

Munich Cancer Registry



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

Cancer statistics: Survival

C70-C72: Brain/nerves cancer

Year of diagnosis	1988-2012
Patients	5,686
Diseases	5,695
Cases evaluated	3,092
Creation date	03/25/2014
Export date	02/12/2014
Population	4.5 m



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C7072E.pdf

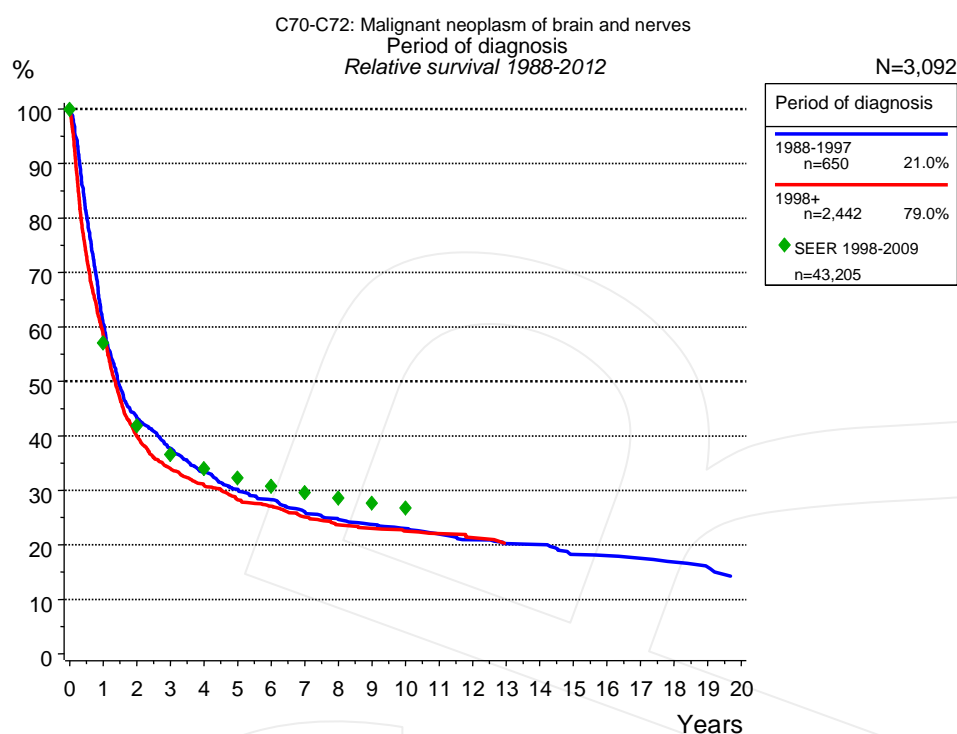


Figure 1a. Relative survival of patients with brain/nerves cancer by period of diagnosis. Included in the evaluation are 3,092 cases diagnosed between 1988 and 2012.

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=650		1998+ n=2,442	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	59.8	60.5	57.6	58.4
2	42.6	43.3	39.0	40.0
3	36.8	37.7	33.0	34.0
4	32.4	33.3	29.8	30.9
5	29.2	30.2	27.1	28.3
6	27.2	28.3	25.8	27.1
7	25.0	26.0	23.7	25.1
8	23.3	24.7	22.3	23.7
9	22.3	23.8	21.5	23.0
10	21.5	23.0	20.8	22.5
11	20.4	22.0	20.3	22.0
12	19.2	20.9	19.4	21.3
13	18.4	20.2		
14	18.2	20.0		
15	16.3	18.2		
16	16.0	18.0		
17	15.7	17.5		
18	14.7	16.8		
19	13.8	15.9		
20	12.1	14.1		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with brain/nerves cancer by period of diagnosis for period 1988-2012 (N=3,092).

