

Munich Cancer Registry



- ▶ Baseline statistics
- ▶ Selection Matrix
- ▶ Homepage
- ▶ *Deutsch*

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

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

Cancer statistics: Survival

C18-C20: Colorectal cancer

Year of diagnosis	1988-2012
Patients	49,817
Diseases	51,098
Cases evaluated	29,688
Creation date	03/25/2014
Export date	02/12/2014
Population	4.5 m



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C1820E.pdf

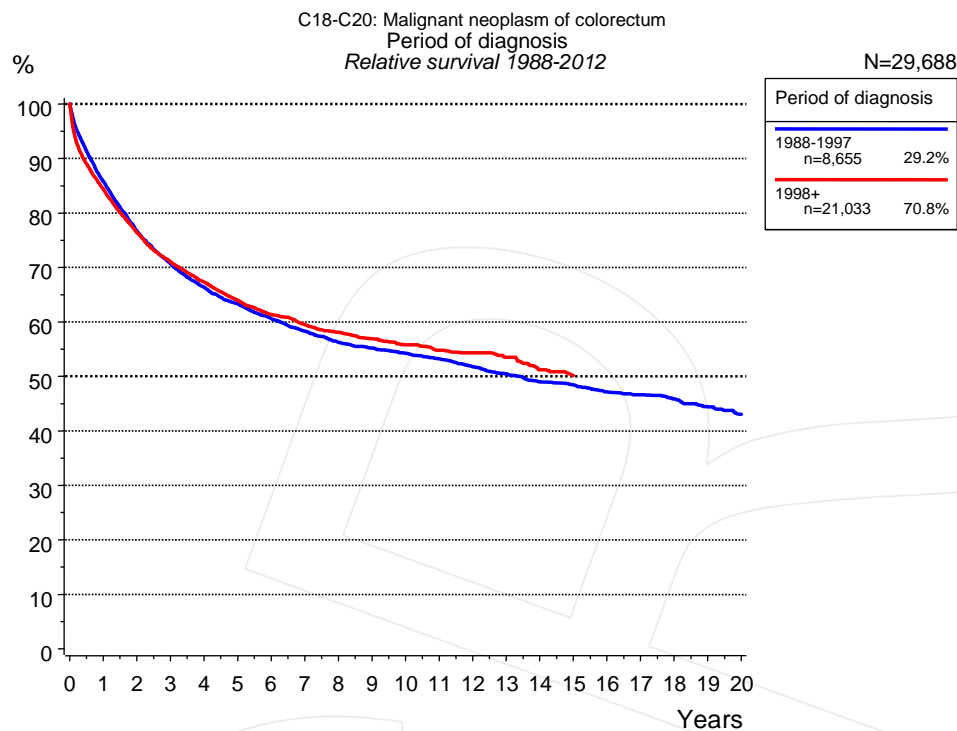


Figure 1a. Relative survival of patients with colorectal cancer by period of diagnosis. Included in the evaluation are 29,688 cases diagnosed between 1988 and 2012.

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 1988, 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=8,655		1998+ n=21,033	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	82.6	85.7	81.2	84.3
2	71.3	76.6	71.1	76.4
3	63.5	70.7	63.9	71.0
4	57.6	66.3	58.5	67.3
5	53.1	63.4	53.8	64.0
6	49.0	60.6	49.8	61.4
7	45.5	58.3	46.7	59.5
8	42.4	56.2	44.0	58.1
9	40.1	55.2	41.6	56.9
10	38.0	54.2	39.3	55.8
11	36.0	53.2	37.2	54.8
12	33.8	51.8	35.5	54.3
13	31.7	50.4	33.6	53.5
14	29.7	49.0	30.9	51.2
15	28.3	48.5		
16	26.6	47.2		
17	25.4	46.6		
18	23.9	45.8		
19	22.3	44.4		
20	20.8	43.1		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by period of diagnosis for period 1988-2012 (N=29,688).

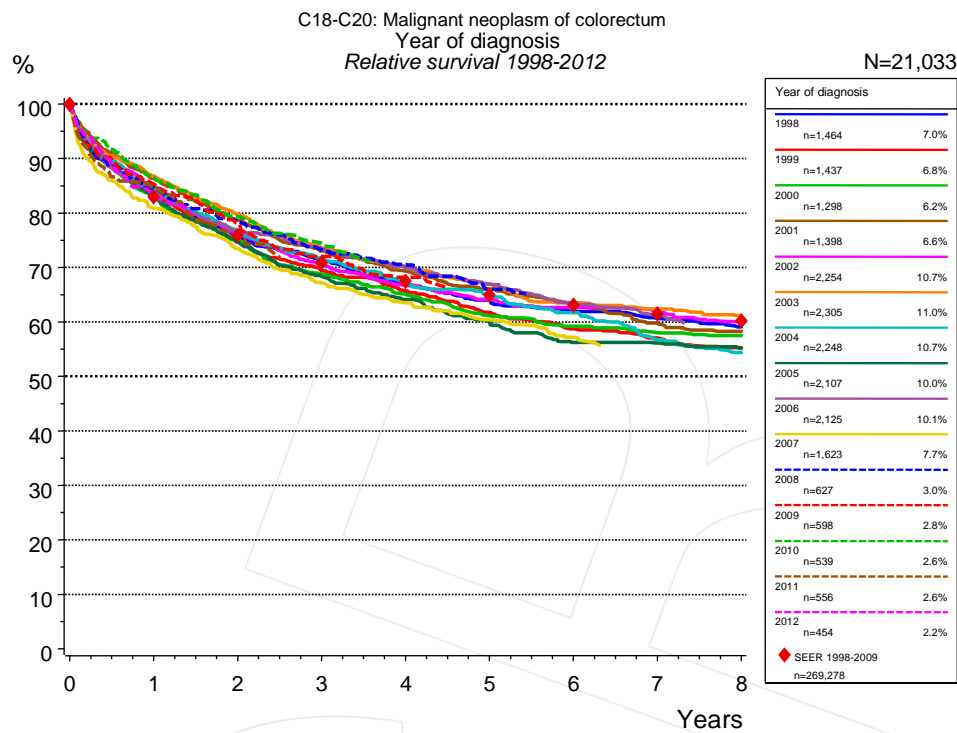


Figure 1c. Relative survival of patients with colorectal cancer by year of diagnosis. Included in the evaluation are 21,033 cases diagnosed between 1998 and 2012.

