

Country Factsheet Series

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

Portugal

Key messages

Portugal is characterized by total cancer mortality rates in 2015–2019* that are similar to the European average but that exhibit significant differences by sex and socio-economic status. Mortality rates were more than twice as high in men as in women and showed a pronounced social gradient, particularly among men, with rates increasing as educational levels decreased. The social gradient was found for all selected cancer types, except for breast cancer. Although cancer services in Portugal are generally free of charge and universally accessible, and several efforts have been made to improve quality of care and promote healthy behaviours as part of the National Health Plan 2012–2016, substantial inequalities in cancer mortality still exist.

Educational inequalities in total cancer mortality

In Portugal, mortality rates for total cancer** in 2015–2019 were 472 per 100,000 among men (similar to the corresponding European average***) and 221 per 100,000 among women (lower than the corresponding European average). Mortality rates for total cancer varied substantially according to a social gradient, especially among men. Men with primary education had cancer mortality rates approximately 50% higher than men with tertiary education (504 vs 335 per 100,000). Women with primary education

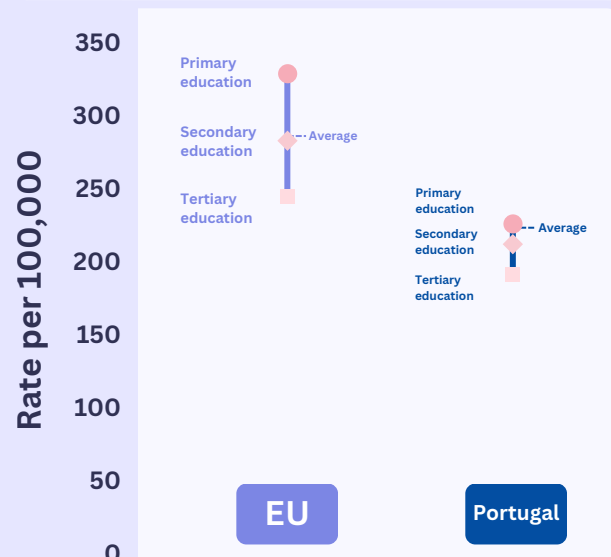
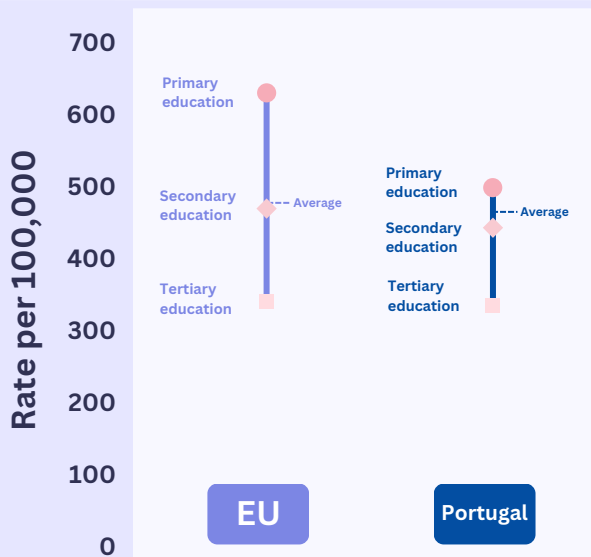
had about 20% higher cancer mortality rates compared to those with tertiary education (229 vs 195 per 100,000).

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

* In Portugal, estimates of cancer mortality by education level were based on the "back-calculation" method, which consists in borrowing information from countries with observed data in the same geographical area, specifically Austria, Belgium, Spain, Italy. 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



Total cancer - Men

Total cancer - Women

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 for both sexes, and in men rates were approximately four times higher compared to women. A social gradient for lung cancer emerged and the disease was the largest contributor to inequalities in total cancer mortality. The disparities in lung cancer mortality by sex and socio-economic position, may be attributed to past tobacco smoking patterns in those groups [1, 2]. Recent smoking rates are lower than in the past (the proportion of daily smokers reduced by 30% from 2014 to 2019, passing from 16% to 12%) likely because of dedicated prevention action set under the National Health Plan 2012–2016 [3].

