Munich Cancer Registry

- Survival
- Selection Matrix
- Homepage
- *Deutsch*

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

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

Cancer statistics: Baseline statistics

C49: Soft tissue cancer

Year of diagnosis	1998-2013
Patients	1,929
Diseases	1,937
Creation date	05/19/2015
Export date	12/30/2014
Population	4.64 m

http://www.tumorregister-muenchen.de/en/facts/base/base_C49__E.pdf

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

In these analyses, the clinics and physicians of Upper Bavaria and the city and county of Landshut[#], with a total of 4.64 million inhabitants, account for the frequency of cancer diseases[##] and the achieved long term results. Additionally, the long term survival evaluated by the Munich Cancer Registry (MCR) is compared with the results of the population-based registry in the USA (SEER), which is useful for checking the consistency of the data on an international level.

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

The foot notes describe the currentness of the data. The baseline statistics and survival data are updated annually. This yearly analysis comprises the Annual Report of the MCR. 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, May 2015

[#] 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 2014 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.

ICD-10 codes (ICD-10 2015) used for specifying cancer site

Code	Description
C49.-	Malignant neoplasm of other connective and soft tissue
C49.0	Connective and soft tissue of head, face and neck
C49.1	Connective and soft tissue of upper limb, including shoulder
C49.2	Connective and soft tissue of lower limb, including hip
C49.3	Connective and soft tissue of thorax
C49.4	Connective and soft tissue of abdomen
C49.5	Connective and soft tissue of pelvis
C49.6	Connective and soft tissue of trunk, unspecified
C49.8	Overlapping lesion of connective and soft tissue
C49.9	Connective and soft tissue, unspecified

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	84	7	8.3	25.0	77.4	100.0	
1999	85	5	5.9	32.9	55.3	97.6	
2000	89	9	10.1	28.1	56.2	97.8	
2001	70	9	12.9	12.9	54.3	98.6	
2002	111	9	8.1	20.7	63.1	97.3	#
2003	137	15	10.9	23.4	61.3	94.9	
2004	118	12	10.2	22.0	53.4	97.5	
2005	151	7	4.6	21.9	54.3	93.4	
2006	106	9	8.5	30.2	54.7	95.3	
2007	149	5	3.4	21.5	44.3	77.9	# ##
2008	154	6	3.9	24.0	52.6	76.0	
2009	156	7	4.5	30.1	49.4	72.4	
2010	141	5	3.5	23.4	44.7	70.9	
2011	156	8	5.1	35.3	41.7	74.4	
2012	125	10	8.0	21.6	32.8	74.4	
2013	105	7	6.7	32.4	30.5	99.0	###
1998-2013	1937	130	6.7	25.5	50.7	86.6	

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	84	41	43	48.8
1999	85	49	36	57.6
2000	89	43	46	48.3
2001	70	33	37	47.1
2002	111	67	44	60.4
2003	137	60	77	43.8
2004	118	67	51	56.8
2005	151	77	74	51.0
2006	106	60	46	56.6
2007	149	73	76	49.0
2008	154	80	74	51.9
2009	156	82	74	52.6
2010	141	71	70	50.4
2011	156	81	75	51.9
2012	125	65	60	52.0
2013	105	52	53	49.5
1998-2013	1937	1001	936	51.7

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 4.64 m as of 2007, respectively)

Year of diagnosis	Males n	Females n	Males Inc. raw	Fem. Inc. raw	Males Inc. WS	Fem. Inc. WS	Males Inc. ES	Fem. Inc. ES	Males Inc. BRD-S	Fem. Inc. BRD-S
1998	41	43	3.7	3.7	2.7	2.2	3.5	2.7	4.3	3.1
1999	49	36	4.4	3.0	3.2	2.0	4.0	2.5	4.7	2.8
2000	43	46	3.8	3.8	2.8	2.7	3.5	3.2	4.1	3.6
2001	33	37	2.8	3.0	2.2	1.9	2.8	2.5	3.3	2.8
2002	67	44	3.6	2.2	2.8	1.4	3.3	1.7	3.7	1.9
2003	60	77	3.2	3.9	2.4	2.1	2.9	2.8	3.4	3.4
2004	67	51	3.6	2.6	2.5	1.8	3.1	2.1	3.5	2.4
2005	77	74	4.1	3.7	3.3	2.3	3.8	2.8	3.9	3.4
2006	60	46	3.1	2.3	1.8	1.6	2.6	1.9	3.2	2.0
2007	73	76	3.3	3.3	2.1	2.0	2.7	2.5	3.3	2.8
2008	80	74	3.6	3.2	2.4	1.7	3.1	2.3	3.5	2.7
2009	82	74	3.7	3.2	2.1	1.8	2.9	2.4	3.6	2.8
2010	71	70	3.2	3.0	2.1	1.5	2.7	2.1	3.1	2.5
2011	81	75	3.5	3.2	2.1	1.6	2.8	2.2	3.4	2.5
2012	65	60	2.8	2.5	1.7	1.5	2.2	1.9	2.7	2.2
2013	52	53	2.3	2.2	1.4	1.1	1.8	1.4	2.2	1.8
1998-2013	1001	936	3.4	3.0	2.3	1.8	2.9	2.2	3.4	2.6

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	84	60.1	23.2	0.4	93.2	28.3	45.4	66.8	77.1	85.7
1999	85	59.3	18.1	3.5	97.4	37.2	49.5	62.0	72.0	78.6
2000	89	56.2	22.9	0.2	97.1	28.1	40.2	60.3	75.1	82.6
2001	70	59.1	18.4	11.8	95.4	37.8	47.1	60.0	73.0	82.1
2002	111	57.6	23.7	0.0	93.0	28.0	42.7	63.0	76.4	83.9
2003	137	61.5	21.0	5.3	92.5	26.6	52.2	66.1	77.7	84.0
2004	118	58.0	21.2	1.3	96.1	25.6	44.2	64.0	73.5	80.6
2005	151	57.1	22.1	0.2	92.0	28.4	44.4	62.2	73.3	81.9
2006	106	61.1	21.0	1.6	103	33.8	51.5	63.2	78.2	83.9
2007	149	61.7	19.9	0.2	96.4	35.5	53.6	66.3	75.0	81.8
2008	154	62.1	19.7	0.3	101	34.2	50.0	65.1	76.5	85.5
2009	156	65.1	17.8	5.2	94.3	39.7	57.6	68.3	78.1	85.0
2010	141	61.8	19.6	3.4	97.3	33.9	50.1	66.1	76.0	82.1
2011	156	64.0	18.6	11.7	96.8	39.2	50.9	67.7	78.1	86.7
2012	125	63.2	19.4	0.7	98.4	38.9	51.8	65.8	76.1	84.7
2013	105	65.1	20.3	0.0	96.7	35.0	52.1	69.6	79.5	87.5
1998-2013	1937	61.1	20.5	0.0	103	33.0	49.5	65.0	76.4	83.8

Table 3a

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

Year of diagnosis	Cases n	Mean	Std. dev.	Min.	Max.	10%	25%	Median 50%	75%	90%
1998	41	56.8	22.8	0.4	90.8	28.3	40.4	63.3	73.8	82.5
1999	49	59.4	19.1	3.5	97.4	33.0	52.4	61.9	72.0	78.6
2000	43	56.6	22.8	0.2	88.5	28.9	40.2	59.7	71.6	84.3
2001	33	58.8	22.2	11.8	95.4	32.2	47.0	58.1	76.1	87.1
2002	67	54.4	24.4	0.1	92.4	20.1	36.1	59.8	72.1	81.3
2003	60	56.2	22.8	8.1	89.5	20.5	39.6	59.2	73.1	85.1
2004	67	57.6	20.1	1.3	85.8	32.1	44.6	64.3	71.7	78.7
2005	77	52.3	22.6	0.2	90.9	9.2	39.3	58.8	66.9	74.1
2006	60	63.0	17.0	15.9	86.9	37.9	54.4	63.8	77.7	82.6
2007	73	62.4	20.5	0.2	96.4	35.9	54.2	68.1	75.3	80.5
2008	80	59.1	19.6	0.3	95.2	33.6	46.5	61.8	73.3	80.9
2009	82	66.9	19.5	5.2	93.0	36.2	61.6	70.6	79.3	86.9
2010	71	59.4	21.3	3.4	92.7	31.9	47.6	60.5	74.6	82.8
2011	81	62.7	18.0	16.7	95.0	37.2	50.7	66.9	75.8	82.3
2012	65	63.4	18.4	1.3	95.5	35.8	51.5	66.7	75.2	84.4
2013	52	61.8	20.8	0.0	88.9	33.0	50.0	66.8	76.9	83.1
1998-2013	1001	59.6	20.9	0.0	97.4	31.7	47.4	64.2	74.5	82.8

