Munich Cancer Registry

- Survival
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- *Deutsch*

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

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

Cancer statistics: Baseline statistics

C90: Plasmacytoma

Year of diagnosis	1998-2013
Patients	3,504
Diseases	3,507
Creation date	05/19/2015
Export date	12/30/2014
Population	4.64 m

http://www.tumorregister-muenchen.de/en/facts/base/base_C90__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.

Some remarks regarding this cancer type

The results for plasmacytomas should be interpreted with caution. As with other primarily non-surgically or non-radiologically treated cancer diseases, the MCR hardly manages to obtain even the simplest information on this cancer. The proportion of DCO cases indicates a situation that is far away from a satisfying cooperation. In the group of institutions that potentially participate in reporting are a few hospitals that refuse any contribution to MCR.

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

Code	Description
C90.-	Multiple myeloma and malignant plasma cell neoplasms
C90.0	Multiple myeloma
C90.1	Plasma cell leukaemia
C90.2	Extramedullary plasmacytoma
C90.3	Solitary plasmacytoma

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	125	30	24.0	18.4	89.6	98.4	
1999	128	27	21.1	22.7	92.2	99.2	
2000	133	39	29.3	13.5	95.5	99.2	
2001	113	33	29.2	29.2	92.0	99.1	
2002	234	76	32.5	22.6	85.5	98.3	#
2003	234	58	24.8	23.9	85.5	97.4	
2004	234	65	27.8	25.2	85.0	98.7	
2005	229	46	20.1	27.1	80.8	98.3	
2006	234	41	17.5	23.9	79.1	98.7	
2007	308	66	21.4	23.7	78.6	93.2	# ##
2008	319	56	17.6	22.3	69.0	80.9	
2009	272	41	15.1	22.8	66.9	85.3	
2010	270	48	17.8	25.9	62.2	78.9	
2011	286	58	20.3	24.8	53.8	82.9	
2012	232	40	17.2	31.5	42.7	80.2	
2013	156	45	28.8	28.2	49.4	100.0	###
1998-2013	3507	769	21.9	24.3	73.3	91.5	

\# 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	125	73	52	58.4
1999	128	65	63	50.8
2000	133	78	55	58.6
2001	113	55	58	48.7
2002	234	123	111	52.6
2003	234	140	94	59.8
2004	234	120	114	51.3
2005	229	118	111	51.5
2006	234	118	116	50.4
2007	308	168	140	54.5
2008	319	180	139	56.4
2009	272	139	133	51.1
2010	270	159	111	58.9
2011	286	152	134	53.1
2012	232	127	105	54.7
2013	156	89	67	57.1
1998-2013	3507	1904	1603	54.3

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 4.64 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	73	52	6.6	4.4	4.1	2.0	5.9	3.0	7.3	3.7
1999	65	63	5.8	5.3	3.6	2.2	5.3	3.3	7.0	4.4
2000	78	55	6.8	4.6	3.8	1.9	6.1	2.9	8.5	3.9
2001	55	58	4.7	4.8	2.8	2.2	4.3	3.2	5.8	4.2
2002	123	111	6.6	5.7	3.7	2.3	5.6	3.5	7.3	4.6
2003	140	94	7.5	4.8	4.1	2.0	6.0	3.0	7.9	3.9
2004	120	114	6.4	5.8	3.5	2.3	5.3	3.5	6.8	4.7
2005	118	111	6.2	5.6	3.1	2.2	4.8	3.4	6.5	4.6
2006	118	116	6.2	5.8	3.2	2.3	4.8	3.4	6.2	4.6
2007	168	140	7.6	6.1	3.8	2.4	5.8	3.6	7.8	4.7
2008	180	139	8.1	6.0	4.1	2.4	6.0	3.7	7.8	4.9
2009	139	133	6.2	5.7	3.0	2.2	4.4	3.3	5.8	4.3
2010	159	111	7.1	4.7	3.5	1.8	5.1	2.8	6.7	3.6
2011	152	134	6.7	5.7	3.0	2.2	4.6	3.4	6.2	4.4
2012	127	105	5.6	4.4	2.5	1.7	3.8	2.6	5.1	3.5
2013	89	67	3.9	2.8	1.6	1.0	2.6	1.6	3.7	2.2
1998-2013	1904	1603	6.4	5.2	3.3	2.1	5.0	3.1	6.5	4.1

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	125	67.4	13.0	26.1	94.0	52.7	58.7	67.8	75.7	85.3
1999	128	69.4	13.0	23.9	92.8	53.2	60.1	70.9	78.7	85.6
2000	133	71.7	11.7	38.2	94.4	55.7	64.6	72.7	79.5	85.8
2001	113	68.9	11.1	36.1	93.7	50.9	61.7	70.5	77.3	81.4
2002	234	70.9	12.1	32.7	93.5	55.9	62.7	71.8	79.9	86.3
2003	234	69.6	11.3	31.4	99.0	55.4	62.2	69.3	78.3	83.7
2004	234	70.6	11.7	37.1	93.4	55.7	63.4	70.8	79.4	84.5
2005	229	71.8	11.0	38.9	102	56.6	65.2	73.2	79.6	84.7
2006	234	71.2	12.2	22.7	94.9	55.8	65.1	71.6	79.7	85.3
2007	308	71.5	10.9	30.9	93.2	58.6	65.1	71.7	80.2	85.2
2008	319	71.2	11.7	33.8	97.9	56.1	64.9	72.0	79.4	85.4
2009	272	72.0	11.2	34.7	94.6	57.2	66.1	72.1	80.1	85.7
2010	270	71.1	12.4	5.0	97.2	53.8	64.2	72.4	80.0	86.2
2011	286	71.9	12.0	33.3	97.4	54.0	66.5	73.2	79.9	86.0
2012	232	71.8	11.8	31.8	97.5	54.2	65.4	72.9	80.2	85.4
2013	156	74.5	10.9	43.3	93.1	58.5	68.6	76.4	82.3	87.0
1998-2013	3507	71.1	11.8	5.0	102	55.4	64.2	72.1	79.6	85.3

Table 3a

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

Year of diagnosis	Cases n	Mean	Std. dev.	Min.	Max.	10%	25%	Median 50%	75%	90%
1998	73	64.8	13.4	26.1	92.3	49.5	56.2	64.7	73.6	83.9
1999	65	66.5	13.5	23.9	91.7	48.5	58.5	68.2	76.8	83.7
2000	78	70.9	11.5	38.2	92.3	55.6	61.6	71.6	79.5	86.5
2001	55	67.6	10.8	44.4	85.3	49.1	59.2	69.7	76.3	79.1
2002	123	69.1	12.0	32.7	93.5	54.4	62.1	69.7	78.0	83.6
2003	140	68.2	10.2	36.7	99.0	55.0	61.5	67.6	75.7	81.5
2004	120	68.6	12.2	37.1	93.4	51.4	60.7	69.6	76.4	83.6
2005	118	70.8	11.0	38.9	102	56.6	65.2	71.1	78.0	84.5
2006	118	69.5	12.0	27.5	94.8	53.7	64.3	70.0	76.9	84.4
2007	168	70.1	11.4	30.9	93.2	55.9	63.5	70.9	79.3	82.9
2008	180	69.8	12.3	33.8	97.9	51.3	64.4	70.3	78.5	85.2
2009	139	70.3	10.7	34.7	94.1	54.9	65.5	71.2	77.7	83.8
2010	159	69.8	12.5	5.0	93.0	51.9	63.9	71.1	78.2	84.7
2011	152	71.4	11.6	33.3	97.4	52.5	68.0	73.0	78.8	84.2
2012	127	70.9	11.3	41.0	92.5	53.5	64.9	72.1	77.9	84.2
2013	89	74.4	10.9	46.0	93.1	58.2	70.6	75.4	82.2	87.1
1998-2013	1904	69.8	11.8	5.0	102	53.5	63.1	70.9	78.0	84.1

