

DURING 12 YEARS OF BREASTCHECK IN IRELAND OVER

371,200+

WOMEN SCREENED

835,500+

MAMMOGRAMS

5,400+

CANCERS DETECTED

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### Screening commitment

- All staff will respect your privacy, dignity, religion, race and cultural beliefs
- Services and facilities will be arranged so that everyone, including people with special needs, can use the services
- Your screening records will be treated in the strictest confidence and you will be assured of privacy during your appointment
- Information will be available for relatives and friends relevant to your care in accordance with your wishes
- You will always have the opportunity to make your views known and to have them taken into account
- You will receive your first appointment within two years of becoming known to the programme
- Once you become known to the programme you will be invited for screening every two years while you are aged 50 to 64 years
- You will be screened using high quality modern equipment which complies with National Breast Screening Guidelines

### We aim

- To give you at least seven days notice of your appointment
- To send you information about screening before your appointment
- To see you as promptly as possible to your appointment time
- To keep you informed about any unavoidable delays which occasionally occur
- To provide pleasant, comfortable surroundings during screening
- To ensure that we send results of your mammogram to you within three weeks

### If re-call is required

#### We aim

- To ensure that you will be offered an appointment for an Assessment Clinic within two weeks of being notified of an abnormal result
- To ensure that you will be seen by a Consultant doctor who specialises in breast care
- To provide support from a Breast Care Nurse
- To ensure you get your results from the Assessment Clinic within one week
- To keep you informed of any delays regarding your results

### If breast cancer is diagnosed

#### We aim

- To tell you sensitively and with honesty
- To fully explain the treatment available to you
- To encourage you to share in decision-making about your treatment
- To include your partner, friend or relative in any discussions if you wish
- To give you the right to refuse treatment, obtain a second opinion or choose alternative treatment, without prejudice to your beliefs or chosen treatment
- To arrange for you to be admitted for treatment by specialised trained staff within three weeks of diagnosis
- To provide support from a Breast Care Nurse before and during treatment
- To provide you with information about local and national cancer support groups and self-help groups

## Tell us what you think

- Your views are important to us in monitoring the effectiveness of our services and in identifying areas where we can improve
- You have a right to make your opinion known about the care you received
- If you feel we have not met the standards of the Women's Charter, let us know by telling the people providing your care or in writing to the programme
- We would also like to hear from you if you feel you have received a good service. It helps us to know that we are providing the right kind of service - one that satisfies you
- Finally, if you have any suggestions on how our service can be improved, we would be pleased to see whether we can adopt them to further improve the way we care for you

## You can help by

- Keeping your appointment time
- Giving at least three days notice if you wish to change your appointment
- Reading any information we send you
- Being considerate to others using the service and the staff
- Please try to be well informed about your health

## Let us know

- If you change your address
  - If you have special needs
  - If you already have an appointment
  - Tell us what you think – your views are important.
  - Freephone 1800 45 45 55
- [www.breastcheck.ie](http://www.breastcheck.ie)



12

YEARS OF BREASTCHECK IN IRELAND



## OVERVIEW OF NATIONAL CANCER SCREENING SERVICE

The National Cancer Screening Service (NCSS), established in January 2007, is part of the Health Service Executive National Cancer Control Programme (NCCP). The establishment of NCSS followed the launch of 'A Strategy for Cancer Control in Ireland 2006' by the Cancer Control Forum and the Department of Health and Children which advocated a comprehensive cancer control policy programme in Ireland.

The strategy set out recommendations regarding the prevention, screening, detection, treatment and management of cancer in Ireland and recommended the establishment of the National Cancer Screening Board, which was later dissolved when the NCSS joined the NCCP in 2010. The NCCP is responsible for all components of cancer control in Ireland including the necessary governance, integration, leadership, operational and core support services. The NCSS operates as a business unit within the NCCP and has responsibility for four population-based screening programmes in Ireland:

- **BreastCheck – The National Breast Screening Programme** which offers women aged 50 to 64 a free mammogram every two years and commenced screening from February 2000.  
[www.breastcheck.ie](http://www.breastcheck.ie)
- **CervicalCheck – The National Cervical Screening Programme** which offers free smear tests to women aged 25 to 60 (over 1.3 million women). Regular smear tests at recommended intervals can prevent cervical cancer. Since CervicalCheck launched in September 2008, almost 1.3 million smear tests have been processed.  
[www.cervicalcheck.ie](http://www.cervicalcheck.ie)

- **BowelScreen – The National Bowel Screening Programme.** This recently commenced programme is for the early detection of bowel cancer in men and women aged 55 to 74 (over one million people). The programme is initially aimed at people aged 60 to 69 years and the first round may take up to three years to complete, after which each round should be completed in two years.  
[www.bowelscreen.ie](http://www.bowelscreen.ie)
- Work is at an advanced stage for the introduction of a **national diabetic retinopathy screening programme** in early 2013. All people with both Type 1 and Type 2 diabetes are at risk of developing diabetic retinopathy. Eye screening can find diabetic retinopathy at an early stage when it is easier to treat and treatment is more successful. It is aimed at people with diabetes aged 12 and over (approximately 190,000 people), signalling the expansion of population-based screening into non-cancer related conditions.

The NCSS also advises the minister, from time to time, on health technologies, including vaccines, relating to the prevention of cancer through screening.

The NCSS has a particular commitment to implement special measures to promote participation in its programmes by harder-to-reach individuals within the population.

The NCCP and NCSS are committed to the continued delivery of screening programmes and aim to maximise expertise and learning across population-based screening programmes and improve efficiencies through strengthening the single governance model in place for screening.

## SUMMARY OF OVERALL SCREENING ACTIVITY

2010	2011
<b>167,088</b> Number of women invited	<b>172,076</b> ▲ Number of women invited
<b>163,277</b> Number of eligible women invited*	<b>168,129</b> ▲ Number of eligible women invited*
<b>120,730</b> Number of women screened	<b>125,329</b> ▲ Number of women screened
<b>71.6%</b> Known population acceptance rate**	<b>72.2%</b> ▲ Known population acceptance rate**
<b>46,405</b> Initial women screened	<b>37,429</b> ▼ Initial women screened
<b>74,325</b> Subsequent women screened	<b>87,900</b> ▲ Subsequent women screened
<b>5,504</b> Number of women re-called for assessment	<b>5,242</b> ▼ Number of women re-called for assessment
<b>6.74</b> Cancers detected per 1,000 women screened	<b>6.60</b> ▼ Cancers detected per 1,000 women screened
<b>814</b> Number of cancers detected	<b>832</b> ▲ Number of cancers detected

\* Eligible refers to the known target population less those women excluded or suspended by the programme based on certain eligibility criteria.

\*\* Known target refers to all women of screening age that are known to the programme.

## JOINT REPORT

### ACTING DIRECTOR NATIONAL CANCER SCREENING SERVICE

### DIRECTOR NATIONAL CANCER CONTROL PROGRAMME



Majella Byrne  
Acting Director  
National Cancer Screening Service



Dr Susan O'Reilly  
Director  
National Cancer Control Programme

## Introduction

**Ireland has improved breast cancer survival rates due to a combined approach of screening and symptomatic detection and improved treatment. However breast cancer continues to be the most commonly diagnosed cancer in women and to have the second highest mortality rate.**

Over 2,700 women are diagnosed with breast cancer in Ireland each year. BreastCheck is central to breast cancer control in Ireland and aims to reduce the mortality by detecting breast cancer at the earliest stage, when a woman has greater treatment options available and her chosen treatment is likely to be less extensive and more successful.

Seventy six per cent of breast cancer cases occur in women over the age of 50. The cumulative risk of a woman developing breast cancer before the age of 40 is 1 in 221, before the age of 50 is 1 in 47 and before the age of 65 is 1 in 14. BreastCheck offers a screening service for women aged 50 to 64 who have no symptoms of breast cancer and are invited to attend every two years for a free mammogram.

## Achievements and challenges

Overall, during the past twelve years, BreastCheck has provided 835,598 mammograms to 371,208 women and detected 5,484 cancers.

