

Classification: Official

Publication reference: PRN00486



# UK NHS Breast Screening Programmes & Association of Breast Surgery

An audit of screen detected breast cancers for the screening year April 2021 to March 2022

Version 1, October 2023

# Contents

UK NHS Breast Screening Programmes & Association of Breast Surgery .....	1
Contents.....	2
About Screening and the Screening Quality Assurance Service.....	3
Foreword .....	4
Acknowledgements .....	5
Introduction .....	7
Purpose of the Audit .....	7
Actions following receipt of the audit.....	7
Your comments.....	8
Provision of data for the 2021/22 audit .....	9
Breast screening services participating in the 2021/22 audit .....	10
Executive Summary .....	12
Data sources.....	14
UK NHS breast screening audit data – 2021/22 .....	14
Average number of days between first assessment and first surgery .....	17
Measuring the impact of the COVID-19 pandemic on tumour characteristics....	19
Screening caseload .....	26
Invasive cases with a non-operative diagnosis that went on to have further breast conserving surgery or converted to mastectomy after initial breast conserving surgery .....	27
References.....	28
Appendix 1: Main audit data tables (1 - 88).....	29

# About Screening and the Screening Quality Assurance Service

Screening identifies apparently healthy people who may be at increased risk of a disease or condition, enabling earlier treatment or better-informed decisions. National population screening programmes are implemented in the NHS on the advice of the UK National Screening Committee (UK NSC), which makes independent, evidence-based recommendations to ministers in the four UK countries.

In England, the Screening Quality Assurance Service (SQAS) ensures programmes are safe and effective by checking that national standards are met and promoting continuous improvement in breast screening. This is to ensure all eligible people have access to a consistent high-quality service wherever they live. High quality, complete and timely data informs QA activity. Data can be reviewed at screening service or individual clinician level. The data in this report provides a high level summary of the quality data at UK and, where available, at individual country level. This would represent a suitable benchmark in those metrics where there are no set quality standards.

# Foreword

This is the 27th annual report of the screening outcomes put together by the Association of Breast Surgery and the Screening Quality Assurance Service. The audit contains data from all four countries in the United Kingdom. During this audit year, April 2021 – March 2022, the effects of COVID-19 were still being faced by the NHS. There was a pause in screening the previous year, and units worked tirelessly to catch up with invitations, despite the social-distancing restrictions that the services faced. Local COVID-19 factors meant that units were at different stages of returning to normal. Consequently, it was felt that quality performance indicators, which often look at data over the most recent 3-year period, would not be published this year. Instead, the audit has focused on other important areas.

One big question this year was whether the effect of COVID-19 adversely affected breast cancer outcomes the following year, given that many women waited longer than usual for their routine invitation. It was reassuring to see that the grade, size, nodal status and NPI of breast cancers in the screening population were not significantly different in 2021-22 to those in the pre-COVID-19 era. In addition, the treatment women received in the year after the pandemic was also very similar to previous years. Furthermore, the cancer detection rates remained high. This reflects well on all those hard-working individuals involved in the delivery of a first-class cancer screening service during a difficult time. The only cause for concern was the reduction in the number of women accepting their invitations to screening, for which causes are likely to be multifactorial. In future, everyone involved in primary and secondary care must ensure that women are encouraged to attend for screening when invited.

Unfortunately, we were unable to include analyses of adjuvant therapy in this report as the time period included the time worst affected by the pandemic and so is not representative of the whole year of 2020/21.

The Screening Audit Group would like to thank everyone involved in the delivery of breast screening across all four UK nations. I would also like to thank my predecessor, Mr Ashu Gandhi, for all his enthusiastic efforts over the past few years to ensure a smooth running of this detailed audit. During his stewardship, which introduced the management of outliers, screening outcomes continued to improve year on year, reinforcing the importance of the audit process.

Giles Cunnick

# Acknowledgements

The 2021/22 UK NHS breast screening programmes and Association of Breast Surgery audit of screen detected breast cancers was designed and directed by the Breast Screening Audit Group:

Mr Giles Cunnick, Chair of the UK NHS breast screening programmes and Association of Breast Surgery Breast Screening Audit Group, Consultant Surgeon, Buckinghamshire Hospitals.

Dr Pauline Carder, Consultant Histopathologist, Bradford Teaching Hospitals.

Dr Rahul Deb, Consultant Histopathologist, Royal Derby Hospital.

Dr David Dodwell, Consultant Clinical Oncologist, University of Oxford.

Mr Ashu Gandhi, Consultant Surgeon, Manchester University Hospital NHS Foundation Trust.

Mrs Emma Giddy, National Audit Project QA Facilitator, Screening Quality Assurance Service, NHS England

Mrs Jacquie Jenkins, National Programme Manager – Breast Screening, NHS England

Ms Olive Kearins, National Lead Breast Screening Quality Assurance, NHS England

Dr Nisha Sharma, Consultant Radiologist, Leeds Teaching Hospitals.

Dr Jackie Walton, National Audit Project QA Facilitator, Screening Quality Assurance Service, NHS England

The Breast Screening Audit Group would like to thank the following for their contributions to the 2021/22 audit of screen-detected breast cancer:

Clinical and administrative staff working throughout the NHS Breast Screening Programme.

Staff in Scotland, Wales & Northern Ireland (the Devolved Administrations; DA) who provide data and liaise with their cancer registries.

Screening Quality Assurance Service Professional and Clinical Advisors in England and their DA equivalents for each of the relevant disciplines.

Screening Quality Assurance Service staff working in breast screening and their equivalent colleagues in the DA.

National Cancer Registration Analysis Service staff who extracted previous cancer data from the Cancer Analysis System.

The Association of Breast Surgery office staff for providing organisational support to the audit group.

# Introduction

## Purpose of the Audit

The 2021/22 UK NHS breast screening programmes and Association of Breast Surgery audit of screen-detected breast cancer was undertaken to examine UK clinical practice in the period 1 April 2021 to 31 March 2022. The audit is designed to assess clinical quality by the comparison of data with as many as possible of the clinical quality assurance (QA) standards recommended by the NHS Breast Screening Programme. These include the quality standards set in the following publications:

- [Best Practice Guidelines for Surgeons in Breast Cancer Screening](#)  
Association of Breast Surgery, 2018
- [Early & Locally Advanced Breast Cancer: Diagnosis and Management](#)  
NICE Guideline 101, updated 2023
- [NHS Breast Screening Programme: consolidated standards](#)  
NHS England, Updated 2023
- [Breast Screening: Quality Assurance Guidelines for breast pathology services](#)  
Public Health England, Updated 2020
- [NHS Breast Screening Programme: Clinical guidance for breast cancer screening assessment](#)  
NHSBSP Publication No.49 4th edition, 2016

## Actions following receipt of the audit

The audit data should be considered formally at meetings of the relevant national forums for Surgery, Radiology and Pathology. This will provide opportunities to recognise areas of good practice and identify areas where the quality of the breast screening programme could improve. Resultant recommendations for future modification of the audit including any suggested changes to quality performance indicators should be communicated to the Audit Group by the relevant disciplinary representatives.

## Your comments

The audit has developed over the years, with improvements in design and organisation resulting in improved data quality and increasingly useful results. We wish to continue this development process and your comments and suggestions are welcome.

If you wish to communicate with us about the 2021/22 audit report or the development of future UK NHS breast screening programmes and Association of Breast Surgery audits, please contact:

Mr. Giles Cunnick  
Chair, UK NHSBSP & ABS Breast Screening Audit Group  
c/o Association of Breast Surgery  
The Royal College of Surgeons of England  
35–43 Lincoln's Inn Fields  
London WC2A 3PE  
Email: [phe.nhsbspabs@nhs.net](mailto:phe.nhsbspabs@nhs.net)

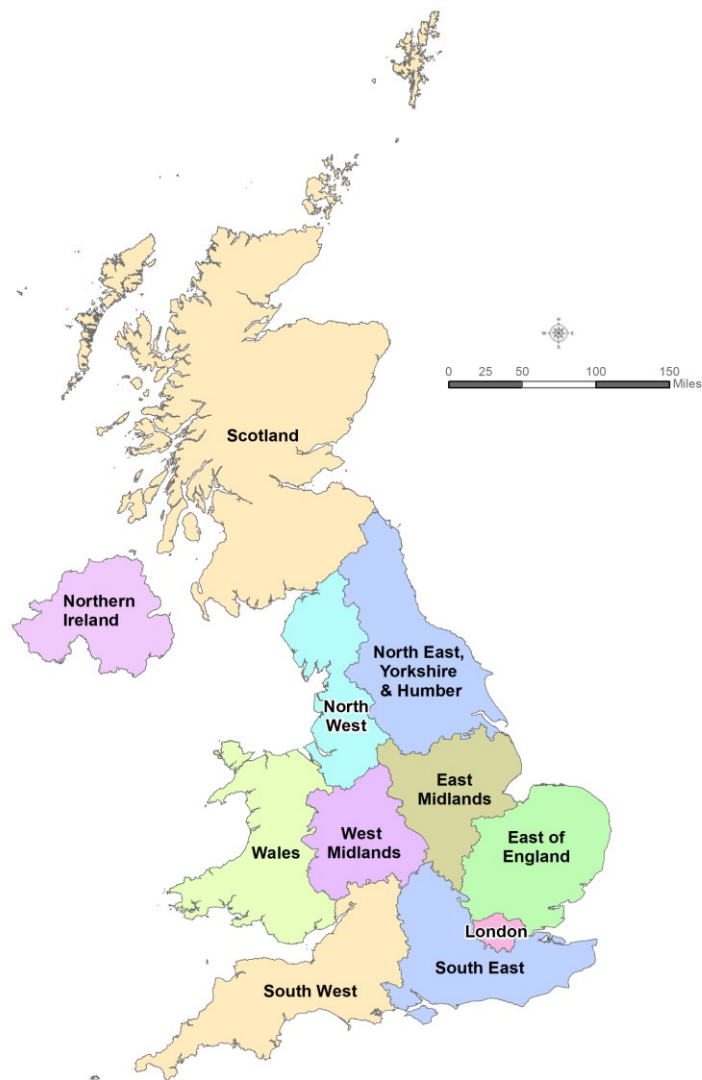


## Provision of data for the 2021/22 audit

The map below shows the areas covered by the English screening QA service and the breast screening information centres in Wales, Scotland and Northern Ireland. There are 4 Screening Quality Assurance Services (SQAS) regions in England, covering the following NHS England regional geographies:

- London
- Midlands and East (East Midlands, West Midlands and East of England)
- North (North West and North East Yorkshire & Humber)
- South (South West and South East)

Data are presented in this manner due to historical precedent and this is maintained to allow readers to easily compare changes over time.



Office for National Statistics <http://www.ons.gov.uk>.  
Reproduced by permission of Ordnance Survey on behalf of Her Majesty's Stationery Office.  
© Crown Copyright and database rights. 2019. All rights reserved.  
Ordnance Survey Licence number 100016969.

## Breast screening services participating in the 2021/22 audit

Screening Units Participating in the NHSBSP & ABS Audit							
Subregion or Celtic Country	Unit code	Unit Name	Women Screened	Total Cancers	Invasive Cancers	Non/Micro invasive Cancers	Cancers/1,000 screened
East Midlands	CDN	North Derbyshire & Chesterfield	19,202	203	162	41	10.6
	CDS	Derby City & South Derbyshire	45,825	427	325	102	9.3
	CLE	Leicestershire	48,784	451	364	87	9.2
	CLI	Lincolnshire	25,146	221	177	43	8.8
	CNN	North Nottinghamshire	11,701	103	86	17	8.8
	CNO	Nottingham City	36,556	299	259	40	8.2
	KKE	Kettering	13,469	115	87	28	8.5
	KMK	Milton Keynes	9,997	96	77	19	9.6
	KNN	Northampton	17,424	119	98	21	6.8
East of England	DCB	Cambs & Hunts	27,662	212	167	45	7.7
	DGY	Great Yarmouth & Waveney	9,388	87	74	13	9.3
	DKL	King's Lynn	11,902	113	91	22	9.5
	DNF	Norfolk & Norwich	27,836	277	225	52	10.0
	DPT	Peterborough	13,860	100	83	17	7.2
	DSU	East Suffolk	17,196	124	109	15	7.2
	DSW	West Suffolk	13,300	95	84	11	7.1
	ELD	Beds & Herts	54,356	481	369	111	8.8
	FCO	Chelmsford & Colchester	31,373	252	206	46	8.0
	FEP	West Essex (Epping)	15,235	132	107	25	8.7
	FSO	South Essex	30,129	287	237	50	9.5
London	EBA	North London	65,337	622	495	127	9.5
	ECX	West of London	38,973	365	291	74	9.4
	FBH	Outer North East London	24,466	219	172	47	9.0
	FLO	Central & East London	33,262	286	204	82	8.6
	GCA	South East London	55,096	468	362	106	8.5
	HWA	South West London	51,809	456	327	129	8.8
North East, Yorkshire & Humber	AGA	Gateshead	37,510	314	242	72	8.4
	ANE	Newcastle	32,987	327	257	70	9.9
	ANT	North Tees	46,936	427	335	92	9.1
	AWC	North Cumbria	16,458	132	101	31	8.0
	BHL	Humbly Grove	51,714	413	347	66	8.0
	BHU	Pennine	38,795	307	241	66	7.9
	BLE	Leeds Wakefield	40,563	320	237	83	7.9
	BYO	North Yorkshire	37,689	350	287	63	9.3
	CBA	Barnsley	13,949	134	110	24	9.6
	CDO	Doncaster	19,001	105	83	22	5.5
	CRO	Rotherham	12,093	121	97	24	10.0
CSH	Sheffield	22,655	189	157	32	8.3	
North West	NLI	Liverpool	34,625	358	283	75	10.3
	NMA	Cheshire and Stockport	35,355	326	253	73	9.2
	NWA	Warrington, Halton, St Helens & Knowsley	21,636	217	179	37	10.0
	NWI	Wirral	25,669	237	178	59	9.2
	PBO	Bolton	22,817	171	132	39	7.5
	PLE	East Lancashire	18,412	130	100	29	7.1
	PLN	North Lancashire & South Cumbria	32,168	310	248	61	9.6
	PMA	Manchester	40,544	395	319	75	9.7
PWI	South Lancashire	27,757	258	205	53	9.3	

Screening Units Participating in the NHSBSP & ABS Audit							
Subregion or Celtic Country	Unit code	Unit Name	Women Screened	Total Cancers	Invasive Cancers	Non/Micro invasive Cancers	Cancers/ 1,000 screened
South East	JBA	North & Mid Hampshire	24,449	200	163	37	8.2
	JIW	Isle of Wight	5,519	62	48	14	11.2
	JPO	Portsmouth	32,270	317	231	86	9.8
	KHW	Aylesbury & Wycombe	24,887	229	192	37	9.2
	KOX	Oxfordshire	29,371	262	207	55	8.9
	KRG	West Berkshire	21,450	198	160	38	9.2
	KWI	East Berkshire	18,464	145	120	25	7.9
	GBR	Brighton	34,284	319	244	75	9.3
	GCT1	Canterbury	25,825	224	200	24	8.7
	GCT2	Maidstone	19,869	237	175	62	11.9
	GCT3	Medway	22,563	251	177	74	11.1
	HGU	Guildford	51,160	557	414	143	10.9
	HWO	Worthing	36,167	370	287	83	10.2
	South West	JDO	Dorset	38,393	384	295	89
JSO		Southampton & Salisbury	26,197	283	205	78	10.8
JSW		Wiltshire	23,277	224	183	41	9.6
LAV		Avon	47,164	469	372	97	9.9
LCO		Cornwall	21,774	201	156	45	9.2
LED		North & East Devon	25,635	225	184	41	8.8
LGL		Gloucestershire	30,694	291	249	42	9.5
LPL		West Devon	24,356	260	197	63	10.7
LSO		Somerset	24,142	245	204	41	10.1
LTB		South Devon	13,108	103	86	17	7.9
West Midlands	MBS	South Birmingham	11,876	138	115	23	11.6
	MBD	City, Sandwell & Walsall	39,078	348	274	74	8.9
	MCO	Warwickshire, Solihull & Coventry	41,988	430	345	85	10.2
	MDU	Dudley & Wolverhampton	31,021	315	265	50	10.2
	MHW	Hereford & Worcester	34,052	330	261	69	9.7
	MSH	Shropshire	19,402	188	145	43	9.7
	MST	North Midlands	25,199	239	181	58	9.5
Northern Ireland	ZNE	Eastern	31,660	230	187	42	7.3
	ZNI	Northern	12,655	100	74	26	7.9
	ZNS	Southern	18,016	150	126	24	8.3
	ZNW	Western	17,437	119	95	22	6.8
Wales	WNM	North Wales	29,159	338	288	49	11.6
	WSE	South Wales	47,809	465	378	87	9.7
	WSW	West Wales	31,223	320	251	69	10.2
Scotland	Unit 2	North of Scotland	13,445	101	89	12	7.5
	Unit 3	North East of Scotland	23,517	169	145	24	7.2
	Unit 4	West of Scotland	81,830	658	562	96	8.0
	Unit 5	South West of Scotland	23,789	228	186	42	9.6
	Unit 6	East of Scotland	14,200	129	111	18	9.1
	Unit 7	South East of Scotland	58,345	475	405	70	8.1
	UK			2,605,336	23,677	18,861	4,806

Table 1 Participating breast screening services, the number of women screened, the number of cancers detected overall and by morphological type.

## Executive Summary

After the difficult year experienced by breast screening services in 2020/21 due to the COVID-19 pandemic, it is encouraging to see that recovery efforts have led to more women being invited and screened than ever before. NHS England<sup>1</sup> report that 3.2 million women were invited for screening in 2021/22, which is 1.4 million more than the previous year and more than half a million more than in the years between 2012 and 2020. However, uptake has dropped to 62.3% when it had previously been between 69% and 72% between 2012 and 2020. Table 2 and 3 show that the number of women screened has returned to pre-pandemic levels and cancer detection rates have remained within 0.1% of previous years.

This audit explored whether the pause in screening during 2020/21 impacted adversely on the characteristics of the cancers detected during 2021/22. It looked to see if the grade, size and NPI of the cancers had increased, whether treatment type had varied and whether immediate reconstruction rates had decreased during and after the pandemic. The data does not show any significant changes and therefore suggests the pause did not adversely impact on the prognostic features of the cancers detected during 2021/22.

This audit also explored how likely it was that an invasive case with a non-operative diagnosis would require further breast conserving surgery or convert to a mastectomy after the initial breast conserving surgery. Table 8 shows that results vary across the UK however also indicates that the likelihood of having further surgery has reduced and now sits around 13%.

The time between first assessment and first surgery was again reviewed and a small increase has been noted this year, likely due to the increased activity as part of recovery plans.

The audit does not collect data on ethnicity or deprivation score. This is a gap in the audit as we cannot evaluate whether the patterns observed are affected by ethnicity and deprivation. Further evaluation of the England data should be undertaken to provide assurance that the benefits of screening are achieved uniformly. This will be facilitated by a current work stream aimed at addressing this data gap.

Despite staffing shortages and data completeness issues, the audit continues to strive for the most accurate representation of outcomes of the breast screening programme and continues to work with services and the devolved authorities to do this. Scottish data has been included

in more tables this year and will continue to develop going forwards. The list of participating services is included in Table 1.

In summary, services have worked hard to invite and screen more women in 2021/22 than in previous years and increase the overall cancer detection rate whilst ensuring the care women receive continues to be in accordance with established screening standards. This is testament to the dedication and professionalism of all staff working within the NHS Breast Screening Programme.

1) <https://digital.nhs.uk/data-and-information/publications/statistical/breast-screening-programme/england---2021-22>

# Data sources

Data for the women diagnosed with screen-detected breast cancer in England with a date of first offered screening appointment between 1<sup>st</sup> April 2021 to 31<sup>st</sup> March 2022 was uploaded by individual screening services via the Breast Screening Information System (BSIS). The source of these data was the National Breast Screening System (NBSS). A series of data validation checks were automatically applied, and individual explanations were required before data could be successfully uploaded. On receipt of the national data a comparison with the data held by the English cancer registry was undertaken to identify cases with a previous diagnosis of breast cancer. These cases were excluded for specified analyses from tables 5-88 in appendix 1.

The devolved nations completed a bespoke MS Excel spreadsheet with data validation checks included. Responsibility for data quality is retained by the individual countries. Data on previous breast cancers could be identified for Scotland but not Wales or Northern Ireland. Data items could be provided by Scotland for tables 11-14, 53-60, 62-75 and 87-88 in appendix 1 only.

## UK NHS breast screening audit data – 2021/22

Between 1 April 2021 to 31 March 2022, over 2.60 million women attended for breast screening with 23,677 cancers detected (Table 2). This represents a sharp increase when compared to the activity in the previous year; in 2020/21, the year affected by the COVID-19 pandemic, just over 1.40 million women attended for breast screening with a total of 12,784 cancers detected. Although the number of women screened is very different, the data contained in Table 2 demonstrate that the cancer detection rate has remained constant with a rate of 0.91% reported for each of these audit years. This should provide reassurance to the system that although the programme was reacting to significant changes in processes, quality, in terms of cancer detection rate, has been maintained.

	2018/19*	2019/20	2020/21	2021/22
UK Women Screened	2,414,156	2,514,158	1,406,844	2,605,336
Total Cancers found	21,189	21,034	12,784	23,677
Cancer detection rate per 1000 women screened	<b>8.8</b>	<b>8.4</b>	<b>9.1</b>	<b>9.1</b>

Table 2 Number of women screened and cancer detection rates in the UK NHSBSP 2021/22 \*no data available for Scotland in 2018/19

The data in Table 3 provide a breakdown of the number of women screened for each of the last four screening years and the cancer detection rate for England and the devolved nations for 2021/22 only. When cancer detection rates were compared and devolved nations were paired, there were statistically significant differences between all except Northern Ireland and Scotland. This variation is to be expected given the different profiles of the four nations but should act as a prompt for further work to look at the factors that influence those differences. The total number of women with cancer detected and the associated rate includes those cancers diagnosed in women who have previously had a cancer diagnosis, either in the breast or elsewhere. Further details of this subset are provided in appendix 1 and later in this report.

