

Munich Cancer Registry



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

Cancer statistics: Survival

C00-C14: HN cancer

Year of diagnosis	1988-2012
Patients	10,203
Diseases	10,568
Cases evaluated	6,454
Creation date	03/25/2014
Export date	02/12/2014
Population	4.5 m



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C0014E.pdf

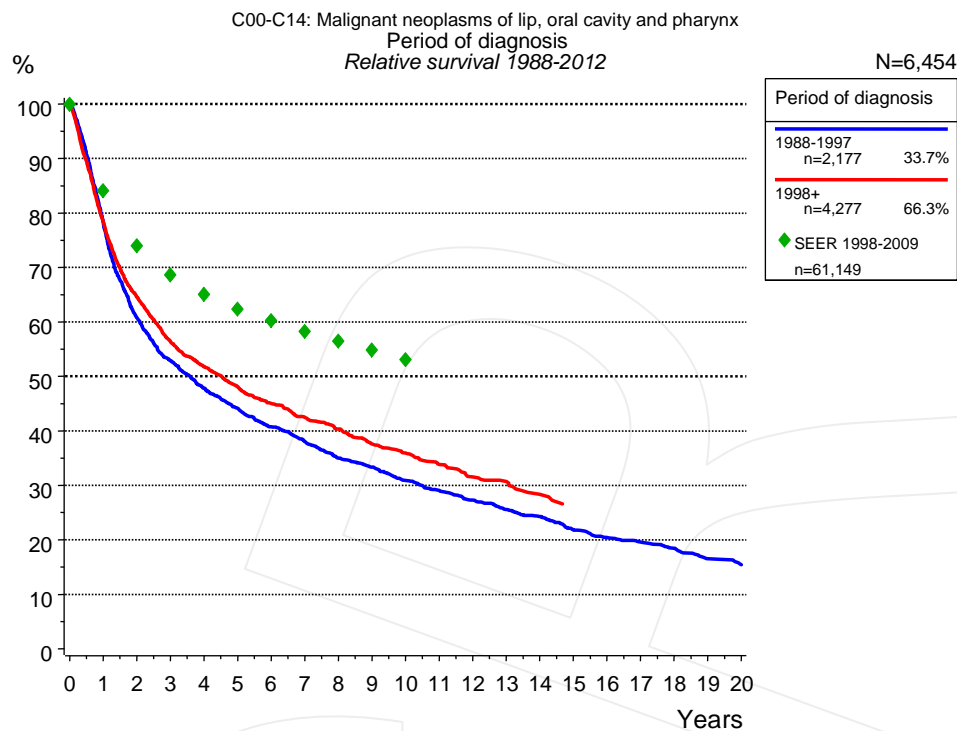


Figure 1a. Relative survival of patients with HN cancer by period of diagnosis. Included in the evaluation are 6,454 cases diagnosed between 1988 and 2012.

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=2,177		n=4,277	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	76.6	78.0	76.8	78.2
2	58.7	60.8	62.4	64.5
3	50.3	52.9	53.5	56.3
4	44.6	47.8	48.3	51.7
5	40.5	44.1	44.1	48.0
6	36.7	40.7	40.5	45.0
7	33.7	38.1	37.6	42.5
8	30.4	35.0	35.1	40.3
9	28.5	33.3	32.0	37.6
10	26.0	30.9	29.9	35.9
11	24.0	29.0	27.7	33.8
12	22.1	27.3	25.3	31.5
13	20.3	25.6	23.9	30.7
14	18.9	24.3	21.6	28.3
15	16.6	21.8		
16	15.4	20.5		
17	14.4	19.6		
18	13.4	18.5		
19	11.6	16.5		
20	10.7	15.5		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with HN cancer by period of diagnosis for period 1988-2012 (N=6,454).

