Munich Cancer Registry

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- *Deutsch*

ICD-10 C50: Breast cancer (men)

Survival

Year of diagnosis	1988-1997	1998-2020
Patients	60	630
Diseases	60	639
Cases evaluated	53	463

Creation date	04/15/2022
Database export	12/20/2021
Population (males)	2.43 m

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

https://www.tumorregister-muenchen.de/en/facts/surv/sC50m_E-ICD-10-C50-Breast-cancer-men-survival.pdf

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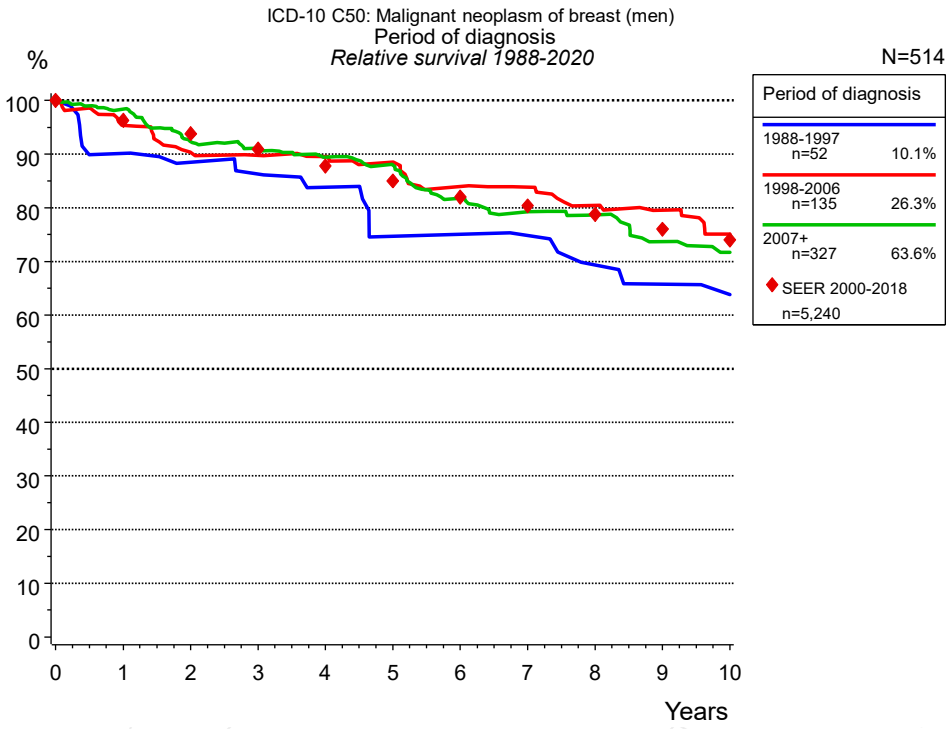

Figure 1a. Relative survival of patients with breast cancer (men) by period of diagnosis. Included in the evaluation are 514 cases diagnosed between 1988 and 2020.

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 2018, and are represented by colored diamonds in order to facilitate comparisons between MCR and SEER.

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.

	Period of diagnosis					
	1988-1997 n=52		1998-2006 n=135		2007+ n=327	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	88.0	90.1	92.5	95.4	95.3	98.4
2	82.0	88.5	84.9	90.3	86.3	92.3
3	78.0	86.3	82.6	89.8	82.0	90.7
4	72.0	83.8	80.3	89.6	78.2	89.4
5	61.7	74.7	77.2	88.5	74.4	88.0
6	61.7	75.0	71.0	84.0	67.0	81.8
7	57.6	74.8	68.6	83.8	62.8	79.3
8	51.4	69.3	63.8	80.5	59.8	78.7
9	47.3	65.7	60.6	79.6	53.9	73.7
10	45.3	63.8	55.7	75.0	50.3	71.7
Median	8.4		11.3		10.3	

Table 1b. Observed (obs.) and relative (rel.) survival of patients with breast cancer (men) by period of diagnosis for period 1988-2020 (N=514).

