

NEWS RELEASE

‘Endgame’ youth cigarette-sale ban could prevent 11,000 lung cancer deaths in SA over 70 years – UP researcher



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PRETORIA – A University of Pretoria (UP) professor is part of a global team whose new research estimates that 10 000 lives could be saved in South Africa alone if the government were to implement the ‘endgame strategy’ of banning cigarette sales to people born between 2006 and 2010 – even when they get older and become adults.

Professor Lekan Ayo-Yusuf, Head of UP’s School of Health Systems and Public Health (SHSPH) and Director of the National Council Against Smoking (NCAS), along with researchers from Spain, France, New Zealand, the USA, China and Brazil, set out to estimate the impact of eliminating tobacco smoking on lung-cancer mortality in people born between 2006 and 2010 across 185 countries.

Their first-of-its-kind global simulation study of 650 million people predicts nearly three million lung cancer deaths among this group by 2095 if current smoking trends continue. Of these, around 1.8 million deaths are

expected in men, and about 1.1 million in women. However, the study found that 40% of these deaths – of more than 1.1 million people – could be prevented if a tobacco-free generation were achieved.

The team's research paper, 'Estimated impact of a tobacco-elimination strategy on lung-cancer mortality in 185 countries: a population-based birth-cohort simulation study', was published in the renowned journal *The Lancet* in October.

South African prediction

"This is the first ever publication of the number of lung cancer deaths that can be prevented from an 'endgame' strategy," Prof Ayo-Yusuf said. "Notably, when zooming in on Africa, the results show that, in the sub-Saharan African region, South Africa would have the most people saved from dying of lung cancer by the time these same children reach the age of 85 years [between 2091 and 2095]."

The analysis shows that about 12 000 lives could be saved across southern Africa, and 48 000 in northern Africa, but when standardised for age and population size, southern Africa would have more lives saved – 5.5 people per 100 000 population, compared to 4.3 per 100 000 in northern Africa.

Of the 12 000 lives that could be saved in southern Africa between now and 2095, 10 900 would be in South Africa, which has the highest daily smoking prevalence rate in sub-Saharan Africa.

"It is thus an important policy advocacy agenda to advance an endgame strategy in southern Africa, and especially in South Africa," Prof Ayo-Yusuf said. "However, such a policy position would require also dealing with all the political, social and cultural dynamics that promote tobacco use, including stricter regulation of the activities of the tobacco industry – such as industry efforts to lobby governments, target youths for promotion of tobacco and nicotine products, and their involvement in illicit trading."

Other global findings

The research findings also suggest that, across the 185 countries and 650 million people research pool, more lung cancer deaths could be prevented among men (846 000) than women (342 000). Central and eastern Europe had the highest predicted preventable deaths in men, while western Europe led for women. Middle Africa showed the lowest potential impact, with only 2% of deaths preventable in men and 1% in women.

"The disparities in our results by sex were particularly important in southern Africa, northern Africa, eastern Asia, southeast Asia, and western Asia, where the proportion of prevented lung cancer deaths in male individuals was estimated to be 20 percentage points higher than in female individuals," the researchers wrote in their findings.

The study also highlighted income disparities, with high-income countries potentially preventing 61% of lung cancer deaths, compared to just 13% in low-income countries. The researchers cautioned that data from low-income regions was limited and should be interpreted carefully.

Research methodology

For this study, the researchers imagined a scenario where tobacco sales were banned for people born between 2006 and 2010, and this ban was fully enforced until 2095. To predict how many lung cancer deaths could be prevented, they looked at lung cancer death rates for men and women across various age groups in countries with at least 15 years of data from the World Health Organization (WHO) Mortality Database. For countries without this data, they used lung cancer cases from the Cancer Incidence in Five Continents (CI5), a

comprehensive resource which provides detailed data on cancer incidence from cancer registries around the world.

The study estimated how many lung cancer deaths in this group could be avoided if smoking was eliminated. They did this by comparing death rates in people who never smoked with the expected lung cancer death rates, and applied this difference to the population. They then calculated the percentage of lung cancer deaths that could be prevented – the Population Impact Fractions (PIFs).

The results were also broken down by income levels, based on World Bank classifications, to see how a tobacco-free generation might impact different countries.

Read the full open-access research paper on [The Lancet's website](#).

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ABOUT THE UNIVERSITY OF PRETORIA

The University of Pretoria (UP) is one of the largest contact and residential universities in South Africa, with its administration offices located on its Hatfield Campus in Pretoria. This 115-year-old institution is also one of the largest producers of research in South Africa.

Spread over seven campuses, it has nine faculties and a business school, the Gordon Institute of Business Science (GIBS). It is the only university in the country with a Faculty of Veterinary Science, which is ranked the best in Africa. UP has 120 academic departments and 92 centres and institutes, accommodating more than 56 000 students and offering about 1 100 study programmes. It has the most academic staff with PhDs (70%), NRF-rated researchers (613).

The [2024 Times Higher Education subject rankings](#) placed UP first in South Africa in the fields of Law, Veterinary Science, Accounting and Finance; Agriculture and Forestry and Electrical and Electronic Engineering. Quacquarelli Symonds (QS) ranked the University among the top five in Africa, as part of their [2024 World University Rankings \(WUR\)](#). UP was the only South African university featured in the [2023 World University Rankings for Innovation \(WURI\)](#), falling within in the 101-200 range of innovative universities.

For more information, please go to www.up.ac.za