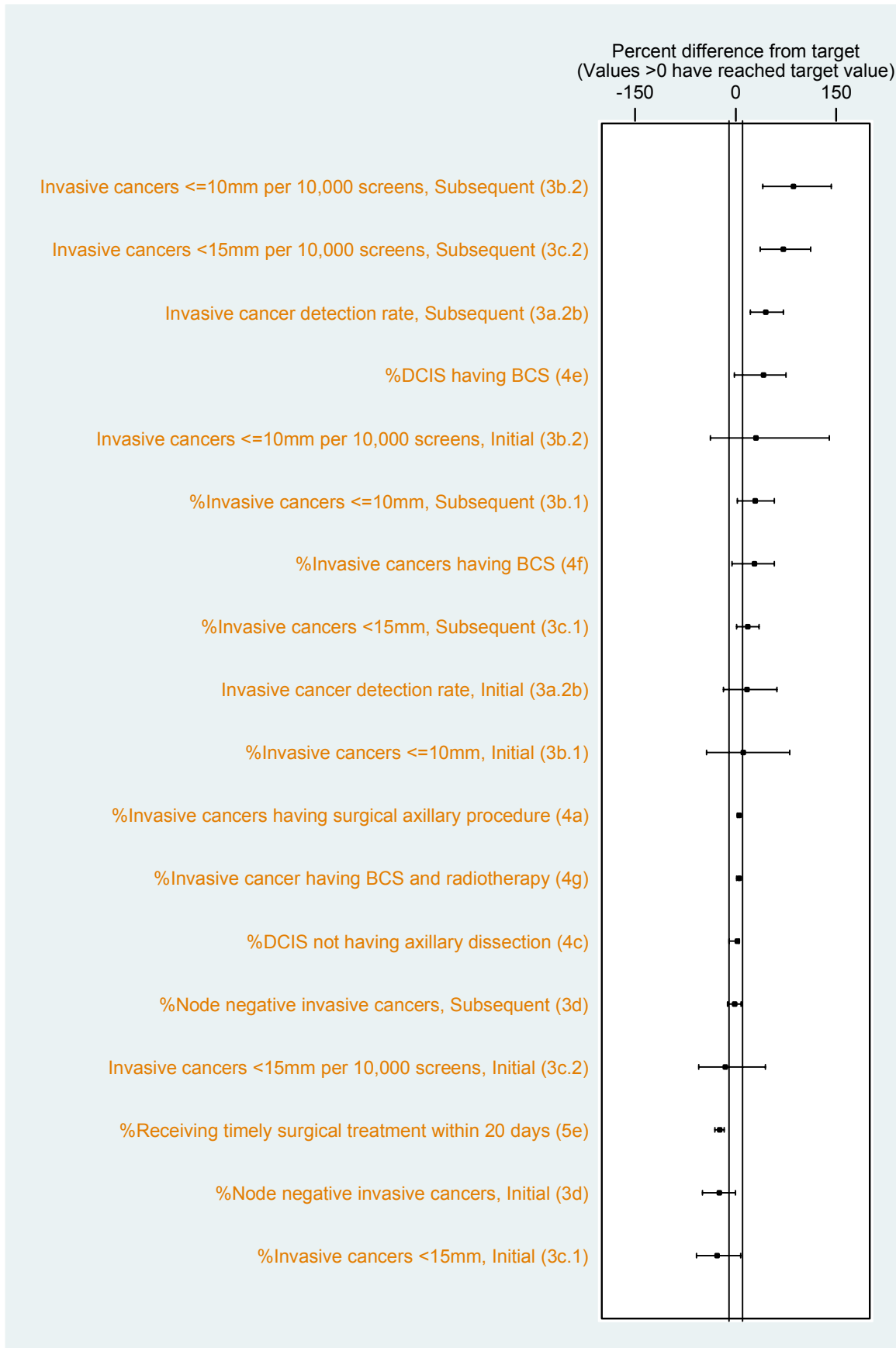
**NB:** The vertical line represent a  $\pm 10\%$  difference between the observed value and the target value

**Figure 5: Biennial indicators ‘on target’, ‘better than target’, or ‘worse than target’ for BSM as measured by percent difference between observed and target value (Table reference in brackets)**



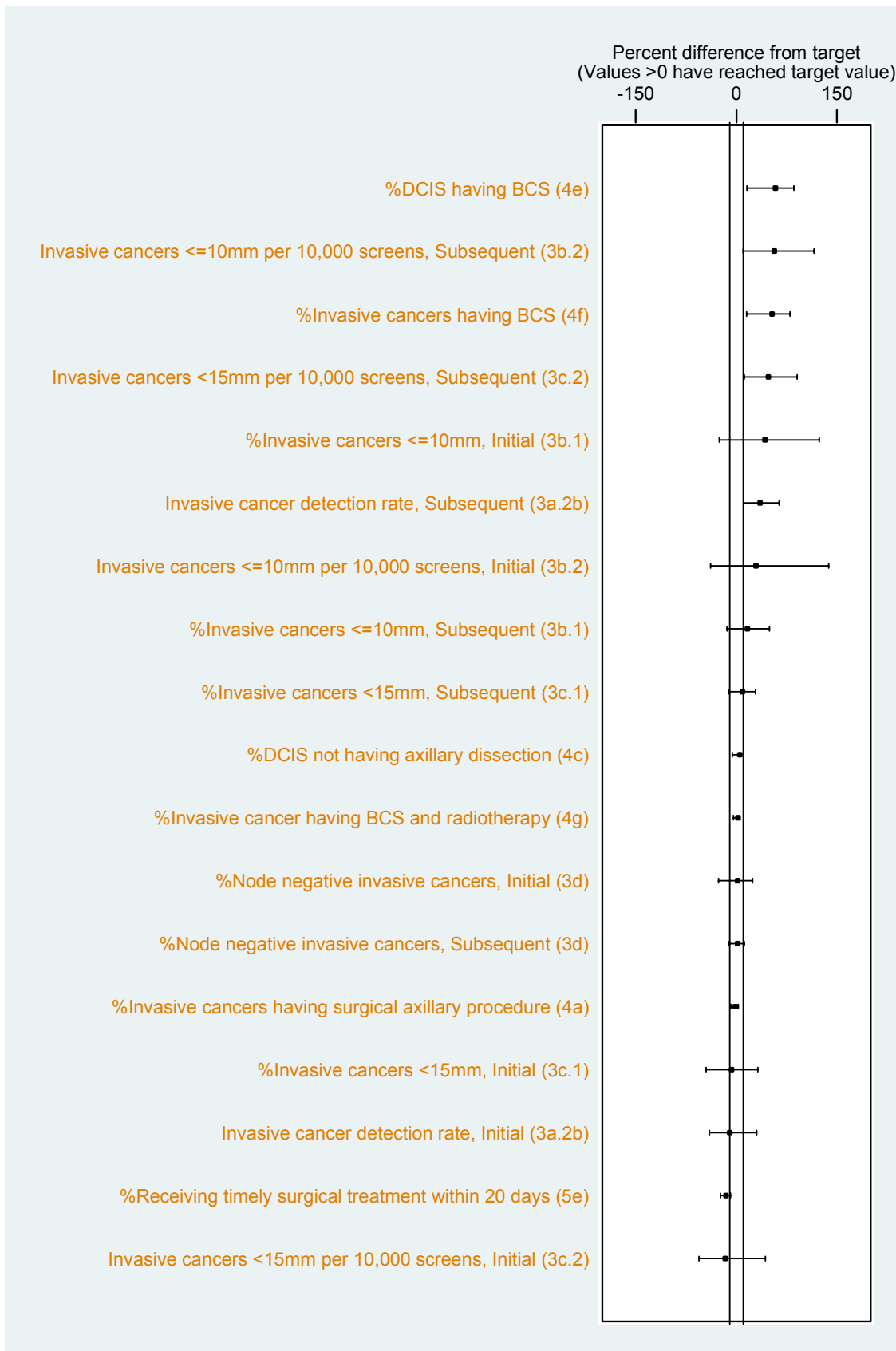
NB: The vertical line represent a  $\pm 10\%$  difference between the observed value and the target value

**Figure 6: Biennial indicators ‘on target’, ‘better than target’, or ‘worse than target’ for BSCtoC as measured by percent difference between observed and target value (Table reference in brackets)**



NB: The vertical line represent a  $\pm 10\%$  difference between the observed value and the target value

