Munich Cancer Registry

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ICD-10 C32, C10.1: Larynx cancer

Incidence and Mortality

Year of diagnosis	1998-2014
Patients	2,295
Diseases	2,298
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/bC32__E-ICD-10-C32-C10.1-Larynx-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
C32.-	Malignant neoplasm of larynx
C32.0	Glottis
C32.1	Supraglottis
C32.2	Subglottis
C32.3	Laryngeal cartilage
C32.8	Overlapping lesion of larynx
C32.9	Larynx, unspecified

... or ...

Topography codes (ICD-O-3 2000) used for specifying cancer site

Code	Description
C10.1	Anterior surface of epiglottis

INCIDENCE

Table 1

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

Year of diagnosis	Cases n	DCO cases n	Prop. DCO %	Prop. mult. primaries %	Prop. deaths %	Prop. actively followed %	
1998	105	4	3.8	33.3	70.5	93.3	
1999	100	7	7.0	36.0	68.0	96.0	
2000	94	5	5.3	39.4	70.2	95.7	
2001	87	2	2.3	37.9	70.1	98.9	
2002	178	14	7.9	39.3	68.5	97.8	#
2003	151	11	7.3	35.8	68.9	98.0	
2004	144	14	9.7	36.1	66.7	96.5	
2005	150	5	3.3	38.0	60.0	94.0	
2006	135	7	5.2	35.6	55.6	96.3	
2007	157	9	5.7	36.9	55.4	77.1	#
2008	179	12	6.7	37.4	52.0	81.0	
2009	174	11	6.3	31.6	47.1	78.2	
2010	151	6	4.0	38.4	45.7	79.5	
2011	161	10	6.2	26.1	51.6	75.8	
2012	161	10	6.2	30.4	30.4	73.9	
2013	143	12	8.4	28.7	33.6	97.9	
2014	28	6	21.4	57.1	35.7	96.4	##
1998-2014	2298	145	6.3	35.2	55.6	88.4	

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

All patients with invasive cancer
by year of diagnosis and gender
(incl. DCO)

Year of diagnosis	All n	Males n	Females n	Prop. males %
1998	105	93	12	88.6
1999	100	85	15	85.0
2000	94	77	17	81.9
2001	87	77	10	88.5
2002	178	153	25	86.0
2003	151	130	21	86.1
2004	144	128	16	88.9
2005	150	136	14	90.7
2006	135	113	22	83.7
2007	157	135	22	86.0
2008	179	156	23	87.2
2009	174	153	21	87.9
2010	151	134	17	88.7
2011	161	125	36	77.6
2012	161	142	19	88.2
2013	143	116	27	81.1
2014	28	24	4	85.7
1998-2014	2298	1977	321	86.0

Table 2

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)

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	93	12	8.4	1.0	5.3	0.5	7.5	0.8	8.7	0.9
1999	85	15	7.6	1.3	4.7	0.7	6.7	1.0	7.7	1.2
2000	77	17	6.8	1.4	4.3	1.0	6.1	1.2	7.2	1.4
2001	77	10	6.6	0.8	4.1	0.4	5.8	0.6	6.7	0.7
2002	153	25	8.2	1.3	5.2	0.6	7.2	0.9	8.0	1.1
2003	130	21	6.9	1.1	4.2	0.5	5.9	0.8	6.8	0.9
2004	128	16	6.8	0.8	4.0	0.5	5.7	0.7	6.7	0.7
2005	136	14	7.2	0.7	4.2	0.4	6.0	0.6	6.9	0.6
2006	113	22	5.9	1.1	3.6	0.6	5.0	0.9	5.6	1.0
2007	135	22	6.1	1.0	3.5	0.6	5.0	0.8	5.8	0.8
2008	156	23	7.0	1.0	3.9	0.6	5.7	0.8	6.9	0.9
2009	153	21	6.9	0.9	3.8	0.4	5.4	0.6	6.5	0.7
2010	134	17	5.9	0.7	3.3	0.3	4.7	0.5	5.5	0.6
2011	125	36	5.5	1.5	2.9	0.8	4.1	1.1	5.0	1.3
2012	142	19	6.2	0.8	3.5	0.4	4.9	0.6	5.7	0.7
2013	116	27	5.1	1.1	2.6	0.6	3.8	0.9	4.7	0.9
2014	24	4	1.1	0.2	0.6	0.1	0.8	0.1	1.0	0.2
1998-2014	1977	321	6.2	1.0	3.6	0.5	5.1	0.7	5.9	0.8

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 patients)
(incl. DCO)

Year of diagnosis	Cases n	Mean	Std. dev.	Min.	Max.	10%	25%	Median 50%	75%	90%
1998	105	61.9	10.7	32.9	85.8	48.5	54.9	59.4	70.1	76.1
1999	100	64.0	11.2	26.1	87.7	50.9	56.8	64.5	71.2	76.9
2000	94	61.6	13.4	19.7	90.8	46.0	53.3	61.1	69.7	80.0
2001	87	63.7	10.5	42.5	93.7	49.4	57.7	62.3	69.6	77.6
2002	178	63.1	10.0	37.0	91.2	50.4	56.5	62.2	68.8	76.3
2003	151	63.9	10.6	39.8	94.4	50.5	55.6	63.8	70.5	78.4
2004	144	63.7	10.8	33.8	90.9	48.6	57.6	64.1	70.9	78.4
2005	150	63.8	10.3	32.6	89.6	51.0	56.8	64.2	70.0	77.1
2006	135	63.5	10.0	35.4	90.0	51.5	57.8	62.8	69.7	76.3
2007	157	64.2	10.2	39.2	87.5	50.2	56.9	64.4	70.7	78.6
2008	179	66.1	11.0	32.9	97.5	51.9	57.8	66.2	72.7	79.8
2009	174	66.1	11.4	30.0	94.8	52.1	57.8	66.7	74.1	80.1
2010	151	66.1	9.9	42.5	89.5	52.5	58.7	66.7	72.7	78.6
2011	161	66.2	11.0	25.9	90.2	52.5	59.0	67.5	73.2	79.9
2012	161	65.4	10.4	41.0	89.5	52.1	58.6	64.4	72.9	79.1
2013	143	67.9	10.3	37.3	89.9	52.9	61.0	68.8	74.8	80.4
2014	28	69.0	12.1	32.7	96.6	53.9	63.7	68.3	75.6	83.8
1998-2014	2298	64.7	10.8	19.7	97.5	50.9	57.3	64.6	72.1	78.8

