Munich Cancer Registry

- Survival
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- Homepage

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

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

Cancer statistics: Baseline statistics

C38, C47-C49: Sarcoma

Year of diagnosis	1998-2011
Patients	2542
Diseases	2550
Creation date	04/02/2013
Export date	01/03/2013
Population	4.5 m

http://www.tumorregister-muenchen.de/en/facts/base/base_C3849E.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, April 2013

[#] 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 2011 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	113	15	13.3	23.0	78.8	100.0
1999	126	15	11.9	34.1	65.1	98.4
2000	118	14	11.9	22.0	61.9	98.3
2001	100	12	12.0	11.0	62.0	98.0
2002	185	16	8.6	18.9	69.2	97.3
2003	196	23	11.7	23.0	69.4	96.4
2004	190	21	11.1	20.5	56.8	98.9
2005	204	9	4.4	18.1	57.4	93.6
2006	184	15	8.2	29.3	58.7	97.8
2007	236	13	5.5	21.2	49.2	80.9 ##
2008	232	8	3.4	23.7	51.3	76.7
2009	236	9	3.8	24.6	47.0	80.1
2010	230	10	4.3	24.3	42.6	90.4
2011	200	9	4.5	27.0	31.0	71.0 ###
1998-2011	2550	189	7.4	23.1	55.3	89.7

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	113	54	59	47.8
1999	126	67	59	53.2
2000	118	56	62	47.5
2001	100	43	57	43.0
2002	185	98	87	53.0
2003	196	87	109	44.4
2004	190	106	84	55.8
2005	204	100	104	49.0
2006	184	91	93	49.5
2007	236	102	134	43.2
2008	232	102	130	44.0
2009	236	110	126	46.6
2010	230	103	127	44.8
2011	200	86	114	43.0
1998-2011	2550	1205	1345	47.3

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	54	59	4.9	5.0	3.6	2.9	4.6	3.7	5.5	4.4
1999	67	59	6.0	5.0	4.2	3.0	5.5	4.0	6.5	4.5
2000	56	62	4.9	5.2	3.6	3.2	4.5	3.9	5.3	4.6
2001	43	57	3.7	4.7	2.7	2.9	3.5	3.8	4.3	4.3
2002	98	87	5.3	4.4	4.1	2.6	4.8	3.4	5.6	3.9
2003	87	109	4.6	5.5	3.4	3.2	4.3	4.1	5.0	4.7
2004	106	84	5.6	4.2	4.1	2.8	5.0	3.3	5.6	3.7
2005	100	104	5.3	5.2	4.2	3.3	4.9	4.0	5.1	4.7
2006	91	93	4.8	4.6	3.0	2.9	4.0	3.6	4.9	4.2
2007	102	134	4.6	5.8	3.3	3.2	3.9	4.1	4.5	4.8
2008	102	130	4.6	5.6	3.1	3.2	3.9	4.1	4.4	4.8
2009	110	126	4.9	5.4	3.0	3.0	4.0	4.1	4.8	4.8
2010	103	127	4.6	5.4	3.3	2.9	4.0	3.8	4.5	4.6
2011	86	114	3.8	4.9	2.5	2.7	3.1	3.5	3.6	4.0
1998-2011	1205	1345	4.8	5.1	3.4	3.0	4.2	3.8	4.8	4.4

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	113	60.2	22.1	0.4	93.2	28.3	50.0	65.6	76.9	85.0
1999	126	60.4	17.2	3.5	97.4	38.5	50.8	62.3	72.9	78.9
2000	118	59.3	22.8	0.2	97.1	28.5	47.4	62.9	77.2	84.3
2001	100	59.9	17.8	11.8	95.4	37.8	47.7	61.8	73.1	82.0
2002	185	59.1	22.1	0.0	93.0	28.0	46.2	64.5	75.3	82.0
2003	196	61.2	21.2	0.3	92.5	29.9	52.3	65.8	77.2	84.0
2004	190	58.6	21.2	0.0	96.1	29.5	46.4	64.4	74.0	82.0
2005	204	57.6	21.9	0.2	92.0	28.4	47.0	62.6	73.5	81.3
2006	184	61.5	20.4	0.3	103	34.5	51.9	64.0	76.9	83.1
2007	236	61.7	20.8	0.1	96.4	34.3	54.4	67.1	75.6	81.8
2008	232	62.0	20.0	0.0	101	35.3	51.5	66.7	76.0	83.0
2009	236	63.4	18.1	0.2	94.3	36.2	55.8	66.8	76.7	83.2
2010	230	61.3	20.5	0.1	97.3	33.5	49.9	66.0	75.7	83.0
2011	200	61.8	18.9	0.0	95.8	37.4	51.1	66.9	74.5	82.3
1998-2011	2550	60.8	20.4	0.0	103	32.6	50.3	65.3	75.5	82.7

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	54	57.4	22.0	0.4	90.8	27.1	40.9	62.5	73.8	82.5
1999	67	59.5	18.2	3.5	97.4	33.0	51.6	62.0	72.1	78.6
2000	56	58.0	22.9	0.2	93.7	28.6	50.0	61.7	73.3	84.3
2001	43	61.3	19.9	11.8	95.4	38.0	47.8	65.1	77.2	81.9
2002	98	56.1	24.0	0.1	92.4	17.7	40.2	62.9	72.7	81.9
2003	87	58.2	22.6	0.3	92.4	21.6	42.3	62.9	75.8	85.7
2004	106	57.0	20.5	0.0	90.7	30.9	45.9	62.5	71.5	78.7
2005	100	53.4	21.7	0.2	90.9	24.5	41.6	58.5	67.8	76.4
2006	91	61.5	20.0	0.3	90.3	36.7	51.5	65.9	76.4	82.2
2007	102	58.1	23.0	0.1	96.4	26.0	44.6	65.7	73.7	79.2
2008	102	59.8	20.6	0.0	95.2	33.7	47.0	64.7	73.8	81.6
2009	110	63.1	20.9	0.2	93.0	30.8	50.4	68.6	78.3	85.5
2010	103	56.9	22.8	0.1	93.2	31.5	45.1	59.5	74.6	82.8
2011	86	58.9	19.8	0.0	84.7	30.7	43.9	66.8	73.1	79.2
1998-2011	1205	58.4	21.5	0.0	97.4	29.2	46.4	63.2	73.7	81.9

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	59	62.8	22.2	3.4	93.2	33.0	54.3	67.7	78.0	85.7
1999	59	61.5	16.1	17.4	88.4	38.6	49.5	63.2	74.1	83.0
2000	62	60.5	22.8	0.4	97.1	28.5	46.9	64.3	78.0	83.4
2001	57	58.8	16.1	21.1	85.9	37.6	47.3	60.8	70.1	82.0
2002	87	62.5	19.3	0.0	93.0	39.0	51.6	66.0	76.7	83.4
2003	109	63.6	19.7	2.6	92.5	33.7	54.0	66.1	78.7	84.0
2004	84	60.6	22.0	0.2	96.1	25.6	47.5	65.9	76.7	83.5
2005	104	61.7	21.6	1.1	92.0	28.6	51.2	67.2	78.2	82.6
2006	93	61.5	20.8	1.6	103	34.2	52.1	62.7	78.2	83.9
2007	134	64.5	18.6	0.3	89.4	41.5	58.3	67.6	77.0	82.6
2008	130	63.8	19.3	4.4	101	35.5	53.8	67.5	77.4	85.4
2009	126	63.7	15.2	2.2	94.3	42.7	56.2	64.3	75.0	80.3
2010	127	64.9	17.8	0.9	97.3	40.1	56.4	69.5	76.7	83.0
2011	114	64.0	18.0	0.0	95.8	40.8	54.0	67.1	76.6	84.6
1998-2011	1345	62.8	19.2	0.0	103	35.6	53.3	66.5	77.0	83.4