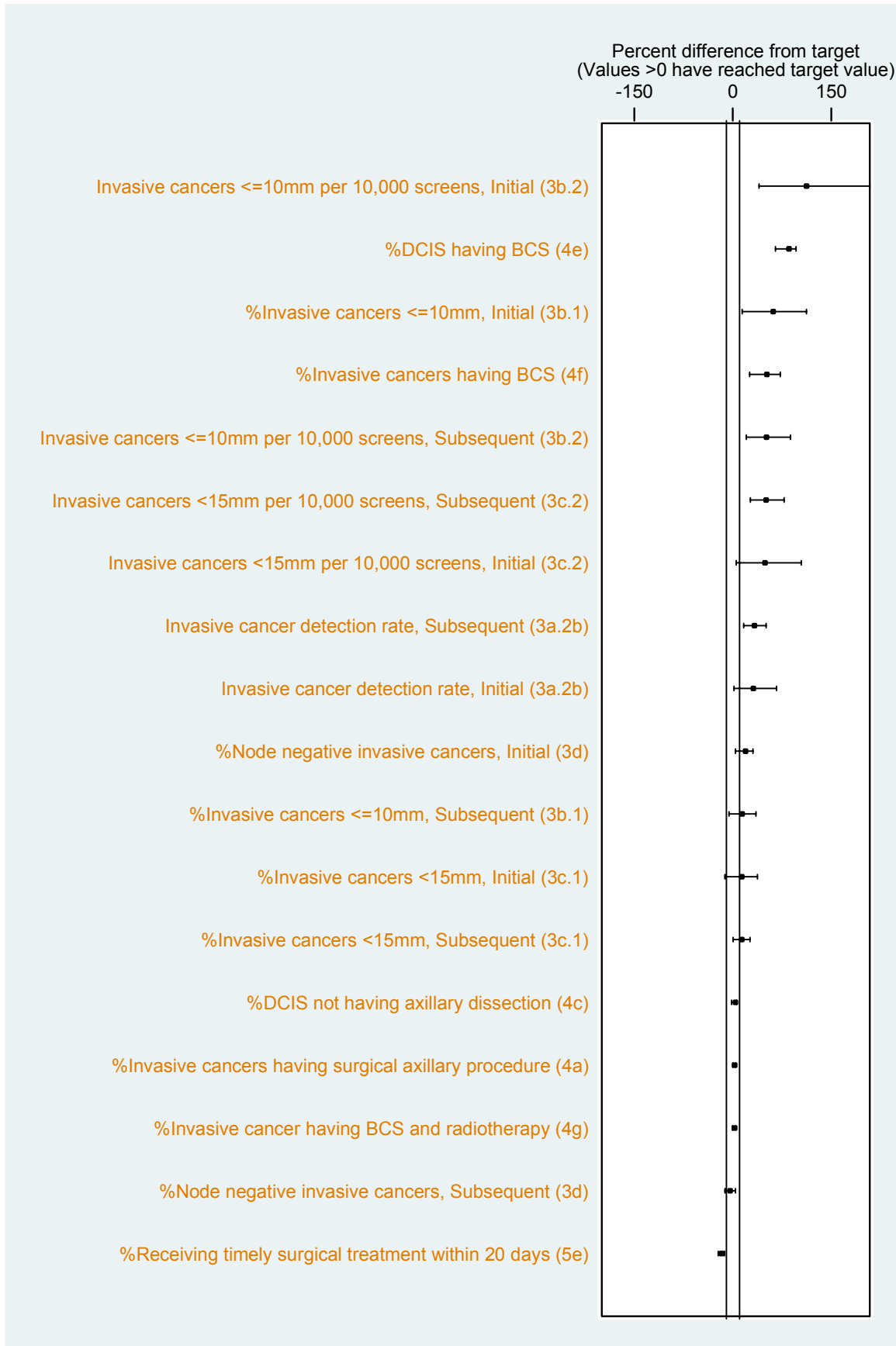
**Figure 7: Biennial indicators ‘on target’, ‘better than target’, or ‘worse than target’ for BSC as measured by percent difference between observed and target value (Table reference in brackets)**



NB: The vertical line represent a  $\pm 10\%$  difference between the observed value and the target value

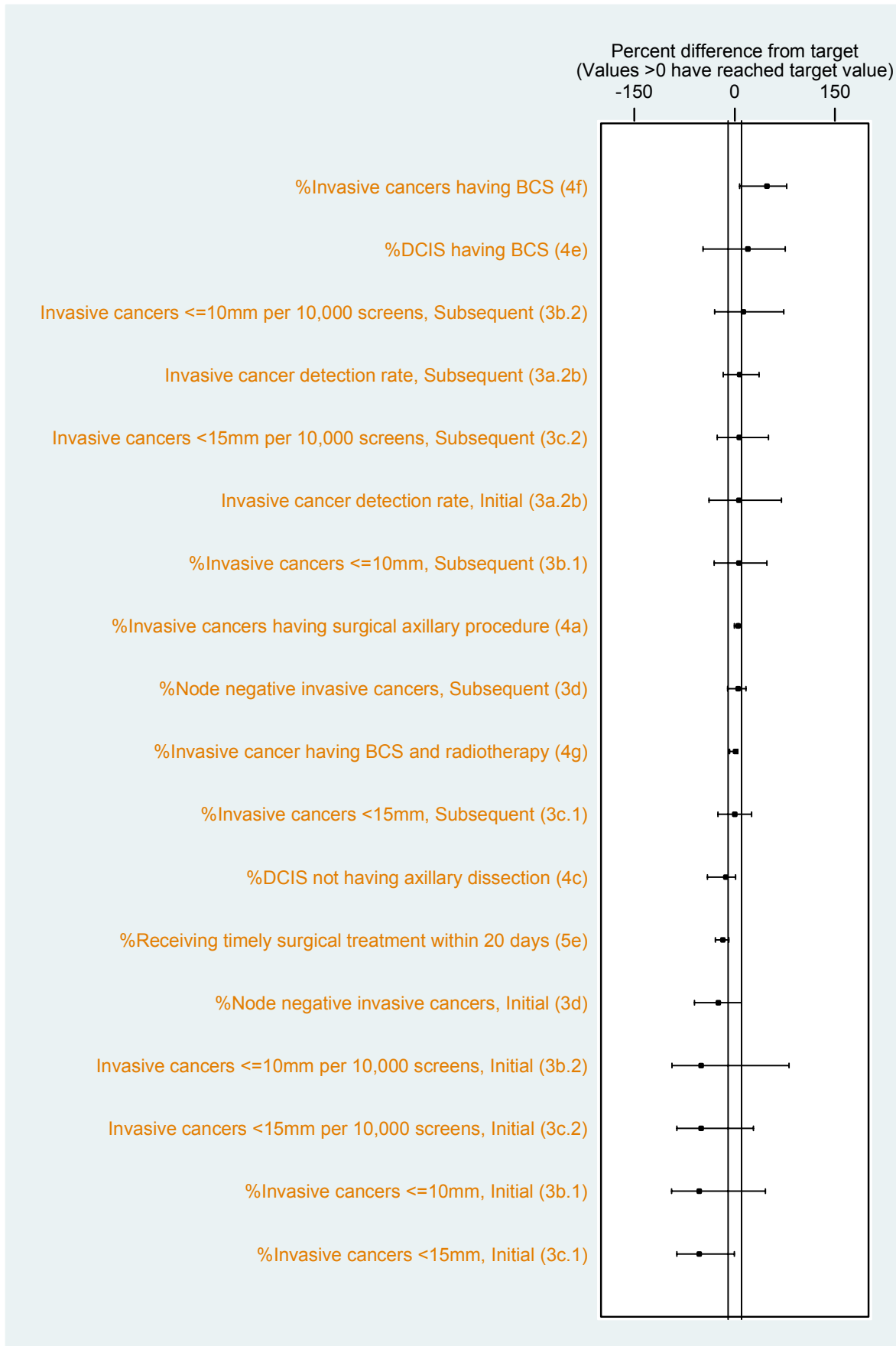


**Figure 8: Biennial indicators ‘on target’, ‘better than target’, or ‘worse than target’ for BSSL as measured by percent difference between observed and target value (Table reference in brackets)**



NB: The vertical line represent a  $\pm 10\%$  difference between the observed value and the target value

**Figure 9: Biennial indicators ‘on target’, ‘better than target’, or ‘worse than target’ for BSHC as measured by percent difference between observed and target value (Table reference in brackets)**



NB: The vertical line represent a  $\pm 10\%$  difference between the observed value and the target value

### 3. EARLY DETECTION OF DCIS OR INVASIVE BREAST CANCER

#### 3.a.3. Treatment data completeness, 2 years

*Description:*

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

*Target:*

≥ 90%

**Table 3a.3: Treatment data completeness**

	Women referred for Treatment	% Staging Complete	% Surgical Complete	% Endocrine Complete	% Radiotherapy Complete	% Chemotherapy Complete
BSWN	111	95.5	96.4	99.1	99.1	99.1
BSCM	74	100.0	100.0	100.0	100.0	100.0
BSAL	265	95.5	95.5	95.1	95.1	94.7
BSM	268	96.3	99.6	100.0	100.0	100.0
BSCtoC	218	100.0	100.0	100.0	100.0	100.0
BSC	171	100.0	100.0	100.0	100.0	100.0
BSSL	399	99.7	99.5	100.0	100.0	100.0
BSHC	100	100.0	100.0	100.0	100.0	100.0
BSA Total	1,606	98.3	98.8	99.1	99.1	99.1

**Table 3a.4: Data collection completeness for patient status records**

6 Month Period		<i>Data Collection Due by</i>	BSAL	BSM	BSCtoC	BSC	BSSL	BSHC
1999	Jan-Jun	<i>Jun-04</i>	81.0	100.0	95.2	100.0	97.3	90.5
1999	Jul-Dec	<i>Dec-04</i>	75.2	100.0	100.0	100.0	100.0	100.0
2000	Jan-Jun	<i>Jun-05</i>	68.9	94.3	100.0	100.0	98.8	96.6
2000	Jul-Dec	<i>Dec-05</i>	70.4	100.0	96.6	96.3	98.7	100.0
2001	Jan-Jun	<i>Jun-06</i>	8.8	100.0	100.0	97.8	98.4	100.0
2001	Jul-Dec	<i>Dec-06</i>	0.9	92.1	100.0	97.5	89.7	94.4

### 3.a.2b. Invasive cancer detection, 6 months and 2 years

*Description:*

The number of women who have invasive breast cancer detected within BSA, expressed as a rate per 1000 women screened.

This is influenced by the background incidence of cancer in the population in the absence of screening. All other things being equal, the higher the cancer incidence, the higher the cancer detection rate will be.

*Target:*

Initial (Prevalent) round:  $\geq 6.1$  per 1000 women screened

Subsequent (Incident) round:  $\geq 3.45$  per 1000 women screened.