In its twelfth year, the period covered by this report, the BreastCheck programme achieved and surpassed the target uptake of 70 per cent and showed a sustained increase in screening numbers and related activity, with over 4,500 more women attending during 2011 when compared with 2010.

This singular achievement reflects significant efforts by staff across the organisation to innovate and share workloads despite challenges on foot of the continued recruitment moratorium and resultant staff shortages.

In line with expectations, following completion of the first round of national screening in 2010, during 2011 the number of women invited for the first time fell whereas those screened for a second or subsequent time continued to rise.

Acceptance rates among women who have previously attended and are invited for their subsequent screening remained well above 80

per cent. In women invited for the first time, uptake remains highest in younger women (72.2 per cent aged 50 to 54 invited for first time). However acceptance rates for women invited for the first time overall have fallen and remain outside the target of 70 per cent. This is a key challenge for the programme.

In women screened both for the first and subsequent times the overall cancer detection rate rises with increasing age, reflecting that the risk of breast cancer increases with age. In Ireland breast cancer is more common in women aged 50 and over.

The NCSS welcomes the Government's commitment to extend the age range of BreastCheck to include women aged 65 to 69 years, outlined in Future Health – A Strategic Framework for Reform of the Health Service 2012-2015. In the current climate it is an ambitious target to commence in 2014, but the NCSS looks forward to planning for this.

The Government commitment signals the value placed on the programme and our priority is to achieve our targets of screening the current population on time in advance of extending the programme. Challenges to maintaining a full complement of staff in critical posts have made this difficult to achieve in recent years.

BreastCheck offered 61.4 per cent of women their first mammogram within two years of becoming known to the programme, which is a significant improvement on the previous year (49.5 per cent). However this poses a challenge as it falls short of the 90 per cent target.

While it remains an area of ongoing attention for the programme, the percentage of women with cancer offered hospital admission within three weeks of diagnosis is now just outside of the standard of 90 per cent, signalling a significant improvement on last year. We are grateful for the ongoing collaboration with host hospitals to develop a service response to this issue.

## Conclusion

Population-based screening is dynamic. Advances in testing methods, diagnostic elements and treatments through to external factors such as Government policy, impact the future direction and development of the programmes.

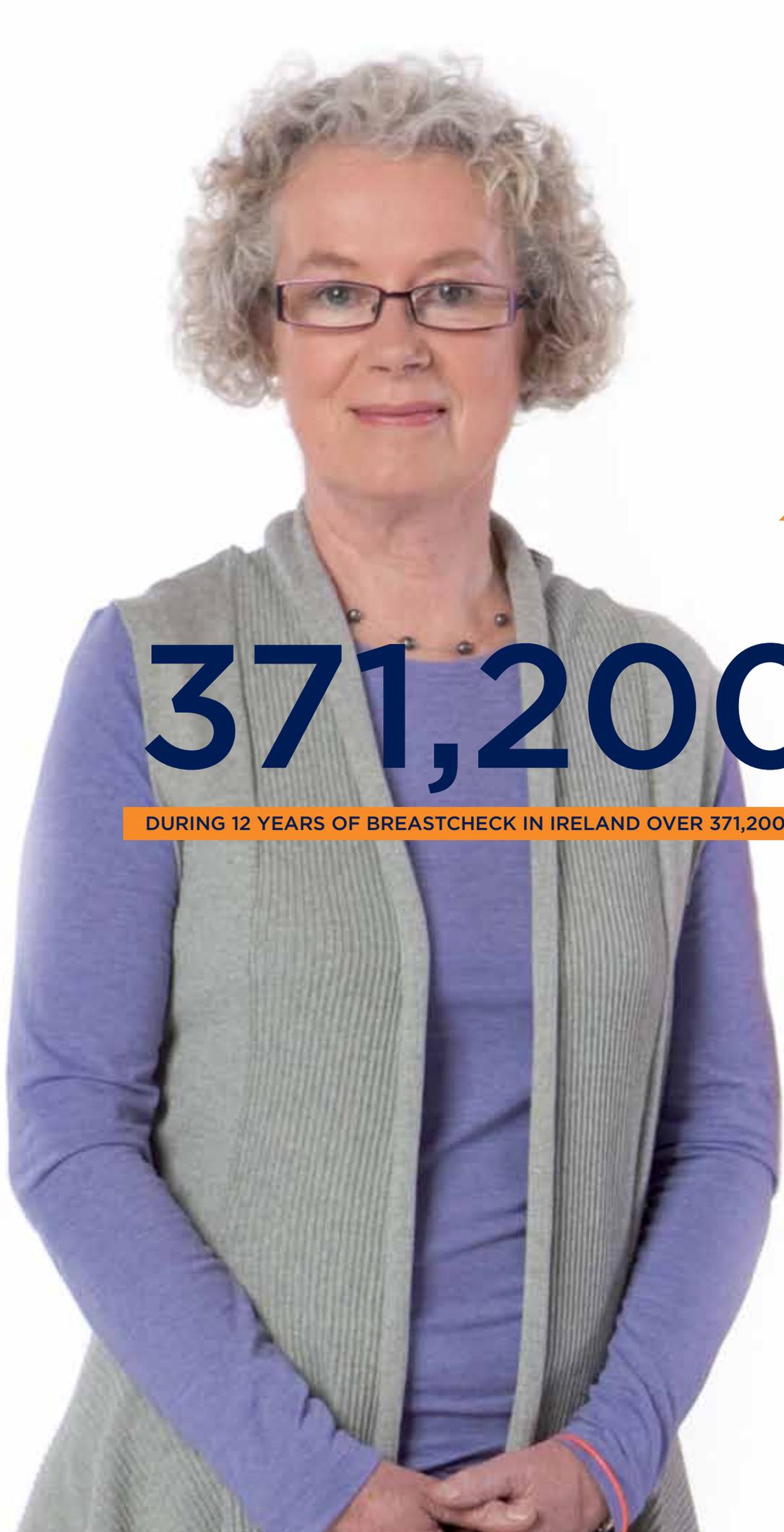
BreastCheck welcomed the independent review of the breast screening programme in the United Kingdom, published in October 2012, which concluded that screening is a valuable tool in the reduction of mortality from breast cancer, but that it is vitally important that women have access to information for decision making.

We thank all those involved in running the BreastCheck programme for their continued commitment to maintaining the high standards of service delivery. The ongoing dedication of our colleagues despite the escalating challenges assures us of the future role of screening in Ireland.

We sincerely thank each of the 125,329 women who availed of their free mammogram this year. The high levels of participation support the overall effectiveness of the programme.

We encourage every eligible woman to avail of the BreastCheck programme, and to encourage family and friends to attend when invited.

While 2012 has proved a challenging year for the NCSS, within an environment of limited resources, the NCSS continues to develop its expertise in delivering and harnessing learnings across programmes. The NCCP and NCSS are committed to the continued provision of a world-class breast screening programme, which delivers a reduction in mortality from breast cancer for women in Ireland.



# 371,200+

DURING 12 YEARS OF BREASTCHECK IN IRELAND OVER 371,200 WOMEN SCREENED

## MESSAGE FROM LEAD CLINICIAN



Dr Ann O'Doherty  
Lead Clinical Director  
BreastCheck – The National Breast  
Screening Programme

**Breast cancer survival rates are improving as a combined result of screening, early detection and better and more effective treatment options, but now is not a time to be complacent. We need to continue our focus on early detection in order to improve survival rates further.**

Women are invited for screening every two years and most are found to be healthy. However in a small number of cases (less than one per cent), a breast cancer is detected.

Where a breast cancer is detected the woman, who has experienced no symptoms, finds immediate support in her specialised, experienced team who have all been extensively trained and have the expertise to optimise her care.

The team includes radiographers, radiologists, surgeons, pathologists, breast care nurses and administration staff. The woman enters into a comprehensive programme of intensive investigation, treatment and care.

BreastCheck explains the treatment available and encourages the woman to share in decision making around her treatment, obtain a second opinion or choose alternative treatment without prejudice to her beliefs or chosen treatment. This is a core commitment within the BreastCheck programme and forms part of the Women's Charter which was established prior to the programme commencing in 2000.

