

3.24 Thyroid gland

Table 3.24.1
Overview of key epidemiological parameters for Germany, ICD-10 C73

	2011		2012		Prediction for 2016	
	Men	Women	Men	Women	Men	Women
Incident cases	1,830	4,540	1,820	4,390	2,100	5,200
Crude incidence rate ¹	4.7	11.1	4.6	10.7	5.2	12.4
Standardised incidence rate ^{1,2}	3.9	9.5	3.8	9.3	4.3	11.1
Median age at diagnosis	55	51	56	51		
Deaths	336	388	330	419		
Crude mortality rate ¹	0.9	0.9	0.8	1.0		
Standardised mortality rate ^{1,2}	0.6	0.5	0.6	0.5		
5-year prevalence	7,600	20,300	7,700	20,700		
	<i>after 5 years</i>		<i>after 10 years</i>			
Absolute survival rate (2011–2012) ³	79 (66–89)	91 (82–95)	71 (59–82)	85 (79–91)		
Relative survival rate (2011–2012) ³	85 (72–95)	94 (86–99)	84 (68–94)	94 (89–99)		

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

Epidemiology

Annually in Germany approximately 4,390 women and 1,820 men are diagnosed with thyroid cancer. The median age at diagnosis is 51 years for women and 56 for men, though the cancer does also occur at a younger age, especially in women.

In the period from 1999 to 2012, the mortality rates in both men and women in Germany have decreased slightly, whilst the age-standardised incidence rates for both sexes have increased considerably. Papillary carcinomas – very favourable from the point of view of prognosis – were exclusively responsible for this increase, predominantly in younger adults. This trend is observed in other countries to a similar extent and is most likely attributable to improved examination methods (e. g. ultrasound) which are used in the course of clarifying other thyroid disorders or other internal illnesses. Within Germany, the highest incidence rates by far in both men and women are to be observed in Bavaria, Berlin and North Rhine-Westphalia, which corresponds with similarly high rates in Austria and France, and for women also in Czech Republic.

The majorities of cancers of the thyroid gland are diagnosed at an early stage (T1), especially among women (63% of all thyroid cancers) and have a favourable prognosis with relative 5-year survival rates of 94% among women and 85% among men. Anaplastic carcinomas constitute an exception to this (12%).

Risk factors

By now it is confirmed that environmental ionizing radiation increases the risk for thyroid cancer. Especially in childhood, the thyroid gland is radiation-sensitive. Thus, the risk for thyroid cancer increases, if the thyroid gland is in the radiation field during radiotherapy. The intake of radioactive iodine, e. g. after the nuclear accident in Chernobyl, also increases the risk of thyroid cancer.

There is no clear proof of other environmental, dietary or lifestyle factors. It is also unclear why women are more frequently affected than men. Many patients have a history of iodine deficiency or benign thyroid complaints such as struma (goitre) and adenoma, which increase the risk of developing thyroid carcinomas. About a quarter of patients with a rare medullary thyroid carcinoma have hereditary genetic mutations with autosomal dominant inheritance. Medullary thyroid carcinomas can also occur together with other endocrine tumours – as part of a so-called type 2 multiple endocrine neoplasia (MEN 2). A genetic component is also suspected for papillary thyroid carcinomas.

Figure 3.24.1a
Age-standardised incidence and mortality rates,
by sex, ICD-10 C73, Germany 1999–2012
per 100,000 (European standard)

