Munich Cancer Registry

- Survival
- Selection Matrix
- Homepage

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

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

Cancer statistics: Baseline statistics

C70-C72: Brain/nerves cancer

Year of diagnosis	1998-2012
Patients	4,940
Diseases	4,944
Creation date	03/20/2014
Export date	02/12/2014
Population	4.5 m

http://www.tumorregister-muenchen.de/en/facts/base/base_C7072E.pdf

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

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

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

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

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

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

Munich Cancer Registry, March 2014

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

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

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

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	192	48	25.0	9.9	86.5	98.4	
1999	181	49	27.1	11.0	87.8	98.3	
2000	201	50	24.9	10.9	80.6	97.5	
2001	240	55	22.9	8.8	83.8	96.7	
2002	356	63	17.7	12.4	80.6	98.6	#
2003	392	72	18.4	11.5	78.8	98.7	#
2004	352	73	20.7	13.1	77.6	97.7	#
2005	392	65	16.6	13.8	78.1	96.9	#
2006	316	40	12.7	12.3	77.2	95.6	#
2007	370	49	13.2	14.1	70.0	88.4	# ##
2008	429	61	14.2	14.0	72.7	83.7	
2009	446	53	11.9	12.3	75.6	86.5	
2010	399	54	13.5	16.8	76.9	88.2	
2011	376	54	14.4	16.5	66.0	85.6	
2012	302	47	15.6	17.2	52.0	98.3	###
1998-2012	4944	833	16.8	13.3	75.4	93.1	

\# 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	192	98	94	51.0
1999	181	91	90	50.3
2000	201	104	97	51.7
2001	240	117	123	48.8
2002	356	183	173	51.4
2003	392	203	189	51.8
2004	352	176	176	50.0
2005	392	205	187	52.3
2006	316	182	134	57.6
2007	370	198	172	53.5
2008	429	243	186	56.6
2009	446	259	187	58.1
2010	399	223	176	55.9
2011	376	201	175	53.5
2012	302	167	135	55.3
1998-2012	4944	2650	2294	53.6

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 4.52 m as of 2007, respectively)

Year of diagnosis	Males n	Females n	Males Inc. raw	Fem. Inc. raw	Males Inc. WS	Fem. Inc. WS	Males Inc. ES	Fem. Inc. ES	Males Inc. BRD-S	Fem. Inc. BRD-S
1998	98	94	8.8	8.0	6.3	5.6	8.0	6.7	8.9	7.6
1999	91	90	8.1	7.6	5.6	4.5	7.5	5.8	8.6	6.7
2000	104	97	9.1	8.1	6.6	4.9	8.4	6.3	9.8	7.2
2001	117	123	10.1	10.1	7.0	6.1	9.2	7.9	10.7	9.1
2002	183	173	9.8	8.8	7.1	5.1	8.7	6.7	9.9	7.9
2003	203	189	10.8	9.6	7.6	6.2	9.6	7.7	11.1	8.7
2004	176	176	9.4	8.9	6.3	6.0	8.2	7.0	9.4	7.8
2005	205	187	10.8	9.4	7.4	5.9	9.2	7.2	10.6	8.1
2006	182	134	9.5	6.7	6.6	3.9	8.2	4.9	9.2	5.7
2007	198	172	8.9	7.4	6.5	4.7	7.8	5.8	8.5	6.8
2008	243	186	10.9	8.0	7.3	5.3	9.2	6.2	10.9	7.0
2009	259	187	11.6	8.0	7.3	4.8	9.5	6.1	11.2	6.9
2010	223	176	9.9	7.5	6.6	4.6	8.2	5.5	9.5	6.3
2011	201	175	8.8	7.4	5.6	4.1	7.2	5.3	8.4	6.3
2012	167	135	7.3	5.7	4.6	3.3	5.9	4.1	7.0	4.7
1998-2012	2650	2294	9.7	8.0	6.5	4.9	8.3	6.1	9.6	7.0

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	192	56.5	19.1	1.8	90.6	32.4	46.3	57.5	70.9	79.7
1999	181	60.1	17.9	1.6	93.4	36.5	51.0	61.9	72.6	79.4
2000	201	59.3	18.4	2.9	93.8	34.7	48.7	62.4	71.7	79.6
2001	240	59.7	18.4	1.0	92.0	35.7	50.5	61.9	73.1	80.1
2002	356	59.4	18.8	0.8	91.2	31.6	49.7	62.9	72.9	80.8
2003	392	57.9	18.9	0.6	95.4	31.3	45.1	61.7	72.7	79.3
2004	352	59.0	19.9	0.0	92.8	33.0	48.2	62.3	73.5	81.9
2005	392	59.1	20.2	0.8	94.3	30.9	46.9	64.2	73.2	81.3
2006	316	59.5	19.6	0.3	97.0	32.2	47.4	63.6	73.2	81.3
2007	370	57.5	20.8	0.1	93.5	29.9	43.6	61.4	73.1	80.9
2008	429	59.4	20.5	0.0	94.1	29.5	47.8	64.6	73.8	80.9
2009	446	61.3	18.2	0.2	94.2	35.3	51.5	65.0	74.4	82.3
2010	399	60.9	20.8	0.1	91.9	31.8	51.0	67.0	75.3	82.6
2011	376	61.5	18.7	0.0	94.0	38.0	50.0	65.5	76.1	82.0
2012	302	62.7	19.2	0.0	96.0	36.7	53.3	66.2	75.2	83.7
1998-2012	4944	59.7	19.5	0.0	97.0	32.8	48.6	63.6	73.8	81.3

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	98	54.8	15.6	3.4	83.3	32.6	46.3	56.1	65.5	74.6
1999	91	58.7	16.3	1.6	85.5	38.9	50.5	60.2	71.0	76.1
2000	104	56.5	18.1	4.1	88.2	30.0	47.0	59.6	68.6	77.6
2001	117	58.3	17.6	1.0	91.2	36.0	50.6	60.1	71.3	77.4
2002	183	55.7	18.6	0.8	87.7	30.5	44.3	61.4	68.7	75.9
2003	203	56.6	19.0	6.2	89.4	28.8	42.8	60.4	71.8	78.1
2004	176	58.5	17.8	0.0	90.1	35.4	47.8	60.5	70.4	81.1
2005	205	58.2	19.9	0.8	94.3	31.6	47.5	63.5	71.5	80.1
2006	182	56.7	18.9	0.3	90.4	31.5	46.0	61.5	69.7	76.7
2007	198	55.9	20.4	0.1	92.6	30.2	43.9	60.2	69.8	79.2
2008	243	58.8	19.1	0.0	94.1	31.9	47.8	63.8	73.0	78.8
2009	259	60.4	18.1	5.0	90.3	34.3	49.9	64.3	74.0	81.9
2010	223	59.1	20.2	0.1	90.8	31.8	48.1	63.7	73.9	81.0
2011	201	59.6	18.9	0.0	91.9	37.2	47.8	61.7	75.4	81.4
2012	167	61.7	19.6	0.4	96.0	36.6	51.0	66.2	75.2	82.6
1998-2012	2650	58.2	18.9	0.0	96.0	32.6	47.2	61.8	71.7	79.4

