

Publication Report



Scottish Breast Screening Programme Statistics 2008-09

Annual update to 31st March 2009

Publication date - 27 July 2010



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About ISD

Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up.

Information Services Division (ISD) is a business operating unit of NHS National Services Scotland and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

Purpose: To deliver effective national and specialist intelligence services to improve the health and wellbeing of people in Scotland.

Mission: Better Information, Better Decisions, Better Health

Vision: To be a valued partner in improving health and wellbeing in Scotland by providing a world class intelligence service.

Official Statistics

Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of 'Official Statistics'. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. The Code of Practice is produced and monitored by the UK Statistics Authority which is independent of Government. Under the Code of Practice, the format, content and timing of statistics publications are the responsibility of professional staff working within ISD.

ISD's statistical publications are currently classified as one of the following:

- National Statistics (ie assessed by the UK Statistics Authority as complying with the Code of Practice)
- National Statistics (ie legacy, still to be assessed by the UK Statistics Authority)
- Official Statistics (ie still to be assessed by the UK Statistics Authority)
- other (not Official Statistics)

Further information on ISD's statistics, including compliance with the Code of Practice for Official Statistics, and on the UK Statistics Authority, is available on the [ISD website](#).

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics. Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

Introduction

The Scottish Breast Screening Programme (SBSP) is part of a UK-wide programme of free mammographic screening for breast cancer, which was set up in 1988 with the aim of reducing mortality. In 2008, the NHS Breast Screening Programme in Scotland celebrated its 20th Anniversary. Since full national coverage was attained in 1991 there have been over 2.3 million screening episodes and approximately 17,000 breast cancers diagnosed.

In Scotland, women aged 50-64 years were invited for a routine screen once every three years until 2003-04, when the age range for invitation was extended to include women up to the age of 70 years. This expansion was phased in throughout the country over a three year round of screening. Women over 70 years are still screened three-yearly on request.

Up until 2007-08, the screening method used in Scotland consisted of two mammographic views at first screen and one view at subsequent screens. In [Better Cancer Care, An Action Plan](#) the Scottish Government affirmed its commitment to the implementation of two view screening at every screening appointment by April 2010. In 2008-09 a phased roll out of two views commenced and was completed in March 2010.

Within Scotland (as part of the Scottish Breast Screening Programme) information and performance data are compiled by ISD on an annual basis. The UK-wide NHSBSP Performance Standards, in which minimum and target standards are specified, are the means by which this information is evaluated. Up until July 2009 the NHSBSP Performance Standards were published based on women aged 50-64; to reflect the expansion of the age range they have now been extended to include women up to the age of 70 in this current publication. Details on the National NHS Breast Screening Programme (NHSBSP) Performance Standards are specified in [Consolidated Guidance on Standards for the NHS Breast Screening Programme, NHSBSP Publication no. 60](#).

This present release contains data to 31st March 2009, and includes women up to the age of 70. Women are invited to attend screening once every three years and it is more informative to examine trends in performance by three year rolling periods. Therefore NHSBSP Performance Standards are measured and reported by both individual year, and three year rolling periods. Trends in three year rolling NHSBSP Performance Standards, for women aged 50-70, are also included within this publication and are presented from 1st April 2004. Previously published trends in NHSBSP Performance Standards, for women aged 50-64, are available to 31st March 2008 within the Tables and Charts section of the [Breast Screening](#) website.

This present release also includes uptake by deprivation category to 31st March 2009 for women aged 50-70; historical trends in deprivation statistics to 31st March 2008, for women aged 50-64, are also available within the Tables and Charts section of the [Breast Screening](#) website.

Other breast screening statistics, including attendance, uptake by appointment type, biopsy results and outcomes, are also included within this publication to 31st March 2009.

The breast screening year runs from 1st April to 31st March; all statistics are reported from 1st April to 31st March.

Please note that details of all breast screening statistics included within this publication can be found on the [Breast Screening](#) homepage.

Key points

NHSBSP Performance Standards, at 31st March 2009:

- Looking at three year performance standard attendance figures, uptake remains similar to last year at approximately 75%.
- All NHS Boards continued to exceed the minimum performance attendance standard of >70% of women invited during the previous three years.
- Looking at three year combined data, uptake fell with increasing deprivation from approximately 82% in the least deprived category to 64% in the most deprived category, the latter not meeting the minimum performance standard of 70%.
- Comparing three year combined performance figures for those women with a previous screen within 5 years of last attendance, the invasive cancer detection rate has increased from 5.7 to 6.0 per 1,000 women screened in 2006-2009.
- In 2008-09, almost all NHSBSP (NHS Breast Screening Programme) Minimum Performance Standards were met.

