

NHS Breast
Screening Programme:

Annual
Review 2011

Improving

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Foreword



Paul Burstow MP
Minister of State
for Care Services,
Department of Health

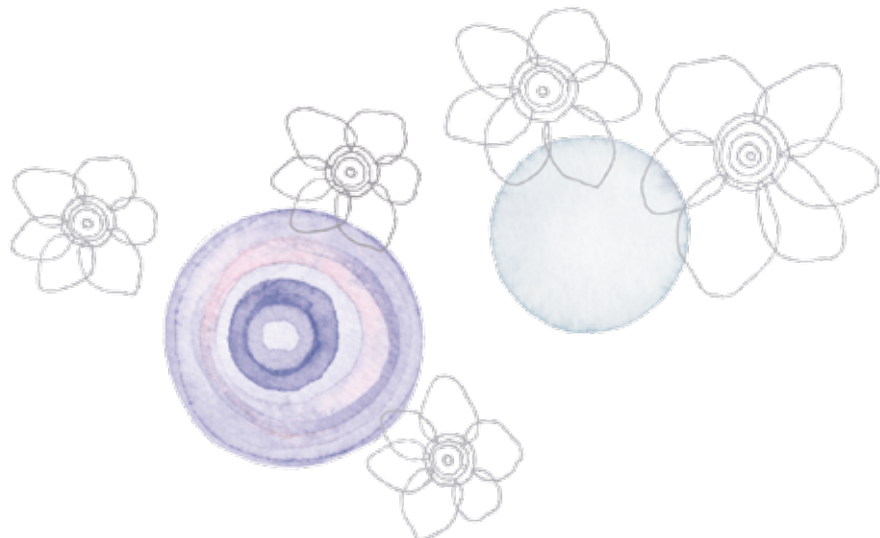
At the beginning of this year we launched a refresh of the Cancer Reform Strategy, *Improving Outcomes: A Strategy for Cancer*, to put patients, service users and members of the public at the heart of decisions about cancer care. Cancer screening remains an important way to detect cancer early – particularly so in breast cancer where around a third of breast cancers are diagnosed through screening.

I was also pleased to announce that the Advisory Committee on Breast Cancer Screening (ACBCS) is developing practical guidelines for the NHS on the surveillance of women deemed to be at high-risk. By addressing these issues we hope to continue to reduce the prevalence of breast cancer.

However, there is still much more work to be done. We recognise that some groups and communities are not accessing these vital breast cancer screening services, and so in 2011 – 12 we will explore the development of a tariff for breast screening to encourage providers to improve participation rates. This will help to reduce variation across the country, and among different groups, as well as to facilitate patient choice.

Over the past few years the NHS Breast Screening Programme has come under some degree of criticism. The Programme has always been regularly scrutinised and evaluated by the ACBCS. Last month Professor Sir Mike Richards, National Cancer Director, announced a review into the evidence underlying the Programme in partnership with Cancer Research UK. Evidence will include randomised control trials and observational studies relating to breast screening and I look forward to the results of the review in 2012.

As we continue to drive improvements in the quality of this world-class service, I would like to take this opportunity to thank all those working in the Programme for their continued hard work and efforts over the past year.





Communication

Introduction



Julietta Patnick

Julietta Patnick CBE

Director of the NHS Cancer Screening Programmes

In 2011 we continued to build on the success delivered in over 20 years of breast screening. In this annual review, we look at progress with the age extension of the Programme and the Advisory Committee's work in developing guidance for women at higher risk of breast cancer. Following successful pilots, and with the help of people such as Dr Barbara Dall and her team, the NHSBSP is now in a position to begin managing the surveillance of highest risk women across England.

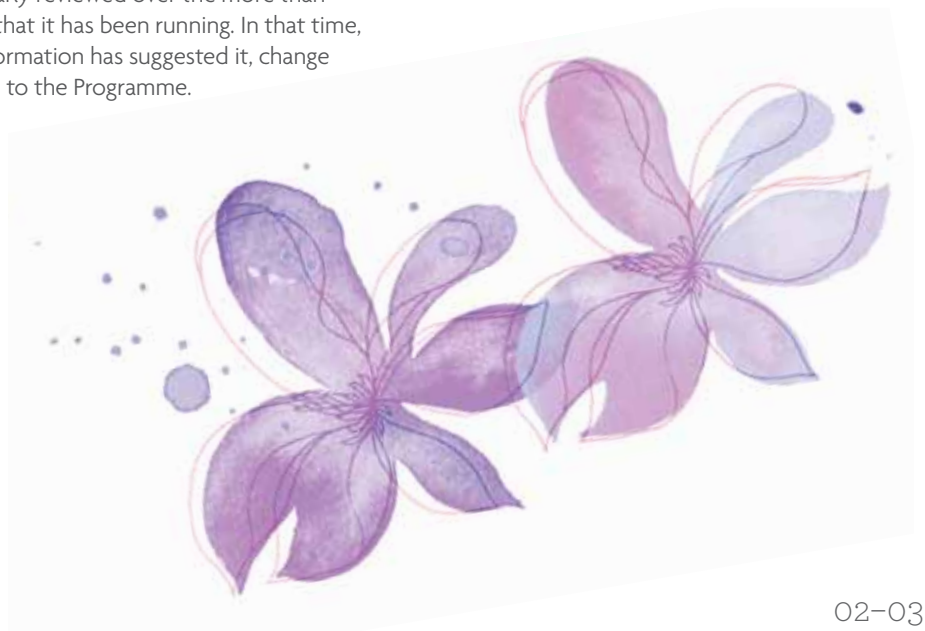
A study of the performance of radiographers as screen readers was undertaken by Rachel Bennett, Research Fellow at the Institute of Cancer Research and Sarah Sellars, Assistant Director of the NHS Breast Screening Programme, and is part of the continuing drive to improve practice. This has been an important development in recent years and the next step is reported here.

Improving uptake in hard-to-reach groups remains a fundamental challenge for the Programme, and impressive work has been done in NHS Lewisham and Southwark. The Patient Navigation project successfully engaged with those women in the BME communities who did not access the screening programme. It demonstrates the need for more effective communication at a local level between these groups in the population and the local breast screening units.

The NHS Breast Screening Programme has always been based on the best and latest evidence and we welcome the review of breast screening recently announced by Professor Richards. The Programme has been regularly reviewed over the more than 20 years since that it has been running. In that time, where new information has suggested it, change has been made to the Programme.

We look forward to meeting the challenge that this review of the evidence will bring. In the meantime, the current guidance from both the NHS Cancer Screening Programmes and the Department of Health has not changed and remains in place. The best available evidence shows that screening saves lives by detecting cancers earlier which can make treatment more effective.