	Total women screened by region				Cancers/ 1,000 screened
	2018/19	2019/20	2020/21	2021/22	
East Midlands	221,675	207,463	114,573	228,104	8.9
East of England	257,024	230,268	144,764	252,237	8.6
London	268,762	268,266	127,646	268,943	9.0
N East, Yorks & Humber	361,815	341,062	187,579	370,350	8.5
North West	269,239	273,202	138,356	258,983	9.3
South East	354,865	338,923	215,551	346,278	9.7
South West	279,917	261,261	148,470	274,740	9.8
West Midlands	217,329	203,158	110,226	202,616	9.8
<b>England</b>	<b>2,230,626</b>	<b>2,123,603</b>	<b>1,187,165</b>	<b>2,202,251</b>	<b>9.2</b>
Northern Ireland	68,562	64,334	57,385	79,768	7.5
Scotland		205,784	115,568	215,126	8.2
Wales	114,968	120,437	46,726	108,191	10.4
<b>UK</b>	<b>2,414,156</b>	<b>2,514,158</b>	<b>1,406,844</b>	<b>2,605,336</b>	<b>9.1</b>

Table 3 Number of women screened and cancer detection rates (per 1000 women screened) in the UK NHSBSP 2021/22 by region.



Figure 1 provides a clear summary of the changes in the number of women screened over the individual years. Trend lines demonstrate how the non-invasive cancer detection rate has remained constant over this time period but that there has been a slight increase in the overall cancer detection rate. The reason for this may be due to a lengthening of the time between screens as services restarted breast screening following a 3-6 month pause in March 2020 and recovered their backlog. The slight increase in average age of the women screened in 2021/22 (60.2 years versus 59.5 in 2020/21), may be a reflection of the modest increase in the proportion of women screened aged 71 - 74 (3.2% in 2021/22 versus 2.8% in 2020/21) (NHS Digital , 2023), or possibly of further improvements in the quality of the breast screening programme by both the breast imaging and pathology staff. Future audit years will hopefully provide further clarity on this.

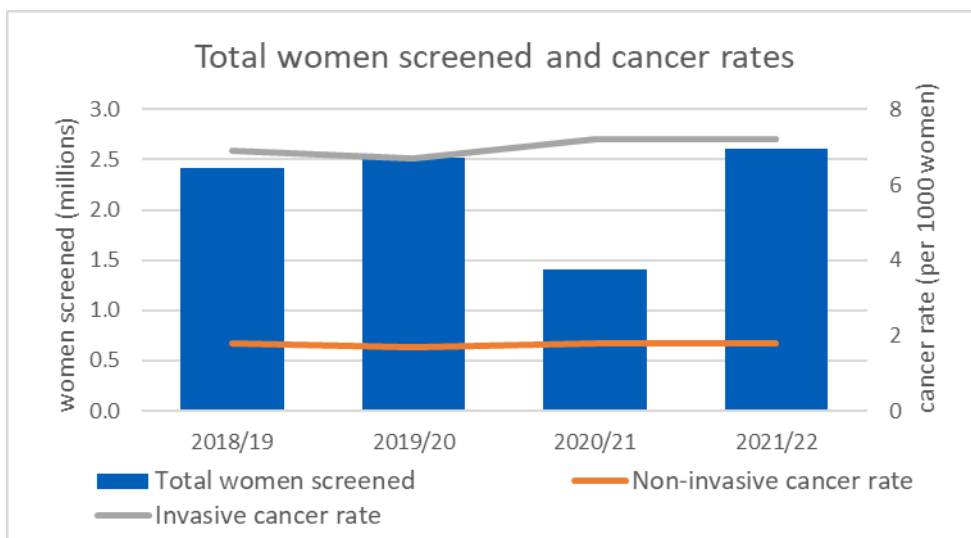


Figure 1 Variation in the number of women screened and the invasive and non-invasive cancer detection rate for each year over the period 2018/19 - 2021/22



## Average number of days between first assessment and first surgery

The average number of days between first assessment and first surgery between April 2019 and January 2020 was 49 days. In March – June 2020, when screening was paused due to the COVID-19 pandemic, (NHS Digital, 2022) this time period briefly increased but returned to 49 days for the remainder of 2020/21. This increase in time to first surgery following assessment was accompanied by a sharp decrease in screening related activity as services chose to safely pause all women who were not part of the Very High Risk (VHR) programme at various points in their pathway. This is similar to the data seen in other studies (Gathani, 2022). Once screening resumed, those women awaiting assessment were prioritised. Then, as services implemented their recovery plans, the number of women being referred from assessment to surgery rose sharply. This significant increase in activity and continued COVID-19 restrictions in place during 2021/22 are likely explanators for the gradual increase in the average time from assessment to first surgery to 54 days (Figure 2).

Waiting times to surgery are monitored contemporaneously elsewhere in the NHS in England. From October 2021, NHS England introduced the Faster Diagnosis Standard which monitors the proportion of patients who have cancer diagnosed or ruled out within 28 days- with a standard of 75% in place. The latest monthly statistics available ( (NHS England, 2023)) show that 81% of patients presenting through breast screening had a cancer diagnosis ruled out or confirmed within 28 days of the decision to recall to assessment and 68% had surgery within 62 days of screening referral (NHS England, 2023)

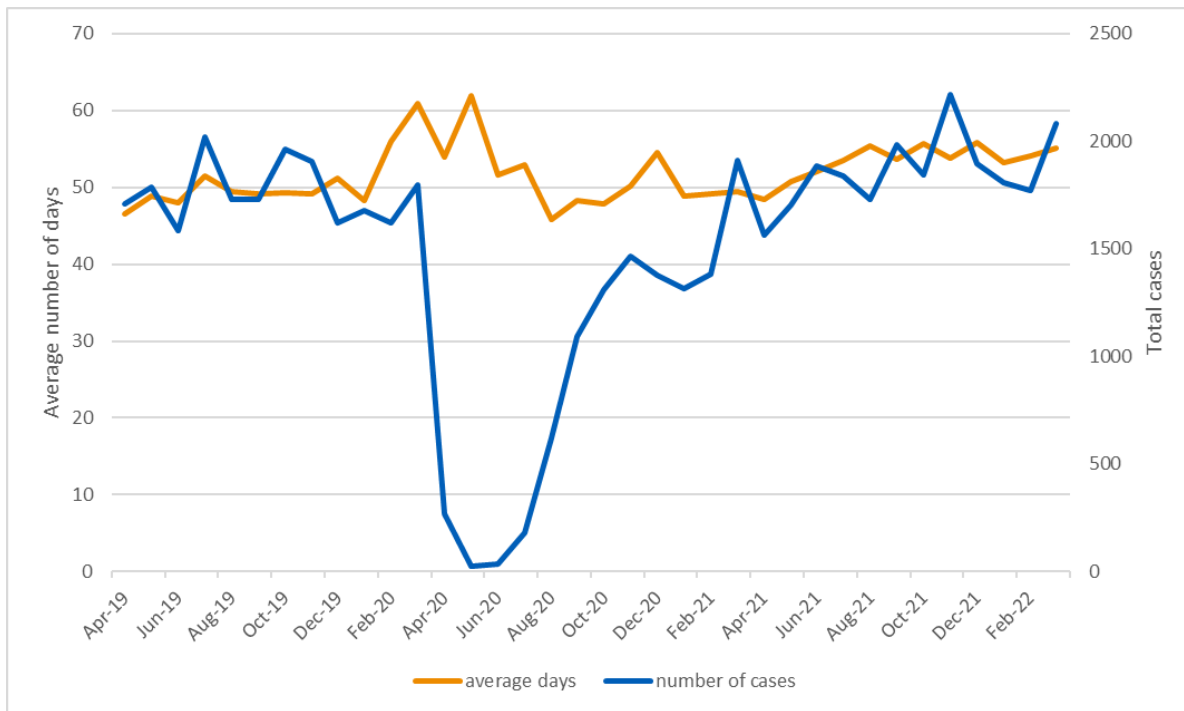


Figure 2 UK screen detected breast cancers diagnosed per month and average time (days) from date of first assessment to 1st surgery date

## Measuring the impact of the COVID-19 pandemic on tumour characteristics

As previously reported, in March 2020 all NHS Breast Screening Services in England made the decision to pause screening to allow staff to be redeployed to respond to COVID-19, and to protect patients and staff from the virus. There were pauses similar in length in the devolved nations. Most services continued with, or restarted, screening women that met the definition as being at very high-risk (NHS England, 2023) by mid-April 2020. All services in England recommenced screening activity between April and September 2020, with the majority having restarted by July 2020 (NHS Digital, 2022). Recruitment to the Age Extension Trial (AgeX) which had been active in England since 2009 was paused in March 2020 so that resources and capacity allocated to the trial could be utilised for the restoration efforts. In May 2020, the AgeX investigators decided that further recruitment into AgeX should cease permanently. The trial (University of Oxford, 2023) offered an additional screen to women aged 47 – 49 and 71 – 73 and therefore this has had a significant impact of the age distribution of the women screened and numbers of cancers detected compared to previous audit data.

COVID-19 restrictions, such as social distancing and additional infection prevention and control measures, impacted on lengthened appointment times and increased times between screening invitations. Workforce sickness/self-isolation and redeployment was also an issue. Fewer women presented for breast screening; contributory factors may have included shielding and self-isolation. Researchers have investigated the impact of the pandemic on breast cancer. Gathani et al extrapolated that the decrease in the number of first breast cancer treatments in 2020/21 may indicate that there are 9,500 missing breast cancer diagnoses (Gathani, 2022). Analysis by the charity Breast Cancer Now put the estimated figure in the UK at 10,700 (Breast Cancer Now, 2021). The modelled increase in breast cancer deaths attributable to the pandemic varied between 281- 344 (Maringe, 2020) to 148 – 687 (Duffy, 2022). The data collected in this audit was reviewed to ascertain if there were any changes in the characteristics that may influence outcomes for women with screen detected breast cancers compared with pre-pandemic levels.

## Grade and size of surgically treated breast cancers

95% (n= 4079) of patients with non-invasive breast cancer and 96% (n=17087) of patients with invasive breast cancer underwent some form of surgical intervention. Data for these were extracted and distribution of grade and size reviewed.

There was no evidence that there has been any deterioration in the distribution of cytonuclear grade of non-invasive breast cancers with equivalent proportions of high (58%), intermediate (29%) and low-grade disease (9%) observed when compared to the previous three years (Figure 3a). Similarly, the whole tumour size data shows that the non-invasive cancers detected through the programme are of a similar size as those found pre-pandemic (Figure 3b)

Total surgically treated non-invasive cancers	
2018/19	3778
2019/20	3639
2020/21	2235
2021/22	4079

Table 4 Number of surgically treated non-invasive breast cancers by year of first offered screening appointment.

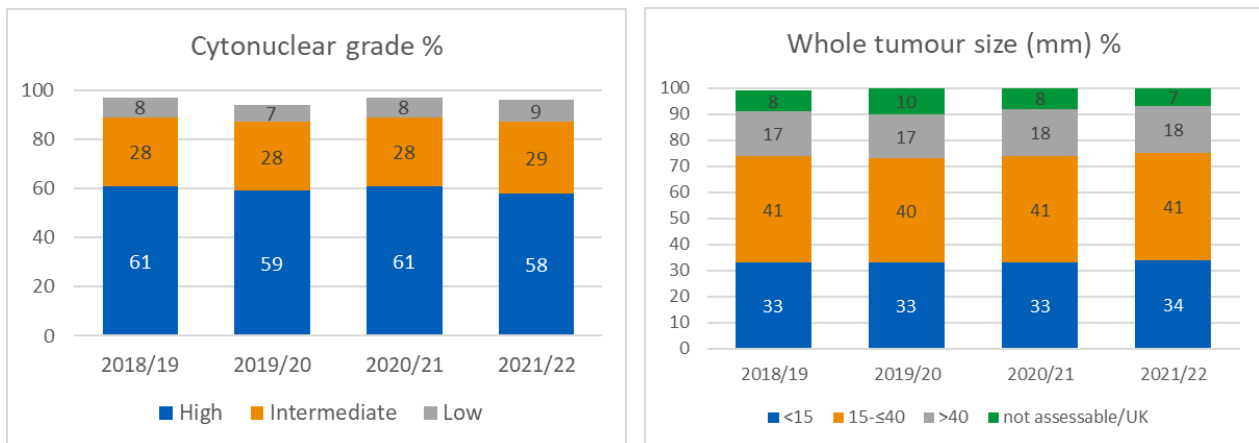


Figure 3a, Distribution of cytonuclear grade and Figure 3b, distribution of whole tumour size by year of first offered screening appointment. Unknown and not assessable not displayed for cytonuclear grade.

The same analysis was undertaken for invasive breast cancers. The data show that the split by tumour grade (Figure 4a) has remained consistent with 24% Grade 1, 58% Grade 2 and 17% Grade 3 cancers in 2021/22 and likewise for invasive size (Figure 4b).

Total surgically treated invasive cancers	
2018/19	15286
2019/20	15275
2020/21	9222
2021/22	17087

Table 5 Number of surgically treated invasive breast cancers by year of first offered screening appointment.

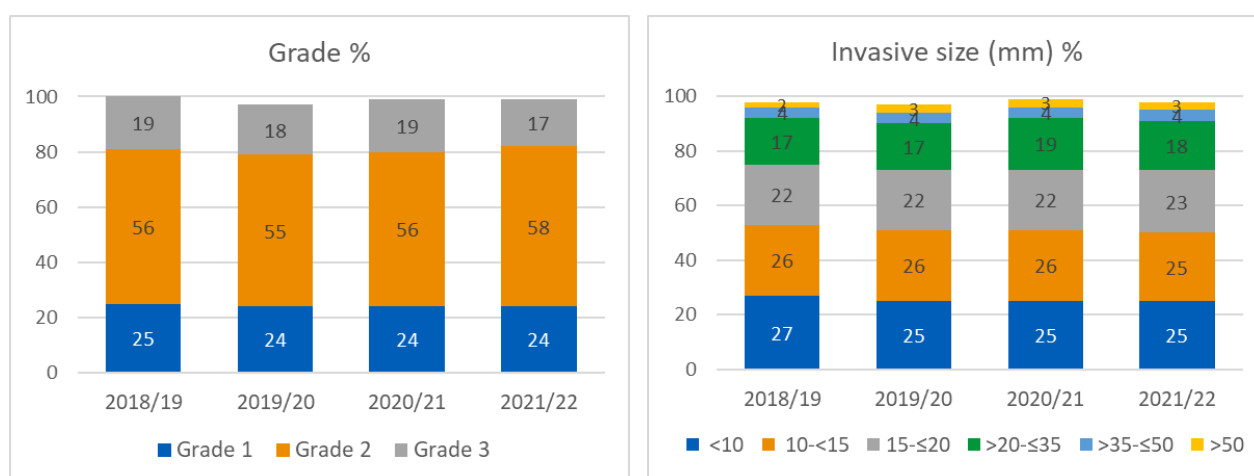


Figure 4a, Distribution of tumour grade and Figure 4b, distribution of invasive size by year of first offered screening appointment. Unknown and not assessable not displayed.

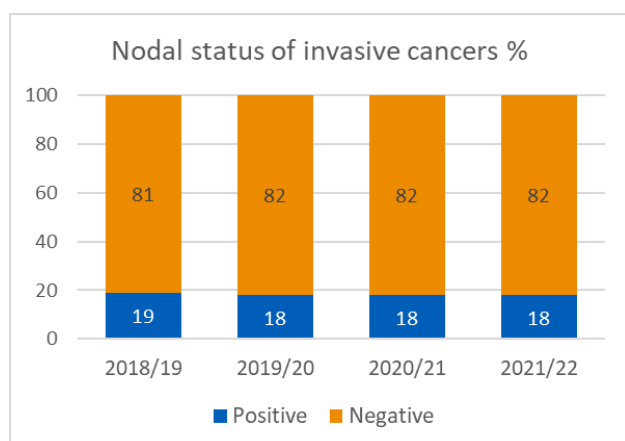


Figure 5 distribution of nodal status by year of first offered screening appointment.

As per grade and size, the nodal status for patients with invasive cancers was also in line with pre-pandemic levels with 18% of the 17,087 invasive cancers that underwent surgery being found to have nodal involvement (Figure 5).

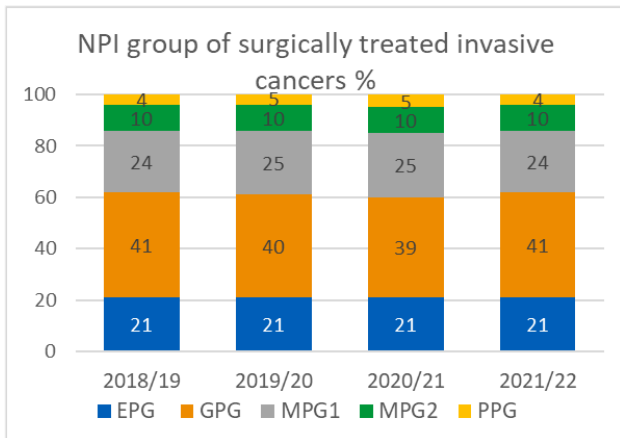


Figure 6 distribution of the Nottingham Prognostic Index (NPI) by year of first offered screening appointment.

Unsurprisingly, when these individual markers are combined to generate the Nottingham Prognostic Index score for invasive breast cancers, the pattern echoed pre-pandemic data with 21% of cancers in the Excellent Prognostic Group and only 4% in the Poor Prognostic Group. Furthermore, this pattern is consistent for each of the studied years. Gathani et al looked at the stage of breast cancers (screen detected and symptomatic) diagnosed in each of the three years 2019/20, 2020/21 and 2021/22. Looking at stage of all breast cancers they reported a decrease in the earlier stage disease (stage 1 and stage 2) diagnosed in 2020/21 compared with the preceding and succeeding year (60.2% versus 63.2% and 61.1%) with an associated increase in later stage disease compared with the year directly before and after the peak of the pandemic (Gathani T, 2023).

### Treatment type for non-invasive and invasive cancers

Access to surgery was impacted by the pandemic. The Association of Breast Surgery issued advice regarding mitigating steps that could be taken to manage the patients waiting to proceed safely with their surgery. We wished to investigate whether the pandemic resulted in fewer patients having surgical treatment or affected the type of surgery.

The data (Figure 7) confirms that there is no evidence that fewer patients were managed surgically during the pandemic with 95% of non-invasive cases and 96% of invasive cases undergoing at least one surgical procedure with therapeutic intent. This is consistent with pre-pandemic levels.

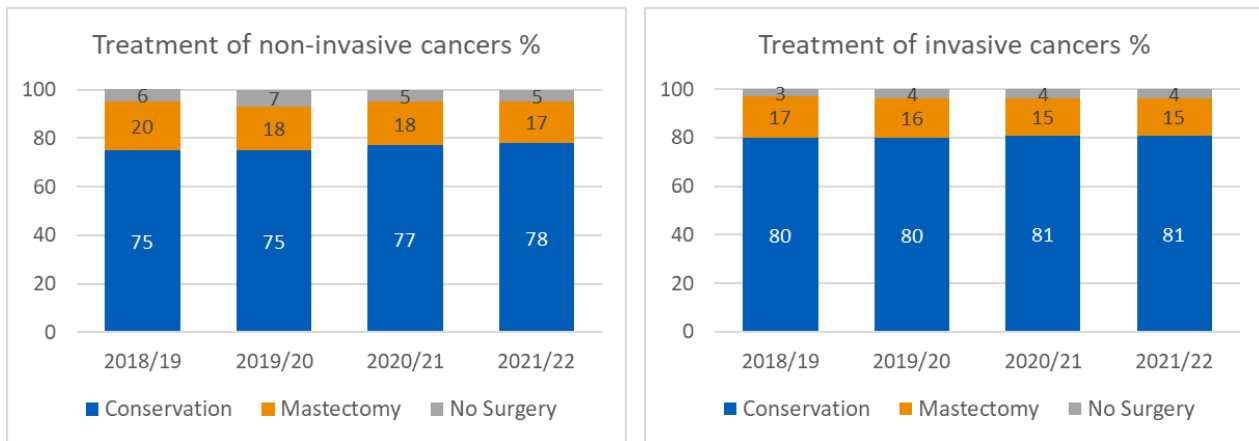


Figure 7a, distribution of surgical procedure for non-invasive breast cancers and 7b, for invasive cancers by year of first offered screening appointment.

For those who opted to have surgery, the split between breast conserving surgery and mastectomy is similar pre, during and post pandemic. The range of patients having conservation surgery to treat their non-invasive breast cancer varied by geography; 71% - 85%. This may reflect factors such as patient choice, site of the tumour but also access to immediate reconstruction and travel time to radiotherapy centres.

