Munich Cancer Registry

Munich Cancer Registry at Munich Cancer Center
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http://www.tumorregister-muenchen.de/en

Cancer statistics: Baseline statistics

Sarcoma morph.: Sarcoma (morph.)

Year of diagnosis	1998-2011
Patients	5418
Diseases	5439
Creation date	04/02/2013
Export date	01/03/2013
Population	4.5 m

**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	217	25	11.5	20.3	80.2	98.6
1999	214	12	5.6	25.2	69.2	97.2
2000	230	31	13.5	20.9	66.1	97.0
2001	243	20	8.2	16.5	65.8	97.1
2002	376	29	7.7	22.1	68.6	98.1
2003	399	29	7.3	22.3	64.4	96.7
2004	414	23	5.6	19.6	61.6	96.9
2005	418	15	3.6	21.3	58.1	93.3
2006	381	17	4.5	23.4	59.6	96.6
2007	472	13	2.8	20.1	54.4	84.5 ##
2008	521	14	2.7	21.1	52.4	77.0
2009	528	12	2.3	26.1	50.6	81.4
2010	532	14	2.6	25.6	42.3	93.0
2011	494	14	2.8	26.1	29.4	74.7 ###
1998-2011	5439	268	4.9	22.5	55.9	89.9

\#   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	217	112	105	51.6
1999	214	116	98	54.2
2000	230	116	114	50.4
2001	243	108	135	44.4
2002	376	188	188	50.0
2003	399	197	202	49.4
2004	414	211	203	51.0
2005	418	213	205	51.0
2006	381	191	190	50.1
2007	472	233	239	49.4
2008	521	264	257	50.7
2009	528	268	260	50.8
2010	532	275	257	51.7
2011	494	266	228	53.8
1998-2011	5439	2758	2681	50.7

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	112	105	10.1	8.9	7.0	5.7	9.3	7.0	10.9	8.1
1999	116	98	10.4	8.3	7.3	4.8	9.5	6.4	11.1	7.4
2000	116	114	10.2	9.5	7.1	5.6	9.3	7.2	10.9	8.5
2001	108	135	9.3	11.1	6.5	6.8	8.6	8.9	10.2	10.0
2002	188	188	10.1	9.6	7.1	5.6	9.0	7.2	10.8	8.6
2003	197	202	10.5	10.3	7.0	6.1	9.2	7.8	10.9	9.0
2004	211	203	11.2	10.3	7.4	6.6	9.5	8.2	11.1	9.1
2005	213	205	11.2	10.3	8.3	6.2	10.0	7.8	11.1	9.1
2006	191	190	10.0	9.5	6.1	5.6	8.2	7.1	10.0	8.3
2007	233	239	10.5	10.3	6.8	5.9	8.6	7.6	10.4	8.9
2008	264	257	11.9	11.1	6.9	6.4	9.3	8.2	11.3	9.5
2009	268	260	12.0	11.2	6.5	5.9	9.2	8.0	11.5	9.5
2010	275	257	12.2	11.0	7.7	5.7	10.0	7.7	11.7	9.2
2011	266	228	11.8	9.7	6.8	5.4	9.1	7.0	11.1	8.1
1998-2011	2758	2681	11.0	10.2	7.1	5.9	9.2	7.6	11.0	8.8

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

Table 3

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

Year of diagnosis	Cases n	Mean	Std. dev.	Min.	Max.	10%	25%	Median 50%	75%	90%
1998	217	60.7	20.7	0.1	93.2	33.0	50.8	65.1	75.1	85.0
1999	214	61.9	16.9	3.5	97.9	39.6	52.9	63.5	73.0	81.2
2000	230	60.5	19.9	0.2	97.1	34.4	52.0	62.5	76.2	82.2
2001	243	61.0	17.5	0.1	97.6	39.4	51.5	63.5	72.0	81.4
2002	376	61.6	19.9	0.0	93.1	35.6	52.0	65.6	75.8	82.6
2003	399	61.9	19.3	0.3	92.5	33.2	54.5	66.1	75.4	82.8
2004	414	61.3	19.1	0.0	96.1	38.2	53.9	65.2	73.7	81.5
2005	418	59.5	21.1	0.2	94.2	30.9	49.4	64.2	74.2	82.2
2006	381	63.0	18.3	0.3	103	40.4	55.0	66.3	76.4	82.1
2007	472	62.7	18.9	0.0	96.9	39.2	54.6	66.8	75.2	81.6
2008	521	64.1	17.9	0.0	101	40.4	55.4	68.1	75.7	83.0
2009	528	66.0	15.8	2.2	94.6	45.5	58.1	68.3	77.2	83.8
2010	532	63.8	17.9	0.0	97.3	40.8	56.0	67.8	75.6	82.4
2011	494	63.9	17.8	0.0	96.5	41.9	54.5	68.9	75.8	82.3
1998-2011	5439	62.6	18.6	0.0	103	38.3	54.0	66.6	75.3	82.5

