Munich Cancer Registry



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ICD-10 C33, C34: Lung cancer

Survival

Year of diagnosis	1988-1997	1998-2014
Patients	4,643	30,185
Diseases	4,668	30,462
Cases evaluated	4,145	20,874
Creation date	04/11/2016	
Export date	12/23/2015	
Population	4.64 m	



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

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

http://www.tumorregister-muenchen.de/en/facts/surv/sC3334E-ICD-10-C33-C34-Lung-cancer-survival.pdf

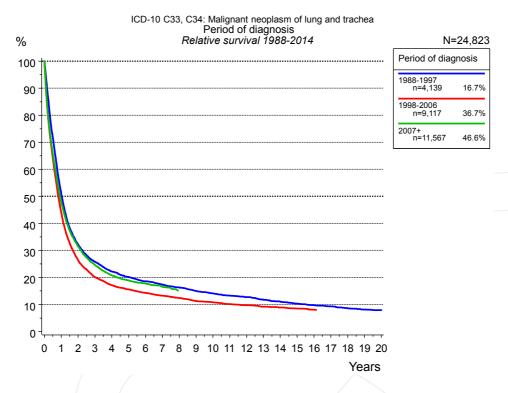


Figure 1a. Relative survival of patients with lung cancer by period of diagnosis. Included in the evaluation are 24,823 cases diagnosed between 1988 and 2014.

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.

	F	Period	of diag	gnosis	;	
	1988-	1997	1998-	2006	200	7+
	n=4,	139	n=9,	117	n=11	,567
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	49.8	51.0	42.8	43.9	46.9	48.0
2	30.7	32.2	25.1	26.3	30.1	31.5
3	24.1	25.8	18.8	20.1	23.0	24.6
4	20.3	22.2	15.7	17.2	19.0	20.8
5	17.9	20.1	13.9	15.6	16.9	18.9
6	16.2	18.6	12.4	14.3	15.6	17.9
7	14.8	17.3	11.3	13.3	14.1	16.6
8	13.5	16.3	10.3	12.4		
9	12.2	15.0	9.1	11.3		
10	11.1	14.1	8.6	10.8		
11	10.2	13.3	7.8	10.2		
12	9.6	12.7	7.4	9.8		
13	8.6	11.8	6.8	9.2		
14	7.9	11.1	6.4	8.9		
15	7.2	10.3	5.9	8.5		
16	6.6	9.7	5.5	8.1		
17	6.1	9.3				
18	5.6	8.6				
19	5.1	8.1				
20	4.8	7.9				

Table 1b. Observed (obs.) and relative (rel.) survival of patients with lung cancer by period of diagnosis for period 1988-2014 (N=24,823).

1998

1999

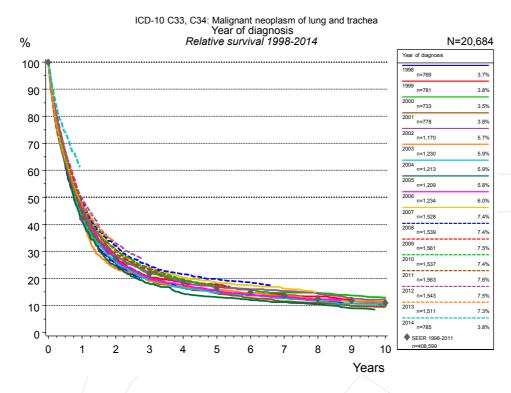


Figure 1c. Relative survival of patients with lung cancer by year of diagnosis. Included in the evaluation are 20,684 cases diagnosed between 1998 and 2014.

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.

