Munich Cancer Registry

- Survival
- Selection Matrix
- Homepage
- *Deutsch*

ICD-10 C25: Pancreas cancer

Incidence and Mortality

Year of diagnosis	1998-2014
Patients	11,685
Diseases	11,687
Creation date	04/13/2016
Export date	12/23/2015
Population	4.64 m

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

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

http://www.tumorregister-muenchen.de/en/facts/base/bC25__E-ICD-10-C25-Pancreas-cancer-incidence-and-mortality.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.

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

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

Munich Cancer Registry, April 2016

[#] 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).

[##] 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.

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

Code	Description
C25.-	Malignant neoplasm of pancreas
C25.0	Head of pancreas
C25.1	Body of pancreas
C25.2	Tail of pancreas
C25.3	Pancreatic duct
C25.4	Endocrine pancreas
C25.7	Other parts of pancreas
C25.8	Overlapping lesion of pancreas
C25.9	Pancreas, unspecified

INCIDENCE

Table 1

All patients with invasive cancer by year of diagnosis, proportions of DCO, multiple primaries, deaths, and active follow-up (incl. DCO)

Year of diagnosis	Cases n	DCO cases n	Prop. DCO %	Prop. mult. primaries %	Prop. deaths %	Prop. actively followed %	
1998	310	97	31.3	8.4	98.1	99.7	
1999	359	119	33.1	12.5	96.9	99.2	
2000	323	125	38.7	10.5	97.8	100.0	
2001	406	151	37.2	11.6	96.6	98.8	
2002	662	272	41.1	17.1	96.8	99.2	#
2003	612	211	34.5	17.3	96.6	99.5	
2004	664	215	32.4	15.7	95.8	99.2	
2005	716	205	28.6	19.8	95.4	99.3	
2006	734	201	27.4	18.0	95.4	99.6	
2007	819	224	27.4	17.5	94.4	97.7	#
2008	883	240	27.2	20.8	94.5	96.7	
2009	897	236	26.3	21.5	92.9	96.2	
2010	939	219	23.3	20.1	91.9	96.3	
2011	910	230	25.3	23.1	90.3	95.4	
2012	945	228	24.1	22.0	85.1	94.8	
2013	883	214	24.2	23.8	77.3	99.5	
2014	625	220	35.2	22.4	61.1	99.5	##
1998-2014	11687	3407	29.2	19.0	90.7	97.9	

The increases of incident cases in 2002 and 2007 reflect the expansion to additional registry areas.

Please be aware that data of recent annual patient cohorts may not yet be fully processed. The years under evaluation can be found in the respective headings.

Table 1a

All patients with invasive cancer
by year of diagnosis and gender
(incl. DCO)

Year of diagnosis	All n	Males n	Females n	Prop. males %
1998	310	139	171	44.8
1999	359	183	176	51.0
2000	323	153	170	47.4
2001	406	195	211	48.0
2002	662	310	352	46.8
2003	612	301	311	49.2
2004	664	297	367	44.7
2005	716	350	366	48.9
2006	734	371	363	50.5
2007	819	416	403	50.8
2008	883	415	468	47.0
2009	897	455	442	50.7
2010	939	447	492	47.6
2011	910	440	470	48.4
2012	945	483	462	51.1
2013	883	438	445	49.6
2014	625	300	325	48.0
1998-2014	11687	5693	5994	48.7

Table 2

Incidence measures by year of diagnosis 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	139	171	12.5	14.5	7.4	5.7	11.3	8.9	14.9	12.2
1999	183	176	16.4	14.8	9.6	5.5	14.7	8.7	20.1	12.2
2000	153	170	13.4	14.2	7.8	5.6	12.0	8.7	15.7	11.8
2001	195	211	16.8	17.3	9.7	7.1	14.7	10.9	19.1	14.5
2002	310	352	16.6	18.0	9.4	6.6	14.1	10.4	18.1	14.2
2003	301	311	16.1	15.8	8.8	6.3	13.3	9.7	17.3	12.7
2004	297	367	15.8	18.6	8.6	6.9	12.9	10.7	16.6	14.5
2005	350	366	18.5	18.4	9.6	7.1	14.5	10.9	19.1	14.4
2006	371	363	19.4	18.1	10.3	6.5	15.4	10.1	20.0	13.8
2007	416	403	18.8	17.5	9.8	6.5	14.8	10.0	19.1	13.2
2008	415	468	18.6	20.2	9.4	7.4	14.2	11.3	18.6	15.2
2009	455	442	20.4	19.0	10.1	6.8	15.3	10.5	19.9	14.1
2010	447	492	19.8	21.0	9.4	7.4	14.3	11.4	19.1	15.7
2011	440	470	19.3	19.9	9.0	7.0	13.6	10.9	17.9	14.7
2012	483	462	21.1	19.6	10.2	7.0	15.4	10.8	20.2	14.5
2013	438	445	19.2	18.9	9.0	6.5	13.8	10.2	18.3	13.9
2014	300	325	13.1	13.8	5.8	4.9	9.2	7.5	12.6	10.1
1998-2014	5693	5994	17.8	17.9	9.1	6.6	13.8	10.2	18.1	13.7

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 patients)
(incl. DCO)

Year of diagnosis	Cases n	Mean	Std. dev.	Min.	Max.	10%	25%	Median 50%	75%	90%
1998	310	71.8	12.5	28.2	98.1	55.2	62.9	73.4	80.4	86.5
1999	359	72.4	11.7	27.6	98.8	56.3	64.2	74.1	80.5	86.4
2000	323	71.1	13.0	21.7	98.5	54.0	61.8	73.1	80.4	86.9
2001	406	71.5	11.7	35.1	97.7	56.4	63.8	71.8	80.3	87.0
2002	662	72.2	11.8	35.3	98.6	56.1	63.7	73.2	80.9	87.3
2003	612	71.4	12.1	33.2	98.4	55.3	63.2	72.7	80.2	87.3
2004	664	72.3	11.4	38.5	100	57.4	64.6	72.5	81.3	86.6
2005	716	72.1	11.6	36.2	99.8	57.9	64.2	71.9	80.8	86.2
2006	734	72.4	11.9	12.3	97.7	57.8	64.8	73.7	81.5	86.3
2007	819	72.2	11.9	25.6	97.2	55.5	64.1	72.6	81.2	87.1
2008	883	72.7	12.2	22.9	98.5	56.3	65.5	73.3	81.9	87.1
2009	897	72.8	11.6	27.9	102	57.5	65.4	73.3	82.1	87.1
2010	939	73.1	11.4	15.4	98.6	57.6	66.4	74.0	81.8	86.7
2011	910	73.1	11.4	34.6	99.1	57.8	67.0	73.7	81.8	87.1
2012	945	72.5	11.8	0.0	101	57.2	66.0	73.5	80.8	86.5
2013	883	73.6	11.1	34.4	99.4	58.1	67.0	74.7	81.4	87.1
2014	625	74.5	11.3	29.9	99.2	59.9	67.7	75.3	82.9	88.1
1998-2014	11687	72.6	11.7	0.0	102	57.0	65.1	73.5	81.3	86.9