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	94	58.3	22.0	1.8	90.6	22.6	46.4	62.0	77.2	83.4
1999	90	61.5	19.3	4.7	93.4	33.2	51.0	64.2	76.5	84.6
2000	97	62.3	18.3	2.9	93.8	35.8	55.5	67.6	74.2	80.6
2001	123	61.1	19.1	2.3	92.0	35.3	50.2	63.4	75.3	81.6
2002	173	63.4	18.2	2.6	91.2	34.9	54.2	66.8	77.7	83.0
2003	189	59.2	18.8	0.6	95.4	33.7	47.6	62.3	73.4	80.3
2004	176	59.4	21.8	0.0	92.8	29.6	49.2	64.5	76.3	82.4
2005	187	60.1	20.5	1.1	92.8	30.3	46.1	64.9	75.4	83.9
2006	134	63.3	19.9	7.3	97.0	35.0	53.0	67.3	77.7	86.0
2007	172	59.4	21.1	0.8	93.5	29.9	43.1	64.1	77.7	82.3
2008	186	60.1	22.2	0.1	92.9	29.0	47.8	65.8	77.1	85.1
2009	187	62.4	18.3	0.2	94.2	37.3	52.8	65.4	75.8	83.6
2010	176	63.2	21.4	0.6	91.9	33.1	55.2	69.1	77.0	83.6
2011	175	63.7	18.3	0.0	94.0	40.2	50.4	68.8	77.8	82.3
2012	135	63.9	18.6	0.0	90.4	38.3	56.3	66.4	75.7	84.5
1998-2012	2294	61.4	20.0	0.0	97.0	33.4	51.0	65.8	76.3	83.0

Table 4

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

Age at diagnosis Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
0-4	94	1.9	1.9	50	1.9	1.9	44	1.9	1.9
5-9	50	1.0	2.9	29	1.1	3.0	21	0.9	2.8
10-14	47	1.0	3.9	20	0.8	3.7	27	1.2	4.0
15-19	43	0.9	4.7	22	0.8	4.6	21	0.9	4.9
20-24	66	1.3	6.1	39	1.5	6.0	27	1.2	6.1
25-29	107	2.2	8.2	61	2.3	8.3	46	2.0	8.1
30-34	165	3.3	11.6	93	3.5	11.8	72	3.1	11.2
35-39	193	3.9	15.5	110	4.2	16.0	83	3.6	14.9
40-44	257	5.2	20.7	170	6.4	22.4	87	3.8	18.7
45-49	285	5.8	26.4	165	6.2	28.6	120	5.2	23.9
50-54	362	7.3	33.8	209	7.9	36.5	153	6.7	30.6
55-59	446	9.0	42.8	259	9.8	46.3	187	8.2	38.7
60-64	513	10.4	53.2	287	10.8	57.1	226	9.9	48.6
65-69	640	12.9	66.1	366	13.8	70.9	274	11.9	60.5
70-74	552	11.2	77.3	280	10.6	81.5	272	11.9	72.4
75-79	503	10.2	87.4	252	9.5	91.0	251	10.9	83.3
80-84	382	7.7	95.2	161	6.1	97.1	221	9.6	92.9
85+	239	4.8	100.0	77	2.9	100.0	162	7.1	100.0
All ages	4944	100.0		2650	100.0		2294	100.0	

Included in the statistics are 15.3% multiple primaries in males and 15.5% in females.

Table 5

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

Age at diagnosis Years	Males n	Females n	Males Age-spec. incid.	Females Age-spec. incid.	Males DCO rate n=370 %	Females DCO rate n=463 %	Males Prop.all cancers n=146755 %	Females Prop.all cancers n=142297 %
0- 4	50	44	3.6	3.4		13.6	16.3	19.5
5- 9	29	21	2.1	1.6	6.9		17.7	18.6
10-14	20	27	1.4	2.0	10.0	3.7	13.6	16.7
15-19	22	21	1.5	1.5		4.8	6.9	7.9
20-24	39	27	2.4	1.6	2.6		7.1	5.6
25-29	61	46	3.3	2.4	1.6		6.9	4.5
30-34	93	72	4.4	3.5	3.2	4.2	6.6	3.8
35-39	110	83	4.7	3.7	8.2	6.0	5.2	2.4
40-44	170	87	7.0	3.8	4.7	2.3	5.7	1.5
45-49	165	120	7.7	5.7	3.0	2.5	3.3	1.5
50-54	209	153	11.3	8.1	8.6	6.5	2.6	1.5
55-59	259	187	15.2	10.5	11.2	9.1	1.9	1.5
60-64	286	226	17.4	13.0	5.6	10.6	1.4	1.4
65-69	366	274	24.9	17.1	11.7	10.6	1.4	1.5
70-74	279	271	24.1	19.7	16.8	18.5	1.1	1.6
75-79	252	251	33.4	22.9	29.4	31.1	1.3	1.5
80-84	161	221	35.5	25.6	39.8	54.8	1.3	1.5
85+	77	162	24.8	19.8	62.3	69.8	0.8	1.0
All ages	2648	2293			14.0	20.2	1.8	1.6
Incidence								
Raw			9.6	8.0				
WS			6.5	4.9				
ES			8.3	6.1				
BRD-S			9.5	7.0				

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

Table 6a

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

Diagnosis		Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C16	Stomach	2	1.1	1.9	0.2	6.8		2.6	
C18	Colon	2	2.5	0.8	0.1	2.9		-1.4	
C25	Pancreas	2	0.9	2.2	0.3	7.9		3.0	
C30-C31	Sinuses	2	0.1	37.1	4.5	134.1	#	5.4	
C33-C34	Lung	3	3.3	0.9	0.2	2.6		-0.9	
C43	Malign. melanoma	4	1.3	3.1	0.9	8.0		7.5	25.0
C61	Prostate	11	8.0	1.4	0.7	2.5		8.3	18.2
C62	Testis	3	0.4	8.4	1.7	24.5	#	7.3	
C64	Kidney	3	1.1	2.8	0.6	8.2		5.4	
C70-C72	CNS cancer	2	0.5	4.3	0.5	15.4		4.2	
C76-C79	CUP	2	0.4	4.5	0.5	16.1		4.3	
Other primaries		6	4.0	1.5	0.5	3.3		5.5	16.7
Not observed		0	5.1	0.0	0.0	0.7	#	-14.1	
All mult. primaries		42	28.6	1.5	1.1	2.0	#	37.2	9.5

Patients	1711
Mean age at second malignancy (years)	63.1
Person-years	3600
Mean observation time (years)	2.1
Median observation time (years)	1.0

The occurrence of second malignancy is statistically significant.

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

Table 6b

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

Diagnosis		Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C18	Colon	5	1.8	2.8	0.9	6.5		10.1	20.0
C19-C20	Rectum	3	0.9	3.5	0.7	10.3		6.7	33.3
C25	Pancreas	2	0.7	2.8	0.3	10.0		4.0	
C33-C34	Lung	2	1.5	1.4	0.2	5.0		1.7	
C43	Malign. melanoma	2	0.9	2.2	0.3	8.1		3.5	
C50	Breast	13	7.2	1.8	1.0	3.1		18.2	15.4
C54	Corpus uteri	2	1.2	1.7	0.2	6.2		2.6	
C56	Ovary	2	0.9	2.3	0.3	8.1		3.5	
C82-C85	NHL	3	0.7	4.1	0.8	11.9		7.1	33.3
C90	Mult. myeloma	2	0.2	8.9	1.1	32.3	#	5.6	
C91-C96	Leukaemia	2	0.3	6.5	0.8	23.4		5.3	
Other primaries		7	2.1	3.3	1.3	6.9	#	15.4	28.6
Not observed		0	2.9	0.0	0.0	1.3		-9.3	
All mult. primaries		45	21.3	2.1	1.5	2.8	#	74.4	15.6

Patients	1461
Mean age at second malignancy (years)	68.0
Person-years	3183
Mean observation time (years)	2.2
Median observation time (years)	1.0

The occurrence of second malignancy is statistically significant.

