Munich Cancer Registry



- Survival
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ICD-10 C12, C13: Hypopharynx cancer

Incidence and Mortality

Year of diagnosis	1998-2014
Patients	1,508
Diseases	1,508
Creation date	04/13/2016
Export date	12/23/2015
Population	4.64 m



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

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

http://www.tumorregister-muenchen.de/en/facts/base/bC1213E-ICD-10-C12-C13-Hypopharynx-cancer-incidence-and-mortality.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.

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, April 2016

- [#] 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).
- ^{##} 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.

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
C12	Malignant neoplasm of piriform sinus
C13 C13.0 C13.1 C13.2 C13.8 C13.9	Malignant neoplasm of hypopharynx Postcricoid region Aryepiglottic fold, hypopharyngeal aspect Posterior wall of hypopharynx Overlapping lesion of hypopharynx Hypopharynx, unspecified

INCIDENCE

Table 1

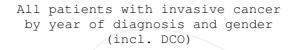
All patients with invasive cancer by year of diagnosis, proportions of DCO, multiple primaries, deaths, and active follow-up (incl. DCO)

				Prop.		Prop.
		DCO	Prop.	mult.	Prop.	actively
Year of	Cases	cases	DCO	primaries	deaths	followed
diagnosis	n	n	00	80	00	00
1998	61			24.6	88.5	100.0
1999	68	5	7.4	29.4	86.8	98.5
2000	66	2	3.0	22.7	87.9	97.0
2001	67	3	4.5	26.9	83.6	97.0
2002	92	4	4.3	27.2	87.0	97.8 #
2003	98	1	1.0	36.7	85.7	99.0
2004	83	2	2.4	31.3	89.2	100.0
2005	114	7	6.1	34.2	76.3	99.1
2006	100	3	3.0	24.0	78.0	100.0
2007	123	7	5.7	30.1	78.9	90.2 #
2008	127	7	5.5	28.3	81.1	91.3
2009	117	4	3.4	23.1	75.2	88.9
2010	112	6	5.4	33.0	69.6	83.9
2011	102	3	2.9	32.4	62.7	87.3
2012	85	5	5.9	31.8	64.7	90.6
2013	71	1	1.4	25.4	59.2	97.2
2014	22	1	4.5	22.7	45.5	95.5 ##
1998-2014	1508	61	4.0	29.0	77.4	94.2

- # The increases of incident cases in 2002 and 2007 reflect the expansion to additional registry areas.
- ## Please be aware that data of recent annual patient cohorts may not yet be fully processed. The years under evaluation can be found in the respective headings.



Table 1a



Year of	All	Males	Females	Prop. males	
diagnosis	n	n	n	90	
1998	61	56	5	91.8	
1999	68	62	6	91.2	
2000	66	59	7	89.4	
2001	67	60	7	89.6	
2002	92	85	7	92.4	
2003	98	91	7	92.9	
2004	83	73	10	88.0	
2005	114	99	15	86.8	
2006	100	88	12	88.0	
2007	123	106	17	86.2	
2008	127	107	20	84.3	
2009	117	101	16	86.3	
2010	112	100	12	89.3	
2011	102	89	13	87.3	
2012	85	73	12	85.9	
2013	71	61	10	85.9	
2014	22	17	5	77.3	
1998-2014	1508	1327	181	88.0	

Incidence measures by year of diagnosis 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)

			Males	Fem.	Males	Fem.	Males	Fem.	Males	Fem.
Year of	Males	Females	Inc.	Inc.	Inc.	Inc.	Inc.	Inc.	Inc.	Inc.
diagnosis	n	n	raw	raw	WS	WS	ES	ES	BRD-S	BRD-S
1998	56	5	5.1	0.4	3.3	0.2	4.5	0.2	4.8	0.3
1999	62	6	5.5	0.5	3.7	0.3	5.1	0.4	5.7	0.5
2000	59	7 /	5.2	0.6	3.5	0.3	4.9	0.4	5.4	0.5
2001	60	7	5.2	0.6	3.5	0.4	4.7	0.6	5.1	0.6
2002	85	7	4.6	0.4	3.0	0.2	4.1	0.3	4.3	0.3
2003	91	7	4.9	0.4	3.2	0.2	4.5	0.3	4.7	0.3
2004	73	10	3.9	0.5	2.6	0.3	3.5	0.4	3.7	0.4
2005	99	15	5.2	0.8	3.4	0.4	4.5	0.6	5.1	0.7
2006	88	12	4.6	0.6	2.9	0.4	4.1	0.5	4.5	0.5
2007	106	17	4.8	0.7	2.9	0.5	4.0	0.7	4.5	0.7
2008	107	20	4.8	0.9	3.0	0.5	4.1	0.6	4.5	0.7
2009	101	16	4.5	0.7	2.7	0.4	3.8	0.5	4.2	0.6
2010	100	12	4.4	0.5	2.7	0.3	3.7	0.4	4.1	0.4
2011	89	13	3.9	0.6	2.2	0.3	3.1	0.4	3.6	0.5
2012	73	12	3.2	0.5	1.8	0.3	2.5	0.4	3.0	0.4
2013	61	10	2.7	0.4	1.6	0.3	2.2	0.3	2.5	0.4
2014	17	5	0.7	0.2	0.4	0.1	0.6	0.2	0.7	0.2
1998-2014	1327	181	4.1	0.5	2.6	0.3	3.6	0.4	3.9	0.5

