

Country Factsheet Series

Socio-economic inequalities in cancer mortality across the EU27, Norway and Iceland

Austria

Key messages

In Austria, total cancer mortality rates in 2015–2019* were higher in men than in women and were lower than the European average for both sexes. Rates varied greatly across educational levels, according to a social gradient, i.e., with a progressive increase as educational levels decreased. The social gradient was observed for all cancer types among men, and was especially strong for lung cancer. Among women, a social gradient in mortality rates was found for lung and cervical cancer. Hence, despite the generally free access to cancer services, and the existence of a strategic goal to reduce cancer within the National Cancer Framework Programme, inequalities in cancer mortality in Austria persist.

Educational inequalities in total cancer mortality

In Austria, mortality rates for total cancer** in 2015–2019 were 395 per 100,000 among men and 261 per 100,000 among women and varied greatly according to a social gradient. Men with primary education had cancer mortality rates approximately 60% higher than men with tertiary education (463 vs 294 per 100,000). Women with primary education had approximately 20% higher cancer mortality rates compared to those with tertiary education (281 vs 227 per 100,000).

The difference in rates between primary and tertiary education (i.e., inequality gap) was lower than the European average*** but similar to that of certain Western/Southern countries, such as The Netherlands, and smaller compared to Eastern countries, such as Czechia, Slovakia and Hungary.

* In Austria, estimates were obtained using the method for group A countries. See methodological notes at the end and the Methodological report for more information.

** All cancers combined

*** European average is calculated considering 27 EU Member states + Norway and Iceland

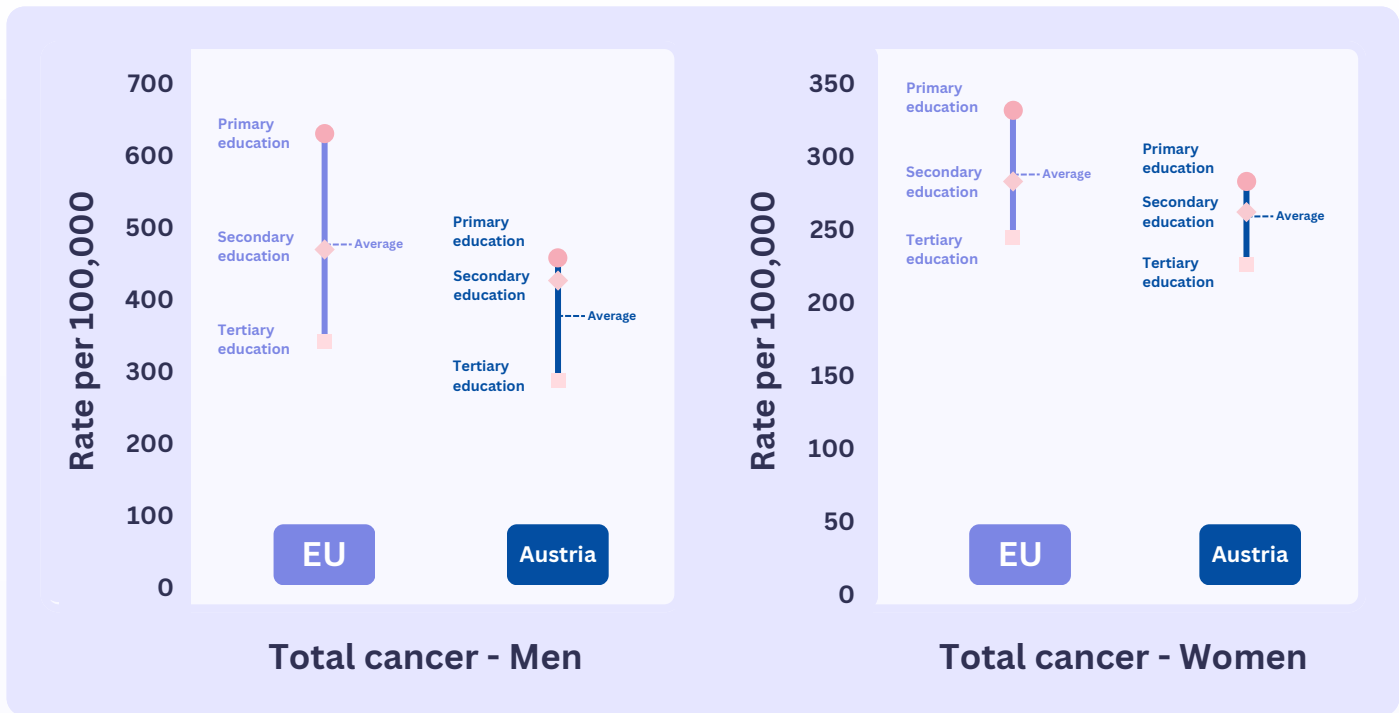


Figure 1. Total cancer mortality by sex and education level

Educational inequalities in mortality by cancer site



Lung cancer

Lung cancer mortality rates were approximately two times higher in men compared to women. In both sexes, there was a clear social gradient for lung cancer. Lung cancer is a large contributor to inequalities in total cancer mortality. Sex and socio-economic differences in lung cancer mortality in Austria may be partly explained by differences in tobacco smoking over past decades, with a generally higher prevalence of smoking in low educated (22%) compared to high educated groups (15%) [1]. Despite more recent declines in tobacco smoking rates between 2014–2019, these remain among the highest in the EU. People with primary education in Austria are about five times more likely to smoke 20 or more cigarettes a day compared to their more educated counterparts [2, 3].