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	93	61.7	10.6	32.9	85.8	48.5	54.6	60.1	69.6	75.3
1999	85	64.1	10.3	38.4	87.7	51.3	57.2	64.5	71.0	76.6
2000	77	62.1	11.9	38.3	89.6	49.0	53.7	60.6	68.3	80.0
2001	77	63.3	9.8	42.6	93.7	51.7	57.8	61.9	68.9	75.4
2002	153	62.1	9.6	37.0	89.6	49.5	56.1	61.7	68.0	74.6
2003	130	63.3	10.1	39.8	88.4	50.4	55.6	63.5	69.5	75.8
2004	128	64.0	10.5	40.8	90.9	48.6	57.8	64.2	70.9	78.6
2005	136	64.2	10.0	39.7	89.6	51.4	57.0	64.3	70.5	77.4
2006	113	63.2	10.2	35.4	90.0	48.8	57.5	62.7	69.6	74.0
2007	135	64.8	9.7	42.3	87.5	51.3	57.4	65.1	71.0	78.5
2008	156	67.0	10.6	45.0	97.5	52.9	59.0	66.8	74.4	79.8
2009	153	65.7	10.5	34.6	88.2	52.1	57.8	66.7	73.7	79.1
2010	134	65.7	9.7	42.5	89.5	52.0	58.6	66.5	72.3	78.4
2011	125	66.8	10.2	40.9	86.5	53.8	59.6	68.2	73.2	80.7
2012	142	65.4	10.6	41.0	89.5	52.1	58.1	64.4	72.9	80.5
2013	116	68.3	10.2	37.3	89.9	52.9	61.6	69.9	75.5	80.4
2014	24	68.6	12.6	32.7	96.6	53.9	63.7	68.3	74.5	83.8
1998-2014	1977	64.7	10.4	32.7	97.5	51.3	57.5	64.6	71.7	78.6

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	12	63.3	11.5	47.2	84.5	52.0	56.0	58.0	71.9	78.6
1999	15	63.6	15.7	26.1	84.4	49.4	52.1	68.9	75.6	79.8
2000	17	59.2	19.0	19.7	90.8	29.9	46.0	66.7	70.1	84.2
2001	10	66.8	15.4	42.5	92.0	43.7	56.2	68.7	77.0	86.6
2002	25	68.8	10.8	48.3	91.2	54.3	61.1	67.7	76.3	81.2
2003	21	67.7	12.7	48.8	94.4	52.7	56.5	64.9	77.3	82.8
2004	16	61.4	13.0	33.8	84.6	41.2	54.1	62.2	70.8	78.0
2005	14	59.6	11.8	32.6	79.0	45.3	55.4	62.4	66.5	68.5
2006	22	65.2	9.5	49.1	83.7	54.6	58.4	63.3	69.9	82.2
2007	22	61.0	12.4	39.2	87.0	48.9	50.1	60.5	67.3	80.3
2008	23	60.0	12.4	32.9	84.9	47.3	51.6	59.9	70.0	72.1
2009	21	69.1	16.6	30.0	94.8	54.1	62.0	68.0	80.1	89.4
2010	17	69.4	11.0	47.2	86.1	55.9	62.9	71.4	77.4	84.6
2011	36	64.0	13.5	25.9	90.2	46.9	56.8	67.4	72.9	76.4
2012	19	65.8	8.5	45.1	77.1	51.8	62.2	66.9	74.3	77.1
2013	27	65.7	10.9	47.8	88.0	52.8	55.4	66.8	73.1	85.4
2014	4	71.2	9.7	59.8	79.8	59.8	63.1	72.6	79.3	79.8
1998-2014	321	64.6	13.0	19.7	94.8	49.4	56.0	64.5	73.4	81.1

Table 4

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

Age at diagnosis Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
25-29	2	0.2	0.2			0.0	2	1.2	1.2
30-34	4	0.3	0.5	2	0.2	0.2	2	1.2	2.4
35-39	3	0.3	0.8	1	0.1	0.3	2	1.2	3.6
40-44	14	1.2	2.0	12	1.2	1.5	2	1.2	4.7
45-49	55	4.8	6.8	46	4.7	6.2	9	5.3	10.1
50-54	106	9.2	15.9	88	8.9	15.1	18	10.7	20.7
55-59	141	12.2	28.2	118	12.0	27.1	23	13.6	34.3
60-64	188	16.3	44.5	161	16.3	43.5	27	16.0	50.3
65-69	215	18.6	63.1	192	19.5	62.9	23	13.6	63.9
70-74	197	17.1	80.2	170	17.3	80.2	27	16.0	79.9
75-79	122	10.6	90.7	107	10.9	91.1	15	8.9	88.8
80-84	68	5.9	96.6	60	6.1	97.2	8	4.7	93.5
85+	39	3.4	100.0	28	2.8	100.0	11	6.5	100.0
All ages	1154	100.0		985	100.0		169	100.0	

Included in the statistics are 43.3% multiple primaries in males and 37.9% in females.

Table 5

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

Age at diagnosis Years	Males n	Females n	Males Age-spec. incid.	Females Age-spec. incid.	Males DCO rate n=62 %	Females DCO rate n=14 %	Males Prop.all cancers n=91183 %	Females Prop.all cancers n=89596 %
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		2	0.0	0.2				0.3
30-34	2	2	0.2	0.2			0.3	0.2
35-39	1	2	0.1	0.2			0.1	0.1
40-44	12	2	0.7	0.1			0.7	0.1
45-49	46	9	2.9	0.6	4.3		1.4	0.2
50-54	88	18	6.8	1.4	3.4	5.6	1.8	0.3
55-59	118	23	11.1	2.0	2.5		1.6	0.3
60-64	161	27	16.4	2.5	3.1		1.5	0.3
65-69	191	23	19.9	2.2	5.2	4.3	1.2	0.2
70-74	170	27	18.7	2.6	8.2	11.1	1.0	0.2
75-79	107	15	19.4	2.1	5.6	6.7	0.9	0.1
80-84	60	8	17.2	1.4	15.0	25.0	0.7	0.1
85+	28	11	12.1	1.9	35.7	54.5	0.5	0.1
All ages	984	169			6.3	8.3	1.1	0.2
Incidence								
Raw			5.4	0.9				
WS			3.0	0.5				
ES			4.3	0.7				
BRD-S			5.1	0.8				

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).

