

Munich Cancer Registry



- ▶ Baseline statistics
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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

C00-C14,C30-C32: HN cancer

Year of diagnosis	1988-2012
Patients	13,455
Diseases	14,047
Cases evaluated	8,599
Creation date	03/25/2014
Export date	02/12/2014
Population	4.5 m



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C0032E.pdf

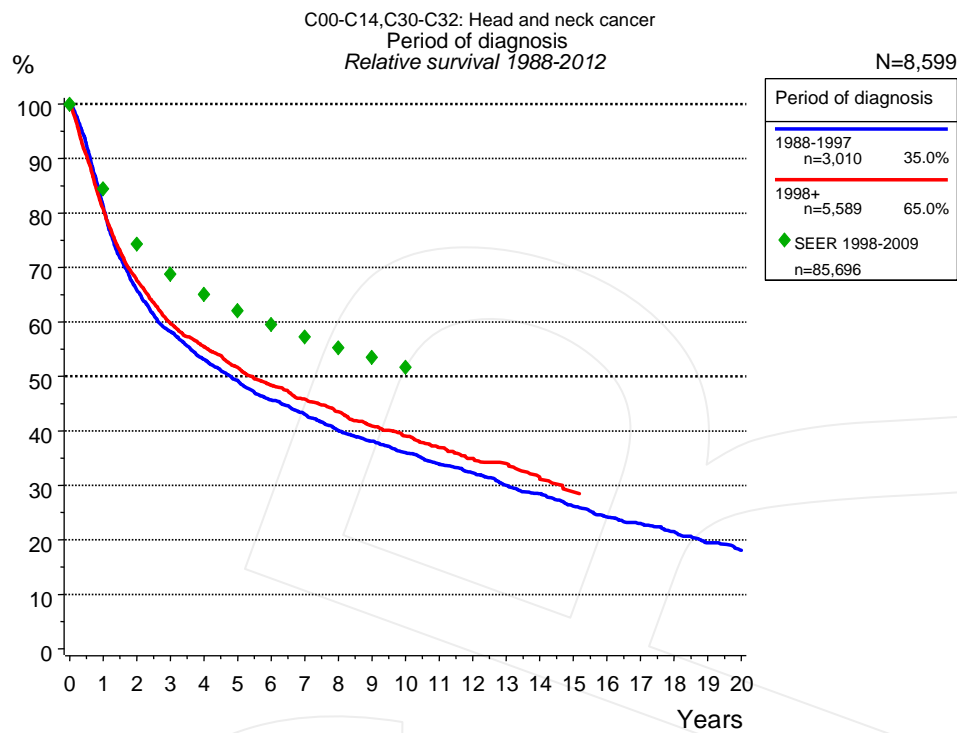


Figure 1a. Relative survival of patients with HN cancer by period of diagnosis. Included in the evaluation are 8,599 cases diagnosed between 1988 and 2012.

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 green 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+	
	n=3,010		n=5,589	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	79.4	81.0	79.0	80.5
2	63.3	65.8	65.1	67.6
3	54.9	58.2	56.5	59.7
4	49.1	53.1	51.5	55.4
5	44.7	49.3	47.0	51.6
6	40.5	45.7	43.2	48.3
7	37.4	43.0	40.2	45.8
8	34.2	40.0	37.3	43.4
9	31.9	38.1	34.4	40.9
10	29.5	36.0	32.1	39.1
11	27.3	33.9	29.7	36.9
12	25.4	32.3	27.4	34.9
13	23.1	30.0	25.9	34.0
14	21.4	28.5	23.1	31.1
15	19.2	26.1	21.5	28.8
16	17.5	24.2		
17	16.1	23.0		
18	14.7	21.5		
19	13.0	19.4		
20	11.9	18.1		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with HN cancer by period of diagnosis for period 1988-2012 (N=8,599).

