

3.10 Lung

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

	2009		2010		Prediction for 2014	
	Men	Women	Men	Women	Men	Women
Incident cases	35,500	16,550	35,040	17,030	36,000	19,600
Crude incidence rate ¹	88.5	39.6	87.4	40.9	90.6	47.6
Standardised incidence rate ^{1,2}	62.6	26.0	60.7	26.5	57.8	29.2
Median age at diagnosis	69	68	70	68		
Deaths	29,158	13,103	29,381	13,627		
Crude mortality rate ¹	72.7	31.4	73.3	32.7		
Standardised mortality rate ^{1,2}	50.6	19.3	49.9	19.8		
5-year prevalence	49,200	26,200	49,000	27,100		
Absolute 5-year survival rate (2009-2010) ³			14 (12-16)	19 (16-25)		
Relative 5-year survival rate (2009-2010) ³			16 (14-19)	21 (17-28)		

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 2010 about 17,000 women and 35,000 men were diagnosed with malignant lung tumours and about 13,600 woman and 29,400 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 (14 %).

The age-standardised incidence and mortality rates show opposing trends for men and for women. Among women they have risen by some 30 % since the end of the 1990s, while for men the rates over the same period have fallen by about 20 %. 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.

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. Other environmental pollutants (e.g. particulate matter) are presumed to have an effect, 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 papilloma virus (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 – 2010
per 100,000 (European standard)

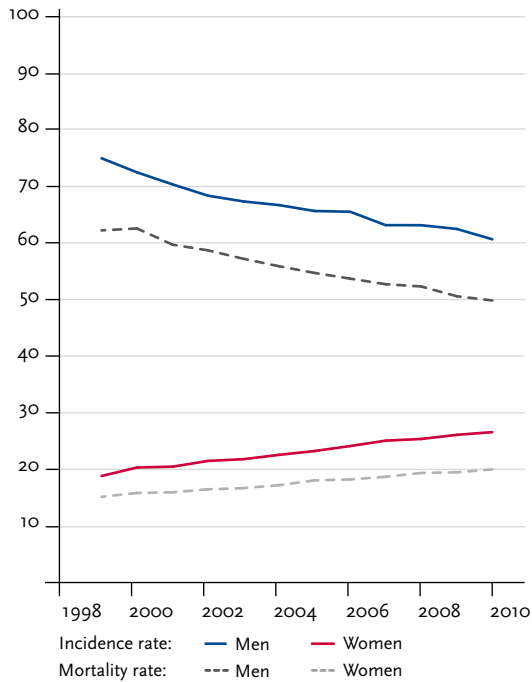


Figure 3.10.1b
Absolute numbers of incident cases and deaths, by sex,
ICD-10 C33 – C34, Germany 1999 – 2010

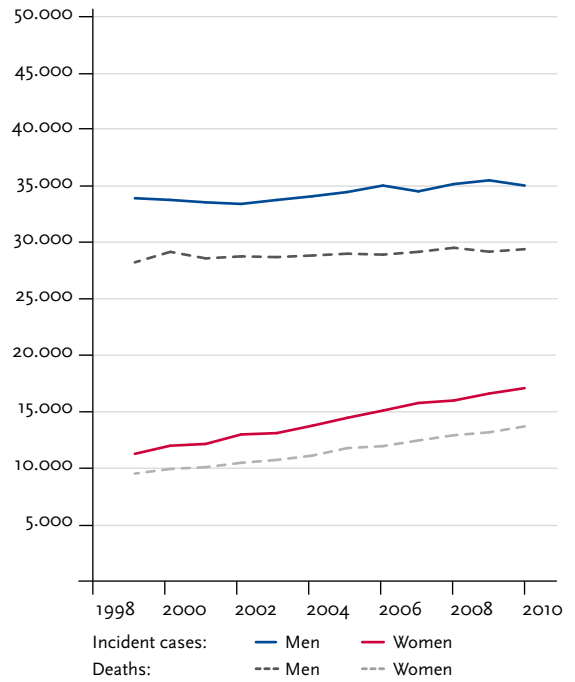


Figure 3.10.2
Age-specific incidence rates by sex, ICD-10 C33 – C34, Germany 2009 – 2010
per 100,000

