Munich Cancer Registry

- Survival
- Selection Matrix
- Homepage

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

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

Cancer statistics: Baseline statistics

C01.9, C05.1, C05.2, C09, C10: Oropharynx cancer

Year of diagnosis	1998-2012
Patients	2,526
Diseases	2,547
Creation date	03/20/2014
Export date	02/12/2014
Population	4.5 m

http://www.tumorregister-muenchen.de/en/facts/base/base_C0910E.pdf

Global Statements about the statistics on the Internet − Baseline Statistics (grey button), Survival (red button)

In these analyses, the clinics and physicians of Upper Bavaria and the city and county of Landshut[#], with a total of 4.5 million inhabitants, account for the frequency of cancer diseases[##] and the achieved long term results. Additionally, the long term survival evaluated by the Munich Cancer Registry (MCR) is compared with the results of the population-based registry in the USA (SEER), which is useful for checking the consistency of the data on an international level.

In comparing several tables, inconsistent figures may be detected. This is based on the fact that different patient cohorts are included in the base calculation, for example when proportions of multiple tumors or DCO-cases[###] are concerned. In other cases the individual tumor diagnosis is the basis for calculation, for example with incidence.

The foot notes describe the currentness of the data. The baseline statistics and survival data are updated annually. This yearly analysis comprises the Annual Report of the MCR. The time-delayed acquisition of data and the occasionally high DCO-rates indicate optimizing reserves, among others, because of current financial and legal conditions that hinder the analyses.

Clinics and physicians have access to essentially more detailed data, with which they can check, compare and in the best case optimize their own data and results.

We would be pleased to receive corrections, critique and useful suggestions. Just send an e-mail to tumor@ibe.med.uni-muenchen.de.

Munich Cancer Registry, March 2014

[#] Base data has been collected since 1998. An increase in new diseases is apparent, which is an effect of two extensions in the MCR catchment area (from a base population of 2.51 million to 3.96 in 2002, and to 4.52 million in 2007). Death certificates from 2013 are incorporated into these analyses.

[##] Due to the high frequency and good prognosis of non-malignant skin cancer (C44), no systematic ascertainment is performed for this diagnosis. C44 is not designated as a primary, but rather as a secondary tumor.

[###] DCO (death certificate only) identifies a cancer case that first becomes available to the MCR through the death certificate. A high proportion of DCO cases (≥5%) in particular cancer types indicate insufficient participation of specific cancer specializations.

Some remarks regarding this cancer type

As a general rule, these few results from the TRM form the basis of sophisticated analyses. For head and neck tumors this is not the case. Therefore the results for head and neck tumors should be interpreted with caution. In part this is due to problems of classification because of limited specific details of locality. Additionally, with advanced tumors in a close topographic location it is often not possible to determine the exact ICD localization of a tumor.

ICD-10 codes used for specifying cancer site

ICD-10	Description
C01	Base of tongue
C05.1	Soft palate
C05.2	Uvula
C09	Tonsil
C10	Oropharynx excl. topography code C10.1 Anterior surface of epiglottis

INCIDENCE

Table 1

Patient cohorts by year of diagnosis including DCO cases and multiple primaries, and with proportion of deaths and active follow-up

Year of diagnosis	Cases n	DCO cases n	Prop. DCO %	Prop. mult. primaries %	Prop. deaths %	Prop. actively followed %	
1998	105	3	2.9	25.7	81.9	100.0	
1999	121			20.7	80.2	100.0	
2000	93	1	1.1	33.3	78.5	98.9	
2001	98	5	5.1	37.8	75.5	95.9	
2002	164	9	5.5	34.1	67.1	99.4	#
2003	196	8	4.1	36.2	74.5	98.5	#
2004	177	7	4.0	25.4	70.6	97.2	#
2005	198	8	4.0	32.8	61.6	96.5	#
2006	182	1	0.5	27.5	61.0	96.2	#
2007	196	12	6.1	26.5	52.6	87.8	# ##
2008	218	5	2.3	30.3	56.0	81.2	
2009	215	2	0.9	32.6	54.0	83.3	
2010	209	4	1.9	25.4	44.5	78.9	
2011	214	8	3.7	27.6	35.0	79.9	
2012	161	7	4.3	22.4	19.3	94.4	###
1998-2012	2547	80	3.1	29.2	58.3	91.2	

\# The increases of incident cases in 2002 and 2007 reflect the expansion to additional registry areas.

Since 2007 the percentage of actively followed patients sharply declined compared to the previous years. This is a consequence of ambiguous data protection rules that currently forbid cancer registries in Bavaria to obtain the essential life status informations from competent registration offices.

Please be aware that data of recent annual patient cohorts may not yet be fully processed. Therefore, the presented figures and tables are potentially related to different time periods as pointed out in the respective headlines or legends.

Table 1a

Patient cohorts by year of diagnosis and gender
including DCO cases

Year of diagnosis	All n	Males n	Females n	Prop. males %
1998	105	83	22	79.0
1999	121	98	23	81.0
2000	93	65	28	69.9
2001	98	75	23	76.5
2002	164	130	34	79.3
2003	196	146	50	74.5
2004	177	144	33	81.4
2005	198	153	45	77.3
2006	182	134	48	73.6
2007	196	154	42	78.6
2008	218	158	60	72.5
2009	215	158	57	73.5
2010	209	156	53	74.6
2011	214	163	51	76.2
2012	161	124	37	77.0
1998-2012	2547	1941	606	76.2

Table 2

Incidence measures by year of diagnosis and gender including DCO cases
(with respect to registry area expansion from 2.51 to 3.96 m as of 2002,
and from 3.96 to 4.52 m as of 2007, respectively)

Year of diagnosis	Males n	Females n	Males Inc. raw	Fem. Inc. raw	Males Inc. WS	Fem. Inc. WS	Males Inc. ES	Fem. Inc. ES	Males Inc. BRD-S	Fem. Inc. BRD-S
1998	83	22	7.5	1.9	5.2	1.1	6.8	1.6	7.2	1.7
1999	98	23	8.8	1.9	5.8	1.2	7.8	1.6	8.3	1.8
2000	65	28	5.7	2.3	3.7	1.5	5.1	2.0	5.8	2.2
2001	75	23	6.5	1.9	4.4	1.1	6.0	1.5	6.6	1.7
2002	130	34	7.0	1.7	4.6	1.1	6.3	1.4	6.7	1.6
2003	146	50	7.8	2.5	5.0	1.5	7.0	2.1	7.6	2.3
2004	144	33	7.7	1.7	4.8	0.9	6.6	1.3	7.3	1.5
2005	153	45	8.1	2.3	5.3	1.3	7.2	1.8	7.6	2.0
2006	134	48	7.0	2.4	4.4	1.6	6.2	2.1	6.8	2.3
2007	154	42	7.0	1.8	4.3	1.1	6.0	1.5	6.7	1.6
2008	158	60	7.1	2.6	4.3	1.4	6.1	2.0	6.8	2.2
2009	158	57	7.1	2.5	4.4	1.4	6.1	2.0	6.8	2.2
2010	156	53	6.9	2.3	4.1	1.4	5.7	1.9	6.4	2.0
2011	163	51	7.1	2.2	4.2	1.2	5.8	1.7	6.6	1.9
2012	124	37	5.4	1.6	3.3	0.9	4.5	1.2	5.0	1.4
1998-2012	1941	606	7.1	2.1	4.4	1.2	6.1	1.7	6.7	1.9

The computation of the incidence measures includes all primaries, irrespective of first or subsequent malignancy.

Table 3

Age distribution parameters by year of diagnosis (All)
(incl. DCO)

Year of diagnosis	Cases n	Mean	Std. dev.	Min.	Max.	10%	25%	Median 50%	75%	90%
1998	105	56.7	11.3	0.9	83.1	44.9	50.8	56.4	62.6	71.0
1999	121	58.3	10.3	37.1	91.7	47.1	51.3	57.6	63.6	72.6
2000	93	60.0	10.5	35.6	89.6	48.0	52.4	59.1	66.9	74.1
2001	98	59.3	11.1	28.7	92.5	48.3	51.6	57.6	65.2	74.6
2002	164	58.8	9.7	36.7	96.8	47.4	53.1	58.3	62.9	72.1
2003	196	60.7	9.6	38.3	87.5	49.9	54.3	59.4	65.9	75.0
2004	177	61.1	10.0	38.3	85.5	48.0	54.8	60.8	67.0	75.4
2005	198	60.6	10.3	4.1	103	49.9	54.4	60.7	65.5	71.8
2006	182	59.9	11.0	19.0	90.3	46.7	51.8	59.3	66.8	74.7
2007	196	60.8	11.0	35.2	91.6	47.6	52.8	60.3	68.4	74.8
2008	218	63.4	9.9	38.3	91.8	50.1	57.3	62.4	69.1	77.0
2009	215	62.7	11.0	26.7	95.5	50.1	55.5	61.7	69.6	76.5
2010	209	62.8	9.8	37.1	92.1	49.5	55.5	63.1	69.2	75.9
2011	214	63.2	10.5	40.0	93.8	49.9	54.9	62.6	70.6	76.4
2012	161	61.8	9.8	39.8	83.9	49.3	54.3	61.7	68.4	75.3
1998-2012	2547	61.0	10.5	0.9	103	48.5	53.9	60.3	67.6	75.1