I would like to take this opportunity to thank all the staff involved in the Programme for contributing to its success. Life in the Screening Programme is always full of both uncertainties and possibilities. With the review of the evidence and changes to the NHS structure, 2012 is likely to be particularly uncertain. But I have no doubts the experienced and knowledgeable staff in screening units and quality assurance centres will maintain the high standards of care they have always provided and move towards the future with confidence and success.



Preparing for and implementing the age extension

Following a 2007 policy decision to extend the age range for routine three-yearly screening in England, the NHS Breast Screening Programme set up pilot sites to investigate the practicalities of inviting women within a randomised trial from 47 – 73, rather than from 50 – 70. Five volunteer breast screening units took part in the pilot, which is now proceeding to a full randomised control trial involving more than 70 units. Dr Julie Cooke, Clinical Director of the Jarvis Breast Screening Centre in Guildford, one of the pilot sites, talks about her experiences of putting the age extension into practice.

“Our team worked hard throughout the planning phase to make sure we were well prepared for the extra workload before it began. We knew our radiographers had to allow for an increase in screening appointments of around 15 per cent, so we held a number of internal meetings to discuss processes and capacity. Rather than recruiting new staff or reducing the time allowance per appointment, we agreed to slightly adjust the working day to accommodate the extra appointments. Under the new arrangements, our working days were to begin 15 minutes earlier, and our lunch breaks would be roughly ten minutes shorter.

“The team worked hard and stuck to the new timetable to make sure that screening round lengths were maintained. Given the fact that we usually feel slightly understaffed, and, of course, the population is increasing year on year, it was very important to carefully plan how the additional appointments would be managed.

“Partly as a result of our thorough preparation, the transition ran extremely smoothly and very few of the anticipated problems materialised. Of course, there was some additional admin associated with filling out the phone logs [needed for the pilot] but, all in all, there were no difficult challenges. Contrary to earlier speculation, radiographers certainly weren’t inundated with questions from women who had been either invited or not invited from the extended age groups.”

Dr Cooke summed up the success of the age extension roll-out at the Jarvis: “Great teamwork and a strong management structure.” She was full of praise for the way the team performed: “They talked to each other, shared concerns and worked together to solve problems. We held regular staff meetings involving all employees, from radiographers and doctors to administrators

and assistants. In my view, it is this type of consistent communication between staff that underpins the successful implementation of changes and developments.”

The pilot study tested the randomisation process, whereby randomisation was applied to each batch of women, aged 47 – 73, from a GP practice. This meant that women in either the 71 – 73 or 47 – 49 age group were invited to be screened. However, those women who were not invited (because they were randomised out) could still request a screen.

The pilot study found no significant problems of feasibility or acceptability of randomisation, and useful lessons were learnt.¹ These informed the planning of the subsequent randomised control trial which is now well underway throughout the country. Speaking about the trial, Professor Julietta Patnick CBE, Director of the NHS Cancer Screening Programmes, said: “This study will provide evidence on the net benefits of extending the age range. It is an exciting area of research and the findings will have the potential to inform future screening policy in the UK and elsewhere”.

Before screening units can start randomising, there are certain criteria that need to be met. One of which is to have at least one Full Field Digital Mammography (FFDM) set. Around 90 per cent of units have now achieved this, but the move to digital has still been slower than was originally hoped.

Dr Cooke spoke of the Jarvis’s acquisition of digital equipment two years ago and again emphasised the importance of strong leadership and a responsive team. She said: “We were lucky to have great people with a clear understanding of the Programme and the ability to make decisions, both of which enabled us to implement changes successfully. This was backed up by a very strong manager behind the scenes.”



Dr Julie Cooke

Clinical Director of the Jarvis Breast Screening Centre, Guildford





NHS Supply Chain is the national purchasing and logistics organisation which advises trusts on all aspects of procurement and supply. In 2007, it set up a national framework agreement for medical imaging and diagnostic equipment which included digital mammography.

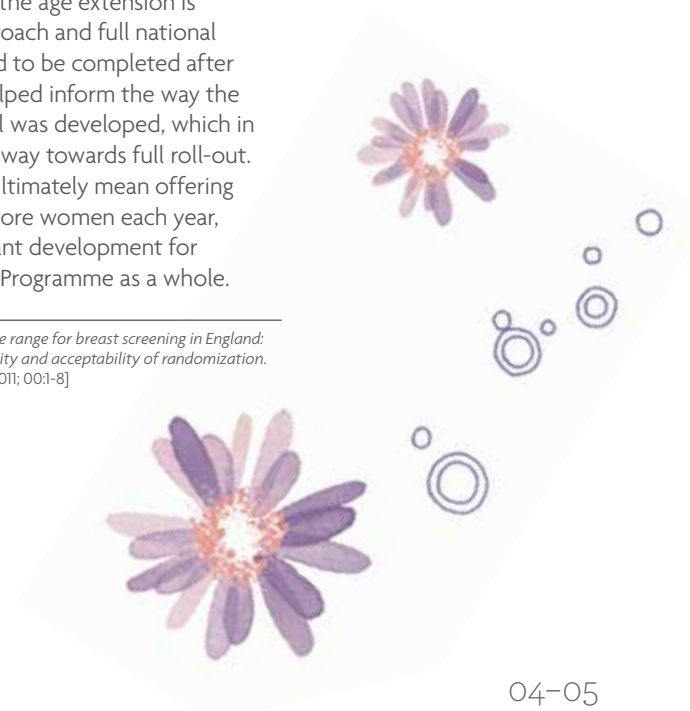
Clinical and cost evaluation of equipment, consulting with and managing suppliers, and helping trusts to develop their business case all come under NHS Supply Chain's remit. The organisation also provides full information on leasing options and runs mini competitions for trusts. Dr Cooke comments: "NHS Supply Chain was immensely helpful, advising us on how to select a Picture Archiving and Communications System (PACS). The radiographers also gave vital input – ultimately, they would be the ones using the equipment so we left the final decision to them."

Approximately 75 per cent of NHS organisations, including the Jarvis Centre, have used the national framework agreement to procure their digital mammography equipment. According to Emma Dunn, a Senior Buyer for NHS Supply Chain,

this offers a speedier and more cost-effective route rather than entering the European market independently as otherwise a trust would have to incur the administrative costs associated with the tendering process: "Trusts can be confident that the national framework agreement is fully compliant. We offer end-to-end support from the initial business case through to financing the equipment, and most importantly deliver notable savings for the NHS of up to 26 per cent"

The implementation of the age extension is following a phased approach and full national roll-out is now expected to be completed after 2016. The pilot study helped inform the way the randomised control trial was developed, which in turn is helping pave the way towards full roll-out. The age extension will ultimately mean offering screening to 400,000 more women each year, representing an important development for individual units and the Programme as a whole.

