

3.28 Leukaemias

Table 3.28.1
Overview of key epidemiological parameters for Germany, ICD-10 C91–C95

	2011		2012		Prediction for 2016	
	Men	Women	Men	Women	Men	Women
Incident cases	7,520	5,840	7,180	5,460	7,800	5,900
Crude incidence rate ¹	19.2	14.2	18.3	13.3	19.4	14.1
Standardised incidence rate ^{1,2}	14.1	8.9	13.3	8.2	13.3	8.6
Median age at diagnosis	70	72	71	73		
Deaths	4,083	3,535	4,155	3,445		
Crude mortality rate ¹	10.4	8.6	10.6	8.4		
Standardised mortality rate ^{1,2}	6.9	4.2	6.8	4.0		
5-year prevalence	22,700	16,500	22,700	16,400		
	<i>after 5 years</i>		<i>after 10 years</i>			
Absolute survival rate (2011–2012) ³	50 (34–58)	49 (31–58)	34 (20–39)	36 (23–45)		
Relative survival rate (2011–2012) ³	58 (40–67)	55 (35–64)	46 (28–54)	46 (28–55)		

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

Epidemiology

In 2012, some 12,640 people in Germany were diagnosed with leukaemia, 5 % of whom were under 15 years of age. The risk for leukaemia falls with increasing age among children and young adults independent of gender. Above the age of 30 the risk increases again continuously, with a higher incidence among men than women. One in 67 men and one in 91 women develop a leukaemia during their lifetime.

More than a third of the diagnosed cases were chronic lymphatic leukaemia (CLL) and over a quarter of the cases were acute myeloid leukaemia (AML).

The age-standardised incidence rates have been relatively stable since 1999 to 2012 among both sexes. However, the age-standardised mortality rates have declined continuously. Within Germany, the highest incidence rates are observed in Hamburg, whereas the highest mortality rates are in Saarland.

The prognosis for leukaemia depends on its form and the age of the subject at diagnosis. It is most favourable by far for the leukaemia forms in childhood, whereas in adults the acute forms still have a poorer prognosis.

Overall, about a third of adult patients are still alive ten years after diagnosis. However, a permanent cure is rarely achieved, e.g. after a risky stem cell transplantation.

Risk factors

The risk factors known to cause acute leukaemia include ionising radiation in radiotherapy, cytostatic drugs in chemotherapy for cancer, and probably also various chemicals (e.g. at the workplace). If, for example, occupational contact with benzene is a causal factor, then leukaemia can be recognised as an occupational disease. However, none of these risk factors is found in the medical history of most patients. In particular the causes of chronic leukaemias are unclear.

The possible influence of dietary habits and lifestyle is under discussion, particularly for chronic lymphatic leukaemias. So far, however, there is no proof of such influences for this or for other chronic and acute forms of leukaemia. The influence of viruses has not been conclusively proved and is also the subject of research. Besides, there is a debate as to whether insufficient training of the immune system in childhood contributes towards increased risk, with no conclusion having yet been reached. No link to exposure to electromagnetic fields of any origin has been proved.

A number of comparatively rare genetic mutations can increase the incidence risk for leukaemia, including trisomy of chromosome 21. It is likely that some hereditary gene variations play a role in the risk of disease without causing leukaemia directly. Several factors presumably need to interact in order for leukaemia to develop.

Figure 3.28.1a
Age-standardised incidence and mortality rates,
by sex, ICD-10 C91–C95, Germany 1999–2012
per 100,000 (European standard)