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	112	59.9	19.4	0.4	91.1	34.0	51.6	63.8	71.8	82.5
1999	116	60.4	17.7	3.5	97.4	38.4	52.7	62.3	72.1	78.9
2000	116	59.8	21.1	0.2	92.9	29.2	52.8	62.2	76.6	84.3
2001	108	60.2	18.7	0.1	97.6	37.2	50.9	62.6	72.5	79.8
2002	188	59.8	21.3	0.1	92.4	30.4	48.9	64.6	74.8	81.6
2003	197	61.1	19.3	0.3	92.1	32.2	54.8	65.8	73.6	81.5
2004	211	61.7	18.4	0.0	93.4	41.0	54.9	65.8	73.3	80.6
2005	213	56.7	21.9	0.2	90.9	29.4	45.6	63.2	72.1	79.9
2006	191	63.2	17.4	0.3	89.2	42.6	56.2	66.0	75.9	80.9
2007	233	62.0	20.4	0.0	96.4	35.9	55.6	67.7	75.1	79.9
2008	264	64.5	16.5	0.0	95.2	41.8	58.7	68.5	74.0	80.5
2009	268	66.6	15.7	2.4	93.5	44.7	59.3	69.2	77.6	83.7
2010	275	62.0	19.6	0.0	92.7	36.4	52.5	67.2	75.4	82.4
2011	266	63.9	17.4	0.0	88.3	41.7	55.7	69.4	75.4	80.8
1998-2011	2758	62.0	18.9	0.0	97.6	36.6	54.2	66.5	74.3	81.3

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	105	61.6	22.1	0.1	93.2	33.0	50.7	66.7	77.5	85.2
1999	98	63.5	15.9	17.4	97.9	42.4	53.6	65.1	74.6	83.9
2000	114	61.2	18.6	0.4	97.1	35.6	51.6	62.6	75.8	81.4
2001	135	61.7	16.5	4.1	95.4	40.4	52.5	64.3	71.6	82.9
2002	188	63.3	18.4	0.0	93.1	39.1	53.0	66.7	77.4	83.4
2003	202	62.8	19.4	0.8	92.5	35.4	54.5	66.5	77.1	83.4
2004	203	60.9	20.0	0.2	96.1	34.6	53.6	64.9	74.4	82.7
2005	205	62.4	19.8	0.3	94.2	36.8	52.5	67.1	77.5	82.9
2006	190	62.9	19.2	0.5	103	39.5	53.7	66.7	77.0	84.0
2007	239	63.4	17.4	0.2	96.9	42.1	53.5	66.4	76.0	82.7
2008	257	63.6	19.2	1.4	101	38.6	53.3	66.9	77.3	84.8
2009	260	65.4	15.8	2.2	94.6	45.6	57.1	67.5	76.7	83.8
2010	257	65.8	15.6	0.9	97.3	43.7	58.7	68.4	76.1	82.5
2011	228	64.0	18.4	0.0	96.5	42.2	53.2	68.1	76.8	84.6
1998-2011	2681	63.3	18.3	0.0	103	39.9	53.8	66.6	76.4	83.5

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	121	2.2	2.2	79	2.9	2.9	42	1.6	1.6
5-9	30	0.6	2.8	15	0.5	3.4	15	0.6	2.1
10-14	32	0.6	3.4	17	0.6	4.0	15	0.6	2.7
15-19	40	0.7	4.1	19	0.7	4.7	21	0.8	3.5
20-24	36	0.7	4.8	18	0.7	5.4	18	0.7	4.1
25-29	70	1.3	6.0	34	1.2	6.6	36	1.3	5.5
30-34	111	2.0	8.1	61	2.2	8.8	50	1.9	7.3
35-39	174	3.2	11.3	98	3.6	12.4	76	2.8	10.2
40-44	215	4.0	15.2	104	3.8	16.1	111	4.1	14.3
45-49	259	4.8	20.0	106	3.8	20.0	153	5.7	20.0
50-54	351	6.5	26.5	170	6.2	26.1	181	6.8	26.8
55-59	476	8.8	35.2	234	8.5	34.6	242	9.0	35.8
60-64	569	10.5	45.7	301	10.9	45.5	268	10.0	45.8
65-69	796	14.6	60.3	435	15.8	61.3	361	13.5	59.3
70-74	771	14.2	74.5	429	15.6	76.9	342	12.8	72.0
75-79	603	11.1	85.6	303	11.0	87.9	300	11.2	83.2
80-84	458	8.4	94.0	202	7.3	95.2	256	9.5	92.8
85+	327	6.0	100.0	133	4.8	100.0	194	7.2	100.0
All ages	5439	100.0		2758	100.0		2681	100.0	

Included in the statistics are 26.4% multiple primaries in males and 28.5% 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=163 %	Females DCO rate n=105 %	Males Prop.all cancers n=132509 %	Females Prop.all cancers n=129521 %
0- 4	79	42	6.3	3.5	2.5		27.9	20.2
5- 9	15	15	1.2	1.2			9.7	14.4
10-14	17	15	1.3	1.2			12.8	9.9
15-19	19	21	1.5	1.7	5.3	4.8	6.5	8.8
20-24	18	18	1.2	1.2	5.6		3.6	4.1
25-29	34	36	2.0	2.1			4.2	3.9
30-34	61	50	3.1	2.6		2.0	4.7	2.9
35-39	98	76	4.5	3.7	5.1	1.3	5.0	2.3
40-44	103	111	4.6	5.2	1.0	1.8	3.7	2.1
45-49	106	153	5.5	8.0	5.7	1.3	2.4	2.1
50-54	170	180	10.2	10.5	5.3	1.1	2.3	1.9
55-59	234	242	15.0	14.8	5.1	2.9	1.9	2.1
60-64	301	268	19.8	16.7	5.0	1.9	1.6	1.8
65-69	434	361	31.8	24.2	5.1	1.1	1.9	2.2
70-74	428	342	41.5	27.7	5.8	2.9	2.0	2.3
75-79	303	299	44.8	30.1	7.9	5.7	1.8	2.0
80-84	201	256	49.5	32.2	12.4	8.6	1.8	1.9
85+	133	193	47.9	26.0	11.3	16.1	1.6	1.3
All ages	2754	2678			5.9	3.9	2.1	2.1
Incidence								
Raw			11.0	10.2				
WS			7.1	5.9				
ES			9.2	7.6				
BRD-S			11.0	8.8				

