Munich Cancer Registry

- Survival
- Selection Matrix
- Homepage
- *Deutsch*

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	1998-2013
Patients	2,692
Diseases	2,714
Creation date	05/19/2015
Export date	12/30/2014
Population	4.64 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 4.64 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, May 2015

[#] 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 2014 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 (ICD-10 2015) used for specifying cancer site

Code	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	84.8	100.0	
1999	121			21.5	81.0	100.0	
2000	93	1	1.1	33.3	80.6	98.9	
2001	98	5	5.1	37.8	77.6	95.9	
2002	163	9	5.5	35.0	69.9	98.8	#
2003	196	8	4.1	36.2	77.0	98.5	
2004	180	7	3.9	26.1	70.0	97.2	
2005	198	8	4.0	33.8	62.6	96.5	
2006	182	1	0.5	28.0	64.3	96.2	
2007	196	12	6.1	27.6	56.6	89.8	# ##
2008	220	5	2.3	31.8	61.4	79.5	
2009	215	2	0.9	35.3	55.8	83.7	
2010	219	4	1.8	25.6	46.6	74.4	
2011	225	7	3.1	29.8	41.3	75.6	
2012	207	7	3.4	23.7	29.5	77.3	
2013	96	6	6.3	25.0	34.4	100.0	###
1998-2013	2714	85	3.1	29.8	59.9	89.4	

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	163	129	34	79.1
2003	196	146	50	74.5
2004	180	146	34	81.1
2005	198	153	45	77.3
2006	182	134	48	73.6
2007	196	155	41	79.1
2008	220	160	60	72.7
2009	215	159	56	74.0
2010	219	166	53	75.8
2011	225	173	52	76.9
2012	207	160	47	77.3
2013	96	76	20	79.2
1998-2013	2714	2078	636	76.6

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 4.64 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	129	34	6.9	1.7	4.6	1.1	6.2	1.4	6.6	1.6
2003	146	50	7.8	2.5	5.0	1.5	7.0	2.1	7.6	2.3
2004	146	34	7.8	1.7	4.9	0.9	6.8	1.4	7.5	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	155	41	7.0	1.8	4.4	1.1	6.0	1.5	6.7	1.6
2008	160	60	7.2	2.6	4.4	1.4	6.1	2.0	6.9	2.2
2009	159	56	7.1	2.4	4.4	1.3	6.1	1.9	6.8	2.1
2010	166	53	7.4	2.3	4.3	1.4	6.0	1.9	6.8	2.0
2011	173	52	7.6	2.2	4.5	1.3	6.2	1.8	6.9	1.9
2012	160	47	7.0	2.0	4.2	1.1	5.8	1.5	6.5	1.7
2013	76	20	3.3	0.8	2.0	0.5	2.8	0.7	3.1	0.7
1998-2013	2078	636	7.0	2.0	4.4	1.2	6.0	1.7	6.6	1.8

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	163	58.8	9.8	36.7	96.8	47.4	52.9	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	180	61.1	10.0	38.3	85.5	48.1	54.8	60.7	67.1	75.6
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	11.1	35.2	91.6	47.5	52.8	60.3	68.4	74.8
2008	220	63.4	9.9	38.3	91.8	50.1	57.1	62.4	69.1	76.7
2009	215	62.8	11.1	26.7	95.5	49.8	55.5	61.8	69.9	77.3
2010	219	62.6	9.8	37.1	92.1	49.5	55.2	63.0	69.2	75.0
2011	225	63.2	10.3	40.0	93.8	49.9	55.0	62.7	70.5	76.3
2012	207	62.0	9.9	39.8	91.1	49.3	54.2	61.5	69.1	75.9
2013	96	62.1	9.8	33.2	85.7	50.6	54.7	61.9	67.9	74.7
1998-2013	2714	61.1	10.4	0.9	103	48.6	53.9	60.4	67.7	75.0

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	129	58.4	9.1	36.7	96.8	47.3	52.9	58.3	62.9	70.0
2003	146	59.8	9.2	38.3	87.5	48.1	53.8	59.2	65.5	73.2
2004	146	60.5	9.8	38.3	85.5	47.9	54.5	60.4	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	155	60.9	10.7	37.1	91.6	47.6	52.9	60.9	68.7	74.7
2008	160	62.9	9.6	38.3	87.0	50.0	56.9	62.2	68.6	76.3
2009	159	62.5	10.4	26.7	90.7	49.8	56.1	62.1	68.9	75.7
2010	166	62.9	10.0	38.0	92.1	49.1	55.9	63.3	69.7	75.9
2011	173	63.0	10.2	40.0	89.2	49.8	55.0	62.7	70.4	76.3
2012	160	61.3	9.7	39.8	87.9	49.3	53.6	61.1	67.8	75.0
2013	76	62.2	9.0	33.2	82.9	50.7	55.5	62.2	67.3	74.3
1998-2013	2078	60.7	10.1	0.9	96.8	48.5	53.7	60.2	67.0	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	34	63.8	10.5	44.7	82.5	50.9	55.9	61.0	74.3	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	41	60.5	12.3	35.2	89.4	47.5	51.4	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	56	63.6	12.9	41.0	95.5	49.6	54.6	60.1	72.2	83.1
2010	53	61.9	9.2	37.1	85.1	49.5	55.0	62.8	68.1	72.6
2011	52	63.6	10.8	41.0	93.8	53.4	56.2	62.1	70.7	75.6
2012	47	64.3	10.7	44.0	91.1	51.5	55.7	64.4	71.7	78.7
2013	20	61.6	12.5	44.7	85.7	47.1	52.4	56.6	69.1	81.8
1998-2013	636	62.3	11.5	19.0	103	49.3	54.1	60.8	69.5	78.3

Table 4

Age distribution by 5-year age group and gender for period 1998-2013 (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	3	0.1	0.3	2	0.1	0.3	1	0.2	0.3
35-39	26	1.0	1.3	21	1.0	1.3	5	0.8	1.1
40-44	87	3.2	4.5	69	3.3	4.6	18	2.8	3.9
45-49	241	8.9	13.3	186	9.0	13.6	55	8.6	12.6
50-54	422	15.5	28.9	324	15.6	29.2	98	15.4	28.0
55-59	532	19.6	48.5	409	19.7	48.8	123	19.3	47.3
60-64	497	18.3	66.8	400	19.2	68.1	97	15.3	62.6
65-69	376	13.9	80.7	287	13.8	81.9	89	14.0	76.6
70-74	253	9.3	90.0	199	9.6	91.5	54	8.5	85.1
75-79	145	5.3	95.3	103	5.0	96.4	42	6.6	91.7
80-84	79	2.9	98.2	47	2.3	98.7	32	5.0	96.7
85+	48	1.8	100.0	27	1.3	100.0	21	3.3	100.0
All ages	2714	100.0		2078	100.0		636	100.0	

Included in the statistics are 38.5% multiple primaries in males and 35.5% in females.

