

Munich Cancer Registry



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ICD-10 C50: Breast cancer (women)

Survival

Year of diagnosis	1988-1997	1998-2019
Patients	11,933	70,316
Diseases	12,415	73,922
Cases evaluated	10,651	56,749
Creation date	01/27/2021	
Database export	01/07/2021	
Population (females)	2.48 m	



Munich Cancer Registry
Cancer Registry Bavaria - Upper Bavaria Regional Center
at Klinikum Grosshadern/IBE
Marchioninstr. 15
Munich, 81377
Germany

<https://www.tumorregister-muenchen.de/en>

https://www.tumorregister-muenchen.de/en/facts/surv/sC50f_E-ICD-10-C50-Breast-cancer-women-survival.pdf

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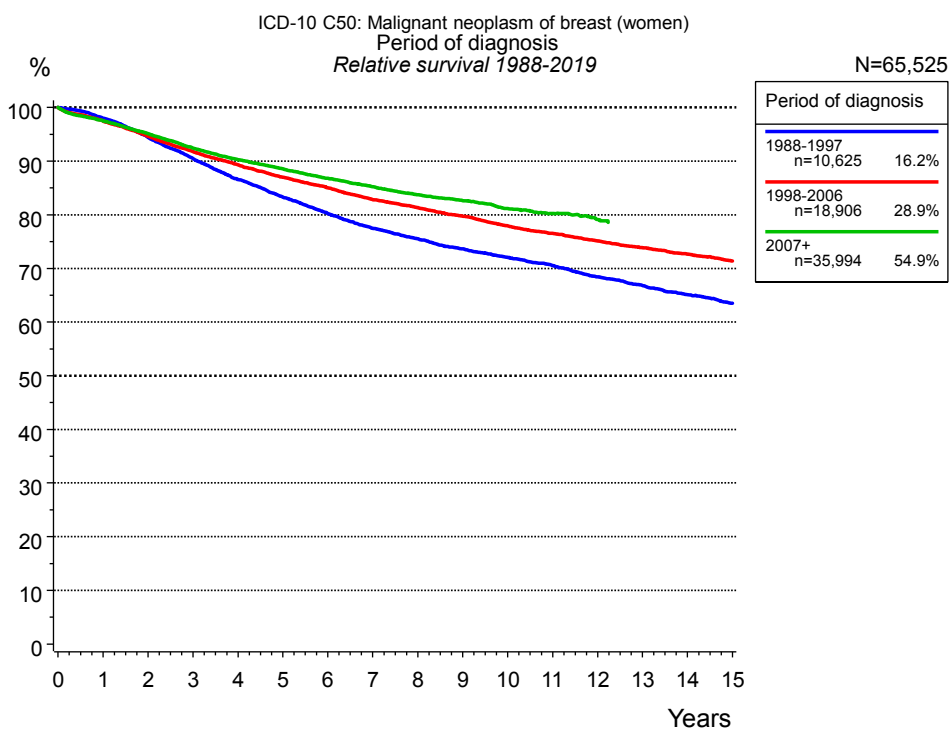


Figure 1a. Relative survival of patients with breast cancer (women) by period of diagnosis. Included in the evaluation are 65,525 cases diagnosed between 1988 and 2019.

The presented survival curves are derived from clinical records with valid follow-up informations, which means that death certificate cases (DCO) cases are omitted from the analysis. With this one restriction, the MCR has provided population-based statistics since 1998, collecting data on all cancer cases in the region of southern Bavaria. Historical data of previous time periods can be heavily selected, therefore, univariate survival comparisons of the presented time periods must be carefully considered. Nonetheless, all calculable survival curves are depicted to facilitate the comparison of long time follow-up analyses of relative survival between particular cancers.

Years	Period of diagnosis					
	1988-1997 n=10,625		1998-2006 n=18,906		2007+ n=35,994	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	96.4	98.0	95.8	97.5	95.9	97.5
2	91.4	94.5	91.5	94.6	92.0	95.1
3	86.2	90.5	87.3	91.8	88.0	92.4
4	81.1	86.6	83.6	89.3	84.6	90.3
5	76.7	83.3	80.1	87.0	81.7	88.5
6	72.7	80.2	77.0	85.0	78.9	86.8
7	69.0	77.5	73.8	82.8	76.2	85.2
8	66.2	75.5	71.3	81.3	73.6	83.7
9	63.5	73.6	68.7	79.7	71.4	82.7
10	61.1	72.1	66.1	77.9	68.9	81.1
11	58.7	70.6	63.7	76.5	66.9	80.2
12	56.0	68.4	61.4	75.1	64.7	79.1
13	53.7	66.8	59.2	73.9		
14	51.4	65.1	57.1	72.7		
15	49.1	63.5	55.0	71.4		
Median	14.7		18.1			

Table 1b. Observed (obs.) and relative (rel.) survival of patients with breast cancer (women) by period of diagnosis for period 1988-2019 (N=65,525).