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

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

	0		0 + -1							
Year of	Cases		Std.	. /				Median		
diagnosis	n	Mean	dev.	Min.	Max.	10%	25%	50%	75%	90%
1998	61	59.4	9.2	37.3	86.7	48.6	54.0	58.1	64.5	70.7
1999	68	59.4	10.1	44.2	87.0	49.6	51.2	56.9	64.5	75.6
2000	66	59.4	10.2	43.1	88.6	49.3	52.1	57.6	65.3	78.8
2001	67	59.0	8.6	29.2	80.9	48.3	53.3	58.2	65.5	69.9
2002	92	58.8	8.4	39.2	77.7	47,0	52.7	58.5	64.4	68.8
2003	98	58.9	9.2	39.6	81.2	47.1	52.8	57.4	66.1	72.6
2004	83	58.5	9.8	38.5	87.8	47.0	52.0	58.9	63.9	69.4
2005	114	60.9	9.5	45.8	84.8	48.1	53.4	61.9	67.4	72.0
2006	100	60.2	9.6	30.6	86.2	49.5	54.6	58.9	66.4	71.8
2007	123	61.5	9.9	30.1	86.0	49.1	53.7	62.6	67.3	74.7
2008	127	62.6	9.8	35.5	91.4	48.6	57.6	61.7	68.3	74.1
2009	117	62.2	9.7	42.7	87.9	49.6	54.7	62.1	69.6	72.9
2010	112	60.2	10.8	35.1	92.3	46.7	52.1	59.5	68.7	73.3
2011	102	64.2	10.2	40.6	91.6	50.0	57.2	64.5	71.8	75.7
2012	85	65.4	10.8	39.9	91.7	49.2	60.1	65.1	73.2	78.3
2013	71	63.4	9.0	44.9	84.4	52.2	55.3	63.4	70.2	75.1
2014	22	63.2	11.2	44.6	83.9	48.3	55.1	62.8	71.0	77.5
1998-2014	1508	61.1	9.9	29.2	92.3	48.6	53.7	60.7	67.7	74.2

Table 3a

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

Year of	Cases		Std.					Median		
diagnosis	n	Mean	dev.	Min.	Max.	10%	25%	50%	75%	90%
1998	56	58.2	7.8	37.3	76.7	47.6	53.7	57.6	63.4	68.9
1999	62	59.3	10.3	44.2	87.0	49.6	51.1	56.9	64.8	74.6
2000	59	58.8	9.8	45.2	88.6	49.3	51.2	57.2	64.3	71.2
2001	60	59.4	8.9	29.2	80.9	48.8	53.2	59.5	65.8	70.0
2002	85	58.4	8.2	39.2	77.7	47.0	52.4	57.7	64.0	68.4
2003	91	59.0	9.0	39.6	81.2	48.4	52.9	57.4	66.2	71.4
2004	73	57.4	9.4	38.5	83.9	46.2	51.1	57.1	63.5	66.8
2005	99	60.5	9.5	45.8	84.8	47.7	53.0	61.6	67.4	70.5
2006	88	59.8	9.5	30.6	85.0	48.9	54.6	58.7	66.3	72.1
2007	106	62.1	9.8	41.0	86.0	49.3	53.7	64.0	67.9	76.3
2008	107	61.8	8.8	40.7	84.5	48.6	56.1	61.5	67.9	71.8
2009	101	61.9	9.8	42.7	87.9	49.6	54.0	61.6	69.0	72.7
2010	100	60.1	10.5	38.7	92.3	46.5	52.3	59.5	68.4	73.5
2011	89	63.9	10.3	40.6	86.3	49.2	56.2	64.8	71.8	75.7
2012	73	65.4	11.0	39.9	91.7	48.6	59.7	65.5	73.9	78.3
2013	61	63.5	9.0	47.5	84.4	52.2	55.3	63.2	70.2	75.7
2014	17	64.9	11.3	44.6	83.9	47.9	58.2	65.2	72.5	82.8
1998-2014	1327	60.8	9.8	29.2	92.3	48.4	53.4	60.4	67.5	74.1

Table 3b

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

Vermof	Casas		C+ d					Madian		
Year of	Cases		Std.	. /				Median		
diagnosis	n	Mean	dev.	Min.	Max.	10%	25%	50%	75%	90%
1998	5	73.4	12.9	59.4	86.7	59.4	60.7	75.4	84.9	86.7
1999	6	59.7	9.1	51.2	75.6	51.2	53.1	57.9	62.6	75.6
2000	7	63.9	13.5	43.1	81.3	43.1	56.9	60.4	79.9	81.3
2001	7	55.0	4.1	47.3	60.0	47.3	53.8	55.1	57.5	60.0
2002	7	63.9	9.4	45.5	73.0	45,5	60.5	66.0	71.6	73.0
2003	7	57.2	12.7	43.6	79.8	43.6	44.7	57.4	65.6	79.8
2004	10	66.9	9.5	56.5	87.8	57.7	60.3	64.8	71.4	82.0
2005	15	64.0	9.6	47.8	81.5	51.5	57.6	64.3	68.5	77.5
2006	12	62.8	10.3	51.6	86.2	52.7	54.4	60.8	70.7	71.5
2007	17	57.9	9.8	30.1	68.0	44.6	54.0	59.8	63.1	67.6
2008	20	66.7	13.2	35.5	91.4	52.7	60.6	66.5	72.5	86.6
2009	16	64.5	9.2	46.5	79.9	49.3	58.9	66.6	71.3	74.4
2010	12	60.3	13.4	35.1	82.4	48.8	49.6	62.7	69.6	71.8
2011	13	65.7	10.0	54.5	91.6	57.2	58.6	62.8	67.7	75.7
2012	12	65.3	9.7	52.5	90.6	54.4	60.5	64.2	68.3	71.3
2013	10	62.9	9.2	44.9	73.2	47.8	59.6	65.7	69.7	72.4
2014	5	57.5	9.8	48.3	71.0	48.3	51.5	52.2	64.5	71.0
1998-2014	181	63.1	10.8	30.1	91.6	49.8	57.2	62.6	69.0	76.2

Age at diagnosis	Cases			Males			Females		
Years	n	olo	Cum.%	n	olo	Cum.%	n	00	Cum.%
30-34	1	0.1	0.1			0.0	1	1.0	1.0
35-39	5	0.7	0.8	3	0.5	0.5	2	1.9	2.9
40 - 44	21	2.8	3.6	19	2.9	3.4	2	1.9	4.8
45-49	61	8.0	11.6	53	8.1	11.5	8	7.6	12.4
50-54	100	13.2	24.8	90	13.8	25.2	10	9.5	21.9
55-59	106	14.0	38.7	94	14.4	39.6	12	11.4	33.3
60-64	147	19.4	58.1	122	18.7	58.3	25	23.8	57.1
65-69	138	18.2	76.3	116	17.7	76.0	22	21.0	78.1
70-74	96	12.6	88.9	82	12.5	88.5	14	13.3	91.4
75-79	53	7.0	95.9	50	7.6	96.2	3	2.9	94.3
80-84	20	2.6	98.6	19	2.9	99.1	1	1.0	95.2
85+	11	1.4	100.0	6	0.9	100.0	5	4.8	100.0
All ages	759	100.0		654	100.0		105	100.0	