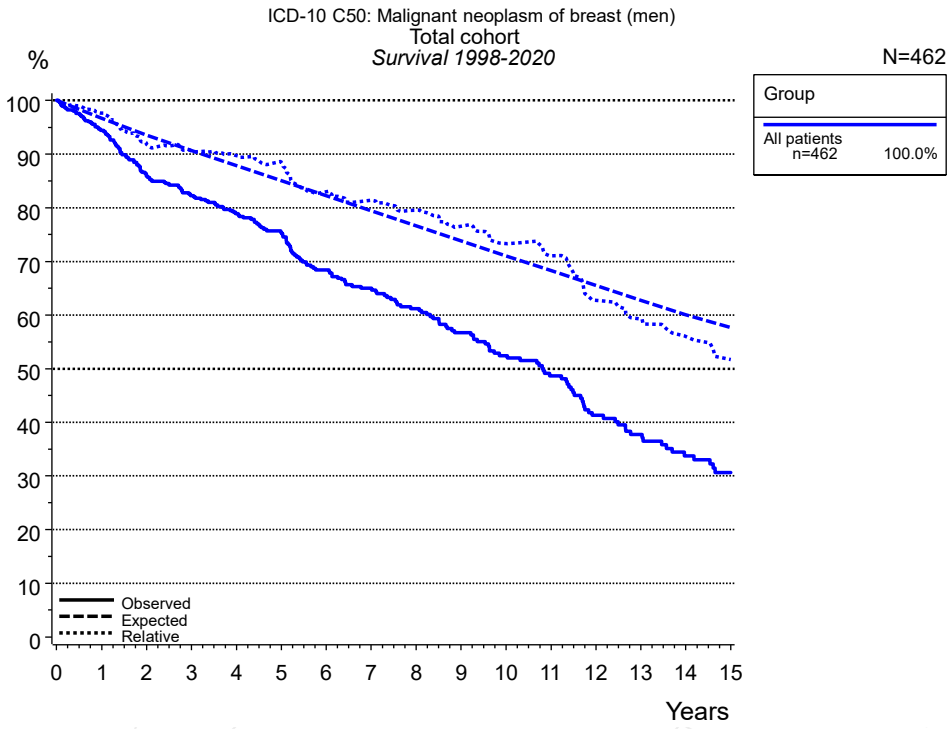

Figure 2a. Observed, expected and relative survival of the total cohort with breast cancer (men). Included in the evaluation are 462 cases diagnosed between 1998 and 2020.

	Group	
	All patients n=462	
Years	obs. %	rel. %
0	100.0	100.0
1	94.4	97.6
2	85.9	91.8
3	82.3	90.6
4	78.9	89.7
5	75.4	88.4
6	68.4	83.0
7	65.0	81.4
8	61.2	79.6
9	56.7	76.6
10	52.5	73.3
11	48.6	71.1
12	41.3	62.7
13	37.7	59.3
14	33.7	56.0
15	30.6	51.7
Median	10.8	

Table 2b. Observed (obs.) and relative (rel.) survival of the total cohort with breast cancer (men) for period 1998-2020 (N=462).