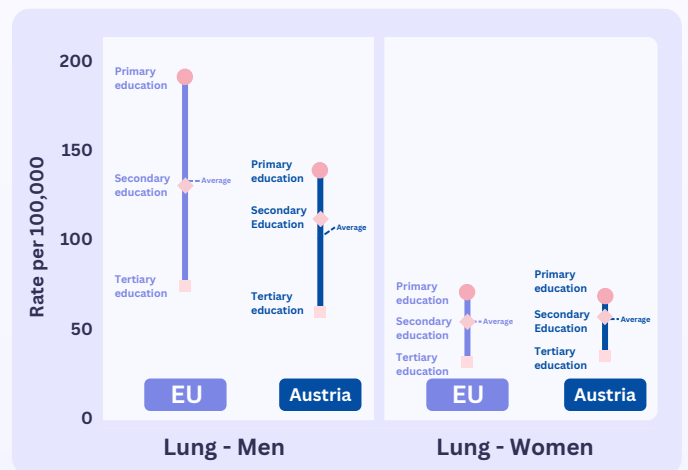


Figure 2.a. Cancer-specific mortality by sex and education level: lung



Colorectal and stomach cancers

National average rates for colorectal and stomach cancer mortality in Austria were below the corresponding European average in both sexes,

although in men, rates were approximately twice those in women. For both colorectal and stomach cancers, a clear social gradient was observed in men.

Among women, small differences in rates were observed across educational groups for colorectal cancer, but for stomach cancer rates were highest among those with primary education. Socio-economic and sex inequalities in exposure to risk factors, i.e., poor diet, physical inactivity, obesity, hazardous alcohol drinking, smoking and to *Helicobacter pylori* infection at young ages (for stomach cancer), which are more prevalent among those with lower educational attainment [2,4], may partly explain the observed inequalities in colorectal and stomach cancer. Moreover, differential participation rates to colorectal cancer screening, which are lower among men with lower educational attainment, might have also led to the observed inequalities in colorectal cancer mortality (in 2019, 31.4% of men aged 50–75 years with at most lower secondary education reported they never had colorectal cancer screening vs 15.4% of those with tertiary education). However, in women, lower participation rates are found among high, compared to low, educated (2019: 24.8% ISCED 0–2, 17.9% ISCED 3–4, 19.5% ISCED 5–8), this possibly contributing to explain the almost non-existent colorectal cancer mortality inequalities among women [5].

Breast cancer

Breast cancer showed the second highest mortality rate among women, after lung cancer, which was slightly lower compared to the corresponding European average. There was no clear social gradient, with relatively similar rates for women with different educational levels. This pattern may be due to a balanced combination of different factors across educational groups, including exposure to breast cancer risk factors and screening activities. Participation rate in the organised breast cancer screening programme in 2020–2021 was around 40% in the eligible population of women aged 45–69 years [2].

Prostate cancer

Prostate cancer was a large contributor to total cancer mortality among men in Austria, although rates were lower than the European average. There was a clear social gradient in mortality with rates decreasing as education level increased, possibly due to inequalities in stage at diagnosis, and disparities in access to treatment or treatment options [6].

