

National Breast Screening Programme

An audit of screen detected breast cancers for the screening year April 2023 to March 2024 – Data tables

Data source

Data for the women diagnosed with screen-detected breast cancer in England with a date of first offered screening appointment between 1st April 2023 to 31st March 2024 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 4-83.

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SCREEN DETECTED BREAST CANCERS IN WOMEN ALL AGES FOR THE PERIOD 1 APRIL 2023 – 31 MARCH 2024

The 2022/23 totals have been provided for comparison purposes.

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	1216	82	627	42	9	1	252	17	1	0	1478	100	183208	1.4	6.6	3.4
East of England	1407	80	667	38	10	1	348	20	0	0	1765	100	219466	1.6	6.4	3.0
London	1676	78	660	31	21	1	458	21	1	0	2156	100	262586	1.8	6.4	2.5
N East, Yorks & Humber	2000	80	981	39	31	1	452	18	2	0	2485	100	302294	1.6	6.6	3.2
North West	1755	78	803	36	20	1	464	21	1	0	2240	100	252135	1.9	7.0	3.2
South East	2275	77	1068	36	28	1	639	22	0	0	2942	100	319299	2.1	7.1	3.3
South West	1655	80	849	41	22	1	395	19	1	0	2073	100	229203	1.8	7.2	3.7
West Midlands	1262	80	563	36	18	1	297	19	0	0	1577	100	183135	1.7	6.9	3.1
England	13246	79	6218	37	159	1	3305	20	6	0	16716	100	1951326	1.8	6.8	3.2
England 2022/23	15083	80	7228	38	172	1	3708	20	6	0	18969	100	2176861	1.8	6.9	3.3

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	9	1	926	63	415	28	67	5	61	4	1478	128	9
East of England	17	1	1065	60	469	27	115	7	99	6	1765	214	12
London	5	0	1464	68	543	25	82	4	62	3	2156	144	7
N East, Yorks & Humber	30	1	1529	62	727	29	100	4	99	4	2485	199	8
North West	63	3	1419	63	592	26	82	4	84	4	2240	166	7
South East	28	1	1827	62	775	26	158	5	154	5	2942	312	11
South West	20	1	1232	59	603	29	122	6	96	5	2073	218	11
West Midlands	22	1	974	62	444	28	67	4	70	4	1577	137	9
England	194	1	10436	62	4568	27	793	5	725	4	16716	1518	9
England 2022/23	163	1	11417	60	5271	28	1161	6	957	5	18969	2118	11

Table 3: Number of cases with previous cancers							
Region	Total cases	Total pt matched	% matched	Had previous cancers		No previous cancers	
				No.	%	No.	%
East Midlands	1478	1357	92	107	8	1250	92
East of England	1765	1592	90	128	8	1464	92
London	2156	2019	94	130	6	1889	94
NEYH	2485	2292	92	161	7	2131	93
North West	2240	2052	92	138	7	1914	93
South East	2942	2643	90	199	8	2444	92
South West	2073	1869	90	176	9	1693	91
West Midlands	1577	1455	92	98	7	1357	93
England	16716	15279	91	1137	7	14142	93
England 2022/23	18969	16837	89	1282	8	15555	92

Cases with previous breast cancers are excluded from Tables 4 to 83.

Table 4: Pre-operative diagnosis rate																	
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	1372	0	0	1	0	1310	95	34	2	13	1	1	0	1359	99	13	1
East of England	1636	0	0	0	0	1541	94	38	2	16	1	2	0	1597	98	39	2
London	2028	0	0	1	0	1956	96	42	2	13	1	0	0	2012	99	16	1
N East, Yorks & Humber	2331	1	0	0	0	2232	96	41	2	22	1	1	0	2297	99	34	1
North West	2097	1	0	6	0	1990	95	45	2	31	1	1	0	2074	99	23	1
South East	2741	0	0	3	0	2611	95	73	3	17	1	4	0	2708	99	33	1
South West	1898	0	0	0	0	1811	95	43	2	12	1	1	0	1867	98	31	2
West Midlands	1479	0	0	0	0	1421	96	29	2	7	0	0	0	1457	99	22	1
England	15582	2	0	11	0	14872	95	345	2	131	1	10	0	15371	99	211	1
England 2022/23	17680	1	0	18	0	16946	96	351	2	132	1	14	0	17462	99	218	1

Table 5: 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	%	No	%
East Midlands	1120	0	0	0	0	1093	98	13	1	9	1	1	0	1116	100	4	0
East of England	1297	0	0	0	0	1270	98	7	1	13	1	2	0	1292	100	5	0
London	1572	0	0	1	0	1550	99	8	1	10	1	0	0	1569	100	3	0
N East, Yorks & Humber	1874	1	0	0	0	1836	98	6	0	20	1	1	0	1864	99	10	1
North West	1646	0	0	5	0	1596	97	11	1	28	2	1	0	1641	100	5	0
South East	2124	0	0	3	0	2088	98	9	0	13	1	4	0	2117	100	7	0
South West	1510	0	0	0	0	1487	98	6	0	10	1	0	0	1503	100	7	0
West Midlands	1184	0	0	0	0	1165	98	10	1	5	0	0	0	1180	100	4	0
England	12327	1	0	9	0	12085	98	70	1	108	1	9	0	12282	100	45	0
England 2022/23	14052	1	0	16	0	13787	98	79	1	110	1	13	0	14006	100	46	0

Table 6: 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	243	0	0	1	0	208	86	21	9	4	2	0	0	234	96	9	4
East of England	329	0	0	0	0	261	79	31	9	3	1	0	0	295	90	34	10
London	435	0	0	0	0	387	89	33	8	3	1	0	0	423	97	12	3
N East, Yorks & Humber	424	0	0	0	0	366	86	32	8	2	0	0	0	400	94	24	6
North West	430	0	0	1	0	375	87	34	8	3	1	0	0	413	96	17	4
South East	590	0	0	0	0	497	84	63	11	4	1	0	0	564	96	26	4
South West	366	0	0	0	0	303	83	36	10	2	1	1	0	342	93	24	7
West Midlands	279	0	0	0	0	240	86	19	7	2	1	0	0	261	94	18	6
England	3096	0	0	2	0	2637	85	269	9	23	1	1	0	2932	95	164	5
England 2022/23	3461	0	0	2	0	3002	87	265	8	22	1	0	0	3291	95	170	5

Table 7: B5a (Non-invasive) core biopsy: histological status of surgical specimen

Region	Invasive		Micro-invasive		Non-invasive		Benign		Unknown		Total with surgery	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	47	18	8	3	200	76	9	3	0	0	264	100
East of England	61	19	10	3	240	75	6	2	1	0	318	100
London	88	19	17	4	327	70	36	8	1	0	469	100
N East, Yorks & Humber	86	18	30	6	341	72	16	3	0	0	473	100
North West	99	20	20	4	348	72	16	3	0	0	483	100
South East	104	17	26	4	469	76	21	3	0	0	620	100
South West	69	18	20	5	283	73	13	3	1	0	386	100
West Midlands	50	17	16	5	223	75	9	3	0	0	298	100
England	604	18	147	4	2431	73	126	4	3	0	3311	100
England 2022/23	675	18	154	4	2813	75	121	3	0	0	3763	100