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	52	71.1	11.7	37.6	94.0	57.6	62.3	70.8	78.7	88.1
1999	63	72.4	11.9	49.2	92.8	56.1	62.1	74.6	80.1	87.9
2000	55	72.8	12.0	40.6	94.4	55.7	66.9	75.9	80.1	85.8
2001	58	70.1	11.3	36.1	93.7	57.3	63.3	70.7	79.1	83.2
2002	111	73.0	11.9	38.9	93.2	56.3	63.7	74.3	82.6	87.8
2003	94	71.8	12.4	31.4	94.2	55.8	63.8	72.9	80.7	85.6
2004	114	72.7	10.9	38.8	92.1	57.8	66.4	73.7	81.6	84.5
2005	111	72.9	11.0	42.1	96.8	56.7	65.3	74.8	81.8	84.7
2006	116	72.8	12.2	22.7	94.9	56.7	66.2	74.6	82.1	85.7
2007	140	73.1	10.0	44.4	92.3	61.2	66.7	73.1	81.6	86.3
2008	139	73.0	10.8	37.5	94.3	58.8	66.4	74.3	81.1	85.9
2009	133	73.7	11.5	36.3	94.6	60.0	67.6	73.8	83.8	87.1
2010	111	73.0	12.1	40.5	97.2	55.9	66.5	73.5	82.2	87.1
2011	134	72.4	12.4	41.9	97.1	54.7	65.3	73.7	81.7	87.8
2012	105	72.9	12.3	31.8	97.5	54.8	66.2	75.4	82.9	86.3
2013	67	74.6	11.0	43.3	92.2	60.0	68.2	76.9	82.4	86.4
1998-2013	1603	72.8	11.5	22.7	97.5	56.9	65.7	73.9	81.5	86.3

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	1	0.0	0.0	1	0.1	0.1			0.0
5-9	0	0.0	0.0			0.1			0.0
10-14	0	0.0	0.0			0.1			0.0
15-19	0	0.0	0.0			0.1			0.0
20-24	2	0.1	0.1	1	0.1	0.1	1	0.1	0.1
25-29	2	0.1	0.1	2	0.1	0.2			0.1
30-34	8	0.2	0.4	6	0.3	0.5	2	0.1	0.2
35-39	21	0.6	1.0	14	0.7	1.3	7	0.4	0.6
40-44	49	1.4	2.4	33	1.7	3.0	16	1.0	1.6
45-49	122	3.5	5.8	85	4.5	7.5	37	2.3	3.9
50-54	129	3.7	9.5	74	3.9	11.3	55	3.4	7.4
55-59	243	6.9	16.5	132	6.9	18.3	111	6.9	14.3
60-64	363	10.4	26.8	219	11.5	29.8	144	9.0	23.3
65-69	556	15.9	42.7	315	16.5	46.3	241	15.0	38.3
70-74	591	16.9	59.5	360	18.9	65.2	231	14.4	52.7
75-79	584	16.7	76.2	304	16.0	81.2	280	17.5	70.2
80-84	461	13.1	89.3	201	10.6	91.8	260	16.2	86.4
85+	375	10.7	100.0	157	8.2	100.0	218	13.6	100.0
All ages	3507	100.0		1904	100.0		1603	100.0	

Included in the statistics are 33.1% multiple primaries in males and 25.5% 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=378 %	Females DCO rate n=390 %	Males Prop.all cancers n=158258 %	Females Prop.all cancers n=153136 %
0- 4	1		0.1	0.0			0.3	
5- 9			0.0	0.0				
10-14			0.0	0.0				
15-19			0.0	0.0				
20-24	1	1	0.1	0.1			0.2	0.2
25-29	2		0.1	0.0			0.2	
30-34	6	2	0.3	0.1			0.4	0.1
35-39	14	7	0.6	0.3	7.1	14.3	0.6	0.2
40-44	33	16	1.3	0.6			1.0	0.3
45-49	85	37	3.6	1.6	4.7		1.6	0.4
50-54	74	55	3.7	2.7	5.4	5.5	0.9	0.5
55-59	132	111	7.2	5.8	3.8	1.8	0.9	0.8
60-64	219	144	12.4	7.7	8.2	9.0	1.0	0.8
65-69	315	241	20.0	14.0	11.7	12.9	1.1	1.3
70-74	360	231	28.1	15.2	16.4	16.5	1.3	1.3
75-79	304	280	36.8	23.6	24.0	22.1	1.5	1.6
80-84	201	260	40.2	27.9	40.8	36.5	1.5	1.6
85+	157	217	46.0	24.3	60.5	66.8	1.6	1.3
All ages	1904	1602			19.9	24.3	1.2	1.0
Incidence								
Raw			6.4	5.2				
WS			3.3	2.1				
ES			5.0	3.1				
BRD-S			6.5	4.1				

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 %
C15	Oesophagus	4	1.1	3.7	1.0	9.5	#	8.2	25.0
C16	Stomach	5	2.5	2.0	0.7	4.8		7.2	
C18	Colon	9	5.9	1.5	0.7	2.9		8.8	
C19-C20	Rectum	6	3.4	1.8	0.6	3.8		7.3	
C22	Liver	2	1.7	1.2	0.1	4.3		0.9	50.0
C25	Pancreas	2	2.1	0.9	0.1	3.4		-0.3	50.0
C33-C34	Lung	12	7.2	1.7	0.9	2.9		13.6	8.3
C40-C41	Bone	3	0.0	64.0	13.2	187.1	#	8.3	
C43	Malign. melanoma	4	2.4	1.7	0.5	4.3		4.5	
C46,C49	Soft tissue	2	0.3	6.4	0.8	23.1		4.8	
C61	Prostate	38	18.3	2.1	1.5	2.9	#	55.6	2.6
C64	Kidney	5	2.1	2.3	0.8	5.5		8.1	
C67	Bladder	3	2.6	1.2	0.2	3.4		1.2	
C70-C72	CNS cancer	2	0.8	2.5	0.3	9.1		3.4	
C73	Thyroid	2	0.4	5.1	0.6	18.3		4.5	
C76-C79	CUP	3	1.0	3.0	0.6	8.8		5.7	
C82-C85	NHL	15	2.4	6.3	3.5	10.4	#	35.6	6.7
C90	Mult. myeloma	2	0.8	2.6	0.3	9.4		3.5	50.0
C91-C96	Leukaemia	6	0.9	6.4	2.3	13.9	#	14.3	
Other primaries		6	2.8	2.1	0.8	4.7		9.0	
Not observed		0	2.6	0.0	0.0	1.4		-7.2	
All mult. primaries		131	61.1	2.1	1.8	2.5	#	197.0	5.3

Patients	1092
Median age at second malignancy (years)	73.3
Person-years	3546
Mean observation time (years)	3.2
Median observation time (years)	2.3

The occurrence of second malignancy is statistically significant.