Table 3a

Age distribution parameters by year of diagnosis (MALES)
(incl. DCO)

Year of diagnosis	Cases n	Mean	Std. dev.	Min.	Max.	10%	25%	Median 50%	75%	90%
1998	83	56.1	11.2	0.9	81.1	44.4	50.3	56.4	62.6	70.7
1999	98	57.0	9.2	37.1	85.7	46.4	50.9	56.4	62.4	68.2
2000	65	60.4	10.6	35.6	89.6	49.1	52.5	59.1	66.9	74.1
2001	75	57.9	9.8	28.7	85.1	47.0	51.6	57.2	63.6	71.2
2002	130	58.4	9.1	36.7	96.8	47.3	52.9	58.3	62.9	69.7
2003	146	59.8	9.2	38.3	87.5	48.1	53.8	59.2	65.5	73.2
2004	144	60.5	9.8	38.3	85.5	47.9	54.5	60.6	66.2	73.8
2005	153	60.0	9.8	4.1	87.1	49.9	54.4	60.5	65.3	70.7
2006	134	60.7	10.2	38.7	86.7	47.2	52.7	59.5	66.9	74.7
2007	154	61.0	10.7	37.1	91.6	47.7	53.0	61.0	68.7	74.7
2008	158	62.9	9.6	38.3	87.0	50.0	57.3	62.2	68.8	76.3
2009	158	62.5	10.3	26.7	90.7	50.1	56.6	62.0	68.6	75.7
2010	156	63.1	10.1	38.0	92.1	49.5	56.0	63.5	69.8	76.2
2011	163	63.0	10.4	40.0	89.2	49.8	54.2	62.6	70.5	76.4
2012	124	61.2	9.8	39.8	83.9	48.8	53.6	61.3	67.8	75.0
1998-2012	1941	60.7	10.1	0.9	96.8	48.3	53.6	60.2	66.9	74.2

Table 3b

Age distribution parameters by year of diagnosis (FEMALES)
(incl. DCO)

Year of diagnosis	Cases n	Mean	Std. dev.	Min.	Max.	10%	25%	Median 50%	75%	90%
1998	22	59.0	11.6	31.1	83.1	50.8	52.7	56.6	66.0	77.8
1999	23	63.9	12.6	41.9	91.7	48.7	52.1	65.1	74.5	77.9
2000	28	59.0	10.6	38.5	79.7	45.2	51.3	58.8	66.5	74.9
2001	23	64.0	13.7	41.3	92.5	49.6	50.6	63.0	74.5	83.0
2002	34	60.3	11.9	37.3	81.7	47.6	53.3	58.0	68.0	78.9
2003	50	63.3	10.3	43.7	84.2	52.7	55.8	61.3	71.7	79.0
2004	33	63.4	10.4	44.7	82.5	50.9	55.9	60.9	69.3	77.8
2005	45	62.8	11.7	44.9	103	50.2	55.8	61.1	66.5	79.3
2006	48	57.8	12.9	19.0	90.3	45.4	49.6	57.6	65.0	72.5
2007	42	60.3	12.3	35.2	89.4	47.5	50.5	57.9	68.1	76.0
2008	60	64.7	10.5	45.6	91.8	51.1	57.4	65.0	69.5	80.7
2009	57	63.4	12.8	41.0	95.5	49.6	54.7	59.9	71.8	83.1
2010	53	61.9	9.2	37.1	85.1	49.5	55.0	62.8	68.1	72.6
2011	51	63.7	10.8	41.0	93.8	53.4	55.9	63.3	70.9	75.6
2012	37	64.0	9.6	44.8	82.9	53.1	56.3	64.4	71.7	76.4
1998-2012	606	62.3	11.4	19.0	103	49.3	54.2	60.8	69.4	77.9

Table 4

Age distribution by 5-year age group and gender for period 1998-2012 (incl. DCO)

Age at diagnosis Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
0-4	2	0.1	0.1	2	0.1	0.1			0.0
5-9	0	0.0	0.1			0.1			0.0
10-14	0	0.0	0.1			0.1			0.0
15-19	1	0.0	0.1			0.1	1	0.2	0.2
20-24	0	0.0	0.1			0.1			0.2
25-29	2	0.1	0.2	2	0.1	0.2			0.2
30-34	2	0.1	0.3	1	0.1	0.3	1	0.2	0.3
35-39	26	1.0	1.3	21	1.1	1.3	5	0.8	1.2
40-44	83	3.3	4.6	68	3.5	4.8	15	2.5	3.6
45-49	228	9.0	13.5	175	9.0	13.9	53	8.7	12.4
50-54	396	15.5	29.1	302	15.6	29.4	94	15.5	27.9
55-59	502	19.7	48.8	383	19.7	49.1	119	19.6	47.5
60-64	473	18.6	67.3	378	19.5	68.6	95	15.7	63.2
65-69	340	13.3	80.7	259	13.3	82.0	81	13.4	76.6
70-74	235	9.2	89.9	182	9.4	91.3	53	8.7	85.3
75-79	139	5.5	95.4	99	5.1	96.4	40	6.6	91.9
80-84	74	2.9	98.3	43	2.2	98.7	31	5.1	97.0
85+	44	1.7	100.0	26	1.3	100.0	18	3.0	100.0
All ages	2547	100.0		1941	100.0		606	100.0	

Included in the statistics are 37.4% multiple primaries in males and 34.1% in females.

Table 5

Age-specific incidence, DCO rate and proportion of all cancers
for period 1998-2012

Age at diagnosis Years	Males n	Females n	Males Age-spec. incid.	Females Age-spec. incid.	Males DCO rate n=61 %	Females DCO rate n=19 %	Males Prop.all cancers n=146755 %	Females Prop.all cancers n=142297 %
0- 4	2		0.1	0.0	50.0		0.7	
5- 9			0.0	0.0				
10-14			0.0	0.0				
15-19		1	0.0	0.1				0.4
20-24			0.0	0.0				
25-29	2		0.1	0.0			0.2	
30-34	1	1	0.0	0.0			0.1	0.1
35-39	20	5	0.9	0.2			0.9	0.1
40-44	68	15	2.8	0.7		6.7	2.3	0.3
45-49	174	52	8.1	2.5	2.9		3.5	0.7
50-54	302	91	16.3	4.8	1.7	1.1	3.8	0.9
55-59	381	117	22.4	6.6	1.8	0.9	2.8	0.9
60-64	375	94	22.8	5.4	2.7	1.1	1.8	0.6
65-69	257	81	17.5	5.1	3.5		1.0	0.5
70-74	182	53	15.7	3.8	4.4	7.5	0.7	0.3
75-79	99	40	13.1	3.7	8.1	5.0	0.5	0.2
80-84	43	31	9.5	3.6	4.7	12.9	0.3	0.2
85+	26	18	8.4	2.2	23.1	27.8	0.3	0.1
All ages	1932	599			3.2	3.2	1.3	0.4
Incidence								
Raw			7.0	2.1				
WS			4.4	1.2				
ES			6.1	1.7				
BRD-S			6.7	1.9				

The age-specific incidence characterizes the disease risk in a particular age group. The age distribution depends on the patient population frequency in each age group and reflects the tangible clinical picture of everyday patients care (see following chart).

Table 6a

Standardized incidence ratio (SIR, with 95% confidence limits), excess absolute risk (EAR) and DCO rate of second primaries for period 1998-2012
MALES

Diagnosis		Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C03-C06	Oral cavity	23	0.7	34.0	21.5	51.0	#	50.8	8.7
C09-C10	Oropharynx	11	0.9	12.3	6.2	22.1	#	23.0	
C12-C13	Hypopharynx	14	0.5	28.0	15.3	47.0	#	30.7	7.1
C15	Oesophagus	33	1.2	28.6	19.7	40.2	#	72.5	33.3
C16	Stomach	6	2.0	3.0	1.1	6.4	#	9.0	16.7
C18	Colon	10	4.9	2.1	1.0	3.8		11.7	10.0
C19-C20	Rectum	3	3.3	0.9	0.2	2.7		-0.6	
C22	Liver	9	1.5	5.9	2.7	11.3	#	17.0	22.2
C25	Pancreas	7	1.8	3.8	1.5	7.9	#	11.8	42.9
C30-C31	Sinuses	2	0.1	20.6	2.5	74.5	#	4.3	
C32	Larynx	23	0.7	32.0	20.3	48.1	#	50.7	39.1
C33-C34	Lung	49	6.7	7.3	5.4	9.7	#	96.4	10.2
C43	Malign. melanoma	4	2.4	1.7	0.5	4.4		3.8	
C61	Prostate	18	15.9	1.1	0.7	1.8		4.8	
C64	Kidney	5	2.1	2.4	0.8	5.7		6.7	
C67	Bladder	5	2.0	2.5	0.8	5.8		6.8	20.0
C73	Thyroid	2	0.5	4.0	0.5	14.6		3.4	
C76-C79	CUP	2	0.9	2.2	0.3	8.1		2.5	
C82-C85	NHL	3	2.1	1.5	0.3	4.2		2.1	
C91-C96	Leukaemia	4	0.8	5.3	1.4	13.6	#	7.4	50.0
Other primaries		8	2.5	3.2	1.4	6.2	#	12.5	12.5
Not observed		0	2.0	0.0	0.0	1.8		-4.6	
All mult. primaries		241	55.3	4.4	3.8	4.9	#	422.9	16.2

Patients	1408
Mean age at second malignancy (years)	62.6
Person-years	4391
Mean observation time (years)	3.1
Median observation time (years)	1.8

The occurrence of second malignancy is statistically significant.