In 2008-09:

- Approximately 1,500 cases of screen detected breast cancer were diagnosed in women of all ages.
- Over 80% (1,200 cases) of cancers detected were invasive, of which almost half were less than 15mm in size.
- The proportion of cancers diagnosed pre-operatively was 96.3%, an increase of approximately 30% since 1997.

Results and Commentary

NHSBSP Performance Standards

**Table 1. Performance data in relation to NHSBSP Standards^{1,2,3}:
Scotland, 1st April 2008 to 31st March 2009**

Standard	Appointment type ³	Age group	Minimum Standard	Target	Results 2008-09
Attendance rate (percentage of women invited)	All routine appointments	50-70 years	>= 70%	80%	75.2%*
Invasive cancer detection rate (per 1000 women screened)	Routine- Initial screen (Prevalent) in response to first invitation	50-52 years	>= 2.7	>= 3.6	5.8*
	Routine- Subsequent screen (Incident) (previous screen within 5 years)	53-70 years	>= 3.1	>= 4.2	6.2*
Small (<15mm) invasive cancer detection rate (per 1000 women screened)	Routine- Initial screen (Prevalent) in response to first invitation	50-52 years	>= 1.5	>= 2.0	3.2*
	Routine- Subsequent screen (Incident) (previous screen within 5 years)	53-70 years	>= 1.7	>= 2.3	2.9*
Non-invasive cancer detection rate (per 1000 women screened)	Routine- Initial screen (Prevalent) in response to first invitation	50-52 years	>= 0.4	-	1.7*
	Routine- Subsequent screen (Incident) (previous screen within 5 years)	53-70 years	>= 0.5	-	1.5*
Standardised Detection Ratio (SDR) (observed invasive cancers detected divided by the number expected given the age distribution of the population)	Routine-All initial screens (Prevalent) and Subsequent screen (Incident) (previous screen within 5 years)	50-70 years	>= 0.85	>= 1.0	1.47*
Recalled for assessment rate (percentage of women screened)	Routine- Initial screen (Prevalent) in response to first invitation	50-52 years	<10%	<7%	10.2%
	Routine- Subsequent screen (Incident) (previous screen within 5 years)	53-70 years	<7%	<5%	3.7%*
Early recall rate (percentage of women screened)	All appointment types ⁴	50-70 years	<0.5%	<=0.25%	0.03%*
Benign biopsy rate (per 1000 women screened)	Routine- Initial screen (Prevalent) in response to first invitation	50-52 years	<3.6	<1.8	2.0*
	Routine- Subsequent screen (Incident) (previous screen within 5 years)	53-70 years	<2.0	<1.0	0.5*

1 NHS Breast Screening Programme (NHSBSP) standards as specified in "[Consolidated Guidance on Standards for the NHS Breast Screening Programme, NHSBSP Publication no. 60 Version 2](#)".

2 Includes females aged 50-70. A phased extension of the age range for invitation (from 50-64 to 50-70 years) began in 2003/04. The NHSBSP Performance Standards were previously based on women aged 50-64; to reflect the expansion of the age range, they have now been extended to include women up to the age of 70.

3 Routine appointments exclude early recall appointments and self/GP referral appointments.

4 Includes early recall appointments and self/GP referral appointments in addition to routine appointments.

*Met minimum standard

In 2008-09, almost all NHSBSP (NHS Breast Screening Programme) Performance Standards were achieved (Table 1); these included uptake, cancer detection, early recall and benign biopsy rates. At 10.2%, the rate of recall for assessment of women screened in response to their first invitation narrowly failed to meet the minimum standard of below 10%. This measure indicates the proportion of women who are sent for further investigation, many of whom are not subsequently diagnosed with cancer.

Detailed results on all NHSBSP Performance Standards, both one year and three year rolling periods, can be found within the Tables and Charts section on the [Breast Screening](#) homepage.

Uptake

- Looking at three year rolling performance standard attendance figures, uptake remains similar to last year, at approximately 75% (Table 2 and Figure 1). This exceeds the minimum standard of >70%.
- All NHS Boards continued to exceed the minimum performance attendance standard of >70% of women invited during the previous three years. The highest uptake was found in Shetland, with an attendance rate of 87% (Table 2 and Figure 1).

