

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 | 1988-1997 | 1998-2011 |
|-------------------|------------|-----------|
| Patients | 158 | 1,633 |
| Diseases | 158 | 1,648 |
| Creation date | 04/01/2013 | |
| Export date | 01/03/2013 | |
| Population | 4.5 m | |



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

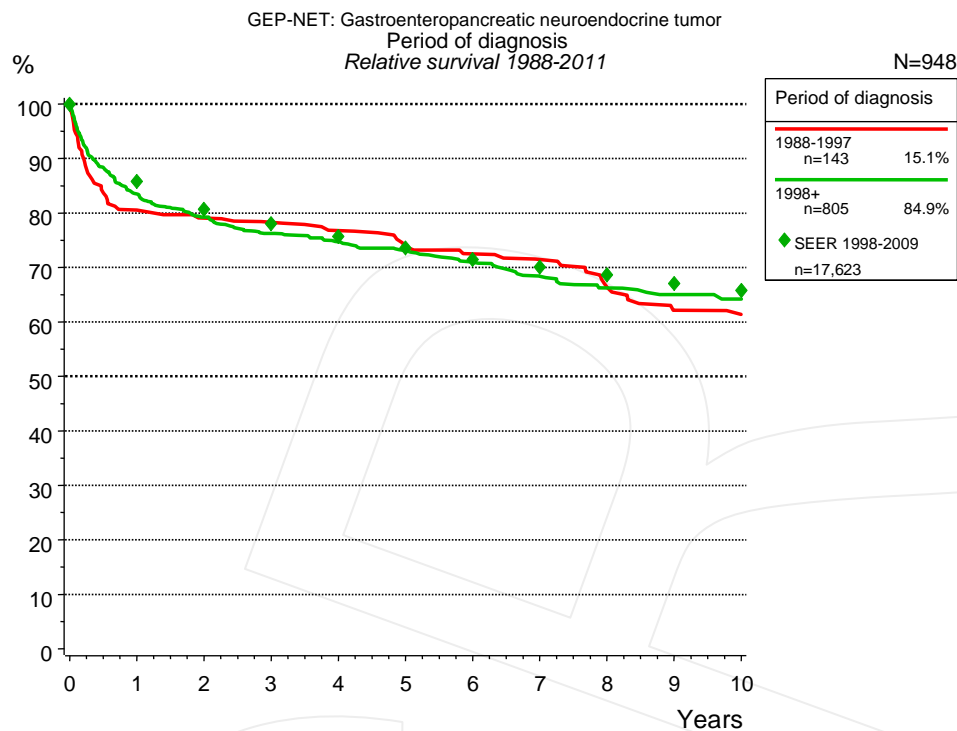


Figure 1a. Relative survival of patients with gastr.ent.pancr. neuroend. tumor by period of diagnosis. Included in the evaluation are 948 cases diagnosed between 1988 and 2011.

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=143 | | 1998+ n=805 | |
| | obs. % | rel. % | obs. % | rel. % |
| 0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 | 78.3 | 80.5 | 81.8 | 83.5 |
| 2 | 75.5 | 79.1 | 76.3 | 79.2 |
| 3 | 73.4 | 78.3 | 72.2 | 76.2 |
| 4 | 70.6 | 76.8 | 69.5 | 74.7 |
| 5 | 66.4 | 73.8 | 66.9 | 73.1 |
| 6 | 64.3 | 72.5 | 63.6 | 71.0 |
| 7 | 62.1 | 71.4 | 60.0 | 68.3 |
| 8 | 57.1 | 66.3 | 57.0 | 66.2 |
| 9 | 52.1 | 62.2 | 54.9 | 65.0 |
| 10 | 50.6 | 61.3 | 53.2 | 64.2 |

Table 1b. Observed (obs.) and relative (rel.) survival of patients with gastr.ent.pancr. neuroend. tumor by period of diagnosis for period 1988-2011 (N=948).

