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Cancer's hidden cost: new study quantifies the profound societal loss from premature cancer deaths

Questions and Answers (Q&A)

A new study¹ by the International Agency for Research on Cancer (IARC) and collaborators estimated hundreds of billions in lost contributions from paid and unpaid work globally.

1. How was the societal burden of cancer calculated in the study, and what does it mean?

When an individual dies earlier than expected, beyond the loss of life, their absence represents a profound loss to their families, communities, and society, because they are no longer able to contribute their care, skills, and knowledge. From a societal perspective, these losses in societal contributions can be quantified by estimating the value of productivity no longer realized. The study estimated the value of lost societal contributions from paid and unpaid work due to early cancer deaths for 36 cancer sites and across 185 countries for 2022. The profound void in societal contributions left behind when individuals die earlier than expected due to cancer highlights the deep interconnectedness between health, society, and economic stability.

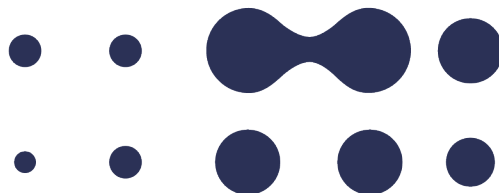
2. Why is the societal burden of premature cancer deaths higher in low- and middle-income countries, even though these countries contribute less to the global total value of productivity loss?

In low- and middle-income countries, even modest losses in productivity can translate to a large impact on the national economy, because of the smaller relative size of the economies. This highlights the importance of continued investments in cancer control efforts in these settings with a primarily younger population and strained health-care systems where the economic burden of premature cancer deaths is particularly acute.

3. Why is it important to take into account lost contributions from unpaid work as well?

Unpaid work, which encompasses daily activities such as caring for dependents and household work, is vital for the functioning of families, communities, and society. Including lost contributions from unpaid work not only provides a more accurate estimate of the societal losses from early cancer deaths but also acknowledges the gendered nature of unpaid work, which remains undervalued despite its economic and social significance. Because women continue to carry out a disproportionate share of unpaid work, incorporating it into the estimates addresses gender equity issues in participation in paid and unpaid work and also allows us to understand the full societal burden of premature cancer deaths.

¹ Kong YC, Niyigaba J, Tran PB, Vignat J, Bray F, Gaudreau CL, et al. (2025). Global paid and unpaid productivity losses due to cancer-related mortality. *J Natl Cancer Inst.* Published online 24 September 2025; <https://doi.org/10.1093/jnci/djaf193>



4. In terms of absolute value, what cancer types contribute the most to the value of productivity loss from premature cancer deaths?

Premature deaths from lung cancer accounted for the largest societal loss, at 15.6% of the global value (US\$ 88 billion), followed by breast cancer (US\$ 55 billion) and liver cancer and colorectal cancer (US\$ 50 billion each). Effective prevention strategies to reduce these high-burden cancer types exist, including tobacco cessation, healthy dietary habits, reducing alcohol consumption, and hepatitis B vaccination. This highlights the profound societal value and economic returns on investment of primary prevention of cancer.

5. What specific factors contribute to the high societal loss per cancer death of less-common cancer types, such as melanoma of the skin, testicular cancer, and brain cancer, and how can countries address these challenges?

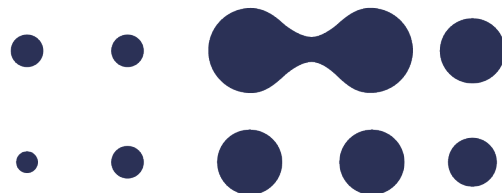
These less-common cancer types often affect younger individuals, leading to deaths at younger ages and hence higher accumulated lost productivity. This underscores the importance of sustained investments not only in high-burden cancer types but also the development and implementation of effective control strategies for less-common cancer types, given their substantial loss per death.

6. How does raising the retirement age affect societal losses from early cancer deaths, and what does this imply for future cancer control efforts?

In this study, when the retirement age was raised from 65 years to 70 years, losses in societal contributions increased substantially, totalling US\$ 904 billion in 2022. This highlights the expected increasing societal impact of premature cancer deaths in the future as populations are living longer and countries move towards raising retirement ages. This underscores the large societal value of scaling up cancer control efforts, not only to save countless lives but also to minimize losses in vital societal contributions from early cancer deaths.

7. What role do public health initiatives, such as the WHO Cervical Cancer Elimination Initiative, play in reducing the economic burden associated with lost societal contributions from early cancer deaths in low- and middle-income countries?

In countries with low and medium levels of the Human Development Index (HDI), early deaths from female cancers, including breast cancer and cervical cancer, contributed to the largest share of lost societal contributions, for example accounting for almost one third of the total losses in countries with low HDI. The substantial societal losses from female cancers support the importance of World Health Organization (WHO) global initiatives, such as the anticipated national scale-up of the WHO Cervical Cancer Elimination Initiative, aimed at meeting the 90–70–90 targets set for 2030, and the WHO Global Breast Cancer Initiative, aiming to reduce breast cancer mortality by 2.5% annually by 2040. This underscores the huge potential societal and economic returns from continuous investments in women-focused cancer control efforts.



The International Agency for Research on Cancer (IARC) is part of the World Health Organization. Its mission is to coordinate and conduct research on the causes of human cancer, the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control. The Agency is involved in both epidemiological and laboratory research and disseminates scientific information through publications, meetings, courses, and fellowships. If you wish your name to be removed from our press release emailing list, please write to terrassev@iarc.who.int.