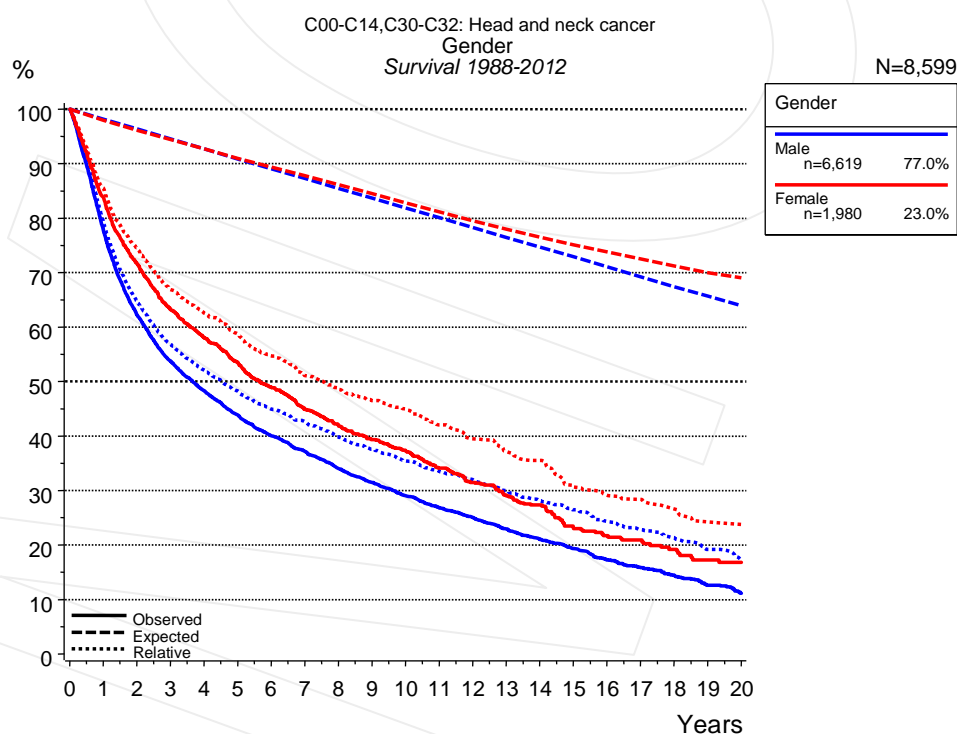


Figure 2a. Survival of patients with HN cancer by gender. Included in the evaluation are 8,599 cases diagnosed between 1988 and 2012.

Years	Gender			
	Male n=6,619		Female n=1,980	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	77.7	79.2	83.8	85.5
2	62.3	64.6	71.7	74.5
3	53.7	56.8	63.2	66.9
4	48.3	52.1	58.0	62.6
5	43.9	48.3	53.5	58.8
6	40.0	45.0	48.9	54.7
7	37.2	42.6	44.9	51.1
8	34.0	39.8	42.0	48.7
9	31.5	37.6	39.3	46.5
10	29.0	35.4	37.3	45.0
11	26.9	33.6	34.1	42.0
12	25.1	32.0	31.5	39.5
13	22.9	30.0	29.0	37.1
14	21.0	28.1	27.3	35.5
15	19.3	26.5	23.0	30.7
16	17.3	24.3	21.7	29.1
17	15.8	22.8	20.9	28.4
18	14.4	21.3	19.2	26.6
19	12.6	19.2	17.3	24.2
20	11.2	17.4	16.8	23.8

Table 2b. Observed (obs.) and relative (rel.) survival of patients with HN cancer by gender for period 1988-2012 (N=8,599).