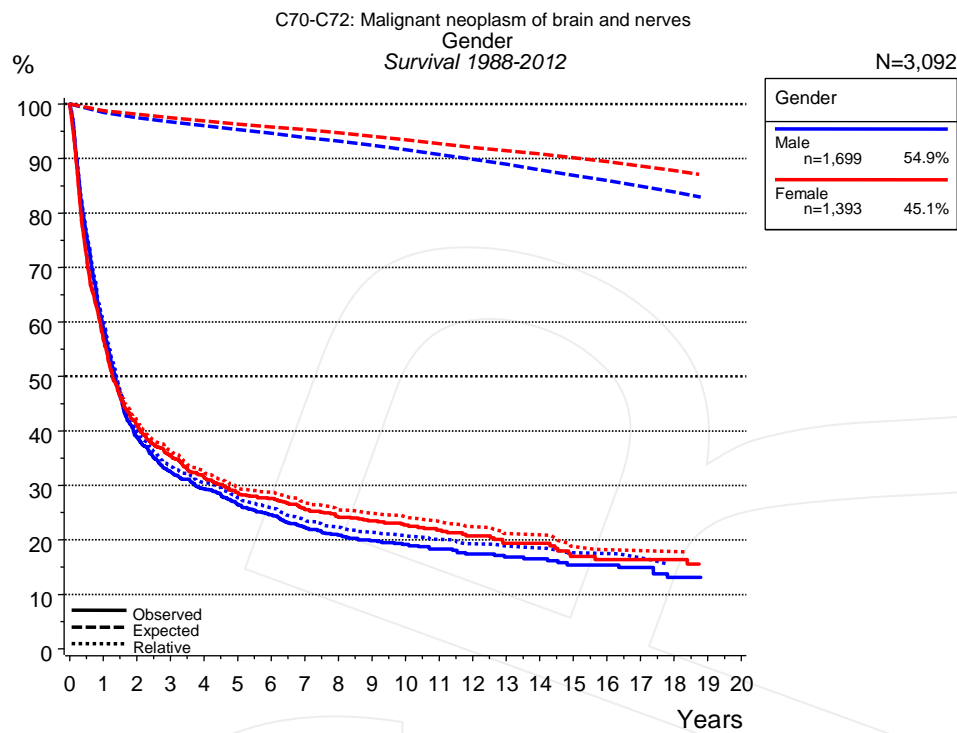


Figure 2a. Survival of patients with brain/nerves cancer by gender. Included in the evaluation are 3,092 cases diagnosed between 1988 and 2012.

Years	Gender			
	Male n=1,699		Female n=1,393	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	59.0	59.9	56.8	57.5
2	38.8	39.8	41.0	41.7
3	32.5	33.6	35.4	36.3
4	29.3	30.5	31.5	32.5
5	26.5	27.7	28.7	29.7
6	24.6	25.9	27.6	28.7
7	22.3	23.7	25.7	26.8
8	20.8	22.3	24.2	25.5
9	19.8	21.4	23.5	24.9
10	19.1	20.8	22.7	24.2
11	18.3	20.1	21.8	23.4
12	17.4	19.3	20.7	22.4
13	16.8	18.9	19.4	21.2
14	16.5	18.5	19.4	20.9
15	15.4	17.6	17.0	18.8
16	15.4	17.5	16.4	18.2
17	14.9	16.7	16.4	18.0
18	13.1	15.4	16.4	17.8
19	13.1	14.8		

Table 2b. Observed (obs.) and relative (rel.) survival of patients with brain/nerves cancer by gender for period 1988-2012 (N=3,092).