Age distribution by 5-year age group and gender for period 2007-2014 (incl. DCO)

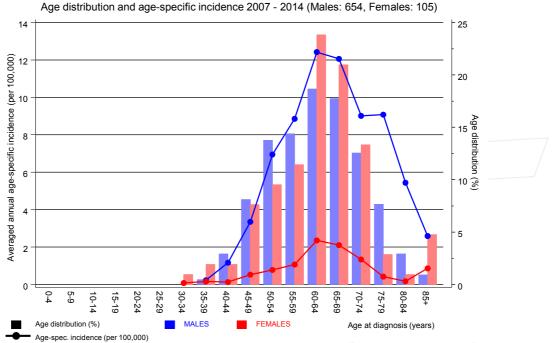
Included in the statistics are 37.5% multiple primaries in males and 45.7% in females.

Age-specific incidence, DCO rate and proportion of all cancers for period 2007-2014

							Males	Females
			Males	Females	Males	Females	Prop.all	Prop.all
Age at			Age-	Age-	DCO rate	DCO rate	cancers	cancers
diagnosis	Males	Females	spec.	spec.	n=26	n=8	n=91183	n=89596
Years	n	n	incid.	incid.	00	00	00	00
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		1	0.0	0.1				0.1
35-39	3	2	0.2	0.2		50.0	0.3	0.1
40 - 44	19	2	1.2	0.1	5.3		1.0	0.1
45-49	53	8	3.4	0.5	3.8		1.6	0.1
50-54	90	10	7.0	0.8	3.3		1.8	0.1
55-59	94	12	8.9	1.1	1.1	8.3	1.3	0.2
60-64	122	25	12.4	2.4	0.8	8.0	1.1	0.3
65-69	116	22	12.1	2.1	3.4	4.5	0.7	0.2
70-74	82	14	9.0	1.3	8.5	7.1	0.5	0.1
75-79	50	3	9.1	0.4	4.0		0.4	0.0
80-84	19	1	5.4	0.2	10.5	100.0	0.2	0.0
85+	6	5	2.6	0.9	50.0	20.0	0.1	0.0
All ages	654	105			4.0	7.6	0.7	0.1
Turidense								
Incidence			2 6	0 6				
Raw			3.6	0.6				
WS			2.2	0.3				
ES			3.0	0.4				
BRD-S			3.4	0.5				

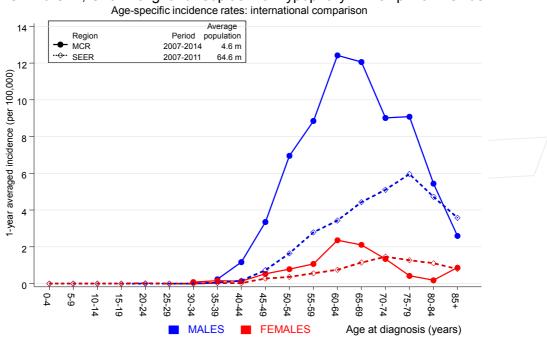
The age-specific incidence characterizes the disease risk in a particular age group. The age distribution depends on the patient population frequency in each age group and reflects the tangible clinical picture of everyday patients care (see following chart).





ICD-10 C12, C13: Malignant neoplasm of hypopharynx incl. piriform sinus Age distribution and age-specific incidence 2007 - 2014 (Males: 654, Females: 105)

Figure 6. Age distribution and age-specific incidence



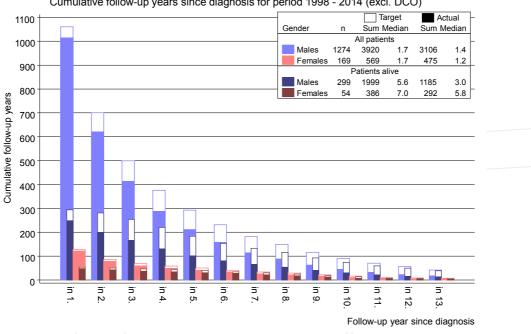
ICD-10 C12, C13: Malignant neoplasm of hypopharynx incl. piriform sinus

Figure 6a. 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.



ICD-10 C12, C13: Malignant neoplasm of hypopharynx incl. piriform sinus Cumulative follow-up years since diagnosis for period 1998 - 2014 (excl. DCO)

Figure 7. 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.



Table 8a

Standardized incidence ratio (SIR, with 95% confidence limits), excess absolute risk (EAR) and DCO rate of second primaries for period 1998-2014 MALES

	Observed	Expected		LCL	UCL		DCO
Diagnosis	n	n	SIR	95%	95%	EAR	2000 %
210910010			0111		500		
C03-C06 Oral cavity	18	0.5	38.0	22.5	60.1 #	56.4	16.7
C09-C10 Oropharynx	30	0.6	48.3	32.6	68.9 #	94.5	
C15 Oesophagus	28	0.8	34.3	22.8	49.5 #	87.4	10.7
C16 Stomach	4	1.3	3.0	0.8	7.6	8.5	
C18 Colon	5	3.3	1.5	0.5	3.6	5.5	
C19-C20 Rectum	4	2.2	1.8	0.5	4.6	5.7	
C22 Liver	9	1.1	8.5	3.9	16.1 #	25.5	
C25 Pancreas	5	1.3	3.9	1.3	9.1 #	12.0	20.0
C32 Larynx	6	0.5	12.1	4.4	26.3 #	17.7	
C33-C34 Lung	58	4.6	12.5	9.5	16.2 #	171.6	10.3
C43 Malign. melanoma	3	1.8	1.7	0.4	5.0	4.0	33.3
C61 Prostate	13	11.0	1.2	0.6	2.0	6.4	15.4
C64 Kidney	4	1.4	2.8	0.8	7.1	8.2	50.0
C65 Renal pelvis	2	0.1	14.7	1.8	53.3 #	6.0	
C67 Bladder	4	1.4	2.9	0.8	7.5	8.4	
C73 Thyroid	3	0.4	8.5	1.8	24.9 #	8.5	33.3
C76-C79 CUP	2	0.6	3.4	0.4	12.2	4.5	
Other primaries	6	2.0	3.0	1.1	6.5 #	12.9	16.7
Not observed	0	3.4	0.0	0.0	1.1	-11.0	
All mult. primaries	204	38.3	5.3	4.6	6.1/#	532.9	9.8

Patients	1296
Median age at second malignanc	cy (years) 64.1
Person-years	3109
Mean observation time (years)	2.4
Median observation time (years	5) 1.4

The occurrence of second malignancy is statistically significant.