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

Table 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 %
C09-C10 Oropharynx	2	0.1	15.2	1.8	54.7	#	6.8	
C16 Stomach	3	1.2	2.5	0.5	7.4		6.7	
C18 Colon	5	3.3	1.5	0.5	3.6		6.3	
C25 Pancreas	2	1.4	1.4	0.2	5.1		2.1	50.0
C33-C34 Lung	3	2.3	1.3	0.3	3.8		2.4	
C43 Malign. melanoma	4	1.1	3.6	1.0	9.1		10.5	
C50 Breast	12	9.8	1.2	0.6	2.1		7.9	8.3
C56 Ovary	2	1.4	1.5	0.2	5.3		2.3	50.0
C73 Thyroid	2	0.6	3.6	0.4	12.9		5.3	
C76-C79 CUP	2	0.6	3.6	0.4	12.9		5.3	
C82-C85 NHL	11	1.3	8.6	4.3	15.5	#	35.6	18.2
C91-C96 Leukaemia	3	0.5	5.8	1.2	17.0	#	9.1	
Other primaries	14	6.1	2.3	1.3	3.9	#	29.0	14.3
Not observed	0	3.1	0.0	0.0	1.2		-11.3	
All mult. primaries	65	32.7	2.0	1.5	2.5	#	118.0	10.8

Patients	879
Median age at second malignancy (years)	71.1
Person-years	2733
Mean observation time (years)	3.1
Median observation time (years)	2.0

The occurrence of second malignancy is statistically significant.

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

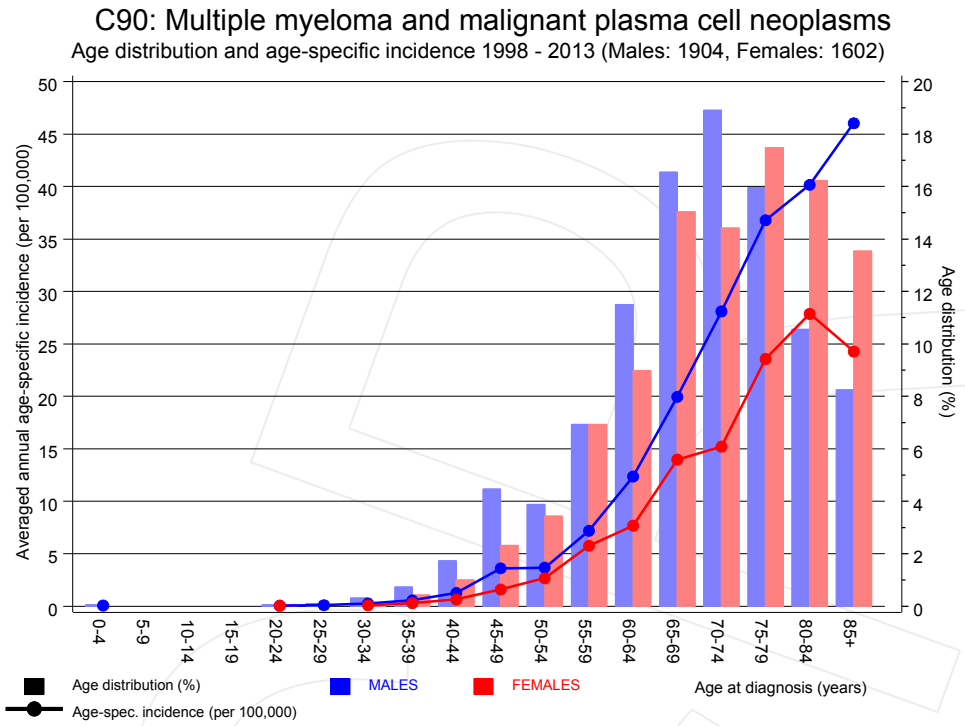


Figure 7. Age distribution and age-specific incidence

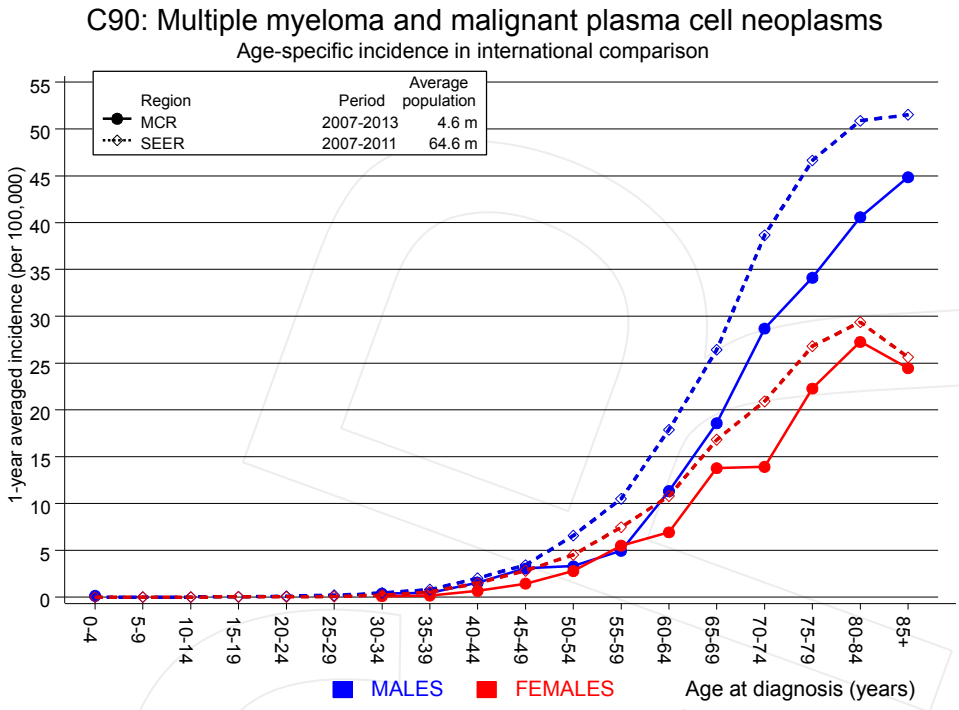


Figure 7a. Age-specific incidence in MCR registry areas compared to SEER (Surveillance, Epidemiology, and End Results, USA).

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.