Table 2. Percentage uptake¹ rates by NHS Board of Residence: 1st April 2004 to 31st March 2009. Three year rolling periods², females aged 50-70²

NHS Board	Percentage uptake (three year rolling periods)		
	2004-07	2005-08	2006-09
Ayrshire & Arran	75.0	75.0	74.8
Borders	80.0	80.8	79.1
Dumfries & Galloway	77.9	78.3	78.4
Fife	75.1	74.7	74.0
Forth Valley	76.0	75.4	75.3
Grampian	83.0	82.8	81.5
Greater Glasgow & Clyde ³	71.7	71.3	71.0
New Highland ³	79.4	79.5	79.7
Lanarkshire	71.2	71.5	71.4
Lothian	72.6	72.8	71.9
Orkney	85.7	86.1	86.1
Shetland	87.4	86.8	86.8
Tayside	80.1	79.6	79.3
Western Isles	80.9	80.4	80.6
Scotland	75.4	75.2	74.9

1 Only routine appointments are included in the above figures. Self /GP referral and early recall appointments are not included.

2 During 2003/04, a phased extension of the age range for routine invitation (from 50-64 to 50-70 years) began. To reflect the expansion of the age range, three year rolling figures are reported from 2004.

3 New NHS Board areas including parts of former Argyll & Clyde.

Figure 1. Percentage uptake¹ rates by NHS Board of Residence: 1st April 2004 to 31st March 2009. Three year rolling periods², females aged 50-70²



1 Only routine appointments are included in the above figures. Self /GP referral and early recall appointments are not included.

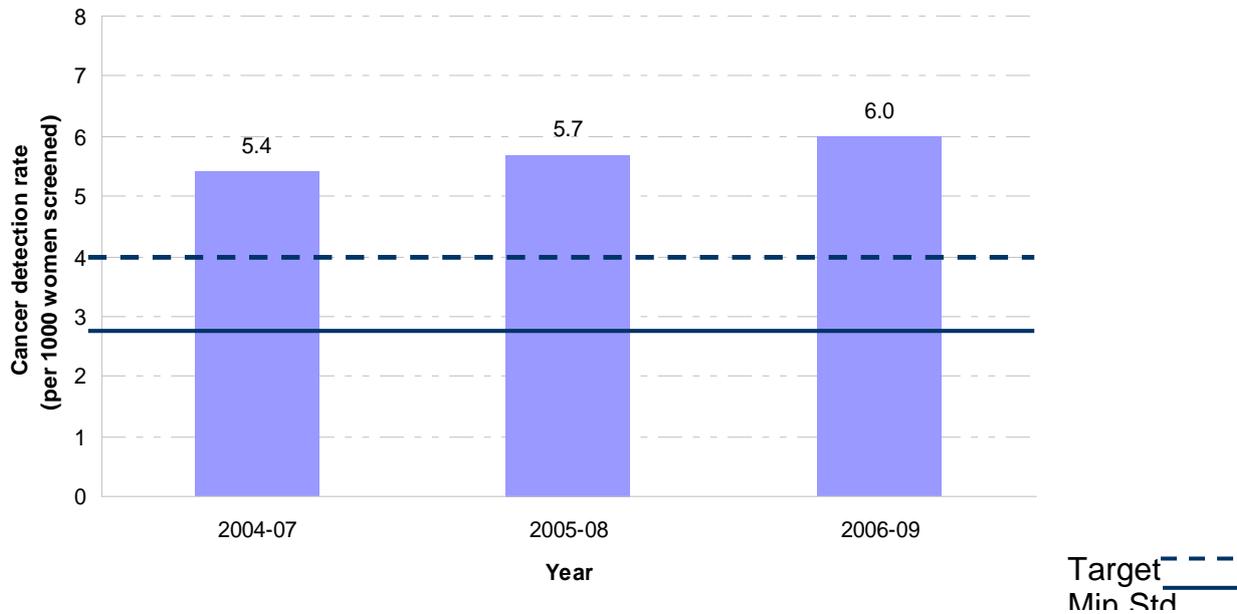
2 During 2003/04, a phased extension of the age range for routine invitation (from 50-64 to 50-70 years) began. To reflect the expansion of the age range, three year rolling figures are reported from 2004.

3 New NHS Board areas including parts of former Argyll & Clyde.

Cancer detection

Comparing three year combined performance figures for those women with a previous screen within 5 years of last attendance, the invasive cancer detection rate per 1,000 women screened has increased from 5.7 in 2005-2008 to 6.0 in 2006-2009 (Figure 2).

**Figure 2. Invasive cancer detection rates¹: Scotland, 1st April 2004 to 31st March 2009
Three year rolling periods, women aged 53-70² with a previous screen within 5 years of last attendance**



1 Only routine appointments are included in the above figures. Self /GP referral and early recall appointments are not included

2 During 2003/04, a phased extension of the age range for routine invitation (from 50-64 to 50-70 years) began. To reflect the expansion of the age range, three year rolling figures are reported from 2004.

