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Banning the sale of tobacco to young generations could significantly reduce lung cancer mortality

Lyon, France, 3 October 2024 – A new study led by the International Agency for Research on Cancer (IARC) shows that prohibiting the sale of tobacco to people born between 2006 and 2010 could prevent 1.2 million lung cancer deaths by 2095. This modelling study, using population-level data, is one of the first to evaluate the impact of eliminating tobacco. This new strategy, known as the tobacco-free generation initiative, is part of broader tobacco elimination efforts aimed at drastically reducing smoking rates by phasing out tobacco sales based on birth dates, ultimately preventing smoking among younger generations. Tobacco-free generation initiatives, which are increasingly being explored as part of tobacco endgame strategies, have been implemented in many countries, such as New Zealand, and in various parts of Australia and the USA. The new study, published in *The Lancet Public Health*¹, includes 185 countries and draws from the World Health Organization (WHO) Mortality Database and the IARC Cancer Incidence in Five Continents database.

Findings

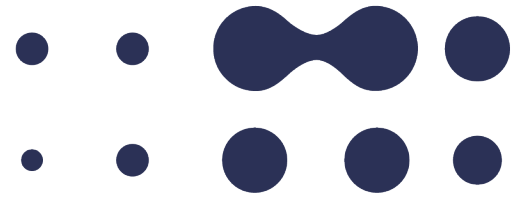
The results are based on a scenario in which tobacco sales were banned for people born between 1 January 2006 and 31 December 2010 and this intervention was perfectly enforced. The birth cohort included a total of 650 million people.

The findings indicated that globally, 1.2 million lung cancer deaths (40.2% of all lung cancer deaths) that were expected to occur among the studied generation (the 2006–2010 birth cohort) would be avoided if tobacco smoking were eliminated.

Overall, more lung cancer deaths could be avoided in men (45.8% of all lung cancer deaths) than in women (30.9% of all lung cancer deaths). However, in some regions, such as North America, parts of Europe, Australia, and New Zealand, the percentage of lung cancer deaths that could be avoided if this strategy were implemented was higher in women than in men.

At the regional level, the percentage of lung cancer deaths that could be avoided among men was highest in central and eastern Europe (74.3%) and among women was highest in western Europe (77.7%).

¹ Rey Brandariz J, Rungay H, Ayo-Yusuf O, Edwards R, Islami F, Liu S, et al. (2024). Estimated impact of a tobacco-elimination strategy on lung-cancer mortality in 185 countries: a population-based birth-cohort simulation study. *Lancet Public Health*. Published online 3 October 2024; [https://doi.org/10.1016/S2468-2667\(24\)00185-3](https://doi.org/10.1016/S2468-2667(24)00185-3)



Although high-income countries had a higher proportion of potentially avoidable lung cancer deaths (61.1% of all lung cancer deaths expected in high-income countries), the study showed that the largest number of avoidable lung cancer deaths, in absolute terms, was in low- and middle-income countries, accounting for 65% of all potentially avoidable lung cancer deaths globally.

“These results are encouraging because they further strengthen the evidence that adopting endgame strategies beyond the WHO Framework Convention on Tobacco Control (FCTC) could significantly reduce deaths from lung cancer in young generations,” says Dr Isabelle Soerjomataram, Deputy Head of the Cancer Surveillance Branch at IARC and the senior author of the article. “We also observed a clear shift in the tobacco epidemic, where women in certain regions have benefited more from endgame strategies than men. This difference is linked to the tobacco industry’s gender-targeted marketing over the past few decades.”

Lung cancer is the most frequently diagnosed cancer and cause of cancer death worldwide; it is responsible for approximately 1.8 million deaths per year. Tobacco smoking is the most important risk factor for lung cancer and in 2019 was estimated to cause more than 67% of lung cancer deaths globally.

The WHO FCTC is at the forefront of global actions to address the tobacco epidemic. It provides a legal framework globally for reducing the tobacco epidemic through comprehensive policies that aim to prevent smoking-related diseases, including lung cancer, and save millions of lives.

“Tobacco smoking is a leading global health concern, responsible for millions of preventable deaths each year. The WHO FCTC is an evidence-based treaty, and its Article 2.1 encourages Parties to take measures beyond the requirements outlined in the Convention, allowing context-specific policies aimed at reducing tobacco use and its associated harms,” says Dr Adriana Blanco Marquizo, Head of the Secretariat of the WHO FCTC. “[The decision by the recent Conference of the Parties \(COP10\)](#) to consider forward-looking measures that could be contemplated within the scope of Article 2.1 reflects a crucial commitment to protecting future generations from the catastrophic impacts of tobacco, particularly the rise in cancer-related deaths caused by smoking.”

Note to editors:

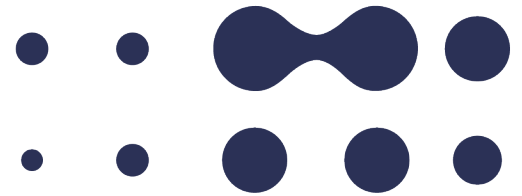
This study was conducted by the International Agency for Research on Cancer (IARC) and researchers from the University of Santiago de Compostela (Spain), the University of Pretoria (South Africa), the University of Otago (New Zealand), the American Cancer Society (USA), the Chinese Center for Disease Control and Prevention (China), and the Federal University of Ouro Preto (Brazil) and received funding from the Ministry of Universities of Spain.

Useful links:

The World Health Organization Framework Convention on Tobacco Control (WHO FCTC): <https://fctc.who.int/>

The Convention: <https://fctc.who.int/publications/i/item/9241591013>

Tenth session of the Conference of the Parties (COP10) to the WHO FCTC: <https://fctc.who.int/who-fctc/governance/conference-of-the-parties/tenth-session-of-the-conference-of-the-parties>



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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 com@iarc.who.int.