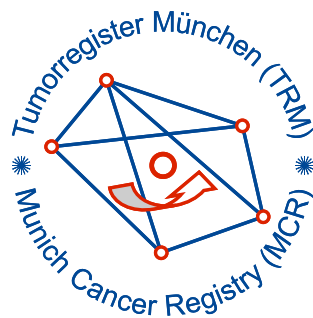


Munich Cancer Registry



- ▶ Baseline statistics
- ▶ Selection Matrix
- ▶ Homepage

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

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

Cancer statistics: Survival

C00-C14: HN cancer

Year of diagnosis	1978-1987	1988-1997	1998-2011
Patients	1,063	2,499	7,150
Diseases	1,070	2,554	7,352
Creation date	04/01/2013		
Export date	01/03/2013		
Population	4.5 m		



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

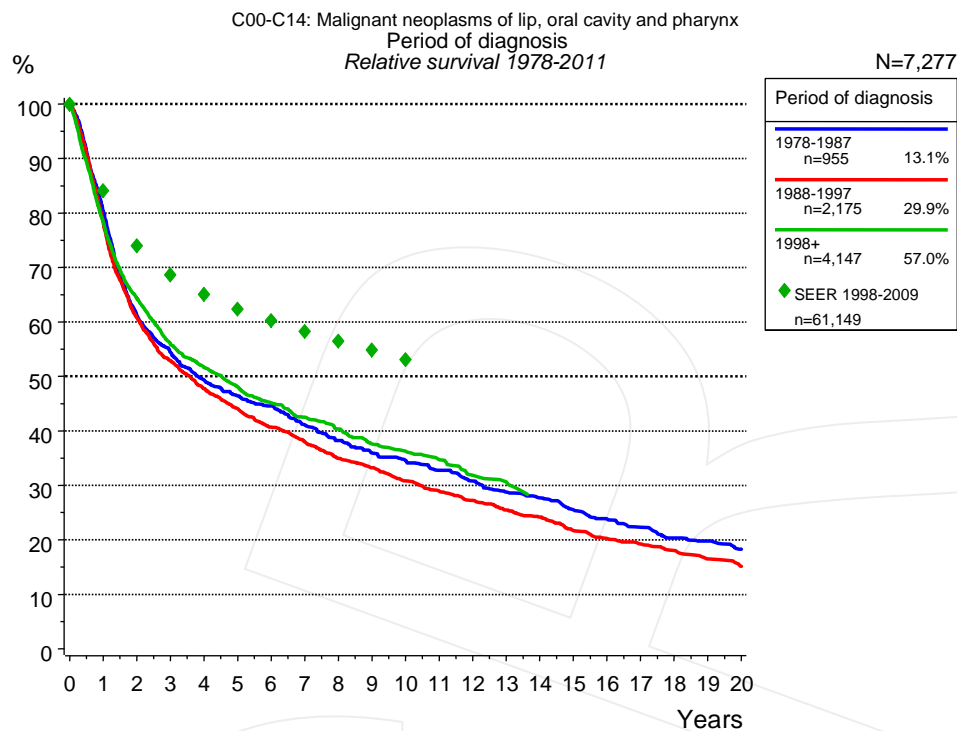


Figure 1a. Relative survival of patients with HN cancer by period of diagnosis. Included in the evaluation are 7,277 cases diagnosed between 1978 and 2011.

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 1998, 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					
	1978-1987 n=955		1988-1997 n=2,175		1998+ n=4,147	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	78.3	80.0	76.6	78.0	76.8	78.2
2	58.7	61.1	58.7	60.7	62.2	64.3
3	51.2	54.4	50.2	52.9	53.2	55.9
4	45.5	49.3	44.5	47.7	48.2	51.6
5	41.9	46.4	40.4	44.1	44.1	48.0
6	39.4	44.6	36.7	40.7	40.7	45.1
7	35.6	41.1	33.6	38.0	37.7	42.5
8	32.4	38.2	30.4	34.9	35.1	40.4
9	29.8	35.9	28.4	33.3	32.1	37.6
10	28.1	34.6	25.9	30.8	30.2	36.3
11	26.0	32.8	23.9	29.0	28.4	34.7
12	24.0	30.8	22.1	27.2	25.6	31.9
13	21.9	28.8	20.2	25.5	23.9	30.6
14	20.6	27.7	18.8	24.2	21.8	27.6
15	18.6	25.5	16.5	21.7		
16	17.0	23.8	15.2	20.2		
17	15.6	22.3	14.1	19.2		
18	13.9	20.3	13.1	18.1		
19	13.2	19.8	11.6	16.5		
20	11.9	18.3	10.5	15.1		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with HN cancer by period of diagnosis for period 1978-2011 (N=7,277).