Additional breast screening statistics

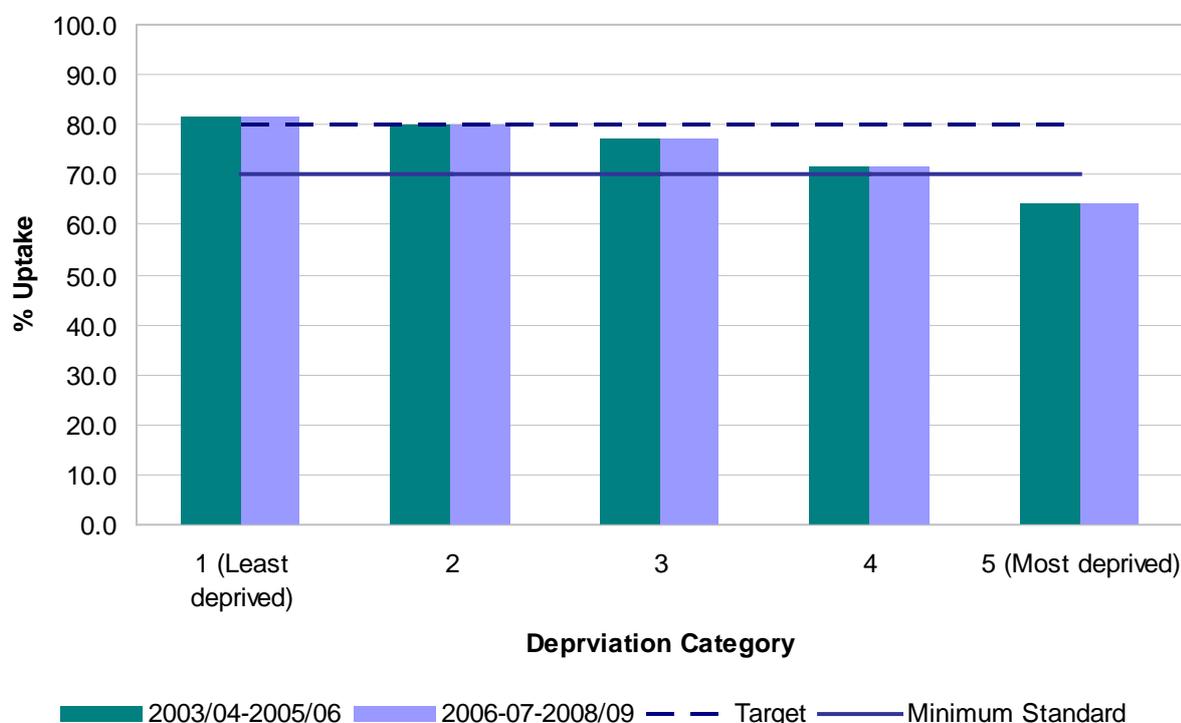
Uptake rates by deprivation category

- Looking at three year combined data to March 2009, uptake fell with increasing deprivation from approximately 82% in the least deprived category, to 64% in the most deprived category (Table 3 and Figure 3).
- There is a characteristic pattern associated with deprivation and uptake of screening. Individuals living in the least deprived quintile are more likely to accept an invitation to screening compared to those living in the most deprived quintile.

Table 3. Percentage uptake¹ rates by deprivation category²: 1st April 2003 to 31st March 2009³. Three year combined periods, females aged 50-70⁴

SIMD ² Deprivation Category	Percentage uptake ¹	
	2003-06	2006-09
1 (Least deprived)	75.0	75.0
2	80.0	80.8
3	77.9	78.3
4	75.1	74.7
5 (most deprived)	76.0	75.4
Scotland	75.4	75.2

Figure 3. Percentage uptake¹ rates by deprivation category²: 1st April 2003 to 31st March 2009³. Three year combined periods, females aged 50-70⁴



1 Only routine appointments are included in the above figures. Self /GP referral and early recall appointments are not included.

