# **Munich Cancer Registry**



- Baseline statistics
- Selection Matrix
- Homepage
- Deutsch

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

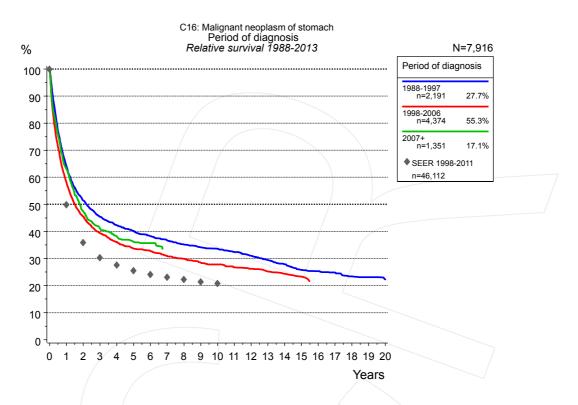
http://www.tumorregister-muenchen.de/en

## **Cancer statistics: Survival**

## C16: Stomach cancer

Year of diagnosis	1988-2013
Patients	14,181
Diseases	14,199
Cases evaluated	7,916
Creation date	05/13/2015
Export date	12/30/2014
Population	4.64 m





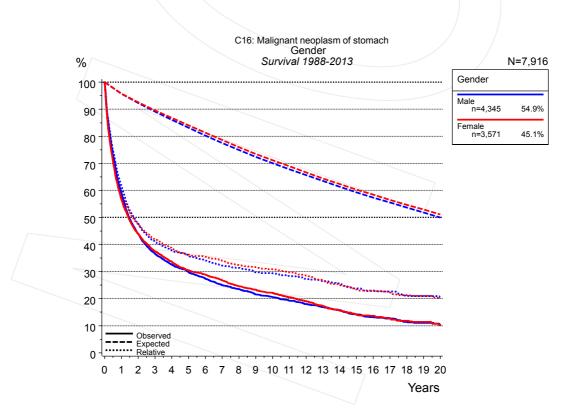
**Figure 1a.** Relative survival of patients with stomach cancer by period of diagnosis. Included in the evaluation are 7,916 cases diagnosed between 1988 and 2013.

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 2011, and are represented by gray diamonds in order to facilitate comparisons between MCR and SEER.

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 populationbased 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.