### Immediate reconstruction

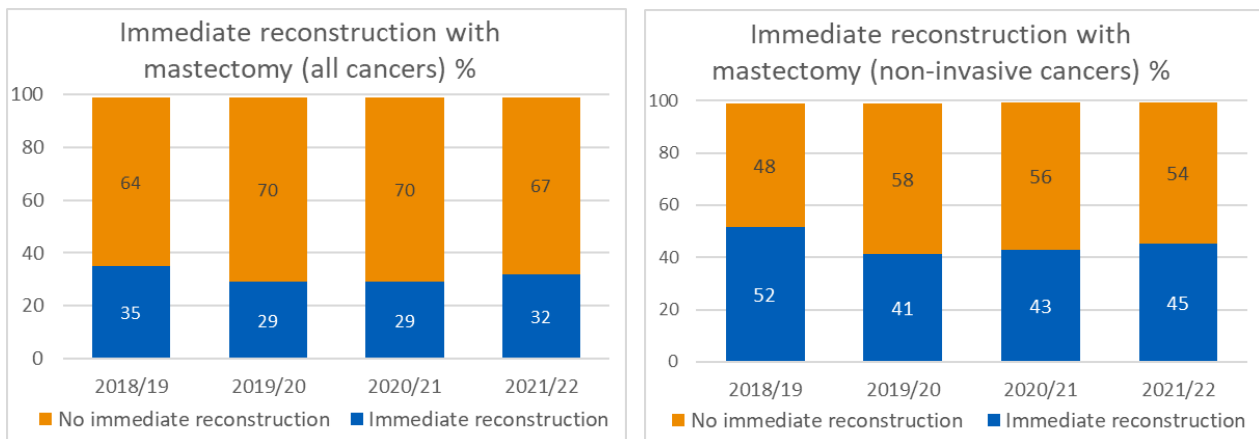


Figure 8a, Immediate reconstruction rates for all cancers following mastectomy and 8b Immediate reconstruction rates following mastectomy for non-invasive breast cancer by year of first offered screening appointment.

The data on overall immediate reconstruction rates (Figure 8a) suggests a small decrease in the proportion of women having this procedure for the two years 2019/20 and 2020/21 which is suggestive of a pandemic effect. A similar pattern is seen for cases of non-invasive breast cancer where the immediate reconstruction rate dropped from 52% in 2018/19 to 41% in 2019/20 and 43% in 2020/21 (Figure 8b). For both plots an increase is observed for the most recent year.

The possible pandemic effect is complex to unravel. The initial advice from the Association of Breast Surgery was to not offer immediate reconstruction and to instead offer delayed reconstruction at a safer point in time (ABS, 2020). This was to maximise available theatre space, reduce inpatient stays and avoid post operative complications that may require repeat hospital visits. As the pandemic progressed, at some sites, theatre capacity was secured within the independent setting. This allowed a review of the protocols at some sites. Anecdotally the authors are aware that for some screening offices there have been challenges in accessing data when surgery and/or pathology has been delivered offsite and so, there may be some missing data in the figures presented.

The audit has recorded variations with immediate reconstruction rates by geography. Table 6 provides the data on immediate reconstruction rates on the available geographies split by morphology for the cancers detected in 2021/2022. The data suggest significant differences in immediate reconstruction rates between countries with a range of 17 – 50% for patients with non-invasive cancers and 9 – 31% for patients with invasive cancer. As there are different processes for the collection of data from each of the devolved nations, the first action should be to validate the accuracy of the data submitted to ensure that it is reflective of management protocols.

	Non Invasive			Invasive		
	No.	%	Total	No.	%	Total
East Midlands	28	33	86	30	14	217
East of England	29	48	61	86	36	239
London	53	56	94	139	45	312
NEYH	40	42	95	122	36	341
North West	37	51	72	79	30	260
South East	57	53	107	111	29	379
South West	38	48	80	65	24	274
West Midlands	33	51	65	67	27	251
<b>England</b>	<b>315</b>	<b>48</b>	<b>660</b>	<b>699</b>	<b>31</b>	<b>2273</b>
Northern Ireland	12	50	24	15	20	75
Scotland	4	17	24	26	18	148
Wales	8	21	38	17	9	187
<b>Grand Total</b>	<b>339</b>	<b>45</b>	<b>746</b>	<b>757</b>	<b>28</b>	<b>2683</b>

Table 6 Immediate reconstruction following mastectomy for non-invasive and invasive cancers in 2021/22, by region



However, the data for England have been consistently collected by being extracted at source from the National Breast Screening System so methodological differences in data collection processes shouldn't apply. Therefore, rates of immediate reconstruction over time were examined (Table 7).

For women with non-invasive cancer there are significant differences in immediate reconstruction rates between areas and over time. East Midlands has the lowest rates for 2021/22 having previously been one of the higher reporters. A pattern is difficult to discern but in general, rates decreased in 2019/20- 2020/21 but have started to increase in the most recent year. As shown previously, rates are lower for women with invasive cancer and this is consistent between geographies. Some areas have rates that are less than half the national average. Once data quality has been assured, barriers to immediate reconstruction should be identified and support sought, in England, from ICBs to address these variations with expert advice available from cancer alliances to commissioners.

	Non-invasive				Invasive			
	2018/19	2019/20	2020/21	2021/22	2018/19	2019/20	2020/21	2021/22
East Midlands	49	34	29	33	21	16	17	14
East of England	50	53	53	48	35	30	37	36
London	77	66	60	56	50	52	37	45
NEYH	46	39	45	42	32	24	27	36
North West	52	40	46	51	30	25	22	30
South East	56	39	39	53	24	23	25	29
South West	48	33	43	48	27	23	31	24
West Midlands	38	39	37	51	28	24	21	27
<b>England</b>	<b>53</b>	<b>43</b>	<b>44</b>	<b>48</b>	<b>31</b>	<b>27</b>	<b>27</b>	<b>31</b>

Table 7 Percentage of cases with immediate reconstruction following mastectomy for non-invasive and invasive cancers for each year during the period 2018/19 - 2021/22, by region

## Screening caseload

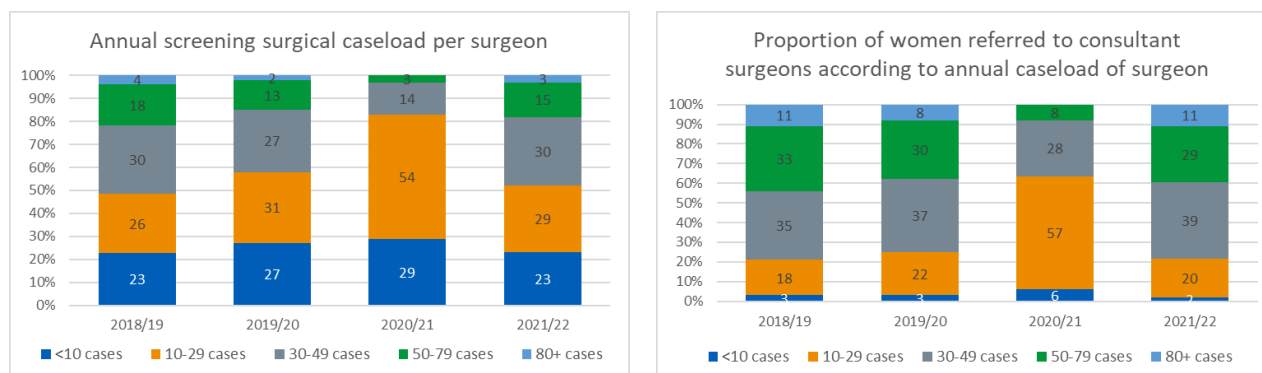


Figure 9a, screening surgical caseload and 9b Proportion of women referred to consultant surgeons by annual caseload of surgeon

Screening surgical caseload in 2021/22 recovered to the pre-pandemic levels as shown in figures 9a and 9b. The number of breast surgeons operating on screening cases has varied; in 2019/20 there were 744, this decreased to 676 during the peak of the pandemic (2020/21) but had recovered to 763 in 2021/22. This may be due to surgeons being redeployed as part of the pandemic response and shielding of individuals in line with guidance.

## Invasive cases with a non-operative diagnosis that went on to have further breast conserving surgery or converted to mastectomy after initial breast conserving surgery

The longitudinal data held by the audit was utilised to investigate whether the repeat operation rates have improved over time. The data were restricted to look at the management of cases with a proven non-operative diagnosis of invasive cancer so that the impact of upstaging of disease from non-invasive to invasive (19%, table 8 appendix 1) and the associated requirement to assess the axilla are not influencing the data.

Data from Scotland were not available for these analyses.

Invasive cases with initial breast conserving surgery (BCS) who require at least 1 additional operation to the breast (BCS or mastectomy) were expressed as a proportion of all invasive cases with BCS for each of the 4 years 2018/19 – 2021/22 (Table 8). Over this period the rate has been consistent with the UK average (excluding Scotland) ranging from 13 – 14.3%. The data could be used to support women when making their decisions regarding treatment options. The likelihood of an individual woman with a known screen detected invasive cancer requiring a follow up operation is 1 in 8.

The inter-country rates are different; in Northern Ireland the range is 13-19%, in Wales it is 16.7 – 19% and in England between 12.7 – 14% of women required a repeat operation.

Region	2018-19			2019-20			2020-21			2021-22		
	total cancers	No	%	total cancers	No	%	total cancers	No	%	total cancers	No	%
East Midlands	1095	156	14.2	1053	119	11.3	632	80	12.7	1269	145	11.4
East of England	1405	192	13.7	1164	130	11.2	810	76	9.4	1309	167	12.8
London	1177	135	11.5	1123	141	12.6	626	80	12.8	1376	156	11.3
N East, Yorks & Humber	1881	246	13.1	1748	214	12.2	1062	118	11.1	1969	227	11.5
North West	1470	205	13.9	1359	167	12.3	782	88	11.3	1480	173	11.7
South East	2014	316	15.7	1811	296	16.3	1225	192	15.7	2015	317	15.7
South West	1619	236	14.6	1458	210	14.4	921	131	14.2	1681	250	14.9
West Midlands	1137	171	15.0	1099	130	11.8	593	83	14.0	1199	180	15.0
Northern Ireland	352	67	19.0	345	45	13.0	309	49	15.9	407	69	17.0
Wales	698	117	16.8	678	129	19.0	305	51	16.7	724	132	18.2
<b>England</b>	<b>11798</b>	<b>1657</b>	<b>14.0</b>	<b>10815</b>	<b>1407</b>	<b>13.0</b>	<b>6651</b>	<b>848</b>	<b>12.7</b>	<b>12298</b>	<b>1615</b>	<b>13.1</b>
<b>United Kingdom</b>	<b>12848</b>	<b>1841</b>	<b>14.3</b>	<b>11838</b>	<b>1581</b>	<b>13.4</b>	<b>7265</b>	<b>948</b>	<b>13.0</b>	<b>13429</b>	<b>1816</b>	<b>13.5</b>

denominator

All invasive cancers with initial BCS with non-op diagnosis

numerator

All invasive cancers with initial BCS with non-op diagnosis that had a repeat BCS or converted to Mx

Table 8 The BCS repeat rate for non-operatively diagnosed invasive cancers first treated with BCS over time

# References

- ABS. (2020, March 15). *Statement from the Association of Breast Surgery*. London, UK.
- Breast Cancer Now. (2021, March 09). *Media*. Retrieved from Breast Cancer Now: <https://breastcancer.org/about-us/media/press-releases/almost-11000-people-living-undiagnosed-breast-cancer-in-uk>
- Duffy, S. S. (2022). The projected impact of the COVID-19 lockdown on breast cancer deaths in England due to the cessation of population screening: a national estimation. *Br J Cancer*, 1355 - 1361.
- Gathani T, D. D. (2023). The impact of the first 2 years of the COVID-19 pandemic on breast cancer diagnoses: a population-based study in England. *Br J Cancer*, 481-483.
- Gathani, T. G. (2022). Impact of the COVID-19 pandemic on breast cancer referrals and diagnoses in 2020 and 2021: population-based study in England. *British Journal of Surgery*, e29 - e30.
- Maringe, C. J. (2020). The impact of the COVID-19 pandemic on cancer deaths due to delays in diagnosis in England, UK: a national, population-based, modelling study. *The Lancet Oncology*, 1023 - 1034.
- NHS Digital . (2023). *NHS Breast Screening Programme, England 2021-22*. London: NHS Digital.
- NHS Digital. (2022). *NHS Breast Screening Programme, England 2020-21*. London: NHS Digital.
- NHS England. (2023). *Breast screening: very high risk women surveillance protocols*. London: NHS England.
- NHS England. (2023, June 08). *Statistics*. Retrieved from NHS England: <https://www.england.nhs.uk/statistics/statistical-work-areas/cancer-waiting-times/monthly-prov-cwt/2023-24-monthly-provider-cancer-waiting-times-statistics/provider-based-cancer-waiting-times-for-april-2023-24-provisional/>
- University of Oxford. (2023). *AgeX Trial*. Retrieved from Univesity of Oxford, oxford Population Health: <https://www.ceu.ox.ac.uk/research/agex-trial/agex-trial>

# Appendix 1: Main audit data tables (1 - 88)

## List of tables in Appendix 1

Table 1: Number and invasive status of screen-detected breast cancers and total women screened	32
Table 2: Breast cancer cases by age at first offered screening appointment	32
Table 3: Number of cases with previous cancers	33
Table 4: Type of previous cancers	33
Table 5: Pre-operative diagnosis rate	33
Table 6: Pre-operative diagnosis rate (invasive cancers)	34
Table 7: Pre-operative diagnosis rate (non-invasive cancers)	34
Table 8: B5a (Non-invasive) core biopsy: histological status of surgical specimen	35
Table 9: B5b (Invasive) core biopsy: histological status of surgical specimen	35
Table 10: Number of assessment visits for each patient	36
Table 11: The assessment visit with the earliest core/cytology result	36
Table 12: Number of visits with a core biopsy/cytology/VAE result for cases with a non-operative diagnosis	37
Table 13: Worst core/cytology biopsy results of the first non-operative needle biopsy visit for non-invasive cancers with a non-operative diagnosis	37
Table 14: Any further visits after core/cytology/vacuum biopsy result	37
Table 15: Status of diagnostic open biopsies	38
Table 16: Invasive status of malignant diagnostic open biopsies	38
Table 17: Non-operative history for invasive cancers with malignant open biopsy	38
Table 18: Non-operative history of the breast for micro/non-invasive cancers with malignant open biopsy	39
Table 19: Highest cytology and core biopsy/VAE result prior to malignant diagnostic open biopsies (Invasive cancers)	39
Table 20: Highest cytology and core biopsy result prior to malignant diagnostic open biopsies (micro/non-invasive cancers)	39
Table 21: Data completeness for surgically treated non-invasive cancers	40
Table 22: Size of surgically treated non-invasive cancers	40
Table 23: Cytonuclear grade of surgically treated non-invasive cancers	40
Table 24: Invasive size of surgically treated invasive breast cancers	41
Table 25: Whole size of surgically treated invasive breast cancers	41
Table 26: Grade of surgically treated invasive cancers	41
Table 27: Data completeness for surgically treated invasive cancers (excl. cases with neo-adjuvant therapy)	42

Table 28: NPI Group of surgically treated invasive cancers (with known NPI excl. cases with neo-adjuvant therapy).....	42
Table 29: ER status (invasive cancers).....	42
Table 30: PgR status (invasive).....	43
Table 31: PgR status of invasive cancers with negative ER status .....	43
Table 32: HER-2 status for invasive cancers .....	43
Table 33: Size, grade and nodal status for invasive cancers with HER2 testing not done or unknown .....	44
Table 34: ER status (micro/non-invasive cancers).....	44
Table 35: Treatment for non-invasive breast cancers .....	44
Table 36: Treatment for micro-invasive breast cancers .....	45
Table 37: Treatment for non-invasive breast cancers size >40mm .....	45
Table 38: Treatment of high cytonuclear grade non-invasive cancers (>40mm) .....	45
Table 39: Treatment for invasive breast cancers .....	46
Table 40: Mastectomy rate with invasive tumour size .....	46
Table 41: Mastectomy rate with whole tumour size .....	46
Table 42: Mastectomy rate for <15mm invasive cancers by whole tumour size .....	47
Table 43: Immediate reconstruction with mastectomy (all cancers) .....	47
Table 44: Any neo-adjuvant therapy .....	47
Table 45: Neo-adjuvant endocrine therapy .....	48
Table 46: Neo-adjuvant chemotherapy for invasive cancers .....	48
Table 47: Neo-adjuvant Traztuzumab.....	48
Table 48: Annual screening surgical caseload per surgeon (2021/22).....	49
Table 49: Proportion of women referred to consultant surgeons according to annual caseload of surgeon .....	49
Table 50: Explanations for surgeons with screening caseload less than 10 cases.....	49
Table 51: Annual screening surgical caseload per surgeon (2019/20-2021/22).....	50
Table 52: Proportion of women referred to consultant surgeons according to annual caseload of surgeon .....	50
Table 53: Repeat operations (>1 op) of surgically treated invasive and non/micro-invasive cancers .	50
Table 54: Repeat operations (>1 op) of surgically treated invasive and non/micro-invasive cancers without a non-op diagnosis .....	51
Table 55: Number of therapeutic operations (invasive cancers) with initial BCS and a non-operative diagnosis .....	51
Table 56: Number of therapeutic operations (non/micro-invasive cancers) with initial BCS and a non-operative diagnosis .....	51
Table 57: Number of therapeutic operations for invasive cancers with B5b (invasive) core biopsy result .....	52
Table 58: Number of therapeutic operations for invasive cancers with B5a (non-invasive) core biopsy result .....	52

Table 59: Number of therapeutic operations for non-invasive or micro-invasive cancers with B5a (non-invasive) core biopsy result .....	52
Table 60: Repeat BCS (all cancers) with initial BCS and a non-operative diagnosis.....	53
Table 61: Converted to mastectomy (all cancers) with initial BCS and a non-operative diagnosis .....	53
Table 62: Data completeness of margin information .....	53
Table 63: Margin information of final operations for cases treated by BCS .....	54
Table 64: Margin information of final operations for cases treated by mastectomy .....	54
Table 65: Record of axillary ultrasound for invasive cancers .....	54
Table 66: Results of axillary ultrasound result for invasive cancers .....	55
Table 67: Invasive cancers with an abnormal axillary ultrasound scan .....	55
Table 68: Worst axillary biopsy result for invasive cancer cases with an abnormal axillary ultrasound scan .....	56
Table 69: Worst axillary biopsy result for invasive cancer cases with a normal axillary ultrasound scan .....	56
Table 70: PPV of axillary biopsy results for invasive cancers (with any axillary ultrasound scan result) found to have positive nodes at surgery .....	56
Table 71: Positive predictivity of all/any pre-op assessments for invasive cancers with positive nodal status at surgery .....	57
Table 72: Nodal positivity for invasive cancers without neo-adjuvant therapy and without or unknown pre-op axillary assessment.....	57
Table 73: Pre-op axillary biopsy results for invasive cancers with positive nodal status.....	57
Table 74: Data completion of lymph node status for surgically treated invasive cancers .....	58
Table 75: Sentinel lymph node primary axillary procedure undertaken for invasive cancers with axillary surgery .....	58
Table 76: Nodal status of invasive cancers.....	58
Table 77: Number of nodes taken for invasive cases without SLNB or with unknown axillary procedure .....	59
Table 78: Nodal status of invasive cancers with SLNB or unknown axillary procedure .....	59
Table 79: Number of nodes obtained for invasive cancers with positive nodal status determined from SLNB.....	59
Table 80: Status of invasive cases with <4 nodes obtained .....	60
Table 81: Availability of lymph node status for surgically treated non-invasive cancers .....	60
Table 82: Treatment for non-invasive cancers with known nodal status.....	60
Table 83: Nodal status of non-invasive cancers.....	61
Table 84: Sentinel lymph node procedure for non-invasive cancers with a mastectomy and known nodal status.....	61
Table 85: Sentinel lymph node procedure for non-invasive cancers with BCS and known nodal status .....	61
Table 86: Mean, median & maximum number of nodes obtained (non-invasive cancers).....	62
Table 87: Proportion of invasive cancers with axillary surgery at the first and later operation .....	62
Table 88: First axillary operation type for invasive cancers with positive nodal status and repeat axillary operations .....	62

**DATA FROM THE 2021/22 AUDIT OF SCREEN-DETECTED BREAST CANCERS IN WOMEN ALL AGES FOR THE PERIOD 1 APRIL 2021 – 31 MARCH 2022**  
Data was submitted by screening services for the purposes of this audit

**Table 1: Number and invasive status of screen-detected breast cancers and total women screened**

Region	Invasive		Invasive (<15mm)		Micro-invasive		Non-invasive		Status unknown		Total		Total women screened	Micro/Non-invasive cancer rate	Invasive cancer rate	Invasive <15mm rate
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%				
East Midlands	1635	80	860	42	18	1	380	19	1	0	2034	100	228104	1.7	7.2	3.8
East of England	1752	81	822	38	33	2	374	17	1	0	2160	100	252237	1.6	6.9	3.3
London	1851	77	756	31	23	1	542	22	0	0	2416	100	268943	2.1	6.9	2.8
N East, Yorks & Humber	2494	79	1258	40	33	1	612	19	0	0	3139	100	370350	1.7	6.7	3.4
North West	1897	79	896	37	24	1	477	20	4	0	2402	100	258983	1.9	7.3	3.5
South East	2618	78	1287	38	45	1	708	21	0	0	3371	100	346278	2.2	7.6	3.7
South West	2131	79	1036	39	29	1	525	20	0	0	2685	100	274740	2.0	7.8	3.8
West Midlands	1586	80	743	37	8	0	394	20	0	0	1988	100	202616	2.0	7.8	3.7
<b>England</b>	<b>15964</b>	<b>79</b>	<b>7658</b>	<b>38</b>	<b>213</b>	<b>1</b>	<b>4012</b>	<b>20</b>	<b>6</b>	<b>0</b>	<b>20195</b>	<b>100</b>	<b>2202251</b>	<b>1.9</b>	<b>7.2</b>	<b>3.5</b>
Northern Ireland	483	80	255	42	3	0	111	18	4	1	601	100	79768	1.4	6.1	3.2
Scotland	1498	85	804	46	14	1	248	14	0	0	1760	100	215126	1.2	7.0	3.7
Wales	917	82	391	35	5	0	200	18	1	0	1123	100	108191	1.9	8.5	3.6
<b>UK</b>	<b>18861</b>	<b>79.7</b>	<b>9108</b>	<b>38</b>	<b>235</b>	<b>1.0</b>	<b>4571</b>	<b>19.3</b>	<b>10</b>	<b>0</b>	<b>23677</b>	<b>100</b>	<b>2605336</b>	<b>1.8</b>	<b>7.2</b>	<b>3.5</b>

**Table 2: Breast cancer cases by age at first offered screening appointment**

Region	<50		50-64		65-70		71-75		76+		Total	>70	
	No.	%	No.	%	No.	%	No.	%	No.	%		No.	%
East Midlands	7	0	1213	60	617	30	112	6	85	4	2034	197	10
East of England	7	0	1235	57	595	28	189	9	134	6	2160	323	15
London	11	0	1581	65	628	26	135	6	61	3	2416	196	8
N East, Yorks & Humber	20	1	1885	60	930	30	201	6	103	3	3139	304	10
North West	3	0	1489	62	682	28	137	6	91	4	2402	228	9
South East	16	0	2015	60	962	29	221	7	157	5	3371	378	11
South West	13	0	1614	60	776	29	165	6	117	4	2685	282	11
West Midlands	12	1	1193	60	576	29	123	6	84	4	1988	207	10
<b>England</b>	<b>89</b>	<b>0</b>	<b>12225</b>	<b>61</b>	<b>5766</b>	<b>29</b>	<b>1283</b>	<b>6</b>	<b>832</b>	<b>4</b>	<b>20195</b>	<b>2115</b>	<b>10</b>
Northern Ireland	10	2	358	60	172	29	39	6	22	4	601	61	10
Scotland	0	0	1183	67	551	31	26	1	0	0	1760	26	1
Wales	20	2	581	52	371	33	95	8	56	5	1123	151	13
<b>UK</b>	<b>119</b>	<b>1</b>	<b>14346</b>	<b>61</b>	<b>6859</b>	<b>29</b>	<b>1443</b>	<b>6</b>	<b>910</b>	<b>4</b>	<b>23677</b>	<b>2353</b>	<b>10</b>



Region	Total cases	Total pt matched	% matched	Had previous cancers		No previous cancers	
				No.	%	No.	%
				East Midlands	2034	2014	99
East of England	2162	2053	95	340	17	1713	83
London	2418	2319	96	248	11	2071	89
NEYH	3139	3120	99	496	16	2624	84
North West	2403	2391	100	356	15	2035	85
South East	3372	3272	97	471	14	2801	86
South West	2686	2476	92	418	17	2058	83
West Midlands	1989	1975	99	308	16	1667	84
<b>England</b>	<b>20203</b>	<b>19620</b>	<b>97</b>	<b>2941</b>	<b>15</b>	<b>16679</b>	<b>85</b>
<b>Scotland</b>	<b>1762</b>	<b>1635</b>	<b>93</b>	<b>260</b>	<b>16</b>	<b>1375</b>	<b>84</b>
<b>UK</b>	<b>21965</b>	<b>21255</b>	<b>97</b>	<b>3201</b>	<b>15</b>	<b>18054</b>	<b>85</b>

\* Previous Cancer data was not available for Wales and Northern Ireland. All Wales and Northern Ireland cases are included in the analysis. England and Scotland previous breast cancers excluded from Tables 5 to 88.