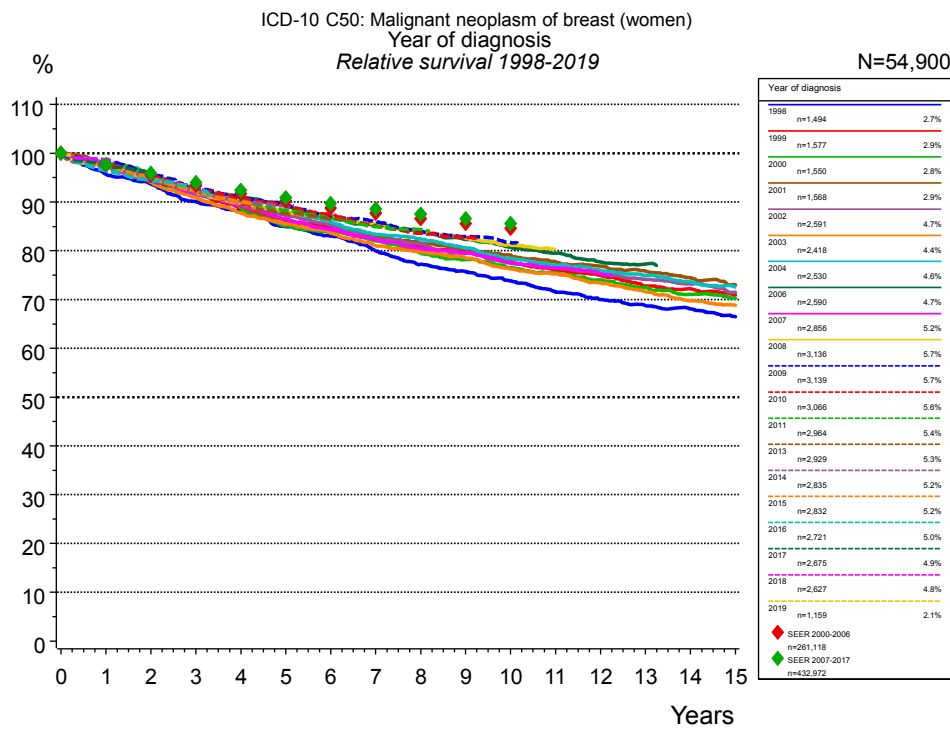


Figure 1c. Relative survival of patients with breast cancer (women) by year of diagnosis. Included in the evaluation are 54,900 cases diagnosed between 1998 and 2019.

The survival results of the SEER program (Surveillance, Epidemiology, and End Results) of the American National Cancer Institute (NCI) are summarized as the period of diagnosis from 2000 to 2017, and are represented by colored diamonds in order to facilitate comparisons between MCR and SEER.

Years	Year of diagnosis													
	1998		1999		2000		2001		2002		2003		2004	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	93.9	95.7	95.7	97.4	96.2	97.9	96.3	97.8	96.4	98.1	95.7	97.4	96.0	97.7
2	90.5	93.7	91.3	94.5	92.5	95.7	91.7	94.7	91.5	94.8	90.8	94.0	91.8	94.9
3	85.6	90.1	87.3	91.9	87.7	92.4	88.2	92.4	87.1	91.7	86.4	90.9	87.2	91.7
4	82.2	88.0	82.9	88.7	83.0	88.8	83.9	89.2	83.5	89.3	81.9	87.8	84.2	89.9
5	78.1	85.0	79.3	86.3	78.0	85.1	80.1	86.3	80.2	87.3	78.5	85.5	81.2	88.0
6	75.1	83.0	76.6	84.7	75.6	83.9	77.2	84.4	77.1	85.3	75.4	83.6	78.0	85.9
7	71.2	80.0	73.7	82.7	72.8	82.0	74.8	83.0	73.3	82.4	72.0	81.0	74.6	83.3
8	67.6	77.2	71.0	81.1	69.5	79.6	72.4	81.5	71.1	81.4	69.6	79.8	72.6	82.5
9	65.4	75.8	68.8	79.8	67.2	78.2	70.3	80.4	68.3	79.6	67.4	78.5	69.8	80.5
10	62.6	73.8	66.1	77.9	64.7	76.6	68.1	79.1	65.4	77.6	64.3	76.2	66.7	78.3
11	59.7	71.6	63.4	76.1	62.7	75.5	65.8	77.7	63.4	76.6	62.3	75.3	64.5	77.0
12	57.3	70.0	61.4	75.0	60.5	74.0	64.0	76.8	61.3	75.5	59.5	73.4	62.5	76.0
13	55.3	68.7	58.4	72.8	58.1	72.5	62.1	75.9	59.1	74.2	57.0	71.6	60.5	74.9
14	53.8	68.1	57.0	72.3	56.0	71.1	59.9	74.5	57.1	73.2	54.4	69.7	58.2	73.6
15	51.5	66.5	54.9	71.0	54.4	70.3	57.6	73.0	54.6	71.5	52.6	68.9		
Median	15.8		17.8		17.7				17.3		16.2			

<i>cont'd</i>	Year of diagnosis													
	2006		2007		2008		2009		2010		2011		2013	
	n=2,590		n=2,856		n=3,136		n=3,139		n=3,066		n=2,964		n=2,929	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	95.7	97.3	95.7	97.4	95.7	97.3	96.9	98.4	95.9	97.5	95.6	97.3	96.2	97.8
2	91.3	94.3	91.2	94.4	91.8	94.8	92.9	95.8	92.5	95.5	91.7	94.8	91.9	95.0
3	88.1	92.4	87.2	91.7	87.8	92.1	88.6	92.8	88.5	92.8	87.6	92.0	87.8	92.1
4	85.7	91.2	83.5	89.3	84.3	89.7	85.4	90.8	85.0	90.6	84.6	90.2	84.1	89.7
5	82.5	89.2	79.6	86.5	81.5	88.1	82.8	89.4	82.4	89.2	81.4	88.3	80.9	87.6
6	79.2	87.1	76.4	84.4	79.1	86.9	79.2	86.8	79.4	87.4	78.7	86.6	78.7	86.6
7	76.3	85.3	73.3	82.3	76.5	85.4	77.1	86.0	76.1	85.1	75.8	84.9		
8	73.9	84.0	70.5	80.5	74.1	84.1	74.0	83.8	73.5	83.6	74.1	84.3		
9	71.1	82.3	68.5	79.5	71.6	82.7	71.9	82.9	71.6	82.8				
10	68.5	80.7	65.5	77.4	69.1	81.3	69.7	81.7						
11	66.2	79.5	63.6	76.5										
12	63.4	77.7	61.4	75.3										
13	61.9	77.3												
Median														

<i>cont'd</i>	Year of diagnosis											
	2014		2015		2016		2017		2018		2019	
	n=2,835		n=2,832		n=2,721		n=2,675		n=2,627		n=1,159	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	95.4	97.1	96.0	97.6	94.7	96.3	96.0	97.6	97.0	98.7		
2	92.0	95.1	92.0	95.0	91.4	94.5	92.7	95.9				
3	87.5	92.0	87.8	92.1	88.7	93.1						
4	84.4	90.1	84.5	90.0								
5	82.3	89.3										
Median												

Table 1d. Observed (obs.) and relative (rel.) survival of patients with breast cancer (women) by year of diagnosis for period 1998-2019 (N=54,900).

