Munich Cancer Registry



- ▶ Survival
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Munich Cancer Registry at Munich Cancer Center Marchioninistr. 15 Munich, 81377 Germany

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

Cancer statistics: Baseline statistics

GI-NET: Gastroint. neuroend. tumor

Year of diagnosis	1998-2013
Patients	1,786
Diseases	1,800
Creation date	05/19/2015
Export date	12/30/2014
Population	4.64 m



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

Topography codes (ICD-O-3 2000) used for specifying cancer site

Code	Description	
C16 C17 C18 C19 C20	Stomach Small intestine Colon Rectosigmoid junction Rectum	

Morphology codes (ICD-O-3 2011) used for specifying cancer site

Code	Description
8013/3	Large cell neuroendocrine carcinoma
8041/3	Small cell carcinoma, NOS
8152/1	Glucagonoma, NOS
8153/3	Gastrinoma, malignant
8156/3	Somatostatinoma, malignant
8240/3	Carcinoid tumor, NOS
8241/3	Enterochromaffin cell carcinoid
8243/3	Goblet cell carcinoid
8244/3	Mixed adenoneuroendocrine carcinoma
8245/1	Tubular carcinoid
8246/3	Neuroendocrine carcinoma, NOS
8249/3	Atypical carcinoid tumor

Reference:

Bosman FT, Carneiro F, Hruban RH, Theise ND, editors. WHO Classification of Tumours of the Digestive System 4th edition, IARC, Lyon (2010).

INCIDENCE

Table 1

Patient cohorts by year of diagnosis including multiple primaries, and with proportion of deaths and active follow-up

		Prop.		Prop.
		mult.	Prop.	actively
Year of	Cases	primaries	deaths	followed
diagnosis	n	%	%	%
_				
1998	46	26.1	60.9	100.0
1999	53	22.6	50.9	94.3
2000	41	26.8	46.3	97.6
2001	48	37.5	47.9	100.0
2002	76	22.4	42.1	96.1 #
2003	80	30.0	51.3	95.0
2004	110	30.0	41.8	93.6
2005	99	33.3	45.5	92.9
2006	136	30.1	44.9	91.9
2007	147	30.6	40.1	78.9 # ##
2008	152	25.7	37.5	65.1
2009	149	27.5	35.6	64.4
2010	160	27.5	25.0	61.3
2011	166	24.1	24.1	62.7
2012	187	26.2	23.0	66.3
2013	150	24.7	13.3	97.3 ###
1998-2013	1800	27.6	35.2	79.8

Due to the pathohistological classification of the tumor and the lack of information on morphology on the death certificates, the proportion of DCO cases can not be determined.

- # 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	All	Males	Females	Prop. males
diagnosis	n /	'n	n	%
1998	46	25	21	54.3
1999	53	25	28	47.2
2000	41	19	22	46.3
2001	48	27	21/	56.3
2002	76	38	38	50.0
2003	80	42	38	52.5
2004	110	60	50	54.5
2005	99	55	44	55.6
2006	136	79	57	58.1
2007	147	95	52	64.6
2008	152	77	75	50.7
2009	149	78	71	52.3
2010	160	80	80	50.0
2011	166	92	74	55.4
2012	187	89	98	47.6
2013	150	84	66	56.0
1998-2013	1800	965	835	53.6

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)

			Males	Fem.	Males	Fem.	Males	Fem.	Males	Fem.
Year of	Males	Females	Inc.	Inc.	Inc.	Inc.	Inc.	Inc.	Inc.	Inc.
diagnosis	n	n	raw	raw	WS	WS	ES	ES	BRD-S	BRD-S
1998	25	21	2.3	1.8	1.4	1.0	2.0	1.3	2.3	1.6
1999	25	28	2.2	2.4	1.6	1.5	2.0	1.9	2.2	2.1
2000	19	22	1.7	1.8	1.0	1.0	1.5	1.4	1.8	1.6
2001	27	21	2.3	1.7	1.4	/1.1	2.1	1.4	2.4	1.6
2002	38	38 <	2.0	1.9	1.3	1.2	1.8	1.5	2.0	1.8
2003	42	38	2.2	1.9	1.3	/ 1.1	1.9	1.5	2.2	1.7
2004	60	50	3.2	2.5	1.9	1.5	2.7	1.9	3.2	2.3
2005	55	44	2.9	2.2	1.8	1.1	2.4	1.6	2.9	1.9
2006	79	57	4.1	2.8	2.2	1.6	3.2	2.1	4.0	2.5
2007	95	52	4.3	2.3	2.7	1.3	3.6	1.7	4.2	1.9
2008	77	75	3.5	3.2	2.0	1.8	2.8	2.3	3.4	2.8
2009	78	71	3.5	3.1	2.0	1.8	2.8	2.4	3.3	2.8
2010	80	80	3.5	3.4	2.1	2.1	2.9	2.8	3.3	3.1
2011	92	74	4.0	3.1	2.1	1.9	3.0	2.5	3.8	2.8
2012	89	98	3.9	4.2	2.2	2.8	3.1	3.3	3.7	3.8
2013	84	66	3.7	2.8	2.3	1.8	3.0	2.2	3.5	2.5
1998-2013	965	835	3.2	2.7	1.9	1.6	2.7	2.1	3.2	2.4