Year of diagnosis

2001

2002

2003

2004

2000

Years obs. % rel. % obs. % rel. % </th <th></th> <th>n=7</th> <th>769</th> <th>n=7</th> <th>'81</th> <th>n=7</th> <th>733</th> <th>n=7</th> <th>778</th> <th>n=1,</th> <th>170</th> <th colspan="2">n=1,230</th> <th colspan="2">′</th>		n=7	769	n=7	'81	n=7	733	n=7	778	n=1,	170	n=1,230		′	
1 41.4 42.6 43.4 44.6 42.7 43.8 46.7 47.8 44.5 45.7 40.6 41.6 42.2 43.2 24.5 25.7 26.2 27.6 26.7 27.9 26.0 27.1 27.1 28.4 22.6 23.7 24.8 25.9 3 18.2 19.5 19.0 20.5 20.7 22.0 18.9 20.2 21.0 22.5 17.9 19.1 18.5 19.7 4 15.4 16.9 16.8 18.6 17.7 19.3 15.4 16.7 17.2 18.8 15.4 16.7 15.1 16.4 5 13.7 15.5 14.9 16.9 16.0 17.7 13.1 14.5 15.4 17.1 14.2 15.9 13.2 14.8 6 12.0 13.8 13.6 15.8 13.9 15.8 11.3 12.8 14.0 16.1 12.8 14.6 12.0 13.7 7 11.0 12.8 11.8 14.0 12.8 14.7 10.0 11.5 13.1 15.4 11.6 13.5 10.9 12.7 8 9.5 11.6 11.0 13.4 12.5 14.7 9.5 11.0 12.0 14.4 10.3 12.4 9.7 11.6 9 8.6 10.7 9.4 11.7 11.3 13.7 8.2 9.8 10.4 12.7 9.4 11.6 8.7 10.7 10 8.0 10.2 8.8 11.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 10.3 12.9 10.0 10.0 100.0	Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
2 24.5 25.7 26.2 27.6 26.7 27.9 26.0 27.1 27.1 28.4 22.6 23.7 24.8 25.9 3 18.2 19.5 19.0 20.5 20.7 22.0 18.9 20.2 21.0 22.5 17.9 19.1 18.5 19.7 4 15.4 16.9 16.8 18.6 17.7 19.3 15.4 16.7 17.2 18.8 15.4 16.7 15.1 16.4 5 13.7 15.5 14.9 16.9 16.0 17.7 13.1 14.5 15.4 17.1 14.2 15.9 13.2 14.8 6 12.0 13.8 13.6 15.8 13.9 15.8 11.3 12.8 14.0 16.1 12.8 14.6 12.0 13.7 7 11.0 12.8 11.8 14.0 12.8 14.7 10.0 11.5 13.1 15.4 11.6 13.5 10.9 12.7 8 9.5 11.6 11.0 13.4 12.5 14.7 9.5 11.0 12.0 14.4 10.3 12.4 9.7 11.6 9 8.6 10.7 9.4 11.7 11.3 13.7 8.2 9.8 10.4 12.7 9.4 11.6 8.7 10.7 10 8.0 10.2 8.8 11.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 10.3 12.9 12.7 12.0 14.4 10.3 12.4 9.7 11.6 12.0 14.4 10.3 14.4 12.5 14.7 10.3 14.5 12.5 14.7 12.5 14.8 12.5 14.8 14.5 14.5 14.6 12.5 14.7 12.5 14.8 14.5 14.6 12.5 14.8 14.8 14.5 14.6 12.5 14.7 12.5 14.8 14.5 14.6 12.5 14.7 12.5 14.8 14.5 14.6 12.5 14.7 12.5 14.8 14.5 14.4 10.3 12.5 14.8 14.7 12.8 14.5 14.4 10.3 12.5 14.8 14.5 14.5 14.4 10.3 14.4 16.0 15.5 14.7 14.5 14.5 14.5 14.5 14.5 14.4 10.3 14.4 16.0 15.5 14.7 14.5 14.5 14.5 14.5 14.5 14.5 14.5 14.5	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
3 18.2 19.5 19.0 20.5 20.7 22.0 18.9 20.2 21.0 22.5 17.9 19.1 18.5 19.7 4 15.4 16.9 16.8 18.6 17.7 19.3 15.4 16.7 17.2 18.8 15.4 16.7 15.1 16.4 5 13.7 15.5 14.9 16.9 16.0 17.7 13.1 14.5 15.4 17.1 14.2 15.9 13.2 14.8 6 12.0 13.8 13.6 15.8 13.9 15.8 11.3 12.8 14.0 16.1 12.8 14.6 12.0 13.7 7 11.0 12.8 11.8 14.0 12.8 14.7 10.0 11.5 13.1 15.4 11.6 13.5 10.9 12.7 8 9.5 11.6 11.0 13.4 12.5 14.7 9.5 11.0 12.0 14.4 10.3 12.4 9.7 11.6 9 8.6 10.7 9.4 11.7 11.3 13.7 8.2 9.8 10.4 12.7 9.4 11.6 8.7 10.7 10 8.0 10.2 8.8 11.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 12.4 9.7 11.6 10.0 10.0 10.0 10.0 10.0 100.0	1	41.4	42.6	43.4	44.6	42.7	43.8	46.7	47.8	44.5	45.7	40.6	41.6	42.2	43.2
4 15.4 16.9 16.8 18.6 17.7 19.3 15.4 16.7 17.2 18.8 15.4 16.7 15.1 16.4 5 13.7 15.5 14.9 16.9 16.0 17.7 13.1 14.5 15.4 17.1 14.2 15.9 13.2 14.8 6 12.0 13.8 13.6 15.8 13.9 15.8 11.3 12.8 14.0 16.1 12.8 14.6 12.0 13.7 7 11.0 12.8 11.8 14.0 12.8 14.7 10.0 11.5 13.1 15.4 11.6 13.5 10.9 12.7 8 9.5 11.6 11.0 13.4 12.5 14.7 9.5 11.0 12.0 14.4 10.3 12.4 9.7 11.6 9 8.6 10.7 9.4 11.7 11.3 13.7 8.2 9.8 10.4 12.7 9.4 11.6 8.7 10.7 10 8.0 10.2 8.8 11.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 10.3 12.9 11.6 10.0 10.0 10.0 10.0 10.0 10.0 10.0	2	24.5	25.7	26.2	27.6	26.7	27.9	26.0	27.1	27.1	28.4	22.6	23.7	24.8	25.9
5 13.7 15.5 14.9 16.9 16.0 17.7 13.1 14.5 15.4 17.1 14.2 15.9 13.2 14.8 6 12.0 13.8 13.6 15.8 13.9 15.8 11.3 12.8 14.0 16.1 12.8 14.6 12.0 13.7 7 11.0 12.8 11.8 14.0 12.8 14.7 10.0 11.5 13.1 15.4 11.6 13.5 10.9 12.7 8 9.5 11.6 11.0 13.4 12.5 14.7 9.5 11.0 12.0 14.4 10.3 12.4 9.7 11.6 9 8.6 10.7 9.4 11.7 11.3 13.7 8.2 9.8 10.4 12.7 9.4 11.6 8.7 10.7 10 8.0 10.2 8.8 11.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 Years obs. % rel. % obs.	3	18.2	19.5	19.0	20.5	20.7	22.0	18.9	20.2	21.0	22.5	17.9	19.1	18.5	19.7
6 12.0 13.8 13.6 15.8 13.9 15.8 11.3 12.8 14.0 16.1 12.8 14.6 12.0 13.7 7 11.0 12.8 11.8 14.0 12.8 14.7 10.0 11.5 13.1 15.4 11.6 13.5 10.9 12.7 8 9.5 11.6 11.0 13.4 12.5 14.7 9.5 11.0 12.0 14.4 10.3 12.4 9.7 11.6 9 8.6 10.7 9.4 11.7 11.3 13.7 8.2 9.8 10.4 12.7 9.4 11.6 8.7 10.7 10 8.0 10.2 8.8 11.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3	4	15.4	16.9	16.8	18.6	17.7	19.3	15.4	16.7	17.2	18.8	15.4	16.7	15.1	16.4
7 11.0 12.8 11.8 14.0 12.8 14.7 10.0 11.5 13.1 15.4 11.6 13.5 10.9 12.7 8 9.5 11.6 11.0 13.4 12.5 14.7 9.5 11.0 12.0 14.4 10.3 12.4 9.7 11.6 9 8.6 10.7 9.4 11.7 11.3 13.7 8.2 9.8 10.4 12.7 9.4 11.6 8.7 10.7 10 8.0 10.2 8.8 11.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3	5	13.7	15.5	14.9	16.9	16.0	17.7	13.1	14.5	15.4	17.1	14.2	15.9	13.2	14.8