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

Table 8b

Standardized incidence ratio (SIR, with 95% confidence limits), excess absolute risk (EAR) and DCO rate of second primaries for period 1998-2014 FEMALES

	Observed	Expected		LCL	UCL		DCO
Diagnosis	n	n	SIR	95%	95%	EAR	90 10
-							
C09-C10 Oropharynx	7	0.0	271.9	109.3	560.2 #	147.5	
C15 Oesophagus	1	0.0	128.7	35.1	329.6 #	83.9	
	7		/				
C22 Liver	З	0.0	68.2	14.1	199.4 #	62.5	33.3
C33-C34 Lung	6	0.4	16.7	6.1	36.4 #	119.3	16.7
C50 Breast	5	1.6	3.2	1.0	7.4 #	72.3	
C51 Vulva	2	0.0	58.9	7.1	212.9 #	41.6	
Other primaries	7	0.7	10.7	4.3	22.1 #	134.2	28.6
Not observed	0	1.7	0.0	0.0	2.2	-36.1	
All mult. primaries	34	4.4	7.7	5.3	10.7 #	625.3	11.8
martes primaries	34	7.7	/ • /	5.5	±0•/ π	023.5	±±•0

176

2.7

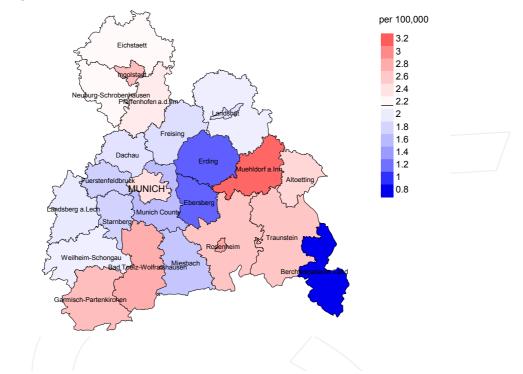
1.0

66.1 473

Patients Median age at second malignancy (years) Person-years Mean observation time (years) Median observation time (years)

The occurrence of second malignancy is statistically significant.

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



Average incidence (world standard population) 2007 - 2014: Males

Average incidence (world standard population) 2007 - 2014: Females

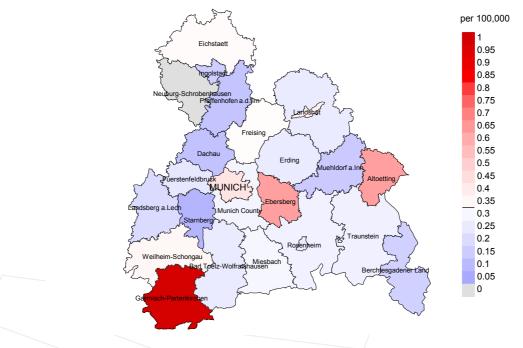
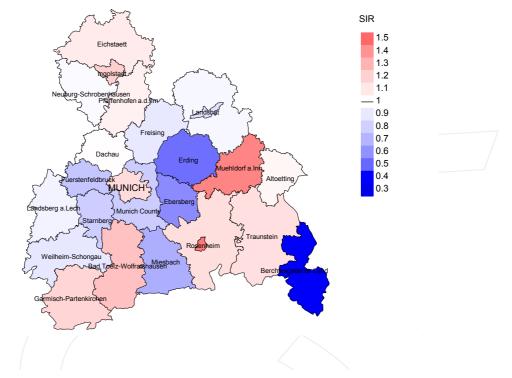


Figure 9a. Map of cancer incidence (world standard population, incl. DCO cases) by county averaged for period 2007 to 2014. According to their individual incidence rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 2.2/100,000 WS N=654, females 0.3/100,000 WS N=105).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 65,347 female residents (averaged) in the period from 2007 to 2014 a total of 6 women were identified with newly diagnosed hypopharynx cancer. Therefore, the mean incidence rate for this cancer type in this area can be calculated at 0.6/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.1 and 1.8/100,000.



Standardized incidence ratio (SIR) 2007 - 2014: Males

Standardized incidence ratio (SIR) 2007 - 2014: Females

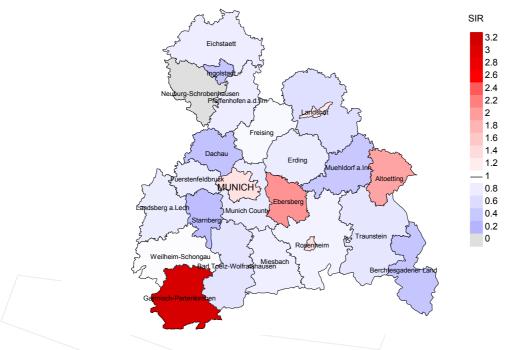


Figure 9b. Map of standardized incidence ratio (SIR, incl. DCO cases) by county averaged for period 2007 to 2014. According to their individual SIR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=654, females N=105).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 64,924 female residents (averaged) in the period from 2007 to 2014 a total of 6 women were identified with newly diagnosed hypopharynx cancer. Therefore, the mean standardized incidence ratio (SIR) for this cancer type in this area can be calculated at 2.07. Though, the value of this parameter may vary with an underlying probability of 99% between 0.53 and 5.41, 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)