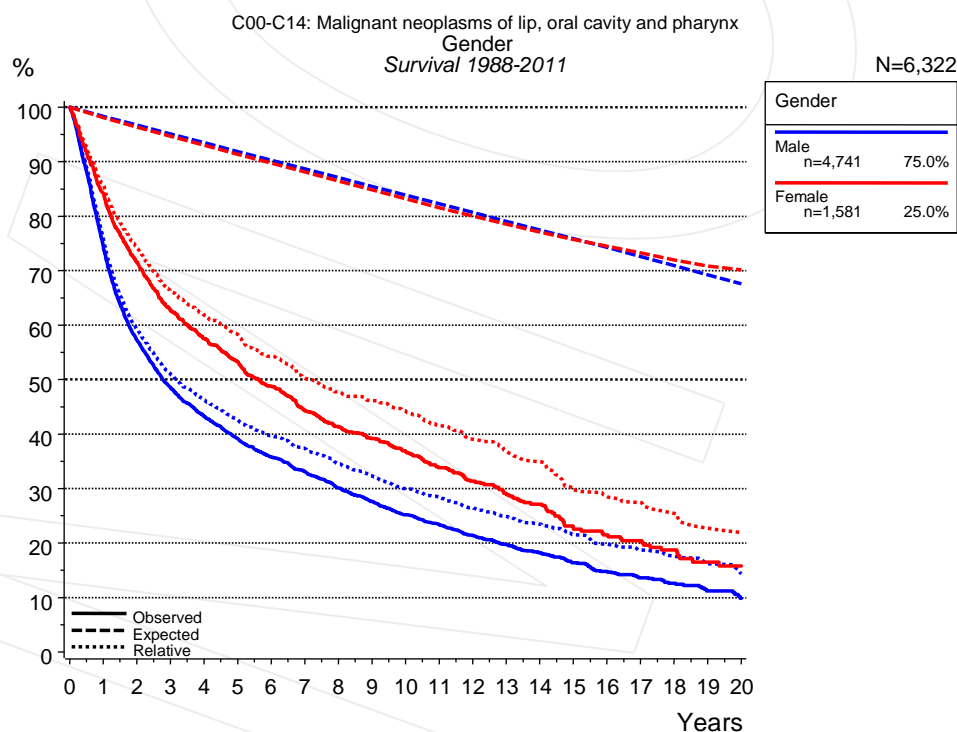


Figure 2a. Survival of patients with HN cancer by gender. Included in the evaluation are 6,322 cases diagnosed between 1988 and 2011.

Years	Gender			
	Male n=4,741		Female n=1,581	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	74.3	75.5	84.1	85.8
2	57.3	59.2	71.6	74.3
3	48.5	51.0	62.7	66.2
4	43.2	46.2	57.5	61.8
5	39.1	42.6	53.2	58.3
6	35.8	39.6	48.8	54.2
7	33.1	37.4	44.4	50.2
8	30.1	34.5	41.3	47.7
9	27.6	32.3	39.2	46.1
10	25.2	30.0	36.8	44.3
11	23.5	28.4	33.8	41.5
12	21.4	26.5	31.3	39.0
13	19.7	24.9	28.9	36.8
14	18.2	23.5	27.1	34.9
15	16.4	21.5	22.5	29.7
16	14.8	19.8	21.5	28.5
17	13.6	18.7	20.4	27.4
18	12.6	17.6	18.7	25.4
19	11.2	16.2	16.5	22.7
20	9.8	14.4	15.8	21.9

Table 2b. Observed (obs.) and relative (rel.) survival of patients with HN cancer by gender for period 1988-2011 (N=6,322).