Table 8: B5b (Invasive) core biopsy: histological status of surgical specimen

Region	Invasive		Micro-invasive		Non-invasive		Benign		Unknown		Total with surgery	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	977	97	0	0	10	1	19	2	3	0	1009	100
East of England	1119	96	1	0	16	1	22	2	4	0	1162	100
London	1300	94	1	0	28	2	50	4	4	0	1383	100
N East, Yorks & Humber	1650	97	2	0	18	1	29	2	2	0	1701	100
North West	1413	97	0	0	19	1	32	2	0	0	1464	100
South East	1854	97	2	0	17	1	41	2	1	0	1915	100
South West	1317	96	1	0	20	1	32	2	1	0	1371	100
West Midlands	1040	96	1	0	11	1	30	3	0	0	1082	100
England	10670	96	8	0	139	1	255	2	15	0	11087	100
England 2022/23	12142	96	11	0	176	1	353	3	14	0	12696	100

Table 9: Number of assessment visits for each patient										
Region	1		2		3+		Total		Repeat (2+) visit	
	No	%	No	%	No	%	No	%	No	%
East Midlands	1095	80	232	17	45	3	1372	100	277	20
East of England	1394	85	220	13	22	1	1636	100	242	15
London	1749	86	247	12	32	2	2028	100	279	14
N East, Yorks & Humber	2033	87	268	11	30	1	2331	100	298	13
North West	1646	78	380	18	71	3	2097	100	451	22
South East	2286	83	386	14	69	3	2741	100	455	17
South West	1527	80	305	16	66	3	1898	100	371	20
West Midlands	1249	84	201	14	29	2	1479	100	230	16
England	12979	83	2239	14	364	2	15582	100	2603	17
England 2022/23	14914	84	2420	14	346	2	17680	100	2766	16

Table 10: The assessment visit with the earliest core/cytology result										
Region	1		2		3+		Total		First core/cyt/VAE at 2+ visit	
	No	%	No	%	No	%	No	%	No	%
East Midlands	1309	95	62	5	0	0	1371	100	62	5
East of England	1605	98	28	2	0	0	1633	100	28	2
London	1937	96	90	4	1	0	2028	100	91	4
N East, Yorks & Humber	2274	98	52	2	0	0	2326	100	52	2
North West	2000	95	95	5	1	0	2096	100	96	5
South East	2617	96	116	4	4	0	2737	100	120	4
South West	1788	94	107	6	2	0	1897	100	109	6
West Midlands	1447	98	30	2	2	0	1479	100	32	2
England	14977	96	580	4	10	0	15567	100	590	4
England 2022/23	16965	96	687	4	5	0	17657	100	692	4

Table 11: Number of visits with a core biopsy/cytology/VAE result for cases with a non-operative diagnosis														
Region	Invasive					Non-Invasive					Overall			
	1		2+		Total	1		2+		Total	1		2+	
	No	%	No	%		No	%	No	%		No	%	No	%
East Midlands	992	89	123	11	1115	174	74	60	26	234	1173	86	185	14
East of England	1197	93	93	7	1290	234	79	61	21	295	1440	90	155	10
London	1493	95	76	5	1569	356	84	67	16	423	1864	93	148	7
N East, Yorks & Humber	1766	95	97	5	1863	341	85	59	15	400	2133	93	163	7
North West	1485	91	155	9	1640	318	77	95	23	413	1818	88	255	12
South East	1971	93	142	7	2113	455	81	109	19	564	2450	91	254	9
South West	1393	93	110	7	1503	253	74	88	26	342	1662	89	204	11
West Midlands	1112	94	68	6	1180	213	82	48	18	261	1337	92	120	8
England	11409	93	864	7	12273	2344	80	587	20	2932	13877	90	1484	10
England 2022/23	13073	93	920	7	13993	2696	82	595	18	3291	15902	91	1546	9

Table 12: Worst core/cytology biopsy results of the first non-operative needle biopsy visit for non-invasive cancers with a non-operative diagnosis											
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	200	85	8	3	18	8	4	2	4	2	234
East of England	254	86	6	2	27	9	5	2	3	1	295
London	386	91	2	0	33	8	1	0	1	0	423
N East, Yorks & Humber	357	89	3	1	28	7	4	1	8	2	400
North West	366	89	9	2	34	8	2	0	2	0	413
South East	484	86	6	1	62	11	2	0	10	2	564
South West	288	84	6	2	37	11	5	1	6	2	342
West Midlands	230	88	2	1	22	8	3	1	4	2	261
England	2565	87	42	1	261	9	26	1	38	1	2932
England 2122	2912	88	43	1	269	8	35	1	32	1	3291

Table 13: Any further visits after core/cytology/vacuum biopsy result															
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	45	4	1074	96	1119	8	3	235	97	243	53	4	1318	96	1371
East of England	45	3	1250	97	1295	10	3	318	97	328	55	3	1578	97	1633
London	48	3	1524	97	1572	7	2	428	98	435	55	3	1973	97	2028
N East, Yorks & Humber	75	4	1795	96	1870	11	3	412	97	423	87	4	2239	96	2326
North West	106	6	1539	94	1645	20	5	410	95	430	128	6	1968	94	2096
South East	80	4	2040	96	2120	31	5	559	95	590	111	4	2626	96	2737
South West	71	5	1439	95	1510	16	4	349	96	365	87	5	1810	95	1897
West Midlands	58	5	1126	95	1184	22	8	257	92	279	82	6	1397	94	1479
England	528	4	11787	96	12315	125	4	2968	96	3093	658	4	14909	96	15567
England 2022/23	502	4	13531	96	14033	131	4	3327	96	3458	635	4	17022	96	17657

Table 14: Status of diagnostic open biopsies			
Region	Benign biopsy rate		Malignant biopsy rate
	Prevalent	Incident	
East Midlands	0.76	0.23	0.07
East of England	0.72	0.25	0.18
London	0.70	0.23	0.06
N East, Yorks & Humber	0.58	0.18	0.11
North West	0.61	0.17	0.09
South East	0.46	0.19	0.10
South West	0.79	0.21	0.14
West Midlands	0.61	0.17	0.12
England	0.66	0.20	0.11
England 2022/23	0.57	0.20	0.10

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)

Table 15: Invasive status of malignant diagnostic open biopsies									
Region	Total malignant open biopsies	Invasive		Micro-invasive		Non-invasive		Status unknown	
		No.	%	No.	%	No.	%	No.	%
East Midlands	13	4	31	0	0	9	69	0	0
East of England	39	5	13	0	0	34	87	0	0
London	16	3	19	1	6	12	75	0	0
N East, Yorks & Humber	34	10	29	0	0	24	71	0	0
North West	23	5	22	1	4	17	74	0	0
South East	33	7	21	0	0	26	79	0	0
South West	31	7	23	0	0	24	77	0	0
West Midlands	22	4	18	0	0	18	82	0	0
England	211	45	21	2	1	164	78	0	0
England 2022/23	218	46	21	1	0	170	78	1	0

Table 16: Non-operative history for 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.	%	No.	%
East Midlands	4	0	0	0	0	3	75	0	0	1	25
East of England	5	0	0	0	0	5	100	0	0	0	0
London	3	0	0	0	0	2	67	0	0	1	33
N East, Yorks & Humber	10	3	30	0	0	7	70	0	0	0	0
North West	5	0	0	0	0	4	80	0	0	1	20
South East	7	1	14	0	0	6	86	0	0	0	0
South West	7	0	0	0	0	7	100	0	0	0	0
West Midlands	4	0	0	0	0	4	100	0	0	0	0
England	45	4	9	0	0	38	84	0	0	3	7
England 2022/23	46	6	13	0	0	38	83	0	0	2	4

Table 17: 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	9	0	0	0	0	8	89	0	0	1	11
East of England	34	1	3	0	0	30	88	0	0	3	9
London	13	0	0	0	0	11	85	0	0	2	15
N East, Yorks & Humber	24	1	4	0	0	21	88	0	0	2	8
North West	18	0	0	0	0	17	94	0	0	1	6
South East	26	0	0	0	0	22	85	0	0	4	15
South West	24	1	4	0	0	19	79	0	0	4	17
West Midlands	18	0	0	0	0	18	100	0	0	0	0
England	166	3	2	0	0	146	88	0	0	17	10
England 2022/23	171	3	2	1	1	151	88	2	1	14	8

