Munich Cancer Registry

- Survival
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- Homepage

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

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

Cancer statistics: Baseline statistics

C92: Myeloid leukaemia

Year of diagnosis	1998-2012
Patients	3,081
Diseases	3,090
Creation date	03/20/2014
Export date	02/12/2014
Population	4.5 m

http://www.tumorregister-muenchen.de/en/facts/base/base_C92__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 4.5 million inhabitants, account for the frequency of cancer diseases[##] and the achieved long term results. Additionally, the long term survival evaluated by the Munich Cancer Registry (MCR) is compared with the results of the population-based registry in the USA (SEER), which is useful for checking the consistency of the data on an international level.

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

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

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

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

Munich Cancer Registry, March 2014

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

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

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

Some remarks regarding this cancer type

The results for leukemias 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 used for specifying cancer site

ICD-10	Description
C92.-	Myeloid leukaemia
C92.0	Acute myelblastic leukaemia
C92.1	Chronic myeloid leukaemia [CML], BCR/ABL-positive
C92.2	Atypical chronic myeloid leukaemia, BCR/ABL-negative
C92.3	Myeloid sarcoma
C92.4	Acute promyelocytic leukaemia [PML]
C92.5	Acute myelomonocytic leukaemia
C92.6	Acute myeloid leukaemia with 11q23-abnormality
C92.7	Other myeloid leukaemia
C92.8	Acute myeloid leukaemia wiht multilineage dysplasia
C92.9	Myeloid leukaemia, 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	91	26	28.6	11.0	87.9	100.0	
1999	112	33	29.5	15.2	80.4	99.1	
2000	129	39	30.2	12.4	72.9	99.2	
2001	134	58	43.3	21.6	83.6	98.5	
2002	178	62	34.8	17.4	77.5	96.6	#
2003	237	88	37.1	19.8	79.7	98.3	#
2004	229	87	38.0	25.3	76.4	98.3	#
2005	215	74	34.4	27.4	77.2	97.2	#
2006	244	95	38.9	32.8	84.8	96.3	#
2007	240	73	30.4	27.9	72.9	92.5	# ##
2008	247	78	31.6	32.4	72.5	84.2	
2009	253	59	23.3	31.6	71.5	83.4	
2010	308	63	20.5	35.4	69.8	82.8	
2011	232	50	21.6	35.8	66.8	85.8	
2012	241	76	31.5	38.2	60.2	99.2	###
1998-2012	3090	961	31.1	27.8	74.5	92.9	

\# 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	91	43	48	47.3
1999	112	62	50	55.4
2000	129	66	63	51.2
2001	134	69	65	51.5
2002	178	89	89	50.0
2003	237	121	116	51.1
2004	229	112	117	48.9
2005	215	103	112	47.9
2006	244	142	102	58.2
2007	240	135	105	56.3
2008	247	131	116	53.0
2009	253	125	128	49.4
2010	308	157	151	51.0
2011	232	123	109	53.0
2012	241	120	121	49.8
1998-2012	3090	1598	1492	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 4.52 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	43	48	3.9	4.1	2.7	2.5	3.7	3.1	4.7	3.5
1999	62	50	5.5	4.2	3.5	2.3	4.9	3.1	5.9	3.8
2000	66	63	5.8	5.2	4.5	3.1	5.5	4.0	6.4	4.6
2001	69	65	6.0	5.3	3.7	2.5	5.1	3.7	6.5	4.6
2002	89	89	4.8	4.5	3.2	2.3	4.2	3.2	5.3	3.8
2003	121	116	6.5	5.9	3.7	3.1	5.5	4.1	7.1	5.0
2004	112	117	6.0	5.9	3.5	3.3	4.9	4.3	6.1	5.1
2005	103	112	5.4	5.6	3.3	3.1	4.4	3.9	5.6	4.8
2006	142	102	7.4	5.1	4.2	2.2	5.9	3.1	7.7	4.1
2007	135	105	6.1	4.5	3.8	2.3	4.9	3.1	6.1	3.8
2008	131	116	5.9	5.0	3.6	2.3	4.7	3.2	5.9	4.1
2009	125	128	5.6	5.5	3.3	2.7	4.4	3.7	5.4	4.5
2010	157	151	7.0	6.5	3.8	3.1	5.4	4.2	6.9	5.1
2011	123	109	5.4	4.6	3.1	2.5	4.2	3.2	5.1	3.8
2012	120	121	5.3	5.1	2.8	2.7	3.9	3.5	5.1	4.2
1998-2012	1598	1492	5.8	5.2	3.5	2.7	4.8	3.6	6.0	4.3

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	91	62.0	21.8	0.9	94.1	32.4	48.5	68.2	78.4	86.3
1999	112	64.2	17.6	1.5	92.0	39.5	54.9	69.2	76.0	85.0
2000	129	59.1	20.9	0.4	97.6	32.2	46.4	63.1	73.8	81.5
2001	134	64.5	16.0	9.8	96.4	38.5	56.5	66.2	76.5	81.6
2002	178	63.4	18.3	2.0	96.1	37.3	53.0	67.5	77.5	83.1
2003	237	65.2	17.6	1.0	98.9	40.6	53.6	68.0	79.6	84.2
2004	229	65.0	18.0	0.4	93.3	40.4	56.7	67.3	78.2	84.6
2005	215	64.1	19.3	0.6	92.9	38.6	55.2	69.3	78.4	83.5
2006	244	67.9	17.5	1.0	95.1	40.9	62.7	72.3	79.5	84.8
2007	240	63.8	19.0	3.0	94.5	37.5	52.4	68.6	77.0	83.6
2008	247	66.1	19.1	0.6	98.1	40.5	57.9	71.2	78.9	84.2
2009	253	65.0	18.3	4.2	100	38.7	53.1	69.5	77.6	85.9
2010	308	67.7	17.0	1.3	94.2	47.5	59.3	70.9	78.8	86.4
2011	232	64.9	19.2	0.3	98.4	41.9	54.8	69.8	78.2	84.5
2012	241	66.5	17.9	0.0	98.7	43.7	57.0	71.3	79.4	84.7
1998-2012	3090	65.1	18.4	0.0	100	39.6	55.5	69.4	78.3	84.5

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	43	62.9	22.2	0.9	94.1	32.4	48.7	70.1	77.8	86.5
1999	62	62.7	17.7	1.5	91.5	38.9	54.9	66.4	74.7	81.5
2000	66	56.5	22.4	0.4	97.6	22.7	43.0	61.8	72.4	79.7
2001	69	60.7	16.9	9.8	96.4	37.7	51.2	63.0	75.1	80.1
2002	89	60.2	19.6	2.0	94.9	30.6	49.7	63.9	75.0	80.5
2003	121	65.4	16.8	10.1	93.6	40.6	55.1	68.0	78.0	83.7
2004	112	65.4	17.2	0.4	90.1	41.8	60.1	67.3	77.9	84.6
2005	103	62.8	19.1	2.7	91.3	36.4	51.1	69.3	77.7	81.1
2006	142	66.2	17.0	1.0	93.6	41.5	60.0	70.7	76.5	82.2
2007	135	61.5	19.6	3.0	94.5	32.6	48.2	67.7	75.1	82.2
2008	131	63.6	20.9	0.6	98.1	35.0	53.6	69.3	77.7	83.0
2009	125	63.5	18.4	4.2	92.2	37.6	52.4	69.4	75.9	82.7
2010	157	67.4	16.2	2.9	93.4	48.7	60.6	70.9	77.5	83.4
2011	123	64.8	18.0	6.4	98.4	42.8	56.0	68.1	76.1	83.5
2012	120	67.1	16.8	10.4	94.0	42.4	58.3	70.6	80.1	84.7
1998-2012	1598	63.9	18.5	0.4	98.4	38.0	54.4	68.4	76.7	82.9