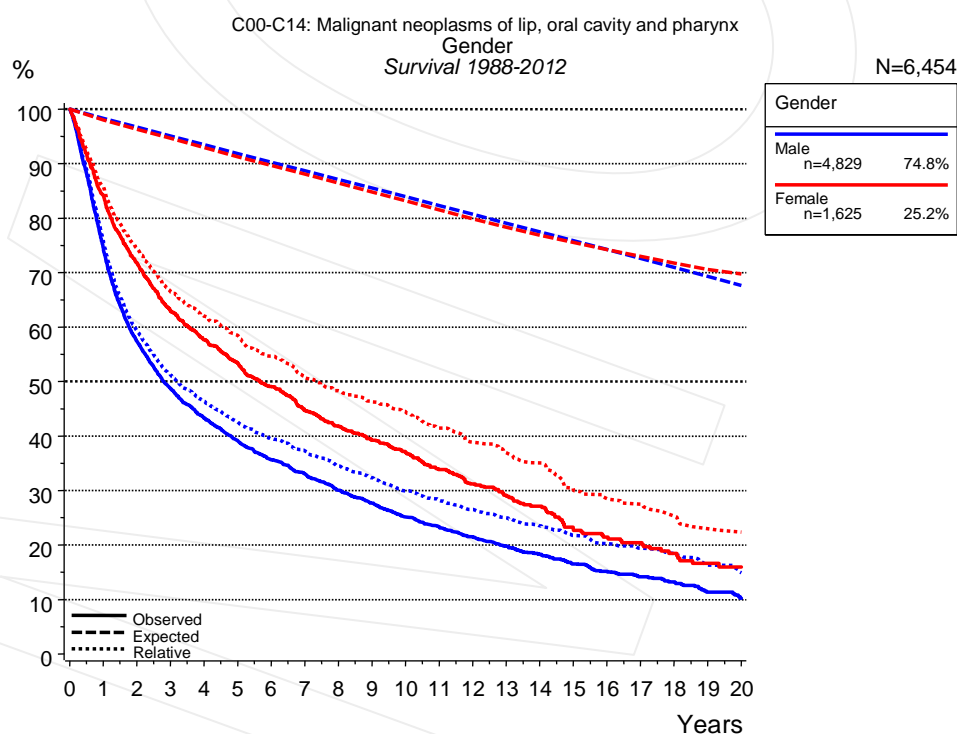


Figure 2a. Survival of patients with HN cancer by gender. Included in the evaluation are 6,454 cases diagnosed between 1988 and 2012.

Years	Gender			
	Male n=4,829		Female n=1,625	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	74.3	75.5	84.1	85.7
2	57.4	59.3	71.8	74.5
3	48.8	51.2	62.9	66.4
4	43.3	46.3	57.7	62.0
5	39.1	42.6	53.4	58.5
6	35.7	39.5	49.1	54.7
7	33.1	37.3	44.7	50.7
8	30.0	34.5	41.8	48.3
9	27.7	32.3	39.2	46.2
10	25.1	29.9	37.0	44.5
11	23.3	28.3	33.8	41.5
12	21.5	26.5	31.2	38.9
13	19.8	25.0	28.9	36.9
14	18.2	23.5	27.2	35.0
15	16.5	21.7	22.7	30.0
16	15.2	20.3	21.4	28.5
17	14.1	19.4	20.4	27.5
18	13.2	18.4	18.5	25.3
19	11.3	16.3	16.6	23.0
20	10.2	14.9	16.0	22.4

Table 2b. Observed (obs.) and relative (rel.) survival of patients with HN cancer by gender for period 1988-2012 (N=6,454).

