

3.12 Lung

Table 3.12.1
Overview of key epidemiological parameters for Germany, ICD-10 C33 – C34

Incidence	2019		2020			
	Women	Men	Women	Men		
Incident cases	23,720	35,890	22,590	34,100		
Crude incidence rate ¹	56.3	87.5	53.6	83.1		
Age-standardised incidence rate ^{1,2}	33.4	55.0	31.4	51.8		
Median age at diagnosis	69	70	69	70		
Mortality	2019		2020		2021	
	Women	Men	Women	Men	Women	Men
Deaths	16,999	27,882	17,066	27,751	17,413	27,225
Crude mortality rate ¹	40.4	68	40.5	67.6	41.3	66.3
Age-standardised mortality rate ^{1,2}	22.2	41.1	21.9	40.5	22.1	39.3
Median age at death	72	72	72	72	71	72
Prevalence and survival rates	5 years		10 years		25 years	
	Women	Men	Women	Men	Women	Men
Prevalence	41,300	55,500	57,500	77,300	72,400	101,300
Absolute survival rate (2019–2020) ³	23 (20–27)	17 (15–20)	15 (13–18)	10 (8–13)		
Relative survival rate (2019–2020) ³	25 (22–30)	19 (17–23)	19 (17–25)	14 (12–18)		

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

In 2020, about 22,600 women and 34,100 men developed malignant tumours of the lung, and 17,066 women and 27,751 men died of the disease.

The age-standardised incidence and mortality rates develop in opposite directions for both sexes. Since the end of the 1990s, they have risen continuously for women, whereas the rates for men have declined over the same period and have now come very close to those of women. This different development can be attributed to the change in smoking habits that already occurred some time ago and will probably continue. Lung cancer belongs to the prognostically unfavourable tumours, which is expressed in a low relative 5-year survival rate of about 25% in women and 19% in men. Histologically, three main types are distinguished: Adenocarcinomas account for 44% of cases, squamous cell carcinomas for about 21% and small cell bronchial carcinomas for about 15%, which has the worst prognosis due to its early tendency to metastasise. In an international comparison among the selected countries, the highest disease rates for women can be seen in Denmark and for men in Belgium.

Risk factors and early detection

Tobacco smoking is the main risk factor for the development of lung cancer. In Germany, an estimated nine out of ten cases in men and about eight out of ten cases in women are due to active smoking. Passive smoking also increases the risk of cancer.

Other risk factors play a smaller role. Diesel exhaust and particulate matter are the most important risk factors among air pollutants.

About 9 to 15% of lung carcinomas are caused by occupational exposure to carcinogenic substances and can be recognised as an occupational disease. These include asbestos, polycyclic aromatic hydrocarbons, arsenic and quartz dusts. Occupational or domestic exposure to radon, a naturally occurring radioactive noble gas, or other sources of ionising radiation also increases the risk.

An influence of hereditary factors is suspected.

There is not yet a suitable method for the early detection of lung cancer for the entire population. However, it is currently being examined whether and in what form cancer screening programmes by means of low-dose computed tomography could be implemented for defined risk groups.

Figure 3.12.1a
 Age-standardised incidence and mortality rates by sex, ICD-10 C33 – C34, Germany 1999 – 2020/2021
 per 100,000 (old European Standard)

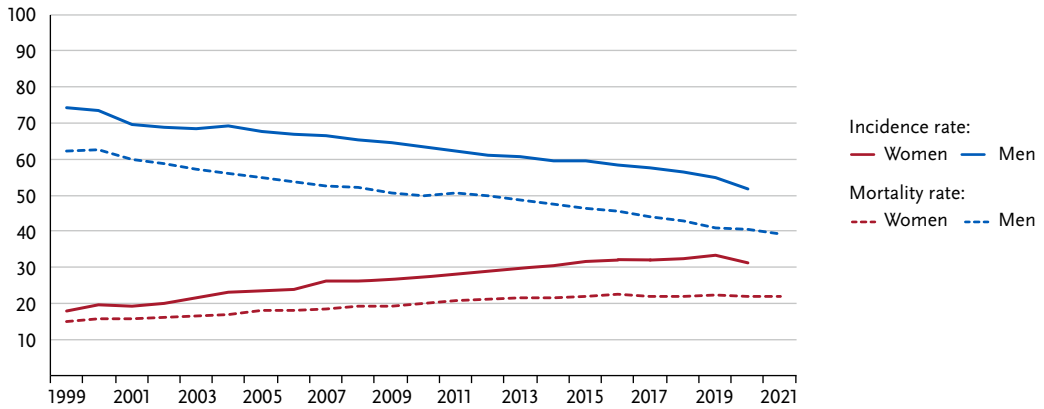


Figure 3.12.1b
 Absolute numbers of incident cases and deaths by sex, ICD-10 C33 – C34, Germany 1999 – 2020/2021

