BreastCheck Programme Report 2017-2018

An tSeirbhís Náisiúnta Scagthástála
National Screening Service

BreastCheck
An Clár Náisiúnta Scagthástála Cíoch
The National Breast Screening Programme

BreastCheck Women's Charter

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 in the eligible age range
- You will be screened using high quality modern equipment which complies with Guidelines for Quality Assurance

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

BreastCheck
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The National Breast Screening Programme

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National Screening Service
Cuid d'Fheidhmeannacht na Seirbhíse Sláinte. Part of the Health Service Executive.

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Contents

Introduction

BreastCheck – The National Breast Screening Programme is one of four screening programmes managed by the National Screening Service (NSS), which is part of the Health Service Executive. The others are:

CervicalCheck
AN CLÁR NÁISIÚNTA SCAGTHÁSTÁLA CEIRBHEACS
THE NATIONAL CERVICAL SCREENING PROGRAMME

BowelScreen
An Clár Náisiúnta Scagthástála Putóige
The National Bowel Screening Programme

Diabetic RetinaScreen
An Clár Náisiúnta Scagthástála Reitiní do Dhiaibéitigh
The National Diabetic Retinal Screening Programme

The aim of BreastCheck is to reduce deaths from breast cancer by finding and treating the disease at the earliest possible stage. At this point, a detected cancer is usually easier to treat and there are greater treatment options available for the patient.

During the reporting period, BreastCheck provided free mammograms to women aged 50 to 66 every two years. The BreastCheck age-range extension was launched in 2015 for women aged 65 years, with the aim of extending screening upward to women aged 69, over time. As breast cancer incidence increases with age, this is an important development for the programme.

From the beginning of the programme in 2000 to the end of 2017, BreastCheck has delivered almost 1.7 million mammograms, to over 478,000 women, and detected over 11,300 cancers.

The number of women who attended for screening was 165,581, which equates to 73.8 per cent of eligible women.

The figures for 2017–2018 also show that the number of cancers detected by the programme was 1,067.

I would like to thank our colleagues both within and associated with the BreastCheck programme who support women throughout their journeys of care.

Prof Ann O'Doherty
Clinical Director of BreastCheck

Highlights of 2017-2018

165,581

record number of women attended for screening in a year

1,067

highest number of cancers detected in a year

6,549

number of women re-called for assessment

98.8%

results of mammograms sent within three weeks

92.4%

hospital admission offered within three weeks of breast cancer diagnosis

6.4

Cancers detected per 1,000 women screened

Programme Report

Background

Breast cancer is the most commonly diagnosed cancer in women in Ireland*. On average, over 3,000 women are diagnosed with invasive breast cancer in Ireland each year.[1]

BreastCheck – The National Breast Screening Programme has been providing free mammograms to women aged 50 to 64 every two years from 2000 to 2015 and is currently extending the age range on a phased basis. By 2021, all women aged 50-69 will be invited for breast screening.

In the last quarter of 2015, BreastCheck age-range extension was launched for women over 65 years. A small number of these women had never been invited before. This may have been because some women immigrated or returned, to Ireland or perhaps they had recently made themselves known to the programme by self-registration. However, the majority had previously been invited for screening so the age extension resulted in a higher number of subsequent women and a small number of initial women aged 65 and over being invited.

The aim of BreastCheck is to detect breast cancers at the earliest possible stage, when the cancer is normally easier to treat and there are greater treatment options available. Although a mammogram will not pick up all breast cancers, evidence from the National Cancer Registry of Ireland shows a survival benefit and mortality reduction in women whose cancer is detected through screening by BreastCheck.[2]

To date the programme has provided more than 1.9 million mammograms to over 570,000 women and detected over 12,200 cancers.

Screening activity overall

The figures reported relate to women invited by BreastCheck for screening between 1 January and 31 December 2017. Some of these women may have been screened or treated in 2017 and/or early 2018.

Programme standards, against which performance is measured, are based on the *European Guidelines for Quality Assurance in Breast Cancer Screening and Diagnosis*[3] and the *BreastCheck Guidelines for Quality Assurance in Mammography Screening*.[4]

During 2017, 229,090 women were invited by BreastCheck for screening (Table 1, Figure 1). Of these, 224,252 were eligible for screening and 165,581 women attended for screening. This reflects a screening uptake rate based on the eligible population of 73.8 per cent, which is well above the standard of 70 per cent. The eligible population uptake rate represents a decrease of 1.3 per cent when compared to

* *Excluding non-melanoma skin cancer*

statistics from 2016. BreastCheck can only be effective in achieving its goal of reducing the number of mortalities from breast cancer in the population if at least 70 per cent of eligible women attend for screening.