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 1998 to 2009, and are represented by red diamonds in order to facilitate comparisons between MCR and SEER.

		Year of diagnosis													
		1998 n=1,464		1999 n=1,437		2000 n=1,298		2001 n=1,398		2002 n=2,254		2003 n=2,305		2004 n=2,248	
Years		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		81.3	84.6	80.3	83.6	79.6	83.0	83.1	86.3	81.3	84.5	83.6	86.8	81.3	84.4
2		70.0	75.6	69.4	74.8	69.5	74.9	73.2	78.6	70.5	76.1	74.4	79.7	71.2	76.4
3		63.7	71.2	62.2	69.4	61.7	68.8	65.7	73.0	63.1	70.5	66.5	73.7	64.4	71.5
4		57.8	66.9	56.8	65.7	56.5	65.1	60.5	69.3	57.9	66.8	61.2	70.1	58.5	67.2
5		53.4	64.0	51.4	61.7	51.2	61.1	55.8	66.0	53.7	64.1	56.5	66.9	54.7	65.2
6		49.9	61.9	47.3	58.7	48.1	59.2	51.7	63.1	50.9	62.7	51.8	63.5	50.1	61.7
7		47.3	60.7	44.4	57.0	45.5	58.0	47.4	59.7	48.3	61.7	49.2	62.4	44.2	56.8
8		44.5	59.0	41.7	55.3	43.9	57.5	44.9	58.2	45.2	60.1	46.5	61.2	40.7	54.4

		Year of diagnosis													
cont'd		2005 n=2,107		2006 n=2,125		2007 n=1,623		2008 n=627		2009 n=598		2010 n=539		2011 n=556	
Years		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		80.1	83.2	81.1	84.0	77.8	80.9	81.2	84.5	82.3	85.3	83.5	86.5	81.7	84.7
2		69.7	74.7	71.6	76.4	68.3	73.4	72.7	78.4	72.9	78.1	73.8	79.3	70.5	75.5
3		61.9	68.4	66.8	73.4	60.4	67.2	65.7	73.3	64.9	72.0	66.9	74.5		
4		56.1	64.1	61.5	69.9	55.2	63.5	61.2	70.6	59.4	68.2				
5		50.9	60.0	57.1	66.9	50.7	60.4	55.1	66.0						
6		45.9	56.2	52.3	63.4	46.6	57.2								
7		44.3	56.1	48.7	61.2										
8		42.0	55.2												

Year of diagnosis		
<i>cont'd</i>		
2012		
n=454		
Years	obs. %	rel. %
0	100.0	100.0
1	80.0	82.7

Table 1d. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by year of diagnosis for period 1998-2012 (N=21,033).

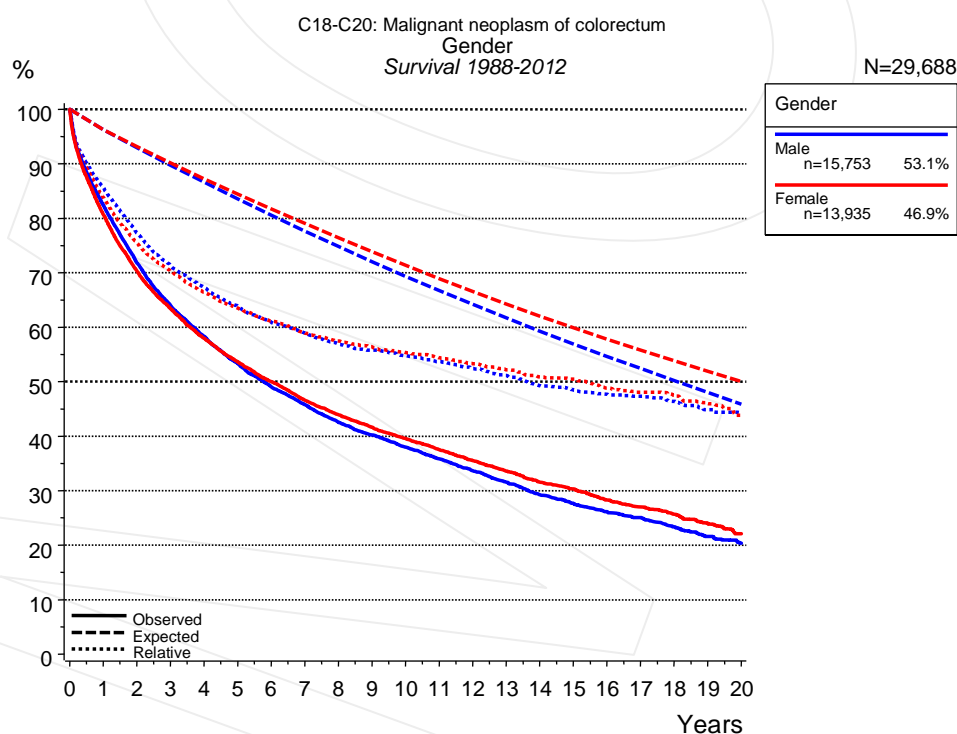


Figure 2a. Survival of patients with colorectal cancer by gender. Included in the evaluation are 29,688 cases diagnosed between 1988 and 2012.

Years	Gender			
	Male		Female	
	n=15,753		n=13,935	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	82.4	85.6	80.7	83.8
2	71.8	77.3	70.3	75.5
3	64.0	71.3	63.4	70.3
4	58.3	67.3	58.0	66.4
5	53.4	63.9	53.7	63.6
6	49.1	60.9	50.0	61.2
7	45.8	58.9	46.6	59.0
8	42.6	56.9	43.9	57.5
9	40.2	55.8	41.6	56.4
10	38.0	54.8	39.5	55.4
11	35.8	53.7	37.5	54.4
12	33.7	52.4	35.5	53.3
13	31.6	51.1	33.6	52.2
14	29.2	49.3	31.6	50.9
15	27.6	48.4	30.3	50.5
16	26.1	47.7	28.3	48.9
17	25.1	47.3	26.9	48.1
18	23.3	46.4	25.7	47.6
19	21.6	44.9	23.9	46.0
20	20.4	44.3	22.1	43.8

Table 2b. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by gender for period 1988-2012 (N=29,688).