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	43	63.2	23.4	3.4	93.2	33.0	50.8	72.3	77.9	86.2
1999	36	59.2	16.8	17.4	87.7	38.5	45.4	63.2	71.3	83.0
2000	46	55.7	23.2	0.4	97.1	22.7	34.9	60.8	75.8	80.7
2001	37	59.4	14.6	26.1	85.9	39.8	48.6	61.1	70.1	81.0
2002	44	62.5	21.9	0.0	93.0	33.1	49.3	67.8	79.1	85.7
2003	77	65.6	18.6	5.3	92.5	38.2	58.3	67.8	78.9	84.0
2004	51	58.5	22.8	2.4	96.1	21.5	41.4	63.6	74.6	83.5
2005	74	62.2	20.5	2.8	92.0	28.7	52.5	67.6	78.8	82.6
2006	46	58.5	25.2	1.6	103	17.1	40.8	61.7	79.1	86.5
2007	76	61.0	19.3	0.3	88.2	35.5	51.8	66.0	74.0	82.7
2008	74	65.3	19.4	6.1	101	35.6	53.2	67.3	80.0	86.7
2009	74	63.2	15.6	24.9	94.3	41.1	57.0	64.1	74.8	80.3
2010	70	64.3	17.6	21.8	97.3	40.5	51.9	67.6	77.7	81.9
2011	75	65.3	19.2	11.7	96.8	41.1	51.0	68.0	81.5	87.8
2012	60	63.0	20.5	0.7	98.4	39.5	53.2	64.5	79.9	84.8
2013	53	68.4	19.4	15.1	96.7	43.6	54.3	70.9	83.3	90.2
1998-2013	936	62.7	19.9	0.0	103	34.6	51.6	66.1	77.8	84.9

Table 4

Age distribution by 5-year age group and gender for period 1998-2013 (incl. DCO)

Age at diagnosis Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
0-4	41	2.1	2.1	28	2.8	2.8	13	1.4	1.4
5-9	15	0.8	2.9	9	0.9	3.7	6	0.6	2.0
10-14	15	0.8	3.7	8	0.8	4.5	7	0.7	2.8
15-19	24	1.2	4.9	12	1.2	5.7	12	1.3	4.1
20-24	25	1.3	6.2	14	1.4	7.1	11	1.2	5.2
25-29	39	2.0	8.2	18	1.8	8.9	21	2.2	7.5
30-34	71	3.7	11.9	41	4.1	13.0	30	3.2	10.7
35-39	78	4.0	15.9	53	5.3	18.3	25	2.7	13.4
40-44	98	5.1	21.0	50	5.0	23.3	48	5.1	18.5
45-49	88	4.5	25.5	40	4.0	27.3	48	5.1	23.6
50-54	129	6.7	32.2	69	6.9	34.2	60	6.4	30.0
55-59	156	8.1	40.2	80	8.0	42.2	76	8.1	38.1
60-64	187	9.7	49.9	96	9.6	51.7	91	9.7	47.9
65-69	221	11.4	61.3	121	12.1	63.8	100	10.7	58.5
70-74	217	11.2	72.5	120	12.0	75.8	97	10.4	68.9
75-79	207	10.7	83.2	97	9.7	85.5	110	11.8	80.7
80-84	159	8.2	91.4	70	7.0	92.5	89	9.5	90.2
85+	167	8.6	100.0	75	7.5	100.0	92	9.8	100.0
All ages	1937	100.0		1001	100.0		936	100.0	

Included in the statistics are 33.5% multiple primaries in males and 31.8% in females.

Table 5

Age-specific incidence, DCO rate and proportion of all cancers
for period 1998-2013

Age at diagnosis Years	Males n	Females n	Males Age-spec. incid.	Females Age-spec. incid.	Males DCO rate n=59 %	Females DCO rate n=71 %	Males Prop.all cancers n=158258 %	Females Prop.all cancers n=153136 %
0- 4	28	13	1.9	0.9	7.1		8.6	5.3
5- 9	9	6	0.6	0.4			5.1	4.8
10-14	8	7	0.5	0.5			4.8	4.1
15-19	12	12	0.8	0.8	8.3	8.3	3.4	4.1
20-24	14	11	0.8	0.6	7.1		2.3	2.1
25-29	18	21	0.9	1.0			1.9	1.9
30-34	41	30	1.8	1.4		3.3	2.7	1.5
35-39	53	25	2.1	1.1	5.7	4.0	2.4	0.7
40-44	50	48	1.9	1.9		2.1	1.6	0.8
45-49	40	48	1.7	2.1	10.0	2.1	0.7	0.5
50-54	69	60	3.4	2.9	7.2	1.7	0.8	0.5
55-59	80	76	4.4	4.0	5.0	6.6	0.6	0.6
60-64	95	91	5.4	4.9	2.1	1.1	0.4	0.5
65-69	121	100	7.7	5.8	2.5	2.0	0.4	0.5
70-74	120	97	9.4	6.4	7.5	6.2	0.4	0.5
75-79	97	109	11.7	9.2	7.2	11.0	0.5	0.6
80-84	70	89	14.0	9.5	15.7	16.9	0.5	0.6
85+	74	92	21.7	10.3	9.5	26.1	0.7	0.5
All ages	999	935			5.9	7.6	0.6	0.6
Incidence								
Raw			3.4	3.0				
WS			2.3	1.8				
ES			2.9	2.2				
BRD-S			3.4	2.6				

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 1998-2013
MALES

Diagnosis		Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C09-C10	Oropharynx	2	0.3	5.8	0.7	20.9		6.3	
C15	Oesophagus	3	0.6	5.1	1.1	14.9	#	9.2	33.3
C16	Stomach	5	1.5	3.3	1.1	7.8	#	13.3	
C17	Small intestine	2	0.2	12.1	1.5	43.7	#	7.0	
C18	Colon	5	3.5	1.4	0.5	3.3		5.8	
C23-C24	Bile	2	0.3	5.9	0.7	21.2		6.3	
C30-C31	Sinuses	2	0.1	34.1	4.1	123.3	#	7.4	
C33-C34	Lung	8	4.0	2.0	0.9	4.0		15.3	12.5
C43	Malign. melanoma	5	1.4	3.7	1.2	8.5	#	13.8	
C46,C49	Soft tissue	3	0.2	15.0	3.1	43.7	#	10.7	
C61	Prostate	19	10.2	1.9	1.1	2.9	#	33.6	
C64	Kidney	5	1.2	4.2	1.4	9.9	#	14.5	
C67	Bladder	5	1.6	3.1	1.0	7.3	#	12.9	20.0
C82-C85	NHL	6	1.4	4.3	1.6	9.4	#	17.5	
C91-C96	Leukaemia	3	0.6	5.0	1.0	14.7	#	9.2	
Other primaries		8	4.6	1.7	0.7	3.4		12.8	12.5
Not observed		0	3.4	0.0	0.0	1.1		-13.1	
All mult. primaries		83	35.0	2.4	1.9	2.9	#	182.5	4.8

Patients	672
Median age at second malignancy (years)	72.4
Person-years	2628
Mean observation time (years)	3.9
Median observation time (years)	2.8

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 1998-2013
FEMALES

Diagnosis		Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C18	Colon	3	2.3	1.3	0.3	3.8		2.8	
C19-C20	Rectum	6	1.0	6.0	2.2	13.1	#	20.4	
C33-C34	Lung	3	1.6	1.9	0.4	5.5		5.8	
C43	Malign. melanoma	3	0.8	3.6	0.7	10.4		8.8	
C46,C49	Soft tissue	3	0.1	22.2	4.6	64.9	#	11.7	
C50	Breast	14	7.0	2.0	1.1	3.4	#	28.6	
C53	Cervix uteri	2	0.4	5.7	0.7	20.5		6.7	
C54	Corpus uteri	3	1.2	2.4	0.5	7.1		7.2	
C64	Kidney	3	0.6	5.4	1.1	15.6	#	10.0	
C70-C72	CNS cancer	2	0.3	6.1	0.7	22.2		6.8	
C73	Thyroid	2	0.5	4.4	0.5	16.0		6.3	
C82-C85	NHL	3	0.9	3.4	0.7	10.1		8.7	
C91-C96	Leukaemia	2	0.4	5.5	0.7	19.8		6.7	
Other primaries		5	2.0	2.6	0.8	6.0		12.4	20.0
Not observed		0	4.1	0.0	0.0	0.9	#	-16.7	
All mult. primaries		54	23.1	2.3	1.8	3.1	#	126.4	1.9

Patients	629
Median age at second malignancy (years)	71.7
Person-years	2447
Mean observation time (years)	3.9
Median observation time (years)	2.6

The occurrence of second malignancy is statistically significant.