The standardised detection ratio (SDR) is a useful composite score by which to measure the overall performance of a screening programme. The overall SDR of BreastCheck in 2017 was 1.26 (1.32 in 2016), surpassing the target of 0.75, which reflects continued high achievement in programme performance (Table 1).

Table 1: Screening activity overall 2017-2018

Performance parameter	2017
Number of women invited	229,090
Number of eligible women invited*	224,252
Number of women who opted out of the programme	1,730
Number of women attended for screening	165,581
Eligible women acceptance rate* (includes women who opted out of the programme)	73.8%
Number of women re-called for assessment	6,549
Number of open benign biopsies	187
Number of cancers detected	1,067
Cancers detected per 1,000 women screened	6.4
Number of invasive cancers	846
Number of ductal carcinoma in situ (DCIS)	221
Number of invasive cancers < 15mm	418
Standardised detection ratio	1.26

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

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

Details of the ineligible categories

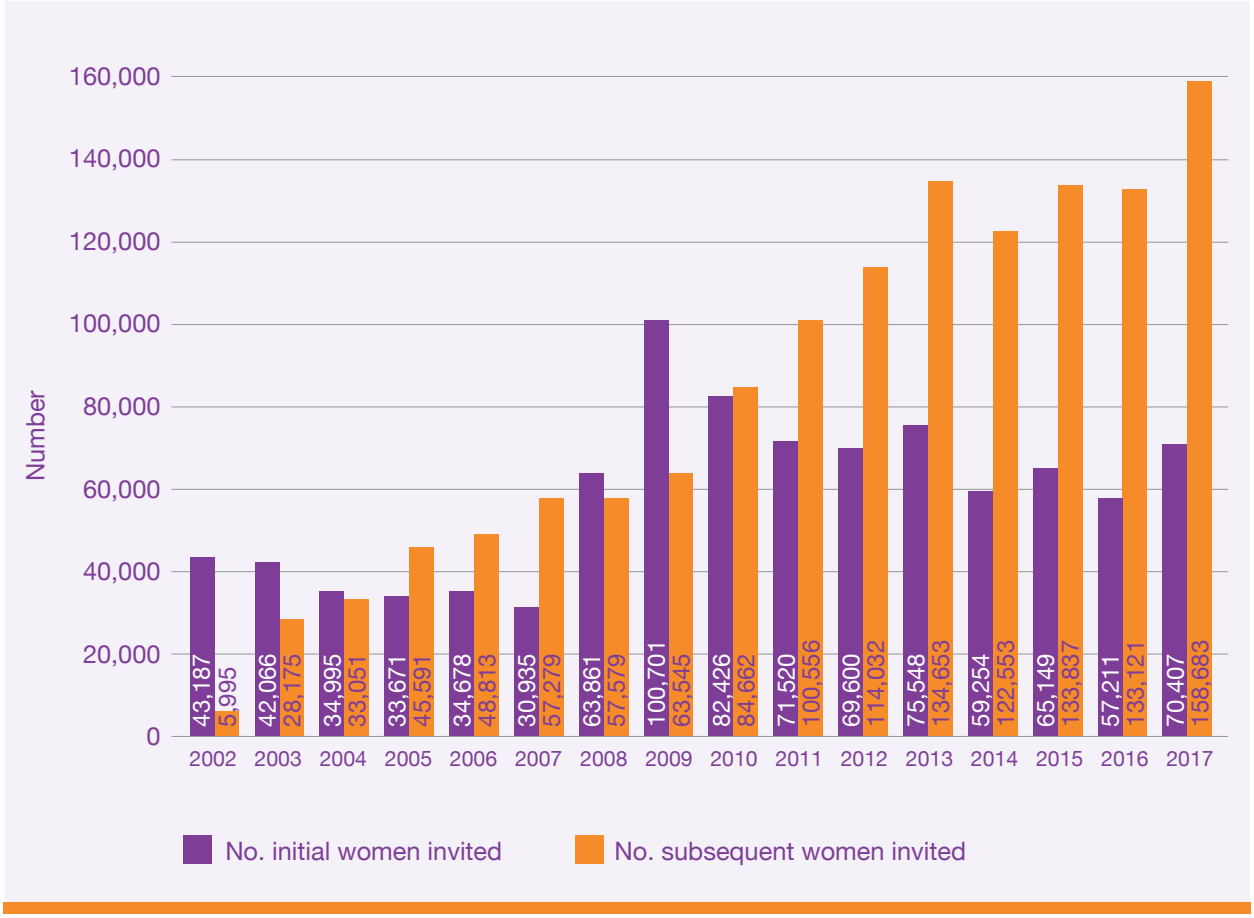
Excluded – Women in follow-up care for breast cancer; women who are not contactable by An Post; women who have a physical/mental disability (while BreastCheck attempts to screen all eligible women, certain forms of physical or mental disability may preclude screening); women with a terminal illness;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

Suspended – Women on an extended holiday or working abroad; women who had a mammogram within the last year; women who opt to wait until the next round of screening; women who wished to defer their appointment; women who did not wish to reschedule their appointment; or other reasons.