Table 3b

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

Year of diagnosis	Cases n	Mean	Std. dev.	Min.	Max.	10%	25%	Median 50%	75%	90%
1998	48	61.2	21.6	1.3	87.5	27.9	44.8	63.8	80.1	86.3
1999	50	66.0	17.6	12.6	92.0	43.0	55.6	70.8	77.1	86.4
2000	63	61.8	19.1	16.5	94.3	35.6	47.6	63.8	76.1	86.2
2001	65	68.5	13.9	26.8	89.5	53.6	60.0	71.3	79.3	84.0
2002	89	66.7	16.4	13.5	96.1	42.8	55.9	69.3	80.1	85.6
2003	116	65.0	18.5	1.0	98.9	41.4	53.4	67.6	81.0	84.2
2004	117	64.7	18.8	0.7	93.3	39.1	56.3	67.8	78.2	84.2
2005	112	65.3	19.4	0.6	92.9	41.6	57.8	69.3	80.1	84.6
2006	102	70.2	18.0	1.8	95.1	40.9	66.4	75.0	81.9	86.6
2007	105	66.8	17.9	3.5	94.3	43.6	57.0	69.8	79.7	86.0
2008	116	68.9	16.5	15.7	94.9	45.9	61.7	72.5	81.2	86.5
2009	128	66.4	18.2	17.8	100	39.1	54.7	70.0	79.7	86.9
2010	151	68.0	17.8	1.3	94.2	46.5	58.2	70.9	82.0	87.5
2011	109	64.9	20.5	0.3	90.0	41.3	54.2	71.2	79.8	85.4
2012	121	66.0	19.0	0.0	98.7	44.2	55.9	72.0	78.4	83.9
1998-2012	1492	66.3	18.3	0.0	100	41.3	56.4	70.5	80.0	85.8

Table 4

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

Age at diagnosis Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
0-4	34	1.1	1.1	18	1.1	1.1	16	1.1	1.1
5-9	15	0.5	1.6	10	0.6	1.8	5	0.3	1.4
10-14	18	0.6	2.2	11	0.7	2.4	7	0.5	1.9
15-19	24	0.8	2.9	15	0.9	3.4	9	0.6	2.5
20-24	28	0.9	3.9	15	0.9	4.3	13	0.9	3.4
25-29	42	1.4	5.2	24	1.5	5.8	18	1.2	4.6
30-34	62	2.0	7.2	39	2.4	8.3	23	1.5	6.1
35-39	93	3.0	10.2	47	2.9	11.2	46	3.1	9.2
40-44	140	4.5	14.8	79	4.9	16.1	61	4.1	13.3
45-49	133	4.3	19.1	62	3.9	20.0	71	4.8	18.0
50-54	168	5.4	24.5	91	5.7	25.7	77	5.2	23.2
55-59	211	6.8	31.3	95	5.9	31.7	116	7.8	31.0
60-64	258	8.3	39.7	154	9.6	41.3	104	7.0	37.9
65-69	379	12.3	51.9	216	13.5	54.8	163	10.9	48.9
70-74	421	13.6	65.6	226	14.1	69.0	195	13.1	61.9
75-79	424	13.7	79.3	229	14.3	83.3	195	13.1	75.0
80-84	356	11.5	90.8	158	9.9	93.2	198	13.3	88.3
85+	284	9.2	100.0	109	6.8	100.0	175	11.7	100.0
All ages	3090	100.0		1598	100.0		1492	100.0	

Included in the statistics are 32.9% multiple primaries in males and 34.4% in females.

Table 5

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

Age at diagnosis Years	Males n	Females n	Males Age-spec. incid.	Females Age-spec. incid.	Males DCO rate n=476 %	Females DCO rate n=483 %	Males Prop.all cancers n=146755 %	Females Prop.all cancers n=142297 %
0- 4	18	16	1.3	1.2			5.9	7.1
5- 9	10	5	0.7	0.4			6.1	4.4
10-14	11	7	0.8	0.5			7.5	4.3
15-19	15	9	1.1	0.7			4.7	3.4
20-24	15	13	0.9	0.8	13.3	7.7	2.7	2.7
25-29	24	18	1.3	1.0			2.7	1.8
30-34	39	23	1.8	1.1	7.7	4.3	2.8	1.2
35-39	47	46	2.0	2.1	14.9	8.7	2.2	1.3
40-44	79	61	3.3	2.6	10.1	13.1	2.6	1.1
45-49	62	71	2.9	3.4	9.7	15.5	1.3	0.9
50-54	91	77	4.9	4.1	18.7	18.2	1.1	0.8
55-59	95	116	5.6	6.5	20.0	20.7	0.7	0.9
60-64	154	104	9.3	6.0	23.4	24.0	0.8	0.6
65-69	216	163	14.7	10.2	30.1	31.3	0.8	0.9
70-74	226	195	19.5	14.1	34.5	31.3	0.9	1.2
75-79	227	195	30.1	17.8	34.8	41.0	1.2	1.2
80-84	157	198	34.6	22.9	54.8	51.0	1.3	1.3
85+	109	175	35.1	21.4	64.2	58.3	1.2	1.1
All ages	1595	1492			29.8	32.4	1.1	1.0
Incidence								
Raw			5.8	5.2				
WS			3.5	2.7				
ES			4.8	3.6				
BRD-S			6.0	4.3				

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

Table 6a

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

Diagnosis		Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C18	Colon	4	2.2	1.8	0.5	4.7		8.6	
C33-C34	Lung	5	2.7	1.8	0.6	4.3		10.8	
C43	Malign. melanoma	4	1.0	4.2	1.1	10.8	#	14.5	
C61	Prostate	15	6.8	2.2	1.2	3.6	#	39.1	6.7
C67	Bladder	2	0.9	2.2	0.3	7.8		5.1	
C81	Hodgkin lymphoma	2	0.1	30.3	3.7	109.4	#	9.2	
C82-C85	NHL	9	0.9	9.9	4.5	18.8	#	38.6	11.1
C90	Mult. myeloma	4	0.3	14.1	3.8	36.0	#	17.7	
C91-C96	Leukaemia	9	0.4	24.7	11.3	46.9	#	41.1	66.7
Other primaries		12	6.3	1.9	1.0	3.3		27.1	
Not observed		0	1.8	0.0	0.0	2.1		-8.5	
All mult. primaries		66	23.3	2.8	2.2	3.6	#	203.3	12.1

Patients	934
Mean age at second malignancy (years)	69.2
Person-years	2099
Mean observation time (years)	2.2
Median observation time (years)	0.9

The occurrence of second malignancy is statistically significant.

