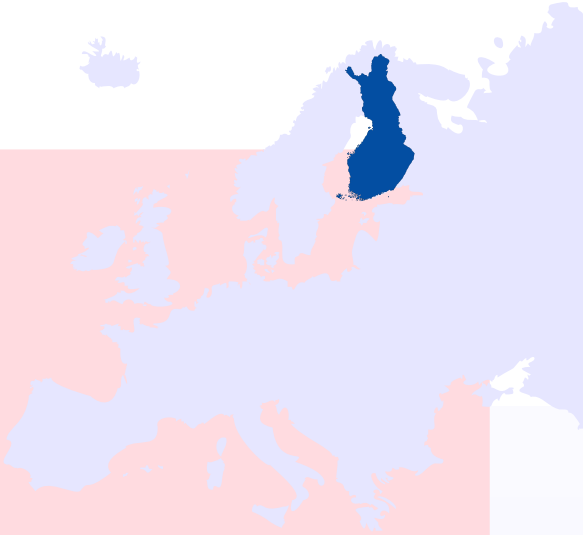
Country Factsheet Series

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

Finland



Key messages

In Finland, total cancer mortality rates in 2015–2019* were higher in men than in women and 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 particularly high for women, on account of the large socio-economic inequalities in lung cancer mortality. Nevertheless, a social gradient was found for all selected cancer types. Despite universal healthcare coverage, national screening programs for breast, cervical, and colorectal cancer, and "health for all policies" approach to health promotion and prevention, inequalities in cancer persist, especially among women.

Educational inequalities in total cancer mortality

In Finland, mortality rates for total cancer** in 2015-2019 were 353 per 100,000 among men and 243 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 (442 vs 272 per 100,000). Women with primary education had approximately 40% higher cancer rates compared to those with tertiary education (308 vs 213 per 100,000).

The difference in rates between primary and tertiary education (i.e., the inequality gap) was smaller than the European average*** for men, but similar for women. Compared to other countries in the same area, the inequality gap in men was larger than the corresponding value in Sweden and Iceland, but smaller compared to Denmark and Norway. The inequality gap in women was smaller as compared to Norway, Denmark, Iceland and Sweden.