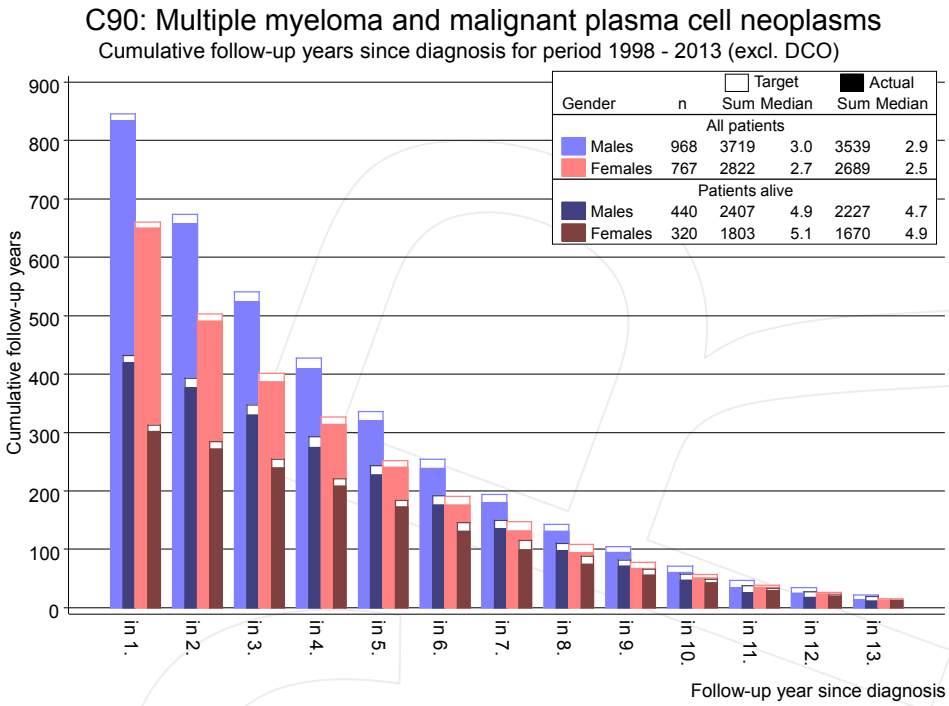
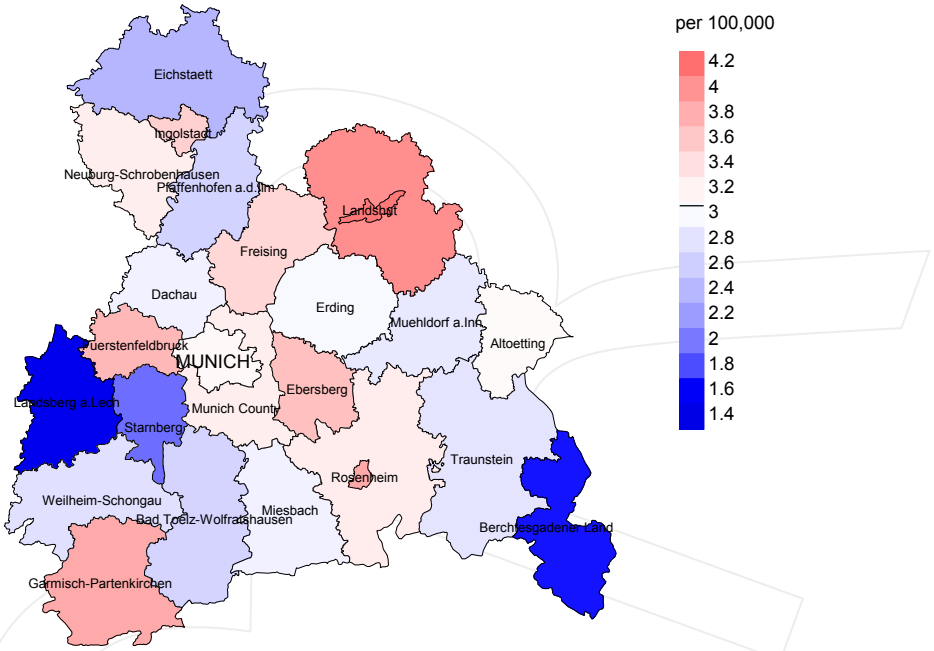


Figure 8. Cumulative follow-up years depending on time since diagnosis

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

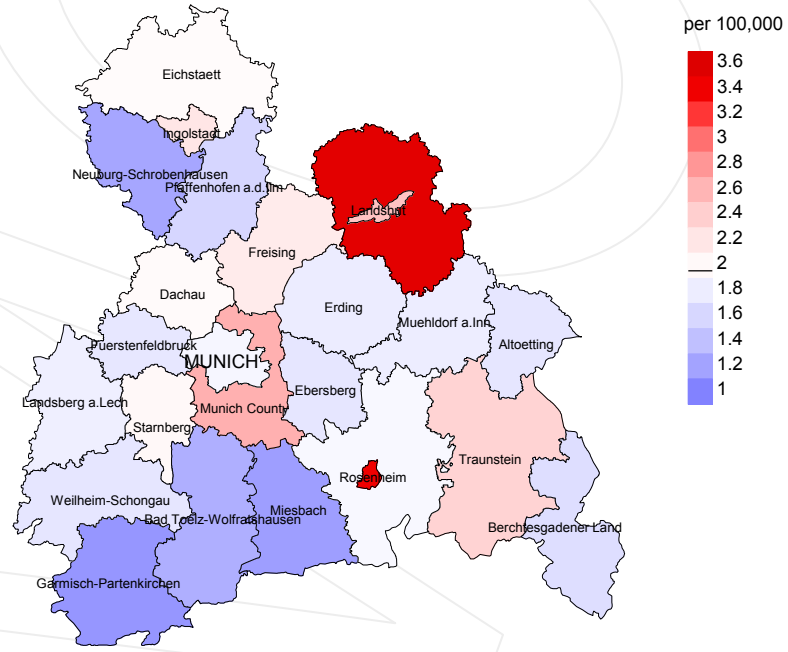
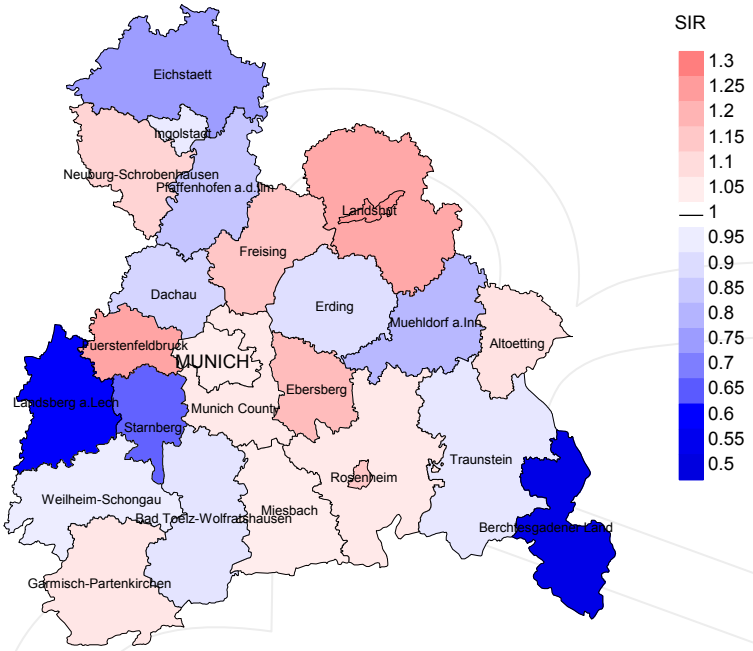


Figure 9a. Map of cancer incidence (world standard population, incl. DCO cases) by county averaged for period 2007 to 2013. According to their individual incidence rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 3.1/100,000 WS N=1,014, females 2.0/100,000 WS N=828).

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 18 women were identified with newly diagnosed plasmacytoma. Therefore, the mean incidence rate for this cancer type in this area can be calculated at 1.7/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.8 and 3.3/100,000.