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

Table 6b

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

Diagnosis		Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C15	Oesophagus	2	0.1	23.0	2.8	83.1	#	10.1	
C18	Colon	3	1.4	2.1	0.4	6.1		8.2	
C25	Pancreas	2	0.6	3.3	0.4	11.9		7.4	50.0
C33-C34	Lung	4	1.1	3.6	1.0	9.3		15.3	
C50	Breast	11	5.1	2.2	1.1	3.9	#	31.3	
C53	Cervix uteri	3	0.3	11.2	2.3	32.8	#	14.4	66.7
C54	Corpus uteri	5	0.9	5.6	1.8	13.1	#	21.7	
C82-C85	NHL	2	0.6	3.5	0.4	12.6		7.5	50.0
C91-C96	Leukaemia	2	0.2	8.4	1.0	30.4	#	9.3	50.0
Other primaries		6	1.8	3.3	1.2	7.3	#	22.2	
Not observed		0	3.7	0.0	0.0	1.0	#	-19.7	
All mult. primaries		40	15.8	2.5	1.8	3.4	#	127.9	12.5

Patients	847
Mean age at second malignancy (years)	67.8
Person-years	1892
Mean observation time (years)	2.2
Median observation time (years)	0.9

The occurrence of second malignancy is statistically significant.

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

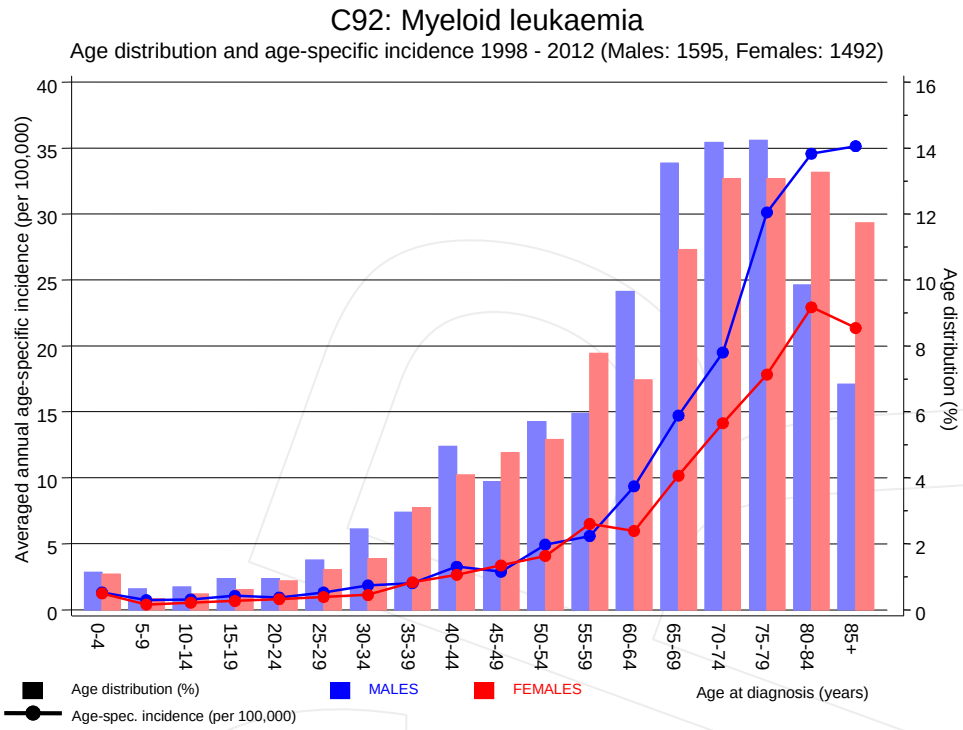


Figure 7. Age distribution and age-specific incidence

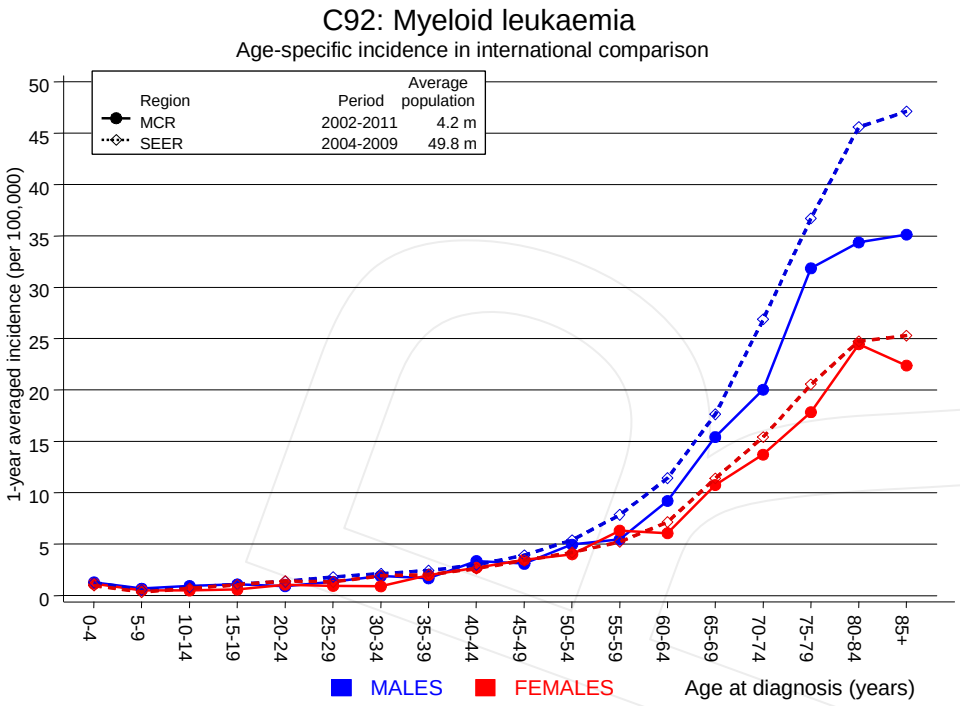


Figure 7a. Age-specific incidence in MCR registry areas compared to SEER (Surveillance, Epidemiology, and End Results, USA).

Reference:

