3.27 Thyroid gland

Table 3.27.1
Overview of key epidemiological parameters for Germany, ICD-10 C73

Incidence		2019		2020		
	Women	Men	Women	Men		
Incident cases	4,240	1,880	3,980	1,780		
Crude incidence rate [1]	10.1	4.6	9.5	4.3		
Age-standardised incidence rate [1, 2]	9.1	3.9	8.6	3.6		
Median age at diagnosis	51	55	51	55		
Mortality		**2019**		**2020**		**2021**
	Women	Men	Women	Men	Women	Men
Deaths	426	311	396	295	397	313
Crude mortality rate [1]	1.0	0.8	0.9	0.7	0.9	0.8
Age-standardised mortality rate [1, 2]	0.4	0.5	0.4	0.4	0.4	0.4
Median age at death	80	73	80	74	81	74
Prevalence and survival rates		**5 years**		**10 years**		**25 years**
	Women	Men	Women	Men	Women	Men
Prevalence	20,000	8,200	39,400	15,500	78,300	27,400
Absolute survival rate (2019 – 2020) [3]	91 (78 – 96)	83 (79 – 87)	86 (73 – 91)	73 (69 – 77)		
Relative survival rate (2019 – 2020) [3]	94 (81 – 99)	88 (84 – 92)	94 (80 – 99)	86 (80 – 90)		

[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

About 3,980 women and 1,780 men were diagnosed with thyroid cancer in 2020. The median age at diagnosis was 51 for women and 55 for men, which was relatively low compared to other types of cancer.

In the period from 1999 to 2020, the age-standardised incidence rates in Germany initially increased, especially among women, but a plateau has since been reached.

This increase is almost exclusively due to the prognostically very favourable papillary carcinomas. The reasons for the increase are not yet clearly understood. However, it is likely that more tumours are being detected due to the increased use of imaging diagnostics with improved examination methods. Similar trends can be observed worldwide in thyroid carcinoma.

Mortality rates in Germany have fallen for both sexes. Overall, thyroid cancer has a favourable prognosis: the relative 5-year survival rates are 94 % for women and 88 % for men. Only the rarer anaplastic carcinomas have an unfavourable prognosis. The majority of thyroid carcinomas are detected at an early stage (UICC I) (84 % in women, 68 % in men).

Risk factors

Ionising radiation is an important risk factor for thyroid cancer. In childhood, the thyroid gland is particularly sensitive to radiation. Possible sources of external radiation exposure include applications of radiation as cancer therapy where the thyroid gland is in the radiation field. Internal exposure through the intake of radioactive iodine, such as after nuclear disasters like the Chernobyl reactor accident, also increases the risk. Other environmental risks or dietary or lifestyle-related factors have not yet been proven with certainty. There are indications that obesity is a risk factor for the most common (papillary) thyroid carcinoma.

Many patients have a history of iodine deficiency and benign thyroid diseases, such as goitre and larger adenomas, which increase the risk of thyroid cancer, especially if they occur at a young age. In general, women are affected by thyroid cancer much more frequently than men, but the cause is still unclear.

A clearly proven risk factor is family history: thyroid cancer in a first-degree relative or various hereditary syndromes such as multiple endocrine neoplasia type 2 (MEN 2) increase the risk.

▶ *Additional information: www.krebsdaten.de/thyroid*

Figure 3.27.1a
Age-standardised incidence and mortality rates by sex, ICD-10 C73, Germany 1999 – 2020/2021
per 100,000 (old European Standard)

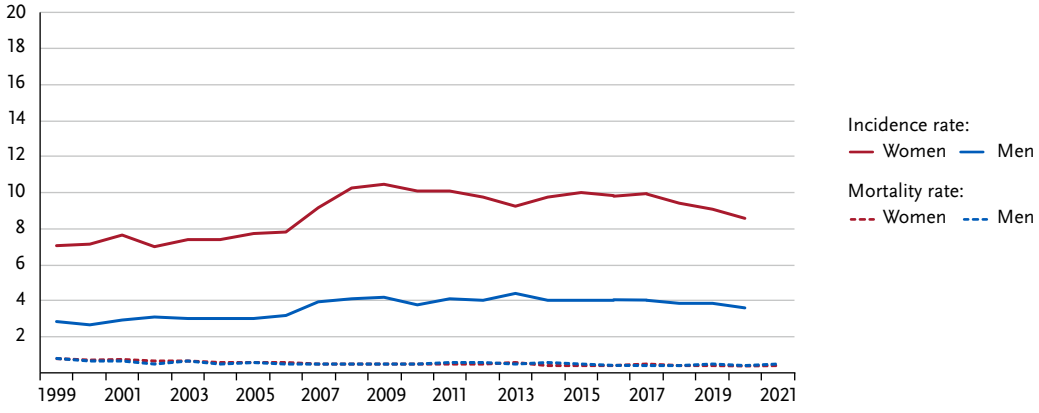


Figure 3.27.1b
Absolute numbers of incident cases and deaths by sex, ICD-10 C73, Germany 1999 – 2020/2021