						Dreen
		Prop.				Prop. deaths
	Incident	-	Drop		Dron	with death
Veensef		actively followed	Prop.	Desthe	Prop.	certific.
Year of	cases	s solution	DCO	Deaths	deaths %	certiiic. %
diagnosis	n	6	0	n	6	6
1998	61	100.0		54	88.5	98.1
1999	68	98.5	7.4	59	86.8	94.9
2000	66	97.0	3.0	58	87.9	91.4
2001	67	97.0	4.5	56	83.6	98.2
2002	92	97.8	4.3	80	87.0	95.0
2003	98	99.0	1.0	84	85.7	96.4
2004	83	100.0	2.4	74	89.2	93.2
2005	114	99.1	6.1	87	76.3	97.7
2006	100	100.0	3.0	78	78.0	98.7
2007	123	90.2	5.7	97	78.9	95.9
2008	127	91.3	5.5	103	81.1	99.0
2009	117	88.9	3.4	88	75.2	97.7
2010	112	83.9	5.4	78	69.6	98.7
2011	102	87.3	2.9	64	62.7	93.8
2012	85	90.6	5.9	55	64.7	96.4
2013	71	97.2	1.4	42	59.2	100.0
2014	22	95.5	4.5	10	45.5	90.0
1998-2014	1508	94.2	4.0	1167	77.4	96.6

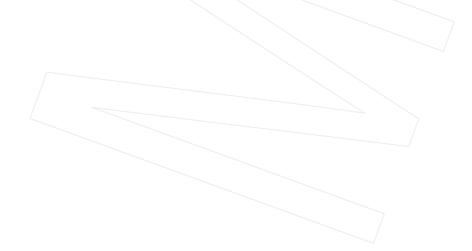


Table 10b

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)

			Drop		
			Prop. deaths		Prop.
Year of	Incident		with death	Deaths in	deaths in
diagnosis/	cases	Deaths	certific.	same year	same year
death	n	n	s	n same year	Same year %
death	11	11	6	11	6
1998	61	45	88.9	13	21.3
1999	68	61	91.8	17	25.0
2000	66	50	96.0	11	16.7
2001	67	55	87.3	10	14.9
2002	92	68	98.5	18	19.6
2003	98	76	96.1	12	12.2
2004	83	84	95.2	16	19.3
2005	114	66	95.5	19	16.7
2006	100	96	99.0	23	23.0
2007	123	116	99.1	27	22.0
2008	127	102	98.0	28	22.0
2009	117	93	98.9	20	17.1
2010	112	99	99.0	23	20.5
2011	102	93	96.8	22	21.6
2012	85	112	96.4	25	29.4
2013	71	81	100.0	16	22.5
2014	22	71	97.2	8	36.4
1998-2014	1508	1368	96.7	308	20.4

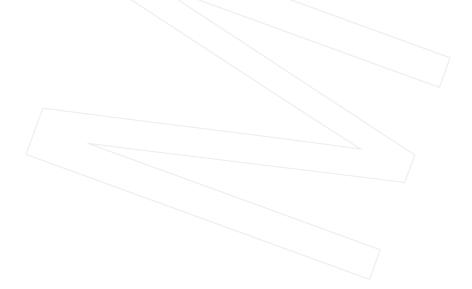


Table 10c

Annual cohorts of deaths, proportion of cancer-related and non-cancerrelated 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)

				Prop.	
				cancer	
		Prop.	Prop.	recorded	
		cancer-	non-cancer-	on death	
Year of	Deaths	related	related	certificate	
death	n	00	90	90	
1998	45	80.0	20.0	95.0	
1999	61	80.3	19.7	96.4	
2000	50	88.0	12.0	93.8	
2001	55	78.2	21.8	89.6	
2002	68	91.2	8.8	98.5	
2003	76	85.5	14.5	97.3	
2004	84	82.1	17.9	91.3	
2005	66	89.4	10.6	95.2	
2006	96	88.5	11.5	93.7	
2007	116	85.3	14.7	93.9	
2008	102	89.2	10.8	96.0	
2009	93	82.8	17.2	96.7	
2010	99	88.9	11.1	94.9	
2011	93	79.6	20.4	85.6	
2012	112	83.0	17.0	93.5	
2013	81	87.7	12.3	93.8	
2014	71	85.9	14.1	91.3	
1998-2014	1368	85.2	14.8	93.9	

					Age at
		Age at	Age at	Age at	death
		death	death	death	(according
		(all	(cancer-	(non-cancer-	to death
Year of	Deaths	causes)	related)	related)	certificate)
death	n	Years	Years	Years	Years
1998	38	57.9	56.5	63.2	58.6
1999	54	58.8	58.8	60.2	58.8
2000	47	59.7	58.8	65.5	59.4
2001	47	58.4	56.5	69.2	57.8
2002	62	59.7	59.8	59.2	59.7
2003	69	63.7	63.6	67.1	63.6
2004	75	60.1	59.8	62.9	60.0
2005	62	62.4	62.7	54.1	62.7
2006	86	62.7	61.6	67.1	62.5
2007	99	62.9	61.9	64.4	62.0
2008	86	64.3	63.5	66.7	64.8
2009	78	65.2	65.2	62.4	65.2
2010	92	62.6	61.6	72.3	61.8
2011	83	65.4	65.2	69.4	65.4
2012	100	65.9	65.9	68.9	65.8
2013	69	66.0	66.0	68.3	65.2
2014	63	65.9	64.4	73.0	65.8
1998-2014	1210	62.9	62.3	66.3	62.7

Table 11a

Medians of age at death according to the grouping in Table 10 $$\rm MALES$$

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.

					Age at
		Age at	Age at	Age at	death
		death	death	death	(according
		(all	(cancer-	(non-cancer-	to death
Year of	Deaths	causes)	related)	related)	certificate)
death	n	Years	Years	Years	Years
1998	7	67.4	62.0	85.2	67.4
1999	7	62.2	62.9	54.4	62.6
2000	3	54.2	54.2		54.2
2001	8	61.5	60.9	63.2	61.4
2002	6	68.6	66.2	73.8	68.6
2003	7	59.9	58.6	79.1	59.9
2004	9	67.7	74.7	65.4	75.7
2005	4	68.4	60.0	69.9	69.3
2006	10	65.6	65.6		65.6
2007	17	67.0	63.1	71.0	67.0
2008	16	64.6	66.3	61.9	64.7
2009	15	68.7	68.6	70.2	69.5
2010	7	62.0	61.2	81.5	62.0
2011	10	62.1	62.1	65.3	60.9
2012	12	69.3	69.3		69.3
2013	12	68.2	68.2	71.4	68.2
2014	8	68.9	69.5	66.5	68.9
1998-2014	158	66.4	65.8	67.6	67.4

Table 11b

Medians of age at death according to the grouping in Table 10 $$\operatorname{FEMALES}$

By 2010, life expectancy at birth was 77.5 years for boys and 82.6 years for girls.