Region	Total matched	Total previous cancers	Invasive/micro-invasive					Non-invasive	
			Breast	Gynae-logical	Bowel	Haema-tological	Other	Breast	Other
East Midlands	2014	304	112	34	14	12	31	31	58
East of England	2053	340	142	26	22	16	36	34	78
London	2319	248	84	37	14	17	28	38	47
NEYH	3120	496	155	48	22	14	69	54	144
North West	2391	356	59	14	11	8	29	14	55
South East	3272	471	185	42	23	25	67	53	94
South West	2476	418	126	36	25	17	56	43	101
West Midlands	1975	308	117	31	11	11	26	24	99
<b>England</b>	<b>19620</b>	<b>2941</b>	<b>1033</b>	<b>304</b>	<b>150</b>	<b>125</b>	<b>370</b>	<b>304</b>	<b>720</b>
<b>Scotland</b>	<b>1635</b>	<b>260</b>	<b>69</b>	<b>27</b>	<b>20</b>	<b>15</b>	<b>25</b>	<b>19</b>	<b>92</b>
<b>United Kingdom</b>	<b>21255</b>	<b>3201</b>	<b>1102</b>	<b>331</b>	<b>170</b>	<b>140</b>	<b>395</b>	<b>323</b>	<b>812</b>
<b>% of previous cancers</b>		<b>100</b>	<b>34</b>	<b>10</b>	<b>5</b>	<b>4</b>	<b>12</b>	<b>10</b>	<b>25</b>
<b>% of matched</b>	<b>100</b>	<b>15</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>4</b>

\* Previous Cancer data was not available for Wales and Northern Ireland. All Wales and Northern Ireland cases are included in the analysis. England and Scotland previous breast cancers excluded from Tables 5 to 88.

Region	Total cancers	C5 only		C5 & B5		B5 only		E5 only		B5 & E5		Positive axillary biopsy only		Pre-operative diagnosis		No Pre-operative diagnosis	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
		East Midlands	1895	0	0	1	0	1821	96	45	2	13	1	0	0	1880	99
East of England	1984	1	0	1	0	1896	96	26	1	16	1	0	0	1940	98	44	2
London	2292	0	0	2	0	2201	96	54	2	11	0	0	0	2268	99	24	1
N East, Yorks & Humber	2931	1	0	1	0	2815	96	56	2	16	1	0	0	2889	99	42	1
North West	2265	0	0	4	0	2189	97	26	1	18	1	0	0	2237	99	28	1
South East	3136	0	0	2	0	3011	96	63	2	3	0	2	0	3081	98	55	2
South West	2523	0	0	1	0	2421	96	51	2	12	0	0	0	2485	98	38	2
West Midlands	1847	0	0	0	0	1800	97	27	1	4	0	1	0	1832	99	15	1
<b>England</b>	<b>18873</b>	<b>2</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>18154</b>	<b>96</b>	<b>348</b>	<b>2</b>	<b>93</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>18612</b>	<b>99</b>	<b>261</b>	<b>1</b>
Northern Ireland	593	0	0	129	22	442	75	7	1	4	1	0	0	585	99	8	1
Scotland	1673	0	0	9	1	1664	99	0	0	0	0	0	0	1673	100	0	0
Wales	1123	0	0	1	0	1085	97	19	2	1	0	0	0	1106	98	17	2
<b>UK</b>	<b>22262</b>	<b>2</b>	<b>0</b>	<b>151</b>	<b>1</b>	<b>21345</b>	<b>96</b>	<b>374</b>	<b>2</b>	<b>98</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>21976</b>	<b>99</b>	<b>286</b>	<b>1</b>

**Table 6: Pre-operative diagnosis rate (invasive cancers)**

Region	Total cancers	C5 only		C5 & B5		B5 only		E5 only		B5 & E5		Positive axillary biopsy only		Pre-operative diagnosis		No Pre-operative diagnosis	
		No	%	No	%	No	%	No	%	No	%	%	%	No	%	No	%
East Midlands	1526	0	0	1	0	1506	99	9	1	8	1	0	0	1524	100	2	0
East of England	1610	0	0	1	0	1576	98	6	0	16	1	0	0	1599	99	11	1
London	1757	0	0	2	0	1737	99	6	0	10	1	0	0	1755	100	2	0
N East, Yorks & Humber	2337	1	0	1	0	2306	99	11	0	11	0	0	0	2330	100	7	0
North West	1795	0	0	3	0	1760	98	7	0	16	1	0	0	1786	99	9	1
South East	2431	0	0	2	0	2416	99	8	0	2	0	2	0	2430	100	1	0
South West	2000	0	0	1	0	1969	98	13	1	8	0	0	0	1991	100	9	0
West Midlands	1479	0	0	0	0	1472	100	2	0	2	0	1	0	1477	100	2	0
<b>England</b>	<b>14935</b>	<b>1</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>14742</b>	<b>99</b>	<b>62</b>	<b>0</b>	<b>73</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>14892</b>	<b>100</b>	<b>43</b>	<b>0</b>
Northern Ireland	477	0	0	126	26	342	72	3	1	4	1	0	0	477	100	0	0
Scotland	1419	0	0	9	1	1410	99	0	0	0	0	0	0	1419	100	0	0
Wales	917	0	0	1	0	907	99	3	0	0	0	0	0	911	99	6	1
<b>UK</b>	<b>17748</b>	<b>1</b>	<b>0</b>	<b>147</b>	<b>1</b>	<b>17401</b>	<b>98</b>	<b>68</b>	<b>0</b>	<b>77</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>17699</b>	<b>100</b>	<b>49</b>	<b>0</b>

**Table 7: Pre-operative diagnosis rate (non-invasive cancers)**

Region	Total cancers	C5 only		C5 & B5		B5 only		E5 only		B5 & E5		Positive axillary biopsy only		Pre-operative diagnosis		No Pre-operative diagnosis	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
East Midlands	352	0	0	0	0	301	86	34	10	4	1	0	0	339	96	13	4
East of England	343	0	0	0	0	291	85	20	6	0	0	0	0	311	91	32	9
London	516	0	0	0	0	447	87	47	9	1	0	0	0	495	96	21	4
N East, Yorks & Humber	561	0	0	0	0	479	85	44	8	3	1	0	0	526	94	35	6
North West	444	0	0	1	0	404	91	19	4	2	0	0	0	426	96	18	4
South East	663	0	0	0	0	554	84	54	8	1	0	0	0	609	92	54	8
South West	494	0	0	0	0	425	86	37	7	4	1	0	0	466	94	28	6
West Midlands	362	0	0	0	0	322	89	25	7	2	1	0	0	349	96	13	4
<b>England</b>	<b>3735</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3223</b>	<b>86</b>	<b>280</b>	<b>7</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3521</b>	<b>94</b>	<b>214</b>	<b>6</b>
Northern Ireland	110	0	0	3	3	97	88	1	1	0	0	0	0	102	93	8	7
Scotland	240	0	0	0	0	240	100	0	0	0	0	0	0	240	100	0	0
Wales	200	0	0	0	0	172	86	16	8	1	1	0	0	189	95	11	6
<b>UK</b>	<b>4285</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>3732</b>	<b>87</b>	<b>297</b>	<b>7</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4052</b>	<b>95</b>	<b>233</b>	<b>5</b>

Region	Invasive		Micro-invasive		Non-invasive		Benign		Unknown		Total with surgery	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	73	19	14	4	290	76	4	1	0	0	381	100
East of England	73	19	26	7	263	70	13	3	0	0	375	100
London	92	17	17	3	396	74	33	6	0	0	538	100
N East, Yorks & Humber	122	20	32	5	456	73	15	2	0	0	625	100
North West	88	18	23	5	373	74	18	4	0	0	502	100
South East	139	20	41	6	518	73	11	2	0	0	709	100
South West	107	20	26	5	402	73	13	2	0	0	548	100
West Midlands	84	21	6	2	289	74	13	3	1	0	393	100
<b>England</b>	<b>778</b>	<b>19</b>	<b>185</b>	<b>5</b>	<b>2987</b>	<b>73</b>	<b>120</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>4071</b>	<b>100</b>
Northern Ireland	25	20	3	2	94	74	4	3	1	1	127	100
Scotland	52	18	8	3	197	67	3	1	33	11	293	100
Wales	59	27	5	2	149	67	8	4	0	0	221	100
<b>UK</b>	<b>914</b>	<b>19</b>	<b>201</b>	<b>4</b>	<b>3427</b>	<b>73</b>	<b>135</b>	<b>3</b>	<b>35</b>	<b>1</b>	<b>4712</b>	<b>100</b>

Region	Invasive		Micro-invasive		Non-invasive		Benign		Unknown		Total with surgery	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	1345	98	0	0	10	1	20	1	1	0	1376	100
East of England	1380	96	2	0	20	1	28	2	5	0	1435	100
London	1465	94	4	0	39	2	48	3	10	1	1566	100
N East, Yorks & Humber	2073	97	2	0	29	1	28	1	3	0	2135	100
North West	1550	96	2	0	25	2	40	2	2	0	1619	100
South East	2120	97	0	0	26	1	31	1	5	0	2182	100
South West	1727	96	1	0	30	2	39	2	6	0	1803	100
West Midlands	1283	96	0	0	17	1	41	3	2	0	1343	100
<b>England</b>	<b>12943</b>	<b>96</b>	<b>11</b>	<b>0</b>	<b>196</b>	<b>1</b>	<b>275</b>	<b>2</b>	<b>34</b>	<b>0</b>	<b>13459</b>	<b>100</b>
Northern Ireland	428	97	0	0	5	1	3	1	3	1	439	100
Scotland	1157	90	0	0	8	1	3	0	121	9	1289	100
Wales	785	96	0	0	14	2	19	2	0	0	818	100
<b>UK</b>	<b>15313</b>	<b>96</b>	<b>11</b>	<b>0</b>	<b>223</b>	<b>1</b>	<b>300</b>	<b>2</b>	<b>158</b>	<b>1</b>	<b>16005</b>	<b>100</b>

Region	1		2		3+		Total		First core/cyt/VAE at 2+ visit	
	No	%	No	%	No	%	No	%	No	%
East Midlands	1784	94	110	6	0	0	1894	100	110	6
East of England	1952	98	32	2	0	0	1984	100	32	2
London	2198	96	93	4	1	0	2292	100	94	4
N East, Yorks & Humber	2848	97	82	3	1	0	2931	100	83	3
North West	2171	96	93	4	1	0	2265	100	94	4
South East	2991	95	139	4	4	0	3134	100	143	5
South West	2346	93	175	7	2	0	2523	100	177	7
West Midlands	1794	97	50	3	2	0	1846	100	52	3
<b>England</b>	<b>18084</b>	<b>96</b>	<b>774</b>	<b>4</b>	<b>11</b>	<b>0</b>	<b>18869</b>	<b>100</b>	<b>785</b>	<b>4</b>
Northern Ireland	587	98	11	2	0	0	592	100	11	2
Wales	1105	99	16	1	0	0	1121	100	16	1
<b>UK excl. Scotland</b>	<b>19770</b>	<b>96</b>	<b>801</b>	<b>4</b>	<b>11</b>	<b>0</b>	<b>20582</b>	<b>100</b>	<b>812</b>	<b>4</b>

Region	1		2		3+		Total		Repeat (2+) visit	
	No	%	No	%	No	%	No	%	No	%
East Midlands	1480	78	331	17	84	4	1895	100	415	22
East of England	1724	87	236	12	24	1	1984	100	260	13
London	1970	86	285	12	37	2	2292	100	322	14
N East, Yorks & Humber	2567	88	319	11	45	2	2931	100	364	12
North West	1867	82	349	15	49	2	2265	100	398	18
South East	2685	86	393	13	58	2	3136	100	451	14
South West	2024	80	425	17	74	3	2523	100	499	20
West Midlands	1572	85	243	13	32	2	1847	100	275	15
<b>England</b>	<b>15889</b>	<b>84</b>	<b>2581</b>	<b>14</b>	<b>403</b>	<b>2</b>	<b>18873</b>	<b>100</b>	<b>2984</b>	<b>16</b>
Northern Ireland	525	89	65	11	3	1	593	100	68	11
Scotland	1435	86	152	9	86	5	1673	100	238	14
Wales	1018	91	96	9	9	1	1123	100	105	9
<b>UK</b>	<b>18867</b>	<b>85</b>	<b>2894</b>	<b>13</b>	<b>501</b>	<b>2</b>	<b>22262</b>	<b>100</b>	<b>3395</b>	<b>15</b>

No data available for Scotland

Region	Invasive					Non-Invasive					Overall				
	1		2+		Total	1		2+		Total	1		2+		Total
	No	%	No	%		No	%	No	%		No	%	No	%	
East Midlands	1354	89	170	11	1524	253	75	86	25	339	1620	86	260	14	1880
East of England	1485	93	114	7	1599	262	84	49	16	311	1774	91	166	9	1940
London	1670	95	85	5	1755	412	83	83	17	495	2098	93	170	7	2268
N East, Yorks & Humber	2217	95	113	5	2330	445	85	81	15	526	2685	93	204	7	2889
North West	1647	92	139	8	1786	337	79	89	21	426	2005	90	232	10	2237
South East	2314	95	114	5	2428	496	81	113	19	609	2850	93	229	7	3079
South West	1833	92	158	8	1991	359	77	107	23	466	2214	89	271	11	2485
West Midlands	1414	96	62	4	1476	271	78	78	22	349	1691	92	140	8	1831
<b>England</b>	<b>13934</b>	<b>94</b>	<b>955</b>	<b>6</b>	<b>14889</b>	<b>2835</b>	<b>81</b>	<b>686</b>	<b>19</b>	<b>3521</b>	<b>16937</b>	<b>91</b>	<b>1672</b>	<b>9</b>	<b>18609</b>
Northern Ireland	449	94	28	6	477	83	81	19	19	102	534	91	51	9	585
Wales	875	96	36	4	911	150	79	39	21	189	1031	93	75	7	1106
<b>UK excl. Scotland</b>	<b>15258</b>	<b>94</b>	<b>1019</b>	<b>6</b>	<b>16277</b>	<b>3068</b>	<b>80</b>	<b>744</b>	<b>20</b>	<b>3812</b>	<b>18502</b>	<b>91</b>	<b>1798</b>	<b>9</b>	<b>20300</b>

No data available for Scotland

Region	C5, B5, E5 or a combination thereof		C4, B4, E4 or a combination thereof		C3, B3, E3 or a combination thereof		C2, B2, E2 or a combination thereof		C1, B1, E1 or a combination thereof		Total
	No	%	No	%	No	%	No	%	No	%	
	East Midlands	294	87	3	1	29	9	6	2	7	
East of England	271	87	11	4	22	7	1	0	6	2	311
London	439	89	2	0	46	9	6	1	2	0	495
N East, Yorks & Humber	469	89	6	1	38	7	7	1	6	1	526
North West	373	88	13	3	28	7	1	0	11	3	426
South East	530	87	10	2	58	10	4	1	7	1	609
South West	410	88	13	3	33	7	6	1	4	1	466
West Midlands	298	85	11	3	32	9	2	1	6	2	349
<b>England</b>	<b>3084</b>	<b>88</b>	<b>69</b>	<b>2</b>	<b>286</b>	<b>8</b>	<b>33</b>	<b>1</b>	<b>49</b>	<b>1</b>	<b>3521</b>
Northern Ireland	94	92	3	3	2	2	2	2	1	1	102
Wales	158	84	6	3	22	12	1	1	2	1	189
<b>UK excl. Scotland</b>	<b>3336</b>	<b>88</b>	<b>78</b>	<b>2</b>	<b>310</b>	<b>8</b>	<b>36</b>	<b>1</b>	<b>52</b>	<b>1</b>	<b>3812</b>

No data available for Scotland

Region	Invasive					Non-Invasive					Overall				
	Further visit		No further visit		Total	Further visit		No further visit		Total	Further visit		No further visit		Total
	No	%	No	%		No	%	No	%		No	%	No	%	
East Midlands	70	5	1456	95	1526	15	4	336	96	351	86	5	1808	95	1894

East of England	48	3	1562	97	1610	13	4	330	96	343	61	3	1923	97	1984
London	52	3	1705	97	1757	26	5	490	95	516	78	3	2214	97	2292
N East, Yorks & Humber	73	3	2264	97	2337	9	2	552	98	561	82	3	2849	97	2931
North West	66	4	1729	96	1795	17	4	427	96	444	83	4	2182	96	2265
South East	85	3	2344	97	2429	21	3	642	97	663	106	3	3028	97	3134
South West	70	4	1930	97	2000	23	5	471	95	494	93	4	2430	96	2523
West Midlands	75	5	1403	95	1478	17	5	345	95	362	92	5	1754	95	1846
<b>England</b>	<b>539</b>	<b>4</b>	<b>14393</b>	<b>96</b>	<b>14932</b>	<b>141</b>	<b>4</b>	<b>3593</b>	<b>96</b>	<b>3734</b>	<b>681</b>	<b>4</b>	<b>18188</b>	<b>96</b>	<b>18869</b>
Northern Ireland	6	1	471	99	477	1	1	108	99	109	7	1	585	99	592
Wales	10	1	905	99	915	4	2	196	98	200	14	1	1107	99	1121
<b>UK excl. Scotland</b>	<b>555</b>	<b>3</b>	<b>15769</b>	<b>97</b>	<b>16324</b>	<b>146</b>	<b>4</b>	<b>3897</b>	<b>96</b>	<b>4043</b>	<b>702</b>	<b>3</b>	<b>19880</b>	<b>97</b>	<b>20582</b>

No data available for Scotland

Region	Benign biopsy rate		Malignant biopsy rate
	Prevalent	Incident	
East Midlands	0.64	0.26	0.07
East of England	0.56	0.20	0.17
London	0.57	0.24	0.09
N East, Yorks & Humber	0.50	0.19	0.11
North West	0.40	0.21	0.11
South East	1.01	0.27	0.16
South West	0.78	0.29	0.14
West Midlands	0.40	0.21	0.07
<b>England</b>	<b>0.66</b>	<b>0.24</b>	<b>0.12</b>
Northern Ireland	0.76	0.21	0.10
Scotland	1.18	0.58	0.00
Wales	0.41	0.13	0.16
<b>UK</b>	<b>0.73</b>	<b>0.26</b>	<b>0.11</b>

Numerator – number of benign open biopsy at prevalent or incident screen (all ages)  
Denominator – Number of women screened at prevalent or incident screen (all ages)

Region	Total malignant open biopsies	Invasive		Micro-invasive		Non-invasive		Status unknown	
		No.	%	No.	%	No.	%	No.	%
East Midlands	15	2	13	0	0	13	87	0	0
East of England	44	11	25	1	2	32	73	0	0
London	24	2	8	1	4	21	88	0	0
N East, Yorks & Humber	42	7	17	0	0	35	83	0	0
North West	28	9	32	0	0	18	64	1	4
South East	55	1	2	0	0	54	98	0	0
South West	38	9	24	1	3	28	74	0	0
West Midlands	15	2	13	0	0	13	87	0	0
<b>England</b>	<b>261</b>	<b>43</b>	<b>16</b>	<b>3</b>	<b>1</b>	<b>214</b>	<b>82</b>	<b>1</b>	<b>0</b>
Northern Ireland	8	0	0	0	0	8	100	0	0
Scotland	0	0	0	0	0	0	0	0	0
Wales	17	6	35	0	0	11	65	0	0
<b>UK</b>	<b>286</b>	<b>49</b>	<b>17</b>	<b>3</b>	<b>1</b>	<b>233</b>	<b>81</b>	<b>1</b>	<b>0</b>