Observed second primaries with count 1 are pooled in category "Other primaries".

Table 6b

Standardized incidence ratio (SIR, with 95% confidence limits), excess absolute risk (EAR) and DCO rate of second primaries for period 1998-2012
FEMALES

Diagnosis	Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C03-C06 Oral cavity	5	0.1	46.9	15.2	109.4	#	30.8	
C09-C10 Oropharynx	5	0.1	57.8	18.8	134.9	#	30.9	
C12-C13 Hypopharynx	6	0.0	261.8	96.1	569.9	#	37.6	
C15 Oesophagus	9	0.1	95.8	43.8	181.9	#	56.0	
C16 Stomach	2	0.5	4.1	0.5	14.7		9.5	
C18 Colon	5	1.4	3.6	1.2	8.4	#	22.7	
C19-C20 Rectum	3	0.7	4.6	0.9	13.5		14.8	
C32 Larynx	6	0.0	176.6	64.8	384.3	#	37.5	16.7
C33-C34 Lung	15	1.2	12.8	7.2	21.2	#	87.0	20.0
C50 Breast	4	5.3	0.8	0.2	1.9		-8.1	25.0
C53 Cervix uteri	4	0.2	16.5	4.5	42.3	#	23.6	
C56 Ovary	2	0.7	3.0	0.4	11.0		8.4	50.0
Other primaries	8	3.5	2.3	1.0	4.5		28.5	
Not observed	0	2.1	0.0	0.0	1.7		-13.4	
All mult. primaries	74	15.8	4.7	3.7	5.9	#	365.7	8.1

Patients	435
Mean age at second malignancy (years)	64.2
Person-years	1590
Mean observation time (years)	3.7
Median observation time (years)	2.6

The occurrence of second malignancy is statistically significant.

Observed second malignancies with count 1 are pooled in category "Other primaries".

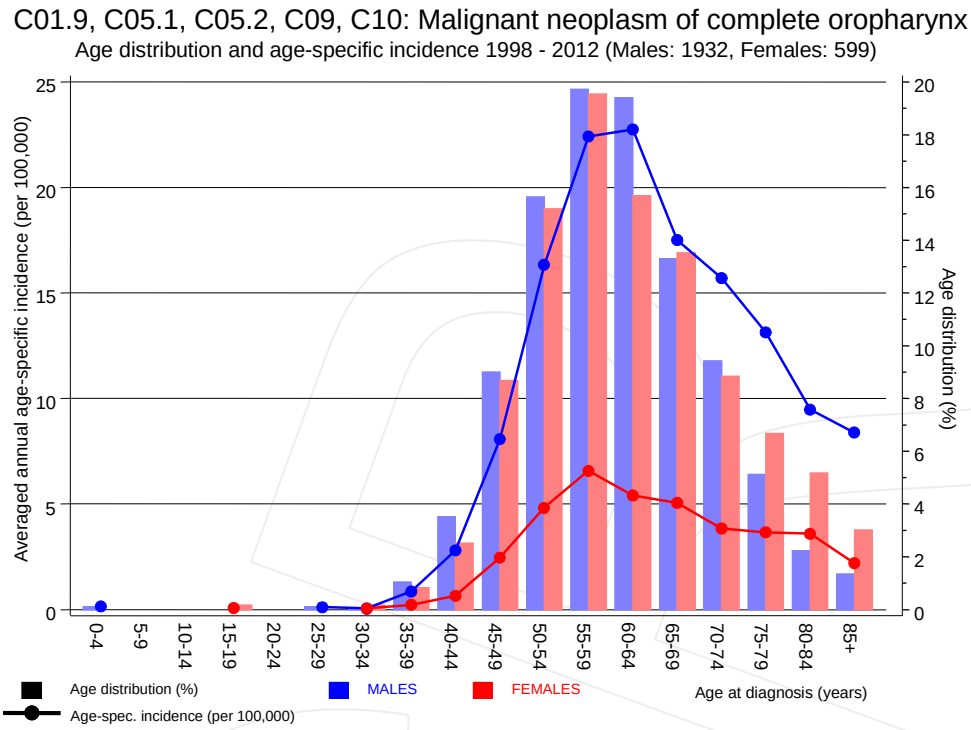


Figure 7. Age distribution and age-specific incidence

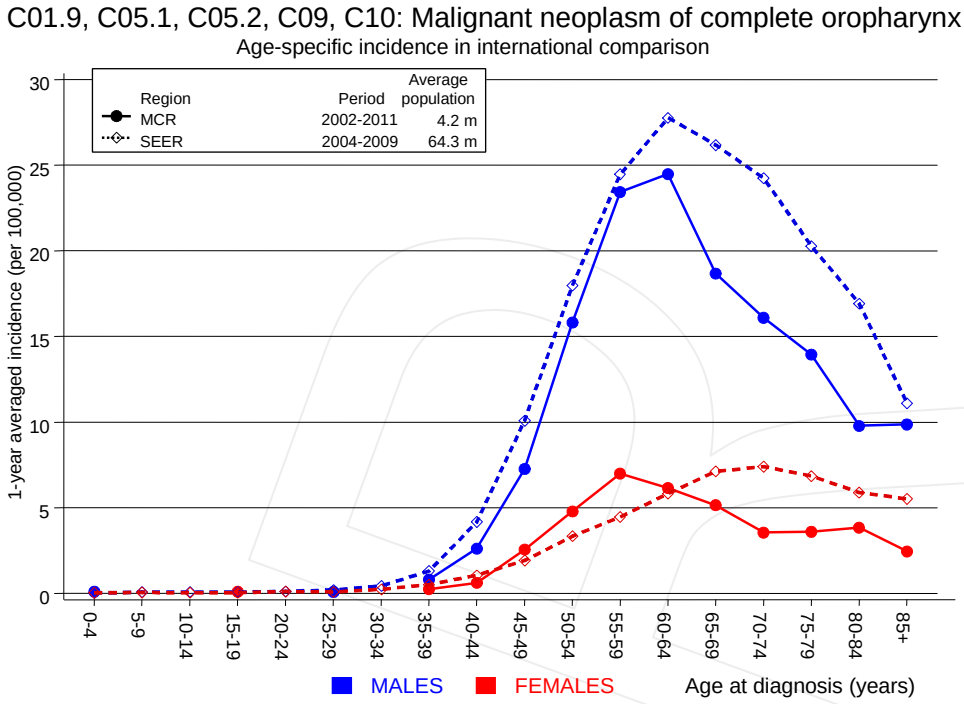


Figure 7a. Age-specific incidence in MCR registry areas compared to SEER (Surveillance, Epidemiology, and End Results, USA).

Reference:

Surveillance, Epidemiology, and End Results (SEER) Program SEER*Stat Database: Incidence - SEER 18 Regs Research Data, released April 2012, based on the November 2011 submission. http://www.seer.cancer.gov.

