

## 3.29 Non-Hodgkin lymphoma

Table 3.29.1  
Overview of key epidemiological parameters for Germany, ICD-10 C82–C88

| Incidence                                       | 2017       |            | 2018       |            | Prediction for 2022 |        |
|---|------------|------------|------------|------------|---------------------|--------|
|   | Women      | Men        | Women      | Men        | Women               | Men    |
| Incident cases                                  | 8,630      | 10,710     | 8,280      | 10,190     | 9,300               | 11,800 |
| Crude incidence rate <sup>1</sup>               | 20.6       | 26.3       | 19.7       | 24.9       | 22.1                | 28.6   |
| Age-standardised incidence rate <sup>1,2</sup>  | 11.7       | 17.6       | 11.4       | 16.6       | 12.3                | 18.2   |
| Median age at diagnosis                         | 73         | 70         | 72         | 70         |                     |        |
| Mortality                                       | 2017       |            | 2018       |            | 2019                |        |
|   | Women      | Men        | Women      | Men        | Women               | Men    |
| Deaths  | 3,116      | 3,745      | 3,220      | 3,835      | 3,145               | 3,885  |
| Crude mortality rate <sup>1</sup>               | 7.4        | 9.2        | 7.7        | 9.4        | 7.5                 | 9.5    |
| Age-standardised mortality rate <sup>1,2</sup>  | 3.1        | 5.3        | 3.2        | 5.2        | 3.1                 | 5.2    |
| Median age at death                             | 80         | 77         | 80         | 78         | 80                  | 78     |
| Prevalence and survival rates                   | 5 years    |            | 10 years   |            | 25 years            |        |
|   | Women      | Men        | Women      | Men        | Women               | Men    |
| Prevalence                                      | 29,400     | 35,600     | 49,500     | 58,300     | 78,000              | 89,000 |
| Absolute survival rate (2017–2018) <sup>3</sup> | 62 (55–66) | 59 (56–64) | 48 (41–53) | 45 (41–50) |                     |        |
| Relative survival rate (2017–2018) <sup>3</sup> | 71 (63–75) | 70 (66–75) | 64 (55–69) | 64 (57–70) |                     |        |

<sup>1</sup> per 100,000 persons <sup>2</sup> age-standardised (old European Standard) <sup>3</sup> in percent (lowest and highest value of the included German federal states)

### Epidemiology

Non-Hodgkin lymphomas are a heterogeneous group of cancers that originate from cells of the lymphatic system, so-called lymphocytes. The various lymphomas differ in terms of prognosis and treatment options according to cell type as well as clinical and molecular characteristics. In 2018, approximately 18,470 men were diagnosed with non-Hodgkin lymphoma in Germany. The disease is primarily a disease of older age. On average, affected women were 72 years old and men 70 years old at the time of diagnosis.

The increased age-standardised incidence rates are to be seen against the background of changed diagnostic criteria, since chronic lymphocytic leukaemias are now often counted among the low-malignant non-Hodgkin lymphomas. The age-standardised mortality rates for both women and men declined in the first decade after the turn of the millennium and have remained at a roughly constant level since then. The average prognosis of non-Hodgkin lymphoma is rather good overall, with relative 5-year survival rates of 71% in women and 70% in men, although these figures continue to decline as the disease progresses.