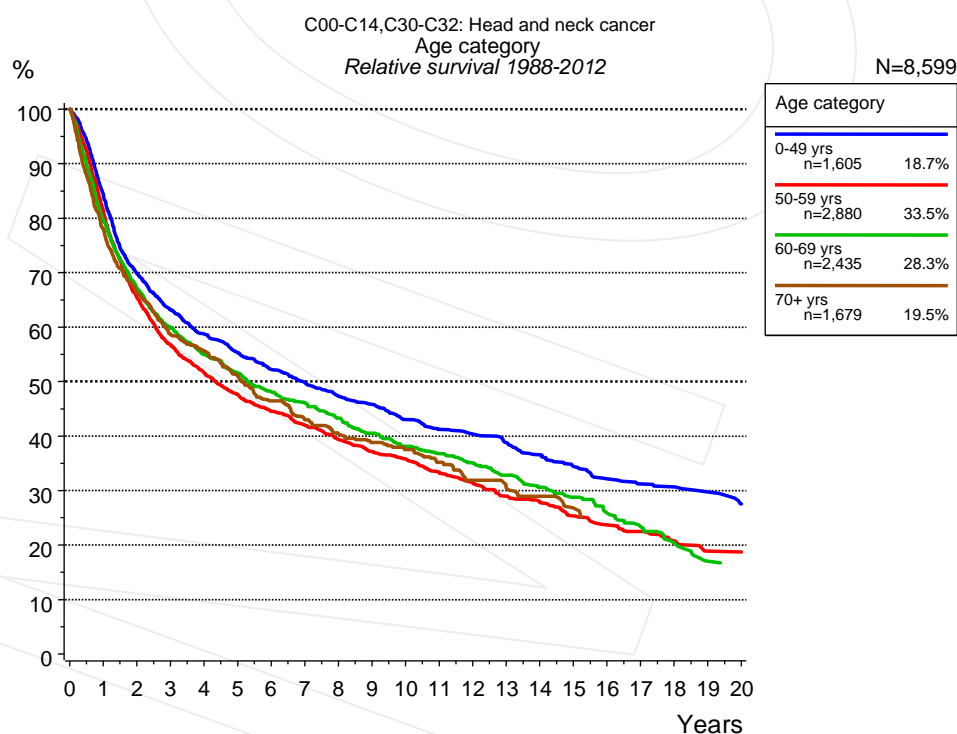


Figure 3a. Relative survival of patients with HN cancer by age category. Included in the evaluation are 8,599 cases diagnosed between 1988 and 2012.

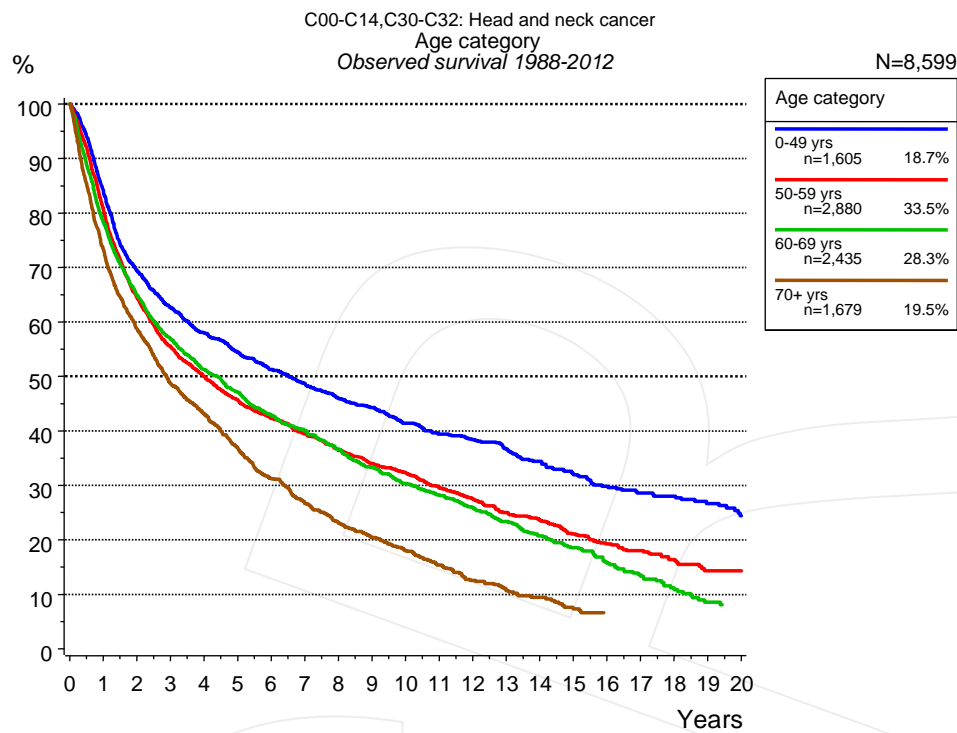


Figure 3b. Observed survival of patients with HN cancer by age category. Included in the evaluation are 8,599 cases diagnosed between 1988 and 2012.