Period of diagnosis1988-19971998-2006 $2007+$ n=2,191n= $374$ n=1, $351$ Yearsobs.%rel.%obs.%rel.%0100.0100.0100.0100.0100.0161.664.055.558.160.4247.751.441.945.544.3340.845.434.939.337.1436.842.331.036.133.538.1533.740.127.933.630.736.2631.138.226.232.729.635.7728.936.723.830.826.932.9826.835.122.329.932.9925.234.120.528.411024.033.619.527.811122.432.418.026.711220.831.017.126.211319.129.415.925.211417.427.814.924.311515.725.814.023.311614.925.31714.124.81812.923.41912.523.02011.422.3			Pariad	of dia	anoeie	•	
n=2,191n=4,374n=1,351Yearsobs.%rel.%obs.%rel.%obs.%rel.%0100.0100.0100.0100.0100.0100.0161.664.055.558.160.463.0247.751.441.945.544.347.5340.845.434.939.337.141.0436.842.331.036.133.538.1533.740.127.933.630.736.2631.138.226.232.729.635.7728.936.723.830.826.932.9826.835.122.329.932.9925.234.120.528.411024.033.619.527.811122.432.418.026.711220.831.017.126.211319.129.415.925.211417.427.814.924.311515.725.814.023.311614.925.3 $$							)7+
Years         obs. %         rel. %         obs. %         rel. % <thobs. %<="" th=""> <thobs. %<="" td="" th<=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></thobs.></thobs.>							
1       61.6       64.0       55.5       58.1       60.4       63.0         2       47.7       51.4       41.9       45.5       44.3       47.5         3       40.8       45.4       34.9       39.3       37.1       41.0         4       36.8       42.3       31.0       36.1       33.5       38.1         5       33.7       40.1       27.9       33.6       30.7       36.2         6       31.1       38.2       26.2       32.7       29.6       35.7         7       28.9       36.7       23.8       30.8       26.9       32.9         8       26.8       35.1       22.3       29.9       32.9         9       25.2       34.1       20.5       28.4       32.9         10       24.0       33.6       19.5       27.8       4.4         10       24.0       33.6       19.5       27.8       4.4         11       22.4       32.4       18.0       26.7       4.4         12       20.8       31.0       17.1       26.2       4.4       4.4         13       19.1       29.4       15.9       25.2	Years						
2       47.7       51.4       41.9       45.5       44.3       47.5         3       40.8       45.4       34.9       39.3       37.1       41.0         4       36.8       42.3       31.0       36.1       33.5       38.1         5       33.7       40.1       27.9       33.6       30.7       36.2         6       31.1       38.2       26.2       32.7       29.6       35.7         7       28.9       36.7       23.8       30.8       26.9       32.9         8       26.8       35.1       22.3       29.9       32.9         9       25.2       34.1       20.5       28.4       34.9         10       24.0       33.6       19.5       27.8       34.1         11       22.4       32.4       18.0       26.7       34.1         12       20.8       31.0       17.1       26.2       34.1         13       19.1       29.4       15.9       25.2       34.1         14       17.4       27.8       14.9       24.3       34.1         15       15.7       25.8       14.0       23.3       35.1       35.1	0	100.0	100.0	100.0	100.0	100.0	100.0
3       40.8       45.4       34.9       39.3       37.1       41.0         4       36.8       42.3       31.0       36.1       33.5       38.1         5       33.7       40.1       27.9       33.6       30.7       36.2         6       31.1       38.2       26.2       32.7       29.6       35.7         7       28.9       36.7       23.8       30.8       26.9       32.9         8       26.8       35.1       22.3       29.9       32.9         9       25.2       34.1       20.5       28.4       34.9         10       24.0       33.6       19.5       27.8       34.1         11       22.4       32.4       18.0       26.7       34.1         12       20.8       31.0       17.1       26.2       34.1         13       19.1       29.4       15.9       25.2       34.1         14       17.4       27.8       14.9       24.3       34.1         15       15.7       25.8       14.0       23.3       35.1         16       14.9       25.3       4.1       4.1       4.1         18	1	61.6	64.0	55.5	58.1	60.4	63.0
4       36.8       42.3       31.0       36.1       33.5       38.1         5       33.7       40.1       27.9       33.6       30.7       36.2         6       31.1       38.2       26.2       32.7       29.6       35.7         7       28.9       36.7       23.8       30.8       26.9       32.9         8       26.8       35.1       22.3       29.9       9       25.2       34.1       20.5       28.4         10       24.0       33.6       19.5       27.8       14       17.1       26.2         11       22.4       32.4       18.0       26.7       26.2       14       17.1       26.2         13       19.1       29.4       15.9       25.2       25.2       14       17.1       26.2         13       19.1       29.4       15.9       25.2       25.2       25.3       25.3       16       14.9       25.3       15       15.7       25.8       14.0       23.3       23.3       16       14.9       25.3       14       17       14.1       24.8       15       14.0       23.3       15       15.7       25.8       14.0       23.3	2	47.7	51.4	41.9	45.5	44.3	47.5
5       33.7       40.1       27.9       33.6       30.7       36.2         6       31.1       38.2       26.2       32.7       29.6       35.7         7       28.9       36.7       23.8       30.8       26.9       32.9         8       26.8       35.1       22.3       29.9       29.9       29.9         9       25.2       34.1       20.5       28.4       20.4       20.5       28.4         10       24.0       33.6       19.5       27.8       27.8       27.8       27.8         11       22.4       32.4       18.0       26.7       26.2       20.8       21.0       21.4         12       20.8       31.0       17.1       26.2       21.3       21.4       17.9       25.2         14       17.4       27.8       14.9       24.3       24.3       24.3       24.3       24.3       24.3       24.3       25.3       25.2       25.4 </td <td>3</td> <td>40.8</td> <td>45.4</td> <td>34.9</td> <td>39.3</td> <td>37.1</td> <td>41.0</td>	3	40.8	45.4	34.9	39.3	37.1	41.0
6       31.1       38.2       26.2       32.7       29.6       35.7         7       28.9       36.7       23.8       30.8       26.9       32.9         8       26.8       35.1       22.3       29.9       29.9       25.2       34.1       20.5       28.4       20.9       20.9       20.1       20.8       31.0       10.5       27.8       20.4       20.4       20.4       20.4       20.7       20.8       20.7       20.8       20.7       20.8       20.7       20.8       20.7       20.8       20.7       20.8       20.7       20.2       20.8       31.0       17.1       26.2       20.4       20.8       31.0       17.1       26.2       20.4       21.3       21.3       21.3       19.1       29.4       15.9       25.2       25.2       21.4       17.7       25.8       14.0       23.3       23.3       15       15.7       25.8       14.0       23.3       23.3       16       14.9       25.3       25.2       25.2       25.2       25.3       17.7       14.1       24.8       24.3       15.7       25.8       14.0       23.3       23.3       16       14.9       25.3       14.9       24.3	4	36.8	42.3	31.0	36.1	33.5	38.1
7       28.9       36.7       23.8       30.8       26.9       32.9         8       26.8       35.1       22.3       29.9       9         9       25.2       34.1       20.5       28.4         10       24.0       33.6       19.5       27.8         11       22.4       32.4       18.0       26.7         12       20.8       31.0       17.1       26.2         13       19.1       29.4       15.9       25.2         14       17.4       27.8       14.9       24.3         15       15.7       25.8       14.0       23.3         16       14.9       25.3	5	33.7	40.1	27.9	33.6	30.7	36.2
8       26.8       35.1       22.3       29.9         9       25.2       34.1       20.5       28.4         10       24.0       33.6       19.5       27.8         11       22.4       32.4       18.0       26.7         12       20.8       31.0       17.1       26.2         13       19.1       29.4       15.9       25.2         14       17.4       27.8       14.9       24.3         15       15.7       25.8       14.0       23.3         16       14.9       25.3	6	31.1	38.2	26.2	32.7	29.6	35.7
9       25.2       34.1       20.5       28.4         10       24.0       33.6       19.5       27.8         11       22.4       32.4       18.0       26.7         12       20.8       31.0       17.1       26.2         13       19.1       29.4       15.9       25.2         14       17.4       27.8       14.9       24.3         15       15.7       25.8       14.0       23.3         16       14.9       25.3	7	28.9	36.7	23.8	30.8	26.9	32.9
10       24.0       33.6       19.5       27.8         11       22.4       32.4       18.0       26.7         12       20.8       31.0       17.1       26.2         13       19.1       29.4       15.9       25.2         14       17.4       27.8       14.9       24.3         15       15.7       25.8       14.0       23.3         16       14.9       25.3       14.1       24.8         18       12.9       23.4       14.1       14.1         19       12.5       23.0       14.1       14.1	8	26.8	35.1	22.3	29.9		
1122.432.418.026.71220.831.017.126.21319.129.415.925.21417.427.814.924.31515.725.814.023.31614.925.3161812.923.41912.523.0	9	25.2	34.1	20.5	28.4		
12       20.8       31.0       17.1       26.2         13       19.1       29.4       15.9       25.2         14       17.4       27.8       14.9       24.3         15       15.7       25.8       14.0       23.3         16       14.9       25.3	10	24.0	33.6	19.5	27.8		
13       19.1       29.4       15.9       25.2         14       17.4       27.8       14.9       24.3         15       15.7       25.8       14.0       23.3         16       14.9       25.3	11	22.4	32.4	18.0	26.7		
14       17.4       27.8       14.9       24.3         15       15.7       25.8       14.0       23.3         16       14.9       25.3	12	20.8	31.0	17.1	26.2		
15       15.7       25.8       14.0       23.3         16       14.9       25.3	13	19.1	29.4	15.9	25.2		
16       14.9       25.3         17       14.1       24.8         18       12.9       23.4         19       12.5       23.0	14	17.4	27.8	14.9	24.3		
17       14.1       24.8         18       12.9       23.4         19       12.5       23.0	15	15.7	25.8	14.0	23.3		
18         12.9         23.4           19         12.5         23.0	16	14.9	25.3				
19 12.5 23.0	17	14.1	24.8				
	18	12.9	23.4				
20 11.4 22.3	19	12.5	23.0				
	20	11.4	22.3				

