

Munich Cancer Registry



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

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

Cancer statistics: Survival

C82-C85: NHL

Year of diagnosis	1988-2013
Patients	10,436
Diseases	10,511
Cases evaluated	5,438
Creation date	05/13/2015
Export date	12/30/2014
Population	4.64 m



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C8285E.pdf

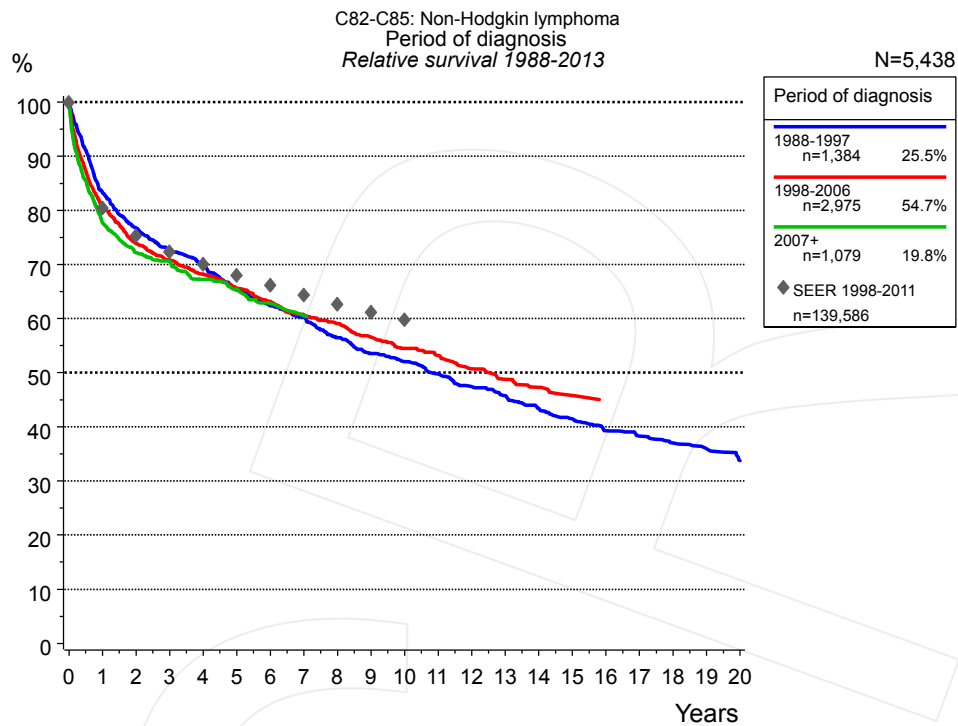


Figure 1a. Relative survival of patients with nHL by period of diagnosis. Included in the evaluation are 5,438 cases diagnosed between 1988 and 2013.

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		1998-2006		2007+	
	n=1,384		n=2,975		n=1,079	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	81.1	83.2	78.6	80.7	75.4	77.7
2	73.3	76.7	70.3	73.9	68.4	72.2
3	67.7	72.5	66.1	70.9	65.6	70.6
4	63.9	69.7	62.2	68.2	60.8	67.2
5	58.4	65.3	58.7	65.6	57.7	65.4
6	54.7	62.4	55.4	63.2	53.9	62.8
7	51.7	60.2	52.1	60.7	51.3	60.6
8	47.6	56.5	49.7	59.1		
9	44.2	53.5	46.7	56.6		
10	42.1	52.0	44.1	54.5		
11	39.6	49.7	42.2	53.2		
12	37.0	47.4	39.4	50.7		
13	35.1	45.8	37.1	48.8		
14	32.6	43.4	35.5	47.3		
15	30.6	41.5	33.9	45.8		
16	28.4	39.3				
17	27.1	38.3				
18	25.8	37.0				
19	24.6	36.0				
20	22.6	33.8				

Table 1b. Observed (obs.) and relative (rel.) survival of patients with nHL by period of diagnosis for period 1988-2013 (N=5,438).