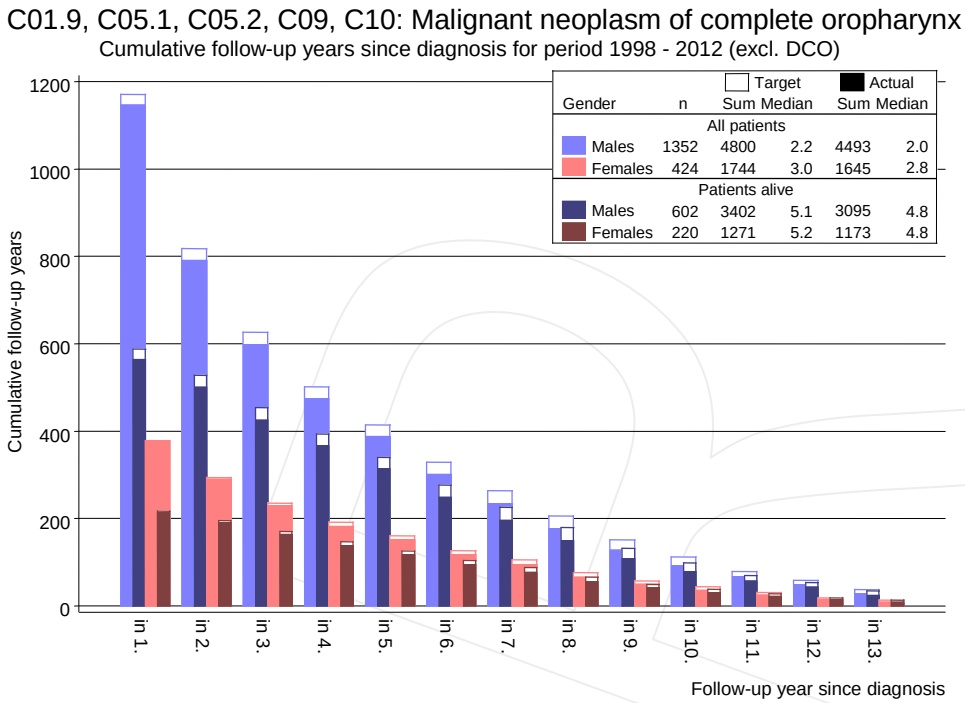
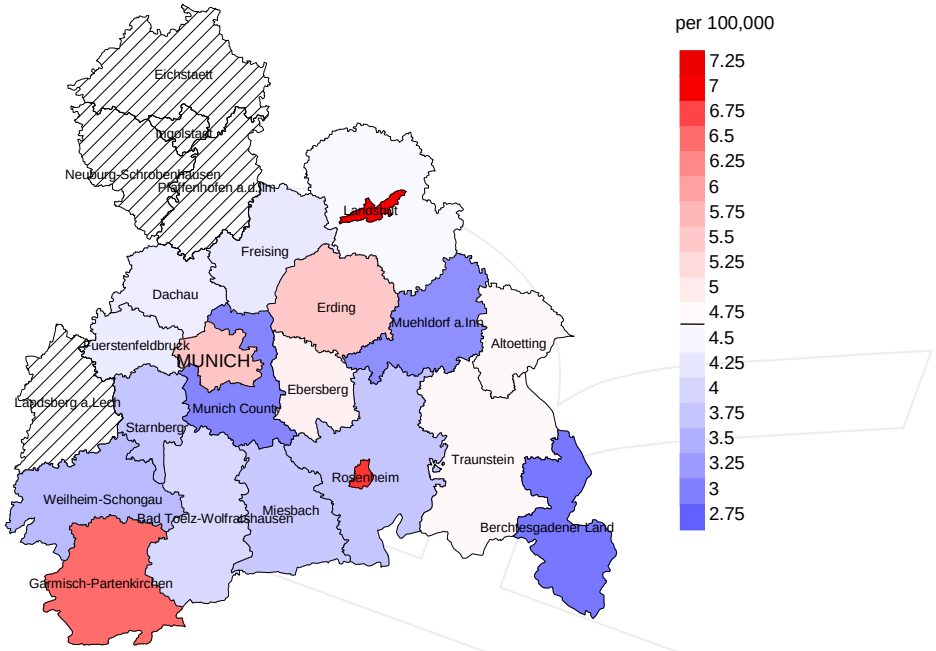


Figure 8. Cumulative follow-up years depending on time since diagnosis

The increase of the lost to follow-up rate can be interpreted as a consequence of a declining number of survivors over time.

Average incidence (world standard population) 2003 - 2008: Males



Average incidence (world standard population) 2003 - 2008: Females

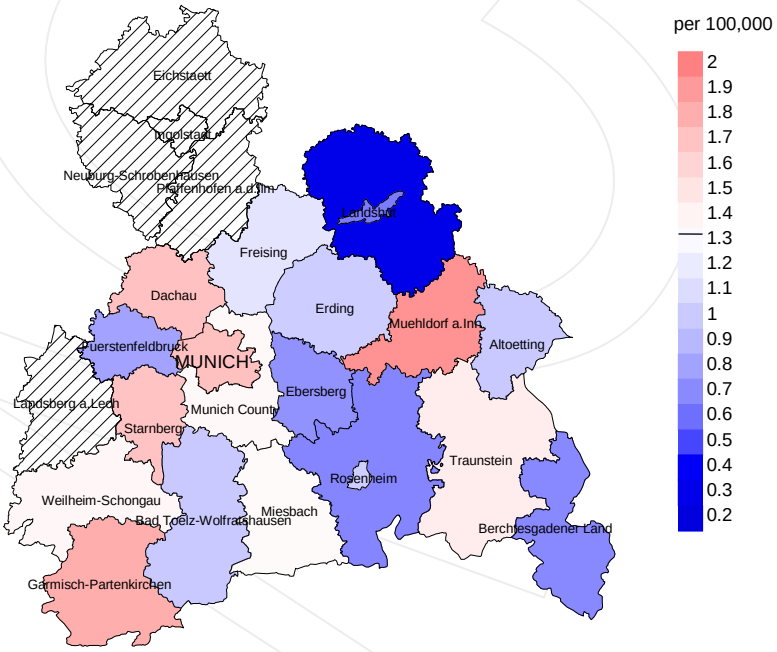
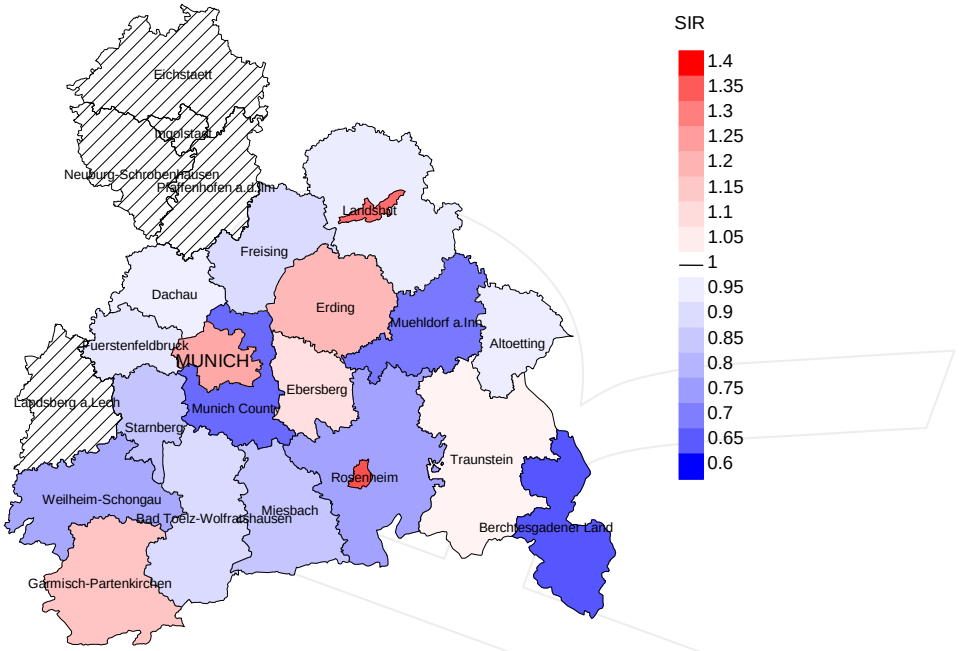


Figure 9a. Map of cancer incidence (world standard population, incl. DCO cases) by county averaged for period 2003 to 2008. According to their individual incidence rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 4.7/100,000 WS N=849, females 1.3/100,000 WS N=270). Since cancer data are not available in some counties until 2007, the local incidence rates were not calculated, and the map tiles show as shaded.

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 63,131 female residents (averaged) in the period from 2003 to 2008 a total of 4 women were identified with newly diagnosed oropharynx cancer. Therefore, the mean incidence rate for this cancer type in this area can be calculated at 0.7/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.1 and 2.4/100,000.

Standardized incidence ratio (SIR) 2003 - 2008: Males



Standardized incidence ratio (SIR) 2003 - 2008: Females

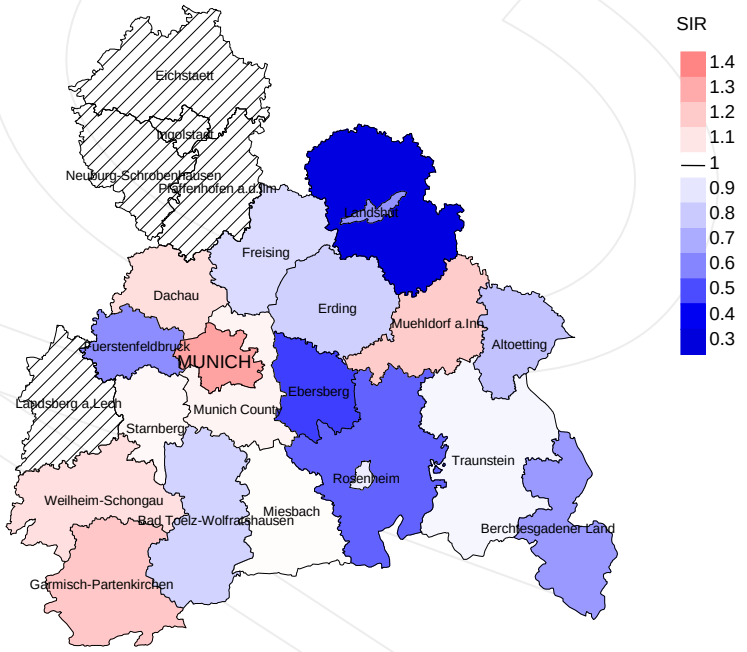


Figure 9b. Map of standardized incidence ratio (SIR, incl. DCO cases) by county averaged for period 2003 to 2008. According to their individual SIR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=849, females N=270). Since cancer data are not available in some counties until 2007, the local SIR values were not calculated, and the map tiles show as shaded.

