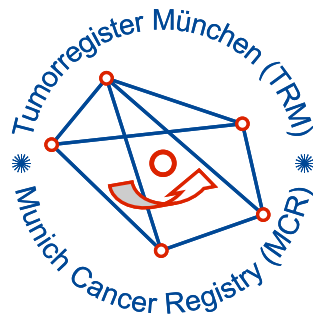


# Munich Cancer Registry



- ▶ Baseline statistics
- ▶ Selection Matrix
- ▶ Homepage
- ▶ *Deutsch*

Munich Cancer Registry at Munich Cancer Center  
Marchioninstr. 15  
Munich, 81377  
Germany

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

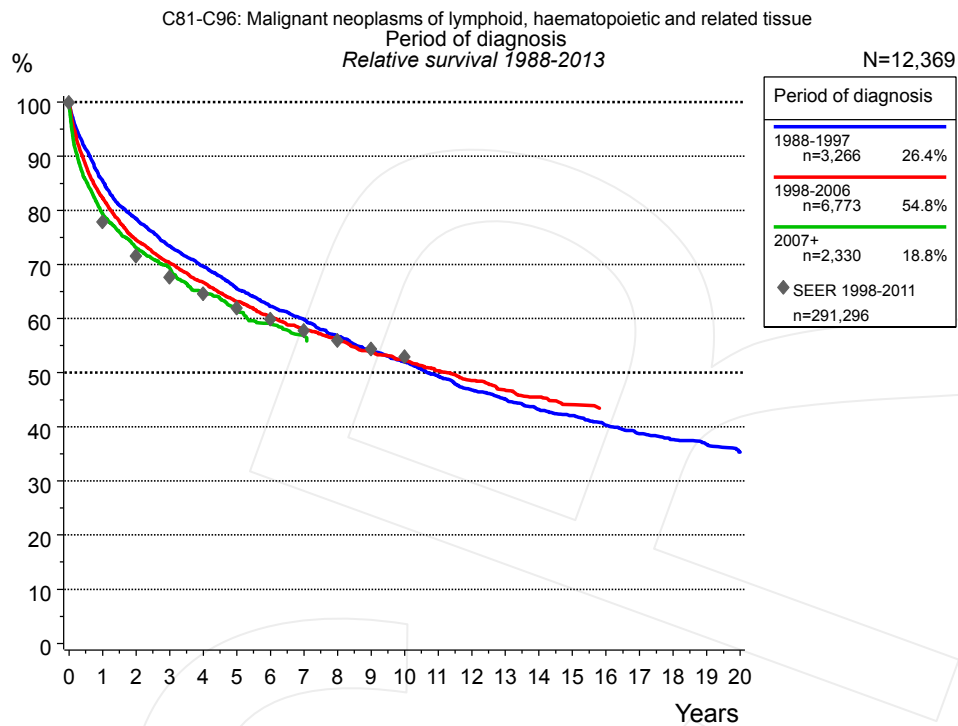
## Cancer statistics: Survival

### C81-C96: Systemic neoplasms

Year of diagnosis	1988-2013
Patients	26,208
Diseases	26,651
Cases evaluated	12,369
Creation date	05/13/2015
Export date	12/30/2014
Population	4.64 m



[http://www.tumorregister-muenchen.de/en/facts/surv/surv\\_C8196E.pdf](http://www.tumorregister-muenchen.de/en/facts/surv/surv_C8196E.pdf)