Table 18: 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	4	0	0	0	0	3	75	1	25	0	0
East of England	5	0	0	4	80	1	20	0	0	0	0
London	3	0	0	1	33	2	67	0	0	0	0
N East, Yorks & Humber	10	3	30	6	60	0	0	1	10	0	0
North West	5	0	0	3	60	0	0	1	20	1	20
South East	7	1	14	4	57	2	29	0	0	0	0
South West	7	0	0	4	57	3	43	0	0	0	0
West Midlands	4	0	0	4	100	0	0	0	0	0	0
England	45	4	9	26	58	11	24	3	7	1	2
England 2022/23	46	6	13	17	37	21	46	0	0	2	4

Table 19: 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	9	0	0	1	11	8	89	0	0	0	0
East of England	34	1	3	15	44	18	53	0	0	0	0
London	13	0	0	3	23	9	69	1	8	0	0
N East, Yorks & Humber	24	1	4	6	25	17	71	0	0	0	0
North West	18	0	0	5	28	12	67	1	6	0	0
South East	26	0	0	5	19	20	77	1	4	0	0
South West	24	1	4	10	42	10	42	2	8	1	4
West Midlands	18	0	0	6	33	12	67	0	0	0	0
England	166	3	2	51	31	106	64	5	3	1	1
England 2022/23	171	3	2	43	25	120	70	4	2	1	1

Table 20: Data completeness for surgically treated non-invasive cancers							
Region	Unknown cytonuclear grade		Unknown size		Unknown cytonuclear grade and/or size		Total with surgery
	No.	%	No.	%	No.	%	No.
East Midlands	1	0	8	3	9	4	237
East of England	1	0	26	9	26	9	299
London	6	1	46	11	46	11	406
N East, Yorks & Humber	2	0	20	5	21	5	401
North West	2	0	19	5	19	5	414
South East	9	2	27	5	29	5	549
South West	1	0	17	5	17	5	344
West Midlands	1	0	10	4	11	4	265
England	23	1	173	6	178	6	2915
England 2022/23	24	1	164	5	172	5	3294

Table 21: Size of surgically treated non-invasive cancers												
Region	<15mm		15-≤40mm		>40 mm		Size not assessable		Size unknown		Total non-invasive with surgery	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	74	31	103	43	48	20	4	2	8	3	237	100
East of England	84	28	123	41	50	17	16	5	26	9	299	100
London	112	28	148	36	90	22	10	2	46	11	406	100
N East, Yorks & Humber	145	36	163	41	69	17	4	1	20	5	401	100
North West	127	31	183	44	76	18	9	2	19	5	414	100
South East	155	28	241	44	102	19	24	4	27	5	549	100
South West	119	35	139	40	59	17	10	3	17	5	344	100
West Midlands	76	29	122	46	50	19	7	3	10	4	265	100
England	892	31	1222	42	544	19	84	3	173	6	2915	100
England 2022/23	1067	32	1367	41	594	18	102	3	164	5	3294	100

Table 22: Cytonuclear grade of surgically treated non-invasive cancers												
Region	High		Intermediate		Low		Not assessable		Unknown		Total non-invasive with surgery	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	122	51	89	38	21	9	4	2	1	0	237	100
East of England	168	56	91	30	23	8	16	5	1	0	299	100
London	216	53	135	33	39	10	10	2	6	1	406	100
N East, Yorks & Humber	230	57	139	35	26	6	4	1	2	0	401	100
North West	239	58	129	31	35	8	9	2	2	0	414	100
South East	317	58	144	26	55	10	24	4	9	2	549	100
South West	216	63	92	27	25	7	10	3	1	0	344	100
West Midlands	151	57	82	31	24	9	7	3	1	0	265	100
England	1659	57	901	31	248	9	84	3	23	1	2915	100
England 2022/23	1907	58	996	30	263	8	104	3	24	1	3294	100

Table 23: 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	283	26	303	28	214	20	206	19	32	3	27	3	12	1	1077	100
East of England	301	24	316	26	306	25	211	17	49	4	33	3	19	2	1235	100
London	283	19	332	22	345	23	352	24	104	7	50	3	19	1	1485	100
N East, Yorks & Humber	450	25	474	26	421	23	330	18	67	4	41	2	22	1	1805	100
North West	378	24	376	24	371	23	298	19	75	5	60	4	21	1	1579	100
South East	501	25	498	24	473	23	369	18	120	6	60	3	20	1	2041	100
South West	385	26	405	28	315	22	252	17	43	3	36	2	19	1	1455	100
West Midlands	248	22	278	24	267	23	250	22	61	5	34	3	10	1	1148	100
England	2829	24	2982	25	2712	23	2268	19	551	5	341	3	142	1	11825	100
England 2022/23	3353	25	3396	25	3094	23	2596	19	563	4	369	3	150	1	13521	100

Table 24: 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	169	16	254	24	209	19	254	24	64	6	69	6	58	5	1077	100
East of England	187	15	247	20	283	23	263	21	91	7	66	5	98	8	1235	100
London	140	9	225	15	337	23	359	24	139	9	142	10	143	10	1485	100
N East, Yorks & Humber	249	14	405	22	424	23	427	24	139	8	99	5	62	3	1805	100
North West	214	14	298	19	346	22	374	24	133	8	132	8	82	5	1579	100
South East	258	13	418	20	476	23	454	22	191	9	149	7	95	5	2041	100
South West	203	14	328	23	333	23	328	23	93	6	83	6	87	6	1455	100
West Midlands	148	13	214	19	252	22	284	25	99	9	77	7	74	6	1148	100
England	1568	13	2389	20	2660	22	2743	23	949	8	817	7	699	6	11825	100
England 2022/23	1906	14	2756	20	3078	23	3072	23	996	7	834	6	879	7	13521	100

Table 25: 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	257	24	638	59	177	16	0	0	5	0	1077	100
East of England	312	25	699	57	217	18	5	0	2	0	1235	100
London	314	21	932	63	230	15	4	0	5	0	1485	100
N East, Yorks & Humber	410	23	1092	60	297	16	2	0	4	0	1805	100
North West	378	24	919	58	278	18	3	0	1	0	1579	100
South East	490	24	1221	60	322	16	3	0	5	0	2041	100
South West	392	27	789	54	262	18	7	0	5	0	1455	100
West Midlands	248	22	754	66	144	13	1	0	1	0	1148	100
England	2801	24	7044	60	1927	16	25	0	28	0	11825	100
England 2022/23	3185	24	7948	59	2322	17	30	0	36	0	13521	100

Table 26: 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	10	1.0	4	0.4	3	0.3	15	1.5	989
East of England	14	1.3	35	3.2	2	0.2	48	4.4	1102
London	15	1.2	24	1.9	1	0.1	40	3.2	1269
N East, Yorks & Humber	15	0.9	33	2.0	4	0.2	48	2.9	1671
North West	16	1.1	26	1.8	1	0.1	42	2.9	1428
South East	17	0.9	24	1.3	4	0.2	44	2.3	1896
South West	14	1.0	29	2.2	4	0.3	47	3.5	1347
West Midlands	6	0.6	7	0.7	0	0.0	13	1.3	977
England	107	1.0	182	1.7	19	0.2	297	2.8	10679
England 2022/23	108	0.9	152	1.3	16	0.1	272	2.2	12123