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

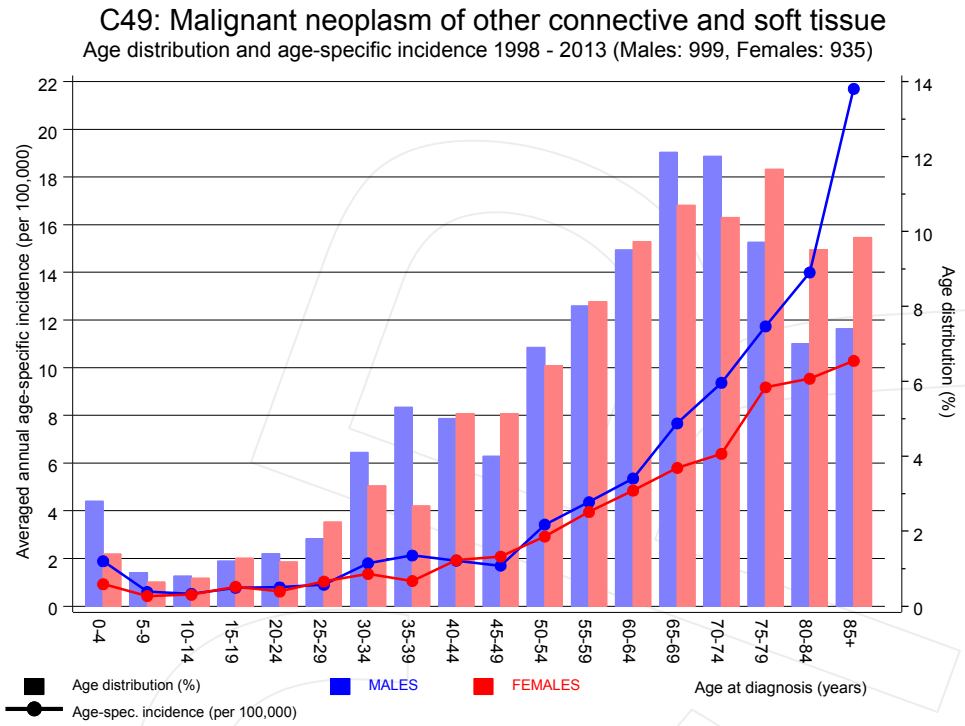


Figure 7. Age distribution and age-specific incidence

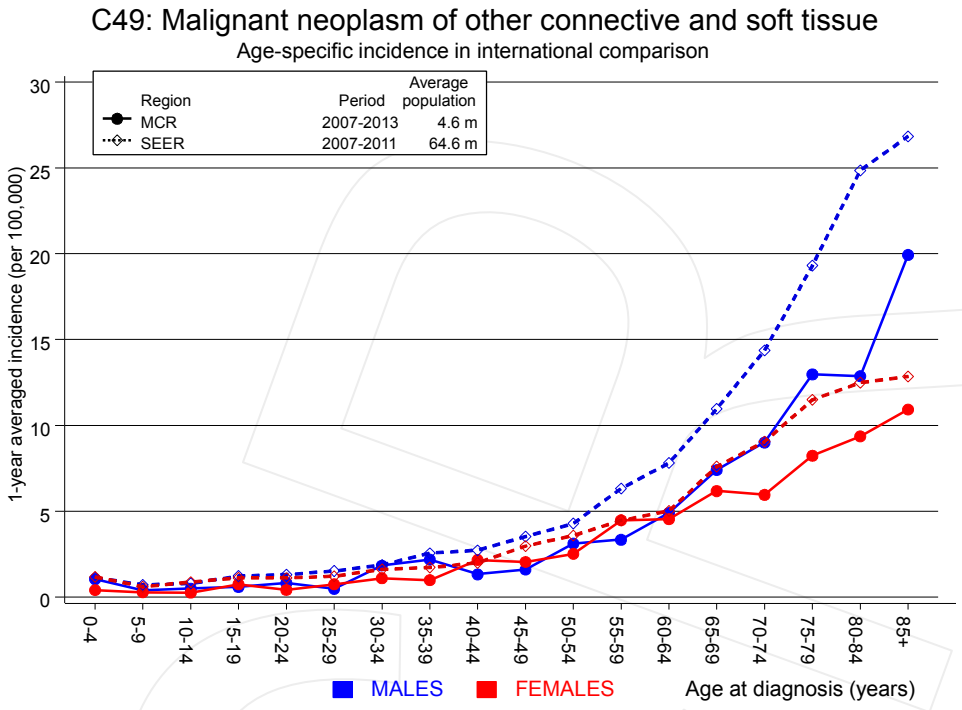


Figure 7a. Age-specific incidence in MCR registry areas compared to SEER (Surveillance, Epidemiology, and End Results, USA).

Reference:

Surveillance, Epidemiology, and End Results (SEER) Program SEER*Stat Database: Incidence - SEER 18 Regs Research Data, released April 2014, based on the November 2013 submission. http://www.seer.cancer.gov.

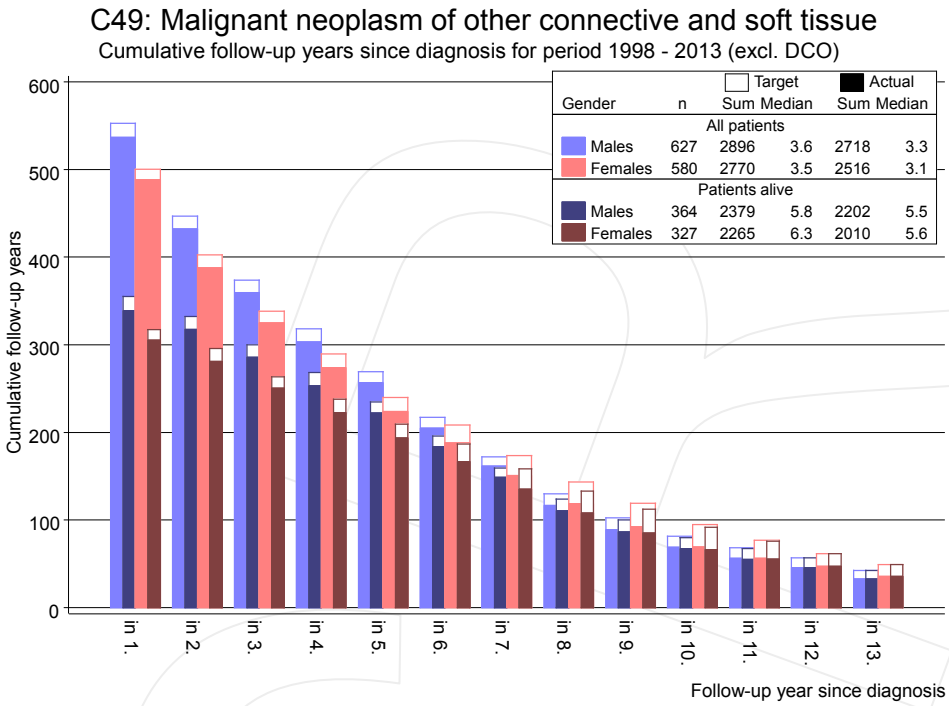
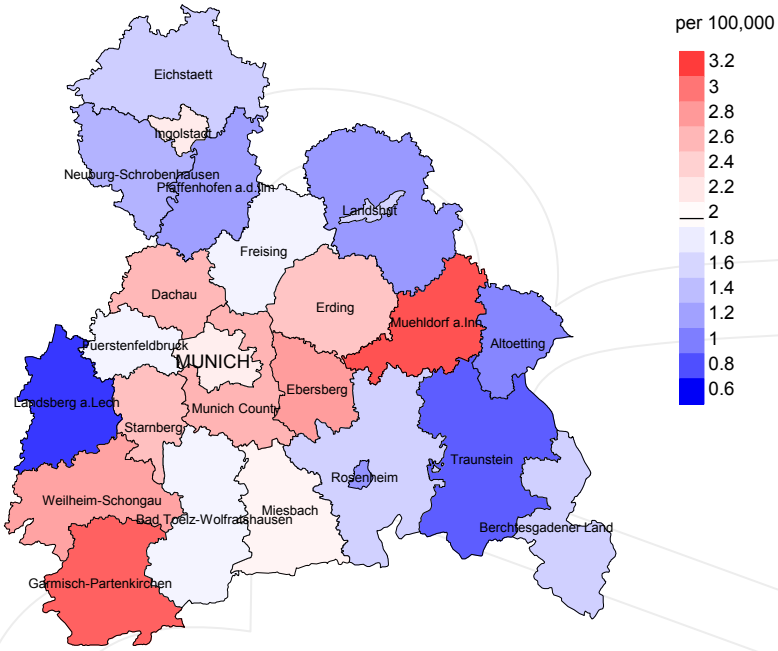