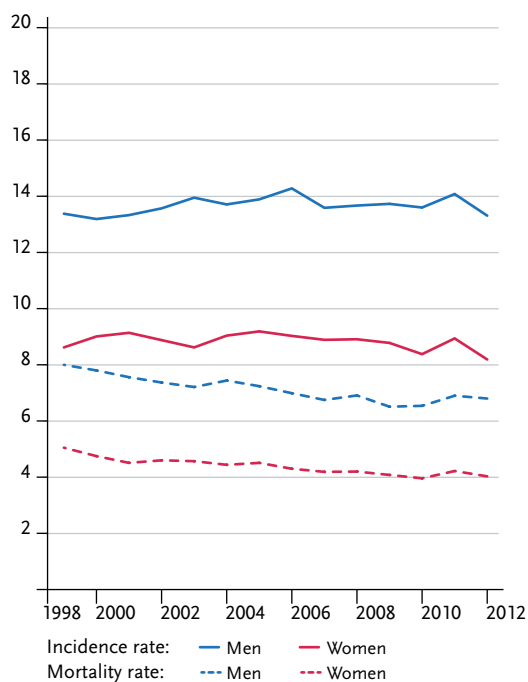


Figure 3.28.1b
Absolute numbers of incident cases and deaths,
by sex, ICD-10 C91–C95, Germany 1999–2012

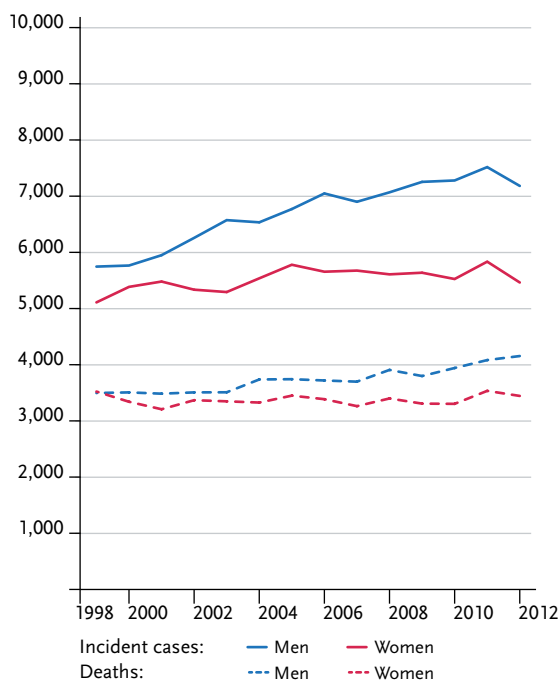


Figure 3.28.2
Age-specific incidence rates by sex, ICD-10 C91–C95, Germany 2011–2012
per 100,000