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

Table 27: 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	198	20	418	43	235	24	94	10	29	3	974	100
East of England	230	22	421	40	252	24	98	9	53	5	1054	100
London	218	18	498	41	318	26	140	11	55	4	1229	100
N East, Yorks & Humber	299	18	683	42	422	26	142	9	77	5	1623	100
North West	282	20	553	40	351	25	127	9	73	5	1386	100
South East	366	20	776	42	450	24	194	10	66	4	1852	100
South West	303	23	537	41	302	23	114	9	44	3	1300	100
West Midlands	178	18	419	43	242	25	100	10	25	3	964	100
England	2074	20	4305	41	2572	25	1009	10	422	4	10382	100
England 2022/23	2417	20	4873	41	2906	25	1209	10	446	4	11851	100

Table 28: ER status (invasive cancers)

Region	Positive		Negative		Not done or Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	1018	91	102	9	0	0	1120
East of England	1196	92	97	7	4	0	1297
London	1427	91	142	9	3	0	1572
N East, Yorks & Humber	1710	91	158	8	6	0	1874
North West	1493	91	151	9	2	0	1646
South East	1980	93	144	7	0	0	2124
South West	1381	91	126	8	3	0	1510
West Midlands	1089	92	93	8	2	0	1184
England	11294	92	1013	8	20	0	12327
England 2022/23	12808	91	1216	9	28	0	14052

Table 29: PgR status (invasive)

Region	Positive		Negative		Not done or Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	550	49	168	15	402	36	1120
East of England	920	71	173	13	204	16	1297
London	1271	81	287	18	14	1	1572
N East, Yorks & Humber	1003	54	256	14	615	33	1874
North West	1322	80	320	19	4	0	1646
South East	1762	83	356	17	6	0	2124
South West	667	44	181	12	662	44	1510
West Midlands	936	79	241	20	7	1	1184
England	8431	68	1982	16	1914	16	12327
England 2022/23	9444	67	2267	16	2341	17	14052

Table 30: PgR status of invasive cancers with negative ER status							
Region	Positive		Negative		Not done or Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	6	6	79	77	17	17	102
East of England	4	4	84	87	9	9	97
London	7	5	133	94	2	1	142
N East, Yorks & Humber	7	4	129	82	22	14	158
North West	3	2	148	98	0	0	151
South East	8	6	136	94	0	0	144
South West	5	4	101	80	20	16	126
West Midlands	3	3	89	96	1	1	93
England	43	4	899	89	71	7	1013
England 2022/23	46	4	1060	87	110	9	1216

Table 31: HER-2 status for invasive cancers									
Region	Positive		Negative		Borderline		Not done or Unknown		Total
	No.	%	No.	%	No.	%	No.	%	
East Midlands	117	10	999	89	1	0	3	0	1120
East of England	128	10	1141	88	6	0	22	2	1297
London	177	11	1376	88	15	1	4	0	1572
N East, Yorks & Humber	199	11	1653	88	4	0	18	1	1874
North West	158	10	1481	90	1	0	6	0	1646
South East	194	9	1906	90	16	1	8	0	2124
South West	135	9	1353	90	1	0	21	1	1510
West Midlands	117	10	1055	89	3	0	9	1	1184
England	1225	10	10964	89	47	0	91	1	12327
England 2022/23	1441	10	12422	88	51	0	138	1	14052

Table 32: 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	3	2	67	0	0	3	100
East of England	22	6	27	4	18	10	45
London	4	1	25	0	0	1	25
N East, Yorks & Humber	18	8	44	3	17	12	67
North West	6	4	67	3	50	2	33
South East	8	7	88	2	25	5	63
South West	21	6	29	4	19	15	71
West Midlands	9	4	44	4	44	6	67
England	91	38	42	20	22	54	59
England 2022/23	138	64	46	30	22	88	64

Table 33: ER status (micro/non-invasive cancers)							
Region	Positive		Negative		Not done or Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	64	25	8	3	180	71	252
East of England	41	12	15	4	283	83	339
London	169	37	27	6	259	57	455
N East, Yorks & Humber	154	34	22	5	279	61	455
North West	275	61	42	9	133	30	450
South East	352	57	55	9	210	34	617
South West	228	59	43	11	116	30	387
West Midlands	51	17	14	5	230	78	295
England	1334	41	226	7	1690	52	3250
England 2022/23	1458	40	283	8	1882	52	3623

Table 34: Treatment for non-invasive breast cancers										
Region	Conservation surgery		Mastectomy		No surgery		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	191	79	46	19	6	2	0	0	243	100
East of England	235	71	59	18	30	9	5	2	329	100
London	314	72	92	21	29	7	0	0	435	100
N East, Yorks & Humber	340	80	58	14	23	5	3	1	424	100
North West	342	80	70	16	16	4	2	0	430	100
South East	462	78	87	15	41	7	0	0	590	100
South West	280	77	57	16	22	6	7	2	366	100
West Midlands	212	76	50	18	14	5	3	1	279	100
England	2376	77	519	17	181	6	20	1	3096	100
England 2022/23	2672	77	601	17	167	5	21	1	3461	100

Table 35: Treatment for micro-invasive breast cancers										
Region	Conservation surgery		Mastectomy		No surgery		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	8	89	1	11	0	0	0	0	9	100
East of England	9	90	1	10	0	0	0	0	10	100
London	12	60	8	40	0	0	0	0	20	100
N East, Yorks & Humber	20	65	11	35	0	0	0	0	31	100
North West	12	60	8	40	0	0	0	0	20	100
South East	22	81	5	19	0	0	0	0	27	100
South West	18	86	3	14	0	0	0	0	21	100
West Midlands	11	69	5	31	0	0	0	0	16	100
England	112	73	42	27	0	0	0	0	154	100
England 2022/23	115	71	46	28	0	0	1	1	162	100

Table 36: Treatment for non-invasive breast cancers size >40mm								
Region	Conservation surgery		Mastectomy		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%
East Midlands	22	46	26	54	0	0	48	100
East of England	17	34	33	66	0	0	50	100
London	34	38	56	62	0	0	90	100
N East, Yorks & Humber	36	52	33	48	0	0	69	100
North West	29	38	47	62	0	0	76	100
South East	50	49	52	51	0	0	102	100
South West	32	54	27	46	0	0	59	100
West Midlands	18	36	32	64	0	0	50	100
England	238	44	306	56	0	0	544	100
England 2022/23	232	39	362	61	0	0	594	100

Table 37: Treatment of high cytonuclear grade non-invasive cancers (>40mm)								
Region	Conservation surgery		Mastectomy		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%
East Midlands	17	47	19	53	0	0	36	100
East of England	12	32	25	68	0	0	37	100
London	22	35	41	65	0	0	63	100
N East, Yorks & Humber	26	51	25	49	0	0	51	100
North West	19	34	37	66	0	0	56	100
South East	35	46	41	54	0	0	76	100
South West	26	52	24	48	0	0	50	100
West Midlands	13	34	25	66	0	0	38	100
England	170	42	237	58	0	0	407	100
England 2022/23	175	39	278	61	0	0	453	100

Table 38: Treatment for invasive breast cancers										
Region	Conservation surgery		Mastectomy		No Surgery		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	914	82	163	15	43	4	0	0	1120	100
East of England	1047	81	187	14	62	5	1	0	1297	100
London	1184	75	301	19	87	6	0	0	1572	100
N East, Yorks & Humber	1566	84	239	13	69	4	0	0	1874	100
North West	1346	82	233	14	67	4	0	0	1646	100
South East	1715	81	326	15	83	4	0	0	2124	100
South West	1288	85	166	11	55	4	1	0	1510	100
West Midlands	968	82	178	15	36	3	2	0	1184	100
England	10028	81	1793	15	502	4	4	0	12327	100
England 2022/23	11432	81	2079	15	531	4	10	0	14052	100