Years	Age category							
	0-49 yrs n=1,605		50-59 yrs n=2,880		60-69 yrs n=2,435		70+ yrs n=1,679	
	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	83.9	84.1	80.6	81.2	78.2	79.5	73.3	77.9
2	69.4	69.8	64.6	65.5	64.9	67.0	58.7	66.4
3	62.6	63.2	55.5	56.7	56.8	59.8	48.7	58.7
4	58.0	58.7	49.9	51.5	51.2	55.0	43.2	55.6
5	54.4	55.3	45.7	47.6	47.1	51.6	37.0	51.1
6	51.3	52.2	42.3	44.5	42.8	48.1	31.3	46.5
7	48.8	49.9	39.4	42.0	40.0	46.0	26.7	43.0
8	46.0	47.3	36.5	39.3	36.7	43.3	23.1	40.3
9	44.3	45.8	34.0	37.1	33.3	40.5	20.4	38.8
10	41.4	43.0	32.3	35.8	30.4	38.1	18.0	37.5
11	39.4	41.2	29.7	33.3	28.3	36.8	15.4	35.2
12	38.4	40.4	27.6	31.5	25.9	35.1	12.6	31.9
13	36.7	38.8	25.0	29.0	23.4	32.8	10.7	30.5
14	34.4	36.6	23.5	27.8	20.7	30.6	9.5	29.0
15	32.0	34.4	21.1	25.3	18.6	28.8	7.3	26.8
16	29.8	32.1	19.2	23.7	15.9	25.9	6.6	25.1
17	28.6	31.2	18.0	22.5	13.3	23.4		
18	28.0	30.7	16.4	20.8	10.9	20.3		
19	26.7	29.7	14.3	18.9	8.6	17.0		
20	24.4	27.5	14.3	18.7				

Table 3c. Observed (obs.) and relative (rel.) survival of patients with HN cancer by age category for period 1988-2012 (N=8,599).

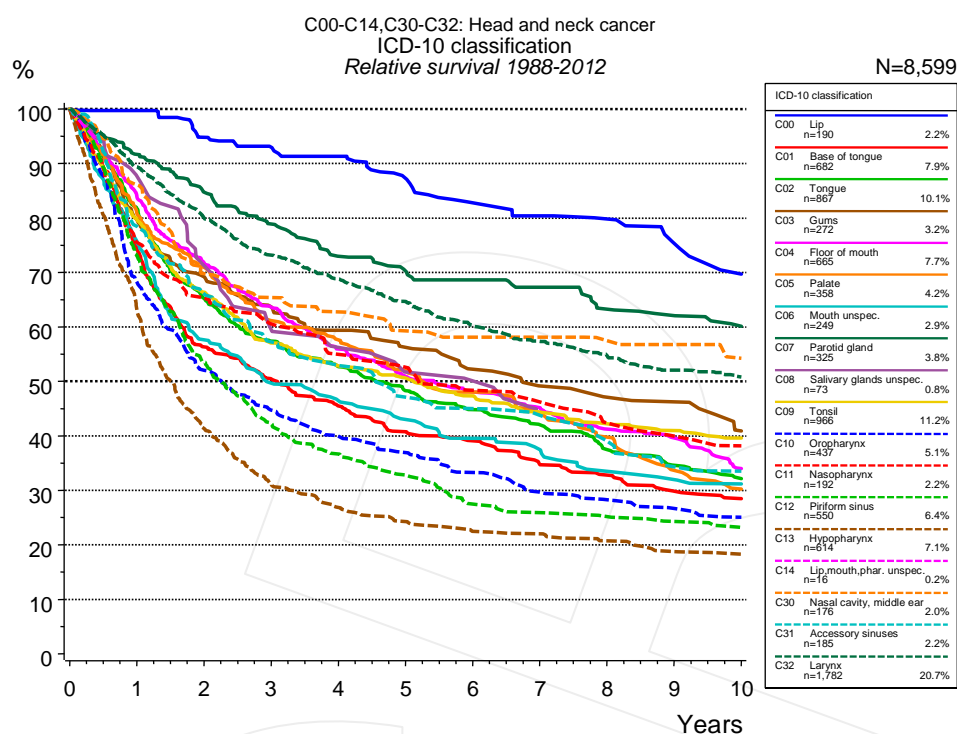


Figure 4a. Relative survival of patients with HN cancer by ICD-10 classification. Included in the evaluation are 8,599 cases diagnosed between 1988 and 2012.

