

### **Electronic Supplementary Tables and Figures**

**Title:** Cohort Profile: The Predictors of Breast Cancer Recurrence (ProBe CaRE) Premenopausal Breast Cancer Cohort Study in Denmark

**Author List:** Lindsay J Collin, Deirdre P Cronin-Fenton, Thomas P Ahern, Peer M Christiansen, Per Damkier, Bent Ejlersen, Stephen Hamilton-Dutoit, Anders Kjærsgaard, Rebecca A Silliman, Henrik Toft Sørensen, Timothy L Lash

To whom correspondence should be addressed: Lindsay J Collin, Department of Epidemiology, Rollins School of Public Health, Emory University, 1518 Clifton Rd NE Atlanta GA 30322; Phone: 1-530-386-3341; Email: [lindsay.jane.collin@emory.edu](mailto:lindsay.jane.collin@emory.edu), ORCID: 0000-0003-0170-2592

**Electronic Supplementary Table 1** Comparison of clinical and tumour characteristics by availability of tumour specimen for each ER $\alpha$ +/T+ and ER $\alpha$ -/T- group, among the 5,959 participants in a population-based cohort of premenopausal women diagnosed with first primary breast cancer, ProBe CaRe study.

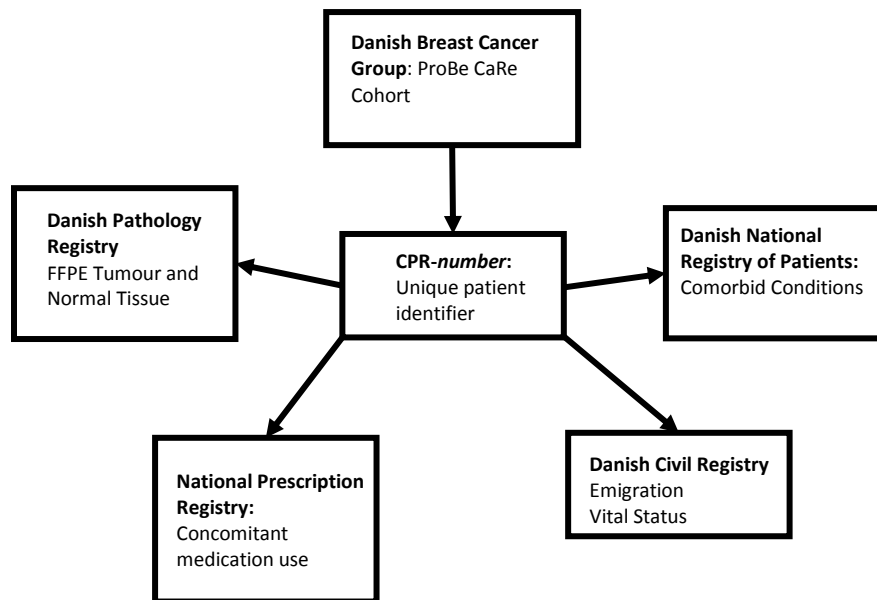
Patient and tumour characteristics	ER+/TAM+				ER-/TAM-			
	Tumour Specimen Available							
	Yes		No		Yes		No	
	N	%	N	%	N	%	N	%
Total	3959	86	640	14.0	1139	84.0	220	16.0
Age at diagnosis								
<35	197	5	25	3.9	156	14	26	12
35-49	408	10	79	12	178	16	51	23
40-44	973	25	149	23	270	24	51	23
45-49	1455	37	213	33	324	28	61	28
50+	926	23	174	27	211	19	31	14
Stage at diagnosis								
Stage I	1020	26	164	26	334	29	68	31
Stage II	2125	54	350	55	590	52	112	51
Stage III	796	20	121	19	207	18	39	18
Unknown stage	18	0.5	5	0.8	8	0.7	1	0.5
Tumor size								
< 2mm	2267	57	379	59	553	49	124	56
2 - <5mm	1544	39	235	37	540	47	92	42
> 5mm	133	3.4	23	3.6	41	3.6	3	1.4
Unknown	15	0.4	3	0.5	5	0.4	1	0.5
Number of metastatic lymph nodes								
0	1469	37	235	37	582	51	113	51
1	982	25	166	26	194	17	44	20
2	493	13	90	14	101	8.3	15	6.8
3+	1004	25	147	23	259	23	47	21
Unknown	11	0.3	2	0.3	3	0.3	1	0.5
Lymph node evaluation								
No	7	0.2	1	0.2	2	0.2	1	0.5
Yes	3952	100	639	100	1137	99.8	219	99.5
Histologic grade								
Unsuitable	7	0.2	3	0.5	11	1	2	0.9
I	839	21	116	18	21	1.8	0	0
II	2024	51	366	57	182	16	34	15
III	822	21	128	20	737	65	147	67
Unknown	267	6.7	27	4.2	188	17	37	17
Type of primary surgery								
Mastectomy	1759	44	273	43	538	47	89	40