Table 39: Mastectomy rate with invasive tumour size

Region	<15mm		15-≤20mm		>20-≤35mm		>35-≤50mm		>50mm	
	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	50	9	28	13	47	23	17	53	19	70
East of England	66	11	34	11	44	21	16	33	24	73
London	70	11	37	11	92	26	57	55	38	76
N East, Yorks & Humber	66	7	40	10	66	20	28	42	31	76
North West	68	9	41	11	44	15	32	43	47	78
South East	97	10	55	12	80	22	46	38	46	77
South West	61	8	27	9	35	14	13	30	27	75
West Midlands	52	10	25	9	48	19	28	46	22	65
England	530	9	287	11	456	20	237	43	254	74
England 2022/23	603	9	333	11	575	22	250	44	282	76

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 40: Mastectomy rate with whole tumour size

Region	<15mm		15-≤20mm		>20-≤35mm		>35-≤50mm		>50mm	
	No.	%	No.	%	No.	%	No.	%	No.	%
East Midlands	14	3	19	9	45	18	25	39	46	67
East of England	23	5	18	6	38	14	30	33	45	68
London	11	3	26	8	61	17	59	42	102	72
N East, Yorks & Humber	17	3	23	5	71	17	49	35	62	63
North West	21	4	21	6	41	11	52	39	86	65
South East	26	4	39	8	70	15	62	32	107	72
South West	16	3	19	6	37	11	30	32	49	59
West Midlands	15	4	12	5	35	12	43	43	50	65
England	143	4	177	7	398	15	350	37	547	67
England 2022/23	184	4	221	7	476	15	356	36	595	71

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 41: 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	14	3	2	1	8	3	6	9	17	25
East of England	23	5	2	1	9	3	7	8	15	23
London	11	3	7	2	10	3	7	5	32	23
N East, Yorks & Humber	17	3	5	1	11	3	13	9	18	18
North West	21	4	5	1	9	2	13	10	17	13
South East	26	4	11	2	11	2	18	9	27	18
South West	16	3	4	1	13	4	11	12	13	16
West Midlands	15	4	3	1	3	1	9	9	18	23
England	143	4	39	1	74	3	84	9	157	19
England 2022/23	184	4	59	2	83	3	87	9	150	18

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 42: Immediate reconstruction with mastectomy (all cancers)								
Region	Immediate reconstruction		No immediate reconstruction		Unknown		Total mastectomies	
	No.	%	No.	%	No.	%	No.	%
East Midlands	51	24	159	76	0	0	210	100
East of England	89	36	151	61	7	3	247	100
London	199	50	201	50	1	0	401	100
N East, Yorks & Humber	114	37	191	62	3	1	308	100
North West	107	34	203	65	1	0	311	100
South East	127	30	291	70	0	0	418	100
South West	65	29	160	71	1	0	226	100
West Midlands	68	29	165	71	0	0	233	100
England	820	35	1521	65	13	1	2354	100
England 2022/23	904	33	1805	66	18	1	2727	100

Table 43: Any neo-adjuvant therapy							
Region	Had treatment		Did not have treatment		Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	116	8	1256	92	0	0	1372
East of England	171	10	1465	90	0	0	1636
London	231	11	1797	89	0	0	2028
N East, Yorks & Humber	164	7	2167	93	0	0	2331
North West	186	9	1911	91	0	0	2097
South East	176	6	2565	94	0	0	2741
South West	143	8	1755	92	0	0	1898
West Midlands	202	14	1277	86	0	0	1479
England	1389	9	14193	91	0	0	15582
England 2022/23	1692	10	15988	90	0	0	17680

Table 44: Neo-adjuvant endocrine therapy							
Region	Had treatment		Did not have treatment		Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	46	3	1326	97	0	0	1372
East of England	92	6	1544	94	0	0	1636
London	100	5	1928	95	0	0	2028
N East, Yorks & Humber	71	3	2260	97	0	0	2331
North West	94	4	2003	96	0	0	2097
South East	68	2	2673	98	0	0	2741
South West	60	3	1838	97	0	0	1898
West Midlands	119	8	1360	92	0	0	1479
England	650	4	14932	96	0	0	15582
England 2022/23	742	4	16938	96	0	0	17680

Table 45: Neo-adjuvant chemotherapy for invasive cancers							
Region	Had treatment		Did not have treatment		Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	72	6	1048	94	0	0	1120
East of England	85	7	1212	93	0	0	1297
London	138	9	1434	91	0	0	1572
N East, Yorks & Humber	96	5	1778	95	0	0	1874
North West	95	6	1551	94	0	0	1646
South East	115	5	2009	95	0	0	2124
South West	90	6	1420	94	0	0	1510
West Midlands	90	8	1094	92	0	0	1184
England	781	6	11546	94	0	0	12327
England 2022/23	985	7	13067	93	0	0	14052

Table 46: Neo-adjuvant Trastuzumab							
Region	Had treatment		Did not have treatment		Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	1	0	1371	100	0	0	1372
East of England	4	0	1632	100	0	0	1636
London	3	0	2025	100	0	0	2028
N East, Yorks & Humber	15	1	2316	99	0	0	2331
North West	10	0	2087	100	0	0	2097
South East	13	0	2728	100	0	0	2741
South West	3	0	1895	100	0	0	1898
West Midlands	7	0	1472	100	0	0	1479
England	56	0	15526	100	0	0	15582
England 2022/23	77	0	17603	100	0	0	17680

Table 47: Annual screening surgical caseload per surgeon														
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	62	15	24	30	48	12	19	5	8	0	0	0	0	22
East of England	71	18	25	30	42	17	24	6	8	0	0	0	0	21
London	113	47	42	34	30	27	24	4	4	0	0	1	1	14
N East, Yorks & Humber	98	24	24	45	46	22	22	6	6	0	0	1	1	23
North West	100	32	32	38	38	25	25	5	5	0	0	0	0	20
South East	107	30	28	34	32	31	29	11	10	1	1	0	0	23
South West	92	24	26	42	46	21	23	5	5	0	0	0	0	19
West Midlands	60	12	20	26	43	19	32	3	5	0	0	0	0	25
England	703	202	29	279	40	174	25	45	6	1	0	2	0	21
England 2022/23	691	182	26	230	33	183	26	88	13	6	1	2	0	25

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

Table 48: Proportion of women referred to consultant surgeons according to annual caseload of surgeon

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	1420	58	4	627	44	448	32	287	20	0	0	0	0
East of England	1670	53	3	619	37	632	38	366	22	0	0	0	0
London	2093	134	6	612	29	1008	48	235	11	0	0	104	5
N East, Yorks & Humber	2383	87	4	920	39	841	35	346	15	0	0	189	8
North West	2135	98	5	760	36	971	45	306	14	0	0	0	0
South East	2759	108	4	687	25	1182	43	698	25	84	3	0	0
South West	1995	105	5	823	41	783	39	284	14	0	0	0	0
West Midlands	1511	67	4	553	37	729	48	162	11	0	0	0	0
England	15966	710	4	5601	35	6594	41	2684	17	84	1	293	2
England 2022/23	18186	449	2	4709	26	7094	39	5158	28	533	3	243	1

Table 49: Repeat operations (>1 op) of surgically treated invasive and non/micro-invasive cancers without a non-op diagnosis

Region	Invasive			Non/micro-invasive		
	Total	No	%	Total	No	%
East Midlands	4	3	75	9	3	33
East of England	5	1	20	34	11	32
London	3	3	100	13	6	46
N East, Yorks & Humber	10	6	60	24	10	42
North West	5	3	60	18	3	17
South East	7	6	86	26	9	35
South West	7	6	86	24	9	38
West Midlands	4	3	75	18	7	39
England	45	31	69	166	58	35
England 2022/23	46	25	54	168	53	32