Table 4

Age distribution by 5-year age group and gender for period 1998-2011 (incl. DCO)

Age at diagnosis Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
0-4	69	2.7	2.7	47	3.9	3.9	22	1.6	1.6
5-9	20	0.8	3.5	12	1.0	4.9	8	0.6	2.2
10-14	21	0.8	4.3	11	0.9	5.8	10	0.7	3.0
15-19	27	1.1	5.4	14	1.2	7.0	13	1.0	3.9
20-24	29	1.1	6.5	16	1.3	8.3	13	1.0	4.9
25-29	51	2.0	8.5	25	2.1	10.4	26	1.9	6.8
30-34	85	3.3	11.8	48	4.0	14.4	37	2.8	9.6
35-39	100	3.9	15.8	61	5.1	19.4	39	2.9	12.5
40-44	117	4.6	20.4	57	4.7	24.1	60	4.5	17.0
45-49	108	4.2	24.6	50	4.1	28.3	58	4.3	21.3
50-54	159	6.2	30.8	81	6.7	35.0	78	5.8	27.1
55-59	227	8.9	39.7	104	8.6	43.7	123	9.1	36.2
60-64	246	9.6	49.4	112	9.3	52.9	134	10.0	46.2
65-69	327	12.8	62.2	153	12.7	65.6	174	12.9	59.1
70-74	300	11.8	74.0	147	12.2	77.8	153	11.4	70.5
75-79	283	11.1	85.1	119	9.9	87.7	164	12.2	82.7
80-84	207	8.1	93.2	75	6.2	93.9	132	9.8	92.5
85+	174	6.8	100.0	73	6.1	100.0	101	7.5	100.0
All ages	2550	100.0		1205	100.0		1345	100.0	

Included in the statistics are 27.6% multiple primaries in males and 30.3% in females.

Table 5

Age-specific incidence, DCO rate and proportion of all cancers
for period 1998-2011

Age at diagnosis Years	Males n	Females n	Males Age-spec. incid.	Females Age-spec. incid.	Males DCO rate n=88 %	Females DCO rate n=101 %	Males Prop.all cancers n=132509 %	Females Prop.all cancers n=129521 %
0- 4	47	22	3.7	1.8	4.3		16.6	10.6
5- 9	12	8	0.9	0.7			7.8	7.7
10-14	11	10	0.8	0.8			8.3	6.6
15-19	14	13	1.1	1.0	7.1	7.7	4.8	5.4
20-24	16	13	1.1	0.9	6.3		3.2	3.0
25-29	25	26	1.5	1.5			3.1	2.8
30-34	48	37	2.5	2.0	2.1	2.7	3.7	2.1
35-39	61	39	2.8	1.9	4.9	5.1	3.1	1.2
40-44	57	60	2.6	2.8		1.7	2.1	1.1
45-49	50	58	2.6	3.0	6.0	1.7	1.1	0.8
50-54	81	78	4.9	4.5	7.4	2.6	1.1	0.8
55-59	104	123	6.7	7.5	4.8	4.9	0.8	1.0
60-64	112	134	7.4	8.4	2.7	2.2	0.6	0.9
65-69	153	174	11.2	11.7	2.6	1.7	0.7	1.1
70-74	147	153	14.3	12.4	12.9	6.5	0.7	1.0
75-79	119	163	17.6	16.4	11.8	10.4	0.7	1.1
80-84	75	132	18.5	16.6	22.7	19.7	0.7	1.0
85+	73	101	26.3	13.6	12.3	27.7	0.9	0.7
All ages	1205	1344			7.3	7.5	0.9	1.0
Incidence								
Raw			4.8	5.1				
WS			3.4	3.0				
ES			4.2	3.8				
BRD-S			4.8	4.4				

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 1998-2011
MALES

Diagnosis	Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C09-C10 Oropharynx	2	0.4	5.5	0.7	19.9		6.0	
C15 Oesophagus	2	0.6	3.5	0.4	12.5		5.2	
C16 Stomach	4	1.5	2.7	0.7	6.8		9.1	
C17 Small intestine	2	0.2	13.3	1.6	48.1	#	6.8	
C18 Colon	6	3.5	1.7	0.6	3.8		9.3	16.7
C19-C20 Rectum	3	1.9	1.6	0.3	4.5		3.9	
C22 Liver	2	0.9	2.2	0.3	7.9		4.0	
C33-C34 Lung	7	4.0	1.7	0.7	3.6		10.9	14.3
C43 Malign. melanoma	4	1.3	3.1	0.8	7.9		9.9	
C46,C49 Soft tissue	3	0.2	15.3	3.1	44.6	#	10.3	
C61 Prostate	15	9.9	1.5	0.8	2.5		18.5	
C64 Kidney	5	1.2	4.2	1.4	9.9	#	14.0	
C67 Bladder	4	1.5	2.7	0.7	6.8		9.2	
C82-C85 NHL	4	1.3	3.0	0.8	7.6		9.7	
C91-C96 Leukaemia	3	0.6	5.4	1.1	15.8	#	9.0	
Other primaries	10	3.8	2.7	1.3	4.9	#	22.9	20.0
Not observed	0	1.8	0.0	0.0	2.1		-6.6	
All mult. primaries	76	34.5	2.2	1.7	2.8	#	152.1	5.3

Patients	869
Mean age at second malignancy (years)	68.4
Person-years	2730
Mean observation time (years)	3.1
Median observation time (years)	1.9

The occurrence of second malignancy is statistically significant.

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

Table 6b

Standardized incidence ratio (SIR, with 95% confidence limits), excess absolute risk (EAR) and DCO rate of second primaries for period 1998-2011
FEMALES

Diagnosis		Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C18	Colon	3	2.7	1.1	0.2	3.2		0.9	
C19-C20	Rectum	6	1.2	5.0	1.8	10.8	#	16.1	
C25	Pancreas	2	1.1	1.8	0.2	6.4		2.9	50.0
C33-C34	Lung	5	1.9	2.6	0.9	6.2		10.5	
C43	Malign. melanoma	3	1.0	3.1	0.6	9.0		6.8	
C46,C49	Soft tissue	3	0.2	18.8	3.9	54.9	#	9.6	33.3
C50	Breast	20	8.5	2.4	1.4	3.6	#	38.7	10.0
C53	Cervix uteri	2	0.4	4.7	0.6	17.0		5.3	
C54	Corpus uteri	4	1.5	2.6	0.7	6.7		8.4	
C56	Ovary	19	1.2	16.2	9.8	25.3	#	60.1	78.9
C64	Kidney	5	0.7	7.4	2.4	17.2	#	14.6	
C70-C72	CNS cancer	2	0.4	4.9	0.6	17.8		5.4	
C73	Thyroid	2	0.6	3.5	0.4	12.7		4.8	
C82-C85	NHL	3	1.0	2.9	0.6	8.6		6.7	
C91-C96	Leukaemia	2	0.4	4.8	0.6	17.3		5.3	
Other primaries		7	1.8	3.8	1.5	7.9	#	17.4	14.3
Not observed		0	3.0	0.0	0.0	1.2		-10.0	
All mult. primaries		88	27.6	3.2	2.6	3.9	#	203.5	22.7

Patients	923
Mean age at second malignancy (years)	70.2
Person-years	2969
Mean observation time (years)	3.2
Median observation time (years)	2.2

The occurrence of second malignancy is statistically significant.