**Table 3a.2b: Invasive cancers (6 months and 2 years) for initial and subsequent screens, women 50-69 years**

	Initial					Subsequent				
	Number	Women screened	Rate per 1,000 (95%CI)			Number	Women screened	Rate per 1,000 (95%CI)		
<i>6 months</i>										
BSWN	18	2,718	6.6 (3.9-10.5)	✓	ns	24	7,971	3.0 (1.9-4.5)	✓	ns
BSCM*	9	1,229	7.3 (3.3-13.9)	✓	ns	17	4,257	4.0 (2.3-6.4)	✓	ns
BSAL*	8	1,129	7.1 (3.1-14.0)	✓	ns	10	3,167	3.2 (1.5-5.8)	✓	ns
BSM*	9	1,413	6.4 (2.9-12.1)	✓	ns	42	9,022	4.7 (3.4-6.3)	✓	ns
BSCtoC	10	1,136	8.8 (4.2-16.2)	✓	ns	44	8,461	5.2 (3.8-7.0)	✓✓✓	*
BSC	7	1,375	5.1 (2.0-10.5)	✓	ns	19	5,551	3.4 (2.1-5.3)	✓	ns
BSSL	16	1,733	9.2 (5.3-15.0)	✓	ns	60	13,338	4.5 (3.4-5.8)	✓	ns
BSHC	3	522	5.7 (1.2-16.8)	✓	ns	20	4,449	4.5 (2.7-6.9)	✓	ns
BSA Total	80	11,255	7.1 (5.6-8.8)	✓	ns	236	56,216	3.6 (3.1-4.1)	✓✓✓	*
<i>2 years</i>										
BSWN	26	3,629	7.2 (4.7-10.5)	✓	ns	56	15,174	3.7 (2.8-4.8)	✓	ns
BSCM	21	2,933	7.2 (4.4-10.9)	✓	ns	38	10,117	3.8 (2.7-5.2)	✓	ns
BSAL	47	7,842	6.0 (4.4-8.0)	✓	ns	123	33,418	3.7 (3.1-4.4)	✓	ns
BSM	39	5,777	6.8 (4.8-9.2)	✓	ns	160	34,003	4.7 (4.0-5.5)	✓✓✓	*
BSCtoC	36	5,051	7.1 (5.0-9.9)	✓	ns	142	28,394	5.0 (4.2-5.9)	✓✓✓	*
BSC	28	5,099	5.5 (3.6-7.9)	✓	ns	106	22,719	4.7 (3.8-5.6)	✓✓✓	*
BSSL	67	8,380	8.0 (6.2-10.2)	✓✓✓	*	239	52,198	4.6 (4.0-5.2)	✓✓✓	*
BSHC	17	2,623	6.5 (3.8-10.4)	✓	ns	66	17,822	3.7 (2.9-4.7)	✓	ns
BSA Total	281	41,334	6.8 (6.0-7.6)	✓	ns	930	213,845	4.3 (4.1-4.6)	✓✓✓	*

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. Poisson 95% Confidence Intervals presented

\* Statistically different from target value, ns Not significant

✓ On target, difference of <5% better or worse than target value based on point estimate or 95% Confidence Interval not significantly different from target

✓✓ Difference of 5-9% magnitude better than target value and statistically significant

✓✓✓ Difference of  $\geq 10\%$  magnitude better than target value and statistically significant

xx Difference of  $\geq 5-9\%$  magnitude worse than target value and statistically significant

xxx Difference of  $\geq 10\%$  magnitude worse than target value and statistically significant

### 3.b. Detection of invasive cancers ≤ 10 mm

*Description:*

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

*Target:*

Initial (Prevalent) round: ≥ 25%, which gives a rate of ≥ 15.2 per 10,000 screens

Subsequent (Incident) round: ≥ 30%, which gives a rate of ≥ 10.45 per 10,000 screens

**Table 3b.1: Proportion of invasive cancers less than or equal to 10 mm in women aged 50-69 years, 2 years**

	Initial					Subsequent				
	Invasive cancers ≤10 mm	Total invasive cancers	% (95%CI)			Invasive cancers ≤10 mm	Total invasive cancers	% (95%CI)		
BSWN	11	26	42.3 (23.4-63.1)	✓	ns	26	56	46.4 (33.0-60.3)	✓✓✓	*
BSCM	7	21	33.3 (14.6-57.0)	✓	ns	14	38	36.8 (21.8-54.0)	✓	ns
BSAL	12	47	25.5 (13.9-40.3)	✓	ns	52	123	42.3 (33.4-51.5)	✓✓✓	*
BSM	5	39	12.8 (4.3-27.4)	✓	ns	67	160	41.9 (34.1-49.9)	✓✓✓	*
BSCtoC	10	36	27.8 (14.2-45.2)	✓	ns	55	142	38.7 (30.7-47.3)	✓✓✓	*
BSC	10	28	35.7 (18.6-55.9)	✓	ns	37	106	34.9 (25.9-44.8)	✓	ns
BSSL	27	67	40.3 (28.5-53.0)	✓✓✓	*	82	240	34.2 (28.2-40.5)	✓	ns
BSHC	2	17	11.8 (1.5-36.4)	✓	ns	21	66	31.8 (20.9-44.4)	✓	ns
BSA Total	84	281	29.9 (24.6-35.6)	✓	ns	354	931	38.0 (34.9-41.2)	✓✓✓	*

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. Exact Binomial 95% Confidence Intervals presented

\* Statistically different from target value, ns Not significant

✓ On target, difference of <5% better or worse than target value based on point estimate or 95% Confidence Interval not significantly different from target

✓✓ Difference of 5-9% magnitude better than target value and statistically significant

✓✓✓ Difference of ≥ 10% magnitude better than target value and statistically significant

xx Difference of ≥ 5-9% magnitude worse than target value and statistically significant

xxx Difference of ≥ 10% magnitude worse than target value and statistically significant

**Table 3b.2: Invasive cancers, less than or equal to 10 mm in women aged 50-69 years, per 10,000 screens, 2 years**

	Initial					Subsequent				
	Invasive cancers ≤10 mm	Women screened	Rate per 10,000 (95%CI)			Invasive cancers ≤10 mm	Women screened	Rate per 10,000 (95%CI)		
BSWN	11	3,629	30.3 (15.1-54.2)	✓	ns	26	15,174	17.1 (11.2-25.1)	✓✓✓	*
BSCM	7	2,933	23.9 (9.6-49.2)	✓	ns	14	10,117	13.8 (7.6-23.2)	✓	ns
BSAL	12	7,842	15.3 (7.9-26.7)	✓	ns	52	33,418	15.6 (11.6-20.4)	✓✓✓	*
BSM	5	5,777	8.7 (2.8-20.2)	✓	ns	67	34,003	19.7 (15.3-25.0)	✓✓✓	*
BSCtoC	10	5,051	19.8 (9.5-36.4)	✓	ns	55	28,394	19.4 (14.6-25.2)	✓✓✓	*
BSC	10	5,099	19.6 (9.4-36.1)	✓	ns	37	22,719	16.3 (11.5-22.4)	✓✓✓	*
BSSL	27	8,380	32.2 (21.2-46.9)	✓✓✓	*	82	52,198	15.7 (12.5-19.5)	✓✓✓	*
BSHC	2	2,623	7.6 (0.9-27.5)	✓	ns	21	17,822	11.8 (7.3-18.0)	✓	ns
BSA Total	84	41,334	20.3 (16.2-25.2)	✓✓✓	*	354	213,845	16.6 (14.9-18.4)	✓✓✓	*

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. Poisson 95% Confidence Intervals presented

\* Statistically different from target value, ns Not significant

✓ On target, difference of <5% better or worse than target value based on point estimate or 95% Confidence Interval not significantly different from target

✓✓ Difference of 5-9% magnitude better than target value and statistically significant

✓✓✓ Difference of ≥ 10% magnitude better than target value and statistically significant

xx Difference of ≥ 5-9% magnitude worse than target value and statistically significant

xxx Difference of ≥ 10% magnitude worse than target value and statistically significant

### 3.c. Detection of invasive cancers <15 mm

#### 3.c.1. Proportion of invasive cancers, 6 months, <15 mm, women aged 50-69 years

Description:

Proportion and rate of primary invasive breast cancer of diameter <15 mm

Target:

Initial (Prevalent) round: >50%, which gives a rate of >30.5 per 10,000 screens

Subsequent (Incident) round: >50%, which gives a rate of ≥ 17.3 per 10,000 screens

**Table 3c.1: Proportion of invasive cancers <15 mm in women aged 50-69 years, 2 years**

	Initial					Subsequent				
	Invasive cancers <15 mm	Total invasive cancers	% (95%CI)			Invasive cancers <15 mm	Total invasive cancers	% (95%CI)		
BSWN	15	26	57.7 (36.9-76.6)	✓	ns	30	56	53.6 (39.7-67.0)	✓	ns
BSCM	8	21	38.1 (18.1-61.6)	✓	ns	18	38	47.4 (31.0-64.2)	✓	ns
BSAL	23	47	48.9 (34.1-63.9)	✓	ns	74	123	60.2 (50.9-68.9)	✓✓✓	*
BSM	16	39	41.0 (25.6-57.9)	✓	ns	90	160	56.3 (48.2-64.1)	✓	ns
BSCtoC	13	36	36.1 (20.8-53.8)	✓	ns	84	142	59.2 (50.6-67.3)	✓✓✓	*
BSC	13	28	46.4 (27.5-66.1)	✓	ns	58	106	54.7 (44.8-64.4)	✓	ns
BSSL	38	67	56.7 (44.0-68.8)	✓	ns	136	240	56.7 (50.1-63.0)	✓✓✓	*
BSHC	4	17	23.5 (6.8-49.9)	xxx	*	33	66	50.0 (37.4-62.6)	✓	ns
BSA Total	130	281	46.3 (40.3-52.3)	✓	ns	523	931	56.2 (52.9-59.4)	✓✓✓	*

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period.