ICD-10 classification														
Years	C00 Lip n=190		C01 Base of tongue n=682		C02 Tongue n=867		C03 Gums n=272		C04 Floor of mouth n=665		C05 Palate n=358		C06 Mouth unspec. n=249	
	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	97.3	99.7	73.3	74.3	80.4	81.7	77.8	79.6	82.8	84.0	80.2	80.9	74.0	75.7
2	87.4	94.8	54.8	56.3	63.2	65.2	66.3	69.2	70.0	71.8	69.3	70.9	55.4	57.6
3	82.7	93.0	48.3	50.4	54.7	57.4	59.7	63.7	61.2	63.6	58.8	61.2	46.9	49.7
4	78.9	91.3	42.8	45.5	49.4	52.7	54.2	59.4	53.1	55.9	54.7	57.6	43.0	46.4
5	72.0	87.3	37.9	40.7	44.6	48.3	50.2	56.3	48.0	50.9	48.9	52.0	38.9	43.0
6	65.7	82.8	35.6	39.1	40.7	44.8	45.5	52.2	44.4	48.0	44.3	48.0	35.1	39.6
7	62.3	80.4	30.9	34.7	37.6	42.1	41.7	49.2	41.4	45.1	40.2	44.1	32.8	37.5
8	59.5	79.8	28.8	32.8	32.9	37.5	39.2	47.1	37.2	41.2	35.8	39.8	28.7	33.5
9	54.3	75.3	25.6	29.8	29.8	34.6	38.3	46.3	35.2	39.6	29.6	33.7	26.9	32.0
10	49.5	69.7	24.1	28.5	27.2	32.2	32.7	40.9	29.8	34.0	26.2	30.2	25.7	31.2

ICD-10 classification														
Years	C07 Parotid gland n=325		C08 Salivary glands unspec. n=73		C09 Tonsil n=966		C10 Oropharynx n=437		C11 Nasopharynx n=192		C12 Piriform sinus n=550		C13 Hypopharynx n=614	
	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	89.0	91.7	85.9	87.6	78.3	79.7	67.6	68.3	75.0	75.5	72.2	73.0	62.1	63.0
2	80.0	84.7	68.2	71.2	64.2	66.4	51.0	52.0	63.8	65.3	52.3	53.5	40.2	41.3
3	72.8	78.9	57.0	59.5	54.2	57.1	43.1	44.7	58.4	60.6	40.7	42.3	30.1	31.2
4	65.6	73.0	51.9	56.3	49.4	52.9	38.0	39.9	52.6	55.0	35.0	36.7	25.4	26.8
5	62.0	70.3	46.4	51.7	46.5	50.6	34.8	36.9	49.8	52.6	30.6	32.8	22.7	24.3
6	59.6	68.6	44.5	50.1	42.9	47.3	30.8	33.3	44.9	48.4	25.5	27.5	20.5	22.5
7	56.9	67.3	38.5	44.9	39.5	44.4	27.0	29.6	42.5	46.2	23.8	25.9	20.0	22.0
8	52.1	63.2	38.5	44.9	36.9	42.3	25.4	28.3	38.3	42.4	22.8	25.2	18.4	20.7
9	50.2	62.1	38.5	44.9	35.3	41.0	23.7	26.7	35.6	40.0	21.6	24.3	16.5	18.8
10	47.5	60.1	38.5	44.9	33.5	39.6	21.9	25.1	33.5	38.2	20.2	23.2	15.9	18.3

cont'd Years	ICD-10 classification							
	C14 Lip,mouth,pha r. unspec. n=16		C30 Nasal cavity, middle ear n=176		C31 Accessory sinuses n=185		C32 Larynx n=1,782	
	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			84.0	86.1	76.5	78.4	87.4	89.4
2			66.1	69.8	62.8	66.1	76.5	79.9
3			60.5	65.4	53.0	57.2	68.5	73.2
4			56.6	62.8	48.2	52.9	62.9	68.8
5			51.9	59.3	41.8	47.1	57.8	64.7
6			49.8	58.2	39.3	45.0	52.4	60.2
7			49.8	58.2	37.4	43.7	48.8	57.3
8			47.0	57.5	32.2	39.0	45.4	54.7
9			45.5	56.8	27.9	34.3	42.3	52.1
10			41.7	54.3	26.8	33.5	40.1	50.8

Table 4b. Observed (obs.) and relative (rel.) survival of patients with HN cancer by ICD-10 classification for period 1988-2012 (N=8,599).