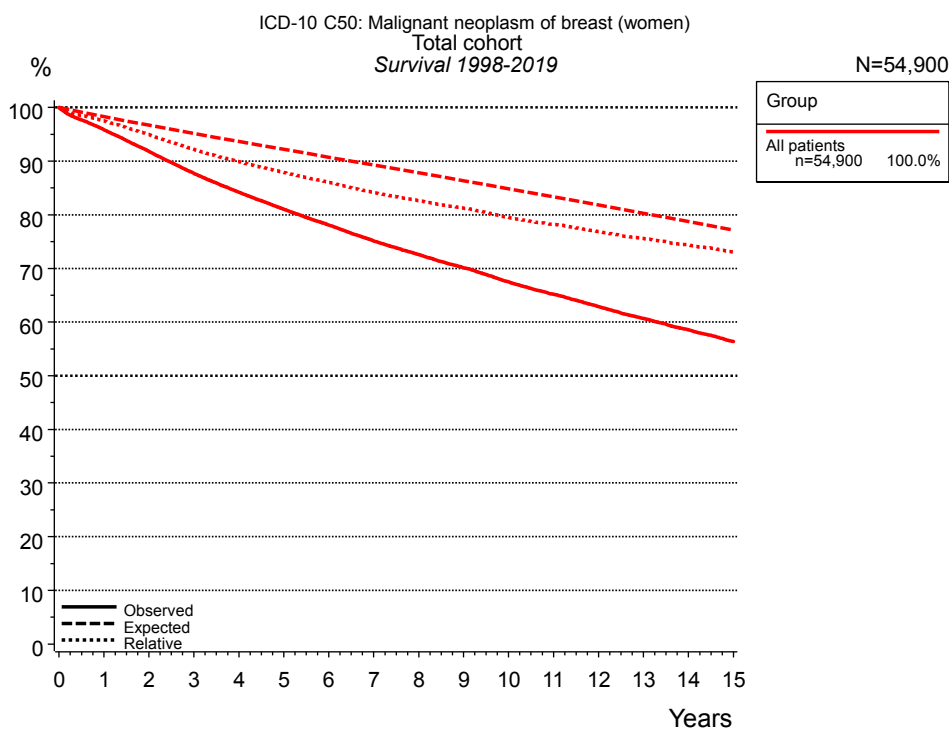


Figure 2a. Observed, expected and relative survival of the total cohort with breast cancer (women). Included in the evaluation are 54,900 cases diagnosed between 1998 and 2019.

Years	Group	
	obs. %	rel. %
0	100.0	100.0
1	95.8	97.5
2	91.8	94.9
3	87.7	92.2
4	84.2	89.9
5	81.0	87.9
6	78.1	86.0
7	75.1	84.1
8	72.6	82.6
9	70.1	81.2
10	67.5	79.5
11	65.2	78.2
12	62.9	76.9
13	60.7	75.6
14	58.5	74.4
15	56.4	73.1
Median	18.8	

Table 2b. Observed (obs.) and relative (rel.) survival of the total cohort with breast cancer (women) for period 1998-2019 (N=54,900).

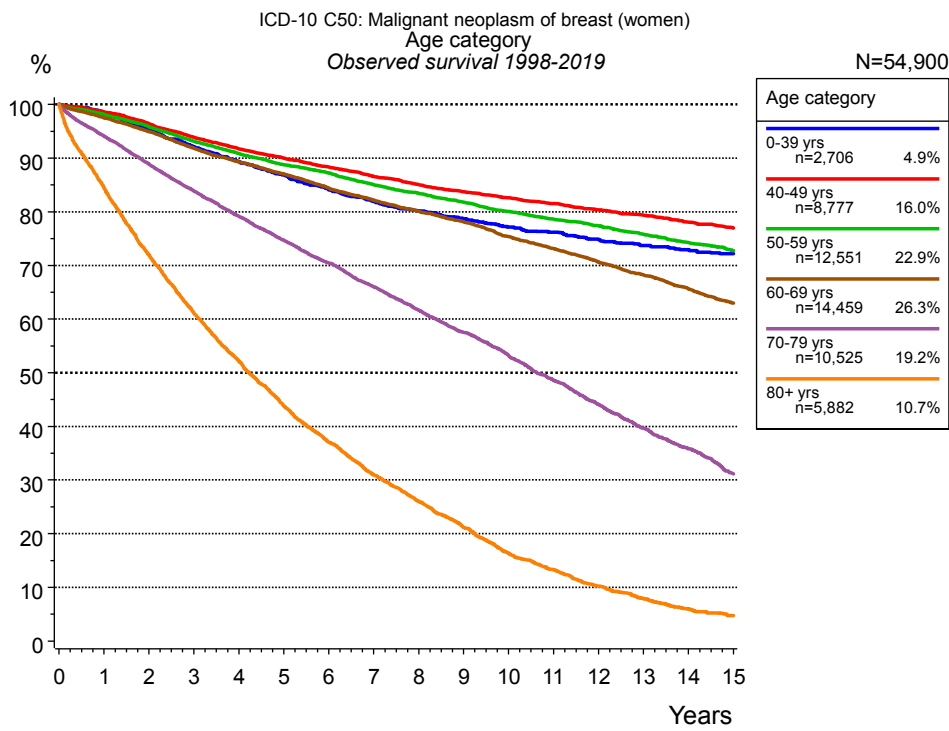


Figure 3a. Observed survival of patients with breast cancer (women) by age category. Included in the evaluation are 54,900 cases diagnosed between 1998 and 2019.