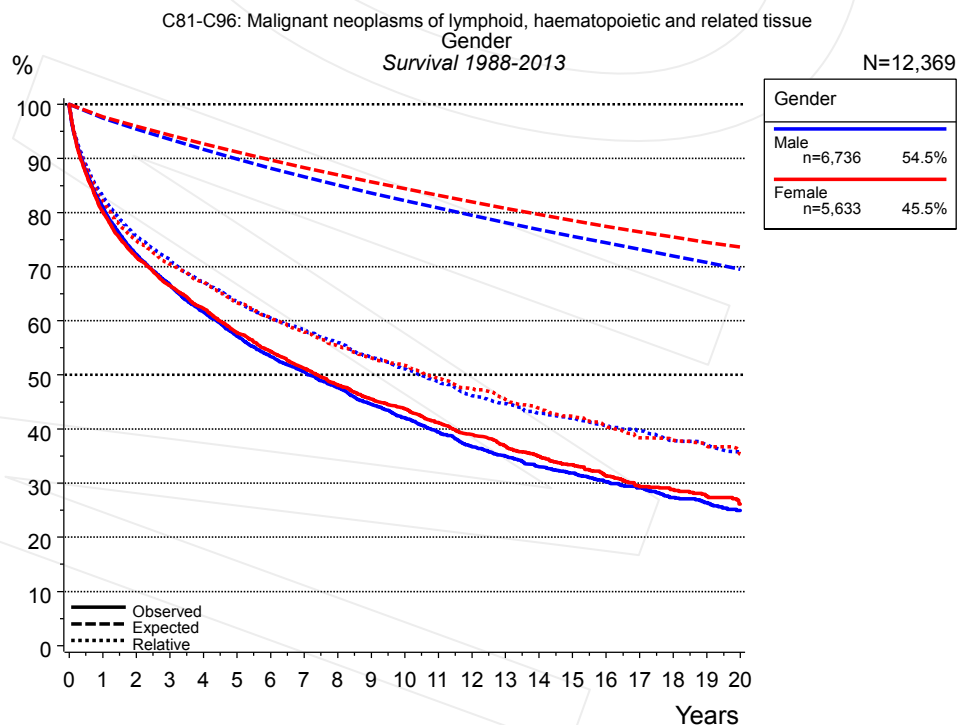
**Figure 1a.** Relative survival of patients with systemic neoplasms by period of diagnosis. Included in the evaluation are 12,369 cases diagnosed between 1988 and 2013.

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 2011, and are represented by gray 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	Period of diagnosis					
	1988-1997 n=3,266		1998-2006 n=6,773		2007+ n=2,330	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	83.6	85.4	80.3	82.3	77.2	79.4
2	75.4	78.5	71.3	74.5	69.6	73.1
3	69.3	73.4	66.0	70.3	64.6	69.4
4	64.6	69.7	61.5	66.7	59.3	65.0
5	59.6	65.5	57.2	63.1	55.2	61.9
6	55.7	62.2	53.9	60.5	51.7	59.0
7	52.6	59.8	50.9	58.1	48.7	56.8
8	49.1	56.8	48.3	56.1		
9	46.0	54.0	45.7	53.9		
10	43.6	52.0	43.6	52.3		
11	40.8	49.4	41.3	50.4		
12	38.1	46.8	39.1	48.6		
13	36.1	45.1	37.1	46.8		
14	34.1	43.2	35.6	45.5		
15	32.8	42.1	34.0	44.1		
16	30.9	40.3				
17	29.3	38.8				
18	28.1	37.7				
19	27.0	36.8				
20	25.5	35.3				

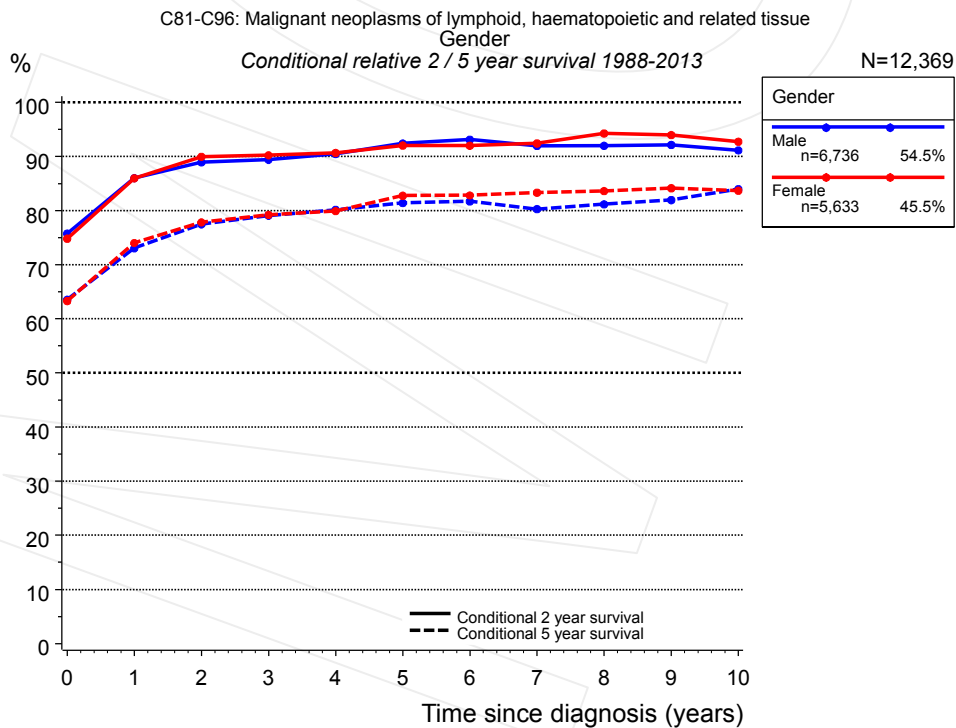
**Table 1b.** Observed (obs.) and relative (rel.) survival of patients with systemic neoplasms by period of diagnosis for period 1988-2013 (N=12,369).