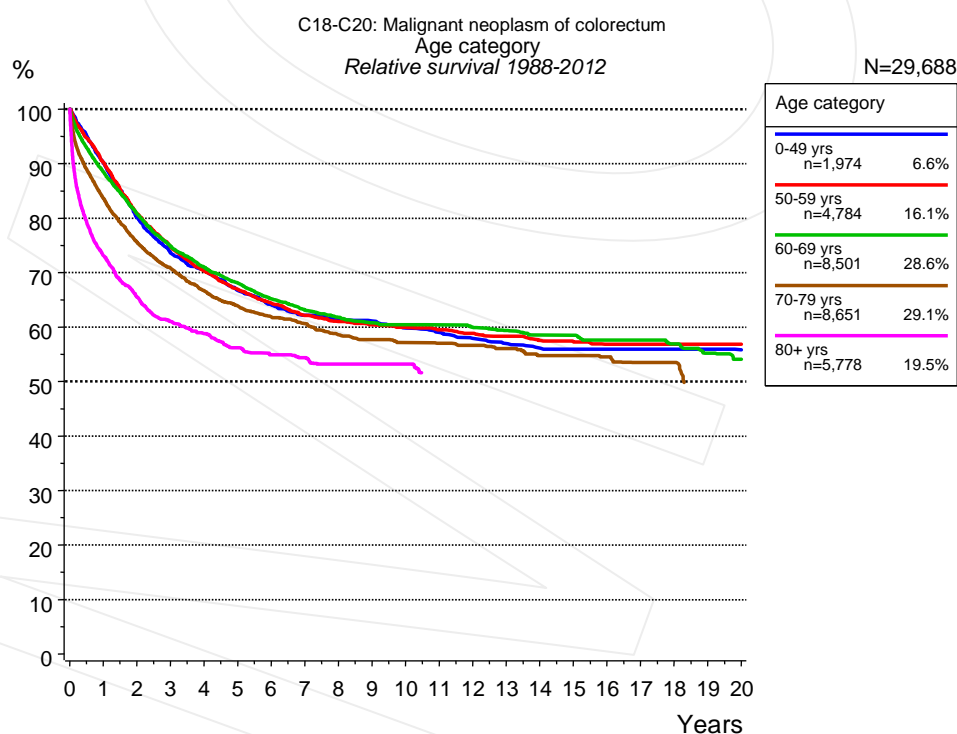


Figure 3a. Relative survival of patients with colorectal cancer by age category. Included in the evaluation are 29,688 cases diagnosed between 1988 and 2012.

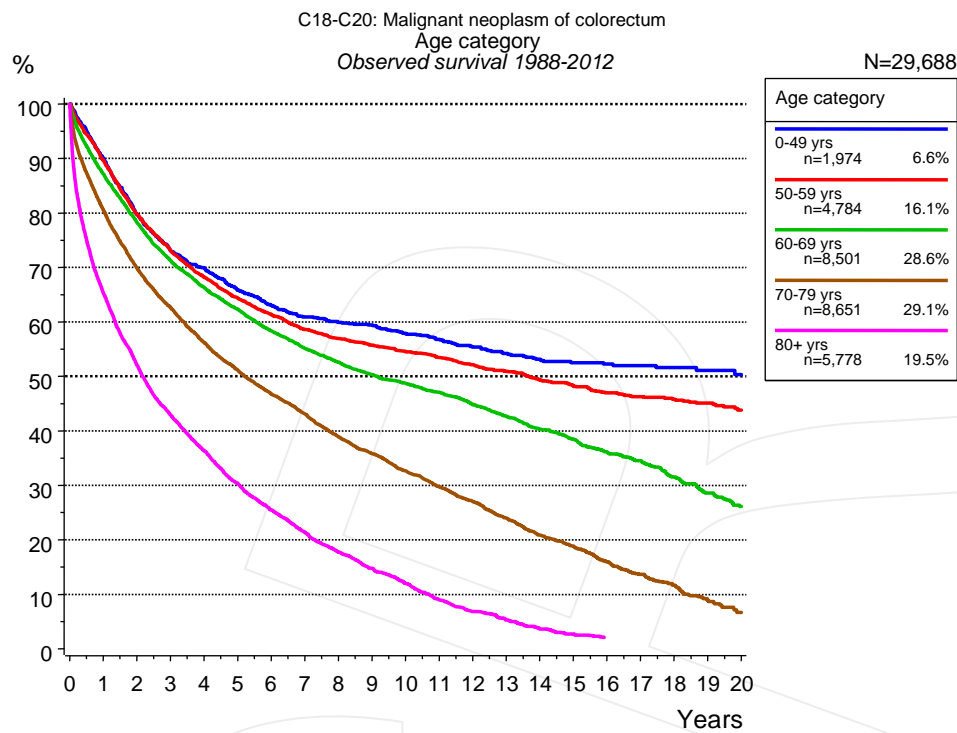


Figure 3b. Observed survival of patients with colorectal cancer by age category. Included in the evaluation are 29,688 cases diagnosed between 1988 and 2012.

Years	Age category									
	0-49 yrs n=1,974		50-59 yrs n=4,784		60-69 yrs n=8,501		70-79 yrs n=8,651		80+ yrs n=5,778	
	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	90.0	90.2	89.7	90.3	87.1	88.5	80.6	83.7	65.3	73.2
2	79.7	80.1	79.7	80.8	78.3	80.8	69.9	75.6	52.1	65.6
3	73.1	73.6	73.2	74.7	71.2	74.8	62.7	70.8	42.9	61.0
4	69.9	70.6	68.2	70.3	66.3	70.9	56.2	66.7	36.3	58.8
5	65.8	66.8	64.3	66.9	62.3	68.1	51.2	63.9	30.4	56.2
6	63.0	64.1	61.3	64.4	58.3	65.2	46.8	61.9	25.5	54.9
7	60.9	62.2	58.6	62.1	55.1	63.1	43.1	60.6	21.4	54.4
8	59.9	61.4	56.9	61.0	52.6	61.8	38.9	58.6	17.8	53.2
9	59.4	61.1	55.7	60.4	50.3	60.8	35.8	57.7	14.8	53.2
10	57.9	59.8	54.5	59.9	48.7	60.4	32.6	57.1	12.0	53.2
11	56.8	59.0	53.5	59.5	47.1	60.4	29.8	57.0		
12	55.3	57.9	52.2	58.9	44.9	60.0	27.0	56.7		
13	54.2	57.0	50.9	58.3	42.7	59.3	24.0	56.1		
14	53.1	56.2	49.4	57.5	40.3	58.5	20.8	54.8		
15	52.5	56.0	48.2	57.2	38.4	58.5	18.8	54.8		
16	52.2	56.0	47.0	56.8	36.2	57.6	16.0	54.6		
17	52.0	56.0	46.3	56.8	34.5	57.6	13.7	53.5		
18	51.6	56.0	45.8	56.8	31.6	56.9	11.7	53.5		
19	51.1	56.0	45.1	56.8	28.6	55.2				
20	50.3	55.8	43.8	56.8	26.1	54.1				

Table 3c. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by age category for period 1988-2012 (N=29,688).

