

Country Factsheet Series

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

Spain

Key messages

In Spain, total cancer mortality rates in 2015–2019* were more than two times higher in men than in women and for both sexes lower than the corresponding European average. Only among men, mortality rates for total cancer varied greatly across educational levels, according to a social gradient, i.e., with a progressive increase as educational levels decreased, whereas among women no social gradient was found. Lung cancer was the largest contributor of total cancer inequalities among men. Nevertheless, socio-economic inequalities were found for all selected cancer types in men, except for prostate cancer. Among women, the social gradient was less clear for most cancer sites, with a reverse gradient emerging for breast cancer. In Spain, equitable access to health care is ensured at the national level by universal coverage and recently dedicated national plans for cancer, including population-based screening programmes. Nevertheless, inequalities in cancer mortality are still present, especially among men.

Educational inequalities in total cancer mortality

In Spain, mortality rates for total cancer** in 2015–2019 were 434 per 100,000 in men and 210 per 100,000 in women, lower than the corresponding European average***. Among men rates varied substantially according to a social gradient, while in women rates were quite homogeneous across educational levels. Men with primary education had cancer mortality rates approximately 40% higher than men with tertiary education (478 vs 350 per

100,000). Women with primary and tertiary education had similar cancer mortality rates (212 per 100,000 for both), and higher than those with secondary education (202 per 100,000).

In both men and women, the difference in rates between primary and tertiary education (i.e., inequality gap) was lower than the European average, and the lowest among European countries in the Western/Southern European area.

* In Spain, 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

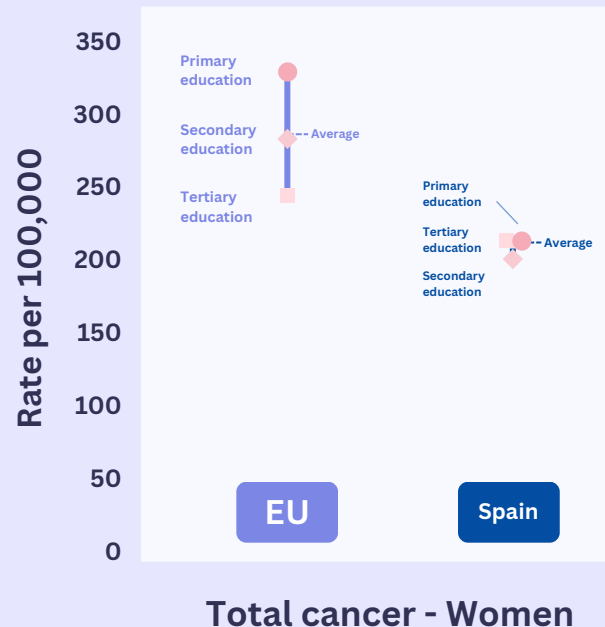
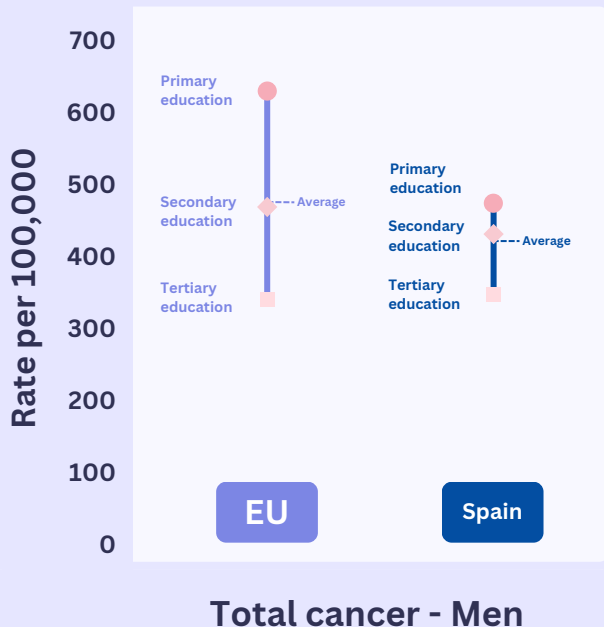


Figure 1. Total cancer mortality by sex and education level

Educational inequalities in mortality by cancer site

Lung cancer

Lung cancer mortality in Spain was in line with the European average in men, while lower in women. In men, rates were approximately four times higher compared to women. A social gradient for lung cancer emerged only in men, for whom the disease was the largest contributor to inequalities in total cancer mortality. These inequalities in lung cancer mortality across sex and socio-economic position in men may be partially explained by differences across these groups in tobacco smoking patterns over the past decades [1]. Tobacco smoking in Spain is slightly higher than the EU average in 2019, with the percentage of daily smokers being higher in primary educated compared to those with tertiary education (21% vs 16%) [2, 3].