**Figure 2a.** Survival of patients with systemic neoplasms by gender. Included in the evaluation are 12,369 cases diagnosed between 1988 and 2013.

Years	Gender			
	Male n=6,736		Female n=5,633	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	81.0	83.1	80.2	82.1
2	72.3	75.8	71.8	74.8
3	66.7	71.3	66.5	70.4
4	61.7	67.2	62.3	67.1
5	57.2	63.6	57.8	63.3
6	53.4	60.5	54.4	60.6
7	50.6	58.4	51.2	57.9
8	47.7	56.0	48.2	55.4
9	44.6	53.3	45.6	53.1
10	42.0	51.1	43.7	51.8
11	39.4	48.8	41.2	49.5
12	36.7	46.2	39.0	47.5
13	35.0	44.7	36.8	45.5
14	33.1	42.9	35.0	43.9
15	31.9	42.1	33.4	42.4
16	30.3	40.7	31.4	40.4
17	29.1	39.7	29.4	38.4
18	27.4	37.9	28.8	38.0
19	26.4	37.1	27.6	36.9
20	24.9	35.8	26.1	35.4

**Table 2b.** Observed (obs.) and relative (rel.) survival of patients with systemic neoplasms by gender for period 1988-2013 (N=12,369).

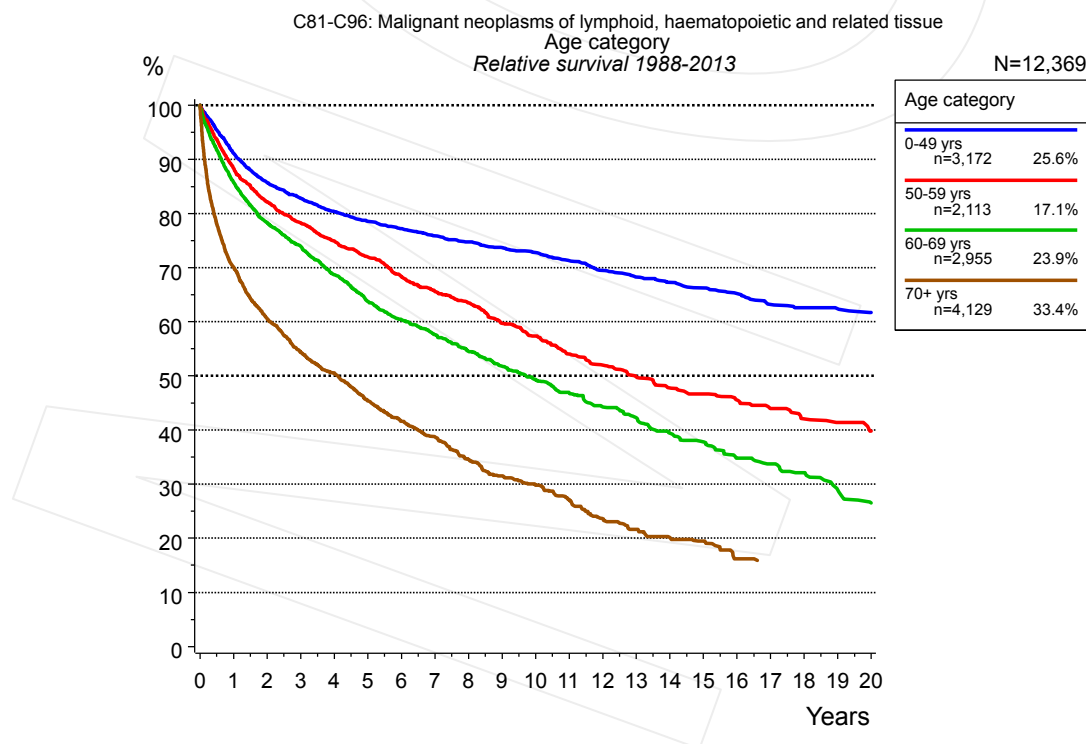