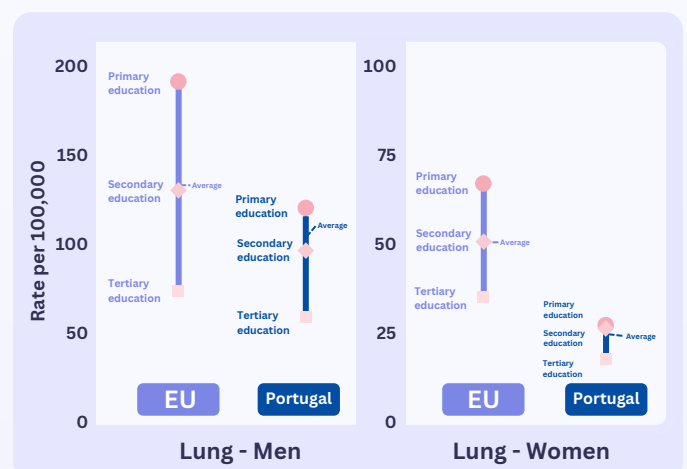


Figure 2.a. Cancer-specific mortality by sex and education level: lung

Colorectal and stomach cancers

Compared to the corresponding European averages, national mortality rates in Portugal were similar for colorectal cancer but higher for stomach cancer. For both cancer sites, mortality rates were more than two times higher in men compared to women, and showed a social gradient, which was stronger among men. The observed sex and socio-economic inequalities in colorectal and stomach cancer mortality, may be, at least partly, explained by disparities in the prevalence of known risk factors, such as alcohol drinking, smoking, poor diet and obesity. Indeed, alcohol consumption, overweight and obesity as well as unhealthy diet remain major public health problems in Portugal with considerable sex and socio-economic inequalities [3, 4]. Differences in exposure to *Helicobacter pylori* infection among educational groups could also partially explain observed inequalities in stomach cancer mortality [5].

Breast cancer

Among the selected cancer types, breast cancer showed the highest mortality rate in women although rates were lower than the European average. There was evidence of a reverse, although mild, social gradient, i.e., with rates higher among highly educated women. The reverse social gradient observed for breast cancer has been documented in other countries and may primarily result from the predominant influence of reproductive factors—specifically, lower parity and higher age at first childbirth among women with higher education. Nevertheless, other factors may have also contributed to the observed patterns, in particular the high uptake rate of breast cancer screening in Portugal (81% vs 66% in EU) with minimal differences among education groups [3].

Prostate cancer

Prostate cancer mortality in Portugal was lower than the corresponding European average with a slightly social gradient, which may be possibly due to inequalities in stage at diagnosis, and disparities in access to treatment or treatment options.

Cervical cancer

Cervical cancer mortality rates in Portugal were generally low compared to the other cancer types