¹ Moser K et al., *Extending the age range for breast screening in England: pilot study to assess the feasibility and acceptability of randomization*. *Journal of Medical Screening* [2011; 00:1-8]



Breast Screening for high-risk groups

Following the success of a pilot scheme, the NHS Breast Screening Programme will be taking on the responsibility for screening women who are at highest risk of developing breast cancer. We speak to Dr Barbara Dall, Consultant Radiologist and an expert in breast surveillance using Magnetic Resonance Imaging (MRI) about the pilot and how this type of surveillance may be implemented across England.

“The roll-out of breast screening for very high risk groups is timely. There is significant research suggesting that surveillance of these groups is beneficial, and more than 10 years’ experience of using MRI in clinical practice means there is increasing expertise in this field. This is a very exciting time to be involved in such a worthy project that will ultimately make a significant difference to thousands of women’s lives. I am pleased to be a part of it.

“Despite NICE guidance in 2006 on familial breast cancer, which clearly recommended surveillance for high-risk groups using MRI and mammography, local implementation has remained patchy and systems have varied significantly across England. By bringing this within the NHS Breast Screening Programme, we can ensure a more uniform implementation through evidence based guidance and careful monitoring of services.

“However, the two surveillance techniques are significantly different, presenting a variety of challenges. The current Programme invites all women of a certain age to be screened using mammography every three years. These women are identified using NHS lists and invitations are sent to them. Very high-risk women, on the other hand, span a much wider age group (potentially from 20 upwards). They must be identified correctly and they need to be screened more intensively than other groups.

“The first big hurdle was to develop a computer programme for the ‘call and recall’ system. Once this had been completed, three demonstration sites (Leeds, Southampton and London’s St George’s hospital) were selected to test the computer programme, develop the appropriate patient pathway and set up the appropriate systems and guidance.

The assessment of high risk women is complicated and we have found that it is best for a geneticist to carry it out. Along with genetic tests for BRCA mutations, a detailed analysis of family history will identify the level of risk. The kinds of familial cancers, the number of cancers seen within the close family and at what age, and a host of other factors are reviewed, and a recommendation made. We estimate this will identify around 2,500 women to be screened annually.²

“Secondly, we have assessed how best to manage surveillance. Although all the women will be higher risk, their risk and therefore the appropriate level and process of surveillance will vary. Each group will be screened by a combination of MRI and mammography dependent upon their risk factor. For example, when a woman has a BRCA mutation, annual surveillance will start from the age of 30. From 30 to 39 years old she will be screened using MRI only, because the breast tissue at that age is too dense for mammography to be effective. Then from 40 years old, a combination of annual MRI and mammography has been shown to be the most effective screening practice. A different risk factor will require a totally different surveillance.

“These programmes are based on a careful risk/benefit analysis of screening, with the aim of minimising the potential for false positives while ensuring sufficient surveillance for high-risk groups. There have been six significant UK studies carried out over the past 10 years. Most importantly, this includes the largest study, MARIBS,³ published in 2005, which found that, when carefully implemented and targeted, MRI for high-risk groups could be of significant benefit.

“Another challenge is ensuring that the appropriate surveillance is carried out. Many high-risk groups should be screened annually, by two different screening tests: MRI and mammography.



Dr Barbara Dall

Consultant Radiologist at
Leeds Hospital Trust





Both must be double reported and results should be received swiftly. Additionally, these groups include many pre-menopausal women, so cyclical changes to the breast may skew the results. To minimise this MRI should be carried out between day 6 and 16 of a woman's monthly cycle. So careful guidance, oversight and implementation are important.

"In comparison with mammography, MRI is a relatively new surveillance technique for breast cancer. Our radiographers and physicists must ensure they reach the same high standards, through training and regular on-the-job experience. We have recommended that radiologists should carry out at least 100 MRI examinations every year. Equally, the machines and other equipment should be regularly checked to ensure they are of the required standard.

"By setting and monitoring these standards, the NHS Breast Screening Programme will ultimately ensure better management of these groups and save lives."

The surveillance of very high-risk groups will be rolled out across England from now on.

- 2 Familial Breast Cancer Partial Update of Nice Clinical Guidelines 14', National Institute for Health and Clinical Excellence, www.nice.org.uk/page.aspx?o=CG014
- 3 Leech MO, Boggis CR, Dixon AK, et al. 'Screening with magnetic resonance imaging and mammography of a UK population at high familial risk of breast cancer: a prospective multicentre cohort study (MARBIS)', *Lancet* 2005;365 (9437): 1769-1778.





Juliette, a film reader
at Kings College London

Radiographers and mammogram interpretation



Ms Rachel Bennett
Research Fellow at
the Cancer Screening
Evaluation Unit, Institute of
Cancer Research

The NHS Breast Screening Programme is always looking for new ways to develop the skills of its specialists and improve the film reading practices of screening units. Ms Rachel Bennett, until recently Research Fellow at the Institute of Cancer Research, talks about a new study to examine the performance of units in which a proportion of mammograms were read by only radiographers.

The move to two views at incident screens in 2003 and the age expansion of the Programme in 2004, together with increasing numbers of women in the screening age range, made great demands on staffing and resources, especially at a time of a shortage of radiologists. As a result, the radiographer's role has expanded into the radiologists' traditional territory — that of image interpretation. The change was supported by the 2000 NHS Cancer Plan which recommended that working practices were based on skills and experience rather than profession.⁴

It is generally accepted that cancer detection rates are higher when double reading of mammograms is practiced.⁵ In many screening units nowadays, radiographers have been trained to work alongside radiologists, acting as the second reader. In a few, radiographers have begun to do both readings and only bring in a radiologist to interpret mammograms when there is any disagreement.

In 2004, researchers at the Cancer Screening Evaluation Unit, in collaboration with the NHS Cancer Screening Programmes, undertook the first observational study to evaluate the performance of the pilot units using two radiographers in this way. It was designed around the small number of units which had already expressed the desire to introduce double reading by two radiographers as part of their reading protocol. Rachel Bennett, who led the study, explains: "Whilst experimental evidence⁶ suggests that, after allowing for years of experience, radiographers read as well as radiologists, this wasn't something that had been evaluated formally in a real-life setting."

"Our study examined the performance of screening units in which some of their mammograms were double read using 'non-discordant radiographer only (double) reading' (NDROR). Concordant cases (those in which agreement had been reached) were automatically recalled for assessment and discordant cases (where the two readers disagreed over the interpretation) were arbitrated by an experienced radiologist or breast clinician, either separately or at a consensus meeting."

