

Munich Cancer Registry



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ICD-10 D09.0, D41.4: Bladder tumor

Survival

Year of diagnosis	1988-1997	1998-2020
Patients	2,004	11,967
Diseases	2,004	11,980
Cases evaluated	1,783	8,983
Creation date	04/15/2022	
Database export	12/20/2021	
Population	4.92 m	



Munich Cancer Registry
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<https://www.tumorregister-muenchen.de/en>

<https://www.tumorregister-muenchen.de/en/facts/surv/sD0941E-ICD-10-D09.0-D41.4-Bladder-tumor-survival.pdf>

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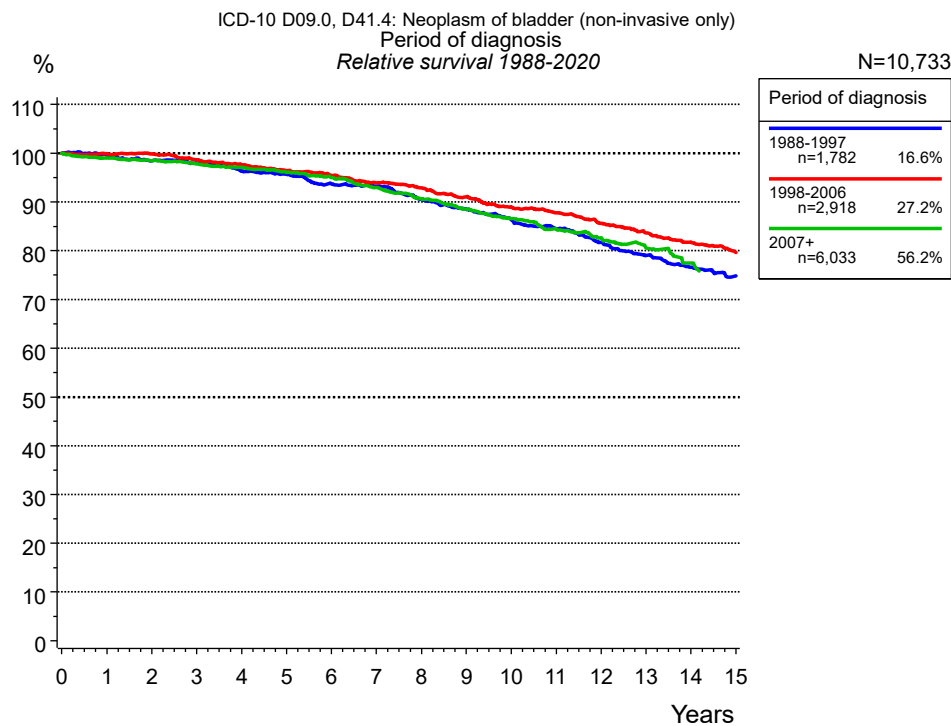


Figure 1a. Relative survival of patients with bladder tumor by period of diagnosis. Included in the evaluation are 10,733 cases diagnosed between 1988 and 2020.

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 to , and are represented by colored 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 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=1,782		1998-2006 n=2,918		2007+ n=6,033	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	95.5	99.7	96.2	99.9	95.5	99.0
2	90.4	98.4	92.8	99.8	91.6	98.4
3	86.4	97.9	88.3	98.7	87.7	97.8
4	81.6	96.3	84.4	97.7	83.9	97.1
5	78.0	95.7	80.3	96.4	80.0	96.1
6	73.4	93.7	76.6	95.5	76.2	95.0
7	70.3	93.3	72.6	93.9	71.9	93.0
8	65.7	90.5	69.2	92.9	67.5	90.6
9	61.9	88.6	65.3	91.1	63.5	88.5
10	58.1	86.3	61.4	88.9	59.7	86.5
11	54.9	84.5	58.3	87.8	56.1	84.4
12	51.2	81.7	54.7	85.6	52.8	82.7
13	47.7	79.0	51.4	83.6	49.4	80.6
14	44.6	76.6	48.2	81.7	46.1	77.4
15	41.9	74.8	45.1	79.6		
Median	12.2		13.4		12.9	

Table 1b. Observed (obs.) and relative (rel.) survival of patients with bladder tumor by period of diagnosis for period 1988-2020 (N=10,733).