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

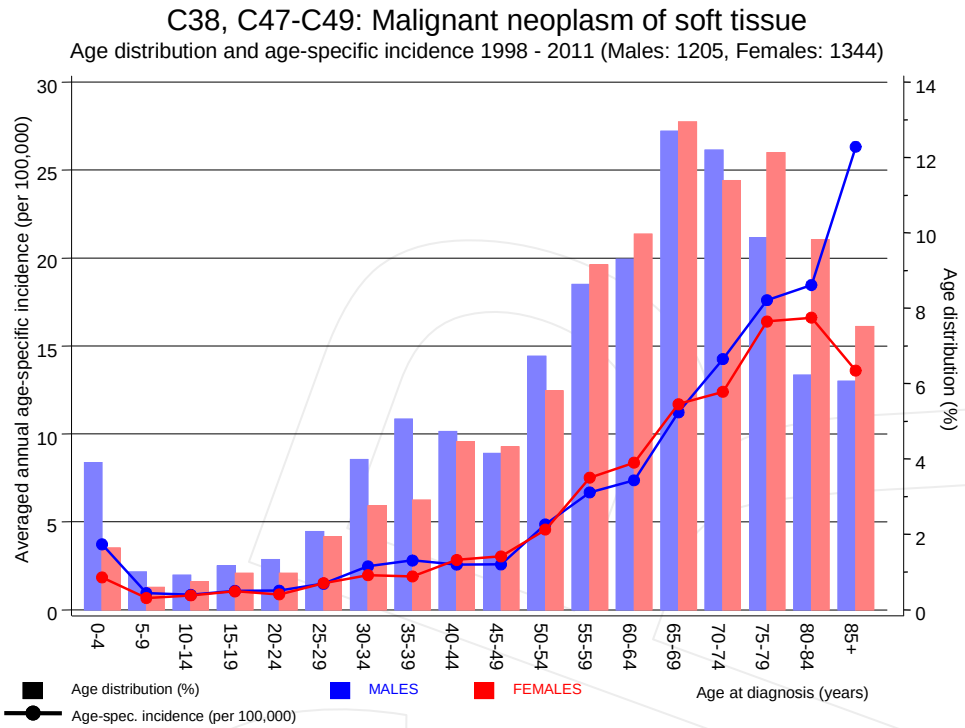


Figure 7. Age distribution and age-specific incidence

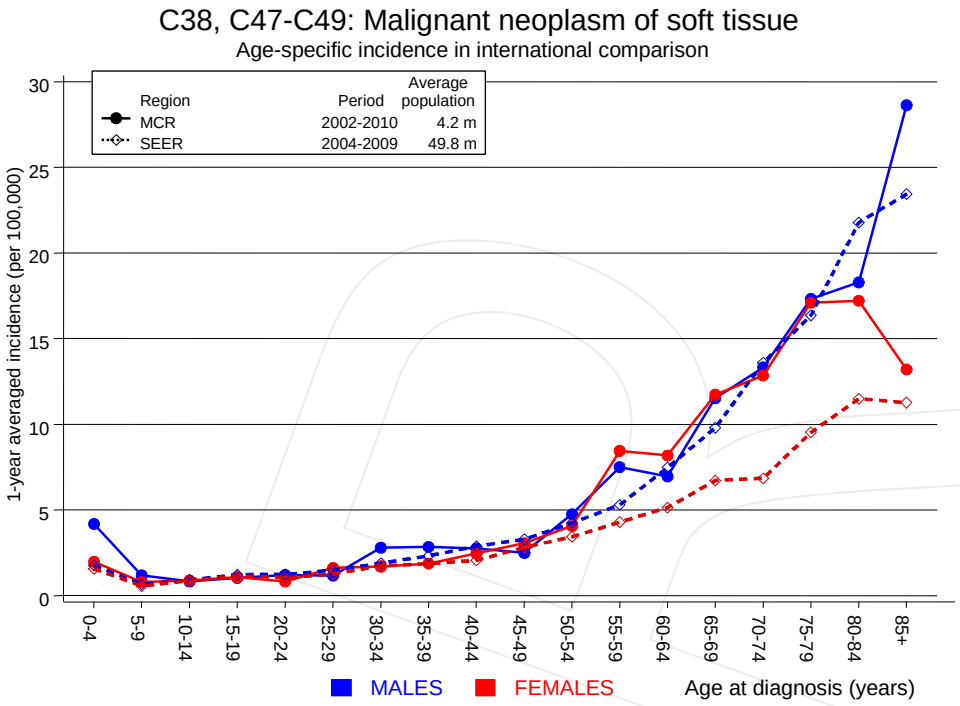


Figure 7a. Age-specific incidence in MCR registry areas compared to SEER (Surveillance, Epidemiology, and End Results, USA).

Reference:

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

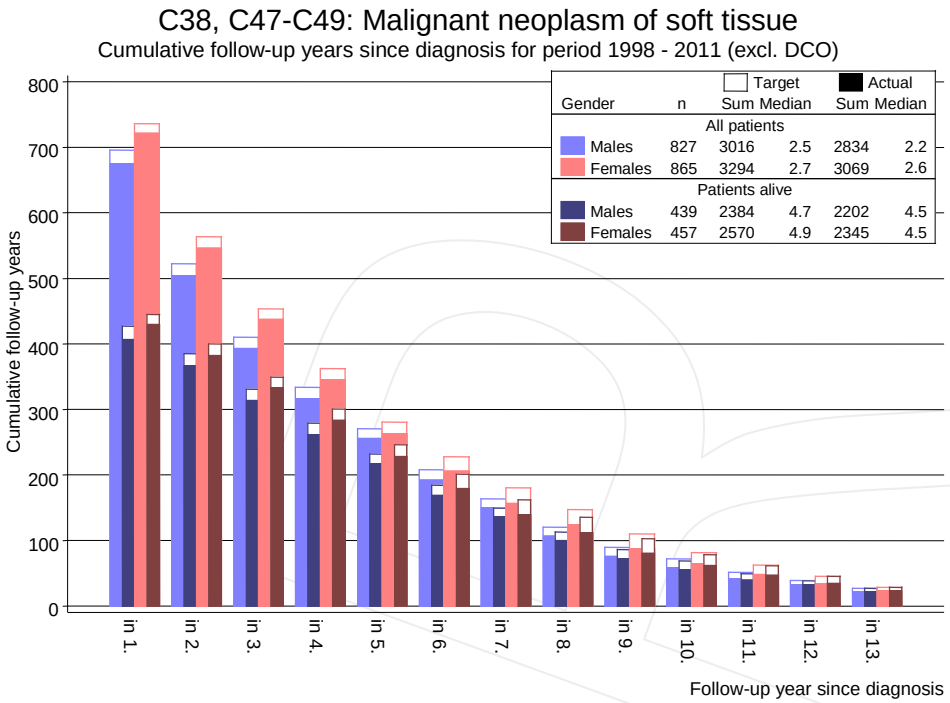
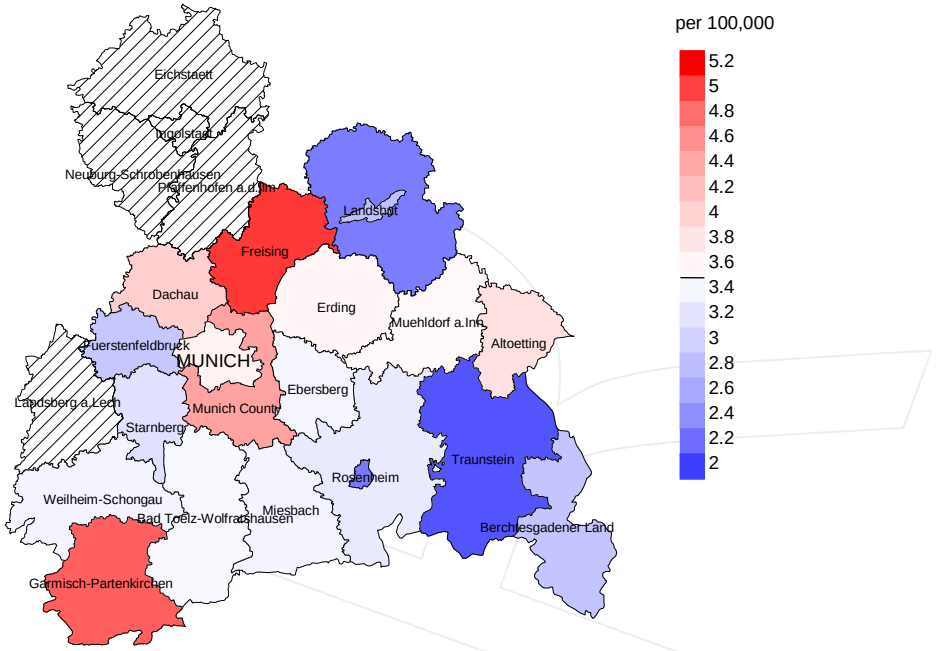