Region	Total malignant open biopsies	No non-operative procedures		Cytology only		Core biopsy/VAB only		Both cytology and core biopsy/VAB		VAE and other non-op biopsy	
		No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	2	0	0	0	0	0	0	0	0	2	100

East of England	11	0	0	1	9	10	91	0	0	0	0
London	2	0	0	0	0	2	100	0	0	0	0
N East, Yorks & Humber	7	0	0	1	14	5	71	0	0	1	14
North West	9	0	0	0	0	9	100	0	0	0	0
South East	1	0	0	0	0	1	100	0	0	0	0
South West	9	0	0	0	0	7	78	0	0	2	22
West Midlands	2	0	0	0	0	2	100	0	0	0	0
<b>England</b>	<b>43</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>36</b>	<b>84</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>12</b>
Northern Ireland	0	0	0	0	0	0	0	0	0	0	0
Scotland	0	0	0	0	0	0	0	0	0	0	0
Wales	6	2	33	0	0	4	67	0	0	0	0
<b>UK</b>	<b>49</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>4</b>	<b>40</b>	<b>82</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>10</b>

**Table 18: Non-operative history of the breast for micro/non-invasive cancers with malignant open biopsy**

Region	Total malignant open biopsies	No non-operative procedures		Cytology only		Core biopsy/VAB only		Both cytology and core biopsy/VAB		VAE and other non-op biopsy	
		No.	%	No.	%		%	No.	%	No.	%
East Midlands	13	1	8	0	0	10	77	0	0	2	15
East of England	33	0	0	1	3	29	88	0	0	2	6
London	22	0	0	0	0	19	86	2	9	1	5
N East, Yorks & Humber	35	0	0	0	0	33	94	0	0	2	6
North West	18	0	0	0	0	17	94	1	6	0	0
South East	54	0	0	0	0	51	94	0	0	3	6
South West	29	0	0	0	0	28	97	0	0	1	3
West Midlands	13	0	0	0	0	12	92	0	0	1	8
<b>England</b>	<b>217</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>199</b>	<b>92</b>	<b>3</b>	<b>1</b>	<b>12</b>	<b>6</b>
Northern Ireland	8	1	13	0	0	5	63	2	25	0	0
Scotland	0	0	0	0	0	0	0	0	0	0	0
Wales	11	0	0	0	0	11	100	0	0	0	0
<b>UK</b>	<b>236</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>215</b>	<b>91</b>	<b>5</b>	<b>2</b>	<b>12</b>	<b>5</b>

**Table 19: Highest cytology and core biopsy/VAE result prior to malignant diagnostic open biopsies (Invasive cancers)**

Region	Total	No Non-operative diagnosis		C4, B4, E4 or a combination thereof		C3, B3, E3 or a combination thereof		C2, B2, E2 or a combination thereof		C1, B1, E1 or a combination thereof	
		No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	2	0	0	1	50	1	50	0	0	0	0
East of England	11	0	0	3	27	7	64	1	9	0	0
London	2	0	0	1	50	1	50	0	0	0	0
N East, Yorks & Humber	7	0	0	2	29	5	71	0	0	0	0
North West	9	0	0	3	33	5	56	1	11	0	0
South East	1	0	0	1	100	0	0	0	0	0	0
South West	9	0	0	5	56	4	44	0	0	0	0
West Midlands	2	0	0	1	50	1	50	0	0	0	0
<b>England</b>	<b>43</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>40</b>	<b>24</b>	<b>56</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>0</b>
Northern Ireland	0	0	0	0	0	0	0	0	0	0	0
Scotland	0	0	0	0	0	0	0	0	0	0	0
Wales	6	2	33	2	33	2	33	0	0	0	0
<b>UK</b>	<b>49</b>	<b>2</b>	<b>4</b>	<b>19</b>	<b>39</b>	<b>26</b>	<b>53</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>0</b>

**Table 20: Highest cytology and core biopsy result prior to malignant diagnostic open biopsies (micro/non-invasive cancers)**

Region	Total malignant open biopsies	No non-operative procedures		C4, B4 or both		C3, B3 or both		C2, B2 or both		C1, B1 or both	
		No.	%	No.	%	No.	%	No.	%	No.	%

East Midlands	13	1	8	1	8	11	85	0	0	0	0
East of England	33	0	0	13	39	18	55	1	3	1	3
London	22	0	0	4	18	18	82	0	0	0	0
N East, Yorks & Humber	35	0	0	14	40	21	60	0	0	0	0
North West	18	0	0	8	44	8	44	2	11	0	0
South East	54	0	0	16	30	37	69	1	2	0	0
South West	29	0	0	10	34	19	66	0	0	0	0
West Midlands	13	0	0	5	38	8	62	0	0	0	0
<b>England</b>	<b>217</b>	<b>1</b>	<b>0</b>	<b>71</b>	<b>33</b>	<b>140</b>	<b>65</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>0</b>
Northern Ireland	8	1	13	2	25	5	63	0	0	0	0
Scotland	0	0	0	0	0	0	0	0	0	0	0
Wales	11	0	0	1	9	9	82	1	9	0	0
<b>UK</b>	<b>236</b>	<b>2</b>	<b>1</b>	<b>74</b>	<b>31</b>	<b>154</b>	<b>65</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>0</b>

Region	Unknown cytonuclear grade		Unknown size		Unknown cytonuclear grade and/or size		Total with surgery
	No.	%	No.	%	No.	%	No.
East Midlands	0	0	5	1	5	1	337
East of England	2	1	24	7	24	7	322
London	6	1	43	9	44	9	494
N East, Yorks & Humber	3	1	23	4	24	4	549
North West	1	0	22	5	22	5	428
South East	5	1	20	3	21	3	615
South West	1	0	19	4	19	4	475
West Midlands	1	0	14	4	14	4	333
<b>England</b>	<b>19</b>	<b>1</b>	<b>170</b>	<b>5</b>	<b>173</b>	<b>5</b>	<b>3553</b>
Northern Ireland	0	0	5	5	5	5	109
Scotland	38	16	26	11	64	27	234
Wales	3	2	16	9	16	9	183
<b>UK</b>	<b>60</b>	<b>1</b>	<b>217</b>	<b>5</b>	<b>258</b>	<b>6</b>	<b>4079</b>

Region	<15mm		15-≤40mm		>40 mm		Size not assessable		Size unknown		Total non-invasive with surgery	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	92	27	150	45	80	24	10	3	5	1	337	100
East of England	116	36	128	40	48	15	6	2	24	7	322	100
London	158	32	189	38	93	19	11	2	43	9	494	100
N East, Yorks & Humber	195	36	223	41	99	18	9	2	23	4	549	100
North West	156	36	168	39	77	18	5	1	22	5	428	100
South East	213	35	253	41	104	17	25	4	20	3	615	100
South West	156	33	203	43	82	17	15	3	19	4	475	100
West Midlands	107	32	136	41	68	20	8	2	14	4	333	100
<b>England</b>	<b>1193</b>	<b>34</b>	<b>1450</b>	<b>41</b>	<b>651</b>	<b>18</b>	<b>89</b>	<b>3</b>	<b>170</b>	<b>5</b>	<b>3553</b>	<b>100</b>
Northern Ireland	33	30	50	46	17	16	4	4	5	5	109	100
Scotland	98	42	82	35	28	12	0	0	26	11	234	100
Wales	51	28	81	44	32	17	3	2	16	9	183	100
<b>UK</b>	<b>1375</b>	<b>34</b>	<b>1663</b>	<b>41</b>	<b>728</b>	<b>18</b>	<b>96</b>	<b>2</b>	<b>217</b>	<b>5</b>	<b>4079</b>	<b>100</b>

Region	High		Intermediate		Low		Not assessable		Unknown		Total non-invasive with surgery	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	201	60	102	30	24	7	10	3	0	0	337	100



East of England	200	62	93	29	21	7	6	2	2	1	322	100
London	261	53	167	34	49	10	11	2	6	1	494	100
N East, Yorks & Humber	324	59	167	30	46	8	9	2	3	1	549	100
North West	257	60	124	29	41	10	5	1	1	0	428	100
South East	330	54	180	29	74	12	26	4	5	1	615	100
South West	303	64	116	24	40	8	15	3	1	0	475	100
West Midlands	209	63	89	27	26	8	8	2	1	0	333	100
<b>England</b>	<b>2085</b>	<b>59</b>	<b>1038</b>	<b>29</b>	<b>321</b>	<b>9</b>	<b>90</b>	<b>3</b>	<b>19</b>	<b>1</b>	<b>3553</b>	<b>100</b>
Northern Ireland	71	65	21	19	12	11	5	5	0	0	109	100
Scotland	130	56	61	26	5	2	0	0	38	16	234	100
Wales	94	51	59	32	24	13	3	2	3	2	183	100
<b>UK</b>	<b>2380</b>	<b>58</b>	<b>1179</b>	<b>29</b>	<b>362</b>	<b>9</b>	<b>98</b>	<b>2</b>	<b>60</b>	<b>1</b>	<b>4079</b>	<b>100</b>

**Table 24: Invasive size of surgically treated invasive breast cancers**

Region	<10mm		10- <15mm		15- ≤20mm		>20- ≤35mm		>35- ≤50mm		>50mm		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	378	26	418	29	292	20	280	19	50	3	28	2	16	1	1462	100
East of England	359	23	397	26	381	25	280	18	50	3	41	3	20	1	1528	100
London	348	21	362	22	428	26	352	21	82	5	54	3	42	3	1668	100
N East, Yorks & Humber	553	24	623	27	530	23	403	18	73	3	63	3	32	1	2277	100
North West	432	25	417	24	423	24	319	18	72	4	33	2	32	2	1728	100
South East	616	26	590	25	506	22	415	18	112	5	71	3	25	1	2335	100
South West	475	25	491	25	504	26	328	17	80	4	35	2	24	1	1937	100
West Midlands	364	25	336	23	356	25	262	18	67	5	36	3	11	1	1432	100
<b>England</b>	<b>3525</b>	<b>25</b>	<b>3634</b>	<b>25</b>	<b>3420</b>	<b>24</b>	<b>2639</b>	<b>18</b>	<b>586</b>	<b>4</b>	<b>361</b>	<b>3</b>	<b>202</b>	<b>1</b>	<b>14367</b>	<b>100</b>
Northern Ireland	124	26	127	27	86	18	88	19	20	4	13	3	11	2	469	100
Scotland	446	33	328	24	284	21	195	14	56	4	31	2	24	2	1364	100
Wales	176	20	215	24	201	23	186	21	43	5	33	4	33	4	887	100
<b>UK</b>	<b>4271</b>	<b>25</b>	<b>4304</b>	<b>25</b>	<b>3991</b>	<b>23</b>	<b>3108</b>	<b>18</b>	<b>705</b>	<b>4</b>	<b>438</b>	<b>3</b>	<b>270</b>	<b>2</b>	<b>17087</b>	<b>100</b>

**Table 25: Whole size of surgically treated invasive breast cancers**

Region	<10mm		10- <15mm		15- ≤20mm		>20- ≤35mm		>35- ≤50mm		>50mm		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	211	14	360	25	296	20	357	24	96	7	77	5	65	4	1462	100
East of England	218	14	306	20	353	23	363	24	92	6	81	5	115	8	1528	100
London	180	11	284	17	370	22	417	25	145	9	133	8	139	8	1668	100
N East, Yorks & Humber	299	13	513	23	515	23	552	24	157	7	160	7	81	4	2277	100
North West	241	14	361	21	436	25	378	22	124	7	96	6	92	5	1728	100
South East	338	14	484	21	533	23	538	23	193	8	158	7	91	4	2335	100
South West	252	13	385	20	475	25	427	22	158	8	108	6	132	7	1937	100
West Midlands	189	13	274	19	336	23	341	24	119	8	81	6	92	6	1432	100
<b>England</b>	<b>1928</b>	<b>13</b>	<b>2967</b>	<b>21</b>	<b>3314</b>	<b>23</b>	<b>3373</b>	<b>23</b>	<b>1084</b>	<b>8</b>	<b>894</b>	<b>6</b>	<b>807</b>	<b>6</b>	<b>14367</b>	<b>100</b>
Northern Ireland	69	15	109	23	108	23	108	23	38	8	34	7	3	1	469	100
Scotland	322	24	270	20	282	21	259	19	93	7	66	5	72	5	1364	100
Wales	93	10	161	18	206	23	227	26	71	8	77	9	52	6	887	100
<b>UK</b>	<b>2412</b>	<b>14</b>	<b>3507</b>	<b>21</b>	<b>3910</b>	<b>23</b>	<b>3967</b>	<b>23</b>	<b>1286</b>	<b>8</b>	<b>1071</b>	<b>6</b>	<b>934</b>	<b>5</b>	<b>17087</b>	<b>100</b>

**Table 26: Grade of surgically treated invasive cancers**

Region	Grade 1		Grade 2		Grade 3		Not assessable		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	401	27	801	55	257	18	1	0	2	0	1462	100
East of England	354	23	868	57	295	19	9	1	2	0	1528	100

London	356	21	1038	62	262	16	3	0	9	1	1668	100
N East, Yorks & Humber	533	23	1305	57	436	19	1	0	2	0	2277	100
North West	427	25	1029	60	264	15	2	0	6	0	1728	100
South East	625	27	1356	58	340	15	6	0	8	0	2335	100
South West	465	24	1100	57	354	18	15	1	3	0	1937	100
West Midlands	307	21	912	64	212	15	1	0	0	0	1432	100
<b>England</b>	<b>3468</b>	<b>24</b>	<b>8409</b>	<b>59</b>	<b>2420</b>	<b>17</b>	<b>38</b>	<b>0</b>	<b>32</b>	<b>0</b>	<b>14367</b>	<b>100</b>
Northern Ireland	96	20	269	57	102	22	2	0	0	0	469	100
Scotland	292	21	702	51	221	16	0	0	149	11	1364	100
Wales	200	23	484	55	203	23	0	0	0	0	887	100
<b>UK</b>	<b>4056</b>	<b>24</b>	<b>9864</b>	<b>58</b>	<b>2946</b>	<b>17</b>	<b>40</b>	<b>0</b>	<b>181</b>	<b>1</b>	<b>17087</b>	<b>100</b>

**Table 27: Data completeness for surgically treated invasive cancers (excl. cases with neo-adjuvant therapy)**

Region	Unknown invasive size		Unknown nodal status		Unknown grade		Unknown NPI*		Total invasive
	No.	%	No.	%	No.	%	No.	%	
East Midlands	9	0.7	5	0.4	0	0.0	14	1.0	1344
East of England	18	1.3	16	1.1	2	0.1	40	2.8	1417
London	40	2.7	19	1.3	8	0.5	59	4.0	1486
N East, Yorks & Humber	23	1.1	29	1.4	1	0.0	52	2.5	2122
North West	26	1.6	19	1.2	6	0.4	47	3.0	1592
South East	20	0.9	35	1.6	8	0.4	60	2.7	2207
South West	18	1.0	21	1.2	2	0.1	48	2.7	1771
West Midlands	10	0.8	5	0.4	0	0.0	16	1.2	1287
<b>England</b>	<b>164</b>	<b>1.2</b>	<b>149</b>	<b>1.1</b>	<b>27</b>	<b>0.2</b>	<b>336</b>	<b>2.5</b>	<b>13226</b>
Northern Ireland	5	1.1	3	0.7	0	0.0	9	2.0	443
Scotland	22	1.7	180	13.7	137	10.4	202	15.3	1318
Wales	8	1.0	23	2.9	0	0.0	31	4.0	784
<b>UK</b>	<b>199</b>	<b>1.3</b>	<b>355</b>	<b>2.3</b>	<b>164</b>	<b>1.0</b>	<b>578</b>	<b>3.7</b>	<b>15771</b>

\* NPI is unknown if size, grade or nodal status are unknown or grade if not assessable

**Table 28: NPI Group of surgically treated invasive cancers (with known NPI excl. cases with neo-adjuvant therapy)**

Region	EPG		GPG		MPG1		MPG2		PPG		Total with known NPI	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	326	25	507	38	323	24	128	10	46	3	1330	100
East of England	274	20	548	40	367	27	136	10	52	4	1377	100
London	263	18	597	42	372	26	134	9	61	4	1427	100
N East, Yorks & Humber	408	20	852	41	504	24	206	10	100	5	2070	100
North West	315	20	676	44	355	23	141	9	58	4	1545	100
South East	485	23	856	40	515	24	195	9	96	4	2147	100
South West	390	23	700	41	415	24	154	9	64	4	1723	100
West Midlands	237	19	586	46	278	22	128	10	42	3	1271	100
<b>England</b>	<b>2698</b>	<b>21</b>	<b>5322</b>	<b>41</b>	<b>3129</b>	<b>24</b>	<b>1222</b>	<b>9</b>	<b>519</b>	<b>4</b>	<b>12890</b>	<b>100</b>
Northern Ireland	77	18	177	41	117	27	44	10	19	4	434	100
Scotland	235	21	448	40	267	24	119	11	47	4	1116	100
Wales	134	18	278	37	194	26	94	12	53	7	753	100
<b>UK</b>	<b>3144</b>	<b>21</b>	<b>6225</b>	<b>41</b>	<b>3707</b>	<b>24</b>	<b>1479</b>	<b>10</b>	<b>638</b>	<b>4</b>	<b>15193</b>	<b>100</b>

**Table 29: ER status (invasive cancers)**

Region	Positive		Negative		Not done or Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	1389	91	135	9	2	0	1526
East of England	1501	93	108	7	1	0	1610

London	1604	91	146	8	7	0	1757
N East, Yorks & Humber	2139	92	194	8	4	0	2337
North West	1645	92	147	8	3	0	1795
South East	2239	92	186	8	6	0	2431
South West	1828	91	170	9	2	0	2000
West Midlands	1351	91	127	9	1	0	1479
<b>England</b>	<b>13696</b>	<b>92</b>	<b>1213</b>	<b>8</b>	<b>26</b>	<b>0</b>	<b>14935</b>
Northern Ireland	417	87	60	13	0	0	477
Scotland	1284	90	126	9	9	1	1419
Wales	825	90	85	9	7	1	917
<b>UK</b>	<b>16222</b>	<b>91</b>	<b>1484</b>	<b>8</b>	<b>42</b>	<b>0.2</b>	<b>17748</b>

Region	Positive		Negative		Not done or Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	865	57	200	13	461	30	1526
East of England	1127	70	207	13	276	17	1610
London	1294	74	275	16	188	11	1757
N East, Yorks & Humber	1120	48	313	13	904	39	2337
North West	1453	81	333	19	9	1	1795
South East	2002	82	411	17	18	1	2431
South West	839	42	248	12	913	46	2000
West Midlands	1183	80	287	19	9	1	1479
<b>England</b>	<b>9883</b>	<b>66</b>	<b>2274</b>	<b>15</b>	<b>2778</b>	<b>19</b>	<b>14935</b>
Northern Ireland	367	77	110	23	0	0	477
Scotland	1141	80	266	19	12	1	1419
Wales	528	58	189	21	200	22	917
<b>UK</b>	<b>11919</b>	<b>67</b>	<b>2839</b>	<b>16</b>	<b>2990</b>	<b>17</b>	<b>17748</b>

Region	Positive		Negative		Not done or Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	3	2	88	65	44	33	135
East of England	6	6	89	82	13	12	108
London	4	3	135	92	7	5	146
N East, Yorks & Humber	10	5	158	81	26	13	194
North West	8	5	139	95	0	0	147
South East	7	4	179	96	0	0	186
South West	9	5	114	67	47	28	170
West Midlands	5	4	121	95	1	1	127
<b>England</b>	<b>52</b>	<b>4</b>	<b>1023</b>	<b>84</b>	<b>138</b>	<b>11</b>	<b>1213</b>
Northern Ireland	2	3	58	97	0	0	60
Scotland	5	4	121	96	0	0	126
Wales	4	5	78	92	3	4	85
<b>UK</b>	<b>63</b>	<b>4</b>	<b>1280</b>	<b>86</b>	<b>141</b>	<b>10</b>	<b>1484</b>

Region	Positive		Negative		Borderline		Not done or Unknown		Total
	No.	%	No.	%	No.	%	No.	%	
East Midlands	144	9	1376	90	0	0	6	0	1526
East of England	142	9	1414	88	7	0	47	3	1610

London	209	12	1532	87	7	0	9	1	1757
N East, Yorks & Humber	223	10	2089	89	9	0	16	1	2337
North West	151	8	1635	91	0	0	9	1	1795
South East	210	9	2184	90	7	0	30	1	2431
South West	228	11	1744	87	4	0	24	1	2000
West Midlands	147	10	1312	89	5	0	15	1	1479
<b>England</b>	<b>1454</b>	<b>10</b>	<b>13286</b>	<b>89</b>	<b>39</b>	<b>0</b>	<b>156</b>	<b>1</b>	<b>14935</b>
Northern Ireland	58	12	386	81	33	7	0	0	477
Scotland	174	12	1222	86	8	1	15	1	1419
Wales	83	9	811	88	7	1	16	2	917
<b>UK</b>	<b>1769</b>	<b>10</b>	<b>15705</b>	<b>88</b>	<b>87</b>	<b>0</b>	<b>187</b>	<b>1</b>	<b>17748</b>