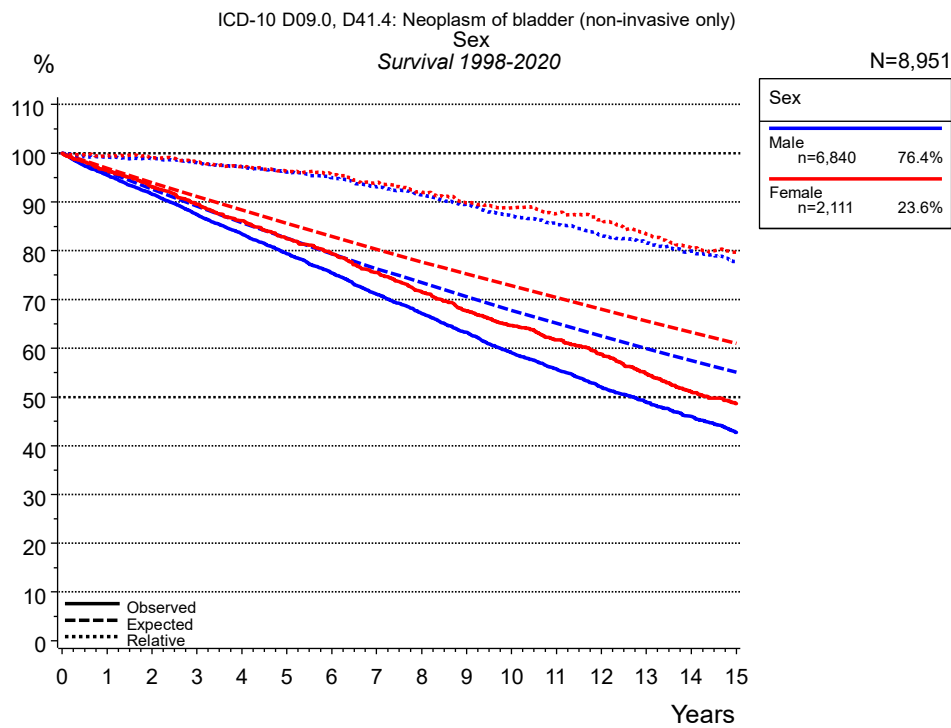


Figure 2a. Survival of patients with bladder tumor by sex. Included in the evaluation are 8,951 cases diagnosed between 1998 and 2020.

Years	Sex			
	Male n=6,840		Female n=2,111	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	95.5	99.2	96.5	99.5
2	91.6	98.9	93.1	99.0
3	87.4	98.1	89.5	98.2
4	83.4	97.2	86.1	97.4
5	79.4	96.1	82.4	96.2
6	75.4	95.0	79.4	95.6
7	71.1	93.1	75.5	93.9
8	67.1	91.4	71.5	92.0
9	63.2	89.6	67.6	89.9
10	59.1	87.2	64.7	88.8
11	55.7	85.5	61.7	87.7
12	52.0	83.2	58.7	86.4
13	48.9	81.6	54.7	83.4
14	46.0	79.9	51.1	80.6
15	42.7	77.4	48.6	79.7
Median	12.7		14.4	

Table 2b. Observed (obs.) and relative (rel.) survival of patients with bladder tumor by sex for period 1998-2020 (N=8,951).