Figure 8. Cumulative follow-up years depending on time since diagnosis

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) 2007 - 2013: Males



Average incidence (world standard population) 2007 - 2013: Females

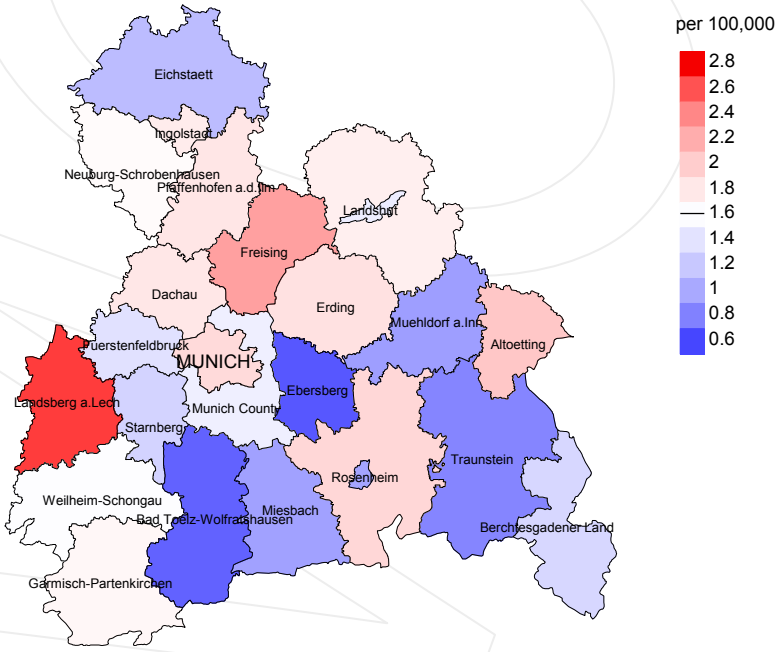
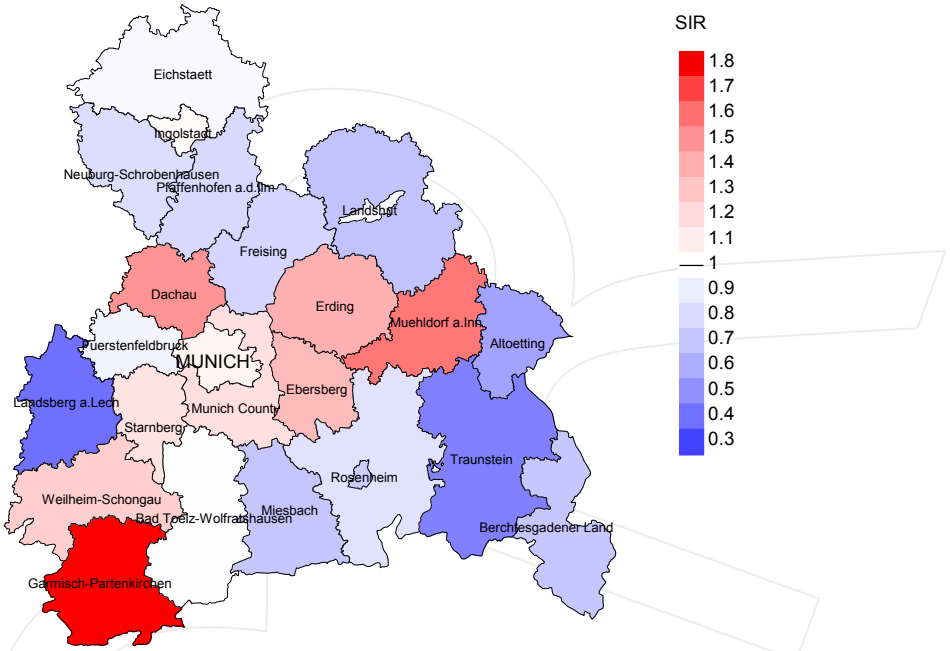


Figure 9a. Map of cancer incidence (world standard population, incl. DCO cases) by county averaged for period 2007 to 2013. According to their individual incidence rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 2.0/100,000 WS N=502, females 1.6/100,000 WS N=481).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 64,928 female residents (averaged) in the period from 2007 to 2013 a total of 7 women were identified with newly diagnosed soft tissue cancer. Therefore, the mean incidence rate for this cancer type in this area can be calculated at 0.6/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.1 and 2.2/100,000.

Standardized incidence ratio (SIR) 2007 - 2013: Males



Standardized incidence ratio (SIR) 2007 - 2013: Females

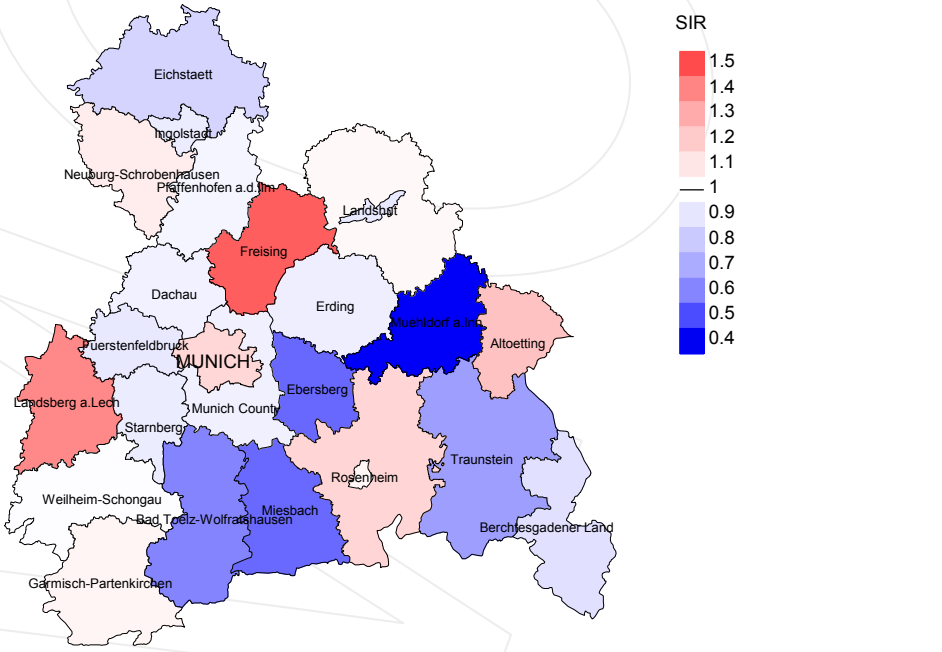


Figure 9b. Map of standardized incidence ratio (SIR, incl. DCO cases) by county averaged for period 2007 to 2013. According to their individual SIR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=502, females N=481).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 64,642 female residents (averaged) in the period from 2007 to 2013 a total of 7 women were identified with newly diagnosed soft tissue cancer. Therefore, the mean standardized incidence ratio (SIR) for this cancer type in this area can be calculated at 0.54. Though, the value of this parameter may vary with an underlying probability of 99% between 0.16 and 1.33, and is therefore not statistically striking.