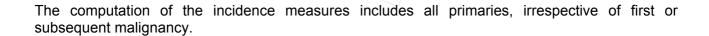


Table 3

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

Year of	Cases		Std.					Median		
diagnosis	n	Mean	dev.	Min.	Max.	10%	25%	50%	75%	90%
1998	46	63.6	15,1	13.2	87.9	46.6	56.0	64.3	72.5	83.3
1999	53	57.8	16.3	24.9	87.9	29.8	49.4	59.9	67.7	75.0
2000	41	61.8	16.8	24.7	92.1	39.8	49.5	61.0	75.5	80.6
2001	48	61.9	12.7	29.6	88.5	47.7	54.0	61.7	70.5	79.8
2002	76	61.6	16.3	17.7	90.9	35.0	51.2	63.5	73.1	80.3
2003	80	63.2	13.3	23.5	87.5	49.6	56.5	63.9	72.6	79.1
2004	110	61.6	14.9	13.8	93.3	39.8	52.8	63.9	72.2	78.2
2005	99	65.1	14.7	16.1	90.8	46.9	57.6	66.8	75.5	82.5
2006	136	64.8	12.3	29.9	91.9	46.4	56.6	66.3	73.8	79.9
2007	147	61.9	15.6	15.8	91.2	40.4	54.3	64.3	71.6	81.2
2008	152	63.2	14.8	18.9	93.9	44.5	54.5	66.0	72.9	79.9
2009	149	63.1	16.4	12.4	92.6	38.6	54.7	63.9	74.6	84.0
2010	160	61.3	14.4	14.9	92.4	41.8	53.9	61.5	71.7	79.3
2011	166	62.9	16.4	17.1	92.9	41.2	51.5	65.1	75.9	82.2
2012	187	60.8	19.0	9.7	90.6	28.8	51.5	64.9	74.8	80.8
2013	150	59.5	16.8	15.7	96.5	34.9	48.5	62.3	73.0	76.9
1998-2013	1800	62.2	15.7	9.7	96.5	40.5	53.7	64.1	73.3	80.3

Table 3a

Age distribution parameters by year of diagnosis (MALES)

(incl. DCO)

Year of	Cases		Std.					Median		
diagnosis	n	Mean	dev.	Min.	Max.	10%	25%	50%	75%	90%
1998	25	62.4	11.2	32.1	81.7	46.6	57.7	64.1	66.8	76.6
1999	25	55.4	17.1	24.9	85.3	27.4	43.0	59.2	66.5	73.7
2000	19	62.1	15.1	37.4	92.1	39.0	49.5	60.1	74.4	80.6
2001	27	62.1	11.9	34.3	88.5	50.5	54.0	60.0	69.1	79.8
2002	38	61.7	13.1	27.1	88.3	42.3	56.4	62.7	70.6	76.2
2003	42	64.5	10.0	32.4	85.0	55.0	58.8	63.9	70.9	76.7
2004	60	62.3	11.8	27.8	78.9	48.0	54.0	63.9	71.2	76.5
2005	55	64.5	13.6	19.0	87.6	48.7	57.8	66.3	74.8	77.6
2006	79	65.8	10.3	38.5	85.7	49.5	59.1	67.4	73.5	77.9
2007	95	61.4	14.9	15.8	91.2	39.7	54.8	63.6	70.9	78.7
2008	77	63.7	12.1	19.3	85.6	49.5	56.2	65.5	71.9	79.1
2009	78	64.5	13.8	12.4	89.0	47.7	56.7	65.4	74.6	81.8
2010	80	63.0	12.6	26.3	92.4	48.0	55.5	63.2	71.9	79.0
2011	92	65.3	13.4	32.0	89.3	45.7	56.2	67.6	76.3	81.7
2012	89	63.1	15.4	9.7	89.0	42.5	54.0	65.3	74.9	80.7
2013	84	60.3	14.7	19.4	90.4	44.2	50.9	62.3	71.6	76.9
1998-2013	965	63.0	13.4	9.7	92.4	45.4	55.7	64.3	72.7	78.8

Table 3b

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

Year of	Cases		Std.					Median		
diagnosis	n	Mean	dev.	Min.	Max.	10%	25%	50%	75%	90%
1998	21	65.0	18.8	13.2	87.9	47.0	55.5	65.4	80.7	84.2
1999	28	59.9	15.4	26.9	87.9	38.4	51.0	62.0	72.2	76.9
2000	22	61.5	18.4	24.7	92.0	39.8	46.0	62.0	78.5	81.0
2001	21	61.6	14.0	29.6	84.4	47.7	53.9	62.6	71.8	75.7
2002	38	61.6	19.2	17.7	90.9	30.6	49.1	64.5	74.8	84.7
2003	38	61.7	16.3	23.5	87.5	33.0	53.0	63.9	74.0	79.9
2004	50	60.7	18.0	13.8	93.3	35.0	51.7	63.9	75.5	79.1
2005	44	65.9	16.1	16.1	90.8	40.7	56.6	68.7	78.4	83.0
2006	57	63.5	14.5	29.9	91.9	43.5	52.4	63.8	73.8	82.8
2007	52	62.9	16.9	17.8	88.4	41.7	53.5	65.3	74.3	81.7
2008	75	62.7	17.3	18.9	93.9	39.2	50.4	67.4	73.1	82.2
2009	71	61.5	18.9	15.9	92.6	35.1	49.4	62.3	76.5	84.2
2010	80	59.6	15.8	14.9	89.6	39.0	50.8	60.2	70.5	79.3
2011	74	59.9	19.1	17.1	92.9	30.4	50.1	61.5	73.0	84.5
2012	98	58.6	21.6	13.7	90.6	21.9	45.6	63.3	74.7	85.5
2013	66	58.6	19.2	15.7	96.5	28.6	43.5	63.0	74.0	76.9
1998-2013	835	61.2	17.9	13.2	96.5	34.6	50.4	63.7	74.2	82.2

