

3.30 Multiple myeloma

Table 3.30.1
Overview of key epidemiological parameters for Germany, ICD-10 C90

Incidence	2017		2018		Prediction for 2022	
	Women	Men	Women	Men	Women	Men
Incident cases	3,340	3,820	2,810	3,540	3,400	3,100
Crude incidence rate ¹	8.0	9.4	6.7	8.6	7.9	7.6
Age-standardised incidence rate ^{1, 2}	4.3	5.9	3.5	5.4	4.1	4.6
Median age at diagnosis	74	72	74	72		
Mortality	2017		2018		2019	
	Women	Men	Women	Men	Women	Men
Deaths	1,851	2,287	1,881	2,299	1,884	2,116
Crude mortality rate ¹	4.4	5.6	4.5	5.6	4.5	5.2
Age-standardised mortality rate ^{1, 2}	1.9	3.2	1.9	3.2	1.8	2.8
Median age at death	78	76	79	77	79	77
Prevalence and survival rates	5 years		10 years		25 years	
	Women	Men	Women	Men	Women	Men
Prevalence	9,500	11,500	14,200	16,800	20,000	22,500
Absolute survival rate (2017–2018) ³	47 (44–52)	47 (39–53)	28 (21–36)	26 (22–30)		
Relative survival rate (2017–2018) ³	54 (49–60)	56 (47–62)	37 (29–49)	39 (33–44)		

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

Multiple myeloma (synonym: Plasmocytoma) is a malignant proliferation of antibody-producing plasma cells. In most cases, the disease initially occurs in the bone marrow, where it often forms several foci of disease (multiple myeloma) with corresponding complications, such as bone fractures and pain or blood count changes. Only about 1% of diagnoses affect organs other than the bone marrow (extramedullary plasmocytoma).

In 2018, the disease occurred in about 2,800 women and 3,500 men in Germany. The risk of developing the disease increases significantly with age; cases before the age of 45 are extremely rare (about 1.5% of all cases). The age-standardised incidence and mortality rates among women and men have been almost constant since about 2005.

The prognosis is rather unfavourable with relative 5-year survival rates of 54% in women and 56% in men. Normally, a permanent cure is not likely. However, the disease can remain asymptomatic for relatively long time and temporary remissions under therapy are possible.

Risk factors

The causes of multiple myeloma are not yet fully understood. Monoclonal gammopathy of uncertain significance (MGUS) is considered a precursor of multiple myeloma. Other recognised risk factors include advanced age, male sex, African ancestry and familial clustering. Some families have a higher incidence of multiple myeloma. The own risk of developing the disease increases statistically, if close relatives have multiple myeloma. Differences in the frequency in different population groups also point to genetic factors.

Chronic infections, e.g. with HIV or hepatitis C viruses, are associated with an increased risk of multiple myeloma. According to study data, overweight is also associated with an increased risk. However, a causal relation has not yet been proven.

It is also being discussed, whether certain lifestyle habits, heavy overweight, exposure to environmental toxins or radiation increase the risk of myeloma. In the case of intensive occupational contact with benzene or benzene derivatives, multiple myeloma is recognised as an occupational disease under certain conditions

Figure 3.30.1a
 Age-standardised incidence and mortality rates by sex, ICD-10 C90, Germany 1999–2018/2019, projection (incidence) through 2022
 per 100,000 (old European Standard)