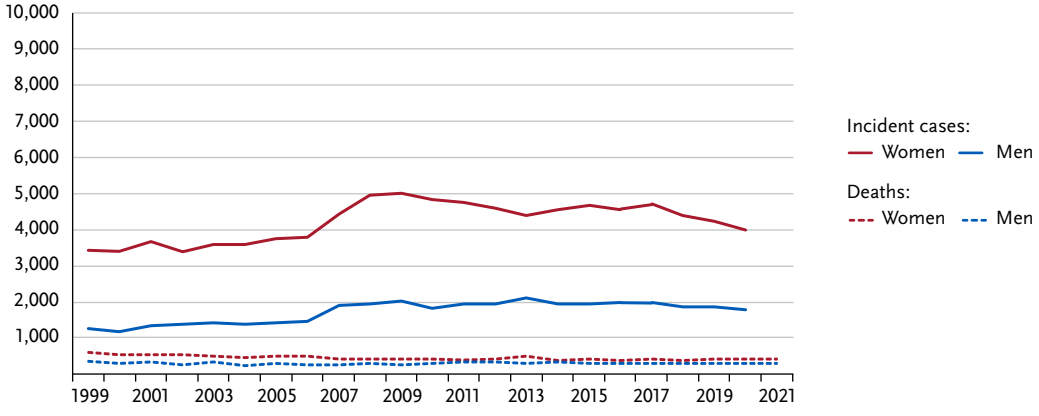


Figure 3.27.2
Age-specific incidence rates by sex, ICD-10 C73, Germany 2019 – 2020
per 100,000

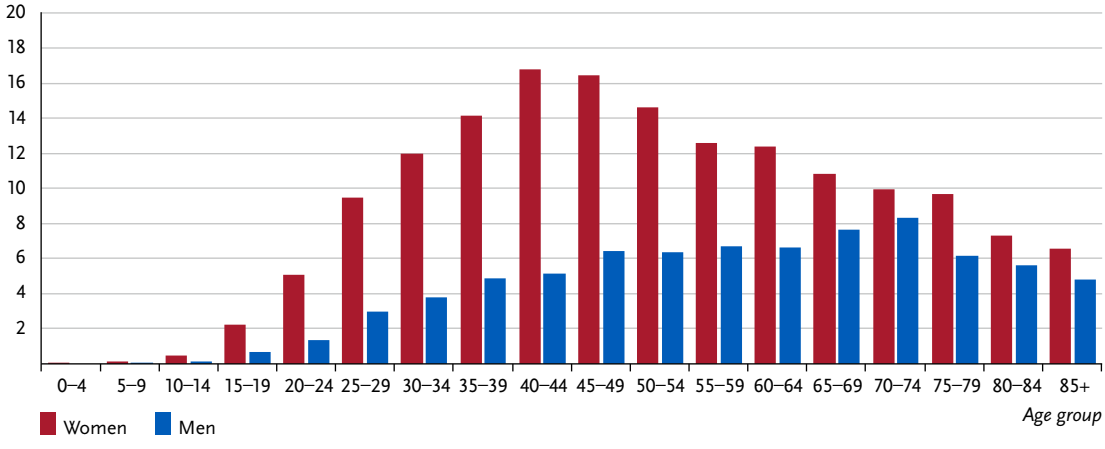


Table 3.27.2
Cancer incidence and mortality risks in Germany by age and sex, ICD-10 C73, database 2019