Table 5

Age-specific incidence, DCO rate and proportion of all cancers
for period 1998-2013

Age at diagnosis Years	Males n	Females n	Males Age-spec. incid.	Females Age-spec. incid.	Males DCO rate n=64 %	Females DCO rate n=21 %	Males Prop.all cancers n=158258 %	Females Prop.all cancers n=153136 %
0- 4	2		0.1	0.0	50.0		0.6	
5- 9			0.0	0.0				
10-14			0.0	0.0				
15-19		1	0.0	0.1				0.3
20-24			0.0	0.0				
25-29	2		0.1	0.0			0.2	
30-34	2	1	0.1	0.0			0.1	0.0
35-39	20	5	0.8	0.2			0.9	0.1
40-44	69	18	2.6	0.7		5.6	2.2	0.3
45-49	185	54	7.8	2.3	2.2	1.9	3.5	0.6
50-54	324	95	16.0	4.6	1.5	2.1	3.8	0.9
55-59	407	121	22.2	6.3	1.7	0.8	2.8	0.9
60-64	397	96	22.4	5.1	2.5	1.0	1.8	0.6
65-69	284	89	18.0	5.2	4.2		1.0	0.5
70-74	199	54	15.5	3.6	4.0	7.4	0.7	0.3
75-79	103	42	12.5	3.5	8.7	4.8	0.5	0.2
80-84	47	32	9.4	3.4	4.3	12.5	0.3	0.2
85+	27	21	7.9	2.3	22.2	23.8	0.3	0.1
All ages	2068	629			3.1	3.3	1.3	0.4
Incidence								
Raw			7.0	2.0				
WS			4.4	1.2				
ES			6.0	1.6				
BRD-S			6.6	1.8				

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 1998-2013
MALES

Diagnosis	Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C03-C06 Oral cavity	25	0.7	33.5	21.7	49.5	#	50.7	8.0
C09-C10 Oropharynx	11	1.0	11.4	5.7	20.4	#	21.0	
C12-C13 Hypopharynx	15	0.5	28.2	15.8	46.6	#	30.3	6.7
C15 Oesophagus	35	1.3	27.5	19.2	38.3	#	70.6	31.4
C16 Stomach	6	2.2	2.7	1.0	5.9	#	8.0	16.7
C18 Colon	12	5.3	2.3	1.2	3.9	#	14.0	8.3
C19-C20 Rectum	3	3.5	0.9	0.2	2.5		-1.1	
C22 Liver	9	1.7	5.4	2.5	10.3	#	15.3	22.2
C25 Pancreas	7	2.0	3.4	1.4	7.1	#	10.4	42.9
C30-C31 Sinuses	2	0.1	18.0	2.2	65.1	#	4.0	
C32 Larynx	25	0.8	32.1	20.8	47.4	#	50.7	40.0
C33-C34 Lung	58	7.3	8.0	6.0	10.3	#	106.1	10.3
C43 Malign. melanoma	4	2.6	1.5	0.4	3.9		2.8	
C61 Prostate	20	17.5	1.1	0.7	1.8		5.3	
C64 Kidney	6	2.3	2.7	1.0	5.8		7.8	
C67 Bladder	5	2.2	2.2	0.7	5.2		5.8	20.0
C73 Thyroid	2	0.5	3.7	0.4	13.3		3.0	
C76-C79 CUP	2	1.0	2.1	0.2	7.4		2.1	
C82-C85 NHL	3	2.3	1.3	0.3	3.8		1.5	
C91-C96 Leukaemia	4	0.8	4.8	1.3	12.2	#	6.6	50.0
Other primaries	7	2.5	2.8	1.1	5.7	#	9.4	14.3
Not observed	0	2.5	0.0	0.0	1.5		-5.2	
All mult. primaries	261	60.7	4.3	3.8	4.9	#	419.1	15.7

Patients	1448
Median age at second malignancy (years)	62.4
Person-years	4780
Mean observation time (years)	3.3
Median observation time (years)	1.9

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 1998-2013
FEMALES

Diagnosis	Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C03-C06 Oral cavity	4	0.1	34.0	9.3	87.1	#	22.2	
C09-C10 Oropharynx	5	0.1	53.8	17.5	125.7	#	28.1	
C12-C13 Hypopharynx	5	0.0	199.9	64.9	466.4	#	28.5	
C15 Oesophagus	9	0.1	83.8	38.3	159.0	#	50.9	
C16 Stomach	2	0.5	3.7	0.4	13.4		8.4	
C18 Colon	6	1.5	3.9	1.4	8.6	#	25.7	
C19-C20 Rectum	3	0.7	4.2	0.9	12.4		13.1	
C32 Larynx	6	0.0	156.8	57.5	341.3	#	34.2	16.7
C33-C34 Lung	15	1.3	11.5	6.4	19.0	#	78.5	20.0
C50 Breast	5	5.8	0.9	0.3	2.0		-4.6	20.0
C53 Cervix uteri	4	0.3	15.3	4.2	39.2	#	21.4	
C56 Ovary	2	0.7	2.8	0.3	10.0		7.3	50.0
Other primaries	9	3.9	2.3	1.1	4.4	#	29.4	11.1
Not observed	0	2.4	0.0	0.0	1.6		-13.6	
All mult. primaries	75	17.5	4.3	3.4	5.4	#	329.6	9.3

Patients	446
Median age at second malignancy (years)	62.4
Person-years	1746
Mean observation time (years)	3.9
Median observation time (years)	2.7

The occurrence of second malignancy is statistically significant.