Exact Binomial 95% Confidence Intervals presented

\* Statistically different from target value, ns Not significant

✓ On target, difference of <5% better or worse than target value based on point estimate and 95% Confidence Interval not statistically different from target

✓✓ Difference of 5-9% magnitude better than target value and statistically significant

✓✓✓ Difference of ≥ 10% magnitude better than target value and statistically significant

xx Difference of ≥ 5-9% magnitude worse than target value and statistically significant

xxx Difference of ≥ 10% magnitude worse than target value and statistically significant

**Table 3c.2: Invasive cancers <15 mm in women aged 50-69 years, per 10,000 screens, 2years**

	Initial					Subsequent				
	Invasive cancers <15 mm	Women screened	Rate per 10,000 (95%CI)			Invasive cancers <15 mm	Women screened	Rate per 10,000 (95%CI)		
BSWN	15	3,629	41.3 (23.1-68.2)	✓	ns	30	15,174	19.8 (13.3-28.2)	✓	ns
BSCM	8	2,933	27.3 (11.8-53.7)	✓	ns	18	10,117	17.8 (10.5-28.1)	✓	ns
BSAL	23	7,842	29.3 (18.6-44.0)	✓	ns	74	33,418	22.1 (17.4-27.8)	✓✓✓	*
BSM	16	5,777	27.7 (15.8-45.0)	✓	ns	90	34,003	26.5 (21.3-32.5)	✓✓✓	*
BSCtoC	13	5,051	25.7 (13.7-44.0)	✓	ns	84	28,394	29.6 (23.6-36.6)	✓✓✓	*
BSC	13	5,099	25.5 (13.6-43.6)	✓	ns	58	22,719	25.5 (19.4-33.0)	✓✓✓	*
BSSL	38	8,380	45.3 (32.1-62.2)	✓✓✓	*	136	52,198	26.1 (21.9-30.8)	✓✓✓	*
BSHC	4	2,623	15.2 (4.2-39.0)	✓	ns	33	17,822	18.5 (12.7-26.0)	✓	ns
BSA Total	130	41,334	31.5 (26.3-37.3)	✓	ns	523	213,845	24.5 (22.4-26.6)	✓✓✓	*

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period.

Poisson 95% Confidence Intervals presented

\* Statistically different from target value, ns Not significant

✓ On target, difference of <5% better or worse than target value based on point estimate or 95% Confidence Interval not significantly different from target

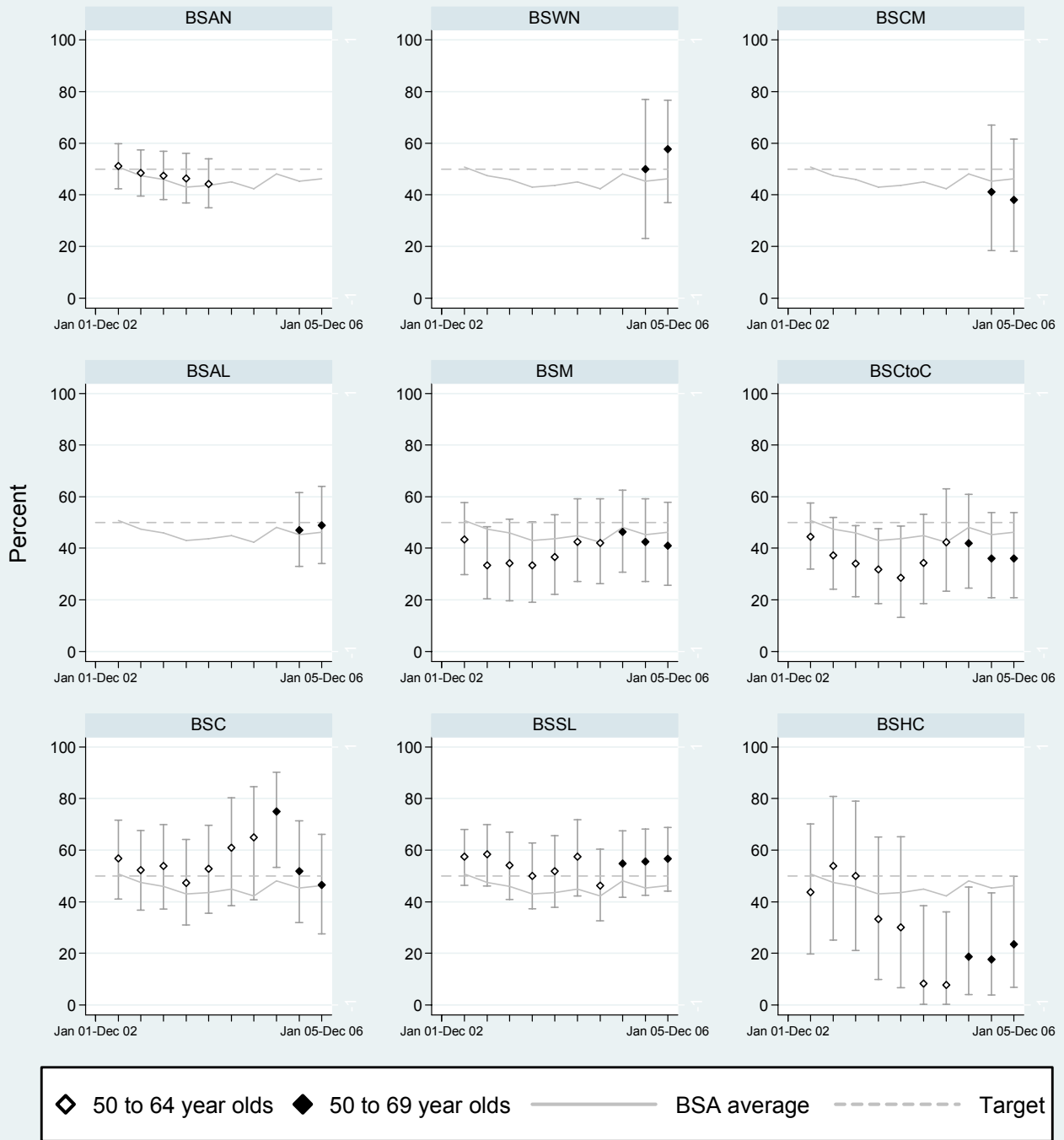
✓✓ Difference of 5-9% magnitude better than target value and statistically significant

✓✓✓ Difference of ≥ 10% magnitude better than target value and statistically significant

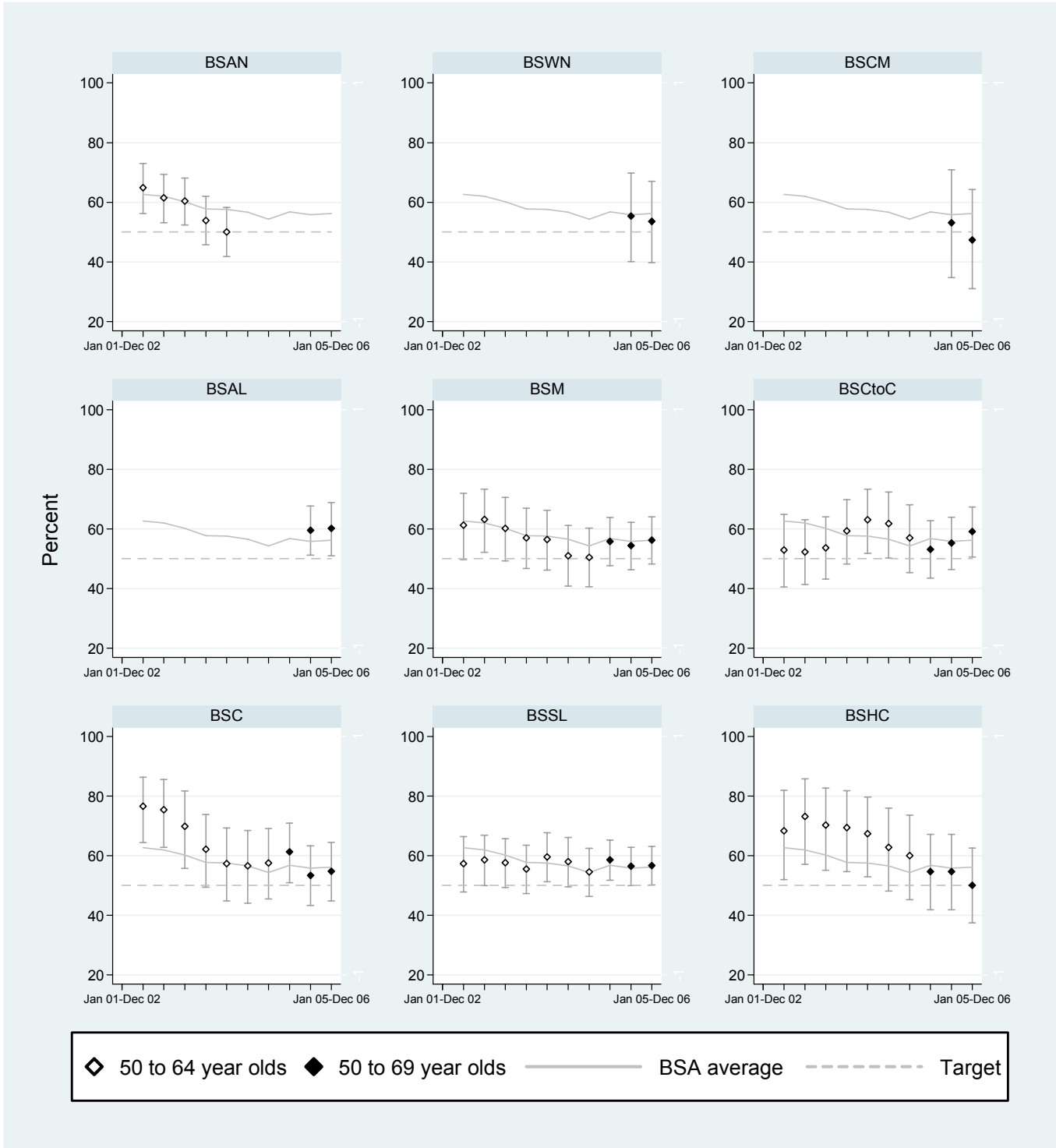
xx Difference of ≥ 5-9% magnitude worse than target value and statistically significant

xxx Difference of ≥ 10% magnitude worse than target value and statistically significant