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

Table 6a

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

Diagnosis	Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C03-C06 Oral cavity	2	0.6	3.2	0.4	11.6		2.5	
C09-C10 Oropharynx	4	0.8	5.1	1.4	13.1	#	5.9	
C15 Oesophagus	4	1.3	3.2	0.9	8.2		5.1	
C16 Stomach	7	3.1	2.2	0.9	4.6		7.1	
C17 Small intestine	7	0.3	21.6	8.7	44.5	#	12.3	
C18 Colon	11	7.3	1.5	0.8	2.7		6.8	9.1
C19-C20 Rectum	4	4.1	1.0	0.3	2.5		-0.3	
C22 Liver	3	2.0	1.5	0.3	4.4		1.9	33.3
C25 Pancreas	3	2.5	1.2	0.2	3.5		0.9	
C33-C34 Lung	21	8.7	2.4	1.5	3.7	#	22.7	47.6
C43 Malign. melanoma	11	2.8	4.0	2.0	7.1	#	15.2	18.2
C46,C49 Soft tissue	5	0.4	12.5	4.0	29.1	#	8.5	
C61 Prostate	30	21.2	1.4	1.0	2.0		16.1	6.7
C64 Kidney	13	2.5	5.1	2.7	8.8	#	19.3	
C67 Bladder	4	3.1	1.3	0.4	3.3		1.7	
C70-C72 CNS cancer	2	1.0	2.0	0.2	7.1		1.8	50.0
C73 Thyroid	2	0.5	4.0	0.5	14.4		2.8	
C76-C79 CUP	3	1.2	2.4	0.5	7.1		3.2	
C82-C85 NHL	10	2.8	3.5	1.7	6.5	#	13.2	
C90 Mult. myeloma	3	0.9	3.3	0.7	9.7		3.9	
C91-C96 Leukaemia	7	1.2	6.1	2.4	12.5	#	10.8	
Other primaries	9	3.0	3.0	1.4	5.7	#	11.1	
Not observed	0	1.9	0.0	0.0	2.0		-3.5	
All mult. primaries	165	73.3	2.3	1.9	2.6	#	169.0	10.3

Patients	1931
Mean age at second malignancy (years)	68.7
Person-years	5426
Mean observation time (years)	2.8
Median observation time (years)	1.7

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 %
C16	Stomach	4	2.0	2.0	0.5	5.1		3.4	
C18	Colon	10	5.5	1.8	0.9	3.4		7.6	10.0
C19-C20	Rectum	7	2.5	2.9	1.1	5.9	#	7.7	
C25	Pancreas	6	2.3	2.6	1.0	5.7		6.3	33.3
C33-C34	Lung	16	3.9	4.1	2.4	6.7	#	20.4	18.8
C43	Malign. melanoma	8	2.0	4.0	1.7	7.9	#	10.1	12.5
C46,C49	Soft tissue	6	0.3	18.7	6.9	40.7	#	9.6	50.0
C50	Breast	38	17.5	2.2	1.5	3.0	#	34.5	10.5
C53	Cervix uteri	2	0.9	2.3	0.3	8.4		1.9	
C54	Corpus uteri	9	3.1	2.9	1.3	5.4	#	9.9	
C56	Ovary	7	2.4	2.9	1.2	6.0	#	7.8	42.9
C64	Kidney	14	1.4	10.1	5.5	17.0	#	21.2	7.1
C67	Bladder	2	1.0	2.1	0.3	7.6		1.8	
C70-C72	CNS cancer	4	0.8	4.8	1.3	12.4	#	5.3	25.0
C73	Thyroid	6	1.2	5.1	1.9	11.1	#	8.1	
C82-C85	NHL	9	2.1	4.3	2.0	8.3	#	11.7	
C91-C96	Leukaemia	4	0.8	4.7	1.3	12.1	#	5.3	
Other primaries		6	2.0	3.0	1.1	6.6	#	6.8	16.7
Not observed		0	4.7	0.0	0.0	0.8	#	-7.9	
All mult. primaries		158	56.2	2.8	2.4	3.3	#	171.3	12.7

Patients	1932
Mean age at second malignancy (years)	70.1
Person-years	5941
Mean observation time (years)	3.1
Median observation time (years)	1.9

The occurrence of second malignancy is statistically significant.

