

Seven countries, 1.3 million lives lost every year: The devastating impact of tobacco revealed

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Every year 1.3 million lives are lost to cancers caused by smoking tobacco across the UK, US and BRICS nations (Brazil, Russia, India,

China and South Africa), according to a new study.

Researchers have found that together, the seven countries represented more than half of the global burden of cancer deaths every year. They concluded that smoking, as well as three other preventable risk factors—alcohol, overweight or obesity, and human papillomavirus (HPV) infections—caused almost 2 million deaths combined.

The study, carried out by researchers from the International Agency for Research on Cancer (IARC), Queen Mary University of London (QMUL) and Kings College London, also analyzed the years of life lost to cancer.

This approach allowed researchers to examine whether certain risk factors are causing deaths more prematurely, enabling them to better measure the impact of cancer deaths on society—for example, a cancer death at age 60 will result in more years of life lost than a death at age 80.

Researchers concluded that the four preventable risk factors resulted in over 30 million years of life lost each year. Smoking tobacco had by far the biggest impact—leading to 20.8 million years of life being lost, the study said.

Across the globe, cancer is increasingly impacting low- and [middle-income countries](#). Cancer Research UK analysis shows that new cancer cases are expected to rise by around 400%, from 0.6 million to 3.1 million per year in low-income countries over the next 50 years. Very-high-income countries like the UK are projected to see an increase of around 50% over the same time period.

Cancer Research UK's executive director of policy and information, Dr. Ian Walker, said, "These numbers are staggering, and show that with

action on a global scale, millions of lives could be saved from preventable cancers. Action on tobacco would have the biggest impact—smoking causes 150 cases of cancer in the UK every single day. Raising the age of sale here in England is a critical step on the road to creating the first ever smoke-free generation, and we call on MPs from all parties to support the legislation.

"There are cost-effective tools at hand to prevent cases of cancer, which will save lives around the world. Tobacco control measures are chronically underfunded. And as a recognized leader in global health, the UK Government can play a significant role in addressing this."

Globally, cancer is increasingly impacting low- and middle-income countries. Cancer Research UK analysis shows that new cancer cases are expected to rise by around 400%, from 0.6 million to 3.1 million per year in [low-income countries](#) over the next 50 years. Very-high-income countries like the UK are projected to see an increase of around 50% over the same time period.

The number of years of life lost to preventable cancers each year was calculated by using the age at which cancer patients died from their disease and the average life expectancy for the general population at that age to estimate how many years are lost to cancer.

The researchers made the findings, published today in *eClinicalMedicine*, by collecting population attributable fractions of the four risk factors from previous global studies, and applied these to estimates of cancer deaths during 2020.

Some of the other key findings from the study include:

- Preventable risk factors were associated with different cancer types in different places. For example, in India, there were more

premature deaths from head and neck cancer in men, and gynecological cancer in women, but in every other country, tobacco smoking caused the most years of life to be lost to lung cancer.

- Researchers believe that this is due to differences in each of the countries—cervical screening is less comprehensive in India and South Africa than in other countries like the UK and US, which would explain why there are more premature deaths from gynecological cancers due to HPV infection in India and South Africa. The higher number of years of life lost to head and neck cancer in men in India could be explained by smoking habits being different to those in the UK, with the [general population](#) smoking different tobacco products.
- There are gender differences in the number of cancer deaths and years of life lost to different risk factors. Men have higher rates of years of life lost to smoking and drinking alcohol, because smoking and drinking rates tend to be higher in men. In China, India and Russia, rates of years of life lost to [tobacco smoking](#) and alcohol were up to nine times higher in men than women.
- Meanwhile, being overweight or obese, and HPV infection, led to more cancer deaths and years of life lost in women than in men. In South Africa and India, HPV led to particularly high rates of years of life lost with a large gender imbalance. Rates were 60 times higher in women than men in South Africa, and 11 times higher in India, which highlights the urgent need for improved access to cervical screening and the HPV vaccination in these countries.
- The differences in cancers linked to HPV infection are stark—mortality rates are six times higher in South Africa than

in the UK and US. Cervical cancer has been largely prevented by screening in the UK and US, and is on track to be almost eliminated through HPV vaccination in the UK.

Dr. Judith Offman, Senior Lecturer in Cancer Prevention and Early Detection at Queen Mary University of London, who worked on the study while at King's College London, said, "Seeing how many years of life are lost to cancer due to these [risk factors](#) in countries around the world allows us to see what certain countries are doing well, and what isn't working. Globally, someone dies every two minutes from cervical cancer. Ninety percent of these deaths occur in low- and middle-income countries and could be cut drastically with comprehensive screening and HPV vaccination programs.

"We know that HPV vaccination prevents cervical cancer. This, coupled with [cervical screening](#), could eliminate cervical cancer as a public health problem. Countries need to come together on this ambition."

In England, Cancer Research UK is launching its Manifesto for Cancer Care and Research on November 28 to outline how the UK government can transform cancer care and survival in this country, and help other countries around the world save more lives from cancer. The manifesto will provide a blueprint of actionable policies that any political party can adopt to improve outcomes for [cancer](#) patients.

More information: International burden of cancer deaths and years of life lost from cancer attributable to four major risk factors: a population-based study in Brazil, Russia, India, China, South Africa, the United Kingdom, and United States, *eClinicalMedicine* (2023).

Provided by Cancer Research UK

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