

# Munich Cancer Registry



- ▶ Incidence and Mortality
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## ICD-10 D04: Ca. i.s. skin

### Survival

Year of diagnosis	1998-2020
Patients	4,121
Diseases	4,761
Cases evaluated	1,908
Creation date	04/15/2022
Database export	12/20/2021
Population	4.92 m



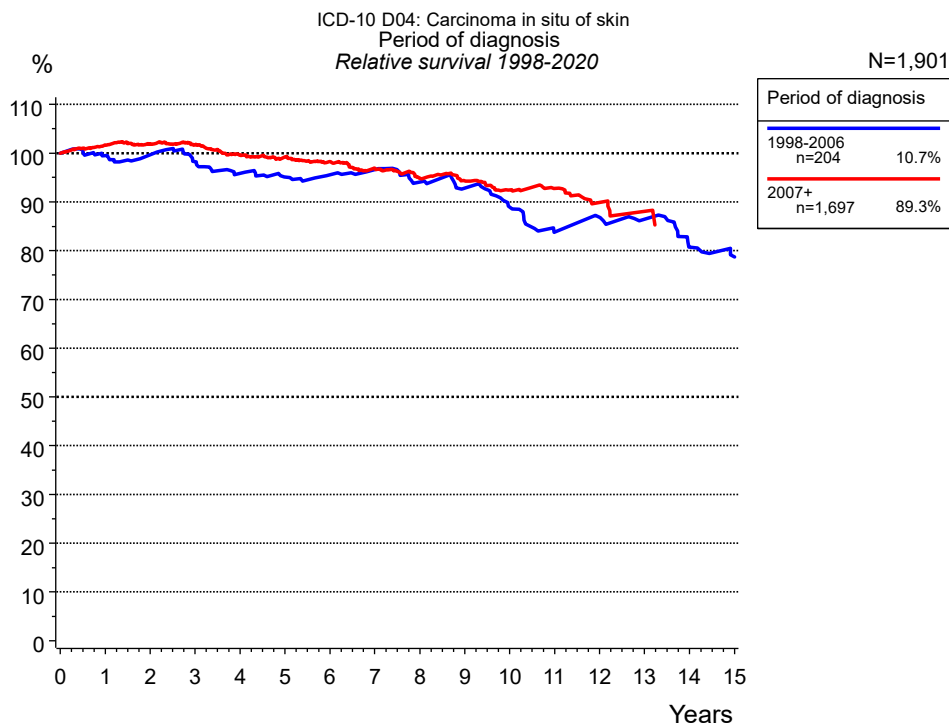
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<https://www.tumorregister-muenchen.de/en>

[https://www.tumorregister-muenchen.de/en/facts/surv/sD04\\_\\_E-ICD-10-D04-Ca.-i.s.-skin-survival.pdf](https://www.tumorregister-muenchen.de/en/facts/surv/sD04__E-ICD-10-D04-Ca.-i.s.-skin-survival.pdf)

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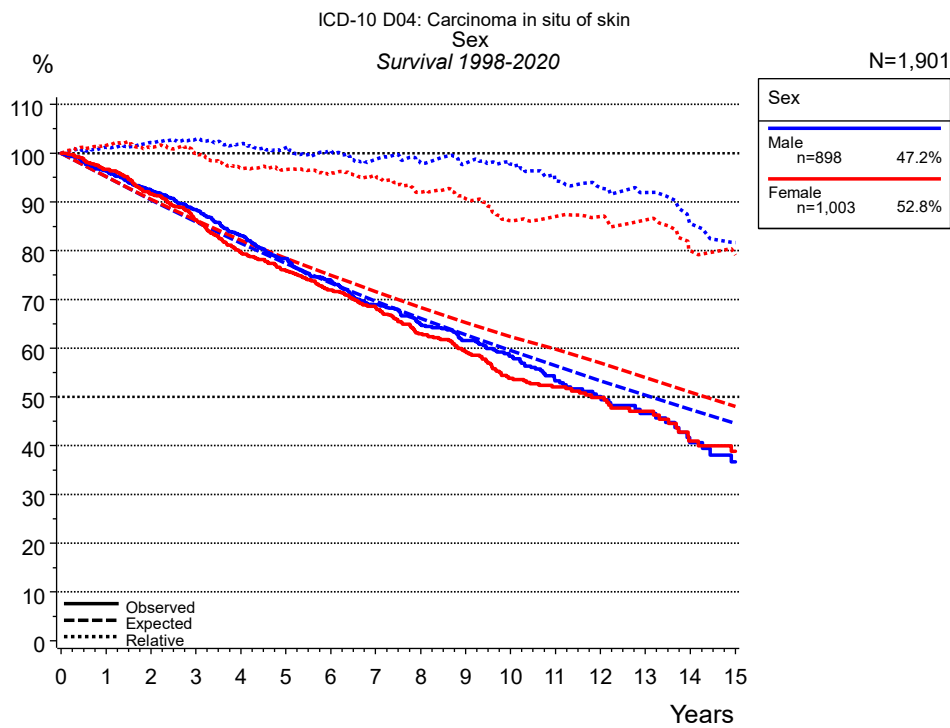


**Figure 1a.** Relative survival of patients with ca. i.s. skin by period of diagnosis. Included in the evaluation are 1,901 cases diagnosed between 1998 and 2020.