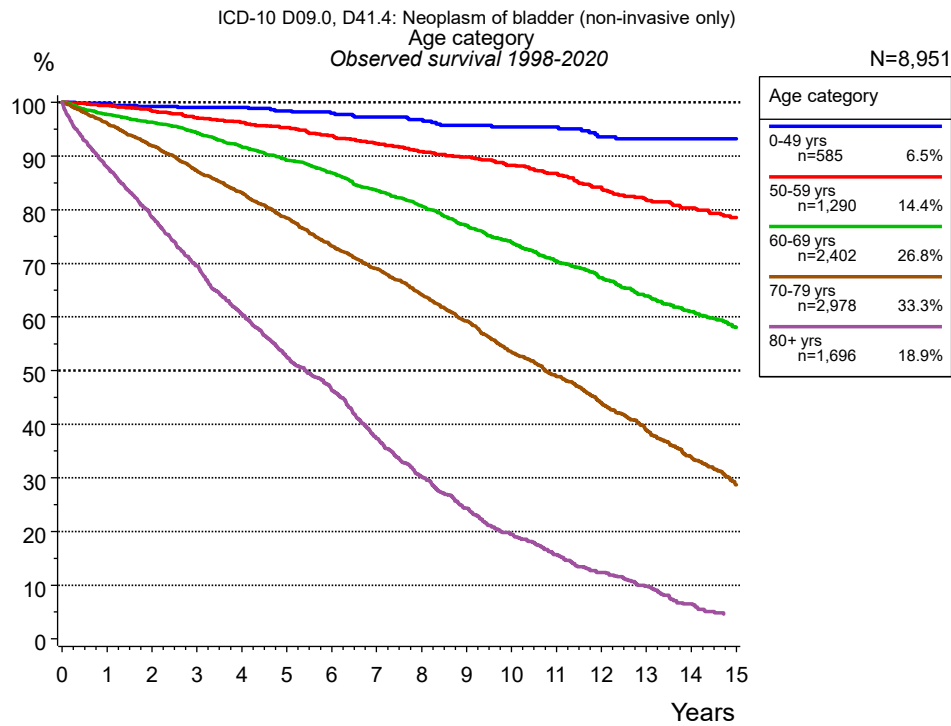


Figure 3a. Observed survival of patients with bladder tumor by age category. Included in the evaluation are 8,951 cases diagnosed between 1998 and 2020.

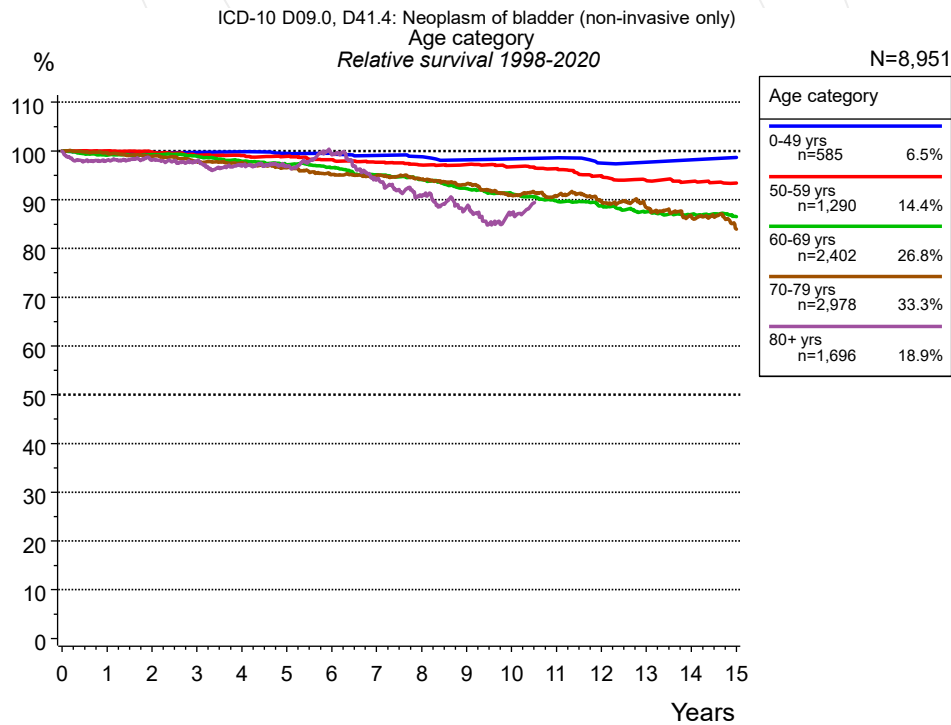


Figure 3b. Relative survival of patients with bladder tumor by age category. Included in the evaluation are 8,951 cases diagnosed between 1998 and 2020.