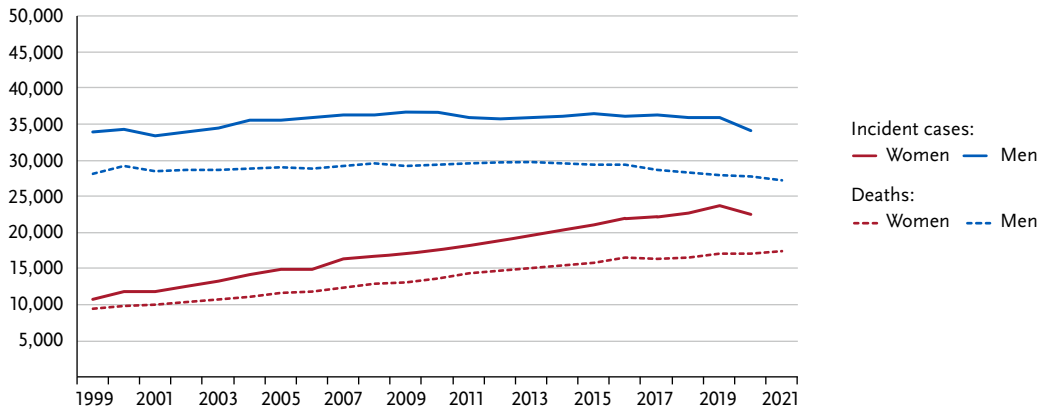


Figure 3.12.2
 Age-specific incidence rates by sex, ICD-10 C33 – C34, Germany 2019 – 2020
 per 100,000

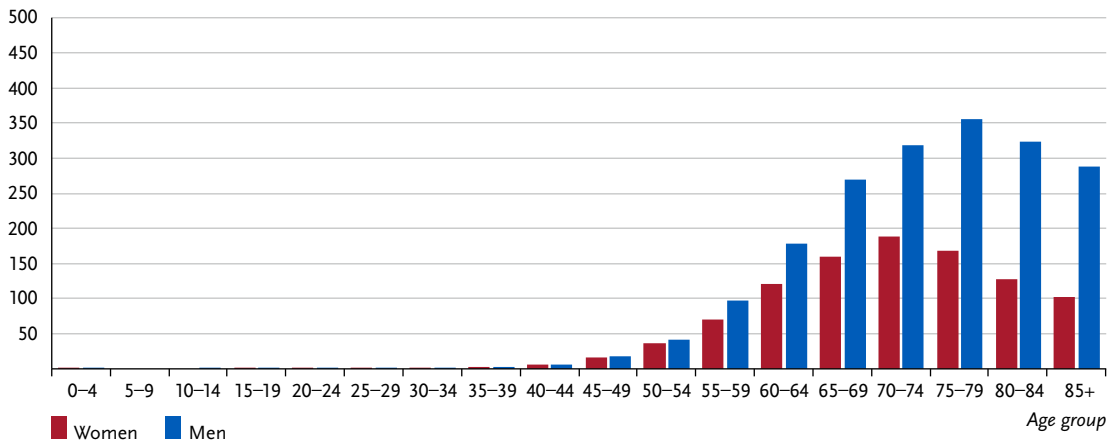


Table 3.12.2
Cancer incidence and mortality risks in Germany by age and sex, ICD-10 C33 – C34, database 2019

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 1,900)	4.3 %	(1 in 23)	< 0.1 %	(1 in 4,400)	3.1 %	(1 in 32)
45 years	0.3 %	(1 in 350)	4.3 %	(1 in 23)	0.2 %	(1 in 620)	3.1 %	(1 in 32)
55 years	1.0 %	(1 in 100)	4.1 %	(1 in 25)	0.6 %	(1 in 170)	3.0 %	(1 in 33)
65 years	1.0 %	(1 in 61)	3.3 %	(1 in 31)	1.1 %	(1 in 90)	2.6 %	(1 in 39)
75 years	1.3 %	(1 in 75)	1.9 %	(1 in 54)	1.1 %	(1 in 93)	1.7 %	(1 in 60)
Lifetime risk			4.3 %	(1 in 23)			3.1 %	(1 in 32)
Men aged	in the next 10 years		ever		in the next 10 years		ever	
35 years	0.1 %	(1 in 1,900)	6.7 %	(1 in 15)	< 0.1 %	(1 in 3,800)	5.3 %	(1 in 19)
45 years	0.3 %	(1 in 300)	6.7 %	(1 in 15)	0.2 %	(1 in 500)	5.4 %	(1 in 19)
55 years	1.4 %	(1 in 72)	6.6 %	(1 in 15)	0.9 %	(1 in 100)	5.4 %	(1 in 19)
65 years	2.7 %	(1 in 37)	5.8 %	(1 in 17)	2.0 %	(1 in 50)	4.9 %	(1 in 21)
75 years	2.8 %	(1 in 36)	3.9 %	(1 in 26)	2.4 %	(1 in 41)	3.6 %	(1 in 28)
Lifetime risk			6.6 %	(1 in 15)			5.3 %	(1 in 19)