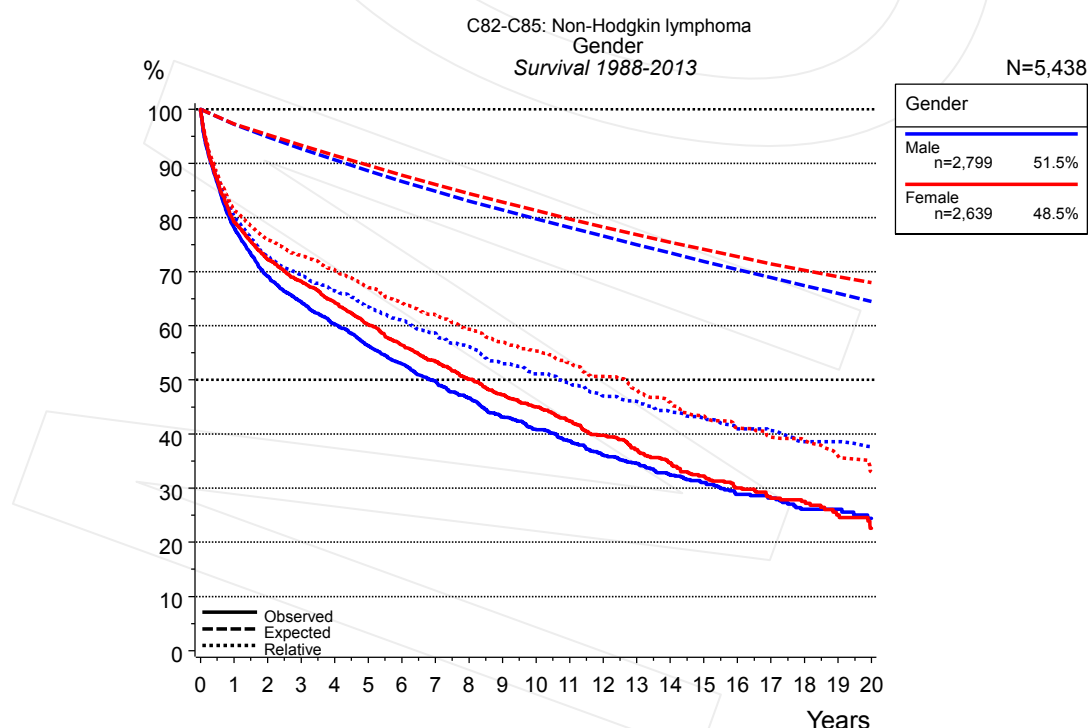


Figure 2a. Survival of patients with nHL by gender. Included in the evaluation are 5,438 cases diagnosed between 1988 and 2013.

Years	Gender			
	Male n=2,799		Female n=2,639	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	78.1	80.3	79.1	81.3
2	69.2	72.8	72.3	75.9
3	64.5	69.5	68.3	73.0
4	60.4	66.5	64.4	70.3
5	56.3	63.5	60.2	67.1
6	52.9	61.0	56.4	64.2
7	49.8	58.7	53.4	62.0
8	46.7	56.2	50.1	59.3
9	43.2	53.0	47.3	57.0
10	40.8	51.2	45.0	55.3
11	38.7	49.5	42.5	53.1
12	36.1	47.1	39.8	50.7
13	34.6	46.0	37.2	48.2
14	32.5	44.1	34.7	45.9
15	31.0	43.0	32.3	43.4
16	28.9	41.0	30.0	41.2
17	28.2	40.7	28.2	39.4
18	26.1	38.6	27.6	38.9
19	26.1	38.6	25.1	35.9
20	24.4	37.7	22.6	33.0

Table 2b. Observed (obs.) and relative (rel.) survival of patients with nHL by gender for period 1988-2013 (N=5,438).