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	Deaths	Mort.	MI-Index	Mort.	MI-Index	Mort.	MI-Index	Mort.	MI-Index
death	n	raw	raw	WS	WS	ES	ES	BRD-S	BRD-S
1998	30	2.7	0.54	1.7	0.53	2.4	0.54	2.7	0.56
1999	44	3.9	0.71	2.5	0.67	3.5	0.68	3.8	0.67
2000	41	3.6	0.69	2.3	0.66	3.3	0.68	3.8	0.71
2001	37	3.2	0.62	2.2	0.62	3.0	0.64	3.3	0.64
2002	57	3.1	0.67	2.0	0.65	2.7	0.66	2.9	0.68
2003	59	3.1	0.65	1.9	0.59	2.6	0.59	3.0	0.63
2004	62	3.3	0.85	2.1	0.82	3.0	0.85	3.1	0.84
2005	57	3.0	0.58	1.8	0.54	2.5	0.56	2.9	0.57
2006	75	3.9	0.85	2.4	0.83	3.4	0.84	3.8	0.86
2007	84	3.8	0.79	2.3	0.81	3.2	0.81	3.6	0.80
2008	77	3.5	0.72	2.0	0.67	2.9	0.69	3.3	0.72
2009	67	3.0	0.66	1.7	0.63	2.4	0.64	2.8	0.68
2010	82	3.6	0.82	2.2	0.80	3.1	0.82	3.4	0.84
2011	66	2.9	0.74	1.7	0.77	2.3	0.76	2.6	0.73
2012	81	3.5	1.11	1.9	1.08	2.8	1.11	3.3	1.13
2013	61	2.7	1.00	1.5	0.93	2.1	0.95	2.4	0.98
2014	56	2.5	3.29	1.4	3.46	2.0	3.35	2.3	3.38
1998-2014	1036	3.2	0.78	2.0	0.75	2.7	0.77	3.1	0.79

Table 12b

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

Year of	Deaths	Mort.	MI-Index	Mort.	MI-Index	Mort.	MI-Index	Mort.	MI-Index
death	n	raw	raw	WS	WS	ES	ES	BRD-S	BRD-S
1998	6	0.5	1.20	0.3	1.92	0.4	1.66	0.4	1.30
1999	5	0.4	0.83	0.2	0.60	0.3	0.64	0.4	0.76
2000	3	0.2	0.43	0.2	0.49	0.2	0.48	0.2	0.45
2001	6	0.5	0.86	0.3	0.63	0.3	0.62	0.4	0.79
2002	5	0.3	0.71	0.1	0.66	0.2	0.71	0.2	0.70
2003	6	0.3	0.86	0.2	0.90	0.3	0.91	0.3	0.89
2004	7	0.4	0.70	0.2	0.69	0.2	0.67	0.3	0.73
2005	2	0.1	0.13	0.1	0.15	0.1	0.15	0.1	0.13
2006	10	0.5	0.83	0.2	0.68	0.3	0.65	0.4	0.71
2007	15	0.6	0.88	0.4	0.74	0.5	0.80	0.6	0.87
2008	14	0.6	0.70	0.3	0.71	0.4	0.71	0.5	0.70
2009	10	0.4	0.63	0.2	0.51	0.3	0.51	0.3	0.54
2010	6	0.3	0.50	0.2	0.60	0.2	0.59	0.2	0.54
2011	8	0.3	0.62	0.2	0.68	0.3	0.67	0.3	0.64
2012	12	0.5	1.00	0.2	0.82	0.4	0.88	0.4	0.89
2013	10	0.4	1.00	0.2	0.98	0.3	0.97	0.4	1.00
2014	5	0.2	1.00	0.1	0.80	0.2	0.85	0.2	0.88
1998-2014	130	0.4	0.72	0.2	0.67	0.3	0.68	0.3	0.69

Age at									
death	Cases			Males			Females		
Years	n	00	Cum.%	n	010	Cum.%	n	00	Cum.%
35-39	3	0.5	0.5	1	0.2	0.2	2	2.5	2.5
40-44	9	1.4	1.8	9	1.6	1.7			2.5
45-49	36	5.5	7.3	35	6.1	7.8	1	1.3	3.8
50-54	72	11.0	18.3	65	11.3	19.2	7	8.8	12.5
55-59	102	15.6	33.9	94	16.4	35.5	8	10.0	22.5
60-64	120	18.3	52.3	103	17.9	53.5	17	21.3	43.8
65-69	128	19.6	71.9	104	18.1	71.6	24	30.0	73.8
70-74	92	14.1	85.9	80	13.9	85.5	12	15.0	88.8
75-79	53	8.1	94.0	52	9.1	94.6	1	1.3	90.0
80-84	28	4.3	98.3	25	4.4	99.0	3	3.8	93.8
85+	11	1.7	100.0	6	1.0	100.0	5	6.3	100.0
All ages	654	100.0		574	100.0		80	100.0	

Age distribution of age at death (cancer-related) for period 2007-2014 (incl. multiple primaries)

Table 13

Included in the statistics are 37.5% multiple primaries in males and 45.7% in females.

