

Munich Cancer Registry



- ▶ Baseline statistics
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<http://www.tumorregister-muenchen.de/en>

Cancer statistics: Survival

C00-C97: All cancers (excl. C44)

Year of diagnosis	1988-2012
Patients	329,613
Diseases	364,016
Cases evaluated	199,961
Creation date	03/25/2014
Export date	02/12/2014
Population	4.5 m



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C0097E.pdf

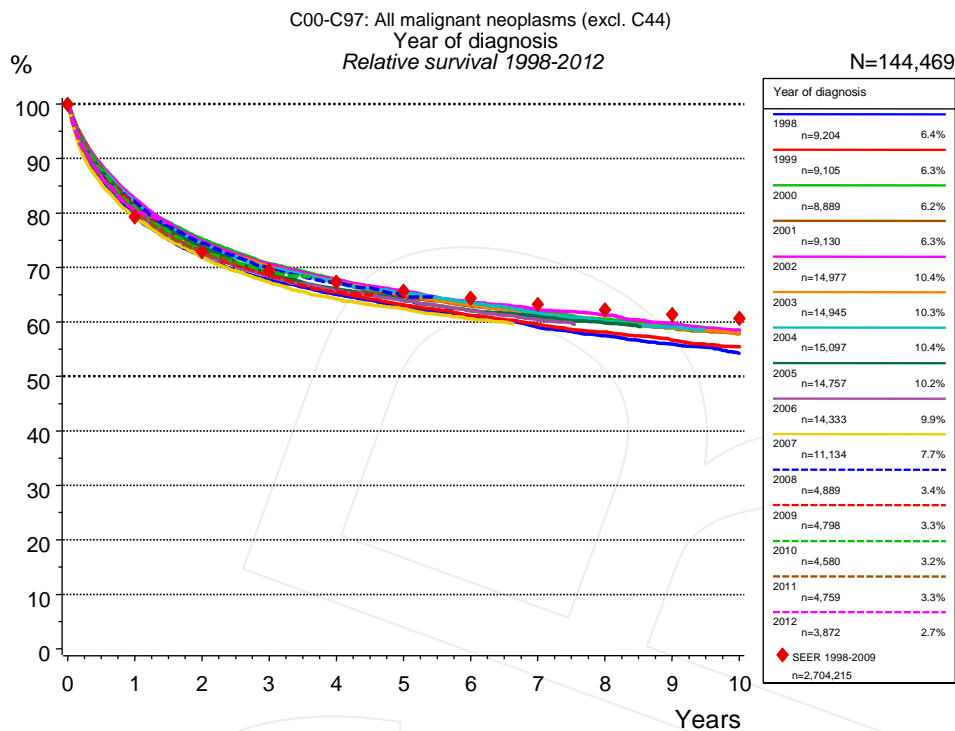


Figure 1a. Relative survival of patients with all cancers (excl. C44) by year of diagnosis. Included in the evaluation are 144,469 cases diagnosed between 1998 and 2012.

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 1998 to 2009, and are represented by red 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 1988, 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	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	100.0	
1	77.1	79.5	78.1	80.5	80.1	82.5	79.9	82.1	80.3	82.6	79.6	81.8	79.9	82.0		
2	68.0	72.1	69.0	72.9	71.3	75.2	70.6	74.4	70.8	74.8	70.5	74.3	70.7	74.3		
3	62.4	67.7	63.1	68.4	65.3	70.7	65.0	70.1	65.2	70.5	65.0	70.2	65.0	69.9		
4	58.4	65.1	58.9	65.4	61.2	67.9	60.9	67.3	61.1	67.8	60.9	67.3	60.9	67.2		
5	55.0	62.8	55.4	63.1	57.3	65.1	57.2	64.7	57.8	65.7	57.4	65.0	57.9	65.4		
6	52.1	61.0	52.4	61.2	54.5	63.4	54.4	62.9	54.6	63.6	54.3	63.0	55.0	63.6		
7	49.2	59.0	49.8	59.5	51.9	61.8	51.9	61.4	52.1	62.2	51.6	61.4	52.0	61.6		
8	46.7	57.5	47.5	58.1	49.5	60.5	49.4	59.9	49.9	61.2	49.2	60.0	49.6	60.1		
9	44.3	55.9	45.2	56.6	47.6	59.5	47.3	58.8	47.4	59.7	47.0	58.8	47.4	59.0		
10	42.0	54.3	43.3	55.4	45.3	58.2	45.4	57.8	45.3	58.5	45.1	57.9				

