

Exposure to Coal Operations Linked to Rise in Cancer Mortality in U.S.

American Cancer Society researchers link the findings to decision-making concerning initiating and/or expanding coal activities.

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ATLANTA, May 19, 2026 — Recent efforts to expand coal operations in the United States are poised to worsen exposure to coal pollutants in communities already disproportionately burdened by cancer. A systematic review by researchers at the [American Cancer Society](#) (ACS) shows coal mining and residing near coal mines are consistently associated with an increase in cancer deaths in the U.S., especially lung cancer mortality in the Appalachia region. The study is to be published today in the journal [Public Health \(PUHE\)](#).

“Our findings add further evidence that coal exposure increases your cancer risk, both for people who work with coal and for people who live near coal infrastructure. It’s why environmental protections can’t be rolled back, as it could accelerate dangers from carcinogens and other pollutants in surrounding communities,” said [Dr. Leticia Nogueira](#), scientific director, health services research at the American Cancer Society and lead author of the study. “Exposing more people to pollutants can also cause an economic burden on communities, resulting from premature mortality, increased healthcare costs, and a decline of natural resources that support local livelihoods and wellbeing.”

For the study, researchers searched databases including PubMed, Embase, Scopus, and CINAHL for quantitative studies published between January 1980 and April 2025 evaluating any type of exposure to coal operations and cancer outcomes in the U.S. Grey literature, non-epidemiological studies, and studies that used cancer cases as controls were excluded. Risk of bias was also assessed.

The authors identified 3,065 unique articles, 45 of which were included. All 18 studies that evaluated residential exposures to coal operations found statistically significant associations with increased cancer mortality for all cancer types. Similarly, all occupational studies published after 2003 that used more robust methodologies found statistically significant associations with increased cancer mortality. Most studies included people living near or working in coal operations (e.g., mines, power plants) in the central Appalachia region of the U.S., which is primarily southern West Virginia, eastern Kentucky, southwestern Virginia, and parts of eastern Ohio and Tennessee.

Competing risks, healthy worker bias, and ecological fallacy were the most common limitations of studies included in the review. Findings from 19 studies evaluating either residential or occupational exposure to coal operations and cancer incidence were mixed, and no significant association was found with residential exposure in the single study of cancer-related hospitalizations. Surveillance and research infrastructure supported by the U.S. federal government was used in 82% of studies evaluating the association between coal operations and cancer. “This infrastructure is critical for our ability to monitor and address coal-related environmental hazards and health outcomes, including cancer.”

“Better understanding of the health risks associated with occupational and residential exposure to coal activities, especially cancer, is critical,” Nogueira added. “It allows people in these communities to make informed local decision-making on initiating and/or expanding coal operations in the U.S.”

ACS researcher [Dr. Robin Yabroff](#) contributed to this study.

Additional ACS Resources:

- [Known and Probable Human Carcinogens](#)
- [Chemicals and cancer: Know your risk](#)
- [Lung cancer information](#)
- [CancerRisk360](#)

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