Age-specific mortality (cancer-related) and proportion of all cancers for period 2007-2014 (incl. multiple primaries)

Age at death Years	Males Females n n		Females Age- spec. mortal. MI-index	Males Females Prop.all Prop.all cancers cancers
0- 4 5- 9 10-14 15-19 20-24 25-29 30-34		0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0	
35-39 40-44 45-49 50-54 55-59 60-64 65-69	1 2 9 35 1 65 7 94 8 103 17 104 24	0.1 0.33 0.6 0.47 2.2 0.66 5.0 0.72 8.9 1.00 10.5 0.84 10.8 0.90	$\begin{array}{cccc} 0.2 & 1.00 \\ 0.0 \\ 0.1 & 0.13 \\ 0.5 & 0.70 \\ 0.7 & 0.67 \\ 1.6 & 0.68 \\ 2.3 & 1.09 \end{array}$	$\begin{array}{cccc} 0.6 & 0.8 \\ 2.0 \\ 3.4 & 0.1 \\ 3.5 & 0.4 \\ 3.0 & 0.3 \\ 2.2 & 0.5 \\ 1.5 & 0.5 \\ \end{array}$
70-74 75-79 80-84 85+ All ages	80 12 52 1 25 3 6 5 574 80	8.8 0.98 9.4 1.04 7.2 1.32 2.6 1.00	1.1 0.86 0.1 0.33 0.5 3.00 0.9 1.00	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
Mortality Raw WS ES BRD-S		3.2 0.88 1.8 0.85 2.6 0.87 3.0 0.89	0.4 0.76 0.2 0.71 0.3 0.72 0.4 0.73	1.2 0.2
PYLL-70 per 100,000 ES AYLL-70		27.5 24.2 10.7	3.1 2.7 8.4	

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

Table 15a

Multiple primaries in deaths in period 1998-2014 $$\rm MALES$$

					~	a		
					Syn-	Syn-		
	m 1		Dere	Dur	chron	chron	Deet	Deet
	Total	Total	Pre	Pre	±30d	±30d	Post	Post
Diagnosis	n	%↓	n	000	n	← ⁰	n	~%
	6.0	10.0	2.0	50.0		10.0	0.4	
C03-C06 Oral cavity	60	12.8	30	50.0	6	10.0	24	40.0
C09-C10 Oropharynx	57	12.1	13	22.8	24	42.1	20	35.1
C12-C13 Hypopharynx	26	5.5			6	23.1	20	76.9
C15 Oesophagus	56	11.9	8	14.3	9	16.1	39	69.6
C16 Stomach	7	1.5	1	14.3			6	85.7
C18 Colon	16	3.4	10	62.5			6	37.5
C19-C20 Rectum	8	1.7	4	50.0			4	50.0
C22 Liver	12	2.6	1	8.3	2	16.7	9	75.0
C25 Pancreas	6	1.3	1	16.7	1	16.7	4	66.7
C33-C34 Lung	84	17.9	12	14.3	14	16.7	58	69.0
C44 Skin others	31	6.6	11	35.5	3	9.7	17	54.8
C61 Prostate	24	5.1	14	58.3	2	8.3	8	33.3
C64 Kidney	9	1.9	5	55.6	1	11.1	3	33.3
C67 Bladder	16	3.4	9	56.3			7	43.8
C76-C79 CUP	14	3.0	10	71.4			4	28.6
Other primaries	44	9.4	21	47.7	7	15.9	16	36.4
-								
All mult. primaries	470	100.0	150	31.9	75	16.0	245	52.1

Multiple primaries with number of cases 1 to 4 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 1998-2014 $${\rm FEMALES}$$

					Syn- chron	Syn- chron		
	Total	Total	Pre	Pre	±30d	±30d	Post	Post
Diagnosis	n	00↓	n	ee e	n	← ⁰	n	~ ⁹
C03-C06 Oral cavity	10	13.9	9	90.0			1	10.0
C07-C08 Salivary gland	/ 1	1.4	1	100.0				
C09-C10 Oropharynx	6	8.3	3	50.0	3	50.0		
C11 Nasopharynx	1	1.4			1	100.0		
C15 Oesophagus	8	11.1			4	50.0	4	50.0
Cl6 Stomach	1	1.4					1	100.0
C18 Colon	1	1.4					1	100.0
C19-C20 Rectum	1	1.4					1	100.0
C22 Liver	1	1.4					1	100.0
C30-C31 Sinuses	1	1.4					1	100.0
C32 Larynx	3	4.2	2	66.7			1	33.3
C33-C34 Lung	13	18.1			_ 2	15.4	11	84.6
C50 Breast	13	18.1	9	69.2	2	15.4	2	15.4
C51 Vulva	2	2.8	1	50.0<			1	50.0
C53 Cervix uteri	1	1.4	1	100.0				
C54 Corpus uteri	2	2.8	1	50.0			1	50.0
C56 Ovary	1	1.4	1	100.0				
C70-C72 CNS cancer	1	1.4			1	100.0		
C73 Thyroid	3	4.2	2	66.7			1	33.3
C82-C85 NHL	1	1.4	1	100.0				
C91-C96 Leukaemia	1	1.4					1	100.0
All mult. primaries	72	100.0	31	43.1	13	18.1	28	38.9

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.

Age-specific mortality (cancer-related) and proportion of all cancers for period 2007-2014 (First primaries only *)

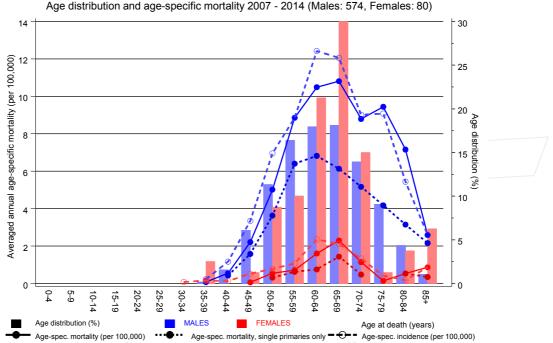
		Males		Females		Males	Females
Age at		Age-		Age-		Prop.all	Prop.all
death	Males Females	s spec.		spec.		cancers	cancers
Years	n n	mortal.	MI-index	mortal.	MI-index	00	90
0-4		0.0		0.0			
5- 9		0.0		0.0			
10-14		0.0		0.0			
15-19		0.0		0.0			
20-24		0.0		0.0			
25-29		0.0		0.0			
30-34		0.0		0.0			
35-39		0.0		0.0			
40-44	9	0.6	0.53	0.0		2.1	
45-49	28 1	1.8	0.68	0.1	0.14	3.0	0.1
50-54	54 5	4.2	0.68	0.4	0.71	3.4	0.3
55-59	80 7	7.5	1.05	0.6	0.70	3.1	0.3
60-64	85 10	8.7	0.83	0.9	0.63	2.2	0.4
65-69	78 20	8.1	0.95	1.9		1.4	0.5
70-74	63 8	6.9	0.97	0.8	0.80	0.9	0.2
75-79	38	6.9	1.09	0.0	0.00	0.6	0.2
80-84	14 3	4.0	1.08	0.5	3.00	0.3	0.1
85+	6 2	2.6	1.20	0.3	1.00	0.1	0.0
0.51	0 2	2.0	1.20	0.5	1.00	0.1	0.0
All ages	455 56					1.2	0.2
nii uges	100 00					1.2	0.2
Mortality							
Raw		2.5	0.88	0.3	0.78		
WS		1.5	0.85	0.3	0.70		
ES		2.1	0.85	0.2	0.71		
BRD-S		2.1	0.88	0.2	0.73		
DKD-2		2.4	0.00	0.2	0.74		
PYLL-70							
per 100,000		22.8		2.0			
ES		22.0		1.7			
es Ayll-70		10.9					
AILL-/U		10.9		7.5			

* See corresponding tables with multiple primaries.