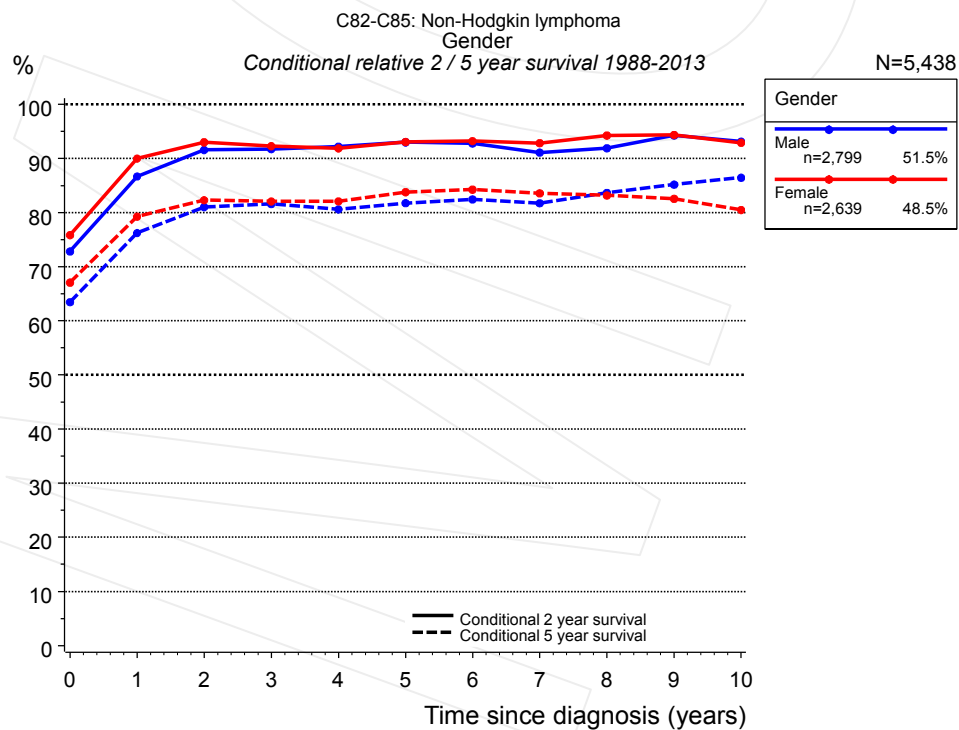


Figure 2c. Conditional relative 2 / 5-year survival of patients with nHL by gender. For 5,438 of 5,438 cases diagnosed between 1988 and 2013 valid data could be obtained for this item.

Years	Gender					
	Male			Female		
	n	Cond. surv. % 2 yrs	5 yrs	n	Cond. surv. % 2 yrs	5 yrs
0	2,799	72.8	63.5	2,639	75.9	67.1
1	2,086	86.7	76.3	2,009	90.0	79.3
2	1,702	91.6	81.0	1,715	93.0	82.3
3	1,447	91.7	81.6	1,497	92.3	82.1
4	1,221	92.2	80.6	1,282	91.9	82.1
5	1,020	93.0	81.8	1,056	93.1	83.8
6	845	92.8	82.5	888	93.2	84.3
7	736	91.1	81.8	773	92.9	83.6
8	628	91.9	83.7	662	94.3	83.2
9	518	94.3	85.2	558	94.4	82.6
10	441	93.2	86.5	474	92.9	80.5

Table 2d. Conditional relative 2 / 5-year survival of patients with nHL by gender for period 1988-2013 (N=5,438).

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 91.7% (n=1,447).

