Nearly 4 Million Premature Lung Cancer Deaths Averted Due to Tobacco Control

Study findings by American Cancer Society researchers suggest the need for stronger tobacco control programs to help save more lives.

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ACS Study Finds Nearly Four Million Pre-mature Lung Cancer Deaths in U.S. Averted and 76 Million Years of Lives Gained Due to Tobacco Control

ATLANTA, March 25, 2025 — New research led by American Cancer Society (ACS) researchers estimates more than 3.8 million lung cancer deaths were averted and a little over 76 million years of life gained in the United States during 1970–2022 due to substantial reductions in smoking prevalence driven by tobacco control. The study is published today in CA: A Cancer Journal for Clinicians.

“The substantial estimated numbers of averted lung cancer deaths and person-years of life gained highlight the remarkable effect of progress against smoking on reducing premature mortality from lung cancer,” said Dr. Farhad Islami, senior scientific director, cancer disparity research at the American Cancer Society and lead author of the study. “However, despite these findings, lung cancer is still the leading cause of cancer death in the United States, and smoking-attributable morbidity and mortality from other cancers or diseases remain high.”

Dr. Islami and his team analyzed information using the 1970–2022 National Center for Health Statistics mortality data (with national coverage). The number of averted lung cancer deaths was calculated by subtracting the observed number of deaths from the expected number in each year, age, sex, race, and age group. Person-years of life gained were estimated as a measure of avoided premature mortality based on the average additional years a person would have lived if they had not died from lung cancer. As mortality rates for all cancers combined has declined in recent decades, the researchers also estimated the proportions of averted all-cancer deaths in 1970–2022 that were attributable to the averted lung cancer burden.

Study results showed 3,856,240 lung cancer deaths (2,246,610 in men, 1,609,630 in women) were averted and 76,275,550 person-years of life (40,277,690 in men, 35,997,860 in women) were gained during 1970–2022, with an average of 19.8 person-years of life gained (17.9 in men, 22.4 in women) per averted death. The number of averted lung cancer deaths accounted for 51.4% of the estimated declines in overall cancer deaths and was substantially greater in men (60.1%) than

women (42.7%). By race, this proportion was 53.6% in the White population (62.6% in men, 44.6% in women) and 40.0% in the Black population (44.4% in men, 34.7% in women).

“Reducing smoking through tobacco control has saved millions of lives and can save millions more in the future,” Dr. Islami added. “But we need a stronger commitment at the local, state, and federal levels to help further reduce smoking and substantially augment the progress against smoking-related mortality. It’s also important that these tobacco control programs be designed to reach groups at a higher risk of smoking, such as people of lower socioeconomic status, to help save even more lives. For example, smoking prevalence and lung cancer mortality rates in individuals with a high school diploma or lower education levels are 5 times higher compared with individuals with a college degree.”

“Increased and sustained funding for evidence-based tobacco prevention and cessation programs is needed now more than ever as part of a comprehensive approach to reducing tobacco use and, ultimately, the cancer burden for everyone in the U.S.,” said Lisa A. Lacasse, president of ACS’s advocacy affiliate, the American Cancer Society Cancer Action Network (ACS CAN). “The study’s findings show the impact of past tobacco control measures but also underscore the preventable deaths that continue to persist. Access to barrier-free, culturally competent cessation services, substantially increasing tobacco taxes, and implementing comprehensive smoke-free policies are proven policies to help people quit and prevent people, especially youth, from ever starting.”

Other ACS researchers contributing to the study include Dr. Nigar Nargis, Dr. Qinran Liu, Dr. Priti Bandi, Rebecca L. Siegel, Dr. Parichoy Pal Choudhury, and senior author Dr. Ahmedin Jemal.

Additional ACS Resources:

- Lung Cancer Information
- Tobacco Cessation
- Lung Cancer Screening
- ACS CancerRisk 360 tool
- New Study Finds Most Eligible U.S. Adults not Getting Screened for Lung Cancer
- American Cancer Society Updates Lung Cancer Screening Guideline: Nearly Five Million U.S. Adults who Smoke and Formerly Smoked Now Recommended for Testing

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