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			
	1998-2006 n=204		2007+ n=1,697	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	94.8	99.5	96.7	101.6
2	90.2	99.7	92.2	101.8
3	84.4	98.3	87.7	101.7
4	78.0	95.8	81.7	99.7
5	73.3	95.1	77.5	99.2
6	70.1	95.5	73.1	98.3
7	67.5	96.6	68.7	96.9
8	62.2	94.1	64.0	94.8
9	58.0	92.8	60.7	94.3
10	52.7	88.9	56.8	92.5
11	46.9	83.8	54.4	92.8
12	46.4	86.8	50.4	89.9
13	43.2	86.4	48.0	88.1
14	37.8	80.7		
15	35.1	78.7		
Median	10.4		12.2	

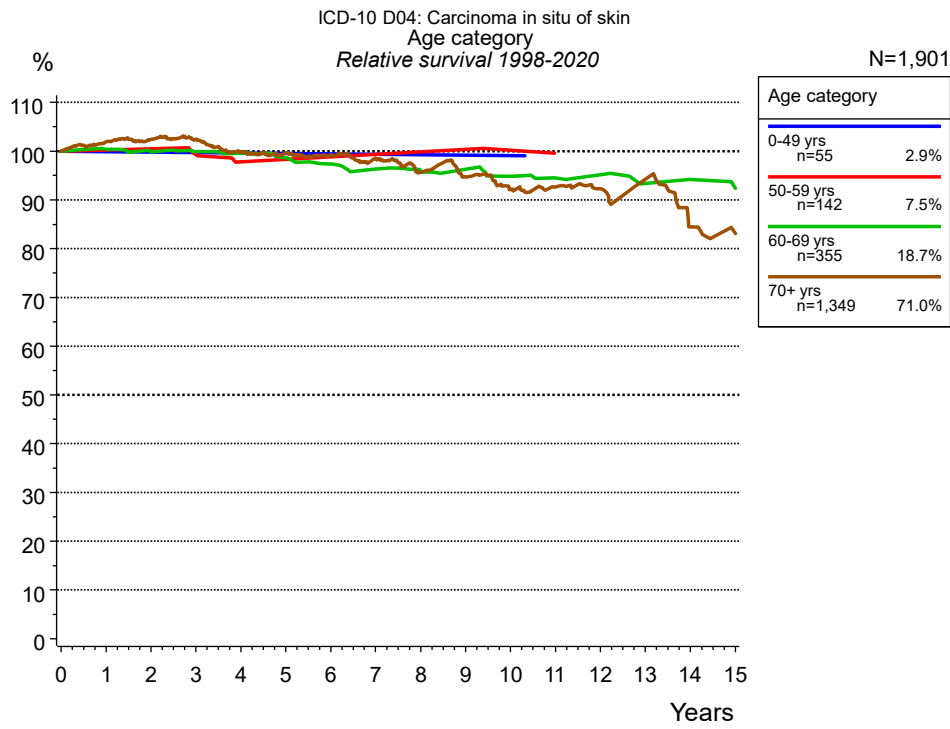
**Table 1b.** Observed (obs.) and relative (rel.) survival of patients with ca. i.s. skin by period of diagnosis for period 1998-2020 (N=1,901).



**Figure 2a.** Survival of patients with ca. i.s. skin by sex. Included in the evaluation are 1,901 cases diagnosed between 1998 and 2020.