2 Scottish Index of Multiple Deprivation 2004 (Quintiles), 1=Least deprived 5= Most deprived.

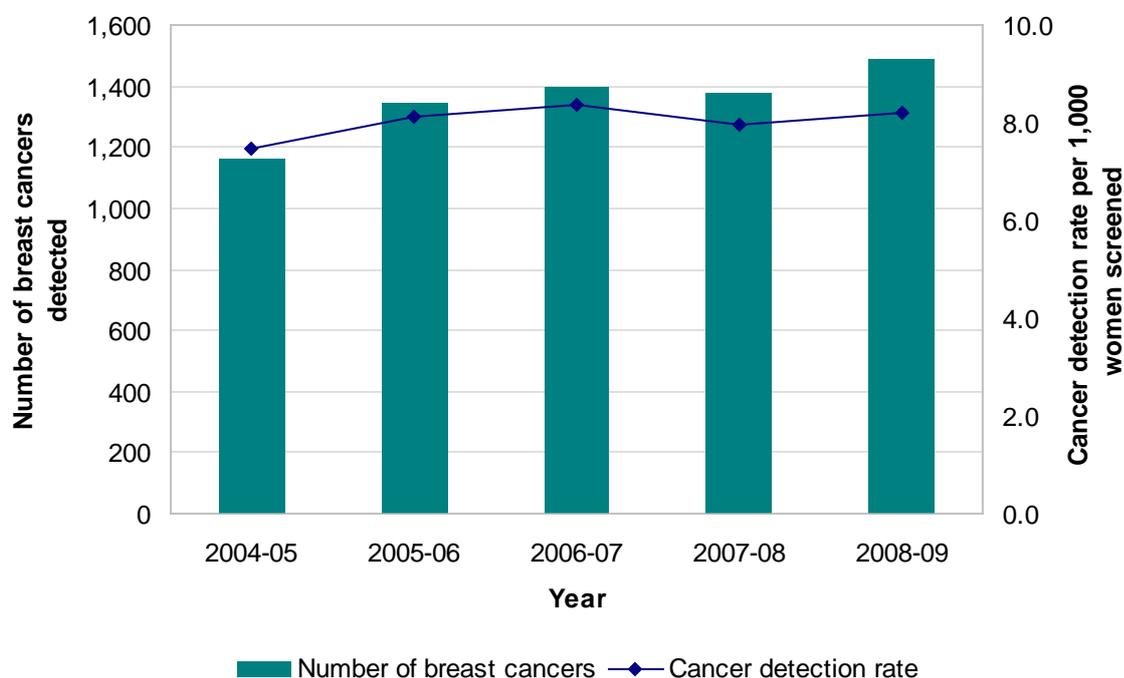
3 All years run from 1 April to 31 March, except the 2008/09 data which is complete up to November 2008.

4 During 2003/04, a phased extension of the age range for routine invitation (from 50-64 to 50-70 years) began.

Breast screening outcomes

- In the last 5 years, the number of screen detected breast cancers per year has increased by over 300, from 1,164 to 1,488 (Figure 4). This increase may be due, at least in part, to a phased extension of the age range for routine invitation (from 50-64 to 50-70 years), which started in 2003.
- Breast cancer detection rates have remained fairly constant at around 8.0 per 1,000 women screened since 2005-06 (Figure 4).

Figure 4. Trends in the number of breast cancers detected, and cancer detection rates per 1,000 women screened^{1,2,3}: Scotland, 1st April 2004 to 31st March 2009



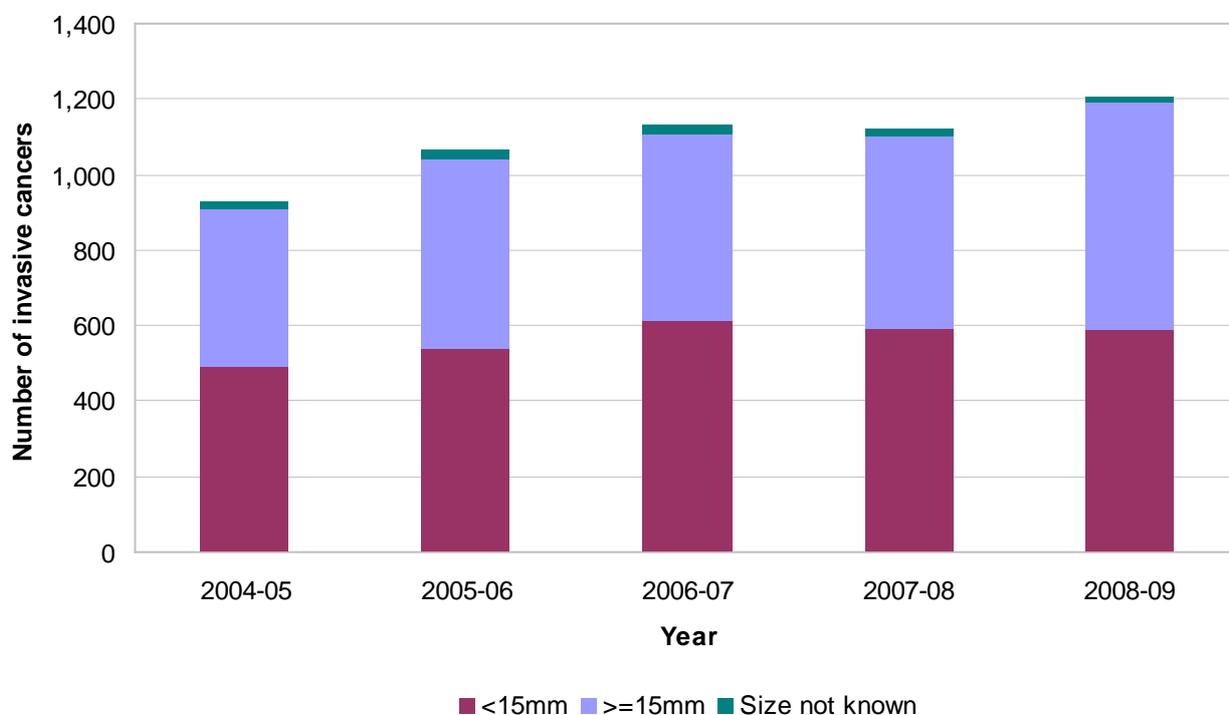
1 Figures are for women of all ages.