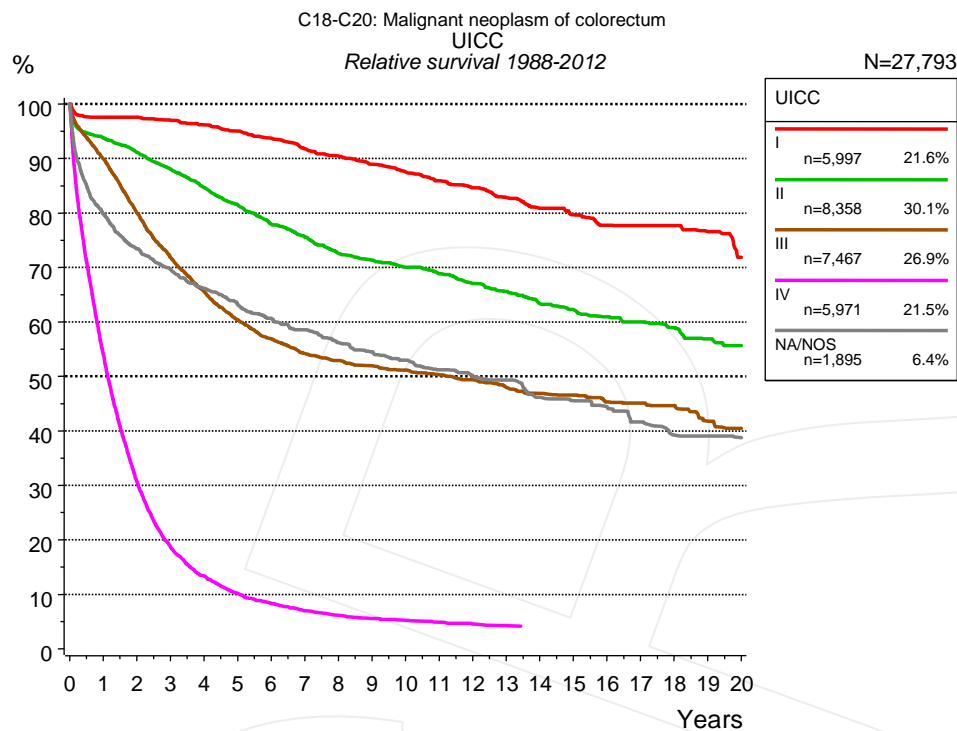


Figure 4a. Relative survival of patients with colorectal cancer by UICC. For 28,034 of 29,688 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 27,793 cases an evaluable classification was established. The grey line represents the subgroup of 1,895 patients with missing values regarding UICC (6.4% of 29,688 patients, the percent values of all other categories are related to n=27,793).

Years	UICC									
	I n=5,997		II n=8,358		III n=7,467		IV n=5,971		NA/NOS n=1,895	
	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	94.5	97.5	89.9	93.8	86.7	90.0	52.0	53.9	75.9	79.7
2	91.3	97.5	84.1	91.1	74.5	80.0	28.8	30.6	67.2	73.4
3	87.9	97.0	78.3	88.1	64.8	71.8	17.1	18.6	61.7	69.7
4	84.1	96.1	72.5	84.7	57.3	65.6	12.0	13.4	56.7	66.1
5	80.5	95.0	67.2	81.5	51.1	60.4	8.9	10.2	52.5	63.2
6	76.5	93.7	61.9	78.0	46.6	56.9	7.1	8.3	48.7	60.6
7	72.3	91.8	57.7	75.5	43.0	54.2	5.8	7.0	45.9	58.6
8	68.8	90.5	53.4	72.6	40.6	52.9	5.0	6.2	42.4	56.2
9	65.3	88.9	50.5	71.3	38.6	51.9	4.4	5.6	39.7	54.5
10	61.9	87.6	47.7	70.1	36.8	51.1	4.1	5.2	37.3	53.0
11	58.8	85.9	45.1	68.9	35.0	50.3	3.7	4.9	34.7	51.2
12	55.7	84.6	42.3	67.0	33.2	49.4	3.3	4.5	32.7	50.1
13	52.5	82.8	39.8	65.6	31.1	48.0	3.0	4.2	31.1	49.3
14	49.4	80.9	37.0	63.3	29.4	46.9	2.9	4.2	28.0	46.2
15	46.8	79.7	35.0	62.3	28.2	46.6	2.9	4.1	26.5	45.5
16	44.1	77.8	33.0	60.9	26.5	45.4			25.0	44.4
17	42.8	77.7	31.3	60.0	25.6	45.1			22.7	41.6
18	41.0	77.7	29.4	58.9	24.3	44.6			20.3	39.2
19	38.8	76.6	27.2	56.9	21.8	41.8			19.7	39.1
20	34.9	71.9	25.7	55.7	20.6	40.5			18.6	38.8

Table 4b. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by UICC for period 1988-2012 (N=27,793).