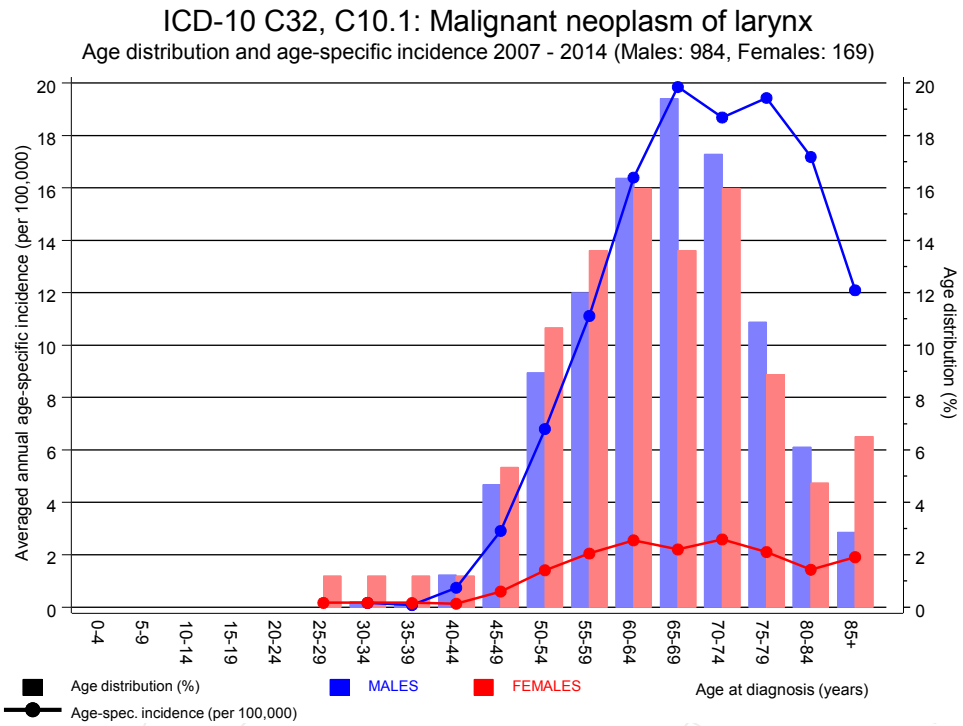


Figure 6. Age distribution and age-specific incidence

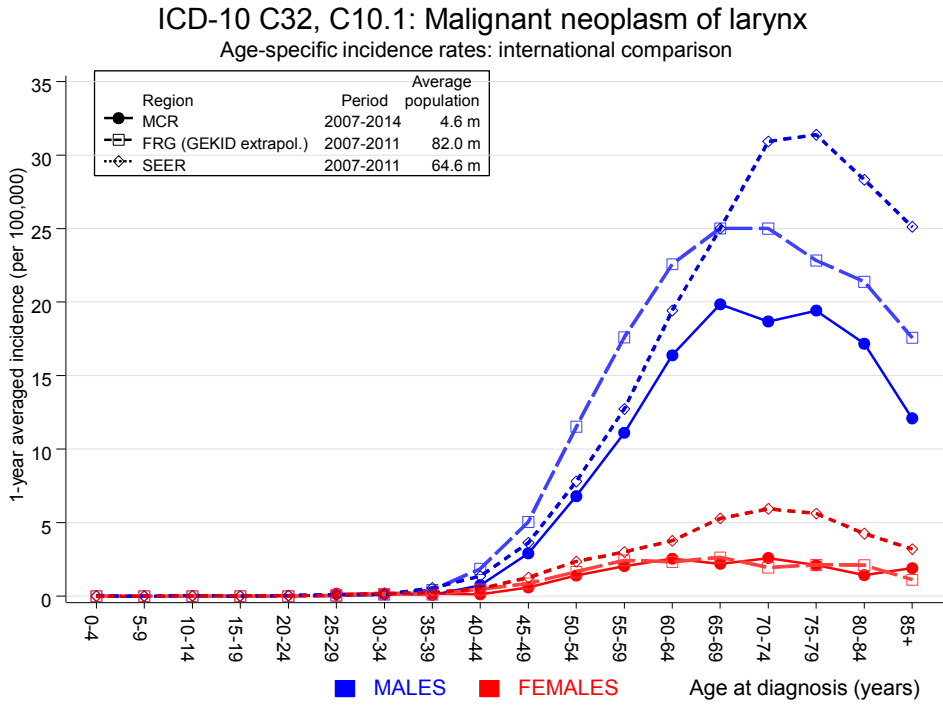


Figure 6a. Age-specific incidence in MCR registry areas compared to Germany (FRG, GEKID extrapolation) and SEER (Surveillance, Epidemiology, and End Results, USA).

Reference:

Extrapolated age-specific patient population of Germany, data status middle of 2010. Association of Population-based Cancer Registries in Germany (GEKID e.V.). Berlin, 2014. http://www.gekid.de. Last access: 02/11/2015

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.

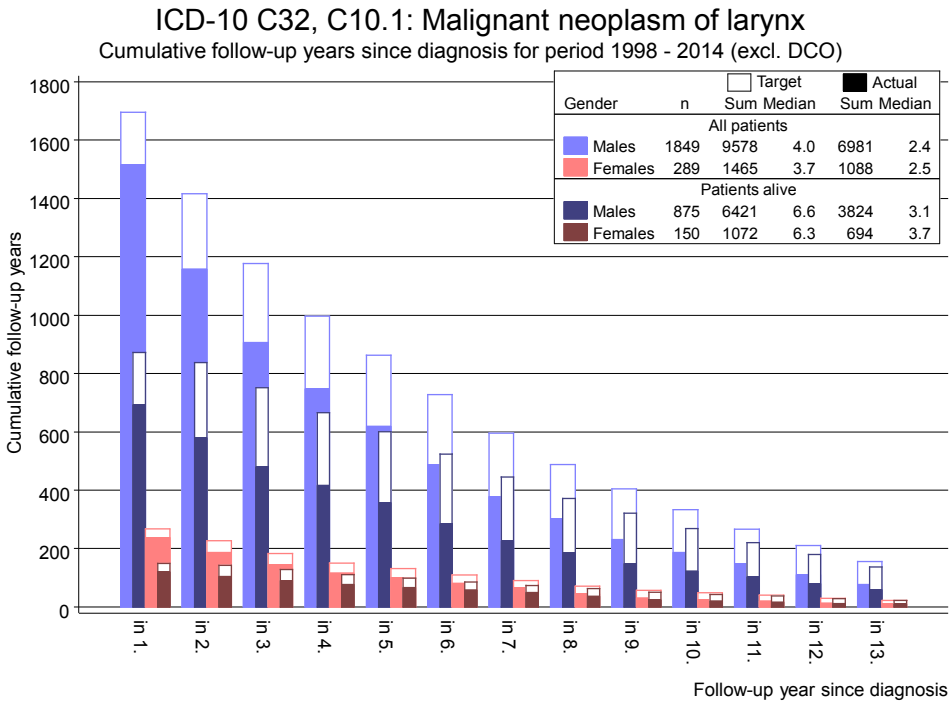


Figure 7. Cumulative follow-up years depending on time since diagnosis

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

Diagnosis		Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C03-C06	Oral cavity	23	1.0	22.1	14.0	33.2	#	31.6	8.7
C09-C10	Oropharynx	34	1.3	25.7	17.8	35.9	#	47.0	11.8
C12-C13	Hypopharynx	14	0.7	19.6	10.7	32.9	#	19.1	
C15	Oesophagus	29	2.1	13.9	9.3	20.0	#	38.7	10.3
C16	Stomach	10	4.2	2.4	1.1	4.4	#	8.3	
C17	Small intestine	5	0.6	8.9	2.9	20.9	#	6.4	
C18	Colon	24	10.2	2.4	1.5	3.5	#	19.9	
C19-C20	Rectum	16	6.1	2.6	1.5	4.3	#	14.3	18.8
C22	Liver	21	3.0	7.0	4.3	10.7	#	25.9	4.8
C23-C24	Bile	3	1.0	2.9	0.6	8.6		2.8	33.3
C25	Pancreas	9	3.8	2.4	1.1	4.5	#	7.4	22.2
C30-C31	Sinuses	4	0.2	21.7	5.9	55.6	#	5.5	
C32	Larynx	3	1.2	2.5	0.5	7.2		2.6	
C33-C34	Lung	120	12.9	9.3	7.7	11.1	#	153.9	10.0
C43	Malign. melanoma	4	4.6	0.9	0.2	2.2		-0.9	
C61	Prostate	34	32.2	1.1	0.7	1.5		2.6	
C64	Kidney	15	3.9	3.9	2.2	6.4	#	16.0	13.3
C65	Renal pelvis	2	0.4	4.6	0.6	16.8		2.3	
C67	Bladder	9	4.5	2.0	0.9	3.8		6.4	
C73	Thyroid	4	0.8	5.1	1.4	13.1	#	4.6	
C76-C79	CUP	8	1.8	4.5	1.9	8.8	#	8.9	
C82-C85	NHL	7	4.2	1.7	0.7	3.4		4.0	
C90	Mult. myeloma	3	1.3	2.3	0.5	6.6		2.4	
C91-C96	Leukaemia	3	1.7	1.8	0.4	5.3		1.9	33.3
Other primaries		5	1.8	2.8	0.9	6.4		4.6	
Not observed		0	3.9	0.0	0.0	0.9	#	-5.6	
All mult. primaries		409	109.5	3.7	3.4	4.1	#	430.4	7.6