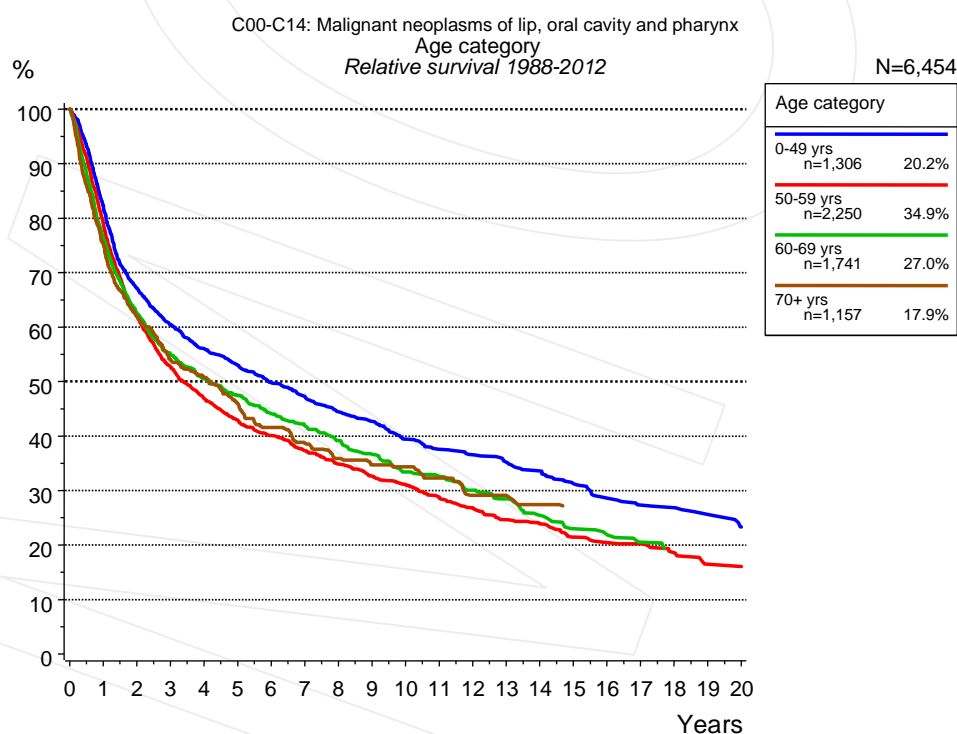


Figure 3a. Relative survival of patients with HN cancer by age category. Included in the evaluation are 6,454 cases diagnosed between 1988 and 2012.

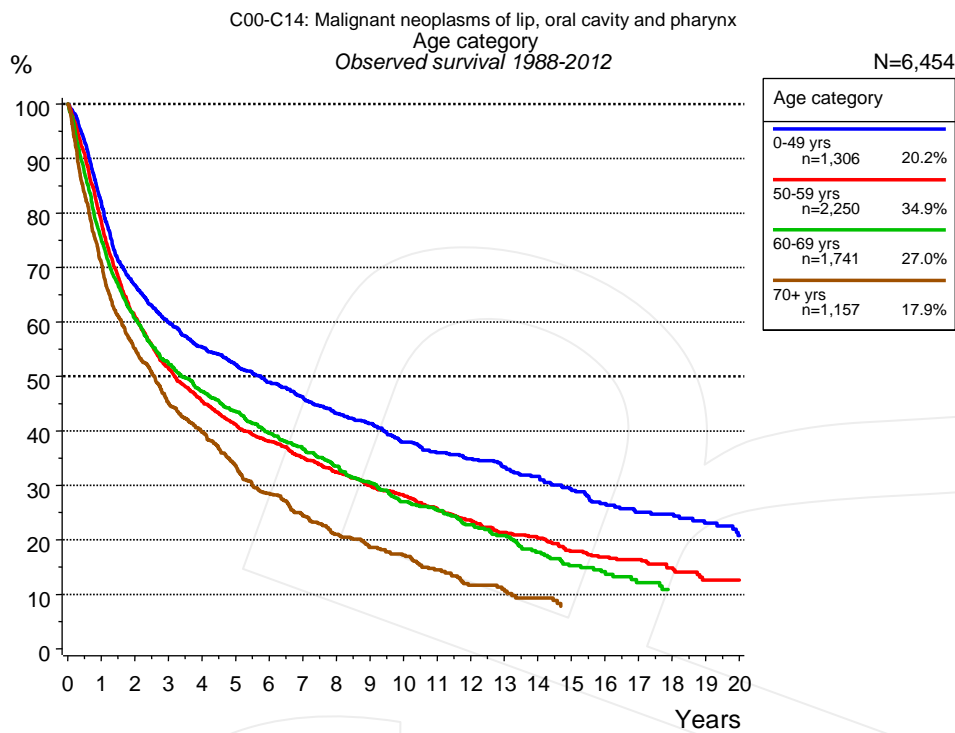


Figure 3b. Observed survival of patients with HN cancer by age category. Included in the evaluation are 6,454 cases diagnosed between 1988 and 2012.