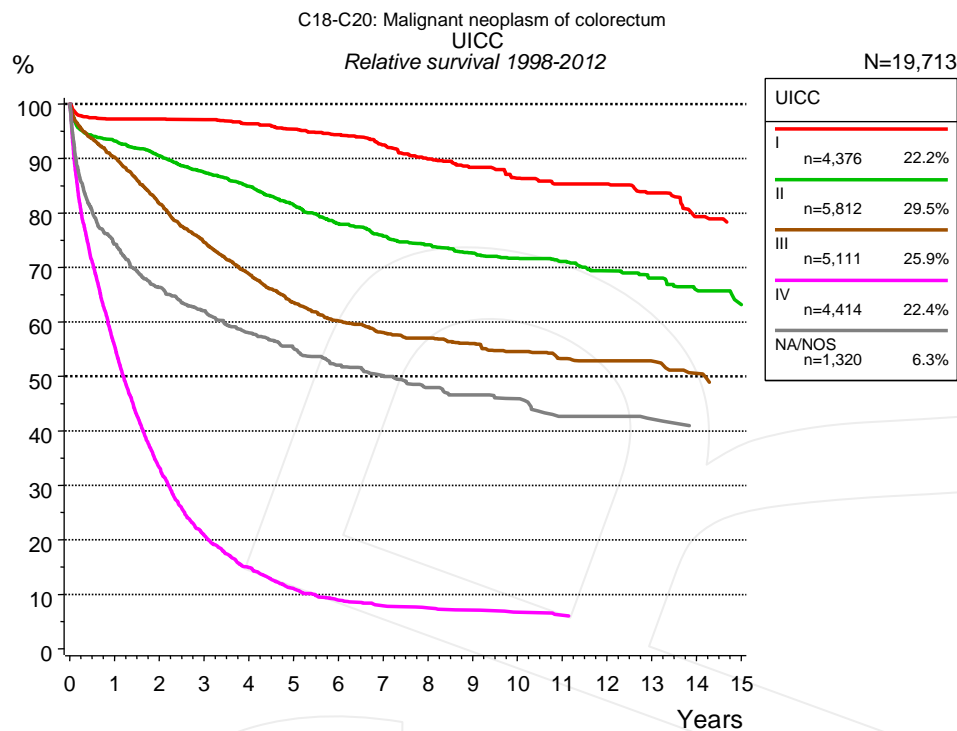


Figure 4c. Relative survival of patients with colorectal cancer by UICC. For 19,905 of 21,033 cases diagnosed between 1998 and 2012 valid data could be obtained for this item. For a total of 19,713 cases an evaluable classification was established. The grey line represents the subgroup of 1,320 patients with missing values regarding UICC (6.3% of 21,033 patients, the percent values of all other categories are related to n=19,713).

Years	UICC									
	I		II		III		IV		NA/NOS	
	n=4,376		n=5,812		n=5,111		n=4,414		n=1,320	
	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	94.3	97.3	89.4	93.2	86.9	90.2	53.6	55.5	70.5	74.3
2	91.3	97.3	83.4	90.4	76.1	81.7	31.3	33.3	60.5	66.3
3	88.0	97.1	77.7	87.4	67.3	74.6	19.2	20.8	54.8	62.1
4	84.4	96.4	72.6	84.9	60.1	68.8	13.5	14.9	49.7	58.0
5	80.9	95.4	67.2	81.5	53.8	63.5	9.7	11.1	45.9	55.1
6	77.1	94.4	62.0	78.0	49.3	60.2	7.7	8.9	42.3	52.1
7	72.9	92.5	57.9	75.7	46.1	58.0	6.7	7.9	39.7	50.2
8	68.2	89.9	54.7	74.1	44.0	57.0	6.3	7.5	36.9	48.0
9	64.7	88.4	51.5	72.6	41.6	56.0	5.8	7.1	35.1	46.6
10	60.8	86.4	48.8	71.7	39.4	54.5	5.3	6.7	33.7	46.0
11	58.2	85.3	46.6	71.1	36.9	53.3	4.8	6.2	30.2	42.7
12	55.8	85.3	43.8	69.4	35.7	52.8	4.6	5.9	29.3	42.7
13	52.6	83.7	41.1	68.1	34.1	52.8	4.6	5.8	28.1	42.2
14	47.6	79.3	38.1	65.9	31.5	50.5			26.4	40.6

Table 4d. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by UICC for period 1998-2012 (N=19,713).

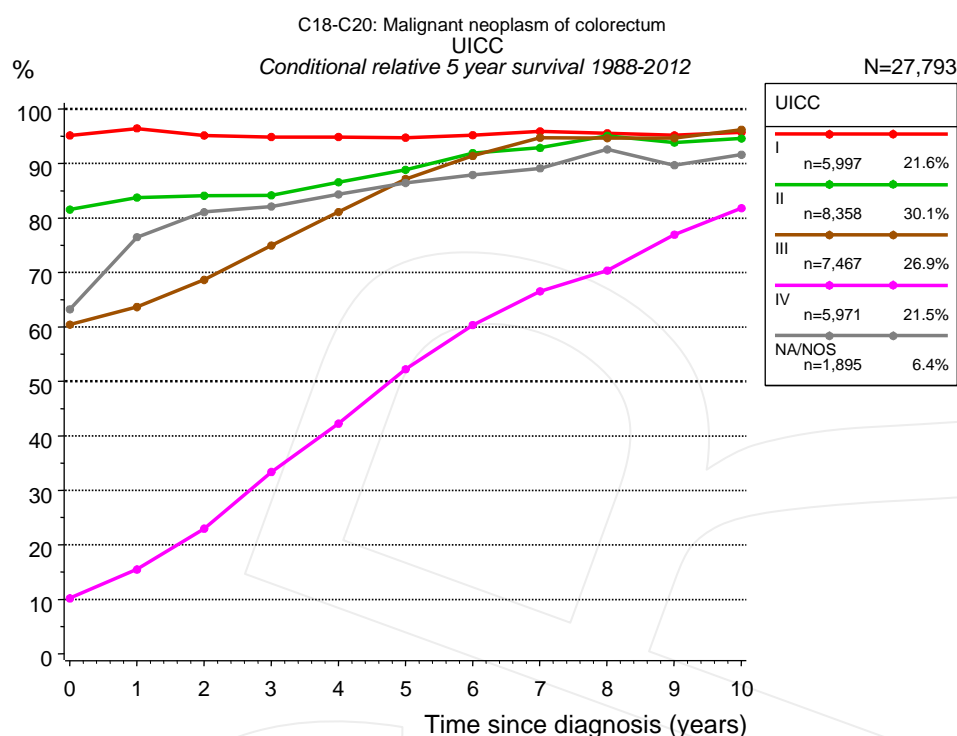


Figure 4e. Conditional relative 5-year survival of patients with colorectal cancer by UICC. For 28,034 of 29,688 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 27,793 cases an evaluable classification was established. The grey line represents the subgroup of 1,895 patients with missing values regarding UICC (6.4% of 29,688 patients, the percent values of all other categories are related to n=27,793).