cont'd	Year of diagnosis													
	2005		2006		2007		2008		2009		2010		2011	
	n=14,757		n=14,333		n=11,134		n=4,889		n=4,798		n=4,580		n=4,759	
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	79.1	81.3	78.2	80.4	76.9	79.2	80.0	82.0	79.2	81.2	79.1	81.2	78.5	80.5
2	70.1	73.7	68.8	72.4	68.3	71.9	71.0	74.5	69.7	73.1	69.9	73.2	69.5	72.8
3	64.1	69.0	63.5	68.3	62.5	67.3	65.1	69.8	64.0	68.6	64.6	69.1		
4	60.0	66.1	59.7	65.8	58.4	64.2	61.2	67.1	59.8	65.5				
5	56.8	64.0	56.6	63.9	55.6	62.4	57.7	64.8						
6	53.8	62.1	53.7	62.0	52.8	60.6								
7	51.6	61.0	51.0	60.4										
8	49.4	59.8												

Year of diagnosis		
cont'd		
2012		
n=3,872		
Years	obs. %	rel. %
0	100.0	100.0
1	78.6	80.5

Table 1b. Observed (obs.) and relative (rel.) survival of patients with all cancers (excl. C44) by year of diagnosis for period 1998-2012 (N=144,469).

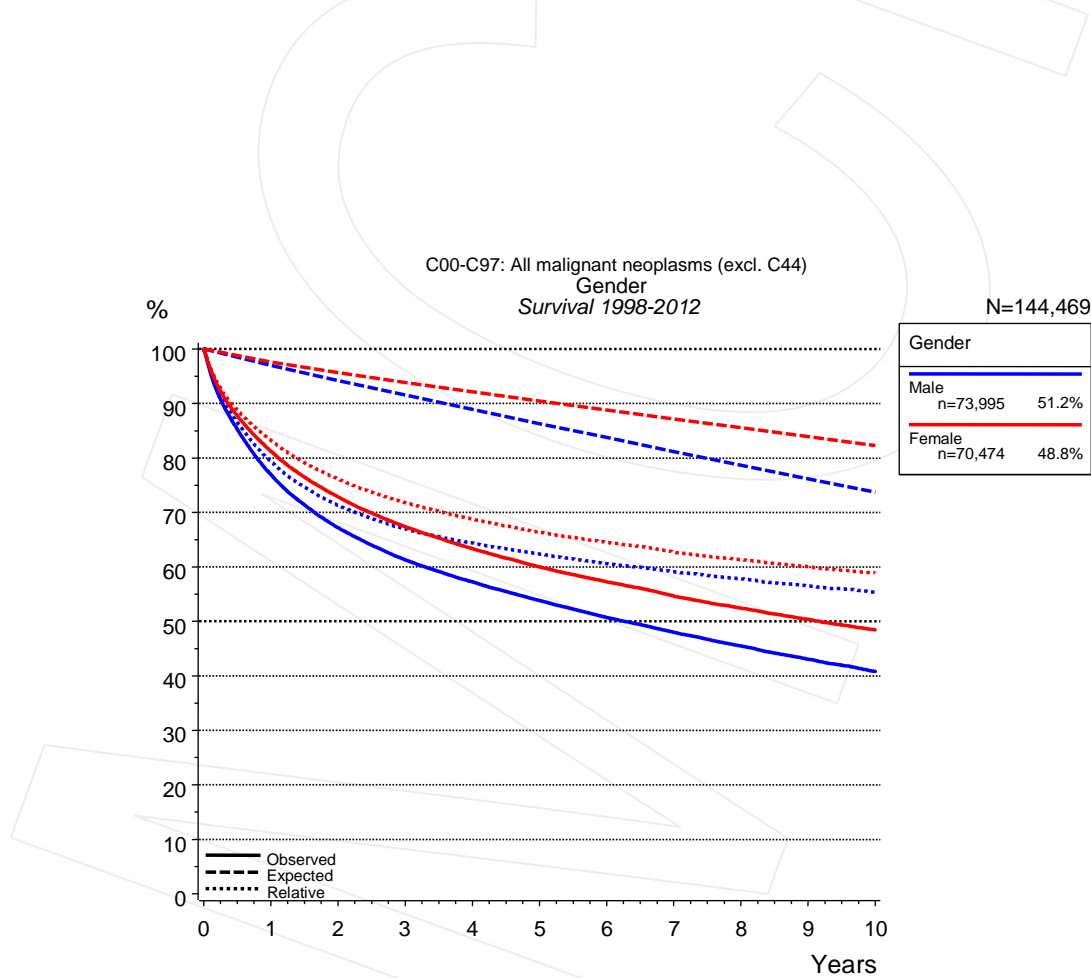


Figure 2a. Survival of patients with all cancers (excl. C44) by gender. Included in the evaluation are 144,469 cases diagnosed between 1998 and 2012.