Figure 8. Cumulative follow-up years depending on time since diagnosis

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

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



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

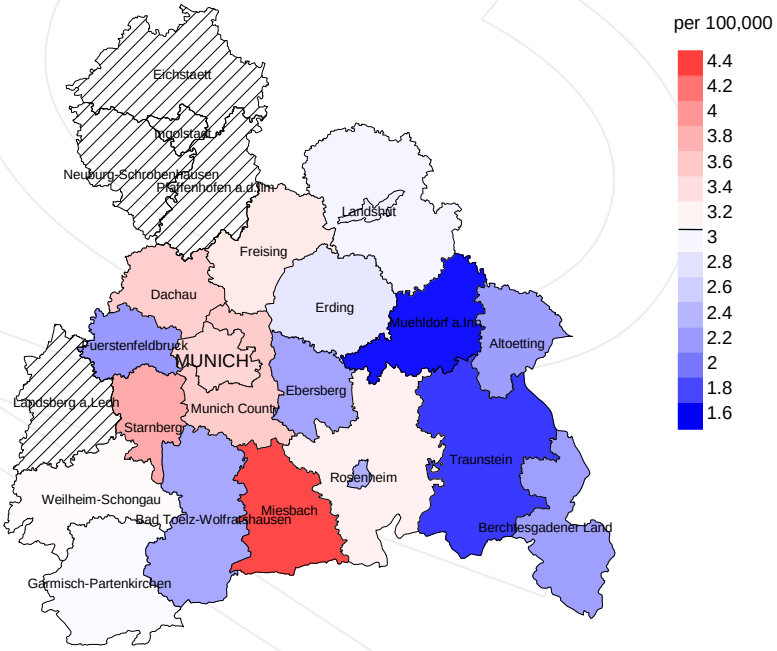
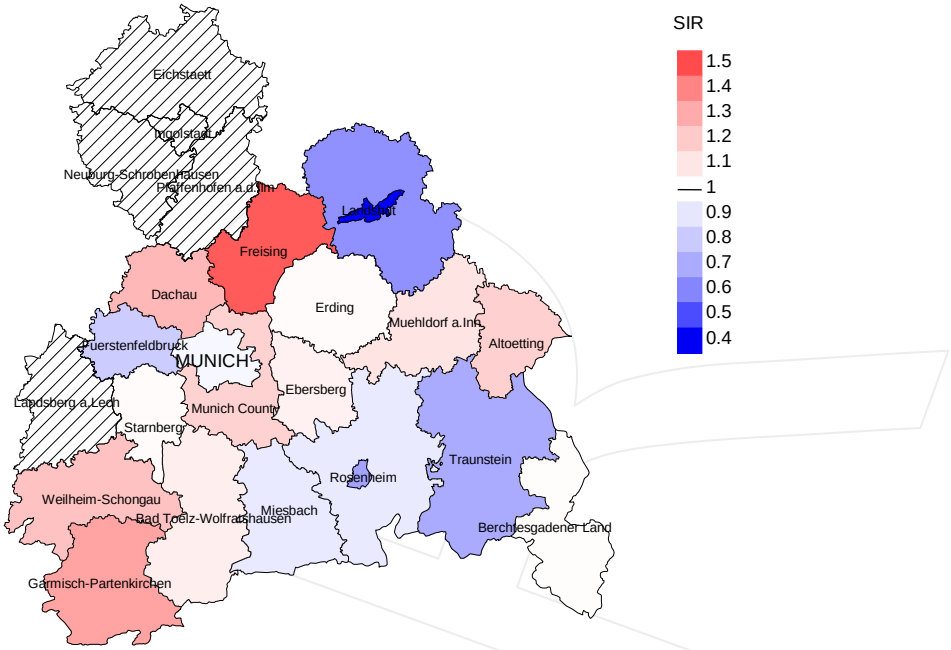


Figure 9a. Map of cancer incidence (world standard population, incl. DCO cases) by county averaged for period 2003 to 2008. According to their individual incidence rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 3.5/100,000 WS N=565, females 3.1/100,000 WS N=623). 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 14 women were identified with newly diagnosed sarcoma. Therefore, the mean incidence rate for this cancer type in this area can be calculated at 2.3/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.8 and 5.5/100,000.