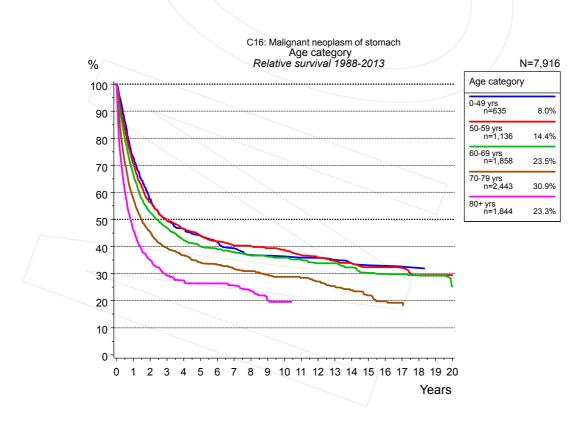
**Table 1b.** Observed (obs.) and relative (rel.) survival of patients with stomach cancer by period of diagnosis for period 1988-2013 (N=7,916).



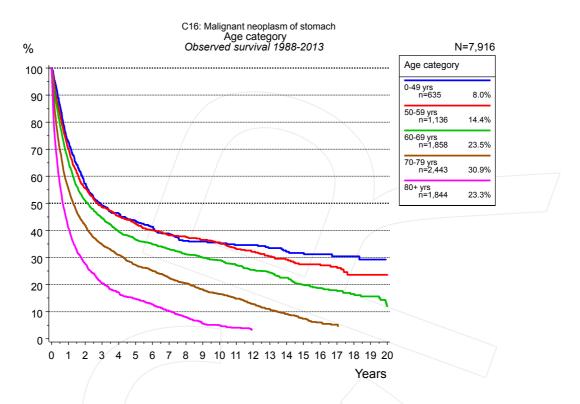
**Figure 2a.** Survival of patients with stomach cancer by gender. Included in the evaluation are 7,916 cases diagnosed between 1988 and 2013.