UICC										
Years	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	5,997	95.2	8,358	81.5	7,467	60.4	5,971	10.2	1,895	63.2
1	5,406	96.4	7,156	83.8	6,166	63.7	2,894	15.5	1,379	76.5
2	4,831	95.1	6,258	84.1	4,911	68.6	1,457	23.0	1,169	81.1
3	4,257	94.9	5,389	84.2	3,898	74.9	763	33.4	1,026	82.1
4	3,702	94.9	4,517	86.6	3,099	81.1	462	42.2	879	84.3
5	3,130	94.8	3,793	88.8	2,428	87.2	288	52.2	770	86.4
6	2,640	95.2	3,132	91.9	1,960	91.4	203	60.4	666	87.9
7	2,287	95.9	2,696	92.9	1,650	94.7	138	66.5	581	89.1
8	2,003	95.6	2,275	95.1	1,420	94.7	105	70.4	491	92.6
9	1,725	95.2	1,975	93.9	1,221	94.7	77	76.9	419	89.7
10	1,450	95.7	1,683	94.6	1,034	96.2	63	81.8	361	91.6

Table 4f. Conditional relative 5-year survival of patients with colorectal cancer by UICC for period 1988-2012 (N=27,793).

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 4c). 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 94.9% (n=4,257).

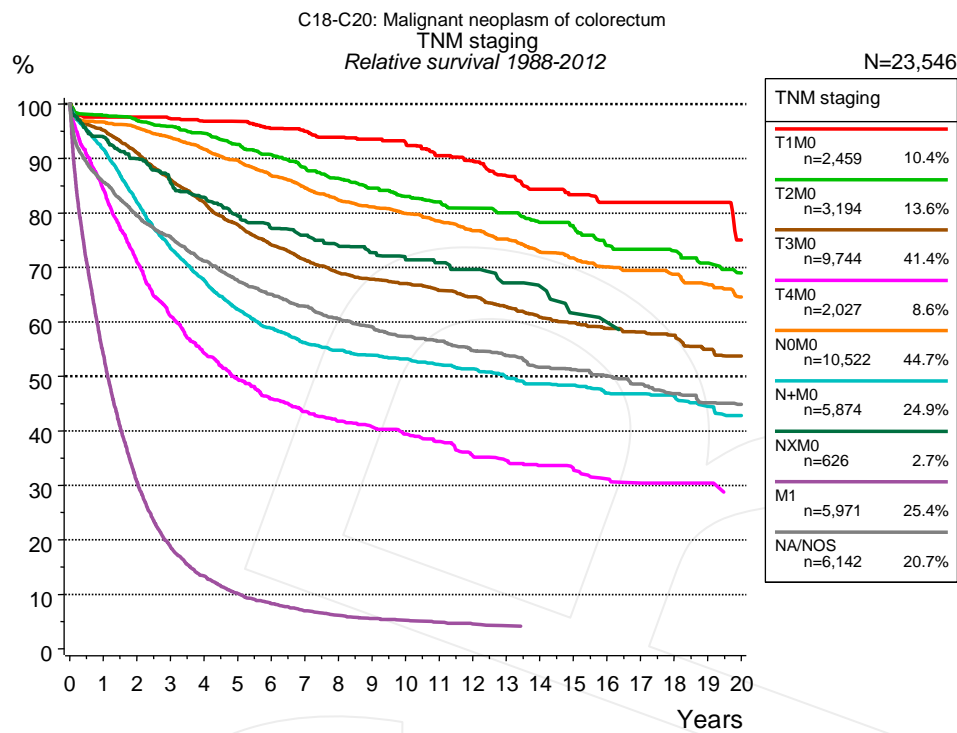


Figure 4g. Relative survival of patients with colorectal cancer by TNM staging. For 28,034 of 29,688 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 23,546 cases an evaluable classification was established. The accumulated percentage exceeds the 100% value because patients are potentially considered in more than one subgroup. The grey line represents the subgroup of 6,142 patients with missing values regarding TNM staging (20.7% of 29,688 patients, the percent values of all other categories are related to n=23,546).

TNM staging														
Years	T1M0 n=2,459		T2M0 n=3,194		T3M0 n=9,744		T4M0 n=2,027		N0M0 n=10,522		N+M0 n=5,874		NXM0 n=626	
	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	95.1	97.6	94.8	97.9	91.7	95.2	80.7	84.3	93.2	96.7	88.5	91.7	90.8	93.9
2	92.4	97.6	90.8	96.9	84.7	91.0	65.3	71.0	89.1	95.7	76.6	82.0	84.3	90.0
3	89.3	97.4	87.0	95.9	77.4	86.1	54.3	61.0	84.5	93.9	66.6	73.5	77.9	85.5
4	86.1	96.8	83.0	94.6	71.1	81.9	46.4	54.2	79.7	91.7	59.4	67.7	73.4	82.9
5	83.7	96.8	78.6	92.6	65.3	77.9	41.0	49.5	75.2	89.7	53.1	62.3	68.2	79.5
6	79.7	95.5	74.4	90.8	60.0	74.2	36.7	45.9	70.3	86.9	48.6	58.8	64.3	77.2
7	76.6	94.9	70.0	88.4	55.7	71.3	33.7	43.6	66.0	84.6	45.0	56.2	61.7	75.9
8	73.7	93.9	66.1	86.4	52.0	69.0	31.2	41.8	62.0	82.4	42.5	54.8	58.3	73.9
9	70.8	93.5	62.6	84.6	49.3	67.8	29.4	40.7	58.9	81.1	40.5	53.8	55.3	72.8
10	67.7	92.9	59.3	83.1	47.0	67.0	27.5	39.4	55.9	79.9	38.8	53.2	52.3	71.4
11	63.9	90.5	56.8	82.0	44.4	65.8	25.7	38.1	52.9	78.5	36.8	52.2	50.3	70.9
12	60.9	89.6	53.9	80.9	42.1	64.6	23.2	35.4	49.8	76.7	35.1	51.4	48.5	69.6
13	57.0	86.8	51.5	80.1	39.3	62.8	21.9	34.6	47.1	75.2	32.8	49.8	44.1	67.2
14	53.5	84.3	48.3	78.3	36.7	60.9	20.6	33.6	43.9	72.8	31.1	48.6	42.2	66.5
15	51.0	83.3	46.0	77.4	34.8	59.9	19.6	33.1	41.6	71.8	29.7	48.4	37.6	61.6
16	48.5	81.9	42.3	74.0	33.0	58.8	18.1	31.2	39.2	70.1	27.9	46.9	35.9	59.9
17	48.1	81.9	40.8	73.3	31.5	58.1	17.2	30.4	37.7	69.5	27.0	46.8	33.8	57.1
18	45.8	81.9	38.8	73.1	29.9	57.6	16.8	30.4	35.6	68.8	25.7	46.4	33.8	54.9
19	43.5	81.9	36.4	70.8	27.4	54.9	16.3	30.4	33.3	66.9	23.6	44.5		
20	38.0	75.0	34.0	69.0	25.9	53.7	14.6	28.0	31.0	64.6	22.2	42.8		

cont'd Years	TNM staging			
	M1 n=5,971		NA/NOS n=6,142	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	52.0	53.9	81.8	85.7
2	28.8	30.6	72.9	79.5
3	17.1	18.6	66.7	75.6
4	12.0	13.4	60.4	71.2
5	8.9	10.2	55.3	67.6
6	7.1	8.3	51.2	65.0
7	5.8	7.0	47.7	62.9
8	5.0	6.2	44.2	60.6
9	4.4	5.6	41.5	59.1
10	4.1	5.2	38.7	57.4
11	3.7	4.9	36.7	56.5
12	3.3	4.5	34.2	54.7
13	3.0	4.2	32.3	53.9
14	2.9	4.2	29.7	51.7
15	2.9	4.1	28.4	51.3
16			26.7	50.2
17			24.8	48.6
18			22.8	46.9
19			21.1	45.1
20			19.9	44.8