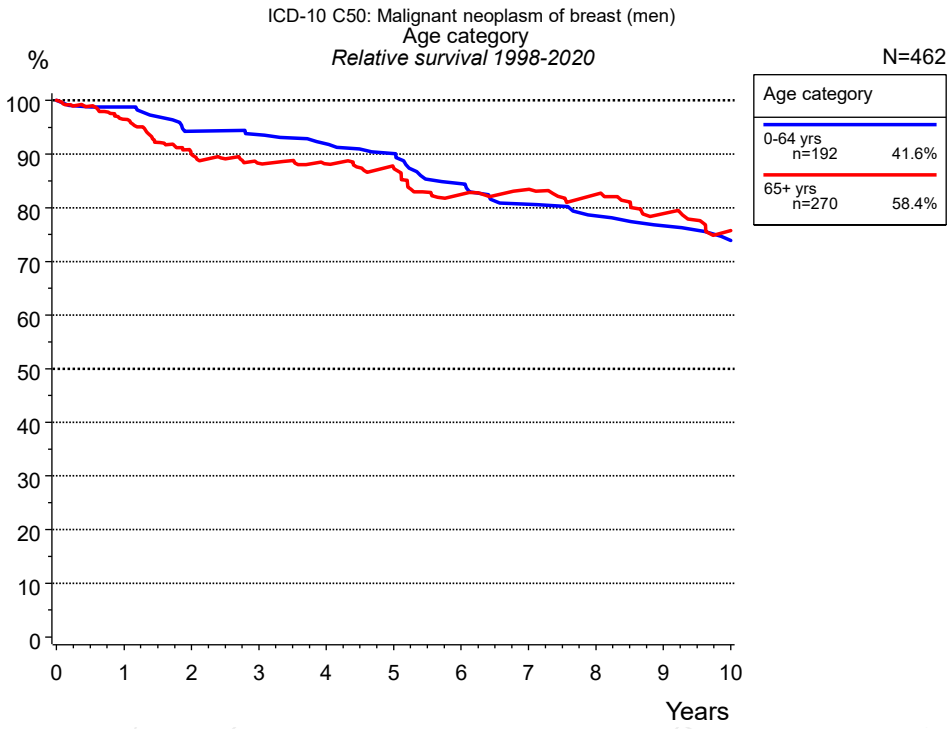

Figure 3a. Relative survival of patients with breast cancer (men) by age category. Included in the evaluation are 462 cases diagnosed between 1998 and 2020.

	Age category			
	0-64 yrs n=192		65+ yrs n=270	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	98.4	98.8	91.7	96.5
2	92.8	94.3	81.1	89.9
3	91.6	93.6	75.7	88.3
4	89.1	91.9	71.7	88.2
5	86.5	90.1	67.6	87.4
6	80.2	84.5	60.1	82.5
7	75.7	80.7	57.4	83.4
8	72.4	78.5	53.3	82.5
9	69.7	76.7	47.5	78.9
10	66.6	73.9	42.4	75.7
Median	14.6		8.5	

Table 3b. Observed (obs.) and relative (rel.) survival of patients with breast cancer (men) by age category for period 1998-2020 (N=462).