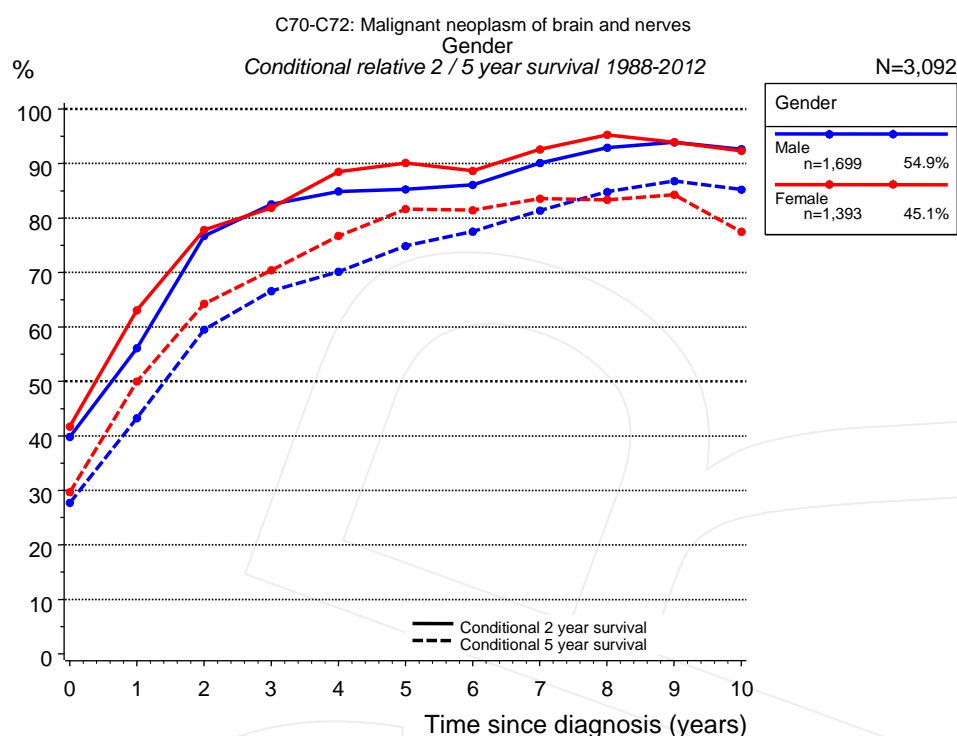


Figure 2c. Conditional relative 2 / 5-year survival of patients with brain/nerves cancer by gender. For 3,092 of 3,092 cases diagnosed between 1988 and 2012 valid data could be obtained for this item.

Years	Gender					
	Male			Female		
	n	Cond. surv. % 2 yrs	Cond. surv. % 5 yrs	n	Cond. surv. % 2 yrs	Cond. surv. % 5 yrs
0	1,699	39.8	27.7	1,393	41.7	29.7
1	940	56.1	43.3	748	63.1	50.0
2	563	76.7	59.5	499	77.8	64.3
3	421	82.5	66.6	388	81.9	70.4
4	342	84.9	70.1	308	88.5	76.7
5	260	85.3	74.9	249	90.1	81.6
6	216	86.1	77.5	206	88.6	81.4
7	175	90.1	81.4	179	92.6	83.5
8	149	92.9	84.8	153	95.3	83.3
9	120	93.9	86.8	129	93.9	84.3
10	104	92.6	85.2	111	92.3	77.5

Table 2d. Conditional relative 2 / 5-year survival of patients with brain/nerves cancer by gender for period 1988-2012 (N=3,092).

Conditional relative survival rates refer to the relative survival probability, in this case for 2 and 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 2a). 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 gender="Male", who are alive at least 3 years after cancer diagnosis, the conditional relative 2-year survival rate is 82.5% (n=421).