Standardized incidence ratio (SIR) 2003 - 2008: Males



Standardized incidence ratio (SIR) 2003 - 2008: Females

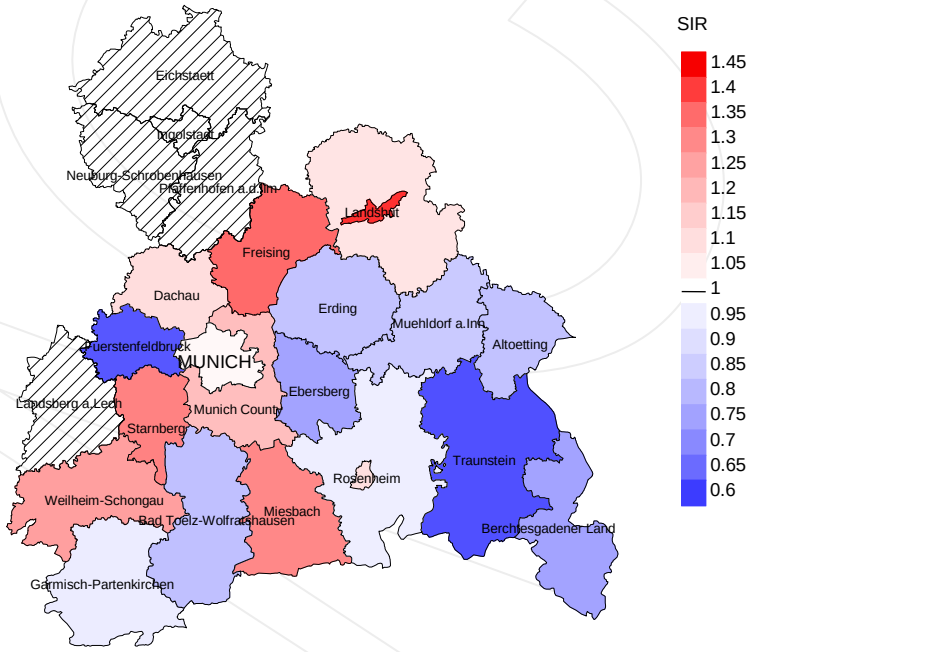


Figure 9b. Map of standardized incidence ratio (SIR, incl. DCO cases) by county averaged for period 2003 to 2008. According to their individual SIR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=565, females N=623). 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 14 women were identified with newly diagnosed sarcoma. Therefore, the mean standardized incidence ratio (SIR) for this cancer type in this area can be calculated at 0.75. Though, the value of this parameter may vary with an underlying probability of 99% between 0.33 and 1.44, 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	113	100.0	13.3	89	78.8	95.5
1999	126	98.4	11.9	82	65.1	92.7
2000	118	98.3	11.9	73	61.9	98.6
2001	100	98.0	12.0	62	62.0	96.8
2002	185	97.3	8.6	128	69.2	94.5
2003	196	96.4	11.7	136	69.4	96.3
2004	190	98.9	11.1	108	56.8	99.1
2005	204	93.6	4.4	117	57.4	96.6
2006	184	97.8	8.2	108	58.7	99.1
2007	236	80.9	5.5	116	49.2	99.1
2008	232	76.7	3.4	119	51.3	98.3
2009	236	80.1	3.8	111	47.0	98.2
2010	230	90.4	4.3	98	42.6	100.0
2011	200	71.0	4.5	62	31.0	96.8
1998-2011	2550	89.7	7.4	1409	55.3	97.3

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	113	74	94.6	24	21.2
1999	126	69	91.3	23	18.3
2000	118	79	93.7	26	22.0
2001	100	75	94.7	23	23.0
2002	185	105	97.1	43	23.2
2003	196	115	94.8	51	26.0
2004	190	121	97.5	40	21.1
2005	204	130	97.7	40	19.6
2006	184	126	94.4	40	21.7
2007	236	141	99.3	43	18.2
2008	232	117	98.3	35	15.1
2009	236	168	97.6	46	19.5
2010	230	158	100.0	40	17.4
2011	200	148	99.3	43	21.5
1998-2011	2550	1626	97.0	517	20.3

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	74	75.7	24.3	92.9
1999	69	78.3	21.7	95.2
2000	79	84.8	15.2	95.9
2001	75	92.0	8.0	97.2
2002	105	83.8	16.2	91.2
2003	115	89.6	10.4	90.8
2004	121	84.3	15.7	90.7
2005	130	86.9	13.1	92.1
2006	126	82.5	17.5	87.4
2007	141	88.7	11.3	92.9
2008	117	87.2	12.8	87.8
2009	168	83.3	16.7	87.2
2010	158	88.0	12.0	89.2
2011	148	85.1	14.9	88.4
1998-2011	1626	85.4	14.6	90.7

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	35	66.8	62.9	78.0	65.5
1999	39	63.1	60.4	72.0	63.2
2000	42	63.7	62.5	72.0	63.0
2001	35	61.7	59.6	84.2	62.9
2002	50	69.8	68.0	76.0	68.7
2003	54	67.8	65.0	83.9	64.8
2004	61	64.5	62.0	79.2	64.4
2005	63	63.0	61.1	73.1	62.2
2006	58	65.9	64.6	71.0	65.2
2007	76	66.2	64.2	81.1	64.5
2008	59	71.6	69.4	87.9	68.5
2009	81	71.4	68.0	82.4	68.6
2010	70	72.8	71.3	79.5	71.3
2011	62	68.6	67.4	75.6	67.5
1998-2011	785	67.4	65.2	78.1	66.0

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	39	69.4	65.3	83.1	68.7
1999	30	64.9	64.8	65.4	64.8
2000	37	69.5	70.6	65.2	69.1
2001	40	64.8	64.3	70.8	65.6
2002	55	66.0	64.3	79.6	66.0
2003	61	66.4	65.3	82.1	66.9
2004	60	71.1	68.3	85.0	68.6
2005	67	71.4	70.7	77.1	71.3
2006	68	72.0	69.9	84.1	71.7
2007	65	73.3	72.1	83.5	72.1
2008	58	74.9	72.4	90.0	72.5
2009	87	71.6	70.4	81.9	71.3
2010	88	69.7	68.4	87.2	68.7
2011	86	74.5	73.7	79.3	74.1
1998-2011	841	70.5	69.1	80.4	69.9

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	26	2.3	0.48	1.5	0.43	2.1	0.47	2.6	0.48
1999	30	2.7	0.45	1.9	0.44	2.5	0.46	3.1	0.48
2000	37	3.2	0.66	2.2	0.60	2.9	0.65	3.4	0.64
2001	32	2.8	0.74	1.9	0.72	2.5	0.71	3.0	0.69
2002	39	2.1	0.40	1.2	0.30	1.8	0.36	2.3	0.41
2003	46	2.5	0.53	1.5	0.46	2.1	0.50	2.7	0.54
2004	52	2.8	0.49	1.9	0.46	2.4	0.48	3.0	0.54
2005	53	2.8	0.53	1.8	0.44	2.3	0.48	2.8	0.55
2006	46	2.4	0.51	1.5	0.49	2.0	0.51	2.4	0.49
2007	67	3.0	0.66	1.8	0.54	2.5	0.63	3.0	0.67
2008	52	2.3	0.51	1.2	0.40	1.8	0.47	2.4	0.55
2009	62	2.8	0.56	1.4	0.47	2.1	0.51	2.7	0.55
2010	57	2.5	0.55	1.2	0.36	1.8	0.45	2.4	0.54
2011	53	2.4	0.62	1.3	0.51	1.8	0.59	2.3	0.64
1998-2011	652	2.6	0.54	1.5	0.46	2.1	0.51	2.7	0.55

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	30	2.6	0.51	1.4	0.48	1.9	0.50	2.3	0.53
1999	24	2.0	0.41	1.2	0.39	1.5	0.37	1.8	0.40
2000	30	2.5	0.48	1.0	0.32	1.6	0.40	2.1	0.45
2001	37	3.0	0.65	1.7	0.57	2.2	0.58	2.6	0.60
2002	49	2.5	0.56	1.4	0.55	1.8	0.55	2.2	0.57
2003	57	2.9	0.52	1.5	0.48	1.9	0.47	2.3	0.49
2004	50	2.5	0.60	1.2	0.42	1.7	0.51	2.1	0.58
2005	60	3.0	0.58	1.3	0.40	1.9	0.48	2.4	0.51
2006	58	2.9	0.62	1.3	0.45	1.8	0.51	2.4	0.57
2007	58	2.5	0.43	1.0	0.31	1.5	0.36	2.0	0.42
2008	50	2.2	0.39	0.9	0.27	1.3	0.31	1.6	0.34
2009	78	3.4	0.62	1.5	0.49	2.1	0.52	2.7	0.56
2010	82	3.5	0.65	1.7	0.58	2.3	0.61	2.9	0.65
2011	73	3.1	0.64	1.1	0.42	1.7	0.49	2.4	0.59
1998-2011	736	2.8	0.55	1.3	0.43	1.8	0.47	2.3	0.52

Table 13

Age distribution of age at death (cancer-related) for period 1998-2011
(**incl. multiple primaries**)

Age at death Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
0-4	9	0.6	0.6	7	1.1	1.1	2	0.3	0.3
5-9	9	0.6	1.3	3	0.5	1.5	6	0.8	1.1
10-14	4	0.3	1.6	3	0.5	2.0	1	0.1	1.2
15-19	7	0.5	2.1	3	0.5	2.4	4	0.5	1.8
20-24	15	1.1	3.1	7	1.1	3.5	8	1.1	2.8
25-29	18	1.3	4.4	11	1.7	5.2	7	0.9	3.8
30-34	21	1.5	5.9	12	1.8	7.0	9	1.2	5.0
35-39	24	1.7	7.7	16	2.4	9.5	8	1.1	6.1
40-44	49	3.5	11.2	26	4.0	13.4	23	3.1	9.2
45-49	43	3.1	14.2	24	3.7	17.1	19	2.6	11.7
50-54	60	4.3	18.5	35	5.3	22.4	25	3.4	15.1
55-59	102	7.3	25.8	52	7.9	30.3	50	6.7	21.9
60-64	137	9.8	35.6	64	9.8	40.1	73	9.9	31.7
65-69	184	13.2	48.8	92	14.0	54.1	92	12.4	44.1
70-74	189	13.5	62.3	103	15.7	69.8	86	11.6	55.7
75-79	194	13.9	76.2	72	11.0	80.8	122	16.5	72.2
80-84	178	12.7	89.0	64	9.8	90.5	114	15.4	87.6
85+	154	11.0	100.0	62	9.5	100.0	92	12.4	100.0
All ages	1397	100.0		656	100.0		741	100.0	

Included in the statistics are 27.6% multiple primaries in males and 30.3% in females.