2 Early recall appointments and self/GP referral appointments are included in addition to routine appointments.

3 During 2003/04, a phased extension of the age range for routine invitation (from 50-64 to 50-70 years) began.

- The number of screen detected invasive breast cancers per year has increased gradually over the last 5 years (Figure 5). This increase may be due, at least in part, to a phased extension of the age range for routine invitation (from 50-64 to 50-70 years), which started in 2003.
- In 2008-09, of the 1,200 invasive cancers detected in women of all ages, approximately half were less than 15mm in size (Figure 5). These small cancers are unlikely to have been detected by palpation, highlighting the importance of screening in the early detection of breast cancer.

Figure 5. Trends in the number of invasive breast cancers detected, by size^{1,2,3}: Scotland, 1st April 2004 to 31st March 2009



1 Figures are for women of all ages.

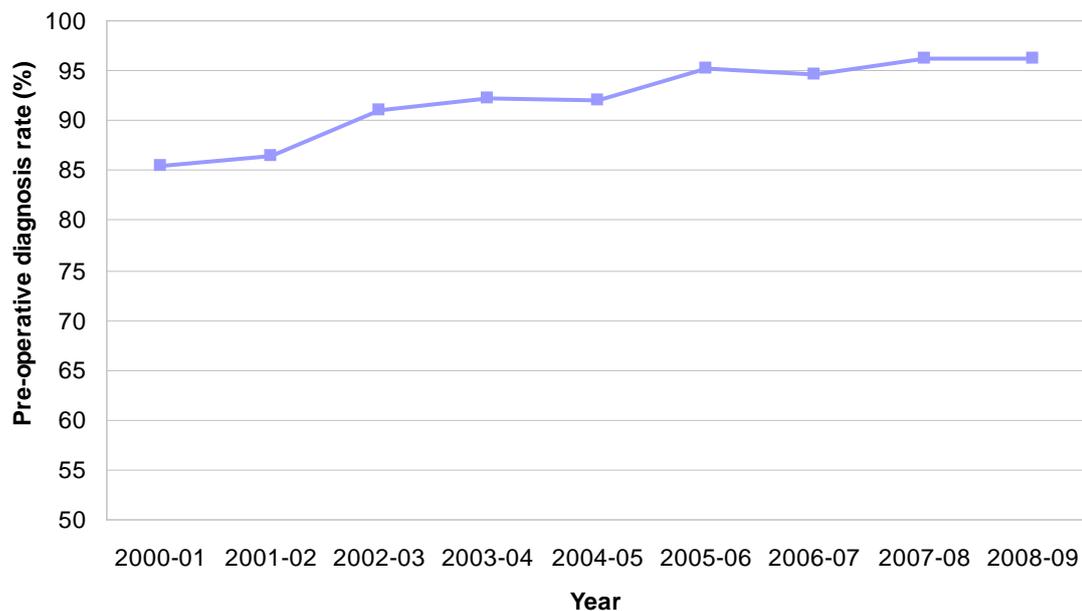
2 Early recall appointments and self/GP referral appointments are included in addition to routine appointments.