* In Finland, 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

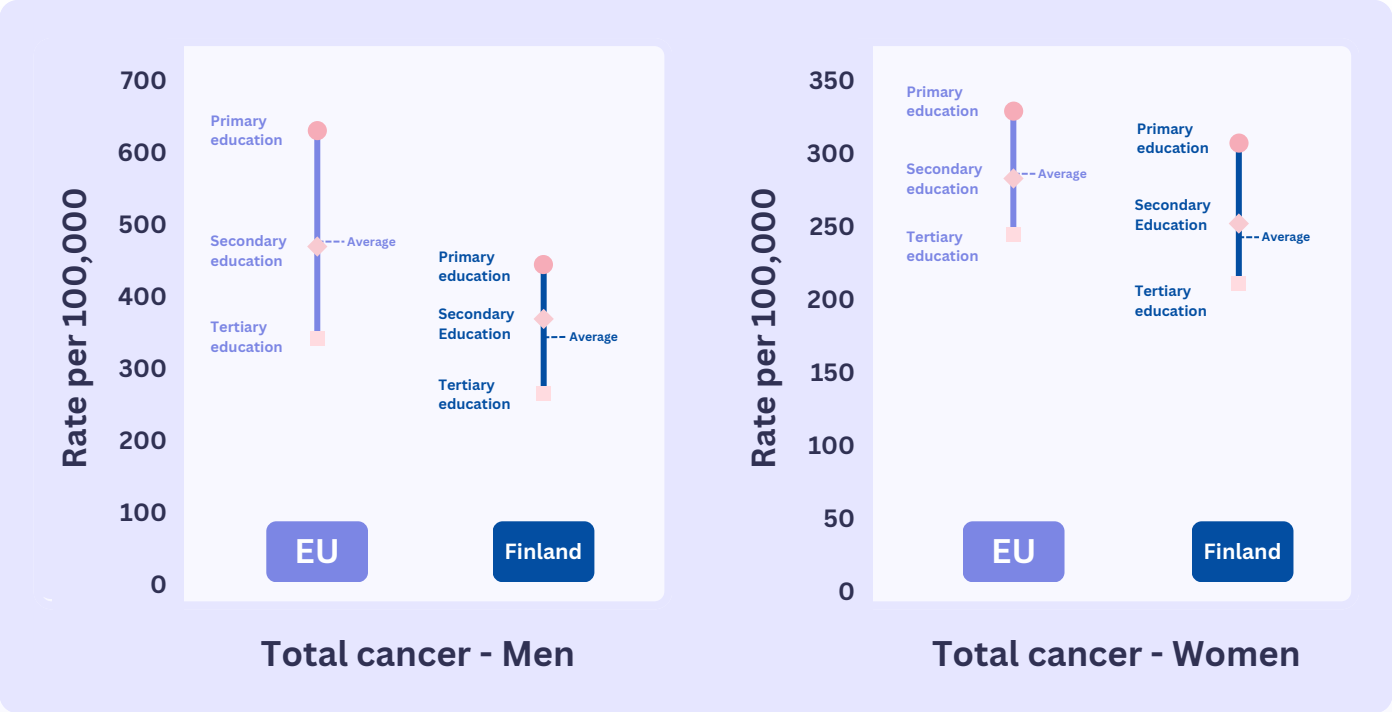


Figure 1. Total cancer mortality by sex and education level

Educational inequalities in mortality by cancer site

Lung cancer

Lung cancer mortality was lower than the European average in men and women, but rates were over two times higher in men compared to women. The disease was a large contributor to inequalities in total cancer mortality and, in both sexes, there was a clear social gradient for lung cancer. The inequality gap for lung cancer mortality was particularly large among women. Given the long delay between smoking and the development of lung cancer, sex and socio-economic differences in lung cancer mortality in 2015-2019 may be partly explained by smoking patterns across these groups about 2-4 decades before. Around 1990, the smoking prevalence was higher for men than for women, and for both men and women, smoking prevalence was higher for lower, compared to higher, educated individuals [1].

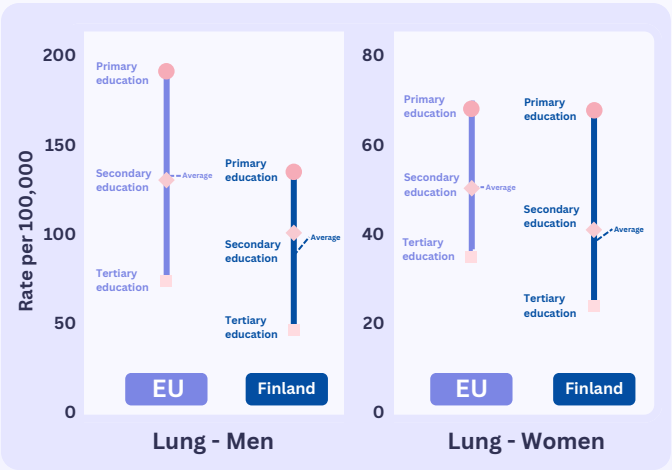


Figure 2.a. Cancer-specific mortality by sex and education level: lung

Colorectal and stomach cancers

National average mortality rates for colorectal and stomach cancer mortality in Finland were below the corresponding European average in both sexes, although in men rates were 60% to 80% higher as compared to women. For both colorectal and stomach cancer, a clear social gradient was observed for men and women. Socio-economic and sex inequalities in past exposure to risk factors, i.e., poor diet, physical inactivity, obesity, alcohol consumption, smoking [2, 4] and to Helicobacter pylori infection at young ages (for stomach cancer), which are more prevalent among those with lower educational attainment [5], may partly explain the observed inequalities in colorectal and stomach cancer. The national colorectal cancer screening program was launched in 2022. Prior to this, in 2019, participation in screening was opportunistic, with a lower percentage of individuals with lower education levels participating, compared to those with higher education levels [2, 6].

Breast cancer

Breast cancer showed the second highest mortality rate among women, after lung cancer, with an average national mortality rate slightly lower compared to the corresponding European average. There was a social gradient with an increase in mortality as educational levels decreased, likely to be the result of cumulative inequalities across several factors, including exposure to risk factors, early diagnosis, screening and treatment practices [7]. In Finland, the participation rate in the national screening programme is relatively high as compared to other countries (in 2019, 92% for women 50-69 years old compared to the EU average of 66%), but lower for lower educated (85%) than for higher educated (93%) [2].

Prostate cancer

Prostate cancer was a large contributor to total cancer mortality among men in Finland, although rates were slightly 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 timely access to treatment or treatment options [8].