Table 14

Age-specific mortality (cancer-related) and proportion of all cancers
for period 1998-2011
(**incl. multiple primaries**)

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	7	2	0.6	0.15	0.2	0.09	24.1	9.1
5- 9	3	6	0.2	0.25	0.5	0.75	9.7	16.7
10-14	3	1	0.2	0.27	0.1	0.10	10.3	4.2
15-19	3	4	0.2	0.21	0.3	0.31	7.9	13.8
20-24	7	8	0.5	0.44	0.5	0.62	8.8	18.6
25-29	11	7	0.7	0.44	0.4	0.27	12.6	6.9
30-34	12	9	0.6	0.25	0.5	0.24	7.1	4.4
35-39	16	8	0.7	0.26	0.4	0.21	4.4	1.8
40-44	26	23	1.2	0.46	1.1	0.38	3.4	2.3
45-49	24	19	1.2	0.48	1.0	0.33	1.6	1.1
50-54	35	25	2.1	0.43	1.5	0.32	1.2	1.0
55-59	52	50	3.3	0.50	3.1	0.41	1.0	1.2
60-64	64	73	4.2	0.57	4.6	0.54	0.8	1.3
65-69	92	92	6.8	0.60	6.2	0.53	0.9	1.3
70-74	103	86	10.0	0.70	7.0	0.56	0.9	1.1
75-79	72	122	10.7	0.61	12.3	0.74	0.7	1.4
80-84	64	114	15.8	0.85	14.3	0.86	0.7	1.2
85+	62	92	22.4	0.85	12.4	0.91	0.9	0.8
All ages	656	741					1.0	1.2
Mortality								
Raw			2.6	0.54	2.8	0.55		
WS			1.6	0.46	1.3	0.44		
ES			2.2	0.51	1.8	0.48		
BRD-S			2.7	0.56	2.3	0.52		
PYLL-70								
per 100,000			26.3		22.0			
ES			25.9		21.2			
AYLL-70			16.9		15.1			

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

Table 15a

Multiple primaries in deaths in period 1998-2011
MALES

Diagnosis	Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C07-C08 Salivary gland	2	0.9	1	50.0			1	50.0
C09-C10 Oropharynx	3	1.3			1	33.3	2	66.7
C12-C13 Hypopharynx	2	0.9	1	50.0			1	50.0
C15 Oesophagus	6	2.6	2	33.3			4	66.7
C16 Stomach	5	2.2	3	60.0	1	20.0	1	20.0
C18 Colon	18	7.8	13	72.2	2	11.1	3	16.7
C19-C20 Rectum	9	3.9	6	66.7	1	11.1	2	22.2
C22 Liver	2	0.9			2	100.0		
C23-C24 Bile	2	0.9			1	50.0	1	50.0
C25 Pancreas	5	2.2	2	40.0	2	40.0	1	20.0
C30-C31 Sinuses	2	0.9	1	50.0			1	50.0
C33-C34 Lung	12	5.2			3	25.0	9	75.0
C38,C45 Mesothelioma	2	0.9	1	50.0	1	50.0		
C40-C41 Bone	3	1.3	1	33.3			2	66.7
C43 Malign. melanoma	10	4.3	6	60.0	1	10.0	3	30.0
C44 Skin others	20	8.7	11	55.0			9	45.0
C46,C49 Soft tissue	11	4.8			3	27.3	8	72.7
C48 Peritoneal	2	0.9					2	100.0
C61 Prostate	32	13.9	22	68.8	1	3.1	9	28.1
C62 Testis	6	2.6	4	66.7			2	33.3
C64 Kidney	15	6.5	9	60.0	2	13.3	4	26.7
C67 Bladder	18	7.8	11	61.1	1	5.6	6	33.3
C70-C72 CNS cancer	7	3.0			1	14.3	6	85.7
C73 Thyroid	2	0.9	2	100.0				
C76-C79 CUP	3	1.3	1	33.3	1	33.3	1	33.3
C82-C85 NHL	14	6.1	6	42.9			8	57.1
C90 Mult. myeloma	4	1.7	1	25.0	1	25.0	2	50.0
C91-C96 Leukaemia	6	2.6	3	50.0			3	50.0
Other primaries	8	3.5	3	37.5			5	62.5
All mult. primaries	231	100.0	110	47.6	25	10.8	96	41.6

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 15b

Multiple primaries in deaths in period 1998-2011
FEMALES

Diagnosis		Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C16	Stomach	3	1.1	3	100.0				
C18	Colon	18	6.5	9	50.0	3	16.7	6	33.3
C19-C20	Rectum	5	1.8	2	40.0	1	20.0	2	40.0
C23-C24	Bile	2	0.7					2	100.0
C25	Pancreas	6	2.2			2	33.3	4	66.7
C33-C34	Lung	8	2.9			1	12.5	7	87.5
C40-C41	Bone	2	0.7	1	50.0			1	50.0
C43	Malign. melanoma	12	4.3	11	91.7	1	8.3		
C44	Skin others	13	4.7	5	38.5	4	30.8	4	30.8
C46,C49	Soft tissue	7	2.5			2	28.6	5	71.4
C48	Peritoneal	3	1.1					3	100.0
C50	Breast	84	30.1	64	76.2	3	3.6	17	20.2
C51	Vulva	2	0.7					2	100.0
C53	Cervix uteri	10	3.6	10	100.0				
C54	Corpus uteri	11	3.9	5	45.5	3	27.3	3	27.3
C56	Ovary	44	15.8	11	25.0	8	18.2	25	56.8
C64	Kidney	7	2.5	2	28.6	1	14.3	4	57.1
C65	Renal pelvis	2	0.7	2	100.0				
C67	Bladder	4	1.4	2	50.0			2	50.0
C70-C72	CNS cancer	6	2.2			1	16.7	5	83.3
C76-C79	CUP	2	0.7	2	100.0				
C81	Hodgkin lymphoma	2	0.7	1	50.0	1	50.0		
C82-C85	NHL	11	3.9	7	63.6	4	36.4		
C90	Mult. myeloma	2	0.7	1	50.0			1	50.0
C91-C96	Leukaemia	4	1.4	2	50.0			2	50.0
Other primaries		9	3.2	4	44.4	3	33.3	2	22.2
All mult. primaries		279	100.0	144	51.6	38	13.6	97	34.8