Gender											
		Ma	ale	Ferr	nale						
		n=4,	345	n=3,	571						
	Years	obs. %	rel. %	obs. %	rel. %						
	0	100.0	100.0	100.0	100.0						
	1	59.0	61.7	56.6	59.2						
	2	44.1	47.7	43.9	47.4						
	3	36.6	41.0	37.5	41.8						
	4	32.5	37.8	33.8	38.8						
	5	29.7	35.8	30.5	36.2						
	6	27.4	34.1	28.9	35.5						
	7	25.0	32.2	26.7	34.0						
	8	23.5	31.3	24.6	32.4						
	9	21.5	29.7	23.4	31.6						
	10	20.6	29.4	22.2	30.9						
	11	19.2	28.3	20.5	29.7						
	12	18.0	27.4	19.1	28.6						
	13	16.9	26.5	17.3	26.8						
	14	15.8	25.6	15.6	24.9						
	15	14.2	23.8	14.2	23.4						
	16	13.2	22.8	13.7	23.0						
	17	12.7	22.6	12.8	22.5						
	18	11.5	21.1	11.9	21.3						
	19	11.1	21.0	11.4	21.1						
	20	10.2	20.4	10.4	20.1						

**Table 2b.** Observed (obs.) and relative (rel.) survival of patients with stomach cancer by gender for period 1988-2013 (N=7,916).



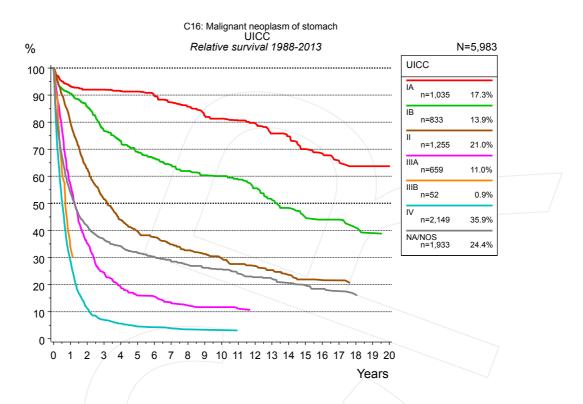
**Figure 3a.** Relative survival of patients with stomach cancer by age category. Included in the evaluation are 7,916 cases diagnosed between 1988 and 2013.



**Figure 3b.** Observed survival of patients with stomach cancer by age category. Included in the evaluation are 7,916 cases diagnosed between 1988 and 2013.

Age category											
	0-49	yrs	50-59	9 yrs	60-69	9 yrs	70-79	9 yrs	80+	yrs	
	n=6	35	n=1,	136	n=1,	858	n=2,	443	n=1,	,844	
Years	obs. %	rel. %									
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
1	72.7	72.8	70.3	70.7	65.5	66.5	55.4	57.6	40.9	46.1	
2	57.3	57.4	55.6	56.3	51.0	52.6	41.9	45.4	27.7	35.0	
3	49.2	49.5	48.6	49.6	44.6	46.8	34.8	39.5	20.5	29.3	
4	46.2	46.6	45.1	46.5	39.6	42.3	31.0	36.7	17.0	27.5	
5	43.4	44.0	42.5	44.1	36.6	40.0	27.2	34.1	14.6	26.4	
6	41.3	41.7	40.0	42.0	34.9	39.0	25.1	33.3	12.6	26.4	
7	38.6	39.3	38.2	40.4	33.1	37.9	22.4	31.7	10.1	25.6	
8	36.1	36.8	37.5	40.2	31.2	36.7	20.5	30.9	8.0	23.8	
9	35.9	36.6	36.5	39.5	29.9	36.3	18.2	29.7	5.6	20.0	
10	35.2	36.3	35.6	38.8	29.0	35.9	16.5	28.8	5.0	19.5	
11	34.6	35.8	33.3	36.8	27.1	35.0	14.8	28.5			
12	34.6	35.8	32.1	36.1	25.4	33.8	12.7	27.1			
13	33.5	35.0	30.4	34.7	24.4	33.8	10.8	25.4			
14	32.1	33.8	29.2	33.8	22.6	32.3	9.1	23.8			
15	31.7	33.1	27.5	32.4	20.0	30.3	7.4	21.9			
16	31.2	32.9	27.5	32.4	18.7	29.9	6.0	19.8			
17	30.4	32.6	26.6	32.2	17.6	29.7	5.2	19.3			
18	30.4	32.0	23.6	29.5	16.5	29.3					
19	29.3	31.3	23.6	29.5	15.6	29.2					
20	29.3	30.5	23.6	29.5	12.0	25.2					

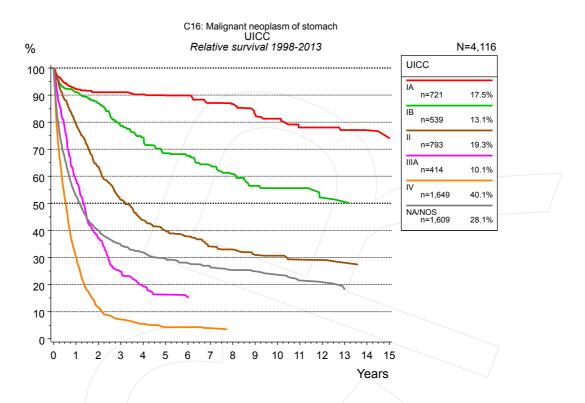
**Table 3c.** Observed (obs.) and relative (rel.) survival of patients with stomach cancer by age category for period 1988-2013 (N=7,916).



