

Munich Cancer Registry



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ICD-10 C18-C21: Colorectal cancer

Survival

Year of diagnosis	1988-1997	1998-2019
Patients	10,371	59,972
Diseases	10,544	61,725
Cases evaluated	9,273	46,664
Creation date	01/27/2021	
Database export	01/07/2021	
Population	4.92 m	



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<https://www.tumorregister-muenchen.de/en>

<https://www.tumorregister-muenchen.de/en/facts/surv/sC1821E-ICD-10-C18-C21-Colorectal-cancer-survival.pdf>

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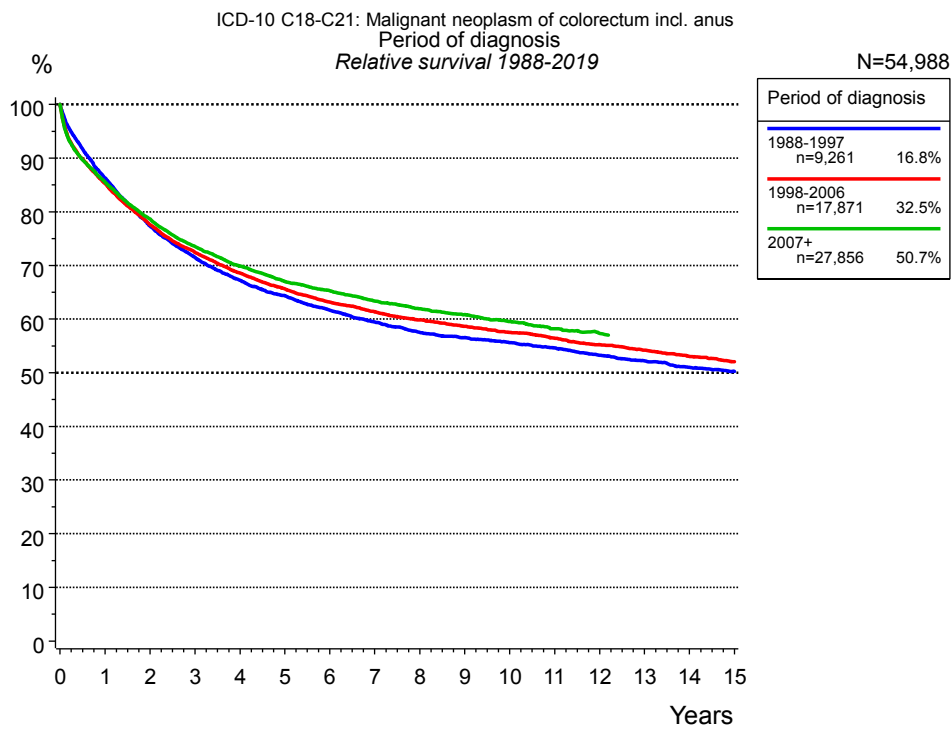


Figure 1a. Relative survival of patients with colorectal cancer by period of diagnosis. Included in the evaluation are 54,988 cases diagnosed between 1988 and 2019.

The presented survival curves are derived from clinical records with valid follow-up informations, which means that death certificate cases (DCO) cases are omitted from the analysis. With this one restriction, the MCR has provided population-based statistics since 1998, collecting data on all cancer cases in the region of southern Bavaria. Historical data of previous time periods can be heavily selected, therefore, univariate survival comparisons of the presented time periods must be carefully considered. Nonetheless, all calculable survival curves are depicted to facilitate the comparison of long time follow-up analyses of relative survival between particular cancers.

Years	Period of diagnosis					
	1988-1997 n=9,261		1998-2006 n=17,871		2007+ n=27,856	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	83.2	86.3	82.2	85.3	82.6	85.6
2	72.0	77.3	72.3	77.6	73.6	78.6
3	64.4	71.5	65.3	72.4	66.7	73.5
4	58.5	67.2	59.9	68.6	61.4	69.9
5	54.1	64.4	55.4	65.6	57.0	67.0
6	50.1	61.6	51.6	63.2	53.7	65.3
7	46.6	59.4	48.5	61.4	50.4	63.3
8	43.6	57.5	45.7	59.9	47.7	61.9
9	41.3	56.6	43.3	58.7	45.2	60.8
10	39.3	55.6	41.0	57.5	42.7	59.5
11	37.2	54.6	38.8	56.4	40.3	58.2
12	35.0	53.3	36.6	55.2	38.3	57.3
13	33.1	52.2	34.6	54.2		
14	31.2	51.0	32.6	53.0		
15	29.6	50.2	30.7	52.1		
Median	6.0		6.5		7.1	

Table 1b. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by period of diagnosis for period 1988-2019 (N=54,988).