**Figure 2c.** Conditional relative 2 / 5-year survival of patients with systemic neoplasms by gender. For 12,369 of 12,369 cases diagnosed between 1988 and 2013 valid data could be obtained for this item.

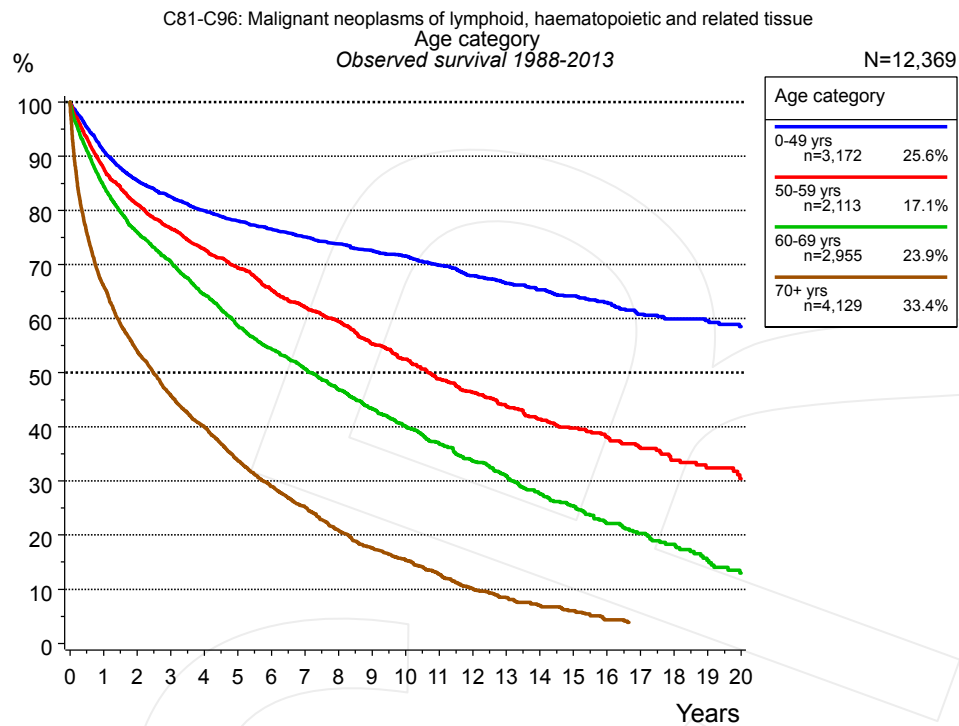
Years	Gender					
	n	Male		n	Female	
		Cond. surv. %	2 yrs		5 yrs	Cond. surv. %
0	6,736	75.8	63.6	5,633	74.8	63.3
1	5,179	86.0	73.1	4,323	86.0	74.1
2	4,302	88.9	77.5	3,627	90.0	77.8
3	3,617	89.4	79.1	3,105	90.2	79.2
4	3,003	90.5	80.2	2,624	90.7	79.9
5	2,489	92.4	81.4	2,174	92.0	82.8
6	2,076	93.1	81.7	1,838	92.0	82.8
7	1,819	92.0	80.3	1,592	92.4	83.3
8	1,567	92.0	81.2	1,374	94.3	83.6
9	1,324	92.2	82.0	1,165	94.0	84.2
10	1,111	91.1	84.0	998	92.7	83.7

**Table 2d.** Conditional relative 2 / 5-year survival of patients with systemic neoplasms by gender for period 1988-2013 (N=12,369).

