3.20 Kidney

Table 3.20.1
Overview of key epidemiological parameters for Germany, ICD-10 C64

	2009		2010		Prediction for 2014	
	Men	Women	Men	Women	Men	Women
Incident cases	9,040	5,630	8,950	5,570	9,500	6,000
Crude incidence rate[1]	22.5	13.5	22.3	13.4	23.9	14.5
Standardised incidence rate[1,2]	16.4	8.3	16.2	8.2	15.9	8.2
Median age at diagnosis	68	71	68	71		
Deaths	3,088	2,015	3,096	2,151		
Crude mortality rate[1]	7.7	4.8	7.7	5.2		
Standardised mortality rate[1,2]	5.3	2.4	5.2	2.4		
5-year prevalence	33,300	20,900	33,600	21,100		
Absolute 5-year survival rate (2009-2010)[3]			65 (54-70)	69 (56-78)		
Relative 5-year survival rate (2009-2010)[3]			75 (62-81)	77 (63-89)		

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

Epidemiology

Malignant neoplasms of the kidney can develop from various tissues. Among all types of kidney tumours in adults, renal cell carcinomas (hypernephromas) occur most frequently, account for 90 % of all cases. In contrast, nephroblastomas (Wilms' tumours), lymphomas or sarcomas of the kidney are more frequent in children.

The age-standardised incidence rates have remained at a fairly constant level for men and women since the end of the 1990s, although the incidence rate for men is twice as high as in women. As far as the age-standardised mortality rates are concerned, a slightly downward trend is observed for both sexes, whereas the absolute number of new cases in the last ten years has increased by a good 10 %.

The median age at diagnosis is 68 years for men and 71 years for women.

The prognosis for kidney carcinoma is comparatively favourable, the relative 5-year survival rate for kidney tumours is approx. 75 % in men and 77 % in women. Around three-quarters of all tumours are diagnosed at a relatively early stage (T1 and T2). In regional and/or international comparison, relatively high incidence and mortality rates are apparent in the eastern federal states, as well as in Germany's eastern European neighbouring countries.

Risk factors

Smoking and passive smoking, as well as hypertension and obesity are the most important risk factors. A relationship appears to exist between being overweight and developing kidney cancer, especially in women. In men, the nature of the fat distribution may possibly be decisive. Studies have also found that alcohol consumption is a potential risk factor.

Occupational exposure to substances which may damage the kidneys, e.g. halogenated hydrocarbons and cadmium, can also increase cancer risk. On the whole, chronic renal insufficiency, regardless of cause, may promote carcinogenesis in the kidney. Also following a kidney transplant, the immuno-suppressed patient has an increased risk of developing a renal cell carcinoma.

Familial predisposition probably only plays a role in relatively few cases. Approximately three per cent of renal cell carcinomas occur in patients with complex hereditary diseases such as those affected by Hippel-Lindau syndrome. These genetic renal cell carcinomas are often multifocal and occur more often at a younger age than kidney cancers in patients without a genetic disposition.

Figure 3.20.1a
Age-standardised incidence and mortality rates, by sex, ICD-10 C64, Germany 1999 – 2010
per 100,000 (European standard)

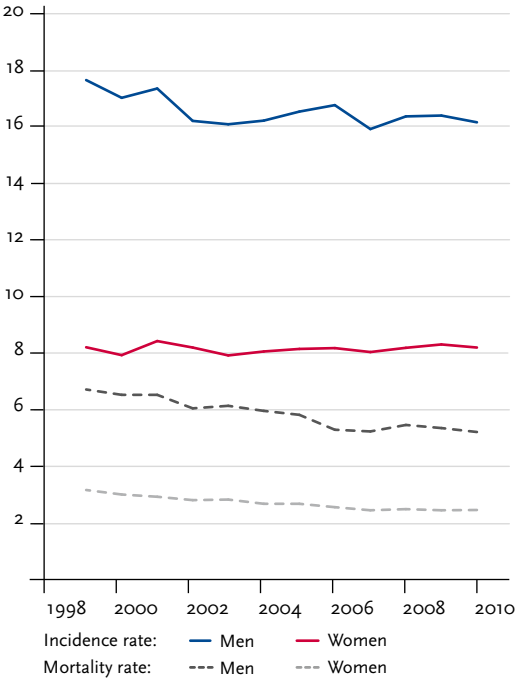


Figure 3.20.1b
Absolute numbers of incident cases and deaths, by sex, ICD-10 C64, Germany 1999 – 2010