MORTALITY

Table 10a

Patient cohorts of incident cancers by year of diagnosis, follow-up status, proportion of DCO, deaths among the annual cohorts, and proportion of available death certificates (with respect to registry area expansion from 2.51 to 3.96 m as of 2002, and from 3.96 to 4.64 m as of 2007, respectively)

Year of diagnosis	Incident cases n	Prop. actively followed %	Prop. DCO %	Deaths n	Prop. deaths %	Prop. deaths with death certific. %
1998	84	100.0	8.3	65	77.4	95.4
1999	85	97.6	5.9	47	55.3	95.7
2000	89	97.8	10.1	50	56.2	100.0
2001	70	98.6	12.9	38	54.3	97.4
2002	111	97.3	8.1	70	63.1	94.3
2003	137	94.9	10.9	84	61.3	96.4
2004	118	97.5	10.2	63	53.4	100.0
2005	151	93.4	4.6	82	54.3	97.6
2006	106	95.3	8.5	58	54.7	100.0
2007	149	77.9	3.4	66	44.3	98.5
2008	154	76.0	3.9	81	52.6	96.3
2009	156	72.4	4.5	77	49.4	96.1
2010	141	70.9	3.5	63	44.7	100.0
2011	156	74.4	5.1	65	41.7	96.9
2012	125	74.4	8.0	41	32.8	95.1
2013	105	99.0	6.7	32	30.5	96.9
1998-2013	1937	86.6	6.7	982	50.7	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 4.64 m as of 2007, respectively)

Year of diagnosis/ death	Incident cases n	Deaths n	Prop. deaths with death certific. %	Deaths in same year n	Prop. deaths in same year %
1998	84	57	94.7	13	15.5
1999	85	50	94.0	11	12.9
2000	89	46	93.5	15	16.9
2001	70	40	97.5	12	17.1
2002	111	68	95.6	21	18.9
2003	137	72	95.8	31	22.6
2004	118	79	97.5	25	21.2
2005	151	82	98.8	21	13.9
2006	106	82	95.1	20	18.9
2007	149	88	98.9	20	13.4
2008	154	74	97.3	22	14.3
2009	156	106	98.1	30	19.2
2010	141	98	99.0	22	15.6
2011	156	93	98.9	31	19.9
2012	125	93	98.9	22	17.6
2013	105	84	97.6	21	20.0
1998-2013	1937	1212	97.3	337	17.4

Table 10c

Annual cohorts of deaths, proportion of cancer-related and non-cancer-related deaths, and cancer recorded on death certificates (incl. DCO)
(with respect to registry area expansion from 2.51 to 3.96 m as of 2002, and from 3.96 to 4.64 m as of 2007, respectively)

Year of death	Deaths n	Prop. cancer-related %	Prop. non-cancer-related %	Prop. cancer recorded on death certificate %
1998	57	71.9	28.1	90.7
1999	50	80.0	20.0	91.5
2000	46	78.3	21.7	90.7
2001	40	90.0	10.0	94.9
2002	68	76.5	23.5	86.2
2003	72	86.1	13.9	88.4
2004	79	79.7	20.3	87.0
2005	82	82.9	17.1	88.9
2006	82	78.0	22.0	82.1
2007	88	84.1	15.9	90.8
2008	74	79.7	20.3	81.9
2009	106	80.2	19.8	83.7
2010	98	81.6	18.4	84.5
2011	93	77.4	22.6	83.7
2012	93	75.3	24.7	88.0
2013	84	79.8	20.2	86.6
1998-2013	1212	80.0	20.0	86.9

Table 11a

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

Year of death	Deaths n	Age at death (all causes) Years	Age at death (cancer-related) Years	Age at death (non-cancer-related) Years	Age at death (according to death certificate) Years
1998	30	71.4	69.3	82.2	72.4
1999	30	61.4	56.3	74.1	58.0
2000	24	65.3	62.8	79.9	62.8
2001	22	61.8	50.2	80.4	61.3
2002	36	73.3	67.1	88.3	70.9
2003	30	71.1	66.9	90.7	63.8
2004	43	71.3	69.9	83.0	71.2
2005	47	67.7	67.3	69.6	67.7
2006	40	70.5	69.1	71.4	69.3
2007	53	71.8	68.9	82.4	69.2
2008	35	77.1	74.8	89.9	73.9
2009	59	74.5	74.0	87.1	74.2
2010	53	73.3	73.0	78.0	73.0
2011	45	75.9	75.0	84.8	75.0
2012	45	76.8	72.6	82.9	75.5
2013	45	75.6	72.9	86.1	73.7
1998-2013	637	72.4	69.8	82.5	71.1

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

Table 11b

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

Year of death	Deaths n	Age at death (all causes) Years	Age at death (cancer-related) Years	Age at death (non-cancer-related) Years	Age at death (according to death certificate) Years
1998	27	72.0	65.2	85.4	69.0
1999	20	71.7	70.3	72.5	73.2
2000	22	76.3	75.5	77.2	76.3
2001	18	68.8	68.8		68.8
2002	32	71.9	63.2	81.3	71.9
2003	42	75.6	72.5	85.1	74.0
2004	36	75.0	69.9	87.6	72.4
2005	35	76.0	73.3	77.5	73.5
2006	42	78.0	74.8	83.4	75.1
2007	35	73.7	69.7	88.4	71.1
2008	39	82.9	76.7	89.3	77.1
2009	47	74.4	73.3	86.2	73.3
2010	45	71.4	68.8	87.7	68.8
2011	48	80.0	76.3	84.8	77.6
2012	48	79.5	74.0	85.0	78.1
2013	39	79.2	73.4	94.0	76.8
1998-2013	575	75.6	72.5	84.9	74.2

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	21	1.9	0.51	1.3	0.47	1.7	0.50	2.2	0.52
1999	24	2.1	0.49	1.6	0.51	2.0	0.51	2.3	0.49
2000	19	1.7	0.44	1.2	0.43	1.5	0.45	1.8	0.44
2001	18	1.6	0.55	1.2	0.55	1.4	0.51	1.5	0.47
2002	25	1.3	0.37	0.8	0.29	1.2	0.35	1.5	0.39
2003	25	1.3	0.42	0.9	0.39	1.2	0.41	1.5	0.44
2004	35	1.9	0.52	1.2	0.47	1.6	0.50	2.1	0.60
2005	38	2.0	0.49	1.3	0.40	1.7	0.45	2.0	0.52
2006	31	1.6	0.52	1.1	0.57	1.4	0.54	1.6	0.50
2007	46	2.1	0.63	1.2	0.59	1.7	0.63	2.1	0.64
2008	28	1.3	0.35	0.6	0.26	1.0	0.32	1.3	0.38
2009	45	2.0	0.55	1.0	0.48	1.5	0.51	2.0	0.54
2010	40	1.8	0.56	0.8	0.40	1.3	0.47	1.7	0.55
2011	36	1.6	0.45	0.8	0.38	1.2	0.42	1.6	0.47
2012	36	1.6	0.55	0.8	0.47	1.2	0.52	1.5	0.57
2013	35	1.5	0.69	0.9	0.67	1.2	0.67	1.5	0.68
1998-2013	502	1.7	0.50	1.0	0.45	1.4	0.48	1.7	0.52