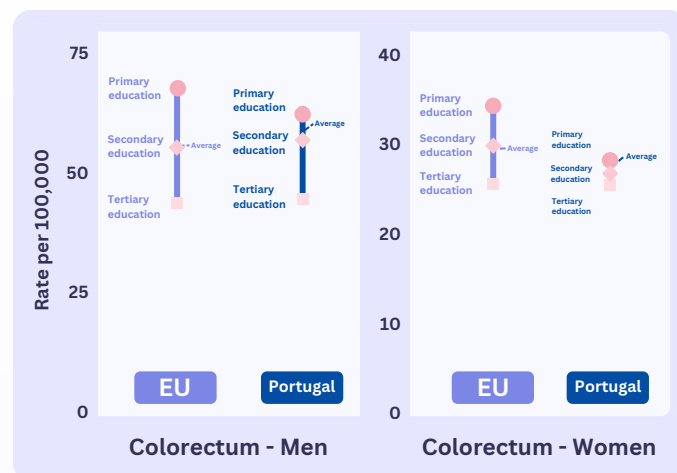


Figure 2.b. Cancer-specific mortality by sex and education level: colorectum

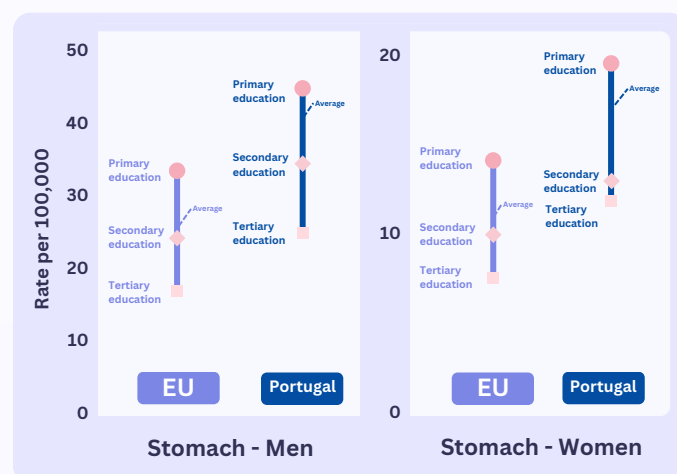


Figure 2.c. Cancer-specific mortality by sex and education level: stomach

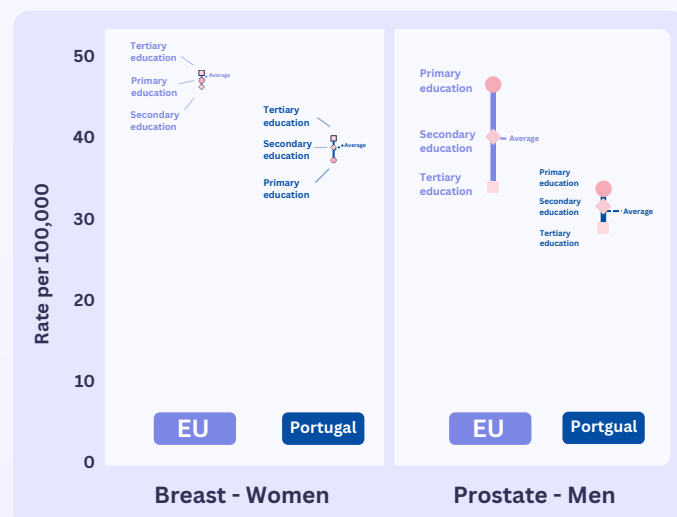


Figure 2.d. Cancer-specific mortality by sex and education level: breast (left), prostate (right)

and the national average was lower than the corresponding European average. Despite low rates, a social gradient was found which could be partially explained by the relatively low uptake of cervical cancer screening in the country (53% vs 60% in EU) and by differences among educational levels, with lower uptake among the less educated groups [3]. Equitable implementation of human papillomavirus (HPV) vaccination and HPV-based screening has the potential to further alleviate the disease burden while contributing to the reduction of associated socio-economic disparities.

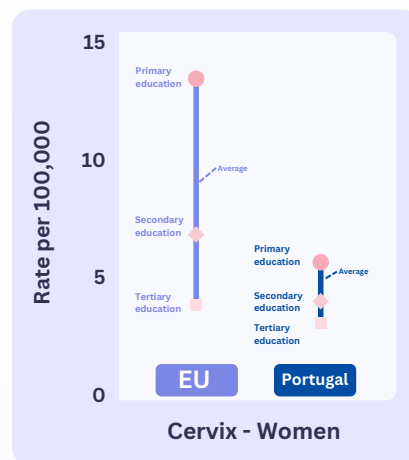


Figure 2.e.
Cancer-specific
mortality by
education level:
cervix

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.

For Portugal, the “back-calculation” method was used.

Disclaimer: As this method also integrates information from countries within the same geographical area, the degree of uncertainty associated with the estimates is higher compared to estimates based solely on national data.

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References:

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