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

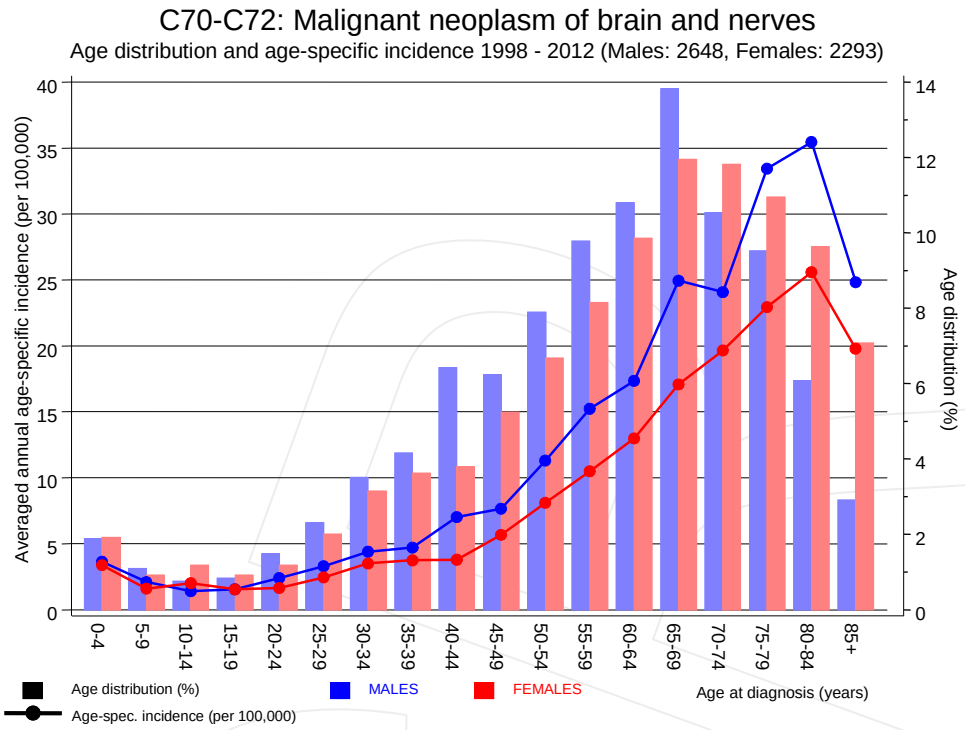


Figure 7. Age distribution and age-specific incidence

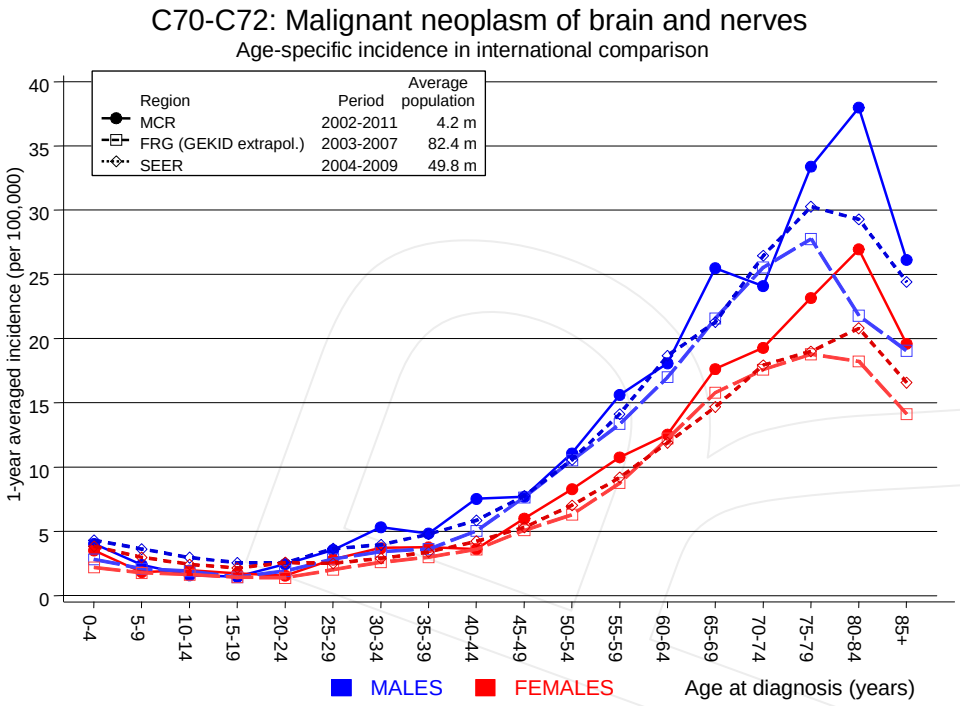


Figure 7a. Age-specific incidence in MCR registry areas compared to Germany (FRG, GEKID extrapolation) and SEER (Surveillance, Epidemiology, and End Results, USA).

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, 2011. http://www.gekid.de. Last access: 05/12/2011

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

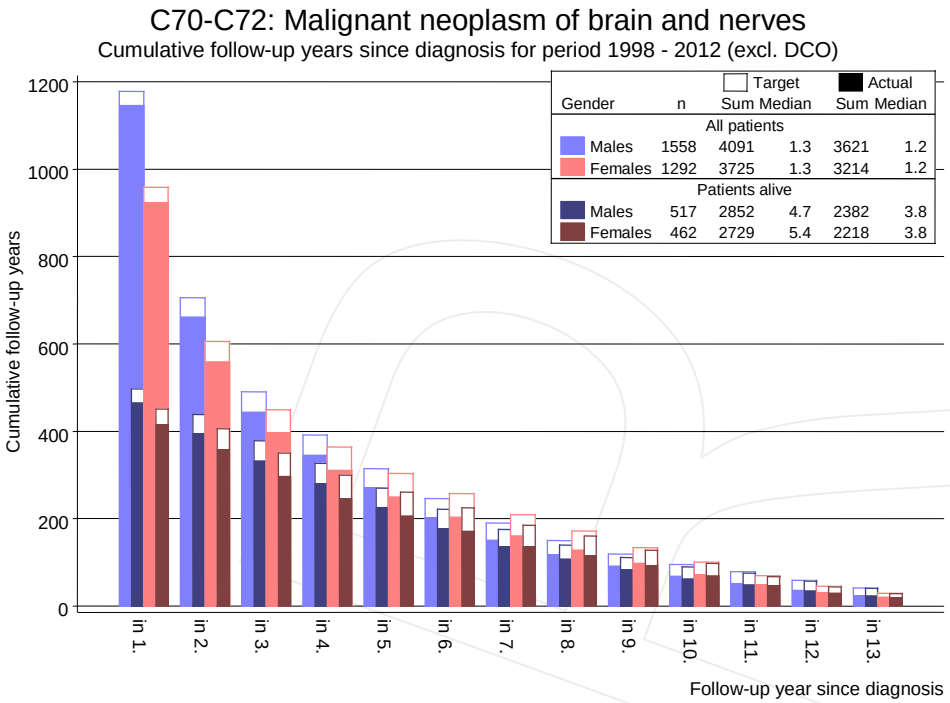
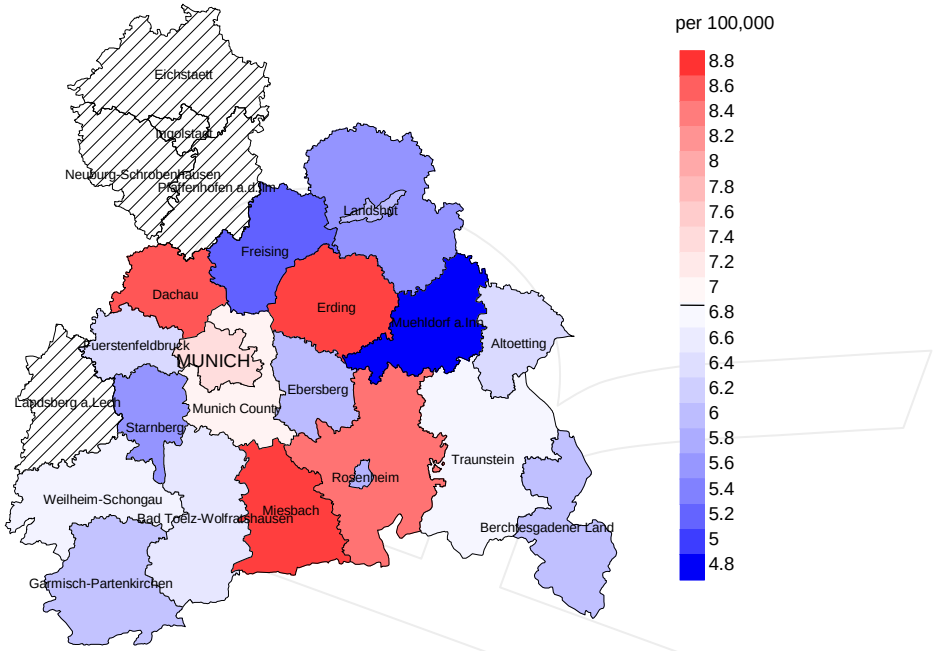