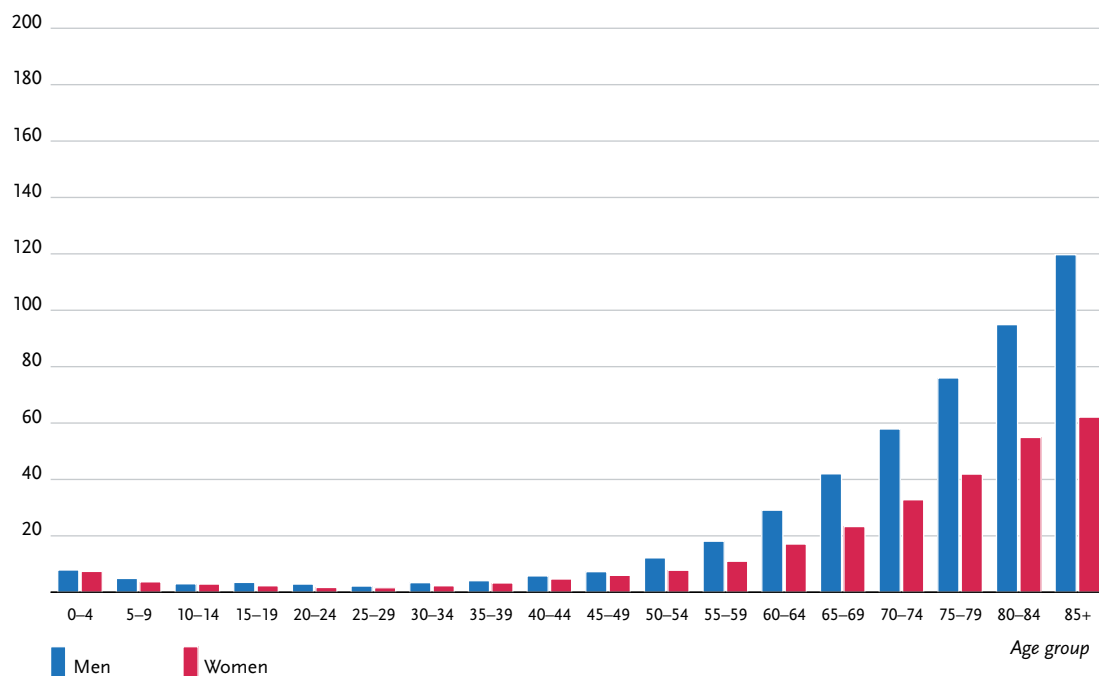


Table 3.28.2
Cancer incidence and mortality risks in Germany by age and sex, ICD-10 C91–C95, database 2012

	Risk of developing cancer				Mortality risk			
	in the next ten years		ever		in the next ten years		ever	
Men aged								
35 years	<0.1%	(1 in 2,100)	1.4%	(1 in 72)	<0.1%	(1 in 6,700)	0.9%	(1 in 110)
45 years	0.1%	(1 in 1,000)	1.4%	(1 in 73)	<0.1%	(1 in 3,800)	0.9%	(1 in 110)
55 years	0.2%	(1 in 440)	1.3%	(1 in 76)	0.1%	(1 in 1,100)	0.9%	(1 in 110)
65 years	0.4%	(1 in 230)	1.2%	(1 in 82)	0.2%	(1 in 410)	0.9%	(1 in 110)
75 years	0.6%	(1 in 160)	1.0%	(1 in 100)	0.5%	(1 in 190)	0.9%	(1 in 120)
Lifetime risk			1.5%	(1 in 67)			0.9%	(1 in 110)
Women aged								
35 years	<0.1%	(1 in 2,600)	1.0%	(1 in 99)	<0.1%	(1 in 9,400)	0.7%	(1 in 140)
45 years	0.1%	(1 in 1,600)	1.0%	(1 in 100)	<0.1%	(1 in 4,600)	0.7%	(1 in 140)
55 years	0.1%	(1 in 730)	0.9%	(1 in 110)	0.1%	(1 in 1,800)	0.7%	(1 in 150)
65 years	0.3%	(1 in 380)	0.8%	(1 in 120)	0.2%	(1 in 660)	0.7%	(1 in 150)
75 years	0.4%	(1 in 260)	0.7%	(1 in 150)	0.3%	(1 in 320)	0.6%	(1 in 170)
Lifetime risk			1.1%	(1 in 91)			0.7%	(1 in 140)

Figure 3.28.3
Distribution of T-stages at first diagnosis by sex
T-stages are not defined for leukaemias.

Table 3.28.3
Proportion of the various leukaemia forms for all new diagnoses C91–C95, by sex, Germany 2011–2012

	ALL ¹	CLL ²	AML ³	CML ⁴	others ⁵
Men	7%	40%	20%	8%	24%
Women	8%	36%	23%	9%	24%

- 1 Acute lymphatic leukaemia (C91.0)
- 2 Chronic lymphatic leukaemia (C91.1)
- 3 Acute myeloid leukaemia (C92.0)
- 4 Chronic myeloid leukaemia (C92.1)
- 5 incl. unspecified leukaemia forms

Figure 3.28.4a
Absolute survival rates up to 10 years after first diagnosis,
by sex, ICD-10 C91–C95, Germany 2011–2012