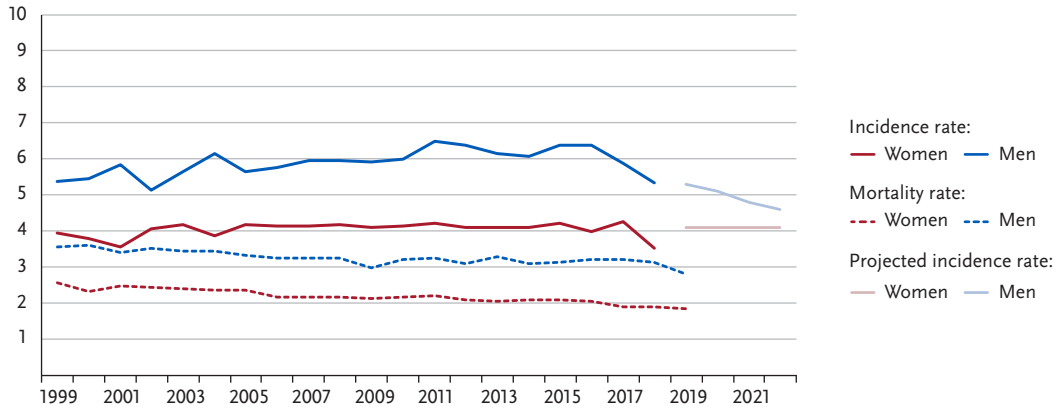


Figure 3.30.1b
 Absolute numbers of incident cases and deaths by sex, ICD-10 C90, Germany 1999–2018/2019, projection (incidence) through 2022

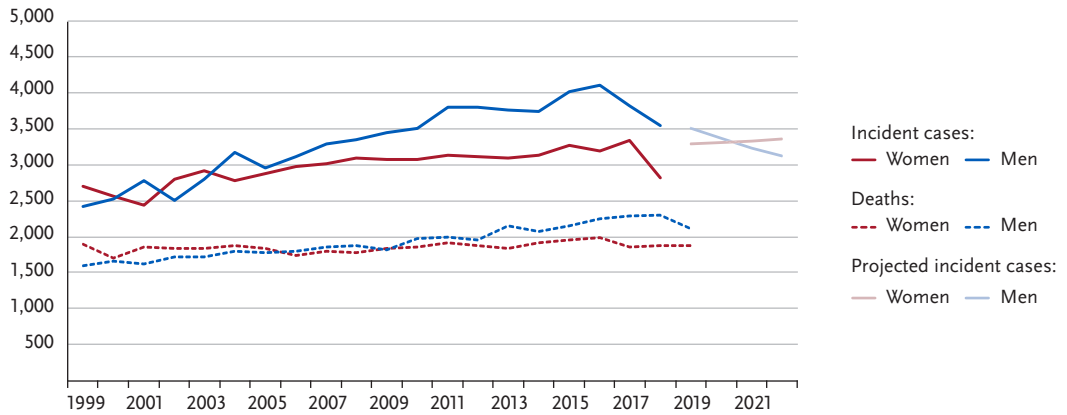


Figure 3.30.2
 Age-specific incidence rates by sex, ICD-10 C90, Germany 2017–2018
 per 100,000

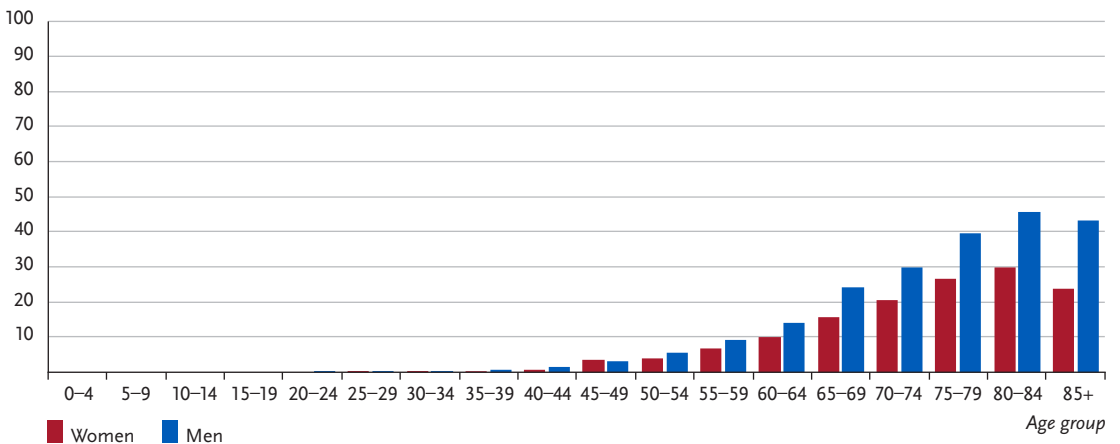


Table 3.30.2
Cancer incidence and mortality risks in Germany by age and sex, ICD-10 C90, database 2018