**Figure 3c.1: Proportion invasive cancers < 15 mm, initial screens, 2 years**

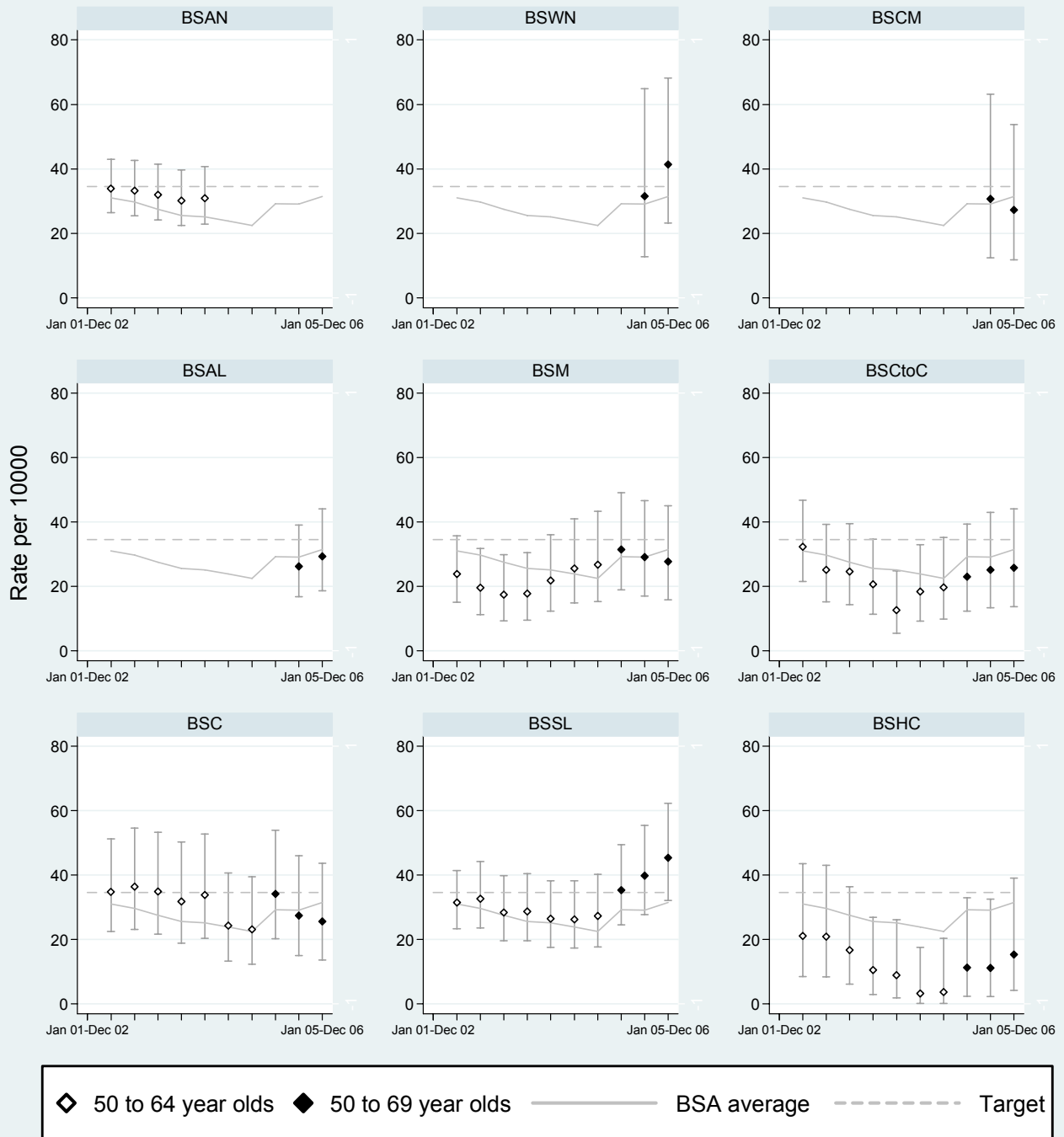


**Figure 3c.1: Proportion invasive cancers < 15 mm, subsequent screens, 2 years**

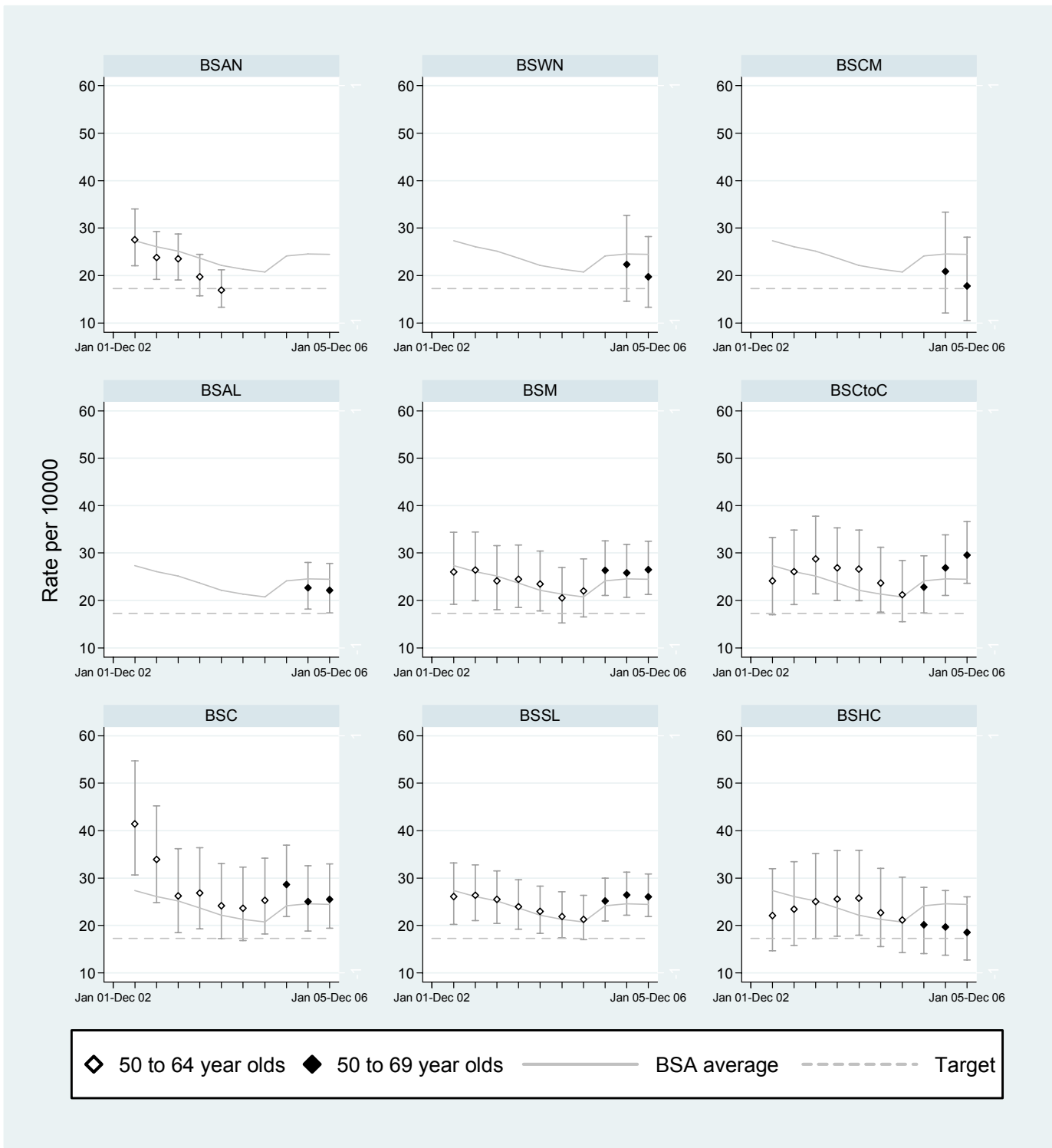




**Figure 3c.2: Invasive cancers < 15 mm per 10,000 women screened, initial screens, 2 years**



**Figure 3c.2: Invasive cancers < 15 mm per 10,000 women screened, subsequent screens, 2 years**



### 3.d. Nodal involvement

*Description:*

The proportion of women with invasive screen detected breast cancer who do not have nodal involvement.

Note: This is calculated as 1 minus the proportion of women with invasive screen detected breast cancer who do have nodal involvement.