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 63,131 female residents (averaged) in the period from 2003 to 2008 a total of 4 women were identified with newly diagnosed oropharynx cancer. Therefore, the mean standardized incidence ratio (SIR) for this cancer type in this area can be calculated at 0.48. Though, the value of this parameter may vary with an underlying probability of 99% between 0.08 and 1.52, and is therefore not statistically striking.

MORTALITY

Table 10a

Patient cohorts of incident cancers by year of diagnosis, follow-up status, proportion of DCO, deaths among the annual cohorts, and proportion of available death certificates (with respect to registry area expansion from 2.51 to 3.96 m as of 2002, and from 3.96 to 4.52 m as of 2007, respectively)

Year of diagnosis	Incident cases n	Prop. actively followed %	Prop. DCO %	Deaths n	Prop. deaths %	Prop. deaths with death certific. %
1998	105	100.0	2.9	86	81.9	96.5
1999	121	100.0		97	80.2	87.6
2000	93	98.9	1.1	73	78.5	97.3
2001	98	95.9	5.1	74	75.5	95.9
2002	164	99.4	5.5	110	67.1	97.3
2003	196	98.5	4.1	146	74.5	97.3
2004	177	97.2	4.0	125	70.6	99.2
2005	198	96.5	4.0	122	61.6	98.4
2006	182	96.2	0.5	111	61.0	98.2
2007	196	87.8	6.1	103	52.6	99.0
2008	218	81.2	2.3	122	56.0	97.5
2009	215	83.3	0.9	116	54.0	99.1
2010	209	78.9	1.9	93	44.5	97.8
2011	214	79.9	3.7	75	35.0	97.3
2012	161	94.4	4.3	31	19.3	90.3
1998-2012	2547	91.2	3.1	1484	58.3	97.0

Table 10b

Annual cohorts of incident cancers and deaths, proportion of death certificates and cases deceased the same year of cancer diagnosis
(incl. DCO)
(with respect to registry area expansion from 2.51 to 3.96 m as of 2002, and from 3.96 to 4.52 m as of 2007, respectively)

Year of diagnosis/ death	Incident cases n	Deaths n	Prop. deaths with death certific. %	Deaths in same year n	Prop. deaths in same year %
1998	105	78	92.3	12	11.4
1999	121	85	85.9	19	15.7
2000	93	87	94.3	11	11.8
2001	98	76	97.4	20	20.4
2002	164	113	97.3	19	11.6
2003	196	125	95.2	38	19.4
2004	177	129	98.4	24	13.6
2005	198	133	97.0	34	17.2
2006	182	137	97.8	26	14.3
2007	196	149	96.6	30	15.3
2008	218	141	100.0	31	14.2
2009	215	146	99.3	29	13.5
2010	209	151	99.3	27	12.9
2011	214	153	98.7	32	15.0
2012	161	141	99.3	18	11.2
1998-2012	2547	1844	97.1	370	14.5

Table 10c

Annual cohorts of deaths, proportion of cancer-related and not cancer-related deaths, and cancer recorded on death certificates (incl. DCO)
(with respect to registry area expansion from 2.51 to 3.96 m as of 2002, and from 3.96 to 4.52 m as of 2007, respectively)

Year of death	Deaths n	Prop. cancer-related %	Prop. not cancer-related %	Prop. cancer recorded on death certificate %
1998	78	80.8	19.2	91.7
1999	85	68.2	31.8	89.0
2000	87	79.3	20.7	87.8
2001	76	81.6	18.4	95.9
2002	113	81.4	18.6	89.1
2003	125	76.8	23.2	91.6
2004	129	87.6	12.4	95.3
2005	133	88.0	12.0	94.6
2006	137	83.9	16.1	91.0
2007	149	82.6	17.4	89.6
2008	141	78.0	22.0	85.8
2009	146	84.9	15.1	95.9
2010	151	80.8	19.2	92.0
2011	153	76.5	23.5	86.1
2012	141	80.1	19.9	88.6
1998-2012	1844	81.0	19.0	90.8

Table 11a

Means of age at death according to the grouping in Table 10
MALES

Year of death	Deaths n	Age at death (all causes) Years	Age at death (cancer-related) Years	Age at death (not cancer-related) Years	Age at death (according to death certificate) Years
1998	57	59.7	57.5	70.0	58.6
1999	66	61.0	58.9	66.6	59.3
2000	66	61.7	60.3	66.6	60.5
2001	61	60.3	59.8	62.4	60.7
2002	93	61.6	60.5	67.3	60.6
2003	97	62.0	61.6	63.5	61.5
2004	103	62.6	62.1	67.0	62.4
2005	106	62.4	62.4	62.7	62.1
2006	103	65.9	65.3	69.4	65.3
2007	126	63.9	62.4	70.9	63.1
2008	109	65.2	64.4	68.4	64.9
2009	113	63.8	63.2	67.4	63.8
2010	117	66.6	65.7	70.8	66.0
2011	122	66.8	64.8	73.3	65.5
2012	101	68.4	68.1	69.5	67.2
1998-2012	1440	63.9	62.9	68.3	63.3

Deaths of patients are considered to be cancer-related, in case that fact was recorded on the death certificate, or patients had suffered from metastasis or recurrence.

Table 11b

Means of age at death according to the grouping in Table 10
FEMALES

Year of death	Deaths n	Age at death (all causes) Years	Age at death (cancer-related) Years	Age at death (not cancer-related) Years	Age at death (according to death certificate) Years
1998	21	68.9	66.3	77.2	68.9
1999	19	63.4	57.7	69.7	58.2
2000	21	60.6	59.1	69.7	60.9
2001	15	66.9	63.3	77.1	65.7
2002	20	66.2	66.5	65.6	66.8
2003	28	65.7	66.4	64.6	67.1
2004	26	68.1	67.2	73.3	67.8
2005	27	65.0	63.7	72.7	63.6
2006	34	68.8	67.3	76.1	68.1
2007	23	70.5	70.5	70.1	69.5
2008	32	66.9	63.9	74.6	63.8
2009	33	67.1	66.6	69.8	66.9
2010	34	67.1	66.0	70.1	66.1
2011	31	71.1	70.1	74.7	69.3
2012	40	69.4	68.3	74.2	68.2
1998-2012	404	67.3	66.1	71.6	66.4

By 2010, life expectancy for a newborn male in Germany is 77.5 years compared with 82.6 years for his female counterpart.

Deaths of patients are considered to be cancer-related, in case that fact was recorded on the death certificate, or patients had suffered from metastasis or recurrence.

Table 12a

Mortality measures (cancer-related death) and mortality-incidence-index
by year of death
MALES

Year of death	Deaths n	Mort. raw	MI-Index raw	Mort. WS	MI-Index WS	Mort. ES	MI-Index ES	Mort. BRD-S	MI-Index BRD-S
1998	47	4.2	0.57	3.0	0.58	3.9	0.57	4.1	0.56
1999	48	4.3	0.49	2.8	0.49	3.9	0.49	4.3	0.51
2000	51	4.5	0.78	2.9	0.78	4.0	0.77	4.6	0.80
2001	51	4.4	0.68	2.8	0.64	3.8	0.64	4.3	0.65
2002	78	4.2	0.60	2.8	0.60	3.8	0.61	4.4	0.65
2003	78	4.2	0.54	2.6	0.53	3.7	0.54	4.1	0.54
2004	91	4.8	0.64	3.0	0.63	4.2	0.63	4.8	0.65
2005	94	5.0	0.62	3.0	0.58	4.2	0.59	4.7	0.62
2006	87	4.5	0.65	2.6	0.60	3.7	0.60	4.3	0.63
2007	104	4.7	0.68	2.8	0.66	4.0	0.67	4.6	0.69
2008	87	3.9	0.55	2.3	0.52	3.2	0.53	3.6	0.53
2009	97	4.3	0.61	2.6	0.59	3.6	0.60	4.1	0.61
2010	97	4.3	0.63	2.5	0.62	3.5	0.63	4.2	0.65
2011	93	4.1	0.58	2.3	0.56	3.3	0.58	3.9	0.60
2012	80	3.5	0.65	1.9	0.57	2.7	0.61	3.3	0.66
1998-2012	1183	4.3	0.61	2.6	0.59	3.7	0.60	4.2	0.62

Table 12b

Mortality measures (cancer-related death) and mortality-incidence-index
by year of death
FEMALES