Screening activity by screening invitation type

Initial women are those who have been invited to have their first BreastCheck mammogram. In 2017, the number of initial women invited increased from 2016 (Figure 1). There was a similar finding in relation to the number of subsequent women invited in 2016. Subsequent women are women who have previously attended BreastCheck and are being invited for the second or subsequent time.

Figure 1: Numbers invited 2002-2017 – initial and subsequent women



The eligible women uptake rate has increased in 2017 in those invited for the first time but remains below the standard of 70 per cent (Table 2).

Those who have previously been invited but did not attend are known as previous non-attenders (PNAs). The uptake rate among PNAs is low and has decreased from 2016 at 9.2 per cent, due to persistent non-attendance by some women who neither attend nor opt out of the programme, and so continue to be invited to have their first BreastCheck mammogram.

The uptake rates among those women who have previously attended and are re-invited for subsequent screening remains high at over 87 per cent.

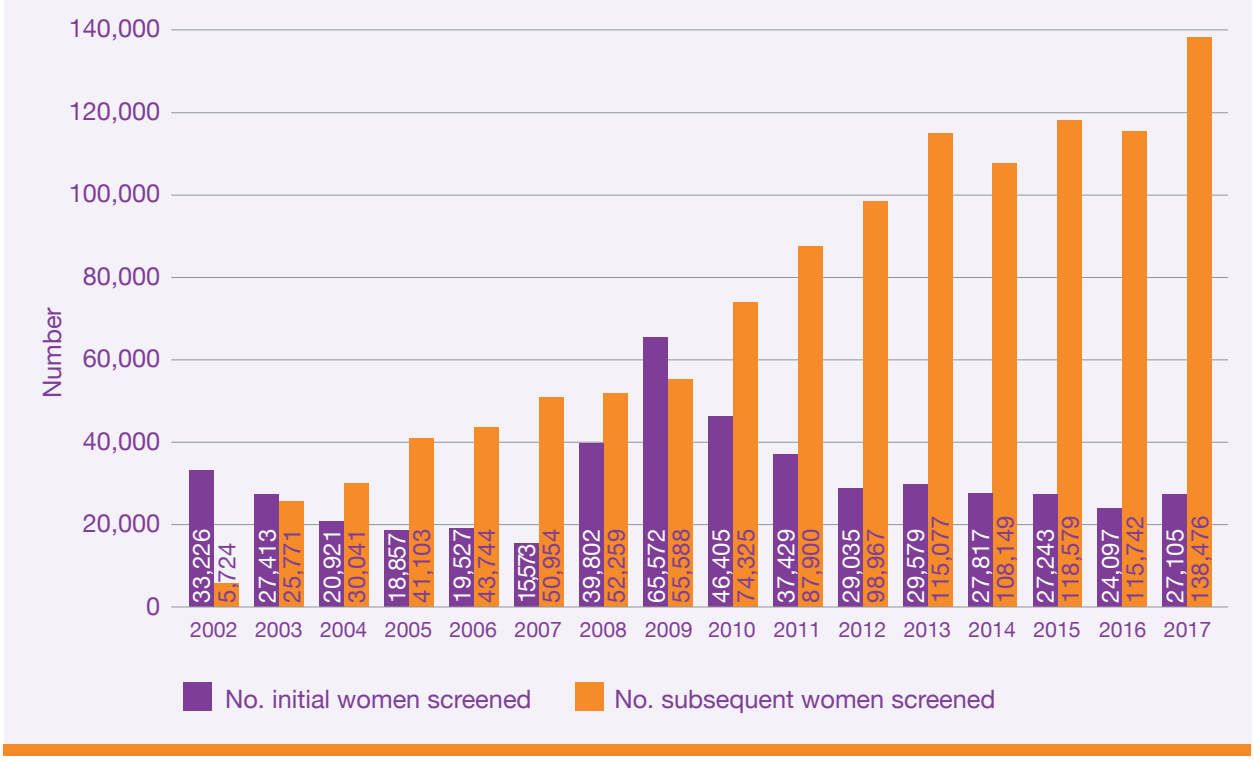
Table 2: Screening activity by screening invitation type 2017-2018

