

**Supplement 2:**  
**Characteristics of invasive breast cancer cases with lymph node metastasis after biopsy-proven DCIS in the model development cohort**

Tumour characteristics	N	%
Morphology	113	
Lobular	2	2
Ductal	105	93
Mixed Ductal and Lobular	3	3
Other	3	3
Grade of the invasive tumour	103	
I	13	13
II	40	39
III	50	48
ER receptor	109	
Negative	23	21
Positive	86	79
PR receptor	109	
Negative	44	40
Positive	65	60
Her2Neu	109	
Negative	76	70
Positive	33	30
Receptor combinations	106	
ER- PR- Her2Neu -	8	8
ER+ PR- Her2Neu -	66	62
ER- PR- Her2Neu +	14	13
ER+ PR- Her2Neu +	17	16
ER- PR+ Her2Neu +	1	<1
Tumour size (in mm)	109	
mean - median (range)	16.5 - 11 ( 1 - 90)	
TNM stage	113	
I A	0	0
I B	16	14
II A	52	46
II B	20	18
III A	16	14
III B	0	0
III C	9	8
IV	0	0