**Table 33: Size, grade and nodal status for invasive cancers with HER2 testing not done or unknown**

Region	Total HER2 unknown/not done	<10mm invasive size		Grade 1		Negative nodal status	
		No	%	No	%	No	%
East Midlands	6	3	50	2	33	5	83
East of England	47	11	23	7	15	20	43
London	9	6	67	5	56	7	78
N East, Yorks & Humber	16	7	44	7	44	10	63
North West	9	5	56	0	0	6	67
South East	30	19	63	4	13	20	67
South West	24	15	63	4	17	21	88
West Midlands	15	10	67	10	67	14	93
<b>England</b>	<b>156</b>	<b>76</b>	<b>49</b>	<b>39</b>	<b>25</b>	<b>103</b>	<b>66</b>
Northern Ireland	0	0	0	0	0	0	0
Scotland	15	10	67	2	13	7	47
Wales	16	1	6	4	25	2	13
<b>UK</b>	<b>187</b>	<b>87</b>	<b>47</b>	<b>45</b>	<b>24</b>	<b>112</b>	<b>60</b>

**Table 34: ER status (micro/non-invasive cancers)**

Region	Positive		Negative		Not done or Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	75	20	19	5	274	74	368
East of England	93	25	24	6	256	69	373
London	178	33	27	5	330	62	535
N East, Yorks & Humber	194	33	49	8	351	59	594
North West	237	51	48	10	182	39	467
South East	379	54	75	11	251	36	705
South West	283	54	62	12	178	34	523
West Midlands	87	24	14	4	267	73	368
<b>England</b>	<b>1526</b>	<b>39</b>	<b>318</b>	<b>8</b>	<b>2089</b>	<b>53</b>	<b>3933</b>
Northern Ireland	15	13	2	2	96	85	113
Scotland	28	11	12	5	214	84	254
Wales	27	13	4	2	174	85	205
<b>UK</b>	<b>1596</b>	<b>35</b>	<b>336</b>	<b>7</b>	<b>2573</b>	<b>57</b>	<b>4505</b>

**Table 35: Treatment for non-invasive breast cancers**

Region	Conservation surgery		Mastectomy		No surgery		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	251	71	86	24	15	4	0	0	352	100

East of England	261	76	61	18	21	6	0	0	343	100
London	400	78	94	18	22	4	0	0	516	100
N East, Yorks & Humber	453	81	95	17	12	2	1	0	561	100
North West	356	80	72	16	16	4	0	0	444	100
South East	507	76	107	16	48	7	1	0	663	100
South West	390	79	80	16	19	4	5	1	494	100
West Midlands	268	74	65	18	29	8	0	0	362	100
<b>England</b>	<b>2886</b>	<b>77</b>	<b>660</b>	<b>18</b>	<b>182</b>	<b>5</b>	<b>7</b>	<b>0</b>	<b>3735</b>	<b>100</b>
Northern Ireland	85	77	24	22	1	1	0	0	110	100
Scotland	205	85	24	10	6	3	5	2	240	100
Wales	145	73	38	19	17	9	0	0	200	100
<b>UK</b>	<b>3321</b>	<b>78</b>	<b>746</b>	<b>17</b>	<b>206</b>	<b>5</b>	<b>12</b>	<b>0</b>	<b>4285</b>	<b>100</b>

**Table 36: Treatment for micro-invasive breast cancers**

Region	Conservation surgery		Mastectomy		No surgery		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	12	75	4	25	0	0	0	0	16	100
East of England	22	73	8	27	0	0	0	0	30	100
London	15	79	4	21	0	0	0	0	19	100
N East, Yorks & Humber	22	67	11	33	0	0	0	0	33	100
North West	18	78	5	22	0	0	0	0	23	100
South East	30	71	12	29	0	0	0	0	42	100
South West	21	72	8	28	0	0	0	0	29	100
West Midlands	4	67	2	33	0	0	0	0	6	100
<b>England</b>	<b>144</b>	<b>73</b>	<b>54</b>	<b>27</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>198</b>	<b>100</b>
Northern Ireland	3	100	0	0	0	0	0	0	3	100
Scotland	10	71	3	21	0	0	1	7	14	100
Wales	3	60	2	40	0	0	0	0	5	100
<b>UK</b>	<b>160</b>	<b>73</b>	<b>59</b>	<b>27</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>220</b>	<b>100</b>

**Table 37: Treatment for non-invasive breast cancers size >40mm**

Region	Conservation surgery		Mastectomy		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%
East Midlands	22	27.5	58	72.5	0	0	80	100
East of England	10	21	38	79	0	0	48	100
London	37	40	56	60	0	0	93	100
N East, Yorks & Humber	38	38	61	62	0	0	99	100
North West	33	43	44	57	0	0	77	100
South East	41	39	63	61	0	0	104	100
South West	37	45	45	55	0	0	82	100
West Midlands	35	51	33	49	0	0	68	100
<b>England</b>	<b>253</b>	<b>39</b>	<b>398</b>	<b>61</b>	<b>0</b>	<b>0</b>	<b>651</b>	<b>100</b>
Northern Ireland	6	35	11	65	0	0	17	100
Scotland	17	61	11	39	0	0	28	100
Wales	11	34	21	66	0	0	32	100
<b>UK</b>	<b>287</b>	<b>39</b>	<b>441</b>	<b>61</b>	<b>0</b>	<b>0</b>	<b>728</b>	<b>100</b>

**Table 38: Treatment of high cytonuclear grade non-invasive cancers (>40mm)**

Region	Conservation surgery		Mastectomy		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%
East Midlands	17	29	41	71	0	0	58	100

East of England	10	26	29	74	0	0	39	100
London	21	32	44	68	0	0	65	100
N East, Yorks & Humber	30	37	52	63	0	0	82	100
North West	20	38	33	62	0	0	53	100
South East	31	42	43	58	0	0	74	100
South West	33	45	40	55	0	0	73	100
West Midlands	28	47	31	53	0	0	59	100
<b>England</b>	<b>190</b>	<b>38</b>	<b>313</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>503</b>	<b>100</b>
Northern Ireland	6	40	9	60	0	0	15	100
Scotland	15	63	9	38	0	0	24	100
Wales	8	38	13	62	0	0	21	100
<b>UK</b>	<b>219</b>	<b>39</b>	<b>344</b>	<b>61</b>	<b>0</b>	<b>0</b>	<b>563</b>	<b>100</b>

**Table 39: Treatment for invasive breast cancers**

Region	Conservation surgery		Mastectomy		No Surgery		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	1245	82	217	14	64	4	0	0	1526	100
East of England	1286	80	239	15	82	5	3	0	1610	100
London	1356	77	312	18	89	5	0	0	1757	100
N East, Yorks & Humber	1935	83	341	15	60	3	1	0	2337	100
North West	1468	82	260	14	67	4	0	0	1795	100
South East	1956	80	379	16	96	4	0	0	2431	100
South West	1662	83	274	14	63	3	1	0	2000	100
West Midlands	1181	80	251	17	47	3	0	0	1479	100
<b>England</b>	<b>12089</b>	<b>81</b>	<b>2273</b>	<b>15</b>	<b>568</b>	<b>4</b>	<b>5</b>	<b>0</b>	<b>14935</b>	<b>100</b>
Northern Ireland	394	83	75	16	8	2	0	0	477	100
Scotland	1193	84	148	10	55	4	23	2	1419	100
Wales	700	76	187	20	30	3	0	0	917	100
<b>UK</b>	<b>14376</b>	<b>81</b>	<b>2683</b>	<b>15</b>	<b>661</b>	<b>4</b>	<b>28</b>	<b>0</b>	<b>17748</b>	<b>100</b>

**Table 40: Mastectomy rate with invasive tumour size**

Region	<15mm		15-≤20mm		>20-≤35mm		>35-≤50mm		>50mm	
	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	66	8	42	14	56	20	25	50	23	82
East of England	74	10	31	8	72	26	26	52	34	83
London	87	12	54	13	81	23	35	43	46	85
N East, Yorks & Humber	108	9	60	11	83	21	39	53	43	68
North West	86	10	41	10	64	20	38	53	26	79
South East	117	10	56	11	89	21	56	50	52	73
South West	92	10	58	12	59	18	37	46	25	71
West Midlands	88	13	41	12	61	23	32	48	27	75
<b>England</b>	<b>718</b>	<b>10</b>	<b>383</b>	<b>11</b>	<b>565</b>	<b>21</b>	<b>288</b>	<b>49</b>	<b>276</b>	<b>76</b>
Northern Ireland	24	10	8	9	17	19	12	60	11	85
Scotland	43	6	27	10	30	15	22	39	22	71
Wales	38	10	27	13	60	32	23	53	30	91
<b>UK</b>	<b>823</b>	<b>10</b>	<b>445</b>	<b>11</b>	<b>672</b>	<b>22</b>	<b>345</b>	<b>49</b>	<b>339</b>	<b>77</b>

Numerator – number of invasive tumours treated by mastectomy by invasive size

Denominator – number of surgically treated invasive breast cancers by invasive size (see Table 24)

**Table 41: Mastectomy rate with whole tumour size**

Region	<15mm		15-≤20mm		>20-≤35mm		>35-≤50mm		>50mm	
	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	17	3	30	10	56	16	42	44	55	71

East of England	27	5	14	4	71	20	34	37	66	81
London	26	6	30	8	60	14	59	41	101	76
N East, Yorks & Humber	36	4	35	7	81	15	66	42	106	66
North West	23	4	30	7	63	17	50	40	71	74
South East	39	5	44	8	89	17	78	40	103	65
South West	17	3	31	7	52	12	59	37	76	70
West Midlands	24	5	37	11	54	16	44	37	59	73
<b>England</b>	<b>209</b>	<b>4</b>	<b>251</b>	<b>8</b>	<b>526</b>	<b>16</b>	<b>432</b>	<b>40</b>	<b>637</b>	<b>71</b>
Northern Ireland	8	4	7	6	16	15	17	45	26	76
Scotland	25	4	20	7	21	8	29	31	40	61
Wales	17	7	19	9	47	21	35	49	54	70
<b>UK</b>	<b>259</b>	<b>4</b>	<b>297</b>	<b>8</b>	<b>610</b>	<b>15</b>	<b>513</b>	<b>40</b>	<b>757</b>	<b>71</b>

Numerator – number of tumours treated by mastectomy by whole size

Denominator – number of surgically treated invasive breast cancers by whole size (see Table 25)

**Table 42: Mastectomy rate for <15mm invasive cancers by whole tumour size**

Region	Whole Size <15mm		Whole size 15-≤20mm		Whole size >20-≤35mm		Whole size >35-≤50mm		Whole size >50mm	
	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	17	3	5	2	9	3	16	17	16	21
East of England	27	5	3	1	16	4	10	11	15	19
London	26	6	10	3	11	3	15	10	24	18
N East, Yorks & Humber	36	4	9	2	11	2	16	10	34	21
North West	23	4	8	2	11	3	10	8	29	30
South East	39	5	14	3	20	4	17	9	26	16
South West	17	3	6	1	14	3	17	11	32	30
West Midlands	24	5	13	4	16	5	7	6	20	25
<b>England</b>	<b>209</b>	<b>4</b>	<b>68</b>	<b>2</b>	<b>108</b>	<b>3</b>	<b>108</b>	<b>10</b>	<b>196</b>	<b>22</b>
Northern Ireland	7	4	1	1	1	1	5	13	10	29
Scotland	24	4	5	2	2	1	2	2	8	12
Wales	15	6	6	3	3	1	3	4	7	9
<b>UK</b>	<b>255</b>	<b>4</b>	<b>80</b>	<b>2</b>	<b>114</b>	<b>3</b>	<b>118</b>	<b>9</b>	<b>221</b>	<b>21</b>

Numerator – number of tumours treated by mastectomy where invasive size is less than 15mm, by whole size

Denominator – number of surgically treated invasive breast cancers by whole size (see Table 25)

**Table 43: Immediate reconstruction with mastectomy (all cancers)**

Region	Immediate reconstruction		No immediate reconstruction		Unknown		Total mastectomies	
	No.	%	No.	%	No.	%	No.	%
East Midlands	58	19	249	81	0	0	307	100
East of England	118	38	184	60	6	2	308	100
London	196	48	214	52	0	0	410	100
N East, Yorks & Humber	168	38	279	62	0	0	447	100
North West	118	35	220	65	0	0	338	100
South East	174	35	323	65	1	0	498	100
South West	106	29	256	71	0	0	362	100
West Midlands	101	32	217	68	0	0	318	100
<b>England</b>	<b>1039</b>	<b>35</b>	<b>1942</b>	<b>65</b>	<b>7</b>	<b>0</b>	<b>2988</b>	<b>100</b>
Northern Ireland	27	27	72	73	0	0	99	100
Scotland	30	17	131	75	14	8	175	100
Wales	27	12	200	88	0	0	227	100
<b>UK</b>	<b>1123</b>	<b>32</b>	<b>2345</b>	<b>67</b>	<b>21</b>	<b>1</b>	<b>3489</b>	<b>100</b>

**Table 44: Any neo-adjuvant therapy**

Region	Had treatment		Did not have treatment		Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	159	8	1736	92	0	0	1895

East of England	150	8	1834	92	0	0	1984
London	197	9	2095	91	0	0	2292
N East, Yorks & Humber	198	7	2733	93	0	0	2931
North West	172	8	2093	92	0	0	2265
South East	176	6	2960	94	0	0	3136
South West	213	8	2310	92	0	0	2523
West Midlands	185	10	1662	90	0	0	1847
<b>England</b>	<b>1450</b>	<b>8</b>	<b>17423</b>	<b>92</b>	<b>0</b>	<b>0</b>	<b>18873</b>
Northern Ireland	29	5	564	95	0	0	593
Scotland	82	5	1591	95	0	0	1673
Wales	131	12	992	88	0	0	1123
<b>UK</b>	<b>1692</b>	<b>8</b>	<b>20570</b>	<b>92</b>	<b>0</b>	<b>0</b>	<b>22262</b>

**Table 45: Neo-adjuvant endocrine therapy**

Region	Had treatment		Did not have treatment		Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	69	4	1826	96	0	0	1895
East of England	73	4	1911	96	0	0	1984
London	87	4	2205	96	0	0	2292
N East, Yorks & Humber	96	3	2835	97	0	0	2931
North West	89	4	2176	96	0	0	2265
South East	68	2	3068	98	0	0	3136
South West	62	2	2461	98	0	0	2523
West Midlands	89	5	1758	95	0	0	1847
<b>England</b>	<b>633</b>	<b>3</b>	<b>18240</b>	<b>97</b>	<b>0</b>	<b>0</b>	<b>18873</b>
Northern Ireland	11	2	582	98	0	0	593
Scotland	10	1	1663	99	0	0	1673
Wales	77	7	1046	93	0	0	1123
<b>UK</b>	<b>731</b>	<b>3</b>	<b>21531</b>	<b>97</b>	<b>0</b>	<b>0</b>	<b>22262</b>

**Table 46: Neo-adjuvant chemotherapy for invasive cancers**

Region	Had treatment		Did not have treatment		Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	92	6	1434	94	0	0	1526
East of England	80	5	1530	95	0	0	1610
London	111	6	1646	94	0	0	1757
N East, Yorks & Humber	109	5	2228	95	0	0	2337
North West	95	5	1700	95	0	0	1795
South East	112	5	2319	95	0	0	2431
South West	158	8	1842	92	0	0	2000
West Midlands	101	7	1378	93	0	0	1479
<b>England</b>	<b>858</b>	<b>6</b>	<b>14077</b>	<b>94</b>	<b>0</b>	<b>0</b>	<b>14935</b>
Northern Ireland	18	4	459	96	0	0	477
Scotland	66	5	1353	95	0	0	1419
Wales	53	6	864	94	0	0	917
<b>UK</b>	<b>995</b>	<b>6</b>	<b>16753</b>	<b>94</b>	<b>0</b>	<b>0</b>	<b>17748</b>

**Table 47: Neo-adjuvant Traztuzumab**

Region	Had treatment		Did not have treatment		Unknown		Total
	No.	%	No.	%	No.	%	



East Midlands	2	0	1893	100	0	0	1895
East of England	10	1	1974	99	0	0	1984
London	4	0	2288	100	0	0	2292
N East, Yorks & Humber	11	0	2920	100	0	0	2931
North West	13	1	2252	99	0	0	2265
South East	8	0	3128	100	0	0	3136
South West	9	0	2514	100	0	0	2523
West Midlands	16	1	1831	99	0	0	1847
<b>England</b>	<b>73</b>	<b>0</b>	<b>18800</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>18873</b>
Northern Ireland	0	0	593	100	0	0	593
Scotland	5	0	1668	100	0	0	1673
Wales	2	0	1121	100	0	0	1123
<b>UK</b>	<b>80</b>	<b>0</b>	<b>22182</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>22262</b>

**Table 48: Annual screening surgical caseload per surgeon (2021/22)**

Region	Total surgeons	<10 cases		10-29 cases		30-49 cases		50-79 cases		80-99 cases		100+ cases		Median
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
East Midlands	56	8	14	15	27	21	38	9	16	3	5	0	0	33
East of England	71	19	27	23	32	15	21	11	15	3	4	0	0	24
London	115	45	39	31	27	27	23	11	10	1	1	0	0	17
N East, Yorks & Humber	90	15	17	25	28	28	31	18	20	3	3	1	1	32
North West	87	20	23	35	40	23	26	6	7	2	2	1	1	24
South East	99	23	23	26	26	28	28	19	19	1	1	2	2	30
South West	82	17	21	25	30	22	27	17	21	1	1	0	0	28
West Midlands	64	11	17	17	27	29	45	7	11	0	0	0	0	31
<b>England</b>	<b>664</b>	<b>158</b>	<b>24</b>	<b>197</b>	<b>30</b>	<b>193</b>	<b>29</b>	<b>98</b>	<b>15</b>	<b>14</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>27</b>
Northern Ireland	21	1	5	11	52	8	38	1	5	0	0	0	0	27
Scotland	57	13	23	13	23	23	40	8	14	0	0	0	0	31
Wales	21	4	19	4	19	3	14	4	19	3	14	3	14	49
<b>UK</b>	<b>763</b>	<b>176</b>	<b>23</b>	<b>225</b>	<b>29</b>	<b>227</b>	<b>30</b>	<b>111</b>	<b>15</b>	<b>17</b>	<b>2</b>	<b>7</b>	<b>1</b>	<b>28</b>

The surgeons in each Region are credited with their total UK screening caseload.

**Table 49: Proportion of women referred to consultant surgeons according to annual caseload of surgeon (2021/22)**

Region	Total (referred)	<10 cases		10-29 cases		30-49 cases		50-79 cases		80-99 cases		100+ cases	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	1962	22	1	305	16	810	41	564	29	261	13	0	0
East of England	1999	34	2	444	22	582	29	666	33	273	14	0	0
London	2422	114	5	584	24	1030	43	601	25	93	4	0	0
N East, Yorks & Humber	3061	55	2	496	16	1075	35	1067	35	259	8	109	4
North West	2321	59	3	722	31	898	39	362	16	166	7	114	5
South East	3156	73	2	472	15	1094	35	1160	37	93	3	264	8
South West	2606	59	2	543	21	854	33	1063	41	87	3	0	0
West Midlands	1905	32	2	361	19	1092	57	420	22	0	0	0	0
<b>England</b>	<b>19432</b>	<b>448</b>	<b>2</b>	<b>3927</b>	<b>20</b>	<b>7435</b>	<b>38</b>	<b>5903</b>	<b>30</b>	<b>1232</b>	<b>6</b>	<b>487</b>	<b>3</b>
Northern Ireland	613	3	0	236	38	309	50	65	11	0	0	0	0
Scotland	1691	57	3	228	13	934	55	472	28	0	0	0	0
Wales	1122	18	2	69	6	135	12	254	23	271	24	375	33
<b>UK</b>	<b>22858</b>	<b>526</b>	<b>2</b>	<b>4460</b>	<b>20</b>	<b>8813</b>	<b>39</b>	<b>6694</b>	<b>29</b>	<b>1503</b>	<b>7</b>	<b>862</b>	<b>4</b>

**Table 50: Explanations for surgeons with screening caseload less than 10 cases (2021/22)**

Region	All surgeons screening caseload <10	Surgeon from another region		Symptomatic caseload >30 pa*		Joined/Left		Plastic surgeon		Private practice		No information/data errors		Other (including impact of COVID-19)	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%

East Midlands	8	0	0	4	50	0	0	1	13	0	0	3	38	0	0
East of England	19	5	26	0	0	1	5	1	5	3	16	7	37	2	11
London	45	0	0	3	7	4	9	14	31	10	22	11	24	3	7
N East, Yorks & Humber	15	2	13	1	7	1	7	3	20	3	20	2	13	3	20
North West	20	11	55	1	5	3	15	1	5	1	5	1	5	2	10
South East	23	8	35	2	9	2	9	1	4	6	26	0	0	4	17
South West	17	8	47	1	6	2	12	1	6	2	12	2	12	1	6
West Midlands	11	0	0	1	9	3	27	1	9	1	9	3	27	2	18
<b>England</b>	<b>158</b>	<b>34</b>	<b>22</b>	<b>13</b>	<b>8</b>	<b>16</b>	<b>10</b>	<b>23</b>	<b>15</b>	<b>26</b>	<b>16</b>	<b>29</b>	<b>18</b>	<b>17</b>	<b>11</b>
Northern Ireland	1	0	0	0	0	1	100	0	0	0	0	0	0	0	0
Scotland	13	0	0	0	0	0	0	0	0	0	0	12	92	1	8
Wales	4	0	0	2	50	2	50	0	0	0	0	0	0	0	0
<b>UK</b>	<b>176</b>	<b>34</b>	<b>19</b>	<b>15</b>	<b>9</b>	<b>19</b>	<b>11</b>	<b>23</b>	<b>13</b>	<b>26</b>	<b>15</b>	<b>41</b>	<b>23</b>	<b>18</b>	<b>10</b>