base_hGNETE.pdf

Table 4

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

Age at									
diagnosis	Cases			Males			Females		
Years	n	%	Cum.%	n	%	Cum.%	n	%	Cum.%
5-9	1	0.1	0.1	/ 1	0.1	0.1			0.0
10-14	5	0.3	0.3	/ 1	0.1	0.2	4	0.5	0.5
15-19	22	1.2	1.6	4	0.4	0.6	18	2.2	2.6
20-24	22	1.2	2.8	3	0.3	0.9	19	2.3	4.9
25-29	33	1.8	4.6	15	1.6	2.5	18	2.2	7.1
30-34	44	2.4	7.1	17	1.8	4.2	27	3.2	10.3
35-39	47	2.6	9.7	15	1.6	5.8	32	3.8	14.1
40-44	64	3.6	13.2	32	3.3	9.1	32	3.8	18.0
45-49	111	6.2	19.4	58	6.0	15.1	53	6.3	24.3
50-54	145	8.1	27.4	82	8.5	23.6	63	7.5	31.9
55-59	191	10.6	38.1	117	12.1	35.8	74	8.9	40.7
60-64	252	14.0	52.1	154	16.0	51.7	98	11.7	52.5
65-69	262	14.6	66.6	165	17.1	68.8	97	11.6	64.1
70-74	220	12.2	78.8	113	11.7	80.5	107	12.8	76.9
75-79	196	10.9	89.7	112	11.6	92.1	84	10.1	86.9
80-84	109	6.1	95.8	53	5.5	97.6	56	6.7	93.7
85+	76	4.2	100.0	23	2.4	100.0	53	6.3	100.0
All ages	1800	100.0		965	100.0		835	100.0	

Included in the statistics are 41.3% multiple primaries in males and 27.7% in females.

Table 5

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

							Males	Females
			Males	Females	Males	Females		Prop.all
Age at			Age-	Age-		DCO rate	_	cancers
diagnosis	Males	Females		spec.	n=0	n=0		n=153136
Years	n	n	incid.		8	%	%	%
ICALD			inora.	/11014.	ŭ	Ĭ	Ū	/
0- 4			0.0	0.0				
5- 9	1		0.1	0.0			0.6	
10-14	1	4	0.1	0.3			0.6	2.4
15-19	4	18	0.3	1.2			1.1	6.2
20-24	3	19	0.2	1.1			0.5	3.6
25-29	15	18	0.7	0.9			1.6	1.6
30-34	17	27	0.7	1.2			1.1	1.3
35-39	15	32	0.6	1.4			0.7	0.9
40-44	32	32	1.2	1.3			1.0	0.5
45-49	58	53	2.5	2.3			1.1	0.6
50-54	82	63	4.1	3.1			1.0	0.6
55-59	117	74	6.4	3.8			0.8	0.5
60-64	150	97	8.5	5.2			0.7	0.6
65-69	163	97	10.3	5.6			0.6	0.5
70-74	113	107	8.8	7.0			0.4	0.6
75-79	111	82	13.4	6.9			0.5	0.5
80-84	52	56	10.4	6.0			0.4	0.4
85+	23	53	6.7	5.9			0.2	0.3
All ages	957	832			0.0	0.0	0.6	0.5
Incidence								
Raw			3.2	2.7				
WS			1.9	1.6				
ES			2.7	2.1				
BRD-S			3.2	2.4				

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

Table 6a

Standardized incidence ratio (SIR, with 95% confidence limits), excess absolute risk (EAR) and DCO rate of second primaries for period 1998-2013

MALES

	Observed	Expected		LCL	UCL		DCO
Diagnosis	/ n /	n	SIR	95%	95%	EAR	%
C15 Oesophagus	2	0.7	2.9	0.4	10.6	5.4	
C16 Stomach	/ 4	1.4	2.9	0.8	7.5	10.7	
C17 Small intestine	2	0.2	10.8	1.3	39.2 ‡	7.4	
C18 Colon	17	3.4	5.1	2.9	8.1 ‡	55.3	
C19-C20 Rectum	12	2.0	6.0	3.1	10.4 #	40.5	
C22 Liver	6	1.0	6.0	2.2	13.0 ‡	20.2	16.7
C23-C24 Bile	2	0.3	5.9	0.7	21.5	6.7	
C25 Pancreas	8	1.3	6.4	2.8	12.6 ‡	27.3	
C33-C34 Lung	8	4.3	1.9	0.8	3.7	15.1	12.5
C43 Malign. melanoma	5	1.5	3.3	1.1	7.6 ‡	14.0	
C46,C49 Soft tissue	2	0.2	10.8	1.3	39.0 ‡	7.4	
C61 Prostate	20	10.7	1.9	1.1	2.9 #	37.8	
C64 Kidney	8	1.3	6.1	2.7	12.1 ‡	27.1	
C65 Renal pelvis	2	0.1	14.0	1.7	50.7 ‡	7.5	
C66 Ureter	2	0.1	24.6	3.0	88.9 ‡	7.8	
C67 Bladder	2	1.5	1.4	0.2	5.0	2.2	
C73 Thyroid	2	0.3	7.5	0.9	27.2	7.0	
C76-C79 CUP	2	0.6	3.5	0.4	12.5	5.8	
C82-C85 NHL	7	1.4	5.0	2.0	10.4 #	22.7	
C91-C96 Leukaemia	2	0.6	3.6	0.4	13.1	5.9	100.0
Other primaries	4	1.2	3.4	0.9	8.7	11.4	
Not observed	0	2.4	0.0	0.0	1.6	-9.6	
All mult. primaries	119	36.2	3.3	2.7	3.9 #	335.6	3.4
/ *							

Patients	634
Median age at second malignancy (years)	70.7
Person-years	2467
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

	Observed 1	Expected		LCL	UCL		DCO
Diagnosis	/ n /	n	SIR	95%	95%	EAR	%
C16 Stomach	4 /	0.8	5.1	1.4	13.0 #	14.5	25.0
C18 Colon	/ 11/	2.2	5.1	2.5	9.1 #	39.9	
C19-C20 Rectum	7	0.9	7.4	3.0	15.2 #	27.4	14.3
C25 Pancreas	7	1.0	7.4	3.0	15.2 #	27.4	
C33-C34 Lung	4	1.6	2.5	0.7	6.5	11.0	
C43 Malign. melanoma	3	0.8	3.7	0.8	10.8	9.9	
C50 Breast	9	6.9	1.3	0.6	2.5	9.7	
C54 Corpus uteri	2	1.2	1.6	0.2	5.8	3.4	
C56 Ovary	3	0.9	3.3	0.7	9.5	9.4	33.3
C64 Kidney	3	0.5	5.5	1.1	16.0 #	11.1	33.3
C82-C85 NHL	5	0.8	5.9	1.9	13.9 #	18.8	
Other primaries	6	1.3	4.5	_1.6	9.7 #	21.1	
Not observed	0	3.3	0.0/	0.0	1.1	-15.1	
All mult. primaries	64	22.3	2.9	2.2	3.7 #	188.5	6.3
					- / "		

Patients	525
Median age at second malignancy (years)	72.1
Person-years	2211
Mean observation time (years)	4.2
Median observation time (years)	3.2

The occurrence of second malignancy is statistically significant.