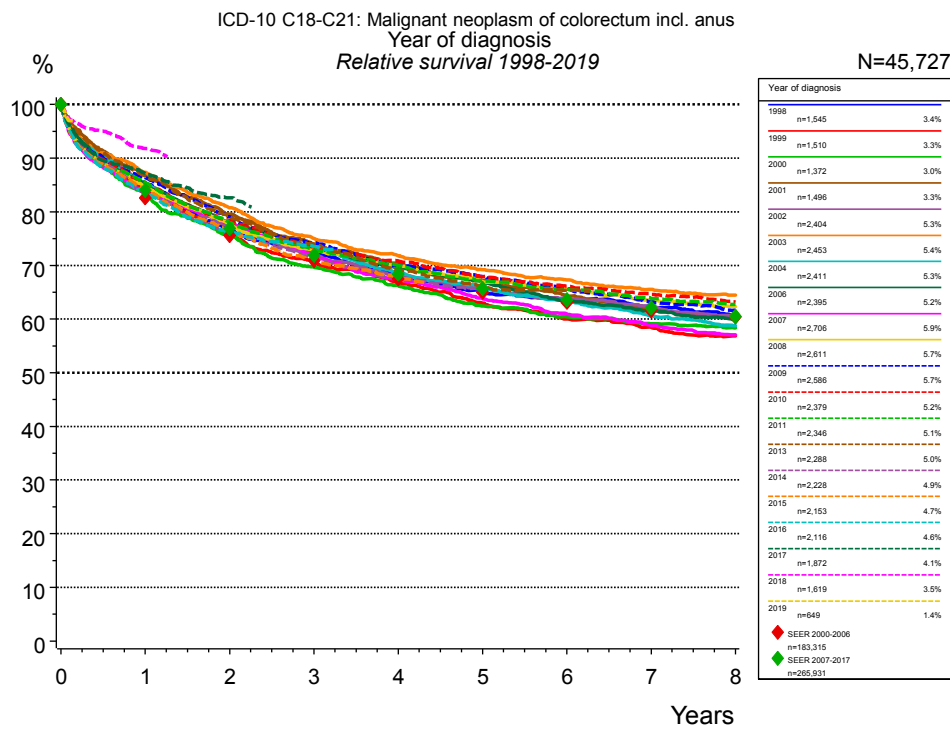


Figure 1c. Relative survival of patients with colorectal cancer by year of diagnosis. Included in the evaluation are 45,727 cases diagnosed between 1998 and 2019.

The survival results of the SEER program (Surveillance, Epidemiology, and End Results) of the American National Cancer Institute (NCI) are summarized as the period of diagnosis from 2000 to 2017, and are represented by colored diamonds in order to facilitate comparisons between MCR and SEER.

Years	Year of diagnosis													
	1998		1999		2000		2001		2002		2003		2004	
	n=1,545		n=1,510		n=1,372		n=1,496		n=2,404		n=2,453		n=2,411	
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	81.9	85.2	80.9	84.2	80.1	83.4	83.6	86.8	82.1	85.3	84.3	87.3	82.1	85.1
2	70.9	76.5	70.3	75.7	70.3	75.6	74.1	79.6	71.8	77.2	75.5	80.8	72.3	77.5
3	64.7	72.2	63.1	70.4	62.6	69.7	66.7	73.9	64.7	71.9	67.9	75.0	65.8	73.0
4	59.0	68.0	57.8	66.8	57.6	66.3	61.5	70.4	59.4	68.3	62.9	71.8	59.9	68.6
5	54.7	65.2	52.6	63.0	52.6	62.4	56.9	67.2	55.3	65.7	58.6	69.2	55.7	66.0
6	51.4	63.5	48.4	60.0	49.3	60.4	52.9	64.4	51.9	63.8	55.1	67.3	51.9	63.6
7	48.7	62.2	45.7	58.5	46.6	59.1	49.3	62.0	49.0	62.3	51.9	65.5	47.8	60.5
8	46.0	60.7	42.9	56.8	44.6	58.3	46.6	60.4	46.1	60.7	49.4	64.5	44.8	58.8
Median	6.7		5.7		5.7		6.7		6.6		7.6		6.4	

Years	Year of diagnosis													
	2006		2007		2008		2009		2010		2011		2013	
	n=2,395		n=2,706		n=2,611		n=2,586		n=2,379		n=2,346		n=2,288	
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	82.5	85.3	80.6	83.4	81.8	84.9	83.3	86.4	82.4	85.5	82.4	85.5	83.7	86.7
2	73.0	77.8	72.9	77.9	72.5	77.7	73.9	79.1	73.1	78.3	72.8	77.9	74.3	79.2
3	66.8	73.5	64.9	71.7	65.8	72.9	67.1	74.1	66.3	73.4	66.0	73.0	67.3	74.0
4	61.3	69.6	59.1	67.5	61.1	69.9	61.3	70.0	61.8	70.8	61.3	70.0	61.0	69.1
5	57.2	66.9	54.0	63.8	56.7	67.0	57.6	67.9	57.4	67.9	56.9	67.2	56.6	66.1
6	52.4	63.4	49.8	60.9	53.7	65.6	53.9	65.7	54.0	66.1	53.9	65.6	54.3	65.4
7	49.3	61.6	46.5	58.8	50.4	63.6	50.1	63.2	50.9	64.6	50.6	63.8		
8	46.3	59.9	43.7	57.1	47.7	62.3	47.3	61.7	48.1	63.2	48.2	62.7		
Median	6.8		6.0		7.1		7.0		7.4		7.3			

<i>cont'd</i>	Year of diagnosis											
	2014 n=2,228		2015 n=2,153		2016 n=2,116		2017 n=1,872		2018 n=1,619		2019 n=649	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	81.2	84.0	81.3	84.2	80.8	83.7	84.3	87.1	89.2	91.8		
2	71.7	76.6	71.8	76.6	71.4	76.2	77.8	82.6				
3	64.7	71.3	64.4	70.9	66.8	73.6						
4	59.7	67.8	59.6	67.7								
5	56.2	65.6										
Median												

Table 1d. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by year of diagnosis for period 1998-2019 (N=45,727).

