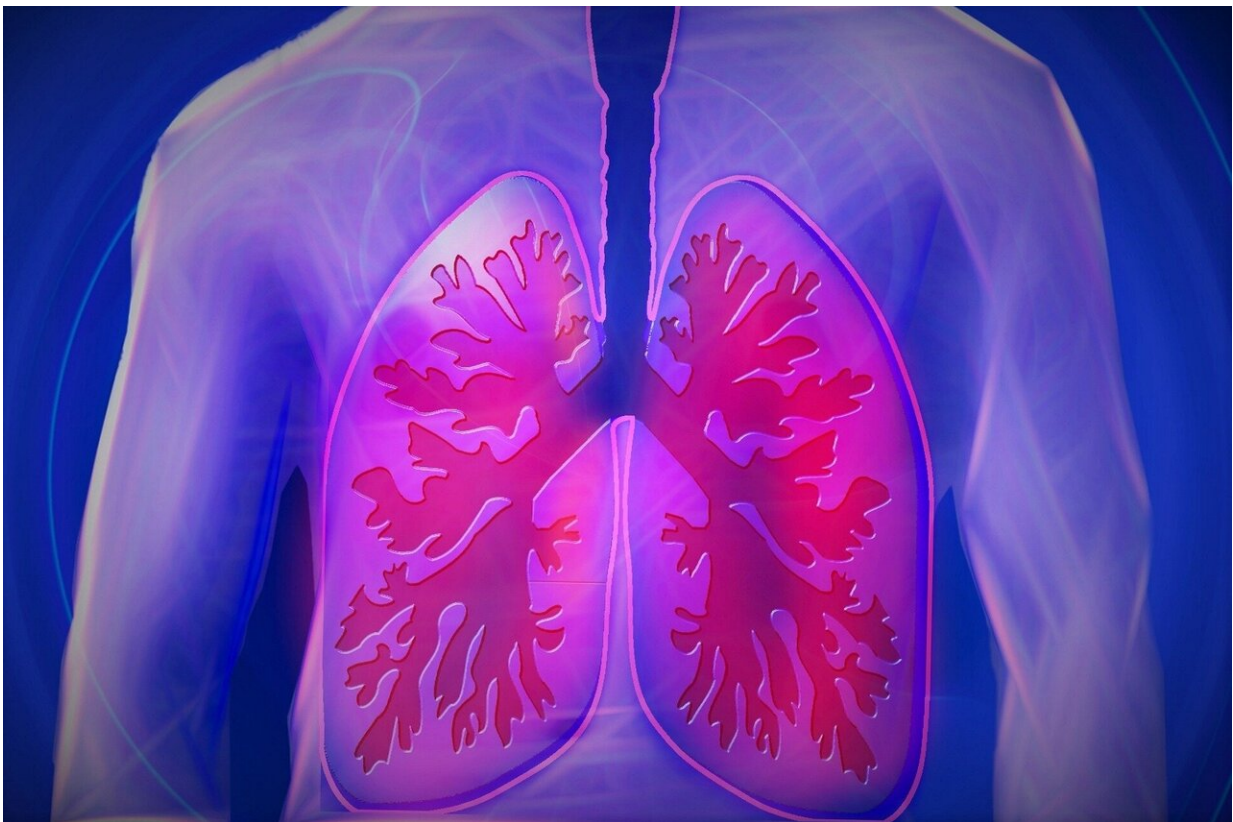


# Study links lower area-level income and education with greater likelihood of advanced lung cancer diagnosis

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Lung cancer is the leading cause of cancer-related deaths in the United States, and early detection and treatment are key to prolonging survival

in patients. A recent study published by Wiley online in *Cancer*, a peer-reviewed journal of the American Cancer Society, found that area-level education and income are associated with patients' lung cancer stage at the time of diagnosis.

Research has shown that patients with [lower income](#) and [education levels](#), and those living in more socioeconomically under-resourced regions, disproportionately experience poor [lung cancer](#) survival. Racial/ethnic minorities in the U.S. also face higher lung cancer-related mortality rates.

To understand the relationship between [socioeconomic status](#) and lung cancer stage at diagnosis, and how this association may vary by race/ethnicity and access to [health care](#), a team led by Tomi F. Akinyemiju, Ph.D., MS, of Duke University School of Medicine, analyzed data from the 2004–2016 National Cancer Database of U.S. patients aged 18–89 years old who were diagnosed with any stage of non–small cell lung cancer. The investigators also collected information on the education and income levels of the areas in which patients resided, as well as details on patients' health insurance status and where they received care.

Among 1,329,972 patients in the study, 17% of [white patients](#) were residents of areas in the lowest income quartile, compared with 50% of Black patients, and 18% of white patients resided in areas with the highest proportion of adults without a high school education, compared with 44% of Black patients.

Patients living in the lowest education areas and the lowest income areas had 12% and 13% higher odds, respectively, of having advanced-stage lung cancer at the time of diagnosis. These associations persisted among non-Hispanic white, non-Hispanic Black, Hispanic, and Asian patients; those with government and private insurance (but not no insurance); and

those treated at any facility type (community, comprehensive community, academic/research, and integrated network facilities). However, Black patients residing in the highest education and income areas were more likely to have advanced-stage cancer than their white counterparts in the lowest education and income areas.

"Our findings support that poverty is a fundamental cause of poor lung cancer outcomes," said Dr. Akinyemiju. "Strikingly, for Blacks, higher income did not necessarily translate to better outcomes compared with whites. This highlights the urgent need for targeted efforts to ensure equitable access to smoking cessation and lung cancer screening, and additional research into other factors that drive lung cancer aggressiveness in Blacks."

An accompanying editorial by Erica T. Warner, ScD, MPH, of Massachusetts General Hospital, discusses the results and their implications. "Segregation and concentration of non-Hispanic Black and other individuals of color in areas with greater poverty and lower educational attainment is not coincidental," wrote Dr. Warner. "As the authors acknowledge, these findings reflect the nature and impacts of structural racism." She stressed the need for proactive, coordinated, community-engaged efforts to educate [patients](#) and clinicians, and to address patient and community barriers to improve screening, follow-up, and early recognition of lung cancer symptoms.

**More information:** Association of area-level socioeconomic status and non-small cell lung cancer stage by race/ethnicity and health care level factors: analysis of the National Cancer Database, *Cancer* (2022). [DOI: 10.1002/cncr.34327](https://doi.org/10.1002/cncr.34327)

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