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

Sarcoma morph.: Malignant neoplasm of other connective and soft tissue (morphological classification)
Age distribution and age-specific incidence 1998 - 2011 (Males: 2754, Females: 2678)
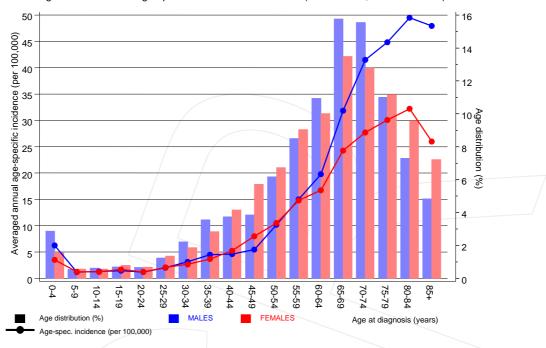

Figure 7. Age distribution and age-specific incidence

Sarcoma morph.: Malignant neoplasm of other connective and soft tissue (morphological classification)
Cumulative follow-up years since diagnosis for period 1998 - 2011 (excl. DCO)
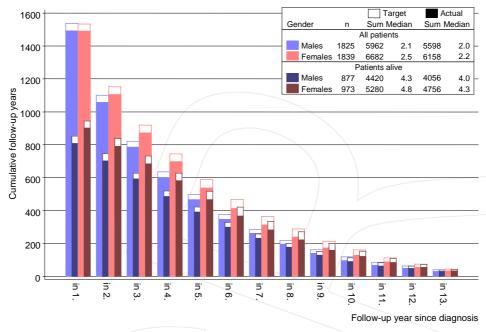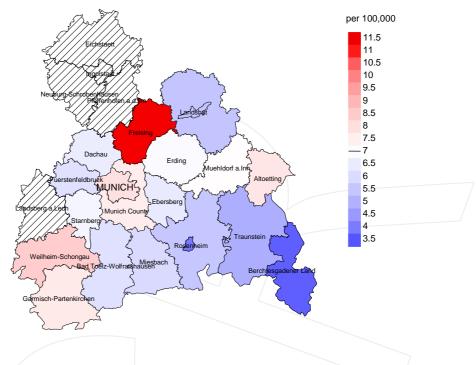
			Target		Actual	
Gender	n	Sum	Median		Sum	Median
All patients						
Males	1825	5962	2.1		5598	2.0
Females	1839	6682	2.5		6158	2.2
Patients alive						
Males	877	4420	4.3		4056	4.0
Females	973	5280	4.8		4756	4.3

Figure 8. Cumulative follow-up years depending on time since diagnosis
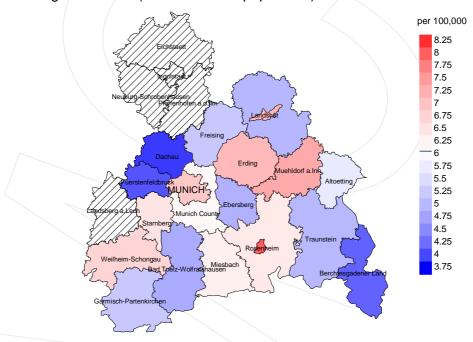
The increase of the lost to follow-up rate can be interpreted as a consequence of a declining number of survivors over time.

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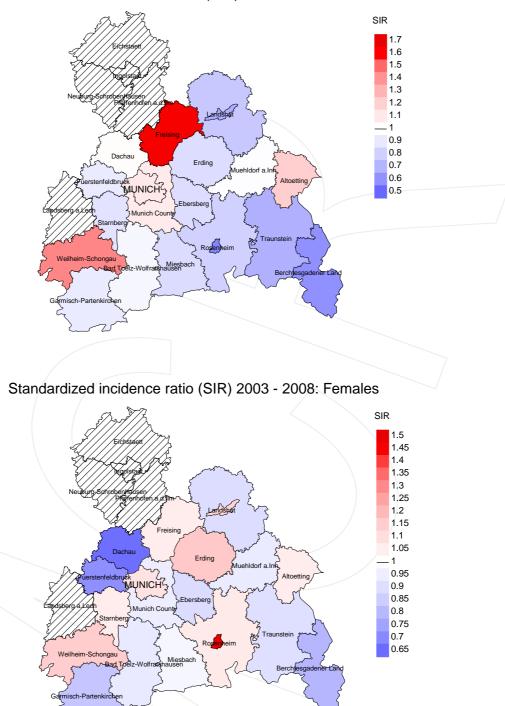
Average incidence (world standard population) 2003 - 2008: Females

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 7.0/100,000 WS N=1,243, females 6.1/100,000 WS N=1,231). 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 33 women were identified with newly diagnosed sarcoma (morph.). Therefore, the mean incidence rate for this cancer type in this area can be calculated at 4.9/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 2.6 and 8.8/100,000.

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=1,243, females N=1,231). 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 33 women were identified with newly diagnosed sarcoma (morph.). Therefore, the mean standardized incidence ratio (SIR) for this cancer type in this area can be calculated at 0.89. Though, the value of this parameter may vary with an underlying probability of 99% between 0.54 and 1.38, 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	217	98.6	11.5	174	80.2	92.0
1999	214	97.2	5.6	148	69.2	89.9
2000	230	97.0	13.5	152	66.1	97.4
2001	243	97.1	8.2	160	65.8	93.8
2002	376	98.1	7.7	258	68.6	96.9
2003	399	96.7	7.3	257	64.4	96.5
2004	414	96.9	5.6	255	61.6	97.6
2005	418	93.3	3.6	243	58.1	98.4
2006	381	96.6	4.5	227	59.6	99.6
2007	472	84.5	2.8	257	54.4	98.8
2008	521	77.0	2.7	273	52.4	98.5
2009	528	81.4	2.3	267	50.6	97.8
2010	532	93.0	2.6	225	42.3	98.7
2011	494	74.7	2.8	145	29.4	97.9
1998-2011	5439	89.9	4.9	3041	55.9	97.0