Years	Gender			
	Male n=73,995		Female n=70,474	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	76.9	79.3	81.2	83.2
2	67.2	71.3	72.8	76.1
3	61.3	66.9	67.4	71.8
4	57.2	64.4	63.4	68.8
5	53.8	62.3	60.0	66.3
6	50.7	60.6	57.3	64.5
7	48.0	59.1	54.6	62.7
8	45.5	57.8	52.4	61.3
9	43.0	56.5	50.4	60.0
10	40.8	55.4	48.4	58.8

Table 2b. Observed (obs.) and relative (rel.) survival of patients with all cancers (excl. C44) by gender for period 1998-2012 (N=144,469).

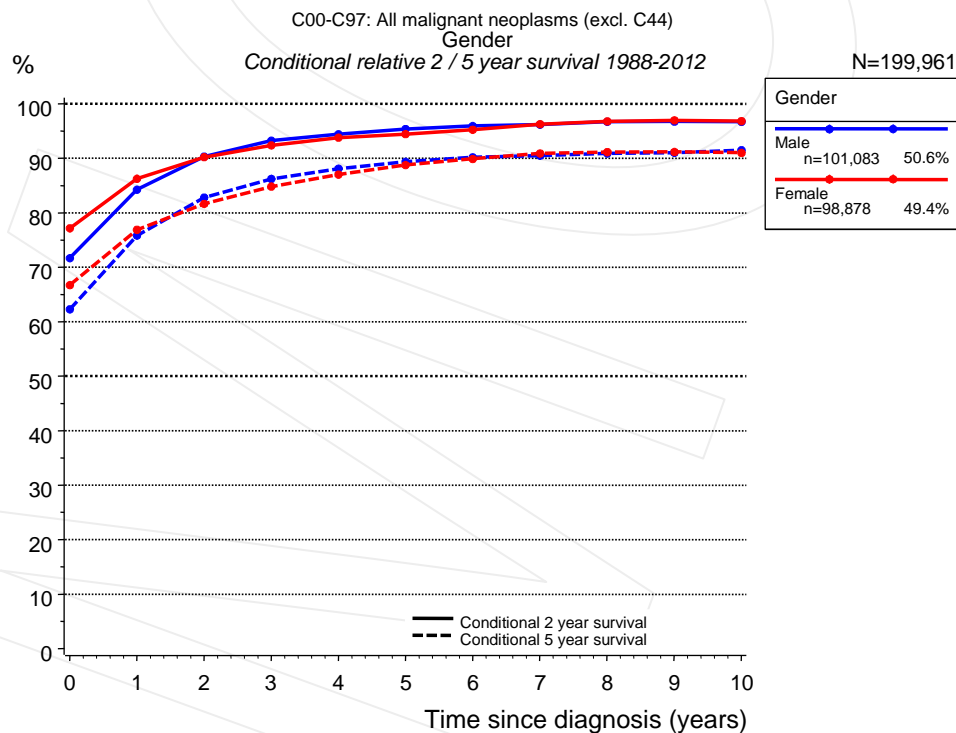


Figure 2c. Conditional relative 2 / 5-year survival of patients with all cancers (excl. C44) by gender. For 199,961 of 199,961 cases diagnosed between 1988 and 2012 valid data could be obtained for this item.

Years	Gender					
	n	Male		n	Female	
		Cond. surv. % 2 yrs	5 yrs		Cond. surv. % 2 yrs	5 yrs
0	101,083	71.7	62.3	98,878	77.2	66.7
1	74,304	84.3	75.8	77,446	86.2	76.9
2	59,639	90.3	82.8	64,207	90.2	81.6
3	49,530	93.2	86.2	54,296	92.4	84.8
4	41,545	94.4	88.1	46,131	93.8	87.0
5	34,601	95.4	89.4	39,205	94.4	88.8
6	28,813	95.9	90.2	33,335	95.2	89.9
7	24,793	96.2	90.5	29,016	96.3	90.9
8	21,144	96.7	90.9	25,253	96.8	91.1
9	17,900	96.7	91.0	21,919	97.0	91.2
10	14,966	96.7	91.5	18,906	96.8	91.0

Table 2d. Conditional relative 2 / 5-year survival of patients with all cancers (excl. C44) by gender for period 1988-2012 (N=199,961).