Table 4h. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by TNM staging for period 1988-2012 (N=40,417).

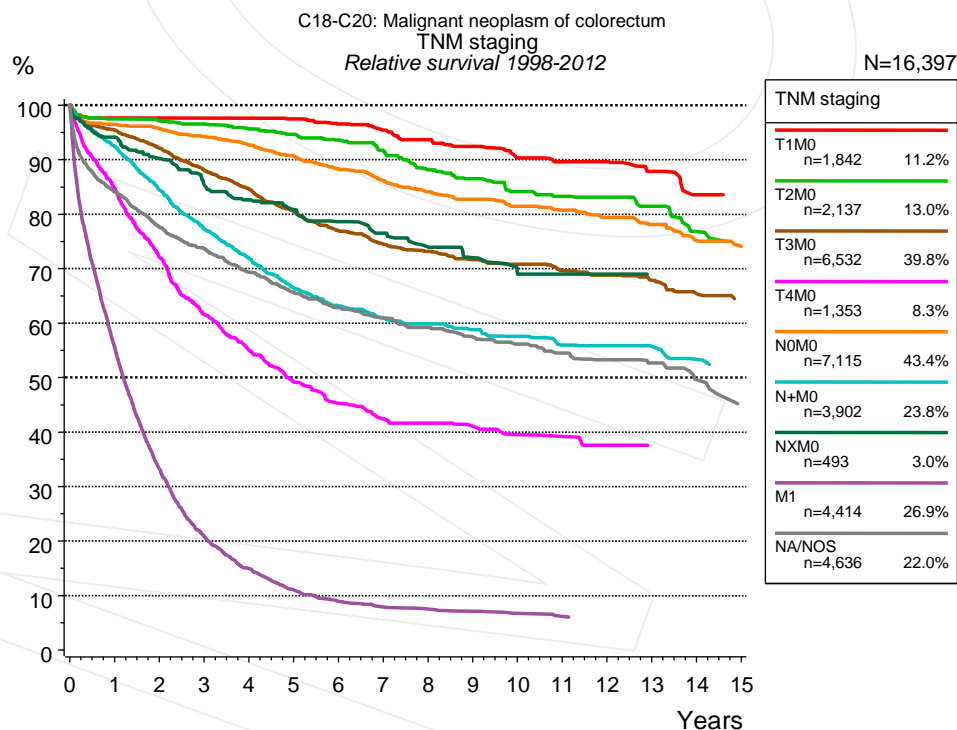


Figure 4i. Relative survival of patients with colorectal cancer by TNM staging. For 19,905 of 21,033 cases diagnosed between 1998 and 2012 valid data could be obtained for this item. For a total of 16,397 cases an evaluable classification was established. The accumulated percentage exceeds the 100% value because patients are potentially considered in more than one subgroup. The grey line represents the subgroup of 4,636 patients with missing values regarding TNM

staging (22.0% of 21,033 patients, the percent values of all other categories are related to n=16,397).

Years	TNM staging													
	T1M0 n=1,842		T2M0 n=2,137		T3M0 n=6,532		T4M0 n=1,353		N0M0 n=7,115		N+M0 n=3,902		NXM0 n=493	
	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	95.2	97.6	94.4	97.5	91.9	95.4	81.2	84.7	93.1	96.5	89.4	92.5	91.2	94.1
2	92.8	97.6	91.0	97.1	85.6	92.1	66.6	72.0	89.1	95.7	79.0	84.5	84.8	90.2
3	90.0	97.6	87.6	96.5	79.1	88.0	55.0	61.6	84.8	94.2	70.0	77.3	78.2	85.4
4	87.0	97.6	83.9	95.6	73.4	84.6	47.5	55.1	80.5	92.7	63.2	71.9	73.7	82.6
5	84.3	97.5	80.4	94.6	67.4	80.6	41.1	49.2	76.1	90.7	56.7	66.5	70.2	80.9
6	80.5	96.5	76.8	93.6	62.3	77.0	36.7	45.3	71.5	88.3	52.2	63.2	66.4	78.6
7	77.0	95.4	72.6	91.7	58.1	74.5	33.4	42.4	67.2	86.1	48.9	60.9	63.2	76.5
8	73.1	93.7	67.4	88.1	55.1	73.1	32.1	41.6	63.3	84.1	46.7	59.8	59.5	74.0
9	69.7	92.5	64.2	86.5	52.0	71.6	30.5	41.0	60.1	82.7	44.2	58.8	56.2	72.0
10	65.5	90.3	60.2	84.1	49.5	70.8	28.7	39.5	56.9	81.5	42.2	57.5	51.6	69.0
11	63.0	89.6	57.5	83.3	46.7	69.6	27.3	39.2	54.2	80.8	39.4	55.9	51.6	69.0
12	61.0	89.6	55.0	83.1	44.6	68.8	25.8	37.6	51.2	79.4	38.5	55.9	51.6	69.0
13	56.9	87.9	52.2	81.4	42.0	67.9	25.0	37.5	48.4	78.1	36.5	55.7	47.2	68.8
14	51.9	83.6	46.9	76.8	38.8	65.4	25.0	35.9	44.6	75.1	33.8	53.3	47.2	67.0

Years	TNM staging			
	M1 n=4,414		NA/NOS n=4,636	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	53.6	55.5	80.1	84.0
2	31.3	33.3	71.0	77.5
3	19.2	20.8	64.8	73.6
4	13.5	14.9	58.8	69.3
5	9.7	11.1	53.7	65.6
6	7.7	8.9	49.5	62.8
7	6.7	7.9	46.4	61.0
8	6.3	7.5	43.4	59.2
9	5.8	7.1	40.5	57.4
10	5.3	6.7	38.3	56.2
11	4.8	6.2	35.8	54.5
12	4.6	5.9	33.8	53.3
13	4.6	5.8	32.1	52.7
14			28.9	49.6

Table 4j. Observed (obs.) and relative (rel.) survival of patients with colorectal cancer by TNM staging for period 1998-2012 (N=27,788).