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	217	159	94.3	57	26.3
1999	214	141	89.4	46	21.5
2000	230	147	93.2	52	22.6
2001	243	141	92.9	48	19.8
2002	376	207	97.1	82	21.8
2003	399	223	96.0	83	20.8
2004	414	260	96.9	84	20.3
2005	418	262	96.6	75	17.9
2006	381	245	96.3	65	17.1
2007	472	302	98.0	82	17.4
2008	521	287	99.0	84	16.1
2009	528	339	98.5	100	18.9
2010	532	361	98.6	99	18.6
2011	494	351	98.9	90	18.2
1998-2011	5439	3425	96.8	1047	19.2

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	159	74.8	25.2	93.3
1999	141	85.8	14.2	96.0
2000	147	85.0	15.0	94.9
2001	141	87.2	12.8	93.1
2002	207	82.1	17.9	92.5
2003	223	86.1	13.9	90.7
2004	260	84.6	15.4	93.3
2005	262	85.1	14.9	90.9
2006	245	83.7	16.3	88.6
2007	302	87.4	12.6	92.2
2008	287	87.8	12.2	91.2
2009	339	87.6	12.4	91.0
2010	361	84.5	15.5	89.6
2011	351	85.8	14.2	90.5
1998-2011	3425	85.2	14.8	91.5

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	84	64.8	62.4	72.3	63.7
1999	78	65.9	65.4	69.5	65.9
2000	80	63.7	62.5	71.6	63.7
2001	73	64.6	63.4	71.6	65.1
2002	115	66.8	66.3	69.3	65.9
2003	100	67.4	65.9	74.2	64.8
2004	140	68.1	66.5	77.2	68.3
2005	132	65.7	64.3	74.0	64.7
2006	128	68.7	68.6	69.4	68.9
2007	168	67.3	66.7	72.8	66.6
2008	148	71.3	70.7	77.1	70.2
2009	178	71.6	70.1	80.2	70.6
2010	198	71.5	70.7	75.8	70.8
2011	184	71.6	70.6	78.4	71.0
1998-2011	1806	68.5	67.5	74.4	67.9

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.
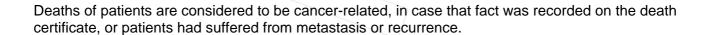
Table 11b

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	75	69.5	66.3	78.1	68.8
1999	63	68.9	68.4	71.7	68.9
2000	67	69.8	70.0	68.5	70.0
2001	68	66.3	65.6	72.8	65.5
2002	92	67.5	64.5	81.5	66.8
2003	123	67.9	65.9	84.4	67.5
2004	120	70.2	68.1	81.5	68.4
2005	130	71.3	69.5	80.8	70.2
2006	117	71.6	69.9	79.3	70.5
2007	134	72.2	70.8	79.9	70.6
2008	139	73.9	72.0	84.7	72.5
2009	161	71.7	70.7	82.1	71.3
2010	163	72.0	70.2	83.2	71.1
2011	167	72.4	71.0	80.8	71.6
1998-2011	1619	70.8	69.2	80.1	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	64	5.8	0.57	3.9	0.56	5.3	0.57	6.5	0.60
1999	67	6.0	0.58	3.9	0.55	5.5	0.58	6.8	0.62
2000	70	6.1	0.60	4.1	0.57	5.5	0.59	6.7	0.61
2001	62	5.3	0.57	3.4	0.52	4.7	0.54	5.7	0.56
2002	94	5.0	0.50	3.1	0.43	4.4	0.48	5.5	0.51
2003	82	4.4	0.42	2.6	0.38	3.7	0.40	4.8	0.44
2004	119	6.3	0.56	3.7	0.51	5.2	0.55	6.7	0.60
2005	113	6.0	0.53	3.6	0.44	4.9	0.49	6.0	0.54
2006	109	5.7	0.57	3.1	0.51	4.5	0.55	5.8	0.58
2007	152	6.9	0.66	3.8	0.55	5.4	0.62	6.8	0.66
2008	134	6.0	0.51	3.0	0.43	4.5	0.48	6.0	0.53
2009	151	6.8	0.56	3.3	0.50	4.9	0.53	6.4	0.55
2010	165	7.3	0.60	3.6	0.47	5.3	0.53	7.1	0.60
2011	159	7.1	0.60	3.4	0.50	5.0	0.56	6.9	0.62
1998-2011	1541	6.1	0.56	3.4	0.49	4.9	0.53	6.3	0.58

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	55	4.7	0.53	2.5	0.44	3.4	0.49	4.3	0.53
1999	54	4.6	0.55	2.3	0.48	3.2	0.50	4.1	0.55
2000	55	4.6	0.48	2.1	0.37	3.0	0.41	3.9	0.46
2001	61	5.0	0.45	2.7	0.40	3.6	0.41	4.3	0.43
2002	76	3.9	0.40	2.3	0.41	2.9	0.40	3.4	0.40
2003	110	5.6	0.54	3.0	0.49	3.9	0.50	4.7	0.53
2004	101	5.1	0.50	2.5	0.37	3.5	0.43	4.3	0.48
2005	110	5.5	0.54	2.6	0.41	3.6	0.47	4.6	0.50
2006	96	4.8	0.51	2.2	0.40	3.1	0.43	3.9	0.47
2007	113	4.9	0.47	2.1	0.36	3.1	0.40	4.0	0.45
2008	118	5.1	0.46	2.1	0.33	3.1	0.38	4.0	0.42
2009	146	6.3	0.56	2.8	0.48	4.0	0.49	5.0	0.53
2010	140	6.0	0.54	2.6	0.46	3.8	0.49	4.9	0.53
2011	142	6.1	0.62	2.6	0.47	3.8	0.53	4.8	0.59
1998-2011	1377	5.2	0.51	2.5	0.42	3.4	0.45	4.3	0.49