Conditional relative survival rates refer to the relative survival probability, in this case for 2 and 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 2a). 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 gender="Male", who are alive at least 3 years after cancer diagnosis, the conditional relative 2-year survival rate is 93.2% (n=49,530).

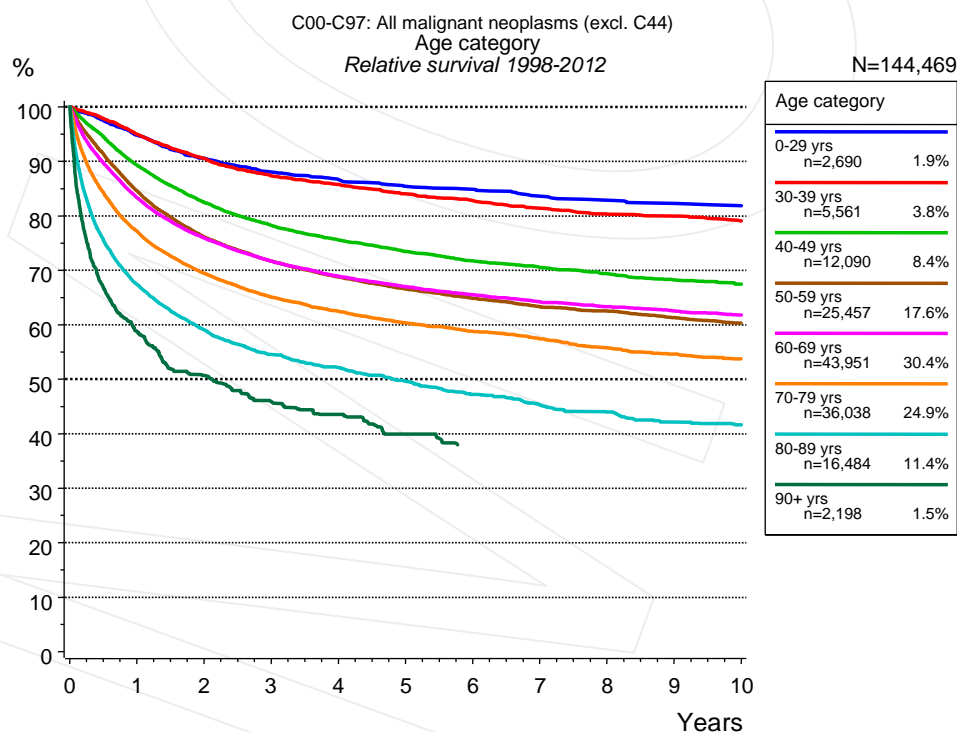


Figure 3a. Relative survival of patients with all cancers (excl. C44) by age category. Included in the evaluation are 144,469 cases diagnosed between 1998 and 2012.