**Figure 4a.** Relative survival of patients with stomach cancer by UICC. For 6,490 of 7,916 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 5,983 cases an evaluable classification was established. The grey line represents the subgroup of 1,933 patients with missing values regarding UICC (24.4% of 7,916 patients, the percent values of all other categories are related to n=5,983).

	UICC													
	IA	4	IE	3	I	I	III	A	111	В	I	V	NA/N	10S
	n=1,	035	n=8	333	n=1,	255	n=6	659	n=	52	n=2	,149	n=1,	933
Years	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	90.2	93.3	87.1	90.6	77.2	80.0	54.6	56.9	32.7	33.8	27.8	28.8	50.6	53.9
2	86.5	92.0	79.4	85.7	58.6	62.8	32.4	35.2			10.6	11.2	37.6	41.7
3	83.3	92.0	68.4	76.8	46.7	51.6	21.7	24.3			6.4	6.9	31.8	36.6
4	80.2	91.5	62.6	73.2	38.6	44.0	16.3	18.9			5.1	5.6	28.7	34.2
5	77.8	91.3	56.6	69.0	33.6	39.6	13.2	15.9			4.0	4.5	25.8	31.7
6	73.8	89.7	52.3	66.5	30.8	37.5	12.6	15.6			3.8	4.3	23.8	30.1
7	69.4	87.3	48.5	64.2	27.6	34.8	10.3	13.2			3.3	3.8	22.0	28.6
8	65.8	85.8	45.2	62.0	25.1	32.6	9.1	12.3			2.9	3.4	20.4	27.3
9	61.4	82.5	42.1	60.4	23.1	31.3	8.4	11.6			2.8	3.3	19.1	26.2
10	59.3	81.3	40.3	60.0	21.2	29.7	8.4	11.6			2.7	3.2	18.3	25.6
11	56.5	80.6	37.6	58.8	19.1	27.6	7.7	11.1			2.4	3.0	16.6	24.0
12	54.2	79.7	34.2	55.6	18.0	26.8							15.2	22.7
13	50.0	75.8	30.4	51.4	16.5	25.4							14.4	22.2
14	48.0	74.8	27.4	48.3	14.9	23.6							13.0	20.6
15	43.7	70.1	24.3	44.8	13.5	21.9							12.2	19.6
16	41.5	68.4	22.9	44.0	13.1	21.7							11.1	18.4
17	38.3	65.7	22.9	44.0	12.7	21.6							10.2	17.5
18	36.4	63.7	20.1	41.0	11.7	20.5							9.3	16.2
19	35.6	63.7	18.5	39.0	11.7	20.1							8.8	15.8
20	35.6	63.7												

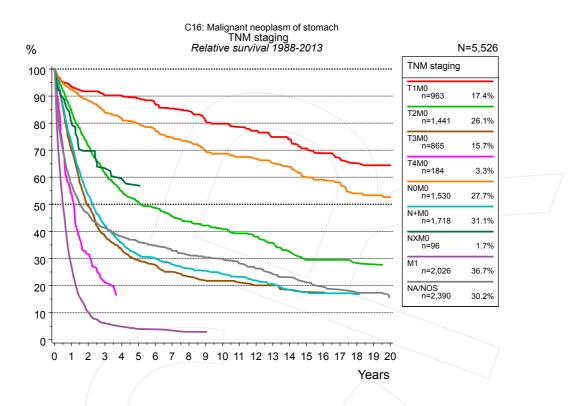
**Table 4b.** Observed (obs.) and relative (rel.) survival of patients with stomach cancer by UICC for period 1988-2013 (N=5,983).



**Figure 4c.** Relative survival of patients with stomach cancer by UICC. For 4,553 of 5,725 cases diagnosed between 1998 and 2013 valid data could be obtained for this item. For a total of 4,116 cases an evaluable classification was established. The grey line represents the subgroup of 1,609 patients with missing values regarding UICC (28.1% of 5,725 patients, the percent values of all other categories are related to n=4,116).