Table 50: Number of therapeutic operations (invasive cancers) with initial BCS and a non-operative diagnosis

Region	1		2		3		4+		Unknown		Total cancers		Repeat 2+ ops	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
East Midlands	773	84	132	14	15	2	1	0	0	0	921	100	148	16
East of England	879	83	167	16	16	2	0	0	0	0	1062	100	183	17
London	1010	84	180	15	9	1	0	0	0	0	1199	100	189	16
N East, Yorks & Humber	1358	86	191	12	28	2	5	0	0	0	1582	100	224	14
North West	1145	84	205	15	18	1	1	0	0	0	1369	100	224	16
South East	1383	79	317	18	36	2	7	0	0	0	1743	100	360	21
South West	1055	81	229	18	17	1	3	0	0	0	1304	100	249	19
West Midlands	808	82	159	16	16	2	3	0	0	0	986	100	178	18
England	8411	83	1580	16	155	2	20	0	0	0	10166	100	1755	17
England 2022/23	9690	83	1757	15	158	1	27	0	0	0	11632	100	1942	17

Table 51: Number of therapeutic operations (non/micro-invasive cancers) with initial BCS and a non-operative diagnosis

Region	1		2		3		4+		Unknown		Total cancers		Repeat 2+ ops	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
East Midlands	151	75	43	21	6	3	1	0	0	0	201	100	50	25
East of England	169	76	49	22	4	2	0	0	0	0	222	100	53	24
London	253	78	62	19	8	2	2	1	0	0	325	100	72	22
N East, Yorks & Humber	283	82	55	16	7	2	2	1	0	0	347	100	64	18
North West	279	79	64	18	8	2	1	0	0	0	352	100	73	21
South East	330	69	115	24	26	5	4	1	0	0	475	100	145	31
South West	225	75	61	20	12	4	1	0	0	0	299	100	74	25
West Midlands	167	78	44	21	3	1	0	0	0	0	214	100	47	22
England	1857	76	493	20	74	3	11	0	0	0	2435	100	578	24
England 2022/23	2144	78	508	19	82	3	11	0	0	0	2745	100	601	22

Table 52: 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	887	88	109	11	13	1	0	0	1009	100	122	12
East of England	986	85	166	14	10	1	0	0	1162	100	176	15
London	1196	86	180	13	7	1	0	0	1383	100	187	14
N East, Yorks & Humber	1497	88	175	10	29	2	0	0	1701	100	204	12
North West	1272	87	179	12	13	1	0	0	1464	100	192	13
South East	1602	84	277	14	36	2	0	0	1915	100	313	16
South West	1166	85	192	14	13	1	0	0	1371	100	205	15
West Midlands	927	86	140	13	15	1	0	0	1082	100	155	14
England	9533	86	1418	13	136	1	0	0	11087	100	1554	14
England 2022/23	11014	87	1529	12	154	1	0	0	12697	100	1683	13

Table 53: 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	16	33	30	63	2	4	0	0	48	100	32	67
East of England	28	46	28	46	5	8	0	0	61	100	33	54
London	39	44	48	55	1	1	0	0	88	100	49	56
N East, Yorks & Humber	43	49	40	46	4	5	0	0	87	100	44	51
North West	46	46	47	47	6	6	0	0	99	100	53	54
South East	42	40	55	53	6	6	1	1	104	100	61	59
South West	21	30	41	59	7	10	0	0	69	100	48	70
West Midlands	14	28	33	66	3	6	0	0	50	100	36	72
England	249	41	322	53	34	6	1	0	606	100	356	59
England 2022/23	276	41	371	55	28	4	0	0	675	100	399	59

Table 54: 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	167	77	43	20	6	3	0	0	216	100	49	23
East of England	201	78	52	20	4	2	0	0	257	100	56	22
London	305	80	66	17	10	3	0	0	381	100	76	20
N East, Yorks & Humber	319	83	57	15	9	2	1	0	386	100	66	17
North West	315	82	60	16	9	2	0	0	384	100	69	18
South East	377	73	114	22	25	5	0	0	516	100	139	27
South West	244	77	60	19	13	4	0	0	317	100	73	23
West Midlands	195	79	50	20	3	1	0	0	248	100	53	21
England	2123	78	502	19	79	3	1	0	2705	100	581	21
England 2022/23	2470	80	530	17	88	3	0	0	3088	100	618	20

Table 55: Repeat BCS (all cancers) with initial BCS and a non-operative diagnosis

Region	All cancers with initial BCS (with non-op diagnosis)	Repeat BCS	
		No	%
East Midlands	1122	141	13
East of England	1284	147	11
London	1525	174	11
N East, Yorks & Humber	1929	217	11
North West	1721	204	12
South East	2218	386	17
South West	1604	239	15
West Midlands	1200	159	13
England	12603	1667	13
England 2022/23	14378	1715	12

Table 56: Converted to mastectomy (all cancers) with initial BCS and a non-operative diagnosis

Region	All cancers with initial BCS (with non-op diagnosis)	Converted to Mx	
		No	%
East Midlands	1122	23	2
East of England	1284	24	2
London	1525	32	2
N East, Yorks & Humber	1929	36	2
North West	1721	42	2
South East	2218	52	2
South West	1604	38	2
West Midlands	1200	27	2
England	12603	274	2
England 2022/23	14378	340	2

Table 57: Data completeness of margin information				
Region	Total cases with surgery to the breast	Complete margin data	% complete margin data	Not complete margin data
East Midlands	1288	1172	91	116
East of England	1502	1373	91	129
London	1810	1682	93	128
N East, Yorks & Humber	2187	2130	97	57
North West	1956	1839	94	117
South East	2547	2413	95	134
South West	1764	1691	96	73
West Midlands	1387	1342	97	45
England	14441	13642	94	799
England 2022/23	16433	15592	95	841

Table 58: 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	1083	1072	99	8	1	3	0
East of England	1261	1225	97	31	2	5	0
London	1420	1399	99	19	1	2	0
N East, Yorks & Humber	1882	1856	99	19	1	7	0
North West	1648	1602	97	42	3	4	0
South East	2137	2105	99	25	1	7	0
South West	1535	1520	99	13	1	2	0
West Midlands	1159	1136	98	23	2	0	0
England	12125	11915	98	180	1	30	0
England 2022/23	13773	13555	98	192	1	26	0

Table 59: 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	205	199	97	3	1	3	1
East of England	235	217	92	3	1	15	6
London	390	373	96	17	4	0	0
N East, Yorks & Humber	302	286	95	13	4	3	1
North West	306	284	93	18	6	4	1
South East	410	392	96	16	4	2	0
South West	221	218	99	2	1	1	0
West Midlands	223	216	97	6	3	1	0
England	2292	2185	95	78	3	29	1
England 2022/23	2630	2502	95	94	4	34	1

Table 60: Record of axillary ultrasound for invasive cancers							
Region	Had axillary ultrasound		Did not have axillary ultrasound		Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	1118	100	2	0	0	0	1120
East of England	1266	98	30	2	1	0	1297
London	1565	100	7	0	0	0	1572
N East, Yorks & Humber	1856	99	18	1	0	0	1874
North West	1638	100	8	0	0	0	1646
South East	2124	100	0	0	0	0	2124
South West	1492	99	18	1	0	0	1510
West Midlands	1175	99	9	1	0	0	1184
England	12234	99	92	1	1	0	12327
England 2022/23	13932	99	118	1	2	0	14052