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	139	68.3	11.4	36.3	97.7	53.3	58.9	69.8	75.7	80.4
1999	183	69.1	11.7	27.6	93.0	53.9	61.3	69.3	78.0	84.1
2000	153	69.0	11.8	41.1	97.8	54.2	60.2	69.3	78.0	84.6
2001	195	68.7	11.7	35.1	94.0	55.0	61.3	68.5	78.1	84.6
2002	310	68.8	11.8	35.3	97.5	53.7	61.6	69.1	76.7	82.8
2003	301	69.4	11.3	33.2	98.0	55.1	63.0	69.3	77.0	82.9
2004	297	69.3	11.1	38.5	94.9	54.5	62.9	69.5	76.8	84.2
2005	350	69.7	10.8	36.2	98.5	56.3	62.4	69.1	78.2	83.7
2006	371	69.3	12.0	12.3	94.8	55.5	62.5	70.3	77.2	83.4
2007	416	69.5	11.7	25.6	95.5	53.3	62.1	69.8	77.9	85.1
2008	415	70.3	11.7	22.9	94.5	54.7	63.3	70.5	79.3	84.8
2009	455	70.5	11.1	29.0	102	55.6	63.4	70.9	78.5	85.1
2010	447	71.1	10.7	42.2	98.6	57.4	64.2	71.7	79.0	84.6
2011	440	71.3	11.0	38.8	96.2	56.2	64.8	72.4	78.7	84.5
2012	483	70.5	11.3	0.0	96.8	56.0	63.8	71.9	78.3	84.2
2013	438	71.8	10.6	34.4	98.1	57.8	64.8	72.8	78.5	85.2
2014	300	73.5	11.0	31.5	98.0	59.1	67.2	74.6	81.1	86.4
1998-2014	5693	70.2	11.3	0.0	102	55.3	63.1	70.9	78.3	84.4

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	171	74.6	12.7	28.2	98.1	57.0	66.1	77.6	84.2	87.2
1999	176	75.8	10.7	45.8	98.8	60.6	69.3	76.7	84.0	88.1
2000	170	73.1	13.8	21.7	98.5	53.8	65.5	76.7	81.5	87.5
2001	211	74.1	11.1	38.6	97.7	58.3	67.4	74.6	81.8	88.0
2002	352	75.2	11.0	38.1	98.6	61.0	68.2	76.7	82.4	88.2
2003	311	73.3	12.6	37.1	98.4	55.6	63.8	76.0	82.7	88.6
2004	367	74.8	11.0	38.8	100	60.1	67.1	75.9	83.3	88.0
2005	366	74.4	11.8	36.3	99.8	60.2	66.3	75.0	82.4	90.6
2006	363	75.5	11.1	32.2	97.7	60.4	68.5	76.9	84.5	87.9
2007	403	74.9	11.6	37.8	97.2	59.1	67.6	75.8	84.1	88.6
2008	468	74.8	12.2	23.8	98.5	58.7	67.7	76.0	84.4	88.0
2009	442	75.2	11.7	27.9	101	59.5	67.5	76.7	84.0	88.6
2010	492	74.8	11.8	15.4	97.6	59.5	69.3	76.2	83.7	87.3
2011	470	74.8	11.5	34.6	99.1	59.0	68.5	75.8	83.7	88.0
2012	462	74.6	11.9	19.5	101	58.9	68.8	75.5	83.3	88.4
2013	445	75.3	11.2	39.9	99.4	58.6	69.2	76.4	83.7	88.4
2014	325	75.4	11.5	29.9	99.2	60.6	68.2	75.9	84.3	89.3
1998-2014	5994	74.8	11.7	15.4	101	59.0	67.8	76.1	83.6	88.2

Table 4

Age distribution by 5-year age group and gender for period 2007-2014 (incl. DCO)

Age at diagnosis Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
0-4	1	0.0	0.0	1	0.0	0.0			0.0
5-9	0	0.0	0.0			0.0			0.0
10-14	0	0.0	0.0			0.0			0.0
15-19	3	0.0	0.1			0.0	3	0.1	0.1
20-24	3	0.0	0.1	1	0.0	0.1	2	0.1	0.1
25-29	9	0.1	0.2	5	0.1	0.2	4	0.1	0.3
30-34	10	0.1	0.4	6	0.2	0.4	4	0.1	0.4
35-39	21	0.3	0.7	9	0.3	0.6	12	0.3	0.7
40-44	63	0.9	1.6	32	0.9	1.6	31	0.9	1.6
45-49	155	2.2	3.8	100	2.9	4.5	55	1.6	3.2
50-54	256	3.7	7.5	145	4.3	8.8	111	3.2	6.3
55-59	395	5.7	13.3	237	7.0	15.8	158	4.5	10.8
60-64	642	9.3	22.6	395	11.6	27.4	247	7.0	17.9
65-69	937	13.6	36.2	529	15.6	43.0	408	11.6	29.5
70-74	1243	18.0	54.2	644	19.0	62.0	599	17.1	46.6
75-79	1118	16.2	70.4	572	16.9	78.8	546	15.6	62.2
80-84	965	14.0	84.4	380	11.2	90.0	585	16.7	78.8
85+	1080	15.6	100.0	338	10.0	100.0	742	21.2	100.0
All ages	6901	100.0		3394	100.0		3507	100.0	

Included in the statistics are 27.7% multiple primaries in males and 24.3% in females.

Table 5

Age-specific incidence, DCO rate and proportion of all cancers
for period 2007-2014

Age at diagnosis Years	Males n	Females n	Males Age-spec. incid.	Females Age-spec. incid.	Males DCO rate n=775 %	Females DCO rate n=1035 %	Males Prop.all cancers n=91183 %	Females Prop.all cancers n=89596 %
0- 4	1		0.1	0.0	100.0		0.6	
5- 9			0.0	0.0				
10-14			0.0	0.0				
15-19		3	0.0	0.3				1.8
20-24	1	2	0.1	0.2			0.3	0.6
25-29	5	4	0.4	0.3			0.9	0.6
30-34	6	4	0.5	0.3			0.8	0.3
35-39	9	12	0.7	1.0		16.7	0.8	0.6
40-44	32	31	2.0	2.0	6.3		1.8	0.8
45-49	100	55	6.3	3.6	5.0	1.8	3.1	1.0
50-54	145	111	11.2	8.7	14.5	5.4	3.0	1.6
55-59	237	158	22.3	14.1	11.0	6.3	3.2	2.1
60-64	394	246	40.1	23.2	9.9	8.9	3.7	2.7
65-69	529	408	55.0	39.1	12.3	10.3	3.4	3.6
70-74	644	599	70.8	57.3	14.9	13.0	3.8	5.1
75-79	572	546	103.9	76.5	27.3	22.9	4.6	5.4
80-84	380	585	108.8	104.3	41.6	43.8	4.4	6.7
85+	338	742	146.0	128.4	60.9	66.4	5.5	7.2
All ages	3393	3506			22.8	29.5	3.7	3.9
Incidence								
Raw			18.8	18.7				
WS			9.1	6.7				
ES			13.8	10.3				
BRD-S			18.2	13.9				

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).