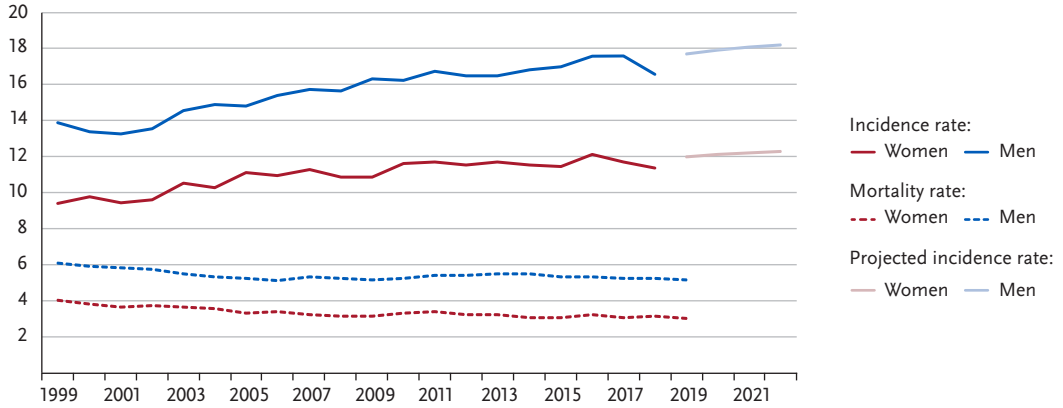
### Risk factors

No generally valid risk factors can be named for the group of all non-Hodgkin lymphomas. Congenital or acquired immunodeficiency, radioactive radiation, chemotherapy and some rare autoimmune diseases can increase the risk of lymphoma. Certain viruses and other pathogens are also considered risk factors for individual lymphomas: For example, Epstein-Barr virus (EBV) can contribute to the development of Burkitt's lymphoma, which is predominantly endemic in Africa. *Helicobacter pylori* bacteria favour the development of MALT lymphoma of the stomach.

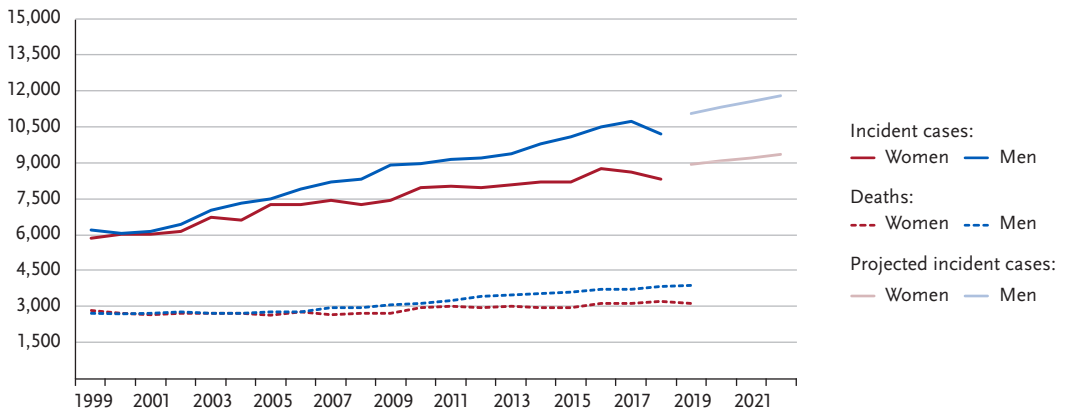
Benzene and related substances can promote the development of individual non-Hodgkin lymphomas. Other environmental toxins and lifestyle factors are also discussed as triggers for lymphomas. If lymphomas have already occurred in a family, the risk of lymphoma for relatives can be slightly increased. The reasons for these associations are still widely unknown.

Overall, no clear cause for the development of lymphoma can be found for many patients. Presumably, several factors must interact before a non-Hodgkin lymphoma develops.

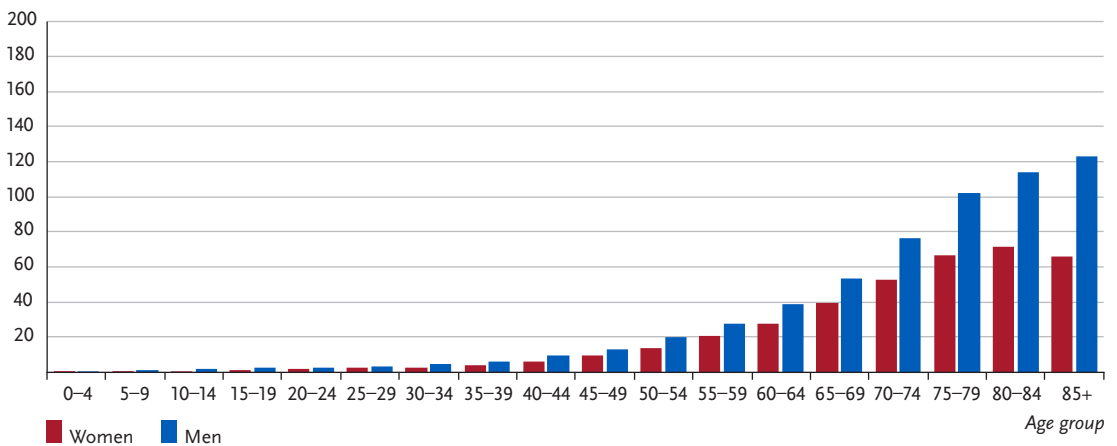
**Figure 3.29.1a**  
 Age-standardised incidence and mortality rates by sex, ICD-10 C82–C88, Germany 1999–2018/2019, projection (incidence) through 2022  
 per 100,000 (old European Standard)