Patients	1884
Median age at second malignancy (years)	67.4
Person-years	6958
Mean observation time (years)	3.7
Median observation time (years)	2.3

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

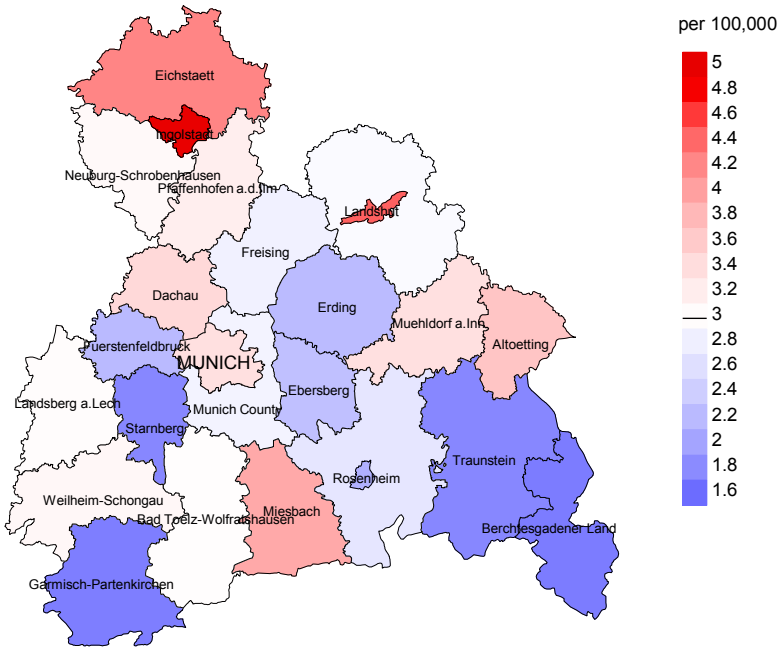
Diagnosis		Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C03–C06	Oral cavity	3	0.1	43.9	9.1	128.3	#	26.9	
C09–C10	Oropharynx	12	0.1	232.3	120.0	405.8	#	109.7	
C15	Oesophagus	3	0.1	45.4	9.4	132.7	#	26.9	
C18	Colon	6	1.0	6.3	2.3	13.6	#	46.3	
C25	Pancreas	2	0.4	4.7	0.6	17.0		14.5	
C33–C34	Lung	17	0.8	21.0	12.2	33.6	#	148.6	5.9
C50	Breast	5	3.5	1.4	0.5	3.3		13.8	
C54	Corpus uteri	2	0.6	3.2	0.4	11.7		12.7	
C76–C79	CUP	3	0.2	17.8	3.7	51.9	#	26.0	
Other primaries		5	1.2	4.2	1.4	9.9	#	35.1	20.0
Not observed		0	3.0	0.0	0.0	1.2		-27.2	
All mult. primaries		58	10.8	5.4	4.1	6.9	#	433.0	3.4

Patients	302
Median age at second malignancy (years)	68.2
Person-years	1090
Mean observation time (years)	3.6
Median observation time (years)	2.4

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

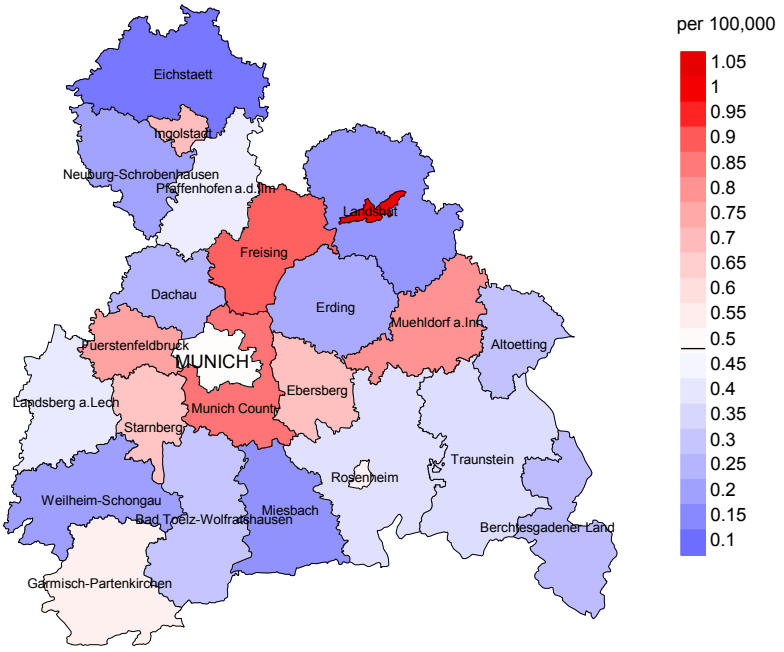
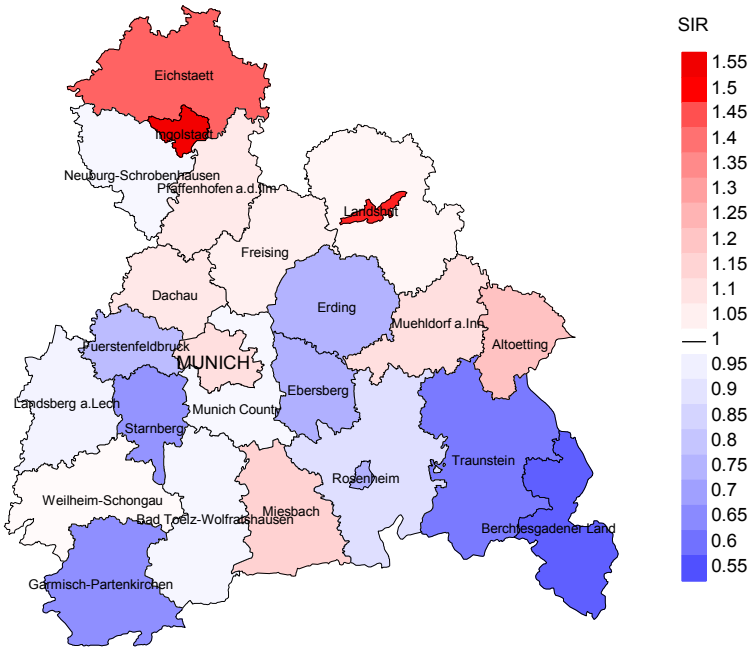


Figure 9a. Map of cancer incidence (world standard population, incl. DCO cases) by county averaged for period 2007 to 2014. According to their individual incidence rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 3.0/100,000 WS N=984, females 0.5/100,000 WS N=169).