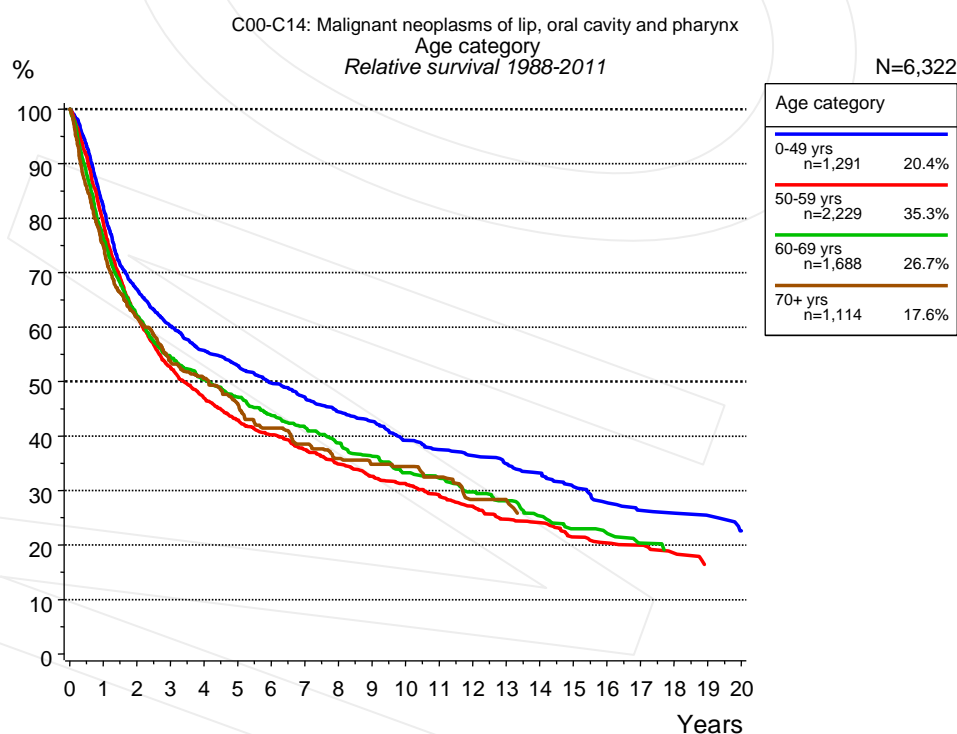


Figure 3a. Relative survival of patients with HN cancer by age category. Included in the evaluation are 6,322 cases diagnosed between 1988 and 2011.

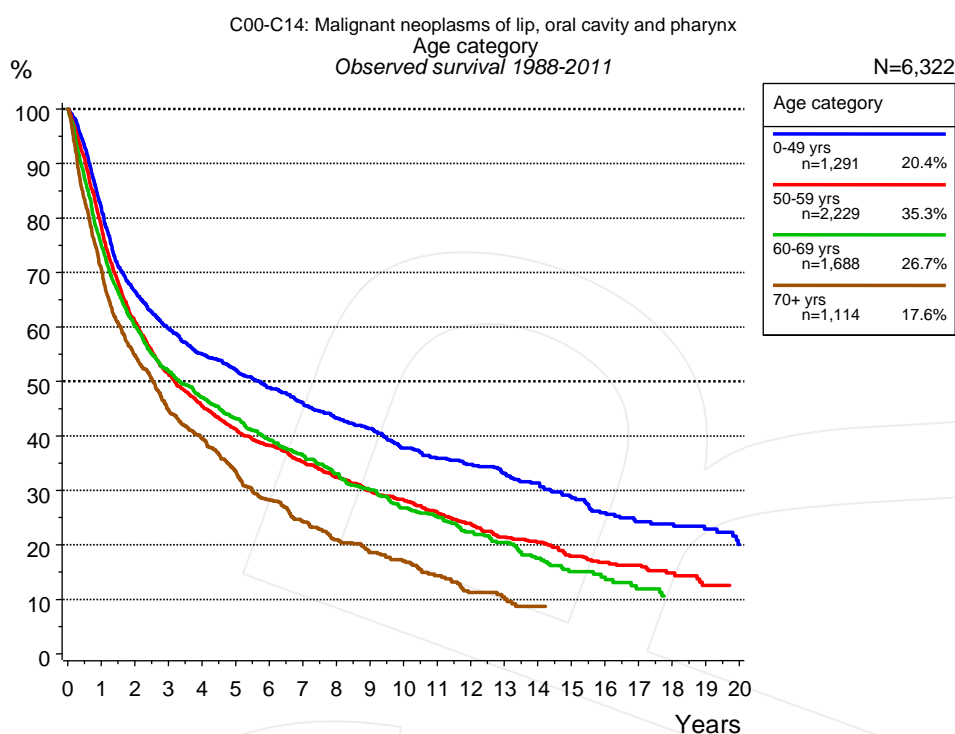


Figure 3b. Observed survival of patients with HN cancer by age category. Included in the evaluation are 6,322 cases diagnosed between 1988 and 2011.