8 9.5 11.6 11.0 13.4 12.5 14.7 9.5 11.0 12.0 14.4 10.3 12.4 9.7 11.6 9 8.6 10.7 9.4 11.7 11.3 13.7 8.2 9.8 10.4 12.7 9.4 11.6 8.7 10.7 10 8.0 10.2 8.8 11.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 **Year of diagnosis** **cont'd** 2005	6	12.0	13.8	13.6	15.8	13.9	15.8	11.3	12.8	14.0	16.1	12.8	14.6	12.0	13.7
9 8.6 10.7 9.4 11.7 11.3 13.7 8.2 9.8 10.4 12.7 9.4 11.6 8.7 10.7 10 8.0 10.2 8.8 11.3 10.3 12.9 7.8 9.5 9.6 12.1 9.0 11.3 8.1 10.3 **Tear of diagnosis** **Cont'd** 2005	7	11.0	12.8	11.8	14.0	12.8	14.7	10.0	11.5	13.1	15.4	11.6	13.5	10.9	12.7
Year of diagnosis cont'd 2005 n=1,209 n=1,234 n=1,528 n=1,539 n=1,561 n=1,537 n=1,563 2006 n=1,209 n=1,234 n=1,528 n=1,539 n=1,561 n=1,537 n=1,563 2007 n=1,563 n=1,561 n=1,537 n=1,563 n=1,563 Years obs. % rel. % obs. % rel	8	9.5	11.6	11.0	13.4	12.5	14.7	9.5	11.0	12.0	14.4	10.3	12.4	9.7	11.6
Year of diagnosis cont'd 2005 2006 2007 2008 2009 2010 2011 years obs. % rel. %	9	8.6	10.7	9.4	11.7	11.3	13.7	8.2	9.8	10.4	12.7	9.4	11.6	8.7	10.7
cont'd 2005 2006 2007 2008 2009 2010 2011 Years obs. % rel. % obs. % rel.	10	8.0	10.2	8.8	11.3	10.3	12.9	7.8	9.5	9.6	12.1	9.0	11.3	8.1	10.3
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6 10.7 12.0 12.1 13.9 15.1 17.5 16.3 18.6 7 9.8 11.2 11.3 13.2 13.7 16.3 8 9.0 10.5 10.2 12.2	Years 0 1 2 3	n=1, obs. % 100.0 40.1 23.5 16.9	209 rel. % 100.0 41.0 24.5 18.0	n=1, obs. % 100.0 44.7 25.8 18.8	234 rel. % 100.0 45.9 27.0 20.0	n=1, obs. % 100.0 46.4 29.1 21.9	528 rel. % 100.0 47.6 30.4 23.5	n=1, obs. % 100.0 47.3 30.7 23.0	539 rel. % 100.0 48.5 32.1 24.5	n=1, obs. % 100.0 46.6 29.4 22.3	561 rel. % 100.0 47.7 30.6 23.8	n=1, obs. % 100.0 46.0 28.7 22.1	rel. % 100.0 47.0 29.9 23.5	n=1, obs. % 100.0 43.2 28.0	rel. % 100.0 44.2 29.3
7 9.8 11.2 11.3 13.2 13.7 16.3 8 9.0 10.5 10.2 12.2	Years 0 1 2 3 4	n=1, obs. % 100.0 40.1 23.5 16.9 13.3	209 rel. % 100.0 41.0 24.5 18.0 14.4	n=1, obs. % 100.0 44.7 25.8 18.8 16.0	234 rel. % 100.0 45.9 27.0 20.0 17.5	n=1, obs. % 100.0 46.4 29.1 21.9 18.6	528 rel. % 100.0 47.6 30.4 23.5 20.4	n=1, obs. % 100.0 47.3 30.7 23.0 19.7	539 rel. % 100.0 48.5 32.1 24.5 21.6	n=1, obs. % 100.0 46.6 29.4 22.3 18.0	561 rel. % 100.0 47.7 30.6 23.8 19.6	n=1, obs. % 100.0 46.0 28.7 22.1	rel. % 100.0 47.0 29.9 23.5	n=1, obs. % 100.0 43.2 28.0	rel. % 100.0 44.2 29.3
8 9.0 10.5 10.2 12.2	Years 0 1 2 3 4 5	n=1, obs. % 100.0 40.1 23.5 16.9 13.3 11.9	209 rel. % 100.0 41.0 24.5 18.0 14.4 13.1	n=1, obs. % 100.0 44.7 25.8 18.8 16.0 13.8	234 rel. % 100.0 45.9 27.0 20.0 17.5 15.5	n=1, obs. % 100.0 46.4 29.1 21.9 18.6 16.4	528 rel. % 100.0 47.6 30.4 23.5 20.4 18.4	n=1, obs. % 100.0 47.3 30.7 23.0 19.7 17.7	539 rel. % 100.0 48.5 32.1 24.5 21.6 19.9	n=1, obs. % 100.0 46.6 29.4 22.3 18.0	561 rel. % 100.0 47.7 30.6 23.8 19.6	n=1, obs. % 100.0 46.0 28.7 22.1	rel. % 100.0 47.0 29.9 23.5	n=1, obs. % 100.0 43.2 28.0	rel. % 100.0 44.2 29.3
	Years 0 1 2 3 4 5	n=1, obs. % 100.0 40.1 23.5 16.9 13.3 11.9 10.7	209 rel. % 100.0 41.0 24.5 18.0 14.4 13.1 12.0	n=1, obs. % 100.0 44.7 25.8 18.8 16.0 13.8 12.1	234 rel. % 100.0 45.9 27.0 20.0 17.5 15.5 13.9	n=1, obs. % 100.0 46.4 29.1 21.9 18.6 16.4 15.1	528 rel. % 100.0 47.6 30.4 23.5 20.4 18.4 17.5	n=1, obs. % 100.0 47.3 30.7 23.0 19.7 17.7	539 rel. % 100.0 48.5 32.1 24.5 21.6 19.9	n=1, obs. % 100.0 46.6 29.4 22.3 18.0	561 rel. % 100.0 47.7 30.6 23.8 19.6	n=1, obs. % 100.0 46.0 28.7 22.1	rel. % 100.0 47.0 29.9 23.5	n=1, obs. % 100.0 43.2 28.0	rel. % 100.0 44.2 29.3
9 7.5 9.0	Years 0 1 2 3 4 5 6 7	n=1, obs. % 100.0 40.1 23.5 16.9 13.3 11.9 10.7 9.8	209 rel. % 100.0 41.0 24.5 18.0 14.4 13.1 12.0 11.2	n=1, obs. % 100.0 44.7 25.8 18.8 16.0 13.8 12.1 11.3	234 rel. % 100.0 45.9 27.0 20.0 17.5 15.5 13.9 13.2	n=1, obs. % 100.0 46.4 29.1 21.9 18.6 16.4 15.1	528 rel. % 100.0 47.6 30.4 23.5 20.4 18.4 17.5	n=1, obs. % 100.0 47.3 30.7 23.0 19.7 17.7	539 rel. % 100.0 48.5 32.1 24.5 21.6 19.9	n=1, obs. % 100.0 46.6 29.4 22.3 18.0	561 rel. % 100.0 47.7 30.6 23.8 19.6	n=1, obs. % 100.0 46.0 28.7 22.1	rel. % 100.0 47.0 29.9 23.5	n=1, obs. % 100.0 43.2 28.0	rel. % 100.0 44.2 29.3
	Years 0 1 2 3 4 5 6 7 8	n=1, obs. % 100.0 40.1 23.5 16.9 13.3 11.9 10.7 9.8 9.0	209 rel. % 100.0 41.0 24.5 18.0 14.4 13.1 12.0 11.2	n=1, obs. % 100.0 44.7 25.8 18.8 16.0 13.8 12.1 11.3	234 rel. % 100.0 45.9 27.0 20.0 17.5 15.5 13.9 13.2	n=1, obs. % 100.0 46.4 29.1 21.9 18.6 16.4 15.1	528 rel. % 100.0 47.6 30.4 23.5 20.4 18.4 17.5	n=1, obs. % 100.0 47.3 30.7 23.0 19.7 17.7	539 rel. % 100.0 48.5 32.1 24.5 21.6 19.9	n=1, obs. % 100.0 46.6 29.4 22.3 18.0	561 rel. % 100.0 47.7 30.6 23.8 19.6	n=1, obs. % 100.0 46.0 28.7 22.1	rel. % 100.0 47.0 29.9 23.5	n=1, obs. % 100.0 43.2 28.0	rel. % 100.0 44.2 29.3