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

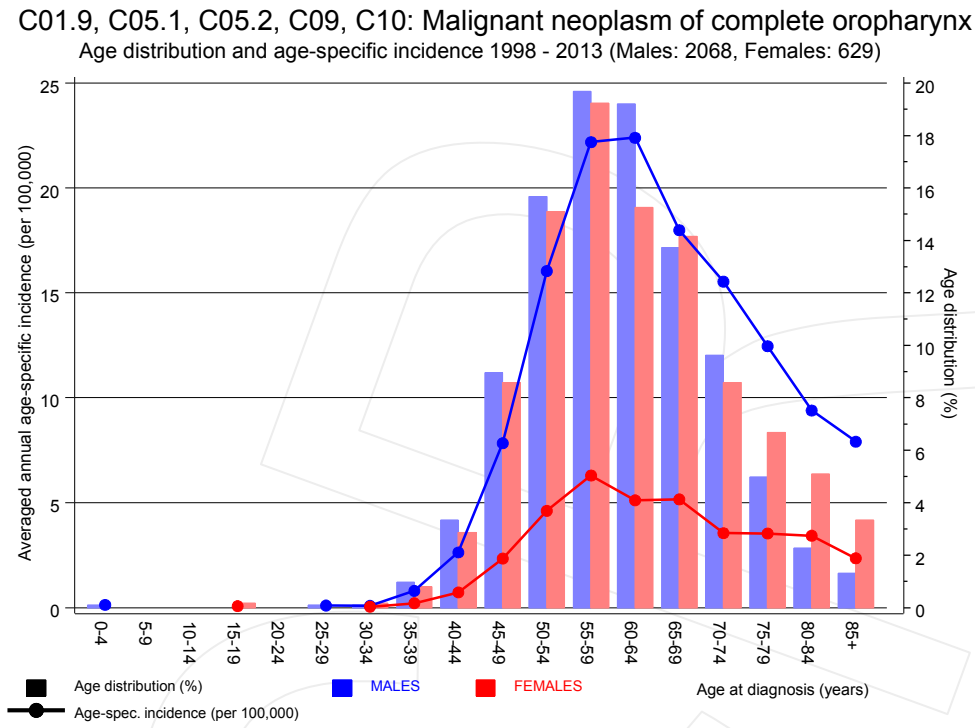


Figure 7. Age distribution and age-specific incidence

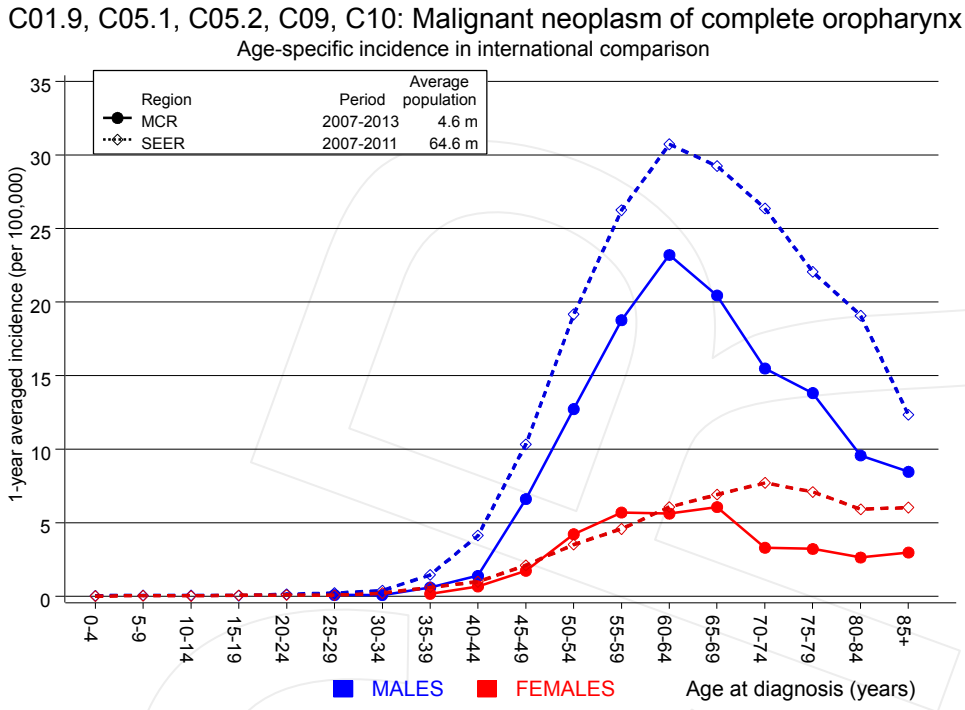


Figure 7a. Age-specific incidence in MCR registry areas compared to SEER (Surveillance, Epidemiology, and End Results, USA).

Reference:

Surveillance, Epidemiology, and End Results (SEER) Program SEER*Stat Database: Incidence - SEER 18 Regs Research Data, released April 2014, based on the November 2013 submission. http://www.seer.cancer.gov.

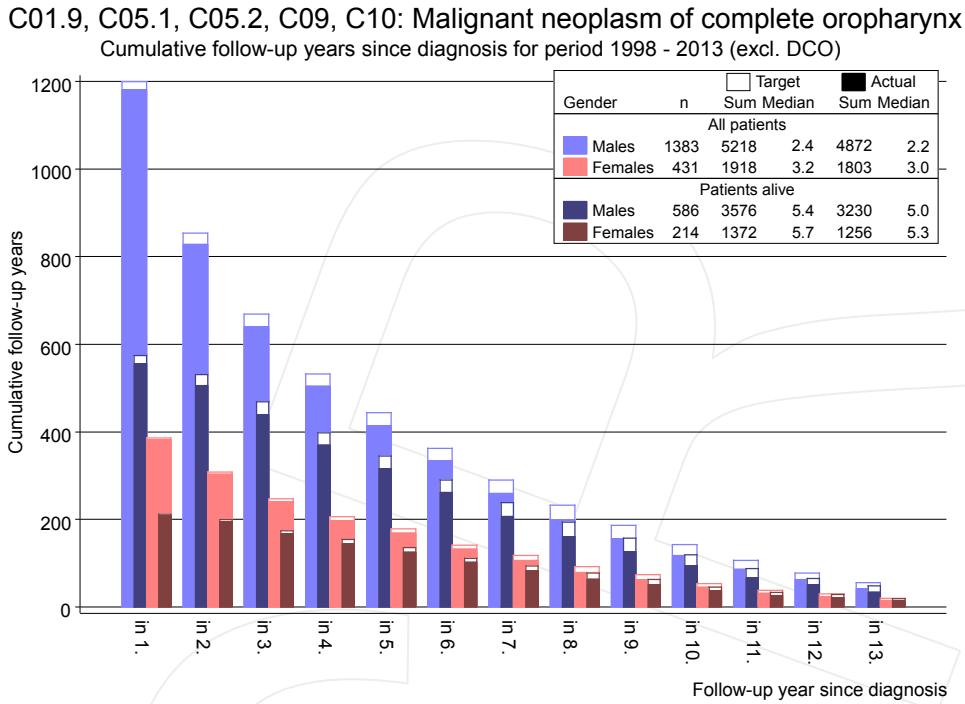
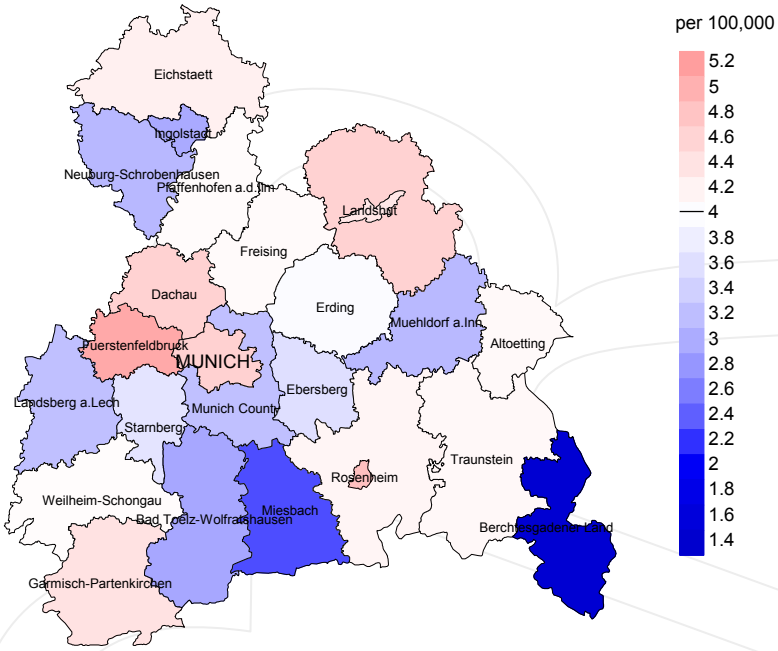