Standardized incidence ratio (SIR) 2007 - 2013: Males



Standardized incidence ratio (SIR) 2007 - 2013: Females

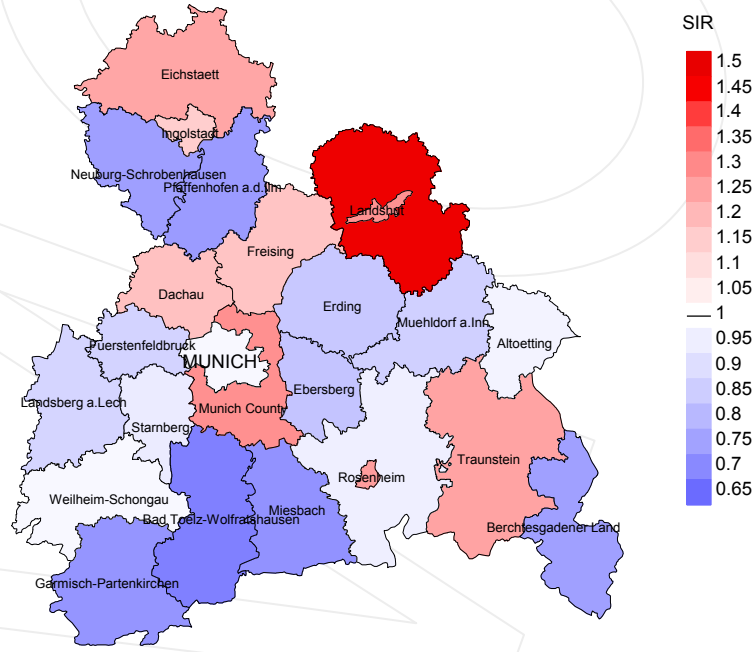


Figure 9b. Map of standardized incidence ratio (SIR, incl. DCO cases) by county averaged for period 2007 to 2013. According to their individual SIR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=1,014, females N=828).

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 18 women were identified with newly diagnosed plasmacytoma. Therefore, the mean standardized incidence ratio (SIR) for this cancer type in this area can be calculated at 0.83. Though, the value of this parameter may vary with an underlying probability of 99% between 0.41 and 1.48, 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	125	98.4	24.0	112	89.6	93.8
1999	128	99.2	21.1	118	92.2	94.1
2000	133	99.2	29.3	127	95.5	95.3
2001	113	99.1	29.2	104	92.0	95.2
2002	234	98.3	32.5	200	85.5	97.0
2003	234	97.4	24.8	200	85.5	98.0
2004	234	98.7	27.8	199	85.0	96.5
2005	229	98.3	20.1	185	80.8	98.4
2006	234	98.7	17.5	185	79.1	97.3
2007	308	93.2	21.4	242	78.6	97.5
2008	319	80.9	17.6	220	69.0	98.6
2009	272	85.3	15.1	182	66.9	96.2
2010	270	78.9	17.8	168	62.2	97.6
2011	286	82.9	20.3	154	53.8	96.1
2012	232	80.2	17.2	99	42.7	100.0
2013	156	100.0	28.8	77	49.4	93.5
1998-2013	3507	91.5	21.9	2572	73.3	96.9

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	125	84	92.9	35	28.0
1999	128	98	95.9	41	32.0
2000	133	111	91.9	45	33.8
2001	113	101	95.0	36	31.9
2002	234	144	95.8	87	37.2
2003	234	163	99.4	80	34.2
2004	234	193	98.4	91	38.9
2005	229	149	98.0	66	28.8
2006	234	153	97.4	66	28.2
2007	308	183	98.9	90	29.2
2008	319	215	97.2	83	26.0
2009	272	214	97.2	71	26.1
2010	270	224	99.1	75	27.8
2011	286	235	97.9	81	28.3
2012	232	210	97.6	62	26.7
2013	156	211	99.5	64	41.0
1998-2013	3507	2688	97.5	1073	30.6

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	84	53.6	46.4	94.9
1999	98	75.5	24.5	96.8
2000	111	64.9	35.1	96.1
2001	101	60.4	39.6	99.0
2002	144	81.9	18.1	97.1
2003	163	80.4	19.6	96.9
2004	193	83.4	16.6	96.8
2005	149	83.9	16.1	95.2
2006	153	85.0	15.0	96.6
2007	183	85.8	14.2	95.6
2008	215	84.7	15.3	92.3
2009	214	81.8	18.2	96.6
2010	224	83.0	17.0	90.5
2011	235	82.1	17.9	93.0
2012	210	83.8	16.2	93.2
2013	211	84.4	15.6	92.9
1998-2013	2688	80.5	19.5	94.8

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	35	68.9	66.1	78.5	71.7
1999	51	71.9	71.4	76.4	71.8
2000	62	75.4	72.1	77.0	77.8
2001	46	75.5	74.2	76.1	75.5
2002	73	71.3	71.8	70.0	71.5
2003	83	72.4	71.5	74.9	72.4
2004	103	73.4	73.1	77.2	73.5
2005	76	74.0	74.0	74.3	73.8
2006	79	73.6	73.4	79.5	73.4
2007	94	74.3	74.1	79.9	74.6
2008	124	72.3	70.5	81.6	71.5
2009	114	72.6	72.0	78.0	73.1
2010	117	74.1	73.6	76.8	73.6
2011	130	75.8	75.7	80.7	75.8
2012	107	75.4	74.7	80.3	76.4
2013	132	76.5	75.5	81.4	76.3
1998-2013	1426	74.1	73.5	78.0	74.1

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	49	78.3	70.4	80.6	78.2
1999	47	78.4	76.8	82.5	78.4
2000	49	77.2	76.7	78.8	76.5
2001	55	76.9	73.9	78.2	76.6
2002	71	76.5	74.0	82.1	77.0
2003	80	75.1	73.3	81.1	75.1
2004	90	75.5	74.0	82.5	75.4
2005	73	76.3	74.6	85.0	75.5
2006	74	76.3	76.1	78.8	77.2
2007	89	78.1	77.7	83.5	78.2
2008	91	77.4	76.6	81.4	77.4
2009	100	73.4	71.9	81.1	73.0
2010	107	76.1	75.4	81.8	75.9
2011	105	76.0	73.9	84.2	75.5
2012	103	77.8	76.6	81.4	76.4
2013	79	78.9	78.6	79.8	78.9
1998-2013	1262	76.7	75.1	81.4	76.4

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	22	2.0	0.30	1.2	0.30	1.7	0.29	2.0	0.28
1999	39	3.5	0.60	2.1	0.59	3.2	0.61	4.4	0.63
2000	39	3.4	0.50	1.9	0.49	3.0	0.50	4.5	0.53
2001	30	2.6	0.55	1.4	0.49	2.2	0.53	3.4	0.59
2002	58	3.1	0.47	1.7	0.46	2.6	0.47	3.6	0.49
2003	68	3.6	0.49	1.9	0.46	2.9	0.48	4.0	0.51
2004	84	4.5	0.70	2.3	0.65	3.6	0.67	4.8	0.72
2005	64	3.4	0.54	1.7	0.53	2.7	0.56	3.7	0.57
2006	67	3.5	0.57	1.7	0.52	2.6	0.54	3.6	0.58
2007	84	3.8	0.50	1.8	0.47	2.9	0.49	4.0	0.52
2008	108	4.9	0.60	2.4	0.58	3.6	0.60	4.8	0.61
2009	93	4.2	0.67	1.9	0.66	3.0	0.68	4.0	0.68
2010	94	4.2	0.59	1.8	0.51	2.8	0.55	3.9	0.58
2011	114	5.0	0.75	2.1	0.71	3.4	0.74	4.8	0.78
2012	88	3.9	0.69	1.6	0.65	2.6	0.67	3.7	0.72
2013	108	4.7	1.21	1.9	1.17	3.1	1.18	4.5	1.20
1998-2013	1160	3.9	0.61	1.9	0.57	2.9	0.59	4.1	0.63