3 During 2003/04, a phased extension of the age range for routine invitation (from 50-64 to 50-70 years) began.

Pre-operative diagnosis rates

- The proportion of cancers diagnosed pre-operatively has increased by approximately 30% since 1997, with 10% of this increase occurring in the last nine years (Figure 6). Due to the development of radiological biopsy techniques over this time, 96.3% of women screened who have a breast cancer were diagnosed by radiological biopsy within the screening centre, rather than requiring diagnostic surgery (Figure 6). Therefore the number of women requiring two operations, diagnostic as well as therapeutic, has been significantly reduced.

**Figure 6. Trends in pre-operative diagnosis rates^{1,2}:
Scotland, 1st April 2000 to 31st March 2009**



1 A pre-operative diagnosis is defined as a malignant result from FNA cytology or a core biopsy procedure.
2 Figures are for women of all ages.

Glossary

Breast screening terms relating to the data within this publication can be found within our [Glossary](#) document on the [Breast Screening](#) homepage.

For the purpose of this publication 'uptake' and 'attendance' are synonymous.

List of Tables

Table No.	Name	Time period	File & size
1	Performance standards	1st April 2008 to 31st March 2009	Excel [22kb]
2	Performance standards (three-year rolling periods)	1st April 2004 to 31st March 2009	Excel [86kb]
3	Uptake by NHS Board	1st April 2004 to 31st March 2009	Excel [29kb]
4	Historical trends in Performance standards (three-year rolling periods)	1st April 2001 to 31st March 2008	Excel [86kb]
5	Historical trends in Uptake by NHS Board	1st April 1991 to 31st March 2008	Excel [29kb]
6	Uptake by deprivation	1st April 2003 to 31st March 2009	Excel [29kb]
7	Uptake by deprivation (three-year combined periods)	1st April 2003 to 31st March 2009	Excel [23kb]
8	Historical trends in uptake by deprivation	1st April 1990 to 31st March 2008	Excel [28kb]
9	Historical trends in uptake by deprivation (three-year combined periods)	1st April 1990 to 31st March 2008	Excel [26kb]
10	Attendance	1st April 1991 to 31st March 2009	Excel [24kb]
11	Uptake by type of invitation	1st April 2006 to 31st March 2009	Excel [22kb]
12	Biopsy results	1st April 1996 to 31st March 2009	Excel [34kb]
13	Outcomes	1st April 2004 to 31st March 2009	Excel [29kb]

Contact

Donna Nicholson

Senior Information Analyst

donna.nicholson@nhs.net

0141 282 2083

Nicola Clark

Information Analyst

nicolaclark4@nhs.net

0141 282 2018

Cancer Surveillance Team

nss.isdcancerstats@nhs.net

Further Information

Further information can be found on the [ISD website](#)

Information on major policy changes and the key developments relating to Breast Screening in Scotland since the start of the programme is available within our [Milestones table](#) on the [Breast Screening](#) homepage.

For general enquiries about Cancer screening programmes, please contact Carol Colquhoun, National Screening Coordinator Carol.Colquhoun@nhs.net

Appendix

A1 – Background Information

The UK was one of the first countries in the world to establish a national population-based breast screening programme. The UK National Health Service Breast Screening Programme (NHSBSP), a UK-wide programme of free mammographic screening for breast cancer, was introduced in 1988 following a recommendation from a working party established by the four UK Departments of Health and chaired by Sir Patrick Forrest. The working party concluded that there was evidence that screening for breast cancer could reduce mortality from the disease by up to 30%.

Within Scotland, data is collected by each of the six screening centres (which are supported by 19 mobile units) and retained on the Scottish Breast Screening Programme (SBSP) Information System. The SBSP Information System maintains data holding information relating to each step as a woman moves through her screening episode, including comprehensive radiological, diagnostic and treatment information. More information on the SBSP dataset can be found on our [Data sources](#) page. Data is routinely extracted from the SBSP Information system and analysed by ISD Scotland to help evaluate and monitor the effectiveness of the programme in Scotland. All analytical support of the Scottish Breast Screening Programme is provided by ISD Scotland.

