3.24 Kidney

Table 3.24.1
Overview of key epidemiological parameters for Germany, ICD-10 C64

Incidence		2019		2020		
	Women	Men	Women	Men		
Incident cases	5,120	9,880	4,830	9,330		
Crude incidence rate [1]	12.2	24.1	11.5	22.7		
Age-standardised incidence rate [1, 2]	6.9	16.1	6.6	15.2		
Median age at diagnosis	71	68	71	68		
Mortality		**2019**		**2020**		**2021**
	Women	Men	Women	Men	Women	Men
Deaths	1,920	3,230	2,034	3,121	1,790	3,070
Crude mortality rate [1]	4.6	7.9	4.8	7.6	4.2	7.5
Age-standardised mortality rate [1, 2]	1.8	4.5	1.9	4.2	1.7	4.1
Median age at death	81	77	81	77	81	77
Prevalence and survival rates		**5 years**		**10 years**		**25 years**
	Women	Men	Women	Men	Women	Men
Prevalence	19,400	36,300	35,400	63,800	61,300	104,200
Absolute survival rate (2019 – 2020) [3]	69 (66 – 74)	67 (62 – 72)	54 (49 – 60)	50 (45 – 56)		
Relative survival rate (2019 – 2020) [3]	79 (75 – 84)	77 (72 – 83)	74 (66 – 81)	71 (66 – 77)		

[1] per 100,000 persons [2] age-standardised (old European Standard) [3] in percent (lowest and highest value of the included German federal states)

Epidemiology

Malignant neoplasms of the kidney can originate from various tissues. Of all kidney tumours in adults, renal cell carcinomas (hypernephromas) are the most common, accounting for about 95%. In children, who are rarely affected, nephroblastomas (Wilms tumours) predominate. A total of about 14,160 new cases occurred in 2020, with men affected almost twice as often as women.

The age-standardised incidence rates show a slight decline for both sexes since around 2010. A slight downward trend can be observed in the age-standardised mortality rates for women and men over the entire observation period. The median age at diagnosis is 71 years for women and 68 years for men. The prognosis for renal carcinoma is comparatively favourable, with a relative 5-year survival rate of 79% for women and 77% for men. About 60% of all tumours are diagnosed at an early stage (UICC I). A regional comparison reveals higher incidence and mortality rates in the eastern federal states. Internationally, the incidence and mortality rates in the Czech Republic are comparatively high.

Risk factors

Smoking and passive smoking as well as high blood pressure and obesity are considered to be the most important risk factors. A lack of physical activity also appears to increase the risk of developing kidney cancer. Chronic renal insufficiency favours tumours of this organ, regardless of their cause. It can be caused, for example, by drugs that damage the kidneys or repeated inflammation of the urinary tract. Even after a kidney transplant, the risk of developing renal cell carcinoma remains increased in immunosuppressed patients.

Trichloroethene or trichloroethylene can cause kidney cancer. If people have been heavily exposed to this solvent at work, renal cell carcinoma can therefore be recognised as an occupational disease.

A familial disposition presumably only plays a role in comparatively few patients. Around 4% of renal cell carcinomas occur in patients with complex hereditary diseases, such as those affected by von Hippel-Lindau syndrome. These genetic renal cell carcinomas are often multifocal, bilateral and occur more frequently at a younger age than kidney cancers in patients without a genetic predisposition.

▶ *Additional information: www.krebsdaten.de/kidney*

Figure 3.24.1a
Age-standardised incidence and mortality rates by sex, ICD-10 C64, Germany 1999 – 2020/2021
per 100,000 (old European Standard)

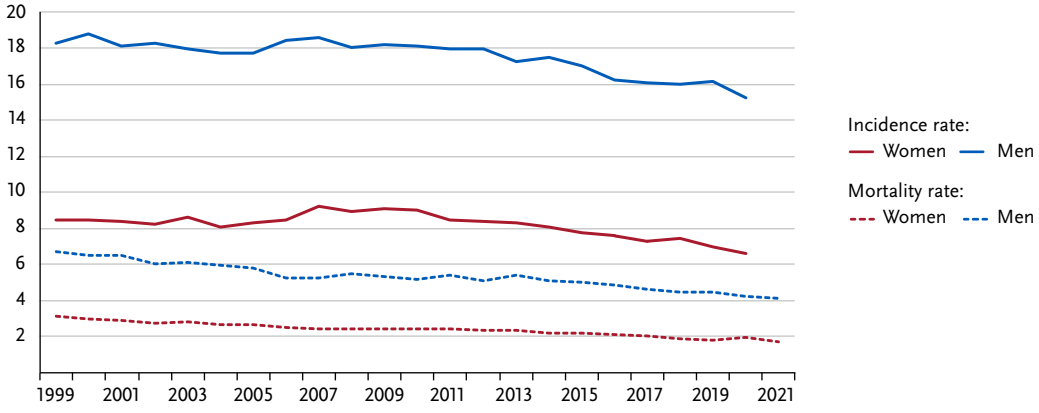


Figure 3.24.1b
Absolute numbers of incident cases and deaths by sex, ICD-10 C64, Germany 1999 – 2020/2021