Figure 8. Cumulative follow-up years depending on time since diagnosis

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

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



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

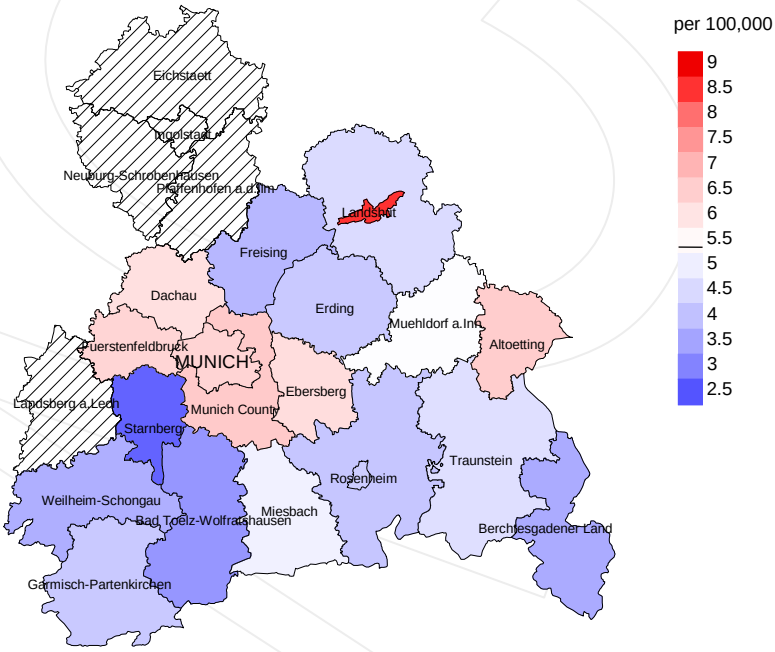
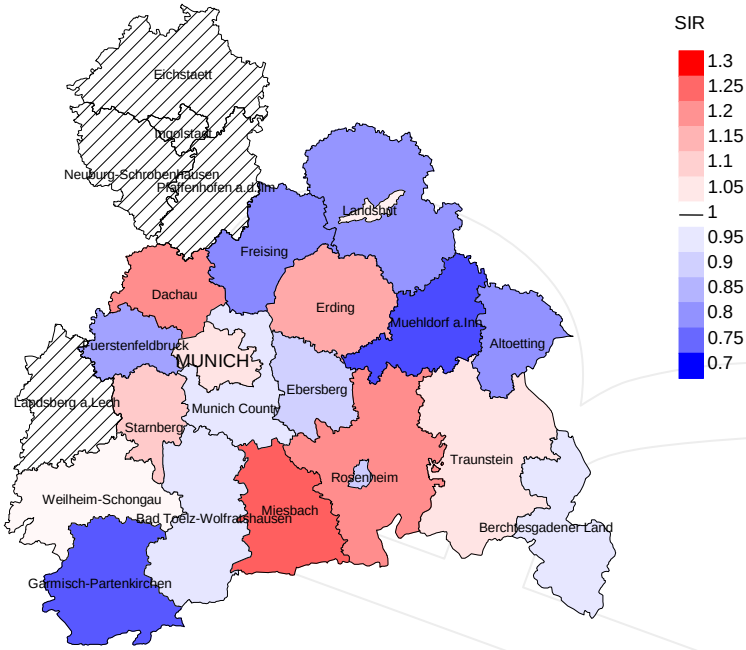


Figure 9a. Map of cancer incidence (world standard population, incl. DCO cases) by county averaged for period 2003 to 2008. According to their individual incidence rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 6.9/100,000 WS N=1,146, females 5.4/100,000 WS N=1,010). Since cancer data are not available in some counties until 2007, the local incidence rates were not calculated, and the map tiles show as shaded.

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 63,131 female residents (averaged) in the period from 2003 to 2008 a total of 31 women were identified with newly diagnosed brain/nerves cancer. Therefore, the mean incidence rate for this cancer type in this area can be calculated at 6.2/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 3.3 and 11.2/100,000.

Standardized incidence ratio (SIR) 2003 - 2008: Males



Standardized incidence ratio (SIR) 2003 - 2008: Females

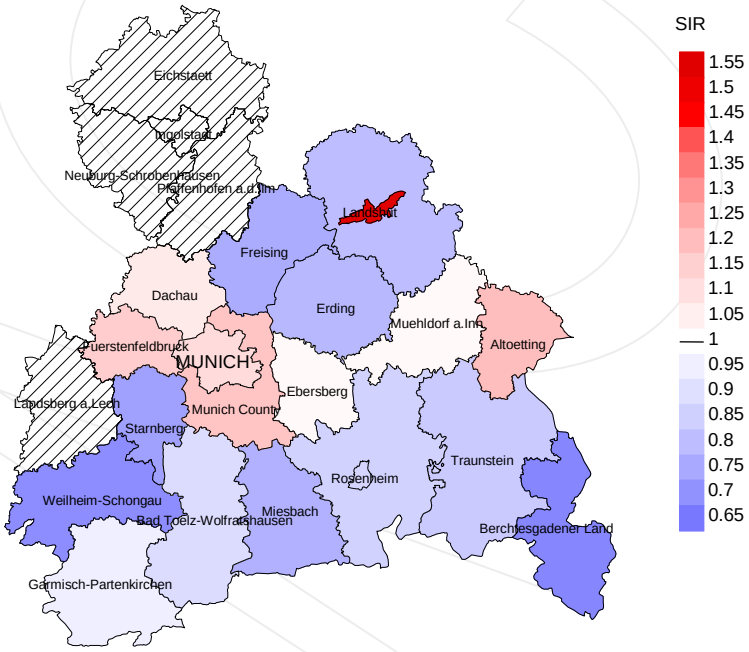


Figure 9b. Map of standardized incidence ratio (SIR, incl. DCO cases) by county averaged for period 2003 to 2008. According to their individual SIR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=1,146, females N=1,010). Since cancer data are not available in some counties until 2007, the local SIR values were not calculated, and the map tiles show as shaded.

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 63,131 female residents (averaged) in the period from 2003 to 2008 a total of 31 women were identified with newly diagnosed brain/nerves cancer. Therefore, the mean standardized incidence ratio (SIR) 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 0.61 and 1.59, and is therefore not statistically striking.