It is a pleasure to be lead clinical director of this team of dedicated, skilled professionals. The focus, passion and humanity they apply to providing the optimum care and comfort for the woman during her BreastCheck care has been unparalleled in my experience, particularly given the challenges of recent years.

In light of staff shortages, the team across the four screening units have made personal sacrifices and worked beyond expectations, to minimise any disruption where possible and to make the woman's experience as comfortable as possible. This commitment has been of immense value to women in Ireland during the period and I personally thank each of them for their contribution.

Recently we welcomed the findings of an independent review of breast screening in the United Kingdom, published in October 2012, which found that screening saves lives. As the review panel highlighted, advances in diagnosis has meant that more cancer is being identified, and that some of the abnormalities detected may not progress to affect a woman's survival. However it is not clear in all cases which women may fall into this category.



Breast screening is a complex process and women need to have information that is clear and accessible before they have a mammogram. There is comprehensive information on the BreastCheck website. In the small number of cases where a cancer is diagnosed, it is important that treatment options are fully discussed and explored with the woman in order that she can make an informed decision about treatment.

Since its inception, BreastCheck has made a clear commitment to provide easy-to-understand, transparent information about the breast screening process to women who are invited for screening.

As digital mammography improves, so does the detection rate. The rate of Ductal Carcinoma in Situ (DCIS) has increased since 2010. This is largely due to the use of digital mammography which has increased sensitivity to detection of calcifications that are associated with DCIS. Most (90 per cent) of the DCIS detected in the reporting year was of high or intermediate grade, which has a greater likelihood of progressing to invasive cancer. The woman must be offered clear treatment choices and information after diagnosis in order to help her to make an informed decision on her treatment.

BreastCheck, as a screening programme, focuses on detecting small, impalpable cancers that are difficult to detect. Clinicians working for the programme are specially trained to identify this kind of early breast cancer, an expertise which is only gained by working with a screening service such as BreastCheck.

Almost 94 per cent of women with cancer were diagnosed prior to any surgery at the assessment clinic. This positive element of the programme far exceeds the standard and means that a woman will know her diagnosis prior to any surgical intervention and can plan her surgical treatment in advance with the breast cancer surgeon.

I would like to thank the women who participate in the programme and every member of the BreastCheck team for their continued contribution and focus on further improving the survival rates and ultimately the reduction of mortality from breast cancer in Ireland.



**835,500+**

MAMMOGRAMS OVER 12 YEARS OF BREAST SCREENING IN IRELAND

## Role of medical physics in optimisation of digital mammography

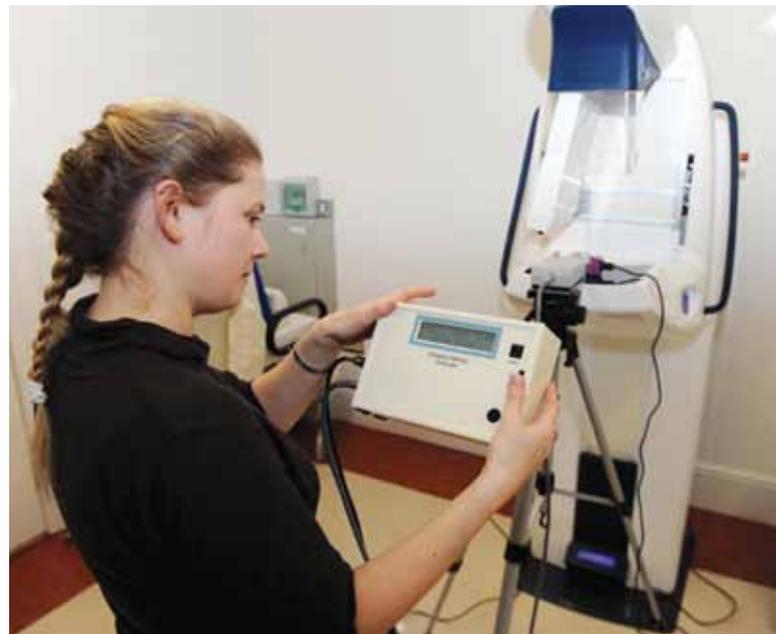
**Quality assurance of the imaging systems by medical physicists is essential to ensuring the effectiveness and safety of digital mammography and is central to maximising early stage cancer detection and minimising risk.**

A dedicated medical physics team within BreastCheck has responsibility for ensuring and maintaining optimisation of equipment and techniques, based on international best practice, to achieve the highest possible image quality consistent with lowest achievable radiation dose and within recommended standards.

The medical physics team manage all aspects of clinical imaging equipment from specification, procurement, evaluation and commissioning through to acceptance testing and routine quality control. This includes planning and design of screening and mobile facilities for functional and radiation safety, optimisation of equipment and training of radiographers in the use of the equipment.

The transition to digital mammography, which saw BreastCheck become the first national screening service provider worldwide to offer a fully digital mammography service, was a key achievement in recent years. This resulted in significant enhancement of image quality, particularly associated with improved visualisation of dense breast tissue. The adoption of digital mammography has also contributed to significant reductions in the radiation dose associated with screening examinations.

As part of the transition to digital mammography, a PACS (picture archiving and communications system) was put in place to facilitate efficient image management across the national programme. Medical physics had a central role in the development and implementation of this system, including integration with existing clinical IT systems. A multidisciplinary oversight group, which drives the ongoing development of PACS and IT systems according to clinical need, continues to be led by the Chief Medical Physicist.



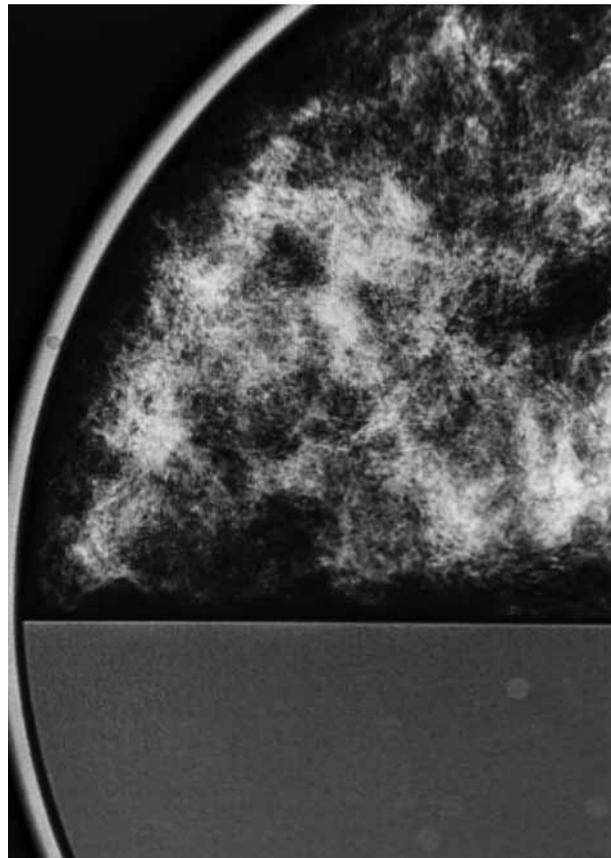
Quality assurance and optimisation of equipment by Senior Physicist

Research and education are a key focus for the team who provide specialist training and continuous professional development to a number of associated professions. Recent activity includes contributions to the graduate certificate in mammography in University College Dublin (UCD), postgraduate medical physics programmes in Trinity College Dublin (TCD) and National University of Ireland, Galway (NUIG) along with radiologist specialist training at Royal College of Surgeons in Ireland (RCSI). The medical physics group also pursue an active research programme contributing to ongoing developments in the field of breast screening, digital imaging and quality assurance, publishing findings in international journals and presenting results at key conferences.

While resource implications are likely to occur as a result of the proposed extension to the programme to women aged 65 to 69, as outlined by Government in Future Health – A Strategic Framework for Reform of the Health Service 2012 -2015 (published November 2012), the current fiscal climate provides a challenge to the programme.