Years	Age category							
	0-49 yrs n=1,306		50-59 yrs n=2,250		60-69 yrs n=1,741		70+ yrs n=1,157	
	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	81.6	81.8	78.3	78.9	75.0	76.2	70.7	75.1
2	66.8	67.1	61.1	61.9	60.6	62.5	55.0	62.0
3	59.9	60.4	51.6	52.7	52.3	54.9	45.1	53.9
4	55.4	56.0	45.4	46.9	47.2	50.5	39.7	50.7
5	52.2	53.0	41.2	42.9	43.5	47.5	33.6	45.9
6	48.9	49.8	38.1	40.1	39.6	44.1	28.5	41.6
7	46.3	47.3	35.1	37.3	36.8	41.9	24.4	38.6
8	43.2	44.4	32.4	34.9	33.5	39.2	21.0	35.9
9	41.4	42.7	29.9	32.6	30.6	36.7	18.6	34.7
10	37.9	39.4	28.2	31.1	27.0	33.4	17.2	34.4
11	36.0	37.6	25.7	28.8	25.6	32.6	14.5	32.3
12	34.9	36.6	23.7	26.8	22.8	30.1	11.7	29.1
13	33.3	35.2	21.4	24.6	20.8	28.5	10.5	29.1
14	31.7	33.5	20.3	23.9	17.7	25.5	9.4	27.4
15	29.1	31.2	17.9	21.4	15.3	23.0		
16	26.6	28.5	16.9	20.4	14.1	21.9		
17	25.1	27.3	16.4	20.2	12.1	20.5		
18	24.7	26.9	14.8	18.5	10.9	18.7		
19	23.0	25.6	12.6	16.5				
20	20.8	23.3	12.6	16.0				

Table 3c. Observed (obs.) and relative (rel.) survival of patients with HN cancer by age category for period 1988-2012 (N=6,454).