MORTALITY

Table 10a

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

Year of diagnosis	Incident cases n	Prop. actively followed %	Prop. DCO %	Deaths n	Prop. deaths %	Prop. deaths with death certific. %
1998	192	98.4	25.0	166	86.5	96.4
1999	181	98.3	27.1	159	87.8	96.2
2000	201	97.5	24.9	162	80.6	93.8
2001	240	96.7	22.9	201	83.8	93.0
2002	356	98.6	17.7	287	80.6	98.6
2003	392	98.7	18.4	309	78.8	95.8
2004	352	97.7	20.7	273	77.6	97.8
2005	392	96.9	16.6	306	78.1	96.7
2006	316	95.6	12.7	244	77.2	98.4
2007	370	88.4	13.2	259	70.0	97.7
2008	429	83.7	14.2	312	72.7	98.1
2009	446	86.5	11.9	337	75.6	98.8
2010	399	88.2	13.5	307	76.9	99.0
2011	376	85.6	14.4	248	66.0	98.4
2012	302	98.3	15.6	157	52.0	99.4
1998-2012	4944	93.1	16.8	3727	75.4	97.4

Table 10b

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

Year of diagnosis/ death	Incident cases n	Deaths n	Prop. deaths with death certific. %	Deaths in same year n	Prop. deaths in same year %
1998	192	139	95.7	72	37.5
1999	181	174	97.1	83	45.9
2000	201	158	94.9	75	37.3
2001	240	197	92.4	105	43.8
2002	356	235	97.0	125	35.1
2003	392	258	95.7	129	32.9
2004	352	279	97.5	122	34.7
2005	392	265	97.0	143	36.5
2006	316	272	96.3	109	34.5
2007	370	263	98.1	126	34.1
2008	429	272	97.4	135	31.5
2009	446	321	98.4	143	32.1
2010	399	365	98.9	152	38.1
2011	376	329	99.1	128	34.0
2012	302	293	98.3	111	36.8
1998-2012	4944	3820	97.2	1758	35.6

Table 10c

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

Year of death	Deaths n	Prop. cancer-related %	Prop. not cancer-related %	Prop. cancer recorded on death certificate %
1998	139	70.5	29.5	99.2
1999	174	79.3	20.7	97.6
2000	158	79.1	20.9	98.0
2001	197	83.8	16.2	98.9
2002	235	91.5	8.5	99.6
2003	258	93.0	7.0	98.8
2004	279	93.2	6.8	98.9
2005	265	90.6	9.4	98.1
2006	272	90.4	9.6	96.2
2007	263	92.8	7.2	97.7
2008	272	94.5	5.5	98.5
2009	321	91.6	8.4	96.5
2010	365	93.4	6.6	97.5
2011	329	91.8	8.2	96.0
2012	293	93.2	6.8	98.3
1998-2012	3820	90.0	10.0	97.8

Table 11a

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

Year of death	Deaths n	Age at death (all causes) Years	Age at death (cancer-related) Years	Age at death (not cancer-related) Years	Age at death (according to death certificate) Years
1998	67	57.3	55.2	62.4	57.1
1999	92	61.7	61.0	65.0	61.4
2000	70	61.2	61.4	60.4	62.9
2001	105	63.6	64.0	61.9	64.3
2002	131	61.7	61.9	59.9	61.9
2003	125	63.8	64.4	55.7	64.6
2004	147	61.8	61.5	66.2	61.6
2005	149	62.1	61.4	69.4	61.8
2006	137	60.6	60.6	59.9	60.7
2007	141	63.7	64.0	56.5	64.2
2008	151	63.2	62.7	69.3	63.0
2009	191	63.5	63.0	67.7	63.1
2010	228	64.7	64.8	64.0	64.7
2011	175	63.9	63.8	65.2	63.8
2012	160	62.0	61.7	67.6	62.1
1998-2012	2069	62.7	62.6	63.9	62.8

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

Table 11b

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

Year of death	Deaths n	Age at death (all causes) Years	Age at death (cancer-related) Years	Age at death (not cancer-related) Years	Age at death (according to death certificate) Years
1998	72	69.9	69.1	71.9	69.8
1999	82	64.1	60.4	75.6	64.2
2000	88	63.2	61.8	69.5	63.5
2001	92	66.5	64.4	78.0	66.4
2002	104	66.8	66.6	68.3	67.1
2003	133	64.5	63.5	76.9	64.5
2004	132	63.7	62.7	76.4	63.6
2005	116	65.7	65.0	73.1	65.8
2006	135	64.8	64.6	65.7	65.6
2007	122	68.2	67.4	75.2	68.0
2008	121	63.5	63.5	63.1	64.0
2009	130	66.7	66.3	77.4	66.9
2010	137	66.8	65.8	75.9	66.8
2011	154	66.8	66.4	70.5	66.8
2012	133	64.4	64.1	68.6	64.7
1998-2012	1751	65.6	64.8	72.5	65.8

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	0.48	3.1	0.49	3.9	0.49	4.3	0.48
1999	76	6.8	0.84	4.4	0.79	6.1	0.81	7.3	0.84
2000	53	4.7	0.51	3.1	0.47	4.2	0.50	4.8	0.49
2001	87	7.5	0.74	4.5	0.64	6.6	0.72	8.3	0.78
2002	121	6.5	0.66	4.1	0.57	5.6	0.64	6.6	0.66
2003	117	6.2	0.58	3.6	0.48	5.2	0.54	6.5	0.59
2004	137	7.3	0.78	4.7	0.74	6.3	0.76	7.5	0.79
2005	135	7.1	0.66	4.5	0.61	6.0	0.65	7.0	0.66
2006	128	6.7	0.70	4.4	0.67	5.6	0.69	6.5	0.70
2007	135	6.1	0.68	3.5	0.53	4.8	0.62	5.9	0.70
2008	141	6.3	0.58	3.9	0.54	5.2	0.56	6.1	0.56
2009	169	7.6	0.65	4.4	0.60	6.0	0.63	7.3	0.65
2010	218	9.7	0.98	5.5	0.83	7.5	0.91	9.1	0.96
2011	162	7.1	0.81	4.0	0.71	5.6	0.77	6.7	0.80
2012	151	6.6	0.92	4.0	0.88	5.2	0.90	6.2	0.90
1998-2012	1877	6.8	0.71	4.2	0.64	5.6	0.68	6.8	0.71

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	51	4.3	0.54	2.1	0.37	3.0	0.45	4.0	0.52
1999	62	5.2	0.69	3.4	0.76	4.2	0.72	4.7	0.70
2000	72	6.0	0.74	3.7	0.75	4.7	0.75	5.2	0.73
2001	78	6.4	0.63	3.7	0.61	4.8	0.61	5.7	0.63
2002	94	4.8	0.54	2.5	0.49	3.4	0.51	4.2	0.53
2003	123	6.2	0.65	3.6	0.58	4.8	0.62	5.6	0.64
2004	123	6.2	0.70	3.8	0.64	4.8	0.68	5.5	0.71
2005	105	5.3	0.56	2.9	0.49	3.8	0.52	4.5	0.55
2006	118	5.9	0.88	3.2	0.82	4.2	0.85	5.0	0.87
2007	109	4.7	0.63	2.3	0.49	3.3	0.56	4.1	0.60
2008	116	5.0	0.62	2.9	0.55	3.7	0.59	4.2	0.61
2009	125	5.4	0.67	2.8	0.58	3.7	0.60	4.3	0.62
2010	123	5.3	0.70	2.8	0.61	3.7	0.67	4.5	0.71
2011	140	5.9	0.80	3.1	0.75	4.1	0.77	4.9	0.78
2012	122	5.2	0.91	2.9	0.90	3.7	0.90	4.4	0.94
1998-2012	1561	5.4	0.68	3.0	0.61	3.9	0.64	4.7	0.67