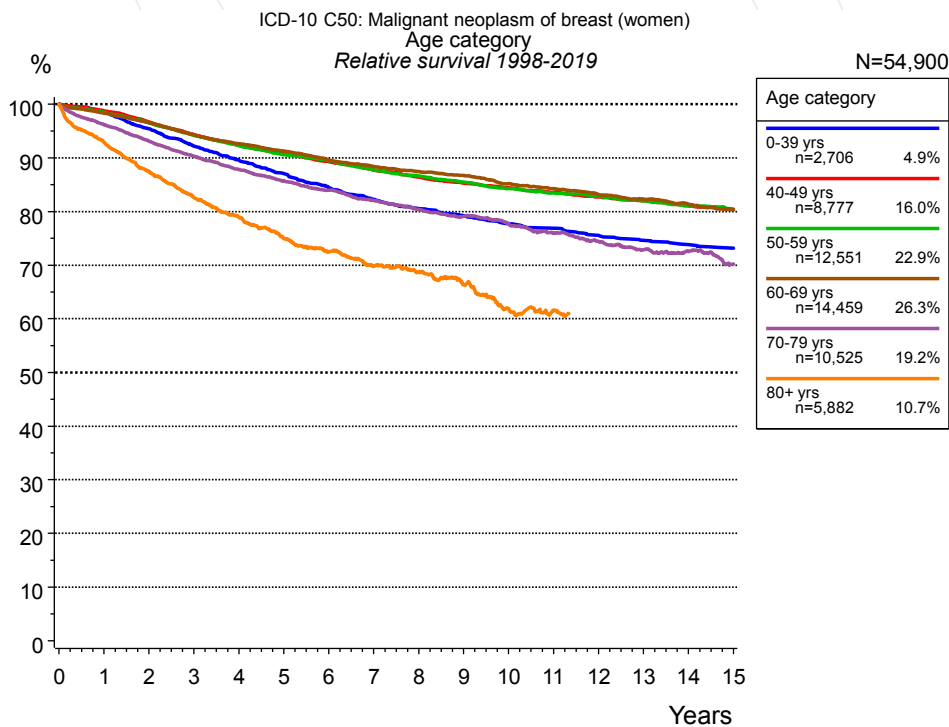


Figure 3b. Relative survival of patients with breast cancer (women) by age category. Included in the evaluation are 54,900 cases diagnosed between 1998 and 2019.

Years	Age category											
	0-39 yrs n=2,706		40-49 yrs n=8,777		50-59 yrs n=12,551		60-69 yrs n=14,459		70-79 yrs n=10,525		80+ yrs n=5,882	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	98.5	98.5	98.6	98.7	98.2	98.5	97.5	98.3	94.1	96.2	84.5	92.9
2	95.3	95.4	96.4	96.7	95.8	96.5	94.9	96.5	88.9	93.1	72.0	87.5
3	92.1	92.2	93.9	94.3	93.1	94.2	91.8	94.3	83.9	90.3	61.1	82.6
4	89.4	89.5	91.7	92.3	90.9	92.3	89.3	92.6	79.1	87.8	52.2	78.9
5	86.8	87.1	90.0	90.8	88.8	90.6	87.1	91.3	74.7	85.7	43.8	74.9
6	84.1	84.4	88.3	89.2	87.2	89.5	84.4	89.6	70.5	84.0	37.1	72.5
7	81.9	82.3	86.5	87.7	85.0	87.7	82.2	88.4	66.0	82.0	30.9	69.8
8	80.1	80.5	85.0	86.4	83.4	86.6	80.1	87.4	61.7	80.4	26.0	68.8
9	78.8	79.2	83.7	85.3	81.8	85.5	78.1	86.7	57.6	79.1	21.2	66.4
10	77.2	77.7	82.6	84.4	80.0	84.3	75.4	85.2	53.2	77.7	16.4	61.8
11	76.2	76.9	81.5	83.6	78.6	83.5	73.1	84.3	48.6	76.0	13.2	61.5
12	74.9	75.6	80.3	82.7	77.4	82.8	70.6	83.1	44.1	74.4	10.2	59.1
13	73.7	74.6	79.4	82.0	75.8	81.9	68.2	82.3	39.6	72.9	7.9	58.9
14	72.9	73.8	78.1	81.0	74.2	81.1	65.6	81.3	35.8	72.5	6.0	58.5
15	72.1	73.2	77.0	80.3	72.7	80.4	63.0	80.4	31.2	70.2	4.7	62.4
Median									10.6		4.2	

Table 3c. Observed (obs.) and relative (rel.) survival of patients with breast cancer (women) by age category for period 1998-2019 (N=54,900).