**Figure 3.29.1b**  
 Absolute numbers of incident cases and deaths by sex, ICD-10 C82–C88, Germany 1999–2018/2019, projection (incidence) through 2022



**Figure 3.29.2**  
 Age-specific incidence rates by sex, ICD-10 C82–C88, Germany 2017–2018  
 per 100,000



**Table 3.29.2**  
Cancer incidence and mortality risks in Germany by age and sex, ICD-10 C82–C88, database 2018

| Risk of developing cancer |         |                      |       | Mortality risk |         |                      |       |            |  |
|---------------------------|---------|----------------------|-------|----------------|---------|----------------------|-------|------------|--|
| Women aged                |         | in the next 10 years |       | ever           |         | in the next 10 years |       | ever       |  |
| 35 years                  | < 0.1 % | (1 in 2,000)         | 1.5 % | (1 in 68)      | < 0.1 % | (1 in 18,900)        | 0.6 % | (1 in 160) |  |
| 45 years                  | 0.1 %   | (1 in 830)           | 1.4 % | (1 in 69)      | < 0.1 % | (1 in 6,800)         | 0.6 % | (1 in 160) |  |
| 55 years                  | 0.2 %   | (1 in 430)           | 1.3 % | (1 in 74)      | < 0.1 % | (1 in 2,600)         | 0.6 % | (1 in 160) |  |
| 65 years                  | 0.4 %   | (1 in 240)           | 1.2 % | (1 in 85)      | 0.1 %   | (1 in 810)           | 0.6 % | (1 in 160) |  |
| 75 years                  | 0.6 %   | (1 in 180)           | 0.9 % | (1 in 120)     | 0.3 %   | (1 in 330)           | 0.6 % | (1 in 180) |  |
| Lifetime risk             |         |                      | 1.5 % | (1 in 66)      |         |                      | 0.6 % | (1 in 160) |  |
| Men aged                  |         | in the next 10 years |       | ever           |         | in the next 10 years |       | ever       |  |
| 35 years                  | 0.1 %   | (1 in 1,300)         | 1.8 % | (1 in 54)      | < 0.1 % | (1 in 12,400)        | 0.8 % | (1 in 130) |  |
| 45 years                  | 0.2 %   | (1 in 630)           | 1.8 % | (1 in 56)      | < 0.1 % | (1 in 4,700)         | 0.8 % | (1 in 130) |  |
| 55 years                  | 0.3 %   | (1 in 310)           | 1.7 % | (1 in 59)      | 0.1 %   | (1 in 1,600)         | 0.8 % | (1 in 130) |  |
| 65 years                  | 0.6 %   | (1 in 170)           | 1.5 % | (1 in 66)      | 0.2 %   | (1 in 510)           | 0.8 % | (1 in 130) |  |
| 75 years                  | 0.8 %   | (1 in 120)           | 1.2 % | (1 in 84)      | 0.4 %   | (1 in 220)           | 0.8 % | (1 in 130) |  |
| Lifetime risk             |         |                      | 1.9 % | (1 in 53)      |         |                      | 0.8 % | (1 in 130) |  |