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	23	2.0	0.44	0.9	0.45	1.3	0.45	1.7	0.46
1999	35	2.9	0.56	1.1	0.49	1.7	0.51	2.4	0.54
2000	33	2.7	0.60	1.0	0.54	1.6	0.55	2.2	0.58
2001	31	2.5	0.53	1.1	0.49	1.7	0.52	2.3	0.54
2002	60	3.1	0.54	1.2	0.53	1.8	0.52	2.4	0.53
2003	63	3.2	0.67	1.3	0.64	1.9	0.65	2.6	0.66
2004	77	3.9	0.68	1.5	0.65	2.3	0.67	3.2	0.68
2005	61	3.1	0.55	1.2	0.53	1.8	0.54	2.5	0.54
2006	63	3.1	0.54	1.1	0.48	1.7	0.51	2.5	0.55
2007	73	3.2	0.53	1.1	0.44	1.7	0.48	2.4	0.52
2008	74	3.2	0.53	1.2	0.49	1.8	0.50	2.5	0.51
2009	82	3.5	0.62	1.4	0.63	2.0	0.63	2.7	0.62
2010	92	3.9	0.83	1.3	0.73	2.1	0.75	2.9	0.80
2011	79	3.3	0.59	1.2	0.55	1.9	0.56	2.6	0.59
2012	88	3.7	0.84	1.3	0.77	2.0	0.80	2.7	0.77
2013	70	3.0	1.04	0.9	0.91	1.5	0.95	2.2	1.02
1998-2013	1004	3.2	0.63	1.2	0.58	1.8	0.59	2.5	0.61

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.%
25-29	1	0.0	0.0	1	0.1	0.1			0.0
30-34	2	0.1	0.1	2	0.2	0.3			0.0
35-39	6	0.3	0.4	5	0.4	0.7	1	0.1	0.1
40-44	16	0.7	1.2	11	0.9	1.6	5	0.5	0.6
45-49	26	1.2	2.4	20	1.7	3.4	6	0.6	1.2
50-54	54	2.5	4.8	30	2.6	5.9	24	2.4	3.6
55-59	96	4.4	9.3	49	4.2	10.2	47	4.7	8.3
60-64	198	9.1	18.4	121	10.4	20.6	77	7.7	15.9
65-69	327	15.1	33.5	182	15.7	36.3	145	14.4	30.4
70-74	430	19.9	53.4	238	20.5	56.8	192	19.1	49.5
75-79	399	18.4	71.8	221	19.0	75.8	178	17.7	67.2
80-84	343	15.8	87.7	161	13.9	89.7	182	18.1	85.4
85+	267	12.3	100.0	120	10.3	100.0	147	14.6	100.0
All ages	2165	100.0		1161	100.0		1004	100.0	

Included in the statistics are 33.1% multiple primaries in males and 25.5% 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			0.0		0.0			
5- 9			0.0		0.0			
10-14			0.0		0.0			
15-19			0.0		0.0			
20-24			0.0		0.0			
25-29	1		0.0	0.50	0.0		0.9	
30-34	2		0.1	0.33	0.0		1.1	
35-39	5	1	0.2	0.36	0.0	0.14	1.3	0.2
40-44	11	5	0.4	0.33	0.2	0.31	1.3	0.4
45-49	20	6	0.8	0.24	0.3	0.16	1.1	0.3
50-54	30	24	1.5	0.41	1.2	0.44	0.9	0.8
55-59	49	47	2.7	0.37	2.4	0.42	0.8	1.0
60-64	121	77	6.8	0.55	4.1	0.53	1.4	1.2
65-69	182	145	11.5	0.58	8.4	0.60	1.5	1.7
70-74	238	192	18.6	0.66	12.6	0.83	1.8	1.9
75-79	221	178	26.7	0.73	15.0	0.64	1.7	1.7
80-84	161	182	32.2	0.80	19.5	0.70	1.5	1.6
85+	120	147	35.2	0.76	16.4	0.67	1.4	1.1
All ages	1161	1004					1.4	1.4
Mortality								
Raw			3.9	0.61	3.2	0.63		
WS			1.9	0.57	1.2	0.58		
ES			2.9	0.59	1.8	0.59		
BRD-S			4.1	0.63	2.5	0.61		
PYLL-70								
per 100,000			13.2		8.5			
ES			11.3		7.0			
AYLL-70			8.4		7.4			

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 ←%
C15	Oesophagus	4	1.0	1	25.0	2	50.0	1	25.0
C16	Stomach	10	2.6	5	50.0	2	20.0	3	30.0
C18	Colon	21	5.4	10	47.6	3	14.3	8	38.1
C19-C20	Rectum	19	4.9	10	52.6	3	15.8	6	31.6
C22	Liver	6	1.5	1	16.7	1	16.7	4	66.7
C25	Pancreas	5	1.3			1	20.0	4	80.0
C32	Larynx	4	1.0	3	75.0			1	25.0
C33-C34	Lung	19	4.9	4	21.1	3	15.8	12	63.2
C40-C41	Bone	5	1.3			1	20.0	4	80.0
C43	Malign. melanoma	23	5.9	19	82.6	1	4.3	3	13.0
C44	Skin others	30	7.7	16	53.3	1	3.3	13	43.3
C61	Prostate	97	24.8	71	73.2	5	5.2	21	21.6
C64	Kidney	21	5.4	11	52.4	4	19.0	6	28.6
C67	Bladder	13	3.3	7	53.8			6	46.2
C70-C72	CNS cancer	11	2.8	2	18.2	2	18.2	7	63.6
C76-C79	CUP	5	1.3					5	100.0
C82-C85	NHL	28	7.2	5	17.9	8	28.6	15	53.6
C90	Mult. myeloma	28	7.2			3	10.7	25	89.3
C91-C96	Leukaemia	17	4.3	3	17.6	1	5.9	13	76.5
Other primaries		25	6.4	12	48.0	1	4.0	12	48.0
All mult. primaries		391	100.0	180	46.0	42	10.7	169	43.2

Multiple primaries with number of cases 1 to 3 are pooled in category "Other primaries".