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	22	0.7	0.7	16	1.0	1.0	6	0.4	0.4
5-9	10	0.3	1.1	3	0.2	1.2	7	0.5	0.9
10-14	8	0.3	1.4	4	0.3	1.5	4	0.3	1.2
15-19	11	0.4	1.7	5	0.3	1.8	6	0.4	1.7
20-24	18	0.6	2.3	7	0.5	2.3	11	0.8	2.4
25-29	24	0.8	3.2	15	1.0	3.2	9	0.6	3.1
30-34	24	0.8	4.0	15	1.0	4.2	9	0.6	3.7
35-39	35	1.2	5.2	25	1.6	5.8	10	0.7	4.5
40-44	68	2.3	7.5	30	1.9	7.7	38	2.7	7.2
45-49	94	3.2	10.7	48	3.1	10.8	46	3.3	10.5
50-54	122	4.1	14.8	63	4.1	14.9	59	4.2	14.7
55-59	210	7.1	22.0	104	6.7	21.6	106	7.6	22.4
60-64	327	11.1	33.1	180	11.6	33.2	147	10.6	32.9
65-69	436	14.8	47.9	269	17.3	50.5	167	12.0	45.0
70-74	466	15.8	63.7	280	18.0	68.5	186	13.4	58.3
75-79	419	14.2	77.9	216	13.9	82.4	203	14.6	72.9
80-84	365	12.4	90.3	157	10.1	92.5	208	15.0	87.9
85+	284	9.7	100.0	116	7.5	100.0	168	12.1	100.0
All ages	2943	100.0		1553	100.0		1390	100.0	

Included in the statistics are 26.4% multiple primaries in males and 28.5% 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.	MI-index	Females Age-spec. mortal.	MI-index	Males Prop.all cancers %	Females Prop.all cancers %
0- 4	16	6	1.3	0.20	0.5	0.14	55.2	27.3
5- 9	3	7	0.2	0.20	0.6	0.47	9.7	19.4
10-14	4	4	0.3	0.24	0.3	0.27	13.8	16.7
15-19	5	6	0.4	0.26	0.5	0.29	13.2	20.7
20-24	7	11	0.5	0.39	0.7	0.61	8.8	25.6
25-29	15	9	0.9	0.44	0.5	0.25	17.2	8.8
30-34	15	9	0.8	0.25	0.5	0.18	8.9	4.4
35-39	25	10	1.1	0.26	0.5	0.13	6.9	2.2
40-44	30	38	1.3	0.29	1.8	0.34	4.0	3.8
45-49	48	46	2.5	0.45	2.4	0.30	3.1	2.7
50-54	63	59	3.8	0.37	3.4	0.33	2.2	2.2
55-59	104	106	6.7	0.44	6.5	0.44	2.0	2.6
60-64	180	147	11.8	0.60	9.2	0.55	2.3	2.6
65-69	269	167	19.7	0.62	11.2	0.46	2.6	2.4
70-74	280	186	27.1	0.65	15.1	0.54	2.5	2.3
75-79	216	203	32.0	0.71	20.4	0.68	2.0	2.3
80-84	157	208	38.7	0.78	26.2	0.81	1.8	2.2
85+	116	168	41.8	0.87	22.6	0.87	1.6	1.5
All ages	1553	1390					2.3	2.3

Mortality						
Raw	6.2	0.56	5.3	0.52
WS	3.5	0.49	2.5	0.42
ES	5.0	0.54	3.5	0.46
BRD-S	6.4	0.58	4.4	0.49

PYLL-70		
per 100,000	45.9	39.5
ES	45.0	38.2
AYLL-70	13.3	14.3

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 ←%
C12-C13	Hypopharynx	5	1.1			2	40.0	3	60.0
C15	Oesophagus	5	1.1					5	100.0
C16	Stomach	15	3.2			4	26.7	11	73.3
C17	Small intestine	7	1.5			4	57.1	3	42.9
C18	Colon	8	1.7			1	12.5	7	87.5
C19-C20	Rectum	7	1.5			1	14.3	6	85.7
C22	Liver	6	1.3			3	50.0	3	50.0
C25	Pancreas	4	0.8					4	100.0
C33-C34	Lung	33	6.9			4	12.1	29	87.9
C38,C45	Mesothelioma	82	17.3			1	1.2	81	98.8
C40-C41	Bone	5	1.1	2	40.0			3	60.0
C43	Malign. melanoma	29	6.1	17	58.6	1	3.4	11	37.9
C44	Skin others	23	4.8					23	100.0
C46,C49	Soft tissue	73	15.4			5	6.8	68	93.2
C48	Peritoneal	9	1.9					9	100.0
C61	Prostate	23	4.8			5	21.7	18	78.3
C64	Kidney	9	1.9			1	11.1	8	88.9
C67	Bladder	16	3.4			2	12.5	14	87.5
C70-C72	CNS cancer	19	4.0			1	5.3	18	94.7
C76-C79	CUP	4	0.8					4	100.0
C81	Hodgkin lymphoma	6	1.3	5	83.3			1	16.7
C82-C85	NHL	29	6.1			9	31.0	20	69.0
C90	Mult. myeloma	16	3.4			2	12.5	14	87.5
C91-C96	Leukaemia	14	2.9			1	7.1	13	92.9
Other primaries		28	5.9	4	14.3	1	3.6	23	82.1
All mult. primaries		475	100.0	28	5.9	48	10.1	399	84.0

Multiple primaries with number of cases n<4 are pooled in category "Other primaries".

