

Cancer in 2040: Estimates for an ageing Europe

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HIGHLIGHTS

- Cancer-burden will increase even more in an ageing Europe.
- Cancer incidence is higher in men than in women. If only demographic projections are considered, this gap is estimated to increase by 2040.
- The estimated increases in cancer incidence are not the same for all cancer types and differ between European countries.
- We need effective prevention, early detection and cancer care policies, to counter these concerning trends and inequalities.

CHALLENGES

Cancer burden and its cost

Cancer is the number one cause of death in the EU for citizens under 65 and the second cause of death for all EU citizens¹. It exerts a tremendous emotional and economic burden, and the estimated societal cost in 2018 was €199 billion².

The European Cancer Information System (ECIS) estimates 2.7 million new cancer cases and 1.3 million cancer deaths in 2020³ (Figure 1).

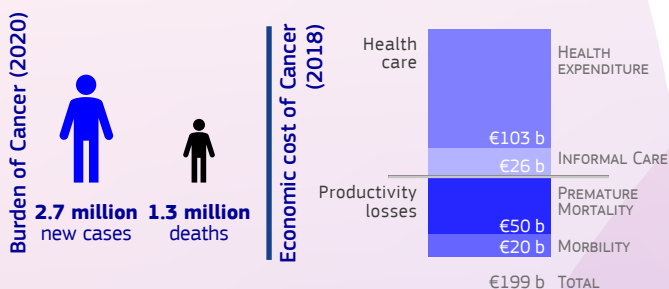


Figure 1 – Left: Burden of cancer in Europe* in 2020⁴. Right: Economic cost of cancer in Europe* + UK in 2018².

INEQUALITIES

Age as a risk factor

Unlike tobacco use, alcohol consumption, unhealthy diet, physical inactivity, air pollution and other environmental and occupational carcinogens, ageing is one of the non-modifiable risk factors for cancer.

In 2020, about 94.7 million (21 %) Europeans* were over 65. Despite representing only a fifth of the population, this age group is estimated to suffer more than 62 % (1.7 million) of the newly diagnosed cancer cases and 76 % (0.98 million) of the total deaths by cancer (Figure 2).

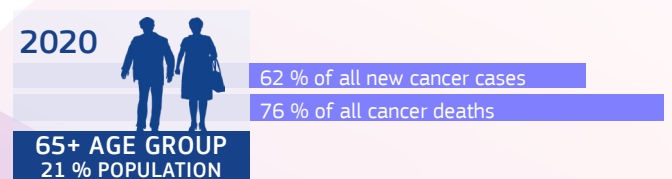


Figure 2 – Share of the 65+ age group in Europe* and the associated percentage of new cancer cases and cancer deaths estimated from ECIS^{4,5}.

The European population is shrinking and ageing⁶. By 2040, the 65+ age group is estimated to increase by 34 %. Given that cancer risk is higher in this age group, the European cancer burden is expected to increase by about 38 % in terms of new cancer cases and 44 % of cancer deaths⁴ (Figure 3).

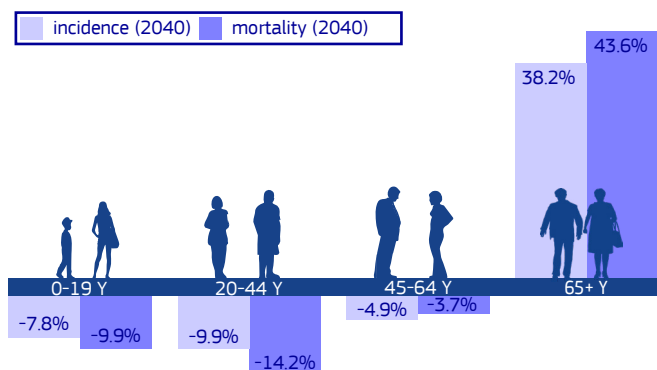


Figure 3 – Estimated** relative change of new cancer cases (lighter blue) and cancer deaths (darker blue) between 2020 and 2040 (considering all cancers but non-melanoma skin cancer) by age group in European* countries.