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 89.4% (n=3,617).



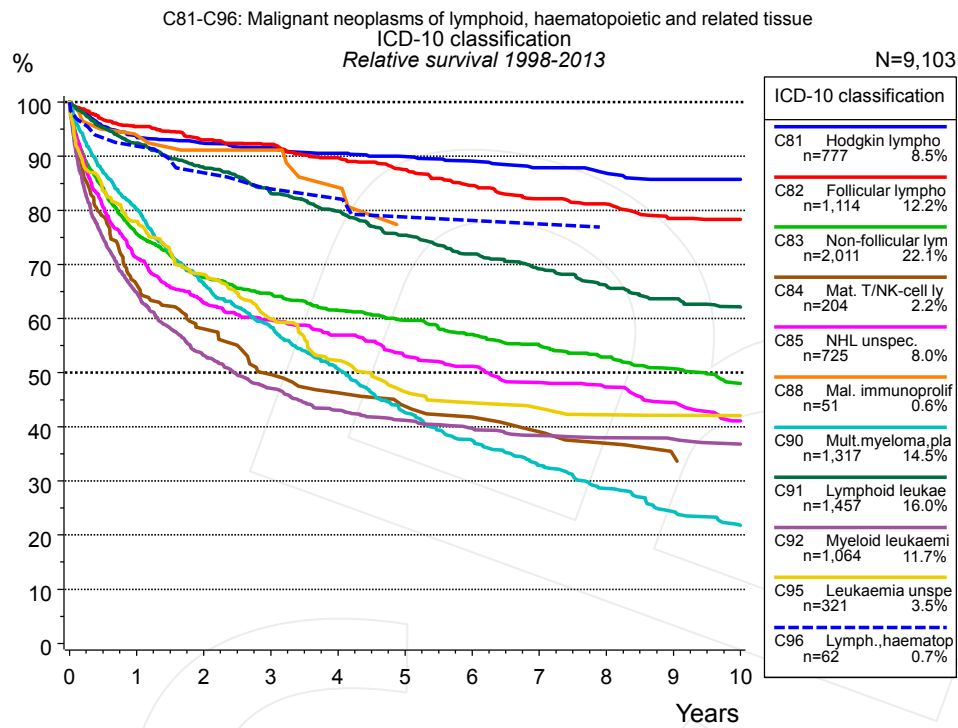
**Figure 3a.** Relative survival of patients with systemic neoplasms by age category. Included in the evaluation are 12,369 cases diagnosed between 1988 and 2013.



**Figure 3b.** Observed survival of patients with systemic neoplasms by age category. Included in the evaluation are 12,369 cases diagnosed between 1988 and 2013.

Years	Age category							
	0-49 yrs n=3,172		50-59 yrs n=2,113		60-69 yrs n=2,955		70+ yrs n=4,129	
	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
1	91.0	91.2	87.8	88.3	84.5	85.7	66.1	70.1
2	85.5	85.7	81.1	82.2	76.0	78.3	54.0	60.6
3	82.5	82.8	76.7	78.3	70.6	73.9	45.9	54.4
4	79.9	80.4	72.9	74.9	64.4	68.7	40.1	50.5
5	78.0	78.6	69.3	71.9	58.6	63.8	33.7	45.3
6	76.5	77.2	65.2	68.3	54.4	60.4	29.0	41.6
7	75.0	75.9	62.1	65.6	50.7	57.6	25.2	38.8
8	73.8	74.8	59.5	63.5	46.9	54.5	20.9	34.6
9	72.6	73.7	55.4	59.7	43.4	51.8	17.6	31.5
10	71.5	72.8	52.5	57.4	40.0	49.3	15.3	29.8
11	69.8	71.3	48.9	54.0	36.9	46.9	12.8	27.1
12	67.9	69.5	46.3	52.0	33.6	44.3	10.1	23.6
13	66.5	68.3	43.8	49.8	31.0	42.3	8.4	21.7
14	65.3	67.3	41.4	47.8	27.7	39.4	7.0	20.1
15	64.2	66.3	39.7	46.7	25.4	37.8	6.0	19.5
16	63.0	65.2	38.1	45.6	22.1	34.8	4.4	16.2
17	60.8	63.2	36.0	44.0	20.3	33.8		
18	59.9	62.6	33.8	42.1	18.3	32.1		
19	59.6	62.4	32.4	41.4	15.3	29.0		
20	58.5	61.7	30.4	39.8	13.0	26.5		

**Table 3c.** Observed (obs.) and relative (rel.) survival of patients with systemic neoplasms by age category for period 1988-2013 (N=12,369).