	Year of diagnosis														
(cont'd	20	12	20	13	2014									
		n=1,	,543	n=1	,511	n=7	785								
	Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %								
	0	100.0	100.0	100.0	100.0	100.0	100.0								
	1	48.7	49.8	46.7	47.8										
	2	31.5	33.0												

Table 1d. Observed (obs.) and relative (rel.) survival of patients with lung cancer by year of diagnosis for period 1998-2014 (N=20,684).



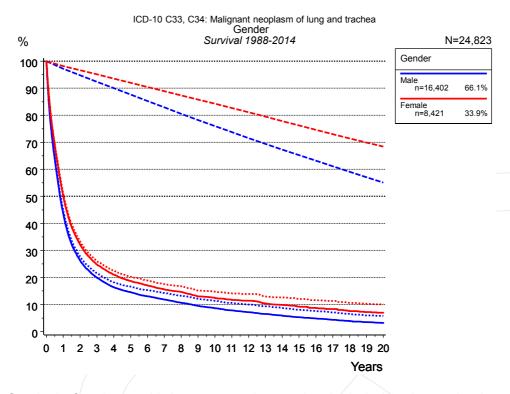


Figure 2a. Survival of patients with lung cancer by gender. Included in the evaluation are 24,823 cases diagnosed between 1988 and 2014.

Gender						
	Ma		Fem			
	n=16	,402	n=8,	421		
Years	obs. %	rel. %	obs. %			
0	100.0	100.0	100.0	100.0		
1	43.7	44.9	50.1	51.0		
2	26.3	27.7	32.2	33.3		
3	19.9	21.6	24.8	26.0		
4	16.4	18.2	21.0	22.5		
5	14.6	16.6	18.7	20.3		
6	13.1	15.3	17.0	18.8		
7	11.8	14.3	15.6	17.5		
8	10.7	13.2	14.6	16.7		
9	9.5	12.1	13.0	15.2		
10	8.6	11.4	12.5	14.8		
11	7.8	10.6	11.7	14.2		
12	7.2	10.0	11.4	13.9		
13	6.5	9.3	10.3	13.0		
14	5.9	8.7	9.9	12.6		
15	5.3	8.1	9.3	12.1		
16	4.8	7.6	8.7	11.6		
17	4.3	7.1	8.3	11.3		
18	3.9	6.6	7.6	10.6		
19	3.4	6.0	7.2	10.3		
20	3.2	5.8	7.0	10.1		

Table 2b. Observed (obs.) and relative (rel.) survival of patients with lung cancer by gender for period 1988-2014 (N=24,823).