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

Table 15b

Multiple primaries in deaths in period 1998-2011
FEMALES

Diagnosis		Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C16	Stomach	10	2.1			1	10.0	9	90.0
C17	Small intestine	4	0.8					4	100.0
C18	Colon	16	3.3					16	100.0
C19-C20	Rectum	5	1.0					5	100.0
C22	Liver	4	0.8					4	100.0
C25	Pancreas	12	2.5			1	8.3	11	91.7
C33-C34	Lung	30	6.3			3	10.0	27	90.0
C38,C45	Mesothelioma	22	4.6					22	100.0
C43	Malign. melanoma	19	4.0	11	57.9	1	5.3	7	36.8
C44	Skin others	18	3.8			2	11.1	16	88.9
C46,C49	Soft tissue	67	14.0			4	6.0	63	94.0
C48	Peritoneal	7	1.5			1	14.3	6	85.7
C50	Breast	66	13.8			10	15.2	56	84.8
C54	Corpus uteri	38	7.9			3	7.9	35	92.1
C56	Ovary	25	5.2			7	28.0	18	72.0
C64	Kidney	17	3.5			3	17.6	14	82.4
C67	Bladder	12	2.5			2	16.7	10	83.3
C70-C72	CNS cancer	27	5.6			2	7.4	25	92.6
C73	Thyroid	7	1.5			1	14.3	6	85.7
C74-C80	Cancer others	4	0.8			1	25.0	3	75.0
C76-C79	CUP	7	1.5			1	14.3	6	85.7
C82-C85	NHL	18	3.8			6	33.3	12	66.7
C90	Mult. myeloma	9	1.9			1	11.1	8	88.9
C91-C96	Leukaemia	10	2.1			2	20.0	8	80.0
Other primaries		25	5.2	3	12.0	1	4.0	21	84.0
All mult. primaries		479	100.0	14	2.9	53	11.1	412	86.0

Multiple primaries with number of cases n<4 are pooled in category "Other primaries".

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

Table 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	14	6	1.1	0.18	0.5	0.14	58.3	27.3
5- 9	3	7	0.2	0.20	0.6	0.47	10.3	21.2
10-14	4	4	0.3	0.25	0.3	0.29	13.8	17.4
15-19	5	6	0.4	0.26	0.5	0.32	14.3	22.2
20-24	6	8	0.4	0.35	0.5	0.50	8.0	20.5
25-29	13	9	0.8	0.41	0.5	0.25	16.0	9.4
30-34	14	9	0.7	0.24	0.5	0.18	8.5	5.0
35-39	25	8	1.1	0.27	0.4	0.12	7.3	1.9
40-44	26	33	1.2	0.28	1.6	0.33	3.7	3.8
45-49	41	44	2.1	0.43	2.3	0.31	2.9	2.9
50-54	51	46	3.1	0.34	2.7	0.30	2.1	2.1
55-59	92	90	5.9	0.46	5.5	0.45	2.1	2.6
60-64	153	121	10.1	0.58	7.5	0.56	2.3	2.6
65-69	225	128	16.5	0.63	8.6	0.48	2.7	2.2
70-74	221	149	21.4	0.67	12.1	0.55	2.5	2.3
75-79	163	154	24.1	0.72	15.5	0.67	1.9	2.1
80-84	125	166	30.8	0.80	20.9	0.83	1.9	2.2
85+	88	128	31.7	0.87	17.2	0.84	1.6	1.4
All ages	1269	1116					2.3	2.2
Mortality								
Raw			5.0	0.55	4.2	0.51		
WS			2.9	0.47	2.1	0.41		
ES			4.1	0.52	2.8	0.44		
BRD-S			5.2	0.57	3.5	0.48		
PYLL-70								
per 100,000			40.4		34.6			
ES			39.7		33.8			
AYLL-70			13.7		15.0			

* See corresponding tables with multiple primaries.

Table 17
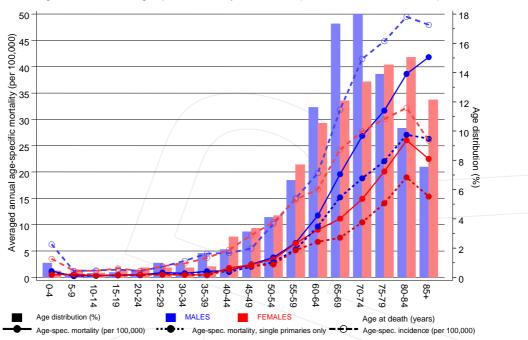
Age-specific mortality (cancer-related) and proportion of all cancers
for period 1998-2011
(**Single primaries only ***)