The performance of the pilot units was compared before and after they had introduced NDROR. A group of 51 units which used a more traditional reading protocol was used for comparison. The results showed that, when the two groups were compared, recall rates increased in the pilot units after the introduction of NDROR, but there was no evidence to suggest a difference in cancer detection rates. The authors concluded that, if the practice were "fully supported" and recall rates "closely monitored", then NDROR as practised in this study was unlikely to have a major impact on the performance of units in the Programme.⁷

As Rachel says: "This study opens up new opportunities within the Programme for radiographers to move into the traditional radiology domains of film interpretation and supervision. As they become more experienced, formal training and film reading protocol in the Programme may need to be reviewed."

"However, it is important that units balance the professional development of their staff with the needs of their local services. This will ensure that film reading skills are not wasted, film readers develop and maintain their reading skills in a screening environment, and all film readers meet the reading volume requirement of the Programme."

In the changing professional environment of the NHS Breast Screening Programme, this study shows how radiographers can develop their skills, assume greater responsibilities and become more involved in clinical decision making.

4 Department of Health (2000). The NHS Cancer Plan. A plan for investment. A plan for reform, Department of Health [2000]

5 Blanks RG, Wallis MG, Moss SM (1998). A comparison of cancer detection rates achieved by breast cancer screening programmes by number of readers, for one and two view mammography: results from the UK National Health Service breast screening programme, *Journal of Medical Screening* [1998]

6 Scott HJ, Gale AG, Woodman C (2004). Breast screening technologists: does real-life case volume affect performance?, *Medical Imaging* [2004]

7 Bennett RL et al (2011). An observational study to evaluate the performance of units using two radiographers to read screening mammograms, *Clinical Radiology* [Article in Press, 2011]

Engaging with hard to reach groups: Patient Navigation

The NHS Breast Screening Programme supports a range of initiatives to improve engagement with hard-to-reach groups. Marina Raime, from the charity Betterdays, and Dr Gillian Holdsworth, Consultant in Public Health Medicine at NHS Southwark, talk about Patient Navigation and how it can be used to promote access to breast screening in the BME population.

Whilst the incidence of breast cancer continues to increase, overall survival rates have improved. However, there is evidence that Black British women have a higher mortality rate, due to the fact that they are more likely to be diagnosed with breast cancer when the disease is at a late stage and prognosis is poor.

Early diagnosis of breast cancer is key to improving mortality and survival rates in all women and this is especially true of the BME population. With this in mind, the Patient Navigation Project was set up in the London boroughs of Lewisham and Southwark, based on a public health intervention developed in the US. Its aim was to improve both signs and symptom awareness, and breast cancer screening access in hard-to-reach groups.

As Dr Gillian Holdsworth explains: "Breast screening uptake in Lewisham and Southwark is significantly lower than the national average. These London boroughs have a large ethnic minority population and evidence has shown that uptake is even lower amongst such groups. Our project was split into two parts: working with Betterdays to engage with BME groups and with a company called Enhanced Healthcare services to reach out to women of white ethnic origin."

Marina Raime continues: "The Patient Navigation model was developed by the US surgeon Dr Harold P. Freeman to address the inequalities that exist in cancer care. It is divided into four different components; outreach, diagnostics, treatment and financial navigation and aims to prevent delays and improve the patient experience. This is achieved by assigning patient navigators to individual patients to guide them through the healthcare system. The navigators act as advocates, assist in locating relevant sources, and raise awareness to ensure that any barriers to accessing health services are overcome. Patient navigators can be either trained healthcare professionals or lay individuals who can coordinate the needed healthcare services."

Having observed its success in the US at increasing cancer screening uptake, Marina felt the model could be adapted to help reduce inequalities in the UK: "We adapted the outreach navigation stage to make it relevant to a UK setting. Our pilot focussed on two main areas; firstly identifying and engaging with women who had been invited for breast cancer screening but who had not attended their appointment and, secondly, through community outreach work raising awareness of breast cancer related issues and actively promoting breast cancer screening."

The BME part of the pilot brought together NHS Southwark & Lewisham, Betterdays and Cancer Black Care charities and the South East London Breast Screening Service. Patient navigators were made aware of nearly 1,000 BME women across the Lewisham and Southwark area who had not attended their mammography appointments. The navigators then rang the women, answered questions they might have about the screening process, and offered support in making appointments. If they were unable to make contact by telephone, the navigators sent out letters and followed these with text messages wherever possible.

Marina describes the provisional results of the pilot as promising: "Patient navigators were able to make mammography appointments for around 36 to 39 per cent of women. We came across a few issues such as a very mobile African-Caribbean community and incorrect patient contact details on GP lists. For example around 30 per cent of women who did not attend had an incorrect or incomplete telephone number. Of the 650 women that we were able to contact, appointments were made for 371. Around 117 said they had already been screened or were awaiting their appointment date and 219 attended these."



Marina Raime
Betterdays Charity

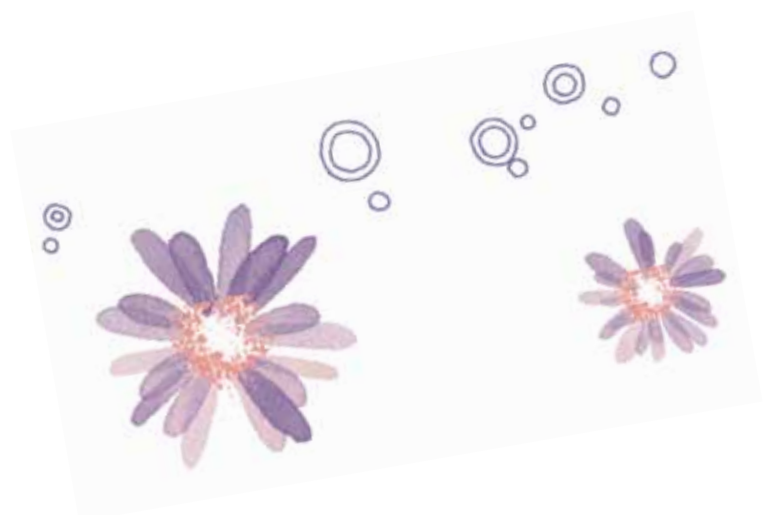


Dr Gillian Holdsworth
Consultant in Public Health Medicine, NHS Southwark





In addition to engaging directly with individual women, patient navigators implemented a programme of breast health education and community awareness. Breast health awareness sessions included general breast cancer awareness and covered the importance of screening. Women were given the opportunity to speak to navigators afterwards about their personal concerns. Marina continues: “Feedback from the sessions highlighted the interest and the need for such events. All attendees gave the workshops positive feedback. Many said it was useful and informative and requested that the event be repeated for others.”