Age-specific mortality (cancer-related) and proportion of all cancers for period 2007-2014 (Single primaries only *)

Age at death	Males Fema	Males Age- les spec.		Females Age- spec.		Males Prop.all cancers	Females Prop.all cancers
Years	n n	mortal.	MI-index	mortal.	MI-index	90	00
0- 4 5- 9 10-14 15-19 20-24 25-29 30-34		0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0		0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0			
35-39		0.0		0.0			
40-44 45-49	7 25	0.4 1.6	0.61	0.0		1.8 2.9	
50-54		4 3.6		0.3	0.57	3.3	0.3
55-59		7 6.4		0.6	0.70	2.9	0.4
60-64 65-69	67 59 1	8 6.8 5 6.1		0.8 1.4	0.53	2.0 1.2	0.3 0.4
85-89 70-74		5 5.2		0.5	0.94	0.8	0.4
75-79	23	4.2		0.0	0.00	0.5	0.1
80-84		3 3.1		0.5	3.00	0.3	0.1
85+		2 2.2	1.00	0.3	1.00	0.1	0.0
All ages	359 4	4				1.1	0.2
Mortality							
Raw		2.0		0.2			
WS		1.2		0.1	0.60		
ES		1.7		0.2	0.62		
BRD-S		1.9	0.76	0.2	0.63		
PYLL-70 per 100,000		19.2		1.6			
ES 100,000		16.9		1.0			
AYLL-70		11.3		7.5			

* See corresponding tables with multiple primaries.

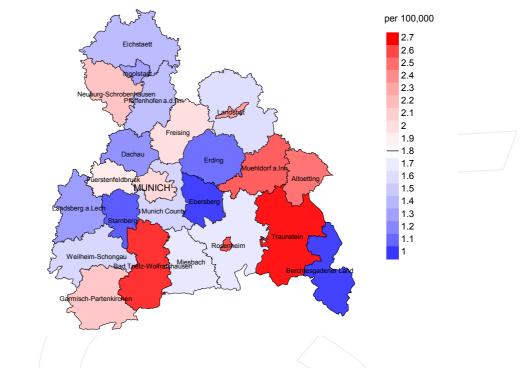


ICD-10 C12, C13: Malignant neoplasm of hypopharynx incl. piriform sinus Age distribution and age-specific mortality 2007 - 2014 (Males: 574, Females: 80)

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 hypopharynx cancer-related death (see Table 10) should be considered.





Average mortality (world standard population) 2007 - 2014: Males

Average mortality (world standard population) 2007 - 2014: Females

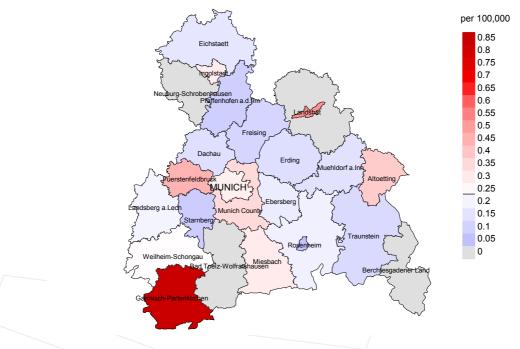
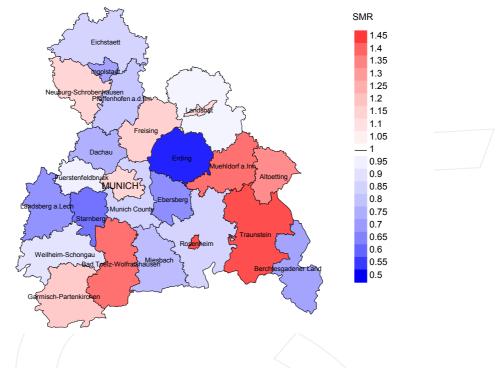


Figure 19a. Map of cancer mortality (world standard population) by county averaged for period 2007 to 2014. According to their individual mortality rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 1.8/100,000 WS N=567, females 0.2/100,000 WS N=79).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 65,347 female residents (averaged) in the period from 2007 to 2014 a total of 2 women died from hypopharynx 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 1.0/100,000.



Standardized mortality ratio (SMR) 2007 - 2014: Males

Standardized mortality ratio (SMR) 2007 - 2014: Females

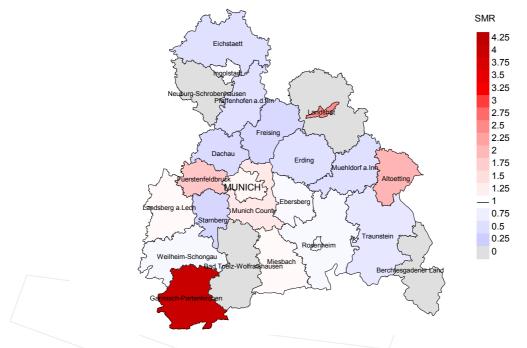


Figure 19b. Map of standardized mortality ratio (SMR, incl. DCO cases) by county averaged for period 2007 to 2014. According to their individual SMR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=567, females N=79).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 64,924 female residents (averaged) in the period from 2007 to 2014 a total of 2 women died from hypopharynx cancer. Therefore, the mean standardized mortality ratio (SMR) for this cancer type in this area can be calculated at 0.93. Though, the value of this parameter may vary with an underlying probability of 99% between 0.05 and 4.30, 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, where applicable. 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 GEKID	Federal Republic of Germany 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

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