

3.10 Lung

Table 3.10.1
Overview of key epidemiological parameters for Germany, ICD-10 C33–C34

	2011		2012		Prediction for 2016	
	Men	Women	Men	Women	Men	Women
Incident cases	35,270	17,710	34,490	18,030	35,000	20,300
Crude incidence rate ¹	90.0	43.1	87.8	43.9	87.5	49.1
Standardised incidence rate ^{1,2}	61.3	27.4	59.1	27.7	56.0	30.1
Median age at diagnosis	70	68	70	69		
Deaths	29,653	14,291	29,713	14,752		
Crude mortality rate ¹	75.7	34.8	75.6	35.9		
Standardised mortality rate ^{1,2}	50.6	20.9	49.8	21.3		
5-year prevalence	49,600	28,700	49,000	29,200		
	<i>after 5 years</i>		<i>after 10 years</i>			
Absolute survival rate (2011–2012) ³	14 (12–16)	19 (14–24)	9 (7–11)	13 (9–17)		
Relative survival rate (2011–2012) ³	16 (14–19)	21 (16–26)	12 (10–15)	16 (11–22)		

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 about 18,000 women and 34,500 men were diagnosed with malignant lung tumours and about 14,800 women and 29,700 men died of the disease. Lung cancer therefore remains by far the commonest cause of death due to cancer among men in Germany, accounting for 25% of deaths due to cancer, while it is the second most common among women (15%).

The age-standardised incidence and mortality rates show opposing trends for men and for women. Among women they have risen continuously since the end of the 1990s, while for men the rates decreased over the same period. These differing trends for the two sexes can be attributed to a change in smoking habits dating back some time and will probably continue in future. In terms of prognosis, lung cancer is one of the more unfavourable cancers, with relatively low 5-year survival rates of about 21% for women and 16% for men. Histologically, three main types are distinguished. Adenocarcinomas account for a third of all cases, while squamous-cell and small-cell lung carcinomas each account for about a quarter of cases. Due to the tendency to metastasise early, small cell carcinomas have the worst prognosis. In comparison with international data, the highest incidence rates can be identified among women from Denmark and men from Poland.

Risk factors and early detection

Exposure to tobacco smoke has long been recognised as the main risk factor for lung cancer. Up to nine out of ten cases of lung cancer in men, and at least six out of ten cases in women are attributable to active smoking. Passive smoke inhalation also increases the risk of cancer and is a major contributor to indoor pollution.

Other risk factors play a comparatively minor role. About 9 to 15 out of 100 cases of lung cancer are attributable to exposure to various carcinogenic substances, including asbestos, polycyclic aromatic hydrocarbons and quartz and nickel dust. In areas with a high natural exposure to radon in buildings, the risk of lung cancer is higher for occupants, particularly in lower storeys. This also applies for occupational exposure to radon or other sources of ionising radiation. Diesel exhaust fumes are the most important risk factor among air pollutants. An impact of other environmental pollutants (e.g. particulate matter) is presumed to exist, but the extent of this is still the subject of research. The same applies for the influence of genetic factors. There is also a relationship between infection with human papillomavirus (HPV) or Epstein-Barr virus (EBV) and the development of lung carcinomas.

To date there is no established means of screening for lung cancer. The role that examinations, such as a regular computed tomography, could have for risk groups is being explored in clinical trials.

Figure 3.10.1a
Age-standardised incidence and mortality rates, by sex, ICD-10 C33–C34, Germany 1999–2012 per 100,000 (European standard)

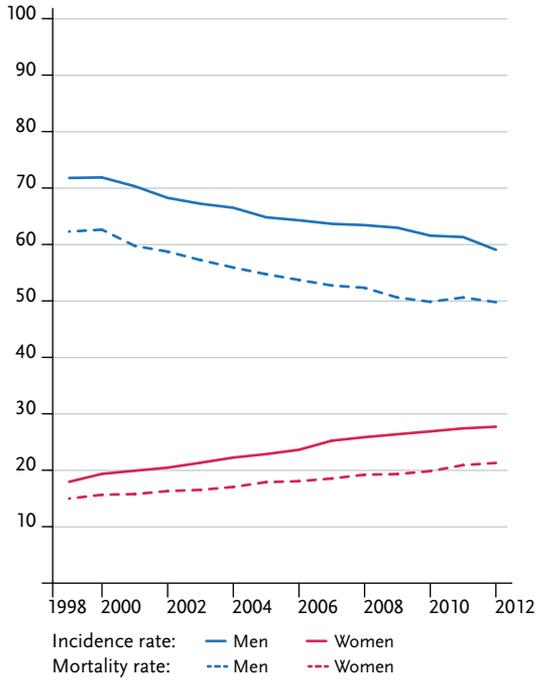


Figure 3.10.1b
Absolute numbers of incident cases and deaths, by sex, ICD-10 C33–C34, Germany 1999–2012