Figure 8. Cumulative follow-up years depending on time since diagnosis

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) 2007 - 2013: Males



Average incidence (world standard population) 2007 - 2013: Females

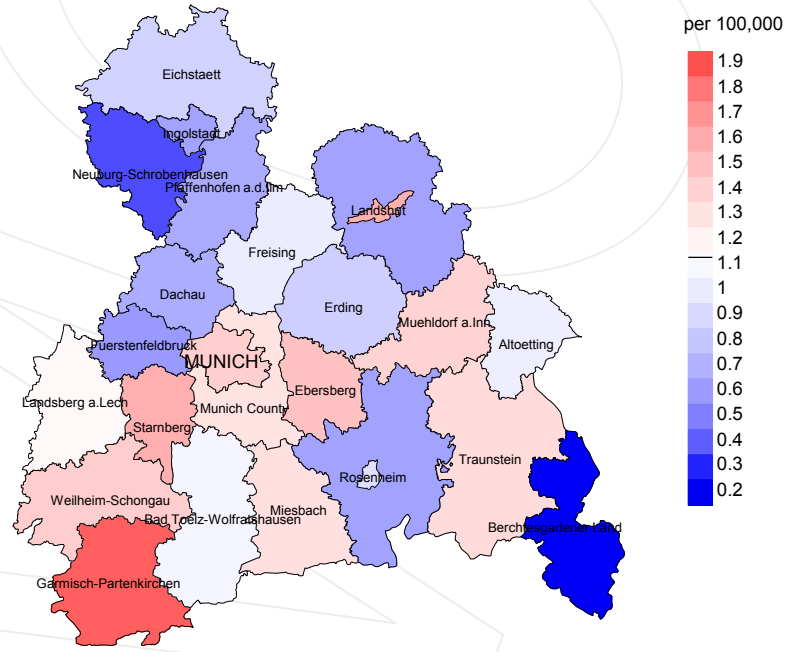


Figure 9a. Map of cancer incidence (world standard population, incl. DCO cases) by county averaged for period 2007 to 2013. According to their individual incidence rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 4.0/100,000 WS N=1,044, females 1.1/100,000 WS N=323).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 64,928 female residents (averaged) in the period from 2007 to 2013 a total of 11 women were identified with newly diagnosed oropharynx cancer. Therefore, the mean incidence rate for this cancer type in this area can be calculated at 1.5/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.6 and 3.2/100,000.