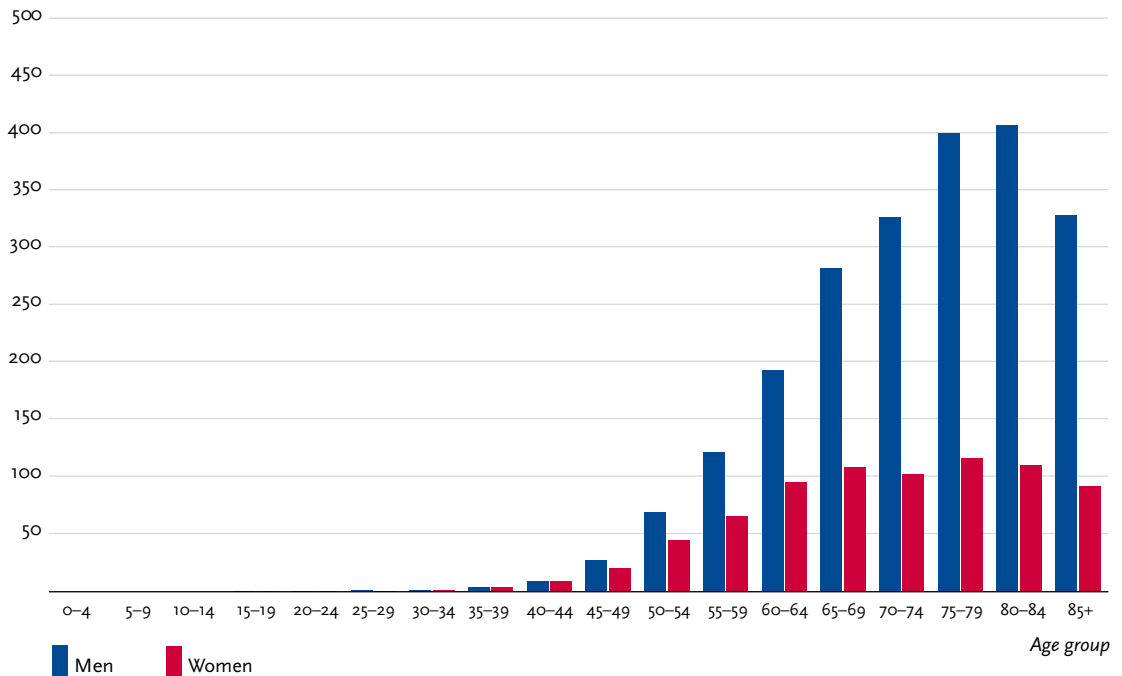


Table 3.10.2
Cancer incidence and mortality risks in Germany by age and sex, ICD-10 C33 – C34, database 2010

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 1,400)	7.1%	(1 in 14)	<0.1%	(1 in 2,500)	6.1%	(1 in 16)
45 years	0.5%	(1 in 210)	7.1%	(1 in 14)	0.3%	(1 in 300)	6.2%	(1 in 16)
55 years	1.5%	(1 in 67)	6.9%	(1 in 14)	1.1%	(1 in 88)	6.1%	(1 in 16)
65 years	2.7%	(1 in 37)	6.0%	(1 in 17)	2.2%	(1 in 45)	5.5%	(1 in 18)
75 years	3.0%	(1 in 33)	4.2%	(1 in 24)	2.9%	(1 in 34)	4.2%	(1 in 24)
Lifetime risk			7.0%	(1 in 14)			6.0%	(1 in 17)
Women aged	in the next ten years		ever		in the next ten years		ever	
35 years	0.1%	(1 in 1,400)	3.2%	(1 in 31)	<0.1%	(1 in 2,700)	2.6%	(1 in 38)
45 years	0.3%	(1 in 310)	3.2%	(1 in 31)	0.2%	(1 in 470)	2.6%	(1 in 38)
55 years	0.8%	(1 in 130)	2.9%	(1 in 34)	0.6%	(1 in 180)	2.5%	(1 in 41)
65 years	1.0%	(1 in 96)	2.2%	(1 in 45)	0.8%	(1 in 130)	2.0%	(1 in 50)
75 years	1.0%	(1 in 100)	1.4%	(1 in 73)	0.9%	(1 in 110)	1.4%	(1 in 72)
Lifetime risk			3.2%	(1 in 31)			2.6%	(1 in 38)