Figure 3.12.3
Distribution of UICC stages at diagnosis by sex, ICD-10 C33 – C34, Germany 2019 – 2020
(top: incl. missing data and DCO cases; bottom: valid values only)

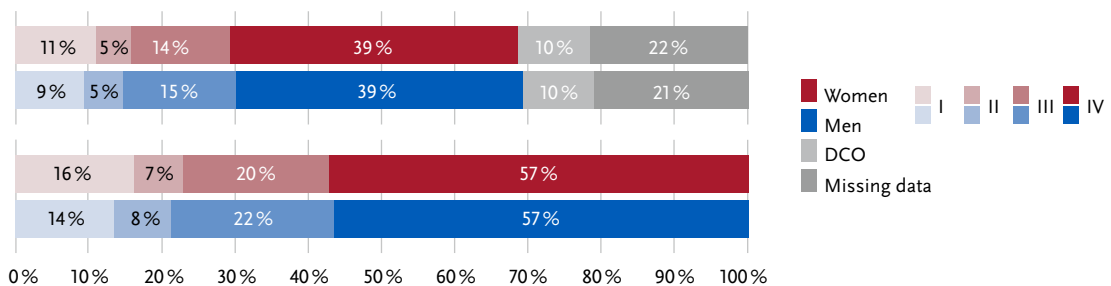


Figure 3.12.4
Absolute and relative survival rates up to 10 years after diagnosis, by sex, ICD-10 C33 – C34, Germany 2019 – 2020

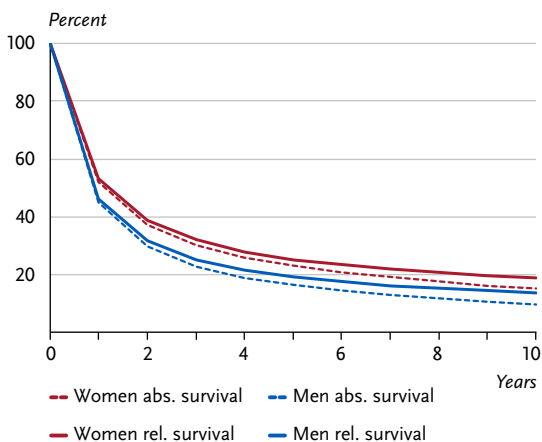


Figure 3.12.5
Relative 5-year survival by histology and sex, ICD-10 C33 – C34, Germany 2019 – 2020

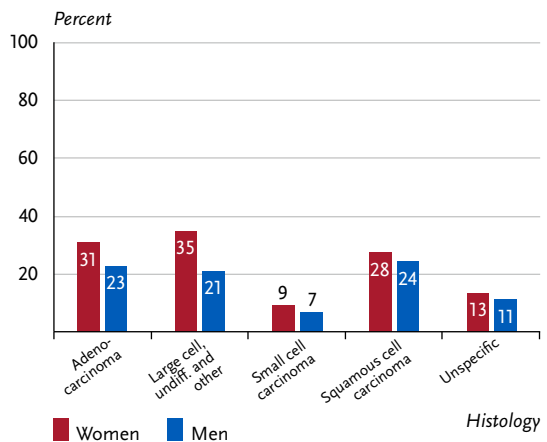


Figure 3.12.6
 Age-standardised incidence and mortality rates in German federal states by sex, ICD-10 C33 – C34, 2019 – 2020
 per 100,000 (old European Standard)