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

Table 15b

Multiple primaries in deaths in period 1998-2013
FEMALES

Diagnosis		Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C16	Stomach	6	2.3	1	16.7	2	33.3	3	50.0
C18	Colon	20	7.7	12	60.0			8	40.0
C19-C20	Rectum	14	5.4	10	71.4	1	7.1	3	21.4
C21	Anus/canal	4	1.5	3	75.0			1	25.0
C25	Pancreas	5	1.9			1	20.0	4	80.0
C33-C34	Lung	7	2.7	3	42.9	1	14.3	3	42.9
C43	Malign. melanoma	11	4.2	7	63.6			4	36.4
C44	Skin others	11	4.2	5	45.5	1	9.1	5	45.5
C48	Peritoneal	3	1.1	1	33.3	1	33.3	1	33.3
C50	Breast	77	29.5	61	79.2	5	6.5	11	14.3
C53	Cervix uteri	4	1.5	4	100.0				
C54	Corpus uteri	7	2.7	6	85.7			1	14.3
C56	Ovary	6	2.3	4	66.7	1	16.7	1	16.7
C64	Kidney	4	1.5	4	100.0				
C67	Bladder	4	1.5	1	25.0	1	25.0	2	50.0
C70-C72	CNS cancer	6	2.3	5	83.3			1	16.7
C73	Thyroid	4	1.5	2	50.0			2	50.0
C76-C79	CUP	4	1.5	1	25.0	1	25.0	2	50.0
C82-C85	NHL	20	7.7	6	30.0	6	30.0	8	40.0
C90	Mult. myeloma	21	8.0			1	4.8	20	95.2
C91-C96	Leukaemia	11	4.2	3	27.3	3	27.3	5	45.5
Other primaries		12	4.6	7	58.3			5	41.7
All mult. primaries		261	100.0	146	55.9	25	9.6	90	34.5

Multiple primaries with number of cases 1 to 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 1998-2013
(**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			0.0		0.0			
5- 9			0.0		0.0			
10-14			0.0		0.0			
15-19			0.0		0.0			
20-24			0.0		0.0			
25-29	1		0.0	0.50	0.0		1.0	
30-34	2		0.1	0.40	0.0		1.1	
35-39	4	1	0.2	0.31	0.0	0.14	1.1	0.2
40-44	10	5	0.4	0.31	0.2	0.31	1.3	0.5
45-49	18	5	0.8	0.23	0.2	0.15	1.1	0.3
50-54	29	21	1.4	0.43	1.0	0.44	1.0	0.8
55-59	47	41	2.6	0.41	2.1	0.43	0.9	1.0
60-64	110	67	6.2	0.58	3.6	0.56	1.5	1.3
65-69	156	119	9.9	0.59	6.9	0.63	1.6	1.8
70-74	203	159	15.8	0.70	10.5	0.83	1.9	2.0
75-79	169	149	20.4	0.78	12.5	0.65	1.7	1.7
80-84	117	148	23.4	0.88	15.9	0.70	1.4	1.7
85+	86	120	25.2	0.70	13.4	0.67	1.3	1.1
All ages	952	835					1.5	1.4
Mortality								
Raw			3.2	0.62	2.7	0.63		
WS			1.6	0.58	1.0	0.58		
ES			2.4	0.60	1.5	0.60		
BRD-S			3.3	0.64	2.1	0.62		
PYLL-70								
per 100,000			12.1		7.4			
ES			10.4		6.1			
AYLL-70			8.6		7.6			

* 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			0.0		0.0			
5- 9			0.0		0.0			
10-14			0.0		0.0			
15-19			0.0		0.0			
20-24			0.0		0.0			
25-29	1		0.0	0.50	0.0		1.1	
30-34	2		0.1	0.40	0.0		1.1	
35-39	4	1	0.2	0.31	0.0	0.14	1.1	0.2
40-44	9	5	0.3	0.28	0.2	0.33	1.2	0.5
45-49	18	5	0.8	0.24	0.2	0.17	1.2	0.3
50-54	28	19	1.4	0.46	0.9	0.42	1.1	0.8
55-59	41	40	2.2	0.39	2.1	0.46	0.9	1.1
60-64	96	61	5.4	0.56	3.3	0.55	1.5	1.3
65-69	137	110	8.7	0.58	6.4	0.62	1.6	1.9
70-74	186	149	14.5	0.71	9.8	0.82	2.1	2.3
75-79	150	134	18.1	0.76	11.3	0.62	1.9	1.9
80-84	101	139	20.2	0.83	14.9	0.68	1.6	1.9
85+	77	114	22.6	0.66	12.8	0.64	1.4	1.2
All ages	850	777					1.6	1.5
Mortality								
Raw			2.9	0.61	2.5	0.62		
WS			1.4	0.57	0.9	0.58		
ES			2.2	0.59	1.4	0.59		
BRD-S			3.0	0.62	2.0	0.61		
PYLL-70								
per 100,000			11.1		7.0			
ES			9.5		5.8			
AYLL-70			8.8		7.7			

* See corresponding tables with multiple primaries.

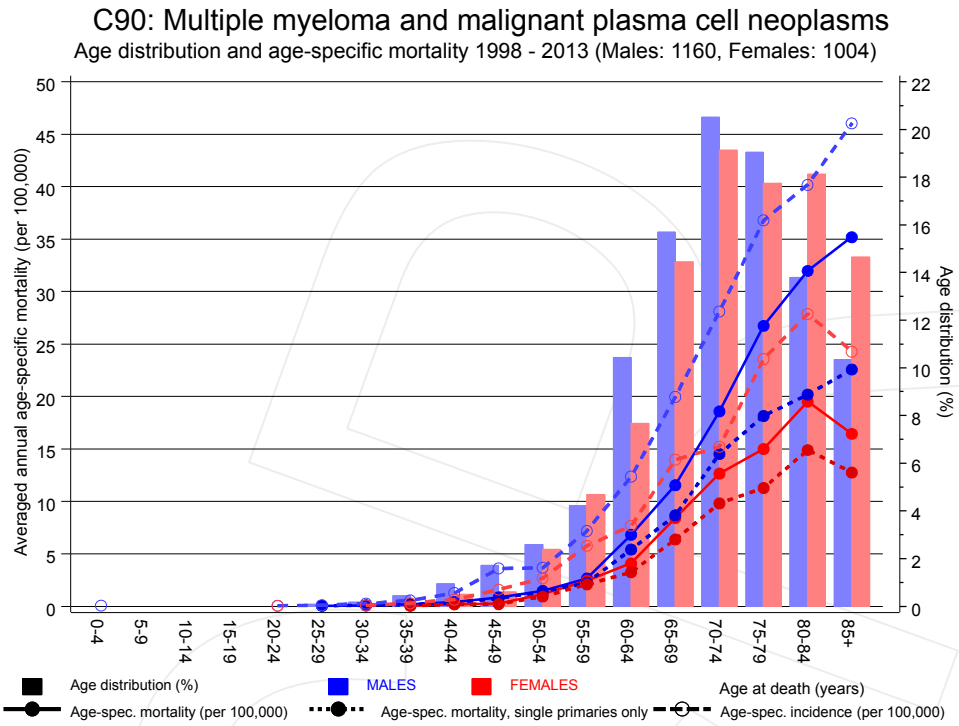
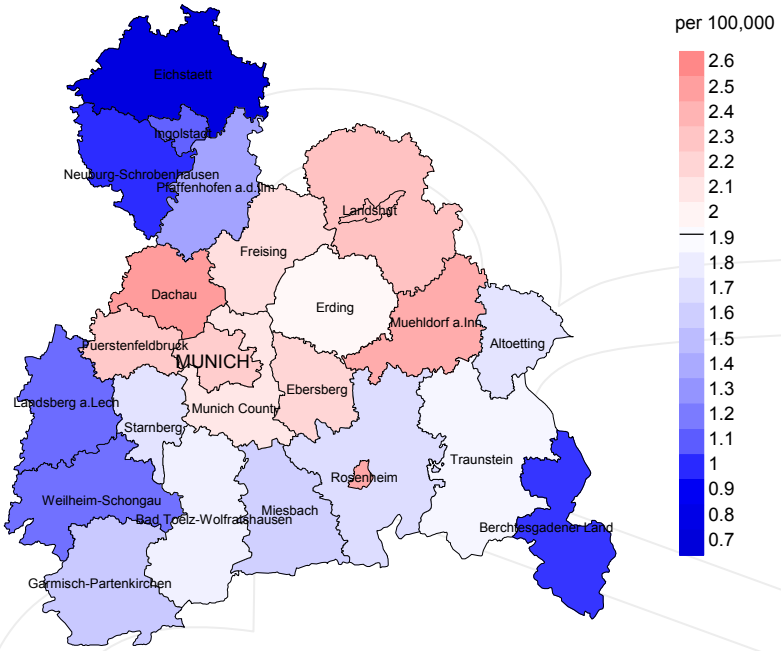