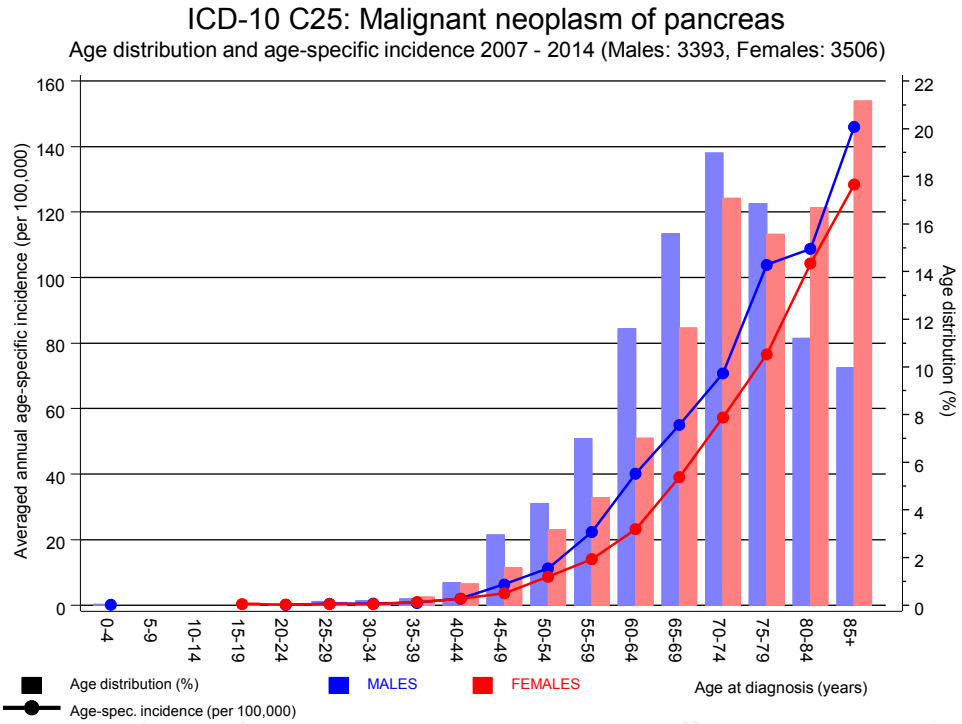


Figure 6. Age distribution and age-specific incidence

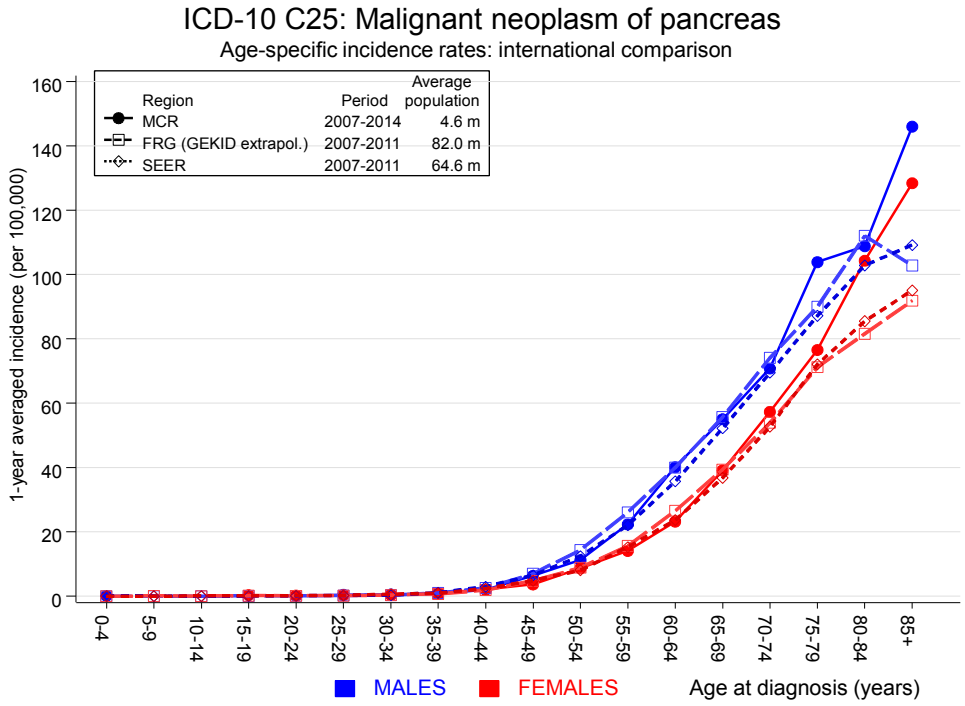


Figure 6a. Age-specific incidence in MCR registry areas compared to Germany (FRG, GEKID extrapolation) and SEER (Surveillance, Epidemiology, and End Results, USA).

Reference:

Extrapolated age-specific patient population of Germany, data status middle of 2010. Association of Population-based Cancer Registries in Germany (GEKID e.V.). Berlin, 2014. http://www.gekid.de. Last access: 02/11/2015

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.

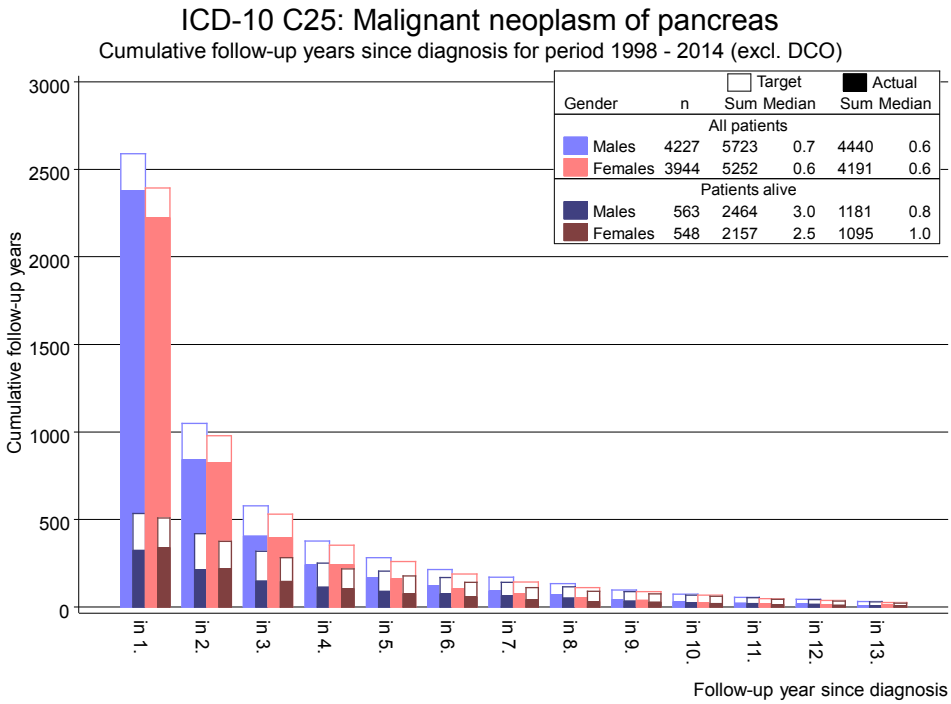


Figure 7. Cumulative follow-up years depending on time since diagnosis

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

Table 8a

Standardized incidence ratio (SIR, with 95% confidence limits), excess absolute risk (EAR) and DCO rate of second primaries for period 1998-2014
MALES

Diagnosis		Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C15	Oesophagus	2	1.4	1.4	0.2	5.2		1.3	
C16	Stomach	23	3.0	7.6	4.8	11.4	#	43.7	17.4
C17	Small intestine	8	0.4	20.5	8.9	40.5	#	16.6	
C18	Colon	21	7.3	2.9	1.8	4.4	#	29.9	19.0
C19-C20	Rectum	8	4.2	1.9	0.8	3.8		8.4	
C22	Liver	4	2.1	1.9	0.5	4.8		4.1	
C33-C34	Lung	30	9.0	3.3	2.2	4.7	#	45.8	30.0
C43	Malign. melanoma	3	3.3	0.9	0.2	2.7		-0.5	
C46,C49	Soft tissue	4	0.4	9.9	2.7	25.4	#	7.9	
C61	Prostate	39	22.5	1.7	1.2	2.4	#	36.2	41.0
C64	Kidney	10	2.7	3.7	1.8	6.9	#	16.0	
C65	Renal pelvis	2	0.3	6.2	0.8	22.5		3.7	
C67	Bladder	5	3.3	1.5	0.5	3.5		3.6	20.0
C70-C72	CNS cancer	3	1.0	3.0	0.6	8.7		4.4	33.3
C82-C85	NHL	5	3.0	1.7	0.5	3.9		4.4	
C91-C96	Leukaemia	2	1.2	1.6	0.2	5.9		1.7	
Other primaries		10	8.1	1.2	0.6	2.3		4.2	30.0
Not observed		0	3.6	0.0	0.0	1.0		-7.8	
All mult. primaries		179	76.7	2.3	2.0	2.7	#	223.6	21.2

Patients	4718
Median age at second malignancy (years)	72.9
Person-years	4574
Mean observation time (years)	1.0
Median observation time (years)	0.5

The occurrence of second malignancy is statistically significant.