*Target:*

Initial (Prevalent) round: >70%

Subsequent (Incident) round: >75%

### 3.d. Proportion of node negative invasive cancers women aged 50-69 years

**Table 3d: Proportion of node negative invasive cancers women aged 50-69 years, 2 years**

	Initial					Subsequent				
	Invasive cancers, node negative	Total invasive cancers	% (95%CI)			Invasive cancers, node negative	Total invasive cancers	% (95%CI)		
BSWN	21	26	80.8 (60.6-93.4)	✓	ns	48	56	85.7 (73.8-93.6)	✓	ns
BSCM	15	21	71.4 (47.8-88.7)	✓	ns	33	38	86.8 (71.9-95.6)	✓	ns
BSAL	35	47	74.5 (59.7-86.1)	✓	ns	97	123	78.9 (70.6-85.7)	✓	ns
BSM	26	39	66.7 (49.8-80.9)	✓	ns	135	160	84.4 (77.8-89.6)	✓✓✓	*
BSCtoC	19	36	52.8 (35.5-69.6)	xxx	*	105	142	73.9 (65.9-80.9)	✓	ns
BSC	20	28	71.4 (51.3-86.8)	✓	ns	81	106	76.4 (67.2-84.1)	✓	ns
BSSL	56	67	83.6 (72.5-91.5)	✓✓✓	*	173	240	72.1 (65.9-77.7)	✓	ns
BSHC	9	17	52.9 (27.8-77.0)	✓	ns	52	66	78.8 (67.0-87.9)	✓	ns
BSA Total	201	281	71.5 (65.9-76.7)	✓	ns	724	931	77.8 (75.0-80.4)	✓	ns

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. Exact Binomial 95% Confidence Intervals presented

\* Statistically different from target value, ns Not significant

✓ On target, difference of <5% better or worse than target value based on point estimate or 95% Confidence Interval

✓✓ Difference of 5-9% magnitude better than target value and statistically significant

✓✓✓ Difference of ≥ 10% magnitude better than target value and statistically significant

xx Difference of ≥ 5-9% magnitude worse than target value and statistically significant

xxx Difference of ≥ 10% magnitude worse than target value and statistically significant

### 3.e. DCIS diagnosis

#### *Description:*

The percentage of all women with screen detected cancer, who are diagnosed as having ductal carcinoma *in situ* (DCIS) as their primary lesion.

#### *Target:*

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

### 3.e. DCIS, women aged 50-69 years

**Table 3e: Women with DCIS as a percentage of all screen detected cancers, 2 years**

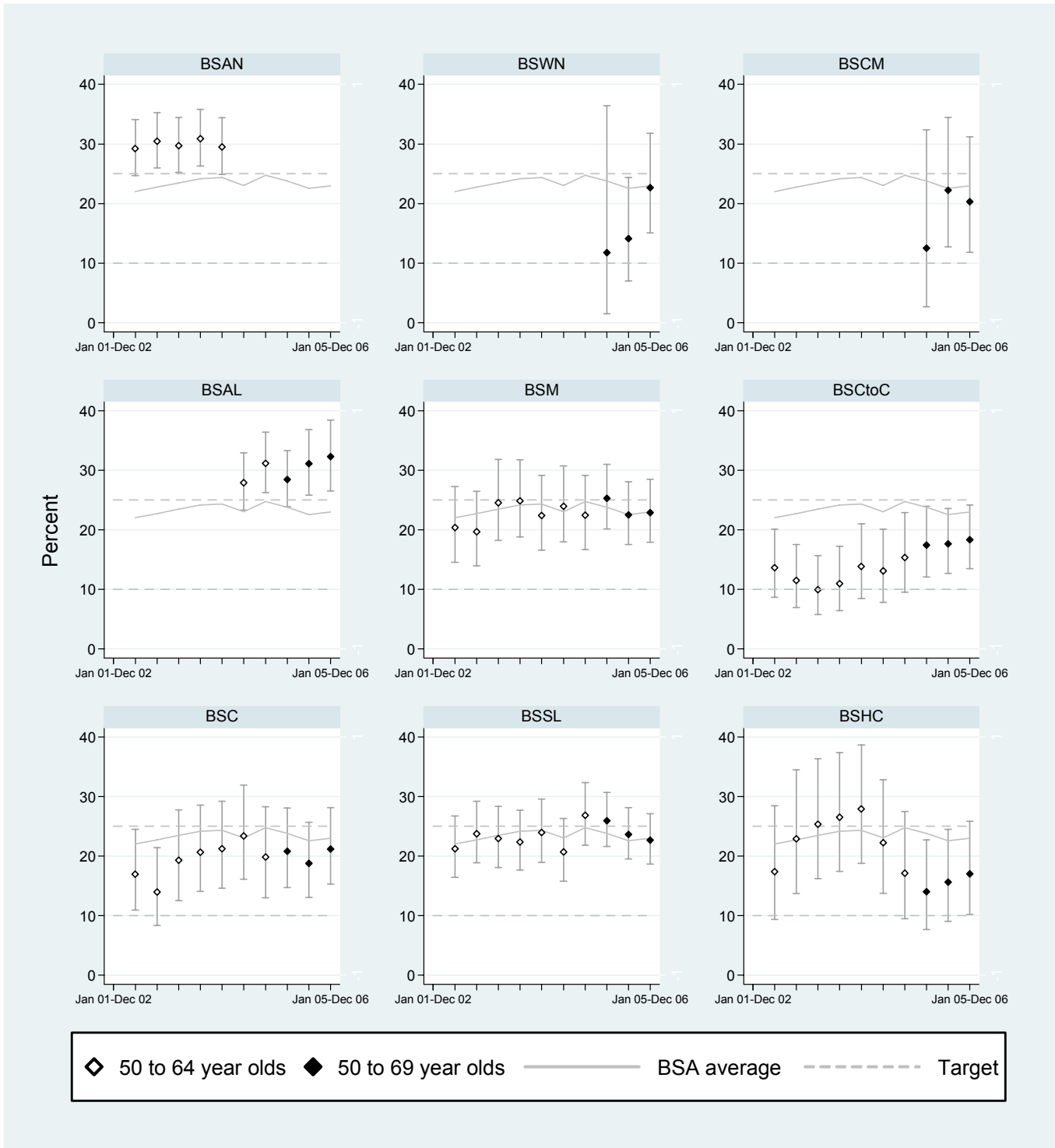
	DCIS	Total cancers	% (95%CI)
BSWN	24	106	22.6 (15.1-31.8)
BSCM	15	74	20.3 (11.8-31.2)
BSAL	81	251	32.3 (26.5-38.4)
BSM	59	258	22.9 (17.9-28.5)
BSCtoC	40	218	18.3 (13.4-24.1)
BSC	36	170	21.2 (15.3-28.1)
BSSL	90	397	22.7 (18.6-27.1)
BSHC	17	100	17.0 (10.2-25.8)
BSA Total	362	1,574	23.0 (20.9-25.2)

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. Data for these 3 LPs are not presented, but are included in BSA Total estimates

Note: The number of invasive cancers noted in Staging and Grading and Treatment indicator tables may differ from earlier tables in the screening and assessment section. Only completed treatment data is included in the Staging and Grading / Treatment section of this report. Some data maybe incomplete at report date (please refer to table 3a5), or some woman diagnosed with cancer may decline treatment and therefore will not be included in staging and grading data.

Exact Binomial 95% Confidence Intervals presented

**Figure 3c: Women with DCIS as a percentage of all screen detected cancers, 2 years**



## 4. TREATMENT

### 4.a. Women with invasive cancer > 1 mm, having a surgical axillary procedure

*Description:*

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

*Target:*

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

**Table 4a: Percentage of women with invasive cancer having a surgical axillary procedure in women aged 50-69 years, 2 years**

	Number having surgical axillary procedure for invasive cancers >1 mm	Number having an operation for invasive cancers >1 mm	% (95%CI)		
BSWN	50	52	96.2 (86.8-99.5)	✓	ns
BSCM	41	42	97.6 (87.4-99.9)	✓	ns
BSAL	97	109	89.0 (81.6-94.2)	xx	*
BSM	141	145	97.2 (93.1-99.2)	✓	ns
BSCtoC	124	124	100.0 (97.1-100.0)	✓✓	*
BSC	91	97	93.8 (87.0-97.7)	✓	ns
BSSL	216	221	97.7 (94.8-99.3)	✓	ns
BSHC	65	65	100.0 (94.5-100.0)	✓	ns
BSA Total	825	855	96.5 (95.0-97.6)	✓	*

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. Data for these 3 LPs are not presented, but are included in BSA Total estimates

Exact Binomial 95% Confidence Intervals presented

\* Statistically different from target value, ns Not significant

✓ On target, difference of <5% better or worse than target value based on point estimate or 95% Confidence Interval

✓✓ Difference of 5-9% magnitude better than target value and statistically significant

✓✓✓ Difference of ≥ 10% magnitude better than target value and statistically significant

xx Difference of ≥ 5-9% magnitude worse than target value and statistically significant

xxx Difference of ≥ 10% magnitude worse than target value and statistically significant

#### 4.b. Women with invasive cancer having a single excision

*Description:*

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

*Target:*

No target

**Table 4b: Women with invasive cancer having a single excision breast treatment procedure in women aged 50-69 years, 2 years**

	Number having a single excisional procedure for invasive cancer	Number of invasive cancers having surgical breast procedure	% (95%CI)
BSWN	71	82	86.6 (77.3-93.1)
BSCM	55	59	93.2 (83.5-98.1)
BSAL	149	168	88.7 (82.9-93.1)
BSM	172	198	86.9 (81.4-91.2)
BSCtoC	143	176	81.3 (74.7-86.7)
BSC	106	133	79.7 (71.9-86.2)
BSSL	266	306	86.9 (82.6-90.5)
BSHC	74	83	89.2 (80.4-94.9)
BSA Total	1036	1,205	86.0 (83.9-87.9)

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. Data for these 3 LPs are not presented, but are included in BSA Total estimates  
Exact Binomial 95% Confidence Intervals presented

#### 4.c. Proportion of women with DCIS where no axillary dissection was carried out

*Description:*

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

*Target:*

> 95 %

**Table 4c: Proportion of DCIS women not having axillary dissection, 2 years**

	Number having surgery for DCIS who do not have an axillary dissection	Number having surgery for DCIS	% (95%CI)		
BSWN	19	20	95.0 (75.1-99.9)	✓	ns
BSCM	12	12	100.0 (73.5-100.0)	✓	ns
BSAL	73	73	100.0 (95.1-100.0)	✓✓	*
BSM	50	53	94.3 (84.3-98.8)	✓	ns
BSCtoC	35	36	97.2 (85.5-99.9)	✓	ns
BSC	32	32	100.0 (89.1-100.0)	✓	ns
BSSL	80	81	98.8 (93.3-100.0)	✓	ns
BSHC	14	17	82.4 (56.6-96.2)	✓	ns
BSA Total	315	324	97.2 (94.8-98.7)	✓	ns

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period.