\*pa= per annual

**Table 51: Annual screening surgical caseload per surgeon (2019/20-2021/22)**

Region	Total surgeons	<30 cases		30-89 cases		90-149 cases		150-239 cases		240-299 cases		300+ cases		3 years median
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
East Midlands	70	23	33	17	24	24	34	6	9	0	0	0	0	26
East of England	84	36	43	30	36	11	13	6	7	1	1	0	0	22
London	148	81	55	41	28	22	15	4	3	0	0	0	0	11
N East, Yorks & Humber	102	29	28	38	37	26	25	9	9	0	0	0	0	26
North West	109	38	35	47	43	21	19	2	2	1	1	0	0	19
South East	109	38	35	32	29	26	24	11	10	1	1	1	1	25
South West	96	31	32	34	35	21	22	10	10	0	0	0	0	24
West Midlands	75	23	31	30	40	20	27	2	3	0	0	0	0	23
<b>England</b>	<b>793</b>	<b>299</b>	<b>38</b>	<b>269</b>	<b>34</b>	<b>171</b>	<b>22</b>	<b>50</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>21</b>
Northern Ireland	24	4	17	12	50	8	33	0	0	0	0	0	0	25
Scotland	70	27	39	22	31	18	26	3	4	0	0	0	0	21
Wales	23	6	26	4	17	4	17	7	30	1	4	1	4	38
<b>UK</b>	<b>910</b>	<b>336</b>	<b>37</b>	<b>307</b>	<b>34</b>	<b>201</b>	<b>22</b>	<b>60</b>	<b>7</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>22</b>

**Table 52: Proportion of women referred to consultant surgeons according to annual caseload of surgeon (2019/20-2021/22)**

Region	Total (referred)	<30 cases		30-89 cases		90-149 cases		150-239 cases		240-299 cases		300+ cases	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	4690	153	3	1012	22	2524	54	1001	21	0	0	0	0
East of England	4841	216	4	2035	42	1322	27	1002	21	266	5	0	0
London	5761	406	7	2142	37	2472	43	741	13	0	0	0	0
N East, Yorks & Humber	7227	247	3	2331	32	2971	41	1678	23	0	0	0	0
North West	5800	259	4	2614	45	2333	40	354	6	240	4	0	0
South East	7833	320	4	1941	25	3003	38	2023	26	241	3	305	4
South West	6281	284	5	1974	31	2355	37	1668	27	0	0	0	0
West Midlands	4572	201	4	1861	41	2150	47	360	8	0	0	0	0
<b>England</b>	<b>47005</b>	<b>2086</b>	<b>4</b>	<b>15910</b>	<b>34</b>	<b>19130</b>	<b>41</b>	<b>8827</b>	<b>19</b>	<b>747</b>	<b>2</b>	<b>305</b>	<b>1</b>
Northern Ireland	1615	33	2	719	45	863	53	0	0	0	0	0	0
Scotland	4171	310	7	1401	34	1930	46	530	13	0	0	0	0
Wales	2621	70	3	234	9	450	17	1280	49	267	10	320	12
<b>UK</b>	<b>55412</b>	<b>2499</b>	<b>5</b>	<b>18264</b>	<b>33</b>	<b>22373</b>	<b>40</b>	<b>10637</b>	<b>19</b>	<b>1014</b>	<b>2</b>	<b>625</b>	<b>1</b>

**Table 53: Repeat operations (>1 op) of surgically treated invasive and non/micro-invasive cancers**

Region	Invasive			Non/micro-invasive		
	Total	No	%	Total	No	%
East Midlands	1462	217	15	353	77	22

East of England	1528	264	17	352	62	18
London	1668	241	14	513	83	16
N East, Yorks & Humber	2277	324	14	582	115	20
North West	1728	252	15	451	75	17
South East	2335	427	18	657	150	23
South West	1937	339	18	504	111	22
West Midlands	1432	245	17	339	66	19
<b>England</b>	<b>14367</b>	<b>2309</b>	<b>16</b>	<b>3751</b>	<b>739</b>	<b>20</b>
Northern Ireland	469	92	20	112	21	19
Wales	887	187	21	188	44	23
<b>UK (excl Scotland)</b>	<b>15723</b>	<b>2588</b>	<b>16</b>	<b>4051</b>	<b>804</b>	<b>20</b>

Insufficient data available for Scotland

<b>Table 54: Repeat operations (&gt;1 op) of surgically treated invasive and non/micro-invasive cancers without a non-op diagnosis</b>						
Region	Invasive			Non/micro-invasive		
	Total	No	%	Total	No	%
East Midlands	2	2	100	12	9	75
East of England	11	7	64	29	6	21
London	2	1	50	22	7	32
N East, Yorks & Humber	7	5	71	35	10	29
North West	9	7	78	18	5	28
South East	1	1	100	54	13	24
South West	9	6	67	28	10	36
West Midlands	2	1	50	13	8	62
<b>England</b>	<b>43</b>	<b>30</b>	<b>70</b>	<b>211</b>	<b>68</b>	<b>32</b>
Northern Ireland	0	0	0	8	3	38
Wales	6	5	83	11	10	91
<b>UK excl Scotland</b>	<b>49</b>	<b>35</b>	<b>71</b>	<b>230</b>	<b>81</b>	<b>35</b>

Insufficient data available for Scotland

<b>Table 55: Number of therapeutic operations (invasive cancers) with initial BCS and a non-operative diagnosis</b>															
Region	1		2		3		4+		Unknown		Total cancers		Repeat 2+ ops		
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	
East Midlands	1072	84	178	14	18	1	1	0	0	0	0	1269	100	197	16
East of England	1101	84	188	14	16	1	4	0	0	0	0	1309	100	208	16
London	1163	85	200	15	11	1	2	0	0	0	0	1376	100	213	15
N East, Yorks & Humber	1682	85	241	12	41	2	5	0	0	0	0	1969	100	287	15
North West	1262	85	201	14	17	1	0	0	0	0	0	1480	100	218	15
South East	1624	81	344	17	39	2	8	0	0	0	0	2015	100	391	19
South West	1376	82	266	16	39	2	0	0	0	0	0	1681	100	305	18
West Midlands	971	81	200	17	25	2	3	0	0	0	0	1199	100	228	19
<b>England</b>	<b>10251</b>	<b>83</b>	<b>1818</b>	<b>15</b>	<b>206</b>	<b>2</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12298</b>	<b>100</b>	<b>2047</b>	<b>17</b>
Northern Ireland	323	79	77	19	5	1	2	0	0	0	0	407	100	84	21
Wales	558	77	149	21	16	2	1	0	0	0	0	724	100	166	23
<b>UK excl. Scotland</b>	<b>11132</b>	<b>83</b>	<b>2044</b>	<b>15</b>	<b>227</b>	<b>2</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13429</b>	<b>100</b>	<b>2297</b>	<b>17</b>

Insufficient data available for Scotland

<b>Table 56: Number of therapeutic operations (non/micro-invasive cancers) with initial BCS and a non-operative diagnosis</b>							
Region	1	2	3	4+	Unknown	Total cancers	Repeat 2+ ops

	No	%	No	%	No	%	No	%	No	%	No	%	No	%
East Midlands	199	75	57	21	10	4	1	0	0	0	267	100	68	25
East of England	212	81	46	17	5	2	0	0	0	0	263	100	51	19
London	336	82	69	17	3	1	0	0	0	0	408	100	72	18
N East, Yorks & Humber	361	78	82	18	18	4	0	0	0	0	461	100	100	22
North West	301	82	57	15	9	2	1	0	0	0	368	100	67	18
South East	369	73	120	24	11	2	4	1	0	0	504	100	135	27
South West	311	77	81	20	14	3	0	0	0	0	406	100	95	23
West Midlands	218	81	42	16	8	3	2	1	0	0	270	100	52	19
<b>England</b>	<b>2307</b>	<b>78</b>	<b>554</b>	<b>19</b>	<b>78</b>	<b>3</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2947</b>	<b>100</b>	<b>640</b>	<b>22</b>
Northern Ireland	68	80	13	15	4	5	0	0	0	0	85	100	17	20
Wales	112	77	29	20	3	2	1	1	0	0	145	100	33	23
<b>UK excl. Scotland</b>	<b>2487</b>	<b>78</b>	<b>596</b>	<b>19</b>	<b>85</b>	<b>3</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3177</b>	<b>100</b>	<b>690</b>	<b>22</b>

Insufficient data available for Scotland

**Table 57: Number of therapeutic operations for invasive cancers with B5b (invasive) core biopsy result**

Region	1		2		3+		Unknown		Total		Repeat (2+) rate	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	1215	88	144	10	17	1	0	0	1376	100	161	12
East of England	1223	85	196	14	16	1	0	0	1435	100	212	15
London	1374	88	180	11	12	1	0	0	1566	100	192	12
N East, Yorks & Humber	1871	88	221	10	43	2	0	0	2135	100	264	12
North West	1421	88	185	11	13	1	0	0	1619	100	198	12
South East	1847	85	300	14	35	2	0	0	2182	100	335	15
South West	1537	85	231	13	35	2	0	0	1803	100	266	15
West Midlands	1150	86	172	13	21	2	0	0	1343	100	193	14
<b>England</b>	<b>11638</b>	<b>86</b>	<b>1629</b>	<b>12</b>	<b>192</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>13459</b>	<b>100</b>	<b>1821</b>	<b>14</b>
Northern Ireland	364	83	70	16	5	1	0	0	439	100	75	17
Wales	671	82	134	16	13	2	0	0	818	100	147	18
<b>UK excl. Scotland</b>	<b>12673</b>	<b>86</b>	<b>1833</b>	<b>12</b>	<b>210</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>14716</b>	<b>100</b>	<b>2043</b>	<b>14</b>

Insufficient data available for Scotland

**Table 58: Number of therapeutic operations for invasive cancers with B5a (non-invasive) core biopsy result**

Region	1		2		3+		Unknown		Total		Repeat (2+) rate	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	24	32	49	65	2	3	0	0	75	100	51	68
East of England	31	42	39	53	3	4	0	0	73	100	42	58
London	46	50	45	49	1	1	0	0	92	100	46	50
N East, Yorks & Humber	70	57	49	40	3	2	0	0	122	100	52	43
North West	42	48	42	48	4	5	0	0	88	100	46	52
South East	53	38	73	53	13	9	0	0	139	100	86	62
South West	43	40	58	54	6	6	0	0	107	100	64	60
West Midlands	34	40	43	51	7	8	0	0	84	100	50	60
<b>England</b>	<b>343</b>	<b>44</b>	<b>398</b>	<b>51</b>	<b>39</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>780</b>	<b>100</b>	<b>437</b>	<b>56</b>
Northern Ireland	11	44	12	48	2	8	0	0	25	100	14	56
Wales	26	44	30	51	3	5	0	0	59	100	33	56
<b>UK excl. Scotland</b>	<b>380</b>	<b>44</b>	<b>440</b>	<b>51</b>	<b>44</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>864</b>	<b>100</b>	<b>484</b>	<b>56</b>

Insufficient data available for Scotland

**Table 59: Number of therapeutic operations for non-invasive or micro-invasive cancers with B5a (non-invasive) core biopsy result**

Region	1	2	3+	Unknown	Total	Repeat (2+) rate
--------	---	---	----	---------	-------	------------------

	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	247	81	49	16	10	3	0	0	306	100	59	19
East of England	248	82	49	16	5	2	0	0	302	100	54	18
London	375	84	69	15	2	0	0	0	446	100	71	16
N East, Yorks & Humber	405	81	82	16	16	3	0	0	503	100	98	19
North West	346	84	59	14	9	2	0	0	414	100	68	16
South East	439	77	117	21	14	2	0	0	570	100	131	23
South West	345	78	83	19	13	3	0	0	441	100	96	22
West Midlands	251	81	47	15	11	4	0	0	309	100	58	19
<b>England</b>	<b>2656</b>	<b>81</b>	<b>555</b>	<b>17</b>	<b>80</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>3291</b>	<b>100</b>	<b>635</b>	<b>19</b>
Northern Ireland	84	82	14	14	4	4	0	0	102	100	18	18
Wales	129	80	29	18	4	2	0	0	162	100	33	20
<b>UK excl. Scotland</b>	<b>2869</b>	<b>81</b>	<b>598</b>	<b>17</b>	<b>88</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>3555</b>	<b>100</b>	<b>686</b>	<b>19</b>

Insufficient data available for Scotland

Region	All cancers with initial BCS (with non-op diagnosis)	Repeat BCS	
		No	%
East Midlands	1536	173	11
East of England	1572	177	11
London	1784	189	11
N East, Yorks & Humber	2430	269	11
North West	1848	202	11
South East	2519	365	14
South West	2087	291	14
West Midlands	1469	198	13
<b>England</b>	<b>15245</b>	<b>1864</b>	<b>12</b>
Northern Ireland	492	67	14
Wales	869	130	15
<b>UK excl. Scotland</b>	<b>16606</b>	<b>2061</b>	<b>12</b>

Insufficient data available for Scotland

Region	All cancers with initial BCS (with non-op diagnosis)	Converted to Mx	
		No	%
East Midlands	1536	39	3
East of England	1572	36	2
London	1784	38	2
N East, Yorks & Humber	2430	56	2
North West	1848	36	2
South East	2519	81	3
South West	2087	51	2
West Midlands	1469	33	2
<b>England</b>	<b>15245</b>	<b>370</b>	<b>2</b>
Northern Ireland	492	19	4
Scotland	1394	5	0
Wales	869	35	4
<b>UK</b>	<b>16606</b>	<b>424</b>	<b>3</b>

Region	Total cases with surgery to the breast	Complete margin data	% complete margin data	Not complete margin data

East Midlands	1786	1604	90	182
East of England	1831	1639	90	192
London	2081	1940	93	141
N East, Yorks & Humber	2808	2745	98	63
North West	2113	2006	95	107
South East	2940	2795	95	145
South West	2372	2282	96	90
West Midlands	1711	1633	95	78
<b>England</b>	<b>17642</b>	<b>16644</b>	<b>94</b>	<b>998</b>
Northern Ireland	569	551	97	18
Wales	1042	925	89	117
<b>UK excl. Scotland</b>	<b>19253</b>	<b>18120</b>	<b>94</b>	<b>1133</b>

No data available for Scotland

**Table 63: Margin information of final operations for cases treated by BCS**

Region	Total cases with surgery	Margin clear		Margin not clear		Margin unknown	
		No.	%	No.	%	No.	%
East Midlands	1483	1469	99	14	1	0	0
East of England	1532	1482	97	48	3	2	0
London	1688	1676	99	10	1	2	0
N East, Yorks & Humber	2365	2320	98	34	1	11	0
North West	1789	1741	97	46	3	2	0
South East	2450	2376	97	64	3	10	0
South West	2017	1960	97	54	3	3	0
West Midlands	1407	1375	98	30	2	2	0
<b>England</b>	<b>14731</b>	<b>14399</b>	<b>98</b>	<b>300</b>	<b>2</b>	<b>32</b>	<b>0</b>
Northern Ireland	472	460	97	10	2	2	0
Wales	821	803	98	15	2	3	0
<b>UK excl. Scotland</b>	<b>16024</b>	<b>15662</b>	<b>98</b>	<b>325</b>	<b>2</b>	<b>37</b>	<b>0</b>

No data available for Scotland

**Table 64: Margin information of final operations for cases treated by mastectomy**

Region	Total cases with surgery	Margin clear		Margin not clear		Margin unknown	
		No.	%	No.	%	No.	%
East Midlands	303	289	95	11	4	3	1
East of England	296	248	84	10	3	38	13
London	393	380	97	13	3	0	0
N East, Yorks & Humber	441	390	88	45	10	6	1
North West	324	301	93	22	7	1	0
South East	489	452	92	30	6	7	1
South West	349	331	95	16	5	2	1
West Midlands	304	291	96	13	4	0	0
<b>England</b>	<b>2899</b>	<b>2682</b>	<b>93</b>	<b>160</b>	<b>6</b>	<b>57</b>	<b>2</b>
Northern Ireland	97	95	98	0	0	2	2
Wales	221	208	94	8	4	5	2
<b>UK excl. Scotland</b>	<b>3217</b>	<b>2985</b>	<b>93</b>	<b>168</b>	<b>5</b>	<b>64</b>	<b>2</b>

No data available for Scotland

**Table 65: Record of axillary ultrasound for invasive cancers**

Region	Had axillary ultrasound		Did not have axillary ultrasound		Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	1512	99	14	1	0	0	1526

East of England	1575	98	35	2	0	0	1610
London	1757	100	0	0	0	0	1757
N East, Yorks & Humber	2313	99	24	1	0	0	2337
North West	1783	99	12	1	0	0	1795
South East	2430	100	0	0	1	0	2431
South West	1970	99	30	2	0	0	2000
West Midlands	1475	100	4	0	0	0	1479
<b>England</b>	<b>14815</b>	<b>99</b>	<b>119</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>14935</b>
Northern Ireland	462	97	13	3	2	0	477
Wales	849	93	63	7	5	1	917
<b>UK excl. Scotland</b>	<b>16126</b>	<b>91</b>	<b>195</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>16329</b>

No data available for Scotland

Region	Normal		Abnormal		Total
	No.	%	No.	%	
East Midlands	1294	86	218	14	1512
East of England	1401	89	174	11	1575
London	1499	85	258	15	1757
N East, Yorks & Humber	2007	87	306	13	2313
North West	1536	86	247	14	1783
South East	2124	87	306	13	2430
South West	1694	86	276	14	1970
West Midlands	1246	84	229	16	1475
<b>England</b>	<b>12801</b>	<b>86</b>	<b>2014</b>	<b>14</b>	<b>14815</b>
Northern Ireland	378	82	84	18	462
Wales	702	83	147	17	849
<b>UK excl. Scotland</b>	<b>13881</b>	<b>86</b>	<b>2245</b>	<b>14</b>	<b>16126</b>

No data available for Scotland

Region	Had axillary biopsy		Did not have axillary biopsy		Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	197	90	21	10	0	0	218
East of England	148	85	23	13	3	2	174
London	252	98	4	2	2	1	258
N East, Yorks & Humber	287	94	19	6	0	0	306
North West	225	91	22	9	0	0	247
South East	295	96	10	3	1	0	306
South West	245	89	31	11	0	0	276
West Midlands	215	94	10	4	4	2	229
<b>England</b>	<b>1864</b>	<b>93</b>	<b>140</b>	<b>7</b>	<b>10</b>	<b>0</b>	<b>2014</b>
Northern Ireland	71	85	13	15	0	0	84
Wales	131	89	5	3	11	7	147
<b>UK excl. Scotland</b>	<b>2066</b>	<b>92</b>	<b>158</b>	<b>7</b>	<b>21</b>	<b>1</b>	<b>2245</b>

No data available for Scotland

**Table 68: Worst axillary biopsy result for invasive cancer cases with an abnormal axillary ultrasound scan**

Region	C1/B1		C2/B2		C3/B3		C4/B4		C5/B5		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	
East Midlands	11	6	84	43	0	0	0	0	102	52	197
East of England	14	9	58	39	2	1	1	1	73	49	148
London	8	3	100	40	0	0	3	1	141	56	252
N East, Yorks & Humber	4	1	126	44	1	0	3	1	153	53	287
North West	14	6	100	44	2	1	1	0	108	48	225
South East	15	5	113	38	0	0	3	1	164	56	295
South West	17	7	89	36	0	0	1	0	138	56	245
West Midlands	9	4	98	46	1	0	0	0	107	50	215
<b>England</b>	<b>92</b>	<b>5</b>	<b>768</b>	<b>41</b>	<b>6</b>	<b>0</b>	<b>12</b>	<b>1</b>	<b>986</b>	<b>53</b>	<b>1864</b>
Northern Ireland	3	4	39	55	1	1	4	6	24	34	71
Wales	8	6	60	46	1	1	0	0	62	47	131
<b>UK excl. Scotland</b>	<b>103</b>	<b>5</b>	<b>867</b>	<b>42</b>	<b>8</b>	<b>0</b>	<b>16</b>	<b>1</b>	<b>1072</b>	<b>52</b>	<b>2066</b>

No data available for Scotland

**Table 69: Worst axillary biopsy result for invasive cancer cases with a normal axillary ultrasound scan**

Region	C1/B1		C2/B2		C3/B3		C4/B4		C5/B5		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	
East Midlands	0	0	2	33	1	17	0	0	3	50	6
East of England	1	7	6	43	2	14	1	7	4	29	14
London	0	0	2	100	0	0	0	0	0	0	2
N East, Yorks & Humber	0	0	0	0	0	0	0	0	2	100	2
North West	3	50	1	17	0	0	0	0	2	33	6
South East	0	0	5	71	0	0	0	0	2	29	7
South West	0	0	1	25	0	0	0	0	3	75	4
West Midlands	0	0	3	75	0	0	0	0	1	25	4
<b>England</b>	<b>4</b>	<b>9</b>	<b>20</b>	<b>44</b>	<b>3</b>	<b>7</b>	<b>1</b>	<b>2</b>	<b>17</b>	<b>38</b>	<b>45</b>
Northern Ireland	0	0	1	100	0	0	0	0	0	0	1
Wales	0	0	4	15	1	4	0	0	22	81	27
<b>UK excl. Scotland</b>	<b>4</b>	<b>5</b>	<b>25</b>	<b>34</b>	<b>4</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>39</b>	<b>53</b>	<b>73</b>

No data available for Scotland

**Table 70: PPV of axillary biopsy results for invasive cancers (with any axillary ultrasound scan result) found to have positive nodes at surgery\***

Region	C1/B1		C2/B2		C3/B3		C4/B4		C5/B5	
	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	6	60	13	18	0	-	0	-	52	96
East of England	4	40	10	17	2	67	1	50	38	93
London	1	20	16	21	0	-	1	50	60	91
N East, Yorks & Humber	1	33	22	19	1	100	1	33	96	98
North West	2	13	14	17	2	100	1	100	53	83
South East	1	11	26	25	0	-	2	67	100	92
South West	3	21	10	12	0	-	1	100	66	90
West Midlands	2	25	13	15	0	-	0	-	48	87
<b>England</b>	<b>20</b>	<b>27</b>	<b>124</b>	<b>18</b>	<b>5</b>	<b>71</b>	<b>7</b>	<b>58</b>	<b>513</b>	<b>92</b>
Northern Ireland	0	-	7	18	0	-	1	50	16	100
Wales	4	80	12	24	1	50	0	-	53	88
<b>UK excl. Scotland</b>	<b>24</b>	<b>30</b>	<b>143</b>	<b>19</b>	<b>6</b>	<b>60</b>	<b>8</b>	<b>57</b>	<b>582</b>	<b>92</b>

Denominator is all invasive cancers with an abnormal axillary biopsy result and at least one surgery to the axilla.