Observed second primaries with count 1 are pooled in category “Other primaries”

Table 8b

Standardized incidence ratio (SIR, with 95% confidence limits), excess absolute risk (EAR) and DCO rate of second primaries for period 1998–2014
FEMALES

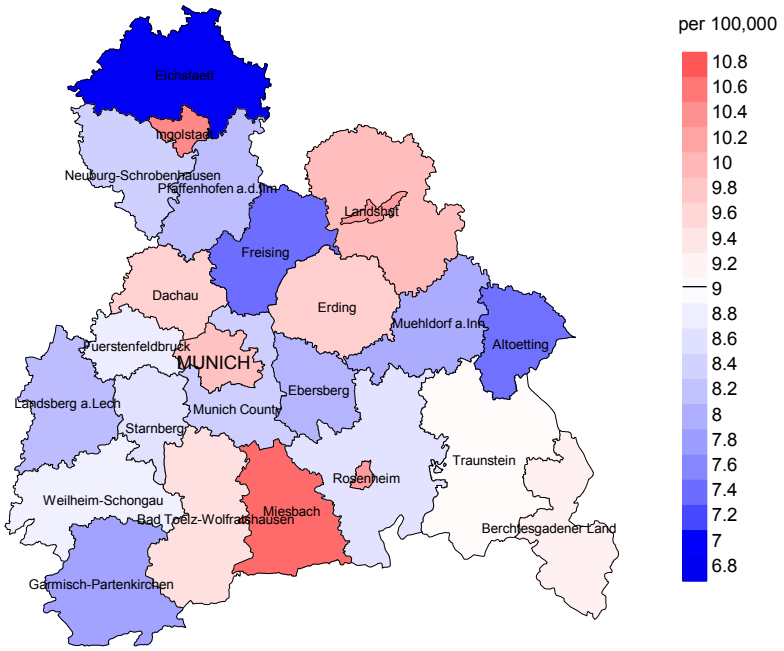
Diagnosis		Observed n	Expected n	SIR	LCL 95%	UCL 95%		EAR	DCO %
C15	Oesophagus	2	0.3	6.2	0.7	22.3		3.8	50.0
C16	Stomach	12	1.9	6.2	3.2	10.8	#	22.6	25.0
C17	Small intestine	7	0.3	27.5	11.1	56.7	#	15.2	
C18	Colon	15	5.4	2.8	1.6	4.6	#	21.6	33.3
C19–C20	Rectum	6	2.3	2.6	1.0	5.7		8.4	50.0
C23–C24	Bile	7	0.8	8.9	3.6	18.4	#	14.0	28.6
C33–C34	Lung	18	3.9	4.6	2.7	7.3	#	31.7	33.3
C50	Breast	31	15.7	2.0	1.3	2.8	#	34.4	32.3
C54	Corpus uteri	4	3.0	1.3	0.4	3.4		2.2	50.0
C56	Ovary	12	2.2	5.5	2.8	9.6	#	22.1	66.7
C64	Kidney	5	1.4	3.7	1.2	8.5	#	8.2	20.0
C76–C79	CUP	2	1.0	2.1	0.3	7.5		2.3	
C82–C85	NHL	4	2.1	1.9	0.5	4.9		4.3	50.0
C90	Mult. myeloma	2	0.7	3.0	0.4	10.9		3.0	50.0
C91–C96	Leukaemia	2	0.9	2.3	0.3	8.4		2.6	100.0
Other primaries		7	5.6	1.2	0.5	2.6		3.1	42.9
Not observed		0	6.1	0.0	0.0	0.6	#	-13.6	
All mult. primaries		136	53.4	2.5	2.1	3.0	#	185.8	36.0

Patients	4612
Median age at second malignancy (years)	75.3
Person-years	4448
Mean observation time (years)	1.0
Median observation time (years)	0.5

The occurrence of second malignancy is statistically significant.

Observed second primaries with count 1 are pooled in category “Other primaries”

Average incidence (world standard population) 2007 - 2014: Males



Average incidence (world standard population) 2007 - 2014: Females

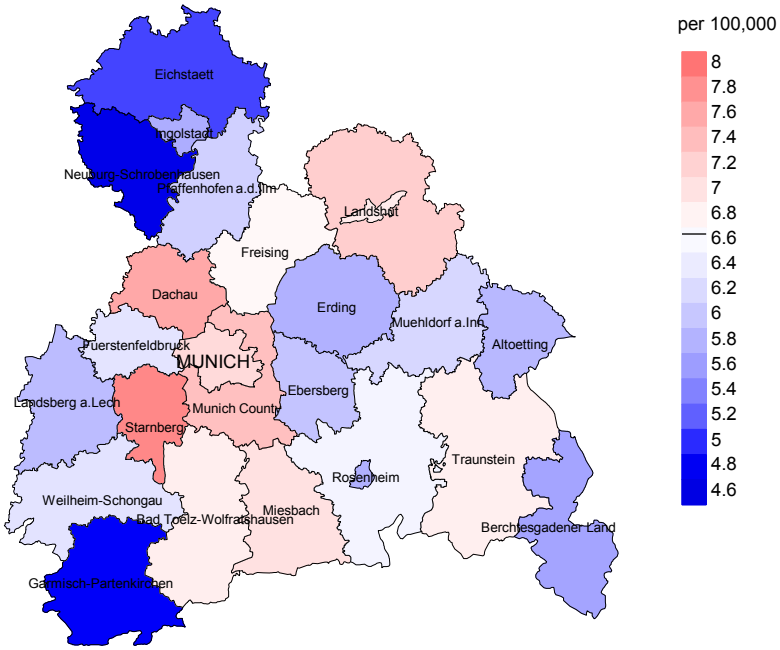
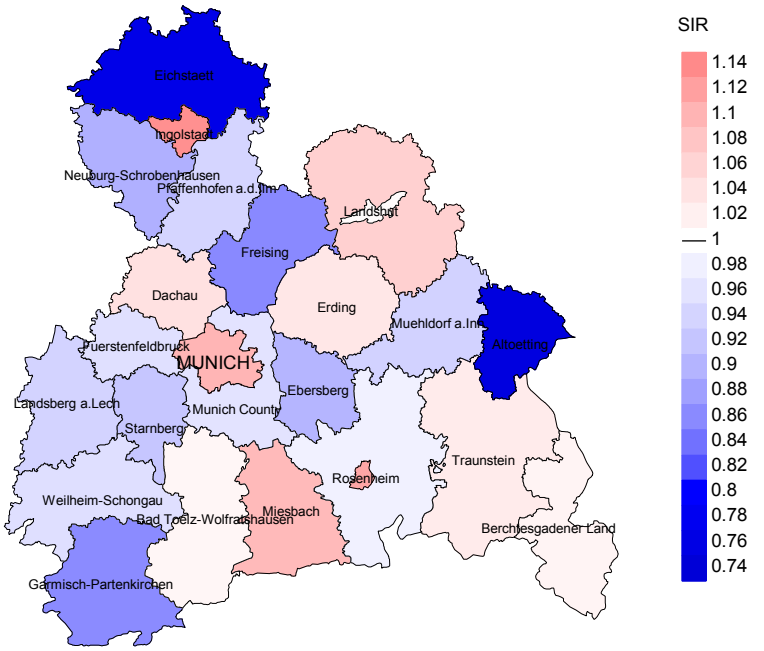


Figure 9a. Map of cancer incidence (world standard population, incl. DCO cases) by county averaged for period 2007 to 2014. According to their individual incidence rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 9.0/100,000 WS N=3,393, females 6.7/100,000 WS N=3,506).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 65,347 female residents (averaged) in the period from 2007 to 2014 a total of 86 women were identified with newly diagnosed pancreas cancer. Therefore, the mean incidence rate for this cancer type in this area can be calculated at 6.0/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 4.3 and 8.2/100,000.