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

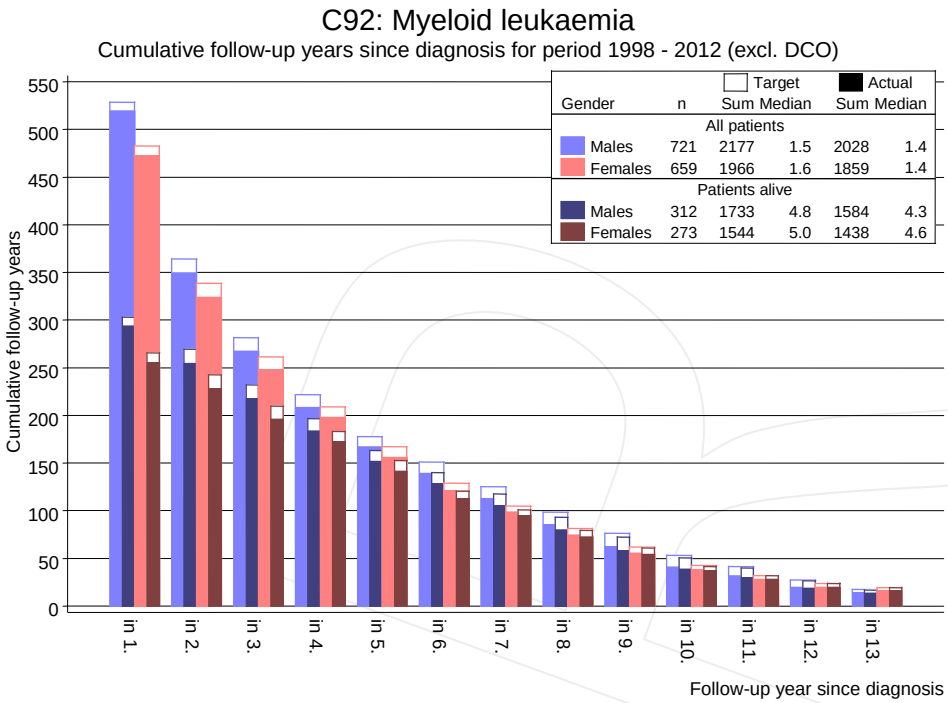
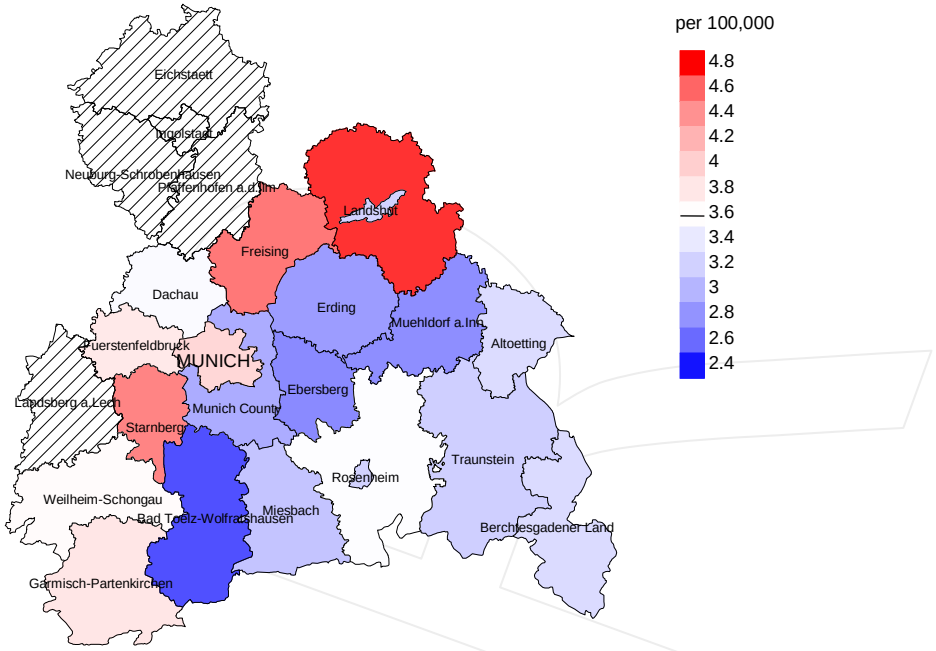


Figure 8. Cumulative follow-up years depending on time since diagnosis

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

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



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

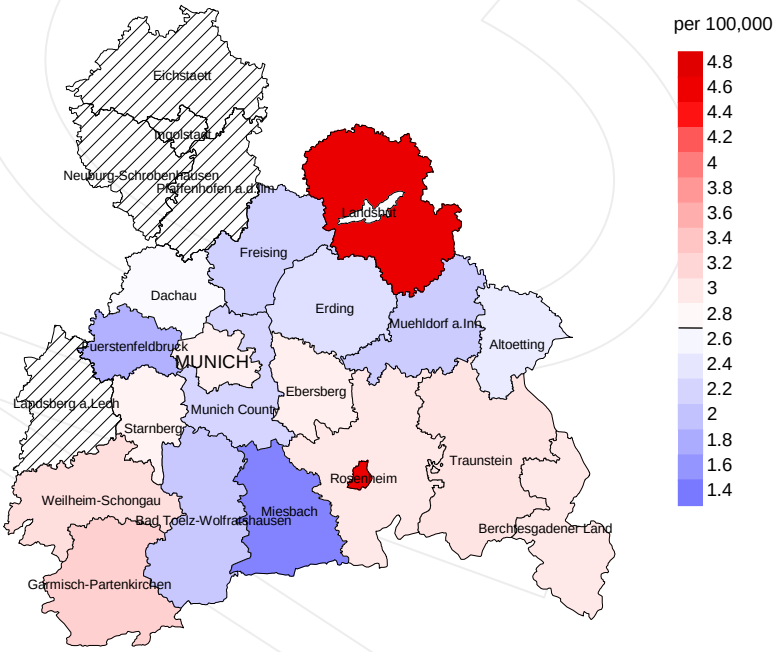
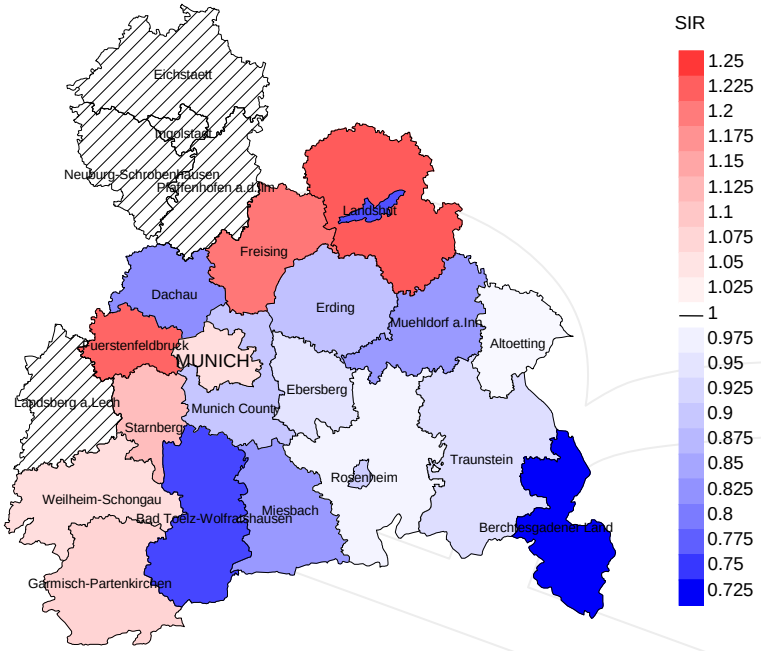


Figure 9a. Map of cancer incidence (world standard population, incl. DCO cases) by county averaged for period 2003 to 2008. According to their individual incidence rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 3.6/100,000 WS N=698, females 2.7/100,000 WS N=643). 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 15 women were identified with newly diagnosed myeloid leukaemia. Therefore, the mean incidence rate for this cancer type in this area can be calculated at 2.9/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 1.1 and 7.1/100,000.