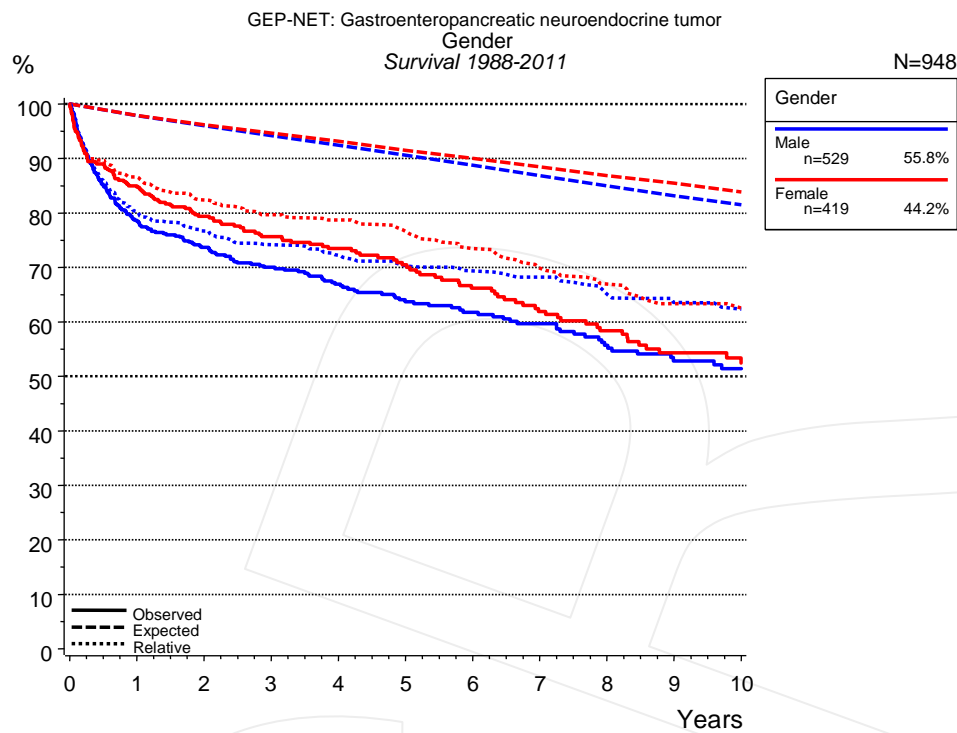


Figure 2a. Survival of patients with gastr.ent.pancr. neuroend. tumor by gender. Included in the evaluation are 948 cases diagnosed between 1988 and 2011.

| Years | Gender | | | |
|-------|---------------|--------|-----------------|--------|
| | Male n=529 | | Female n=419 | |
| | obs. % | rel. % | obs. % | rel. % |
| 0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 | 78.5 | 80.2 | 84.7 | 86.6 |
| 2 | 73.7 | 76.7 | 79.4 | 82.4 |
| 3 | 70.0 | 74.2 | 75.6 | 79.7 |
| 4 | 66.9 | 72.2 | 73.4 | 78.7 |
| 5 | 63.7 | 70.3 | 70.5 | 76.6 |
| 6 | 61.8 | 69.4 | 66.2 | 73.5 |
| 7 | 59.7 | 68.2 | 61.9 | 69.9 |
| 8 | 55.7 | 65.0 | 58.4 | 67.0 |
| 9 | 52.9 | 63.6 | 54.3 | 63.4 |
| 10 | 51.4 | 62.4 | 52.4 | 62.5 |

Table 2b. Observed (obs.) and relative (rel.) survival of patients with gastr.ent.pancr. neuroend. tumor by gender for period 1988-2011 (N=948).