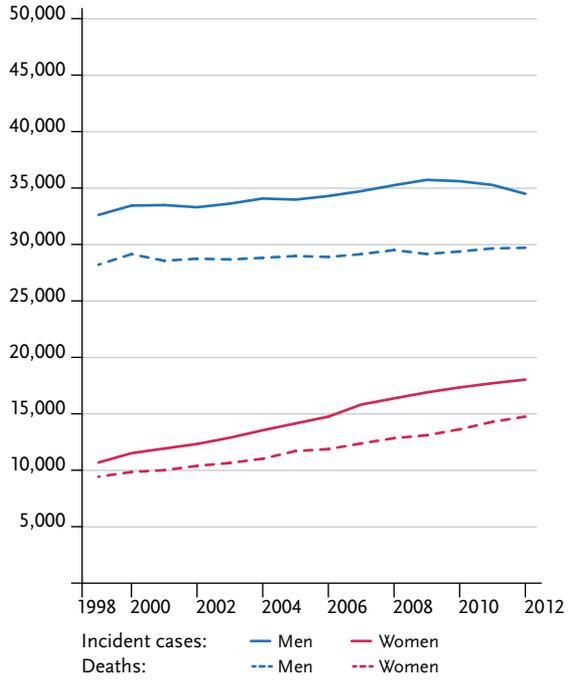


Figure 3.10.2
Age-specific incidence rates by sex, ICD-10 C33–C34, Germany 2011–2012 per 100,000

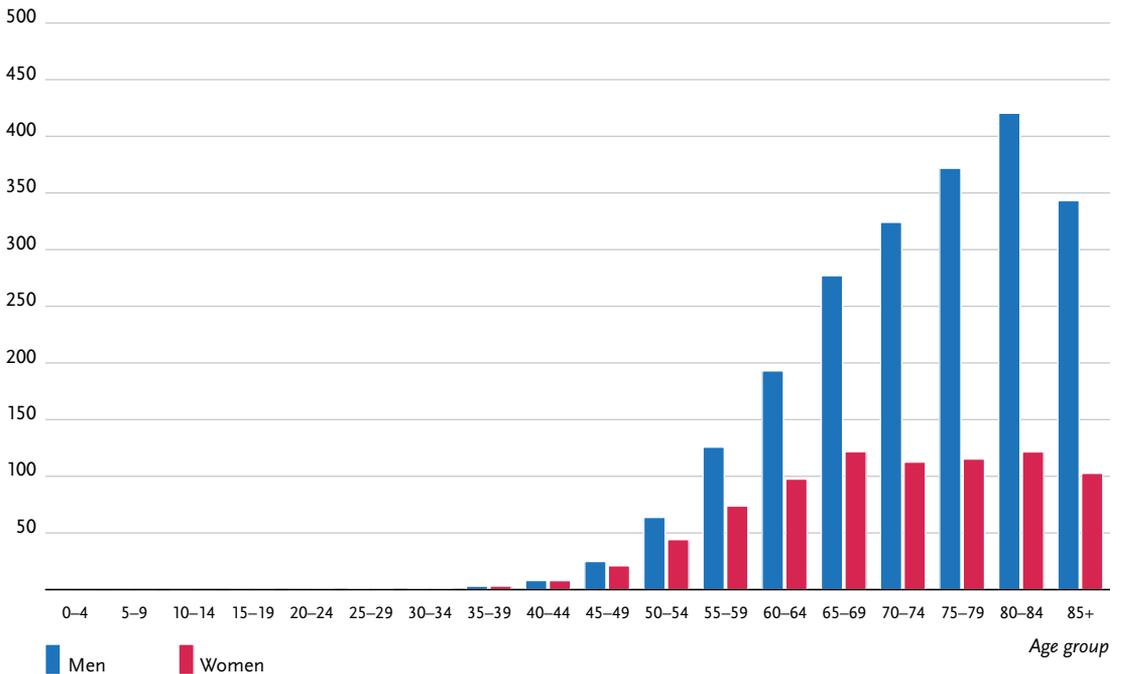


Table 3.10.2
Cancer incidence and mortality risks in Germany by age and sex, ICD-10 C33–C34, database 2012