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 1998-2011
(**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	7	2	0.6	0.15	0.2	0.09	29.2	9.1
5- 9	3	6	0.2	0.25	0.5	0.75	10.3	18.2
10-14	3	1	0.2	0.30	0.1	0.11	10.3	4.3
15-19	3	4	0.2	0.21	0.3	0.33	8.6	14.8
20-24	6	7	0.4	0.40	0.5	0.58	8.0	17.9
25-29	11	7	0.7	0.44	0.4	0.27	13.6	7.3
30-34	12	8	0.6	0.26	0.4	0.22	7.3	4.5
35-39	16	7	0.7	0.28	0.3	0.20	4.7	1.7
40-44	23	20	1.0	0.43	0.9	0.37	3.3	2.3
45-49	23	17	1.2	0.49	0.9	0.34	1.6	1.1
50-54	28	21	1.7	0.41	1.2	0.31	1.1	0.9
55-59	45	40	2.9	0.51	2.4	0.41	1.0	1.2
60-64	52	64	3.4	0.53	4.0	0.57	0.8	1.4
65-69	70	71	5.1	0.58	4.8	0.53	0.8	1.2
70-74	74	64	7.2	0.66	5.2	0.55	0.8	1.0
75-79	55	87	8.1	0.65	8.7	0.76	0.7	1.2
80-84	53	93	13.0	0.95	11.7	0.87	0.8	1.2
85+	46	71	16.6	0.79	9.6	0.88	0.8	0.8
All ages	530	590					1.0	1.2
Mortality								
Raw			2.1	0.52	2.2	0.54		
WS			1.3	0.44	1.1	0.43		
ES			1.8	0.49	1.5	0.47		
BRD-S			2.2	0.54	1.9	0.51		
PYLL-70								
per 100,000			24.1		19.5			
ES			23.9		19.1			
AYLL-70			18.1		16.0			

* See corresponding tables with multiple primaries.

Table 17

Age-specific mortality (cancer-related) and proportion of all cancers
for period 1998-2011
(**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	7	2	0.6	0.15	0.2	0.09	30.4	9.1
5- 9	3	6	0.2	0.25	0.5	0.75	10.7	18.8
10-14	3	1	0.2	0.30	0.1	0.11	10.3	4.5
15-19	3	4	0.2	0.21	0.3	0.33	8.6	17.4
20-24	6	6	0.4	0.40	0.4	0.50	8.6	16.7
25-29	11	7	0.7	0.46	0.4	0.27	14.7	7.8
30-34	12	8	0.6	0.26	0.4	0.24	7.5	4.9
35-39	15	7	0.7	0.26	0.3	0.21	4.6	1.8
40-44	21	19	0.9	0.43	0.9	0.36	3.2	2.4
45-49	22	17	1.1	0.50	0.9	0.35	1.7	1.3
50-54	26	19	1.6	0.40	1.1	0.31	1.1	1.0
55-59	40	37	2.6	0.48	2.3	0.40	1.0	1.2
60-64	50	59	3.3	0.56	3.7	0.57	0.9	1.5
65-69	62	63	4.5	0.57	4.2	0.51	0.8	1.3
70-74	62	53	6.0	0.64	4.3	0.50	0.8	1.0
75-79	47	77	7.0	0.64	7.7	0.76	0.7	1.3
80-84	44	80	10.8	0.86	10.1	0.81	0.8	1.2
85+	39	65	14.1	0.74	8.8	0.83	0.9	0.8
All ages	473	530					1.0	1.2
Mortality								
Raw			1.9	0.50	2.0	0.52		
WS			1.2	0.42	1.0	0.41		
ES			1.6	0.47	1.3	0.45		
BRD-S			1.9	0.52	1.7	0.49		
PYLL-70								
per 100,000			23.0		18.6			
ES			23.0		18.2			
AYLL-70			18.6		16.4			

* See corresponding tables with multiple primaries.

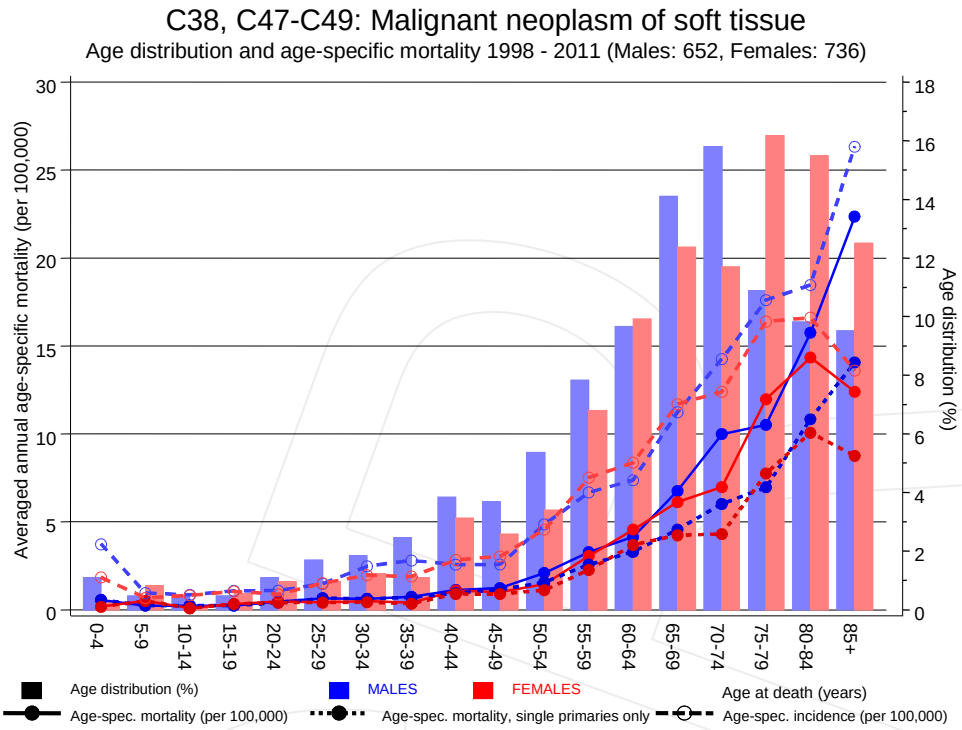
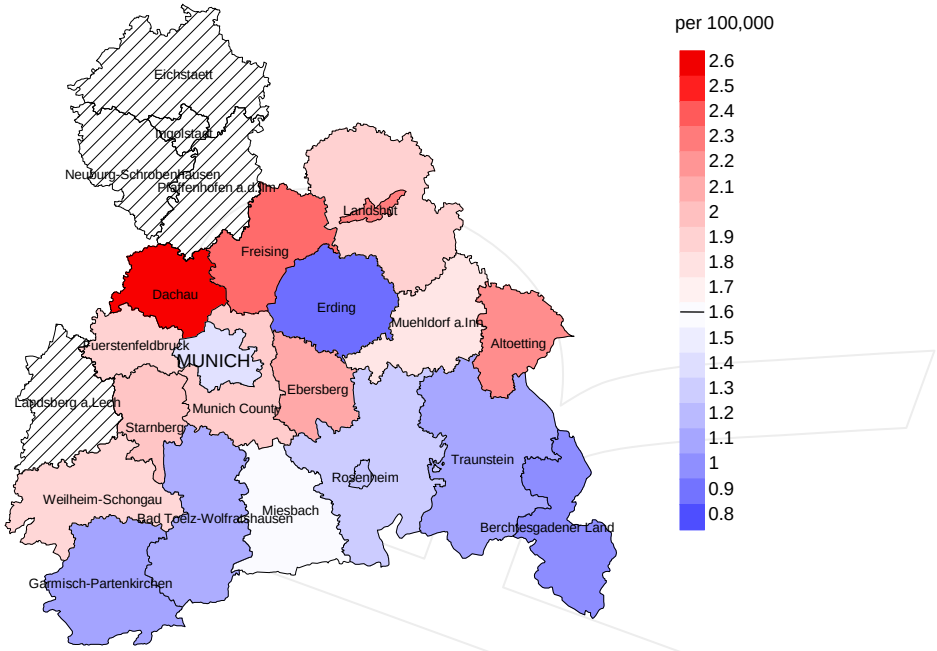


Figure 18. Distribution of age at death (bars) and age-specific mortality (all patients: solid line, patients with single primaries: dotted line). The age-specific incidence is additionally plotted for comparison (dashed line).