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	20	1.7	0.47	1.1	0.49	1.3	0.49	1.5	0.48
1999	16	1.3	0.44	0.8	0.41	1.0	0.40	1.2	0.43
2000	17	1.4	0.37	0.6	0.21	0.9	0.27	1.2	0.33
2001	18	1.5	0.49	1.0	0.51	1.1	0.46	1.3	0.48
2002	27	1.4	0.61	0.9	0.64	1.1	0.63	1.2	0.62
2003	37	1.9	0.48	0.9	0.46	1.2	0.43	1.5	0.43
2004	28	1.4	0.55	0.7	0.38	1.0	0.46	1.2	0.52
2005	30	1.5	0.41	0.7	0.29	0.9	0.34	1.2	0.35
2006	33	1.6	0.72	0.7	0.44	1.0	0.56	1.3	0.66
2007	28	1.2	0.37	0.6	0.28	0.8	0.32	1.0	0.37
2008	31	1.3	0.42	0.6	0.33	0.8	0.35	1.0	0.37
2009	40	1.7	0.54	0.7	0.41	1.1	0.44	1.4	0.48
2010	40	1.7	0.57	0.9	0.60	1.2	0.59	1.5	0.59
2011	36	1.5	0.48	0.5	0.33	0.8	0.38	1.1	0.44
2012	34	1.4	0.57	0.6	0.41	0.9	0.46	1.1	0.50
2013	32	1.4	0.60	0.6	0.53	0.8	0.57	1.0	0.58
1998-2013	467	1.5	0.50	0.7	0.41	1.0	0.44	1.2	0.47

Table 13

Age distribution of age at death (cancer-related) for period 1998-2013
(**incl. multiple primaries**)

Age at death Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
0-4	10	1.0	1.0	8	1.6	1.6	2	0.4	0.4
5-9	9	0.9	2.0	3	0.6	2.2	6	1.3	1.7
10-14	5	0.5	2.5	3	0.6	2.8	2	0.4	2.1
15-19	5	0.5	3.0	3	0.6	3.4	2	0.4	2.6
20-24	10	1.0	4.0	6	1.2	4.6	4	0.9	3.4
25-29	16	1.6	5.6	10	2.0	6.5	6	1.3	4.7
30-34	18	1.8	7.5	11	2.2	8.7	7	1.5	6.2
35-39	19	2.0	9.4	15	3.0	11.7	4	0.9	7.0
40-44	33	3.4	12.8	19	3.8	15.4	14	3.0	10.0
45-49	32	3.3	16.1	16	3.2	18.6	16	3.4	13.4
50-54	39	4.0	20.1	22	4.4	23.0	17	3.6	17.1
55-59	65	6.7	26.8	33	6.5	29.5	32	6.8	23.9
60-64	93	9.5	36.3	47	9.3	38.8	46	9.8	33.7
65-69	111	11.4	47.7	59	11.7	50.5	52	11.1	44.8
70-74	124	12.7	60.5	75	14.9	65.3	49	10.4	55.2
75-79	123	12.6	73.1	54	10.7	76.0	69	14.7	69.9
80-84	121	12.4	85.5	59	11.7	87.7	62	13.2	83.2
85+	141	14.5	100.0	62	12.3	100.0	79	16.8	100.0
All ages	974	100.0		505	100.0		469	100.0	

Included in the statistics are 33.5% multiple primaries in males and 31.8% in females.

Table 14

Age-specific mortality (cancer-related) and proportion of all cancers
for period 1998-2013
(**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	8	2	0.5	0.29	0.1	0.15	24.2	7.7
5- 9	3	6	0.2	0.33	0.4	1.00	7.9	15.0
10-14	3	2	0.2	0.38	0.1	0.29	8.6	6.5
15-19	3	2	0.2	0.25	0.1	0.17	6.7	5.4
20-24	6	4	0.3	0.43	0.2	0.36	6.7	7.8
25-29	10	6	0.5	0.56	0.3	0.29	9.3	5.2
30-34	11	7	0.5	0.27	0.3	0.23	5.9	3.1
35-39	15	4	0.6	0.28	0.2	0.16	3.8	0.8
40-44	19	14	0.7	0.38	0.6	0.29	2.2	1.2
45-49	16	16	0.7	0.40	0.7	0.33	0.9	0.8
50-54	22	17	1.1	0.32	0.8	0.28	0.7	0.5
55-59	33	32	1.8	0.41	1.7	0.42	0.6	0.7
60-64	47	46	2.7	0.49	2.5	0.51	0.5	0.7
65-69	59	52	3.7	0.49	3.0	0.52	0.5	0.6
70-74	75	49	5.9	0.63	3.2	0.51	0.6	0.5
75-79	54	69	6.5	0.56	5.8	0.63	0.4	0.6
80-84	59	62	11.8	0.84	6.6	0.70	0.5	0.6
85+	62	79	18.2	0.83	8.8	0.86	0.7	0.6
All ages	505	469					0.6	0.6
Mortality								
Raw			1.7	0.50	1.5	0.50		
WS			1.0	0.45	0.7	0.41		
ES			1.4	0.48	1.0	0.44		
BRD-S			1.7	0.52	1.2	0.47		
PYLL-70								
per 100,000			18.1		13.1			
ES			18.3		13.1			
AYLL-70			19.0		16.6			

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

Table 15a

Multiple primaries in deaths in period 1998-2013
MALES

Diagnosis	Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C09-C10 Oropharynx	6	3.1	2	33.3	1	16.7	3	50.0
C12-C13 Hypopharynx	2	1.0	1	50.0			1	50.0
C15 Oesophagus	6	3.1	1	16.7			5	83.3
C16 Stomach	2	1.0			1	50.0	1	50.0
C18 Colon	13	6.7	10	76.9	1	7.7	2	15.4
C19-C20 Rectum	7	3.6	5	71.4			2	28.6
C25 Pancreas	2	1.0	1	50.0	1	50.0		
C30-C31 Sinuses	3	1.6	2	66.7			1	33.3
C33-C34 Lung	16	8.3	4	25.0	3	18.8	9	56.3
C40-C41 Bone	3	1.6	1	33.3			2	66.7
C43 Malign. melanoma	11	5.7	7	63.6	1	9.1	3	27.3
C44 Skin others	21	10.9	7	33.3			14	66.7
C46,C49 Soft tissue	3	1.6			1	33.3	2	66.7
C61 Prostate	27	14.0	15	55.6	1	3.7	11	40.7
C62 Testis	5	2.6	3	60.0			2	40.0
C64 Kidney	9	4.7	4	44.4	1	11.1	4	44.4
C67 Bladder	13	6.7	5	38.5	1	7.7	7	53.8
C70-C72 CNS cancer	5	2.6	3	60.0			2	40.0
C73 Thyroid	2	1.0	2	100.0				
C76-C79 CUP	2	1.0			1	50.0	1	50.0
C82-C85 NHL	15	7.8	8	53.3			7	46.7
C90 Mult. myeloma	4	2.1	2	50.0	1	25.0	1	25.0
C91-C96 Leukaemia	6	3.1	3	50.0			3	50.0
Other primaries	10	5.2	4	40.0	1	10.0	5	50.0
All mult. primaries	193	100.0	90	46.6	15	7.8	88	45.6

Multiple primaries with number of cases 1 are pooled in category "Other primaries".

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

Table 15b

Multiple primaries in deaths in period 1998-2013
FEMALES

Diagnosis		Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C16	Stomach	2	1.1	1	50.0			1	50.0
C18	Colon	8	4.5	4	50.0			4	50.0
C19-C20	Rectum	5	2.8	2	40.0	1	20.0	2	40.0
C25	Pancreas	2	1.1					2	100.0
C33-C34	Lung	6	3.4	1	16.7	1	16.7	4	66.7
C40-C41	Bone	2	1.1	1	50.0			1	50.0
C43	Malign. melanoma	12	6.7	7	58.3	2	16.7	3	25.0
C44	Skin others	7	3.9	3	42.9	1	14.3	3	42.9
C46,C49	Soft tissue	2	1.1					2	100.0
C50	Breast	70	39.1	56	80.0			14	20.0
C51	Vulva	4	2.2	2	50.0	1	25.0	1	25.0
C53	Cervix uteri	6	3.4	6	100.0				
C54	Corpus uteri	8	4.5	5	62.5			3	37.5
C56	Ovary	5	2.8	3	60.0	1	20.0	1	20.0
C64	Kidney	6	3.4	2	33.3	1	16.7	3	50.0
C67	Bladder	3	1.7	2	66.7			1	33.3
C70-C72	CNS cancer	8	4.5	4	50.0	1	12.5	3	37.5
C73	Thyroid	2	1.1	2	100.0				
C82-C85	NHL	7	3.9	4	57.1	2	28.6	1	14.3
C91-C96	Leukaemia	5	2.8	2	40.0			3	60.0
Other primaries		9	5.0	4	44.4	2	22.2	3	33.3
All mult. primaries		179	100.0	111	62.0	13	7.3	55	30.7

Multiple primaries with number of cases 1 are pooled in category "Other primaries".