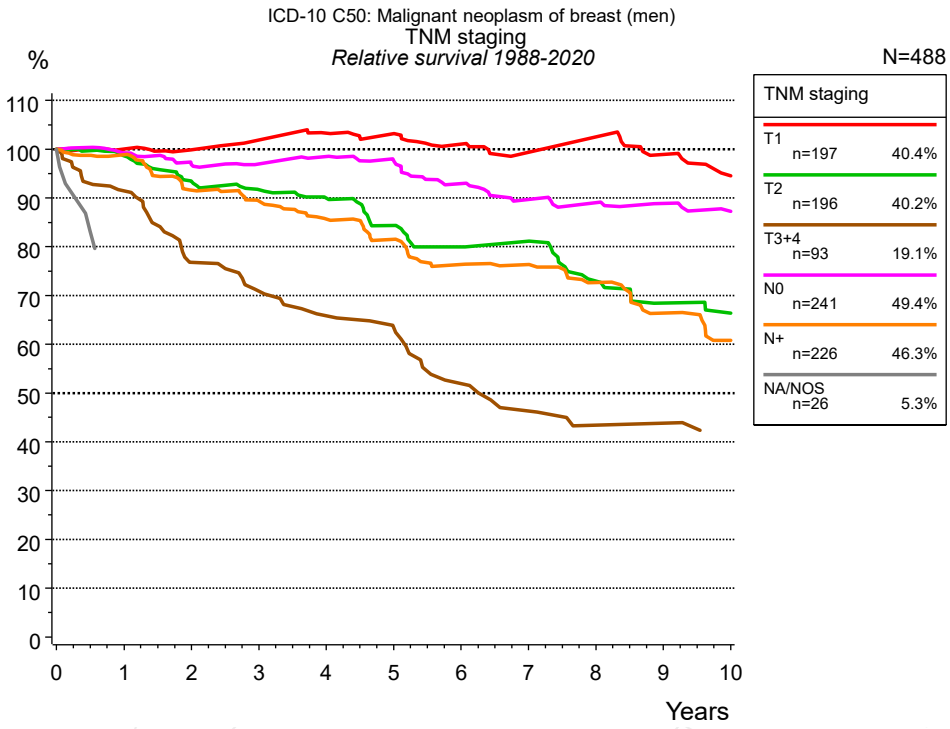

Figure 4a. Relative survival of patients with breast cancer (men) by TNM staging. For 497 of 514 cases diagnosed between 1988 and 2020 valid data could be obtained for this item. For a total of 488 cases an evaluable classification was established. The accumulated percentage exceeds the 100 % value because patients are potientially considered in more than one subgroup. The grey line represents the subgroup of 26 patients with missing values regarding TNM staging (5.1 % of 514 patients, the percent values of all other categories are related to n=488).

	TNM staging											
	T1 n=197		T2 n=196		T3+4 n=93		N0 n=241		N+ n=226		NA/NOS n=26	
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	96.9	100.0	95.7	98.7	88.9	91.5	96.1	99.2	96.4	98.8		
2	93.2	99.9	87.8	93.4	71.9	76.8	90.8	96.8	86.5	91.6		
3	92.1	101.9	83.7	91.7	64.8	70.9	88.1	97.0	82.0	89.4		
4	90.4	103.3	79.8	90.0	58.7	65.9	87.1	98.5	76.3	85.7		
5	87.4	103.2	73.1	84.4	54.8	63.6	83.5	97.6	70.7	81.5		
6	82.3	101.0	67.3	80.0	44.1	52.0	76.9	93.0	64.3	76.4		
7	77.5	99.4	66.5	81.1	38.4	46.3	71.6	89.7	62.4	76.4		
8	77.5	102.6	57.7	72.9	34.2	43.5	69.0	89.0	56.8	72.7		
9	71.8	98.9	52.1	68.5	34.2	43.9	66.3	88.9	50.1	66.4		
10	66.5	94.6	49.8	66.4			63.3	87.3	44.2	60.8		
Median	12.7		9.6		5.2		11.7		9.3			

Table 4b. Observed (obs.) and relative (rel.) survival of patients with breast cancer (men) by TNM staging for period 1988-2020 (N=488).

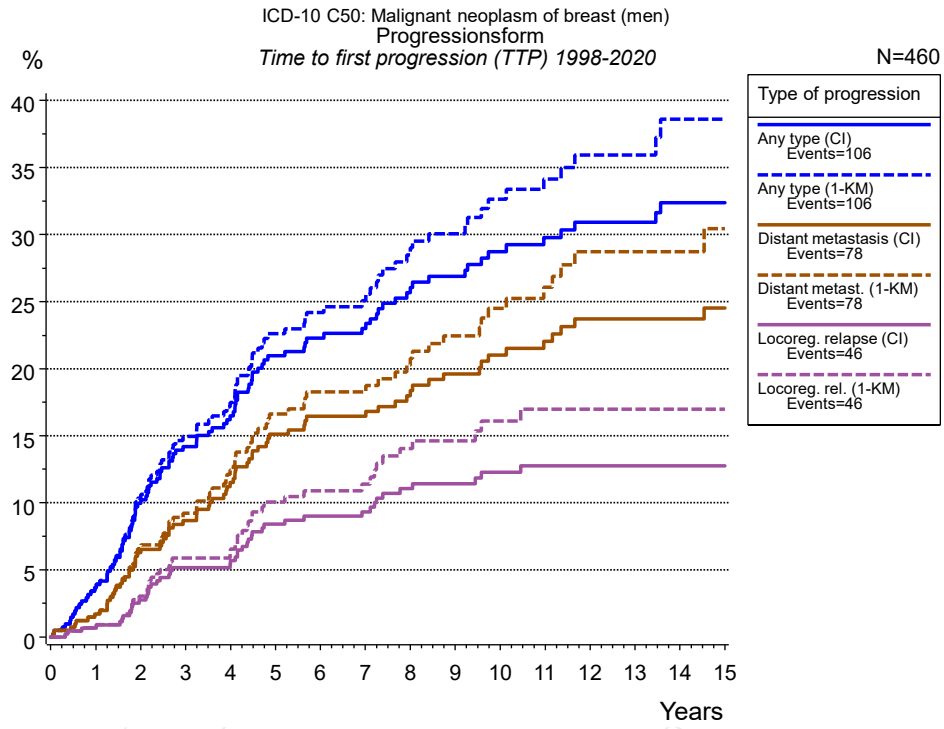

Figure 5a. Time to first progression of 460 patients with breast cancer (men) diagnosed between 1998 and 2020 (in solid cancers M0 only) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