Table 13

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

Age at death Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
0-4	19	0.6	0.6	10	0.5	0.5	9	0.6	0.6
5-9	33	1.0	1.5	13	0.7	1.2	20	1.3	1.9
10-14	21	0.6	2.1	10	0.5	1.8	11	0.7	2.6
15-19	23	0.7	2.8	10	0.5	2.3	13	0.8	3.4
20-24	22	0.6	3.4	11	0.6	2.9	11	0.7	4.1
25-29	33	1.0	4.4	17	0.9	3.8	16	1.0	5.1
30-34	52	1.5	5.9	32	1.7	5.5	20	1.3	6.4
35-39	83	2.4	8.3	49	2.6	8.1	34	2.2	8.6
40-44	142	4.1	12.4	89	4.7	12.8	53	3.4	12.0
45-49	194	5.6	18.1	116	6.2	19.0	78	5.0	16.9
50-54	219	6.4	24.4	131	7.0	26.0	88	5.6	22.6
55-59	326	9.5	33.9	204	10.9	36.8	122	7.8	30.4
60-64	401	11.6	45.5	228	12.1	49.0	173	11.1	41.4
65-69	520	15.1	60.6	299	15.9	64.9	221	14.1	55.6
70-74	487	14.1	74.8	262	13.9	78.8	225	14.4	69.9
75-79	406	11.8	86.6	201	10.7	89.5	205	13.1	83.1
80-84	293	8.5	95.1	138	7.3	96.9	155	9.9	93.0
85+	169	4.9	100.0	59	3.1	100.0	110	7.0	100.0
All ages	3443	100.0		1879	100.0		1564	100.0	

Included in the statistics are 15.3% multiple primaries in males and 15.5% in females.

Table 14

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

Age at death Years	Males n	Females n	Males Age-spec. mortal.	MI-index	Females Age-spec. mortal.	MI-index	Males Prop.all cancers %	Females Prop.all cancers %
0- 4	10	9	0.7	0.20	0.7	0.20	32.3	39.1
5- 9	13	20	0.9	0.45	1.5	0.95	37.1	51.3
10-14	10	11	0.7	0.50	0.8	0.41	30.3	39.3
15-19	10	13	0.7	0.45	1.0	0.62	23.8	38.2
20-24	11	11	0.7	0.28	0.7	0.41	13.3	23.4
25-29	17	16	0.9	0.28	0.9	0.35	17.7	14.7
30-34	32	20	1.5	0.34	1.0	0.28	18.2	9.4
35-39	49	34	2.1	0.45	1.5	0.41	12.8	6.8
40-44	89	53	3.7	0.52	2.3	0.61	11.0	4.9
45-49	116	78	5.4	0.70	3.7	0.65	6.8	4.2
50-54	131	88	7.1	0.63	4.7	0.58	4.3	3.1
55-59	204	122	12.0	0.79	6.8	0.65	3.7	2.7
60-64	228	173	13.8	0.79	9.9	0.77	2.7	2.9
65-69	299	221	20.4	0.82	13.8	0.81	2.7	2.9
70-74	262	225	22.6	0.94	16.3	0.83	2.1	2.5
75-79	201	205	26.7	0.80	18.7	0.82	1.7	2.1
80-84	138	155	30.4	0.86	17.9	0.70	1.4	1.5
85+	59	110	19.0	0.77	13.4	0.68	0.7	0.9
All ages	1879	1564					2.5	2.3
Mortality								
Raw			6.8	0.71	5.4	0.68		
WS			4.2	0.64	3.0	0.61		
ES			5.6	0.68	4.0	0.65		
BRD-S			6.8	0.71	4.7	0.67		
PYLL-70								
per 100,000			76.6		58.5			
ES			72.7		58.3			
AYLL-70			15.6		16.5			

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

Table 15a

Multiple primaries in deaths in period 1998-2012
MALES

Diagnosis		Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C16	Stomach	5	1.5	4	80.0			1	20.0
C18	Colon	22	6.8	18	81.8	3	13.6	1	4.5
C19-C20	Rectum	19	5.9	16	84.2	1	5.3	2	10.5
C22	Liver	3	0.9	1	33.3			2	66.7
C25	Pancreas	4	1.2	1	25.0	1	25.0	2	50.0
C32	Larynx	3	0.9	2	66.7			1	33.3
C33-C34	Lung	18	5.6	6	33.3	4	22.2	8	44.4
C40-C41	Bone	3	0.9			1	33.3	2	66.7
C43	Malign. melanoma	21	6.5	16	76.2			5	23.8
C44	Skin others	12	3.7	8	66.7	1	8.3	3	25.0
C46,C49	Soft tissue	4	1.2	2	50.0			2	50.0
C61	Prostate	95	29.3	85	89.5	5	5.3	5	5.3
C62	Testis	5	1.5	4	80.0			1	20.0
C64	Kidney	13	4.0	7	53.8	1	7.7	5	38.5
C65	Renal pelvis	3	0.9	1	33.3			2	66.7
C67	Bladder	21	6.5	19	90.5			2	9.5
C70-C72	CNS cancer	18	5.6			2	11.1	16	88.9
C76-C79	CUP	7	2.2	3	42.9			4	57.1
C82-C85	NHL	14	4.3	11	78.6	2	14.3	1	7.1
C90	Mult. myeloma	7	2.2	3	42.9	1	14.3	3	42.9
C91-C96	Leukaemia	6	1.9	2	33.3	2	33.3	2	33.3
Other primaries		21	6.5	14	66.7	2	9.5	5	23.8
All mult. primaries		324	100.0	223	68.8	26	8.0	75	23.1

Multiple primaries with number of cases n<3 are pooled in category "Other primaries".

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

Table 15b

Multiple primaries in deaths in period 1998-2012
FEMALES

Diagnosis		Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C16	Stomach	2	0.8	2	100.0				
C18	Colon	14	5.9	9	64.3	1	7.1	4	28.6
C19-C20	Rectum	6	2.5	2	33.3	2	33.3	2	33.3
C23-C24	Bile	2	0.8					2	100.0
C25	Pancreas	3	1.3					3	100.0
C33-C34	Lung	5	2.1	4	80.0			1	20.0
C43	Malign. melanoma	15	6.4	13	86.7			2	13.3
C44	Skin others	5	2.1	2	40.0	1	20.0	2	40.0
C46,C49	Soft tissue	6	2.5	3	50.0	1	16.7	2	33.3
C50	Breast	71	30.1	54	76.1	7	9.9	10	14.1
C53	Cervix uteri	8	3.4	7	87.5			1	12.5
C54	Corpus uteri	14	5.9	12	85.7			2	14.3
C56	Ovary	7	3.0	5	71.4	1	14.3	1	14.3
C64	Kidney	7	3.0	5	71.4	2	28.6		
C67	Bladder	8	3.4	5	62.5			3	37.5
C69	Eye melanoma	3	1.3	3	100.0				
C70-C72	CNS cancer	22	9.3			4	18.2	18	81.8
C73	Thyroid	6	2.5	6	100.0				
C82-C85	NHL	8	3.4	4	50.0	1	12.5	3	37.5
C90	Mult. myeloma	2	0.8	1	50.0			1	50.0
C91-C96	Leukaemia	8	3.4	4	50.0	1	12.5	3	37.5
Other primaries		14	5.9	9	64.3	1	7.1	4	28.6
All mult. primaries		236	100.0	150	63.6	22	9.3	64	27.1

Multiple primaries with number of cases n<2 are pooled in category "Other primaries".