The role of the QA in the Breast Screening Programme



Mark Sibbering
Consultant Surgeon
at the Royal Derby Hospital
& Director of Quality
Assurance, East Midlands

In order to deliver and maintain a high quality breast screening service a close working relationship between Quality Assurance teams and breast screening units is essential. All professional groups in the NHSBSP, including administrative staff, must adhere to a minimum set of standards which are devised and regularly evaluated by experts in the field.

Mark Sibbering, Consultant Surgeon at the Royal Derby Hospital & Director of Quality Assurance, East Midlands explains: “In each region, the Quality Assurance Reference Centre (QARC) is managed by a Director of QA, who is directly accountable to the Regional Director of Public Health. The Director meets regularly with colleagues from other regions in a series of national coordinating committees. These committees produce guidance on best practice and set standards for staff working in the Programme and for the technical performance of equipment.”

“The Director is supported by a regional team which typically consists of professional QA co-ordinators for all of the breast screening disciplines, as well as audit and administration staff. Team members have the responsibility of liaising with their screening programme counterparts in other regions both between and during QA visits.”

The performance of all breast screening units is continually monitored against NHSBSP standards with regular reports submitted via QARCs and the Programme’s national office to the Department of Health. Official QA visits to units provide a further opportunity to assess professional competence and are carried out every three years.

Mark explains the process: “There is a great deal of work that goes into carrying out QA visits. Approximately six to eight weeks beforehand, an informal visit is made to the unit. Anything of note that arises from this pre-visit is then written up with data returns from the trust to create a pre-visit report. This report allows our team to identify potential issues and answer any questions from staff ahead of the visit.

“The entire QA process is intended to be as collaborative as possible and to help support the work undertaken by the breast screening units. All centres should be familiar with it and have a fairly clear understanding of what is expected of them, but the process is also designed to allow them to ask for advice and guidance on how to improve performance throughout their service.”

QA reports are then examined and shared among units along with suggestions for improvement. They are also discussed at a national level, where meetings between QA directors and the national office give regional representatives an opportunity to discuss outcomes and any changes to guidelines.

He adds: “It is very important for all involved that these visits are not seen merely as a tick-box exercise but as an opportunity to work with screening staff to improve performance. As such, there is regular interaction between the QA and breast screening units, including regular meetings for each of the disciplines to discuss relevant issues and share good practice.”

Mark acknowledges that in the future the service faces some tough challenges due to increasing financial pressures coupled with structural changes within the NHS: “It is yet to be fully understood how the delivery of QA will be affected by the move to Public Health England next year. However, we are working hard to ensure that all the systems are in place to allow us to maintain the excellent relationship between the QA team and breast screening units and to continue to deliver a safe, high quality service.”





Statistics

2010 – 2011 breast screening statistics

The following data represent the combined results of the UK breast screening programmes for the year April 2009 to March 2010. This year is the second year that we are able to produce figures for the 45 – 74 age group so we can compare and reflect the work on extending the age range.

More than 2.7 million women aged 45 – 74 were invited for screening in 2009 – 10, an increase of just over 50,000 women from the previous year. The acceptance rate in this age group has decreased slightly by 0.4%. Across the UK, acceptance rate at screening invitation averages at 73%. The exception is London. Although it is good to see that uptake in London has risen slightly this year (by 0.3% compared to last year), the figure is lower than the rest of the country at around 57%. We know that the population in London is traditionally harder to reach due to its diversity and mobile nature.

The figures are collated from each individual screening unit, validated by Quality Assurance teams and brought together by the Centre for Cancer Prevention at the Wolfston Institute of Preventive Medicine, Queen Mary College University of London. Figures for tables 9 and 10 are provided by the Association of Breast Surgery (ABS). Thanks go to all concerned for their efforts to ensure the data are both accurate and timely. We are also grateful to colleagues in Scotland, Wales and Northern Ireland who have contributed their figures in order that we can publish UK-wide data.

2010 – 2011 breast screening statistics

Table 1: Screening Activity

The total number of women aged 45 – 74 invited to attend breast screening has risen again this year by over 50,000 women to 2,754,885. Almost three-quarters of women accepted their invitation (73.3%), resulting in the detection of more than 16,476 cancers this year – a slight decrease from 2008/09.

	2008/09	2009/10	2008/09	2009/10
Age Range	50 – 70	50 – 70	45 – 74	45 – 74
Total number of women invited	2,642,511	2,662,298	2,702,876	2,754,885
Acceptance rate	73.8%	73.5%	73.7%	73.3%
Number of women screened (invitation)	1,947,424	1,954,815	1,990,534	2,018,403
Number of women screened (self/GP referral)	44,070	43,410	87,661	84,467
Total number of women screened	1,991,494	1,998,225	2,078,195	2,102,870
Number of women recalled for assessment	87,400	82,650	91,395	89,164
% women recalled for assessment	4.4	4.1	4.4	4.2
Number of benign biopsies	1,644	1,519	1,746	1,646
Number of cancers detected	15,673	15,517	16,535	16,476
Number of in situ cancers detected	3,253	3,064	3,438	3,257
Number of invasive cancers <15 mm	6,460	6,544	6,791	6,939
Standardised detection ratio (invited women 50 – 70) only	1.45	1.44		

Table 2: Acceptance by age – all invitation types

These figures show a variable acceptance across the age groups. The number of women aged 71 or more accepting their invitations decreased from 76.10% to 65% and the proportion aged 45 – 49 decreased from 71.4% to 69%. The number of women in these two age groups who receive invitations was still relatively small this year, which is why this figure remains variable.

Age	45 – 49	50 – 54	55 – 59	60 – 64	65 – 70	71+
2008/09	71.40%	72.90%	74.20%	75.20%	72.50%	76.10%
2009/10	69.00%	72.40%	73.70%	75.20%	72.60%	65.00%

Table 3: Acceptance by type of screen: Women aged 45 – 74

The figures show the proportions of women aged 45 – 74 accepting their invitations according to their type of invitation. Rates are now fairly stable from one year to the next, with slight increases in some categories and falls in others of around one per cent.

Year	2008/09	2009/10
1st invitation	70.0%	70.0%
1st screen, previously non-attenders	17.5%	17.8%
Acceptance for routine re-screening	82.4%	82.0%
Acceptance for short-term recall	99.2%	98.0%

Table 4: Screening quality – first screen after first invitation

The data below refer to those women entering the breast screening programme for the first time. The non-operative diagnosis rates for cancers have increased slightly from 81.6% to 83%. This table includes both those women aged 50 – 52 who have routinely received their first invitation, and those women who are invited for the first time aged 47 – 49. This addition of younger women accounts for the slight drop in the rate of invasive cancer found since their risk of breast cancer is lower than that of women even slightly older.