\*Excluded cases with neo-adjuvant therapy. No data available for Scotland



<b>Table 71: Positive predictivity of all/any pre-op assessments for invasive cancers with positive nodal status at surgery *</b>			
<b>Region</b>	<b>Total with positive nodal status</b>	<b>Had positive pre-op ax assessment</b>	
		<b>No</b>	<b>%</b>
East Midlands	226	52	23
East of England	237	38	16
London	240	60	25
N East, Yorks & Humber	396	96	24
North West	258	53	21
South East	404	100	25
South West	284	66	23
West Midlands	211	48	23
<b>England</b>	<b>2256</b>	<b>513</b>	<b>23</b>
Northern Ireland	65	16	25
Wales	152	53	35
<b>UK excl Scotland</b>	<b>2473</b>	<b>582</b>	<b>24</b>

\*Excluded cases with neo-adjuvant therapy. No data available for Scotland

<b>Table 72: Nodal positivity for invasive cancers without neo-adjuvant therapy and without or unknown pre-op axillary assessment</b>			
<b>Region</b>	<b>Total without/unknown pre-op ax</b>	<b>Positive nodal status</b>	
		<b>No</b>	<b>%</b>
East Midlands	1200	155	13
East of England	1291	182	14
London	1319	162	12
N East, Yorks & Humber	1869	275	15
North West	1410	186	13
South East	1950	275	14
South West	1584	204	13
West Midlands	1134	148	13
<b>England</b>	<b>11757</b>	<b>1587</b>	<b>13</b>
Northern Ireland	379	40	11
Wales	646	82	13
<b>UK excl. Scotland</b>	<b>12782</b>	<b>1709</b>	<b>13</b>

\*Excluded cases with neo-adjuvant therapy. No data available for Scotland

<b>Table 73: Pre-op axillary biopsy results for invasive cancers with positive nodal status</b>											
<b>Region</b>	<b>C1/B1</b>		<b>C2/B2</b>		<b>C3/B3</b>		<b>C4/B4</b>		<b>C5/B5</b>		<b>Invasive cases with positive nodal status</b>
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	
East Midlands	6	3	13	6	0	0	0	0	52	23	226
East of England	4	2	10	4	2	1	1	0	38	16	237
London	1	0	16	7	0	0	1	0	60	25	240
N East, Yorks & Humber	1	0	22	6	1	0	1	0	96	24	396
North West	2	1	14	5	2	1	1	0	53	21	258
South East	1	0	26	6	0	0	2	0	100	25	404
South West	3	1	10	4	0	0	1	0	66	23	284
West Midlands	2	1	13	6	0	0	0	0	48	23	211
<b>England</b>	<b>20</b>	<b>1</b>	<b>124</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>513</b>	<b>23</b>	<b>2256</b>
Northern Ireland	0	0	8	12	0	0	1	2	16	25	65
Wales	4	3	12	8	1	1	0	0	53	35	152
<b>UK excl. Scotland</b>	<b>24</b>	<b>1</b>	<b>144</b>	<b>6</b>	<b>6</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>582</b>	<b>24</b>	<b>2473</b>

The denominator is all invasive cancers with axillary ultrasound and positive nodes at surgery. Excluded cases with neo-adjuvant therapy. No data available for Scotland.

Region	Total invasive cancers with surgery	Nodal status known		Nodes obtained but status unknown		No nodes obtained		Unknown if nodes obtained	
		No.	%	No.	%	No.	%	No.	%
East Midlands	1462	1456	100	0	0	6	0	0	0
East of England	1528	1511	99	0	0	17	1	0	0
London	1668	1648	99	0	0	20	1	0	0
N East, Yorks & Humber	2277	2246	99	0	0	31	1	0	0
North West	1728	1708	99	0	0	20	1	0	0
South East	2335	2299	98	0	0	36	2	0	0
South West	1937	1915	99	0	0	22	1	0	0
West Midlands	1432	1427	100	0	0	5	0	0	0
<b>England</b>	<b>14367</b>	<b>14210</b>	<b>99</b>	<b>0</b>	<b>0</b>	<b>157</b>	<b>1</b>	<b>0</b>	<b>0</b>
Northern Ireland	469	466	99	0	0	3	1	0	0
Wales	887	862	97	1	0	23	3	1	0
<b>UK excl. Scotland</b>	<b>15723</b>	<b>15538</b>	<b>99</b>	<b>1</b>	<b>0</b>	<b>183</b>	<b>1</b>	<b>2</b>	<b>0</b>

No data available for Scotland

Region	With SLNB		Other Axillary procedure		Total	
	No.	%	No.	%	No.	%
East Midlands	1336	92	120	8	1456	100
East of England	1429	94	86	6	1515	100
London	1531	93	120	7	1651	100
N East, Yorks & Humber	2072	92	175	8	2247	100
North West	1588	93	121	7	1709	100
South East	2136	93	166	7	2302	100
South West	1781	93	137	7	1918	100
West Midlands	1323	93	107	7	1430	100
<b>England</b>	<b>13196</b>	<b>93</b>	<b>1032</b>	<b>7</b>	<b>14228</b>	<b>100</b>
Northern Ireland	426	91	40	9	466	100
Scotland	1269	95	71	5	1340	100
Wales	798	92	68	8	866	100
<b>UK</b>	<b>15689</b>	<b>93</b>	<b>1211</b>	<b>7</b>	<b>16900</b>	<b>100</b>

Region	Total known with known nodal status	Positive		Negative	
		No.	%	No.	%
East Midlands	1456	263	18	1193	82
East of England	1511	267	18	1244	82
London	1648	284	17	1364	83
N East, Yorks & Humber	2246	437	19	1809	81
North West	1708	290	17	1418	83
South East	2299	435	19	1864	81
South West	1915	324	17	1591	83
West Midlands	1427	252	18	1175	82
<b>England</b>	<b>14210</b>	<b>2552</b>	<b>18</b>	<b>11658</b>	<b>82</b>
Northern Ireland	466	79	17	387	83
Scotland	1173	215	18	958	82
Wales	862	177	21	685	79
<b>UK</b>	<b>16711</b>	<b>3023</b>	<b>18</b>	<b>13688</b>	<b>82</b>

**Table 77: Number of nodes taken for invasive cases without SLNB or with unknown axillary procedure**

Region	Total with axillary surgery	0 node obtained		1,2,3 nodes obtained		≥4nodes obtained		Unknown	
		No.	%	No.	%	No.	%	No.	%
East Midlands	120	0	0	5	4	115	96	0	0
East of England	86	0	0	7	8	79	92	0	0
London	120	0	0	2	2	118	98	0	0
N East, Yorks & Humber	175	0	0	8	5	167	95	0	0
North West	121	1	1	14	12	106	88	0	0
South East	166	1	1	3	2	162	98	0	0
South West	137	0	0	10	7	127	93	0	0
West Midlands	107	1	1	9	8	97	91	0	0
<b>England</b>	<b>1032</b>	<b>3</b>	<b>0</b>	<b>58</b>	<b>6</b>	<b>971</b>	<b>94</b>	<b>0</b>	<b>0</b>
Northern Ireland	40	0	0	3	8	37	93	0	0
Scotland	71	2	3	6	8	57	80	6	8
Wales	68	0	0	2	3	66	97	0	0
<b>UK</b>	<b>1211</b>	<b>5</b>	<b>0</b>	<b>69</b>	<b>6</b>	<b>1131</b>	<b>93</b>	<b>6</b>	<b>0</b>

**Table 78: Nodal status of invasive cancers with SLNB or unknown axillary procedure**

Region	With SLNB				Without SLNB			
	Positive		Negative		Positive		Negative	
	No.	%	No.	%	No.	%	No.	%
East Midlands	177	13	1159	87	86	72	34	28
East of England	202	14	1222	86	65	76	22	26
London	189	12	1339	87	95	79	25	21
N East, Yorks & Humber	315	15	1755	85	122	70	54	31
North West	202	13	1386	87	88	73	32	26
South East	292	14	1842	86	143	86	22	13
South West	228	13	1550	87	96	70	41	30
West Midlands	180	14	1141	86	72	67	34	32
<b>England</b>	<b>1785</b>	<b>14</b>	<b>11394</b>	<b>86</b>	<b>767</b>	<b>74</b>	<b>264</b>	<b>26</b>
Northern Ireland	49	12	377	88	30	75	10	25
Scotland	160	13	944	74	55	77	14	20
Wales	123	15	672	84	54	79	13	19
<b>UK</b>	<b>2117</b>	<b>13</b>	<b>13387</b>	<b>85</b>	<b>906</b>	<b>75</b>	<b>301</b>	<b>25</b>

**Table 79: Number of nodes obtained for invasive cancers with positive nodal status determined from SLNB**

Region	1-<4 nodes obtained					4+ nodes obtained				
	1 Ax op		2+ Ax ops		Total	1 Ax op		2+ Ax ops		Total
	No.	%	No.	%		No.	%	No.	%	
East Midlands	90	100	0	0	90	31	36	56	64	87
East of England	90	98	2	2	92	40	36	70	64	110
London	97	100	0	0	97	34	37	58	63	92
N East, Yorks & Humber	164	99	1	1	165	72	48	78	52	150
North West	97	100	0	0	97	41	39	64	61	105
South East	147	100	0	0	147	50	34	95	66	145
South West	122	100	0	0	122	41	39	65	61	106
West Midlands	90	97	3	3	93	35	40	52	60	87
<b>England</b>	<b>897</b>	<b>99</b>	<b>6</b>	<b>1</b>	<b>903</b>	<b>344</b>	<b>39</b>	<b>538</b>	<b>61</b>	<b>882</b>
Northern Ireland	14	100	0	0	14	3	9	32	91	35
Scotland	105	87	16	13	121	25	64	14	36	39
Wales	65	100	0	0	65	17	29	41	71	58
<b>UK</b>	<b>1081</b>	<b>98</b>	<b>22</b>	<b>2</b>	<b>1103</b>	<b>389</b>	<b>38</b>	<b>625</b>	<b>62</b>	<b>1014</b>

**Table 80: Status of invasive cases with <4 nodes obtained**

Region	Total with nodes obtained	Nodal status determined on basis of <4 nodes		Positive sentinel procedure(s)		Positive (Other)		Negative sentinel procedure(s)		Negative (Other)		Unknown status	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	1456	1078	74.0	90	6.2	0	0.0	983	68	5	0.3	0	0
East of England	1511	1152	76.2	92	6.1	0	0.0	1052	70	8	0.5	0	0
London	1648	1270	77.1	97	5.9	0	0.0	1171	71	2	0.1	0	0
N East, Yorks & Humber	2246	1677	74.7	165	7.3	1	0.0	1504	67	7	0.3	0	0
North West	1708	1256	73.5	97	5.7	3	0.2	1145	67	11	0.6	0	0
South East	2299	1751	76.2	147	6.4	0	0.0	1601	70	3	0.1	0	0
South West	1915	1504	78.5	122	6.4	0	0.0	1372	72	10	0.5	0	0
West Midlands	1427	1096	76.8	93	6.5	2	0.1	994	70	7	0.5	0	0
<b>England</b>	<b>14210</b>	<b>10784</b>	<b>75.9</b>	<b>903</b>	<b>6.4</b>	<b>6</b>	<b>0.0</b>	<b>9822</b>	<b>69</b>	<b>53</b>	<b>0.4</b>	<b>0</b>	<b>0</b>
Northern Ireland	466	337	72.3	14	3.0	0	0.0	320	69	3	0.6	0	0
Scotland	1173	946	80.6	121	10.3	6	0.5	806	69	13	1.1	0	0
Wales	863	677	78.4	65	7.5	0	0.0	610	71	2	0.2	0	0
<b>UK</b>	<b>16712</b>	<b>12744</b>	<b>76</b>	<b>1103</b>	<b>6.6</b>	<b>12</b>	<b>0.1</b>	<b>11558</b>	<b>69</b>	<b>71</b>	<b>0.4</b>	<b>0</b>	<b>0</b>

**Table 81: Availability of lymph node status for surgically treated non-invasive cancers**

Region	Total non-invasive cancers	Nodal status known		Nodes obtained but status unknown		No nodes obtained		Unknown if nodes obtained	
		No.	%	No.	%	No.	%	No.	%
East Midlands	337	80	24	0	0	257	76	0	0
East of England	322	76	24	0	0	246	76	0	0
London	494	98	20	0	0	396	80	0	0
N East, Yorks & Humber	549	119	22	0	0	430	78	0	0
North West	428	90	21	0	0	338	79	0	0
South East	615	128	21	0	0	487	79	0	0
South West	475	95	20	0	0	380	80	0	0
West Midlands	333	78	23	0	0	255	77	0	0
<b>England</b>	<b>3553</b>	<b>764</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>2789</b>	<b>78</b>	<b>0</b>	<b>0</b>
Northern Ireland	109	25	23	0	0	84	77	0	0
Scotland	234	33	14	0	0	170	73	31	13
Wales	183	52	28	0	0	130	71	1	1
<b>UK</b>	<b>4079</b>	<b>874</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>3173</b>	<b>78</b>	<b>32</b>	<b>1</b>

**Table 82: Treatment for non-invasive cancers with known nodal status**

Region	Conservation with known nodal status		Total Conservation	Mastectomy with known nodal status		Total mastectomy
	No.	%		No.	%	
East Midlands	12	5	251	68	79	86
East of England	20	8	261	56	92	61
London	17	4	400	81	86	94
N East, Yorks & Humber	31	7	453	88	93	95
North West	23	6	356	67	93	72
South East	29	6	507	99	93	107
South West	23	6	390	72	90	80
West Midlands	17	6	268	61	94	65
<b>England</b>	<b>172</b>	<b>6</b>	<b>2886</b>	<b>592</b>	<b>90</b>	<b>660</b>
Northern Ireland	3	4	85	22	92	24
Scotland	15	7	205	18	75	24
Wales	18	12	145	34	89	38
<b>UK</b>	<b>208</b>	<b>6</b>	<b>3321</b>	<b>666</b>	<b>89</b>	<b>746</b>

Region	Total known nodal status	Positive		Negative	
		No.	%	No.	%
East Midlands	80	1	1	79	99
East of England	76	0	0	76	100
London	98	1	1	97	99
N East, Yorks & Humber	119	1	1	118	99
North West	90	1	1	89	99
South East	128	4	3	124	97
South West	95	0	0	95	100
West Midlands	78	1	1	77	99
<b>England</b>	<b>764</b>	<b>9</b>	<b>1</b>	<b>755</b>	<b>99</b>
Northern Ireland	25	0	0	25	100
Scotland	33	1	3	32	97
Wales	52	0	0	52	100
<b>UK</b>	<b>874</b>	<b>10</b>	<b>1</b>	<b>864</b>	<b>99</b>

Region	With SLNB		Without SLNB								Total with mastectomy	Total known nodal status	% determined on basis of SLNB
			Ax sampling		Ax clearance		Unknown procedure		No intended Ax procedure				
	No.	%	No.	%	No.	%	No.	%	No.	%			
East Midlands	66	77	1	1	0	0.0	0	0.0	1	1.2	86	68	97
East of England	54	89	2	3	0	0.0	0	0.0	0	0.0	61	56	96
London	80	85	0	0	1	1.1	0	0.0	0	0.0	94	81	99
N East, Yorks & Humber	84	88	3	3	0	0.0	0	0.0	1	1.1	95	88	95
North West	65	90	2	3	0	0.0	0	0.0	0	0.0	72	67	97
South East	98	92	1	1	0	0.0	0	0.0	0	0.0	107	99	99
South West	70	88	0	0	2	2.5	0	0.0	0	0.0	80	72	97
West Midlands	58	89	2	3	1	1.5	0	0.0	0	0.0	65	61	95
<b>England</b>	<b>575</b>	<b>87</b>	<b>11</b>	<b>2</b>	<b>4</b>	<b>0.6</b>	<b>0</b>	<b>0.0</b>	<b>2</b>	<b>0.3</b>	<b>660</b>	<b>592</b>	<b>97</b>
Northern Ireland	20	83	0	0	2	8.3	0	0.0	0	0.0	24	22	91
Scotland	18	75	0	0	0	0.0	0	0.0	0	0.0	24	18	100
Wales	33	87	1	3	0	0.0	0	0.0	0	0.0	38	34	97
<b>UK</b>	<b>646</b>	<b>87</b>	<b>12</b>	<b>2</b>	<b>6</b>	<b>0.8</b>	<b>0</b>	<b>0.0</b>	<b>2</b>	<b>0.3</b>	<b>746</b>	<b>666</b>	<b>97</b>

Region	With SLNB		Without SLNB								Total with BCS	Total known nodal status	% determined on basis of SLNB
			Ax sampling		Ax clearance		Unknown procedure		No intended Ax procedure				
	No.	%	No.	%	No.	%	No.	%	No.	%			
East Midlands	11	4	0	0	0	0.0	0	0.0	1	0.4	251	12	92
East of England	19	7	0	0	0	0.0	0	0.0	1	0.4	261	20	95
London	17	4	0	0	0	0.0	0	0.0	0	0.0	400	17	100
N East, Yorks & Humber	31	7	0	0	0	0.0	0	0.0	0	0.0	453	31	100
North West	21	6	2	1	0	0.0	0	0.0	0	0.0	356	23	91
South East	26	5	0	0	1	0.2	0	0.0	2	0.4	507	29	90
South West	22	6	1	0	0	0.0	0	0.0	0	0.0	390	23	96
West Midlands	16	6	0	0	0	0.0	0	0.0	1	0.4	268	17	94
<b>England</b>	<b>163</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>5</b>	<b>0.2</b>	<b>2886</b>	<b>172</b>	<b>95</b>
Northern Ireland	3	4	0	0	0	0.0	0	0.0	0	0.0	85	3	100
Scotland	13	6	0	0	0	0.0	0	0.0	2	1.0	205	15	87
Wales	18	12	0	0	0	0.0	0	0.0	0	0.0	145	18	100
<b>UK</b>	<b>197</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>7</b>	<b>0.2</b>	<b>3321</b>	<b>208</b>	<b>95</b>

Region	Total known nodal status	Conservation			Mastectomy		
		Mean	Median	Maximum	Mean	Median	Maximum
East Midlands	80	1	1	2	2	2	6
East of England	76	2	2	12	2	2	13
London	98	2	2	3	2	2	6
N East, Yorks & Humber	119	2	2	4	3	2	14
North West	90	2	2	5	3	2	18
South East	128	3	2	19	2	2	5
South West	95	2	2	9	3	2	15
West Midlands	78	2	2	4	2	2	13
<b>England</b>	<b>764</b>	<b>2</b>	<b>2</b>	<b>19</b>	<b>2</b>	<b>2</b>	<b>18</b>
Northern Ireland	25	2	2	4	2	2	5
Scotland	33	2	1	10	2	2	4
Wales	52	2	2	4	2	2	6
<b>UK</b>	<b>874</b>	<b>2</b>	<b>2</b>	<b>19</b>	<b>2</b>	<b>2</b>	<b>18</b>

Region	B5b						B5a					
	Total B5b	% had Ax	Ax in 1st op		Ax in later op		Total B5a	% had Ax	Ax in 1st op		Ax in later op	
			No.	%	No.	%			No.	%	No.	%
East Midlands	1376	100	1373	100	0	0	75	96	21	28	51	68
East of England	1435	100	1427	99	2	0	73	93	33	45	35	48
London	1566	100	1560	100	1	0	92	88	43	47	38	41
N East, Yorks & Humber	2135	100	2129	100	3	0	122	80	51	42	47	39
North West	1619	100	1612	100	0	0	88	90	37	42	42	48
South East	2182	99	2165	99	1	0	139	89	45	32	79	57
South West	1803	100	1797	100	0	0	107	92	44	41	54	50
West Midlands	1343	100	1341	100	1	0	84	100	37	44	47	56
<b>England</b>	<b>13459</b>	<b>100</b>	<b>13404</b>	<b>100</b>	<b>8</b>	<b>0</b>	<b>780</b>	<b>90</b>	<b>311</b>	<b>40</b>	<b>393</b>	<b>50</b>
Northern Ireland	439	100	437	100	0	0	25	96	10	40	14	56
Wales	818	99	805	98	1	0	59	86	25	42	26	44
<b>UK excl. Scotland</b>	<b>14716</b>	<b>100</b>	<b>14646</b>	<b>100</b>	<b>9</b>	<b>0</b>	<b>864</b>	<b>90</b>	<b>346</b>	<b>40</b>	<b>433</b>	<b>50</b>

No data available for Scotland

Region	Total node positive invasive	SLNB at 1st Ax op		No SLNB at 1st Ax op		Total with repeat Ax op	% repeat Ax op after SLNB
		No	%	No	%		
East Midlands	263	56	21	2	1	58	97
East of England	267	72	27	1	0	73	99
London	284	58	20	1	0	59	98
N East, Yorks & Humber	437	77	18	4	1	81	95
North West	290	64	22	1	0	65	98
South East	435	93	21	3	1	96	97
South West	324	65	20	3	1	68	96
West Midlands	252	55	22	0	0	55	100
<b>England</b>	<b>2552</b>	<b>540</b>	<b>21</b>	<b>15</b>	<b>1</b>	<b>555</b>	<b>97</b>
Northern Ireland	79	31	39	1	1	32	97
Wales	177	41	23	0	0	41	100
<b>UK excl. Scotland</b>	<b>2808</b>	<b>612</b>	<b>22</b>	<b>16</b>	<b>1</b>	<b>628</b>	<b>97</b>

No data available for Scotland