A2 – Publication Metadata (including revisions details)

Metadata Indicator	Description
Publication title	Scottish Breast Screening Programme Statistics
Description	Annual breast screening statistics including National NHS Breast Screening Programme Performance Standards, attendance figures, uptake rates by deprivation category and NHS Board, cancer detection rates, biopsy results and screening outcomes.
Theme	Health and Social Care
Topic	Conditions and Diseases
Format	Excel workbooks
Data source(s)	Scottish Breast Screening Programme (SBSP) Information System
Date that data is acquired	January 2010
Release date	Tuesday 27 th July 2010
Frequency	Annual
Timeframe of data and timeliness	Data up to 31 st March 2009. No delays between receipt and processing of data for publication.
Continuity of data	<p>Uptake by deprivation category (50 to 64 years) is reported from 1990.</p> <p>Uptake by NHS Board (50 to 64 years) and Attendance by appointment type are reported from 1991.</p> <p>Biopsy results are reported from 1996.</p> <p>Three year NHSBSP Performance standards (50 to 64 years) are reported from 2001.</p> <p>Uptake by deprivation category (50 to 70 years) is reported from 2003.</p> <p>Data is reported from 2004 for the following tables: Uptake by NHS Board (50 to 70 years), Three year NHSBSP Performance standards (50 to 70 years), Outcomes.</p> <p>Uptake by type of invitation is reported from 2006.</p>
Revisions statement	Up until July 2009, the NHSBSP

	<p>Performance Standards were published based on women aged 50-64; to reflect the expansion of the age range, they have been extended to include women up to the age of 70 in this current publication. The present release includes data to 31st March 2009. Previously published trends in NHSBSP Performance Standards to 31st March 2008, for women aged 50-64, are still available.</p> <p>For continuity of reporting and to allow for trend analysis in the 50-70 age group, some tables have been analysed back to 2004.</p>
Concepts and definitions	Please see Breast Screening FAQ and Glossary document found at the bottom of the Breast Screening homepage.
Relevance and key uses of the statistics	<p>ISD's Scottish Breast Screening Programme statistics are designed for monitoring and evaluating the effectiveness of the Scottish Breast Screening Programme, including progress against specific national standards and performance indicators. The statistics are used for a variety of other purposes, including:</p> <ul style="list-style-type: none"> • informing Scottish Government planning, including NHS spending and the development of the Scottish cancer care action plans; • informing Health Boards' planning and commissioning of cancer services; • health services research and clinical audit; • promoting changes in societal behaviour, such as increasing screening uptake rates; and • providing information to compare with UK and international health data.
Accuracy	Breast screening data are subject to validation and quality assurance procedures and checks by the Quality Assurance Reference Committee (QARC).
Completeness:	At time of extraction, data for the most recent year are estimated to be complete. See above note on Revisions.
Comparability	Breast Screening data are regularly compared mainly to the UK as a whole (e.g KC62 and BASO). In such comparisons,

	data are provided mainly at national (Scotland) level.
Accessibility	It is the policy of ISD Scotland to make its web sites and products accessible according to published guidelines. For further details go to our accessibility page .
Coherence and clarity	All Breast Screening tables are accessible via the Breast Screening homepage. Breast Screening data are presented within Excel spreadsheets for each table.
Value type and unit of measure	Number of women invited to attend for screening and number of women screened are reported as a count; uptake/attendance, biopsy results, recall for assessment, early recall are reported as a percentage; cancer detection is reported as a rate per 1,000 women screened and as Standardised detection ratios. Number e.g 1.1
Disclosure	The ISD protocol on Statistical Disclosure Protocol is followed. For this publication, at the levels of aggregation presented, the risk of disclosure was assessed as being low risk and so no further statistical disclosure control methods were employed.
Official Statistics designation	National Statistics
UK Statistics Authority Assessment	Assessment by UK Statistics Authority for National Statistics designation completed.
Help email	nss.isdcancerstats@nhs.net
Date form completed	19 th July 2010

A3 – Early Access details (including Pre-Release Access)

Pre-Release Access

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ISD are obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access and, separately, those receiving extended Pre-Release Access.

Standard Pre-Release Access:
Scottish Government Health Department
NHS Board Chief Executives
NHS Board Communication leads

Extended Pre-Release Access

Extended Pre-Release Access of 8 working days is given to a small number of named individuals in the Scottish Government Health Department (Analytical Services Division). This Pre-Release Access is for the sole purpose of enabling that department to gain an understanding of the statistics prior to briefing others in Scottish Government (during the period of standard Pre-Release Access).

Scottish Government Health Department (Analytical Services Division)

These statistics will also have been made available to those who needed access to 'management information', ie as part of the delivery of health and care:

Scottish Breast Screening Programme Clinical Directors
Scottish Breast Screening Programme Centre Managers
NHS Board Screening Coordinators

These statistics will also have been made available to those who needed access to help quality assure the publication:

Scottish Breast Screening Programme National Co-ordinator and Programme Manager -
National Services Division

Scottish Government Health Directorate, CMO and Public Health Directorate