Year of death	Deaths n	Mort. raw	MI-Index raw	Mort. WS	MI-Index WS	Mort. ES	MI-Index ES	Mort. BRD-S	MI-Index BRD-S
1998	16	1.4	0.73	0.7	0.63	1.0	0.62	1.2	0.74
1999	10	0.8	0.43	0.6	0.48	0.8	0.49	0.8	0.45
2000	18	1.5	0.64	0.9	0.59	1.2	0.60	1.4	0.63
2001	11	0.9	0.48	0.5	0.47	0.7	0.45	0.8	0.46
2002	14	0.7	0.41	0.4	0.36	0.6	0.38	0.7	0.41
2003	18	0.9	0.37	0.5	0.34	0.7	0.34	0.8	0.35
2004	22	1.1	0.67	0.6	0.61	0.8	0.59	1.0	0.64
2005	23	1.2	0.51	0.7	0.52	1.0	0.53	1.1	0.52
2006	28	1.4	0.58	0.7	0.44	1.0	0.48	1.2	0.53
2007	19	0.8	0.46	0.4	0.34	0.5	0.36	0.6	0.40
2008	23	1.0	0.38	0.5	0.38	0.8	0.39	0.8	0.37
2009	28	1.2	0.50	0.6	0.47	0.9	0.48	1.0	0.48
2010	25	1.1	0.49	0.6	0.44	0.8	0.46	0.9	0.48
2011	24	1.0	0.49	0.5	0.40	0.7	0.41	0.8	0.43
2012	33	1.4	0.89	0.7	0.76	0.9	0.77	1.1	0.81
1998-2012	312	1.1	0.52	0.6	0.47	0.8	0.48	0.9	0.50

Table 13

Age distribution of age at death (cancer-related) for period 1998-2012
(**incl. multiple primaries**)

Age at death Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
0-4	1	0.1	0.1	1	0.1	0.1			0.0
5-9	0	0.0	0.1			0.1			0.0
10-14	0	0.0	0.1			0.1			0.0
15-19	0	0.0	0.1			0.1			0.0
20-24	0	0.0	0.1			0.1			0.0
25-29	0	0.0	0.1			0.1			0.0
30-34	0	0.0	0.1			0.1			0.0
35-39	8	0.5	0.6	7	0.6	0.7	1	0.3	0.3
40-44	34	2.3	2.9	30	2.5	3.2	4	1.3	1.6
45-49	97	6.4	9.3	78	6.5	9.7	19	6.1	7.6
50-54	181	12.0	21.3	150	12.6	22.3	31	9.9	17.5
55-59	265	17.6	38.9	213	17.9	40.2	52	16.6	34.1
60-64	305	20.2	59.1	250	21.0	61.1	55	17.5	51.6
65-69	222	14.7	73.9	183	15.3	76.4	39	12.4	64.0
70-74	158	10.5	84.3	118	9.9	86.3	40	12.7	76.8
75-79	123	8.2	92.5	91	7.6	94.0	32	10.2	86.9
80-84	57	3.8	96.3	40	3.4	97.3	17	5.4	92.4
85+	56	3.7	100.0	32	2.7	100.0	24	7.6	100.0
All ages	1507	100.0		1193	100.0		314	100.0	

Included in the statistics are 37.4% multiple primaries in males and 34.1% in females.

Table 14

Age-specific mortality (cancer-related) and proportion of all cancers
for period 1998-2012
(**incl. multiple primaries**)

Age at death Years	Males n	Females n	Males Age-spec. mortal.	MI-index	Females Age-spec. mortal.	MI-index	Males Prop.all cancers %	Females Prop.all cancers %
0- 4	1		0.1	0.50	0.0		3.2	
5- 9			0.0		0.0			
10-14			0.0		0.0			
15-19			0.0		0.0			
20-24			0.0		0.0			
25-29			0.0		0.0			
30-34			0.0		0.0			
35-39	7	1	0.3	0.33	0.0	0.20	1.8	0.2
40-44	30	4	1.2	0.44	0.2	0.27	3.7	0.4
45-49	78	19	3.6	0.45	0.9	0.36	4.6	1.0
50-54	150	31	8.1	0.50	1.6	0.33	4.9	1.1
55-59	213	52	12.5	0.56	2.9	0.44	3.8	1.2
60-64	250	55	15.2	0.66	3.2	0.58	3.0	0.9
65-69	183	39	12.5	0.71	2.4	0.48	1.6	0.5
70-74	118	40	10.2	0.65	2.9	0.75	1.0	0.4
75-79	91	32	12.1	0.92	2.9	0.80	0.8	0.3
80-84	40	17	8.8	0.93	2.0	0.55	0.4	0.2
85+	32	24	10.3	1.23	2.9	1.33	0.4	0.2
All ages	1193	314					1.6	0.5
Mortality								
Raw			4.3	0.61	1.1	0.52		
WS			2.6	0.59	0.6	0.47		
ES			3.7	0.60	0.8	0.48		
BRD-S			4.2	0.62	0.9	0.50		
PYLL-70								
per 100,000			42.4		9.3			
ES			38.1		8.0			
AYLL-70			11.5		11.3			

The rates underestimate the prognosis if other synchronous cancers are prognostic unfavorable.

Table 15a

Multiple primaries in deaths in period 1998-2012
MALES

Diagnosis	Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C03-C06 Oral cavity	31	5.3			2	6.5	29	93.5
C09-C10 Oropharynx	54	9.3			14	25.9	40	74.1
C12-C13 Hypopharynx	37	6.3	11	29.7	14	37.8	12	32.4
C15 Oesophagus	67	11.5	15	22.4	6	9.0	46	68.7
C16 Stomach	13	2.2	5	38.5	2	15.4	6	46.2
C18 Colon	20	3.4	7	35.0	2	10.0	11	55.0
C22 Liver	11	1.9			2	18.2	9	81.8
C25 Pancreas	16	2.7	2	12.5			14	87.5
C32 Larynx	56	9.6	25	44.6	10	17.9	21	37.5
C33-C34 Lung	107	18.4	20	18.7	9	8.4	78	72.9
C43 Malign. melanoma	8	1.4	4	50.0			4	50.0
C44 Skin others	28	4.8	6	21.4	5	17.9	17	60.7
C61 Prostate	25	4.3	11	44.0			14	56.0
C64 Kidney	14	2.4	6	42.9	2	14.3	6	42.9
C67 Bladder	21	3.6	10	47.6	1	4.8	10	47.6
C76-C79 CUP	17	2.9	12	70.6	2	11.8	3	17.6
C82-C85 NHL	7	1.2	2	28.6	1	14.3	4	57.1
C91-C96 Leukaemia	5	0.9	2	40.0			3	60.0
Other primaries	46	7.9	20	43.5	5	10.9	21	45.7
All mult. primaries	583	100.0	158	27.1	77	13.2	348	59.7

Multiple primaries with number of cases n<5 are pooled in category "Other primaries".

ICD-10 C44 (Other malignant neoplasms of skin) is not systematically recorded by MCR and therefore not considered for evaluation as a particular primary but at least as a multiple malignancy.

Table 15b

Multiple primaries in deaths in period 1998-2012
FEMALES

Diagnosis	Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C03-C06 Oral cavity	7	4.5					7	100.0
C09-C10 Oropharynx	18	11.5			3	16.7	15	83.3
C11 Nasopharynx	1	0.6			1	100.0		
C12-C13 Hypopharynx	4	2.6			2	50.0	2	50.0
C14 ENT cancer	1	0.6			1	100.0		
C15 Oesophagus	16	10.3	3	18.8	1	6.3	12	75.0
C16 Stomach	3	1.9			2	66.7	1	33.3
C18 Colon	7	4.5	4	57.1	1	14.3	2	28.6
C19-C20 Rectum	1	0.6					1	100.0
C21 Anus/canal	3	1.9	2	66.7			1	33.3
C22 Liver	1	0.6					1	100.0
C25 Pancreas	1	0.6					1	100.0
C26 GI cancer	1	0.6					1	100.0
C30-C31 Sinuses	1	0.6					1	100.0
C32 Larynx	13	8.3	3	23.1	3	23.1	7	53.8
C33-C34 Lung	23	14.7	3	13.0	3	13.0	17	73.9
C44 Skin others	6	3.8	2	33.3			4	66.7
C50 Breast	15	9.6	11	73.3	1	6.7	3	20.0
C53 Cervix uteri	8	5.1	6	75.0			2	25.0
C54 Corpus uteri	2	1.3	2	100.0				
C56 Ovary	1	0.6					1	100.0
C67 Bladder	2	1.3	1	50.0			1	50.0
C68 Urethra	1	0.6	1	100.0				
C70-C72 CNS cancer	1	0.6					1	100.0
C73 Thyroid	2	1.3	1	50.0	1	50.0		
C76-C79 CUP	11	7.1	8	72.7			3	27.3
C82-C85 NHL	3	1.9	1	33.3			2	66.7
C90 Mult. myeloma	1	0.6	1	100.0				
C91-C96 Leukaemia	2	1.3	1	50.0			1	50.0
All mult. primaries	156	100.0	50	32.1	19	12.2	87	55.8

Multiple primaries with number of cases n<1 are pooled in category "Other primaries".

ICD-10 C44 (Other malignant neoplasms of skin) is not systematically recorded by MCR and therefore not considered for evaluation as a particular primary but at least as a multiple malignancy.