Standardized incidence ratio (SIR) 2003 - 2008: Males



Standardized incidence ratio (SIR) 2003 - 2008: Females

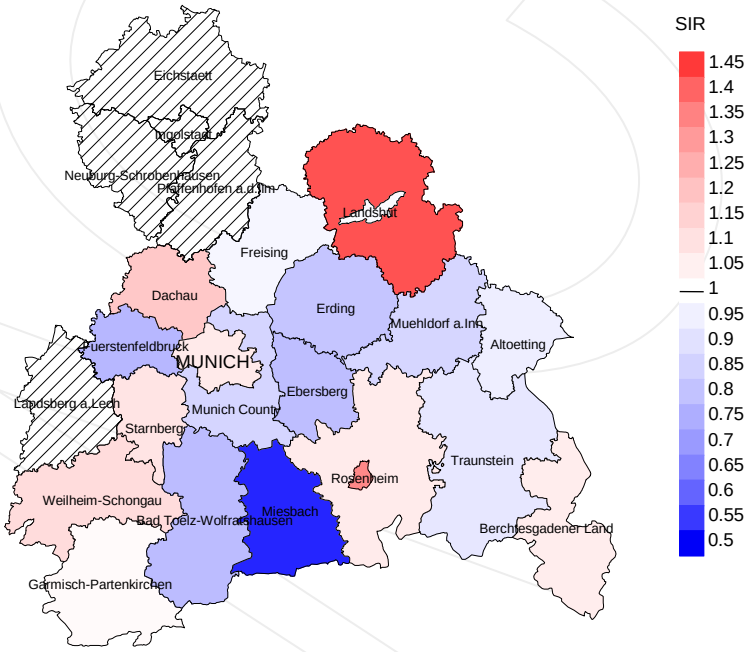


Figure 9b. Map of standardized incidence ratio (SIR, incl. DCO cases) by county averaged for period 2003 to 2008. According to their individual SIR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=698, females N=643). 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 15 women were identified with newly diagnosed myeloid leukaemia. Therefore, the mean standardized incidence ratio (SIR) for this cancer type in this area can be calculated at 0.79. Though, the value of this parameter may vary with an underlying probability of 99% between 0.36 and 1.49, 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	91	100.0	28.6	80	87.9	97.5
1999	112	99.1	29.5	90	80.4	96.7
2000	129	99.2	30.2	94	72.9	96.8
2001	134	98.5	43.3	112	83.6	99.1
2002	178	96.6	34.8	138	77.5	97.8
2003	237	98.3	37.1	189	79.7	99.5
2004	229	98.3	38.0	175	76.4	98.3
2005	215	97.2	34.4	166	77.2	99.4
2006	244	96.3	38.9	207	84.8	98.6
2007	240	92.5	30.4	175	72.9	97.7
2008	247	84.2	31.6	179	72.5	99.4
2009	253	83.4	23.3	181	71.5	99.4
2010	308	82.8	20.5	215	69.8	99.1
2011	232	85.8	21.6	155	66.8	99.4
2012	241	99.2	31.5	145	60.2	97.9
1998-2012	3090	92.9	31.1	2301	74.5	98.6

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	91	92	98.9	46	50.5
1999	112	86	97.7	42	37.5
2000	129	94	96.8	53	41.1
2001	134	117	97.4	63	47.0
2002	178	122	98.4	79	44.4
2003	237	145	98.6	110	46.4
2004	229	140	98.6	100	43.7
2005	215	179	99.4	106	49.3
2006	244	169	98.8	140	57.4
2007	240	168	98.8	110	45.8
2008	247	167	97.6	118	47.8
2009	253	162	97.5	112	44.3
2010	308	198	99.0	136	44.2
2011	232	198	99.0	104	44.8
2012	241	192	99.5	123	51.0
1998-2012	3090	2229	98.5	1442	46.7

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	92	73.9	26.1	95.6
1999	86	80.2	19.8	97.6
2000	94	88.3	11.7	100.0
2001	117	83.8	16.2	97.4
2002	122	91.0	9.0	99.2
2003	145	91.0	9.0	99.3
2004	140	92.1	7.9	97.8
2005	179	93.9	6.1	99.4
2006	169	94.7	5.3	98.8
2007	168	92.9	7.1	98.8
2008	167	86.8	13.2	95.1
2009	162	90.7	9.3	96.8
2010	198	92.9	7.1	98.0
2011	198	89.4	10.6	95.9
2012	192	90.1	9.9	98.4
1998-2012	2229	89.7	10.3	97.9

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	48	60.7	60.3	61.7	61.3
1999	48	68.0	66.4	73.8	67.8
2000	57	64.6	63.8	71.6	65.3
2001	50	67.4	67.7	65.3	67.6
2002	57	65.6	65.5	66.2	66.0
2003	81	68.9	68.3	78.1	68.8
2004	71	69.6	69.6	69.4	69.6
2005	92	69.0	69.2	65.6	69.0
2006	99	69.5	69.5	69.5	69.3
2007	82	66.8	67.6	47.4	67.4
2008	88	68.2	69.3	61.2	69.0
2009	84	69.6	69.4	71.8	70.3
2010	103	71.7	71.3	76.1	71.5
2011	99	70.9	70.4	74.6	71.0
2012	102	71.2	71.5	69.3	71.0
1998-2012	1161	68.7	68.7	68.7	68.8

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

Table 11b

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

Year of death	Deaths n	Age at death (all causes) Years	Age at death (cancer-related) Years	Age at death (not cancer-related) Years	Age at death (according to death certificate) Years
1998	44	59.4	57.8	64.2	59.6
1999	38	69.7	70.7	65.6	69.8
2000	37	72.3	70.0	86.8	72.3
2001	67	69.4	67.9	75.4	69.8
2002	65	71.1	70.6	76.0	71.1
2003	64	71.5	70.5	78.5	71.5
2004	69	71.5	71.8	68.4	71.5
2005	87	68.0	68.6	58.4	68.7
2006	70	72.1	72.2	71.9	72.1
2007	86	69.4	69.7	66.9	69.8
2008	79	72.6	70.9	84.1	72.1
2009	78	72.9	73.2	68.8	73.0
2010	95	74.6	74.7	70.5	74.8
2011	99	72.6	71.7	81.2	72.6
2012	90	69.5	69.0	75.5	69.5
1998-2012	1068	70.8	70.5	73.3	70.9

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	35	3.2	0.81	2.3	0.88	3.0	0.82	3.8	0.80
1999	38	3.4	0.61	2.0	0.58	3.0	0.61	3.7	0.63
2000	51	4.5	0.77	2.8	0.63	4.0	0.73	5.2	0.82
2001	45	3.9	0.65	2.2	0.60	3.4	0.65	4.7	0.73
2002	52	2.8	0.58	1.7	0.53	2.4	0.57	3.1	0.58
2003	76	4.1	0.63	2.3	0.61	3.4	0.62	4.5	0.63
2004	65	3.5	0.59	1.8	0.52	2.8	0.58	4.0	0.65
2005	86	4.5	0.83	2.3	0.71	3.5	0.80	4.8	0.86
2006	92	4.8	0.65	2.4	0.58	3.7	0.62	5.0	0.66
2007	79	3.6	0.59	1.9	0.50	2.7	0.55	3.7	0.61
2008	76	3.4	0.58	1.7	0.47	2.5	0.54	3.4	0.58
2009	75	3.4	0.60	1.6	0.49	2.4	0.55	3.4	0.62
2010	93	4.1	0.60	2.0	0.53	3.0	0.57	4.0	0.58
2011	88	3.9	0.72	1.8	0.58	2.7	0.65	3.7	0.74
2012	90	3.9	0.76	1.8	0.66	2.7	0.71	3.7	0.74
1998-2012	1041	3.8	0.65	2.0	0.57	3.0	0.63	4.0	0.67

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	33	2.8	0.69	2.0	0.80	2.3	0.75	2.5	0.72
1999	31	2.6	0.62	1.1	0.49	1.7	0.54	2.2	0.60
2000	32	2.7	0.51	1.1	0.37	1.7	0.42	2.2	0.49
2001	53	4.4	0.82	2.2	0.87	3.0	0.82	3.9	0.83
2002	59	3.0	0.66	1.3	0.58	1.9	0.61	2.5	0.67
2003	56	2.8	0.48	1.2	0.38	1.8	0.43	2.3	0.47
2004	64	3.2	0.55	1.4	0.41	2.0	0.47	2.7	0.52
2005	82	4.1	0.73	1.9	0.63	2.7	0.68	3.3	0.69
2006	68	3.4	0.67	1.3	0.60	2.0	0.65	2.8	0.68
2007	77	3.3	0.73	1.5	0.66	2.1	0.69	2.7	0.72
2008	69	3.0	0.59	1.2	0.54	1.8	0.57	2.4	0.58
2009	72	3.1	0.56	1.2	0.45	1.9	0.51	2.4	0.55
2010	91	3.9	0.60	1.4	0.44	2.1	0.49	2.9	0.56
2011	89	3.8	0.82	1.5	0.58	2.2	0.70	2.9	0.78
2012	83	3.5	0.69	1.5	0.56	2.1	0.60	2.8	0.67
1998-2012	959	3.3	0.64	1.5	0.54	2.1	0.59	2.7	0.63