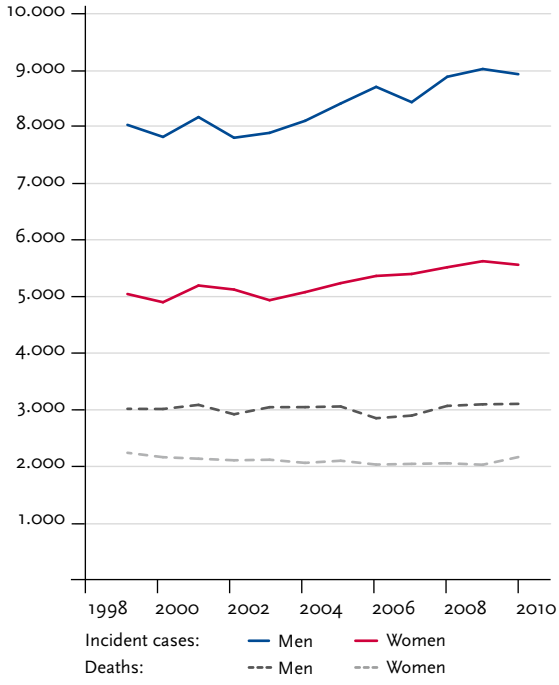


Figure 3.20.2
Age-specific incidence rates by sex, ICD-10 C64, Germany 2009 – 2010
per 100,000

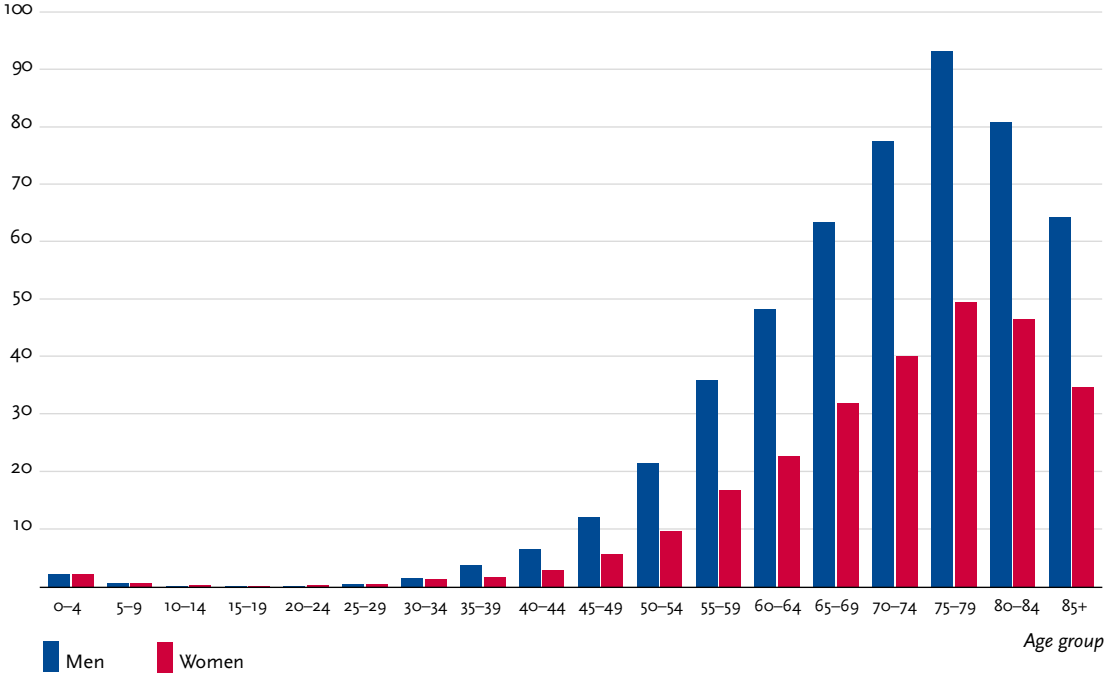


Table 3.20.2
Cancer incidence and mortality risks in Germany by age and sex, ICD-10 C64, database 2010

