

Supplemental material

Interval cancer data

The interval between screen and diagnosis was categorised as “Year 1” for an interval cancer diagnosed within 12 months of the screen, “Year 2” for those in months 13 to 24, or “Year 3” for those in months 25-40. Histopathological size was used where available (n=154), with the exception of those who received neoadjuvant chemotherapy (n=36), otherwise size on mammography (n=32) or ultrasound (n=16) were used in that order. No size data was available in three cases. 178 cancers were noted as invasive, 13 were non-invasive, and for 14 it was not known.

Grade		Interval between screen and diagnosis			Total
		Year 1	Year 2	Year 3	
1	N Median size IQR	4 14 mm [11 – 14]	6 10 mm [5 – 12]	11 10 mm [9 – 19]	21 12 mm [8 – 15]
2	N Median size IQR	12 20 mm [10 – 27]	26 17 mm [15 – 45]	45 23 mm [17 – 35]	83 22 mm [15 – 35]
3	N Median size IQR	11 24 mm [19 – 44]	28 20 mm [15 – 28]	39 27 mm [20 – 35]	78 23 mm [18 -32]
No grade data	N Median size IQR	4 27 mm [25 – 35]	11 14 mm [9 – 17]	8 18 mm [14 – 90]	23 17 mm [12 – 30]
Total	N Median size IQR	31 22 mm [13 – 31]	71 17 mm [12 – 30]	103 23 mm [15 – 32]	205 21 mm [14 – 31]

Grade		Volpara Density Grade (VDG)				Total
		a	b	c	d	
1	N Median size IQR	1 10 mm	10 12 mm [9 – 17]	6 12 mm [5 – 14]	4 9 mm [8 – 20]	21 12 mm [8 – 15]
2	N Median size IQR	5 15 mm [12 – 75]	26 26 mm [15 – 32]	35 21 mm [15 – 32]	17 22 mm [15 – 38]	83 22 mm [15 – 35]
3	N Median size IQR	9 31 mm [22 – 36]	29 22 mm [16 – 29]	25 27 mm [20 – 39]	15 21 mm [10 – 28]	78 23 mm [18 – 32]
No grade data	N Median size IQR	1 No data	10 18 mm [8 – 26]	10 23 mm [17 – 107]	2 8 mm [3 – 13]	23 17 mm [12 – 30]
Total	N Median size IQR	16 23 mm [14 – 38]	75 20 mm [14 – 29]	76 21 mm [15 – 36]	38 19 mm [10 – 30]	205 21 mm [14 – 31]

Interval		Volpara Density Grade (VDG)				Total
		a	b	c	d	
Year 1	N Median size IQR	1 15 mm	11 24 mm [13 – 30]	12 21 mm [13 – 43]	7 22 mm [18 – 25]	31 22 mm [13 – 31]
Year 2	N Median size IQR	12 31 mm [21 – 41]	23 15 mm [11 – 21]	19 17 mm [14 – 22]	17 17 mm [12 – 32]	71 17 mm [12 – 30]
Year 3	N Median size IQR	3 14 mm [11 – 30]	41 23 mm [17 – 31]	45 25 mm [18 – 39]	14 19 mm [7 – 31]	103 23 mm [15 – 32]
Total	N Median size IQR	16 23 mm [14 – 38]	75 20 mm [14 – 29]	76 21 mm [15 – 36]	38 19 mm [10 – 30]	205 21 mm [14 – 31]

Ethnicity data

Ethnicity		In cohort N (%)	
A	White – British	26590	(53.2%)
B	White – Irish	208	(0.4%)
C	White – Any other White background	1340	(2.7%)
D	Mixed – White and Black Caribbean	18	(0.0%)
E	Mixed – White and Black African	13	(0.0%)
F	Mixed – White and Asian	43	(0.1%)
G	Mixed – Any other Mixed background	77	(0.2%)

H	Asian or Asian British – Indian	207 (0.4%)
J	Asian or Asian British – Pakistani	53 (0.1%)
K	Asian or Asian British – Bangladeshi	37 (0.1%)
L	Asian or Asian British – Any other Asian background	247 (0.5%)
M	Black or Black British - Caribbean	87 (0.2%)
N	Black or Black British - African	110 (0.2%)
P	Black or Black British – Any other Black background	37 (0.1%)
R	Other ethnic groups – Chinese	273 (0.5%)
S	Other ethnic groups – Any other group	189 (0.4%)
Z	Not stated	3256 (6.5%)
	Not available	17163 (34.4%)
	Total	49948 (100%)