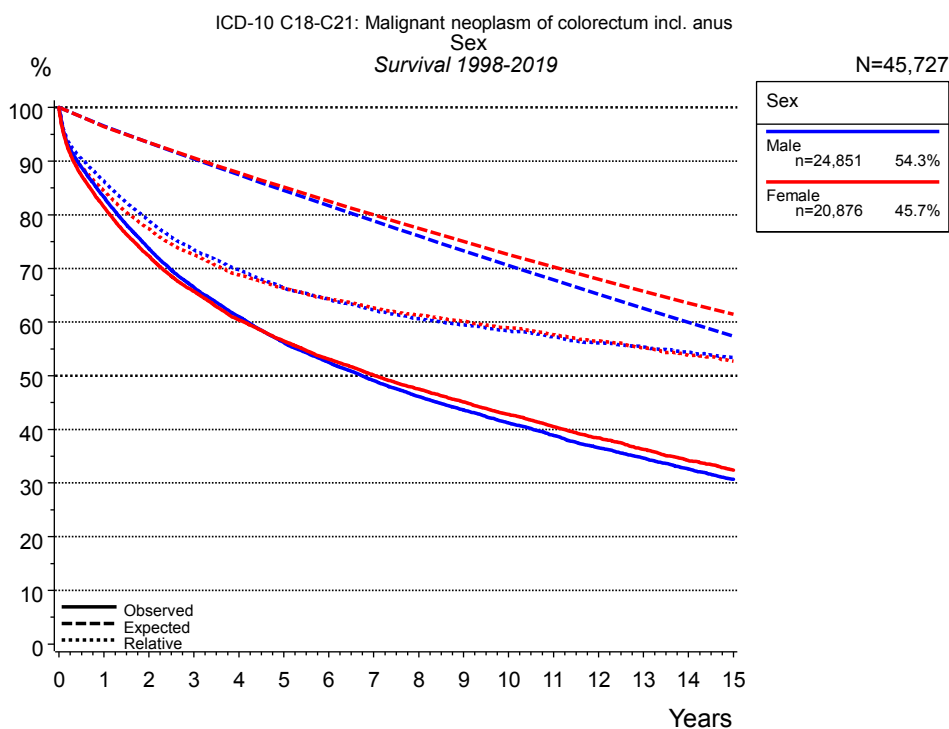


Figure 2a. Survival of patients with colorectal cancer by sex. Included in the evaluation are 45,727 cases diagnosed between 1998 and 2019.

Years	Sex			
	Male n=24,851		Female n=20,876	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	83.3	86.3	81.4	84.5
2	73.7	78.9	72.3	77.4
3	66.5	73.5	65.7	72.6
4	61.0	69.8	60.4	68.8
5	56.2	66.5	56.5	66.3
6	52.5	64.3	53.1	64.4
7	49.1	62.3	50.1	62.6
8	46.1	60.6	47.5	61.4
9	43.6	59.5	45.1	60.1
10	41.2	58.4	42.8	58.9
11	38.9	57.3	40.5	57.6
12	36.6	56.1	38.4	56.5
13	34.7	55.4	36.3	55.2
14	32.6	54.4	34.2	53.8
15	30.7	53.4	32.4	52.7
Median	6.7		7.0	

Table 2b. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by sex for period 1998-2019 (N=45,727).

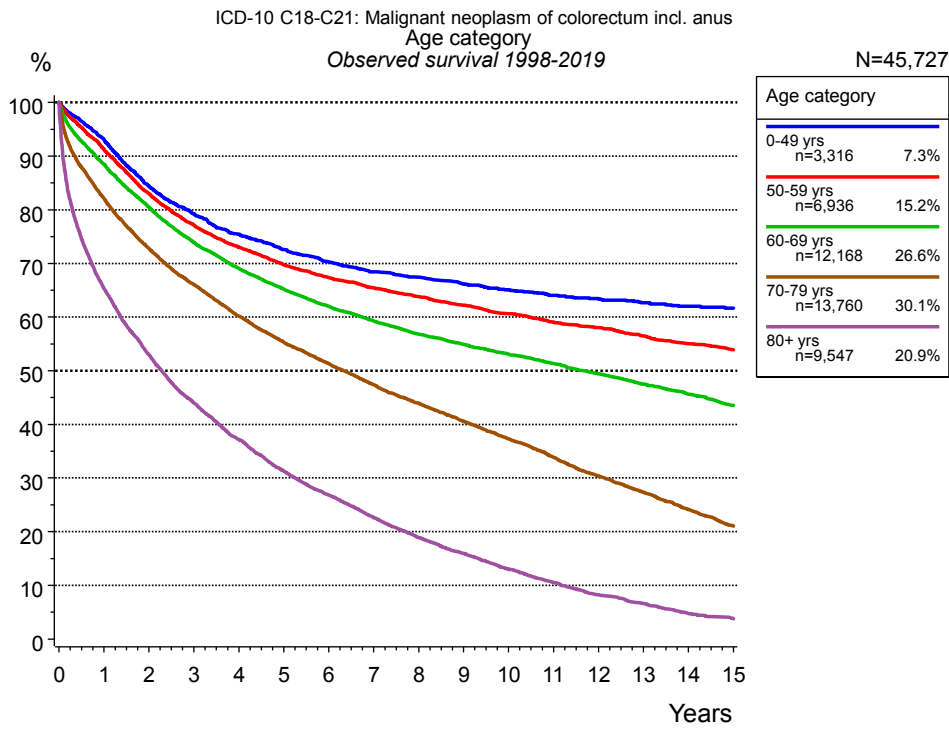


Figure 3a. Observed survival of patients with colorectal cancer by age category. Included in the evaluation are 45,727 cases diagnosed between 1998 and 2019.

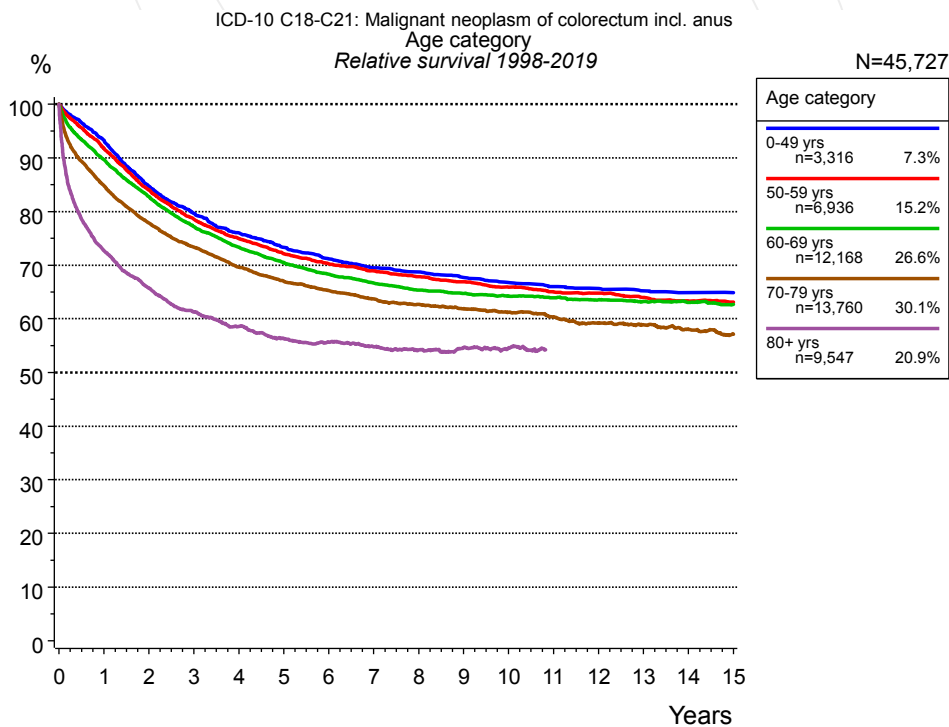


Figure 3b. Relative survival of patients with colorectal cancer by age category. Included in the evaluation are 45,727 cases diagnosed between 1998 and 2019.