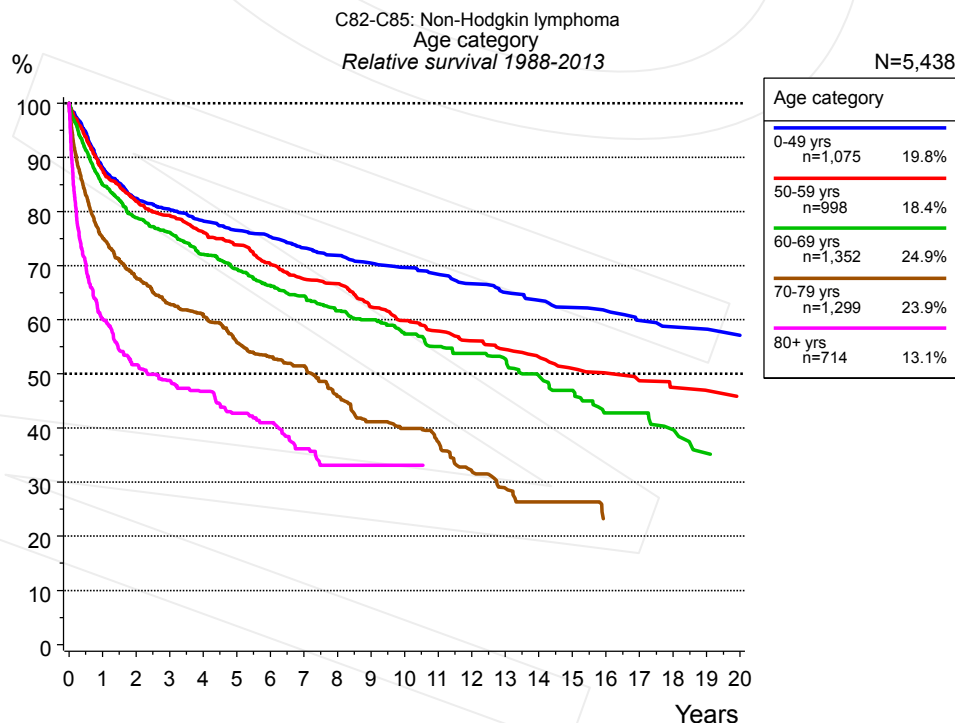


Figure 3a. Relative survival of patients with nHL by age category. Included in the evaluation are 5,438 cases diagnosed between 1988 and 2013.

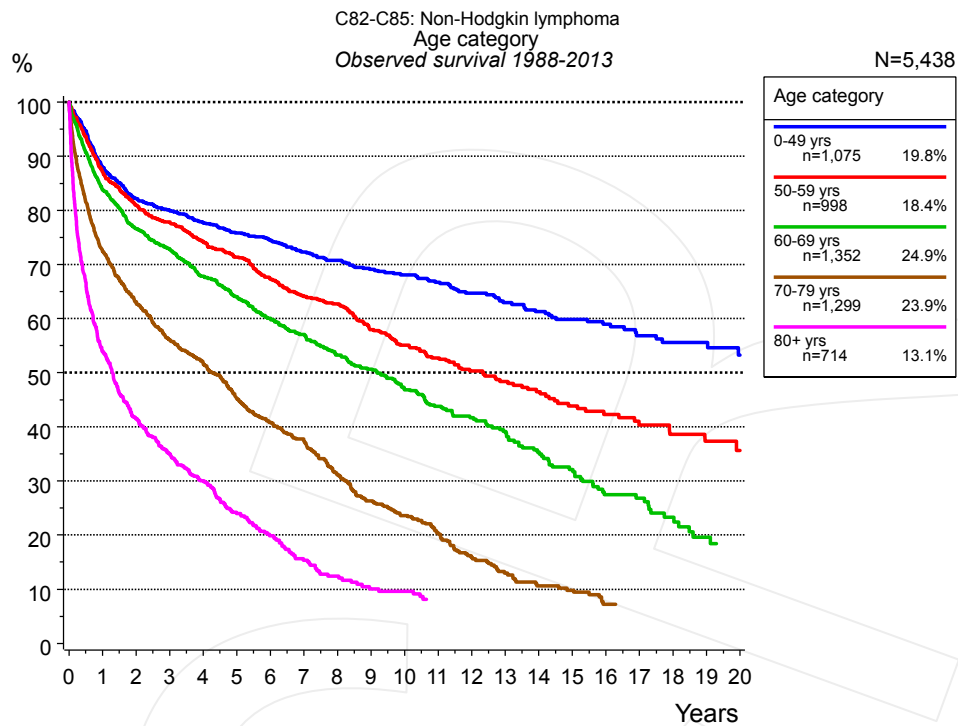


Figure 3b. Observed survival of patients with nHL by age category. Included in the evaluation are 5,438 cases diagnosed between 1988 and 2013.

Years	Age category									
	0-49 yrs n=1,075		50-59 yrs n=998		60-69 yrs n=1,352		70-79 yrs n=1,299		80+ yrs n=714	
	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
1	88.0	88.1	87.1	87.6	83.7	84.9	72.5	75.2	53.9	60.1
2	82.2	82.4	80.9	81.9	76.6	78.8	63.0	67.8	41.5	51.7
3	80.0	80.4	77.9	79.3	72.9	76.2	56.1	62.9	35.1	48.8
4	77.8	78.3	74.3	76.2	67.8	72.1	51.8	60.8	30.1	46.8
5	75.8	76.5	71.4	73.8	64.0	69.4	45.3	55.9	24.0	42.8
6	74.5	75.3	67.2	70.2	60.1	66.3	40.8	53.2	19.9	41.0
7	72.3	73.3	64.1	67.5	57.1	64.4	37.5	51.5	15.4	36.2
8	70.8	71.9	62.7	66.6	53.3	61.7	31.1	45.9	12.4	33.1
9	69.1	70.5	58.0	62.4	50.7	60.0	26.3	41.2	10.1	33.1
10	68.1	69.7	55.1	59.8	46.9	57.3	23.6	39.9	9.7	33.1
11	66.7	68.4	52.8	57.9	43.8	55.1	20.4	37.4		
12	64.7	66.7	50.3	56.1	41.7	53.8	15.9	32.1		
13	62.9	65.1	48.4	54.5	39.2	52.8	12.9	28.9		
14	61.3	63.6	46.5	53.1	35.4	49.7	10.6	26.4		
15	59.8	62.3	43.9	51.0	32.1	47.0	9.8	26.4		
16	59.0	61.7	42.3	50.1	27.5	42.8	7.2	23.2		
17	56.9	59.9	40.3	48.7	26.8	42.8				
18	55.6	58.7	38.6	47.5	23.3	39.7				
19	55.6	58.3	37.3	46.9	19.6	35.3				
20	53.3	57.2	35.7	45.8						