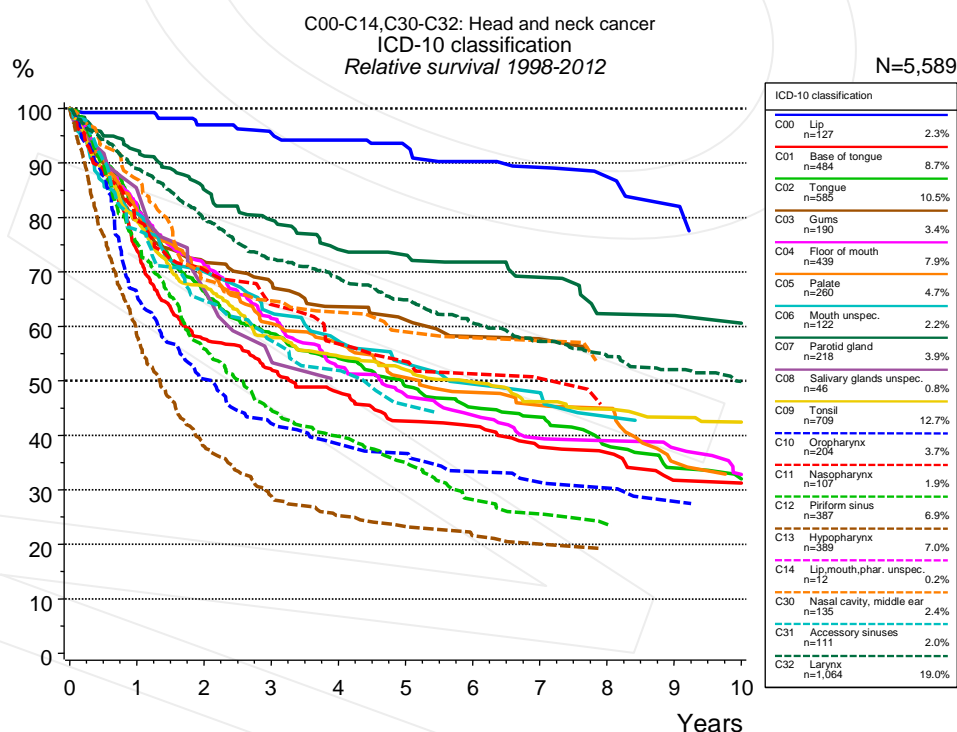


Figure 4c. Relative survival of patients with HN cancer by ICD-10 classification. Included in the evaluation are 5,589 cases diagnosed between 1998 and 2012. Subgroups with sample size <15 are dropped from the chart.

ICD-10 classification														
	C00 Lip n=127		C01 Base of tongue n=484		C02 Tongue n=585		C03 Gums n=190		C04 Floor of mouth n=439		C05 Palate n=260		C06 Mouth unspec. n=122	
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	97.6	99.3	72.9	73.9	81.2	82.4	77.8	79.5	81.0	82.2	80.5	80.9	78.3	80.7
2	89.1	97.0	56.1	57.7	64.5	66.4	68.9	71.9	69.5	71.3	69.3	70.7	66.9	70.0
3	84.4	95.4	49.9	52.1	56.1	58.7	64.1	68.0	59.1	61.4	58.2	60.5	58.6	62.5
4	82.4	94.2	45.0	47.9	51.0	54.1	58.3	63.6	50.1	52.6	54.2	56.9	52.8	57.3
5	76.4	93.1	39.4	42.6	45.5	49.0	55.2	61.2	45.0	47.4	47.8	50.6	47.5	53.1
6	72.0	90.2	37.9	41.7	41.4	45.1	51.4	58.1	40.4	43.7	44.3	47.9	43.0	49.4
7	68.4	89.2	33.5	37.9	39.4	43.3	49.5	57.7	36.4	39.4	41.8	45.5	41.4	47.8
8	64.6	87.4	32.2	36.8	34.0	38.1	47.5	55.6	35.1	39.0	40.9	45.0	36.1	43.4
9	60.2	82.2	26.9	31.8	29.7	34.0	47.5	54.0	33.4	37.7	30.9	35.0	34.2	42.6
10			26.9	31.2	27.3	32.0			28.8	32.8	28.5	32.7	34.2	42.4

cont'd	ICD-10 classification													
	C07 Parotid gland		C08 Salivary glands unspec.		C09 Tonsil		C10 Oropharynx		C11 Nasopharynx		C12 Piriform sinus		C13 Hypopharynx	
	n=218		n=46		n=709		n=204		n=107		n=387		n=389	
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	89.7	92.3	84.3	85.0	78.1	79.4	65.8	66.2	78.6	79.4	74.4	75.2	57.2	58.1
2	80.4	85.1	65.3	66.7	65.3	67.4	49.4	50.3	69.2	70.4	54.5	55.9	37.1	38.0
3	73.5	79.6	54.3	53.6	55.1	57.9	40.8	42.2	62.0	64.0	43.0	44.6	27.9	28.9
4	66.7	74.1	48.1	50.3	51.2	54.5	36.7	38.4	55.0	56.8	38.0	39.8	23.8	25.3
5	65.1	73.1	48.1	48.8	47.9	52.0	35.3	36.7	51.9	53.5	32.6	35.0	22.0	23.2
6	62.3	71.8			45.5	49.8	31.3	33.4	48.8	51.3	26.1	28.1	19.7	21.6
7	58.6	69.0			41.2	46.2	29.5	31.4	46.7	50.4	23.7	25.6	18.6	20.0
8	51.3	62.3			39.5	44.8	28.5	30.3	41.5	45.5	21.5	23.7	17.0	19.1
9	51.3	62.0			37.4	43.3	25.9	27.9	41.5	43.1	20.7	23.2		
10	49.4	60.6			36.1	42.5	24.4	26.7			20.7	22.9		