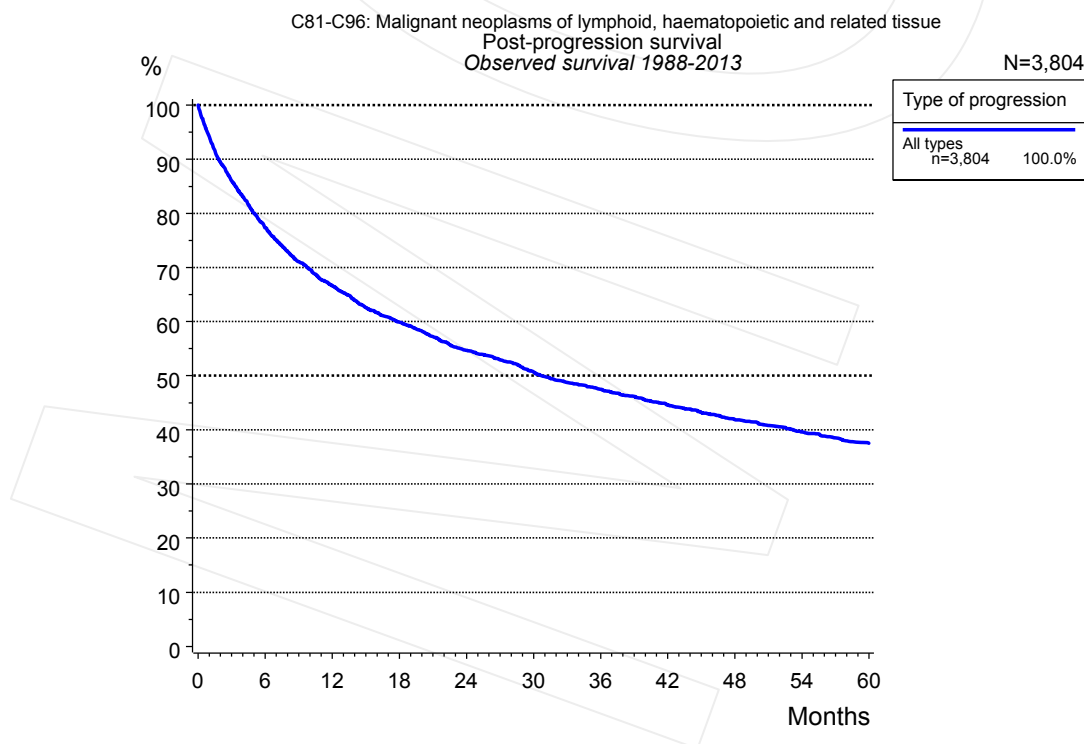


**Figure 4a.** Relative survival of patients with systemic neoplasms by ICD-10 classification. Included in the evaluation are 9,103 cases diagnosed between 1998 and 2013.

Years	ICD-10 classification														
	C81 Hodgkin lymphoma		C82 Follicular lymphoma		C83 Non-follicular lymphoma		C84 Mat. T/NK-cell lymphoma		C85 NHL unspec.		C88 Mal. immunoprolif. dis.		C90 Mult. myeloma, plasma cell		
	n=777	n=1,114	n=2,011	n=204	n=725	n=51	n=1,317	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	93.0	93.7	93.6	95.5	73.4	75.6	64.6	66.2	68.9	71.2	92.1	93.9	78.0	80.2	
2	91.4	92.4	89.6	93.0	64.0	67.6	55.7	58.1	59.1	62.9	87.9	91.1	62.9	66.3	
3	90.1	91.5	87.3	92.2	59.8	64.6	47.1	49.7	54.9	59.8	87.9	91.1	54.1	58.4	
4	88.7	90.6	83.3	89.7	55.6	61.5	43.2	46.3	51.1	57.0	79.9	84.3	45.9	50.7	
5	87.6	89.9	79.7	87.5	52.7	59.7	39.7	43.8	46.4	53.1	69.5	76.7	37.7	42.6	
6	86.2	89.1	75.5	84.6	49.3	57.1	36.7	41.8	44.0	51.2			32.4	37.5	
7	84.7	87.9	72.0	82.2	46.5	55.1	34.5	39.1	40.5	48.2			27.9	32.9	
8	83.5	86.8	69.8	81.2	43.8	52.9	32.1	36.9	38.7	47.4			23.8	28.6	
9	81.9	85.7	66.2	78.5	41.2	50.8	29.4	34.6	36.0	44.5			19.9	24.3	
10	81.9	85.7	65.4	78.3	38.3	48.1	27.8	33.0	32.3	41.1			17.3	21.8	