Standardized incidence ratio (SIR) 2007 - 2014: Males



Standardized incidence ratio (SIR) 2007 - 2014: Females

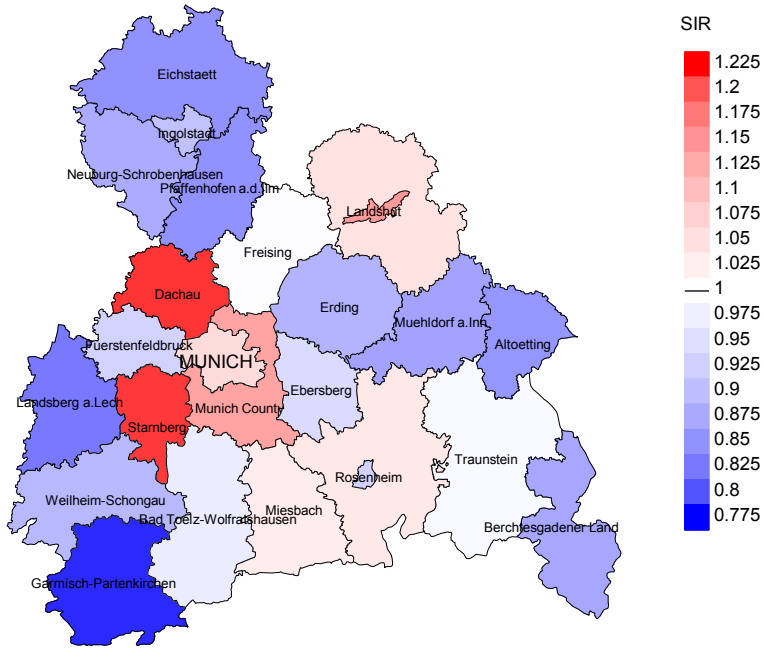


Figure 9b. Map of standardized incidence ratio (SIR, incl. DCO cases) by county averaged for period 2007 to 2014. According to their individual SIR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=3,393, females N=3,506).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 64,924 female residents (averaged) in the period from 2007 to 2014 a total of 86 women were identified with newly diagnosed pancreas cancer. Therefore, the mean standardized incidence ratio (SIR) 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 0.70 and 1.24, 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	310	99.7	31.3	304	98.1	95.1
1999	359	99.2	33.1	348	96.9	94.8
2000	323	100.0	38.7	316	97.8	97.2
2001	406	98.8	37.2	392	96.6	98.2
2002	662	99.2	41.1	641	96.8	98.1
2003	612	99.5	34.5	591	96.6	98.5
2004	664	99.2	32.4	636	95.8	98.3
2005	716	99.3	28.6	683	95.4	99.3
2006	734	99.6	27.4	700	95.4	98.9
2007	819	97.7	27.4	773	94.4	99.6
2008	883	96.7	27.2	834	94.5	99.3
2009	897	96.2	26.3	833	92.9	98.9
2010	939	96.3	23.3	863	91.9	99.1
2011	910	95.4	25.3	822	90.3	99.0
2012	945	94.8	24.1	804	85.1	99.0
2013	883	99.5	24.2	683	77.3	97.5
2014	625	99.5	35.2	382	61.1	95.5
1998-2014	11687	97.9	29.2	10605	90.7	98.4

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	310	315	96.5	176	56.8
1999	359	354	95.2	221	61.6
2000	323	336	97.0	192	59.4
2001	406	370	95.9	242	59.6
2002	662	494	98.6	390	58.9
2003	612	524	98.9	351	57.4
2004	664	524	98.1	368	55.4
2005	716	567	97.9	370	51.7
2006	734	642	99.2	410	55.9
2007	819	669	98.8	427	52.1
2008	883	708	99.6	474	53.7
2009	897	698	98.9	464	51.7
2010	939	775	99.4	486	51.8
2011	910	793	98.7	494	54.3
2012	945	772	99.0	485	51.3
2013	883	754	98.5	453	51.3
2014	625	587	98.8	343	54.9
1998-2014	11687	9882	98.5	6346	54.3

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	315	90.8	9.2	99.0
1999	354	90.7	9.3	98.8
2000	336	94.3	5.7	98.8
2001	370	95.1	4.9	99.7
2002	494	95.7	4.3	98.8
2003	524	97.3	2.7	99.8
2004	524	98.1	1.9	99.2
2005	567	97.2	2.8	99.6
2006	642	98.0	2.0	99.2
2007	669	97.5	2.5	99.4
2008	708	97.6	2.4	98.7
2009	698	97.0	3.0	98.8
2010	775	97.5	2.5	98.6
2011	793	96.7	3.3	99.2
2012	772	96.5	3.5	99.3
2013	754	95.0	5.0	98.3
2014	587	95.2	4.8	98.8
1998-2014	9882	96.3	3.7	99.0

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	145	69.8	69.8	73.0	69.8
1999	179	71.0	70.5	78.7	71.0
2000	162	70.2	69.5	80.7	70.2
2001	170	70.2	70.2	69.6	70.5
2002	231	69.5	69.3	76.5	69.5
2003	263	69.1	68.9	77.7	69.3
2004	254	70.3	70.3	73.7	70.3
2005	286	70.4	70.3	71.4	70.6
2006	312	71.1	71.2	66.8	71.1
2007	322	70.2	70.2	76.0	70.2
2008	362	71.4	71.4	70.2	71.4
2009	356	71.2	71.1	76.7	71.3
2010	380	72.3	72.2	76.4	72.4
2011	388	72.5	72.4	75.3	72.8
2012	386	72.9	72.8	77.6	73.1
2013	380	72.4	72.2	79.6	72.4
2014	289	74.0	73.9	78.9	74.1
1998-2014	4865	71.5	71.3	76.9	71.6

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	170	76.6	75.4	80.1	76.9
1999	175	79.2	79.1	80.3	79.6
2000	174	76.7	76.3	80.2	77.1
2001	200	75.5	75.2	83.7	75.9
2002	263	77.7	77.2	88.2	77.7
2003	261	77.1	76.9	85.6	77.2
2004	270	77.1	77.1	74.7	77.1
2005	281	75.8	75.6	84.3	75.9
2006	330	76.8	76.8	76.2	76.9
2007	347	75.8	75.7	78.2	75.8
2008	346	76.1	76.0	81.8	76.1
2009	342	76.8	76.6	86.4	76.8
2010	395	76.9	76.7	82.7	76.9
2011	405	76.6	76.6	77.7	76.7
2012	386	76.7	76.4	84.6	76.7
2013	374	76.1	75.9	86.0	76.1
2014	298	77.6	77.7	76.6	77.6
1998-2014	5017	76.8	76.6	81.7	76.8

By 2010, life expectancy at birth was 77.5 years for boys and 82.6 years for girls.

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	135	12.2	0.97	7.3	0.98	11.1	0.98	14.8	1.00
1999	161	14.4	0.88	8.4	0.87	13.0	0.88	17.7	0.88
2000	155	13.6	1.01	7.8	1.00	12.0	1.00	16.1	1.03
2001	162	14.0	0.83	7.9	0.81	12.4	0.84	16.4	0.86
2002	219	11.8	0.71	6.6	0.71	10.1	0.71	13.0	0.72
2003	258	13.8	0.86	7.5	0.85	11.3	0.85	14.6	0.84
2004	250	13.3	0.84	7.0	0.82	10.7	0.83	14.2	0.86
2005	277	14.6	0.79	7.5	0.78	11.4	0.79	15.5	0.81
2006	305	15.9	0.82	8.0	0.78	12.2	0.79	16.4	0.82
2007	312	14.1	0.75	7.2	0.73	10.9	0.74	14.2	0.75
2008	356	16.0	0.86	7.9	0.84	12.0	0.85	16.1	0.86
2009	343	15.4	0.75	7.7	0.76	11.6	0.76	15.0	0.75
2010	369	16.4	0.83	7.9	0.83	12.0	0.84	15.9	0.83
2011	371	16.2	0.84	7.5	0.84	11.5	0.84	15.3	0.85
2012	373	16.3	0.77	7.6	0.74	11.5	0.75	15.5	0.77
2013	358	15.7	0.82	7.4	0.83	11.4	0.83	14.8	0.81
2014	275	12.0	0.92	5.3	0.90	8.2	0.90	11.4	0.90
1998-2014	4679	14.6	0.82	7.4	0.81	11.2	0.82	14.9	0.82