Years	Age category							
	0-49 yrs n=1,291		50-59 yrs n=2,229		60-69 yrs n=1,688		70+ yrs n=1,114	
	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	76.1	70.5	74.9
2	66.6	66.9	61.1	61.9	60.2	62.1	54.8	61.8
3	59.6	60.2	51.4	52.6	51.9	54.4	44.7	53.6
4	55.0	55.7	45.4	46.9	47.0	50.3	39.5	50.6
5	52.1	52.9	41.2	42.9	43.2	47.2	33.5	45.9
6	48.9	49.7	38.2	40.2	39.3	43.8	28.3	41.5
7	46.1	47.2	35.2	37.5	36.5	41.6	24.2	38.5
8	43.2	44.5	32.4	34.9	33.1	38.7	20.9	35.9
9	41.3	42.7	29.9	32.6	30.2	36.3	18.6	34.8
10	37.7	39.2	28.3	31.3	26.8	33.3	17.0	34.4
11	35.9	37.5	26.1	29.1	25.2	32.3	14.3	32.5
12	34.7	36.4	23.9	27.1	22.4	29.7	11.3	28.4
13	33.1	34.9	21.5	24.7	20.4	28.1	10.0	28.3
14	31.3	33.2	20.5	24.1	17.5	25.3	8.7	25.8
15	28.6	30.7	17.9	21.5	15.1	23.0		
16	25.9	27.8	16.8	20.4	14.1	22.1		
17	24.2	26.4	16.3	20.0	11.9	20.3		
18	23.9	25.9	14.8	18.5	10.6	18.2		
19	22.9	25.4	12.6	16.4				
20	20.1	22.6	12.6	16.2				

Table 3c. Observed (obs.) and relative (rel.) survival of patients with HN cancer by age category for period 1988-2011 (N=6,322).