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

Table 16

Age-specific mortality (cancer-related) and proportion of all cancers
for period 1998-2013
(**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	8	2	0.5	0.29	0.1	0.15	28.6	8.3
5- 9	3	6	0.2	0.33	0.4	1.00	8.3	16.2
10-14	3	1	0.2	0.43	0.1	0.17	8.6	3.4
15-19	3	2	0.2	0.25	0.1	0.17	7.1	6.1
20-24	5	4	0.3	0.38	0.2	0.36	6.0	8.5
25-29	10	6	0.5	0.56	0.3	0.29	10.1	5.5
30-34	10	7	0.4	0.25	0.3	0.24	5.5	3.5
35-39	14	4	0.6	0.29	0.2	0.18	3.7	0.9
40-44	18	12	0.7	0.40	0.5	0.29	2.3	1.2
45-49	15	14	0.6	0.41	0.6	0.34	0.9	0.8
50-54	18	16	0.9	0.31	0.8	0.33	0.6	0.6
55-59	27	24	1.5	0.40	1.2	0.40	0.5	0.6
60-64	39	38	2.2	0.49	2.0	0.50	0.5	0.7
65-69	47	40	3.0	0.49	2.3	0.52	0.5	0.6
70-74	57	37	4.4	0.61	2.4	0.51	0.5	0.5
75-79	41	51	5.0	0.66	4.3	0.70	0.4	0.6
80-84	46	46	9.2	0.88	4.9	0.68	0.6	0.5
85+	47	60	13.8	0.84	6.7	0.83	0.7	0.5
All ages	411	370					0.6	0.6
Mortality								
Raw			1.4	0.50	1.2	0.49		
WS			0.9	0.44	0.6	0.40		
ES			1.1	0.47	0.8	0.43		
BRD-S			1.4	0.52	1.0	0.46		
PYLL-70								
per 100,000			16.6		11.8			
ES			17.0		11.8			
AYLL-70			20.2		17.7			

* See corresponding tables with multiple primaries.

Table 17

Age-specific mortality (cancer-related) and proportion of all cancers
for period 1998-2013
(**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	2	0.5	0.29	0.1	0.15	29.6	8.3
5- 9	3	6	0.2	0.33	0.4	1.00	8.6	16.7
10-14	3	1	0.2	0.43	0.1	0.17	8.6	3.7
15-19	3	2	0.2	0.25	0.1	0.17	7.1	7.1
20-24	5	3	0.3	0.38	0.2	0.30	6.3	6.8
25-29	10	6	0.5	0.56	0.3	0.29	10.9	5.8
30-34	10	7	0.4	0.26	0.3	0.25	5.7	3.8
35-39	13	4	0.5	0.27	0.2	0.19	3.6	0.9
40-44	17	11	0.6	0.40	0.4	0.28	2.3	1.2
45-49	14	14	0.6	0.40	0.6	0.35	0.9	0.9
50-54	15	15	0.7	0.27	0.7	0.33	0.6	0.6
55-59	22	22	1.2	0.35	1.1	0.41	0.5	0.6
60-64	38	36	2.1	0.58	1.9	0.52	0.6	0.8
65-69	41	36	2.6	0.49	2.1	0.51	0.5	0.6
70-74	45	28	3.5	0.58	1.8	0.42	0.5	0.4
75-79	35	46	4.2	0.66	3.9	0.72	0.4	0.6
80-84	36	41	7.2	0.78	4.4	0.65	0.6	0.6
85+	38	53	11.1	0.75	5.9	0.77	0.7	0.6
All ages	356	333					0.7	0.7
Mortality								
Raw			1.2	0.48	1.1	0.48		
WS			0.8	0.42	0.6	0.39		
ES			1.0	0.45	0.7	0.42		
BRD-S			1.2	0.49	0.9	0.45		
PYLL-70								
per 100,000			15.8		11.2			
ES			16.2		11.3			
AYLL-70			20.9		18.0			

* See corresponding tables with multiple primaries.

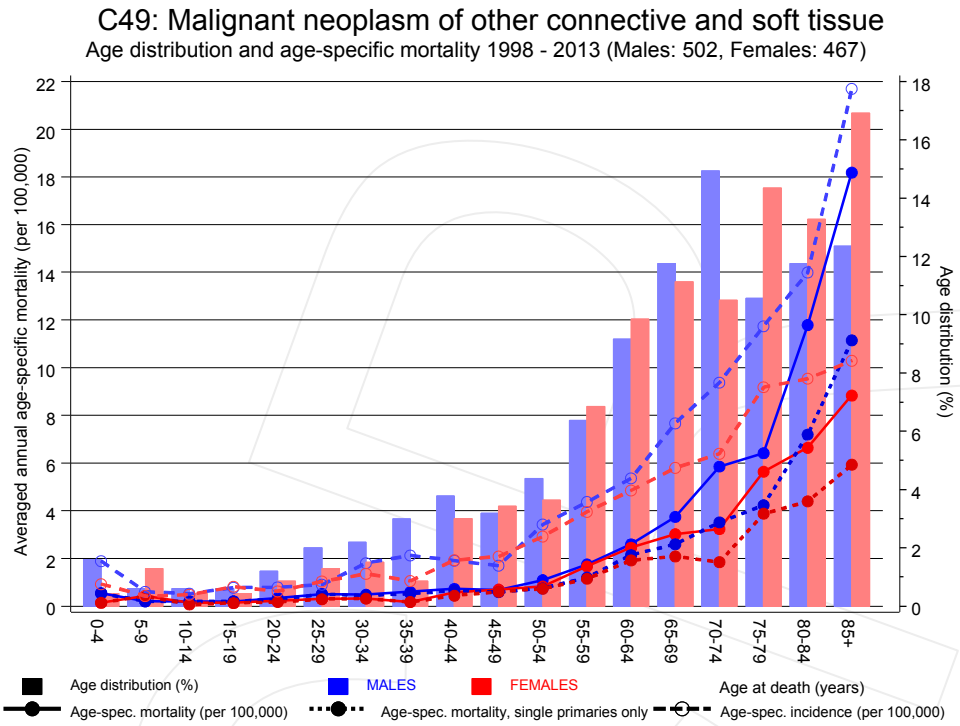
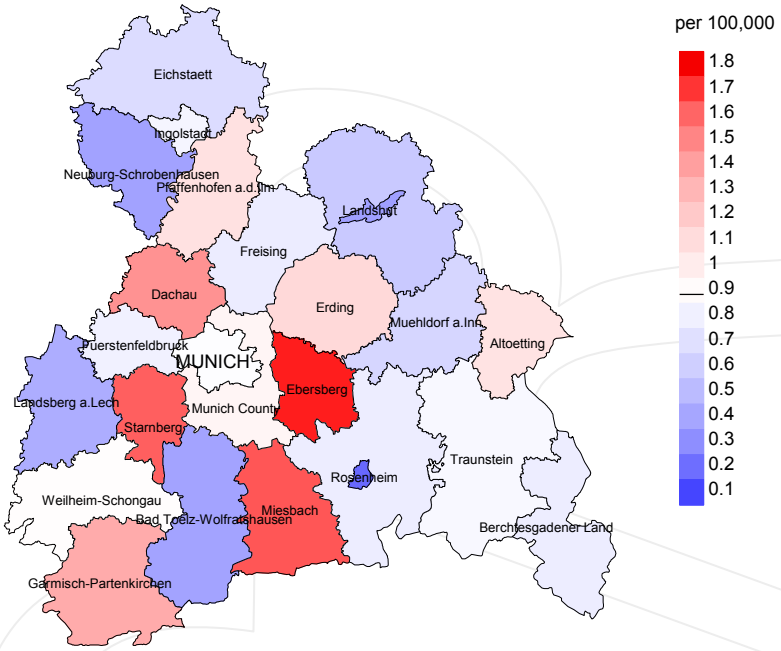


Figure 18. Distribution of age at death (bars) and age-specific mortality (all patients: solid line, patients with single primaries: dotted line). The age-specific incidence is additionally plotted for comparison (dashed line).