Performance parameter	First invited population	Previous non-attenders	Subsequent population
Number of women invited	39,043	31,364	158,683
Number of eligible women invited	34,954	31,364	157,934
Number of women who opted out of the programme	33	0	1,697
Number of women screened	24,218	2,887	138,476
Eligible women acceptance rate (including women who opted out of the programme)	69.3%	9.2%	87.7%

** Opted out of the programme in a previous round, but remain in the target population.*

In 2017 the number of initial and subsequent women screened has increased compared to the previous year (Figure 2).

Figure 2: Numbers screened 2002-2017 – initial and subsequent women



Screening activity by age group

Among women invited for the first time, uptake remains highest in younger women aged 50 to 54, with smaller numbers and rates in high age-groups (Table 3).

Table 3: First invited population 2017-2018

Performance parameter	Age group			
	50-54	55-59	60-64	65+
Number of women invited	33,332	2,982	2,034	608
Number of eligible women invited	31,009	2,039	1,394	436
Number of women who opted out of the programme	13	2	1	17
Number of women screened	23,065	655	358	87
Eligible women acceptance rate (including women who opted out of the programme)	74.4%	32.1%	25.7%	20.0%

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, there are continuing high uptake rates in all age groups (Table 5).

Table 4: Previous non-attenders population 2017-2018

Performance parameter	Age group			
	50-54	55-59	60-64	65+
Number of previous non-attenders invited	8,629	11,890	8,048	2,788
Number of women screened	1602	895	299	87
Eligible population uptake rate	18.6%	7.5%	3.7%	3.1%

Table 5: Subsequent invited population 2017-2018

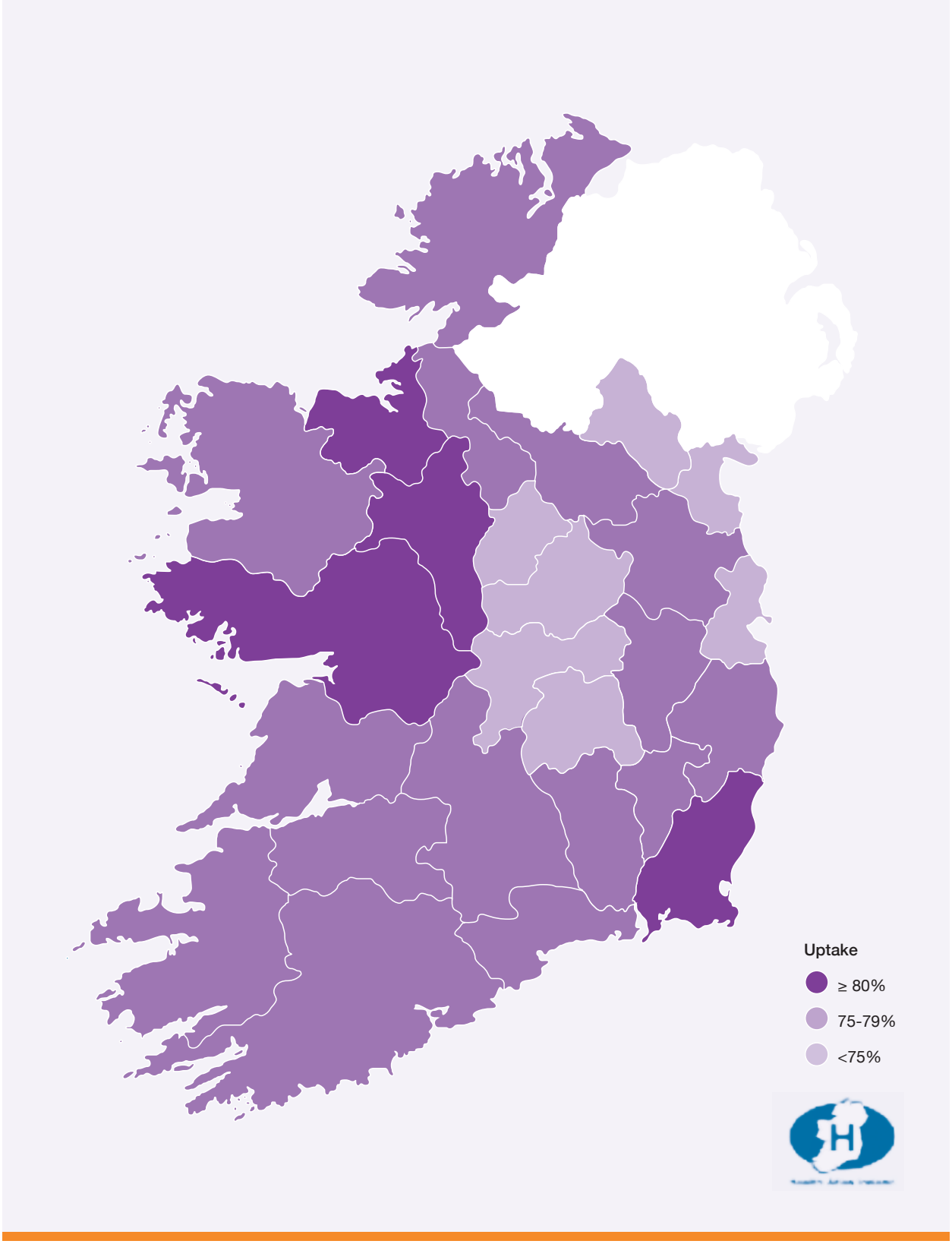
Performance parameter	Age group			
	50-54	55-59	60-64	65+
Number of women invited	30,701	57,458	50,898	19,615
Number of eligible women invited	30,475	57,249	51,004	19,195
Number of women who opted out of the programme*	239	579	850	29
Number of women screened	27,398	50,853	43,565	16,650
Eligible women uptake rate (including women who opted not to consent)	89.9%	88.8%	85.4%	86.7%