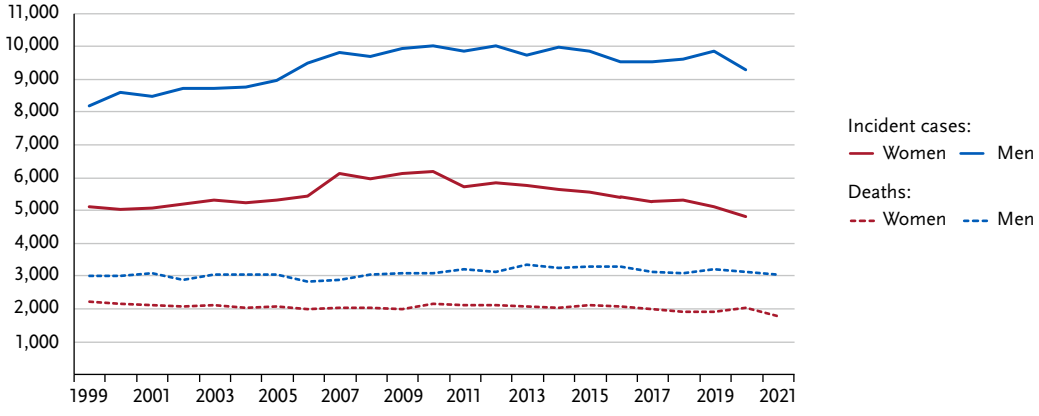


Figure 3.24.2
Age-specific incidence rates by sex, ICD-10 C64, Germany 2019 – 2020
per 100,000

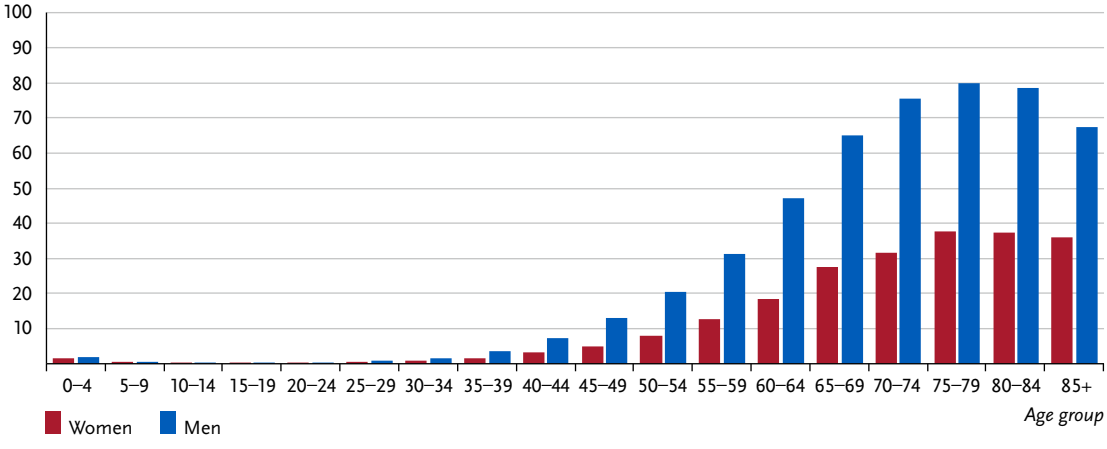


Table 3.24.2
Cancer incidence and mortality risks in Germany by age and sex, ICD-10 C64, database 2019