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	151	12.8	0.88	5.2	0.90	8.0	0.90	10.8	0.89
1999	160	13.5	0.91	4.7	0.85	7.6	0.87	11.1	0.91
2000	162	13.5	0.95	5.2	0.93	8.2	0.95	11.0	0.94
2001	190	15.6	0.90	6.2	0.88	9.7	0.89	13.0	0.90
2002	254	13.0	0.72	4.7	0.71	7.4	0.71	10.2	0.72
2003	252	12.8	0.81	4.9	0.78	7.6	0.79	10.2	0.81
2004	264	13.4	0.72	4.8	0.69	7.5	0.70	10.3	0.71
2005	274	13.8	0.75	5.3	0.74	8.1	0.75	10.8	0.75
2006	324	16.1	0.89	5.7	0.88	9.0	0.89	12.4	0.90
2007	340	14.7	0.84	5.4	0.83	8.3	0.83	11.3	0.85
2008	335	14.4	0.72	5.2	0.70	8.1	0.72	10.8	0.71
2009	334	14.4	0.76	5.0	0.74	7.8	0.75	10.7	0.76
2010	387	16.5	0.79	5.8	0.78	9.0	0.79	12.4	0.79
2011	396	16.8	0.84	5.6	0.80	8.8	0.81	12.3	0.84
2012	372	15.8	0.81	5.4	0.77	8.5	0.79	11.5	0.80
2013	358	15.2	0.81	5.2	0.81	8.2	0.81	11.1	0.80
2014	284	12.0	0.87	3.7	0.76	6.0	0.80	8.6	0.86
1998-2014	4837	14.5	0.81	5.1	0.78	8.1	0.79	11.0	0.80

Table 13

Age distribution of age at death (cancer-related) for period 2007-2014
(**incl. multiple primaries**)

Age at death Years	Cases n	%	Cum.%	Males n	%	Cum.%	Females n	%	Cum.%
0-4	1	0.0	0.0	1	0.0	0.0			0.0
5-9	0	0.0	0.0			0.0			0.0
10-14	0	0.0	0.0			0.0			0.0
15-19	1	0.0	0.0	1	0.0	0.1			0.0
20-24	1	0.0	0.1	1	0.0	0.1			0.0
25-29	2	0.0	0.1	1	0.0	0.1	1	0.0	0.0
30-34	5	0.1	0.2	3	0.1	0.3	2	0.1	0.1
35-39	13	0.2	0.4	9	0.3	0.6	4	0.1	0.2
40-44	43	0.8	1.2	23	0.8	1.4	20	0.7	1.0
45-49	99	1.8	3.0	64	2.3	3.7	35	1.2	2.2
50-54	201	3.6	6.6	114	4.1	7.9	87	3.1	5.3
55-59	299	5.4	11.9	186	6.7	14.6	113	4.0	9.3
60-64	491	8.8	20.8	307	11.1	25.7	184	6.6	15.9
65-69	771	13.9	34.6	447	16.2	41.9	324	11.5	27.4
70-74	1038	18.6	53.3	551	20.0	61.9	487	17.3	44.8
75-79	945	17.0	70.2	466	16.9	78.8	479	17.1	61.8
80-84	809	14.5	84.8	325	11.8	90.6	484	17.2	79.1
85+	847	15.2	100.0	260	9.4	100.0	587	20.9	100.0
All ages	5566	100.0		2759	100.0		2807	100.0	

Included in the statistics are 27.7% multiple primaries in males and 24.3% in females.

Table 14

Age-specific mortality (cancer-related) and proportion of all cancers
for period 2007-2014
(**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		0.1	1.00	0.0		8.3	
5- 9			0.0		0.0			
10-14			0.0		0.0			
15-19	1		0.1	1.00	0.0		2.8	
20-24	1		0.1	1.00	0.0		2.1	
25-29	1	1	0.1	0.20	0.1	0.25	1.6	1.6
30-34	3	2	0.2	0.50	0.2	0.50	3.4	1.8
35-39	9	4	0.7	1.00	0.3	0.33	5.1	1.6
40-44	23	20	1.4	0.72	1.3	0.65	5.0	3.2
45-49	64	35	4.0	0.64	2.3	0.64	6.2	2.9
50-54	114	87	8.8	0.79	6.8	0.78	6.1	4.9
55-59	186	113	17.5	0.78	10.1	0.72	6.0	4.3
60-64	307	184	31.3	0.78	17.4	0.74	6.4	5.2
65-69	447	324	46.5	0.84	31.0	0.79	6.2	6.2
70-74	551	487	60.6	0.86	46.6	0.81	6.0	7.4
75-79	466	479	84.6	0.81	67.2	0.88	5.5	7.6
80-84	325	484	93.0	0.86	86.3	0.83	4.4	7.4
85+	260	587	112.3	0.77	101.6	0.79	4.3	6.8
All ages	2759	2807					5.5	6.4
Mortality								
Raw			15.3	0.81	15.0	0.80		
WS			7.3	0.80	5.2	0.77		
ES			11.1	0.81	8.1	0.79		
BRD-S			14.7	0.81	11.1	0.80		
PYLL-70								
per 100,000			65.1		42.4			
ES			57.1		35.5			
AYLL-70			9.0		8.7			

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

Table 15a

Multiple primaries in deaths in period 1998–2014
MALES

Diagnosis	Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C09–C10 Oropharynx	17	1.5	15	88.2			2	11.8
C16 Stomach	65	5.8	29	44.6	25	38.5	11	16.9
C17 Small intestine	12	1.1	4	33.3	7	58.3	1	8.3
C18 Colon	121	10.9	90	74.4	20	16.5	11	9.1
C19–C20 Rectum	53	4.8	38	71.7	12	22.6	3	5.7
C32 Larynx	18	1.6	14	77.8	2	11.1	2	11.1
C33–C34 Lung	66	5.9	30	45.5	19	28.8	17	25.8
C43 Malign. melanoma	64	5.8	60	93.8	2	3.1	2	3.1
C44 Skin others	68	6.1	54	79.4	5	7.4	9	13.2
C61 Prostate	327	29.4	281	85.9	16	4.9	30	9.2
C62 Testis	13	1.2	13	100.0				
C64 Kidney	37	3.3	30	81.1	6	16.2	1	2.7
C67 Bladder	87	7.8	75	86.2	5	5.7	7	8.0
C70–C72 CNS cancer	18	1.6	9	50.0	2	11.1	7	38.9
C82–C85 NHL	33	3.0	26	78.8	6	18.2	1	3.0
C90 Mult. myeloma	12	1.1	8	66.7	2	16.7	2	16.7
C91–C96 Leukaemia	13	1.2	7	53.8	3	23.1	3	23.1
Other primaries	89	8.0	54	60.7	21	23.6	14	15.7
All mult. primaries	1113	100.0	837	75.2	153	13.7	123	11.1

Multiple primaries with number of cases 1 to 10 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 1998–2014
FEMALES