ICD-10 classification								
<i>cont'd</i>	C14 Lip,mouth,pha r. unspec. n=12		C30 Nasal cavity, middle ear n=135		C31 Accessory sinuses n=111		C32 Larynx n=1,064	
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			85.2	87.0	76.2	77.7	87.2	88.9
2			65.2	68.6	61.3	64.7	76.4	79.6
3			60.3	64.7	53.4	57.4	68.1	72.4
4			56.9	62.5	48.2	51.9	63.4	68.9
5			52.3	59.0	40.6	45.6	58.4	64.9
6			50.5	57.9	38.3	43.6	53.3	60.6
7			50.5	57.4	38.3	42.4	49.3	57.2
8			44.6	53.4			45.6	54.5
9			44.6	51.7			42.7	52.1
10			44.6	50.0			39.7	49.9

Table 4d. Observed (obs.) and relative (rel.) survival of patients with HN cancer by ICD-10 classification for period 1998-2012 (N=5,589).

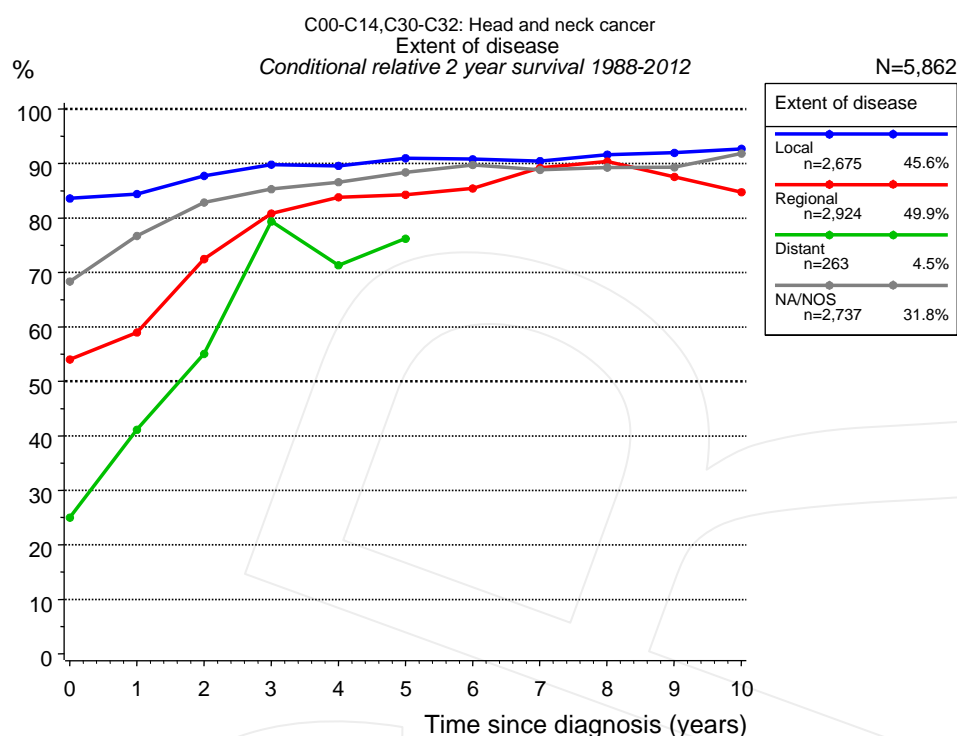


Figure 4e. Conditional relative 2-year survival of patients with HN cancer by extent of disease. For 7,853 of 8,599 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 5,862 cases an evaluable classification was established. The grey line represents the subgroup of 2,737 patients with missing values regarding extent of disease (31.8% of 8,599 patients, the percent values of all other categories are related to n=5,862).