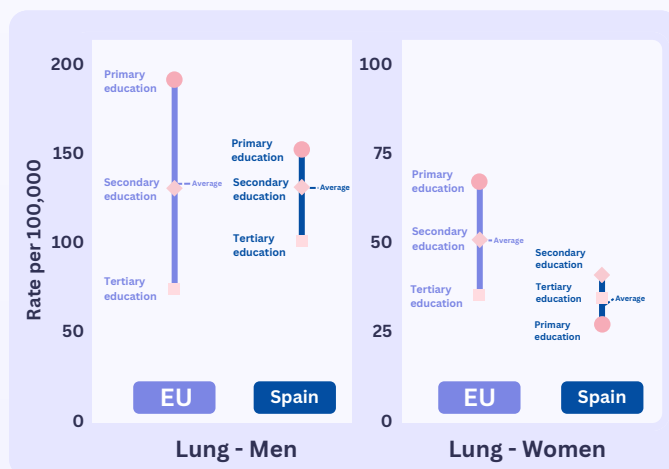


Figure 2.a. Cancer-specific mortality by sex and education level: lung

Colorectal and stomach cancers

For colorectal and stomach cancer, national mortality rates were lower than the corresponding European average in both sexes, although rates in men were

over two times higher than those in women. A clear social gradient emerged in men for both cancer types. In women, colorectal cancer mortality rates were similar across educational levels, whereas stomach cancer rates were highest for primary educated, compared to other educational levels, but there was not a clear social gradient. The observed sex and socio-economic inequalities in colorectal and stomach cancer mortality, may be partly explained by disparities in the past prevalence of cancer risk factors such as smoking, alcohol consumption, poor diet, physical inactivity [2, 4], and *Helicobacter pylori* infection (for stomach cancer) at younger ages [5] across socio-economic groups and sexes. The prevalence of overweight and obesity in 2019 in Spain is higher than the EU average [2] with differences between sexes (61% in men vs 46% in women) and socio-economic status [2-4]. Moreover, differences in participation rates to colorectal cancer screening across educational groups (38% primary vs 44% tertiary in 2019) may impact colorectal cancer mortality [3].

Breast cancer

Although national rates were lower than the European average, breast cancer, with lung cancer, was one of the major contributors of cancer mortality among women. A reverse socio-economic gradient was found, with highest rates for tertiary education. A reverse social gradient for breast cancer has been seen previously in other countries [5] and may be due to the preponderant impact of reproductive factors – namely the fact that parity is lower and age at first child higher for women with higher education – as compared to other factors, like early diagnosis, screening, and treatment options, which are usually more unfavourable to disadvantaged social groups.

Prostate cancer

Prostate cancer mortality rates were lower than the European average, and contrary to what observed in other European countries, without evidence of a social gradient. The uneven access to early diagnostic and treatment services and stage at diagnosis could partly explain the disparities in prostate cancer mortality [6].

Cervical cancer

Cervical cancer mortality rates were generally low compared to the other cancer types and the national average was also lower than the corresponding European average. No clear social gradient was