	Risk of developing cancer				Mortality risk			
Women aged	**in the next 10 years**		**ever**		**in the next 10 years**		**ever**	
35 years	< 0.1 %	(1 in 3,800)	0.9 %	(1 in 110)	< 0.1 %	(1 in 42,300)	0.4 %	(1 in 260)
45 years	0.1 %	(1 in 1,600)	0.9 %	(1 in 110)	< 0.1 %	(1 in 16,900)	0.4 %	(1 in 260)
55 years	0.2 %	(1 in 630)	0.9 %	(1 in 120)	< 0.1 %	(1 in 4,000)	0.4 %	(1 in 260)
65 years	0.2 %	(1 in 350)	0.7 %	(1 in 140)	0.1 %	(1 in 1,500)	0.4 %	(1 in 260)
75 years	0.3 %	(1 in 300)	0.5 %	(1 in 200)	0.2 %	(1 in 590)	0.4 %	(1 in 280)
Lifetime risk			0.9 %	(1 in 110)			0.4 %	(1 in 260)
Men aged	**in the next 10 years**		**ever**		**in the next 10 years**		**ever**	
35 years	0.1 %	(1 in 1,800)	1.8 %	(1 in 56)	< 0.1 %	(1 in 19,500)	0.7 %	(1 in 150)
45 years	0.2 %	(1 in 570)	1.8 %	(1 in 57)	< 0.1 %	(1 in 4,400)	0.7 %	(1 in 150)
55 years	0.4 %	(1 in 260)	1.6 %	(1 in 61)	0.1 %	(1 in 1,300)	0.7 %	(1 in 150)
65 years	0.6 %	(1 in 160)	1.4 %	(1 in 73)	0.2 %	(1 in 590)	0.6 %	(1 in 160)
75 years	0.7 %	(1 in 150)	0.9 %	(1 in 110)	0.3 %	(1 in 300)	0.6 %	(1 in 170)
Lifetime risk			1.8 %	(1 in 56)			0.7 %	(1 in 150)

Figure 3.24.3
Distribution of UICC stages at diagnosis by sex, ICD-10 C64, Germany 2019 – 2020
(top: incl. missing data and DCO cases; bottom: valid values only)

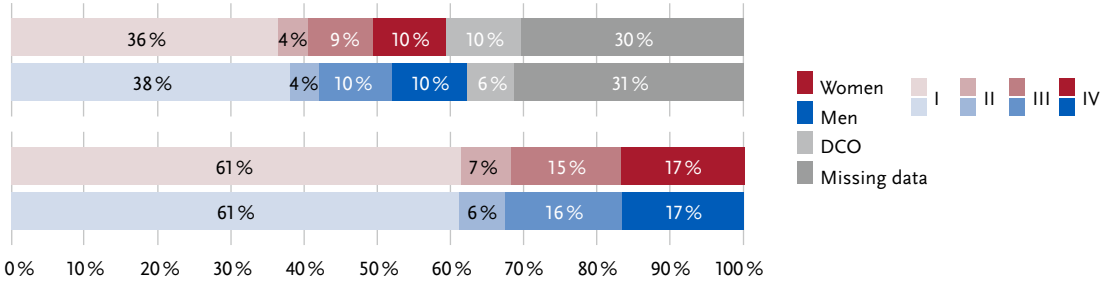


Figure 3.24.4
Absolute and relative survival rates up to 10 years after diagnosis, by sex, ICD-10 C64, Germany 2019 – 2020

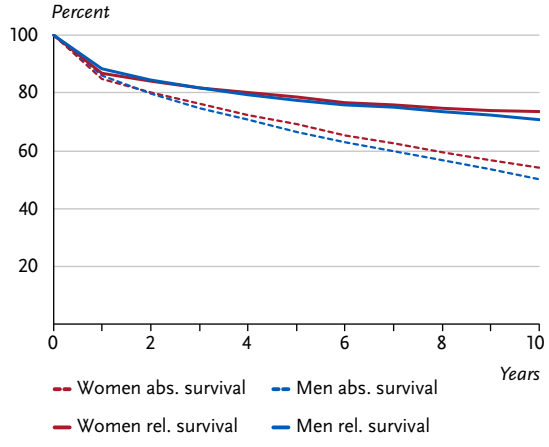


Figure 3.24.5
Relative 5-year survival by UICC stage (7th and 8th edition TNM) and sex, ICD-10 C64, Germany 2019 – 2020

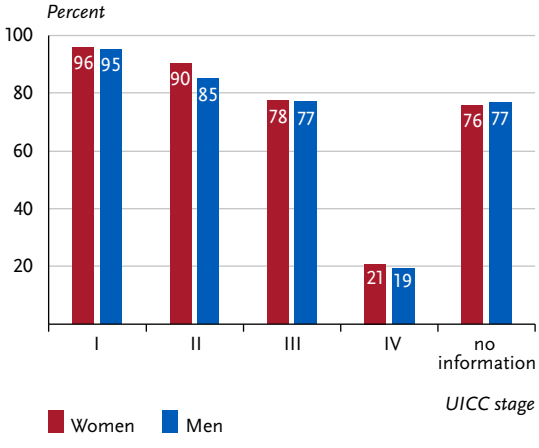


Figure 3.24.6
Age-standardised incidence and mortality rates in German federal states by sex, ICD-10 C64, 2019 – 2020
per 100,000 (old European Standard)