Table 13

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

Age at death Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
0-4	4	0.2	0.2	1	0.1	0.1	3	0.3	0.3
5-9	3	0.1	0.3	2	0.2	0.3	1	0.1	0.4
10-14	6	0.3	0.6	3	0.3	0.6	3	0.3	0.7
15-19	9	0.4	1.1	5	0.5	1.0	4	0.4	1.1
20-24	9	0.4	1.5	6	0.6	1.6	3	0.3	1.5
25-29	16	0.8	2.3	11	1.0	2.7	5	0.5	2.0
30-34	20	1.0	3.3	12	1.1	3.8	8	0.8	2.8
35-39	40	2.0	5.3	22	2.1	5.9	18	1.9	4.7
40-44	53	2.6	8.0	29	2.8	8.7	24	2.5	7.2
45-49	60	3.0	11.0	31	3.0	11.6	29	3.0	10.2
50-54	70	3.5	14.4	39	3.7	15.4	31	3.2	13.5
55-59	127	6.3	20.8	60	5.7	21.1	67	7.0	20.4
60-64	165	8.2	29.0	91	8.7	29.8	74	7.7	28.2
65-69	248	12.4	41.4	147	14.0	43.8	101	10.5	38.7
70-74	320	15.9	57.3	176	16.8	60.6	144	15.0	53.7
75-79	377	18.8	76.1	207	19.8	80.3	170	17.7	71.4
80-84	279	13.9	90.0	121	11.5	91.9	158	16.5	87.9
85+	201	10.0	100.0	85	8.1	100.0	116	12.1	100.0
All ages	2007	100.0		1048	100.0		959	100.0	

Included in the statistics are 32.9% multiple primaries in males and 34.4% in females.

Table 14

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

Age at death Years	Males n	Females n	Males Age-spec. mortal.	MI-index	Females Age-spec. mortal.	MI-index	Males Prop.all cancers %	Females Prop.all cancers %
0- 4	1	3	0.1	0.06	0.2	0.19	3.2	13.0
5- 9	2	1	0.1	0.20	0.1	0.20	5.7	2.6
10-14	3	3	0.2	0.27	0.2	0.43	9.1	10.7
15-19	5	4	0.4	0.33	0.3	0.44	11.9	11.8
20-24	6	3	0.4	0.40	0.2	0.23	7.2	6.4
25-29	11	5	0.6	0.46	0.3	0.28	11.5	4.6
30-34	12	8	0.6	0.31	0.4	0.35	6.8	3.8
35-39	22	18	0.9	0.47	0.8	0.39	5.7	3.6
40-44	29	24	1.2	0.37	1.0	0.39	3.6	2.2
45-49	31	29	1.4	0.50	1.4	0.41	1.8	1.5
50-54	39	31	2.1	0.43	1.6	0.40	1.3	1.1
55-59	60	67	3.5	0.63	3.8	0.58	1.1	1.5
60-64	91	74	5.5	0.59	4.3	0.71	1.1	1.2
65-69	147	101	10.0	0.68	6.3	0.62	1.3	1.3
70-74	176	144	15.2	0.78	10.4	0.74	1.4	1.6
75-79	207	170	27.5	0.90	15.5	0.87	1.7	1.7
80-84	121	158	26.6	0.77	18.3	0.80	1.2	1.5
85+	85	116	27.4	0.78	14.2	0.66	1.1	0.9
All ages	1048	959					1.4	1.4
Mortality								
Raw			3.8	0.66	3.3	0.64		
WS			2.0	0.58	1.5	0.54		
ES			3.0	0.63	2.1	0.59		
BRD-S			4.0	0.67	2.7	0.63		
PYLL-70								
per 100,000			26.3		22.0			
ES			24.4		20.5			
AYLL-70			14.2		14.5			

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

Table 15a

Multiple primaries in deaths in period 1998-2012
MALES

Diagnosis		Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C03-C06	Oral cavity	3	0.8	3	100.0				
C16	Stomach	6	1.5	5	83.3			1	16.7
C18	Colon	27	6.9	19	70.4	3	11.1	5	18.5
C19-C20	Rectum	10	2.6	7	70.0	2	20.0	1	10.0
C22	Liver	3	0.8	1	33.3			2	66.7
C25	Pancreas	5	1.3	1	20.0			4	80.0
C33-C34	Lung	16	4.1	7	43.8	5	31.3	4	25.0
C43	Malign. melanoma	11	2.8	10	90.9	1	9.1		
C44	Skin others	15	3.8	4	26.7			11	73.3
C61	Prostate	69	17.6	62	89.9	4	5.8	3	4.3
C62	Testis	3	0.8	3	100.0				
C64	Kidney	14	3.6	14	100.0				
C67	Bladder	23	5.9	20	87.0	1	4.3	2	8.7
C70-C72	CNS cancer	7	1.8	3	42.9	2	28.6	2	28.6
C73	Thyroid	3	0.8	3	100.0				
C76-C79	CUP	3	0.8	2	66.7	1	33.3		
C81	Hodgkin lymphoma	5	1.3	4	80.0			1	20.0
C82-C85	NHL	30	7.7	20	66.7	3	10.0	7	23.3
C90	Mult. myeloma	4	1.0	3	75.0	1	25.0		
C91-C96	Leukaemia	119	30.4			37	31.1	82	68.9
Other primaries		15	3.8	7	46.7	2	13.3	6	40.0
All mult. primaries		391	100.0	198	50.6	62	15.9	131	33.5

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

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

Table 15b

Multiple primaries in deaths in period 1998-2012
FEMALES

Diagnosis		Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C16	Stomach	4	1.1	4	100.0				
C18	Colon	10	2.7	9	90.0	1	10.0		
C19-C20	Rectum	10	2.7	6	60.0	2	20.0	2	20.0
C33-C34	Lung	9	2.5	5	55.6	2	22.2	2	22.2
C43	Malign. melanoma	7	1.9	7	100.0				
C44	Skin others	12	3.3	8	66.7			4	33.3
C50	Breast	100	27.2	88	88.0	5	5.0	7	7.0
C53	Cervix uteri	9	2.5	6	66.7	2	22.2	1	11.1
C54	Corpus uteri	24	6.5	18	75.0	2	8.3	4	16.7
C56	Ovary	7	1.9	6	85.7			1	14.3
C67	Bladder	9	2.5	7	77.8	1	11.1	1	11.1
C70-C72	CNS cancer	3	0.8	3	100.0				
C73	Thyroid	11	3.0	11	100.0				
C81	Hodgkin lymphoma	5	1.4	4	80.0	1	20.0		
C82-C85	NHL	16	4.4	15	93.8			1	6.3
C90	Mult. myeloma	9	2.5	6	66.7	3	33.3		
C91-C96	Leukaemia	96	26.2			33	34.4	63	65.6
Other primaries		26	7.1	11	42.3	2	7.7	13	50.0
All mult. primaries		367	100.0	214	58.3	54	14.7	99	27.0