However the field of breast screening continues to evolve, with significant recent developments in imaging technology, particularly digital breast tomosynthesis (DBT) which enables the production of high-resolution image 'slices' to better visualise lesions hidden in dense breast tissue. This technique has significant potential to increase cancer detection and to reduce the recall of women for further assessment following screening.

BreastCheck continues to strive to be at the forefront of developments in order to maximise the diagnostic potential for women participating in the programme.



A test image, known as a 'phantom' (TOR MAM) used by the medical physics team for assessing image quality.

## PACS

The introduction of PACS (picture archive and communications system) alongside digital mammography has significantly improved image management and storage across the BreastCheck programme, improving efficiency in workflow including radiology reading, filing and retrieval of a woman's information over the course of her participation in the BreastCheck programme.

PACS was introduced in parallel with the transition to digital mammography across the programme and resulted in reductions in manual processes and requirements for film viewing and storage, deriving an additional benefit in terms of making greater space available in mobile units which were redesigned to facilitate a larger waiting area for women and dedicated area for radiographers.

A major upgrade of PACS during 2011 has driven further efficiency through desktop integration and interface of the digital imaging systems with existing clinical IT systems to ensure the highest levels of data quality. The management of PACS has a multidisciplinary approach including radiography, medical physics, database and IT. The PACS manager, who is also a radiographer, holds an overarching role in the management and audit of the imaging system and the points of interface with other systems.

In addition to the benefits of increased automation and reduced administration, the ongoing introduction of PACS across the wider health system will result in greater links with partner hospitals and remote access for clinicians and consequently enhanced patient management and care.

In order to drive maximum effectiveness of PACS, storage capabilities and the underlying computer and network infrastructure must continue to be updated to meet the requirements of the programme, particularly in light of the proposed age extension.

## Breast care nursing

The breast care nurse is an integral member of the multi-disciplinary team and plays an important role in the overall quality of cancer nursing care.

BreastCheck breast care nurses provide practical and emotional support to women in the programme, including specialist nursing advice and education, where required. BreastCheck breast care nurses identify a woman's level of anxiety at an early stage and offers support where she attends for assessment and results.

A particular focus is given to women who attend for assessment and those diagnosed with breast cancer. The breast care nurse provides a clear pathway through the breast cancer trajectory and the required intervention points and uses them to guide and support the women with breast cancer, based on the individual woman's need.

The pathway should be consistent in terms of service provision policies, standardised information, access to other services but with a flexible model of service delivery appropriate to the individual needs.

The breast care nurses group meet regularly to identify and discuss issues relating to nursing practice to safeguard the standard of care in the BreastCheck programme.

Meeting regularly and pooling of knowledge and experience has a number of advantages:

- assisting to achieve a high standard of care
- adapting service provision to support women in the current lean health care environment
- strategic planning to develop policies and protocols to enhance the service.

## Accessible website

The BreastCheck website has been updated to ensure it operates in line with the highest accessibility standards. The site is designed in accordance with the W3C WAI Web Content Accessibility Guidelines and is compliant with Level 2AA standard.

A range of accessibility-friendly changes have been made to the design of the site and it is fully compatible with screen readers. It also offers three text size options – normal, large and largest – which can increase the size of the text viewed on the page.

Images are only used where necessary and audio files are available throughout the site. A printer-friendly version of the site is available at the bottom of each page to print the pages in a simple format.

## Client satisfaction survey

BreastCheck recently carried out its second satisfaction survey, which delivers valuable insights into understanding a woman's experience of all aspects of a screening appointment. Three thousand two hundred surveys were distributed equally across all BreastCheck static and mobile digital screening units. Participation was anonymous and voluntary and 2,705 completed questionnaires were returned (85 per cent).



Many women are screened in a BreastCheck mobile unit

## Key findings

- 78 per cent were pleased when they received their BreastCheck appointment
- Receipt of the appointment caused eight per cent of women to be worried
- 84 per cent found the invitation letter well explained and 65 per cent found the information leaflet well explained
- 46 per cent found the invitation letter reassuring
- 96 per cent who changed the date or time of their appointment found the process easy
- 77 per cent cited the invitation letter as influencing them to attend their appointment
- 46 per cent attended to achieve peace of mind
- 99 per cent surveyed felt little or no embarrassment during the mammogram
- 85 per cent felt a little or no discomfort during the mammogram. Only 13 per cent felt a little pain.
- 95 per cent agreed or strongly agreed that the reception area gave them privacy
- 98 per cent found the service easy to get to
- 98 per cent felt the mammogram procedure was explained well to them
- Almost 100 per cent either agreed or strongly agreed that they were treated well (with courtesy, respect and sensitivity)
- 96 per cent would definitely attend again if invited for another BreastCheck appointment

## Extension of age range

In Future Health – A Strategic Framework for Reform of the Health Service 2012 -2015 published in November 2012, the Government reiterated their commitment to extend the BreastCheck programme to women aged 65 to 69, outlined in the Programme for Government.

The NCSS welcomes the Government commitment, as it has long been the intention to extend the programme and there is clear evidence to support this. It signals the value and quality of our population-based screening programmes as worthwhile health initiatives both now and into the future.

However in the current climate this is an ambitious target and much planning and resource development is required to facilitate achievement within the timeframe outlined. The first priority for the programme is to return to screening all of the current population, women aged 50 to 64, on time.

## Resource challenges

The health sector recruitment moratorium continues to pose a key challenge for the programme, particularly in relation to the ongoing shortage of radiographers in Ireland. A lack of resources impacts the commitment to invite a woman for her first appointment within two years of becoming known to the programme, and every two years while within the eligible age range.

Eighty eight per cent of women were re-invited for screening within 27 months of invitation at previous round, which is below the target of 90 per cent. However, 94 per cent of women were re-invited within 28 months. Although the proportion of eligible women invited for screening within two years of becoming known to the programme remains outside the target of 90 per cent, at 61.4 per cent, it represents a significant improvement since 2010 when it was at 49.5 per cent.

In 2011, the number of women offered hospital admission for treatment within three weeks of diagnosis of breast cancer was 87.2 per cent falling slightly below the target set out in the BreastCheck Women's Charter of 90 per cent. BreastCheck has been working closely with host hospitals to facilitate admission at the earliest possible time.

Despite the ongoing challenges faced by the programme, the NCSS has worked well as a team to try to minimise any disruption and to achieve the highest possible outcome. The degree of flexibility of staff deserves acknowledgement, particularly clinical staff, including radiographers and radiologists, who have travelled between units to offer women their appointments on time. On occasion BreastCheck has commissioned additional assistance from a third party provider on a short-term basis to provide screening services.

While ongoing sacrifices and adaptability have enabled targets to be met in the majority of cases, sustainability over a prolonged period is unlikely. The value of a re-call screening programme such as BreastCheck is in the repeat nature of the test at prescribed intervals, in order that cancers can be detected at an early stage. Breast screening is just one element of a quality assured and comprehensive cancer control programme and while it may be unintended, an increase in the interval may impact effectiveness and dilute the impact of screening as a cancer control measure.



Digital mammography is used to screen women

## Independent breast screening review in the United Kingdom

An independent breast screening review for the United Kingdom (UK) was published in late 2012. The review, commissioned by Cancer Research UK and the Department of Health UK, was conducted by an independent panel of nationally and internationally recognised experts in epidemiology and/or medical statistics as well as current breast cancer diagnosis and treatment practices. The independent panel convened at the beginning of 2012 to develop an up-to-date assessment of both the benefits and the harms associated with population breast screening programmes.

The report found that breast screening programmes in the UK save lives, however the available evidence showed that for each breast cancer death prevented, about three cases are detected by screening that would not have become clinically apparent in the woman's lifetime in the absence of screening.

Advances in diagnosis have meant that more cancer is being identified. Some of the abnormalities detected may not progress to affect a woman's survival. However, it is not clear in all cases which women fall into this category. That is why, in the small number of cases where a cancer is diagnosed by the BreastCheck programme, treatment options are fully discussed and explored with the woman, and her partner, friend or relative if she wishes. She is encouraged to share in decision-making about her treatment, in order that she can make an informed decision about treatment.