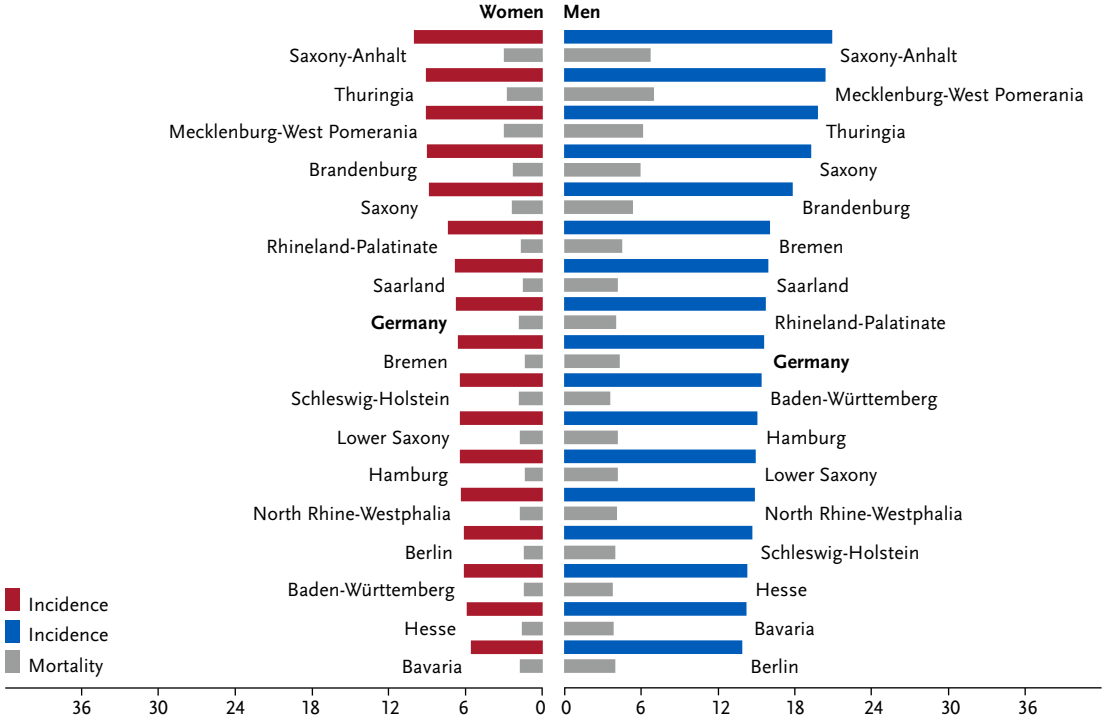
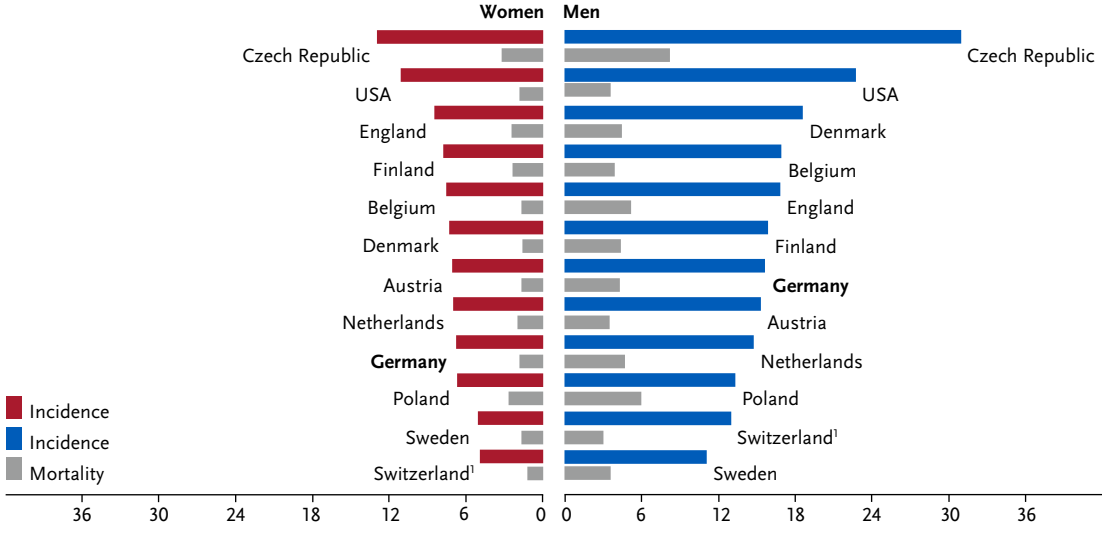


Figure 3.24.7
International comparison of age-standardised incidence and mortality rates by sex, ICD-10 C64, 2019 – 2020 or latest available year (details and sources, see appendix)
per 100,000 (old European Standard)



[1] Switzerland: incidence data for 2015 – 2019