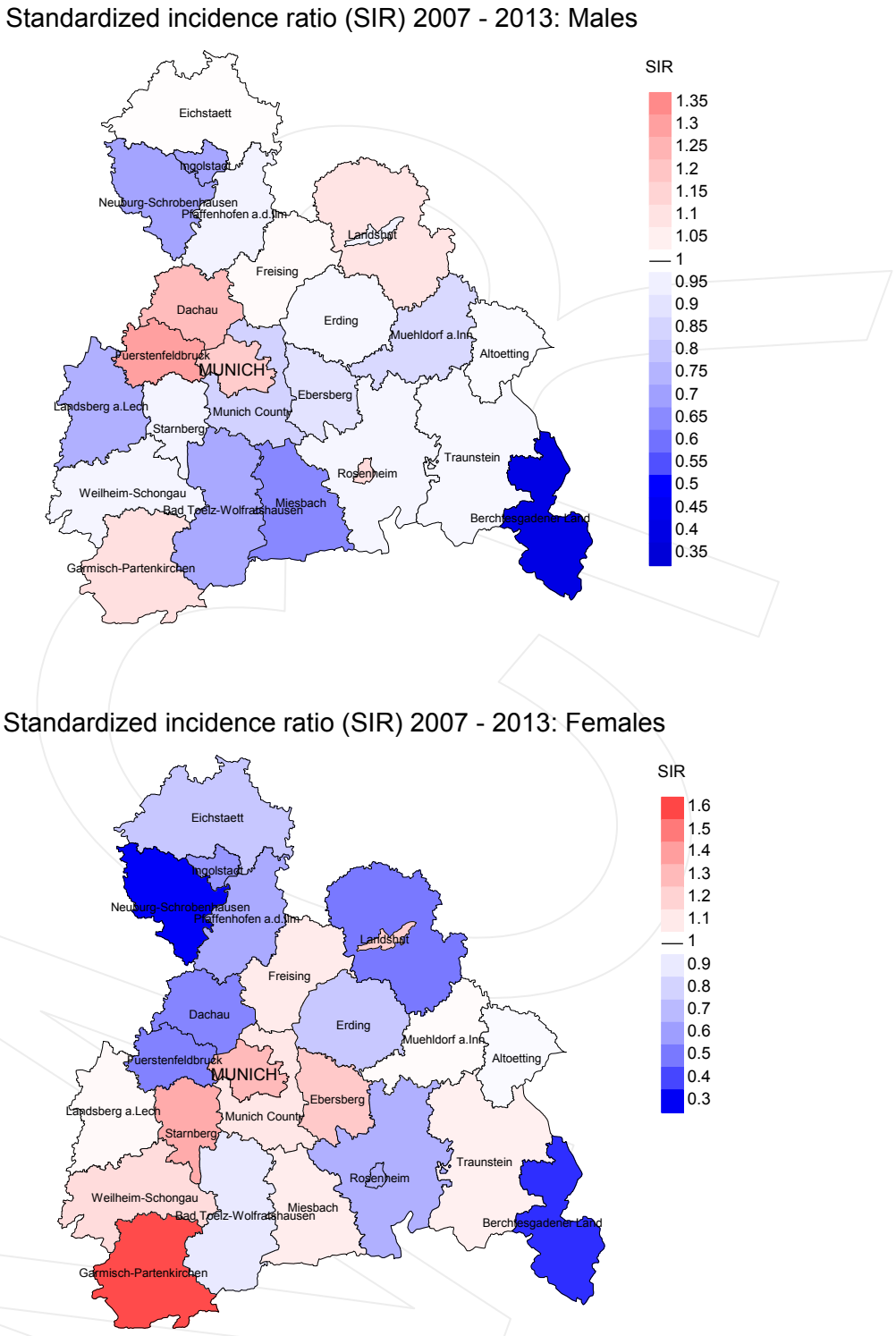


Figure 9b. Map of standardized incidence ratio (SIR, incl. DCO cases) by county averaged for period 2007 to 2013. According to their individual SIR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=1,044, females N=323).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 64,642 female residents (averaged) in the period from 2007 to 2013 a total of 11 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 1.24. Though, the value of this parameter may vary with an underlying probability of 99% between 0.49 and 2.57, 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 4.64 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	89	84.8	95.5
1999	121	100.0		98	81.0	87.8
2000	93	98.9	1.1	75	80.6	98.7
2001	98	95.9	5.1	76	77.6	94.7
2002	163	98.8	5.5	114	69.9	96.5
2003	196	98.5	4.1	151	77.0	96.0
2004	180	97.2	3.9	126	70.0	99.2
2005	198	96.5	4.0	124	62.6	97.6
2006	182	96.2	0.5	117	64.3	97.4
2007	196	89.8	6.1	111	56.6	97.3
2008	220	79.5	2.3	135	61.4	97.0
2009	215	83.7	0.9	120	55.8	97.5
2010	219	74.4	1.8	102	46.6	96.1
2011	225	75.6	3.1	93	41.3	95.7
2012	207	77.3	3.4	61	29.5	95.1
2013	96	100.0	6.3	33	34.4	87.9
1998-2013	2714	89.4	3.1	1625	59.9	96.1

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 4.64 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	163	113	97.3	19	11.7
2003	196	125	95.2	38	19.4
2004	180	129	98.4	24	13.3
2005	198	133	97.0	34	17.2
2006	182	137	97.8	26	14.3
2007	196	150	96.0	30	15.3
2008	220	141	100.0	31	14.1
2009	215	146	99.3	29	13.5
2010	219	151	99.3	27	12.3
2011	225	153	98.7	32	14.2
2012	207	151	98.0	23	11.1
2013	96	162	97.5	21	21.9
1998-2013	2714	2017	97.0	396	14.6

Table 10c

Annual cohorts of deaths, proportion of cancer-related and non-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 4.64 m as of 2007, respectively)

Year of death	Deaths n	Prop. cancer-related %	Prop. non-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	150	82.0	18.0	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	151	80.8	19.2	89.2
2013	162	75.3	24.7	87.3
1998-2013	2017	80.6	19.4	90.6

Table 11a

Medians 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 (non-cancer-related) Years	Age at death (according to death certificate) Years
1998	57	60.5	57.9	70.4	58.9
1999	66	61.3	57.8	67.1	57.8
2000	66	61.0	58.0	70.5	58.8
2001	61	60.3	60.3	59.4	60.4
2002	93	60.2	59.6	63.9	59.6
2003	97	60.2	60.1	62.3	59.7
2004	103	61.7	61.7	62.6	61.7
2005	106	61.9	61.9	61.5	61.9
2006	103	65.2	65.2	65.1	65.1
2007	127	63.9	61.6	70.2	63.0
2008	109	66.3	65.6	67.5	65.9
2009	113	62.6	62.5	67.0	62.6
2010	117	64.8	64.1	71.4	64.2
2011	122	67.2	63.9	73.1	64.9
2012	110	68.6	68.7	67.3	67.5
2013	121	66.2	64.5	69.8	65.3
1998-2013	1571	63.3	62.3	68.4	62.6

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

Medians 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 (non-cancer-related) Years	Age at death (according to death certificate) Years
1998	21	71.7	69.5	83.1	72.2
1999	19	58.4	55.9	70.0	55.9
2000	21	56.9	56.5	74.0	57.0
2001	15	66.2	63.4	74.8	63.6
2002	20	67.8	67.8	65.6	71.9
2003	28	61.8	63.0	59.8	64.3
2004	26	66.9	64.8	76.7	64.9
2005	27	63.4	62.1	73.8	61.5
2006	34	66.1	65.6	78.5	65.6
2007	23	69.3	69.3	67.9	68.1
2008	32	66.9	66.9	77.1	66.8
2009	33	64.8	66.0	62.3	64.8
2010	34	66.6	64.9	72.4	64.9
2011	31	68.3	68.2	82.4	68.1
2012	41	71.5	67.8	76.4	67.8
2013	41	71.1	68.2	77.6	68.4
1998-2013	446	66.6	65.1	74.0	65.6

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	0.66
2003	78	4.2	0.54	2.6	0.53	3.7	0.54	4.1	0.54
2004	91	4.8	0.63	3.0	0.62	4.2	0.62	4.8	0.64
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	0.65	4.0	0.67	4.6	0.69
2008	87	3.9	0.54	2.3	0.52	3.2	0.52	3.6	0.52
2009	97	4.3	0.61	2.6	0.59	3.6	0.60	4.1	0.61
2010	97	4.3	0.59	2.5	0.58	3.5	0.59	4.2	0.61
2011	93	4.1	0.54	2.3	0.53	3.3	0.55	3.9	0.57
2012	88	3.9	0.55	2.0	0.48	3.0	0.51	3.7	0.56
2013	93	4.1	1.24	2.2	1.12	3.2	1.16	3.8	1.24
1998-2013	1284	4.3	0.62	2.6	0.60	3.6	0.61	4.2	0.63

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	0.65	0.6	0.60	0.8	0.58	1.0	0.62
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	0.48	0.4	0.35	0.5	0.37	0.6	0.41
2008	23	1.0	0.38	0.5	0.38	0.8	0.39	0.8	0.37
2009	28	1.2	0.51	0.6	0.48	0.9	0.49	1.0	0.49
2010	25	1.1	0.49	0.6	0.44	0.8	0.46	0.9	0.48
2011	24	1.0	0.48	0.5	0.39	0.7	0.40	0.8	0.42
2012	34	1.4	0.72	0.7	0.60	1.0	0.63	1.2	0.66
2013	29	1.2	1.45	0.6	1.17	0.8	1.22	1.0	1.46
1998-2013	342	1.1	0.54	0.6	0.48	0.8	0.50	0.9	0.52

Table 13

Age distribution of age at death (cancer-related) for period 1998-2013
(**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	0.5	7	0.5	0.6	1	0.3	0.3
40-44	36	2.2	2.7	32	2.5	3.1	4	1.2	1.4
45-49	102	6.2	8.9	82	6.3	9.4	20	5.8	7.2
50-54	191	11.6	20.6	160	12.3	21.7	31	9.0	16.2
55-59	295	17.9	38.5	238	18.3	40.1	57	16.5	32.7
60-64	323	19.6	58.2	262	20.2	60.2	61	17.6	50.3
65-69	239	14.5	72.7	195	15.0	75.3	44	12.7	63.0
70-74	183	11.1	83.8	139	10.7	86.0	44	12.7	75.7
75-79	138	8.4	92.2	101	7.8	93.8	37	10.7	86.4
80-84	69	4.2	96.4	48	3.7	97.5	21	6.1	92.5
85+	59	3.6	100.0	33	2.5	100.0	26	7.5	100.0
All ages	1644	100.0		1298	100.0		346	100.0	

Included in the statistics are 38.5% multiple primaries in males and 35.5% in females.