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

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

Table 16

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

Age at death Years	Males n	Females n	Males Age-spec. mortal.	MI-index	Females Age-spec. mortal.	MI-index	Males Prop.all cancers %	Females Prop.all cancers %
0- 4	1	3	0.1	0.06	0.2	0.19	3.8	13.0
5- 9	2	1	0.1	0.22	0.1	0.20	6.1	2.8
10-14	3	3	0.2	0.30	0.2	0.43	9.1	11.5
15-19	5	4	0.4	0.33	0.3	0.44	12.8	12.9
20-24	5	2	0.3	0.38	0.1	0.15	6.4	4.7
25-29	10	5	0.5	0.43	0.3	0.28	11.1	4.9
30-34	12	8	0.6	0.32	0.4	0.38	7.0	4.3
35-39	20	16	0.9	0.48	0.7	0.37	5.6	3.6
40-44	25	20	1.0	0.35	0.9	0.37	3.3	2.1
45-49	27	24	1.3	0.49	1.1	0.42	1.8	1.5
50-54	34	23	1.8	0.43	1.2	0.41	1.3	1.0
55-59	53	49	3.1	0.65	2.8	0.54	1.1	1.3
60-64	67	55	4.1	0.57	3.2	0.75	1.0	1.1
65-69	98	79	6.7	0.65	4.9	0.65	1.1	1.3
70-74	126	87	10.9	0.81	6.3	0.64	1.3	1.2
75-79	133	119	17.7	0.84	10.9	0.89	1.4	1.5
80-84	84	115	18.5	0.79	13.3	0.83	1.1	1.4
85+	56	84	18.1	0.76	10.3	0.65	0.9	0.8
All ages	761	697					1.3	1.3
Mortality								
Raw			2.8	0.62	2.4	0.62		
WS			1.5	0.54	1.1	0.51		
ES			2.2	0.60	1.6	0.56		
BRD-S			2.9	0.64	2.0	0.60		
PYLL-70								
per 100,000			23.0		18.3			
ES			21.5		17.3			
AYLL-70			15.7		15.4			

* See corresponding tables with multiple primaries.

Table 17

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

Age at death Years	Males n	Females n	Males Age-spec. mortal.	MI-index	Females Age-spec. mortal.	MI-index	Males Prop.all cancers %	Females Prop.all cancers %
0- 4	1	3	0.1	0.06	0.2	0.19	4.0	13.0
5- 9	2	1	0.1	0.22	0.1	0.20	6.3	2.9
10-14	3	3	0.2	0.30	0.2	0.43	9.1	12.5
15-19	5	4	0.4	0.33	0.3	0.44	12.8	15.4
20-24	5	2	0.3	0.42	0.1	0.17	6.8	5.0
25-29	10	5	0.5	0.43	0.3	0.28	11.9	5.2
30-34	12	8	0.6	0.33	0.4	0.40	7.2	4.7
35-39	18	14	0.8	0.44	0.6	0.33	5.2	3.4
40-44	24	19	1.0	0.34	0.8	0.37	3.4	2.2
45-49	25	23	1.2	0.46	1.1	0.44	1.7	1.6
50-54	32	22	1.7	0.43	1.2	0.45	1.3	1.0
55-59	51	46	3.0	0.69	2.6	0.55	1.2	1.4
60-64	63	52	3.8	0.58	3.0	0.79	1.0	1.2
65-69	92	74	6.3	0.65	4.6	0.63	1.2	1.4
70-74	119	84	10.3	0.81	6.1	0.64	1.4	1.4
75-79	126	111	16.7	0.83	10.1	0.85	1.7	1.7
80-84	79	111	17.4	0.76	12.9	0.83	1.3	1.6
85+	54	81	17.4	0.75	9.9	0.64	1.1	0.9
All ages	721	663					1.4	1.4
Mortality								
Raw			2.6	0.62	2.3	0.62		
WS			1.4	0.54	1.0	0.51		
ES			2.1	0.59	1.5	0.56		
BRD-S			2.7	0.64	1.9	0.60		
PYLL-70								
per 100,000			22.0		17.5			
ES			20.6		16.6			
AYLL-70			15.9		15.5			

* See corresponding tables with multiple primaries.

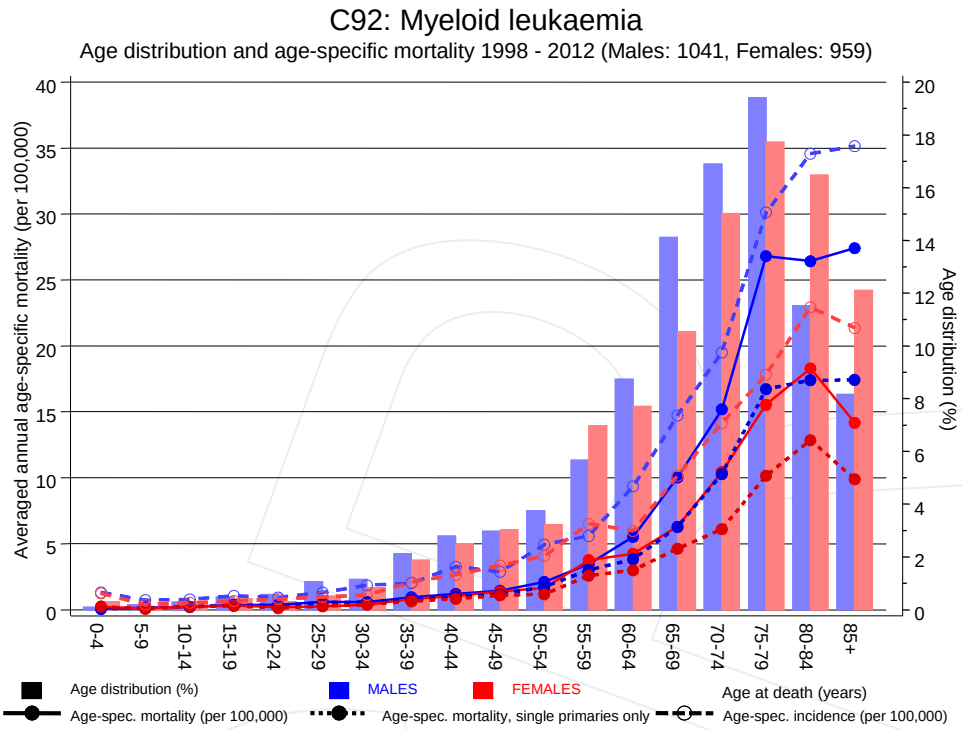
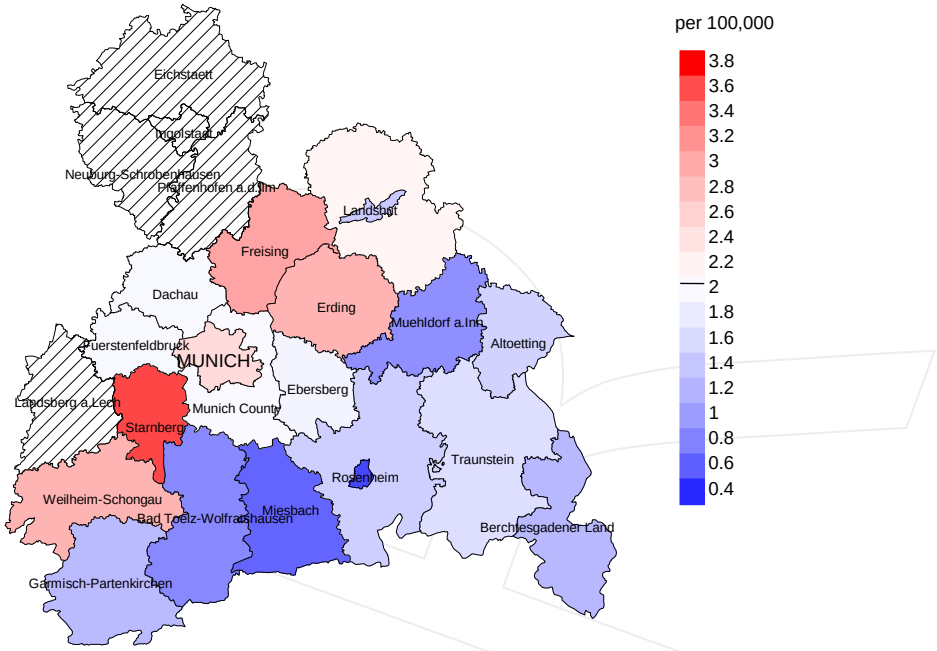


Figure 18. Distribution of age at death (bars) and age-specific mortality (all patients: solid line, patients with single primaries: dotted line). The age-specific incidence is additionally plotted for comparison (dashed line).