Diagnosis		Total n	Total %↓	Pre n	Pre ←%	Syn-chron ±30d n	Syn-chron ±30d ←%	Post n	Post ←%
C16	Stomach	46	4.5	24	52.2	16	34.8	6	13.0
C18	Colon	110	10.8	82	74.5	18	16.4	10	9.1
C19–C20	Rectum	41	4.0	32	78.0	4	9.8	5	12.2
C23–C24	Bile	11	1.1	3	27.3	6	54.5	2	18.2
C33–C34	Lung	42	4.1	16	38.1	8	19.0	18	42.9
C43	Malign. melanoma	46	4.5	44	95.7	1	2.2	1	2.2
C44	Skin others	44	4.3	37	84.1	3	6.8	4	9.1
C50	Breast	335	32.9	303	90.4	14	4.2	18	5.4
C53	Cervix uteri	26	2.6	22	84.6	2	7.7	2	7.7
C54	Corpus uteri	65	6.4	62	95.4	2	3.1	1	1.5
C56	Ovary	47	4.6	24	51.1	7	14.9	16	34.0
C64	Kidney	34	3.3	28	82.4	5	14.7	1	2.9
C67	Bladder	33	3.2	31	93.9	1	3.0	1	3.0
C70–C72	CNS cancer	15	1.5	11	73.3	2	13.3	2	13.3
C82–C85	NHL	18	1.8	14	77.8	3	16.7	1	5.6
C91–C96	Leukaemia	11	1.1	6	54.5	3	27.3	2	18.2
Other primaries		93	9.1	67	72.0	16	17.2	10	10.8
All mult. primaries		1017	100.0	806	79.3	111	10.9	100	9.8

Multiple primaries with number of cases 1 to 9 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 2007-2014
(**First 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		0.1	1.00	0.0		10.0	
5- 9			0.0		0.0			
10-14			0.0		0.0			
15-19	1		0.1	1.00	0.0		3.0	
20-24	1		0.1	1.00	0.0		2.3	
25-29	1	1	0.1	0.20	0.1	0.25	1.8	1.7
30-34	3	2	0.2	0.50	0.2	0.50	3.5	2.1
35-39	9	3	0.7	1.00	0.2	0.33	5.5	1.3
40-44	21	18	1.3	0.75	1.2	0.72	5.0	3.2
45-49	59	29	3.7	0.63	1.9	0.60	6.4	2.8
50-54	108	82	8.3	0.82	6.4	0.79	6.8	5.5
55-59	169	105	15.9	0.81	9.3	0.76	6.5	4.9
60-64	267	161	27.2	0.79	15.2	0.77	6.8	5.7
65-69	372	264	38.7	0.86	25.3	0.80	6.6	6.4
70-74	424	387	46.6	0.86	37.0	0.81	6.1	7.6
75-79	356	381	64.6	0.86	53.4	0.89	5.7	7.8
80-84	236	380	67.6	0.86	67.8	0.81	4.4	7.5
85+	189	475	81.6	0.77	82.2	0.81	4.3	7.0
All ages	2217	2288					5.8	6.7
Mortality								
Raw			12.3	0.83	12.2	0.81		
WS			6.0	0.82	4.3	0.78		
ES			9.1	0.82	6.7	0.80		
BRD-S			11.8	0.83	9.1	0.80		
PYLL-70								
per 100,000			59.0		37.7			
ES			52.0		31.8			
AYLL-70			9.3		9.0			

* See corresponding tables with multiple primaries.

Table 17

Age-specific mortality (cancer-related) and proportion of all cancers
for period 2007-2014
(**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		0.1	1.00	0.0		10.0	
5- 9			0.0		0.0			
10-14			0.0		0.0			
15-19	1		0.1	1.00	0.0		3.0	
20-24	1		0.1	1.00	0.0		2.6	
25-29	1	1	0.1	0.20	0.1	0.25	2.0	1.8
30-34	3	2	0.2	0.50	0.2	0.50	3.5	2.4
35-39	9	2	0.7	1.00	0.2	0.25	5.7	1.0
40-44	21	17	1.3	0.75	1.1	0.68	5.3	3.3
45-49	59	28	3.7	0.63	1.8	0.60	6.9	3.1
50-54	105	82	8.1	0.83	6.4	0.80	7.3	6.2
55-59	166	105	15.6	0.81	9.3	0.77	7.1	5.6
60-64	263	158	26.8	0.79	14.9	0.77	7.7	6.5
65-69	361	259	37.5	0.86	24.8	0.80	7.6	7.6
70-74	415	376	45.6	0.85	36.0	0.82	7.3	9.1
75-79	348	374	63.2	0.86	52.4	0.88	7.2	9.4
80-84	223	374	63.8	0.84	66.7	0.80	5.5	9.1
85+	183	467	79.0	0.76	80.8	0.80	5.4	8.3
All ages	2160	2245					6.8	7.8
Mortality								
Raw			12.0	0.82	12.0	0.80		
WS			5.9	0.81	4.2	0.78		
ES			8.9	0.82	6.6	0.79		
BRD-S			11.5	0.82	8.9	0.80		
PYLL-70								
per 100,000			58.1		37.0			
ES			51.1		31.2			
AYLL-70			9.4		9.0			

* See corresponding tables with multiple primaries.

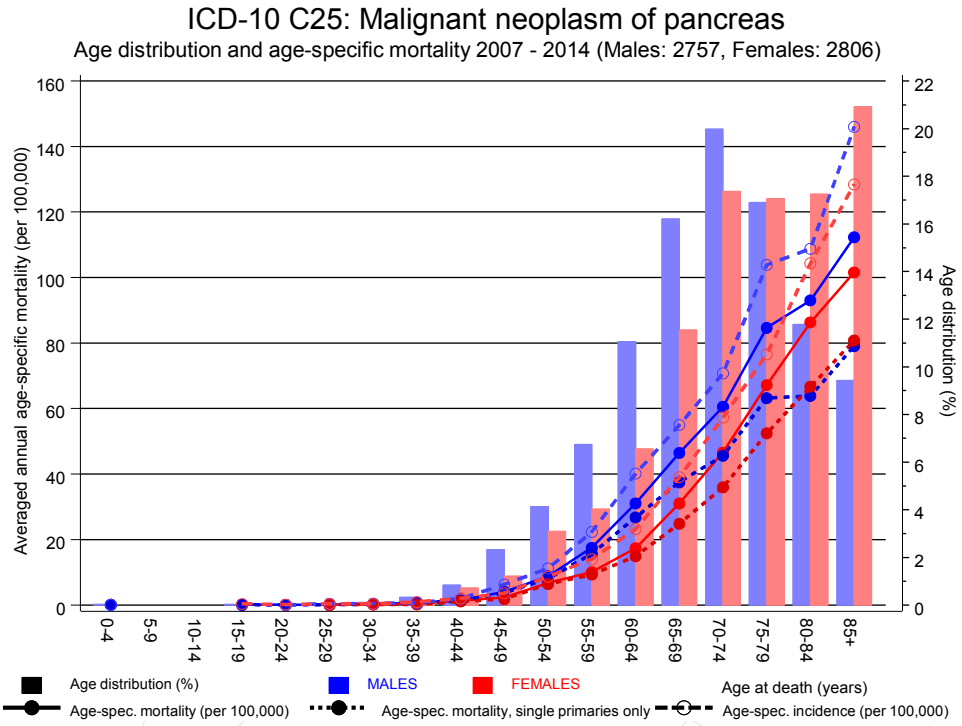
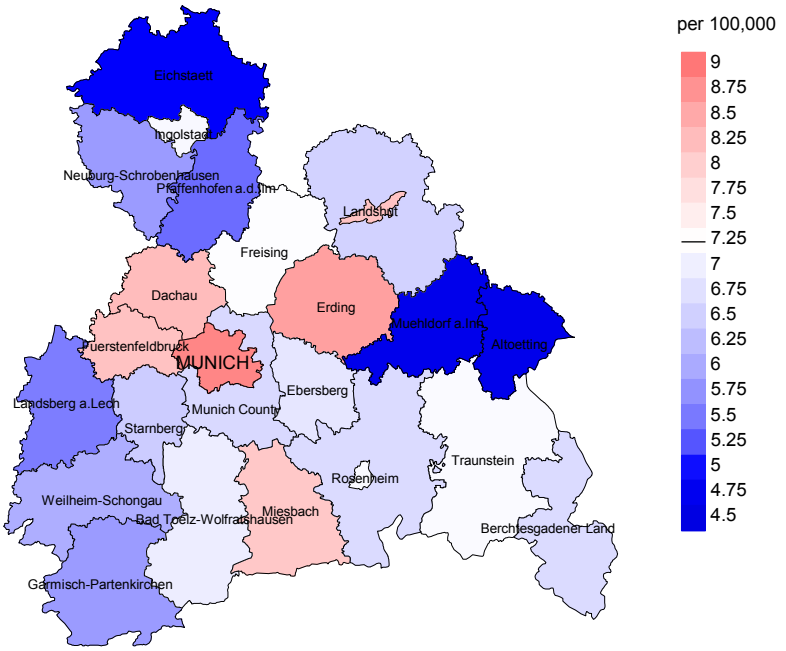


Figure 18. Distribution of age at death (bars) and age-specific mortality (all patients: solid line, patients with single primaries: dotted line). The age-specific incidence is additionally plotted for comparison (dashed line).