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

Table 16

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

Age at death Years	Males n	Females n	Males Age-spec. mortal.	MI-index	Females Age-spec. mortal.	MI-index	Males Prop.all cancers %	Females Prop.all cancers %
0- 4	9	9	0.7	0.19	0.7	0.20	34.6	39.1
5- 9	12	19	0.9	0.41	1.4	0.90	36.4	52.8
10-14	10	10	0.7	0.53	0.7	0.38	30.3	38.5
15-19	9	12	0.6	0.41	0.9	0.67	23.1	38.7
20-24	11	8	0.7	0.29	0.5	0.32	14.1	18.6
25-29	17	15	0.9	0.29	0.8	0.36	18.9	14.6
30-34	31	19	1.5	0.35	0.9	0.27	18.0	10.2
35-39	49	32	2.1	0.45	1.4	0.40	13.6	7.1
40-44	83	50	3.4	0.51	2.2	0.63	11.1	5.4
45-49	109	77	5.1	0.69	3.6	0.69	7.1	4.7
50-54	127	83	6.9	0.63	4.4	0.58	4.7	3.4
55-59	189	110	11.1	0.79	6.2	0.65	3.9	2.9
60-64	210	159	12.7	0.81	9.1	0.76	3.0	3.2
65-69	257	193	17.5	0.83	12.0	0.81	2.8	3.1
70-74	215	199	18.6	0.94	14.4	0.89	2.2	2.8
75-79	156	170	20.7	0.82	15.5	0.81	1.7	2.1
80-84	112	138	24.7	0.85	16.0	0.74	1.5	1.7
85+	40	92	12.9	0.75	11.2	0.67	0.7	0.9
All ages	1646	1395					2.8	2.6
Mortality								
Raw			6.0	0.70	4.9	0.69		
WS			3.7	0.63	2.7	0.61		
ES			5.0	0.67	3.6	0.64		
BRD-S			5.9	0.70	4.2	0.67		
PYLL-70								
per 100,000			72.4		54.5			
ES			68.7		54.4			
AYLL-70			16.0		16.8			

* See corresponding tables with multiple primaries.

Table 17

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

Age at death Years	Males n	Females n	Males Age-spec. mortal.	MI-index	Females Age-spec. mortal.	MI-index	Males Prop.all cancers %	Females Prop.all cancers %
0- 4	8	9	0.6	0.17	0.7	0.20	32.0	39.1
5- 9	12	19	0.9	0.41	1.4	0.90	37.5	54.3
10-14	10	10	0.7	0.53	0.7	0.40	30.3	41.7
15-19	9	10	0.6	0.41	0.7	0.56	23.1	38.5
20-24	11	8	0.7	0.29	0.5	0.33	15.1	20.0
25-29	16	12	0.9	0.27	0.6	0.30	19.0	12.4
30-34	31	19	1.5	0.36	0.9	0.27	18.6	11.2
35-39	47	31	2.0	0.44	1.4	0.40	13.7	7.5
40-44	79	50	3.3	0.50	2.2	0.64	11.1	5.8
45-49	107	74	5.0	0.69	3.5	0.69	7.5	5.1
50-54	122	81	6.6	0.63	4.3	0.58	5.0	3.7
55-59	185	107	10.9	0.79	6.0	0.65	4.2	3.2
60-64	205	156	12.4	0.82	9.0	0.76	3.3	3.6
65-69	250	190	17.0	0.82	11.8	0.81	3.2	3.6
70-74	208	196	18.0	0.94	14.2	0.91	2.5	3.2
75-79	151	164	20.0	0.80	15.0	0.80	2.0	2.5
80-84	111	135	24.4	0.85	15.6	0.74	1.9	1.9
85+	39	90	12.6	0.74	11.0	0.66	0.8	1.0
All ages	1601	1361					3.2	2.9
Mortality								
Raw			5.8	0.70	4.7	0.68		
WS			3.6	0.62	2.7	0.61		
ES			4.9	0.67	3.5	0.64		
BRD-S			5.7	0.70	4.1	0.67		
PYLL-70								
per 100,000			70.3		52.7			
ES			66.7		52.6			
AYLL-70			16.0		16.7			

* See corresponding tables with multiple primaries.

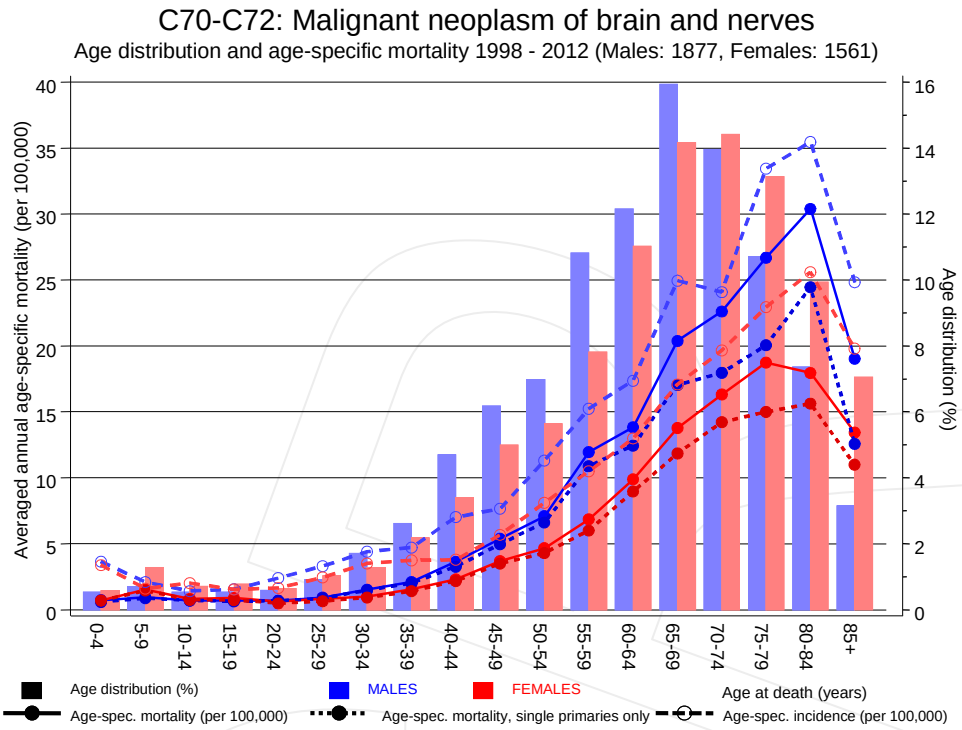
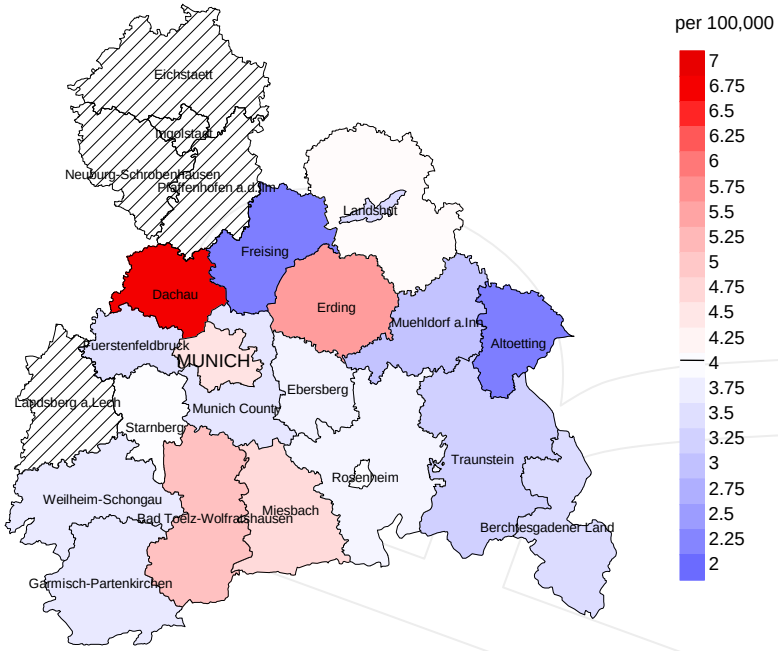


Figure 18. Distribution of age at death (bars) and age-specific mortality (all patients: solid line, patients with single primaries: dotted line). The age-specific incidence is additionally plotted for comparison (dashed line).

