

Munich Cancer Registry



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

Cancer statistics: Survival

GEP-NET: Gastr.ent.pancr. neuroend. tumor

Year of diagnosis	1988-2013
Patients	2,358
Diseases	2,382
Cases evaluated	1,105
Creation date	05/13/2015
Export date	12/30/2014
Population	4.64 m



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

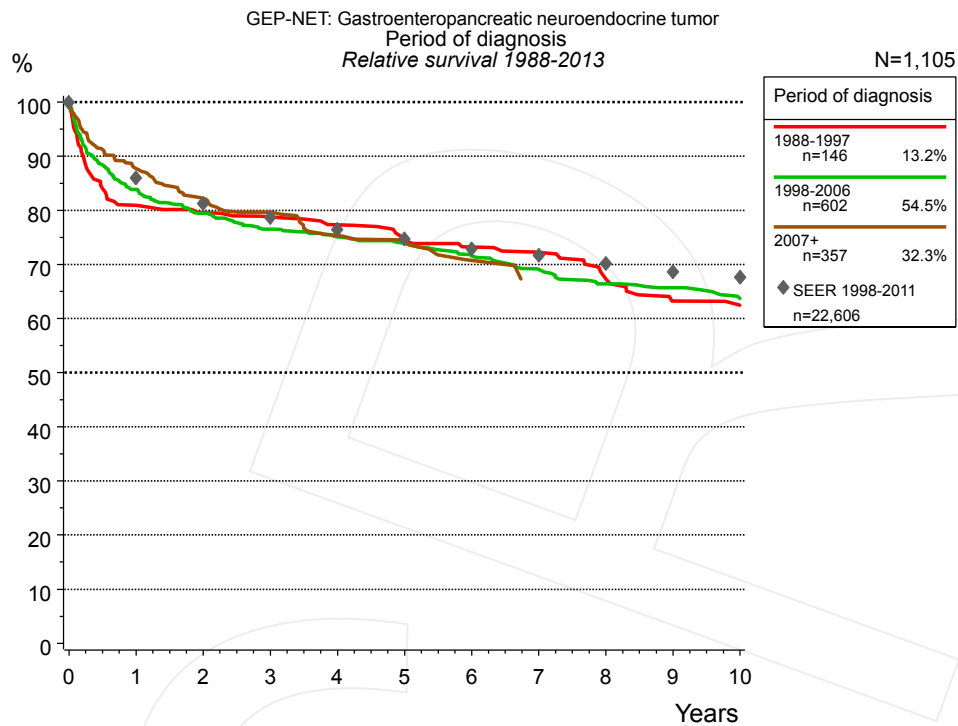


Figure 1a. Relative survival of patients with gastr.ent.pancr. neuroend. tumor by period of diagnosis. Included in the evaluation are 1,105 cases diagnosed between 1988 and 2013.

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.

Period of diagnosis						
Years	1988-1997 n=146		1998-2006 n=602		2007+ n=357	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	78.8	80.9	82.2	83.8	86.1	87.7
2	76.0	79.6	76.4	79.5	79.5	82.2
3	74.0	78.8	72.3	76.5	76.2	79.6
4	71.2	77.3	69.7	75.1	71.0	75.3
5	67.1	74.4	67.4	73.9	68.7	74.2
6	65.0	73.2	64.0	71.6	64.2	70.7
7	62.9	72.2	60.5	69.1	59.9	64.0
8	58.0	67.3	57.0	66.4		
9	53.1	63.2	55.3	65.7		
10	51.6	62.4	52.5	63.7		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with gastr.ent.pancr. neuroend. tumor by period of diagnosis for period 1988-2013 (N=1,105).