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 7 women were identified with newly diagnosed larynx 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 0.2 and 1.9/100,000.

Standardized incidence ratio (SIR) 2007 - 2014: Males



Standardized incidence ratio (SIR) 2007 - 2014: Females

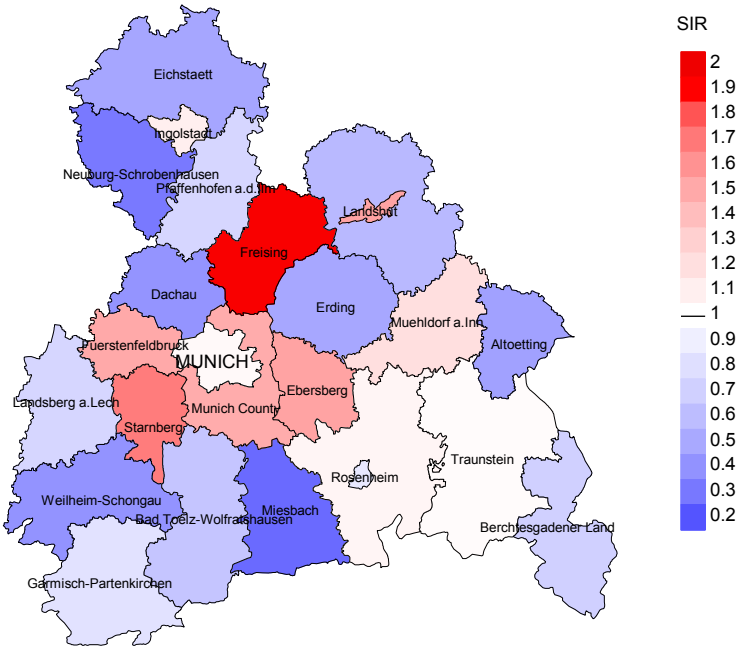


Figure 9b. Map of standardized incidence ratio (SIR, incl. DCO cases) by county averaged for period 2007 to 2014. According to their individual SIR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=984, females N=169).

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 7 women were identified with newly diagnosed larynx cancer. Therefore, the mean standardized incidence ratio (SIR) for this cancer type in this area can be calculated at 1.53. Though, the value of this parameter may vary with an underlying probability of 99% between 0.44 and 3.74, 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	93.3	3.8	74	70.5	91.9
1999	100	96.0	7.0	68	68.0	98.5
2000	94	95.7	5.3	66	70.2	90.9
2001	87	98.9	2.3	61	70.1	90.2
2002	178	97.8	7.9	122	68.5	100.0
2003	151	98.0	7.3	104	68.9	98.1
2004	144	96.5	9.7	96	66.7	96.9
2005	150	94.0	3.3	90	60.0	97.8
2006	135	96.3	5.2	75	55.6	97.3
2007	157	77.1	5.7	87	55.4	97.7
2008	179	81.0	6.7	93	52.0	95.7
2009	174	78.2	6.3	82	47.1	100.0
2010	151	79.5	4.0	69	45.7	98.6
2011	161	75.8	6.2	83	51.6	94.0
2012	161	73.9	6.2	49	30.4	93.9
2013	143	97.9	8.4	48	33.6	97.9
2014	28	96.4	21.4	10	35.7	90.0
1998-2014	2298	88.4	6.3	1277	55.6	96.5

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	68	94.1	8	7.6
1999	100	94	87.2	13	13.0
2000	94	68	98.5	7	7.4
2001	87	67	86.6	9	10.3
2002	178	118	94.9	29	16.3
2003	151	104	99.0	19	12.6
2004	144	111	98.2	22	15.3
2005	150	102	95.1	18	12.0
2006	135	126	96.0	15	11.1
2007	157	139	97.8	19	12.1
2008	179	157	98.1	23	12.8
2009	174	140	97.9	23	13.2
2010	151	131	96.9	25	16.6
2011	161	113	97.3	21	13.0
2012	161	150	96.0	23	14.3
2013	143	148	97.3	23	16.1
2014	28	115	98.3	9	32.1
1998-2014	2298	1951	96.3	306	13.3

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	68	64.7	35.3	84.4
1999	94	62.8	37.2	82.9
2000	68	61.8	38.2	82.1
2001	67	65.7	34.3	84.5
2002	118	66.9	33.1	81.3
2003	104	62.5	37.5	84.5
2004	111	70.3	29.7	83.5
2005	102	69.6	30.4	89.7
2006	126	61.9	38.1	77.7
2007	139	71.2	28.8	87.5
2008	157	71.3	28.7	87.0
2009	140	69.3	30.7	81.0
2010	131	74.0	26.0	85.8
2011	113	67.3	32.7	87.3
2012	150	66.7	33.3	82.6
2013	148	64.9	35.1	81.9
2014	115	56.5	43.5	79.6
1998-2014	1951	66.7	33.3	83.7

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	58	67.0	64.7	69.4	66.6
1999	83	68.2	66.9	69.3	64.7
2000	58	66.6	64.3	73.7	66.8
2001	56	65.9	62.8	73.5	62.6
2002	101	67.4	67.3	73.0	67.3
2003	88	66.9	66.1	70.5	66.3
2004	96	67.4	65.2	73.8	65.6
2005	89	71.2	69.7	74.0	69.5
2006	113	69.9	67.9	76.3	68.0
2007	120	68.0	67.5	73.0	68.0
2008	144	70.5	68.7	77.0	69.6
2009	130	72.8	70.8	76.0	71.3
2010	119	70.1	69.9	74.9	69.0
2011	98	71.1	71.6	70.3	71.1
2012	131	74.5	72.6	77.6	73.0
2013	128	72.6	71.1	75.2	71.5
2014	96	73.9	72.9	75.1	73.3
1998-2014	1708	70.3	68.6	74.4	69.1

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	10	68.3	66.5	72.0	62.0
1999	11	72.8	79.2	65.8	72.8
2000	10	72.8	69.8	79.9	66.9
2001	11	81.0	79.2	84.9	81.0
2002	17	75.1	71.2	80.2	73.4
2003	16	71.9	66.8	78.4	71.5
2004	15	74.1	72.9	76.2	70.9
2005	13	64.4	66.5	53.1	65.5
2006	13	70.2	70.1	72.0	70.1
2007	19	69.3	69.3	69.3	69.3
2008	13	71.4	71.4	81.5	70.8
2009	10	65.8	64.5	88.3	65.7
2010	12	83.4	75.2	90.0	79.4
2011	15	74.1	76.7	69.3	75.4
2012	19	72.5	72.5	77.9	72.3
2013	20	75.2	75.2	78.1	75.2
2014	19	67.3	60.0	79.0	60.8
1998-2014	243	72.1	71.4	77.3	71.4