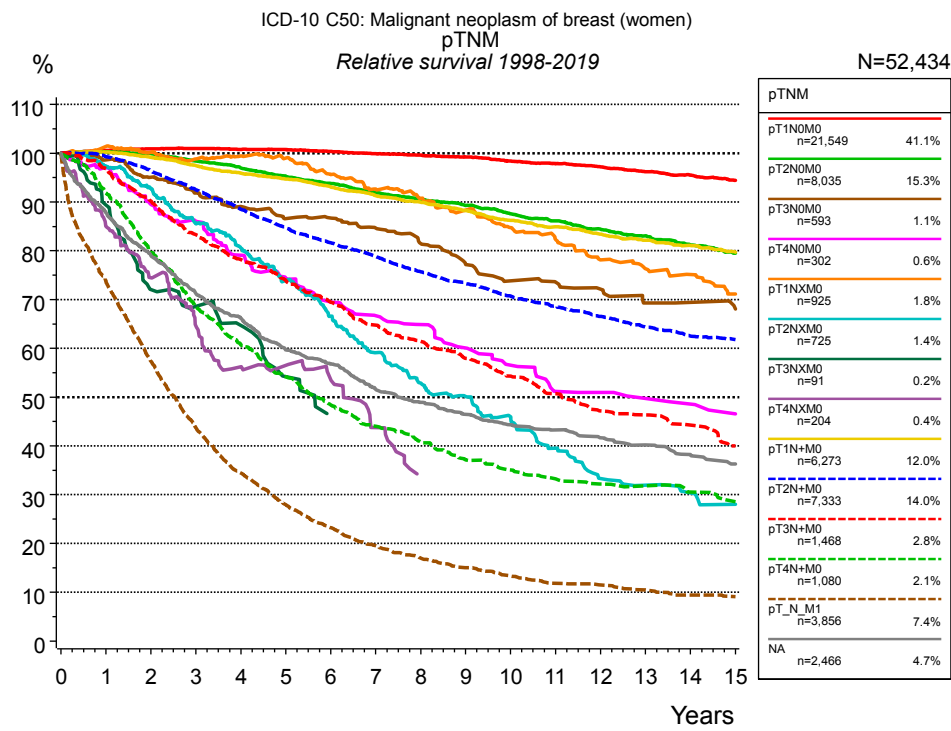


Figure 4a. Relative survival of patients with breast cancer (women) by pTNM. For 53,921 of 54,900 cases diagnosed between 1998 and 2019 valid data could be obtained for this item. For a total of 52,434 cases an evaluable classification was established. The grey line represents the subgroup of 2,466 patients with missing values regarding pTNM (4.5 % of 54,900 patients, the percent values of all other categories are related to n=52,434).

Years	pT1N0M0 n=21,549		pT2N0M0 n=8,035		pT3N0M0 n=593		pT4N0M0 n=302		pT1NXM0 n=925		pT2NXM0 n=725		pT3NXM0 n=91	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	99.6	100.6	98.7	100.3	96.1	98.6	92.2	97.0	97.2	101.4	90.2	97.4	81.9	89.4
2	98.9	100.9	96.7	100.0	90.3	95.1	81.1	89.5	92.0	100.2	79.5	92.8	60.6	72.0
3	97.9	101.0	93.6	98.4	84.9	91.8	74.7	86.1	86.8	98.8	67.8	85.6	52.9	68.6
4	96.6	100.8	90.7	97.0	80.2	89.1	65.4	79.1	83.6	99.4	59.1	80.6	46.1	64.7
5	95.4	100.7	87.4	95.3	76.0	86.6	59.1	74.4	79.6	99.0	50.0	73.9	35.3	54.2
6	93.9	100.4	84.5	93.8	74.5	86.7	53.3	69.5	73.6	95.7	41.7	66.6	28.2	46.1
7	92.2	99.9	81.3	92.0	70.9	84.7	49.1	66.8	68.4	92.7	34.2	59.1		
8	90.6	99.6	78.6	90.6	66.6	81.5	46.1	64.9	64.1	90.8	28.5	52.9		
9	88.9	99.2	75.9	89.3	61.8	77.2	41.5	60.1	60.0	88.3	25.1	50.2		
10	86.8	98.4	73.0	87.6	57.6	73.8	37.6	56.6	55.4	84.8	21.3	46.0		
11	84.9	97.9	70.4	86.1	56.3	73.6	32.7	51.2	51.9	82.4	17.0	39.5		
12	82.8	97.2	67.5	84.4	54.3	72.1	32.1	51.0	47.4	78.1	13.3	33.3		
13	80.5	96.2	65.1	83.1	50.9	69.3	30.6	49.8	44.9	76.4	12.1	31.9		
14	78.4	95.5	62.3	81.2	50.3	69.4	29.0	48.6	42.9	75.2	11.0	30.3		
15	76.0	94.4	59.7	79.5	48.6	68.0	27.3	46.6	39.5	71.2	9.8	28.0		
Median					14.9		6.7		11.4		5.1		3.5	

cont'd	pTNM													
	pT4NXM0 n=204		pT1N+M0 n=6,273		pT2N+M0 n=7,333		pT3N+M0 n=1,468		pT4N+M0 n=1,080		pT_N_M1 n=3,856		NA n=2,466	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	76.6	85.0	99.3	100.2	97.8	99.3	95.2	96.8	88.3	91.8	72.1	73.8	83.5	87.9
2	60.6	74.5	97.3	99.1	93.6	96.4	87.2	90.2	73.8	79.7	54.9	57.4	71.7	79.1
3	47.4	64.5	94.6	97.5	88.4	92.5	79.1	83.3	61.4	68.6	41.0	43.6	62.1	71.2
4	37.6	56.2	92.2	96.0	83.3	88.5	73.1	78.2	52.4	60.7	31.7	34.4	55.8	66.2
5	34.2	56.5	89.9	94.7	78.5	84.8	68.1	73.9	45.3	54.1	25.3	27.9	48.9	59.7
6	29.3	53.6	87.3	93.1	74.4	81.6	62.9	69.5	39.1	48.4	20.6	23.2	45.4	56.8
7	21.5	43.8	84.6	91.3	70.7	78.8	57.7	64.7	34.4	44.0	17.0	19.5	40.4	51.6
8	15.2	34.2	82.3	90.0	66.8	75.7	54.0	61.4	30.9	40.8	14.4	17.0	37.6	48.9
9			79.6	88.2	63.7	73.3	50.1	57.9	27.2	37.1	12.5	15.0	35.0	46.5
10			76.6	86.2	60.3	70.7	46.3	54.3	25.0	35.0	10.9	13.3	32.8	44.4
11			74.3	84.9	57.6	68.7	42.6	50.7	23.1	33.2	9.5	11.8	31.4	43.3
12			71.9	83.4	54.8	66.5	38.8	47.1	21.7	32.2	9.0	11.5	29.7	41.7
13			69.7	82.2	52.1	64.4	37.7	46.3	20.9	31.8	8.1	10.5	28.0	40.2
14			67.6	81.1	49.6	62.5	35.3	44.3	19.5	30.5	7.1	9.4	26.3	38.2
15			65.3	79.7	48.2	61.8	31.4	40.0	18.0	28.5	6.8	9.1	24.4	36.3
Median	2.9				13.9		9.1		4.4		2.3		4.9	

Table 4b. Observed (obs.) and relative (rel.) survival of patients with breast cancer (women) by pTNM for period 1998-2019 (N=52,434).