Years	Age category									
	0-49 yrs n=3,316		50-59 yrs n=6,936		60-69 yrs n=12,168		70-79 yrs n=13,760		80+ yrs n=9,547	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	93.1	93.2	91.2	91.8	88.5	89.7	82.1	84.8	65.3	72.7
2	84.4	84.7	83.0	84.0	80.5	82.8	72.8	77.9	53.0	65.8
3	79.2	79.7	77.1	78.6	73.9	77.2	66.1	73.3	44.0	61.3
4	75.4	76.0	73.0	74.9	69.1	73.3	60.2	69.6	37.2	58.6
5	72.6	73.3	69.7	72.1	65.2	70.5	55.3	67.0	31.3	56.4
6	70.3	71.2	67.3	70.2	62.0	68.3	51.3	65.3	26.8	55.7
7	68.4	69.5	65.4	68.9	59.3	66.7	47.4	63.7	22.6	54.7
8	67.4	68.7	63.8	67.8	56.8	65.3	43.9	62.7	19.0	54.2
9	66.2	67.7	62.2	66.9	54.9	64.7	40.6	61.9	15.9	54.6
10	65.0	66.8	60.6	65.9	53.1	64.3	37.3	61.2	13.1	54.6
11	64.0	66.0	59.1	65.0	51.3	63.9	33.8	60.3	10.5	54.7
12	63.5	65.7	58.0	64.7	49.4	63.5	30.4	59.2	8.3	54.3
13	62.7	65.2	56.5	64.0	47.5	63.2	27.4	58.9	6.6	55.9
14	62.0	64.9	55.0	63.3	45.6	63.0	24.1	58.0	4.7	53.2
15	61.7	64.9	53.9	63.1	43.5	62.7	21.0	57.1	3.8	57.9
Median			18.6		11.6		6.3		2.3	

Table 3c. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by age category for period 1998-2019 (N=45,727).

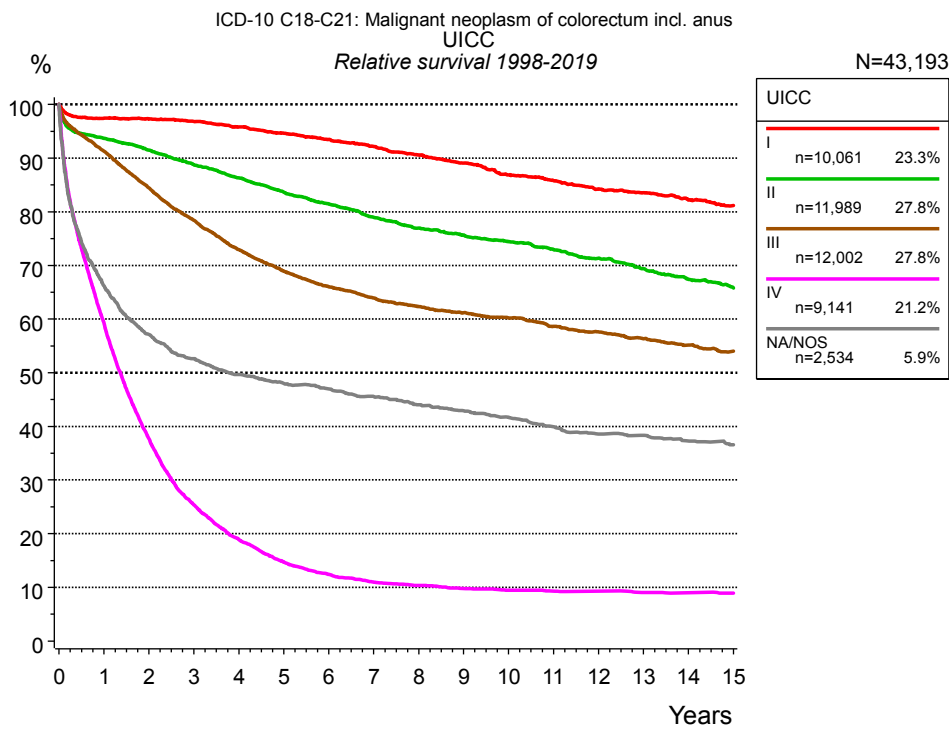


Figure 4a. Relative survival of patients with colorectal cancer by UICC. For 43,466 of 45,727 cases diagnosed between 1998 and 2019 valid data could be obtained for this item. For a total of 43,193 cases an evaluable classification was established. The grey line represents the subgroup of 2,534 patients with missing values regarding UICC (5.5 % of 45,727 patients, the percent values of all other categories are related to n=43,193).

Years	UICC									
	I n=10,061		II n=11,989		III n=12,002		IV n=9,141		NA/NOS n=2,534	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	94.4	97.4	90.0	93.7	88.4	91.3	57.3	59.2	62.5	66.2
2	91.5	97.3	84.6	91.5	79.3	84.5	35.6	37.7	51.7	57.1
3	88.2	96.8	79.1	88.8	71.5	78.4	23.4	25.3	46.0	52.6
4	84.5	95.8	74.1	86.3	64.5	72.9	17.1	18.9	42.2	49.6
5	80.8	94.7	69.2	83.7	59.2	68.9	13.0	14.7	39.6	48.0
6	77.2	93.5	64.9	81.4	55.1	66.0	10.7	12.4	37.7	46.9
7	73.6	92.2	60.5	78.9	51.7	63.9	9.2	10.9	35.7	45.6
8	69.9	90.6	56.8	77.0	48.9	62.3	8.5	10.3	33.6	44.0
9	66.3	89.0	53.7	75.6	46.5	61.2	7.9	9.8	31.9	42.9
10	62.3	86.9	50.8	74.4	44.3	60.2	7.4	9.5	30.2	41.7
11	59.3	85.8	47.9	72.9	41.7	58.6	7.1	9.3	28.1	40.0
12	56.1	84.3	44.9	71.3	39.7	57.6	6.9	9.3	26.3	38.6
13	53.5	83.5	42.0	69.4	37.5	56.4	6.5	9.1	25.5	38.3
14	50.7	82.2	39.1	67.3	35.4	55.2	6.3	9.0	24.2	37.3
15	48.0	81.2	36.6	65.8	33.5	54.0	6.1	8.9	23.0	36.5
Median	14.3		10.3		7.5		1.3		2.2	

Table 4b. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by UICC for period 1998-2019 (N=43,193).