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 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	37	3.3	0.40	2.0	0.37	2.9	0.39	3.8	0.44
1999	52	4.6	0.61	2.9	0.61	4.2	0.63	5.2	0.68
2000	37	3.2	0.48	2.0	0.47	2.9	0.48	3.4	0.48
2001	40	3.5	0.52	2.1	0.52	3.0	0.52	3.4	0.51
2002	68	3.6	0.44	2.1	0.40	3.1	0.43	3.9	0.49
2003	55	2.9	0.42	1.7	0.41	2.5	0.42	3.0	0.44
2004	68	3.6	0.53	2.0	0.50	3.0	0.52	3.6	0.54
2005	60	3.2	0.44	1.6	0.39	2.5	0.41	3.4	0.48
2006	73	3.8	0.65	2.0	0.57	3.0	0.60	3.9	0.70
2007	84	3.8	0.63	2.0	0.58	3.0	0.60	3.6	0.63
2008	101	4.5	0.65	2.3	0.59	3.5	0.61	4.4	0.64
2009	90	4.0	0.59	2.0	0.52	3.0	0.56	4.0	0.62
2010	88	3.9	0.66	2.0	0.60	2.9	0.62	3.7	0.66
2011	63	2.8	0.50	1.3	0.45	1.9	0.47	2.5	0.50
2012	85	3.7	0.60	1.7	0.50	2.7	0.55	3.5	0.61
2013	78	3.4	0.67	1.6	0.63	2.4	0.65	3.2	0.68
2014	54	2.4	2.25	1.1	1.84	1.6	1.98	2.3	2.29
1998-2014	1133	3.5	0.57	1.9	0.52	2.8	0.55	3.5	0.60

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	7	0.6	0.58	0.3	0.63	0.5	0.60	0.5	0.58
1999	7	0.6	0.47	0.2	0.34	0.4	0.39	0.6	0.47
2000	5	0.4	0.29	0.2	0.20	0.3	0.25	0.4	0.28
2001	4	0.3	0.40	0.1	0.17	0.1	0.24	0.3	0.38
2002	11	0.6	0.44	0.2	0.41	0.4	0.41	0.5	0.42
2003	10	0.5	0.48	0.3	0.51	0.4	0.51	0.5	0.49
2004	10	0.5	0.63	0.2	0.40	0.3	0.45	0.4	0.55
2005	11	0.6	0.79	0.3	0.67	0.4	0.69	0.5	0.75
2006	5	0.2	0.23	0.1	0.18	0.2	0.20	0.2	0.23
2007	15	0.6	0.68	0.3	0.50	0.4	0.56	0.5	0.64
2008	11	0.5	0.48	0.2	0.33	0.3	0.36	0.3	0.38
2009	7	0.3	0.33	0.2	0.39	0.2	0.39	0.3	0.34
2010	9	0.4	0.53	0.1	0.35	0.2	0.39	0.3	0.41
2011	13	0.6	0.36	0.2	0.24	0.3	0.27	0.4	0.32
2012	15	0.6	0.79	0.2	0.55	0.4	0.60	0.5	0.70
2013	18	0.8	0.67	0.3	0.48	0.5	0.53	0.6	0.64
2014	11	0.5	2.75	0.3	3.55	0.4	3.25	0.4	2.64
1998-2014	169	0.5	0.53	0.2	0.42	0.3	0.45	0.4	0.49

Table 13

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

Age at death Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
35-39	1	0.1	0.1			0.0	1	1.0	1.0
40-44	1	0.1	0.3	1	0.2	0.2			1.0
45-49	12	1.6	1.9	11	1.7	1.9	1	1.0	2.0
50-54	42	5.6	7.5	35	5.4	7.3	7	7.1	9.1
55-59	60	8.0	15.5	51	7.9	15.1	9	9.1	18.2
60-64	90	12.1	27.6	81	12.5	27.7	9	9.1	27.3
65-69	145	19.4	47.1	129	19.9	47.6	16	16.2	43.4
70-74	142	19.0	66.1	125	19.3	66.9	17	17.2	60.6
75-79	113	15.1	81.2	97	15.0	81.9	16	16.2	76.8
80-84	75	10.1	91.3	68	10.5	92.4	7	7.1	83.8
85+	65	8.7	100.0	49	7.6	100.0	16	16.2	100.0
All ages	746	100.0		647	100.0		99	100.0	

Included in the statistics are 43.3% multiple primaries in males and 37.9% in females.

Table 14

Age-specific mortality (cancer-related) and proportion of all cancers
for period 2007-2014
(**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			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		1	0.0		0.1	0.50		0.4
40-44	1		0.1	0.08	0.0		0.2	
45-49	11	1	0.7	0.24	0.1	0.11	1.1	0.1
50-54	35	7	2.7	0.40	0.5	0.39	1.9	0.4
55-59	51	9	4.8	0.43	0.8	0.39	1.6	0.3
60-64	81	9	8.2	0.50	0.8	0.33	1.7	0.3
65-69	129	16	13.4	0.67	1.5	0.70	1.8	0.3
70-74	125	17	13.7	0.74	1.6	0.63	1.4	0.3
75-79	97	16	17.6	0.91	2.2	1.07	1.1	0.3
80-84	68	7	19.5	1.13	1.2	0.88	0.9	0.1
85+	49	16	21.2	1.75	2.8	1.45	0.8	0.2
All ages	647	99					1.3	0.2
Mortality								
Raw			3.6	0.66	0.5	0.59		
WS			1.8	0.59	0.2	0.46		
ES			2.6	0.62	0.3	0.50		
BRD-S			3.4	0.67	0.4	0.54		
PYLL-70								
per 100,000			15.3		2.5			
ES			13.5		2.2			
AYLL-70			8.0		9.2			

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

Table 15a

Multiple primaries in deaths in period 1998–2014
MALES

Diagnosis	Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C03–C06 Oral cavity	48	5.9	13	27.1	9	18.8	26	54.2
C09–C10 Oropharynx	40	5.0			8	20.0	32	80.0
C12–C13 Hypopharynx	26	3.2	3	11.5	5	19.2	18	69.2
C15 Oesophagus	41	5.1	4	9.8	7	17.1	30	73.2
C16 Stomach	21	2.6	2	9.5	2	9.5	17	81.0
C18 Colon	51	6.3	16	31.4	1	2.0	34	66.7
C19–C20 Rectum	24	3.0	4	16.7	1	4.2	19	79.2
C22 Liver	20	2.5			2	10.0	18	90.0
C25 Pancreas	17	2.1	1	5.9	3	17.6	13	76.5
C32 Larynx	41	5.1			4	9.8	37	90.2
C33–C34 Lung	201	24.9	27	13.4	26	12.9	148	73.6
C43 Malign. melanoma	12	1.5	6	50.0	1	8.3	5	41.7
C44 Skin others	38	4.7	14	36.8	5	13.2	19	50.0
C61 Prostate	76	9.4	33	43.4	7	9.2	36	47.4
C64 Kidney	15	1.9	3	20.0	1	6.7	11	73.3
C67 Bladder	37	4.6	12	32.4	1	2.7	24	64.9
C76–C79 CUP	17	2.1	5	29.4			12	70.6
C82–C85 NHL	15	1.9	4	26.7	3	20.0	8	53.3
C91–C96 Leukaemia	10	1.2	1	10.0	1	10.0	8	80.0
Other primaries	57	7.1	22	38.6	2	3.5	33	57.9
All mult. primaries	807	100.0	170	21.1	89	11.0	548	67.9