** Opted out of the programme in a previous round, but remain in the target population.*

Screening activity by county

BreastCheck delivers screening on a two-yearly cycle to all regions of the country. The overall uptake of screening over the two year period 2017-2018 is shown in Figure 3. All counties surpassed the standard of 70 per cent uptake while four counties achieved over 80 per cent uptake. While these achievements are to be celebrated it must be noted that there are many pockets of areas where the standard of 70 per cent uptake is not achieved. These areas generally correspond to areas of deprivation e.g. inner cities. BreastCheck dedicates additional promotional resources to these areas to increase uptake and to ensure women in these areas can avail of their screening opportunities.

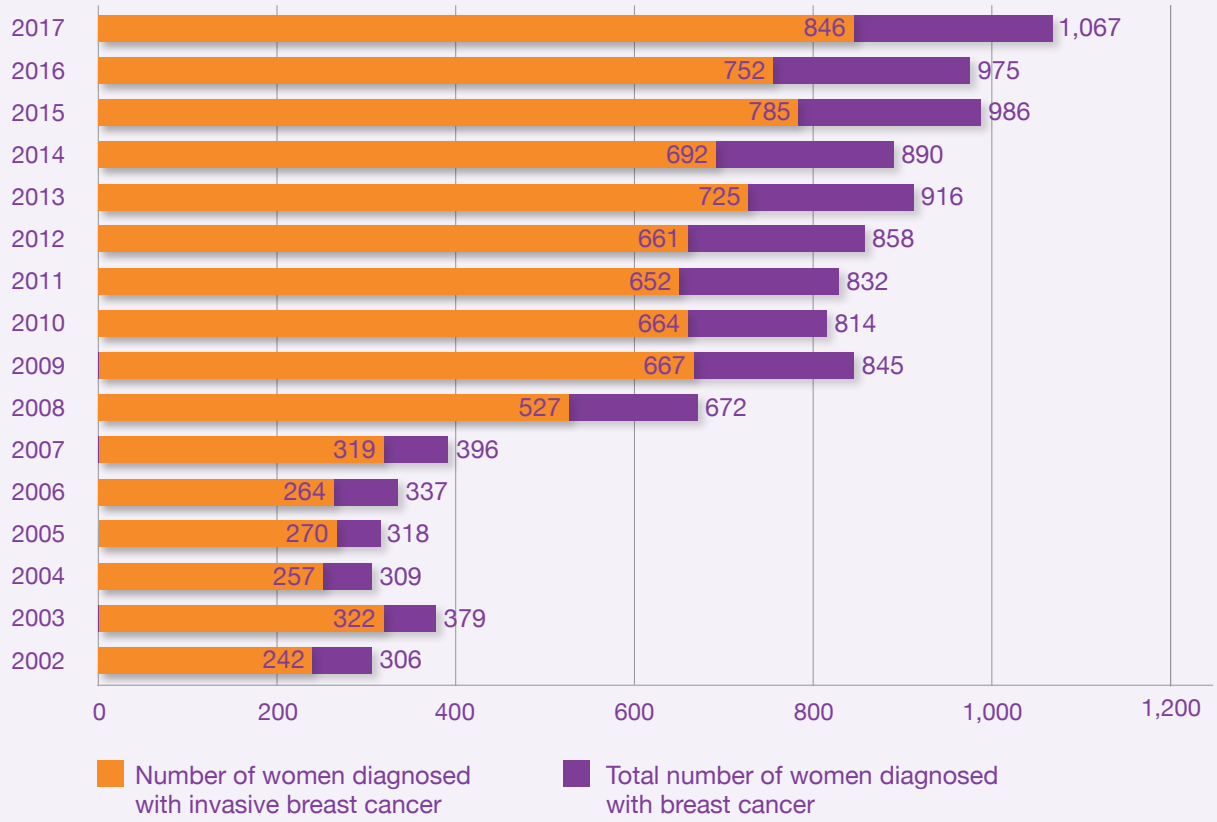
Figure 3: Uptake of screening by county 2016 to 2017