The NCSS welcomed the review and supports the finding that it is vital to give women information that is clear and accessible, so they can understand both the potential risks and benefits and take an informed decision around participation and treatment in screening.

In addition to general information about the breast screening process, BreastCheck provides a number of information leaflets, which advise that women of any age can get breast cancer – but that the risk increases with age, that not all breast cancers can be found by a mammogram, that some women may find the mammogram painful and that some non-invasive cancers (Ductal Carcinoma in Situ known as DCIS) will be found by screening.

BreastCheck has a clear commitment to provide easy-to-understand, transparent information about the breast screening process to women who are invited for screening. Women who would like more detailed information about DCIS and the benefits and limits of breast screening are directed to the BreastCheck Freephone information line or the website for a detailed factsheet.

BreastCheck is reviewing the information provided by the programme in light of the findings of the independent breast screening review in the UK.

## Department of Health review

The Department of Health is currently completing an efficiency review of the BreastCheck model in light of the objective of extending the age range to women aged 65 to 69 years as outlined in the Programme for Government.



**5,400+**

CANCERS DETECTED OVER 12 YEARS OF BREAST SCREENING IN IRELAND



## SCREENING STATISTICS

The figures reported relate to women invited by BreastCheck between 1 January and 31 December 2011 and who were screened or treated in 2011 and/or 2012. Programme standards, against which performance is measured, are based on 'European Guidelines for Quality Assurance in Mammography Screening' (4th edition) and the BreastCheck 'Guidelines for Quality Assurance in Mammography Screening' (3rd edition).

Screening numbers and related activity show a sustained increase in the reporting period (Table 1, Figure 1). Invitations for screening were issued to 172,076 women in 2011. Of these 168,129 were eligible for screening and 125,329 women attended for screening, which reflects an increase of over 4,500 women compared to the figure of 120,730 in 2010. Both acceptance rates presented (based on eligible target and known target populations of women) surpassed the target uptake of 70 per cent.

The standardised detection ratio (SDR) is a useful composite score by which to measure the performance of a screening programme. The increase in the overall SDR to 1.18 in 2011 reflects the good overall programme performance by BreastCheck in the reporting year (Table 1).

**Table 1: Screening activity overall**

Performance parameter	2011
Number of women invited	172,076
Number of eligible women invited*	168,129
Number of women who opted not to consent	1,607
Number of women attending for screening	125,329
Eligible women acceptance rate* (including women who opted not to consent)	74.5%
Known target population acceptance rate**	72.2%
Number of women re-called for assessment	5,242
Number of open benign biopsies	215
Number of cancers detected	832
Cancers detected per 1,000 women screened	6.6
Number of invasive cancers	652
Number of in situ cancers	180
Number of invasive cancers < 15mm	321
Standardised detection ratio	1.18

\* Eligible refers to the known target population less those women excluded or suspended by the programme based on certain eligibility criteria.

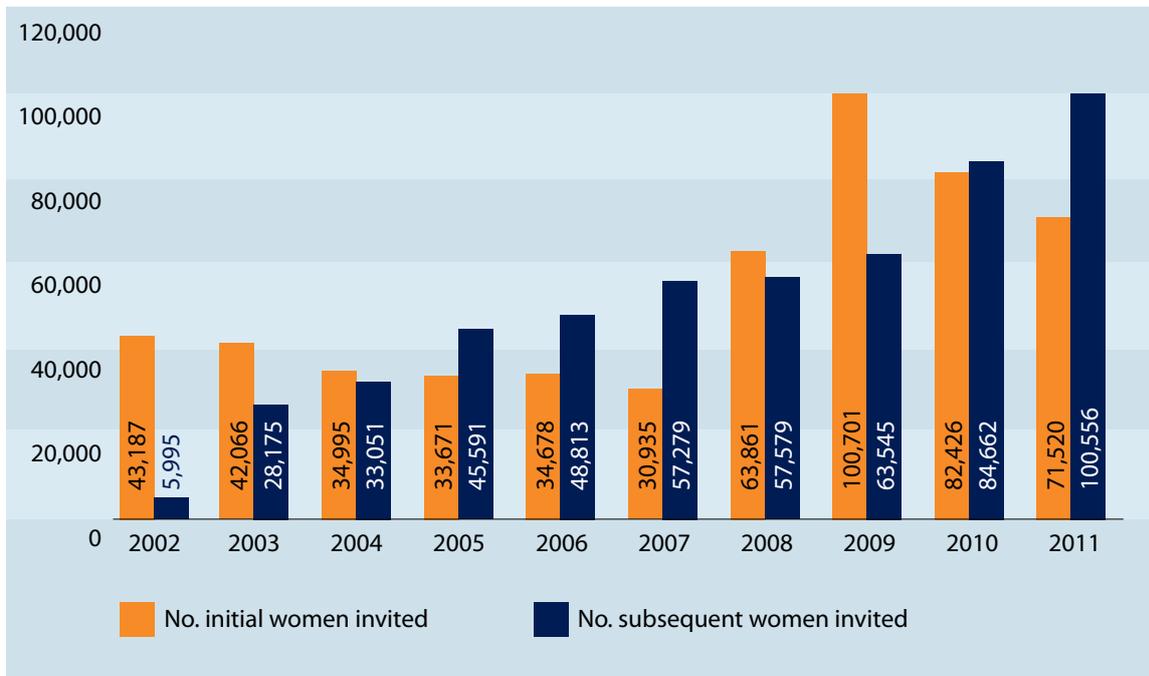
\*\* Known target refers to all women of screening age that are known to the programme.

### Details of the ineligible categories

**Excluded** – women in follow up care for breast cancer, not contactable by An Post, women who have a physical/mental incapacity (while BreastCheck attempts to screen all eligible women, certain forms of physical or mental incapacity may preclude screening), terminal illness or other.

**Suspended** – women on extended vacation or working abroad, women who had a mammogram within the last year, women who opt to wait until the next round, women who wished to defer appointment, women unwilling to reschedule or other.

**Figure 1: Numbers invited 2002-2011 - initial and subsequent women**



In 2011, the number of women invited for the first time fell and the number of women invited and screened for the second or subsequent time continued to rise. This reflects the progression towards a steady state, following completion of the first round of the national expansion of BreastCheck in 2010. This also reflects small numbers of younger women becoming eligible to enter the programme and large numbers of women re-attending BreastCheck (Table 2, Figures 1 and 2).

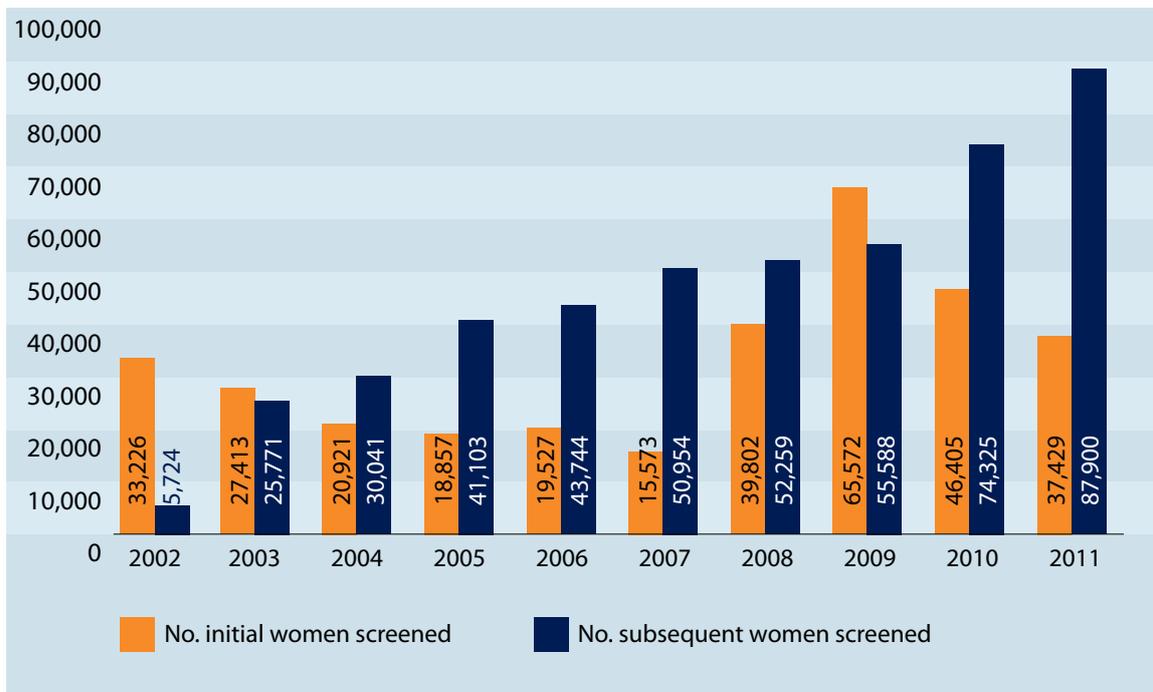
The eligible women and known target population acceptance rates have fallen in those invited for the first time and remain outside the target of 70 per cent (Table 2). Among those who have previously not attended the acceptance rate is low due to persistent non-attendance by some women who neither attend nor opt out of the programme and so continue to be invited. Acceptance rates among those women who have previously attended and are re-invited for subsequent screening remain well above 80 per cent.