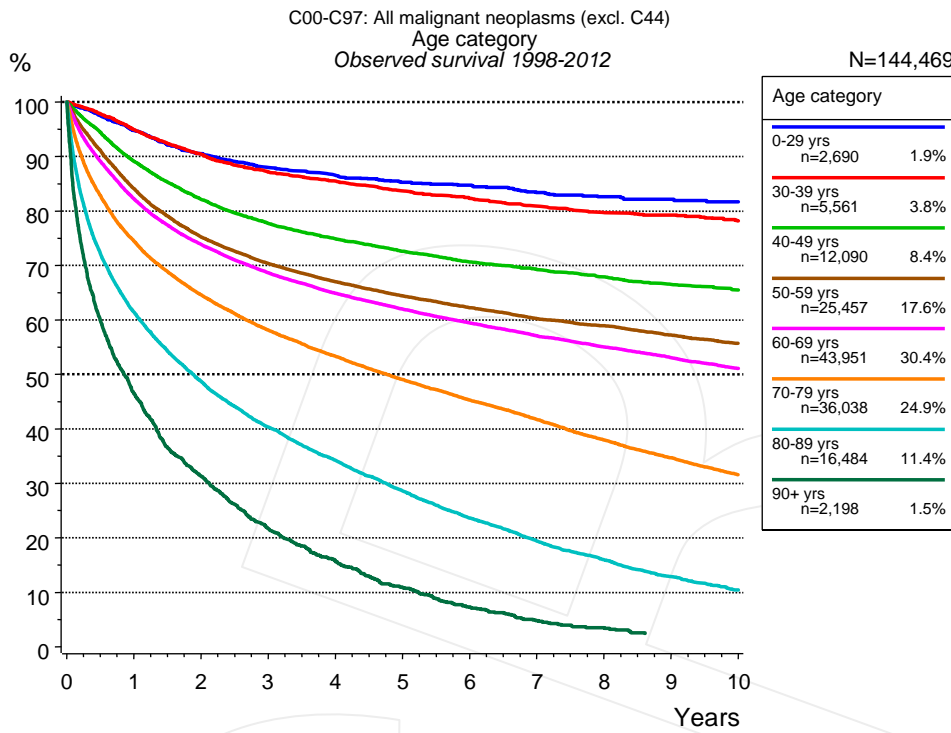


Figure 3b. Observed survival of patients with all cancers (excl. C44) by age category. Included in the evaluation are 144,469 cases diagnosed between 1998 and 2012.

Years	Age category													
	0-29 yrs n=2,690		30-39 yrs n=5,561		40-49 yrs n=12,090		50-59 yrs n=25,457		60-69 yrs n=43,951		70-79 yrs n=36,038		80-89 yrs n=16,484	
	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	94.8	94.8	94.9	95.0	89.1	89.3	84.1	84.6	82.2	83.3	74.5	77.2	61.4	67.4
2	90.5	90.5	90.4	90.5	82.1	82.5	75.2	76.1	73.8	75.9	64.6	69.5	48.7	59.1
3	88.0	88.0	87.1	87.3	77.7	78.2	70.4	71.7	68.6	71.7	58.1	65.1	40.3	54.5
4	86.6	86.7	85.5	85.7	74.9	75.6	67.0	68.7	64.9	68.9	53.3	62.5	34.2	52.1
5	85.2	85.4	83.6	84.0	72.6	73.4	64.4	66.6	62.0	67.0	49.0	60.4	28.6	49.6
6	84.7	84.9	82.3	82.7	70.6	71.7	62.2	64.8	59.4	65.5	45.3	58.8	23.6	47.2
7	83.4	83.6	80.9	81.4	69.3	70.5	60.2	63.3	57.1	64.2	41.7	57.4	19.4	45.3
8	82.6	82.9	79.7	80.3	67.9	69.4	58.9	62.5	55.0	63.3	38.0	55.8	15.9	44.0
9	82.1	82.3	79.2	79.9	66.5	68.3	57.2	61.3	53.0	62.5	34.7	54.6	12.9	42.1
10	81.7	81.9	78.2	79.1	65.5	67.5	55.7	60.3	51.1	61.8	31.5	53.7	10.4	41.6

Age category		
cont'd		
90+ yrs n=2,198		
Years	obs. %	rel. %
0	100.0	100.0
1	46.4	58.7
2	31.3	50.7
3	21.7	45.9
4	15.6	43.5
5	10.9	39.9

Table 3c. Observed (obs.) and relative (rel.) survival of patients with all cancers (excl. C44) by age category for period 1998-2012 (N=144,469).