	Standard	Achieved	Achieved
Age range		50 – 70	45 – 74
Acceptance rate	≥70%	69.7%	69.6%
Recall rate	<10%	8.3%	8.2%
Benign biopsies (per 1000)	≤3.6	1.9	1.9
In situ rate (per 1000)	≥0.4	2.0	2.0
Invasive cancer rate (per 1000)	≥2.7	6.0	5.0
Invasive cancers <15mm (per 1000)	≥1.5	3.0	3.0
Non-operative diagnosis rate for cancers	≥80%	81.6%	83.0%
Total no women screened for first time following first invitation		281,585	340,638
SDR	≥1.0	1.47	

Table 5: Screening quality – subsequent screen

This table shows those women who have returned for routine rescreening. All the quality standards have been achieved. This now includes those women aged 71 – 73 who have received invitations for rescreening at the beginnings of the age extension. But numbers are small and this has made no difference to the quality standards.

	Standard	Achieved	Achieved
Age		50 – 70	45 – 74
Acceptance rate		82.1%	82.0%
Recall rate	<7%	3.2%	3.2%
Benign biopsies (per 1000)	<2.0	0.5	0.5
In situ rate (per 1000)	≥0.5	1.4	1.4
Invasive cancer rate (per 1000)	≥1.65	6.2	6.2
Invasive cancers <15mm (per 1000)	≥1.7	3.3	3.3
Non-operative diagnosis rate for cancers	≥80%	88.9%	88.8%
SDR	≥1.0	1.44	

Table 6: Screening – women aged 71 and over

This year 74,157 aged 71 and over were screened – an increase of 1,261. This continued rise can be attributed to the age extension of the Programme. Before the age extension, all but a few of the women of this age requested screening themselves.

Year	2008/09	2009/10
Total women screened	72,896	74,157
Recall rate	4.8%	4.5%
Benign biopsies (per 1000)	0.2	0.7
In situ rate (per 1000)	2.4	2.6
Invasive cancer rate (per 1000)	11	12
Invasive cancers <15mm (per 1000)	5.8	6.3

Table 7: Assessment outcomes age 50 – 70

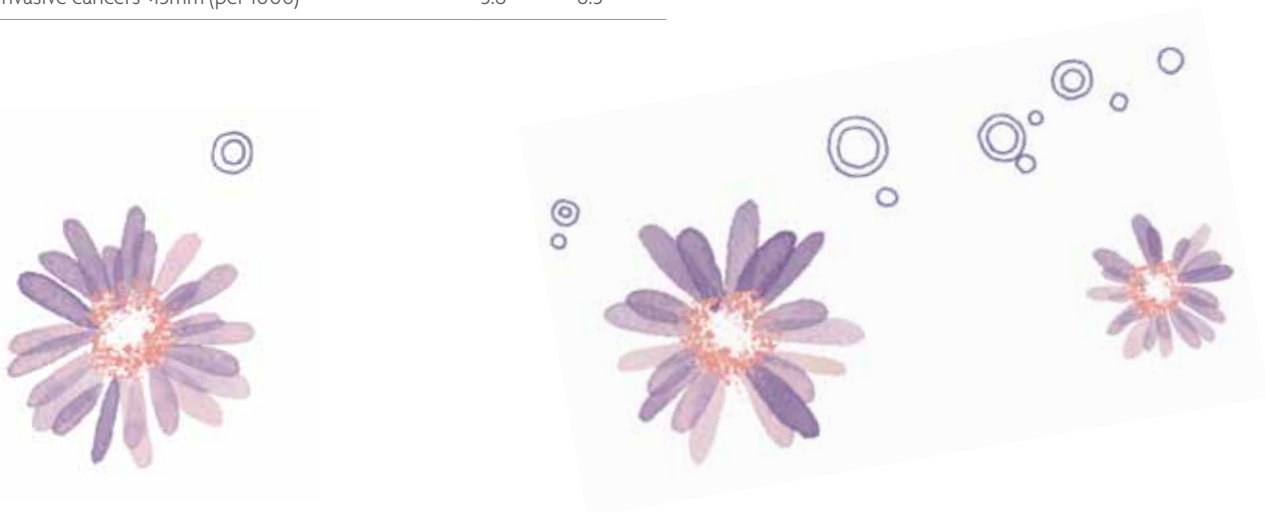
The data in this table show the current use of non-operative techniques. These mean that a woman can be diagnosed with breast cancer, or that cancer is ruled out, without her having to undergo an operation. Unfortunately there are a few women who do have to have a surgical biopsy and shown here is the proportion of those women whose result is eventually found to be normal or benign rather than cancer. This usually reflects a very difficult diagnosis.

	No. screened	Benign biopsy		Non-operative diagnosis of cancer	
		No	%	No	%
Prevalent	331,222	638	0.19	2,140	82.1
Incident	1,623,593	820	0.05	11,034	88.9
Self/GP referral	43,410	42	0.10	393	90.8
Short-term recall	1,499	19	1.27	46	76.7

Table 8: Assessment outcomes age 45 – 74

Further to the previous table the data in this table show the current use of non-operative techniques in women aged 45 – 74.

	No. screened	Benign biopsy		Non-operative diagnosis of cancer	
		No	%	No	%
Prevalent	390,331	733	0.19	2,469	83.2
Incident	1,628,072	822	0.05	11,078	88.8
Self/GP referral	84,467	72	0.09	873	89.6
Short-term recall	1,553	19	1.20	48	77.4

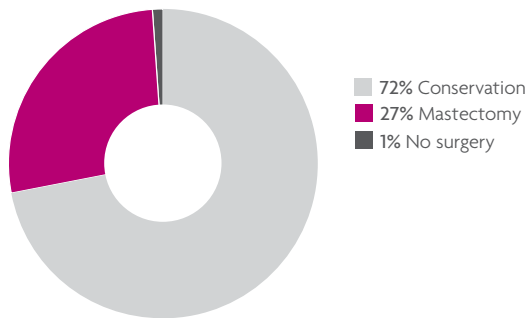


2010 – 2011 breast screening statistics

Table 9: Treatment of screen detected breast cancer

Most treatments of cancers, whether in situ or invasive, attempt to conserve the breast via a 'lumpectomy'. Just over a quarter of women diagnosed with invasive breast cancer receive a mastectomy, while the figure is slightly higher for in situ and micro-invasive disease. These figures come from the Association of Breast Surgery (ABS) NHSBSP audit.