Multiple primaries with number of cases 1 to 7 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
FEMALES

Diagnosis	Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C03–C06 Oral cavity	6	5.3	3	50.0			3	50.0
C09–C10 Oropharynx	17	14.9	8	47.1	3	17.6	6	35.3
C12–C13 Hypopharynx	3	2.6	1	33.3			2	66.7
C15 Oesophagus	4	3.5	2	50.0			2	50.0
C16 Stomach	2	1.8	1	50.0			1	50.0
C18 Colon	9	7.9	2	22.2	2	22.2	5	55.6
C19–C20 Rectum	2	1.8					2	100.0
C33–C34 Lung	24	21.1	4	16.7	2	8.3	18	75.0
C43 Malign. melanoma	2	1.8					2	100.0
C44 Skin others	3	2.6					3	100.0
C50 Breast	16	14.0	7	43.8	1	6.3	8	50.0
C51 Vulva	2	1.8					2	100.0
C53 Cervix uteri	2	1.8	1	50.0			1	50.0
C54 Corpus uteri	3	2.6					3	100.0
C67 Bladder	2	1.8	1	50.0			1	50.0
C70–C72 CNS cancer	3	2.6	1	33.3			2	66.7
C76–C79 CUP	3	2.6					3	100.0
C82–C85 NHL	2	1.8	1	50.0			1	50.0
C91–C96 Leukaemia	2	1.8					2	100.0
Other primaries	7	6.1	3	42.9	1	14.3	3	42.9
All mult. primaries	114	100.0	35	30.7	9	7.9	70	61.4

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 2007-2014
(**First 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		1	0.0		0.1	0.50		0.4
40-44	1		0.1	0.08	0.0		0.2	
45-49	7	1	0.4	0.18	0.1	0.13	0.8	0.1
50-54	28	6	2.2	0.37	0.5	0.35	1.8	0.4
55-59	43	8	4.0	0.43	0.7	0.47	1.6	0.4
60-64	64	5	6.5	0.52	0.5	0.26	1.6	0.2
65-69	101	10	10.5	0.68	1.0	0.56	1.8	0.2
70-74	92	9	10.1	0.80	0.9	0.45	1.3	0.2
75-79	72	13	13.1	0.99	1.8	1.30	1.2	0.3
80-84	51	5	14.6	1.28	0.9	1.00	1.0	0.1
85+	39	14	16.8	2.60	2.4	1.75	0.9	0.2
All ages	498	72					1.3	0.2
Mortality								
Raw			2.8	0.67	0.4	0.56		
WS			1.4	0.59	0.2	0.42		
ES			2.1	0.63	0.2	0.46		
BRD-S			2.6	0.68	0.3	0.51		
PYLL-70								
per 100,000			12.1		2.0			
ES			10.7		1.8			
AYLL-70			8.0		10.4			

* See corresponding tables with multiple primaries.

Table 17

Age-specific mortality (cancer-related) and proportion of all cancers
for period 2007-2014
(**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			0.0		0.0			
40-44	1		0.1	0.09	0.0		0.3	
45-49	5	1	0.3	0.14	0.1	0.14	0.6	0.1
50-54	24	5	1.9	0.35	0.4	0.38	1.7	0.4
55-59	27	6	2.5	0.30	0.5	0.43	1.2	0.3
60-64	43	4	4.4	0.39	0.4	0.22	1.3	0.2
65-69	54	6	5.6	0.44	0.6	0.35	1.1	0.2
70-74	43	5	4.7	0.44	0.5	0.28	0.8	0.1
75-79	32	8	5.8	0.51	1.1	0.80	0.7	0.2
80-84	28	3	8.0	0.80	0.5	0.75	0.7	0.1
85+	20	9	8.6	1.33	1.6	1.13	0.6	0.2
All ages	277	47					0.9	0.2
Mortality								
Raw			1.5	0.42	0.3	0.41		
WS			0.8	0.39	0.1	0.33		
ES			1.2	0.41	0.2	0.35		
BRD-S			1.5	0.43	0.2	0.38		
PYLL-70								
per 100,000			8.5		1.5			
ES			7.5		1.3			
AYLL-70			8.8		10.5			

* See corresponding tables with multiple primaries.

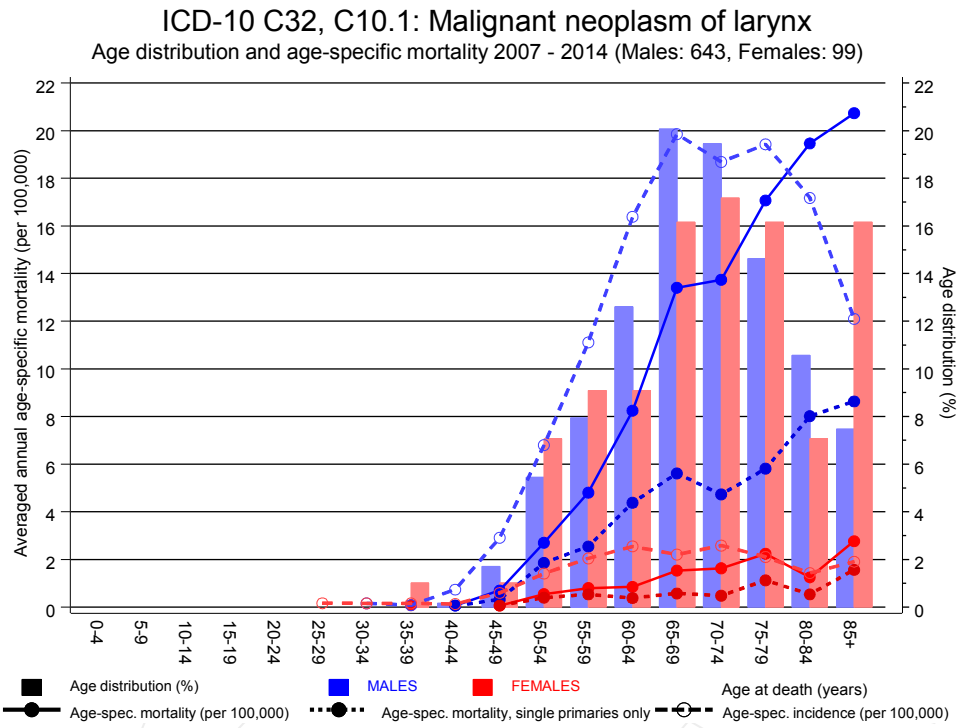
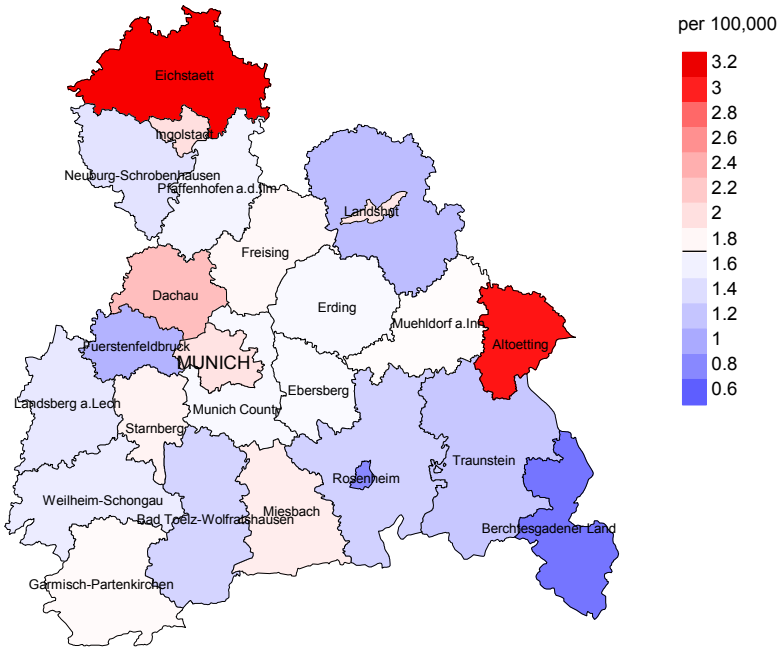