**Table 2: Screening activity by type of screen**

Performance parameter	First invited population	Previous non-attenders	Subsequent population
Number of women invited	54,867	16,653	100,556
Number of eligible women invited	50,900	16,653	100,576
Number of women who opted not to consent	86	0	1,521*
Number of women screened	34,935	2,494	87,900
Eligible women acceptance rate (including women who opted not to consent)	68.6%	15.0%	87.4%
Known target population acceptance rate	63.6%	15.0%	86.1%

\* Subsequent women - opted not to consent in previous round of screening, but remain within target age group of women aged 50 to 64 years

**Figure 2: Numbers screened 2002-2011 – initial and subsequent women**



## Screening activity by type of screen and age group

In 2011 there was a slight fall in uptake among women invited for the first time in all age groups compared to previous years. Uptake remains highest in younger women invited for the first time (Table 3). The age gradient is marked among previous non-attenders, reflecting not only a difference due to age but also the effect of persistent non-attenders in the calculation of rates in the older age groups (Table 4). Among those invited for subsequent screening the pattern of similarly high acceptance rates in all age groups persists (Table 5).

**Table 3: First invited population**

Performance parameter	Age group		
	50-54	55-59	60-64
Number of women invited	36,030	10,291	7,960
Number of eligible women invited	34,186	9,137	7,069
Number of women who opted not to consent	36	19	31
Number of women screened	24,698	5,542	4,329
Eligible women acceptance rate (including women who opted not to consent)	72.2%	60.7%	61.2%
Known target population acceptance rate	68.5%	53.8%	54.2%

**Table 4: Previous non-attenders**

Performance parameter	Age group		
	50-54	55-59	60-64
Number of previous non-attenders invited	4,298	6,399	5,887
Number of women screened	941	888	631
Known target population acceptance rate	21.9%	13.9%	10.7%

**Table 5: Subsequent invites**

Performance parameter	Age group		
	50-54	55-59	60-64
Number of women invited	22,832	39,644	37,628
Number of eligible women invited	22,741	39,561	37,834
Number of women who opted not to consent *	258	502	761
Number of women screened	19,785	34,697	32,798
Number of ineligible women**	349	585	555
Eligible women acceptance rate (including women who opted not to consent)	87.0%	87.7%	86.7%
Known target population acceptance rate	84.7%	85.4%	83.8%

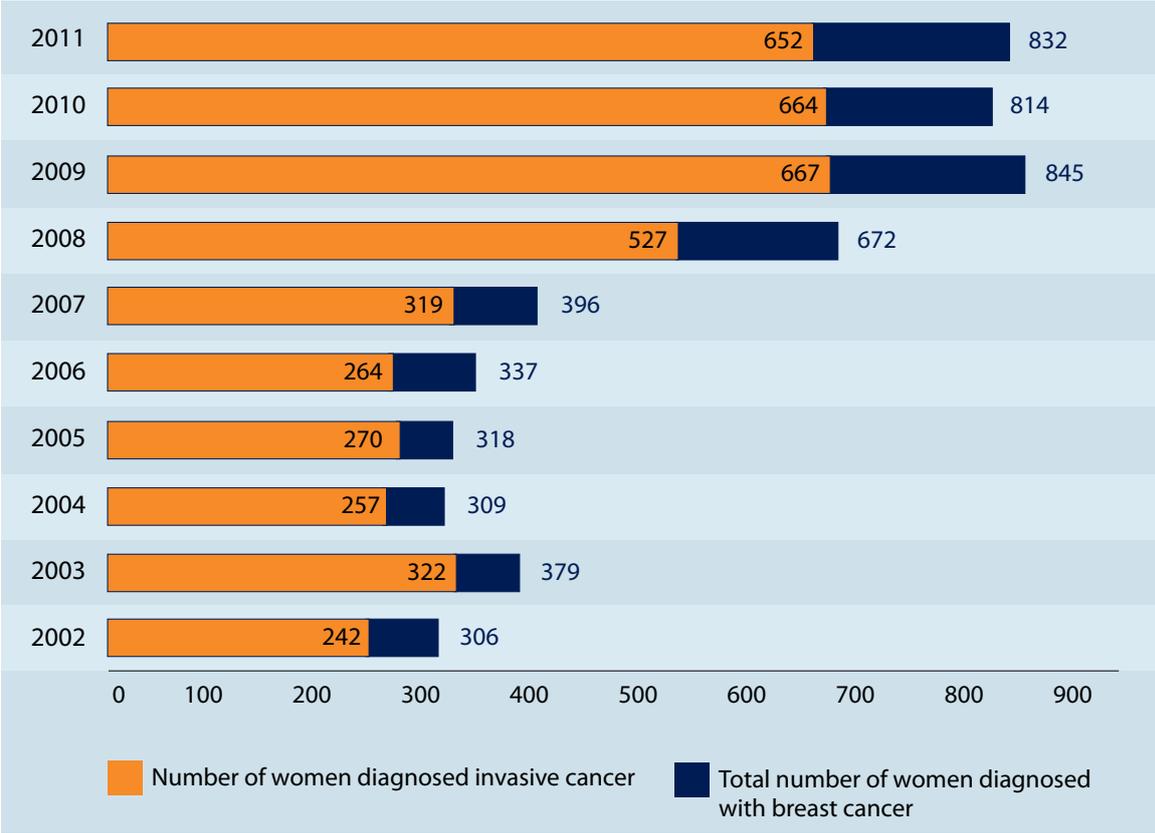
\* Opted not to consent in previous round, but remain in the target population.

\*\* Identified as ineligible in previous round of screening or in this round, but remain in the target population.

Of those women invited in 2011 for either the first or a subsequent time, 832 were diagnosed with a cancer. Of these, 652 were invasive representing a continuing high rate of cancers detected corresponding with the national expansion of the programme (Figure 3). Among women screened for the first time the re-call rate at 7.3 per cent is lower than in 2010 (7.9 per cent) but remains outside the standard (Table 6). The high re-call rate is associated with the introduction of digital mammography. The invasive cancer detection rates for age 50 to 51 and 52 to 64 years are well within the required targets, and almost half of all invasive cancers detected in this group were small (less than 15mm). Among women attending for subsequent screening the re-call rate is much lower, as is expected. In these women almost half of invasive cancers detected were less than 15mm (Table 7). The SDR is above the standard required for both first screening and subsequent screening.

The rate of Ductal Carcinoma in Situ (DCIS) has increased since 2010. This is largely due to the use of digital mammography, which has increased sensitivity to detection of calcifications that are associated with DCIS. It is well recognised that low grade DCIS may not progress to invasive cancer and its detection may lead to a certain amount of overtreatment. Most (90 per cent) of the DCIS detected in the reporting year was of high or intermediate grade, which has a greater likelihood of progressing to invasive disease. Adequate treatment of DCIS should result in fewer women developing invasive cancer.