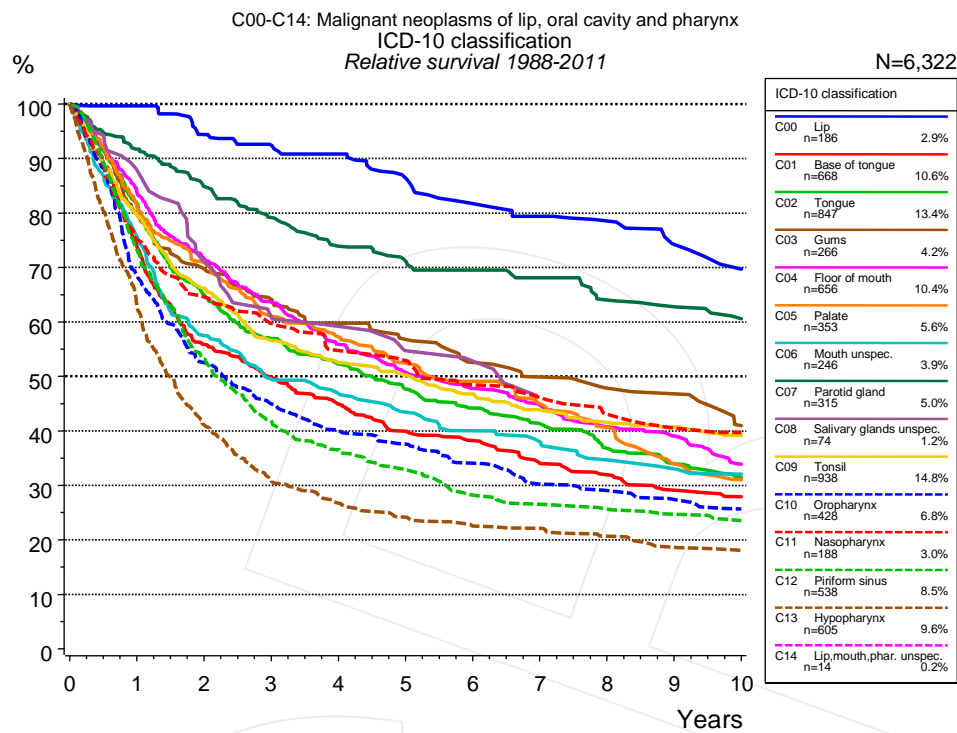


Figure 4a. Relative survival of patients with HN cancer by ICD-10 classification. Included in the evaluation are 6,322 cases diagnosed between 1988 and 2011. Subgroups with sample size <15 are dropped from the chart.

ICD-10 classification														
Years	C00 Lip n=186		C01 Base of tongue n=668		C02 Tongue n=847		C03 Gums n=266		C04 Floor of mouth n=656		C05 Palate n=353		C06 Mouth unspec. n=246	
	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	99.6	72.8	73.9	80.4	81.7	78.0	79.8	82.7	83.9	80.5	81.1	74.1	75.7
2	87.0	94.4	54.3	55.8	62.9	65.0	66.9	69.7	69.8	71.6	69.2	70.8	55.4	57.5
3	82.3	92.5	47.8	49.8	54.2	56.9	60.2	64.2	61.3	63.6	58.7	61.1	46.8	49.5
4	78.5	90.8	42.3	44.9	49.0	52.2	55.0	59.8	53.0	55.9	54.5	57.3	43.4	46.8
5	71.5	86.4	37.1	39.9	44.0	47.7	50.8	56.8	47.8	50.7	49.3	52.4	39.3	43.4
6	65.1	81.7	34.8	38.2	40.2	44.2	45.8	52.6	44.2	47.8	45.4	49.1	35.5	40.0
7	61.7	79.4	30.2	34.0	36.9	41.3	42.7	49.9	41.1	44.8	41.1	45.0	33.3	38.0
8	58.8	78.5	28.1	31.9	32.2	36.8	39.9	47.9	36.7	40.7	36.6	40.6	29.7	34.6
9	53.4	74.2	25.1	29.1	29.3	34.0	38.9	46.8	34.7	39.1	30.0	34.0	27.9	33.0
10	49.7	69.7	23.5	27.9	26.5	31.4	32.8	41.0	29.7	33.9	26.9	31.0	26.5	32.0

ICD-10 classification														
cont'd Years	C07 Parotid gland n=315		C08 Salivary glands unspec. n=74		C09 Tonsil n=938		C10 Oropharynx n=428		C11 Nasopharynx n=188		C12 Piriform sinus n=538		C13 Hypopharynx n=605	
	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	86.1	87.8	78.3	79.7	67.9	68.6	74.5	75.1	72.4	73.2	62.0	62.9
2	80.1	84.8	68.1	71.1	64.0	66.2	51.4	52.5	63.2	64.6	51.9	53.1	40.0	41.1
3	73.0	79.2	58.4	60.8	53.7	56.6	43.3	45.0	57.6	59.8	40.2	41.8	29.8	31.0
4	66.4	73.9	54.9	59.1	49.1	52.6	38.2	40.1	52.3	54.7	34.8	36.5	25.3	26.8
5	62.8	71.2	49.0	54.7	46.2	50.3	35.4	37.5	50.1	52.9	30.8	32.9	22.6	24.1
6	60.3	69.5	47.0	52.8	42.4	46.7	31.6	34.1	44.9	48.4	26.2	28.2	20.6	22.6
7	57.5	68.1	39.8	46.5	39.0	43.8	27.5	30.2	42.4	46.1	24.4	26.5	20.1	22.1
8	52.7	64.0	39.8	46.5	36.4	41.6	26.1	29.1	38.9	43.1	23.2	25.6	18.4	20.7
9	50.7	62.8	39.8	46.5	35.1	40.7	24.3	27.4	35.9	40.5	22.0	24.7	16.4	18.6
10	47.8	60.6	39.8	46.5	33.2	39.2	22.4	25.7	34.7	39.7	20.5	23.5	15.7	18.1

ICD-10 classification		
	C14	
<i>cont'd</i>	Lip,mouth,pha r. unspec. n=14	
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 1988-2011 (N=6,322).