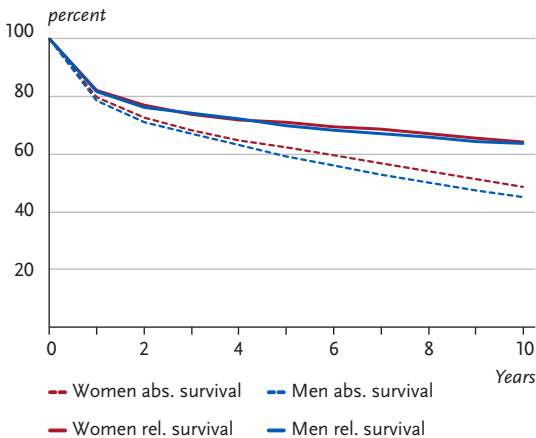
**Figure 3.29.3**  
Distribution of UICC stages at diagnosis by sex  
*Not included because UICC stages are not defined for non-Hodgkin lymphomas.*

**Table 3.29.3**  
Proportion of non-Hodgkin lymphoma incidence by type of lymphoma and sex, ICD-10 C82–C88, Germany 2017–2018

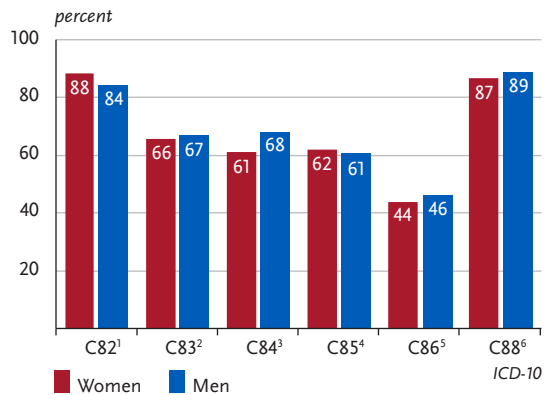
|       | C82 <sup>1</sup> | C83 <sup>2</sup> | C84 <sup>3</sup> | C85 <sup>4</sup> | C86 <sup>5</sup> | C88 <sup>6</sup> |
|-------|------------------|------------------|------------------|------------------|------------------|------------------|
| Women | 19 %             | 49 %             | 6 %              | 17 %             | 2 %              | 8 %              |
| Men   | 15 %             | 53 %             | 9 %              | 15 %             | 2 %              | 7 %              |

<sup>1</sup> Follicular lymphoma  
<sup>2</sup> Non-follicular lymphoma  
<sup>3</sup> Mature T/NK-cell lymphoma  
<sup>4</sup> Other and unspecified types  
<sup>5</sup> Other specified types of T/NK-cell lymphoma  
<sup>6</sup> Malignant immunoproliferative diseases

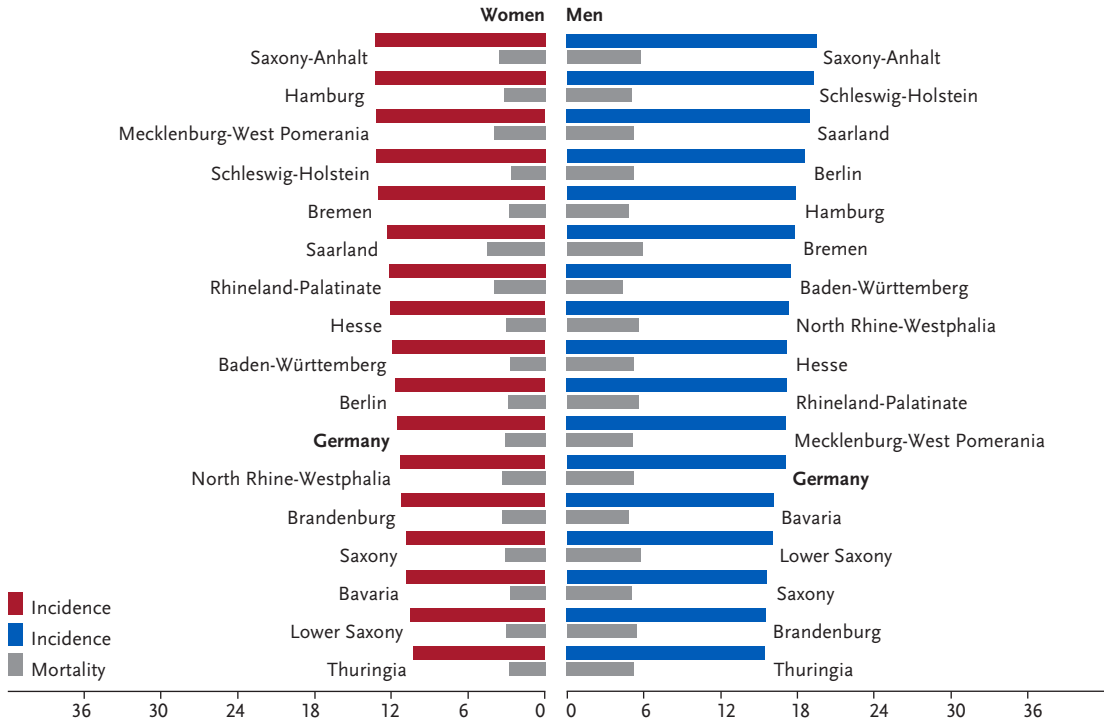
**Figure 3.29.4**  
Absolute and relative survival rates up to 10 years after diagnosis by sex, ICD-10 C82–C88, Germany 2017–2018