**Figure 3: Number of women diagnosed with breast cancer overall and the proportion with an invasive breast cancer 2002-2011**



**Table 6: Screening quality: First screen**

Performance parameter	2011	Standard
Number of women screened for first time	37,429	
Number of women re-called for assessment	2,714	
Re-call rate	7.3%	<7%
Number of benign open biopsies	134	
Benign open biopsy rate per 1,000 women screened	3.58	<3.6
Number of women diagnosed with cancer	326	
Cancer detection rate per 1,000 women screened	8.71	≥7
Number of women with in situ cancer (DCIS)	79	
Pure DCIS detection rate per 1,000 women screened	2.11	
Number of women diagnosed with DCIS as % of all women diagnosed with cancer	24.2%	10-20%
Number of women diagnosed with invasive cancer	247	
Invasive cancer detection rate per 1,000 women screened	6.60	
Invasive cancer detection rate per 1,000 women screened for women aged 50-51	5.07	>2.9
Invasive cancer detection rate per 1,000 women screened for women aged 52-64	7.98	>5.2
Number of women with invasive cancers <15 mm	121	
Number of women with invasive cancers <15 mm as % of all women with invasive cancers	49.0%	≥40%
Standardised detection ratio	1.13	0.75

**Table 7: Screening quality: Subsequent screen**

Performance parameter	2011	Standard
Number of women returning for subsequent screen	87,900	
Number of women re-called for assessment	2,528	
Re-call rate	2.9%	<5%
Number of benign open biopsies	81	
Benign open biopsy rate per 1,000 women screened	0.92	<2
Number of women diagnosed with cancer	506	
Cancer detection rate per 1,000 women screened	5.76	≥3.5
Number of women with in situ cancer (DCIS)	101	
Pure DCIS detection rate per 1,000 women screened	1.15	
Number of women diagnosed with DCIS as % of all women diagnosed with cancer	20.0%	10-20%
Number of women diagnosed with invasive cancer	405	
Invasive cancer detection rate per 1,000 women screened	4.61	
Number of women with invasive cancers <15mm	200	
Number of women with invasive cancers <15 mm as % of all women with invasive cancers	49.4%	≥40%
Standardised detection ratio	1.21	0.75

In women screened both for the first time and for a subsequent time, the overall cancer detection rate rises with increasing age, reflecting the fact that age is a risk factor for breast cancer (Tables 8 and 9). Benign open biopsy rates are highest among women aged 50 to 54 screened for the first time (Table 8), but overall rates of benign open biopsy are within the programme targets (first screen <3.6 per 1,000 women screened; subsequent screen <2 per 1,000 women screened).



**Table 8: Screening outcome: First screen by age group**

Performance parameter	Age group		
	50-54	55-59	60-64
Number of women screened	25,650	6,432	4,966
Percentage of women re-called for assessment	7.7%	6.7%	5.9%
Benign open biopsy rate per 1,000 women screened	4.05	2.95	2.22
Overall cancer detection rate per 1,000 women screened	7.95	9.79	11.28

**Table 9: Screening Outcome: Subsequent screen by age group**

Performance parameter	Age group		
	50-54	55-59	60-64
Number of women screened	19,785	34,697	32,798
Percentage of women re-called for assessment	3.0%	2.7%	3.0%
Benign open biopsy rate per 1,000 women screened	1.01	1.01	0.79
Overall cancer detection rate per 1,000 women screened	3.99	4.99	7.59

Almost 94 per cent of women with cancer were diagnosed prior to any surgery by core biopsy or fine needle aspiration performed by radiologists at the assessment clinic (Figure 4). This is far in excess of the standard of  $\geq 70$  per cent. A non-operative diagnosis means that a woman will know her diagnosis prior to any surgical intervention and can plan her surgical treatment in advance with the breast cancer surgeon. This has been an important feature of the programme since its inception and demonstrates a high quality clinical service.

**Figure 4: Cancers with non-operative diagnosis**

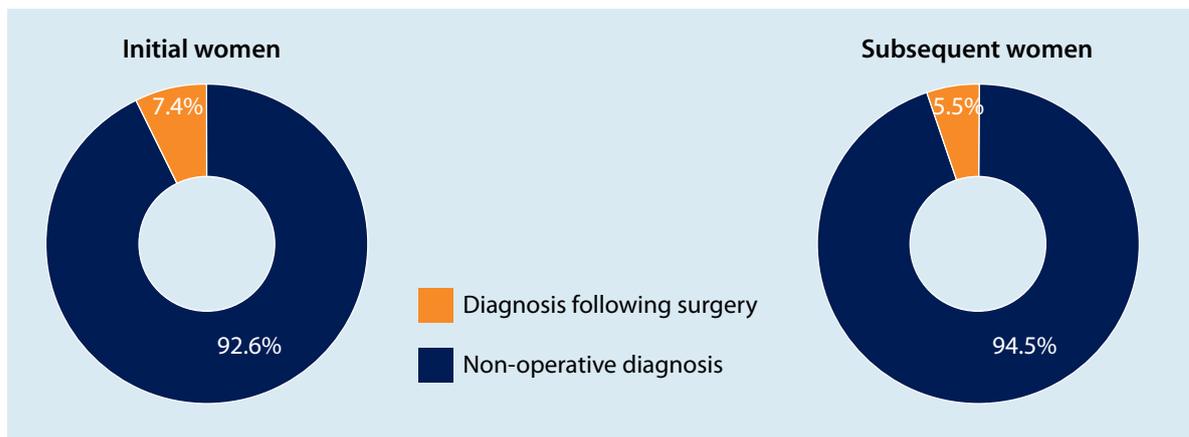
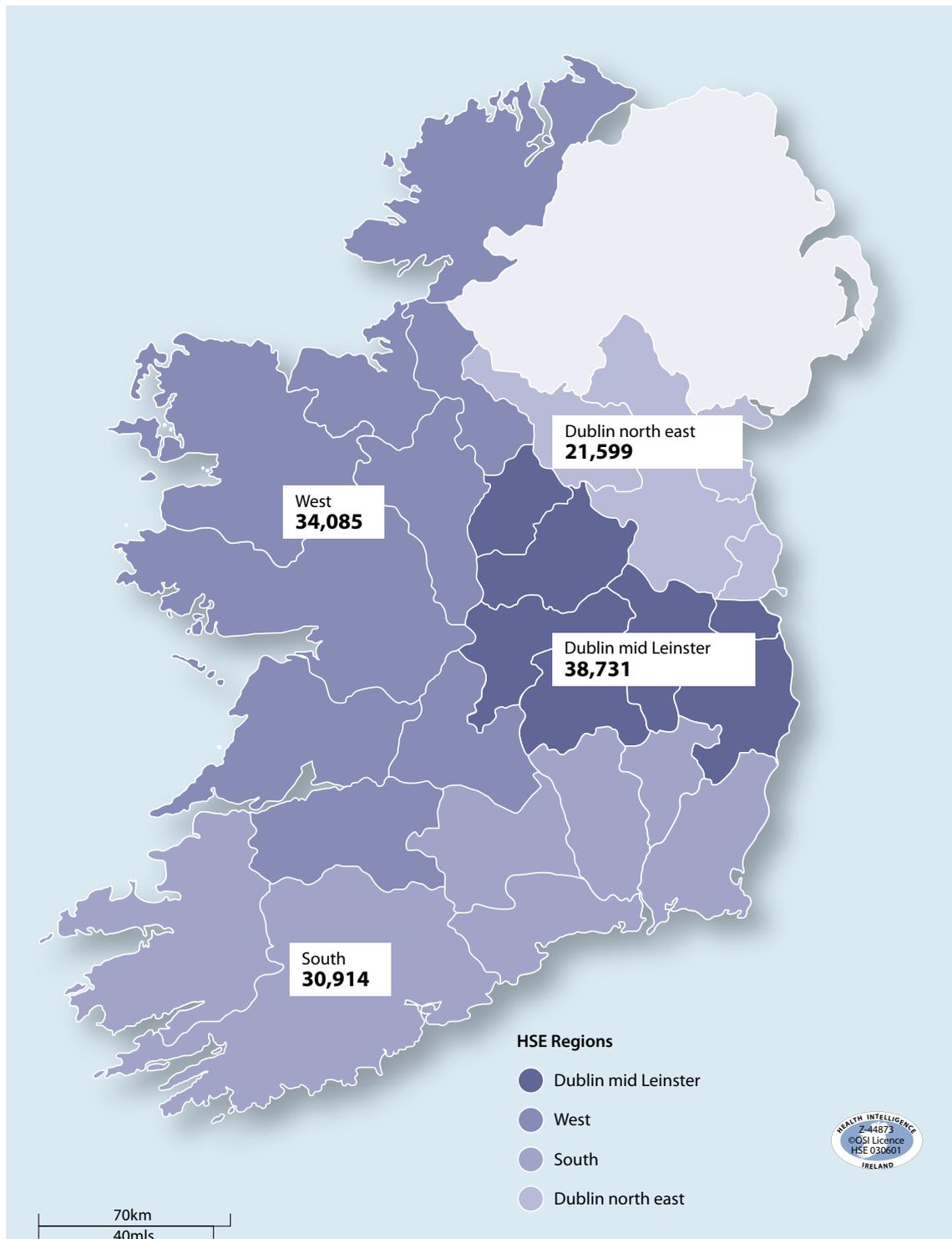