Table 14

Age-specific mortality (cancer-related) and proportion of all cancers
for period 1998-2013
(**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		3.0	
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	7	1	0.3	0.33	0.0	0.20	1.8	0.2
40-44	32	4	1.2	0.46	0.2	0.22	3.7	0.4
45-49	82	20	3.5	0.44	0.9	0.36	4.5	1.0
50-54	160	31	7.9	0.49	1.5	0.32	4.9	1.0
55-59	238	57	13.0	0.58	3.0	0.46	4.0	1.2
60-64	262	61	14.8	0.66	3.3	0.63	2.9	0.9
65-69	195	44	12.4	0.68	2.6	0.49	1.6	0.5
70-74	139	44	10.9	0.70	2.9	0.81	1.0	0.4
75-79	101	37	12.2	0.98	3.1	0.88	0.8	0.3
80-84	48	21	9.6	1.02	2.3	0.66	0.4	0.2
85+	33	26	9.7	1.22	2.9	1.24	0.4	0.2
All ages	1298	346					1.6	0.5
Mortality								
Raw			4.4	0.62	1.1	0.54		
WS			2.6	0.60	0.6	0.48		
ES			3.7	0.61	0.8	0.50		
BRD-S			4.2	0.63	1.0	0.52		
PYLL-70								
per 100,000			42.0		9.1			
ES			37.7		7.9			
AYLL-70			11.5		11.1			

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

Table 15a

Multiple primaries in deaths in period 1998-2013
MALES

Diagnosis	Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C03-C06 Oral cavity	32	4.9			2	6.3	30	93.8
C09-C10 Oropharynx	59	9.1			16	27.1	43	72.9
C12-C13 Hypopharynx	42	6.5	12	28.6	17	40.5	13	31.0
C15 Oesophagus	69	10.7	16	23.2	7	10.1	46	66.7
C16 Stomach	14	2.2	5	35.7	2	14.3	7	50.0
C18 Colon	22	3.4	7	31.8	2	9.1	13	59.1
C22 Liver	13	2.0			2	15.4	11	84.6
C25 Pancreas	17	2.6	2	11.8			15	88.2
C32 Larynx	65	10.0	26	40.0	13	20.0	26	40.0
C33-C34 Lung	117	18.1	20	17.1	10	8.5	87	74.4
C43 Malign. melanoma	10	1.5	6	60.0			4	40.0
C44 Skin others	34	5.3	9	26.5	6	17.6	19	55.9
C61 Prostate	32	4.9	15	46.9	1	3.1	16	50.0
C64 Kidney	15	2.3	6	40.0	2	13.3	7	46.7
C67 Bladder	22	3.4	11	50.0	1	4.5	10	45.5
C76-C79 CUP	17	2.6	12	70.6	2	11.8	3	17.6
C82-C85 NHL	7	1.1	2	28.6	1	14.3	4	57.1
Other primaries	60	9.3	26	43.3	4	6.7	30	50.0
All mult. primaries	647	100.0	175	27.0	88	13.6	384	59.4

Multiple primaries with number of cases 1 to 6 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 1998-2013
FEMALES

Diagnosis	Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C03-C06 Oral cavity	7	4.0					7	100.0
C09-C10 Oropharynx	21	11.9			4	19.0	17	81.0
C11 Nasopharynx	2	1.1			1	50.0	1	50.0
C12-C13 Hypopharynx	5	2.8			2	40.0	3	60.0
C14 ENT cancer	2	1.1			1	50.0	1	50.0
C15 Oesophagus	16	9.1	3	18.8	1	6.3	12	75.0
C16 Stomach	3	1.7			2	66.7	1	33.3
C18 Colon	9	5.1	5	55.6	1	11.1	3	33.3
C19-C20 Rectum	2	1.1	1	50.0			1	50.0
C21 Anus/canal	3	1.7	2	66.7			1	33.3
C32 Larynx	14	8.0	3	21.4	3	21.4	8	57.1
C33-C34 Lung	24	13.6	3	12.5	3	12.5	18	75.0
C44 Skin others	7	4.0	2	28.6			5	71.4
C50 Breast	20	11.4	15	75.0	1	5.0	4	20.0
C53 Cervix uteri	8	4.5	6	75.0			2	25.0
C54 Corpus uteri	3	1.7	3	100.0				
C67 Bladder	2	1.1	1	50.0			1	50.0
C73 Thyroid	2	1.1	1	50.0	1	50.0		
C76-C79 CUP	13	7.4	9	69.2			4	30.8
C82-C85 NHL	3	1.7	1	33.3			2	66.7
C91-C96 Leukaemia	2	1.1	1	50.0			1	50.0
Other primaries	8	4.5	2	25.0			6	75.0
All mult. primaries	176	100.0	58	33.0	20	11.4	98	55.7

Multiple primaries with number of cases 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 1998-2013
(**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	1.3	0.2
40-44	27	3	1.0	0.46	0.1	0.18	3.4	0.3
45-49	67	19	2.8	0.41	0.8	0.41	4.1	1.1
50-54	139	23	6.9	0.48	1.1	0.29	4.8	0.9
55-59	193	49	10.5	0.58	2.5	0.52	3.8	1.2
60-64	204	43	11.5	0.65	2.3	0.52	2.7	0.8
65-69	149	35	9.4	0.65	2.0	0.49	1.5	0.5
70-74	114	34	8.9	0.79	2.2	0.79	1.1	0.4
75-79	72	24	8.7	1.03	2.0	0.80	0.7	0.3
80-84	36	12	7.2	1.16	1.3	0.52	0.4	0.1
85+	25	18	7.3	1.32	2.0	1.13	0.4	0.2
All ages	1031	261					1.6	0.4
Mortality								
Raw			3.5	0.62	0.8	0.51		
WS			2.1	0.59	0.5	0.46		
ES			2.9	0.60	0.6	0.48		
BRD-S			3.3	0.63	0.7	0.49		
PYLL-70								
per 100,000			34.2		7.4			
ES			30.6		6.4			
AYLL-70			11.7		11.4			

* See corresponding tables with multiple primaries.