Table 16

Age-specific mortality (cancer-related) and proportion of all cancers
for period 1998-2012
(**Singular primaries only** *)

Age at death Years	Males n	Females n	Males Age-spec. mortal.	MI-index	Females Age-spec. mortal.	MI-index	Males Prop.all cancers %	Females Prop.all cancers %
0- 4			0.0		0.0			
5- 9			0.0		0.0			
10-14			0.0		0.0			
15-19			0.0		0.0			
20-24			0.0		0.0			
25-29			0.0		0.0			
30-34			0.0		0.0			
35-39	5	1	0.2	0.28	0.0	0.20	1.4	0.2
40-44	27	3	1.1	0.46	0.1	0.21	3.6	0.3
45-49	64	18	3.0	0.41	0.9	0.39	4.2	1.1
50-54	131	23	7.1	0.49	1.2	0.30	4.9	1.0
55-59	174	46	10.2	0.56	2.6	0.49	3.6	1.2
60-64	195	38	11.8	0.66	2.2	0.47	2.8	0.8
65-69	139	31	9.5	0.67	1.9	0.48	1.5	0.5
70-74	97	32	8.4	0.72	2.3	0.76	1.0	0.4
75-79	67	22	8.9	1.00	2.0	0.76	0.7	0.3
80-84	30	9	6.6	1.00	1.0	0.41	0.4	0.1
85+	25	17	8.1	1.32	2.1	1.31	0.4	0.2
All ages	954	240					1.6	0.4
Mortality								
Raw			3.5	0.61	0.8	0.49		
WS			2.1	0.58	0.5	0.44		
ES			3.0	0.59	0.6	0.46		
BRD-S			3.3	0.62	0.7	0.47		
PYLL-70								
per 100,000			34.8		7.6			
ES			31.2		6.6			
AYLL-70			11.7		11.6			

* See corresponding tables with multiple primaries.

Table 17

Age-specific mortality (cancer-related) and proportion of all cancers
for period 1998-2012
(**Single primaries only** *)

Age at death Years	Males n	Females n	Males Age-spec. mortal.	MI-index	Females Age-spec. mortal.	MI-index	Males Prop.all cancers %	Females Prop.all cancers %
0- 4			0.0		0.0			
5- 9			0.0		0.0			
10-14			0.0		0.0			
15-19			0.0		0.0			
20-24			0.0		0.0			
25-29			0.0		0.0			
30-34			0.0		0.0			
35-39	5	1	0.2	0.28	0.0	0.20	1.5	0.2
40-44	25	3	1.0	0.48	0.1	0.27	3.5	0.3
45-49	51	11	2.4	0.39	0.5	0.26	3.6	0.8
50-54	107	22	5.8	0.45	1.2	0.32	4.4	1.0
55-59	128	36	7.5	0.47	2.0	0.47	2.9	1.1
60-64	155	29	9.4	0.59	1.7	0.40	2.5	0.7
65-69	105	27	7.2	0.60	1.7	0.45	1.3	0.5
70-74	66	24	5.7	0.56	1.7	0.63	0.8	0.4
75-79	48	13	6.4	0.75	1.2	0.52	0.6	0.2
80-84	22	8	4.8	0.79	0.9	0.42	0.4	0.1
85+	21	11	6.8	1.17	1.3	0.92	0.4	0.1
All ages	733	185					1.5	0.4
Mortality								
Raw			2.7	0.53	0.6	0.43		
WS			1.6	0.52	0.4	0.40		
ES			2.3	0.52	0.5	0.41		
BRD-S			2.6	0.54	0.6	0.42		
PYLL-70								
per 100,000			27.8		6.0			
ES			24.9		5.3			
AYLL-70			12.0		11.5			

* See corresponding tables with multiple primaries.

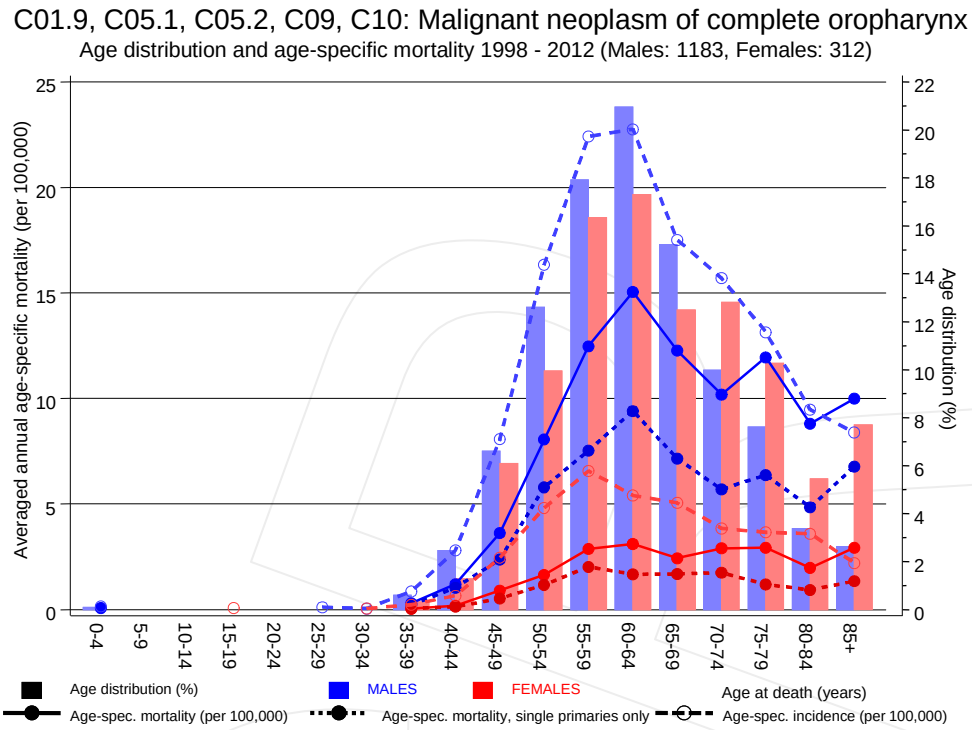
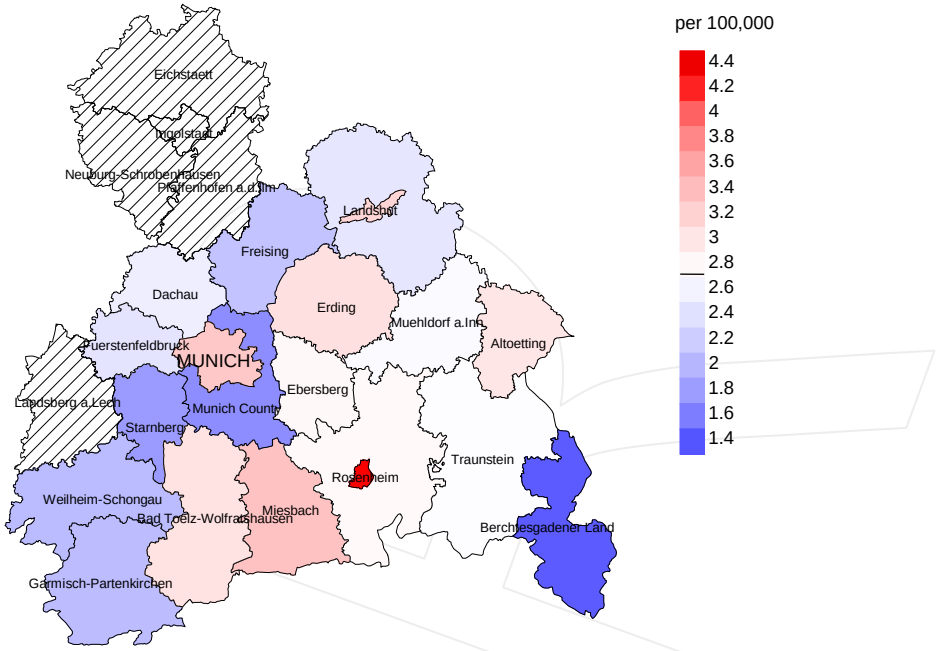


Figure 18. Distribution of age at death (bars) and age-specific mortality (all patients: solid line, patients with single primaries: dotted line). The age-specific incidence is additionally plotted for comparison (dashed line).

The difference between age at diagnosis (Table 3) and age at oropharynx cancer-related death (see Table 10) should be considered.