						UICC						
				_								
	IA	4	IE	3	1		III	A	IV	/	NA/N	IOS
	n=7	'21	n=5	539	n=7	'93	n=4	14	n=1,	649	n=1,	609
Years	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	89.1	92.3	87.3	91.0	76.9	79.5	56.0	58.5	29.3	30.3	49.3	52.7
2	85.4	91.1	80.4	87.0	59.5	63.5	34.3	37.2	10.9	11.6	36.1	40.1
3	82.2	91.1	69.6	78.6	46.7	51.3	22.2	24.8	6.6	7.1	30.0	34.6
4	78.8	90.3	63.0	74.3	38.6	43.8	16.9	19.4	5.1	5.5	26.8	31.9
5	75.6	89.9	55.7	68.5	34.0	39.9	13.7	16.3	3.8	4.2	24.0	29.4
6	73.0	89.9	52.2	67.6	31.2	37.8	13.0	15.3	3.8	4.2	22.1	27.9
7	68.0	87.1	47.0	64.0	27.3	34.0			3.5	3.9	20.5	26.4
8	65.2	86.7	42.7	60.8	25.7	32.9			2.9	3.4	19.3	25.4
9	60.4	83.0	37.9	56.5	23.0	30.9			2.9	3.3	18.5	24.9
10	57.4	81.3	36.4	55.6	22.5	30.7			2.9	3.1	17.2	23.6
11	52.9	78.0	34.4	55.6	20.8	29.1			2.9	3.0	15.0	21.5
12	52.0	78.0	30.1	52.1	20.2	29.0					14.3	20.9
13	49.1	77.1	28.7	50.5	18.8	28.0					12.1	18.3
14	47.6	77.0	27.2	50.2								
15	45.8	74.1										

**Table 4d.** Observed (obs.) and relative (rel.) survival of patients with stomach cancer by UICC for period 1998-2013 (N=4,116).

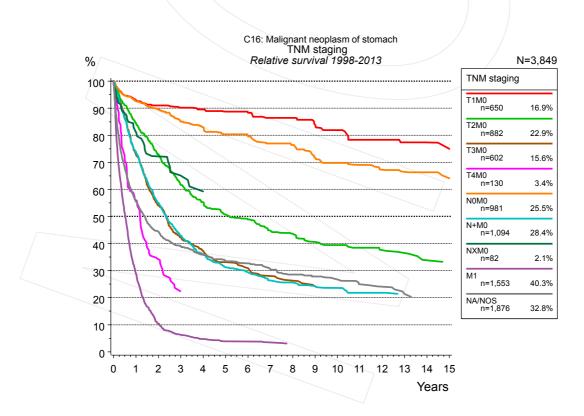


**Figure 4e.** Relative survival of patients with stomach cancer by TNM staging. For 6,490 of 7,916 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 5,526 cases an evaluable classification was established. The accumulated percentage exceeds the 100% value because patients are potientially considered in more than one subgroup. The grey line represents the subgroup of 2,390 patients with missing values regarding TNM staging (30.2% of 7,916 patients, the percent values of all other categories are related to n=5,526).

	THMTETHM stagingNOMON+MON+MON+MONTimoT2MOT3MOT4MON0MON+MON+MONNNn=963n=1,441n=865n=184n=1,530n=1,718n=960100.0<													
	T1	M0	T2	M0	T3I	M0	T4I	V0	N0	M0	N+	M0	NX	MO
	n=9	963	n=1,	,441	n=8	365	n=1	84	n=1,	530	n=1,	,718	n=	96
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	90.6	93.6		84.5	67.8	70.3	52.0	53.9	89.3	92.4	70.5		77.8	80.5
2	86.4	91.8	66.9	71.8	46.2	49.3	29.9	31.6	82.7	88.3	50.1	53.5	65.0	69.8
3	82.1	90.3	55.2	61.3	34.9	38.3	19.2	21.2	75.9	83.9	38.3	42.2	56.0	63.3
4	79.5	90.0	47.9	55.0	29.5	33.2	14.7	15.9	71.6	81.8	31.6	35.7	50.4	59.5
5	76.3	89.2	42.5	50.7	25.3	29.3			67.5	79.9	26.7	31.2	48.3	56.9
6	72.1	86.9	39.4	48.6	23.4	27.7			63.2	77.1	25.0	30.0	45.8	56.9
	68.5	85.4	35.5	45.6	20.8	25.1			59.1	74.8	22.4	27.8	45.8	56.9
	65.4	84.4	32.9	43.7	18.5	23.3			55.8	73.0	20.6	26.3	45.8	56.9
9	60.7	80.8	30.6	42.2	17.1	21.8			51.4	69.7	19.2	25.5	45.8	56.9
10	59.0	79.8	28.4	40.8	16.8	21.7			49.7	68.7	17.7		45.8	56.9
11	55.6	78.5	26.4	39.3	15.6	21.1			46.7	67.5	16.4	23.2	45.8	56.9
12	53.5	77.2	24.6	38.1	14.2	20.1			44.8	66.9	15.0	21.8		
13	50.0	74.9	22.3	35.7	14.2	20.1			42.2	65.2	13.7	20.5		
14	48.0	74.0	19.4	32.5	12.6	18.4			40.0	63.9	11.8	18.5		
15	44.6	70.7	17.0	29.5	11.4	17.6			36.3	60.0	11.0	17.5		
16	42.0	68.9	16.7	29.5	11.4	17.4			34.7	59.0	10.5	17.1		
17	39.3	67.1	16.7	29.5	10.7	16.6			32.7	58.0	10.5	17.1		
18	37.5	65.2	15.0	28.4					29.7	54.0	9.8	16.8		
19	36.0	64.4	14.5	27.8					28.7	53.4	9.3	16.6		
20	34.8	64.4	13.6	27.1					27.3	52.7				