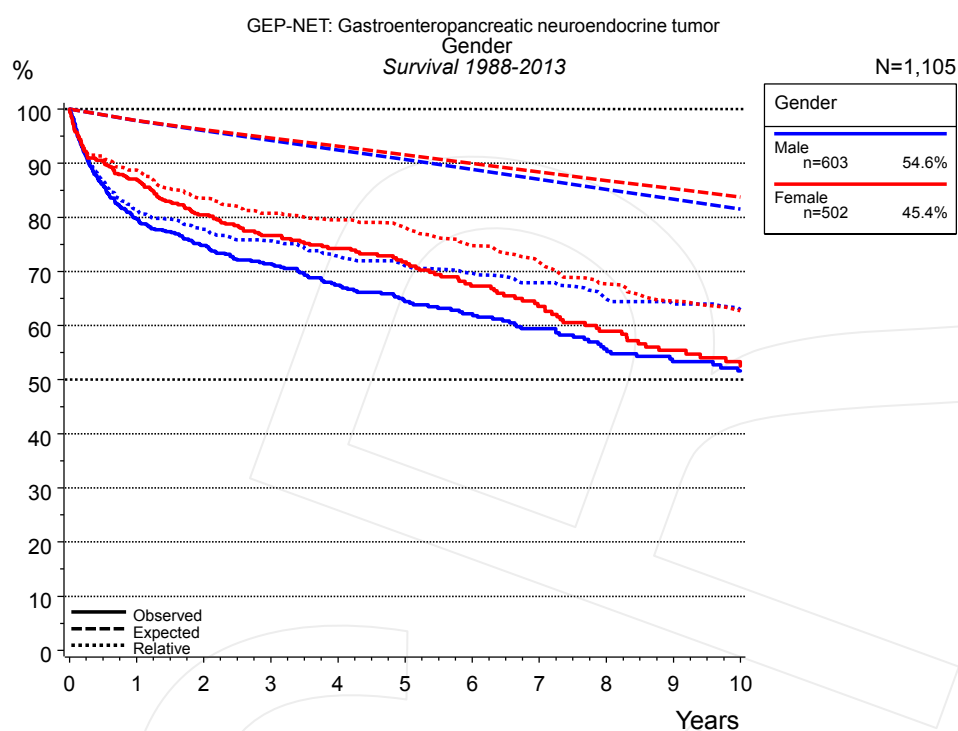


Figure 2a. Survival of patients with gastr.ent.pancr. neuroend. tumor by gender. Included in the evaluation are 1,105 cases diagnosed between 1988 and 2013.

Years	Gender			
	Male n=603		Female n=502	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	79.7	81.4	86.9	88.7
2	74.8	77.8	80.5	83.5
3	71.4	75.6	76.6	80.7
4	67.5	72.8	74.2	79.5
5	64.4	71.0	71.8	78.1
6	62.2	69.6	67.3	74.8
7	59.4	67.9	63.6	71.7
8	55.7	64.9	58.9	67.7
9	53.3	63.9	55.4	64.5
10	51.6	62.9	52.5	62.7

Table 2b. Observed (obs.) and relative (rel.) survival of patients with gastr.ent.pancr. neuroend. tumor by gender for period 1988-2013 (N=1,105).