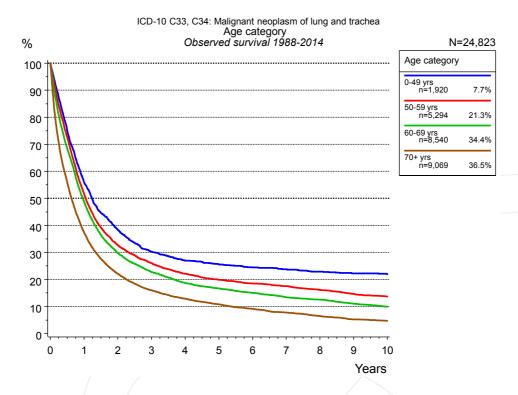


Figure 3a. Observed survival of patients with lung cancer by age category. Included in the evaluation are 24,823 cases diagnosed between 1988 and 2014.

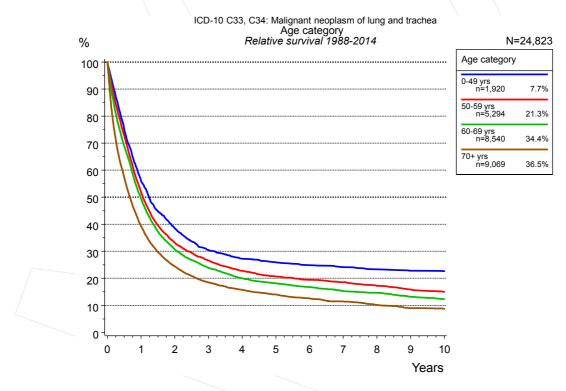


Figure 3b. Relative survival of patients with lung cancer by age category. Included in the evaluation are 24,823 cases diagnosed between 1988 and 2014.

	Age category													
	0-49	yrs	50-59	9 yrs	60-6	9 yrs	70+	yrs						
	n=1,920		n=5,	294	n=8,	540	n=9,069							
Years	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	56.1	56.2	51.7	52.0	48.8	49.5	37.4	39.4						
2	38.4	38.5	32.7	33.2	29.8	30.7	22.1	24.4						
3	30.2	30.4	26.0	26.6	22.7	23.8	16.0	18.5						
4	27.0	27.3	22.1	22.8	18.7	20.0	12.9	15.8						
5	25.6	25.9	19.9	20.7	16.7	18.2	10.8	14.0						
6	24.5	24.9	18.5	19.4	15.1	16.8	9.1	12.5						
7	23.8	24.2	17.5	18.6	13.4	15.3	7.8	11.4						
8	22.9	23.3	16.1	17.2	12.5	14.6	6.4	10.2						
9	22.2	22.8	14.7	15.9	11.0	13.2	5.2	9.0						
10	22.0	22.7	13.7	15.0	9.9	12.3	4.7	8.7						

Table 3c. Observed (obs.) and relative (rel.) survival of patients with lung cancer by age category for period 1988-2014 (N=24,823).



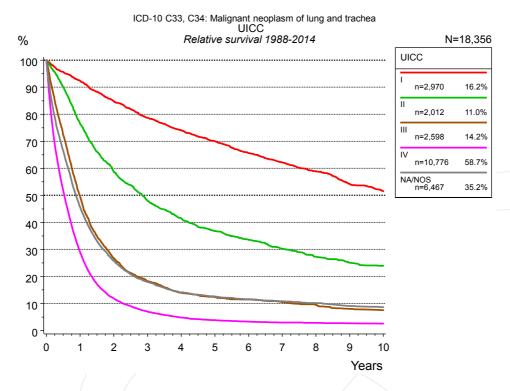


Figure 4a. Relative survival of patients with lung cancer by UICC. For 21,742 of 24,823 cases diagnosed between 1988 and 2014 valid data could be obtained for this item. For a total of 18,356 cases an evaluable classification was established. The grey line represents the subgroup of 6,467 patients with missing values regarding UICC (26.1% of 24,823 patients, the percent values of all other categories are related to n=18,356).

UICC											
		I		1	l	Ш	I	I۱	/	NA/N	NOS
		n=2,	970	n=2,012		n=2,	598	n=10	,776	n=6,467	
	Years	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	90.5	92.3	75.1	76.5	48.6	49.7	28.4	29.1	44.3	45.7
	2	81.5	84.8	56.6	58.8	25.7	26.8	11.4	11.9	24.2	25.7
	3	74.0	78.7	45.3	48.0	17.2	18.3	6.6	7.0	16.5	18.0
	4	68.2	74.1	38.4	41.5	12.9	14.0	4.4	4.8	12.6	14.1
	5	62.9	70.0	33.3	36.8	11.2	12.3	3.5	3.9	10.9	12.6
	6	57.6	65.6	29.7	33.6	10.2	11.5	2.9	3.3	9.8	11.6
	7	53.2	62.1	26.2	30.3	9.1	10.5	2.6	3.0	9.0	10.9
	8	49.2	58.9	23.1	27.3	8.1	9.5	2.4	2.8	8.2	10.2
	9	44.2	54.2	20.7	25.1	6.7	8.0	2.3	2.7	7.2	9.1
	10	40.8	51.4	19.4	24.0	6.1	7.6	2.2	2.6	6.7	8.7

Table 4b. Observed (obs.) and relative (rel.) survival of patients with lung cancer by UICC for period 1988-2014 (N=18,356).