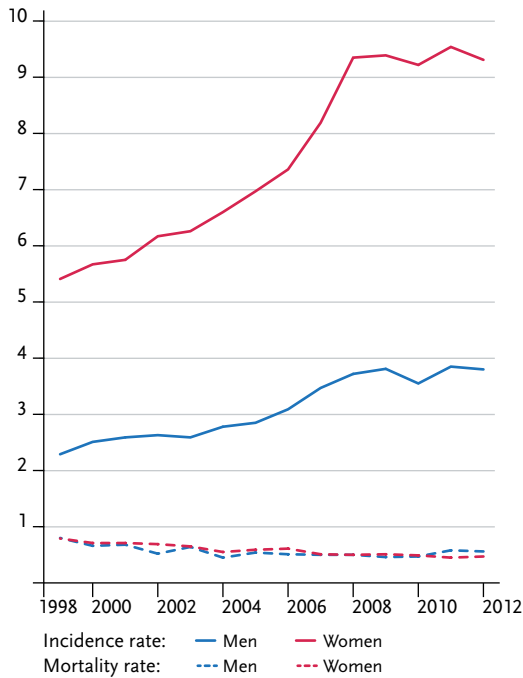


Figure 3.24.1b
Absolute numbers of incident cases and deaths,
by sex, ICD-10 C73, Germany 1999–2012

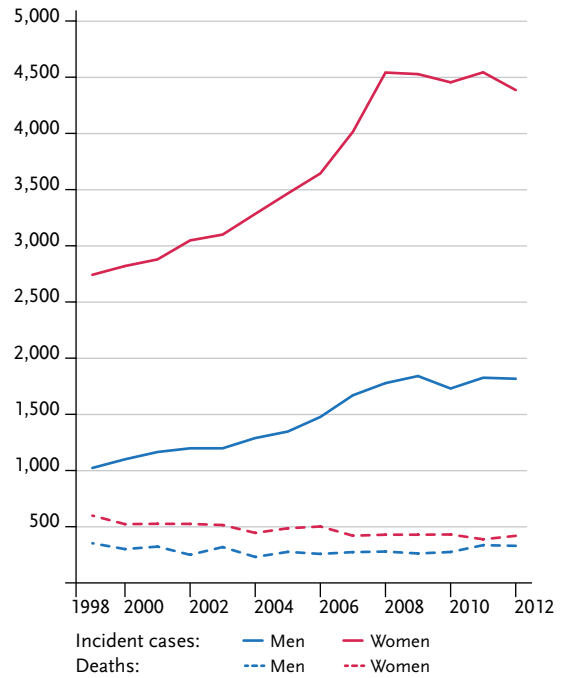


Figure 3.24.2
Age-specific incidence rates by sex, ICD-10 C73, Germany 2011–2012
per 100,000