In situ (non-invasive & micro-invasive)



Invasive

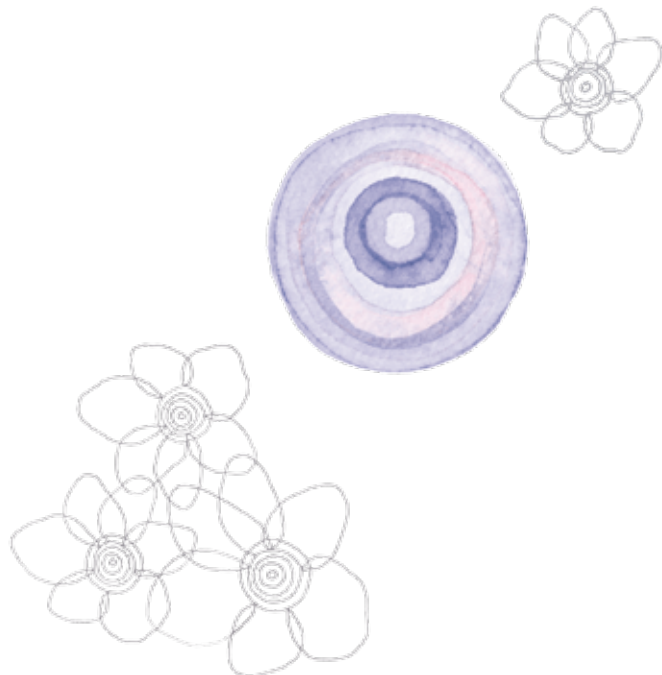
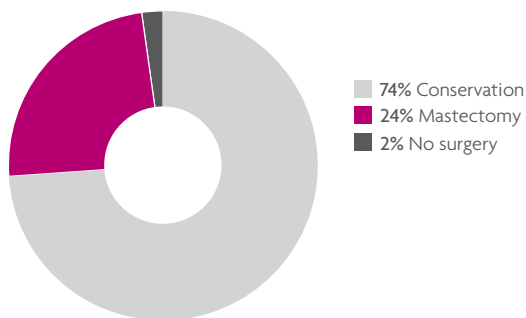
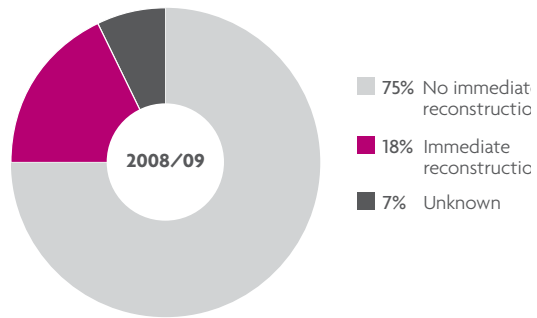


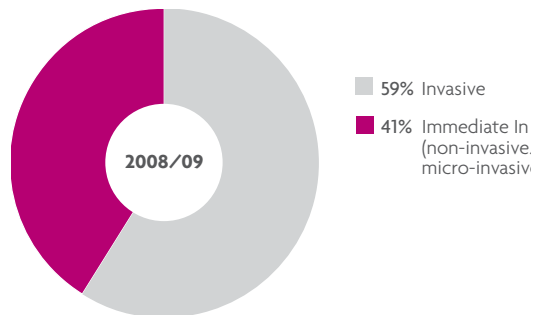
Table 10: Immediate reconstruction after mastectomy

This year 20% of women received immediate reconstructive surgery following a mastectomy, which is a slight increase on the year before. This figure is slowly but steadily increasing year on year. The proportion of women undergoing immediate reconstruction who have invasive or in situ disease remains constant.

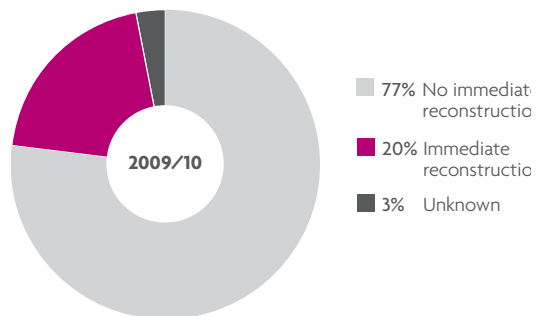
2008/2009



Of the % given immediate reconstruction



2009/2010



Of the % given immediate reconstruction

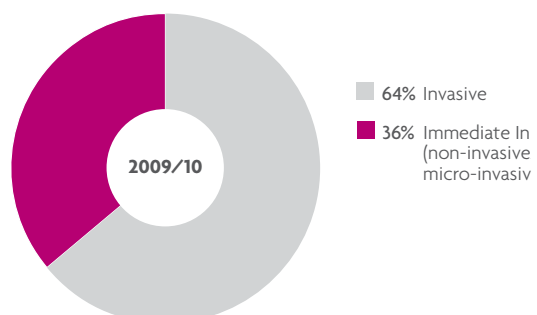
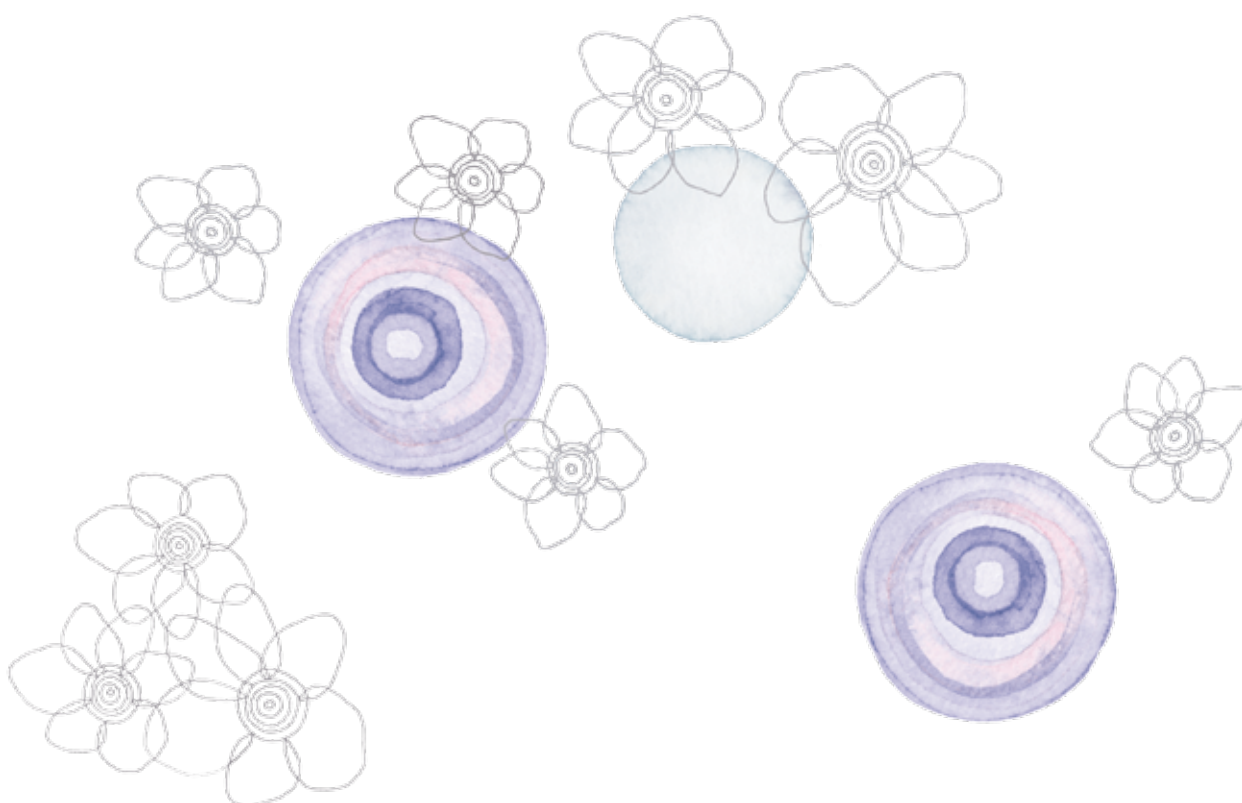