Figure 18. Distribution of age at death (bars) and age-specific mortality (all patients: solid line, patients with single primaries: dotted line). The age-specific incidence is additionally plotted for comparison (dashed line).

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

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



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

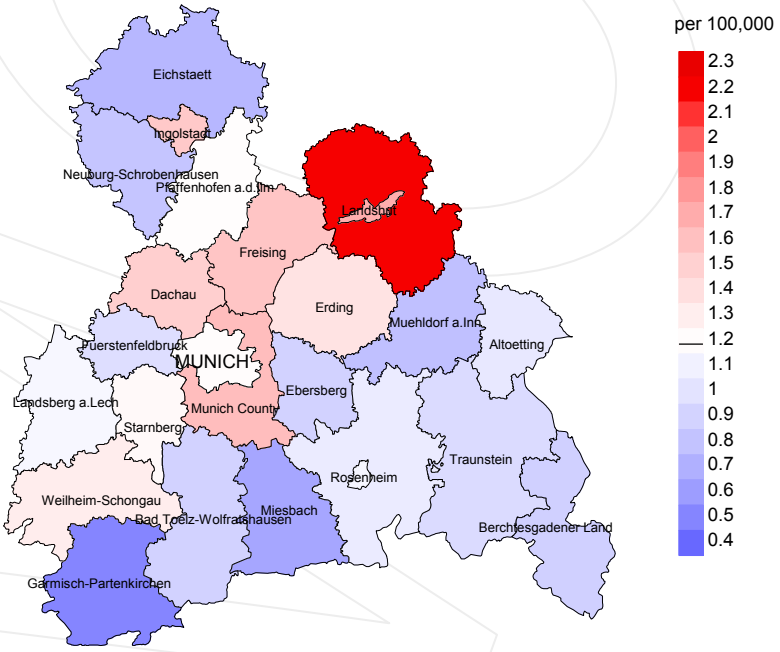


Figure 19a. Map of cancer mortality (world standard population) by county averaged for period 2007 to 2013. According to their individual mortality rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 1.9/100,000 WS N=679, females 1.2/100,000 WS N=552).

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 13 women died from plasmacytoma. 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 0.3 and 2.0/100,000.

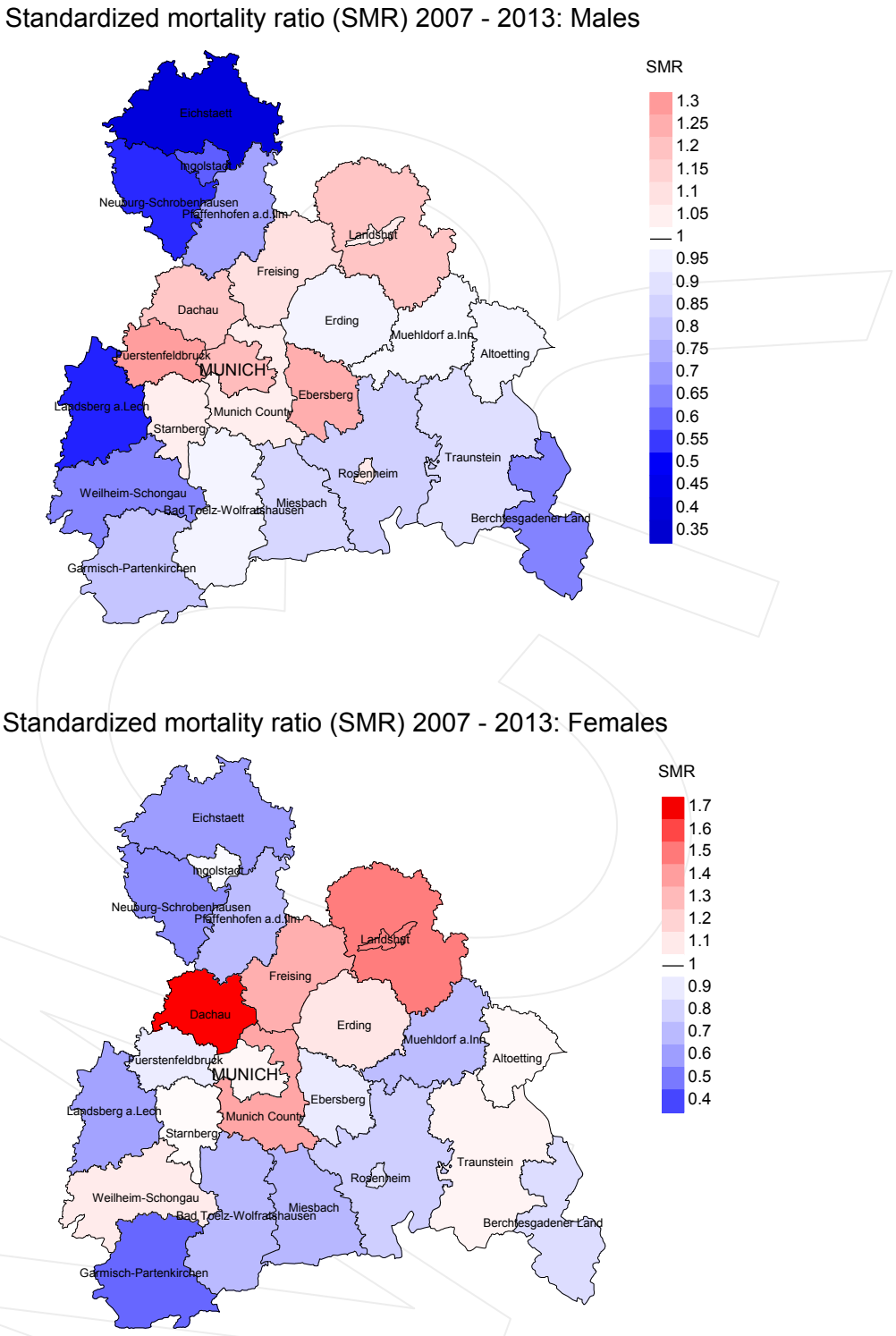


Figure 19b. Map of standardized mortality ratio (SMR, incl. DCO cases) by county averaged for period 2007 to 2013. According to their individual SMR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=679, females N=552).

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 13 women died from plasmacytoma. Therefore, the mean standardized mortality ratio (SMR) for this cancer type in this area can be calculated at 0.90. Though, the value of this parameter may vary with an underlying probability of 99% between 0.39 and 1.77, 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

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