	Type of progression					
	Any type (CI)	Any type (1-KM)	Distant metastasis (CI)	Distant metast. (1-KM)	Locoreg. relapse (CI)	Locoreg. rel. (1-KM)
N	418	418	418	418	460	460
Events	105	105	77	77	46	46
compet.	99		116		183	
Years	%	%	%	%	%	%
0	0.0	0.0	0.0	0.0	0.0	0.0
1	3.7	3.7	1.7	1.7	0.7	0.7
2	10.0	10.4	6.3	6.6	2.7	3.0
3	14.2	14.9	8.7	9.2	5.2	5.9
4	16.5	17.5	11.5	12.4	5.7	6.6
5	21.0	22.6	15.1	16.6	8.4	10.1
6	22.3	24.2	16.4	18.3	9.0	10.9
7	23.0	25.1	16.4	18.3	9.3	11.4
8	25.7	28.5	18.0	20.3	11.1	14.1
9	26.9	30.1	19.6	22.4	11.4	14.6
10	28.7	32.6	21.0	24.5	12.3	16.1
11	29.8	34.2	22.0	26.1	12.7	17.0
12	30.9	35.9	23.7	28.7	12.7	17.0
13	30.9	35.9	23.7	28.7	12.7	17.0
14	32.4	38.6	23.7	28.7	12.7	17.0
15	32.4	38.6	24.5	30.5	12.7	17.0

Table 5b. Time to first progression of patients with breast cancer (men) for period 1998-2020 (N=460), also showing the total of progression events (Events) and of deaths as competing risk (compet.).