Figure 18. Distribution of age at death (bars) and age-specific mortality (all patients: solid line, patients with single primaries: dotted line). The age-specific incidence is additionally plotted for comparison (dashed line).

The difference between age at diagnosis (Table 3) and age at larynx 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

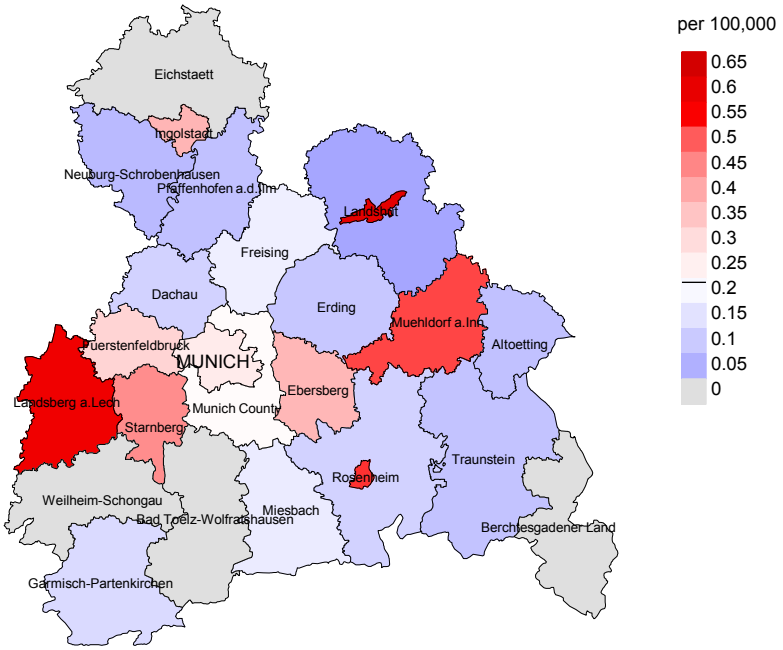
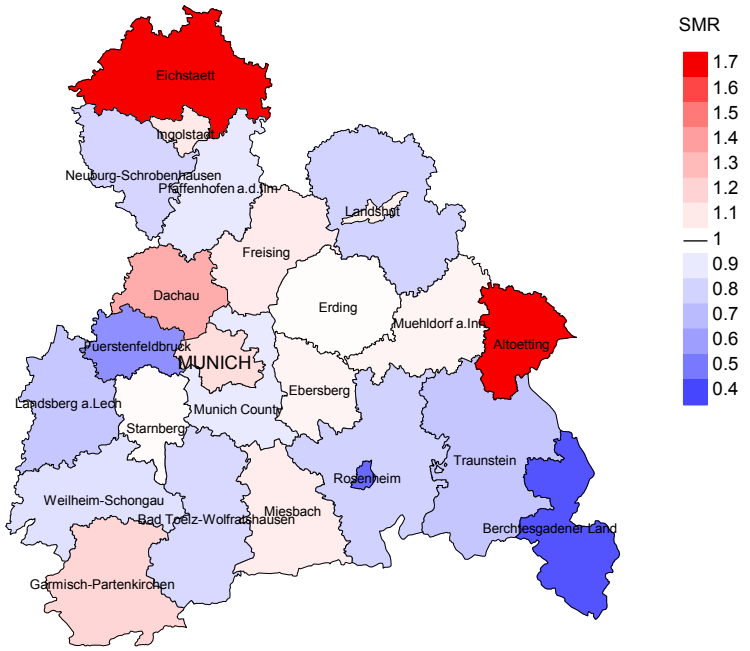


Figure 19a. Map of cancer mortality (world standard population) by county averaged for period 2007 to 2014. According to their individual mortality rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 1.7/100,000 WS N=633, females 0.2/100,000 WS N=96).

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 5 women died from larynx cancer. Therefore, the mean mortality rate for this cancer type in this area can be calculated at 0.4/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.1 and 1.3/100,000.

Standardized mortality ratio (SMR) 2007 - 2014: Males



Standardized mortality ratio (SMR) 2007 - 2014: Females

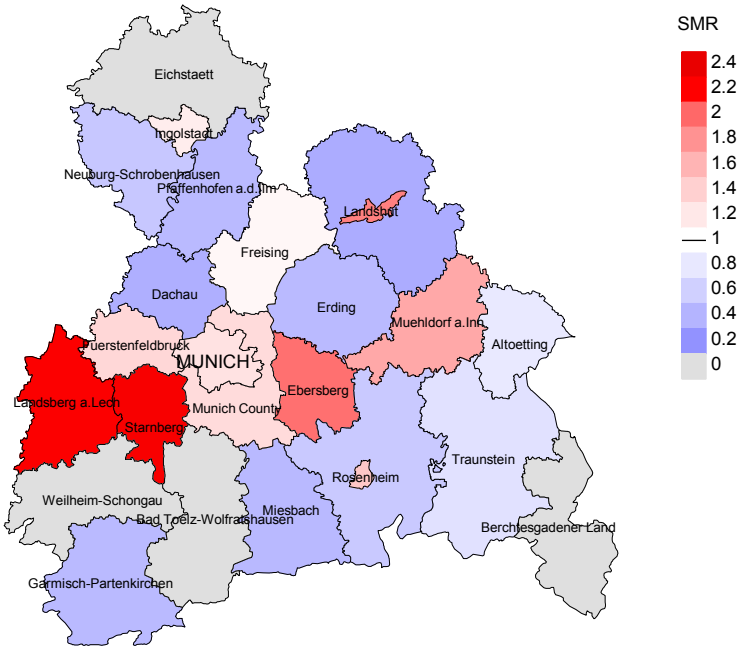


Figure 19b. Map of standardized mortality ratio (SMR, incl. DCO cases) by county averaged for period 2007 to 2014. According to their individual SMR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=633, females N=96).

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 5 women died from larynx cancer. Therefore, the mean standardized mortality ratio (SMR) for this cancer type in this area can be calculated at 1.96. Though, the value of this parameter may vary with an underlying probability of 99% between 0.42 and 5.55, 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	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

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