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

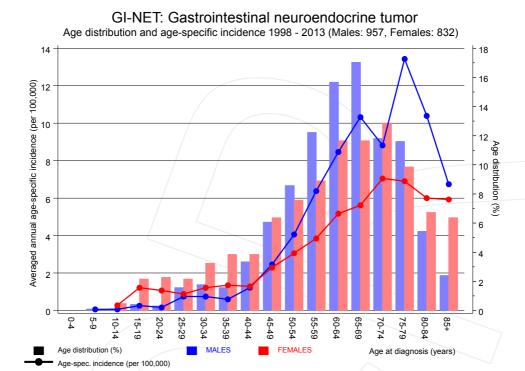


Figure 7. Age distribution and age-specific incidence



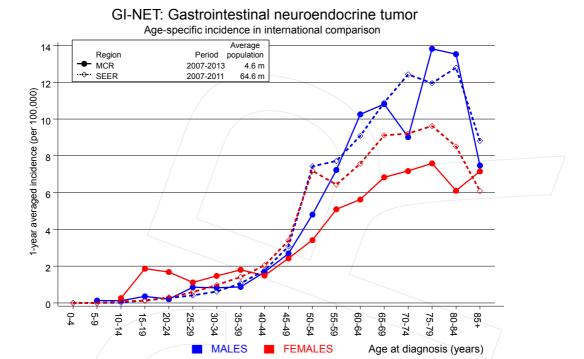


Figure 7a. Age-specific incidence in MCR registry areas compared to SEER (Surveillance, Epidemiology, and End Results, USA).



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.

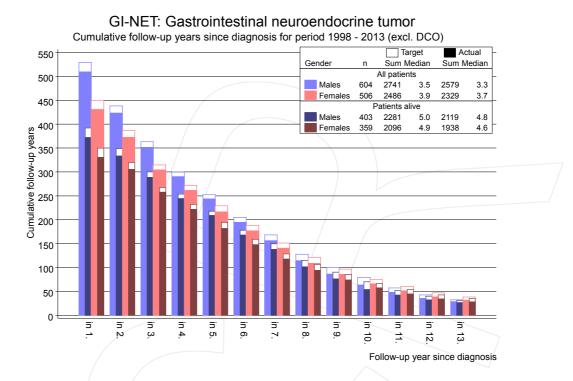
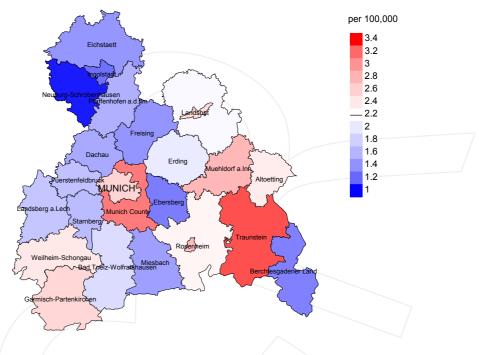


Figure 8. Cumulative follow-up years depending on time since diagnosis

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

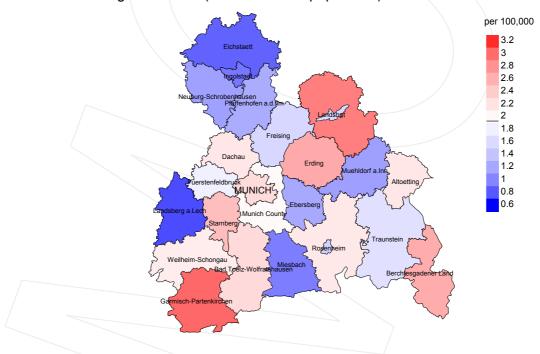
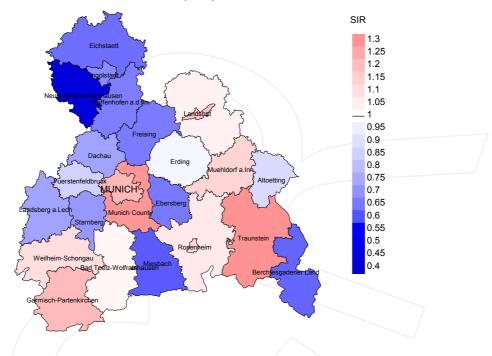


Figure 9a. Map of cancer incidence (world standard population, incl. DCO cases) by county averaged for period 2007 to 2013. According to their individual incidence rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 2.2/100,000 WS N=590, females 1.9/100,000 WS N=514).

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 9 women were identified with newly diagnosed gastroint. neuroend. tumor. Therefore, the mean incidence rate for this cancer type in this area can be calculated at 1.2/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.4 and 3.0/100,000.

Standardized incidence ratio (SIR) 2007 - 2013: Males



Standardized incidence ratio (SIR) 2007 - 2013: Females

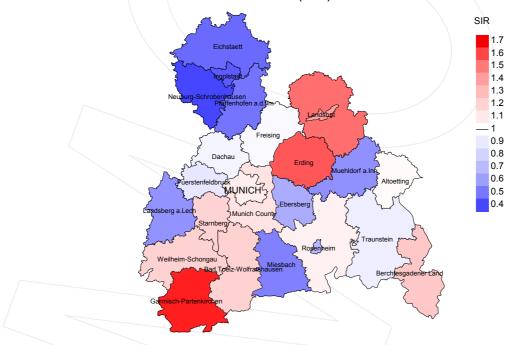


Figure 9b. Map of standardized incidence ratio (SIR, incl. DCO cases) by county averaged for period 2007 to 2013. According to their individual SIR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=590, females N=514).