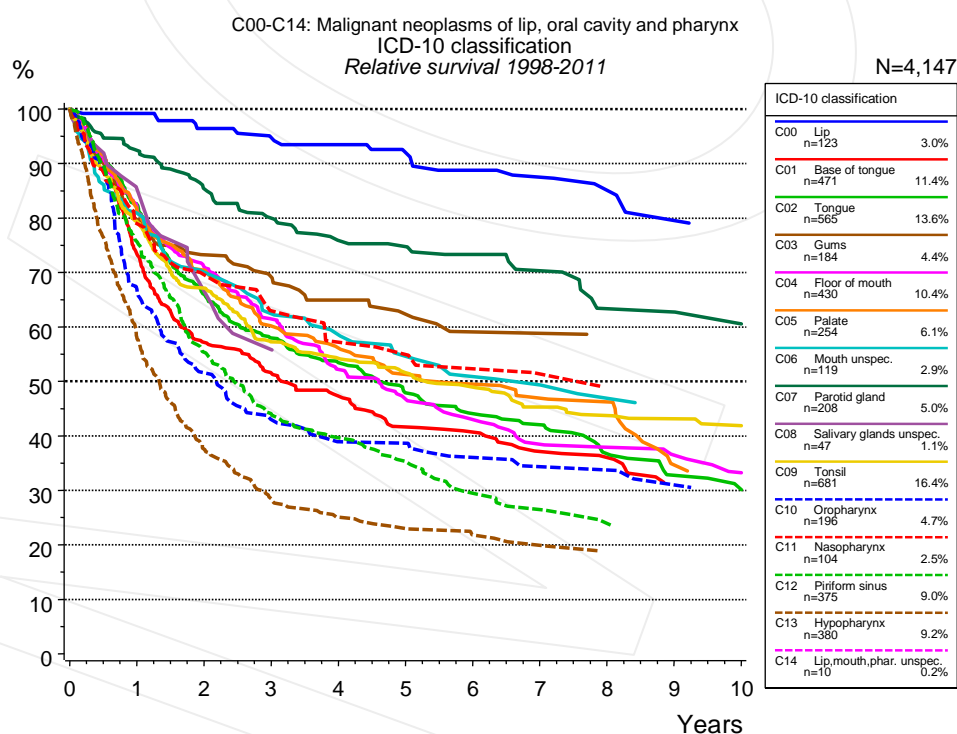


Figure 4c. Relative survival of patients with HN cancer by ICD-10 classification. Included in the evaluation are 4,147 cases diagnosed between 1998 and 2011. Subgroups with sample size <15 are dropped from the chart.

ICD-10 classification														
Years	C00 Lip n=123		C01 Base of tongue n=471		C02 Tongue n=565		C03 Gums n=184		C04 Floor of mouth n=430		C05 Palate n=254		C06 Mouth unspec. n=119	
	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	97.5	99.2	72.2	73.3	81.3	82.5	78.1	79.7	80.8	81.9	80.8	81.2	78.6	80.8
2	88.7	96.4	55.6	57.2	64.1	66.0	70.0	73.2	69.3	71.0	69.0	70.4	67.0	70.0
3	83.9	94.7	49.3	51.5	55.4	58.0	65.3	69.1	59.1	61.5	57.8	60.1	58.7	62.4
4	81.9	93.4	44.4	47.3	50.3	53.4	59.9	64.9	49.7	52.2	53.5	56.1	54.1	58.5
5	75.7	92.0	38.6	41.6	44.5	47.9	56.5	62.3	44.4	46.7	48.3	51.3	48.9	54.6
6	71.1	88.7	37.0	40.7	40.4	44.1	52.3	59.1	39.8	43.0	45.9	49.5	44.3	50.9
7	67.5	87.5	33.0	37.2	38.2	42.0	52.3	58.9	35.5	38.5	43.1	46.9	42.7	49.4
8	63.3	85.0	31.5	36.0	32.8	36.7	49.7	57.8	34.1	37.9	42.2	46.2	39.1	46.9
9	58.4	79.5	26.7	31.3	28.6	32.7	49.7	55.0	32.3	36.4	30.7	34.6	36.9	45.8
10			26.7	30.4	25.6	30.1			29.0	33.2	29.4	33.0	36.9	45.2