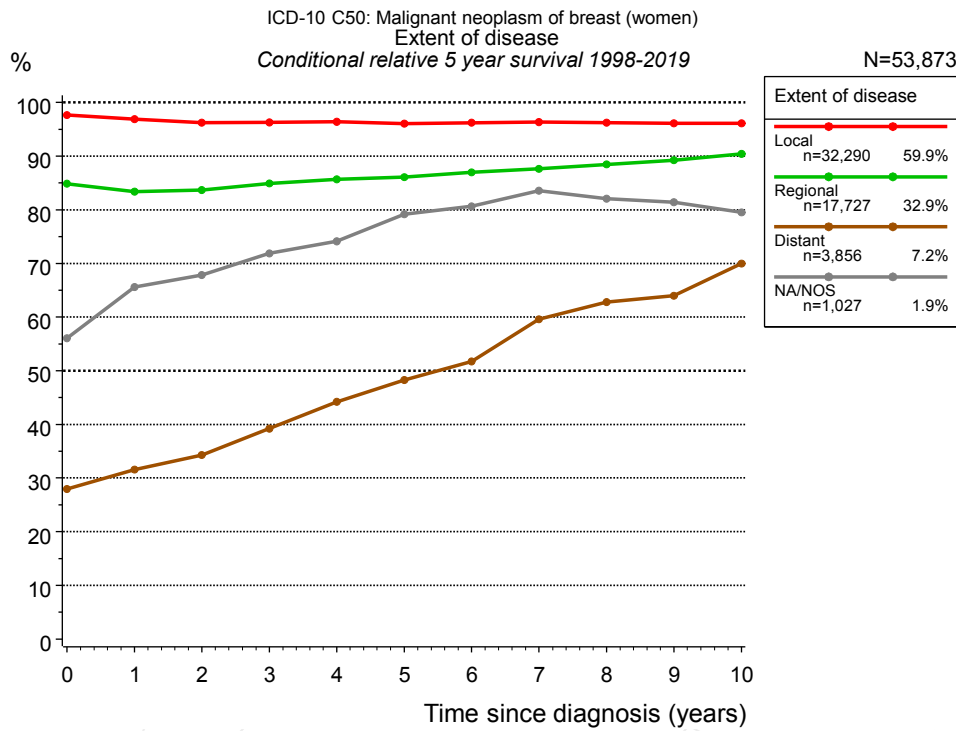


Figure 4c. Conditional relative 5-year survival of patients with breast cancer (women) by extent of disease. For 53,921 of 54,900 cases diagnosed between 1998 and 2019 valid data could be obtained for this item. For a total of 53,873 cases an evaluable classification was established. The grey line represents the subgroup of 1,027 patients with missing values regarding extent of disease (1.9 % of 54,900 patients, the percent values of all other categories are related to n=53,873).

Years	Extent of disease							
	Local		Regional		Distant		NA/NOS	
	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs
0	32,290	97.6	17,727	84.9	3,856	27.9	1,027	56.0
1	29,662	96.9	16,182	83.4	2,609	31.5	765	65.6
2	27,419	96.2	14,574	83.7	1,842	34.3	641	67.9
3	25,018	96.3	12,939	84.9	1,275	39.2	540	71.9
4	22,807	96.4	11,529	85.7	913	44.2	461	74.1
5	20,691	96.1	10,263	86.1	669	48.3	391	79.2
6	18,539	96.2	9,047	87.0	482	51.7	338	80.7
7	16,428	96.4	7,919	87.6	353	59.6	288	83.6
8	14,474	96.2	6,876	88.5	274	62.8	259	82.0
9	12,580	96.1	5,916	89.2	201	64.0	223	81.4
10	10,695	96.1	5,019	90.4	153	70.0	185	79.5

Table 4d. Conditional relative 5-year survival of patients with breast cancer (women) by extent of disease for period 1998-2019 (N=53,873).

Conditional relative survival rates refer to the relative survival probability, in this case for 5 years after cancer diagnosis, compared to the age- and sex-matched population (=100 %) under the condition of being alive for a certain time period (x-axis in Figure 4a). The results illustrate to what extent the cancer induced mortality of particular subgroups declines in the subsequent years after detection of the malignancy. For instance, according to the presented survival statistics, patients in the subgroup extent of disease="Local", who are alive at least 3 years after cancer diagnosis, the conditional relative 5-year survival rate is 96.3% (n=25,018).

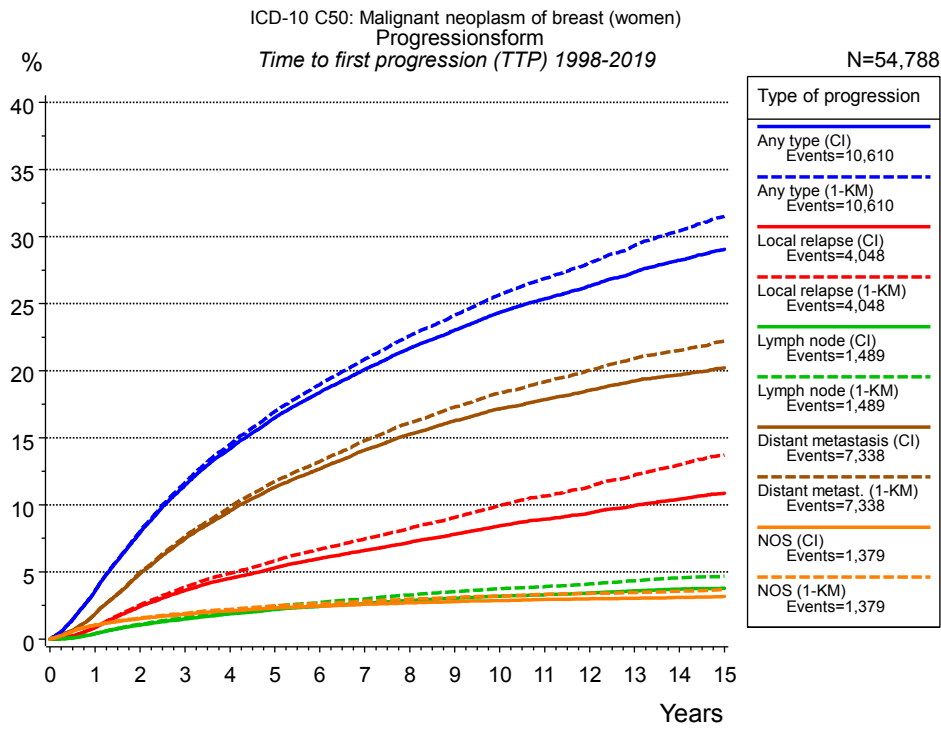


Figure 5a. Time to first progression of 54,788 patients with breast cancer (women) diagnosed between 1998 and 2019 (in solid cancers M0 only) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