Table 17

Age-specific mortality (cancer-related) and proportion of all cancers
for period 1998-2013
(**Single primaries only** *)

Age at death Years	Males n	Females n	Males Age-spec. mortal.	Males MI-index	Females Age-spec. mortal.	Females 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	25	3	1.0	0.48	0.1	0.21	3.3	0.3
45-49	54	12	2.3	0.39	0.5	0.29	3.5	0.8
50-54	111	22	5.5	0.44	1.1	0.31	4.3	0.9
55-59	146	39	8.0	0.50	2.0	0.53	3.2	1.1
60-64	162	32	9.1	0.58	1.7	0.44	2.5	0.7
65-69	112	30	7.1	0.59	1.7	0.45	1.3	0.5
70-74	76	25	5.9	0.62	1.6	0.64	0.9	0.4
75-79	51	15	6.2	0.77	1.3	0.60	0.6	0.2
80-84	25	10	5.0	0.86	1.1	0.50	0.4	0.1
85+	21	12	6.2	1.17	1.3	0.80	0.4	0.1
All ages	788	201					1.5	0.4
Mortality								
Raw			2.7	0.54	0.6	0.45		
WS			1.6	0.52	0.4	0.42		
ES			2.3	0.53	0.5	0.43		
BRD-S			2.5	0.55	0.6	0.44		
PYLL-70								
per 100,000			27.4		5.9			
ES			24.4		5.2			
AYLL-70			11.9		11.3			

* See corresponding tables with multiple primaries.

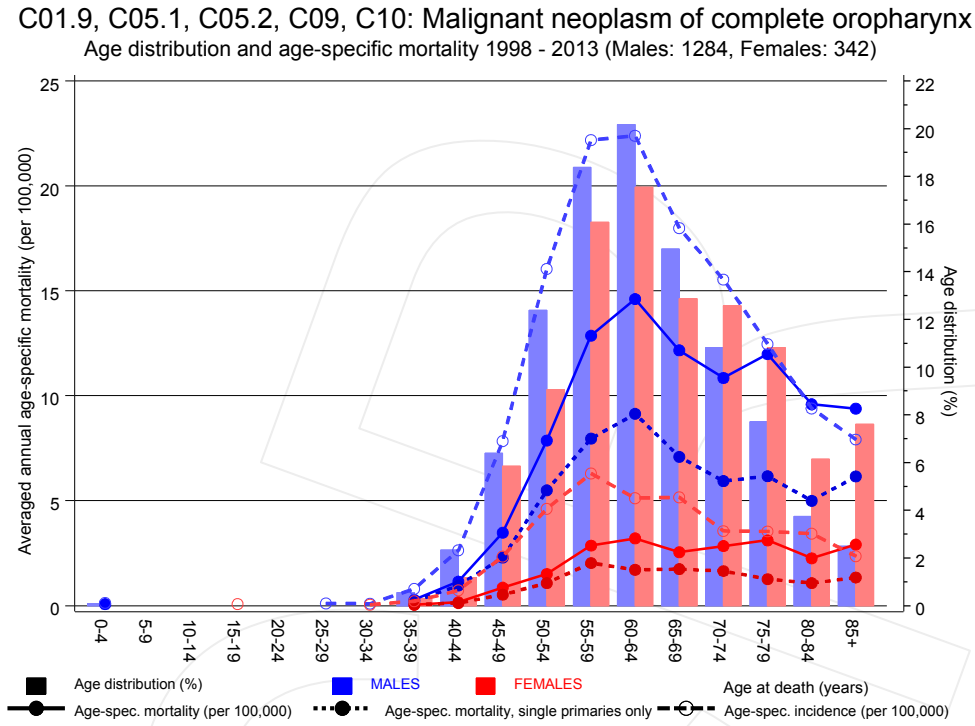
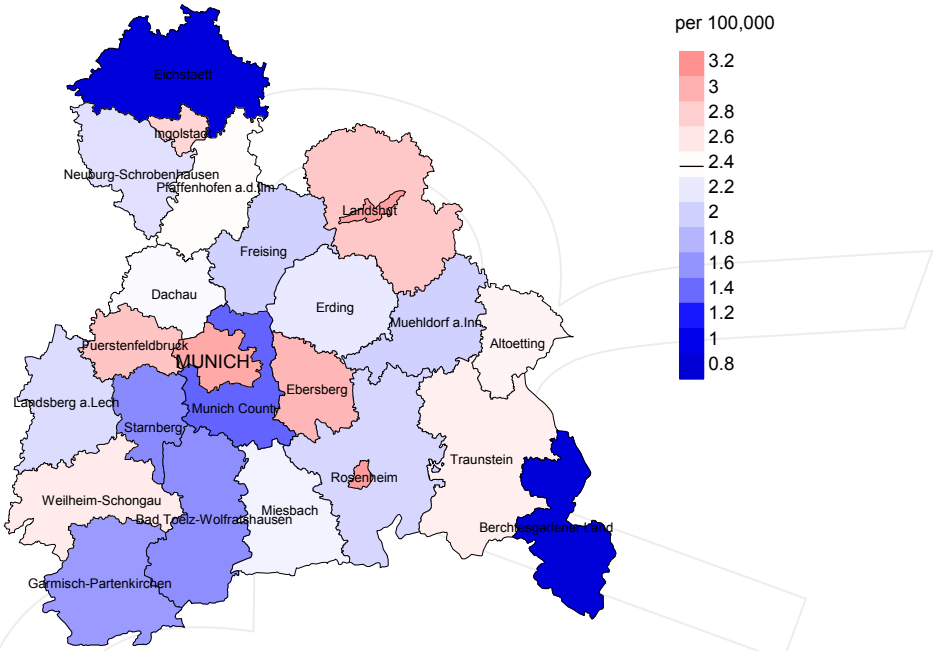


Figure 18. Distribution of age at death (bars) and age-specific mortality (all patients: solid line, patients with single primaries: dotted line). The age-specific incidence is additionally plotted for comparison (dashed line).