Years	Sex			
	Male n=898		Female n=1,003	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	96.3	101.2	96.7	101.6
2	92.4	102.1	91.7	101.2
3	88.4	102.9	86.3	100.0
4	83.2	101.9	79.7	96.9
5	78.4	101.1	75.9	96.6
6	73.8	100.5	71.9	95.8
7	68.9	98.7	68.4	95.4
8	64.9	98.0	63.0	92.0
9	61.6	98.0	59.3	90.7
10	58.3	97.8	53.9	86.1
11	53.3	94.3	52.0	87.0
12	50.0	92.9	49.9	87.0
13	46.6	91.9	47.1	86.3
14	40.6	85.6	40.9	80.0
15	36.7	81.7	38.8	79.1
Median	12.0		11.8	

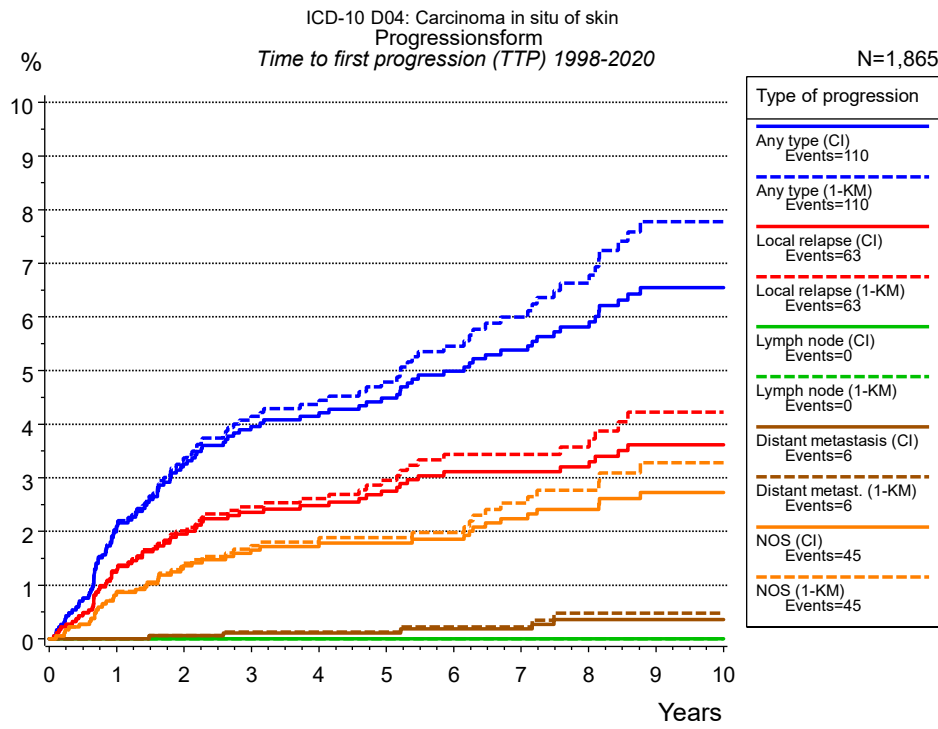
**Table 2b.** Observed (obs.) and relative (rel.) survival of patients with ca. i.s. skin by sex for period 1998-2020 (N=1,901).



**Figure 3a.** Relative survival of patients with ca. i.s. skin by age category. Included in the evaluation are 1,901 cases diagnosed between 1998 and 2020.

Years	Age category							
	0-49 yrs n=55		50-59 yrs n=142		60-69 yrs n=355		70+ yrs n=1,349	
	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	100.0	99.9	100.0	100.3	99.1	100.4	95.4	101.9
2	100.0	99.8	100.0	100.5	97.3	99.9	89.5	102.4
3	100.0	99.7	98.3	99.3	96.0	99.9	83.4	102.3
4	100.0	99.6	95.5	97.8	94.2	99.6	75.9	99.8
5	100.0	99.6	95.5	98.3	92.0	98.7	70.5	99.6
6	100.0	99.5	95.5	98.8	89.2	97.4	65.3	99.3
7	100.0	99.4	95.5	99.3	86.2	96.3	60.2	98.6
8	100.0	99.3	95.5	99.9	84.3	96.0	54.0	95.6
9	100.0	99.2	95.5	100.4	82.7	96.3	49.3	94.7
10	100.0	99.1	93.6	100.2	79.5	94.8	44.0	92.1
11			91.0	99.5	76.5	94.5	40.3	92.6
12					75.5	95.2	36.7	92.3
13					70.7	93.3	33.7	94.2
14					68.5	94.2	26.8	84.5
15					65.6	92.4	23.8	83.1
Median							8.9	

**Table 3b.** Observed (obs.) and relative (rel.) survival of patients with ca. i.s. skin by age category for period 1998-2020 (N=1,901).