Table 61: Results of axillary ultrasound result for invasive cancers					
Region	Normal		Abnormal		Total
	No.	%	No.	%	
East Midlands	962	86	156	14	1118
East of England	1090	86	176	14	1266
London	1317	84	248	16	1565
N East, Yorks & Humber	1572	85	284	15	1856
North West	1407	86	231	14	1638
South East	1826	86	298	14	2124
South West	1303	87	189	13	1492
West Midlands	1005	86	170	14	1175
England	10482	86	1752	14	12234
England 2022/23	11902	85	2030	15	13932

Table 62: Invasive cancers with an abnormal axillary ultrasound scan							
Region	Had axillary biopsy		Did not have axillary biopsy		Unknown		Total
	No.	%	No.	%	No.	%	
East Midlands	150	96	6	4	0	0	156
East of England	156	89	18	10	2	1	176
London	240	97	8	3	0	0	248
N East, Yorks & Humber	254	89	30	11	0	0	284
North West	210	91	20	9	1	0	231
South East	292	98	6	2	0	0	298
South West	150	79	39	21	0	0	189
West Midlands	163	96	4	2	3	2	170
England	1615	92	131	7	6	0	1752
England 2022/23	1884	93	141	7	5	0	2030

Table 63: 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	9	6	57	38	1	1	0	0	83	55	150
East of England	18	12	47	30	3	2	3	2	85	54	156
London	8	3	86	36	0	0	2	1	144	60	240
N East, Yorks & Humber	10	4	116	46	1	0	3	1	124	49	254
North West	7	3	92	44	5	2	4	2	102	49	210
South East	15	5	127	43	0	0	0	0	150	51	292
South West	15	10	55	37	0	0	1	1	79	53	150
West Midlands	3	2	71	44	1	1	1	1	87	53	163
England	85	5	651	40	11	1	14	1	854	53	1615
England 2022/23	60	3	786	42	13	1	16	1	1009	54	1884

Table 64: 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	4	80	1	20	0	0	0	0	5
East of England	0	0	1	50	0	0	0	0	1	50	2
London	0	0	0	0	0	0	0	0	4	100	4
N East, Yorks & Humber	0	0	2	25	1	13	1	13	4	50	8
North West	0	0	1	33	0	0	0	0	2	67	3
South East	0	0	2	50	0	0	0	0	2	50	4
South West	0	0	2	50	0	0	0	0	2	50	4
West Midlands	0	0	1	33	0	0	0	0	2	67	3
England	0	0	13	39	2	6	1	3	17	52	33
England 2022/23	1	3	21	54	3	8	1	3	13	33	39

Table 65: 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	2	22	8	15	2	100	0	-	39	95
East of England	5	38	7	16	1	50	2	67	42	95
London	2	33	11	19	0	-	1	50	49	84
N East, Yorks & Humber	2	22	14	13	0	0	2	100	80	93
North West	1	14	10	12	0	0	2	67	61	86
South East	2	17	16	15	0	-	0	-	83	90
South West	2	17	7	14	0	-	0	-	49	98
West Midlands	0	0	6	11	0	0	0	-	46	94
England	16	23	79	14	3	33	7	70	449	91
England 2022/23	9	19	120	18	5	36	5	50	511	96

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.

Table 66: Positive predictivity of all/any pre-op assessments for invasive cancers with positive nodal status at surgery *			
Region	Total with positive nodal status	Had positive pre-op ax assessment	
		No	%
East Midlands	155	39	25
East of England	205	42	20
London	227	49	22
N East, Yorks & Humber	307	80	26
North West	230	61	27
South East	335	83	25
South West	191	49	26
West Midlands	156	46	29
England	1806	449	25
England 2022/23	2044	512	25

*Excluded cases with neo-adjuvant therapy.

Table 67: Nodal positivity for invasive cancers without neo-adjuvant therapy and without or unknown pre-op axillary assessment			
Region	Total without/unknown pre-op ax	Positive nodal status	
		No	%
East Midlands	880	104	12
East of England	970	148	15
London	1123	164	15
N East, Yorks & Humber	1428	209	15
North West	1237	156	13
South East	1660	234	14
South West	1213	133	11
West Midlands	863	104	12
England	9374	1252	13
England 2022/23	10709	1393	13

*Excluded cases with neo-adjuvant therapy.

Table 68: Pre-op axillary biopsy results for invasive cancers with positive nodal status											
Region	C1/B1		C2/B2		C3/B3		C4/B4		C5/B5		Invasive cases with positive nodal status
	No.	%	No.	%	No.	%	No.	%	No.	%	
East Midlands	2	1	8	5	2	1	0	0	39	25	155
East of England	5	2	7	3	1	0	2	1	42	20	205
London	2	1	11	5	0	0	1	0	49	22	227
N East, Yorks & Humber	2	1	14	5	0	0	2	1	80	26	307
North West	1	0	10	4	0	0	2	1	61	27	230
South East	2	1	16	5	0	0	0	0	83	25	335
South West	2	1	7	4	0	0	0	0	49	26	191
West Midlands	0	0	6	4	0	0	0	0	46	29	156
England	16	1	79	4	3	0	7	0	449	25	1806
England 21/22	9	0	120	6	5	0	5	0	512	25	2044

The denominator is all invasive cancers with axillary ultrasound and positive nodes at surgery. Excluded cases with neo-adjuvant therapy.

Table 69: Data completion of lymph node status for surgically treated invasive cancers									
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	1077	1073	100	0	0	4	0	0	0
East of England	1235	1199	97	0	0	36	3	0	0
London	1485	1459	98	0	0	26	2	0	0
N East, Yorks & Humber	1805	1768	98	0	0	37	2	0	0
North West	1579	1552	98	0	0	27	2	0	0
South East	2041	2016	99	0	0	25	1	0	0
South West	1455	1423	98	0	0	32	2	0	0
West Midlands	1148	1140	99	0	0	8	1	0	0
England	11825	11630	98	0	0	195	2	0	0
England 2022/23	13521	13362	99	0	0	159	1	0	0

Table 70: Sentinel lymph node primary axillary procedure undertaken for invasive cancers with axillary surgery						
Region	With SLNB		Other Axillary procedure		Total	
	No.	%	No.	%	No.	%
East Midlands	995	93	79	7	1074	100
East of England	1108	92	100	8	1208	100
London	1349	92	113	8	1462	100
N East, Yorks & Humber	1645	93	119	7	1764	100
North West	1436	92	118	8	1554	100
South East	1866	93	148	7	2014	100
South West	1349	94	81	6	1430	100
West Midlands	1043	91	99	9	1142	100
England	10791	93	857	7	11648	100
England 2022/23	12323	92	1049	8	13372	100

Table 71: Nodal status of invasive cancers					
Region	Total known with known nodal status	Positive		Negative	
		No.	%	No.	%
East Midlands	1073	177	16	896	84
East of England	1199	236	20	963	80
London	1459	290	20	1169	80
N East, Yorks & Humber	1768	331	19	1437	81
North West	1552	255	16	1297	84
South East	2016	375	19	1641	81
South West	1423	215	15	1208	85
West Midlands	1140	182	16	958	84
England	11630	2061	18	9569	82
England 2022/23	13362	2360	18	11002	82

Table 72: 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	79	0	0	4	5	75	95	0	0
East of England	100	0	0	11	11	89	89	0	0
London	113	0	0	2	2	111	98	0	0
N East, Yorks & Humber	119	1	1	6	5	112	94	0	0
North West	118	2	2	15	13	101	86	0	0
South East	148	0	0	5	3	143	97	0	0
South West	81	1	1	4	5	76	94	0	0
West Midlands	99	0	0	13	13	86	87	0	0
England	857	4	0	60	7	793	93	0	0
England 2022/23	1049	3	0	55	5	991	94	0	0