	Risk of developing cancer				Mortality risk			
Women aged	**in the next 10 years**		**ever**		**in the next 10 years**		**ever**	
25 years	0.1 %	(1 in 940)	0.7 %	(1 in 140)	< 0.1 %	(1 in 497,100)	0.1 %	(1 in 1,200)
35 years	0.2 %	(1 in 620)	0.6 %	(1 in 160)	< 0.1 %	(1 in 239,600)	0.1 %	(1 in 1,200)
45 years	0.2 %	(1 in 630)	0.5 %	(1 in 210)	< 0.1 %	(1 in 49,600)	0.1 %	(1 in 1,200)
55 years	0.1 %	(1 in 800)	0.3 %	(1 in 310)	< 0.1 %	(1 in 12,700)	0.1 %	(1 in 1,200)
65 years	0.1 %	(1 in 910)	0.2 %	(1 in 490)	< 0.1 %	(1 in 5,700)	0.1 %	(1 in 1,200)
75 years	0.1 %	(1 in 1,300)	0.1 %	(1 in 920)	< 0.1 %	(1 in 2,900)	0.1 %	(1 in 1,400)
Lifetime risk			0.8 %	(1 in 130)			0.1 %	(1 in 1,200)
Men aged	**in the next 10 years**		**ever**		**in the next 10 years**		**ever**	
25 years	< 0.1 %	(1 in 3,100)	0.3 %	(1 in 310)	< 0.1 %	(1 in 182,800)	0.1 %	(1 in 1,700)
35 years	0.1 %	(1 in 1,900)	0.3 %	(1 in 350)	< 0.1 %	(1 in 151,100)	0.1 %	(1 in 1,700)
45 years	0.1 %	(1 in 1,600)	0.2 %	(1 in 420)	< 0.1 %	(1 in 34,400)	0.1 %	(1 in 1,700)
55 years	0.1 %	(1 in 1,500)	0.2 %	(1 in 550)	< 0.1 %	(1 in 9,900)	0.1 %	(1 in 1,700)
65 years	0.1 %	(1 in 1,400)	0.1 %	(1 in 810)	< 0.1 %	(1 in 5,300)	0.1 %	(1 in 1,900)
75 years	0.0 %	(1 in 2,000)	0.1 %	(1 in 1,500)	< 0.1 %	(1 in 3,700)	0.0 %	(1 in 2,300)
Lifetime risk			0.3 %	(1 in 300)			0.1 %	(1 in 1,700)

Figure 3.27.3
Distribution of UICC stages at diagnosis by sex, ICD-10 C73, Germany 2019 – 2020
(top: incl. missing data and DCO cases; bottom: valid values only)

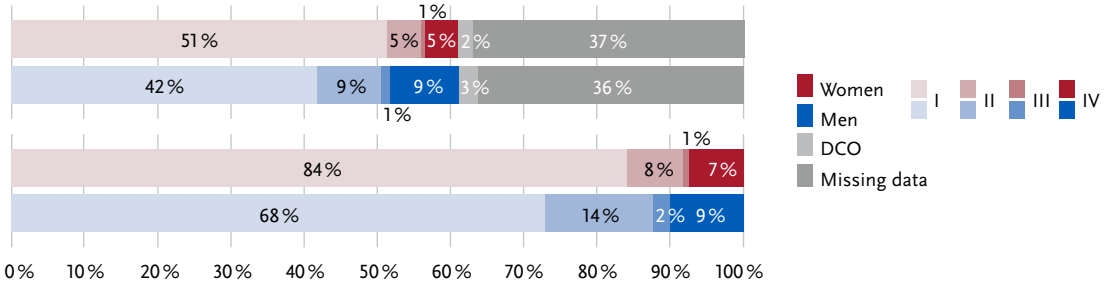


Figure 3.27.4
Absolute and relative survival rates up to 10 years after diagnosis, by sex, ICD-10 C73, Germany 2019 – 2020

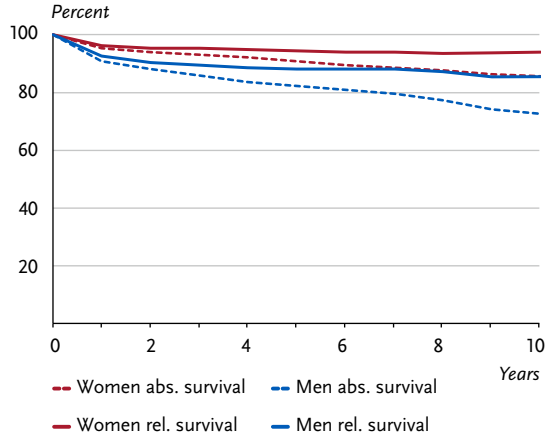


Figure 3.27.5
Relative 5-year survival by UICC stage (7th and 8th edition TNM) and sex, ICD-10 C73, Germany 2019 – 2020

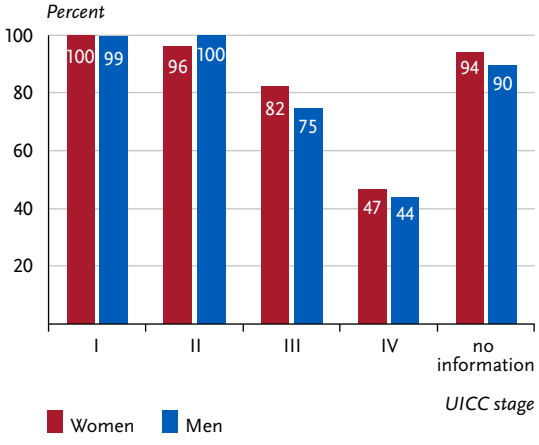


Figure 3.27.6
Age-standardised incidence and mortality rates in German federal states by sex, ICD-10 C73, 2019 – 2020
per 100,000 (old European Standard)

