

Table S1. Baseline characteristic of the training cohort and testing cohort in the study.

Characteristic	Training cohort		Testing cohort	
	Number = 1780	%	Number = 198	%
Age group				
Young	993	55.8	112	56.6
Old	787	44.2	86	43.4
Race				
White	1416	79.6	164	82.8
Black	254	14.3	26	13.1
Other	110	6.2	8	4.0
Marriage				
Unmarried	485	27.2	59	29.8
Married	1295	72.8	139	70.2
ER				
Negative	71	4.0	9	4.5
Positive	1539	86.5	176	88.9
Other	170	9.6	13	6.6
PR				
Negative	256	14.4	31	15.7
Positive	1312	73.7	152	76.8
Other	212	11.9	15	7.6
HER2				
Negative	129	7.2	15	7.6
Positive	25	1.4	0	0.0
Other	1626	91.3	183	92.4
laterality				
Left	934	52.5	107	54.0
Right	846	47.5	91	46.0
Grade				
I	243	13.7	28	14.1
II	878	49.3	106	53.5
III/IV	659	37.0	64	32.3
AJCC stage				
I	596	33.5	74	37.4
II	827	46.5	93	47.0
III	357	20.1	31	15.7
AJCC-T				
T1	924	51.9	103	52.0
T2	687	38.6	76	38.4
T3	53	3.0	8	4.0
T4	116	6.5	11	5.6
AJCC-N				
N0	955	53.7	117	59.1
N1	557	31.3	58	29.3
N2	167	9.4	15	7.6
N3	101	5.7	8	4.0
SEER stage				
Localized	827	46.5	104	52.5
Regional	926	52.0	91	46.0
Distant	27	1.5	3	1.5
Surgical treatment				
Yes	1762	99.0	194	98.0
No	18	1.0	4	2.0
Chemotherapy				

Yes	802	45.1	80	40.4
No	978	54.9	118	59.6
Radiotherapy				
Yes	494	27.8	60	30.3
No	1286	72.2	138	69.7
Cause of death				
No events	1117	62.8	128	64.6
BCSD	335	18.8	29	14.6
OCSD	328	18.4	41	20.7

Notes: SEER, Surveillance, Epidemiology and End Results; ER, estrogen receptor; PR, progesterone receptor; HER2, human epidermal growth factor receptor 2; AJCC, American Joint Committee on Cancer; BCSD, breast cancer specific death; OCSD, other cause-specific death; Young, 18-64 years old; Old, 65-80 years old.

Table S2. The censoring weighted Cox model for breast cancer-specific death in patients with primary nonmetastatic male breast cancer.

Characteristics	Coefficient	HR	<i>p</i>
Race			
Black	Reference		
White	-0.427	0.653	0.002**
Other	-0.308	0.735	0.260
PR			
Negative	Reference		
Positive	-0.377	0.686	0.017*
Other	-0.251	0.778	0.200
Grade			
I	Reference		
II	0.604	1.829	0.017*
III/IV	0.755	2.128	0.003**
AJCC-T			
T1	Reference		
T2	0.605	1.831	<0.001***
T3	1.186	3.274	<0.001***
T4	0.705	2.024	<0.001***
AJCC-N			
N0	Reference		
N1	0.693	2.000	<0.001***
N2	1.139	3.122	<0.001***
N3	1.619	5.047	<0.001***
Surgical treatment			
No	Reference		
Yes	-1.087	0.337	0.002**

Notes: HR, hazard ratio; CI, confidence interval; PR, progesterone receptor; AJCC, American Joint Committee on Cancer; *, $p < 0.05$; **, $p < 0.01$; ***, $p < 0.001$.

Table S3. The censoring weighted Cox model for other cause-specific death in patients with primary nonmetastatic male breast cancer.

Characteristics	Coefficient	HR	<i>p</i>
Age group			
Young	Reference		
Old	1.428	4.170	<0.001***
Marriage			
Married	Reference		
Unmarried	0.319	1.375	0.008**
AJCC stage			
I	Reference		
II	0.571	1.769	<0.001***
III	0.665	1.944	<0.001***
Chemotherapy			
No	Reference		
Yes	-0.509	0.601	<0.001***

Notes: HR, hazard ratio; CI, confidence interval; AJCC, American Joint Committee on Cancer;