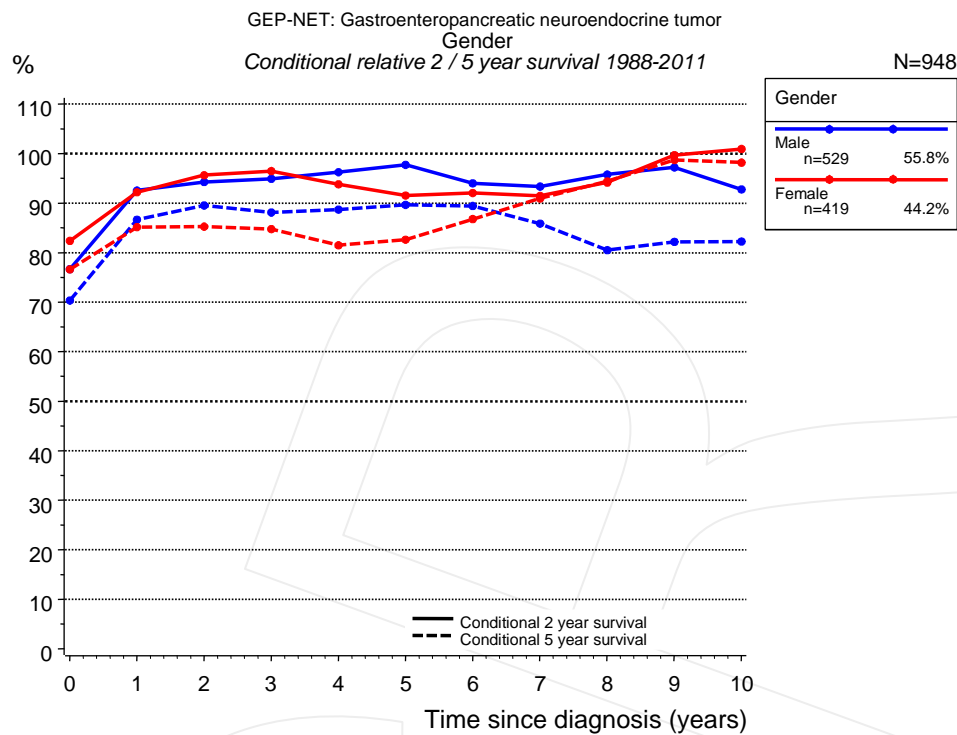


Figure 2c. Conditional relative 2 / 5-year survival of patients with gastr.ent.pancr. neuroend. tumor by gender. For 948 of 948 cases diagnosed between 1988 and 2011 valid data could be obtained for this item.

| Gender | | | | | | |
|--------|------|------------------------|------------------------|--------|------------------------|------------------------|
| Years | Male | | | Female | | |
| | n | Cond. surv. % 2 yrs | Cond. surv. % 5 yrs | n | Cond. surv. % 2 yrs | Cond. surv. % 5 yrs |
| 0 | 529 | 76.7 | 70.3 | 419 | 82.4 | 76.6 |
| 1 | 383 | 92.5 | 86.6 | 336 | 92.2 | 85.1 |
| 2 | 312 | 94.3 | 89.5 | 271 | 95.6 | 85.2 |
| 3 | 269 | 94.9 | 88.1 | 221 | 96.5 | 84.8 |
| 4 | 223 | 96.2 | 88.7 | 188 | 93.8 | 81.5 |
| 5 | 182 | 97.7 | 89.6 | 156 | 91.5 | 82.6 |
| 6 | 153 | 94.0 | 89.4 | 130 | 92.0 | 86.8 |
| 7 | 130 | 93.3 | 85.9 | 112 | 91.4 | 90.9 |
| 8 | 106 | 95.8 | 80.5 | 93 | 94.2 | 94.4 |
| 9 | 84 | 97.2 | 82.2 | 73 | 99.7 | 98.7 |
| 10 | 65 | 92.8 | 82.3 | 55 | 100.9 | 98.2 |

Table 2d. Conditional relative 2 / 5-year survival of patients with gastr.ent.pancr. neuroend. tumor by gender for period 1988-2011 (N=948).

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 94.9% (n=269).

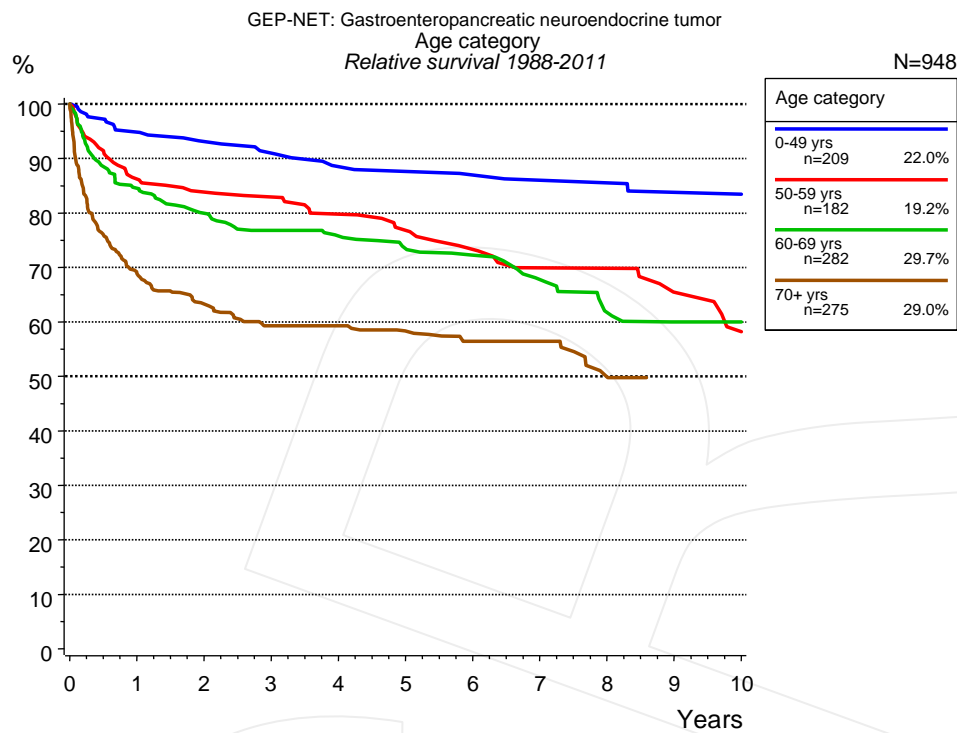


Figure 3a. Relative survival of patients with gastr.ent.pancr. neuroend. tumor by age category. Included in the evaluation are 948 cases diagnosed between 1988 and 2011.