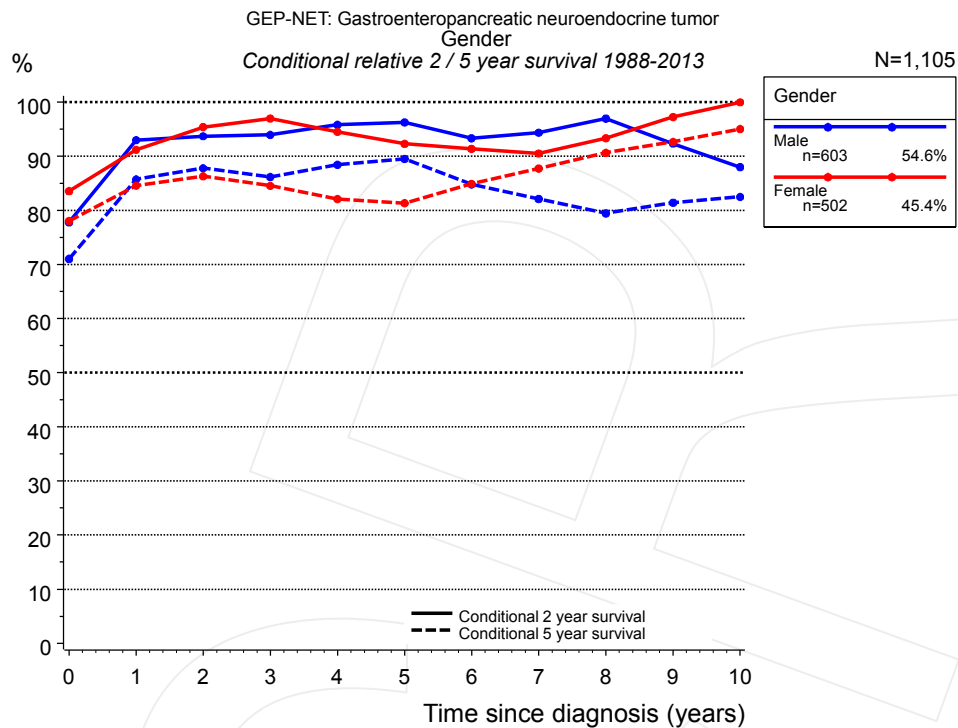


Figure 2c. Conditional relative 2 / 5-year survival of patients with gastr.ent.pancr. neuroend. tumor by gender. For 1,105 of 1,105 cases diagnosed between 1988 and 2013 valid data could be obtained for this item.

Years	Gender					
	Male			Female		
	n	Cond. surv. % 2 yrs	5 yrs	n	Cond. surv. % 2 yrs	5 yrs
0	603	77.8	71.0	502	83.5	78.1
1	447	93.0	85.7	414	91.2	84.6
2	371	93.7	87.8	336	95.4	86.3
3	310	93.9	86.2	277	97.0	84.5
4	255	95.8	88.4	229	94.5	82.1
5	217	96.3	89.5	190	92.3	81.3
6	187	93.3	84.8	153	91.4	84.9
7	160	94.4	82.1	130	90.5	87.7
8	125	97.0	79.4	107	93.3	90.6
9	103	92.3	81.4	86	97.2	92.6
10	89	88.0	82.5	66	100.0	95.0

Table 2d. Conditional relative 2 / 5-year survival of patients with gastr.ent.pancr. neuroend. tumor by gender for period 1988-2013 (N=1,105).

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 93.9% (n=310).

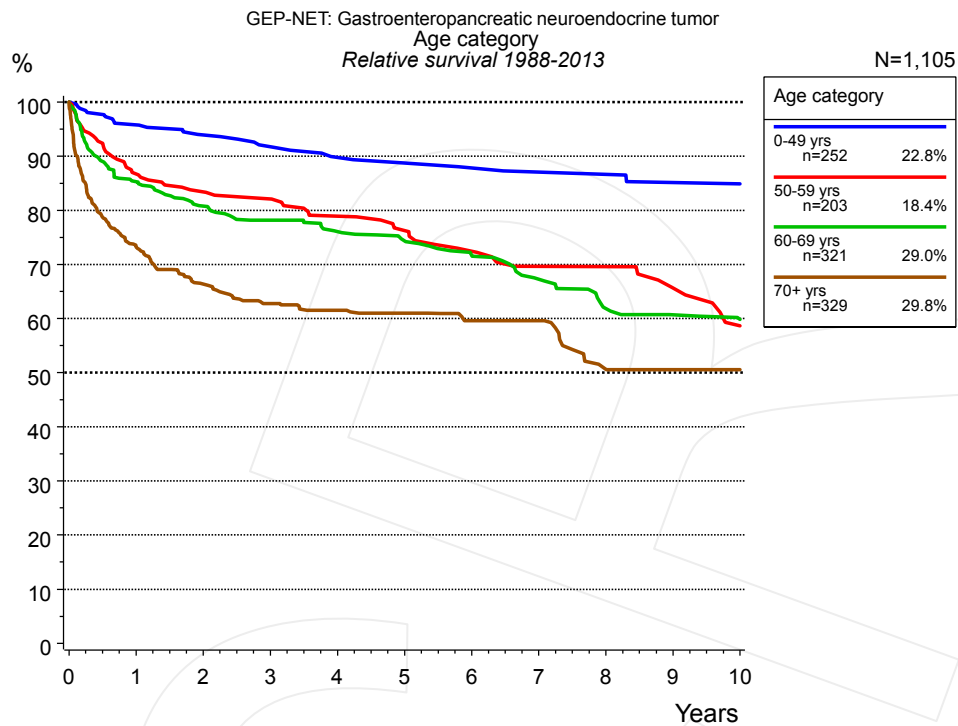


Figure 3a. Relative survival of patients with gastr.ent.pancr. neuroend. tumor by age category. Included in the evaluation are 1,105 cases diagnosed between 1988 and 2013.