Figure 5: Map indicating Health Service Executive regions with total number of women screened following invitation in 2011



The acceptance rate of screening remains highest in the west and south of the country, with the greatest number of women screened for the first time in those regions (Table 10). The acceptance rate presented includes re-invitation of those who have not attended when first invited. Numbers of these previous non-attenders are naturally higher in the Dublin and north east region and the Dublin and mid Leinster region where BreastCheck has been inviting women for screening over the last decade. For women invited for a subsequent screening appointment, uptake remains high in all regions (Table 11).

**Table 10: Outcome of first screens by Health Service Executive region**

Region of residence	Number of women screened	Eligible population acceptance rate	Target population acceptance rate	Number of cancers detected	Number of cancers detected per 1,000 women screened
Dublin north east	5,150	42.6%	40.6%	46	8.93
Dublin mid Leinster	6,485	45.4%	42.4%	54	8.33
South	8,728	59.6%	56.0%	74	8.48
West	17,066	64.4%	60.9%	152	8.91
Total	37,429	55.4%	52.3%	326	8.71

**Table 11: Outcome of subsequent screens by Health Service Executive region**

Region of residence	Number of women screened	Eligible population acceptance rate	Target population acceptance rate	Number of cancers detected	Number of cancers detected per 1,000 women screened
Dublin north east	16,449	82.5%	81.2%	83	5.05
Dublin mid Leinster	32,246	88.3%	87.1%	193	5.99
South	22,186	89.4%	88.0%	128	5.77
West	17,019	87.9%	86.5%	102	5.99
Total	87,900	87.3%	86.0%	506	5.76

The programme seeks to achieve or surpass all standards outlined in the BreastCheck Women's Charter. Most women receive seven days notice of appointment and receive their mammogram results within three weeks. Over 94 per cent of women re-called for assessment following a screening mammogram were offered an assessment appointment within two weeks of an abnormal mammogram. The percentage of women with cancer offered hospital admission within three weeks of diagnosis at 87.2 per cent remains outside the standard of 90 per cent but has improved considerably since last year (2010: 73.8 per cent). The percentage of women re-invited for screening within 27 months of invitation at previous round is outside the target (Table 12). However, 94 per cent of women were re-invited within 28 months. Although the proportion of eligible women invited for screening within two years of becoming known to the programme remains outside the target of 90 per cent it represents an improvement since 2010 when it was at 49.5 per cent.

**Table 12: Women's Charter parameters**

Performance parameter	2011	Women's Charter standard
% women who received 7 days notice of appointment	96.0%	≥ 90%
% women who were sent results of mammogram within 3 weeks	99.6%	≥ 90%
% women offered an appointment for assessment clinic within 2 weeks of notification of abnormal mammographic result	94.3%	≥ 90%
% women given results from assessment clinic within 1 week	91.4%	≥ 90%
% women offered hospital admission for treatment within 3 weeks of diagnosis of breast cancer	87.2%	≥ 90%
% women re-invited for screening within 27 months of invitation at previous round	88.2%	≥ 90%
% women eligible for screening invited for screening within 2 years of becoming known to the programme	61.4%	≥ 90%

## GLOSSARY

## Assessment

Further investigation of a mammographic abnormality or symptom reported at screening. BreastCheck offers a triple assessment approach which is a combination of clinical examination, additional imagery (mammography or ultrasound) and cytology.

## Benign

Not cancerous. Cannot invade neighbouring tissues or spread to other parts of the body.

## Benign breast changes

Non cancerous changes in the breast.

## Biopsy

The removal of a sample of tissue or cells for examination under a microscope. Biopsy is used to aid diagnosis.

## Cancer

A general name for more than 100 diseases in which abnormal cells grow out of control. Cancer cells can invade and destroy healthy tissues and can spread to other parts of the body.

## Carcinoma

Cancer that begins in tissues lining or covering the surfaces of organs, glands or other body structures.

## Clinical breast examination

A physical examination by a doctor or nurse of the breast, underarm and collarbone area.

## Cytology

Examination of cells or tissues under a microscope for evidence of cancer.

## Ductal Carcinoma in Situ (DCIS)

Cancer that is confined to the ducts of the breast tissue.

## Eligible women

The known target population less those women excluded or suspended by the programme based on certain eligibility criteria.

## Excluded

Women in follow-up care for breast cancer, not contactable by An Post, women who have a physical/mental incapacity (while BreastCheck attempts to screen all eligible women, certain forms of physical or mental incapacity may preclude screening), terminal illness or other appropriate reason will be excluded by the Programme and no further contact will be made unless requested by the woman.

## First invited population

Women who have been invited by BreastCheck for a screening appointment for the first time.

## Initial screening

A woman's first screening at a BreastCheck unit.

## Invasive cancer

Cancer that has spread to nearby tissue, lymph nodes under the arm or other parts of the body.

### **Known target population**

All women of screening age that are known to the programme.

### **Malignancy**

Malignancy is a cancerous tumour. Malignant tumours can invade surrounding tissues and spread to other parts of the body.

### **Mammogram**

An x-ray of the breast.

### **Previous non-attenders**

Women who did not attend their BreastCheck screening appointment when invited in the previous round(s).

### **Radiologist**

A doctor with special training in the use of diagnostic imaging.

### **Risk**

A measure of the likelihood of some uncertain or random event with negative consequences for human life or health.

### **Screening mammogram**

Breast x-ray used to look for signs of disease such as cancer in women who are symptom free. Used to detect a breast cancer at an earlier stage than would otherwise be the case.

### **Standardised detection ratio**

An age-standardised measure in which the observed number of invasive breast cancers detected is compared with the number which would have been expected.

### **Subsequent screening**

Repeat screening where a woman has previously attended for screening with BreastCheck.

### **Suspended**

Women on extended vacation/working abroad, women who have had a mammogram less than a year previously, women who opt to wait for the next screening round, women who wished to defer their appointment, may be suspended temporarily by the Programme until the appropriate time to attend for screening.

### **Symptom**

Any sensation or change in bodily function experienced by a patient that is associated with a particular disease.

### **Tumour**

An abnormal growth of tissue. Tumours may be either benign or malignant.

### **Uptake**

Uptake is defined as completion of a mammogram in response to a routine invitation



National  
Cancer Screening  
Service



National Cancer  
Control Programme



Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive

The National Cancer Screening Service is part of the Health Service Executive National Cancer Control Programme. It encompasses BreastCheck – The National Breast Screening Programme, CervicalCheck – The National Cervical Screening Programme and BowelScreen – The National Bowel Screening Programme.

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