Figure 3.10.3
Distribution of T-stages at first diagnosis by sex
Not presented due to the large proportion of missing data.

Figure 3.10.4a
Absolute survival rates up to 5 years after first diagnosis, by sex, ICD-10 C33 – C34, Germany 2009 – 2010

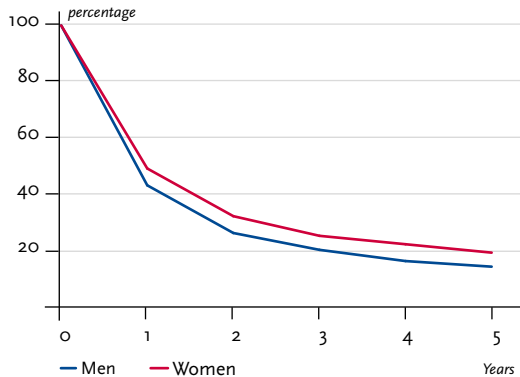


Figure 3.10.4b
Relative survival rates up to 5 years after first diagnosis, by sex, ICD-10 C33 – C34, Germany 2009 – 2010

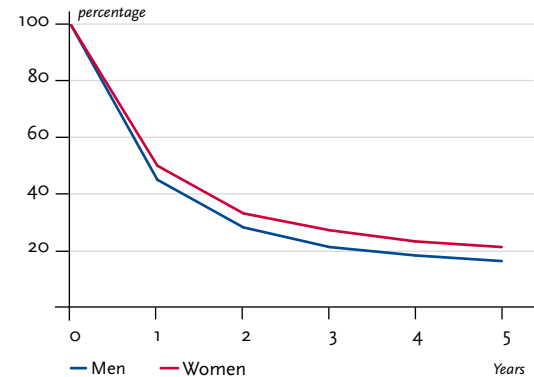


Figure 3.10.5
Registered age-standardised incidence and mortality rates in German federal states, by sex,
ICD-10 C33 – C34, 2009 – 2010
per 100,000 (European standard)