	Type of progression						
	Any type (CI)	Any type (1-KM)	Local relapse (CI)	Local relapse (1-KM)	Lymph node (CI)	Lymph node (1-KM)	Distant metastasis (CI)
N	50,987	50,987	54,788	54,788	54,788	54,788	50,990
Events	10,418	10,418	3,914	3,914	1,466	1,466	7,222
compet.	5,478		13,361		14,284		6,534
Years	%	%	%	%	%	%	%
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	3.6	3.6	0.9	0.9	0.4	0.4	1.9
2	7.9	8.0	2.4	2.6	1.0	1.1	4.9
3	11.4	11.6	3.6	3.9	1.5	1.6	7.5
4	14.2	14.5	4.5	4.9	1.9	2.0	9.5
5	16.5	16.9	5.3	5.8	2.2	2.4	11.3
6	18.4	19.0	6.0	6.7	2.4	2.7	12.7
7	20.1	20.9	6.6	7.5	2.6	3.0	14.1
8	21.7	22.6	7.2	8.3	2.9	3.3	15.3
9	23.0	24.1	7.8	9.1	3.0	3.5	16.3
10	24.3	25.7	8.4	10.0	3.2	3.7	17.2
11	25.4	26.9	8.9	10.7	3.3	3.9	17.8
12	26.3	28.0	9.4	11.3	3.4	4.1	18.5
13	27.4	29.3	10.0	12.2	3.6	4.4	19.2
14	28.2	30.4	10.4	13.0	3.7	4.6	19.7
15	29.1	31.5	10.9	13.7	3.8	4.7	20.2

<i>cont'd</i>	Type of progression		
	Distant metast. (1-KM)	NOS (CI)	NOS (1-KM)
N	50,990	54,785	54,785
Events	7,222	1,371	1,371
compet.		14,239	
Years	%	%	%
0	0.0	0.0	0.0
1	1.9	1.0	1.0
2	5.0	1.5	1.6
3	7.6	1.8	1.9
4	9.8	2.1	2.2
5	11.7	2.3	2.5
6	13.2	2.4	2.6
7	14.8	2.6	2.8
8	16.1	2.7	3.0
9	17.3	2.8	3.1
10	18.3	2.9	3.2
11	19.2	2.9	3.3
12	20.0	3.0	3.4
13	20.9	3.0	3.5
14	21.5	3.1	3.6
15	22.2	3.2	3.7

Table 5b. Time to first progression of patients with breast cancer (women) for period 1998-2019 (N=54,788), also showing the total of progression events (Events) and of deaths as competing risk (compet.).

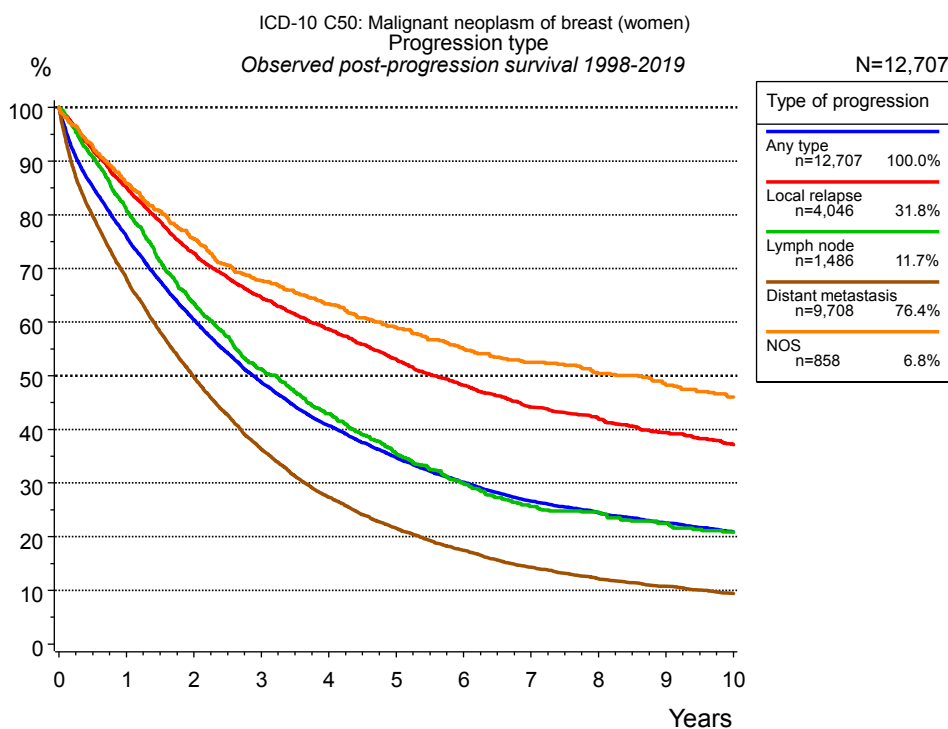


Figure 5c. Observed post-progression survival of 12,707 patients with breast cancer (women) diagnosed between 1998 and 2019. These 12,707 patients with documented progression events during their course of disease represent 23.2 % of the totally 54,788 evaluated cases (incl. M1, n=3,801, 6.9 %). Patients with cancer relapse documented via death certificates only were excluded (n=1,704, 3.1 %). Multiple progression types on different sites are included in the evaluation even when not occurring synchronously. The NOS (not otherwise specified) class is included under the condition, that it is the one and only progression type during the course of disease.