Men aged	Risk of developing cancer				Mortality risk			
	in the next ten years		ever		in the next ten years		ever	
35 years	0.1%	(1 in 1,600)	6.9%	(1 in 14)	<0.1%	(1 in 2,600)	6.1%	(1 in 16)
45 years	0.4%	(1 in 220)	6.9%	(1 in 14)	0.3%	(1 in 310)	6.2%	(1 in 16)
55 years	1.5%	(1 in 66)	6.8%	(1 in 15)	1.1%	(1 in 87)	6.1%	(1 in 16)
65 years	2.6%	(1 in 38)	5.8%	(1 in 17)	2.2%	(1 in 45)	5.5%	(1 in 18)
75 years	3.0%	(1 in 34)	4.0%	(1 in 25)	2.8%	(1 in 35)	4.1%	(1 in 24)
Lifetime risk			6.8%	(1 in 15)			6.1%	(1 in 17)
Women aged	in the next ten years		ever		in the next ten years		ever	
35 years	0.1%	(1 in 1,700)	3.4%	(1 in 29)	<0.1%	(1 in 2,800)	2.9%	(1 in 35)
45 years	0.3%	(1 in 300)	3.4%	(1 in 30)	0.2%	(1 in 450)	2.8%	(1 in 35)
55 years	0.8%	(1 in 120)	3.1%	(1 in 32)	0.6%	(1 in 170)	2.7%	(1 in 37)
65 years	1.1%	(1 in 89)	2.4%	(1 in 42)	0.9%	(1 in 110)	2.2%	(1 in 46)
75 years	1.0%	(1 in 100)	1.5%	(1 in 69)	0.9%	(1 in 110)	1.5%	(1 in 68)
Lifetime risk			3.4%	(1 in 29)			2.8%	(1 in 35)

Figure 3.10.3
Distribution of T-stages at first diagnosis by sex (top: all cases; bottom: only valid reports)
ICD-10 C33–C34, Germany 2011–2012

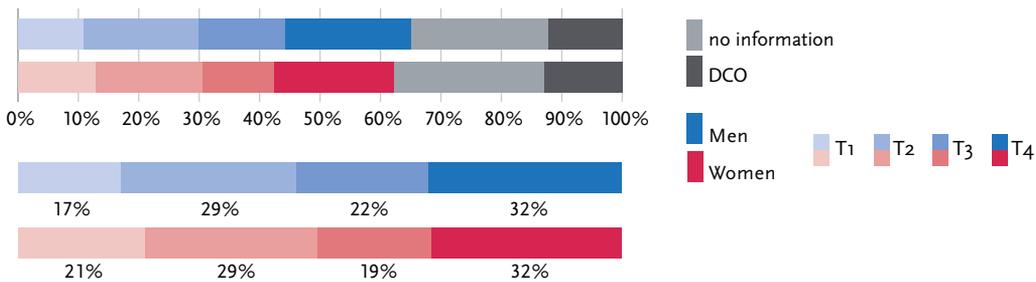


Figure 3.10.4a
Absolute survival rates up to 10 years after first diagnosis, by sex, ICD-10 C33–C34, Germany 2011–2012

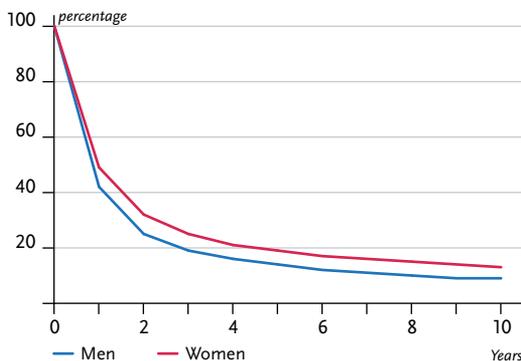


Figure 3.10.4b
Relative survival rates up to 10 years after first diagnosis, by sex, ICD-10 C33–C34, Germany 2011–2012

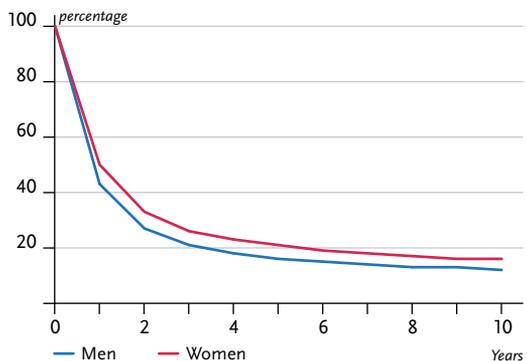


Figure 3.10.5
Registered age-standardised incidence and mortality rates in German federal states, by sex,
ICD-10 C33–C34, 2011–2012
per 100,000 (European standard)