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

Average mortality (world standard population) 2007 - 2014: Males



Average mortality (world standard population) 2007 - 2014: Females

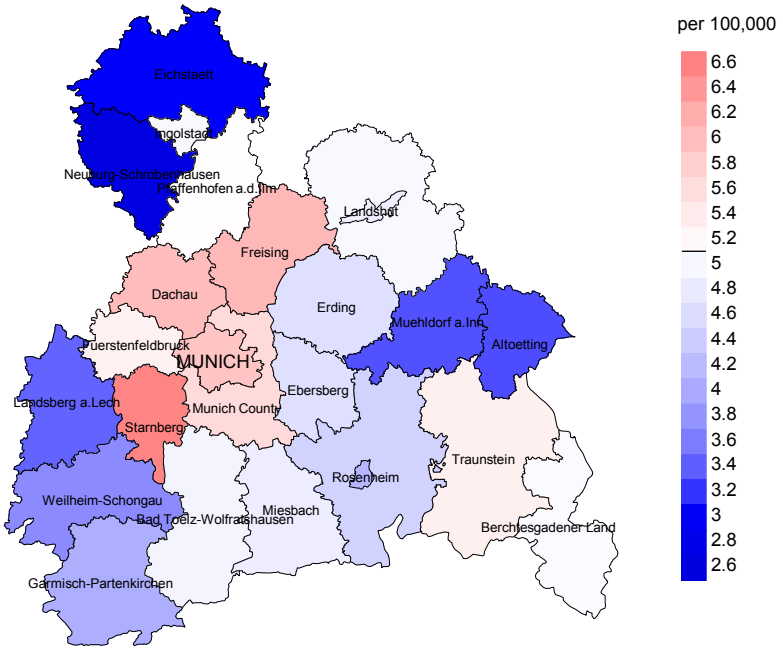
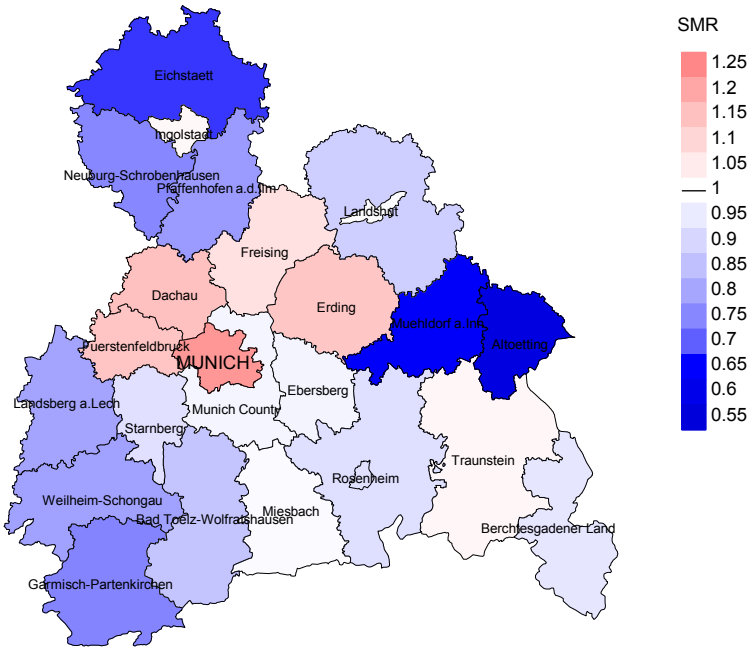


Figure 19a. Map of cancer mortality (world standard population) by county averaged for period 2007 to 2014. According to their individual mortality rates, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population mean (males 7.2/100,000 WS N=2,750, females 5.1/100,000 WS N=2,792).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 65,347 female residents (averaged) in the period from 2007 to 2014 a total of 73 women died from pancreas cancer. Therefore, the mean mortality rate for this cancer type in this area can be calculated at 4.7/100,000 (world standard population). Though, the value of this parameter may vary with an underlying probability of 99% between 3.2 and 6.6/100,000.

Standardized mortality ratio (SMR) 2007 - 2014: Males



Standardized mortality ratio (SMR) 2007 - 2014: Females

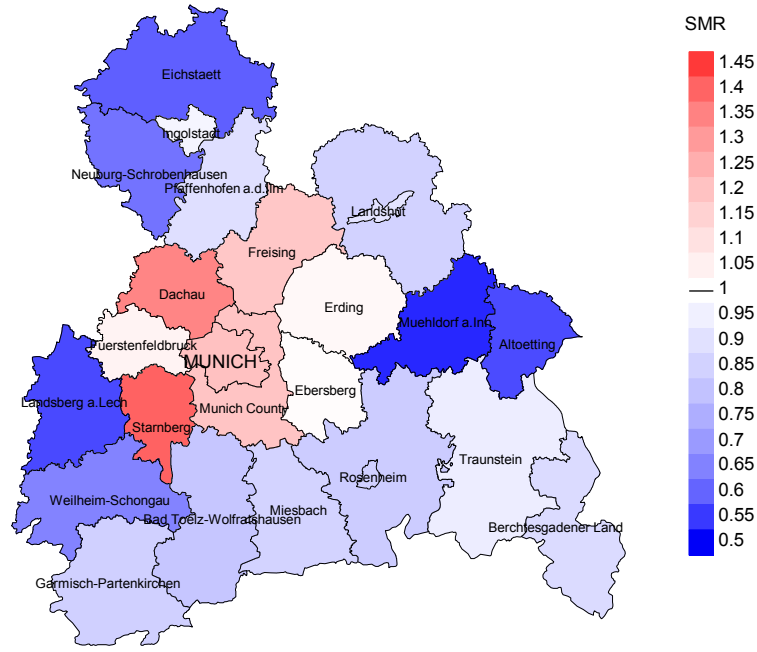


Figure 19b. Map of standardized mortality ratio (SMR, incl. DCO cases) by county averaged for period 2007 to 2014. According to their individual SMR values, the counties are displayed in different red and blue color temperatures where the fine white color indicates the population overall of 1.0 (males N=2,750, females N=2,792).

The results should be interpreted with caution! E.g., in county Ebersberg with a population of 64,924 female residents (averaged) in the period from 2007 to 2014 a total of 73 women died from pancreas cancer. Therefore, the mean standardized mortality ratio (SMR) for this cancer type in this area can be calculated at 1.00. Though, the value of this parameter may vary with an underlying probability of 99% between 0.73 and 1.35, 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, where applicable. For mortality statistics patients, diagnoses and progressive course of disease are presented. In the calculations, all courses of disease are considered whereby progressions occurred and/or death certificate identified progressive cancers were ascertained. Additionally there are three groups of disease course to consider:

1. **All multiple primaries included**

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

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

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

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

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

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

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

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

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

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

Shortcuts

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

Recommended Citation

Munich Cancer Registry. ICD-10 C25: Pancreas cancer - Incidence and Mortality [Internet]. 2016 [updated 2016 Apr 13; cited 2016 Jun 1]. Available from: http://www.tumorregister-muenchen.de/en/facts/base/bC25__E-ICD-10-C25-Pancreas-cancer-incidence-and-mortality.pdf

Copyright

Disclaimer

Index of figures and tables