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 9 women were identified with newly diagnosed gastroint. neuroend. tumor. Therefore, the mean standardized incidence ratio (SIR) for this cancer type in this area can be calculated at 0.65. Though, the value of this parameter may vary with an underlying probability of 99% between 0.23 and 1.44, and is therefore not statistically striking.

MORTALITY

Table 10a

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

		Discour			Prop.
	Transidant	Prop.		Dec 0.00	deaths
6	Incident	actively	_ /,	Prop.	with death
Year of	cases	followed	Deaths	deaths	certific.
diagnosis	n	%	n	%	%
1998	46	100.0	28	60.9	92.9
1999	53	94.3	27	50.9	100.0
2000	41	97.6	19	46.3	89.5
2001	48	100.0	23	47.9	95.7
2002	76	96.1	32	42.1	100.0
2003	80	95.0	41	51.3	97.6
2004	110	93.6	46	41.8	95.7
2005	99	92.9	45	45.5	97.8
2006	136	91.9	61	44.9	98.4
2007	147	78.9	59	40.1	91.5
2008	152	65.1	57	37.5	96.5
2009	149	64.4	53	35.6	100.0
2010	160	61.3	40	25.0	92.5
2011	166	62.7	40	24.1	90.0
2012	187	66.3	43	23.0	97.7
2013	150	97.3	20	13.3	90.0
1998-2013	1800	79.8	634	35.2	95.7

Table 10b

Annual cohorts of incident cancers and deaths, proportion of death certificates and cases deceased the same year of cancer diagnosis (incl. DCO)

			Prop. deaths		Prop.
Year of	Incident		with death	Deaths in	deaths in
diagnosis/	cases	Deaths	certific.	same year	same year
death	n /	n	%	n	%
1998	46	9	88.9	4	8.7
1999	53	9	100.0	4	7.5
2000	41	20	95.0	5	12.2
2001	48	10	100.0	3	6.3
2002	76	19	100.0	8	10.5
2003	80	33	97.0	11	13.8
2004	110	37	100.0	10	9.1
2005	99	46	93.5	16	16.2
2006	136	41	95.1	11	8.1
2007	147	53	98.1	12	8.2
2008	152	64	95.3	17	11.2
2009	149	64	100.0	18	12.1
2010	160	59	98.3	18	11.3
2011	166	54	96.3	12	7.2
2012	187	81	97.5	24	12.8
2013	150	84	97.6	11	7.3
1998-2013	1800	683	97.2	184	10.2

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)

				Prop.
				cancer
		Prop.	Prop.	recorded
		cancer-	non-cancer-	on death
Year of	Deaths	related	related	certificate
death	n	%	8	%
1998	9	77.8	22.2	62.5
1999	9	88.9	11.1	88.9
2000	20	65.0	35.0	73.7
2001	10	80.0	20.0	80.0
2002	19	78.9	21.1	89.5
2003	33	63.6	36.4	78.1
2004	37	73.0	27.0	78.4
2005	46	65.2	34.8	76.7
2006	41	82.9	17.1	87.2
2007	53	79.2	20.8	80.8
2008	64	84.4	15.6	93.4
2009	64	65.6	34.4	76.6
2010	59	69.5	30.5	75.9
2011	54	77.8	22.2	86.5
2012	81	72.8	27.2	78.5
2013	84	77.4	22.6	80.5
1998-2013	683	74.4	25.6	81.0

Table 11a $\begin{tabular}{ll} Medians of age at death according to the grouping in Table 10 \\ \hline MALES \end{tabular}$

Year of death	Deaths n	Age at death (all causes)	Age at death (cancer-related)	Age at death (non-cancer-related)	Age at death (according to death certificate) Years
1998	3	70.5	70.9	59.3	71.3
1999	5	73.6	70.8	83.7	70.8
2000	14	68.7	67.8	84.5	67.8
2001	9	72.1	68.6	87.5	68.6
2002	13	70.0	68.3	92.4	70.0
2003	16	76.2	73.2	76.3	74.7
2004	16	71.8	63.1	75.1	64.1
2005	27	74.6	74.6	75.4	74.6
2006	19	75.4	73.8	76.8	73.8
2007	30	70.3	71.4	69.7	71.4
2008	43	69.2	68.0	77.2	68.0
2009	41	73.0	70.7	77.5	70.3
2010	35	72.3	69.1	73.5	69.1
2011	32	71.1	69.4	80.8	69.5
2012	38	78.2	77.9	80.4	77.8
2013	46	74.5	73.8	78.8	73.2
1998-2013	387	72.3	70.5	76.5	70.8

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 $\label{eq:medians} \mbox{Medians of age at death according to the grouping in Table 10 }$

Year of death	Deaths n	Age at death (all causes)	Age at death (cancer-related)	Age at death (non-cancer-related) Years	Age at death (according to death certificate)
1998	6	83.7	83.6	88.1	83.7
1999	4	81.0	81.0	00.1	81.0
2000	6	77.5	71.6	77.5	85.6
2001	1	92.2		92.2	
2002	6	74.1	75.8	72.4	70.2
2003	17	75.1	76.0	75.1	79.3
2004	21	78.1	77.7	79.4	78.1
2005	19	77.9	73.8	86.2	74.0
2006	22	74.8	74.4	75.1	76.1
2007	23/	74.1	67.4	84.0	67.4
2008	21	80.1	75.7	92.0	80.3
2009	23	77.7	75.4	84.7	77.7
2010	24	78.9	67.3	81.9	70.5
2011	22	76.0	73.0	87.1	74.1
2012	43	80.1	73.5	88.9	74.8
2013	38	75.5	72.8	88.2	75.0
1998-2013	296	77.3	74.2	84.7	75.9