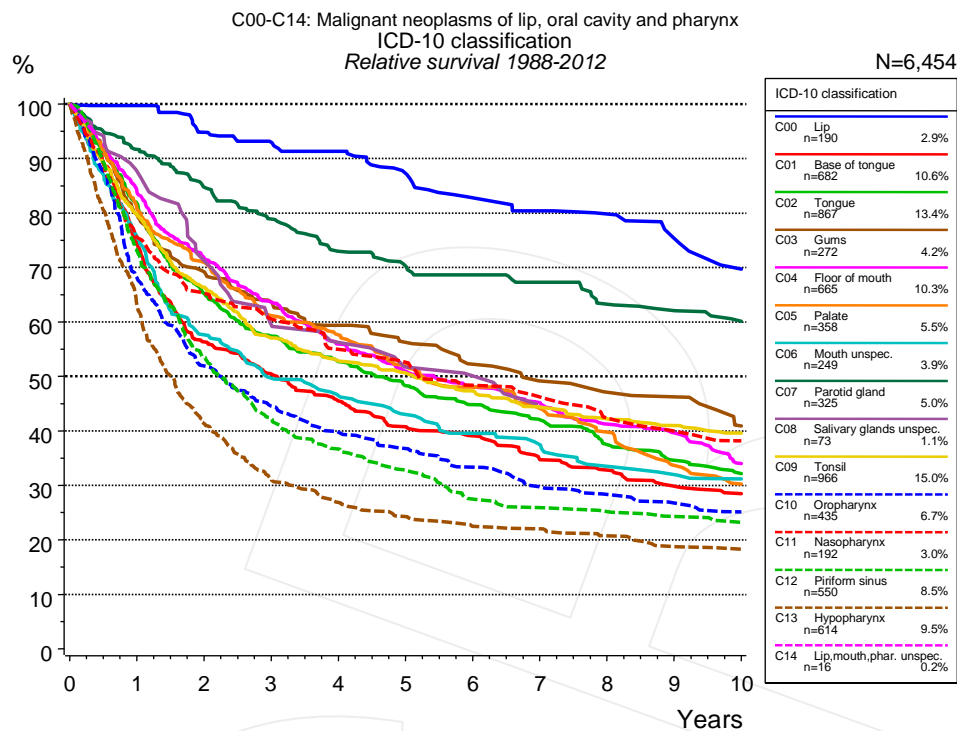


Figure 4a. Relative survival of patients with HN cancer by ICD-10 classification. Included in the evaluation are 6,454 cases diagnosed between 1988 and 2012.

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 unsp. 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 unsp. n=73		C09 Tonsil n=966		C10 Oropharynx n=435		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	67.5	68.2	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	50.8	51.9	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	42.9	44.5	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	37.9	39.8	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	34.6	36.7	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	30.9	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	27.1	29.7	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	25.5	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	23.8	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	22.0	25.1	33.5	38.2	20.2	23.2	15.9	18.3

ICD-10 classification		
	C14	
<i>cont'd</i>	Lip,mouth,pha r. unspec. n=16	
Years	obs. %	rel. %
0	100.0	100.0

Table 4b. Observed (obs.) and relative (rel.) survival of patients with HN cancer by ICD-10 classification for period 1988-2012 (N=6,454).

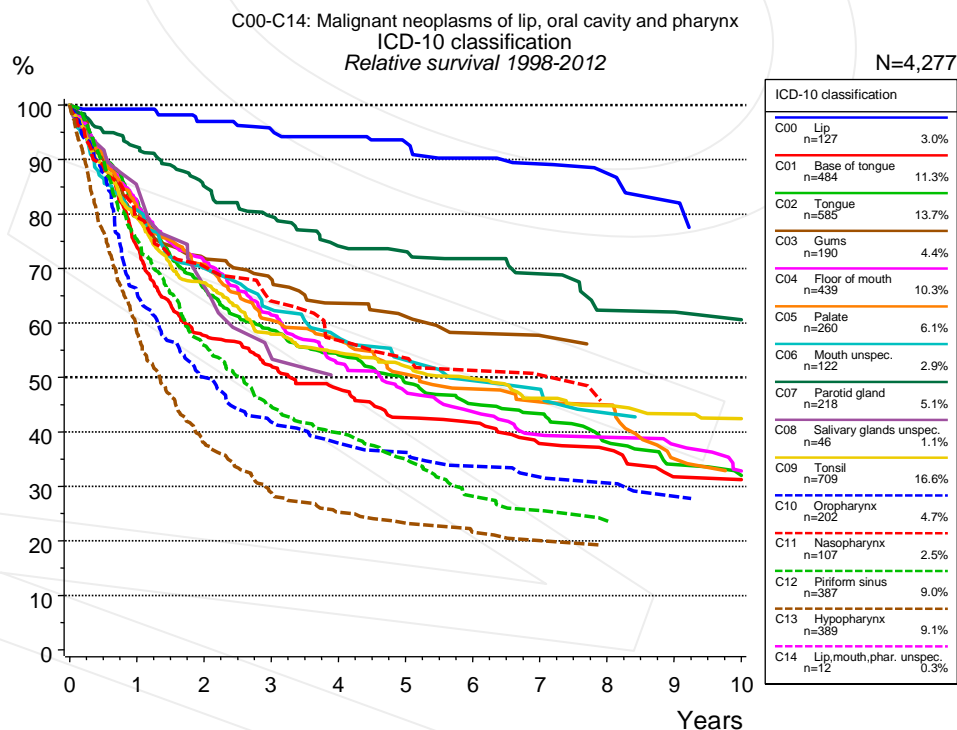


Figure 4c. Relative survival of patients with HN cancer by ICD-10 classification. Included in the evaluation are 4,277 cases diagnosed between 1998 and 2012. Subgroups with sample size <15 are dropped from the chart.