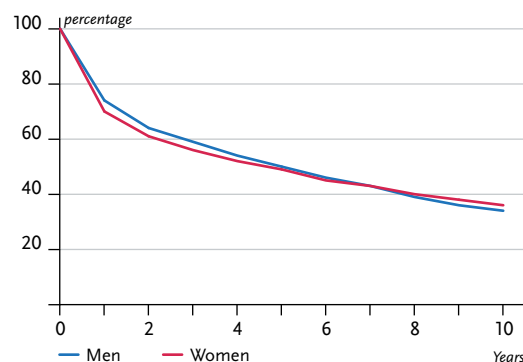


Figure 3.28.4b
Relative survival rates up to 10 years after first diagnosis,
by sex, ICD-10 C91–C95, Germany 2011–2012

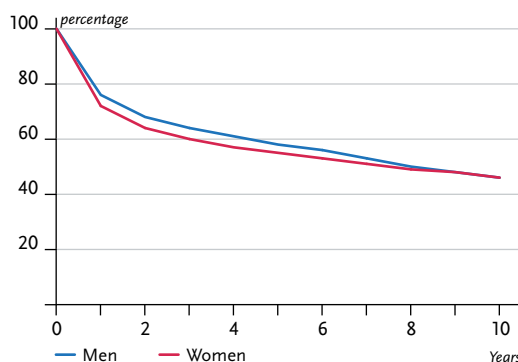


Figure 3.28.5

Registered age-standardised incidence and mortality rates in German federal states, by sex,
ICD-10 C91–C95, 2011–2012
per 100,000 (European standard)

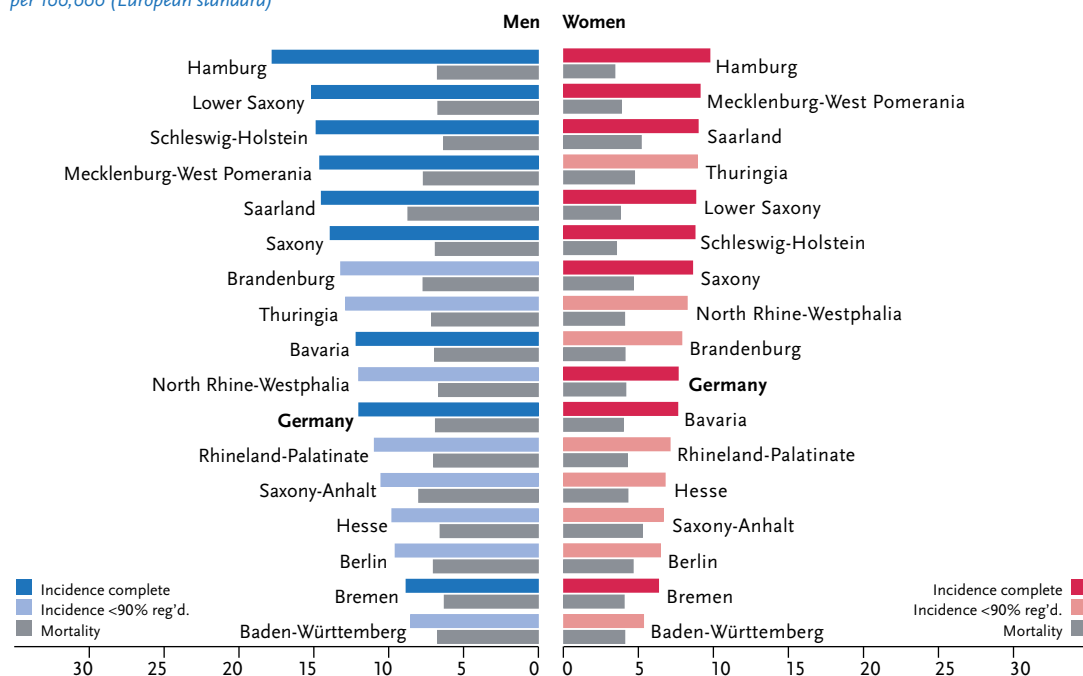


Figure 3.28.6

International comparison of age-standardised incidence and mortality rates, by sex,
ICD-10 C91–C95, 2011–2012 or latest available year (details and sources, see appendix)
per 100,000 (European standard)