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

Average mortality (world standard population) 2007 - 2013: Males



Average mortality (world standard population) 2007 - 2013: Females

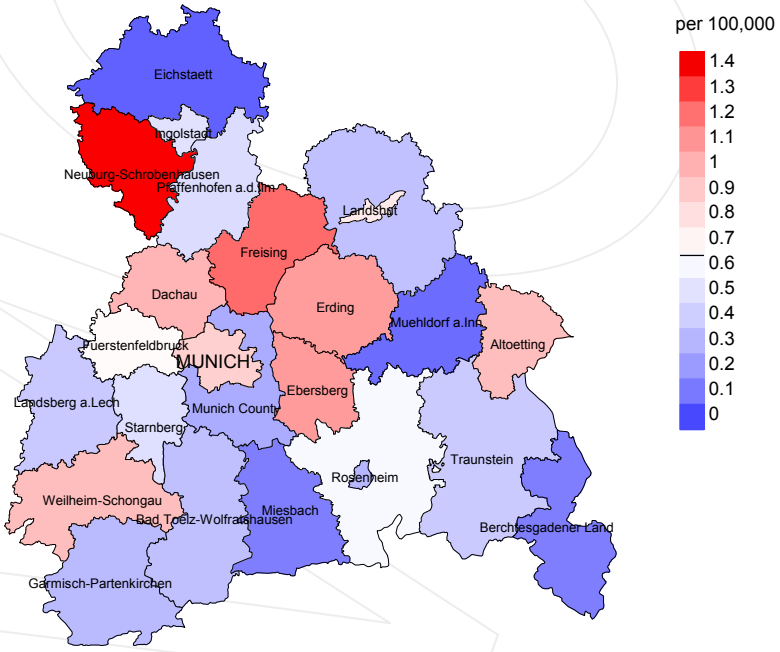
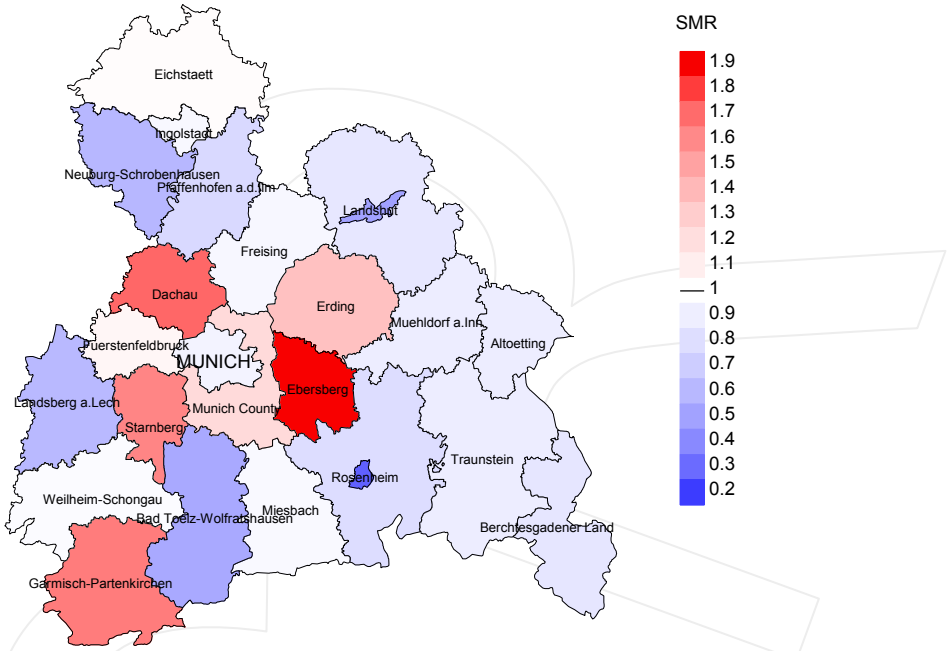


Figure 19a. Map of cancer mortality (world standard population) by county averaged for period 2007 to 2013. According to their individual mortality rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 0.9/100,000 WS N=265, females 0.6/100,000 WS N=238).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 64,928 female residents (averaged) in the period from 2007 to 2013 a total of 10 women died from soft tissue cancer. Therefore, the mean mortality rate for this cancer type in this area can be calculated at 1.1/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.3 and 3.4/100,000.

Standardized mortality ratio (SMR) 2007 - 2013: Males



Standardized mortality ratio (SMR) 2007 - 2013: Females

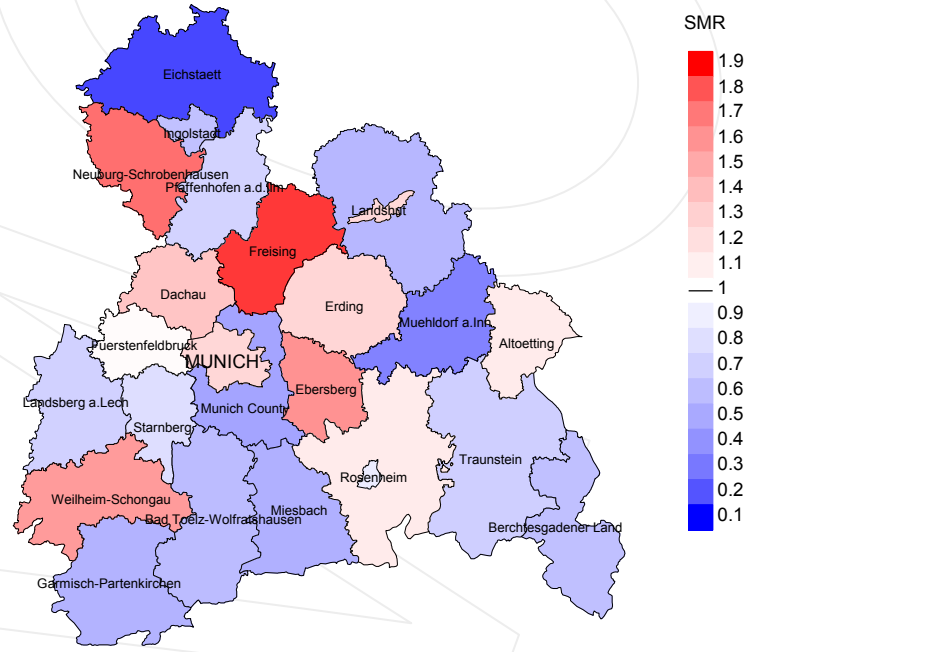


Figure 19b. Map of standardized mortality ratio (SMR, incl. DCO cases) by county averaged for period 2007 to 2013. According to their individual SMR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=265, females N=238).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 64,642 female residents (averaged) in the period from 2007 to 2013 a total of 10 women died from soft tissue cancer. Therefore, the mean standardized mortality ratio (SMR) for this cancer type in this area can be calculated at 1.60. Though, the value of this parameter may vary with an underlying probability of 99% between 0.60 and 3.43, 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 cancer-related death for patients who have no therapeutic restrictions due to a previous or synchronous cancer. These statistics are comparable to studies that have exclusion criteria based on a second malignancy.

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

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

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

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

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

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

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

Shortcuts

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

Recommended Citation

Munich Cancer Registry. Baseline statistics C49: Soft tissue cancer [Internet]. 2015 [updated 2015 May 19; cited 2015 Jul 1]. Available from: http://www.tumorregister-muenchen.de/en/facts/base/base_C49__E.pdf

Copyright

Disclaimer

Index of figures and tables