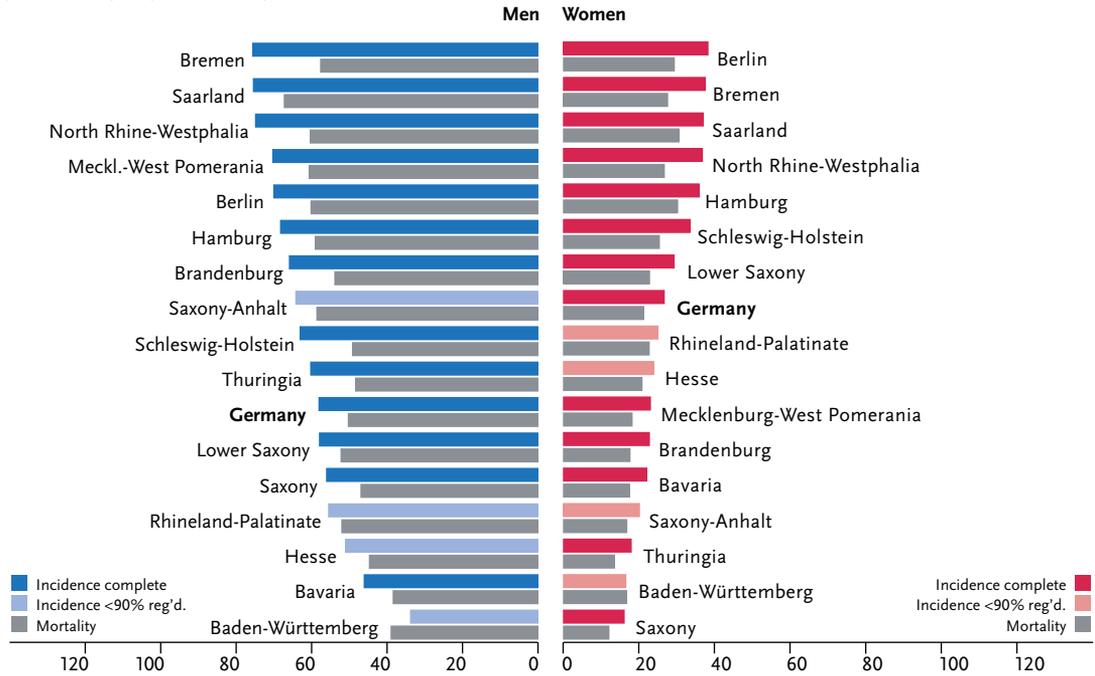
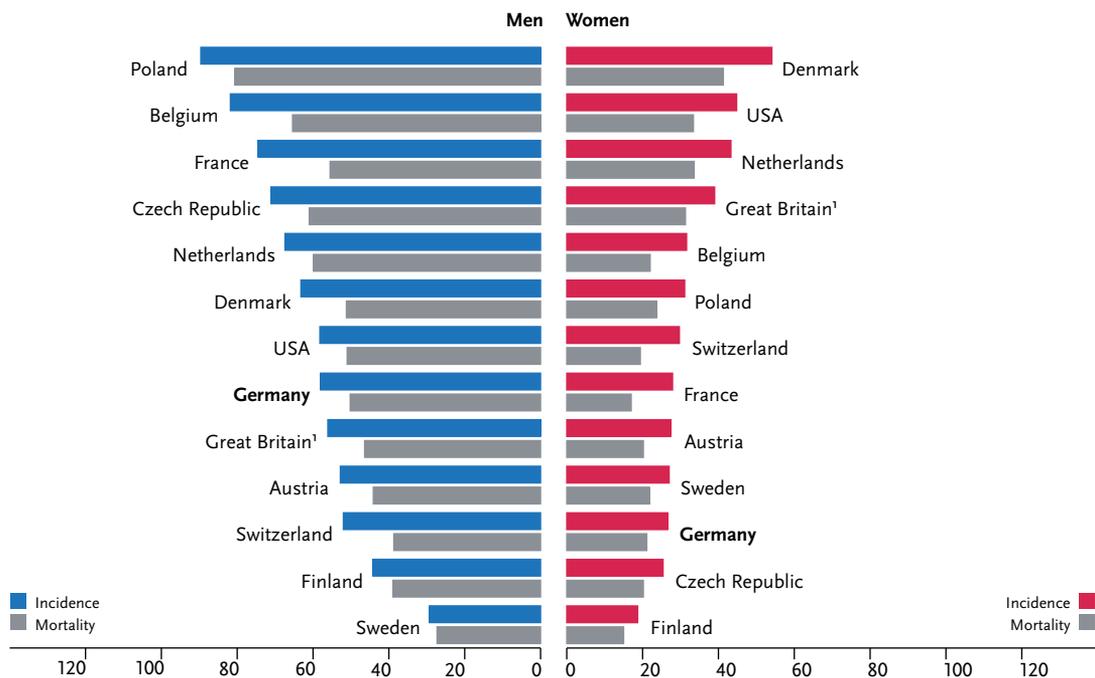


Figure 3.10.6
International comparison of age-standardised incidence and mortality rates, by sex,
ICD-10 C33–C34, 2011–2012 or latest available year (details and sources, see appendix)
per 100,000 (European standard)



¹ Data for incidence for England only