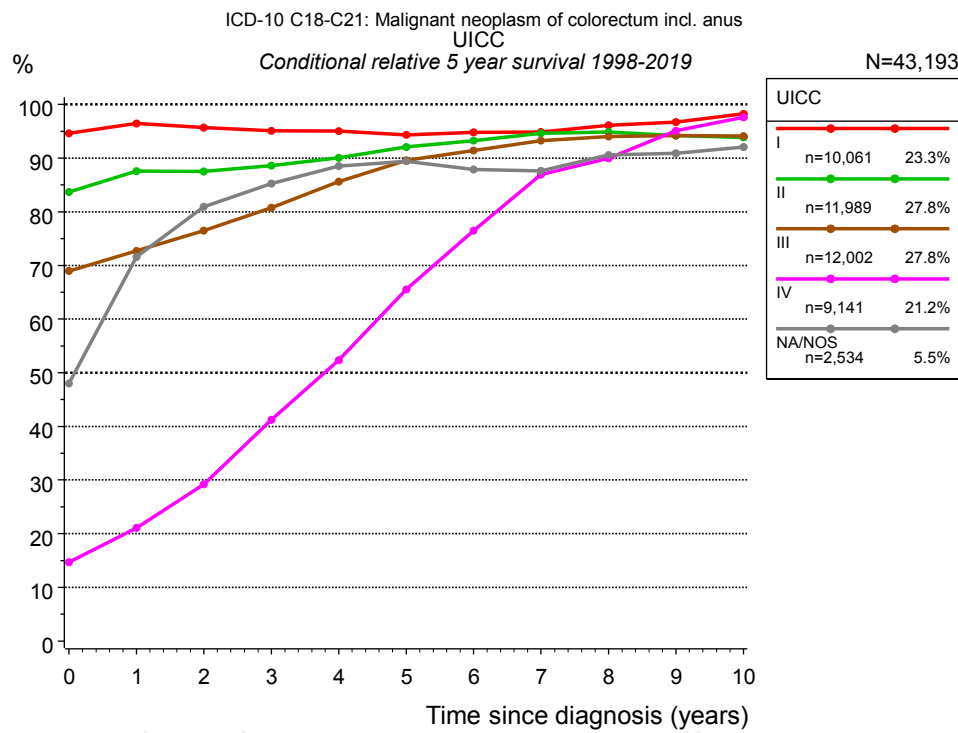


Figure 4c. Conditional relative 5-year survival of patients with colorectal cancer by UICC. For 43,466 of 45,727 cases diagnosed between 1998 and 2019 valid data could be obtained for this item. For a total of 43,193 cases an evaluable classification was established. The grey line represents the subgroup of 2,534 patients with missing values regarding UICC (5.5 % of 45,727 patients, the percent values of all other categories are related to n=43,193).

Years	UICC									
	I		II		III		IV		NA/NOS	
	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs
0	10,061	94.7	11,989	83.7	12,002	68.9	9,141	14.7	2,534	48.0
1	8,925	96.4	10,242	87.6	10,102	72.7	4,962	21.0	1,499	71.6
2	8,246	95.7	9,191	87.5	8,592	76.5	2,909	29.2	1,203	80.9
3	7,540	95.1	8,122	88.6	7,286	80.8	1,775	41.2	1,024	85.2
4	6,828	95.0	7,188	90.1	6,150	85.6	1,196	52.3	910	88.5
5	6,131	94.3	6,316	92.1	5,275	89.6	829	65.5	824	89.4
6	5,481	94.8	5,492	93.3	4,528	91.4	622	76.5	749	87.9
7	4,821	94.9	4,762	94.7	3,886	93.3	479	86.9	676	87.7
8	4,209	96.1	4,114	94.8	3,327	94.0	392	89.9	592	90.6
9	3,643	96.7	3,540	94.2	2,823	94.2	310	95.1	528	90.9
10	3,099	98.3	3,022	93.9	2,385	94.1	253	97.6	467	92.0

Table 4d. Conditional relative 5-year survival of patients with colorectal cancer by UICC for period 1998-2019 (N=43,193).

Conditional relative survival rates refer to the relative survival probability, in this case for 5 years after cancer diagnosis, compared to the age- and sex-matched population (=100 %) under the condition of being alive for a certain time period (x-axis in Figure 4a). The results illustrate to what extent the cancer induced mortality of particular subgroups declines in the subsequent years after detection of the malignancy. For instance, according to the presented survival statistics, patients in the subgroup UICC="I", who are alive at least 3 years after cancer diagnosis, the conditional relative 5-year survival rate is 95.1% (n=7,540).