	TN	TNM staging							
cont'd	Μ	1	NA/N	NOS					
	n=2,	026	n=2,	390					
Years	obs. %	rel. %	obs. %	rel. %					
0	100.0	100.0	100.0	100.0					
1	26.2	27.2	53.8	57.3					
2	9.6	10.2	41.7	46.5					
3	5.6	6.0	35.6	41.3					
4	4.4	4.9	31.6	38.1					
5	3.6	4.0	28.7	36.0					
6	3.4	3.8	26.7	34.8					
7	2.9	3.4	24.3	32.9					
8	2.5	2.9	22.4	31.3					
9	2.5	2.9	21.0	30.4					
10	2.4	2.7	20.0	29.9					
11			18.2	28.2					
12			16.4	26.3					
13			14.6	24.3					
14			13.5	23.0					
15			12.1	21.2					
16			10.9	19.6					
17			10.0	18.5					
18			9.1	17.4					
19			8.8	17.3					
20			7.3	15.3					

**Table 4f.** Observed (obs.) and relative (rel.) survival of patients with stomach cancer by TNM staging for period 1988-2013 (N=8,823).



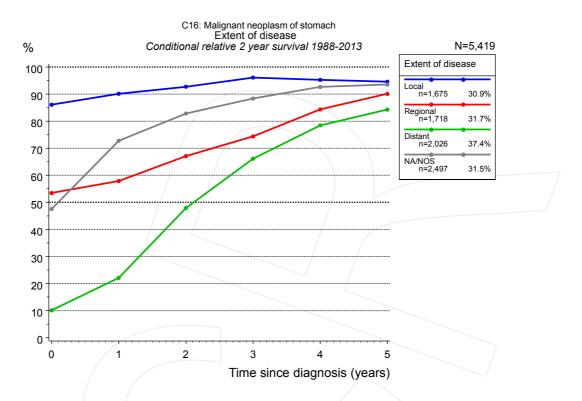
**Figure 4g.** Relative survival of patients with stomach cancer by TNM staging. For 4,553 of 5,725 cases diagnosed between 1998 and 2013 valid data could be obtained for this item. For a total of 3,849 cases an evaluable classification was established. The accumulated percentage exceeds the 100% value because patients are potientially considered in more than one subgroup. The grey line represents the subgroup of 1,876 patients with missing values regarding TNM staging (32.8% of 5,725 patients, the percent values of all other categories are related to n=3,849).

	TNM staging														
	T1I	V0	T2	M0	T3I	M0	T4I	MO	N0	M0	N+	M0	NX	M0	
	n=650		n=8	382	n=6	602	n=1	30	n=9	981	n=1,	,094	n=	82	
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	90.0	93.0	81.5	84.6	70.5	72.8	54.5	56.0	89.4	92.6	71.4	73.8	79.0	81.2	
2	85.4	91.0	68.0	73.0	51.0	54.1	32.7	34.2	83.7	89.6	51.7	55.0	67.8	72.2	
3	81.7	90.2	55.5	61.7	38.9	42.2	20.4	22.3	76.7	85.1	39.2	42.9	58.5	65.1	
4	78.7	89.6	48.0	55.3	33.5	37.1			72.4	83.0	32.1	36.0	51.2	59.2	
5	75.0	88.8	42.4	50.7	29.3	33.1			67.5	80.4	27.0	31.3	51.2	57.7	
6	72.1	88.4	39.4	48.9	26.8	30.9			64.6	79.6	24.7	29.4			
7	68.2	86.5	34.6	44.8	23.9	28.0			60.1	77.0	21.6	26.4			
8	66.0	86.5	32.7	43.6	22.0	26.3			57.4	76.4	20.5	25.7			
9	61.3	83.9	29.0	40.6	19.9	24.2			52.0	71.8	18.6	24.3			
10	58.7	81.9	27.8	39.5	19.2	23.8			49.6	69.8	17.9	23.6			
11	53.1	78.3	25.8	38.5	19.2	23.6			46.3	69.1	16.0	21.9			
12	52.2	78.3	24.2	37.5					43.6	67.3	16.0	21.9			
13	49.0	77.4	23.0	36.5					41.7	66.5	14.6	21.1			
14	47.5	77.4	20.4	33.8					40.1	66.3					
15	45.6	75.0	19.2	32.4					37.9	64.1					

	TN	M stag	ing	
cont'd	Μ	1	NA/N	NOS
	n=1,	553	n=1,	876
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	27.9	28.9	52.0	55.5
2	9.8	10.4	39.7	44.3
3	5.8	6.3	33.4	38.9
4	4.4	4.7	29.5	35.8
5	3.5	3.8	26.7	33.6
6	3.5	3.8	25.0	32.7
7	3.1	3.5	22.4	30.5
8	2.6	3.0	20.3	28.6
9	2.6	2.8	19.1	27.8
10	2.6	2.7	17.9	26.7
11	2.6	2.6	16.0	25.0
12			15.1	24.1
13			12.8	21.3
14			12.1	19.3

**Table 4h.** Observed (obs.) and relative (rel.) survival of patients with stomach cancer by TNM staging for period 1998-2013 (N=5,974).