Lumpectomy	2200	56	367	57	601	53	131	60
Progesterone receptor status								
PR-	308	7.8	75	12	919	80.7	202	91.8
PR+	2245	57	435	68	17	1.5	2	0.9
Unknown/Not measured	1406	35	130	20	203	17.8	16	7.3
HER2 status								
HER2-	2489	63	397	62	579	51	113	51
HER2+	532	13	87	14	300	26	54	25
Unknown/Not measured	938	24	156	24	260	23	53	24
Intention to treat with chemotherapy								
No	126	3.2	18	3	11	1	3	1.4
Yes	3833	97	622	97	1128	99	217	99
Chemotherapy								
No	386	9.7	51	8	85	7.5	24	11
Yes	3573	90	589	92	1054	93	196	89
Intention to treat with Tamoxifen								
No	62	1.6	8	1.3	1131	99	220	100
Yes	3897	98	632	99	8	0.7	0	0
Radiation therapy								
No	565	14	90	14	230	20	37	17
Yes	3394	86	550	86	909	80	183	83
Anti-HER2 therapy								
No	2489	63	397	62	579	51	113	51
Yes	532	13	87	14	300	26	54	25
Unknown	938	24	156	24	260	23	53	24
Recurrence								
No	3625	92	579	90	962	84	181	82
Yes	334	8.4	61	9.5	177	16	39	18
Another malignancy								
No	3911	99	632	99	1126	99	215	98
Yes	48	1.2	8	1.3	13	1.1	5	2.3
Dead at end-of-follow-up								
No	3648	92	591	92	932	82	183	83
Yes	311	7.9	49	7.7	207	18	37	17
Charlson Comorbidity Score								
0	3949	100	637	100	1124	99	220	100
1	3	0.1	1	0.2	4	0.4	0	0
2	0	0	2	0.3	3	0.3	0	0
3+	7	0.2	0	0	8	0.7	0	0

**Electronic Supplementary Table 2** Comparison of clinical and tumour characteristics by availability of non-neoplastic tissue specimen for each ERα+/T+ and ERα-/T- group, among the 5,959 participants in a population-based cohort of premenopausal women diagnosed with first primary breast cancer, ProBe CaRe study

Patient and tumour characteristics	ER+/TAM+				ER-/TAM-			
	Non-neoplastic Tissue Sample Available							
	Yes		No		Yes		No	
	N	%	N	%	N	%	N	%
Total	3746	92.0	853	19.0	1082	80.0	277	20.0
Age at diagnosis								
<35	188	5	34	4	157	15	25	9
35-49	392	11	95	11	161	15	68	25
40-44	916	24	206	24	267	25	54	20
45-49	1364	36	304	36	309	29	76	27
50+	886	24	214	25	188	17	54	20
Stage at diagnosis								
Stage I	966	26	218	26	317	29	85	31
Stage II	2005	54	470	55	560	52	142	51
Stage III	759	20	158	19	199	18	47	17
Unknown stage	16	0.4	7	0.8	6	0.6	3	1.1
Tumor size								
< 2mm	2150	57	496	58	522	48	155	56
2 - <5mm	1450	39	329	39	515	48	117	42
> 5mm	131	3.5	25	2.9	41	3.8	3	1.1
Unknown	15	0.4	3	0.4	4	0.4	2	0.7
Number of metastatic lymph nodes								
0	1385	37	319	37	556	51	139	50
1	929	25	219	26	177	16	61	22
2	482	13	101	12	97	9	19	6.9
3+	941	25	210	25	250	23	56	20
Unknown	9	0.2	4	0.5	2	0.2	2	0.7
Lymph node evaluation								
No	6	0.2	2	0.2	1	0.1	2	0.7
Yes	3740	100	851	100	1081	100	275	99
Histologic grade								
Unsuitable	5	0.1	5	0.6	10	0.9	3	1.1
I	791	21	164	19	17	1.6	4	1.4
II	1882	50	508	60	166	15	50	18
III	806	22	144	17	708	65	176	64
Unknown	262	7	32	3.8	181	17	44	16
Type of primary surgery								

	Mastectomy	1696	45	336	39	524	48	103	37
	Lumpectomy	2050	55	517	61	558	52	174	63
Progesterone receptor status									
	PR-	281	7.5	102	12	860	80	261	94
	PR+	2019	54	661	77	15	1.4	4	1.4
	Unknown/Not measured	1446	39	90	11	207	19	12	4.3
HER2 status									
	HER2-	2304	62	582	68	543	50	149	54
	HER2+	525	14	94	11	282	26	72	26
	Unknown/Not measured	917	25	177	21	257	24	56	20
Intention to treat with chemotherapy									
	No	122	3.3	22	2.6	8	0.7	6	2.2
	Yes	3624	97	831	97	1074	99	271	98
Chemotherapy									
	No	381	10	56	6.6	87	8	22	8
	Yes	3365	90	797	93	995	92	255	92
Intention to treat with Tamoxifen									
	No	59	1.6	11	1.3	1075	99	276	100
	Yes	3687	98	842	99	7	0.6	1	0.4
Radiation therapy									
	No	547	15	108	13	218	20	49	18
	Yes	3199	85	745	87	864	80	228	82
Anti-HER2 therapy									
	No	2304	62	582	68	543	50	149	54
	Yes	525	14	94	11	282	26	72	26
	Unknown	917	25	177	21	257	24	56	20
Recurrence									
	No	3433	92	771	90	918	85	225	81
	Yes	313	8.4	82	9.6	164	15	52	19
Another malignancy									
	No	3695	99	848	99	1069	99	272	98
	Yes	51	1.4	5	0.6	13	1.2	5	1.8
Dead at end-of-follow-up									
	No	3449	92	790	93	890	82	225	81
	Yes	297	7.9	63	7.4	192	18	52	19
Charlson Comorbidity Score									
	0	3733	100	853	100	1067	99	277	100
	1	4	0.1	0	0	4	0.4	0	0
	2	2	0.1	0	0	3	0.3	0	0
	3+	7	0.2	0	0	8	0.7	0	0



**Electronic Supplementary Figure 1** Use of unique personal identifier, CPR-number, to link study cohort to Danish national registries for data completeness in the ProBe CaRe cohort study.