| Years | Age category | | | | | | | |
|-------|-------------------|--------|--------------------|--------|--------------------|--------|------------------|--------|
| | 0-49 yrs n=209 | | 50-59 yrs n=182 | | 60-69 yrs n=282 | | 70+ yrs n=275 | |
| | 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 | 95.1 | 94.8 | 86.1 | 86.2 | 83.6 | 84.5 | 65.1 | 68.9 |
| 2 | 93.0 | 93.1 | 83.1 | 83.8 | 77.8 | 80.0 | 57.1 | 63.3 |
| 3 | 91.0 | 91.0 | 81.8 | 82.9 | 73.7 | 76.8 | 50.6 | 59.3 |
| 4 | 88.1 | 88.5 | 78.0 | 79.8 | 71.3 | 75.8 | 48.4 | 59.3 |
| 5 | 87.3 | 87.6 | 74.7 | 76.8 | 68.1 | 73.4 | 43.8 | 58.3 |
| 6 | 86.3 | 87.0 | 70.9 | 73.3 | 65.2 | 72.2 | 40.1 | 56.4 |
| 7 | 85.2 | 86.0 | 66.4 | 69.9 | 60.1 | 67.8 | 38.4 | 56.4 |
| 8 | 85.2 | 85.5 | 66.4 | 69.8 | 53.4 | 61.7 | 31.5 | 49.9 |
| 9 | 82.5 | 83.8 | 60.6 | 65.4 | 50.2 | 60.0 | 29.2 | 49.8 |
| 10 | 82.5 | 83.4 | 54.2 | 58.2 | 50.2 | 60.0 | | |

Table 3b. Observed (obs.) and relative (rel.) survival of patients with gastr.ent.pancr. neuroend. tumor by age category for period 1988-2011 (N=948).

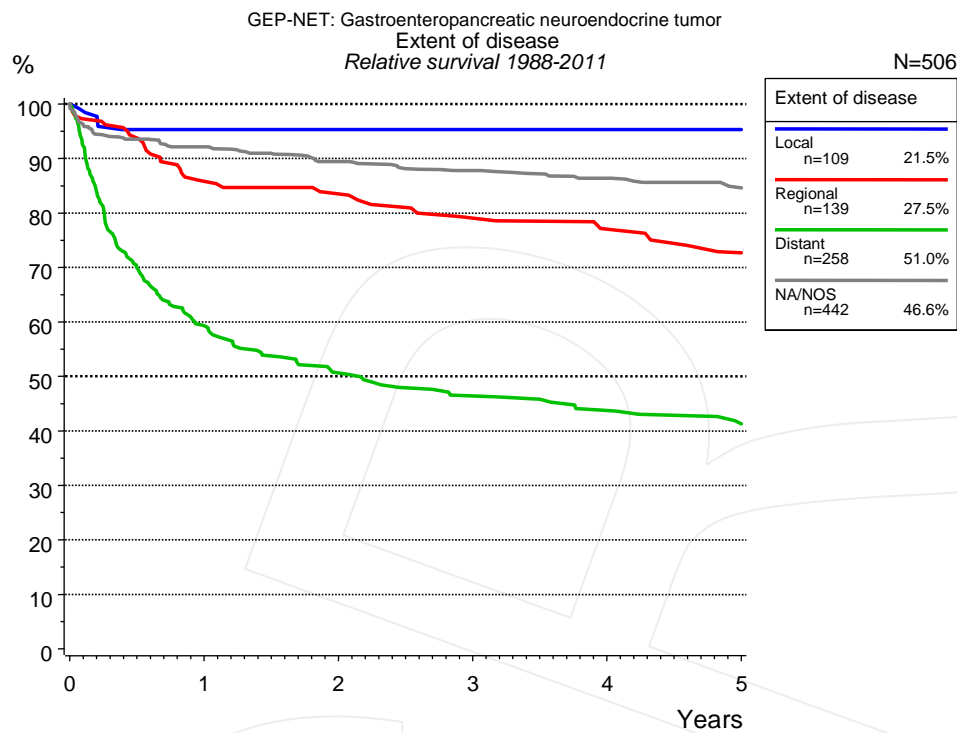


Figure 4a. Relative survival of patients with gastr.ent.pancr. neuroend. tumor by extent of disease. For 647 of 948 cases diagnosed between 1988 and 2011 valid data could be obtained for this item. For a total of 506 cases an evaluable classification was established. The grey line represents the subgroup of 442 patients with missing values regarding extent of disease (46.6% of 948 patients, the percent values of all other categories are related to n=506).