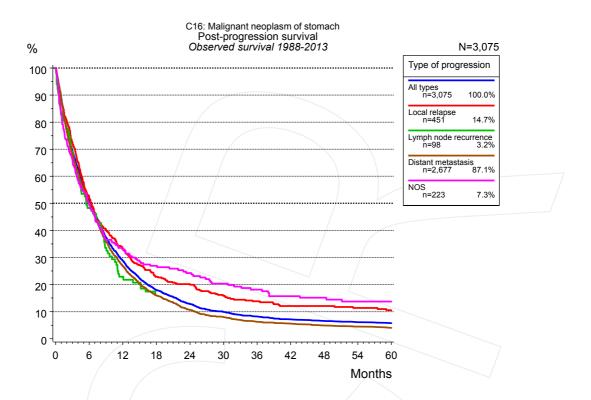


**Figure 4i.** Conditional relative 2-year survival of patients with stomach cancer by extent of disease. For 6,490 of 7,916 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 5,419 cases an evaluable classification was established. The grey line represents the subgroup of 2,497 patients with missing values regarding extent of disease (31.5% of 7,916 patients, the percent values of all other categories are related to n=5,419).

			Exten	t of dis	sease				
	Loc	al	Regio	onal	Dista	ant	NA/NOS		
	Cond. Cond. Cond.				Cond.				
		surv. %		surv. %		surv. %	surv. %		
Years	n	2 yrs	n	2 yrs	n	2 yrs	n	2 yrs	
0	1,675	86.1	1,718	53.5	2,026	10.2	2,497	47.5	
1	1,395	90.2	1,157	57.9	497	22.1	1,287	72.8	
2	1,187	92.7	770	67.1	165	47.9	919	82.8	
3	1,010	96.1	543	74.4	83	66.2	729	88.4	
4	869	95.3	408	84.4	60	78.5	566	92.6	
5	750	94.6	320	90.1	43	84.3	466	93.5	

**Table 4j.** Conditional relative 2-year survival of patients with stomach cancer by extent of disease for period 1988-2013 (N=5,419).

Conditional relative survival rates refer to the relative survival probability, in this case for 2 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 4g). 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 extent of disease="Local", who are alive at least 3 years after cancer diagnosis, the conditional relative 2-year survival rate is 96.1% (n=1,010).



**Figure 5a.** Observed post-progression survival of 3,075 patients with stomach cancer diagnosed between 1988 and 2013 (incl. M1). These 3,075 patients with documented progression events during their course of disease represent 38.8% of the totally 7,916 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=1,422, 18.0%). Multiple progression types on different sites are included in the evaluation even when not occuring 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 potientially considered in more than one subgroup.

		Type of	f progressior	1	
	All types	Local relapse	Lymph node recurrence	Distant metastasis	NOS
	n=3,075	n=451	n=98	n=2,677	n=223
Months	%	%	%	%	%
0	100.0	100.0	100.0	100.0	100.0
12	28.8	33.4	22.9	26.8	33.0
24	12.8	20.2		10.6	24.2
36	8.1	13.8		6.2	18.2
48	6.5	12.1		4.8	15.1
60	5.7	10.5		4.0	13.8

**Table 5b.** Observed post-progression survival of patients with stomach cancer for period 1988-2013 (N=3,075).

#### Shortcuts

- MCR Munich Cancer Registry, Germany (Tumorregister München)
- NCI National Cancer Institute, USA
- SEER Surveillance, Epidemiology, and End Results, USA
- UICC Union for International Cancer Control, Geneva
- DCO Death certificate only. The death certificate provides the only notification to the registry.
- NA Not available
- NOS Not otherwise specified
- OS Observed/overall survival (Kaplan-Meier estimate)
- RS Relative survival, compared to the general population, ratio of observed to expected survival (Ederer II method), reflecting excess mortality among cancer patients
- AS Assembled survival chart (observed, expected, relative)
- PPS Post-progression survival, survival since first relapse (Kaplan-Meier estimate) Date of entry: Date of first locoregional recurrence, distant metastasis, unspecified

progression Event:

- Death of all causes
- CS Conditional survival, survival probability under the condition of surviving a given period of time

#### **Recommended Citation**

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