Years	Age category									
	0-49 yrs n=585		50-59 yrs n=1,290		60-69 yrs n=2,402		70-79 yrs n=2,978		80+ yrs n=1,696	
	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	99.8	99.9	99.4	100.0	97.7	99.2	96.1	99.6	88.0	98.1
2	99.3	99.6	98.4	99.7	96.3	99.3	91.9	98.9	78.6	98.1
3	99.1	99.7	97.2	99.1	94.3	98.9	87.2	97.8	69.5	97.9
4	99.1	99.8	96.3	99.0	91.7	97.9	83.2	97.5	60.6	97.1
5	98.4	99.5	95.3	98.9	89.2	97.2	78.4	96.6	52.5	96.8
6	98.0	99.5	93.8	98.2	86.8	96.6	73.2	95.1	46.4	99.3
7	97.3	99.1	92.3	97.7	83.5	95.1	69.0	94.9	37.4	94.1
8	96.8	98.8	90.8	97.1	80.7	94.2	64.1	94.1	30.2	90.7
9	95.7	98.2	89.8	97.2	77.0	92.3	59.2	93.2	24.3	88.5
10	95.4	98.4	88.3	96.8	73.9	91.2	53.5	91.0	19.5	87.2
11	95.4	98.6	86.7	96.4	70.5	89.7	48.9	90.6	15.7	87.4
12	93.6	97.5	84.2	94.9	67.3	88.8	44.0	89.7	12.4	87.8
13	93.2	97.7	81.9	93.9	63.9	87.5	38.9	88.4	9.8	90.4
14	93.2	98.2	80.3	93.7	61.0	87.0	33.9	86.6	6.5	78.9
15	93.2	98.7	78.5	93.4	58.1	86.5	28.7	83.9		
Median					17.3		10.8		5.4	

Table 3c. Observed (obs.) and relative (rel.) survival of patients with bladder tumor by age category for period 1998-2020 (N=8,951).

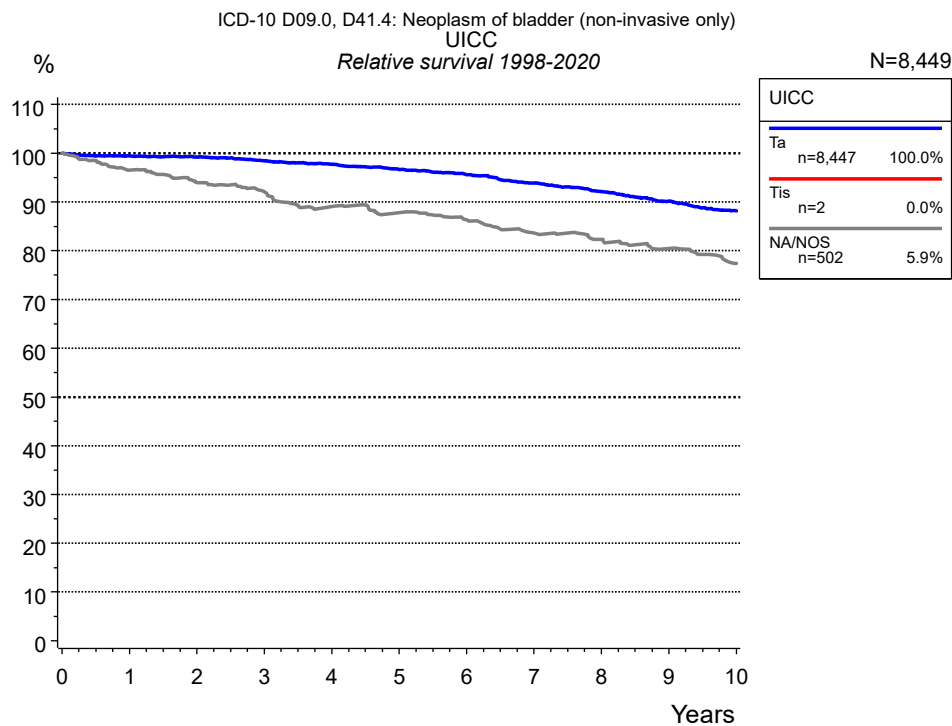


Figure 4a. Relative survival of patients with bladder tumor by UICC. For 8,767 of 8,951 cases diagnosed between 1998 and 2020 valid data could be obtained for this item. For a total of 8,449 cases an evaluable classification was established. The grey line represents the subgroup of 502 patients with missing values regarding UICC (5.6 % of 8,951 patients, the percent values of all other categories are related to n=8,449). Subgroups with sample size <20 are omitted from the chart.

Years	UICC			
	Ta n=8,447		NA/NOS n=502	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	95.9	99.5	93.0	96.6
2	92.2	99.2	87.2	94.0
3	88.3	98.4	82.3	92.1
4	84.5	97.8	76.9	89.1
5	80.5	96.6	73.1	87.8
6	76.8	95.6	69.3	86.3
7	72.6	93.9	64.6	83.6
8	68.6	92.1	61.5	82.3
9	64.7	90.2	57.8	80.4
10	60.8	88.2	53.3	77.4
Median	13.2		11.4	

Table 4b. Observed (obs.) and relative (rel.) survival of patients with bladder tumor by UICC for period 1998-2020 (N=8,449).