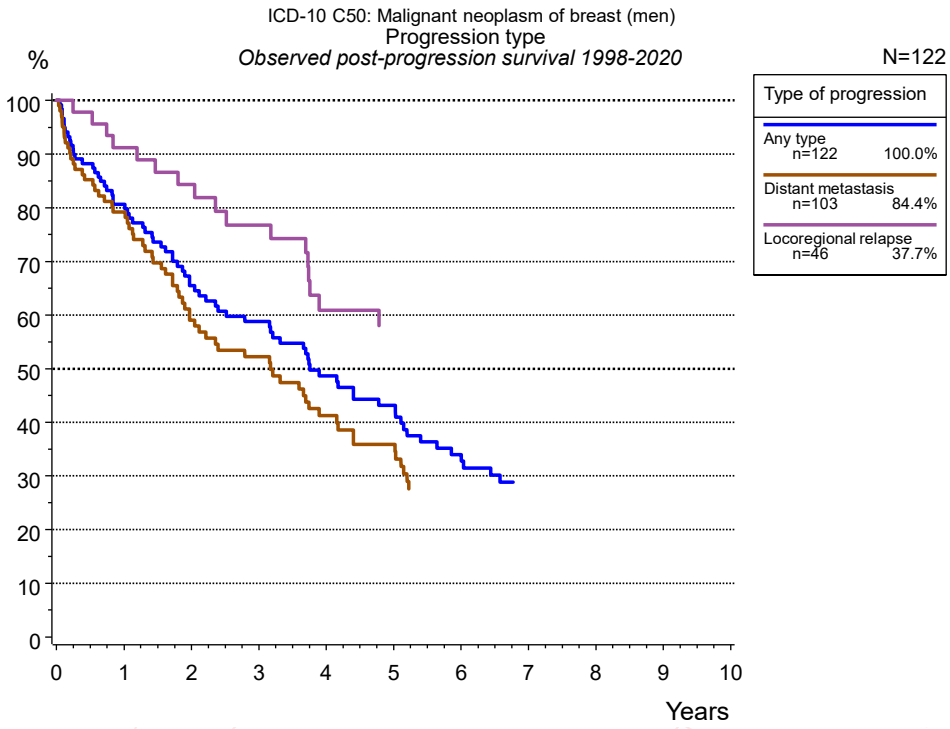

Figure 5c. Observed post-progression survival of 122 patients with breast cancer (men) diagnosed between 1998 and 2020. These 122 patients with documented progression events during their course of disease represent 26.5 % of the totally 460 evaluated cases (incl. M1, n=42, 9.1 %). Patients with cancer relapse documented via death certificates only were excluded (n=26, 5.7 %). Multiple progression types on different sites are included in the evaluation even when not occuring synchronously.

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 potientially considered in more than one subgroup.

	Type of progression		
	Any type	Distant metastasis	Locoregional relapse
	n=122	n=103	n=46
Years	%	%	%
0	100.0	100.0	100.0
1	80.6	79.2	91.2
2	65.5	59.0	84.3
3	58.8	52.3	76.8
4	48.7	41.2	60.9
5	43.2	35.9	58.0
6	34.0		
7	28.8		

Table 5d. Observed post-progression survival of patients with breast cancer (men) for period 1998-2020 (N=122).

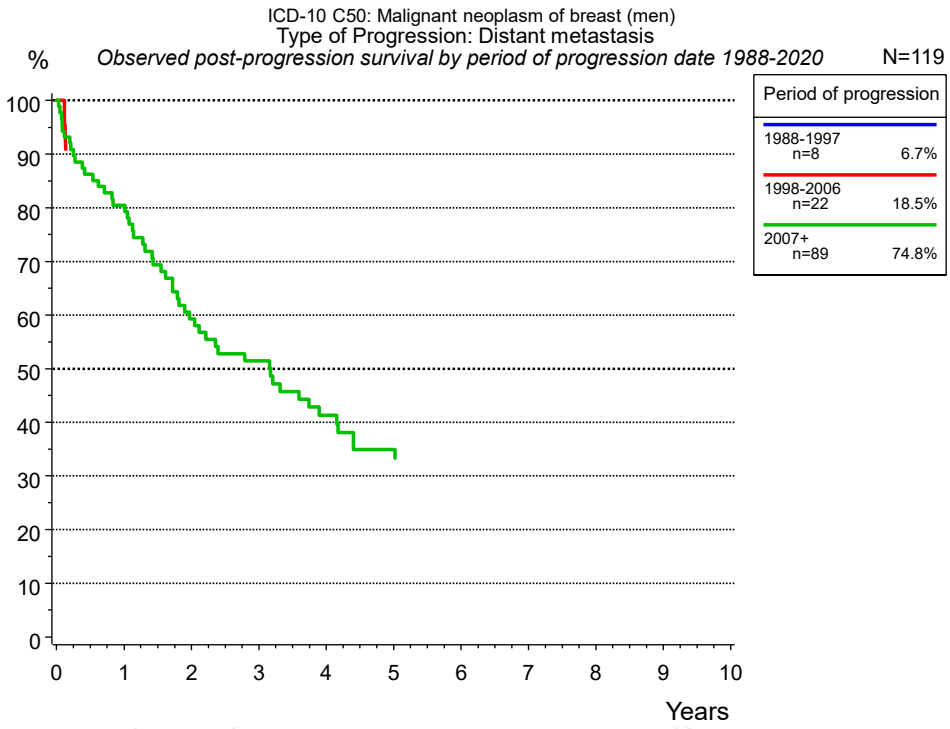

Figure 5e. Observed post-progression (distant metastasis) survival of 119 patients with breast cancer (men) diagnosed between 1988 and 2020 by period of progression.

	Period of progression	
	1998-2006	2007+
	n=22	n=89
Years	%	%
0	100.0	100.0
1		80.4
2		59.3
3		51.4
4		41.3
5		34.9

Table 5f. Observed post-progression (distant metastasis) survival of patients with breast cancer (men) for period 1988-2020 by period of progression (N=119).

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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