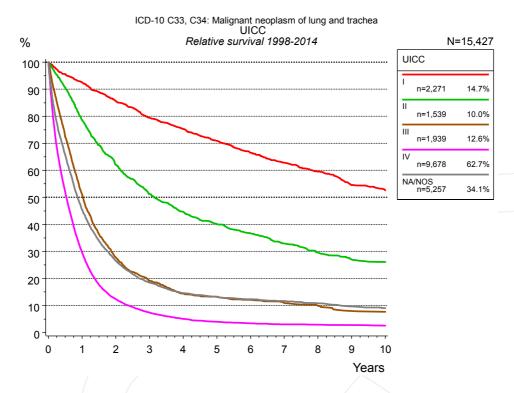


Figure 4c. Relative survival of patients with lung cancer by UICC. For 18,080 of 20,684 cases diagnosed between 1998 and 2014 valid data could be obtained for this item. For a total of 15,427 cases an evaluable classification was established. The grey line represents the subgroup of 5,257 patients with missing values regarding UICC (25.4% of 20,684 patients, the percent values of all other categories are related to n=15,427).

UICC											
		I		- 1	l	Ш	I	I۱	/	NA/N	NOS
		n=2,	271	n=1,	539	n=1,	939	n=9,	678	n=5,	257
	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	90.7	92.5	77.2	78.6	50.1	51.2	29.0	29.6	44.0	45.5
	2	82.4	85.7	59.6	62.0	26.7	27.8	11.8	12.3	25.0	26.5
	3	74.8	79.5	48.3	51.2	18.1	19.2	7.0	7.4	16.9	18.5
	4	69.3	75.3	41.3	44.6	13.3	14.4	4.7	5.1	13.0	14.6
	5	63.8	70.9	36.3	40.1	12.0	13.3	3.7	4.0	11.4	13.2
	6	58.4	66.5	32.4	36.6	10.8	12.1	3.0	3.4	10.4	12.3
	7	53.8	62.8	28.5	32.9	9.6	11.0	2.7	3.0	9.6	11.7
	8	49.8	59.6	25.1	29.6	8.5	9.9	2.5	2.9	8.7	10.8
	9	44.5	54.6	22.3	27.0	6.7	8.0	2.3	2.8	7.6	9.6
	10	41.9	52.6	21.1	26.1	6.2	7.7	2.2	2.6	7.0	9.1

Table 4d. Observed (obs.) and relative (rel.) survival of patients with lung cancer by UICC for period 1998-2014 (N=15,427).

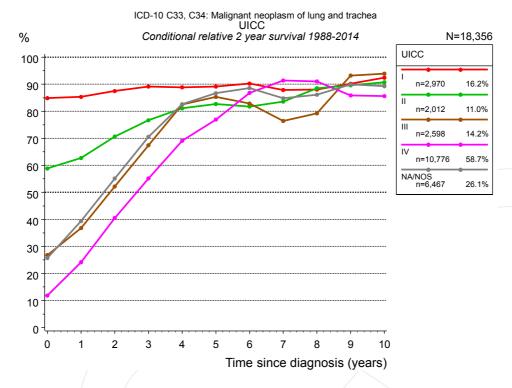


Figure 4e. Conditional relative 2-year survival of patients with lung cancer by UICC. For 21,742 of 24,823 cases diagnosed between 1988 and 2014 valid data could be obtained for this item. For a total of 18,356 cases an evaluable classification was established. The grey line represents the subgroup of 6,467 patients with missing values regarding UICC (26.1% of 24,823 patients, the percent values of all other categories are related to n=18,356).

	UICC											
	- 1		II		III	l	I۷	,	NA/N	IOS		
	Cond. surv. %			Cond. surv. %		Cond. surv. %		Cond. surv. %		Cond. surv. %		
Years	n	2 yrs	n	2 yrs	n	2 yrs	n	2 yrs	n	2 yrs		
0	2,970	84.8	2,012	58.8	2,598	26.8	10,776	11.9	6,467	25.7		
1	2,516	85.3	1,429	62.7	1,194	36.8	2,889	24.2	2,718	39.4		
2	2,118	87.5	1,002	70.7	589	52.2	1,029	40.5	1,397	55.1		
3	1,797	89.1	737	76.7	353	67.4	511	55.2	873	70.5		
4	1,543	88.9	575	81.1	235	82.5	291	69.1	620	82.6		
5	1,298	89.1	460	82.7	181	85.3	194	76.9	500	86.7		
6	1,098	90.2	364	81.7	151	82.8	136	86.8	402	88.6		
7	922	87.9	287	83.6	117	76.4	95	91.4	318	84.8		
8	776	88.0	223	88.5	90	79.2	61	91.0	242	86.1		
9	635	90.2	183	89.6	62	93.2	50	85.9	184	89.9		
10	549	92.4	157	90.7	53	93.9	41	85.6	154	89.3		

Table 4f. Conditional relative 2-year survival of patients with lung cancer by UICC for period 1988-2014 (N=18,356).

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 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 2-year survival rate is 89.1% (n=1,797).

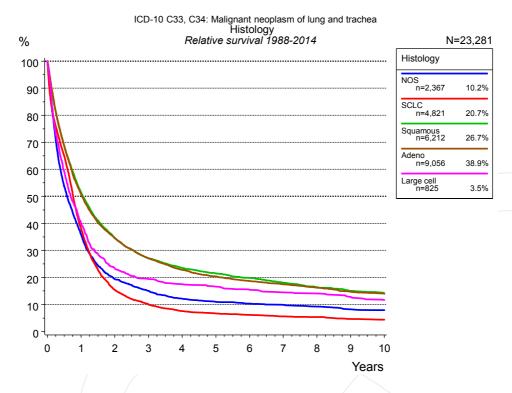


Figure 4g. Relative survival of patients with lung cancer by histology. For 23,281 of 24,823 cases diagnosed between 1988 and 2014 valid data could be obtained for this item.