Women aged	Risk of developing cancer				Mortality risk			
	in the next 10 years		ever		in the next 10 years		ever	
35 years	< 0.1 %	(1 in 11,300)	0.5 %	(1 in 190)	< 0.1 %	(1 in 84,500)	0.4 %	(1 in 280)
45 years	< 0.1 %	(1 in 3,200)	0.5 %	(1 in 200)	< 0.1 %	(1 in 14,700)	0.4 %	(1 in 280)
55 years	0.1 %	(1 in 1,300)	0.5 %	(1 in 210)	< 0.1 %	(1 in 3,400)	0.4 %	(1 in 280)
65 years	0.2 %	(1 in 640)	0.4 %	(1 in 230)	0.1 %	(1 in 1,200)	0.3 %	(1 in 290)
75 years	0.2 %	(1 in 460)	0.3 %	(1 in 320)	0.2 %	(1 in 550)	0.3 %	(1 in 330)
Lifetime risk			0.5 %	(1 in 200)			0.4 %	(1 in 280)
Men aged	in the next 10 years		ever		in the next 10 years		ever	
35 years	< 0.1 %	(1 in 9,900)	0.7 %	(1 in 150)	< 0.1 %	(1 in 29,600)	0.5 %	(1 in 220)
45 years	< 0.1 %	(1 in 2,300)	0.7 %	(1 in 150)	< 0.1 %	(1 in 7,800)	0.5 %	(1 in 220)
55 years	0.1 %	(1 in 930)	0.6 %	(1 in 160)	< 0.1 %	(1 in 2,300)	0.5 %	(1 in 210)
65 years	0.2 %	(1 in 420)	0.6 %	(1 in 170)	0.1 %	(1 in 740)	0.5 %	(1 in 210)
75 years	0.3 %	(1 in 320)	0.5 %	(1 in 220)	0.3 %	(1 in 380)	0.4 %	(1 in 240)
Lifetime risk			0.7 %	(1 in 150)			0.5 %	(1 in 220)

Figure 3.30.3
Distribution of UICC stages at diagnosis by sex
Not included because UICC stages are not defined for multiple myeloma.

Figure 3.30.4
Absolute and relative survival rates up to 10 years after diagnosis by sex, ICD-10 C90, Germany 2017–2018

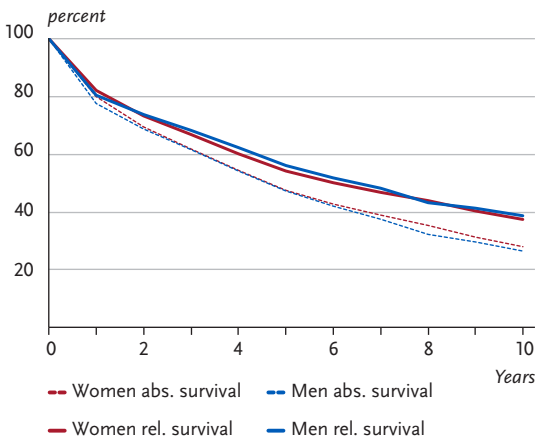


Figure 3.30.5
Relative 5-year survival by UICC stage
Not included because UICC stages are not defined for multiple myeloma.

Figure 3.30.6
Age-standardised incidence and mortality rates in German federal states by sex, ICD-10 C90, 2017–2018
per 100,000 (old European Standard)