Table 3c. Observed (obs.) and relative (rel.) survival of patients with nHL by age category for period 1988-2013 (N=5,438).

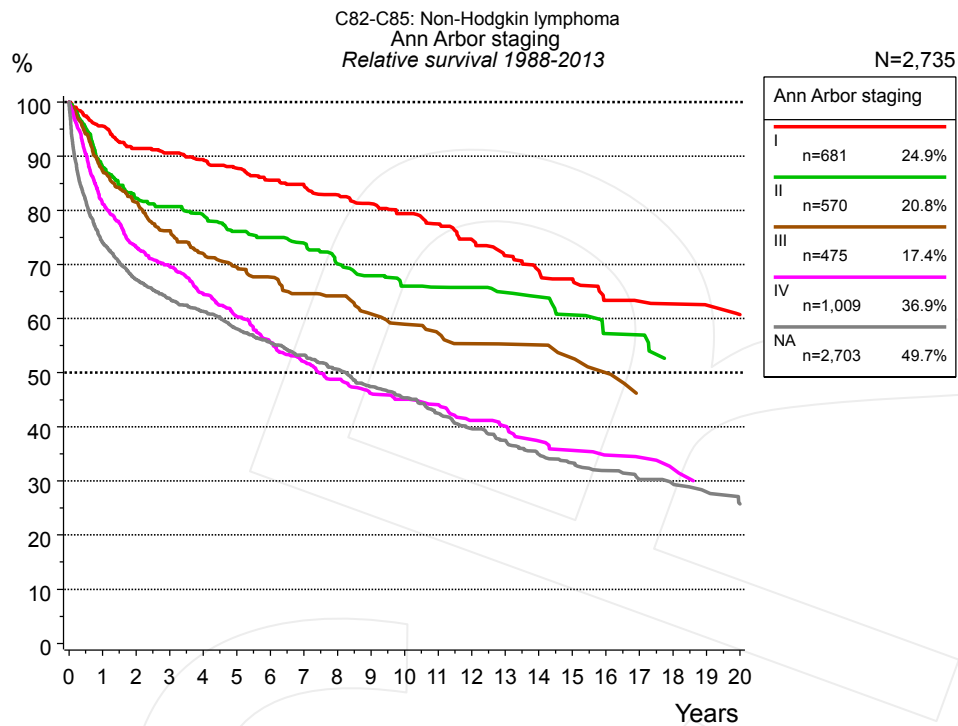


Figure 4a. Relative survival of patients with nHL by Ann Arbor staging. For 2,737 of 5,438 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 2,735 cases an evaluable classification was established. The grey line represents the subgroup of 2,703 patients with missing values regarding Ann Arbor staging (49.7% of 5,438 patients, the percent values of all other categories are related to n=2,735).