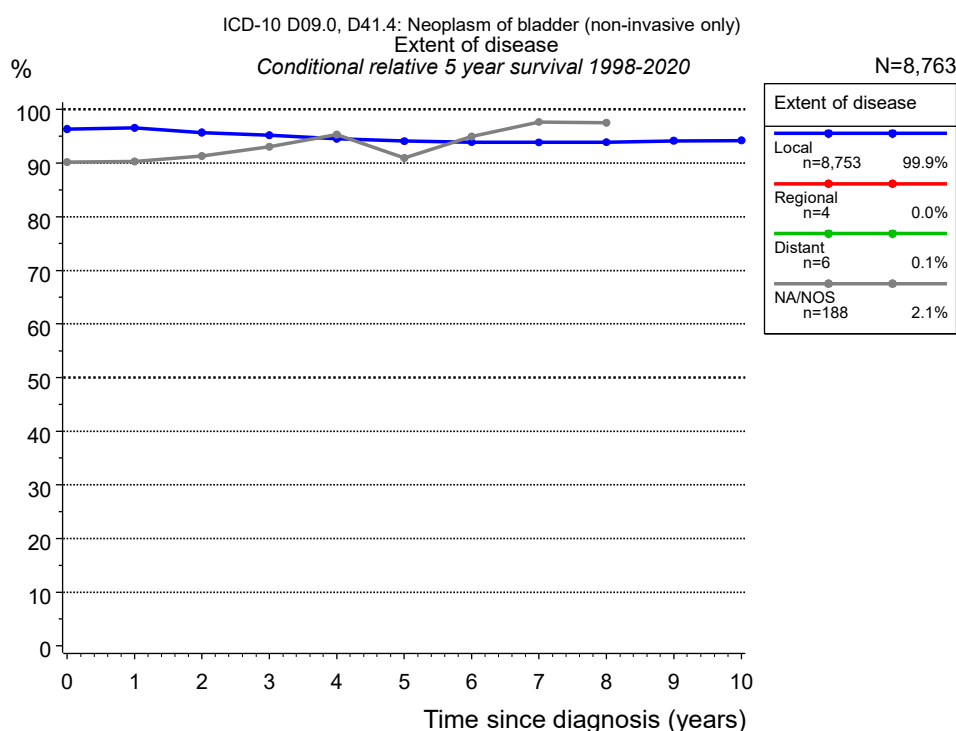


Figure 4i. Conditional relative 5-year survival of patients with bladder tumor by extent of disease. For 8,767 of 8,951 cases diagnosed between 1998 and 2020 valid data could be obtained for this item. For a total of 8,763 cases an evaluable classification was established. The grey line represents the subgroup of 188 patients with missing values regarding extent of disease (2.1 % of 8,951 patients, the percent values of all other categories are related to n=8,763). Subgroups with sample size <20 are omitted from the chart.

Years	Extent of disease							
	Local		Regional		Distant		NA/NOS	
	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs
0	8,753	96.4	4		6		188	90.2
1	8,144	96.6					172	90.3
2	7,570	95.7					158	91.3
3	6,907	95.2					144	93.0
4	6,257	94.6					133	95.3
5	5,648	94.1					123	91.0
6	5,104	93.9					108	94.9
7	4,521	93.9					95	97.6
8	3,944	93.9					86	97.6
9	3,394	94.2						
10	2,900	94.2						

Table 4j. Conditional relative 5-year survival of patients with bladder tumor by extent of disease for period 1998-2020 (N=8,763).

Conditional relative survival rates refer to the relative survival probability, in this case for 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 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 5-year survival rate is 95.2% (n=6,907).

Shortcuts

MCR Munich Cancer Registry, Germany

NCI National Cancer Institute, USA

SEER 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

Munich Cancer Registry. Survival ICD-10 D09.0, D41.4: Bladder tumor [Internet]. 2022 [updated 2022 Apr 15; cited 2022 Jun 1]. Available from: <https://www.tumorregister-muenchen.de/en/facts/surv/sD0941E-ICD-10-D09.0-D41.4-Bladder-tumor-survival.pdf>

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