Table 11: Total screening activity for all ages

The information in this table represents complete data for all women screened in the UK breast screening programmes. The numbers of women screened in the under 50 and over 71 age groups have increased as expected, following the beginning of the extensions to the age range. The rise in breast cancer risk with age is reflected in an increasing cancer rate as women get older and is highest in those aged 75 and over, all of whom have requested screening.

		Cancers detected									
		Referred for assessment		In situ and micro invasive		Invasive		<15mm (<10mm)		Total*	
Age group	No. screened	No. assessed	% of screened	No. detected	% of screened	No. detected	% of screened	No. detected	% of screened	No.	% of screened
Under 50	59,425	4,627	7.8	86	0.14	277	0.47	134 (63)	0.23 (0.11)	363	0.61
50 – 64	1,562,532	67,131	4.3	2,304	0.15	8,726	0.56	4,561 (2108)	0.29 (0.13)	11,048	0.71
65 – 70	437,192	15,519	3.5	760	0.17	3,701	0.85	1,983 (955)	0.45 (0.22)	4,469	1.02
71 – 74	45,279	1,887	4.2	107	0.24	488	1.08	261 (123)	0.58 (0.27)	596	1.32
75 and over	28,878	1,447	5.0	93	0.32	435	1.51	208 (89)	0.72 (0.31)	529	1.83
Total (all ages)	2,133,306	90,611	4.2	3,350	0.16	13,627	0.64	3,338	0.34 (0.16)	17,005	0.80

* Discrepancies between totals are because the invasive status of some cancers is not known.



Regional Data

These four tables give a breakdown of the figures for breast cancer screening across the UK. London lags behind the rest of the UK in terms of acceptance, but matches the rest of the country in terms of detection rate.

Table 12: Outcome of prevalent (first) screens by region – women aged 50 – 70

Region	Acceptance	Recall	Benign biopsy	Non-operative diagnosis	Invasive cancer detection
	% of invited	% of screened	% of screened	% of cancers	rate per 1,000 screened
North East	75.2	6.3	0.18	95.5	5.3
Yorkshire & Humber	73.1	7.0	0.15	91.8	5.3
East Midlands	74.6	7.1	0.16	93.0	5.5
West Midlands	70.4	7.6	0.13	91.7	5.6
North West	70.2	9.1	0.25	90.7	5.2
East of England	71.8	8.0	0.22	88.8	5.6
London	56.8	8.2	0.20	92.9	5.3
South East	69.8	8.8	0.24	88.7	5.6
South West	71.4	9.6	0.17	93.6	5.6
Scotland ¹	73.7	9.5	0.20	–	6.1
Wales	71.3	8.8	0.21	87.2	5.3
Northern Ireland	72.5	7.7	0.14	94.4	6.0

¹ Data omitted where not comparable

Table 13: Outcome of incident (subsequent) screens by region – women aged 50 – 70

Region	Acceptance	Recall	Benign biopsy	Non-operative diagnosis	Invasive cancer detection
	% of invited	% of screened	% of screened	% of cancers	rate per 1,000 screened
North East	84.7	2.6	0.05	98.0	6.8
Yorkshire & Humber	83.1	2.7	0.03	97.9	5.8
East Midlands	84.6	2.9	0.04	96.8	5.9
West Midlands	81.6	2.8	0.06	97.1	6.2
North West	81.4	3.4	0.05	96.7	6.1
East of England	84.3	2.8	0.05	96.3	6.3
London	74.0	3.2	0.06	95.8	5.7
South East	82.4	3.2	0.05	95.1	6.5
South West	82.8	3.6	0.05	95.8	6.1
Scotland ¹	83.5	3.9	0.05	–	6.4
Wales	83.3	4	0.07	96.9	7.0
Northern Ireland	83.5	2.8	0.03	96.2	5.5

¹ Data omitted where not comparable



Table 14: Outcome of self/GP referrals by region – women aged 50 – 70

Region	Referral	Benign biopsy	Non-operative diagnosis	Invasive cancer detection
	% of screened	% of screened	% of cancers	rate per 1,000 screened
North East	4.9	0	87.5	10.3
Yorkshire & Humber	4.2	0.04	100	7.6
East Midlands	4.7	0.03	100	6.8
West Midlands	4.4	0.08	93.5	6.9
North West	6.1	0.03	95.7	8.8
East of England	5.0	0.18	83.3	6.2
London	6.2	0.11	96.2	8.9
South East	5.4	0.13	100	9.1
South West	7.0	0.19	88.6	9.4
Scotland ¹	6.5	0.12	–	5.8
Wales	6.1	0	90.5	8.3
Northern Ireland	5.1	0.08	100	9.2

¹ Data omitted where not comparable

Table 15: Standardised detection ratio by region – women aged 50 – 70

Region	Prevalent	Incident	Overall
North East	1.51	1.58	1.57
Yorkshire & Humber	1.49	1.4	1.41
East Midlands	1.55	1.37	1.40
West Midlands	1.52	1.45	1.46
North West	1.42	1.43	1.43
East of England	1.45	1.47	1.46
London	1.39	1.34	1.35
South East	1.45	1.52	1.51
South West	1.46	1.42	1.43
Scotland ¹	1.59	1.48	1.5
Wales	1.43	1.66	1.63
Northern Ireland	1.5	1.17	1.24
Total	1.47	1.45	1.45
(Total previous year)	(1.44)	(1.45)	(1.45)



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