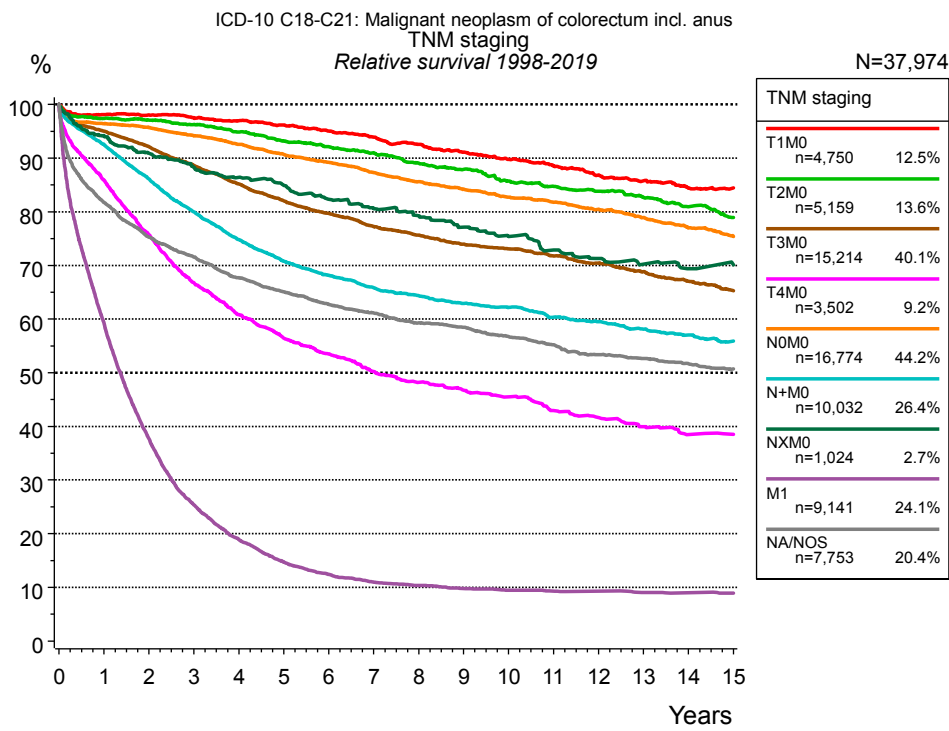


Figure 4g. Relative survival of patients with colorectal cancer by TNM staging. For 43,466 of 45,727 cases diagnosed between 1998 and 2019 valid data could be obtained for this item. For a total of 37,974 cases an evaluable classification was established. The accumulated percentage exceeds the 100 % value because patients are potentially considered in more than one subgroup. The grey line represents the subgroup of 7,753 patients with missing values regarding TNM staging (17.0 % of 45,727 patients, the percent values of all other categories are related to n=37,974).

Years	TNM staging													
	T1M0 n=4,750		T2M0 n=5,159		T3M0 n=15,214		T4M0 n=3,502		N0M0 n=16,774		N+M0 n=10,032		NXM0 n=1,024	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	95.5	98.1	94.3	97.4	91.7	95.0	82.7	85.9	93.1	96.4	89.7	92.6	91.5	94.2
2	93.0	98.0	91.1	97.1	86.0	92.2	70.4	75.7	89.3	95.7	81.1	86.1	86.0	90.9
3	89.9	97.5	87.4	96.3	80.0	88.6	60.1	66.7	85.0	94.2	73.2	80.0	81.2	88.3
4	86.9	96.9	83.4	94.9	74.3	85.2	53.1	60.8	80.7	92.5	66.5	74.8	77.5	86.4
5	83.7	96.2	79.2	93.2	69.2	82.1	47.7	56.4	76.3	90.7	61.1	70.8	74.1	84.9
6	80.3	95.0	75.8	92.2	65.0	79.7	43.8	53.5	72.5	89.2	57.2	68.2	70.0	82.3
7	76.9	93.9	72.4	91.0	60.8	77.2	39.8	50.2	68.4	87.3	53.7	65.9	66.6	80.6
8	73.5	92.6	68.4	89.0	57.5	75.7	37.0	48.2	64.8	85.6	50.8	64.3	63.8	79.2
9	70.0	91.1	65.2	87.9	54.3	74.0	34.7	46.8	61.4	84.2	48.2	62.9	60.3	77.1
10	66.6	89.8	61.4	85.7	51.7	73.1	32.8	45.5	58.1	82.7	46.2	62.2	57.0	75.4
11	63.4	88.5	58.6	84.7	48.9	71.8	29.9	42.9	55.3	81.8	43.4	60.3	53.5	72.9
12	60.0	86.8	55.9	83.9	46.2	70.5	28.1	41.6	52.4	80.5	41.5	59.5	50.5	71.3
13	57.1	85.8	53.2	82.7	43.4	68.8	26.1	39.9	49.4	78.9	39.2	58.1	48.1	70.2
14	54.0	84.4	50.1	80.9	40.7	67.1	24.3	38.5	46.3	77.0	37.1	57.0	45.9	69.4
15	51.9	84.4	47.0	78.9	38.0	65.3	23.6	38.5	43.5	75.4	35.1	55.9	44.8	70.1
Median	15.8		14.1		10.6		4.6		12.8		8.3		12.1	

<i>cont'd</i>	TNM staging			
	M1 n=9,141		NA/NOS n=7,753	
	obs. %	rel. %	obs. %	rel. %
Years				
0	100.0	100.0	100.0	100.0
1	57.3	59.2	78.0	81.7
2	35.6	37.7	69.1	75.3
3	23.4	25.3	63.3	71.6
4	17.1	18.9	57.7	67.7
5	13.0	14.7	53.6	65.1
6	10.7	12.4	49.8	62.7
7	9.2	10.9	46.9	61.1
8	8.5	10.3	43.8	59.3
9	7.9	9.8	41.7	58.5
10	7.4	9.5	39.1	56.8
11	7.1	9.3	36.6	55.2
12	6.9	9.3	34.0	53.3
13	6.5	9.1	32.4	52.7
14	6.3	9.0	30.6	51.7
15	6.1	8.9	28.9	50.7
Median	1.3		6.0	

Table 4h. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by TNM staging for period 1998-2019 (N=37,974).