Similarly to 2020, the estimates** point to colorectal, prostate, lung and breast cancers as those responsible for the majority of new cases in 2040, while those responsible for the majority of deaths will be lung, colorectal, prostate and pancreatic cancers (Figure 4).

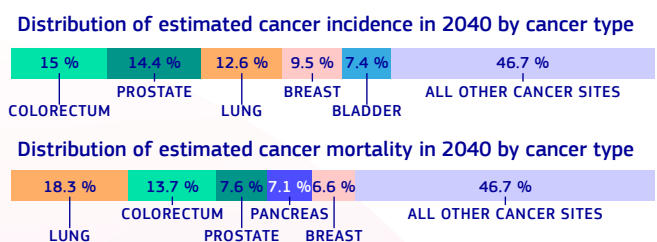


Figure 4 – Estimated distribution of 2040 new cancer cases and cancer deaths for the 65+ age group by cancer type⁴.

Inequalities by sex

Cancer incidence estimates are higher for men than for women and this difference is estimated** to increase by 2040 (Figure 5). The same applies for the mortality estimates.

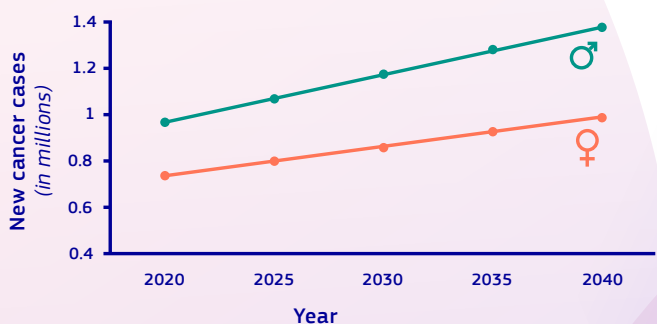


Figure 5 – New cancer cases in men and women 65+ old, estimated** at 5-years interval in the period 2020-2040 in Europe* (considering all cancers except non-melanoma skin cancer)⁴.

Men and women are differently affected by different cancer types (Figure 6). In women, breast cancer is estimated** to be responsible for the highest number of new cases in 2040, as well as cancer deaths. In men, prostate cancer is estimated to become the most commonly diagnosed cancer in 2040 while lung cancer is expected to be the deadliest cancer.

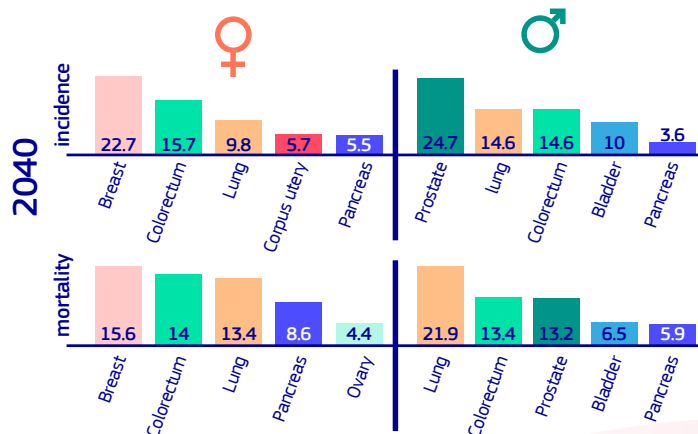


Figure 6 – Most commonly diagnosed cancers and causes of cancer deaths estimated in men and women for 2040 in the 65+ age group in Europe*⁴.

Geographical inequalities

Germany, France, Italy and Spain have the biggest share of new cancer cases in Europe* given they are the most populated countries (Figure 7). However, the highest relative increase in new cancer diagnoses from 2020 to 2040 among the 65+ age group is estimated** to occur in Ireland (87%), Luxembourg (83%), Malta (68%) and Spain (60%) (Figure 7). This is because these countries are expected to have the largest ageing population.