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

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



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

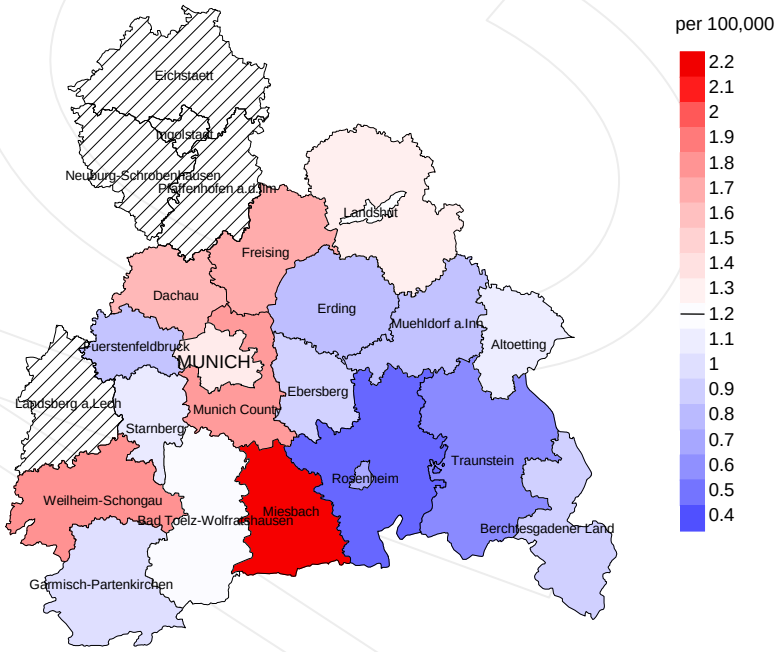
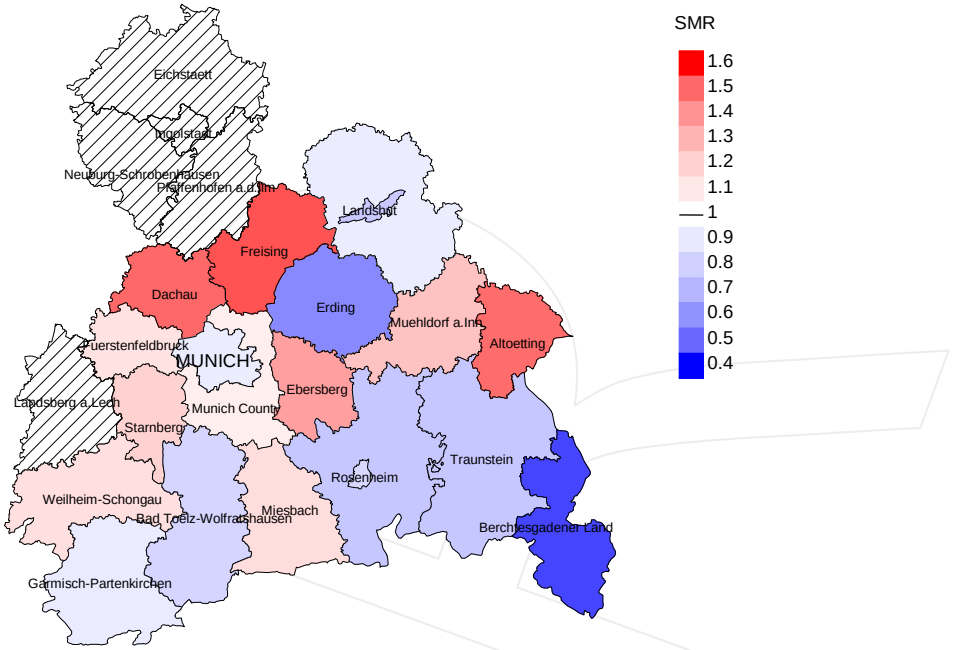


Figure 19a. Map of cancer mortality (world standard population) by county averaged for period 2003 to 2008. According to their individual mortality rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 1.6/100,000 WS N=303, females 1.2/100,000 WS N=325). 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 6 women died from sarcoma. Therefore, the mean mortality rate for this cancer type in this area can be calculated at 0.9/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.1 and 3.6/100,000.

Standardized mortality ratio (SMR) 2003 - 2008: Males



Standardized mortality ratio (SMR) 2003 - 2008: Females

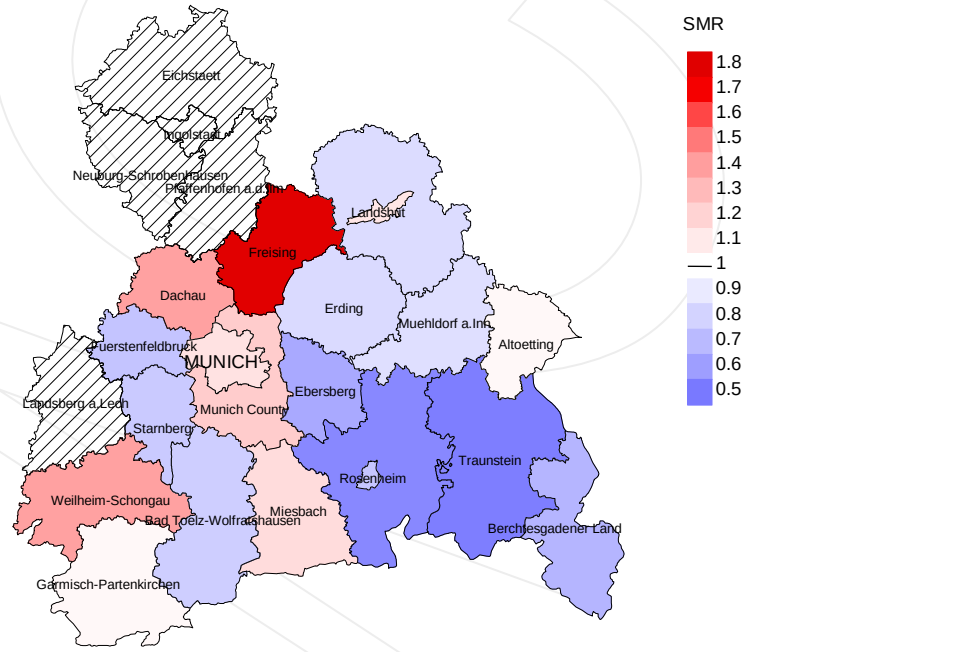


Figure 19b. Map of standardized mortality ratio (SMR, incl. DCO cases) by county averaged for period 2003 to 2008. According to their individual SMR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=303, females N=325). 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 6 women died from sarcoma. Therefore, the mean standardized mortality ratio (SMR) for this cancer type in this area can be calculated at 0.64. Though, the value of this parameter may vary with an underlying probability of 99% between 0.16 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

Recommended Citation

Munich Cancer Registry. Baseline statistics C38, C47-C49: Sarcoma [Internet]. 2013 [updated 2013 Apr 2; cited 2013 Jun 1]. Available from: http://www.tumorregister-muenchen.de/en/facts/base/base_C3849E.pdf

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