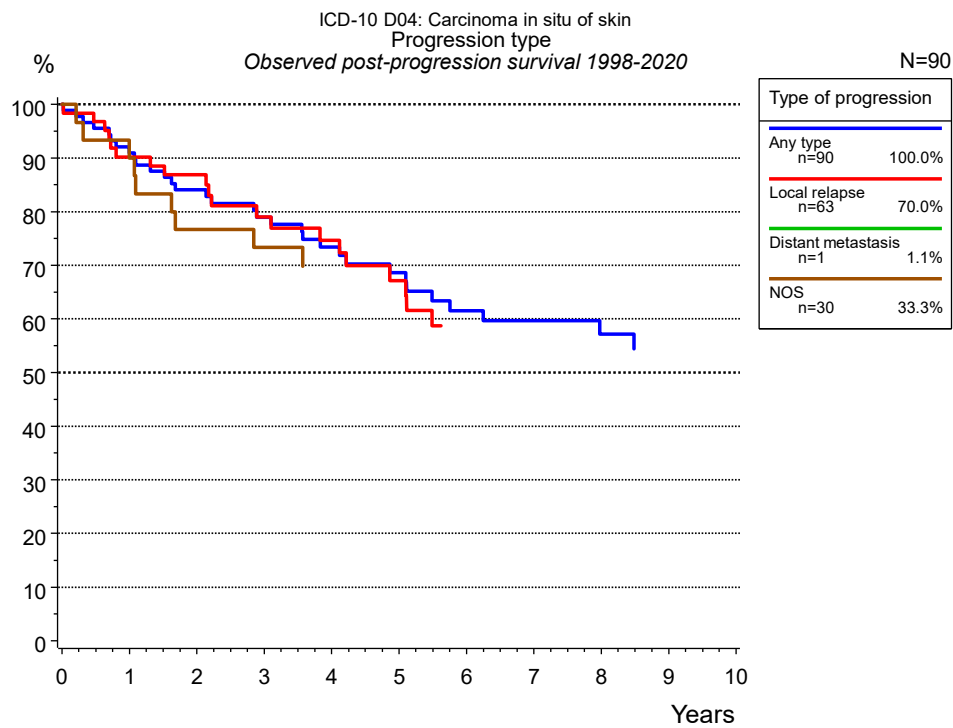


**Figure 5a.** Time to first progression of 1,865 patients with ca. i.s. skin diagnosed between 1998 and 2020 (in solid cancers M0 only) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

		Type of progression						
		Any type (CI)	Any type (1-KM)	Local relapse (CI)	Local relapse (1-KM)	Lymph node (CI)	Lymph node (1-KM)	Distant metastasis (CI)
N	1,864	1,864	1,864	1,865	1,865	1,865	1,865	1,864
Events	104	104	59	59	0	0	5	
compet.	570		598		614		608	
Years	%	%	%	%	%	%	%	%
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	2.1	2.1	1.3	1.3	0.0	0.0	0.0	0.0
2	3.3	3.4	2.0	2.0	0.0	0.0	0.1	
3	4.0	4.1	2.4	2.5	0.0	0.0	0.1	
4	4.1	4.4	2.5	2.6	0.0	0.0	0.1	
5	4.5	4.8	2.8	3.0	0.0	0.0	0.1	
6	5.0	5.5	3.1	3.4	0.0	0.0	0.2	
7	5.4	6.0	3.1	3.4	0.0	0.0	0.2	
8	5.8	6.6	3.2	3.6	0.0	0.0	0.4	
9	6.5	7.8	3.6	4.2	0.0	0.0	0.4	
10	6.5	7.8	3.6	4.2	0.0	0.0	0.4	

<i>cont'd</i>	Type of progression		
	Distant metast. (1- KM)	NOS (CI)	NOS (1-KM)
N	1,864	1,865	1,865
Events	5	43	43
compet.		590	
Years	%	%	%
0	0.0	0.0	0.0
1	0.0	0.9	0.9
2	0.1	1.4	1.4
3	0.1	1.7	1.7
4	0.1	1.7	1.8
5	0.1	1.8	1.9
6	0.2	1.9	2.0
7	0.2	2.2	2.5
8	0.5	2.4	2.8
9	0.5	2.7	3.3
10	0.5	2.7	3.3

**Table 5b.** Time to first progression of patients with ca. i.s. skin for period 1998-2020 (N=1,865), also showing the total of progression events (Events) and of deaths as competing risk (compet.).



**Figure 5c.** Observed post-progression survival of 90 patients with ca. i.s. skin diagnosed between 1998 and 2020. These 90 patients with documented progression events during their course of disease represent 4.7 % of the totally 1,901 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=21, 1.1 %). 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. Subgroups with sample size <20 are omitted from the chart.

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 potentially considered in more than one subgroup.

Years	Type of progression		
	Any type n=90 %	Local relapse n=63 %	NOS n=30 %
0	100.0	100.0	100.0
1	90.9	90.2	90.0
2	84.1	86.9	76.7
3	78.9	79.0	73.3
4	73.4	74.7	
5	68.6	67.1	
6	61.6		
7	59.7		
8	57.2		

**Table 5d.** Observed post-progression survival of patients with ca. i.s. skin for period 1998-2020 (N=90).



**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**

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