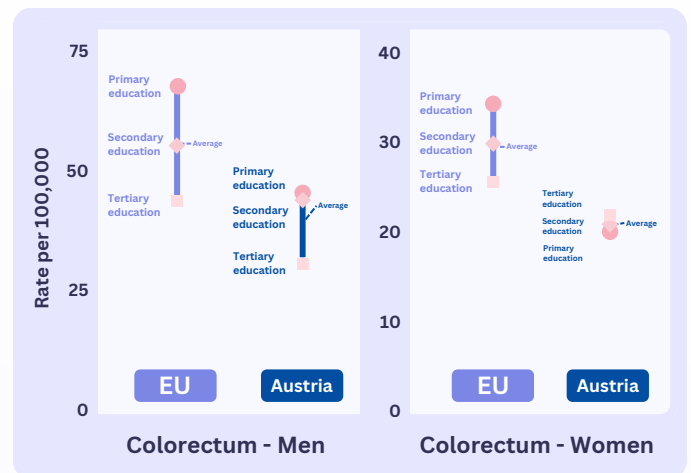


Figure 2.b. Cancer-specific mortality by sex and education level: colorectum

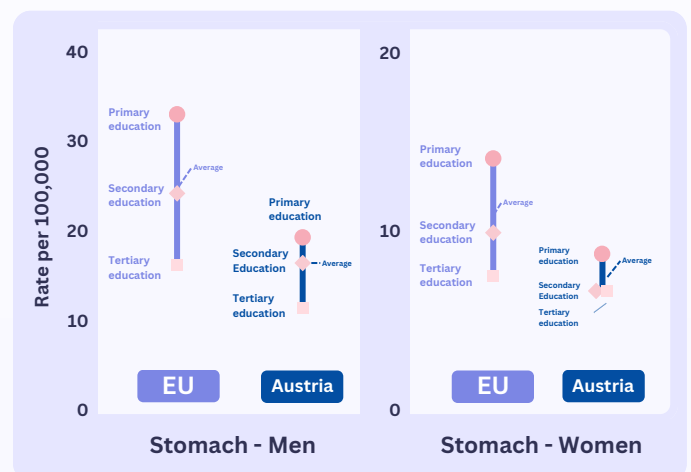


Figure 2.c. Cancer-specific mortality by sex and education level: stomach

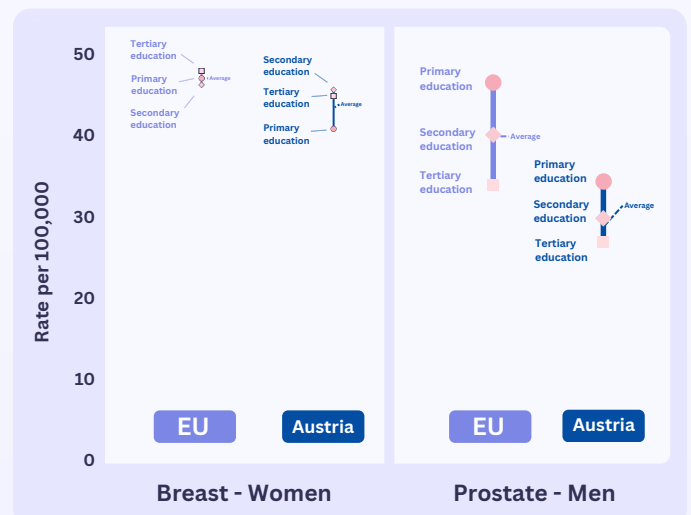


Figure 2.d. Cancer-specific mortality by sex and education level: breast (left), prostate (right)

Cervical cancer

Despite the relatively low rates, in comparison to the European average and to other cancer types, cervical cancer mortality showed a social gradient, with rates increasing as educational attainment decreased. The differences across educational groups may largely be related to variations in the uptake of opportunistic cervical cancer screening. Despite high overall participation, reported screening uptake was lower among those with lower educational attainment. In 2019, 55% of women with low education levels reported to have taken a smear test in the last three years compared to 87% of women with high education levels [2]. Human papillomavirus (HPV) vaccination and HPV-based screening, if implemented equitably, have the potential to decrease the disease burden and help

reduce associated socioeconomic disparities.

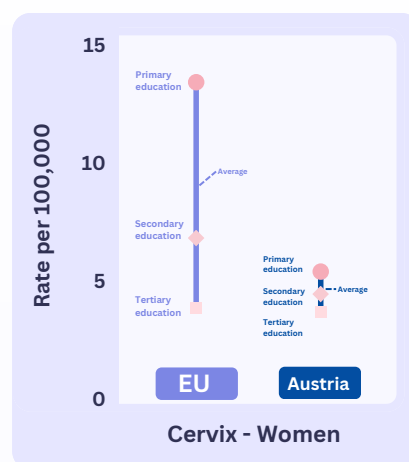


Figure 2.e.
Cancer-specific mortality by education level: cervix

Methodological notes:

Findings are based on the ERAINHE dataset, which includes mortality data by educational attainment, age group, sex, period, country and cause of death. For most countries, the data are derived from individually-linked records, collected and harmonized in different periods in different projects (for the full description see the Methodological report). Geographical and temporal gaps in the ERAINHE dataset were addressed using complementary data sources and appropriate estimation methodologies tailored to the availability of the data. Age-standardised (European Standard Population) mortality rates by educational level for individuals aged 40–79 years were thus estimated for 2015–2019, using four different methods:

- **Method for group A countries**, for countries with at least 3 recorded observations over different periods of time:

actual observed data for 2015–2019 (when available) or projections based on linear regression models;

- **Method for group B countries**, for countries with 1 or 2 recorded observations only: incomplete data combined with trends from other databases;
- **Method for group C countries**, for countries with no observations for certain cancer sites: integration of data from different databases with information from countries in the same geographical area;
- **“Back-calculation” method**, for countries without available data in the ERAINHE dataset: combination of population a mortality data from different databases with information on educational inequalities in cancer from countries in the same geographical area.

In Austria, the method for group A countries was used.

Contact information

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References:

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