	Risk of developing cancer				Mortality risk			
Men aged	**in the next ten years**		**ever**		**in the next ten years**		**ever**	
35 years	0.1%	(1 in 1,900)	1.7%	(1 in 58)	<0.1%	(1 in 15,000)	0.7%	(1 in 150)
45 years	0.2%	(1 in 580)	1.7%	(1 in 59)	<0.1%	(1 in 3,000)	0.7%	(1 in 150)
55 years	0.4%	(1 in 240)	1.6%	(1 in 63)	0.1%	(1 in 1,000)	0.7%	(1 in 150)
65 years	0.6%	(1 in 160)	1.3%	(1 in 76)	0.2%	(1 in 490)	0.6%	(1 in 160)
75 years	0.6%	(1 in 150)	0.9%	(1 in 120)	0.4%	(1 in 280)	0.6%	(1 in 180)
Lifetime risk			1.7%	(1 in 58)			0.7%	(1 in 150)
Women aged	**in the next ten years**		**ever**		**in the next ten years**		**ever**	
35 years	<0.1%	(1 in 3,800)	1.0%	(1 in 95)	<0.1%	(1 in 51,000)	0.4%	(1 in 220)
45 years	0.1%	(1 in 1,300)	1.0%	(1 in 97)	<0.1%	(1 in 7,700)	0.4%	(1 in 220)
55 years	0.2%	(1 in 520)	1.0%	(1 in 100)	<0.1%	(1 in 2,900)	0.4%	(1 in 230)
65 years	0.3%	(1 in 300)	0.8%	(1 in 120)	0.1%	(1 in 980)	0.4%	(1 in 230)
75 years	0.4%	(1 in 250)	0.6%	(1 in 180)	0.2%	(1 in 460)	0.4%	(1 in 270)
Lifetime risk			1.1%	(1 in 94)			0.4%	(1 in 230)

Figure 3.20.3
Distribution of T-stages at first diagnosis by sex (top: all cases; bottom: only valid reports)
ICD-10 C64, Germany 2009 – 2010

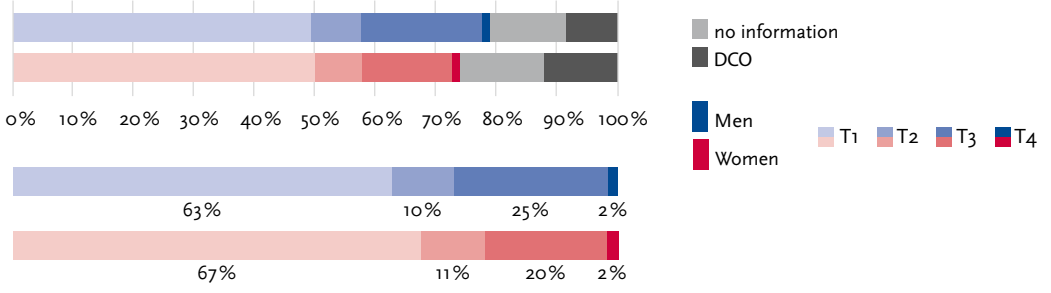


Figure 3.20.4a
Absolute survival rates up to 5 years after first diagnosis, by sex, ICD-10 C64, Germany 2009 – 2010

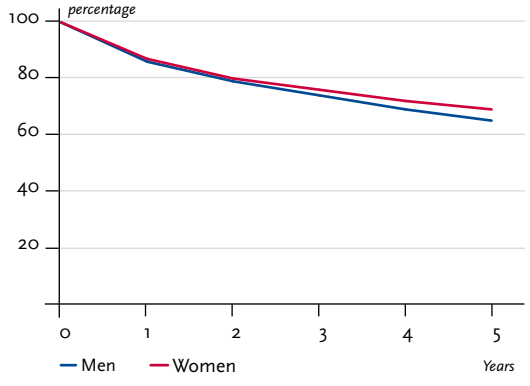


Figure 3.20.4b
Relative survival rates up to 5 years after first diagnosis, by sex, ICD-10 C64, Germany 2009 – 2010

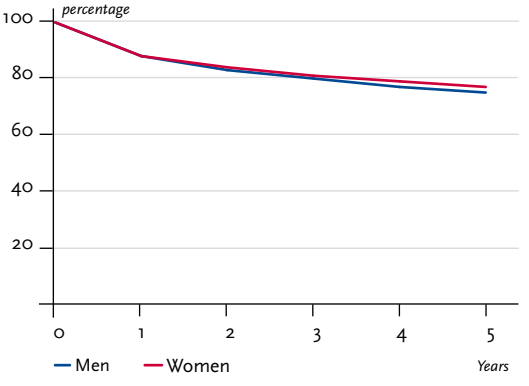


Figure 3.20.5
Registered age-standardised incidence and mortality rates in German federal states, by sex, ICD-10 C64, 2009 – 2010
per 100,000 (European standard)