ICD-10 classification								
cont'd	C91 Lymphoid leukaemia		C92 Myeloid leukaemia		C95 Leukaemia unspec.		C96 Lymph., haem atop. unspec.	
	n=1,457		n=1,064		n=321		n=62	
Years	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
1	90.3	92.4	63.5	64.9	75.7	78.0	91.9	91.9
2	84.0	87.9	51.3	53.2	64.9	68.2	86.6	86.9
3	77.8	83.2	44.8	47.1	55.2	60.0	82.3	84.0
4	73.3	79.9	40.5	43.0	47.2	52.3	82.3	82.2
5	67.8	75.4	38.3	41.2	40.8	46.5	76.9	78.8
6	63.5	71.9	36.7	39.7	38.4	44.5	76.9	78.1
7	59.9	69.2	35.1	38.4	36.8	43.5	76.9	77.5
8	56.3	66.1	34.2	38.0	35.0	42.2		
9	53.4	63.6	33.8	37.7	33.9	42.2		
10	50.9	62.1	32.8	36.8	32.7	42.1		

**Table 4b.** Observed (obs.) and relative (rel.) survival of patients with systemic neoplasms by ICD-10 classification for period 1998-2013 (N=9,103).



**Figure 5a.** Observed post-progression survival of 3,804 patients with systemic neoplasms diagnosed between 1988 and 2013 (incl. M1). These 3,804 patients with documented progression events during their course of disease represent 30.8% of the totally 12,369 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=1,904, 15.4%).



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.

Type of progression	
All types n=3,804	
Months	%
0	100.0
12	66.6
24	54.7
36	47.5
48	41.9
60	37.5

**Table 5b.** Observed post-progression survival of patients with systemic neoplasms for period 1988-2013 (N=3,804).

**Shortcuts**

MCR	Munich Cancer Registry, Germany (Tumorregister München)
NCI	National Cancer Institute, USA
SEER	Surveillance, Epidemiology, and End Results, USA
UICC	Union for International Cancer Control, Geneva
DCO	Death certificate only. The death certificate provides the only notification to the registry.
NA	Not available
NOS	Not otherwise specified
OS	Observed/overall survival (Kaplan-Meier estimate)
RS	Relative survival, compared to the general population, ratio of observed to expected survival (Ederer II method), reflecting excess mortality among cancer patients
AS	Assembled survival chart (observed, expected, relative)
PPS	Post-progression survival, survival since first relapse (Kaplan-Meier estimate)
progression	Date of entry: Date of first locoregional recurrence, distant metastasis, unspecified
	Event: Death of all causes
CS	Conditional survival, survival probability under the condition of surviving a given period of time

**Recommended Citation**

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**Index of figures and tables**

Fig./Tbl.		Page
1a	Relative survival by period of diagnosis (chart)	2
1b	Survival by period of diagnosis (table)	3
2a	Survival by gender (chart)	3
2b	Survival by gender (table)	4
2c	Conditional survival by gender (chart)	4
2d	Conditional survival by gender (table)	5
3a	Relative survival by age category (chart)	5
3b	Observed survival by age category (chart)	6
3c	Survival by age category (table)	6
4a	Relative survival by ICD-10 classification (chart)	7
4b	Survival by ICD-10 classification (table)	7
5a	Observed post-progression survival (chart)	8
5b	Observed post-progression survival (table)	9