Years	Age category							
	0-49 yrs n=252		50-59 yrs n=203		60-69 yrs n=321		70+ yrs n=329	
	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	96.0	95.8	86.5	86.7	84.3	85.3	69.4	73.2
2	93.7	93.9	82.8	83.4	78.6	80.8	60.0	66.4
3	91.7	91.7	81.1	82.1	75.1	78.2	53.8	62.7
4	89.3	89.7	77.2	78.9	71.7	76.1	50.4	61.5
5	87.9	88.7	74.1	76.3	68.9	74.3	46.5	61.0
6	87.1	87.8	69.9	72.4	65.2	71.7	42.6	59.6
7	86.2	87.1	66.1	69.6	59.6	67.2	40.4	59.6
8	86.2	86.6	66.1	69.6	53.5	61.8	32.3	50.6
9	83.8	85.1	61.0	65.7	51.0	60.7	30.4	50.5
10	83.8	84.9	54.4	58.7	49.0	59.8	29.1	50.5

Table 3b. Observed (obs.) and relative (rel.) survival of patients with gastr.ent.pancr. neuroend. tumor by age category for period 1988-2013 (N=1,105).

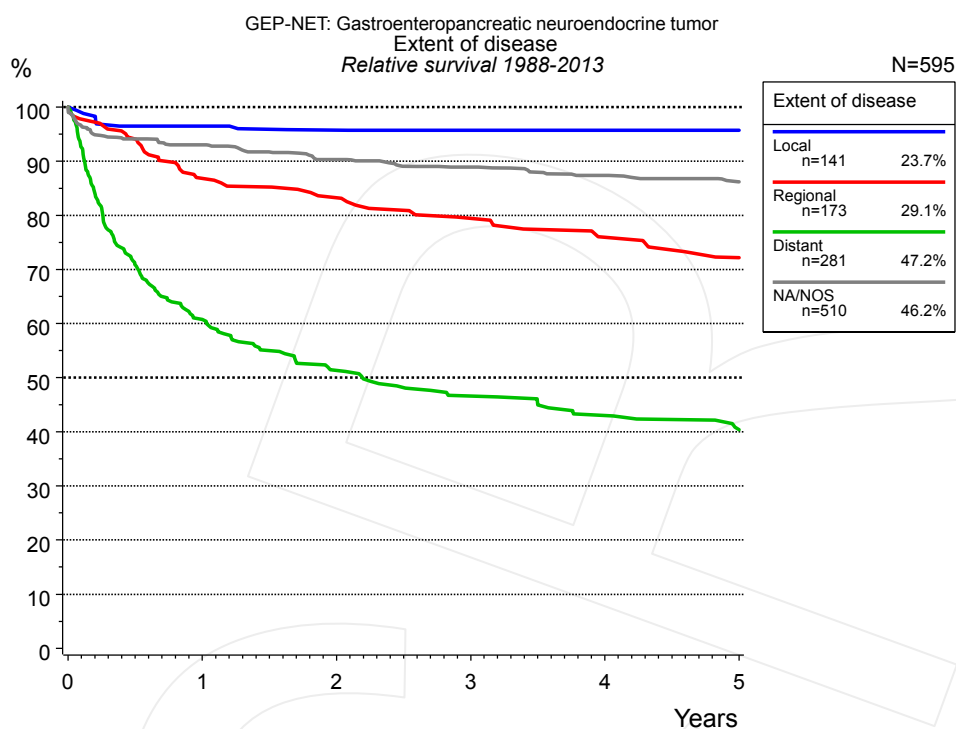


Figure 4a. Relative survival of patients with gastr.ent.pancr. neuroend. tumor by extent of disease. For 764 of 1,105 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 595 cases an evaluable classification was established. The grey line represents the subgroup of 510 patients with missing values regarding extent of disease (46.2% of 1,105 patients, the percent values of all other categories are related to n=595).