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	Deaths	Mort.	MI-Index	Mort.	MI-Index	Mort.	MI-Index	Mort.	MI-Index
death	n	raw	raw	WS	WS	ES	ES	BRD-S	BRD-S
1998	2	0.2	0.08	0.1	0.08	0.2	0.09	0.2	0.09
1999	4	0.4	0.16	0.2	0.15	0.3	0.17	0.5	0.22
2000	11	1.0	0.58	0.6	0.58	0.9	0.60	1.1	0.58
2001	8	0.7	0.31	0.4	0.28	0.6	0.30	0.9	0.37
2002	12	0.6	0.32	0.4	0.29	0.5	0.31	0.7	0.33
2003	9	0.5	0.21	0.3	0.20	0.4	0.22	0.6	0.25
2004	8	0.4	0.13	0.2	0.12	0.4	0.14	0.5	0.14
2005	19	1.0	0.35	0.5	0.28	0.8	0.33	1.1	0.38
2006	15	0.8	0.19	0.4	0.18	0.6	0.19	0.9	0.22
2007	25	1.1	0.27	0.5	0.20	0.8	0.23	1.1	0.27
2008	37	1.7	0.48	0.9	0.44	1.3	0.47	1.6	0.47
2009	26	1.2	0.34	0.6	0.28	0.9	0.31	1.1	0.34
2010	26	1.2	0.33	0.6	0.30	0.9	0.31	1.2	0.35
2011	26	/1.1	0.28	0.6	0.27	0.9	0.28	1.1	0.28
2012	26	1.1	0.30	0.5	0.22	0.8	0.26	1.2	0.32
2013	37	1.6	0.45	0.8	0.33	1.2	0.39	1.6	0.45
1998-2013	291	1.0	0.30	0.5	0.26	0.8	0.29	1.0	0.32

Table 12b

Mortality measures (cancer-related death) and mortality-incidence-index by year of death FEMALES

Year of	Deaths	Mort.	MI-Index	Mort.	MI-Index	Mort.	MI-Index	Mort.	MI-Index
death	n	raw	raw	WS	WS	ES	ES	BRD-S	BRD-S
1998	5	0.4	0.24	0.1	0.10	0.2	0.15	0.4	0.25
1999	4	0.3	0.14	0.1	0.08	0.2	0.10	0.2	0.10
2000	2	0.2	0.09	0.1	0.06	0.1	0.08	0.1	0.07
2001									
2002	3	0.2	0.08	0.1	0.04	0.1	0.05	0.1	0.06
2003	12	0.6	0.32	0.3	0.22	0.4	0.25	0.5	0.28
2004	19	1.0	0.38	0.4	0.24	0.6	0.30	0.8	0.34
2005	11	0.6	0.25	0.2	0.21	0.3	0.22	0.5	0.24
2006	19	0.9	0.34	0.3	0.22	0.5	0.25	0.7	0.30
2007	17	0.7	0.33	0.3	0.26	0.5	0.28	0.6	0.29
2008	17	0.7	0.23	0.3	0.15	0.4	0.17	0.6	0.20
2009	16	0.7	0.23	0.3	0.15	0.4	0.18	0.5	0.18
2010	15	0.6	0.19	0.3	0.15	0.5	0.16	0.6	0.18
2011	16	0.7	0.22	0.3	0.15	0.4	0.18	0.6	0.20
2012	33	1.4	0.34	0.6	0.20	0.8	0.26	1.0	0.27
2013	28	1.2	0.42	0.5	0.27	0.7	0.32	0.9	0.36
1998-2013	217	0.7	0.26	0.3	0.18	0.4	0.21	0.5	0.23

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Table 13

Age distribution of age at death (cancer-related) for period 1998-2013

(incl. multiple primaries)

Age at									
death	Cases			Males			Females		
Years	n	%	Cum.%	'n	%	Cum.%	n	%	Cum.%
25-29	1	0.2	0.2	/ 1	0.3	0.3			0.0
30-34	2	0.4	0.6			0.3	2	0.9	0.9
35-39	4	0.8	1.4			0.3	4	1.8	2.8
40 - 44	7	1.4	2.7	3	1.0	1.4	4	1.8	4.6
45-49	9	1.8	4.5	4	1.4	2.7/	5	2.3	6.9
50-54	26	5.1	9.6	16	5.4	8.1	10	4.6	11.5
55-59	44	8.6	18.2	28	9.5	17,6	16	7.4	18.9
60-64	50	9.8	27.9	33	11.2	28.8	17	7.8	26.7
65-69	86	16.8	44.7	58	19.7	48.5	28	12.9	39.6
70-74	78	15.2	60.0	49	16.6	65.1	29	13.4	53.0
75-79	82	16.0	76.0	53	18.0	83.1	29	13.4	66.4
80-84	71	13.9	89.8	33	11.2	94.2	38	17.5	83.9
85+	52	10.2	100.0	17	5.8	100.0	35	16.1	100.0
All ages	512	100.0		295	100.0		217	100.0	

Included in the statistics are 41.3% multiple primaries in males and 27.7% in females.

Table 14

Age-specific mortality (cancer-related) and proportion of all cancers for period 1998-2013 (incl. multiple primaries)

		Males		Females		Males	Females
Age at		Age-		Age-		_	Prop.all
death	Males Females	/ - /		spec.	\	cancers	cancers
Years	n n	mortal.	MI-index	mortal.	MI-index	%	96
0 4				0 0			
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	1	0.0		0.0		0 0	
25-29	1	0.0	0.07	0.0	0 0 0	0.9	0 0
30-34	2	0.0		0.1			0.9
35-39	4	0.0	0 00	0.2		0 4	0.8
40-44	3 4	0.1		0.2		0.4	0.4
45-49	4 5	0.2		0.2		0.2	0.2
50-54	16 10	0.8		0.5		0.5	0.3
55-59	28 16	1.5		0.8	0.22	0.5	0.3
60-64	33 17	1.9		0.9		0.4	0.3
65-69	58 28	3.7		1.6		0.5	0.3
70-74	49 29	3.8		1.9		0.4	0.3
75-79	53 29	6.4		2.4		0.4	0.3
80-84	33 38	6.6		4.1		0.3	0.3
85+	17 35	5.0	0.74	3.9	0.66	0.2	0.3
	\\						
All ages	295 217					0.4	0.3
Mortality		1.0	0 21	0 5	2 25		
Raw		1.0		0.7			
WS		0.5		0.3			
ES		0.8		0.4			
BRD-S		1.0	0.32	0.5	0.23		
PYLL-70							
		4.6		3.8			
per 100,000							
ES		4.1		3.2			
AYLL-70		8.7		11.6			