Years	Extent of disease							
	Local		Regional		Distant		NA/NOS	
	n	Cond. surv. % 2 yrs	n	Cond. surv. % 2 yrs	n	Cond. surv. % 2 yrs	n	Cond. surv. % 2 yrs
0	2,675	83.6	2,924	54.0	263	25.0	2,737	68.3
1	2,325	84.4	2,053	59.0	92	41.1	2,042	76.7
2	1,960	87.7	1,365	72.5	56	55.1	1,597	82.8
3	1,662	89.8	1,007	80.8	30	79.4	1,307	85.3
4	1,405	89.6	814	83.8	27	71.3	1,062	86.6
5	1,200	91.0	668	84.3	21	76.2	855	88.4
6	1,026	90.8	546	85.4			691	89.7
7	914	90.4	450	89.2			582	88.8
8	801	91.6	377	90.4			491	89.3
9	710	91.9	320	87.5			387	89.3
10	615	92.7	273	84.7			310	91.8

Table 4f. Conditional relative 2-year survival of patients with HN cancer by extent of disease for period 1988-2012 (N=5,862).

Conditional relative survival rates refer to the relative survival probability, in this case for 2 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 4c). 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 2-year survival rate is 89.8% (n=1,662).

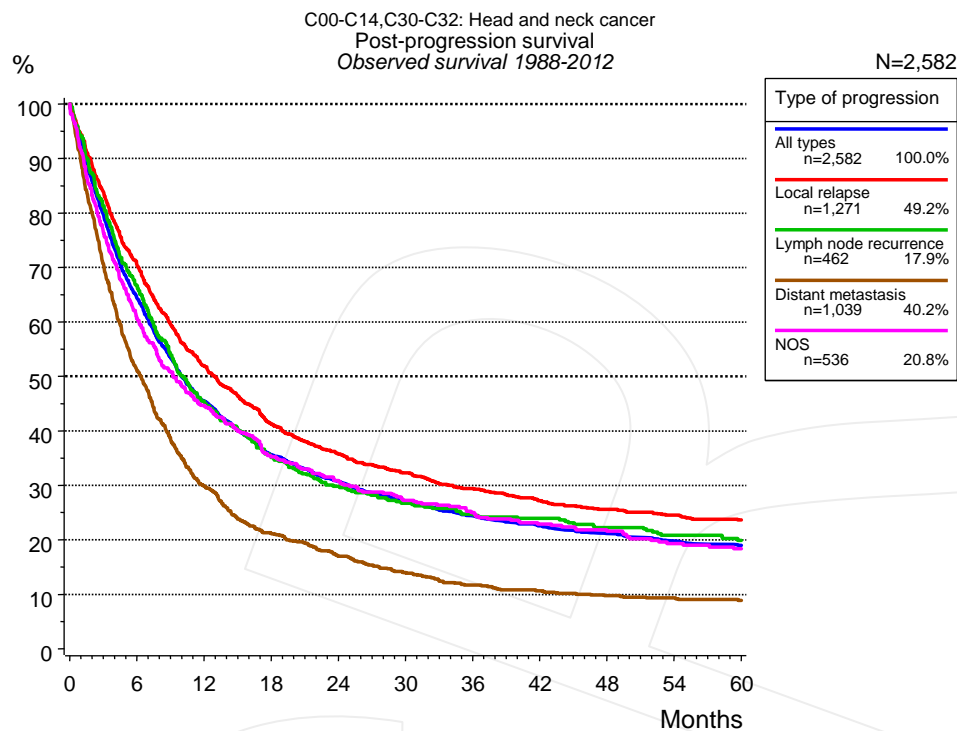


Figure 5a. Observed post-progression survival of 2,582 patients with HN cancer diagnosed between 1988 and 2012 (incl. M1). These 2,582 patients with documented progression events during their course of disease represent 30.0% of the totally 8,599 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=1,046, 12.2%). 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=2,582 %	Local relapse n=1,271 %	Lymph node recurrence n=462 %	Distant metastasis n=1,039 %	NOS n=536 %
0	100.0	100.0	100.0	100.0	100.0
12	45.5	52.0	45.4	29.9	44.5
24	30.7	35.8	29.8	17.0	30.9
36	24.4	29.4	24.7	11.7	25.0
48	21.1	25.6	22.3	9.7	21.6
60	19.0	23.7	19.9	8.9	18.4

Table 5b. Observed post-progression survival of patients with HN cancer for period 1988-2012 (N=2,582).

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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