Exact Binomial 95% Confidence Intervals presented

\* Statistically different from target value, ns Not significant

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✓✓ Difference of 5-9% magnitude better than target value and statistically significant

✓✓✓ Difference of ≥ 10% magnitude better than target value and statistically significant

xx Difference of ≥ 5-9% magnitude worse than target value and statistically significant

xxx Difference of ≥ 10% magnitude worse than target value and statistically significant

**Table 4c: Proportion of DCIS women not having axillary dissection, 2 years - detailed information for women having surgery for DCIS**

	Type of axillary surgery performed					Number having surgery for DCIS (less immediate reconstruction)	Immediate Reconstruction	Total Number having surgery for DCIS (incl immediate reconstruction)
	No Axillary Surgery	Sampling	Axillary Level 1, 2 or 3	Sentinel Node Surgery Only	Not Available / Unknown / Unsure			
BSWN	12	1	0	6	1	20	3	23
BSCM	6	0	0	6	0	12	1	13
BSAL	62	4	0	7	0	73	8	81
BSM	43	2	3	5	0	53	4	57
BSCtoC	29	1	1	5	0	36	4	40
BSC	30	0	0	2	0	32	4	36
BSSL	72	8	1	0	0	81	5	86
BSHC	13	1	2	0	1	17	0	17
BSA Total	267	17	7	31	2	324	29	353



**4.e. Women with DCIS having breast conserving surgery**

*Description:*

The proportion of women diagnosed with DCIS of pathological diameter  $\leq 20$  mm who have Breast Conserving Surgery (BCS).

*Target:*

The majority (>50%) of screen-detected DCIS  $\leq 20$  mm are treated by BCS

**Table 4e: Proportion of women aged 50-69 years with DCIS having breast conserving surgery (BCS), 2 years**

	DCIS $\leq 20$ mm having BCS	Total DCIS $\leq 20$ mm having operation	% (95%CI)		
BSWN	12	15	80.0 (51.9-95.7)	✓✓✓	*
BSCM	6	6	100.0 (54.1-100.0)	✓✓✓	*
BSAL	36	41	87.8 (73.8-95.9)	✓✓✓	*
BSM	26	32	81.3 (63.6-92.8)	✓✓✓	*
BSCtoC	17	24	70.8 (48.9-87.4)	✓	ns
BSC	19	24	79.2 (57.8-92.9)	✓✓✓	*
BSSL	51	55	92.7 (82.4-98.0)	✓✓✓	*
BSHC	6	10	60.0 (26.2-87.8)	✓	ns
BSA Total	173	207	83.6 (77.8-88.3)	✓✓✓	*

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. Exact Binomial 95% Confidence Intervals presented

\* Statistically different from target value, ns Not significant

✓ On target, difference of <5% better or worse than target value based on point estimate or 95% Confidence Interval not significantly different from the target

✓✓ Difference of 5-9% magnitude better than target value and statistically significant

✓✓✓ Difference of  $\geq 10\%$  magnitude better than target value and statistically significant

xx Difference of  $\geq 5-9\%$  magnitude worse than target value and statistically significant

xxx Difference of  $\geq 10\%$  magnitude worse than target value and statistically significant

#### 4.f. Women with invasive cancer ≤ 20 mm having breast conserving surgery

*Description:*

The proportion of women diagnosed with invasive cancer without a DCIS component, of pathological diameter

≤ 20 mm, who have Breast Conserving Surgery (BCS).

*Target:*

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

**Table 4f: Proportion of women aged 50-69 years with invasive cancer having breast conserving surgery (BCS), 2 years**

	Invasive cancers ≤20 mm having BCS	Total invasive cancers ≤20 mm having operation	% (95%CI)		
BSWN	15	18	83.3 (58.6-96.4)	✓✓✓	*
BSCM	19	19	100.0 (82.4-100.0)	✓✓✓	*
BSAL	22	31	71.0 (52.0-85.8)	✓✓✓	*
BSM	43	50	86.0 (73.3-94.2)	✓✓✓	*
BSCtoC	25	39	64.1 (47.2-78.8)	✓	ns
BSC	23	30	76.7 (57.7-90.1)	✓✓✓	*
BSSL	44	58	75.9 (62.8-86.1)	✓✓✓	*
BSHC	20	27	74.1 (53.7-88.9)	✓✓✓	*
BSA Total	211	272	77.6 (72.1-82.4)	✓✓✓	*

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. Exact Binomial 95% Confidence Intervals presented

\* Statistically different from target value, ns Not significant

✓ On target, difference of <5% better or worse than target value based on point estimate or 95% Confidence Interval not significantly different from the target

✓✓ Difference of 5-9% magnitude better than target value and statistically significant

✓✓✓ Difference of ≥ 10% magnitude better than target value and statistically significant

xx Difference of ≥ 5-9% magnitude worse than target value and statistically significant

xxx Difference of ≥ 10% magnitude worse than target value and statistically significant

#### 4.g. Proportion of women with invasive cancer having radiotherapy

*Description:*

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

*Target:*

≥ 95 %

**Table 4g: Proportion of women aged 50-69 years with invasive cancer having breast conserving surgery (BCS) who had radiotherapy, 2 years**

	Invasive cancers having BCS who had radiotherapy	Invasive cancers having BCS	% (95%CI)		
BSWN	53	56	94.6 (85.1-98.9)	✓	ns
BSCM	36	39	92.3 (79.1-98.4)	✓	ns
BSAL	106	112	94.6 (88.7-98.0)	✓	ns
BSM	132	139	95.0 (89.9-98.0)	✓	ns
BSCtoC	98	98	100.0 (96.3-100.0)	✓✓	*
BSC	73	75	97.3 (90.7-99.7)	✓	ns
BSSL	164	168	97.6 (94.0-99.3)	✓	ns
BSHC	55	57	96.5 (87.9-99.6)	✓	ns
BSA Total	717	744	96.4 (94.8-97.6)	✓	ns

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. Exact Binomial 95% Confidence Intervals presented

\* Statistically different from target value, ns Not significant

✓ On target, difference of <5% better or worse than target value based on point estimate or 95% Confidence Interval not significantly different from the target

✓✓ Difference of 5-9% magnitude better than target value and statistically significant

✓✓✓ Difference of ≥ 10% magnitude better than target value and statistically significant

xx Difference of ≥ 5-9% magnitude worse than target value and statistically significant

xxx Difference of ≥ 10% magnitude worse than target value and statistically significant

**4.h. Proportion of women with DCIS having radiotherapy**

*Description:*

The proportion of women diagnosed solely with DCIS, who have breast conserving surgery (BCS), who go on to have Radiotherapy

*Target:*

No target

**Table 4h: Proportion of women aged 50-69 years with DCIS having breast conserving surgery (BCS) who had radiotherapy, 2 years**

	DCIS having BCS who radiotherapy	DCIS having BCS	% (95%CI)
BSWN	12	17	70.6 (44.0-89.7)
BSCM	7	9	77.8 (40.0-97.2)
BSAL	34	66	51.5 (38.9-64.0)
BSM	31	38	81.6 (65.7-92.3)
BSCtoC	5	22	22.7 (7.8-45.4)
BSC	7	24	29.2 (12.6-51.1)
BSSL	39	61	63.9 (50.6-75.8)
BSHC	4	9	44.4 (13.7-78.8)
<b>BSA Total</b>	<b>139</b>	<b>246</b>	<b>56.5 (50.1-62.8)</b>

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. Exact binomial 95% Confidence Intervals presented

#### 4.i. Proportion of women with invasive cancer having chemotherapy

*Description:*

The proportion of women diagnosed with Invasive Cancer who have Chemotherapy, reported by disease character groups

*Target:*

No target.

**Table 4i: Proportion of women aged 50-69 years with invasive cancer who had chemotherapy by disease character groups, 2 years**

	Invasive Cancers, having chemotherapy	Invasive cancers	% (95%CI)
<i>Group 1: Node positive, ER and PR negative</i>			
BSWN	0	0	
BSCM	4	4	100.0 (39.8-100.0)
BSAL	3	5	60.0 (14.7-94.7)
BSM	7	7	100.0 (59.0-100.0)
BSCtoC	3	4	75.0 (19.4-99.4)
BSC	7	7	100.0 (59.0-100.0)
BSSL	6	10	60.0 (26.2-87.8)
BSHC	3	3	100.0 (29.2-100.0)
<b>BSA Total</b>	<b>33</b>	<b>40</b>	<b>82.5 (67.2-92.7)</b>
<i>Group 2: Node negative, high risk, and ER and PR negative</i>			
BSWN	9	11	81.8 (48.2-97.7)
BSCM	1	5	20.0 (0.5-71.6)
BSAL	4	13	30.8 (9.1-61.4)
BSM	6	11	54.5 (23.4-83.3)
BSCtoC	4	9	44.4 (13.7-78.8)
BSC	8	16	50.0 (24.7-75.3)
BSSL	12	30	40.0 (22.7-59.4)
BSHC	5	12	41.7 (15.2-72.3)
<b>BSA Total</b>	<b>49</b>	<b>107</b>	<b>45.8 (36.1-55.7)</b>
<i>Group 3: Node positive, either ER or PR positive</i>			
BSWN	6	13	46.2 (19.2-74.9)
BSCM	5	7	71.4 (29.0-96.3)
BSAL	14	33	42.4 (25.5-60.8)
BSM	21	31	67.7 (48.6-83.3)
BSCtoC	20	50	40.0 (26.4-54.8)
BSC	16	26	61.5 (40.6-79.8)
BSSL	39	68	57.4 (44.8-69.3)
BSHC	11	19	57.9 (33.5-79.7)
<b>BSA Total</b>	<b>132</b>	<b>247</b>	<b>53.4 (47.0-59.8)</b>
<i>Group 4: Node negative, high risk, either ER or PR positive</i>			
BSWN	0	21	0.0 (0.0-16.1)
BSCM	2	20	10.0 (1.2-31.7)
BSAL	3	71	4.2 (0.9-11.9)
BSM	9	84	10.7 (5.0-19.4)
BSCtoC	4	65	6.2 (1.7-15.0)
BSC	2	37	5.4 (0.7-18.2)
BSSL	6	130	4.6 (1.7-9.8)
BSHC	3	28	10.7 (2.3-28.2)
<b>BSA Total</b>	<b>29</b>	<b>456</b>	<b>6.4 (4.3-9.0)</b>

