

Table SI. Missing boost documentation across calendar periods.

Calendar period	Total patients, n	Missingboost documentation, n	Missingdocumentation, %
2016	618	3	0.5
2017-2019	3,172	6	0.2
2020-2022	3,855	35	0.9

Boost, tumor-bed boost.

Table SII. Multivariate logistic regression (imputation).

Characteristic	OR	95% CI	P-value
Age	0.96	0.95, 0.97	<0.001
Tumor stage			
1	-	-	
2	2.33	1.74, 3.13	<0.001
Carcinoma <i>in situ</i>	0.43	0.05, 3.42	0.424
Nodal stage			
N0	-	-	
Node-positive	0.98	0.66, 1.47	0.921
Progesterone receptor			
Negative	-	-	
Positive	1.10	0.64, 1.88	0.732
Unknown	1.71	0.21, 14.00	0.616
Estrogen receptor			
Negative	-	-	
Positive	0.62	0.32, 1.18	0.142
Unknown	0.23	0.03, 1.99	0.182
Radiation target region			
Partial breast	-	-	
Partial breast with lymph node region	2.13	1.08, 4.18	0.028
Partial breast without lymph node region	0.10	0.05, 0.23	<0.001
Whole breast	1.27	0.93, 1.74	0.131

Whole breast with lymph node region	1.54	0.65, 3.64	0.324
Whole breast without lymph node region	0.10	0.06, 0.17	<0.001
Final resection status			
R0	-	-	
R1	1.53	0.65, 3.61	0.331
Rx	1.19	0.74, 1.92	0.467
Histologic grade			
High	-	-	
Intermediate	1.17	0.87, 1.58	0.310
Low	1.57	1.02, 2.41	0.040

Node-positive includes N1-N3 and nodal micrometastatic disease. OR, odds ratio.

Table SIII. Cox regression analyses for overall survival (imputation).

Characteristic	HR	95% CI	P-value
Boost	1.01	0.63, 1.63	0.957
Age	1.06	1.04, 1.08	<0.001
Nodal stage			
0	-	-	
1	1.28	0.64, 2.58	0.483
Micrometastases	1.39	0.33, 5.89	0.651
N2+	2.74	0.87, 8.66	0.085
Tumor stage			
1	-	-	
2	1.72	1.05, 2.81	0.031
T3+	5.25	2.07, 13.40	<0.001
Progesterone receptor			
Negative	-	-	
Positive	0.56	0.28, 1.11	0.097
Estrogen receptor			
Negative	-	-	
Positive	0.94	0.40, 2.22	0.881
Final resection status			
R0	-	-	
R1	0.62	0.08, 4.74	0.639
Rx	1.51	0.71, 3.22	0.274

Boost, tumor-bed boost; HR,hazard ratio.

Table SIV. Sensitivity analysis: Predictors of missing boost data.

Characteristic	N	OR	95% CI	P-value
Age	7,549	0.99	0.98, 0.99	<0.001
Treatment				
Radiotherapy	2,867	-	-	
Radiotherapy alone	735	1.12	0.87, 1.45	0.379
Systemic + RT ± surgery	3,947	1.19	1.07, 1.33	0.001
Tumor stage				
0-1	3,792	-	-	
2-3	2,544	1.33	1.19, 1.49	<0.001
4+	1,213	0.78	0.65, 0.94	0.009
Nodal stage				
0	4,532	-	-	
1	1,536	0.51	0.44, 0.59	<0.001
2+	1,481	0.53	0.45, 0.62	<0.001
HER2 status				
Negative	4,640	-	-	
Positive	1,133	1.33	1.15, 1.53	<0.001
Unknown	1,776	0.83	0.67, 1.02	0.083
Progesterone receptor				
Negative	1,360	-	-	
Positive	4,776	1.05	0.88, 1.25	0.615
Unknown	1,413	1.00	0.37, 2.57	0.992
Estrogen receptor				

Negative	856	-	-	
Positive	5,289	0.82	0.67, 1.02	0.070
Unknown	1,404	1.30	0.50, 3.54	0.590
Radiation target region				
Partial breast	958	-	-	
Partial breast with lymph node region	275	2.26	1.70, 3.00	<0.001
Partial breast without lymph node region	447	0.40	0.30, 0.54	<0.001
Whole breast	2,729	1.63	1.39, 1.90	<0.001
Whole breast with lymph node region	1,137	1.16	0.95, 1.41	0.144
Whole breast without lymph node region	2,003	0.91	0.77, 1.08	0.290
Final resection status				
R0	5,707	-	-	
R1	179	1.13	0.82, 1.54	0.448
R2	21	0.46	0.15, 1.21	0.141
Rx	663	0.69	0.58, 0.83	<0.001
Unknown	979	0.51	0.41, 0.63	<0.001
Histologic grade				
High	2,307	-	-	
Intermediate	4,372	1.01	0.91, 1.13	0.858
Low	870	1.13	0.96, 1.33	0.149

P-values are based on Wald tests from the multivariable logistic regression model. OR, odds ratio; RT, radiotherapy.

Table SV. Covariate balance before and after propensity score matching.

Variable	Before matching (maximum SMD)	After matching (maximum SMD)
Age	0.31	0.06
Tumor stage	0.25	0.02
Nodal stage	0.17	0.04
Grading	0.12	0.03
HER2 status	0.24	0.03
Estrogen receptor status	0.21	0.10
Progesterone receptor status	0.20	0.07

SMD,standardized mean difference.

Table SVI. Comparison of overall survival estimates across sensitivity analyses.

Analysis	HR	95% CI	P-value
Complete-case Cox	0.98	0.60-1.58	>0.999
Multiple imputation Cox	1.01	0.63-1.63	>0.999
Propensity score matched Cox	0.87	0.50-1.49	0.600

HR, hazard ratio.

Table SVII. Multivariate Cox proportional hazards model including ECOG performance status (sensitivity analysis).

Variable	HR	95% CI	P-value
Boost	1.01	0.62-1.64	0.970
Age	1.06	1.03-1.08	<0.001
T2 vs. T1	1.63	0.98-2.71	0.059
T3+ vs. T1	4.83	1.78-13.11	0.002
PRpositive	0.40	0.20-0.79	0.008
ECOG 1 vs. 0	2.33	0.64-8.51	0.200
ECOG ≥ 2 vs. 0	14.43	3.67-56.81	<0.001

Boost, tumor-bed boost; ECOG, Eastern Co-operative Oncology Group; HR, hazard ratio; PR, progesterone receptor.