				Hi	istolog	ıy				
	NC)S	SC	LC	Squa	mous	Ade	eno	Large	e cell
	n=2,	367	n=4,821		n=6,	212	n=9,056		n=825	
Years	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	34.8	35.8	37.3	38.1	50.1	51.5	49.6	50.8	39.2	40.0
2	18.4	19.4	14.8	15.4	32.8	34.5	33.2	34.6	22.4	23.4
3	14.0	15.0	9.5	10.0	25.1	27.2	25.4	27.1	18.4	19.5
4	11.1	12.2	7.1	7.6	21.2	23.5	21.0	22.8	16.3	17.5
5	9.7	11.0	6.2	6.7	18.8	21.5	18.3	20.4	15.1	16.6
6	9.0	10.3	5.5	6.2	16.9	19.8	16.4	18.7	13.7	15.5
7	8.4	9.9	5.0	5.6	15.0	18.0	15.0	17.5	12.6	14.5
8	7.7	9.3	4.7	5.4	13.2	16.4	13.6	16.2	12.1	14.1
9	6.7	8.2	4.0	4.7	11.8	15.0	12.0	14.7	10.8	12.8
10	6.3	7.9	3.7	4.4	10.8	14.2	11.1	14.0	9.6	11.7

Table 4h. Observed (obs.) and relative (rel.) survival of patients with lung cancer by histology for period 1988-2014 (N=23,281).

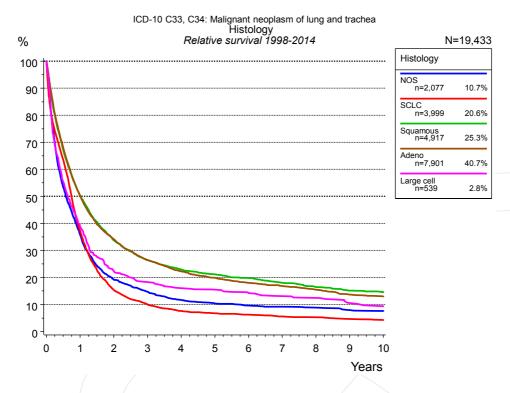


Figure 4i. Relative survival of patients with lung cancer by histology. For 19,433 of 20,684 cases diagnosed between 1998 and 2014 valid data could be obtained for this item.

				Hi	istolog	ıy				
	NOS		SC	LC	Squa	mous	Ade	eno	Large	e cell
	n=2,	077	n=3,999		n=4,	917	n=7,901		n=539	
Years	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	34.9	35.9	36.4	37.2	49.0	50.4	49.1	50.2	38.3	38.9
2	18.2	19.2	14.8	15.4	32.1	33.8	32.7	34.1	21.4	22.3
3	13.7	14.7	9.5	10.0	24.5	26.5	24.8	26.4	17.4	18.3
4	10.6	11.7	7.1	7.6	20.7	22.9	20.5	22.3	15.1	16.1
5	9.3	10.4	6.2	6.8	18.5	21.2	17.9	19.9	14.1	15.5
6	8.4	9.7	5.6	6.3	16.9	19.8	15.8	18.0	12.6	14.2
7	7.9	9.2	5.0	5.6	15.0	18.1	14.4	16.9	11.5	13.1
8	7.4	8.9	4.6	5.3	13.3	16.5	13.0	15.5	10.8	12.5
9	6.6	7.9	4.0	4.7	11.9	15.1	11.0	13.6	8.8	10.6
10	6.1	7.6	3.6	4.3	11.1	14.6	10.3	13.0	7.9	9.4

Table 4j. Observed (obs.) and relative (rel.) survival of patients with lung cancer by histology for period 1998-2014 (N=19,433).

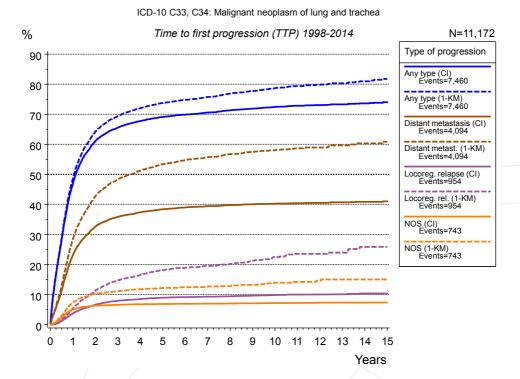


Figure 5a. Time to first progression of 11,172 patients with lung cancer diagnosed between 1998 and 2014 (M0 only in solid cancers) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

				f progression	n		
	Any type (CI)	Any type (1-KM)	Distant metastasis (CI)	Distant metast. (1- KM)	Locoreg. relapse (CI)	Locoreg. rel. (1-KM)	NOS (CI)
	n=11,172	n=11,172	n=11,172	n=11,172	n=11,172	n=11,172	n=11,172
Years	%	%	%	%	%	%	%
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	46.9	48.7	23.1	28.4	3.7	5.4	5.0
2	61.0	64.2	32.6	42.7	6.6	11.3	6.3
3	65.6	69.4	35.9	48.3	7.9	14.7	6.6
4	67.8	72.0	37.4	51.2	8.5	16.5	6.8
5	69.1	73.7	38.4	53.4	9.0	18.1	6.9
6	69.9	74.8	39.0	54.7	9.2	18.9	6.9
7	70.6	75.7	39.4	55.7	9.3	19.5	7.0
8	71.3	76.9	39.8	56.7	9.4	20.2	7.0
9	71.9	77.8	40.1	57.5	9.7	21.3	7.1
10	72.5	78.7	40.3	58.1	9.9	22.5	7.2
11	72.8	79.4	40.4	58.7	10.0	23.5	7.2
12	73.1	79.8	40.5	58.9	10.0	23.5	7.3
13	73.3	80.3	40.7	59.6	10.1	23.9	7.3
14	73.6	81.0	40.9	60.3	10.3	25.8	7.3
15	74.0	81.8	41.0	60.9	10.3	25.8	7.3