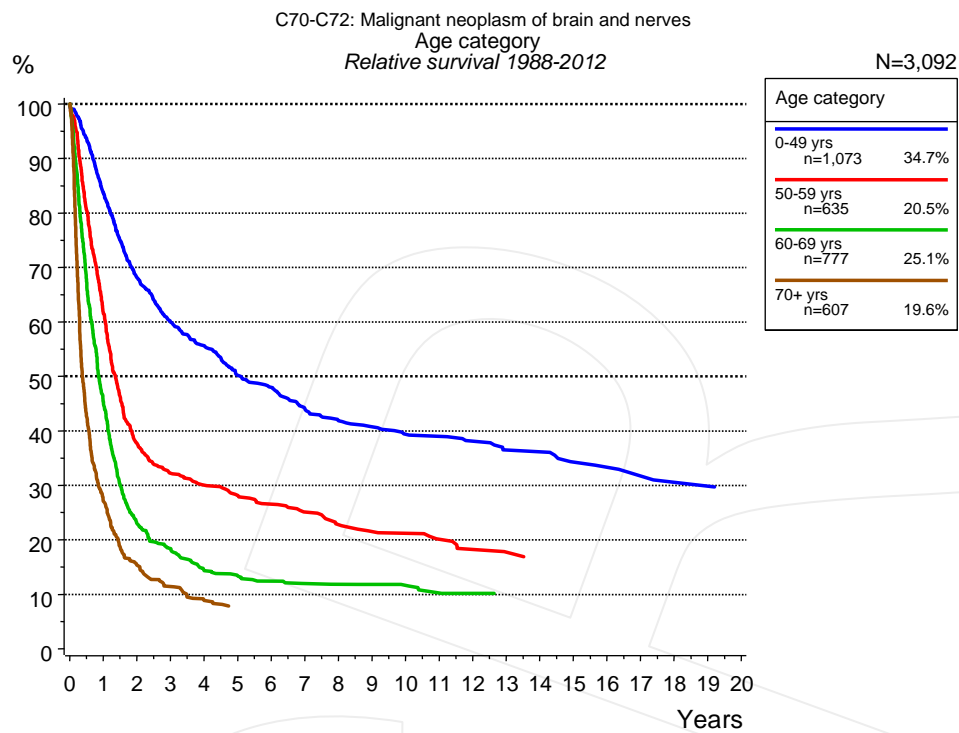


Figure 3a. Relative survival of patients with brain/nerves cancer by age category. Included in the evaluation are 3,092 cases diagnosed between 1988 and 2012.

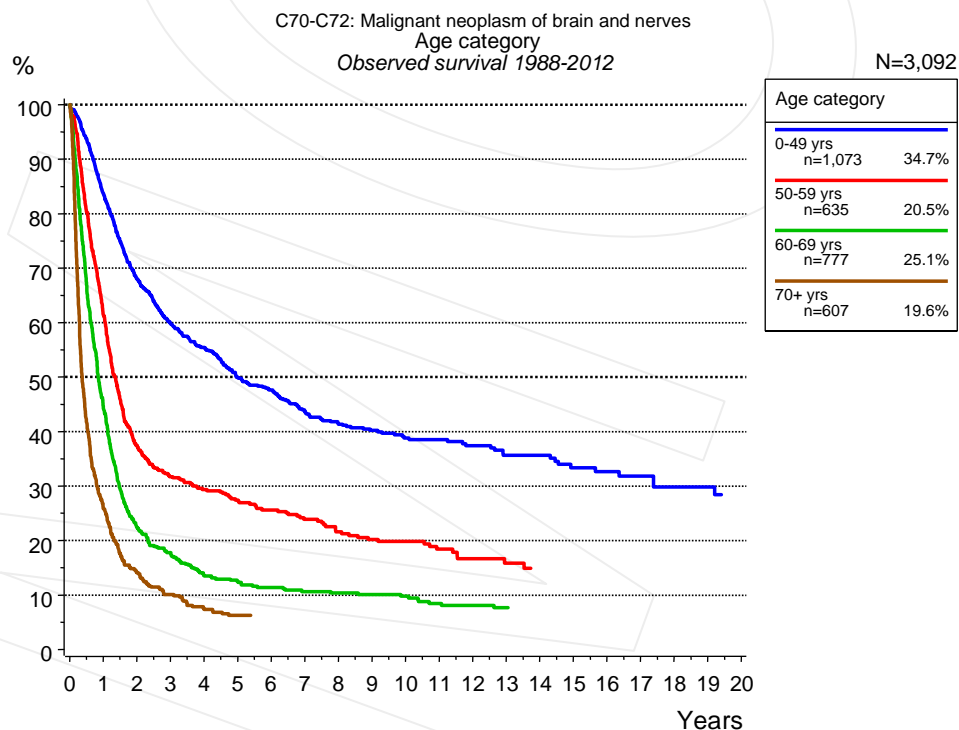


Figure 3b. Observed survival of patients with brain/nerves cancer by age category. Included in the evaluation are 3,092 cases diagnosed between 1988 and 2012.