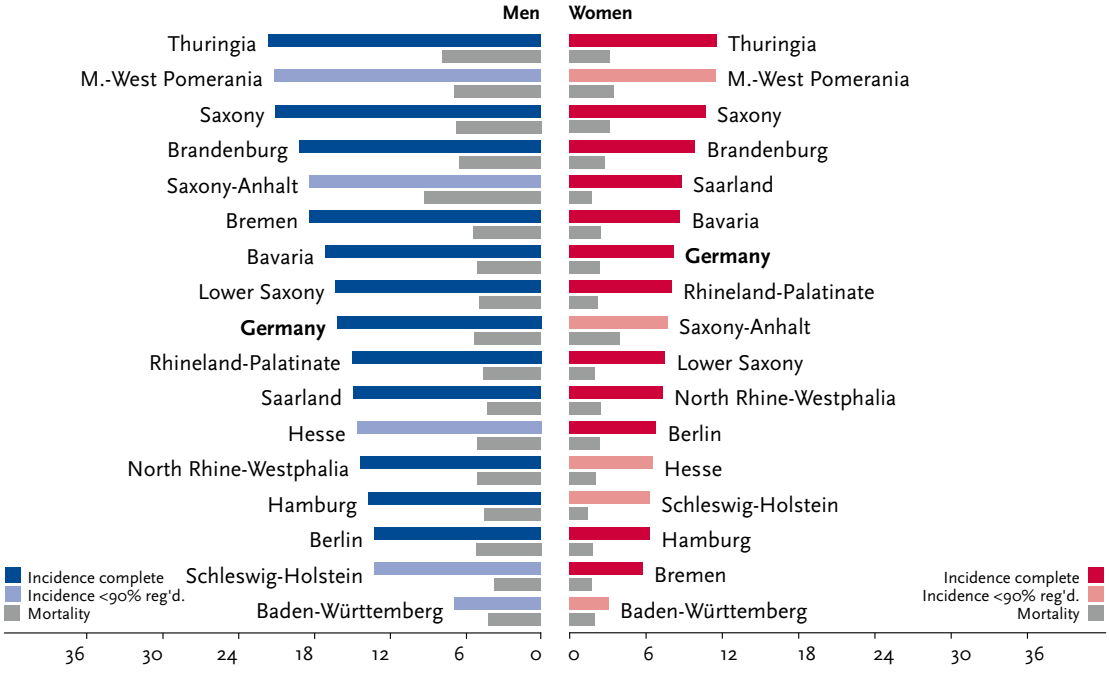
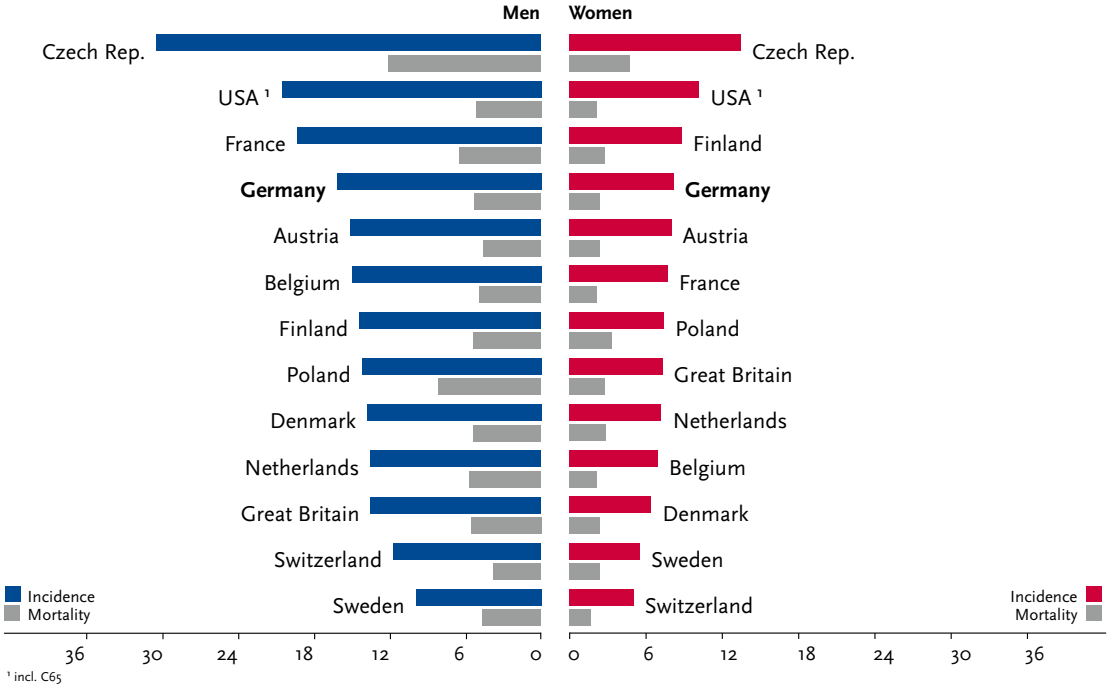


Figure 3.20.6
International comparison of age-standardised incidence and mortality rates, by sex, ICD-10 C64, 2009 – 2010 or latest available year (details and sources, see appendix)
per 100,000 (European standard)



[1] incl. C65