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=202		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	65.6	65.9	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	49.1	50.0	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	40.4	41.8	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	36.3	38.0	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	34.8	36.2	51.9	53.5	32.6	35.0	22.0	23.2
6	62.3	71.8			45.5	49.8	31.6	33.7	48.8	51.3	26.1	28.1	19.7	21.6
7	58.6	69.0			41.2	46.2	29.9	31.7	46.7	50.4	23.7	25.6	18.6	20.0
8	51.3	62.3			39.5	44.8	28.8	30.6	41.5	45.5	21.5	23.7	17.0	19.1
9	51.3	62.0			37.4	43.3	26.2	28.2	41.5	43.1	20.7	23.2		
10	49.4	60.6			36.1	42.5	24.7	27.0			20.7	22.9		

ICD-10 classification

C14		
<i>cont'd</i> Lip, mouth, pharynx unspec. n=12		
Years	obs. %	rel. %
0	100.0	100.0

Table 4d. Observed (obs.) and relative (rel.) survival of patients with HN cancer by ICD-10 classification for period 1998-2012 (N=4,277).

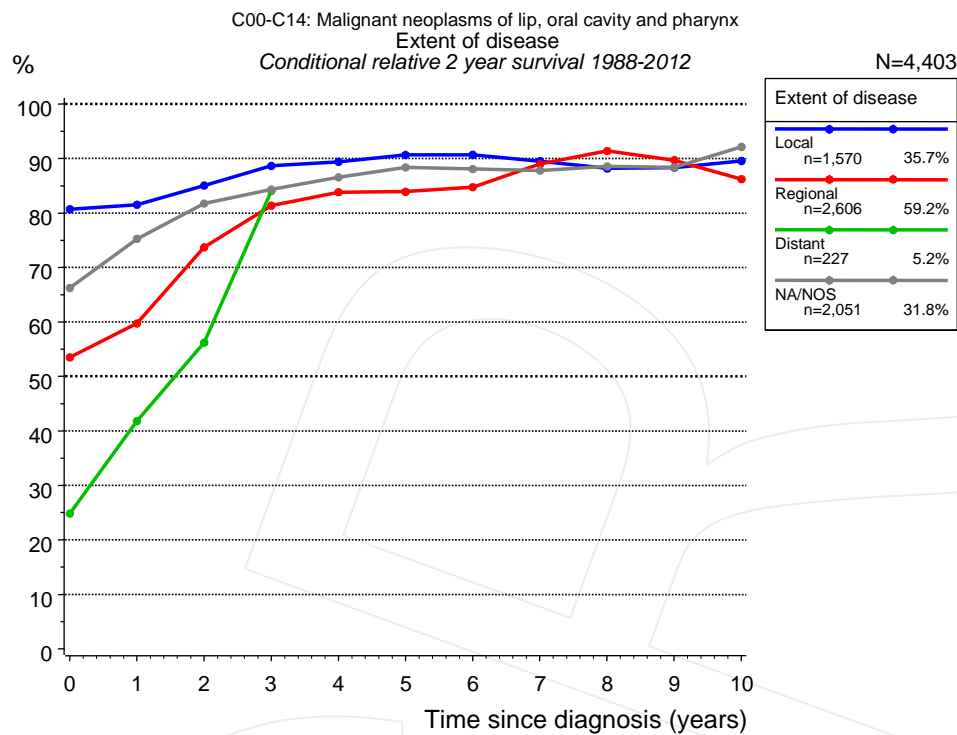


Figure 4e. Conditional relative 2-year survival of patients with HN cancer by extent of disease. For 5,921 of 6,454 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 4,403 cases an evaluable classification was established. The grey line represents the subgroup of 2,051 patients with missing values regarding extent of disease (31.8% of 6,454 patients, the percent values of all other categories are related to n=4,403).