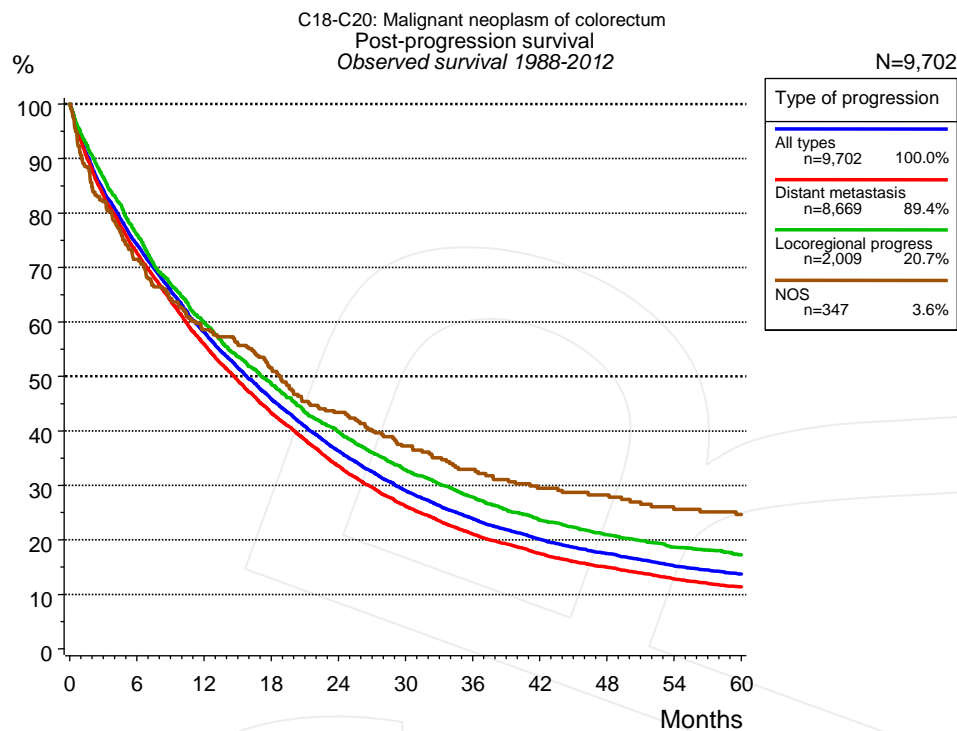


Figure 5a. Observed post-progression survival of 9,702 patients with colorectal cancer diagnosed between 1988 and 2012 (incl. M1). These 9,702 patients with documented progression events during their course of disease represent 32.7% of the totally 29,688 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=2,256, 7.6%). 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 “All types” 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.

Months	Type of progression			
	All types n=9,702	Distant metastasis n=8,669	Locoregional progress n=2,009	NOS n=347
	%	%	%	%
0	100.0	100.0	100.0	100.0
12	58.1	55.9	59.8	58.5
24	36.3	33.6	39.8	43.4
36	23.9	21.0	27.8	32.9
48	17.5	14.9	20.9	28.3
60	13.7	11.4	17.2	24.7

Table 5b. Observed post-progression survival of patients with colorectal cancer for period 1988-2012 (N=9,702).

Shortcuts

AS	Assembled survival chart (observed, expected, relative)
CS	Conditional survival
DCO	Death certificate only. The death certificate provides the only notification to the registry.
MCR	Munich Cancer Registry, Germany (Tumorregister München)
NA	Not available
NCI	National Cancer Institute, USA
NOS	Not otherwise specified
OS	Observed/overall survival (Kaplan-Meier estimate)
PPS	Post-progression survival
RS	Relative Survival. Ratio of observed and expected survival (derived from the normal population)
SEER	Surveillance, Epidemiology, and End Results, USA
TTP	Time to progression Date of entry: Date of diagnosis Event (Progression): First local recurrence, lymph node relapse or distant metastasis, unspecified recurrence First all-cause recurrence is illustrated by survival curves (Kaplan-Meier estimate). First local recurrence, lymph node relapse or distant metastasis are depicted cumulatively, where applicable ("reverse" Kaplan-Meier estimate).
UICC	Union for International Cancer Control, Geneva

Recommended Citation

Munich Cancer Registry. Survival C18-C20: Colorectal cancer [Internet]. 2014 [updated 2014 Mar 25; cited 2014 May 1]. Available from: http://www.tumorregister-muenchen.de/en/facts/surv/surv_C1820E.pdf

Copyright

The content of the public web site provided by the Munich Cancer Registry is available worldwide and free of charge. All documents are free to download, utilize, copy, print-out and distribute, providing that the MCR is referenced.

Disclaimer

The Munich Cancer Registry reserves the right to not be responsible for the topicality, correctness, completeness or quality of the information provided. Liability claims regarding damage caused by the use of any information provided, including any kind of information which is incomplete or incorrect, will therefore be rejected.

Index of figures and tables

Fig./Tbl.	Page
1a Relative survival by period of diagnosis (chart)	2
1b Survival by period of diagnosis (table)	2
1c Relative survival by year of diagnosis (chart)	3
1d Survival by year of diagnosis (table)	3
2a Survival by gender (chart)	4
2b Survival by gender (table)	5
3a Relative survival by age category (chart)	5
3b Observed survival by age category (chart)	6
3c Survival by age category (table)	6
4a Relative survival by UICC 1988+ (chart)	7
4b Survival by UICC 1988+ (table)	7
4c Relative survival by UICC 1998+ (chart)	8
4d Survival by UICC 1998+ (table)	8
4e Conditional survival by UICC (chart)	9
4f Conditional survival by UICC (table)	9
4g Relative survival by TNM staging 1988+ (chart)	10
4h Survival by TNM staging 1988+ (table)	10
4i Relative survival by TNM staging 1998+ (chart)	11
4j Survival by TNM staging 1998+ (table)	12
5a Observed post-progression survival (chart)	13
5b Observed post-progression survival (table)	13