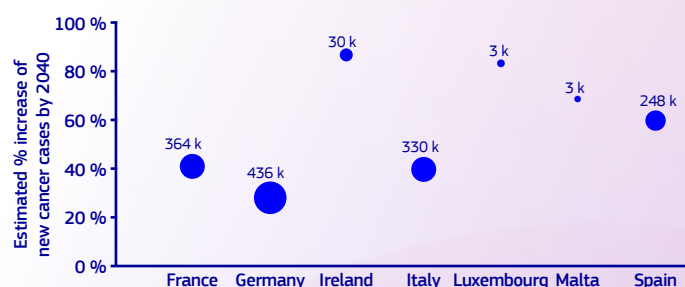


Figure 7 – Estimated** increase in the number of new cancer cases (considering all cancers but non-melanoma skin cancer) between 2020 and 2040. Selected countries are those ranking highest in the number of new cancer cases (more than 200,000) and those with the estimated highest increase (more than 60 %) for the 65+ age group⁴.

The size of the 2040 bubble is proportional to the estimated number of new cancer cases.

* In this factsheet Europeans refers to EU-27+EFTA excluding Liechtenstein.

** These 2040 estimates reflect solely the effect of population ageing on cancer burden. Crude incidence rates in 2040 were assumed to be the same as in ECIS⁴ 2020 estimates; therefore they only reflect the impact of demographic changes on the 2040 cancer burden.

CLOSING THE GAP

Demographics alone are estimated to account for a substantial increase in the number of new cancer cases and related deaths in 2040.

The 65+ age group will be disproportionately affected by cancer. The increase will be more pronounced in men compared to women, and will affect some national health systems, such as those of Ireland, Luxembourg, Malta and Spain more than others.

On average around 40% of cancers could be prevented⁷. The European Code against Cancer recommends 12 actions that we can do at the individual level to reduce our risk of getting cancer⁸. However, additional EU or national and regional-level efforts are needed to counter these estimates.

Effective prevention and early detection can reduce the burden of cancer on individuals and on healthcare settings.

Policies such as tackling environmental and occupational exposures to known carcinogens, transport and city infrastructure to boost physical activity and reduce environmental pollution, policies enabling access to healthy diets and limiting access to alcohol and tobacco or work policies enabling breastfeeding (a protective factor for breast cancer) can make a real difference. Undoubtedly, improved participation in population cancer screening programmes, early cancer detection, as well as quality assured health care will also play a key role.

REFERENCES

- [1] EUROSTAT: Causes of death statistics
- [2] Hofmarcher, T. et al., 'The cost of cancer in Europe 2018', European Journal of Cancer 129 (2020) 41-49.
- [3] Dyba T, et al. The European cancer burden in 2020: Incidence and mortality estimates for 40 countries and 25 major cancers. Eur J Cancer. 2021 Nov;157:308-347.
- [4] European Cancer Information System
- [5] EUROSTAT: Key figures on Europe, 2022 edition
- [6] The 2021 Ageing Report: Economic and Budgetary Projections for the EU Member States (2019-2070)
- [7] Estimated proportion of potentially preventable cancers
- [8] European Code against Cancer

FOR MORE INFORMATION

- **The EUROPEAN CANCER INFORMATION SYSTEM (ECIS)** is the reference point for monitoring and projecting the burden of cancer in Europe. Providing latest information on cancer incidence and mortality in Europe it supports the Europe's Beating Cancer Plan.
- **The European Cancer Inequalities Registry** is a flagship initiative of the Plan. It provides sound and reliable data on cancer prevention and care to identify trends, disparities and inequalities between Member States and regions.
- Further information on cancer and its determinants, including on policies related to primary or secondary prevention can be found in the JRC's Health Promotion and Disease Prevention Knowledge Gateway relevant briefs.
- **The European Commission Initiatives on Breast and Colorectal Cancers** provide evidence-based European Guidelines and Quality Assurance Schemes for Breast, Colorectal and (soon) Cervical Cancers.

CONTACT INFORMATION

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