Cancers detected

Of those women invited in 2017 for either the first or a subsequent time, 1,067 were diagnosed with a cancer, of which 846 were invasive (Figure 4).

Figure 4: Number of women diagnosed with breast cancer overall and the proportion with an invasive breast cancer 2002-2017



Screening quality

Programme standards for screening quality are based on the *European Guidelines for Quality Assurance in Breast Cancer Screening and Diagnosis*[3] and the BreastCheck *Guidelines for Quality Assurance in Mammography Screening*[4] which govern aspects of the screening process as well as diagnosis, pathology and surgery.

Among women screened for the first time, the re-call rate remains above the standard at 9.4 per cent, and is slightly lower than in 2016 (9.8 per cent). The benign open biopsy rate is within the programme standard for women being screened for the first time at 3.3 (standard is less than 3.6 per 1,000 women screened). The invasive cancer detection rates for women aged 50 to 51 years, and 52 to 64 years, are well above the required standards. Almost 50 per cent of all invasive cancers detected in this first screened group are small (less than 15mm). The percentage of ductal carcinoma in situ (DCIS) as a proportion of all cancers has increased since 2016, and is outside the expected range of 10 to 20 per cent of cancers detected (Table 6).

Table 6: Screening quality: first screen

Performance parameter	2017	Standard
Number of women screened for first time	27,105	
Number of women re-called for assessment	2,560	
Re-call rate	9.4%	<7%
Number of benign open biopsies	89	
Benign open biopsy rate per 1,000 women screened	3.28	<3.6
Number of women diagnosed with cancer	242	
Cancer detection rate per 1,000 women screened	8.93	
Number of women with ductal carcinoma in situ (DCIS)	69	
Pure DCIS detection rate per 1,000 women screened	2.55	
Women diagnosed with DCIS as % of all women diagnosed with cancer*	28.5	10-20
Number of women diagnosed with invasive cancer	173	
Invasive cancer detection rate per 1,000 women screened	6.38	
Invasive cancer detection rate per 1,000 women screened for women aged 50-51	5.76	>2.9
Invasive cancer detection rate per 1,000 women screened for women aged 52-64	7.60	>5.2
Number of women with invasive cancers <15 mm	83	
Women with invasive cancers <15 mm as % of all women with invasive cancers	48.0	≥40
Standardised detection ratio (SDR)	1.26	>0.75

** See Table 8 for details of DCIS grade*

Among women attending for subsequent screening, the re-call rate is lower at 2.9 per cent, which is as expected (Table 7). Over 40 per cent of invasive cancers detected amongst these women are less than 15mm. The percentage of ductal carcinoma in situ (DCIS) as a proportion of all cancers among women attending for subsequent screening is within the standard and has decreased since 2016. The rate of benign open biopsy is within the programme standards for women at subsequent screening (standard is less than two). The SDR is above the expected standard for both first screening and subsequent screening (Table 6 and Table 7).