Note: Due to re-configuration of BSA into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. Data for these 3 LPs are not presented, but are included in BSA Total estimates

Exact binomial 95% Confidence Intervals presented

NB: A high risk tumour is one that has either a pathological tumour size  $\geq$  2cm and/or is grade 2-3 (histologic and/or nuclear grade)

#### 4.j. Proportion of women with invasive cancer having endocrine therapy

##### Description:

The proportion of women diagnosed with Invasive Cancer who have Endocrine therapy reported by disease characteristic groups

##### Target:

No target

**Table 4j: Proportion of women aged 50-69 years diagnosed with invasive cancer who had endocrine therapy by disease character groups, 2 years**

	Invasive Cancers, having endocrine therapy	Invasive cancers	% (95%CI)
<i>Group 1: Node positive, and ER or PR positive</i>			
BSWN	13	13	100.0 (75.3-100.0)
BSCM	7	7	100.0 (59.0-100.0)
BSAL	28	33	84.8 (68.1-94.9)
BSM	30	31	96.8 (83.3-99.9)
BSCtoC	30	50	60.0 (45.2-73.6)
BSC	19	26	73.1 (52.2-88.4)
BSSL			
BSHC	15	19	78.9 (54.4-93.9)
BSA Total	142	179	79.3 (72.7-85.0)
<i>Group 2: Node negative, high risk, and ER or PR positive</i>			
BSWN	15	21	71.4 (47.8-88.7)
BSCM	13	20	65.0 (40.8-84.6)
BSAL	57	71	80.3 (69.1-88.8)
BSM	77	84	91.7 (83.6-96.6)
BSCtoC	41	65	63.1 (50.2-74.7)
BSC	26	37	70.3 (53.0-84.1)
BSSL			
BSHC	15	28	53.6 (33.9-72.5)
BSA Total	244	326	74.9 (69.8-79.5)
<i>Group 3: Node negative, low risk and ER or PR positive</i>			
BSWN	22	55	40.0 (27.0-54.1)
BSCM	13	40	32.5 (18.6-49.1)
BSAL	67	116	57.8 (48.2-66.9)
BSM	132	146	90.4 (84.4-94.7)
BSCtoC	60	108	55.6 (45.7-65.1)
BSC	51	80	63.7 (52.2-74.2)
BSSL			
BSHC	21	48	43.8 (29.5-58.8)
BSA Total	366	593	61.7 (57.7-65.7)

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. Data for these 3 LPs are not presented, but are included in BSA Total estimates. Data for BSSL is not included in this table due to a known extract data issue with one data field which is currently being resolved

Exact binomial 95% Confidence Intervals presented

NB: A low risk tumour is one that has a pathological tumour size < 2cm and is grade 1 (histologic and/or nuclear grade). A high risk tumour is one that has either a pathological tumour size ≥ 2cm and/or is grade 2-3 (histologic and/or nuclear grade)

## 5. PROVISION OF AN APPROPRIATE AND ACCEPTABLE SERVICE

### 5.e. First surgical treatment within 20 working days

*Description:*

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

*Target:*

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

**Table 5.e: First surgical treatment within 20 working days in women aged 50-69 years, 2 years**

	First surgical treatment within 20 working days	Total having surgery	% (95%CI)		
BSWN	81	104	77.9 (68.7-85.4)	xxx	*
BSCM	31	73	42.5 (31.0-54.6)	xxx	*
BSAL	124	250	49.6 (43.2-56.0)	xxx	*
BSM	130	255	51.0 (44.7-57.3)	xxx	*
BSCtoC	148	216	68.5 (61.9-74.7)	xxx	*
BSC	129	170	75.9 (68.7-82.1)	xxx	*
BSSL	291	392	74.2 (69.6-78.5)	xxx	*
BSHC	74	100	74.0 (64.3-82.3)	xxx	*
BSA Total	1,008	1,560	64.6 (62.2-67.0)	xxx	*

Note: Due to re-configuration of BSAN into 3 providers, data for BSWN, BSAL and BSCM does not cover a full 24-month screening period. .  
Exact Binomial 95% Confidence Intervals presented

\* Statistically different from target value, ns Not significant

✓ On target, difference of <5% better or worse than target value based on point estimate or 95% Confidence Interval  
not significantly different from the target

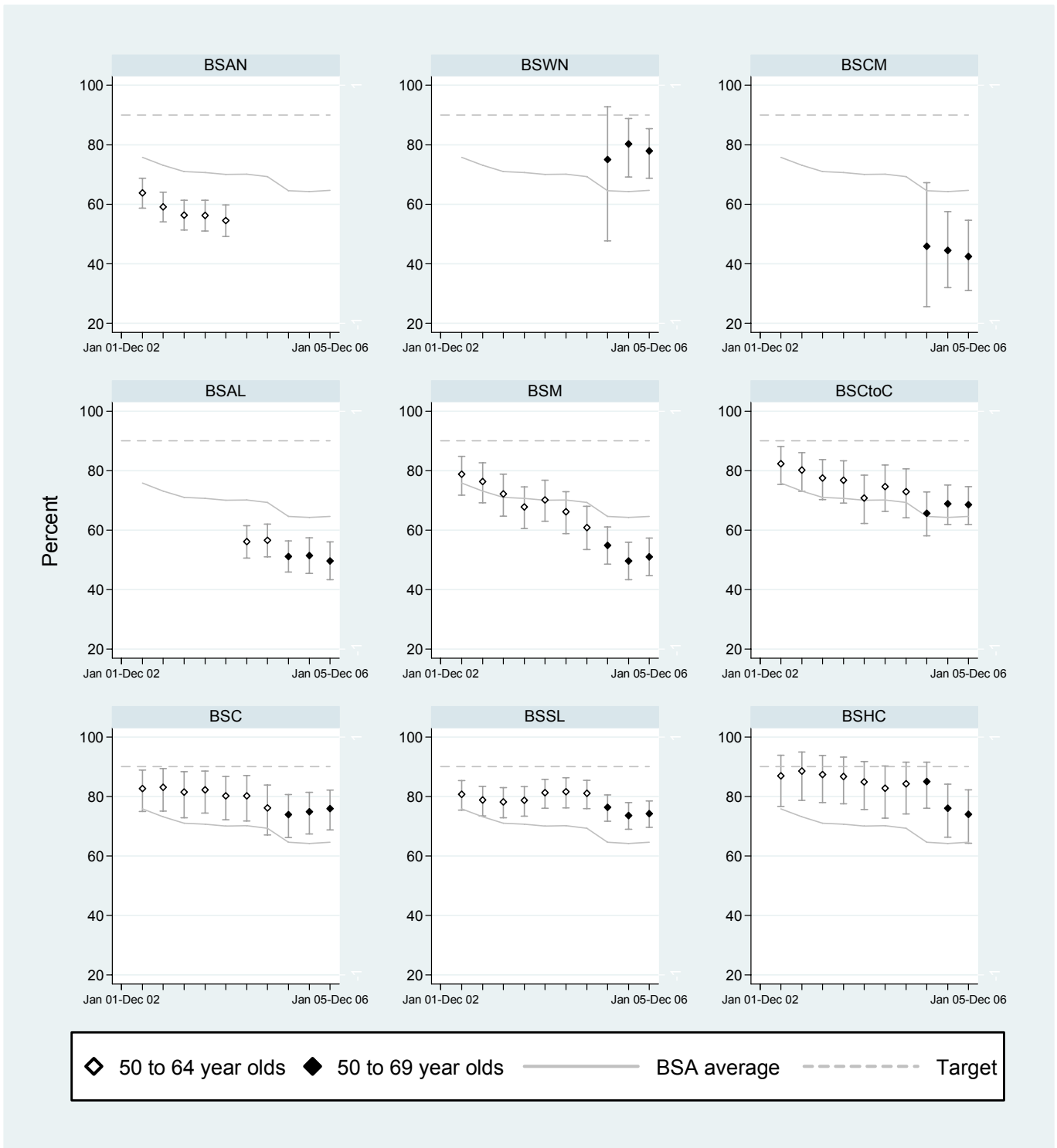
✓✓ Difference of 5-9% magnitude better than target value and statistically significant

✓✓✓ Difference of ≥ 10% magnitude better than target value and statistically significant

xx Difference of ≥ 5-9% magnitude worse than target value and statistically significant

xxx Difference of ≥ 10% magnitude worse than target value and statistically significant

**Figure 5e: Proportion of women receiving timely surgical treatment, 2 years**





## **APPENDIX A: GLOSSARY OF TERMS**

### **Assessment**

Follow-up investigations 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 dissection**

A formal dissection of the axilla that removes lymph nodes for examination in the staging of breast cancer to determine if further treatment is required.

### **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

### **Initial screen**

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

### **False negative**

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

### **False positive result**

The proportion of women who are recalled to assessment, but after assessment are found not to have cancer

### **High risk invasive breast cancer**

Having at least one of the following features:

- a. pT>2cm (pathological tumour size and/or
- b. Grade 2-3 (histologic and/or nuclear grade)

### **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.

### **Positive predictive value**

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

**Pre-operative diagnosis rate**

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

**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

APPENDIX B: Map of BSA Lead Provider Regions