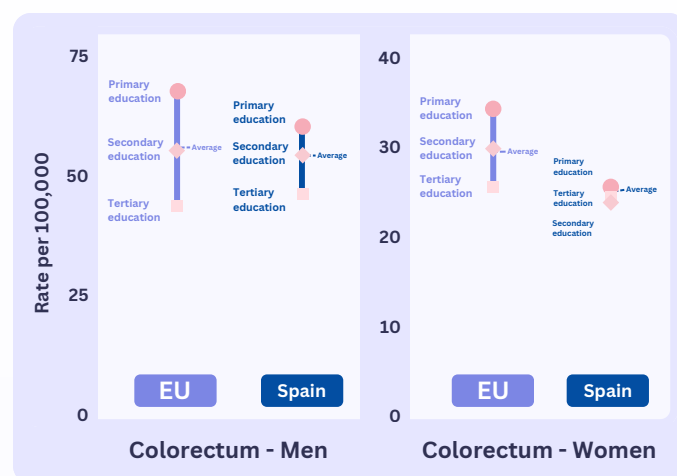


Figure 2.b. Cancer-specific mortality by sex and education level: colorectum

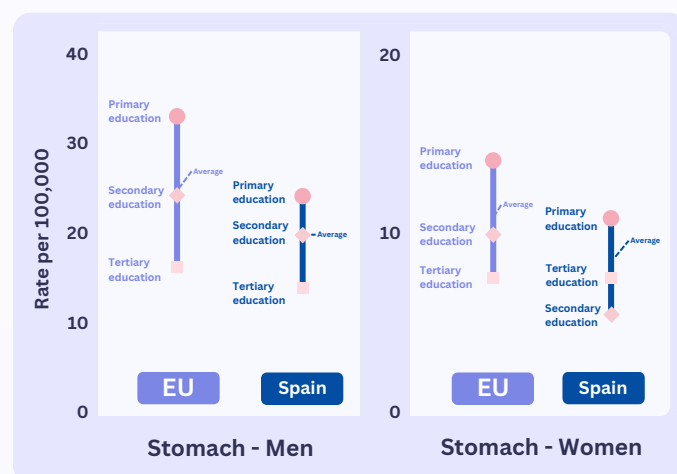


Figure 2.c. Cancer-specific mortality by sex and education level: stomach

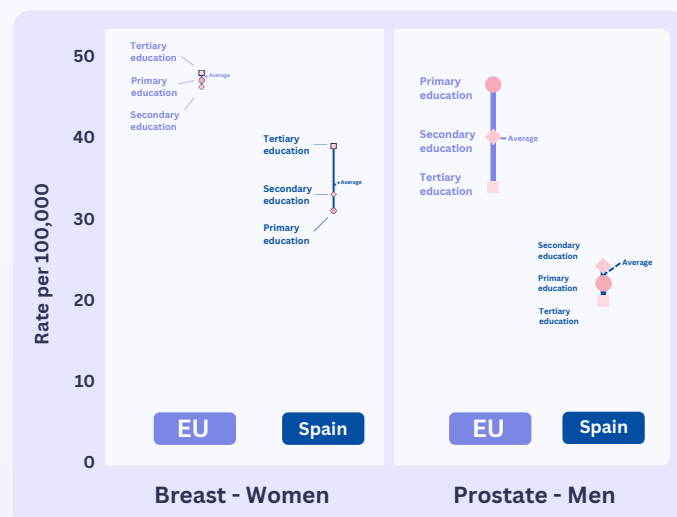


Figure 2.d. Cancer-specific mortality by sex and education level: breast (left), prostate (right)

observed even though primary educated women showed higher mortality rates compared to both secondary and tertiary educated. Despite a population-based screening programme in Spain has been in place since 2019, there are differences in screening participation rates across socio-economic group [2, 3], with lower participation among the most disadvantaged. This may explain the observed differences. If implemented equitably, human papillomavirus (HPV) vaccination and HPV-based screening could additionally reduce the disease burden and help address the related socio-economic disparities.

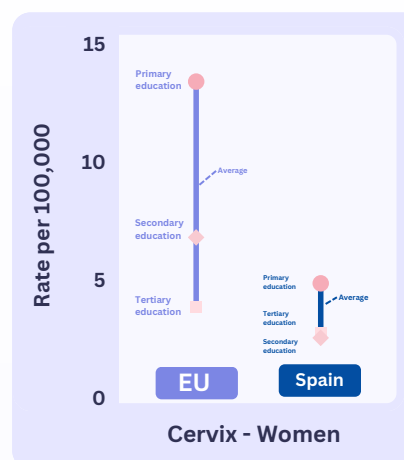


Figure 2.e.
Cancer-specific
mortality by
education level:
cervix

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 Spain, the method for group A countries was used.

Contact information

IARC: Cancer Inequalities Team, Cancer Surveillance Branch, International Agency for Research on Cancer.
eu-canineq.iarc.who.int

European Cancer Inequalities Registry (ECIR): cancer-inequalities.jrc.ec.europa.eu ec-ecir@ec.europa.eu sante-rtd-cancer@ec.europa.eu

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