Years	Age category							
	0-49 yrs n=1,073		50-59 yrs n=635		60-69 yrs n=777		70+ yrs n=607	
	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
1	83.6	83.7	61.2	61.5	44.8	45.3	25.9	27.0
2	67.9	68.1	37.5	37.8	22.5	23.0	14.1	15.3
3	59.7	60.0	31.7	32.3	17.8	18.4	10.1	11.4
4	55.5	55.6	29.4	30.0	13.7	14.4	7.3	8.8
5	49.9	50.2	27.4	28.1	12.5	13.4	6.3	7.8
6	47.6	48.0	25.6	26.5	11.4	12.4		
7	43.8	44.1	23.9	25.1	10.6	11.9		
8	41.4	41.9	21.6	22.8	10.4	11.8		
9	40.2	40.7	20.2	21.5	10.1	11.8		
10	38.8	39.4	19.8	21.2	9.8	11.6		
11	38.5	39.0	18.4	20.1	8.5	10.2		
12	37.4	38.1	16.7	18.2	8.1	10.1		
13	35.7	36.5	15.8	17.7	7.7	10.1		
14	35.7	36.2	14.9	16.4	7.7	10.0		
15	33.4	34.3						
16	32.7	33.3						
17	31.8	31.7						
18	29.8	30.6						
19	29.8	29.9						

Table 3c. Observed (obs.) and relative (rel.) survival of patients with brain/nerves cancer by age category for period 1988-2012 (N=3,092).

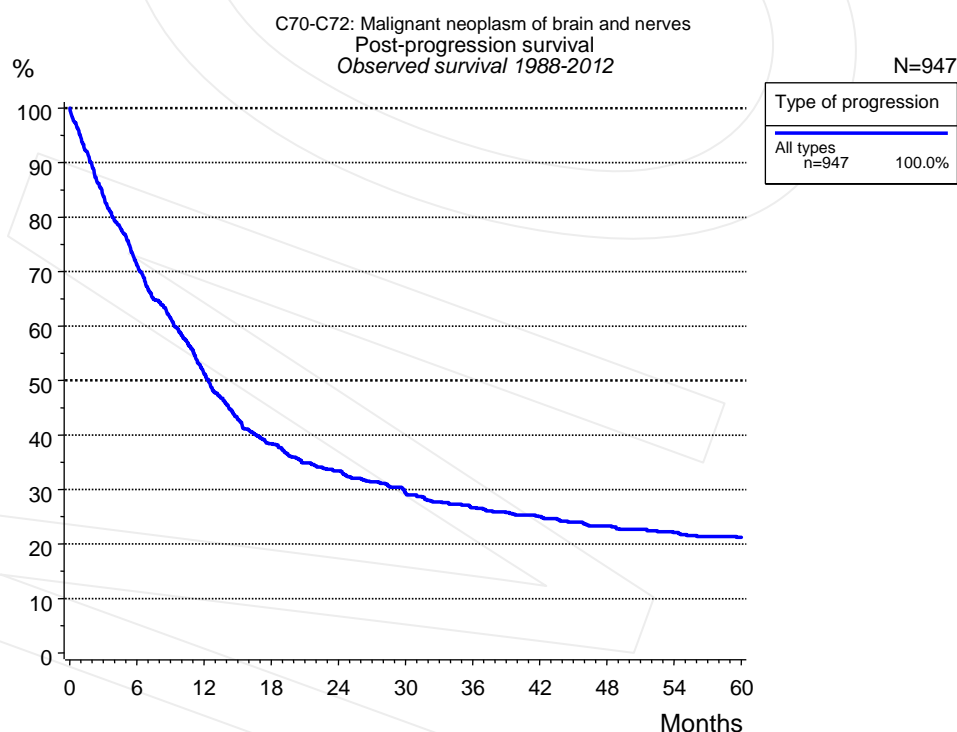


Figure 5a. Observed post-progression survival of 947 patients with brain/nerves cancer diagnosed between 1988 and 2012 (incl. M1). These 947 patients with documented progression events during their course of disease represent 30.6% of the totally 3,092 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=1,024, 33.1%).

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.

Type of progression	
All types n=947	
Months	%
0	100.0
12	51.1
24	33.4
36	26.7
48	23.3
60	21.2

Table 5b. Observed post-progression survival of patients with brain/nerves cancer for period 1988-2012 (N=947).

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 C70-C72: Brain/nerves cancer [Internet]. 2014 [updated 2014 Mar 25; cited 2014 May 1]. Available from: http://www.tumorregister-muenchen.de/en/facts/surv/surv_C7072E.pdf

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