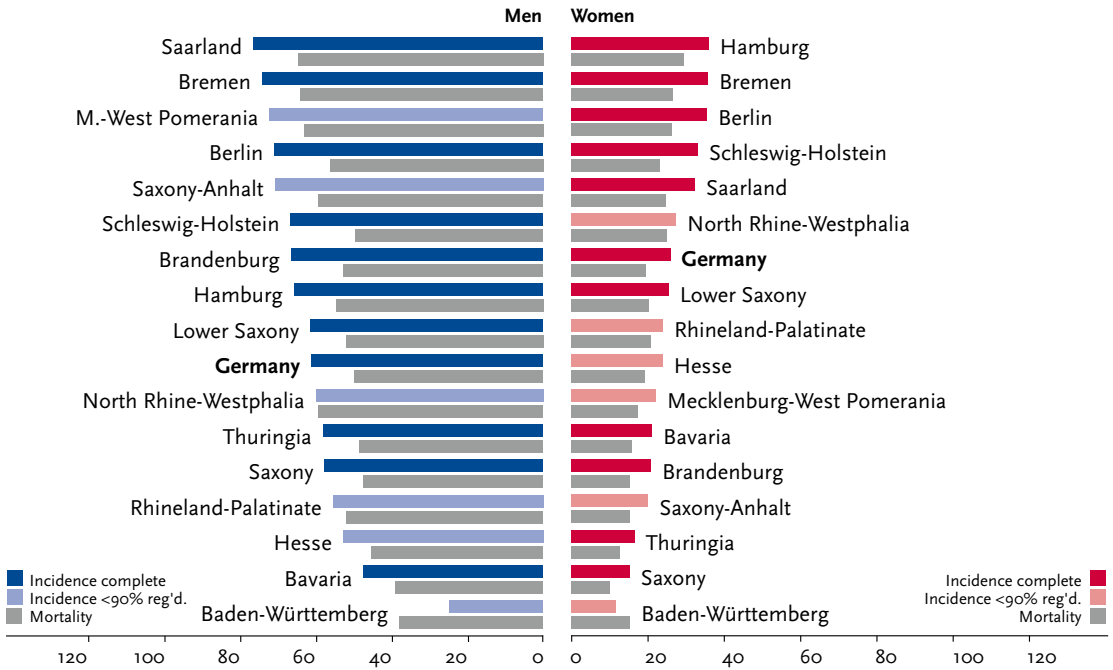
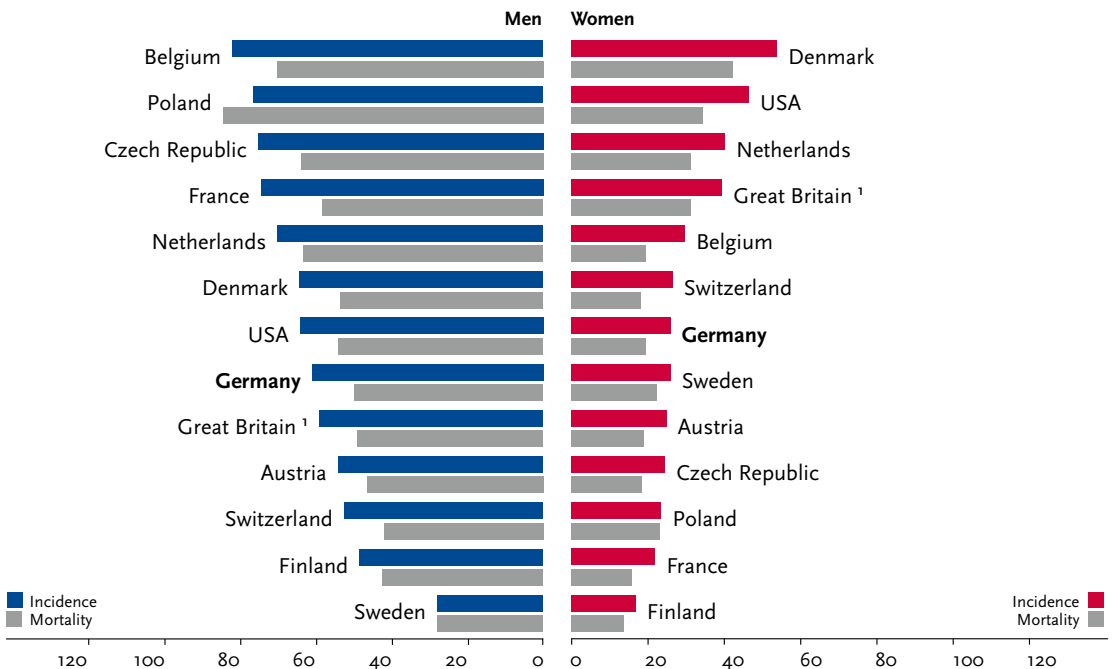


Figure 3.10.6
International comparison of age-standardised incidence and mortality rates, by sex,
ICD-10 C33 – C34, 2009 – 2010 or latest available year (details and sources, see appendix)
per 100,000 (European standard)



¹ only C34