Ann Arbor staging										
Years	I n=681		II n=570		III n=475		IV n=1,009		NA n=2,703	
	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
1	93.6	95.6	85.9	87.9	85.6	87.3	79.6	81.1	71.6	74.1
2	87.9	91.5	78.8	82.2	78.5	81.5	70.6	73.2	63.3	67.2
3	85.3	90.6	76.0	80.7	72.2	76.2	66.2	69.6	58.4	63.7
4	82.4	89.4	73.1	79.1	66.8	72.0	60.2	64.5	54.9	61.4
5	79.1	87.8	69.0	76.1	63.7	69.5	55.3	60.4	50.7	58.1
6	75.4	85.5	67.0	75.0	60.8	67.7	50.2	55.6	47.3	55.6
7	73.1	84.6	64.5	74.0	57.3	64.6	46.1	52.0	44.4	53.2
8	70.0	82.8	60.1	70.1	56.0	64.2	42.6	48.8	41.1	50.7
9	67.2	81.2	57.4	68.0	52.3	60.8	39.6	46.2	37.7	47.4
10	64.5	79.4	54.8	66.0	49.6	58.9	38.2	45.1	35.2	45.4
11	61.5	77.5	53.8	65.8	47.7	57.3	36.8	44.1	32.3	42.5
12	57.8	74.6	53.3	65.8	45.5	55.4	33.6	41.2	29.6	39.7
13	54.2	71.6	51.4	64.8	44.6	55.3	32.5	40.1	27.4	37.5
14	51.4	68.8	50.0	64.0	44.6	55.1	29.6	37.4	25.0	35.0
15	49.4	67.3	46.8	60.7	42.2	52.7	27.6	35.6	23.3	33.4
16	45.1	63.4	43.1	57.3	39.6	50.0	26.5	34.8	21.8	31.9
17	44.3	63.2	43.1	57.0	35.2	46.1	25.7	34.4	20.2	30.3
18	43.4	62.7	38.4	52.3	35.2	45.2	23.9	32.3	19.5	29.5
19	41.9	62.5	38.4	50.8	35.2	44.4	21.6	28.5	18.1	28.0
20	40.1	60.7	38.4	49.4					16.1	25.8

Table 4b. Observed (obs.) and relative (rel.) survival of patients with nHL by Ann Arbor staging for period 1988-2013 (N=2,735).

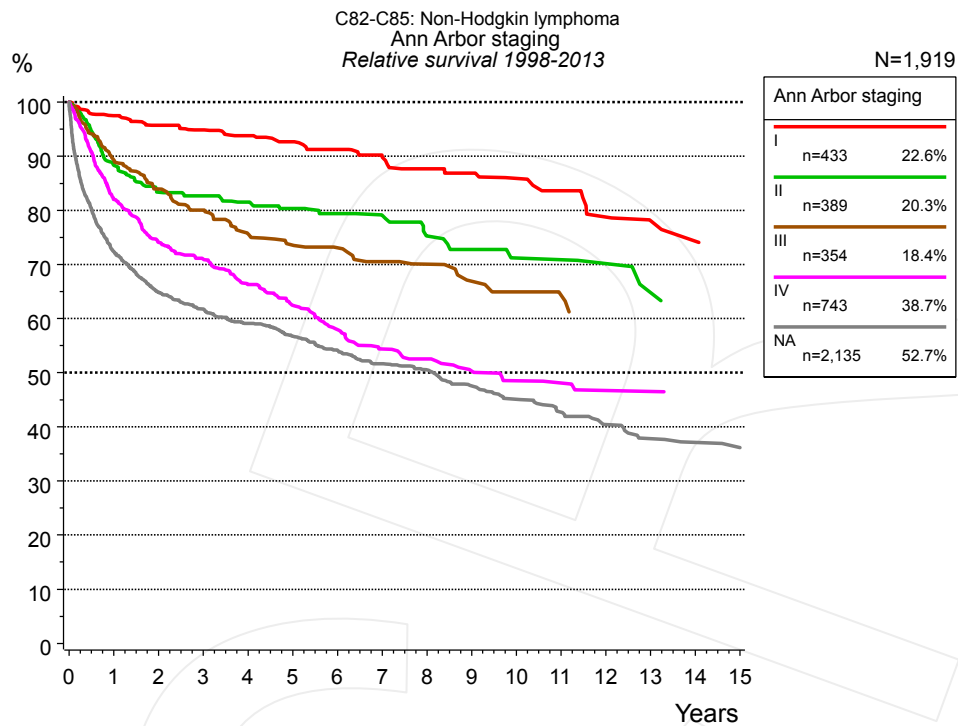


Figure 4c. Relative survival of patients with nHL by Ann Arbor staging. For 1,920 of 4,054 cases diagnosed between 1998 and 2013 valid data could be obtained for this item. For a total of 1,919 cases an evaluable classification was established. The grey line represents the subgroup of 2,135 patients with missing values regarding Ann Arbor staging (52.7% of 4,054 patients, the percent values of all other categories are related to n=1,919).