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	13	6	1.0	0.17	0.5	0.15	56.5	27.3
5- 9	3	7	0.2	0.20	0.6	0.47	10.7	21.9
10-14	4	4	0.3	0.25	0.3	0.31	13.8	18.2
15-19	5	5	0.4	0.26	0.4	0.26	14.3	21.7
20-24	6	7	0.4	0.35	0.5	0.44	8.6	19.4
25-29	12	9	0.7	0.38	0.5	0.26	16.0	10.0
30-34	14	9	0.7	0.25	0.5	0.19	8.8	5.5
35-39	23	8	1.1	0.25	0.4	0.12	7.1	2.1
40-44	23	30	1.0	0.26	1.4	0.30	3.5	3.8
45-49	39	41	2.0	0.42	2.1	0.30	3.0	3.0
50-54	48	42	2.9	0.33	2.4	0.29	2.1	2.1
55-59	83	84	5.3	0.45	5.1	0.44	2.0	2.7
60-64	147	108	9.7	0.60	6.7	0.55	2.6	2.7
65-69	207	112	15.2	0.62	7.5	0.46	2.8	2.3
70-74	194	129	18.8	0.65	10.5	0.53	2.6	2.4
75-79	149	140	22.0	0.71	14.1	0.65	2.2	2.3
80-84	110	151	27.1	0.77	19.0	0.78	2.1	2.3
85+	73	114	26.3	0.78	15.3	0.80	1.6	1.4
All ages	1153	1006					2.5	2.3
Mortality								
Raw			4.6	0.54	3.8	0.49		
WS			2.6	0.46	1.9	0.39		
ES			3.7	0.51	2.6	0.43		
BRD-S			4.7	0.55	3.2	0.46		
PYLL-70								
per 100,000			38.0		32.2			
ES			37.4		31.7			
AYLL-70			13.8		15.4			

* See corresponding tables with multiple primaries.

Sarcoma morph.: Malignant neoplasm of other connective and soft tissue (morphological classification)
Age distribution and age-specific mortality 1998 - 2011 (Males: 1541, Females: 1377)
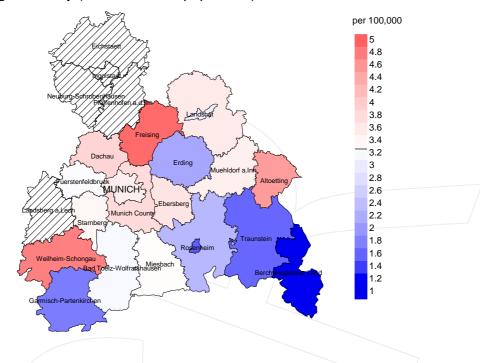
Figure 18. Distribution of age at death (bars) and age-specific mortality (all patients: solid line, patients with single primaries: dotted line). The age-specific incidence is additionally plotted for comparison (dashed line).
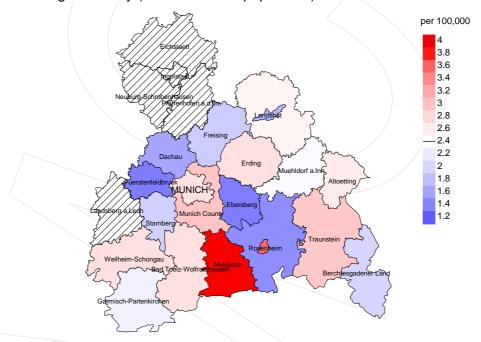
The difference between age at diagnosis (Table 3) and age at sarcoma (morph.)-related death (see Table 10) should be considered.

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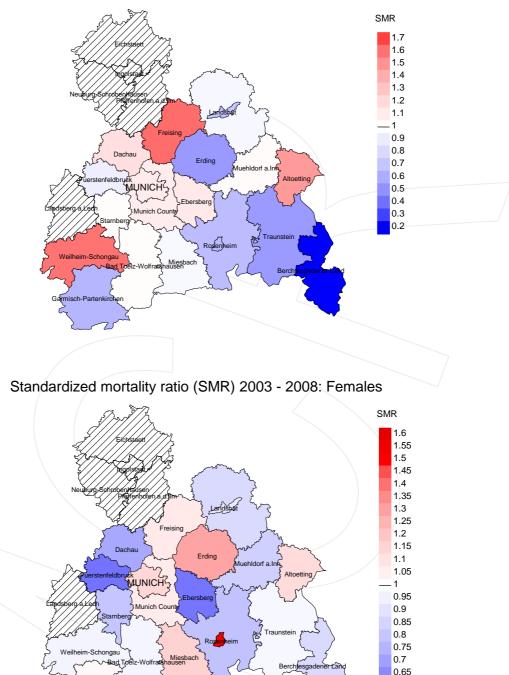
Average mortality (world standard population) 2003 - 2008: Females

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 3.3/100,000 WS N=676, females 2.4/100,000 WS N=623). 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 11 women died from sarcoma (morph.). Therefore, the mean mortality rate for this cancer type in this area can be calculated at 1.4/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.4 and 4.0/100,000.

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=676, females N=623). 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 11 women died from sarcoma (morph.). Therefore, the mean standardized mortality ratio (SMR) for this cancer type in this area can be calculated at 0.61. Though, the value of this parameter may vary with an underlying probability of 99% between 0.24 and 1.25, 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 Sarcoma morph.: Sarcoma (morph.) [Internet]. 2013 [updated 2013 Apr 2; cited 2013 Jun 1]. Available from: http://www.tumorregister-muenchen.de/en/facts/base/base_hST__E.pdf

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