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) 2007 - 2013: Males



Average mortality (world standard population) 2007 - 2013: Females

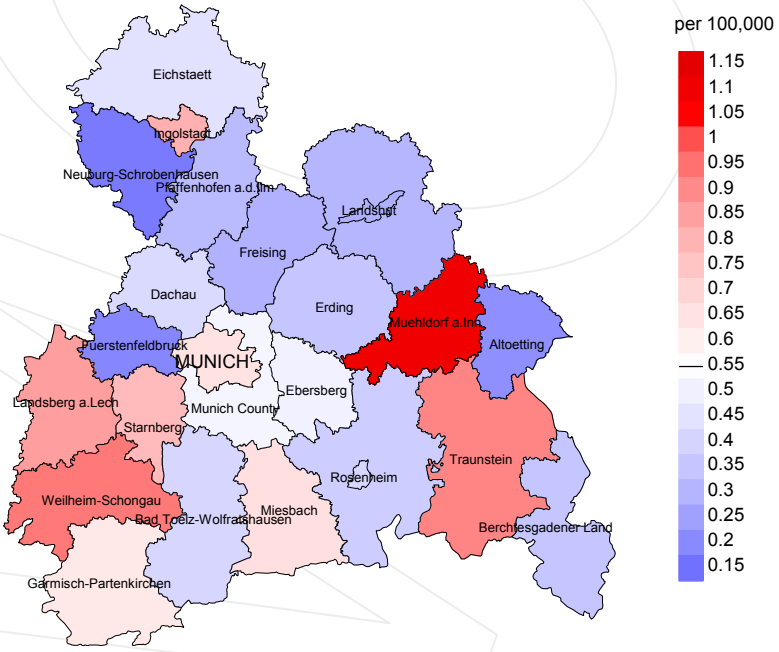


Figure 19a. Map of cancer mortality (world standard population) by county averaged for period 2007 to 2013. According to their individual mortality rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 2.4/100,000 WS N=654, females 0.6/100,000 WS N=182).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 64,928 female residents (averaged) in the period from 2007 to 2013 a total of 5 women died from oropharynx cancer. Therefore, the mean mortality rate for this cancer type in this area can be calculated at 0.5/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.1 and 1.7/100,000.

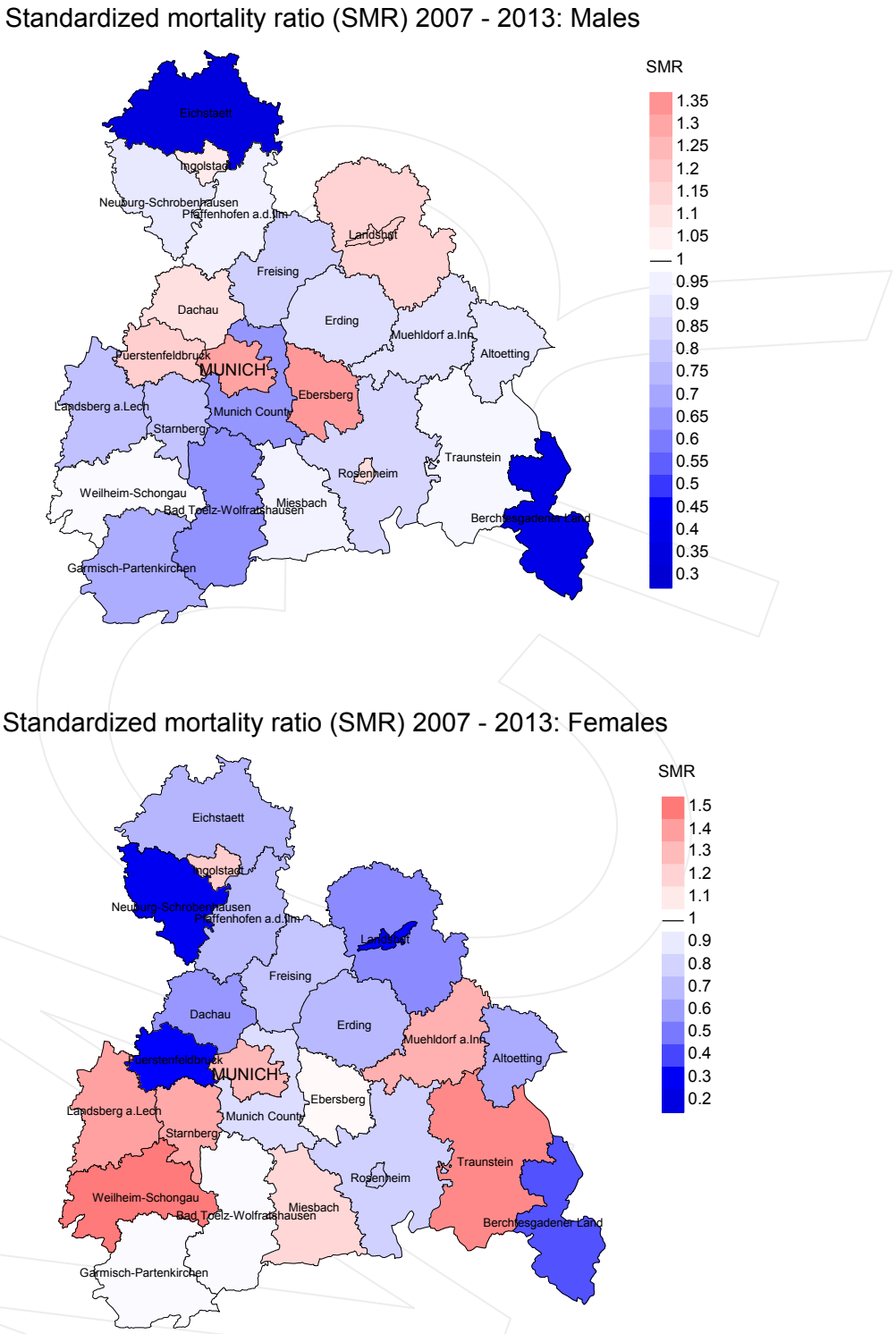


Figure 19b. Map of standardized mortality ratio (SMR, incl. DCO cases) by county averaged for period 2007 to 2013. According to their individual SMR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=654, females N=182).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 64,642 female residents (averaged) in the period from 2007 to 2013 a total of 5 women died from oropharynx cancer. Therefore, the mean standardized mortality ratio (SMR) for this cancer type in this area can be calculated at 1.02. Though, the value of this parameter may vary with an underlying probability of 99% between 0.22 and 2.89, 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 cancer-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

FRG	Federal Republic of Germany
GEKID	Association of Population-based Cancer Registries in Germany (Gesellschaft der epidemiologischen Krebsregister in Deutschland e.V.)
MCR	Munich Cancer Registry (Tumorregister München)
SEER	Surveillance, Epidemiology, and End Results (USA)
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)
LCL	Lower confidence limit
MI-index	Ratio between mortality and incidence
PYLL-70	Potential years of life lost prior to age 70 given a person dies before that age
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]. 2015 [updated 2015 May 19; cited 2015 Jul 1]. Available from: http://www.tumorregister-muenchen.de/en/facts/base/base_C0910E.pdf

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Index of figures and tables