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	1,570	80.7	2,606	53.5	227	24.8	2,051	66.2
1	1,335	81.5	1,810	59.7	79	41.8	1,499	75.2
2	1,099	85.0	1,204	73.7	47	56.2	1,165	81.7
3	908	88.6	895	81.4	26	84.1	952	84.3
4	757	89.4	726	83.8			770	86.5
5	648	90.7	594	83.9			612	88.4
6	555	90.7	485	84.7			496	88.1
7	498	89.5	400	89.0			423	87.8
8	439	88.2	332	91.4			351	88.6
9	386	88.3	283	89.7			278	88.4
10	325	89.6	242	86.2			216	92.1

Table 4f. Conditional relative 2-year survival of patients with HN cancer by extent of disease for period 1988-2012 (N=4,403).

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 88.6% (n=908).

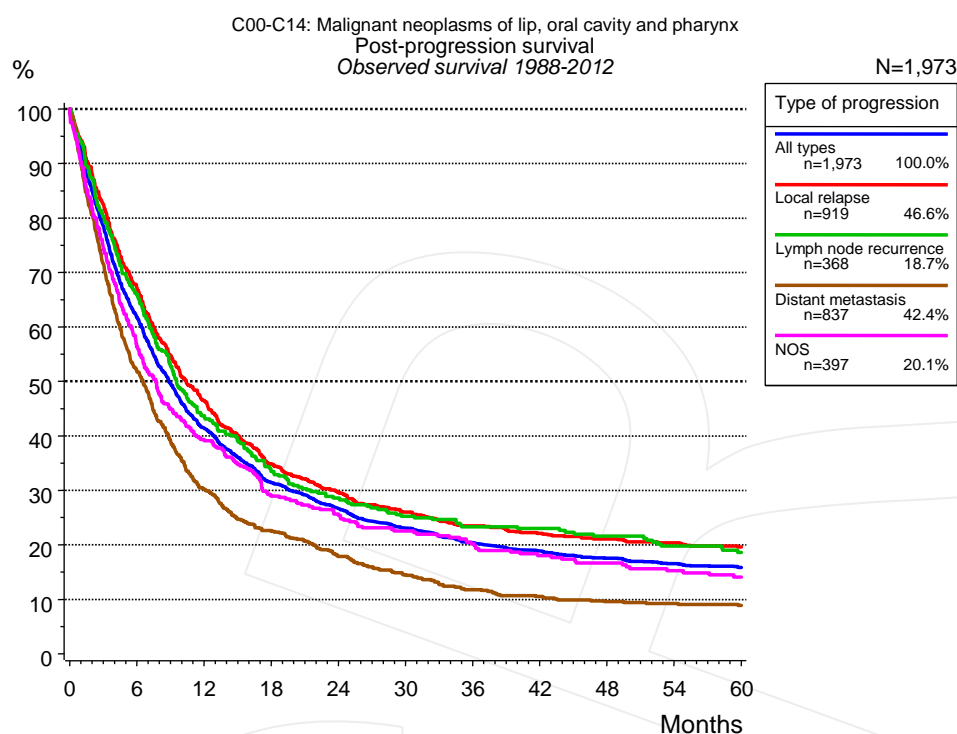


Figure 5a. Observed post-progression survival of 1,973 patients with HN cancer diagnosed between 1988 and 2012 (incl. M1). These 1,973 patients with documented progression events during their course of disease represent 30.6% of the totally 6,454 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=879, 13.6%). 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=1,973 %	Local relapse n=919 %	Lymph node recurrence n=368 %	Distant metastasis n=837 %	NOS n=397 %
0	100.0	100.0	100.0	100.0	100.0
12	41.4	46.5	43.7	30.2	39.1
24	26.6	29.6	28.6	17.8	25.6
36	20.4	23.5	23.3	11.8	20.2
48	17.5	21.1	21.6	9.5	16.7
60	15.9	19.6	18.6	8.8	14.1

Table 5b. Observed post-progression survival of patients with HN cancer for period 1988-2012 (N=1,973).

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

Recommended Citation

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