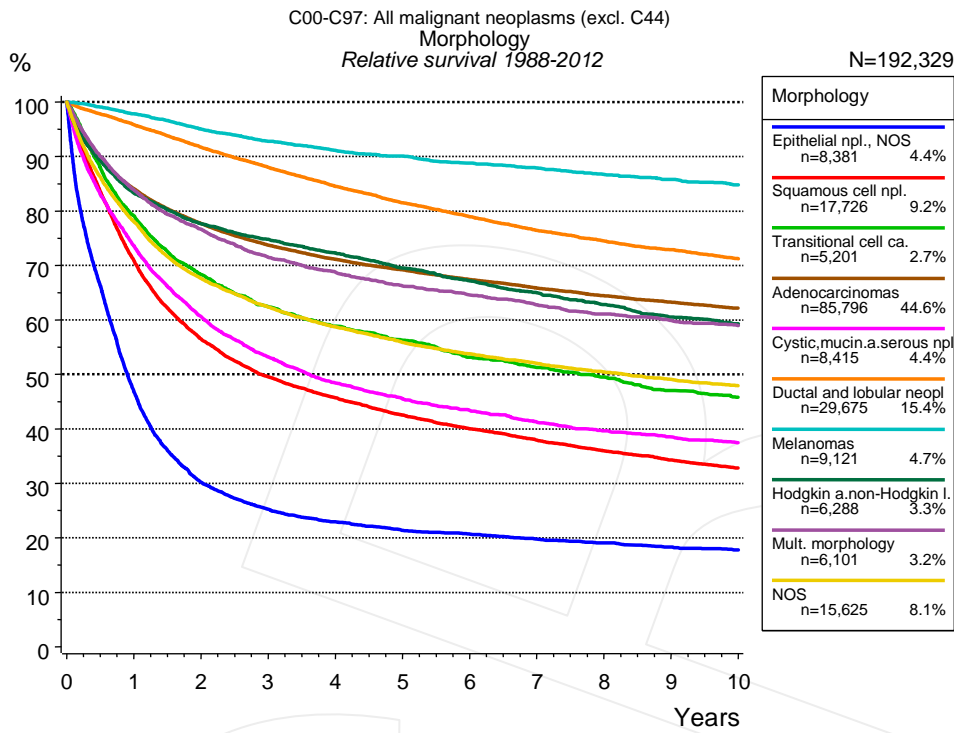


Figure 4a. Relative survival of patients with all cancers (excl. C44) by morphology. For 192,329 of 199,961 cases diagnosed between 1988 and 2012 valid data could be obtained for this item.

Years	Morphology													
	Epithelial npl., NOS		Squamous cell npl.		Adenocarcinomas		Cystic, mucin.a.serous npl.		Ductal and lobular neoplasms		Melanomas		Hodgkin a.non-Hodgkin l.	
	n=8,381	n=17,726	n=85,796	n=8,415	n=29,675	n=9,121	n=6,288							
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	45.5	46.8	69.3	70.9	81.4	84.1	71.4	73.6	94.2	95.8	95.9	97.8	81.3	83.3
2	28.6	30.2	54.1	56.5	72.9	77.7	57.3	60.6	88.7	91.7	91.4	95.0	74.4	77.7
3	23.3	25.2	46.6	49.6	67.1	73.7	48.9	53.2	83.8	88.0	87.7	92.8	70.4	74.8
4	20.7	22.9	42.1	45.7	62.8	71.1	43.3	48.4	79.2	84.5	84.6	91.1	66.9	72.3
5	18.7	21.4	38.4	42.5	59.2	69.2	39.6	45.5	75.1	81.5	82.2	90.1	63.2	69.5
6	17.7	20.7	35.4	40.0	55.8	67.4	36.8	43.4	71.6	78.9	79.6	88.8	60.1	67.2
7	16.4	19.7	32.9	37.9	52.8	65.9	34.0	41.2	68.2	76.4	77.4	87.9	57.2	65.0
8	15.5	19.1	30.6	36.0	50.0	64.5	31.8	39.6	65.4	74.5	75.0	86.7	54.4	62.8
9	14.5	18.3	28.6	34.3	47.4	63.3	30.1	38.5	62.9	72.9	73.0	85.8	51.7	60.5
10	13.7	17.8	26.9	32.8	45.0	62.1	28.4	37.5	60.4	71.2	70.8	84.8	49.9	59.3

Years	Morphology			
	Mult. morphology		NOS	
	n=6,101	n=20,826		
0	100.0	100.0	100.0	100.0
1	81.8	83.9	76.3	78.3
2	73.2	76.6	64.7	67.8
3	66.9	71.5	58.3	62.4
4	63.0	68.8	53.9	58.7
5	59.4	66.2	50.4	55.9
6	56.8	64.6	47.4	53.5
7	54.2	62.8	45.1	51.7
8	51.7	61.1	42.9	50.1
9	49.6	59.9	40.8	48.5
10	47.8	58.9	39.1	47.2

Table 4b. Observed (obs.) and relative (rel.) survival of patients with all cancers (excl. C44) by morphology for period 1988-2012 (N=192,329).