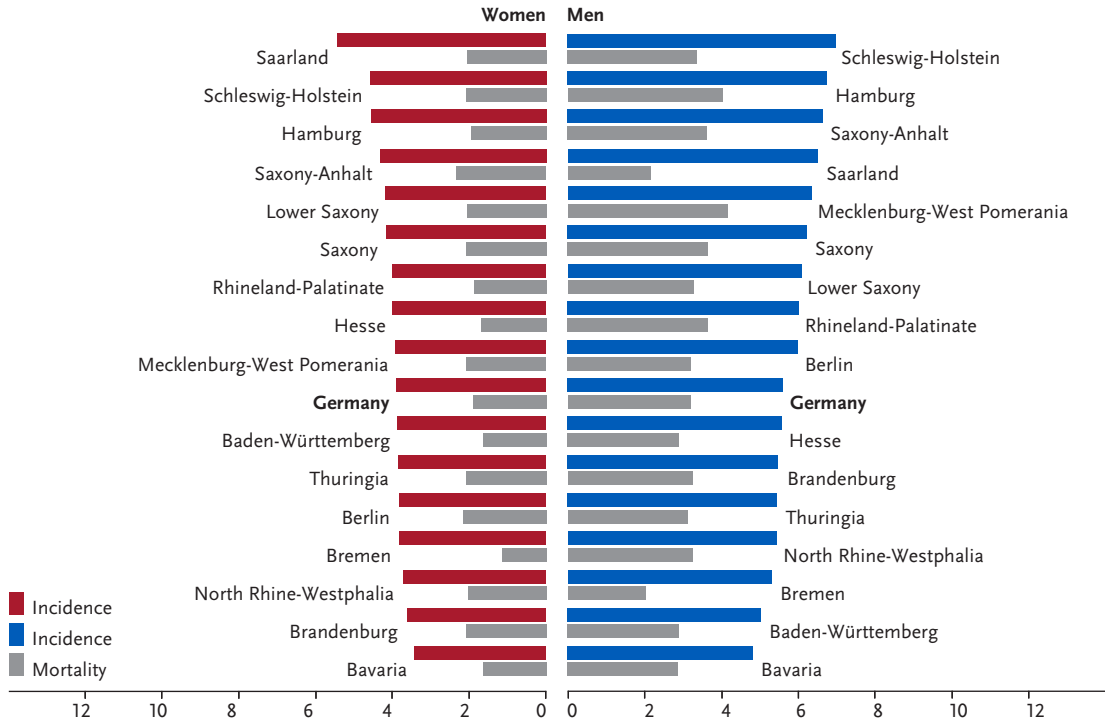
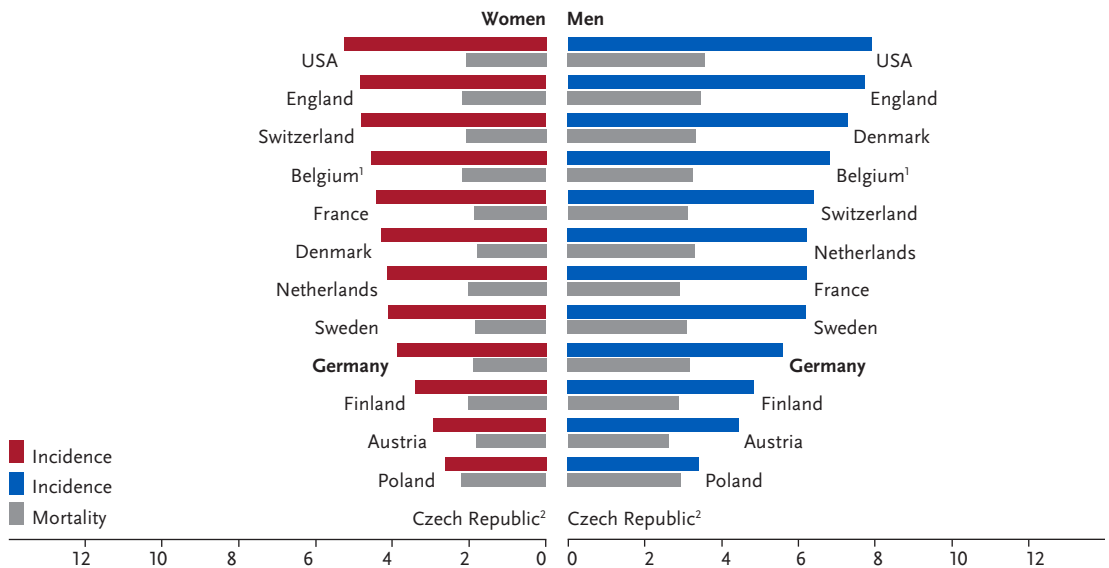


Figure 3.30.7
International comparison of age-standardised incidence and mortality rates by sex, ICD-10 C90, 2017–2018 or latest available year (details and sources, see appendix)
per 100,000 (old European Standard)



¹ Mortality including C88 and C96
² No data available