Table 7: Screening quality: subsequent screen

Performance parameter	2017	Standard
Number of women returning for subsequent screen	138,476	
Number of women re-called for assessment	3,989	
Re-call rate	2.9%	<5%
Number of benign open biopsies	100	
Benign open biopsy rate per 1,000 women screened	0.72	<2
Number of women diagnosed with cancer	825	
Cancer detection rate per 1,000 women screened	5.96	
Number of women with ductal carcinoma in situ (DCIS)	152	
Pure DCIS detection rate per 1,000 women screened	1.10	
Women diagnosed with DCIS as % of all women diagnosed with cancer*	18.4	10-20
Number of women diagnosed with invasive cancer	673	
Invasive cancer detection rate per 1,000 women screened	4.86	
Number of women with invasive cancers <15mm	335	
Women with invasive cancers <15 mm as % of all women with invasive cancers	49.8	≥40
Standardised detection ratio	1.25	>0.75

** See Table 8 for details of DCIS grade*

Ductal carcinoma in situ (DCIS)

DCIS is an early form of breast cancer where the cancer cells are inside the milk ducts and have not spread within or outside the breast. DCIS can also be described as pre-cancerous, pre-invasive, non-invasive or intraductal. If DCIS is not treated, the cells may spread from the ducts into the surrounding breast tissue and become an invasive cancer (one that can spread to other parts of the body). DCIS can be low, intermediate or high grade. It is thought that low grade DCIS is less likely to become an invasive cancer than high-grade DCIS.

In women screened both for the first time and for a subsequent time, the proportion of low grade DCIS represented just 8.6 per cent of all DCIS detected (Table 8). This corresponds to 1.8 per cent of total cancers detected, or 1.3 per 10,000 women screened. Evidence has shown that many intermediate and high grade DCIS may progress to invasive cancers over time if left untreated; these represent the majority of DCIS detected by BreastCheck.

However, not every woman with DCIS will develop invasive cancer, even if it is not treated. But it is impossible to tell which DCIS will develop into invasive cancer and which will not. As a result, some women will get treatment for a DCIS that would never have become an invasive cancer.

Table 8: Grade of DCIS 2017-2018

Tumour Grade	First screen	Subsequent screen	Total
Low	8 (11.6%)	11 (7.2%)	19 (8.6%)
Intermediate	25 (36.2%)	40 (26.3%)	65 (29.4%)
High	33 (47.8%)	96 (63.2%)	129 (58.4%)
Grade not assessable	3 (4.3%)	5 (3.3%)	8 (3.6%)
Total	69 (100%)	152 (100%)	221 (100%)

Screening outcome by age group

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 increasing age is an important risk factor for breast cancer. However, the very small number of women over 65 screened for the first time distorts rates in this age group (Tables 9 & 10).

Benign open biopsy rates are highest among women aged 50 to 54 screened for the first time (Table 9).

Table 9: Screening outcome: First screen by age group 2017-2018

Performance parameter	Age group			
	50-54	55-59	60-64	65+
Number of women screened	24,667	1,550	657	174
Percentage of women re-called for assessment	9.4	9.2	9.4	9.8
Benign open biopsy rate per 1,000 women screened	3.32	2.58	4.57	0.00
Overall cancer detection rate per 1,000 women screened	8.96	5.16	15.22	11.49

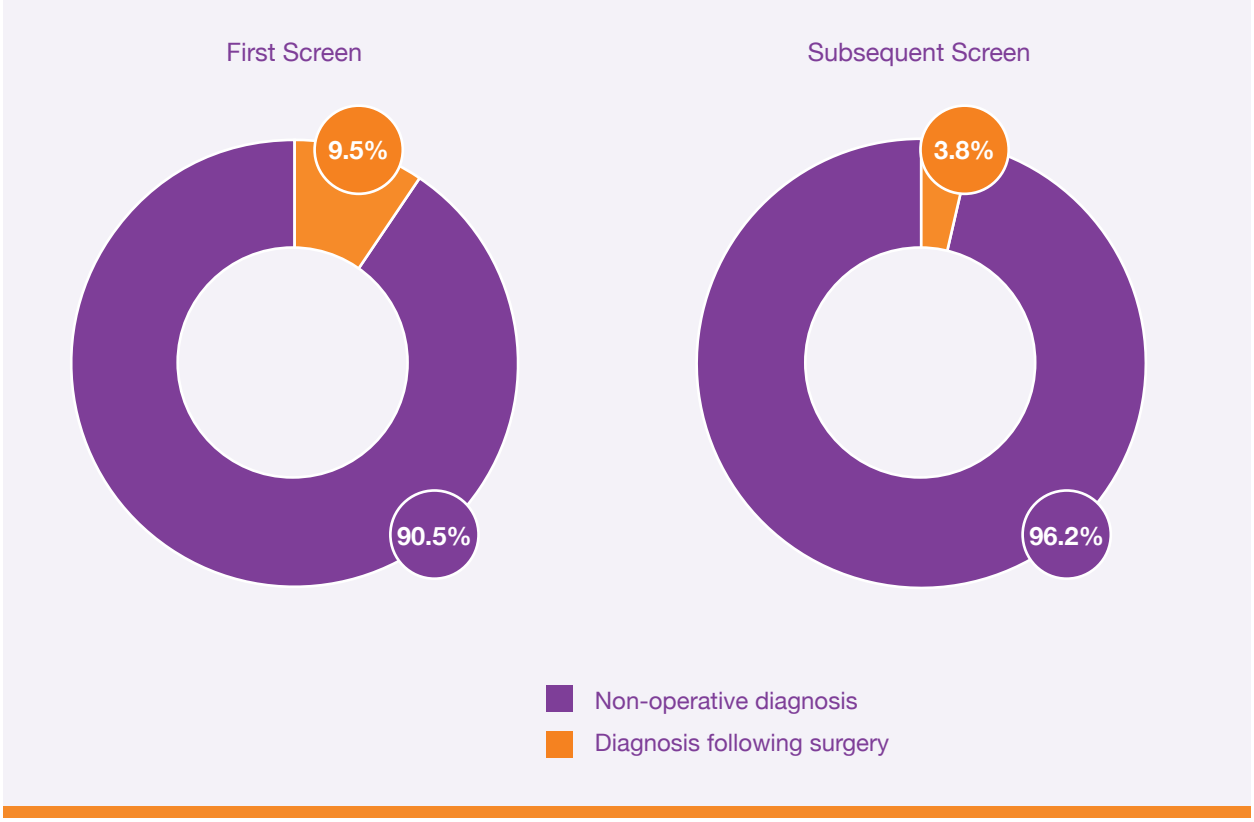
Table 10: Screening Outcome: Subsequent screen by age group 2017-2018