ICD-10 classification														
Years	C07 Parotid gland n=208		C08 Salivary glands unspec. n=47		C09 Tonsil n=681		C10 Oropharynx n=196		C11 Nasopharynx n=104		C12 Piriform sinus n=375		C13 Hypopharynx n=380	
	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	92.4	84.7	85.4	78.1	79.4	66.6	66.9	78.2	78.9	74.7	75.5	56.9	57.8
2	80.5	85.3	65.2	66.6	65.0	67.1	50.7	51.6	68.4	69.6	54.0	55.3	36.7	37.5
3	73.8	79.9	57.0	55.8	54.5	57.3	41.6	43.0	60.9	62.9	42.3	43.9	27.5	28.4
4	68.2	75.9	53.7	54.7	50.9	54.2	37.2	38.9	55.0	57.2	37.9	39.7	23.7	25.1
5	66.5	74.8	53.7	53.6	47.5	51.6	37.2	38.6	53.4	54.9	32.8	35.3	21.7	23.0
6	63.5	73.3			44.9	48.9	33.9	36.1	49.8	52.3	27.5	29.5	19.9	21.8
7	59.6	70.3			40.5	45.3	31.8	34.4	47.4	51.3	24.6	26.4	18.6	19.9
8	52.0	63.3			38.7	43.7	31.8	33.7	44.5	48.9	21.9	23.9	16.8	18.7
9	52.0	62.7			37.5	43.1	28.9	31.0	44.5	47.3	20.9	23.1		
10	49.8	60.6			35.9	41.9	27.1	29.3	44.5	45.6	20.9	22.7		

ICD-10 classification

C14		
<i>cont'd</i> Lip, mouth, pharynx unspec. n=10		
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 1998-2011 (N=4,147).

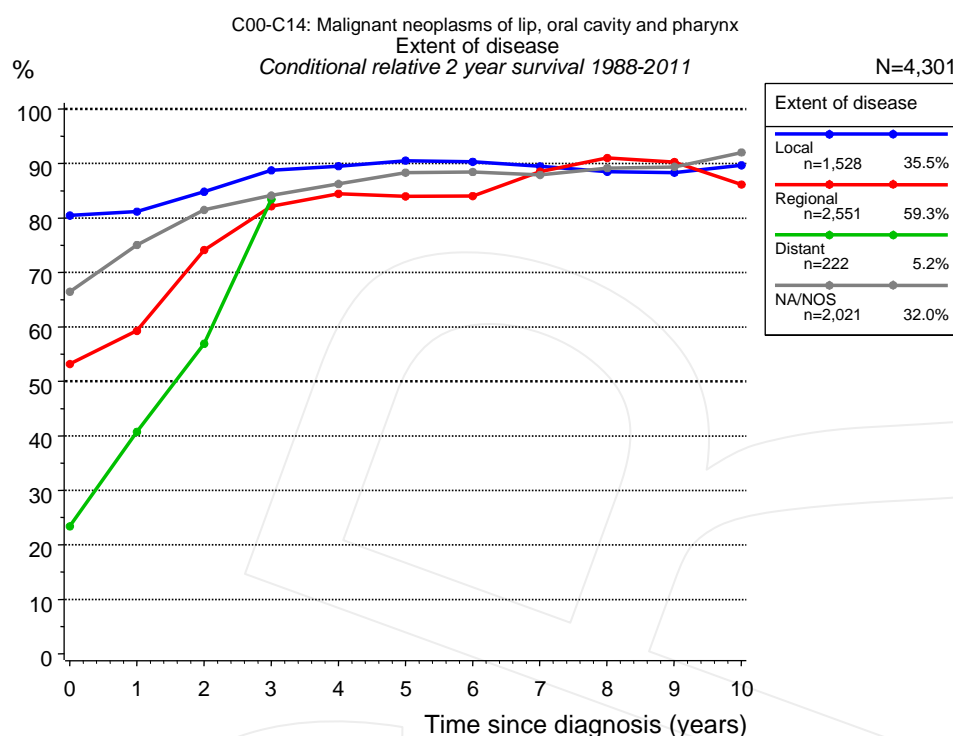


Figure 4e. Conditional relative 2-year survival of patients with HN cancer by extent of disease. For 5,802 of 6,322 cases diagnosed between 1988 and 2011 valid data could be obtained for this item. For a total of 4,301 cases an evaluable classification was established. The grey line represents the subgroup of 2,021 patients with missing values regarding extent of disease (32.0% of 6,322 patients, the percent values of all other categories are related to n=4,301).