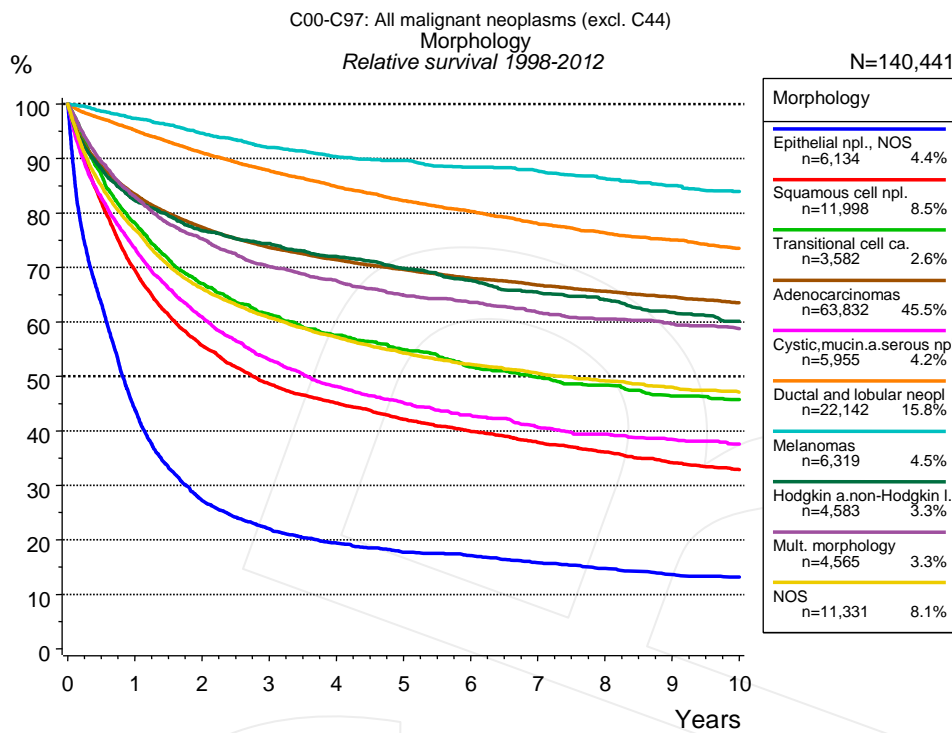


Figure 4c. Relative survival of patients with all cancers (excl. C44) by morphology. For 140,441 of 144,469 cases diagnosed between 1998 and 2012 valid data could be obtained for this item.

Years	Morphology													
	Epithelial npl., NOS n=6,134		Squamous cell npl. n=11,998		Adenocarcinomas n=63,832		Cystic, mucin.a.serous npl. n=5,955		Ductal and lobular neoplasms n=22,142		Melanomas n=6,319		Hodgkin a.non-Hodgkin l. n=4,583	
	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	42.7	43.9	67.9	69.5	80.8	83.4	71.3	73.5	93.5	95.2	95.5	97.4	80.3	82.3
2	25.8	27.2	53.3	55.6	72.8	77.4	57.5	60.9	88.0	91.0	91.1	94.6	73.5	76.8
3	20.3	22.0	45.7	48.6	67.3	73.7	48.7	53.1	83.5	87.7	87.0	92.0	70.0	74.4
4	17.4	19.4	41.6	45.1	63.3	71.4	43.0	48.1	79.4	84.8	84.0	90.3	66.5	72.0
5	15.5	17.7	38.1	42.1	59.9	69.6	39.2	45.2	75.8	82.2	81.9	89.6	63.3	69.8
6	14.5	17.1	35.5	39.9	56.7	68.0	36.1	42.8	72.8	80.3	79.3	88.4	60.3	67.6
7	13.0	15.8	33.0	37.9	54.0	66.8	33.3	40.6	69.6	78.0	77.4	87.7	57.4	65.4
8	11.9	14.7	30.9	36.1	51.3	65.6	31.4	39.4	66.9	76.3	74.8	86.3	55.3	64.1
9	10.7	13.6	28.7	34.2	48.9	64.6	29.8	38.4	64.7	75.1	72.5	85.0	52.5	61.7
10	10.0	13.1	27.0	32.9	46.4	63.5	28.4	37.6	62.2	73.5	70.4	83.9	50.4	60.1

Years	Morphology			
	Mult. morphology n=4,565		NOS n=14,913	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	81.1	83.0	75.2	77.2
2	72.0	75.3	63.3	66.3
3	65.8	70.2	57.0	60.9
4	62.2	67.6	52.6	57.2
5	58.5	64.9	49.1	54.4
6	56.2	63.6	46.2	52.0
7	53.6	61.8	44.0	50.3
8	51.6	60.5	42.1	48.9
9	49.7	59.7	40.2	47.5
10	48.0	58.8	38.8	46.7

Table 4d. Observed (obs.) and relative (rel.) survival of patients with all cancers (excl. C44) by morphology for period 1998-2012 (N=140,441).