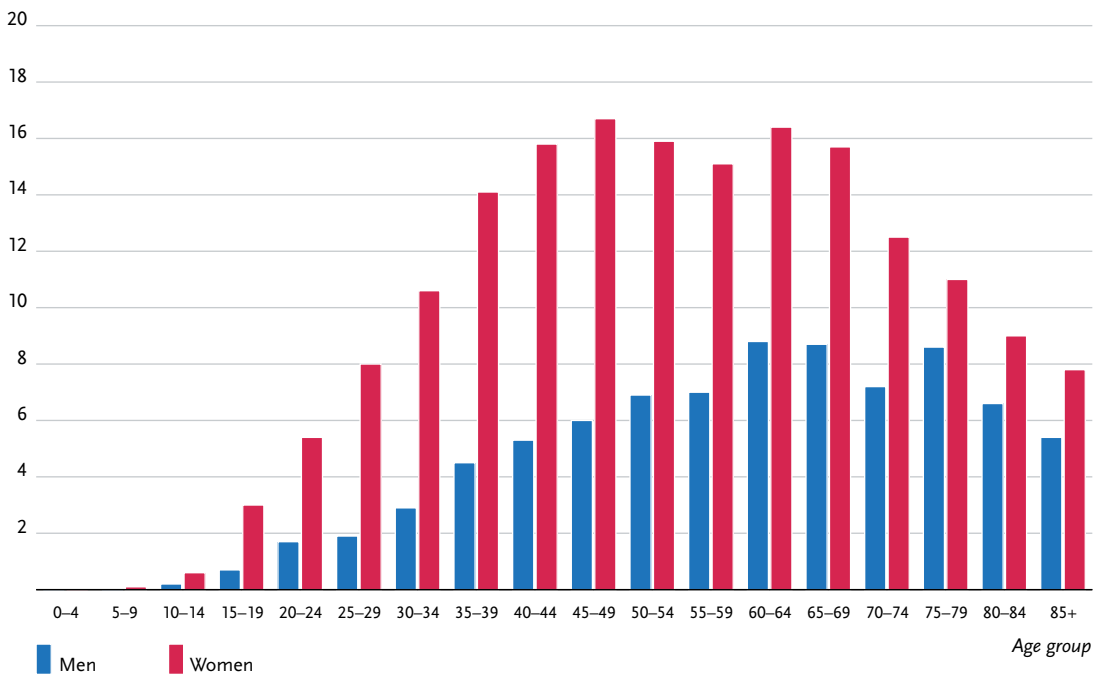


Table 3.24.2
Cancer incidence and mortality risks in Germany by age and sex, ICD-10 C73, database 2012

	Risk of developing cancer				Mortality risk			
	in the next ten years		ever		in the next ten years		ever	
Men aged								
25 years	<0.1%	(1 in 4,000)	0.3%	(1 in 320)	<0.1%	(1 in 262,800)	0.1%	(1 in 1,400)
35 years	<0.1%	(1 in 2,200)	0.3%	(1 in 340)	<0.1%	(1 in 72,600)	0.1%	(1 in 1,400)
45 years	0.1%	(1 in 1,600)	0.3%	(1 in 400)	<0.1%	(1 in 25,300)	0.1%	(1 in 1,400)
55 years	0.1%	(1 in 1,300)	0.2%	(1 in 510)	<0.1%	(1 in 8,800)	0.1%	(1 in 1,400)
65 years	0.1%	(1 in 1,300)	0.1%	(1 in 740)	<0.1%	(1 in 5,100)	0.1%	(1 in 1,600)
75 years	0.1%	(1 in 1,800)	0.1%	(1 in 1,300)	<0.1%	(1 in 2,700)	0.1%	(1 in 1,800)
Lifetime risk			0.3%	(1 in 300)			0.1%	(1 in 1,400)
Women aged								
25 years	0.1%	(1 in 1,000)	0.8%	(1 in 130)	<0.1%	(1 in 554,800)	0.1%	(1 in 1,200)
35 years	0.1%	(1 in 700)	0.7%	(1 in 150)	<0.1%	(1 in 261,600)	0.1%	(1 in 1,200)
45 years	0.2%	(1 in 630)	0.5%	(1 in 190)	<0.1%	(1 in 66,900)	0.1%	(1 in 1,200)
55 years	0.2%	(1 in 660)	0.4%	(1 in 270)	<0.1%	(1 in 10,900)	0.1%	(1 in 1,200)
65 years	0.1%	(1 in 790)	0.2%	(1 in 430)	<0.1%	(1 in 5,100)	0.1%	(1 in 1,200)
75 years	0.1%	(1 in 1,200)	0.1%	(1 in 840)	<0.1%	(1 in 2,500)	0.1%	(1 in 1,400)
Lifetime risk			0.8%	(1 in 120)			0.1%	(1 in 1,200)

Figure 3.24.3
Distribution of T-stages at first diagnosis by sex (top: all cases; bottom: only valid reports)
ICD-10 C73, Germany 2011–2012

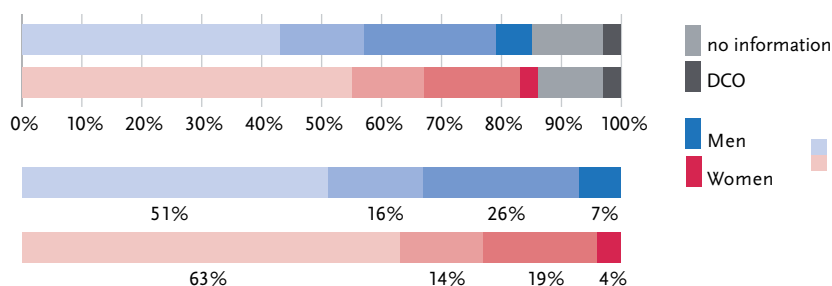


Figure 3.24.4a
Absolute survival rates up to 10 years after first diagnosis, by sex, ICD-10 C73, Germany 2011–2012