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	1,528	80.4	2,551	53.2	222	23.4	2,021	66.5
1	1,288	81.2	1,764	59.3	75	40.7	1,486	75.1
2	1,052	84.8	1,161	74.1	45	56.9	1,145	81.5
3	873	88.7	860	82.2	26	83.4	926	84.1
4	741	89.5	702	84.4			731	86.2
5	635	90.5	571	84.0			581	88.3
6	545	90.3	462	84.0			479	88.5
7	489	89.5	373	88.5			402	87.9
8	425	88.5	311	91.0			330	89.2
9	372	88.3	270	90.3			261	89.4
10	307	89.7	225	86.1			196	92.0

Table 4f. Conditional relative 2-year survival of patients with HN cancer by extent of disease for period 1988-2011 (N=4,301).

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 88.7% (n=873).

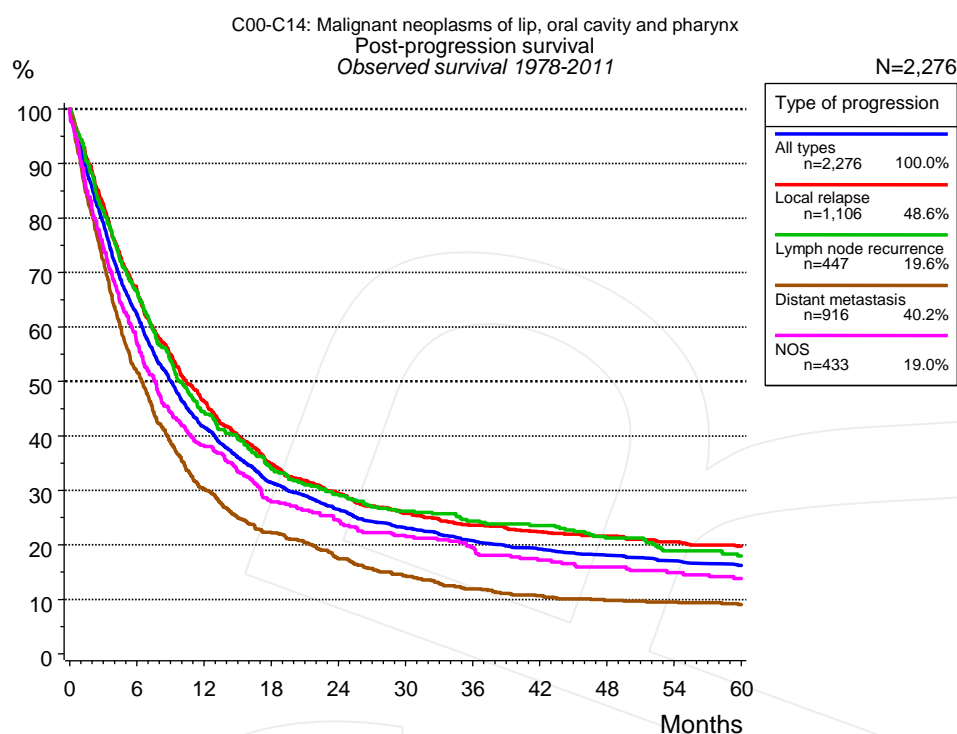


Figure 5a. Observed post-progression survival of 2,276 patients with HN cancer diagnosed between 1978 and 2011 (incl. M1). These 2,276 patients with documented progression events during their course of disease represent 31.3% of the totally 7,277 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=935, 12.8%). 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=2,276 %	Local relapse n=1,106 %	Lymph node recurrence n=447 %	Distant metastasis n=916 %	NOS n=433 %
0	100.0	100.0	100.0	100.0	100.0
12	41.6	46.3	44.5	30.3	38.0
24	26.5	29.4	29.2	17.4	24.6
36	20.7	23.6	24.4	11.9	19.5
48	18.0	21.6	21.3	9.8	15.9
60	16.2	19.7	18.0	9.0	13.8

Table 5b. Observed post-progression survival of patients with HN cancer for period 1978-2011 (N=2,276).

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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