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

Table 15a

Multiple primaries in deaths in period 1998-2013

MALES

	/	_ (_	Syn- chron	Syn- chron		
	Total	Total	Pre	Pre	±30d	±30d	Post	Post
Diagnosis	n	%↓	n	← %	n	-%	n	~%
C12-C13 Hypopharynx	2	1.3					2	100.0
C15 Oesophagus	2	1.3					2	100.0
C16 Stomach	3 /	1.9					3	100.0
C17 Small intestine	13	8.4			5	38.5	8	61.5
C18 Colon	23	14.9			18	78.3	5	21.7
C19-C20 Rectum	8	5.2			4	50.0	4	50.0
C22 Liver	4	2.6			1	25.0	3	75.0
C23-C24 Bile	3	1.9			1	33.3	2	66.7
C25 Pancreas	9	5.8	1	11.1	5	55.6	3	33.3
C33-C34 Lung	12	7.8	5	41.7	2	16.7	5	41.7
C43 Malign. melanoma	2	1.3					2	100.0
C44 Skin others	6	3.9	2	33.3			4	66.7
C46,C49 Soft tissue	2	1.3	1	50.0			/1	50.0
C61 Prostate	26	16.9	17	65.4	3	11.5	6	23.1
C62 Testis	2	1.3	2	100.0				
C64 Kidney	6	3.9	2	33.3	2	33.3	2	33.3
C65 Renal pelvis	2	1.3					2	100.0
C66 Ureter	2	1.3					2	100.0
C67 Bladder	10	6.5	7	70.0			3	30.0
C76-C79 CUP	3	1.9	2	66.7	1	33.3		
C82-C85 NHL	6	3.9	2	33.3	1 /	16.7	3	50.0
C91-C96 Leukaemia	4	2.6	1	25.0			3	75.0
Other primaries	4	2.6	1	25.0	1	25.0	2	50.0
All mult. primaries	154	100.0	43	27.9	44	28.6	67	43.5

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

						Syn- chron	Syn- chron		
		Total	Total	Pre	Pre	±30d	±30d	Post	Post
Diagnos	is	n	% ↓	n	← %	n	~ %	n	← %
C15	Oesophagus	/ 2	2.0			1	50.0	1	50.0
C16	Stomach	5 /	5.1			1	20.0	4	80.0
C17	Small intestine	4	4.0			3	75.0	1	25.0
C18	Colon	/ 13	13.1			7	53.8	6	46.2
C19-C20	Rectum	4	4.0			2	50.0	2	50.0
C21	Anus/canal	1	1.0	1	100.0				
C25	Pancreas	2	2.0					2	100.0
C33-C34	Lung	8	8.1	3	37.5			5	62.5
C43	Malign. melanoma	3	3.0	3	100.0				
C44	Skin others	2	2.0	2	100.0				
C48	Peritoneal	2	2.0	1	50.0	1	50.0		
C50	Breast	21	21.2	15	71.4	2	9.5	4	19.0
C51	Vulva	2	2.0	2	100.0				
C53	Cervix uteri	1	1.0			1	100.0		
C54	Corpus uteri	6	6.1	2	33.3	3	50.0	1	16.7
C56	Ovary	9	9.1	3	33.3	4	44.4	2	22.2
C64	Kidney	3	3.0	1	33.3	1	33.3	1	33.3
C67	Bladder	3	3.0	2	66.7			1	33.3
C70-C72	CNS cancer	3	3.0					3	100.0
C76-C79	CUP	1	1.0					1	100.0
C82-C85	NHL	3	3.0	1	33.3			2	66.7
C91-C96	Leukaemia	1	1.0					1	100.0
All mul	t. primaries	99	100.0	36	36.4	26	26.3	37	37.4

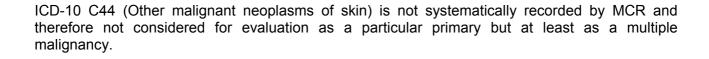


Table 16

Age-specific mortality (cancer-related) and proportion of all cancers for period 1998-2013

(Singular primaries only *)

Age at death Years	Males :	Females n	Males Age- spec. mortal	MI-index	Females Age- spec. mortal	MT-index	cancers	Females Prop.all cancers
10012				111 1110011	02 3012 .		v	,
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	0.07	0.0		1.0	
30-34		2	0.0		0.1	0.08		1.0
35-39		2	0.0		0.1	0.07		0.4
40-44	2	4	0.1	0.07	0.2	0.13	0.3	0.4
45-49	4	5	0.2	0.08	0.2	0.10	0.2	0.3
50-54	15	7	0.7		0.3		0.5	0.3
55-59	21 /	13	1.1	0.21	0.7		0.4	0.3
60-64	25	16	1.4	0.21	0.9		0.3	0.3
65-69	43	17	2.7	0.35	1.0	0.27	0.4	0.3
70-74	34	20	2.7	0.41	1.3		0.3	0.3
75-79	33	20	4.0	0.54	1.7		0.3	0.2
80-84	16	26	3.2	0.67	2.8		0.2	0.3
85+	13	25	3.8	1.00	2.8	0.63	0.2	0.2
		\						
All ages	207	157					0.3	0.3
74								
Mortality			0.7	0.20	0 5	0.00		
Raw				0.28	0.5			
WS			0.4		0.2 0.3			
ES DDD C			0.6	0.27 0.30	0.3			
BRD-S			0.7	0.30	0.4	0.20		
PYLL-70								
per 100,000			3.8		3.1			
ES ES			3.4		2.6			
AYLL-70			9.1		12.3			
			\ . <u>.</u>					