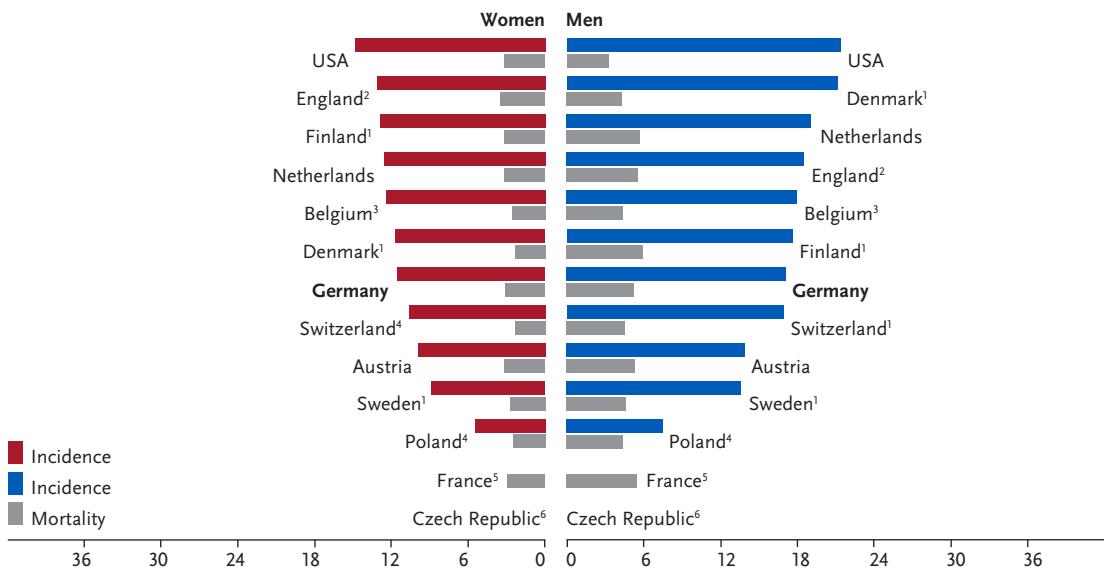
**Figure 3.29.5**  
Relative 5-year-survival by type of non-Hodgkin lymphoma (ICD-10) and sex, ICD-10 C82–C88, Germany 2017–2018



**Figure 3.29.6**  
 Age-standardised incidence and mortality rates in German federal states by sex, ICD-10 C82 – C88, 2017 – 2018  
 per 100,000 (old European Standard)



**Figure 3.29.7**  
 International comparison of age-standardised incidence and mortality rates by sex,  
 ICD-10 C82 – C88, 2017 – 2018 or latest available year (details and sources, see appendix)  
 per 100,000 (old European Standard)



<sup>1</sup> Data for C82 to C86 and C96  
<sup>2</sup> Data only for C82 to C85  
<sup>3</sup> Mortality for 2016

<sup>4</sup> Data for C82 to C85 and C88  
<sup>5</sup> No incidence data available  
<sup>6</sup> No data available