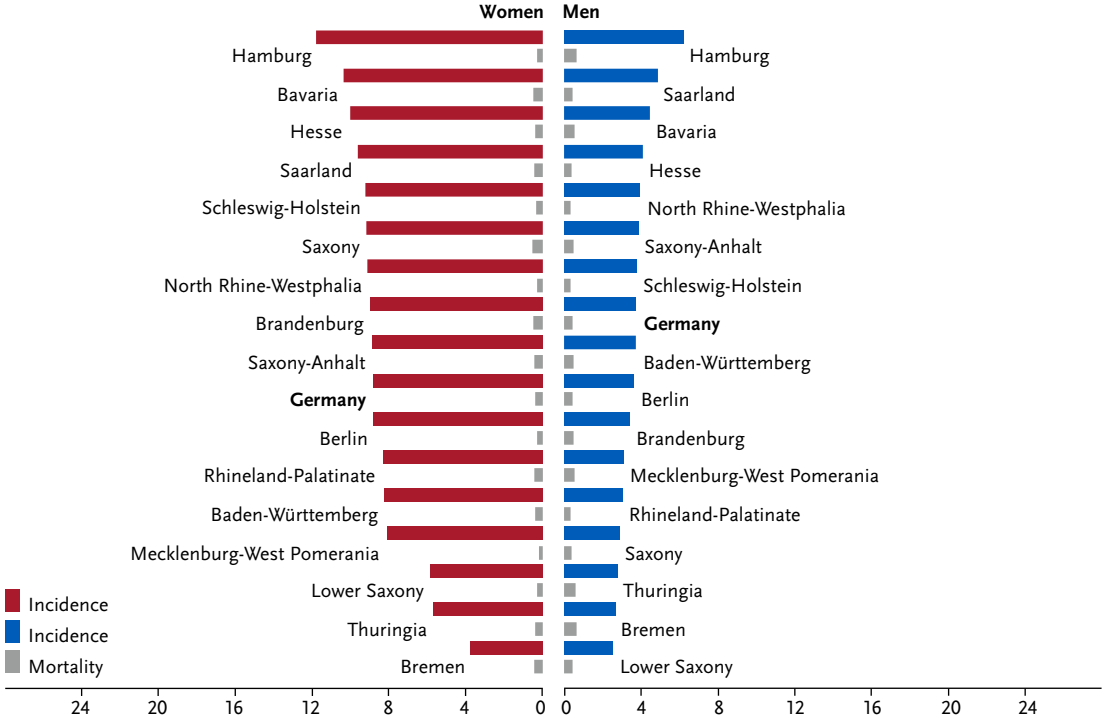
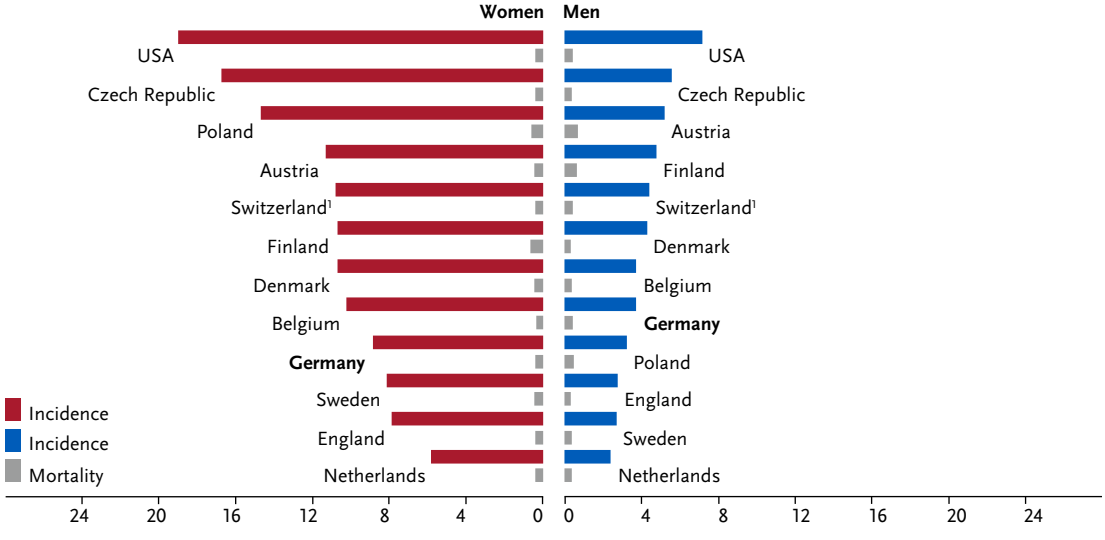


Figure 3.27.7
International comparison of age-standardised incidence and mortality rates by sex, ICD-10 C73, 2019 – 2020 or latest available year (details and sources, see appendix)
per 100,000 (old European Standard)



[1] Switzerland: incidence data for 2015 – 2019