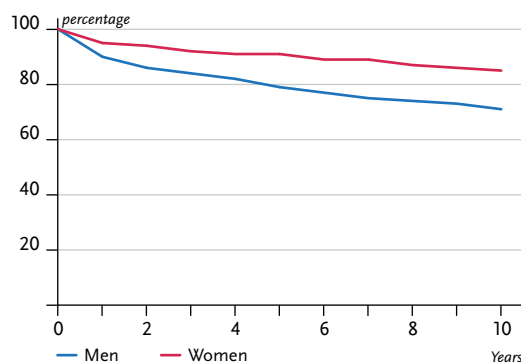


Figure 3.24.4b
Relative survival rates up to 10 years after first diagnosis, by sex, ICD-10 C73, Germany 2011–2012

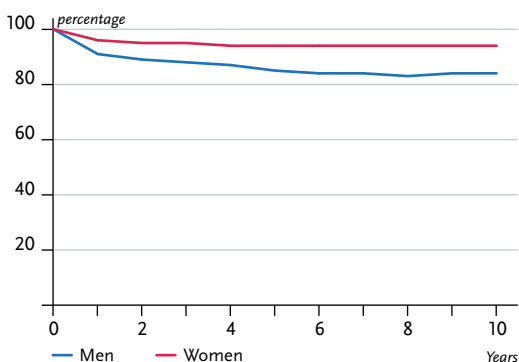


Figure 3.24.5
Registered age-standardised incidence and mortality rates in German federal states, by sex,
ICD-10 C73, 2011–2012
per 100,000 (European standard)

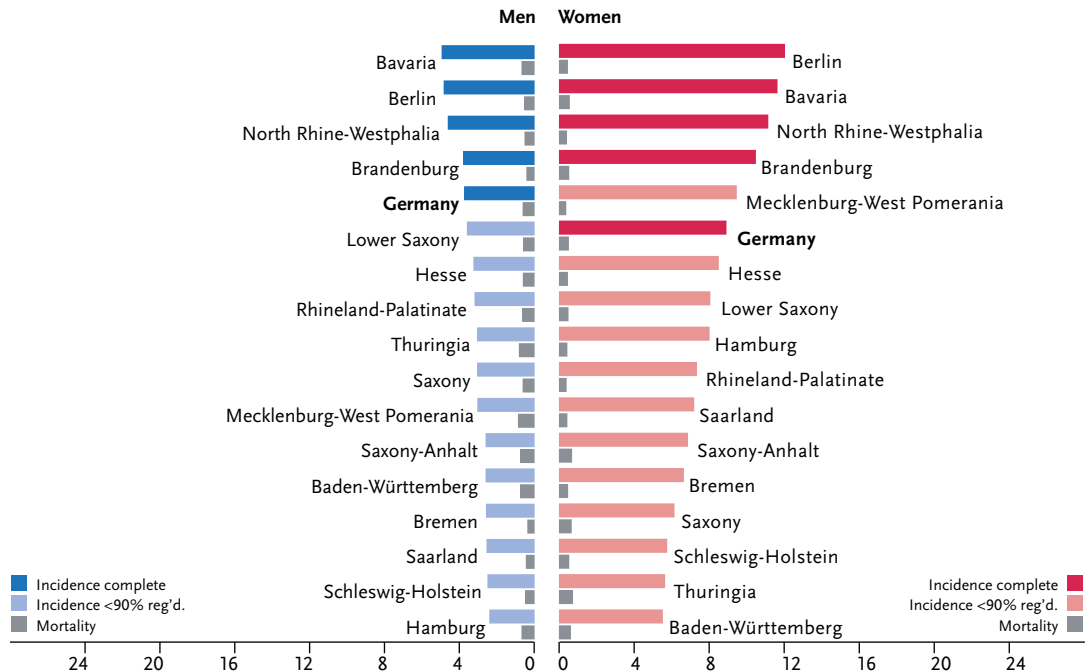


Figure 3.24.6
International comparison of age-standardised incidence and mortality rates, by sex,
ICD-10 C73, 2011–2012 or latest available year (details and sources, see appendix)
per 100,000 (European standard)