Medical record documentation often lacks the linguistic severity to distinguish between local relapse, regional lymph node metastasis and distant spread in solid cancers. Frequently, the statement “not specified” is the only information in registries regarding relapse of the disease. The category “Any type” denotes all cases who suffered from at least one relapse during the course of disease (incl. primary M1-status). Although, the real number of relapsed patients is likely to be much higher. The accumulated percentage of patients with local relapse or distant metastasis exceeds the 100 % value because patients are potentially considered in more than one subgroup.

Years	Type of progression				
	Any type n=12,707 %	Local relapse n=4,046 %	Lymph node n=1,486 %	Distant metastasis n=9,708 %	NOS n=858 %
0	100.0	100.0	100.0	100.0	100.0
1	76.0	85.1	80.9	68.2	85.8
2	60.4	72.8	63.5	49.8	75.6
3	48.8	64.6	51.2	36.4	67.7
4	40.7	58.7	42.9	27.4	63.4
5	34.8	53.1	35.5	21.6	59.1
6	30.2	48.2	30.0	17.5	55.1
7	26.7	44.1	25.6	14.3	52.5
8	24.4	42.0	24.6	12.2	50.4
9	22.5	39.4	22.5	10.7	48.2
10	20.9	37.1	20.9	9.4	46.0

Table 5d. Observed post-progression survival of patients with breast cancer (women) for period 1998-2019 (N=12,707).

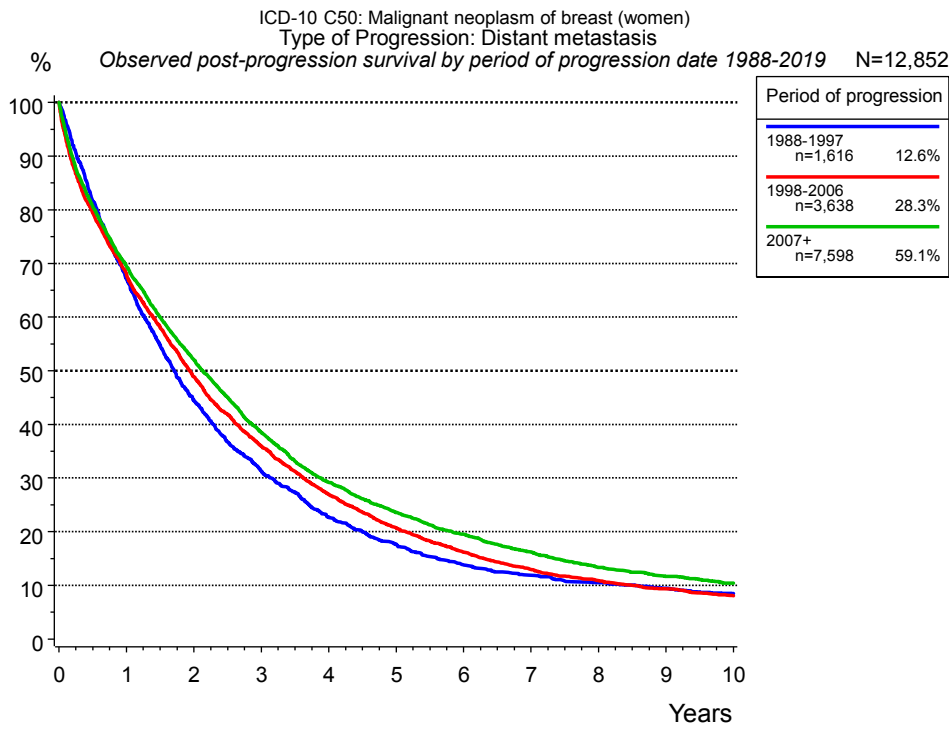


Figure 5e. Observed post-progression (distant metastasis) survival of 12,852 patients with breast cancer (women) diagnosed between 1988 and 2019 by period of progression.

Years	Period of progression		
	1988-1997 n=1,616 %	1998-2006 n=3,638 %	2007+ n=7,598 %
0	100.0	100.0	100.0
1	67.1	68.1	69.5
2	44.5	48.8	52.0
3	31.3	35.9	38.5
4	22.8	26.9	29.2
5	17.7	20.7	23.6
6	13.8	16.1	19.5
7	11.8	12.9	16.2
8	10.4	10.9	13.3
9	9.4	9.3	11.7
10	8.4	8.1	10.4

Table 5f. Observed post-progression (distant metastasis) survival of patients with breast cancer (women) for period 1988-2019 by period of progression (N=12,852).

Shortcuts

MCR	Munich Cancer Registry, Germany	
NCI	National Cancer Institute, USA	
SEER	Surveillance, Epidemiology, and End Results, USA	
UICC	Union for International Cancer Control, Geneva	
DCO	Death certificate only	Death certificate provides the only notification to the registry.
NA	Not available	
NOS	Not otherwise specified	
OS	Overall/Observed survival	Overall/Observed survival (Kaplan-Meier estimate) Date of entry: diagnosis Event: death from any cause
RS	Relative survival	Survival compared to “general population”, ratio of observed to expected survival (Ederer II method), reflecting cancer specific survival
AS	Assembled survival	Assembled chart of observed, expected, relative survival
CS	Conditional survival	Survival probability under the condition of surviving a given period of time
TTP	Time to progression	Time to first progression / relapse Date of entry: diagnosis Event: (progression / relapse): first local-, lymph node recurrence, distant metastasis or unspecified progression
1-KM		1 minus Kaplan-Meier estimator ("inverse" Kaplan-Meier estimator)
CI		Cumulative incidence Death as competing risk (according to Kalbfleisch und Prentice)
PPS	Post-progression survival	Survival since first progression / relapse (Kaplan-Meier estimate) Date of entry (progression / relapse): first local-, lymph node recurrence, distant metastasis or unspecified progression Event: death from any cause

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