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

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



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

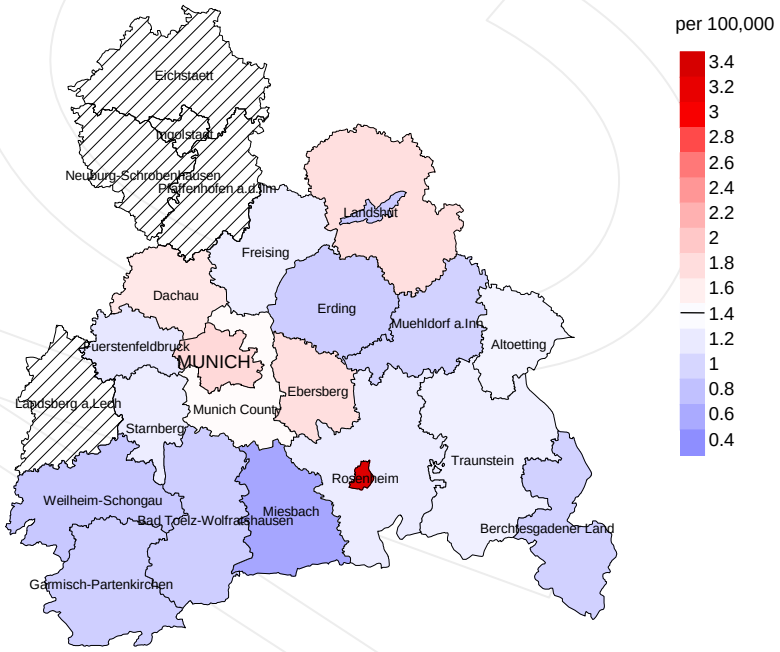
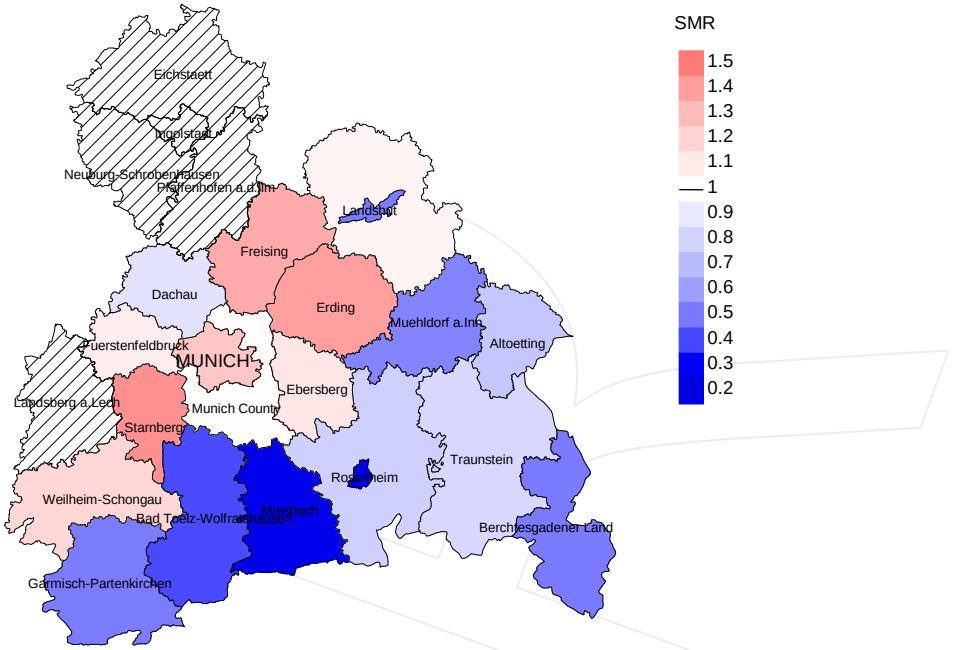


Figure 19a. Map of cancer mortality (world standard population) by county averaged for period 2003 to 2008. According to their individual mortality rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 2.1/100,000 WS N=455, females 1.4/100,000 WS N=405). 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 myeloid leukaemia. Therefore, the mean mortality rate for this cancer type in this area can be calculated at 1.8/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.7 and 3.8/100,000.

Standardized mortality ratio (SMR) 2003 - 2008: Males



Standardized mortality ratio (SMR) 2003 - 2008: Females

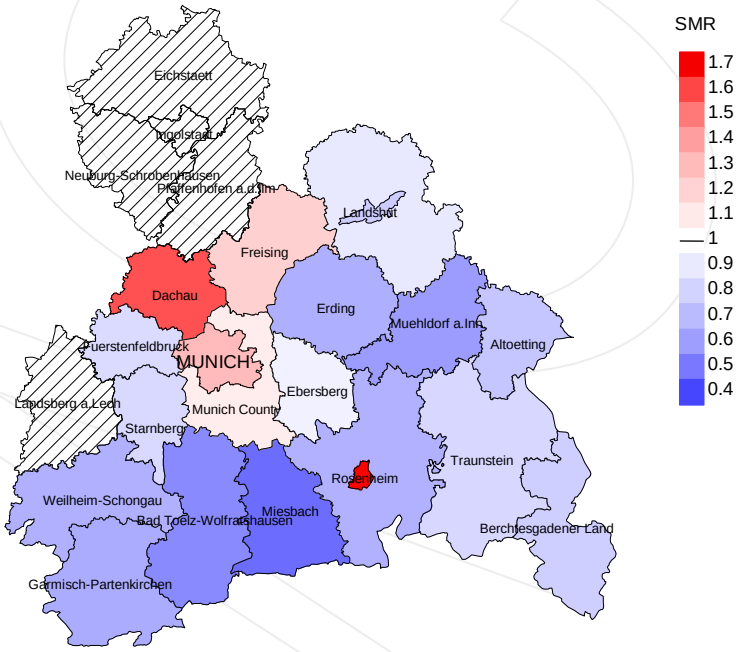


Figure 19b. Map of standardized mortality ratio (SMR, incl. DCO cases) by county averaged for period 2003 to 2008. According to their individual SMR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=455, females N=405). 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 myeloid leukaemia. Therefore, the mean standardized mortality ratio (SMR) for this cancer type in this area can be calculated at 0.94. Though, the value of this parameter may vary with an underlying probability of 99% between 0.37 and 1.94, and is therefore not statistically striking.

Statistical Notes

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

1. **All multiple primaries included**

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

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

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

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

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

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

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

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

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

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

Shortcuts

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

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