Performance parameter	Age group			
	50-54	55-59	60-64	65+
Number of women screened	27,398	50,853	43,565	16,650
Percentage of women re-called for assessment	3.4	2.8	2.7	2.8
Benign open biopsy rate per 1,000 women screened	1.06	0.65	0.71	0.42
Overall cancer detection rate per 1,000 women screened	5.55	5.13	6.75	7.09

Cancers with non-operative diagnosis 2017-2018

Over 90 per cent and 96 per cent of first screened and subsequently screened women with cancer respectively were diagnosed by core biopsy or fine needle aspiration performed by radiologists at the assessment clinic prior to any surgery (Figure 5). This is well above the standard of greater than or equal to 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 BreastCheck since its inception, highlighting the quality and expertise of both the radiology and pathology functions of the programme.

Figure 5: Cancers with non-operative diagnosis 2017-2018



BreastCheck Women's Charter

BreastCheck seeks to achieve or surpass all standards outlined in the programme's Women's Charter, which is underpinned by the *Guidelines for Quality Assurance in Mammography Screening*.[4] The programme performed well against the majority of commitments identified in the Charter during 2017.

Most women received seven days' notice of an appointment and received their mammogram results within three weeks. Eighty-nine per cent of women re-called for assessment following a screening mammogram were offered an assessment appointment within two weeks of an abnormal mammogram result (Table 11). The percentage of women with cancer offered hospital admission within three weeks of diagnosis has risen in recent years and is now above the standard of 90 per cent.

There are some opportunities for improvement, with the percentage of women re-invited within 24 months of invitation at previous rounds 50.4 per cent, which has decreased from 2016 and remains below the programme target of 90 per cent. However, over 84 per cent of women were re-invited for screening within 27 months of invitation at previous round. The proportion of eligible women invited for screening within two years of becoming known to the programme is 80.3 per cent, and is below the programme standard.

Table 11: BreastCheck Women's Charter parameters

Performance parameter	2017	Women's Charter Standard
Women who received seven days' notice of appointment	98.2%	≥90%
Women who were sent results of mammogram within three weeks	98.8%	≥90%
Women offered an appointment for Assessment Clinic within two weeks of notification of abnormal mammographic result	89.0%	≥90%
Women given results from Assessment Clinic within one week	93.3%	≥90%
Women offered hospital admission for treatment within three weeks of diagnosis of breast cancer	92.4%	≥90%
Women re-invited for screening within 24 months of invitation at previous round	50.4%	≥90%
Women re-invited for screening within 27 months of invitation at previous round	84.1%	
Women eligible for screening invited for screening within two years of becoming known to the programme	80.3%	≥90%

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1. *Cancer Factsheet Female Breast,* National Cancer Registry Ireland; Updated May 2018. Available online: https://www.ncri.ie/sites/ncri/files/factsheets/Factsheet%20Female%20breast_corrected.pdf
2. *Cancer in Ireland 1994-2012: Annual Report of the National Cancer Registry,* National Cancer Registry Ireland; 2014
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