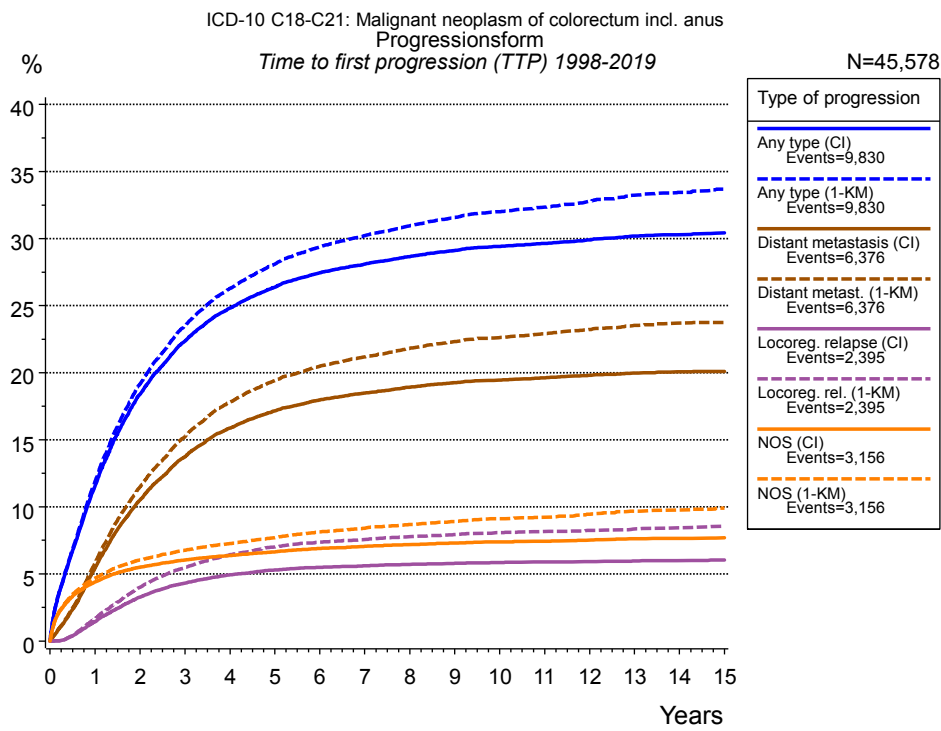


Figure 5a. Time to first progression of 45,578 patients with colorectal cancer diagnosed between 1998 and 2019 (in solid cancers M0 only) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

	Type of progression							
	Any type (CI)	Any type (1-KM)	Distant metastasis (CI)	Distant metast. (1-KM)	Locoreg. relapse (CI)	Locoreg. rel. (1-KM)	NOS (CI)	
N	36,601	36,601	36,604	36,604	45,578	45,578	45,575	
Events	9,794	9,794	6,362	6,362	2,386	2,386	3,141	
compet.	8,281		11,044		22,121		21,264	
Years	%	%	%	%	%	%	%	%
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	11.5	11.9	5.4	5.8	1.4	1.7	4.4	
2	18.4	19.1	10.5	11.5	3.3	4.0	5.5	
3	22.3	23.5	13.7	15.2	4.3	5.5	6.0	
4	24.8	26.3	15.9	17.8	4.9	6.4	6.4	
5	26.4	28.1	17.2	19.4	5.3	7.0	6.6	
6	27.5	29.4	18.0	20.5	5.5	7.4	6.9	
7	28.1	30.2	18.5	21.2	5.6	7.6	7.0	
8	28.7	30.9	18.9	21.8	5.7	7.8	7.2	
9	29.1	31.6	19.3	22.3	5.8	7.9	7.3	
10	29.4	32.0	19.5	22.6	5.9	8.1	7.4	
11	29.6	32.3	19.6	22.9	5.9	8.2	7.4	
12	29.9	32.8	19.8	23.2	5.9	8.2	7.5	
13	30.2	33.2	20.0	23.5	6.0	8.4	7.6	
14	30.3	33.5	20.1	23.7	6.0	8.5	7.7	
15	30.4	33.7	20.1	23.8	6.0	8.6	7.7	

Type of progression	
<i>cont'd</i>	NOS (1-KM)
N	45,575
Events	3,141
compet.	
Years	%
0	0.0
1	4.7
2	6.0
3	6.8
4	7.3
5	7.7
6	8.1
7	8.4
8	8.7
9	8.9
10	9.1
11	9.2
12	9.4
13	9.7
14	9.8
15	9.9

Table 5b. Time to first progression of patients with colorectal cancer for period 1998-2019 (N=45,578), also showing the total of progression events (Events) and of deaths as competing risk (compet.).

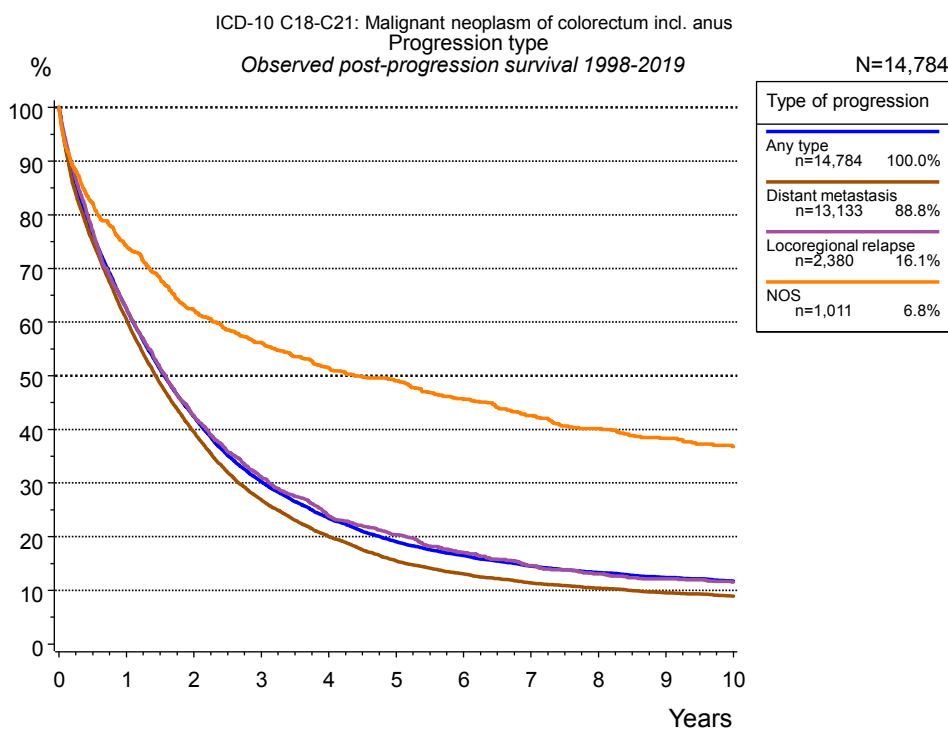


Figure 5c. Observed post-progression survival of 14,784 patients with colorectal cancer diagnosed between 1998 and 2019. These 14,784 patients with documented progression events during their course of disease represent 32.4 % of the totally 45,578 evaluated cases (incl. M1, n=8,977, 19.7 %). Patients with cancer relapse documented via death certificates only were excluded (n=4,023, 8.8 %). Multiple progression types on different sites are included in the evaluation even when not occurring synchronously. The NOS (not otherwise specified) class is included under the condition, that it is the one and only progression type during the course of disease.