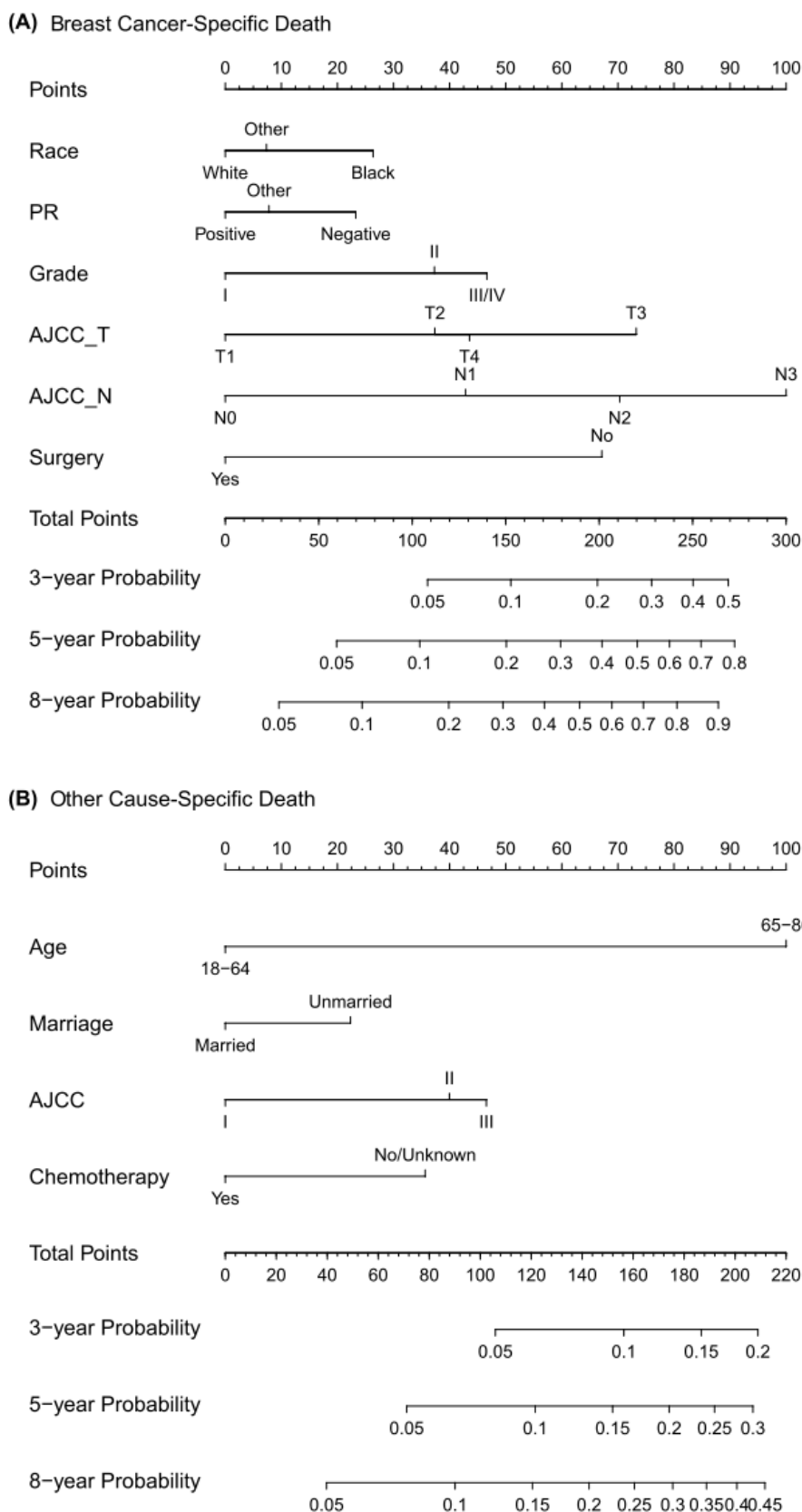
Young, 18-64 years old; Old, 65-80 years old; *, $p < 0.05$; **, $p < 0.01$; ***, $p < 0.001$.

Table S4. C-indices and Brier scores of the competing risk nomogram in the training and testing cohorts.

Characteristics		BCSD			OCSD		
		3-year	5-year	8-year	3-year	5-year	8-year
Training cohort	C-index	0.779	0.753	0.736	0.737	0.723	0.726
	Brier score	0.045	0.083	0.110	0.056	0.084	0.111
Testing cohort	C-index	0.840	0.811	0.684	0.702	0.690	0.672
	Brier score	0.020	0.032	0.086	0.050	0.086	0.117

Notes: BCSD, breast cancer specific death; OCSD, other cause-specific death; C-index, concordance index.

Figure S1. Competing risk nomogram based on the censoring weighted Cox model.



Notes: (A) Breast cancer-specific death; (B) Other cause-specific death; PR, progesterone receptor; AJCC, American Joint Committee on Cancer; SEER, Surveillance, Epidemiology, and End Results.