Cervical cancer

Despite the relatively low rates, in comparison to the

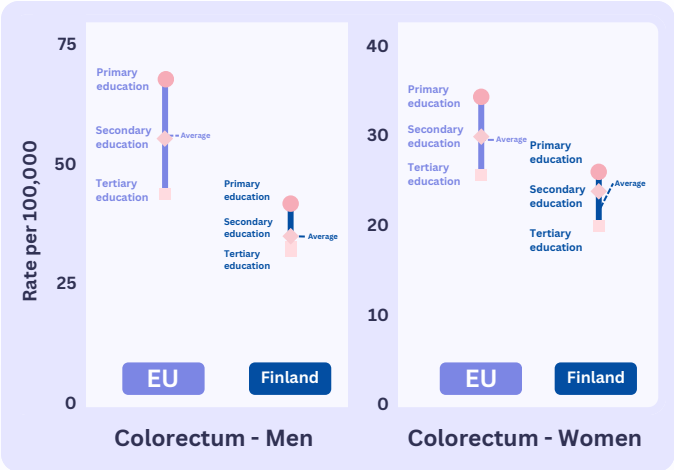


Figure 2.b. Cancer-specific mortality by sex and education level: colorectum

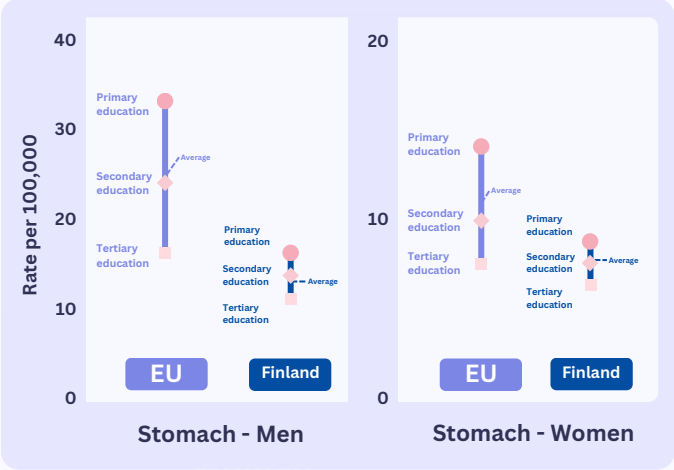


Figure 2.c. Cancer-specific mortality by sex and education level: stomach

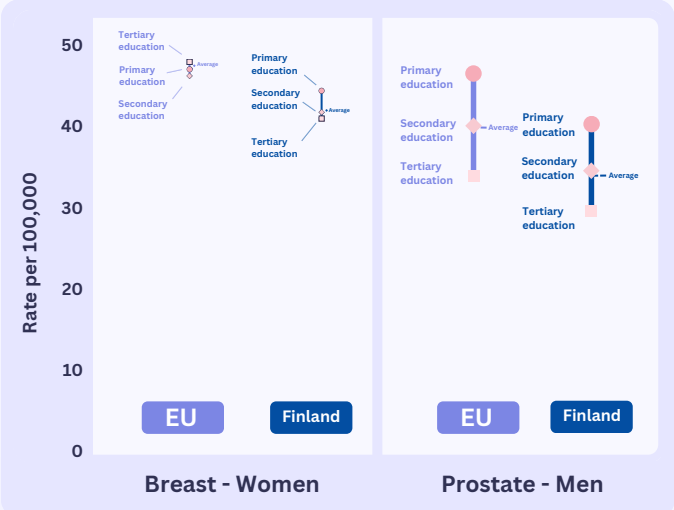


Figure 2.d. Cancer-specific mortality by sex and education level: breast (left), prostate (right)

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 be related to variations in the uptake of the population-based cervical cancer screening program. In 2019, 40% of women with low education levels had taken a smear test in the last three years compared to 85% of women with high education levels [2]. Human papillomavirus (HPV) vaccination and HPV-based screening, if implemented equitably, may have the potential to further decrease the disease burden and associated inequalities.

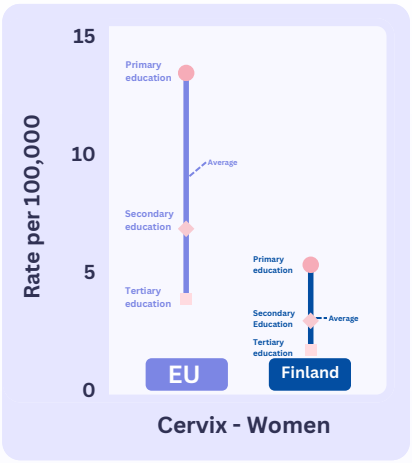


Figure 2.e. Cancer-specific mortality by education level: cervix

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.

For Finland, the method A was used. These findings are based on preliminary descriptive analyses carried out as part a joint research project on social determinants of health with prof Martikainen at the Helsinki Institute for Demography and Population Health (TK-53–1490–18)

Contact information

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