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

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



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

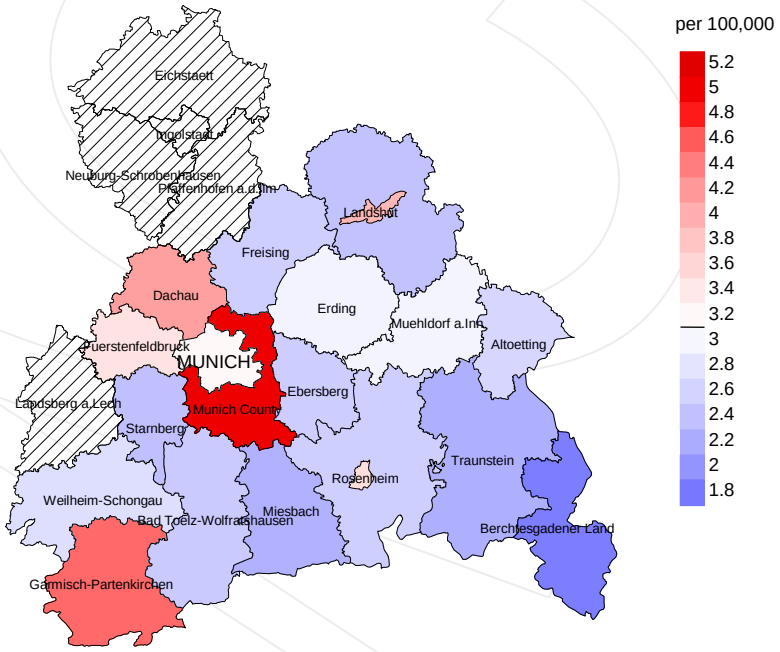
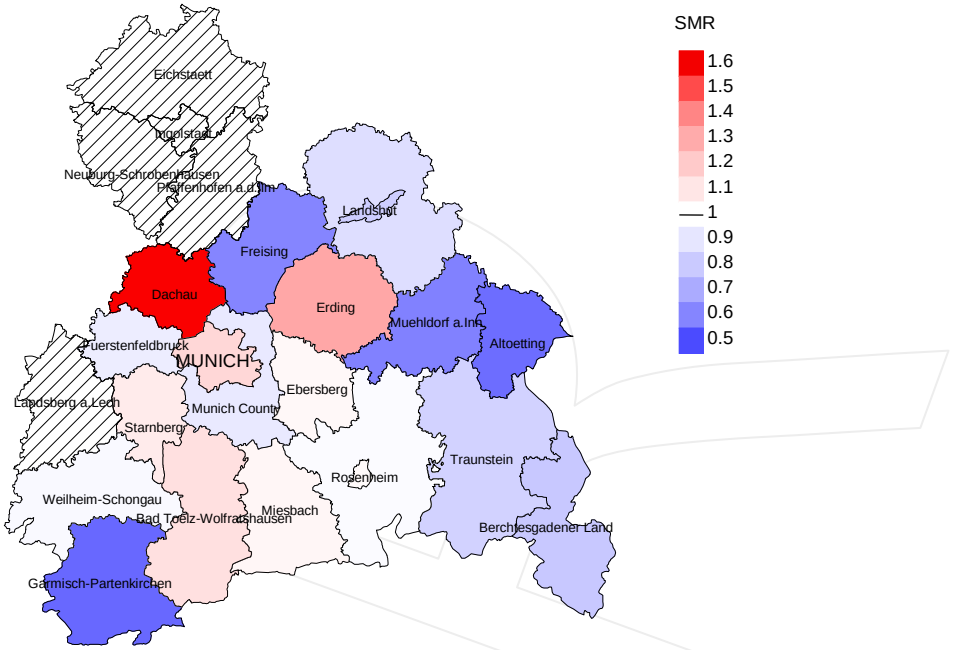


Figure 19a. Map of cancer mortality (world standard population) by county averaged for period 2003 to 2008. According to their individual mortality rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 4.1/100,000 WS N=757, females 3.1/100,000 WS N=673). Since cancer data are not available in some counties until 2007, the local mortality rates were not calculated, and the map tiles show as shaded.

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 63,131 female residents (averaged) in the period from 2003 to 2008 a total of 19 women died from brain/nerves cancer. Therefore, the mean mortality rate for this cancer type in this area can be calculated at 2.5/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 1.2 and 4.6/100,000.

Standardized mortality ratio (SMR) 2003 - 2008: Males



Standardized mortality ratio (SMR) 2003 - 2008: Females

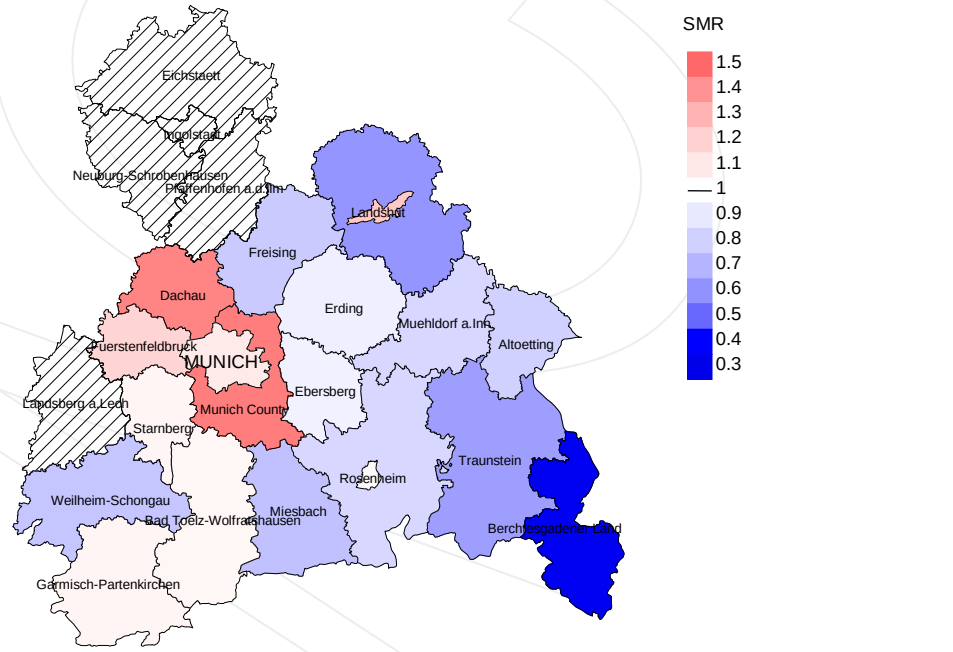


Figure 19b. Map of standardized mortality ratio (SMR, incl. DCO cases) by county averaged for period 2003 to 2008. According to their individual SMR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=757, females N=673). Since cancer data are not available in some counties until 2007, the local SMR values were not calculated, and the map tiles show as shaded.

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 63,131 female residents (averaged) in the period from 2003 to 2008 a total of 19 women died from brain/nerves cancer. Therefore, the mean standardized mortality ratio (SMR) for this cancer type in this area can be calculated at 0.94. Though, the value of this parameter may vary with an underlying probability of 99% between 0.48 and 1.66, and is therefore not statistically striking.

Statistical Notes

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

1. **All multiple primaries included**

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

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

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

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

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

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

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

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

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

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

Shortcuts

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

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