Average mortality (world standard population) 2003 - 2008: Males



Average mortality (world standard population) 2003 - 2008: Females

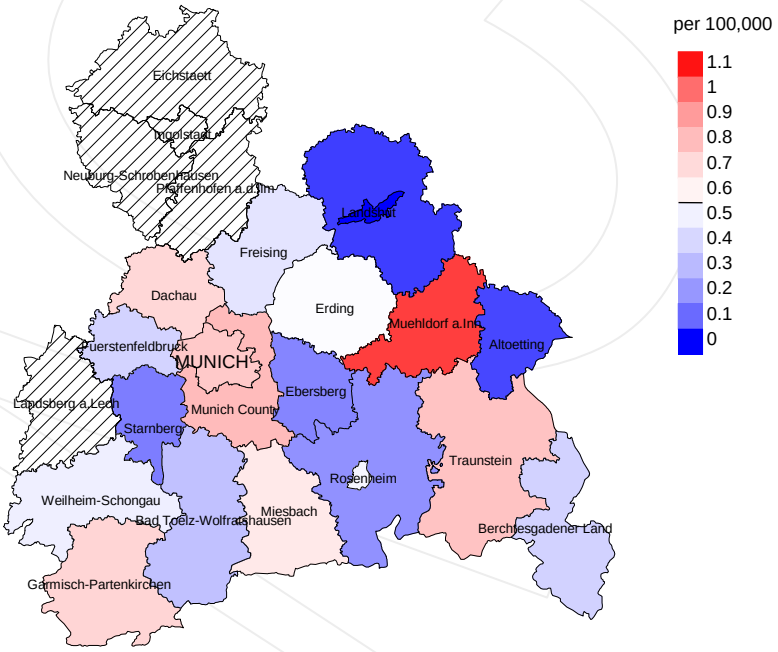
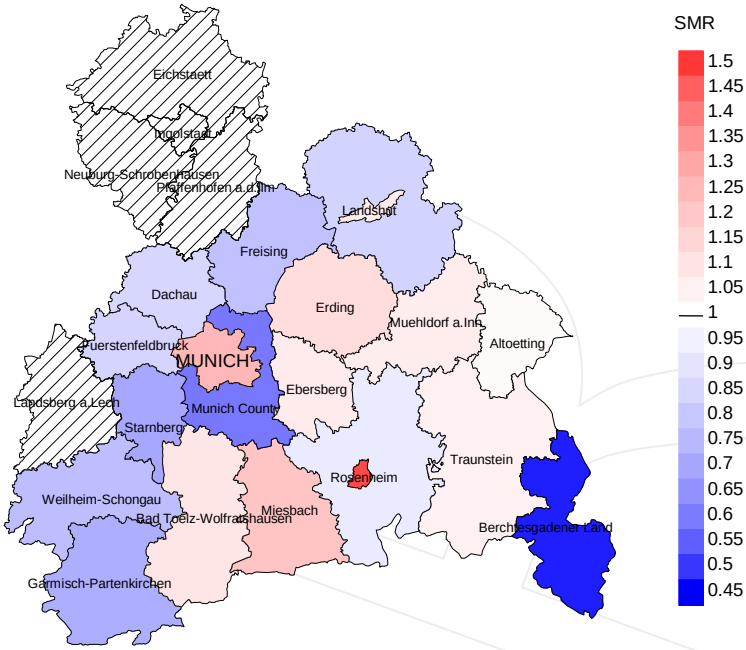


Figure 19a. Map of cancer mortality (world standard population) by county averaged for period 2003 to 2008. According to their individual mortality rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 2.7/100,000 WS N=519, females 0.6/100,000 WS N=128). Since cancer data are not available in some counties until 2007, the local mortality rates were not calculated, and the map tiles show as shaded.

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 63,131 female residents (averaged) in the period from 2003 to 2008 a total of 1 women died from oropharynx cancer. Therefore, the mean mortality rate for this cancer type in this area can be calculated at 0.2/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.0 and 1.2/100,000.

Standardized mortality ratio (SMR) 2003 - 2008: Males



Standardized mortality ratio (SMR) 2003 - 2008: Females

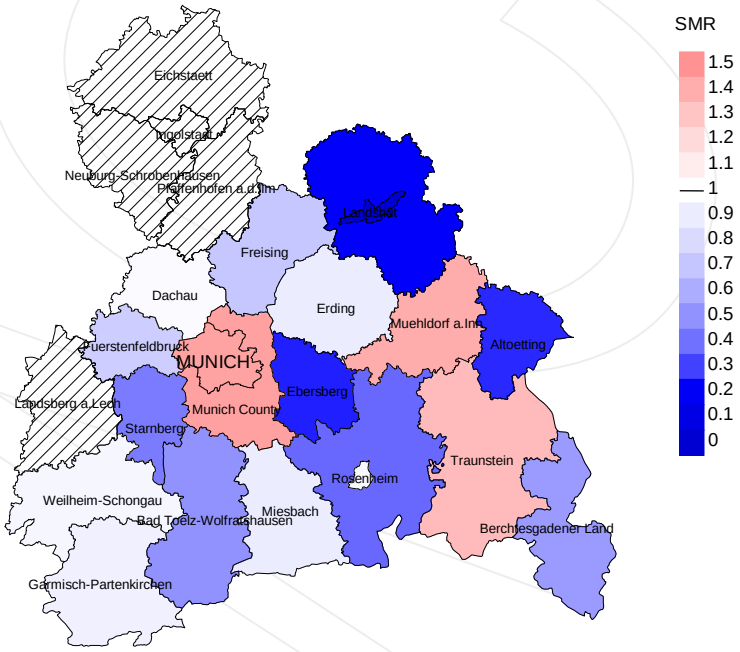


Figure 19b. Map of standardized mortality ratio (SMR, incl. DCO cases) by county averaged for period 2003 to 2008. According to their individual SMR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=519, females N=128). Since cancer data are not available in some counties until 2007, the local SMR values were not calculated, and the map tiles show as shaded.

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 63,131 female residents (averaged) in the period from 2003 to 2008 a total of 1 women died from oropharynx cancer. Therefore, the mean standardized mortality ratio (SMR) for this cancer type in this area can be calculated at 0.26. Though, the value of this parameter may vary with an underlying probability of 99% between 0.00 and 1.94, and is therefore not statistically striking.

Statistical Notes

In all tables and figures the respective reference values should be carefully considered. The incidence rates include diagnoses (with multiple primary), and death certificate only (DCO) cases. For mortality statistics patients, diagnoses and progressive course of disease are presented. In the calculations, all courses of disease are considered whereby progressions occurred and/or death certificate identified progressive cancers were ascertained. Additionally there are three groups of disease course to consider:

1. **All multiple primaries included**

   The mortality statistic describes the tumor-specific death, independent of any malignancy. The patient perspective, induced secondary malignancies, and the problem of multiple malignancies from the same primary tumor all have reasons for their inclusion.

2. **First singular primary** (no information about other prior or synchronous malignancy)

   The mortality statistic describes the tumor-related death for patients who have no therapeutic restrictions due to a previous or synchronous cancer. These statistics are comparable to studies that have exclusion criteria based on a second malignancy.

3. **Single primary** (no information about other prior, syn- or metachronous malignancy)

   The mortality statistic describes the tumor-specific death that occurs without any impact through secondary primaries, earlier, synchronous, later or induced. Precisely the difference between disease group 1 and 2 highlight the magnitude of the problem of secondary malignancies.

For this reason differences appear concerning official mono-causal mortality statistics. To judge the maximum deviation, 2 further tables are presented. In the first table the distribution of secondary malignancies before, at or after the described cancer are shown, that could be an alternative cause of death. In the second table, the age-specific mortality rates for all courses of disease, without designation of secondary malignancies are shown.

A previously minimally acknowledged statistic is the **age at death**, which allows for a good assessment of the quality of classification of the apparent tumor-specific death. For assumed tumor-independent deaths, the age of death should be estimated from the age of diagnosis and the normal life expectancy, whereas tumor-dependent deaths can be estimated from the age of diagnosis plus the average tumor-specific life expectancy. The comparison of different tumors demonstrates this association, if the causes of cancer and the competing cause of death are independent of each other (e.g. breast and colon versus head/neck and lung).

The index from mortality and incidence (Mortality-Incidence ratio, **MI-index**) is a statistic that allows for the evaluation of the quality of data. For diseases with poor prognoses, comparable values are obtained from all age groups, because to a large extent, the numerator and denominator contain the same cases. For tumors with a good prognosis, increasing and decreasing incidence and age-specific differences in prognosis can more strongly alter the MI- index. Additionally, attention should be paid to the confidence intervals where fewer cases are reported.

The complexity of problems identified here emphasizes the importance of relative survival data for the appropriate analysis of long term results.

As a measurement of the burden of disease, the number of potential life years loss due to premature deaths in a cohort can be calculated (**PYLL**, potential years of life lost, standardized per 100,000 persons or per European standard) as well as the average loss of life years per individual (**AYLL**, average years of life lost). Depending upon the analytic aim (health economy, prevention, health care research) different methods exist for the generation of these measurements. In the results presented here, the age for a premature death is considered to be before 70 years, according to the guidelines of the OECD and the WHO (as seen in the abbreviation PYLL-70 or AYLL-70).

Shortcuts

AYLL-70	Average years of life lost prior to age 70 given a person dies before that age
BRD-S	German standard population
DCO	Death certificate only
EAR	Excess absolute risk = excess cancer cases (O - E) per 10,000 person-years
ES	European standard population (old)
FRG	Federal Republic of Germany
GEKID	Association of Population-based Cancer Registries in Germany (Gesellschaft der epidemiologischen Krebsregister in Deutschland e.V.)
LCL	Lower confidence limit
MI-index	Ratio between mortality and incidence
MCR	Munich Cancer Registry (Tumorregister München)
PYLL-70	Potential years of life lost prior to age 70 given a person dies before that age
SEER	Surveillance, Epidemiology, and End Results (USA)
SIR	Standardized incidence ratio
SMR	Standardized mortality ratio
UCL	Upper confidence limit
WS	World standard population

Recommended Citation

Munich Cancer Registry. Baseline statistics C01.9, C05.1, C05.2, C09, C10: Oropharynx cancer [Internet]. 2014 [updated 2014 Mar 20; cited 2014 May 1]. Available from: http://www.tumorregister-muenchen.de/en/facts/base/base_C0910E.pdf

Copyright

Disclaimer

Index of figures and tables