Medical record documentation often lacks the linguistic severity to distinguish between local relapse, regional lymph node metastasis and distant spread in solid cancers. Frequently, the statement “not specified” is the only information in registries regarding relapse of the disease. The category “Any type” denotes all cases who suffered from at least one relapse during the course of disease (incl. primary M1-status). Although, the real number of relapsed patients is likely to be much higher. The accumulated percentage of patients with local relapse or distant metastasis exceeds the 100 % value because patients are potentially considered in more than one subgroup.

Years	Type of progression			
	Any type n=14,784 %	Distant metastasis n=13,133 %	Locoregional relapse n=2,380 %	NOS n=1,011 %
0	100.0	100.0	100.0	100.0
1	62.6	60.6	62.4	74.3
2	42.3	39.5	42.5	62.2
3	30.3	26.9	31.2	56.2
4	23.4	20.0	23.8	51.5
5	19.1	15.5	20.4	49.1
6	16.5	13.1	17.0	45.6
7	14.5	11.3	14.6	42.6
8	13.3	10.4	13.1	40.2
9	12.4	9.5	12.1	38.3
10	11.7	8.9	11.5	36.8

Table 5d. Observed post-progression survival of patients with colorectal cancer for period 1998-2019 (N=14,784).

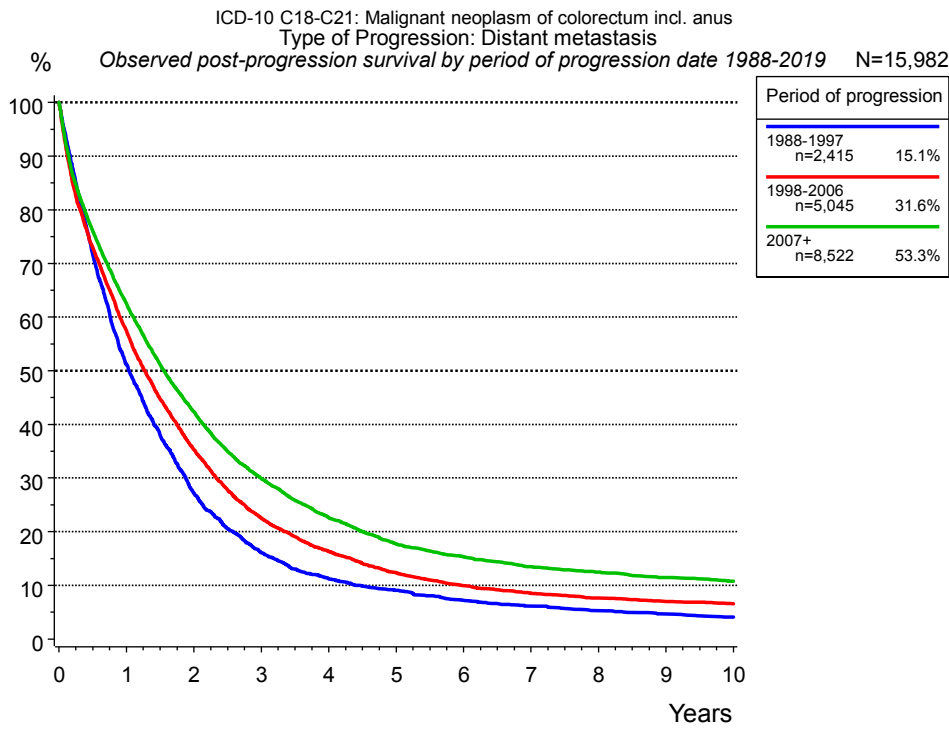


Figure 5e. Observed post-progression (distant metastasis) survival of 15,982 patients with colorectal cancer diagnosed between 1988 and 2019 by period of progression.

Years	Period of progression		
	1988-1997 n=2,415 %	1998-2006 n=5,045 %	2007+ n=8,522 %
0	100.0	100.0	100.0
1	51.1	57.5	62.5
2	27.2	35.3	42.3
3	16.1	22.5	30.0
4	11.2	16.3	22.6
5	9.1	12.3	17.7
6	7.1	9.9	15.3
7	6.1	8.5	13.4
8	5.3	7.6	12.5
9	4.6	7.0	11.5
10	4.1	6.6	10.8

Table 5f. Observed post-progression (distant metastasis) survival of patients with colorectal cancer for period 1988-2019 by period of progression (N=15,982).

Shortcuts

MCR	Munich Cancer Registry, Germany	
NCI	National Cancer Institute, USA	
SEER	Surveillance, Epidemiology, and End Results, USA	
UICC	Union for International Cancer Control, Geneva	
DCO	Death certificate only	Death certificate provides the only notification to the registry.
NA	Not available	
NOS	Not otherwise specified	
OS	Overall/Observed survival	Overall/Observed survival (Kaplan-Meier estimate) Date of entry: diagnosis Event: death from any cause
RS	Relative survival	Survival compared to “general population”, ratio of observed to expected survival (Ederer II method), reflecting cancer specific survival
AS	Assembled survival	Assembled chart of observed, expected, relative survival
CS	Conditional survival	Survival probability under the condition of surviving a given period of time
TTP	Time to progression	Time to first progression / relapse Date of entry: diagnosis Event: (progression / relapse): first local-, lymph node recurrence, distant metastasis or unspecified progression
1-KM		1 minus Kaplan-Meier estimator ("inverse" Kaplan-Meier estimator)
CI		Cumulative incidence Death as competing risk (according to Kalbfleisch und Prentice)
PPS	Post-progression survival	Survival since first progression / relapse (Kaplan-Meier estimate) Date of entry (progression / relapse): first local-, lymph node recurrence, distant metastasis or unspecified progression Event: death from any cause

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