Ann Arbor staging										
Years	I n=433		II n=389		III n=354		IV n=743		NA n=2,135	
	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
1	95.6	97.5	86.3	88.3	87.5	89.3	80.4	82.0	70.0	72.4
2	92.3	95.7	79.9	83.4	80.6	83.9	71.3	74.1	61.1	64.9
3	89.7	94.8	78.3	82.7	75.6	80.0	67.3	71.0	56.7	61.8
4	87.1	93.8	75.5	81.5	69.7	75.7	61.5	66.3	53.0	59.2
5	84.3	92.7	73.0	80.4	66.8	73.6	57.0	62.4	49.6	56.8
6	81.4	91.2	70.9	79.4	65.0	73.1	52.2	58.0	46.2	54.2
7	78.5	89.8	69.0	79.1	61.6	70.5	48.0	54.4	43.2	51.7
8	75.4	87.7	64.4	75.3	60.0	70.1	45.8	52.5	41.1	50.5
9	73.2	86.8	61.6	72.7	56.1	66.9	43.1	50.4	38.0	47.6
10	70.5	85.9	58.8	71.2	53.7	65.0	40.8	48.5	35.3	45.1
11	67.2	83.6	58.8	70.8	52.1	64.3	40.1	48.1	32.9	42.7
12	62.1	78.7	56.6	70.1	48.8	60.4	38.4	46.7	30.4	40.4
13	59.3	78.1	51.5	64.8			38.4	46.5	28.1	37.8
14	57.6	74.2					36.7	44.6	27.1	37.1
15	54.7	69.6							26.4	36.2

Table 4d. Observed (obs.) and relative (rel.) survival of patients with nHL by Ann Arbor staging for period 1998-2013 (N=1,919).

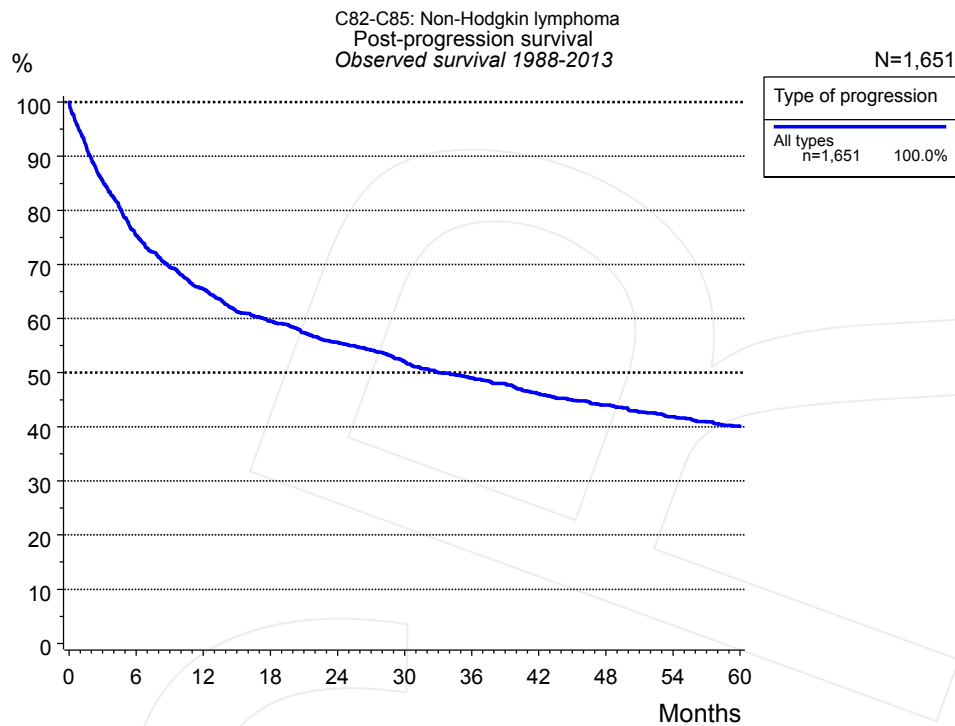


Figure 5a. Observed post-progression survival of 1,651 patients with nHL diagnosed between 1988 and 2013 (incl. M1). These 1,651 patients with documented progression events during their course of disease represent 30.4% of the totally 5,438 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=819, 15.1%).

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=1,651	
Months	%
0	100.0
12	65.5
24	55.6
36	49.0
48	44.0
60	40.1

Table 5b. Observed post-progression survival of patients with nHL for period 1988-2013 (N=1,651).

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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