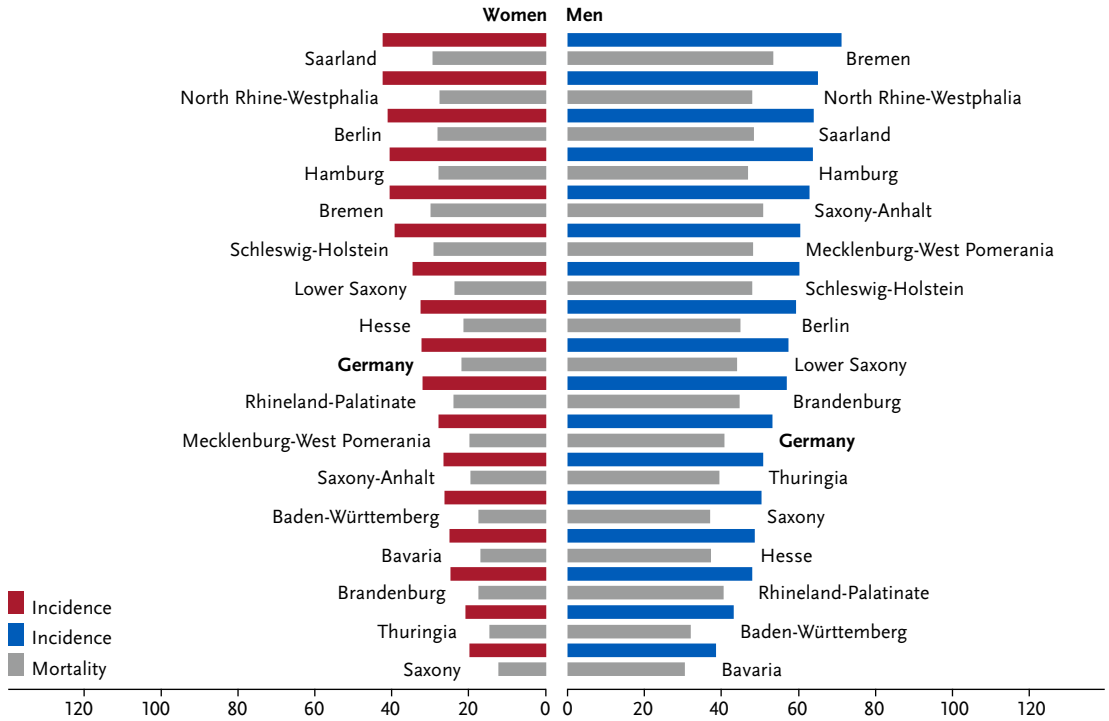
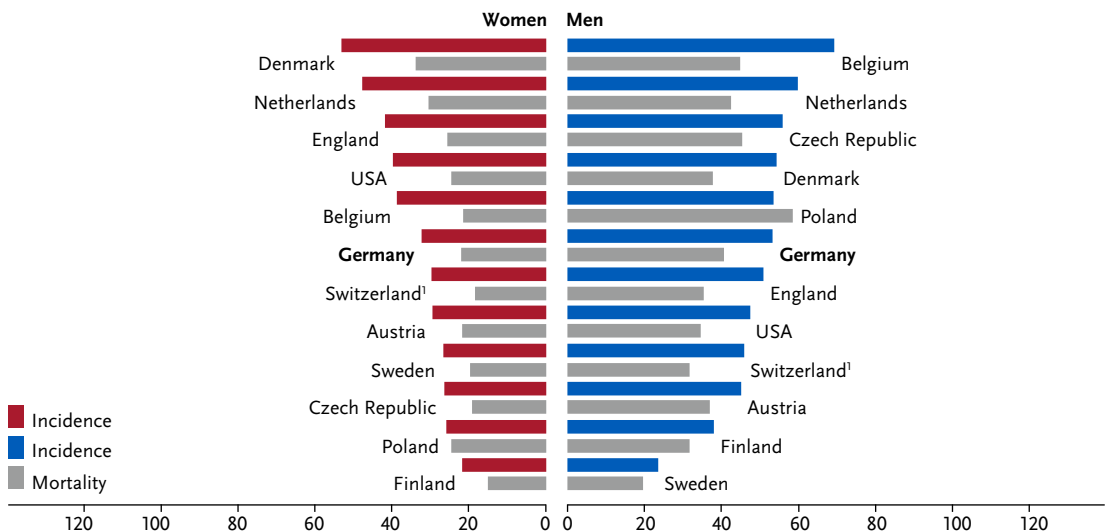


Figure 3.12.7
 International comparison of age-standardised incidence and mortality rates by sex,
 ICD-10 C33 – C34, 2019 – 2020 or latest available year (details and sources, see appendix)
 per 100,000 (old European Standard)



¹ Switzerland: incidence data for 2015 – 2019