^{*} 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 *)

			Males		Females		Males	Females
Age at			Age-		Age-		Prop.all	Prop.all
death	Males	Females	/ - /		spec.		cancers	cancers
Years	n	n	mortal.	MI-index	mortal.	MI-index	%	%
			/ ./.					
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	0.07	0.0		1.1	
30-34		2	0.0		0.1			1.1
35-39		2	0.0		0.1	0.07		0.5
40-44	2	4	0.1		0.2		0.3	0.4
45-49	4	5	0.2	0.08	0.2	0.10	0.3	0.3
50-54	15	7	0.7	0.24	0.3	0.14	0.6	0.3
55-59	20	10	1.1	0.22	0.5	0.17	0.4	0.3
60-64	25	1,5	1.4	0.25	0.8	0.20	0.4	0.3
65-69	36	15	2.3	0.35	0.9	0.25	0.4	0.3
70-74	24	19	1.9	0.34	1.3	0.25	0.3	0.3
75-79	27	17	3.3	0.47	1.4	0.31	0.3	0.2
80-84	15	23	3.0	0.68	2.5	0.55	0.2	0.3
85+	8	23	2.3	0.67	2.6	0.59	0.1	0.2
All ages	177	142					0.3	0.3
Mortality								
Raw			0.6	0.27	0.5	0.22		
WS			0.3		0.2	0.15		
ES			0.5	0.26	0.3	0.17		
BRD-S			0.6	0.28	0.4	0.19		
PYLL-70								
per 100,000			3.6		2.9			
ES			3.3		2.4			
AYLL-70			9.5		12.7			
•								

^{*} See corresponding tables with multiple primaries.

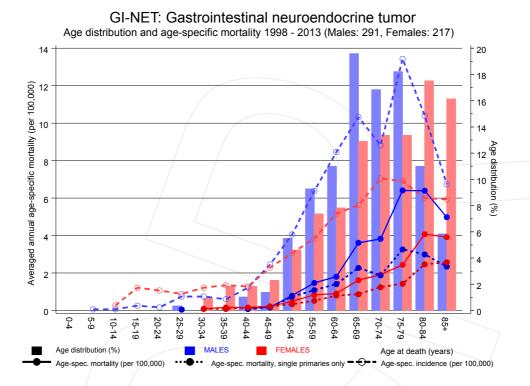


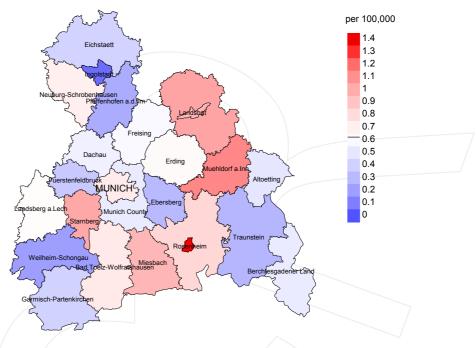
Figure 18. Distribution of age at death (bars) and age-specific mortality (all patients: solid line, patients with single primaries: dotted line). The age-specific incidence is additionally plotted for comparison (dashed line).

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



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



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

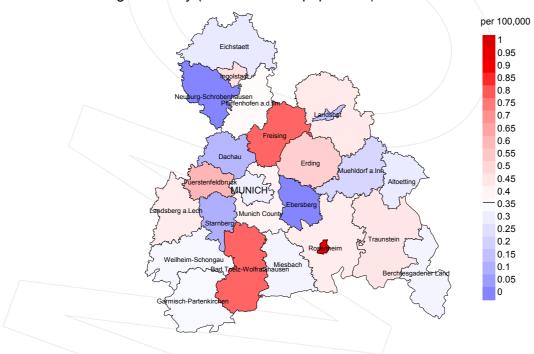
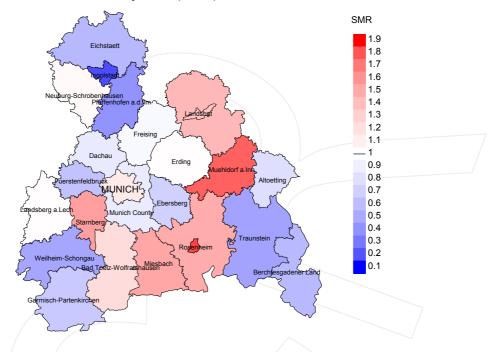


Figure 19a. Map of cancer mortality (world standard population) by county averaged for period 2007 to 2013. According to their individual mortality rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 0.6/100,000 WS N=199, females 0.4/100,000 WS N=140).

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 0 women died from gastroint. neuroend. tumor. Therefore, the mean mortality rate for this cancer type in this area can be calculated at 0.0/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 0.0 and 1.2/100,000.

Standardized mortality ratio (SMR) 2007 - 2013: Males



Standardized mortality ratio (SMR) 2007 - 2013: Females

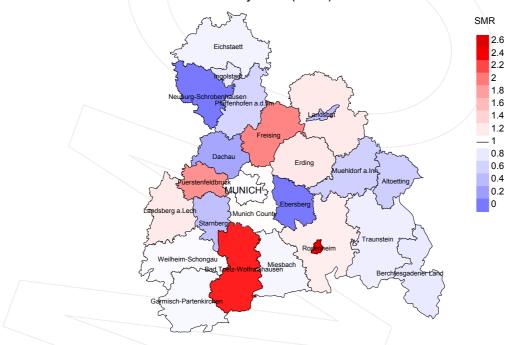


Figure 19b. Map of standardized mortality ratio (SMR, incl. DCO cases) by county averaged for period 2007 to 2013. According to their individual SMR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=199, females N=140).

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 0 women died from gastroint. neuroend. tumor. Therefore, the mean standardized mortality ratio (SMR) for this cancer type in this area can be calculated at 0.00. Though, the value of this parameter may vary with an underlying probability of 99% between 0.00 and 1.44, 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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