| Years | Extent of disease | | | | | | | |
|-------|-------------------|--------|-------------------|--------|------------------|--------|-----------------|--------|
| | Local n=109 | | Regional n=139 | | Distant n=258 | | NA/NOS n=442 | |
| | 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 | 93.5 | 95.3 | 84.4 | 85.8 | 58.1 | 59.3 | 90.6 | 92.2 |
| 2 | 93.5 | 95.3 | 81.1 | 83.5 | 49.1 | 50.6 | 86.0 | 89.4 |
| 3 | 92.3 | 95.3 | 75.4 | 79.0 | 44.4 | 46.4 | 82.9 | 87.8 |
| 4 | 90.9 | 95.3 | 71.9 | 77.0 | 41.4 | 43.7 | 80.2 | 86.4 |
| 5 | 90.9 | 95.3 | 66.8 | 72.7 | 38.6 | 41.3 | 76.8 | 84.6 |

Table 4b. Observed (obs.) and relative (rel.) survival of patients with gastr.ent.pancr. neuroend. tumor by extent of disease for period 1988-2011 (N=506).

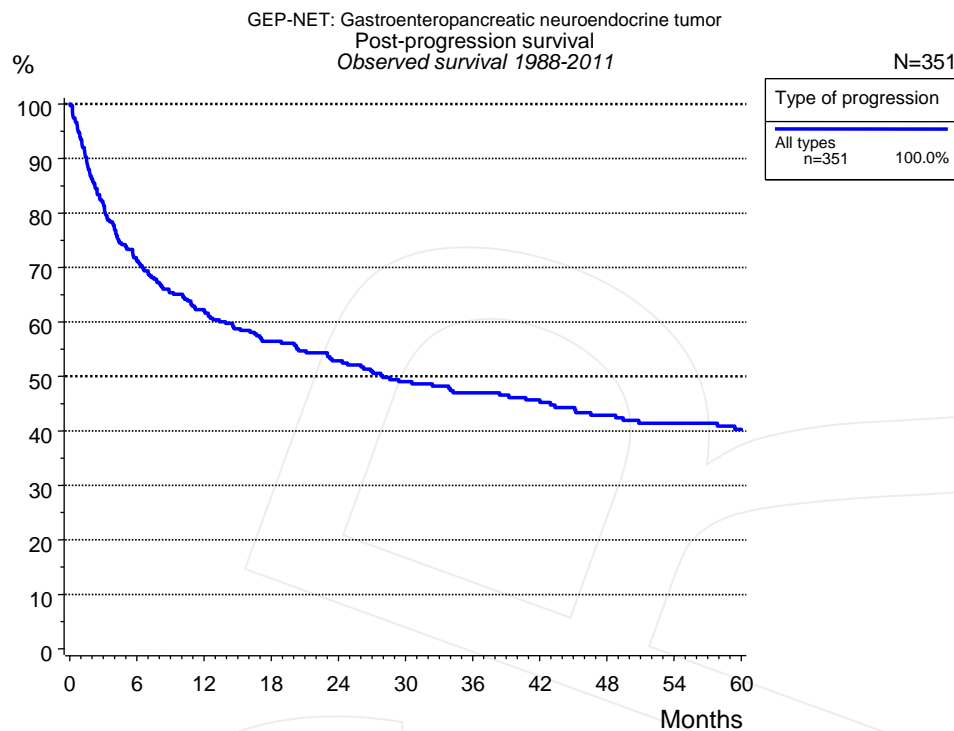


Figure 5a. Observed post-progression survival of 351 patients with gastr.ent.pancr. neuroend. tumor diagnosed between 1988 and 2011 (incl. M1). These 351 patients with documented progression events during their course of disease represent 37.0% of the totally 948 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=40, 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=351 | |
| Months | % |
| 0 | 100.0 |
| 12 | 61.9 |
| 24 | 52.8 |
| 36 | 47.0 |
| 48 | 42.9 |
| 60 | 40.3 |

Table 5b. Observed post-progression survival of patients with gastr.ent.pancr. neuroend. tumor for period 1988-2011 (N=351).

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 |

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