Table 73: 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	128	13	866	87	49	62	30	38
East of England	163	15	935	84	73	73	28	28
London	203	15	1143	85	87	77	26	23
N East, Yorks & Humber	241	15	1403	85	90	76	34	29
North West	175	12	1261	88	80	68	36	31
South East	254	14	1612	86	121	82	29	20
South West	154	11	1189	88	61	75	19	23
West Midlands	121	12	920	88	61	62	38	38
England	1439	13	9329	86	622	73	240	28
England 2022/23	1611	13	10701	87	749	71	301	29

Table 74: 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	71	99	1	1	72	29	52	27	48	56
East of England	65	98	1	2	66	26	27	71	73	97
London	107	100	0	0	107	37	39	59	61	96
N East, Yorks & Humber	148	100	0	0	148	53	57	40	43	93
North West	83	100	0	0	83	29	32	63	68	92
South East	140	99	1	1	141	57	50	56	50	113
South West	101	100	0	0	101	21	40	32	60	53
West Midlands	74	100	0	0	74	19	40	28	60	47
England	789	100	3	0	792	271	42	376	58	647
England 2022/23	834	100	1	0	835	292	38	484	62	776

Table 75: 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	1073	790	73.6	72	6.7	0	0.0	714	67	4	0.4	0	0
East of England	1199	864	72.1	66	5.5	0	0.0	786	66	12	1.0	0	0
London	1459	1105	75.7	107	7.3	1	0.1	996	68	1	0.1	0	0
N East, Yorks & Humber	1768	1352	76.5	148	8.4	1	0.1	1196	68	7	0.4	0	0
North West	1552	1175	75.7	83	5.3	2	0.1	1077	69	13	0.8	0	0
South East	2016	1466	72.7	141	7.0	0	0.0	1319	65	6	0.3	0	0
South West	1423	1160	81.5	101	7.1	1	0.1	1055	74	3	0.2	0	0
West Midlands	1140	876	76.8	74	6.5	1	0.1	789	69	12	1.1	0	0
England	11630	8788	75.6	792	6.8	6	0.1	7932	68	58	0.5	0	0
England 2022/23	13362	10101	75.6	835	6.2	10	0.1	9209	69	47	0.4	0	0

Table 76: 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	237	44	19	0	0	193	81	0	0
East of England	299	60	20	0	0	239	80	0	0
London	406	89	22	0	0	317	78	0	0
N East, Yorks & Humber	401	74	18	0	0	327	82	0	0
North West	414	84	20	0	0	330	80	0	0
South East	549	87	16	0	0	462	84	0	0
South West	344	56	16	0	0	288	84	0	0
West Midlands	265	64	24	0	0	201	76	0	0
England	2915	558	19	0	0	2357	81	0	0
England 2022/23	3294	650	20	0	0	2644	80	0	0

Table 77: 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	7	4	191	37	80	46
East of England	8	3	235	52	88	59
London	17	5	314	72	78	92
N East, Yorks & Humber	19	6	340	55	95	58
North West	21	6	342	63	90	70
South East	12	3	462	75	86	87
South West	10	4	280	46	81	57
West Midlands	17	8	212	47	94	50
England	111	5	2376	447	86	519
England 2022/23	111	4	2672	539	90	601

Table 78: Nodal status of non-invasive cancers					
Region	Total known nodal status	Positive		Negative	
		No.	%	No.	%
East Midlands	44	0	0	44	100
East of England	60	0	0	60	100
London	89	0	0	89	100
N East, Yorks & Humber	74	0	0	74	100
North West	84	2	2	82	98
South East	87	0	0	87	100
South West	56	0	0	56	100
West Midlands	64	0	0	64	100
England	558	2	0	556	100
England 2022/23	650	3	0.5	647	99.5

Table 79: Sentinel lymph node procedure for non-invasive cancers with a mastectomy and known nodal status													
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	37	80	0	0	0	0.0	0	0	0	0.0	46	37	100
East of England	49	83	3	5	0	0.0	0	0	0	0.0	59	52	94
London	70	76	0	0	2	2.2	0	0	0	0.0	92	72	97
N East, Yorks & Humber	55	95	0	0	0	0.0	0	0	0	0.0	58	55	100
North West	63	90	0	0	0	0.0	0	0	0	0.0	70	63	100
South East	74	85	0	0	1	1.1	0	0	0	0.0	87	75	99
South West	42	74	1	2	0	0.0	0	0	3	5.3	57	46	91
West Midlands	46	92	1	2	0	0.0	0	0	0	0.0	50	47	98
England	436	84	5	1	3	0.6	0	0	3	0.6	519	447	98
England 2022/23	524	87	10	2	3	0.5	0	0.0	2	0.3	601	539	97

Table 80: Sentinel lymph node procedure for non-invasive cancers with BCS and known nodal status													
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	6	3	0	0	0	0.0	0	0	1	0.5	191	7	86
East of England	8	3	0	0	0	0.0	0	0	0	0.0	235	8	100
London	17	5	0	0	0	0.0	0	0	0	0.0	314	17	100
N East, Yorks & Humber	18	5	1	0	0	0.0	0	0	0	0.0	340	19	95
North West	15	4	1	0	2	0.6	0	0	3	0.9	342	21	71
South East	11	2	0	0	0	0.0	0	0	1	0.2	462	12	92
South West	9	3	0	0	0	0.0	0	0	1	0.4	280	10	90
West Midlands	16	8	1	0	0	0.0	0	0	0	0.0	212	17	94
England	100	4	3	0	2	0.1	0	0	6	0.3	2376	111	90
England 2022/23	106	4	0	0	1	0.0	0	0.0	4	0.1	2672	111	95

Table 81: Mean, median & maximum number of nodes obtained (non-invasive cancers)							
Region	Total known nodal status	Conservation			Mastectomy		
		Mean	Median	Maximum	Mean	Median	Maximum
East Midlands	44	2	2	3	3	3	5
East of England	60	2	2	4	2	2	7
London	89	2	1	3	2	2	8
N East, Yorks & Humber	74	2	1	4	2	2	5
North West	84	3	2	12	2	2	5
South East	87	2	2	5	2	2	8
South West	56	3	2	6	2	2	5
West Midlands	64	3	2	7	3	2	9
England	558	2	2	12	2	2	9
England 2022/23	650	2	2	30	2	2	21

Table 82: Proportion of invasive cancers with axillary surgery at the first and later operation (excluding no surgery/unknown surgery cases)												
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	1009	100	1008	100	0	0	48	100	19	40	29	60
East of England	1162	99	1151	99	0	0	61	77	20	33	27	44
London	1383	99	1369	99	1	0	88	89	39	44	39	44
N East, Yorks & Humber	1701	99	1678	99	2	0	87	83	39	45	33	38
North West	1464	99	1456	99	0	0	99	84	32	32	51	52
South East	1915	99	1898	99	2	0	104	90	37	36	57	55
South West	1371	99	1350	98	4	0	69	88	18	26	43	62
West Midlands	1082	100	1081	100	0	0	50	94	15	30	32	64
England	11087	99	10991	99	9	0	606	87	219	36	311	51
England 2022/23	12696	100	12627	99	9	0	675	91	253	37	358	53

Table 83: First axillary operation type for invasive cancers with positive nodal status and repeat axillary operations							
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	177	28	16	1	1	29	97
East of England	236	72	31	0	0	72	100
London	290	59	20	1	0	60	98
N East, Yorks & Humber	331	40	12	2	1	42	95
North West	255	62	24	3	1	65	95
South East	375	57	15	1	0	58	98
South West	215	31	14	1	0	32	97
West Midlands	182	28	15	0	0	28	100
England	2061	377	18	9	0	386	98
England 2022/23	2360	481	20	12	1	493	98