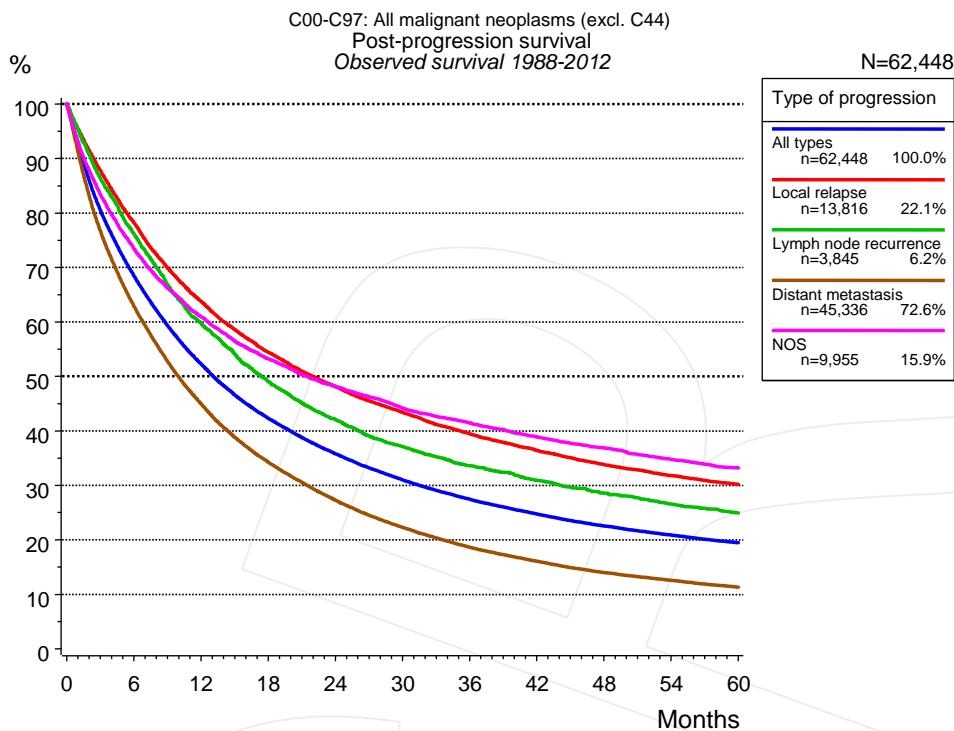


Figure 5a. Observed post-progression survival of 62,448 patients with all cancers (excl. C44) diagnosed between 1988 and 2012 (incl. M1). These 62,448 patients with documented progression events during their course of disease represent 31.2% of the totally 199,961 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=18,592, 9.3%). 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 “All types” 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.

Months	Type of progression				
	All types n=62,448 %	Local relapse n=13,816 %	Lymph node recurrence n=3,845 %	Distant metastasis n=45,336 %	NOS n=9,955 %
0	100.0	100.0	100.0	100.0	100.0
12	52.3	63.7	59.8	45.0	60.9
24	35.8	48.1	42.0	27.3	48.2
36	27.4	39.5	33.6	18.6	41.5
48	22.5	33.8	28.5	14.0	36.8
60	19.5	30.2	24.9	11.3	33.2

Table 5b. Observed post-progression survival of patients with all cancers (excl. C44) for period 1988-2012 (N=62,448).

Shortcuts

AS	Assembled survival chart (observed, expected, relative)
CS	Conditional survival
DCO	Death certificate only. The death certificate provides the only notification to the registry.
MCR	Munich Cancer Registry, Germany (Tumorregister München)
NA	Not available
NCI	National Cancer Institute, USA
NOS	Not otherwise specified
OS	Observed/overall survival (Kaplan-Meier estimate)
PPS	Post-progression survival
RS	Relative Survival. Ratio of observed and expected survival (derived from the normal population)
SEER	Surveillance, Epidemiology, and End Results, USA
TTP	Time to progression Date of entry: Date of diagnosis Event (Progression): First local recurrence, lymph node relapse or distant metastasis, unspecified recurrence First all-cause recurrence is illustrated by survival curves (Kaplan-Meier estimate). First local recurrence, lymph node relapse or distant metastasis are depicted cumulatively, where applicable ("reverse" Kaplan-Meier estimate).
UICC	Union for International Cancer Control, Geneva

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