Years	Extent of disease							
	Local n=141		Regional n=173		Distant n=281		NA/NOS n=510	
	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	95.0	96.5	85.2	86.8	59.5	60.8	91.5	93.0
2	92.7	95.7	80.7	83.2	49.7	51.3	86.9	90.3
3	91.8	95.7	75.5	79.4	44.5	46.6	83.9	88.9
4	89.7	95.7	70.8	75.9	40.7	43.0	81.1	87.4
5	89.7	95.7	66.2	72.2	37.6	40.4	78.3	86.2

Table 4b. Observed (obs.) and relative (rel.) survival of patients with gastr.ent.pancr. neuroend. tumor by extent of disease for period 1988-2013 (N=595).

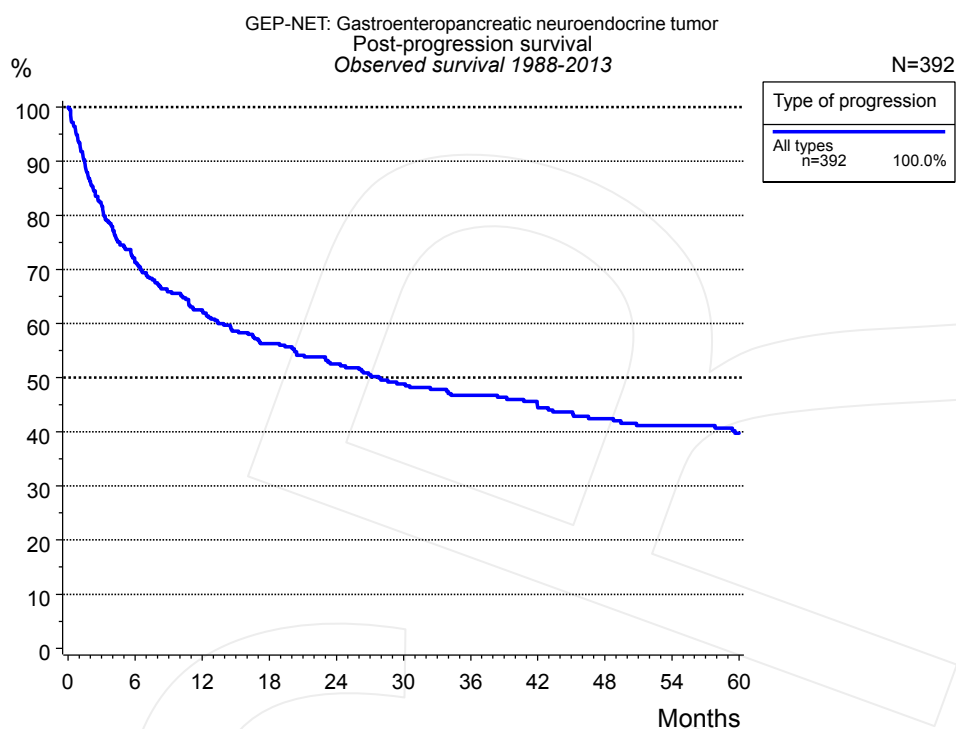


Figure 5a. Observed post-progression survival of 392 patients with gastr.ent.pancr. neuroend. tumor diagnosed between 1988 and 2013 (incl. M1). These 392 patients with documented progression events during their course of disease represent 35.5% of the totally 1,105 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=46, 4.2%).

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=392	
Months	%
0	100.0
12	62.3
24	52.5
36	46.8
48	42.4
60	39.8

Table 5b. Observed post-progression survival of patients with gastr.ent.pancr. neuroend. tumor for period 1988-2013 (N=392).

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)
progression	Date of entry: Date of first locoregional recurrence, distant metastasis, unspecified
	Event: Death of all causes
CS	Conditional survival, survival probability under the condition of surviving a given period of time

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