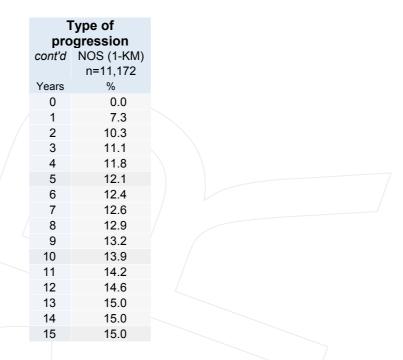


Table 5b. Time to first progression of patients with lung cancer for period 1998-2014 (N=11,172).



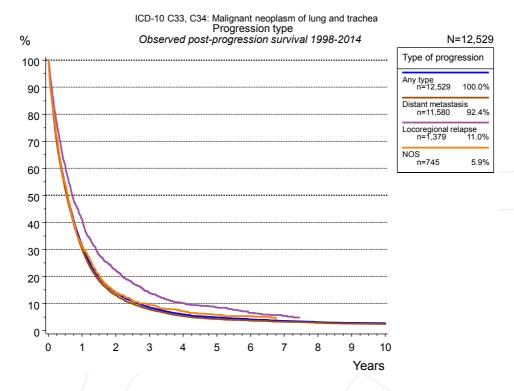


Figure 5c. Observed post-progression survival of 12,529 patients with lung cancer diagnosed between 1998 and 2014. These 12,529 patients with documented progression events during their course of disease represent 60.9% of the totally 20,567 evaluated cases (incl. M1, n=9,395, 45.7%). Patients with cancer relapse documented via death certificates only were excluded (n=4,326, 21.0%). 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 "Any type" 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.

	Any type n=12,529	Type of progr Distant metastasis n=11,580		NOS n=745
Years	%	%	%	%
0	100.0	100.0	100.0	100.0
1	31.5	30.1	41.0	31.3
2	14.0	13.0	22.3	14.0
3	8.5	7.8	13.8	9.4
4	6.0	5.3	10.1	7.1
5	4.9	4.2	8.6	5.9
6	4.1	3.6	6.5	5.3
7	3.6	3.2	5.5	
8	3.1	2.8		
9	2.8	2.5		
10	2.7	2.4		

Table 5d. Observed post-progression survival of patients with lung cancer for period 1998-2014 (N=12,529).

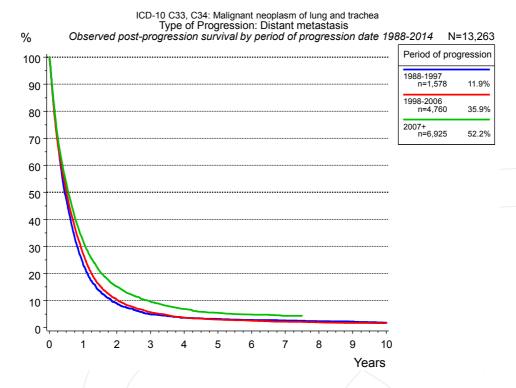


Figure 5e. Observed post-progression (distant metastasis) survival of 13,263 patients with lung cancer diagnosed between 1988 and 2014 by period of progression.

Period of progression								
	1988-1997	1998-2006	2007+					
	n=1,578	n=4,760	n=6,925					
Years	%	%	%					
0	100.0	100.0	100.0					
1	23.5	27.3	32.1					
2	9.0	10.3	15.2					
3	4.9	5.7	9.6					
4	3.6	3.6	6.8					
5	3.2	2.9	5.5					
6	2.8	2.5	4.8					
7	2.6	2.2	4.3					
8	2.4	1.9	4.3					
9	2.2	1.7						
10	1.8	1.6						

Table 5f. Observed post-progression (distant metastasis) survival of patients with lung cancer for period 1988-2014 by period of progression (N=13,263).

Shortcuts

MCR	Munich Cancer Registry, Germany				
NCI	National Cancer Institute, USA				
SEER	ER Surveillance, Epidemiology, and End Results, USA				
UICC Union for International Cancer Control, Geneva					
DCO	Death certificate only	Death certificate provides the only notification to the registry.			
NA	Not available				
NOS	Not otherwise specified				
	. /				
os	Overall/Observed survival	Overall/Observed survival (Kaplan-Meier estimate) Date of entry: diagnosis Event: death from any cause			
RS	Relative survival	Survival compared to "general population", ratio of observed to expected survival (Ederer II method), reflecting cancer specific survival			
AS	Assembled survival	Assembled chart of observed, expected, relative survival			
CS	Conditional survival	Survival probability under the condition of surviving a given period of time			
TTP	Time to progression	Time to first progression / relapse Date of entry: diagnosis Event: (progression / relapse): first local-, lymph node recurrence, distant metastasis or unspecified progression			
	1-KM	1 minus Kaplan-Meier estimator ("inverse" Kaplan-Meier estimator)			
	CI	Cumulative incidence Death as competing risk (according to Kalbfleisch und Prentice)			
PPS	Post-progression survival	Survival since first progression / relapse (Kaplan-Meier estimate) Date of entry (progression / relapse): first local-, lymph node recurrence, distant metastasis or unspecified progression Event: death from any cause			

Recommended Citation

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