Trends and Mortality due to Bronchogenic Carcinoma Before and After COVID in the US, 1999-2023

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Introduction

Lung cancer remains the leading cause of cancer-related deaths globally.

The COVID-19 pandemic disrupted cancer care, delaying diagnoses and treatments. Despite its impact, no national study has assessed lung cancer mortality trends pre- and post-pandemic across demographic and geographic groups. Understanding these shifts is vital for targeting interventions and reducing disparities.

Methods

Study Design and Data Source

Retrospective, observational analysis of CDC WONDER mortality data for adults aged ≥25 years with bronchogenic carcinoma (ICD-10 code C34).

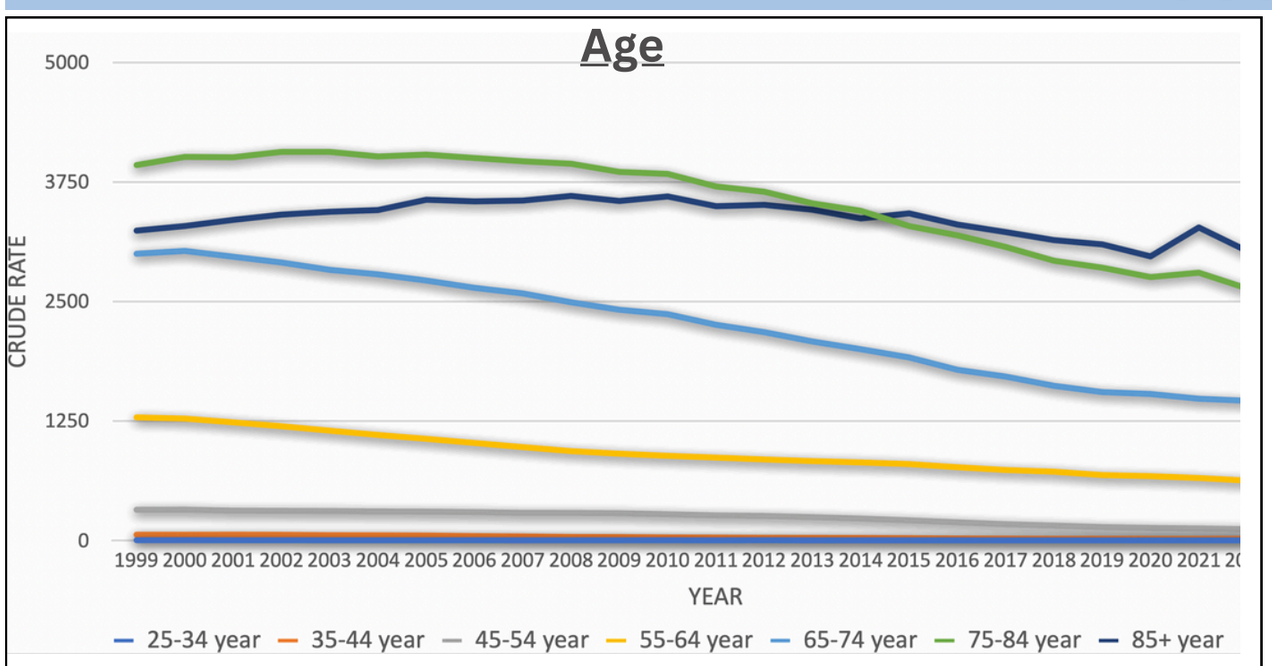
Study Period and Variables

Pre-COVID (1999–2019) vs. post-COVID (2020–2023) stratified by age, sex, race/ethnicity, geographic region, and urbanization level.

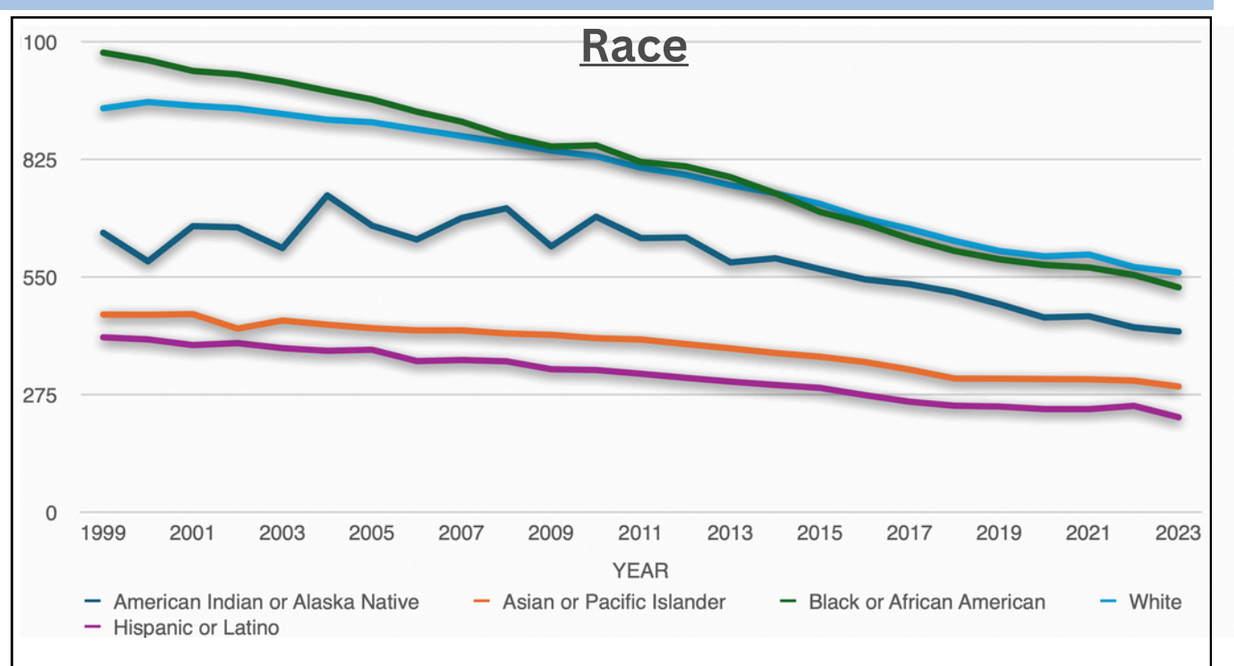
Statistical Analysis

Trends analyzed using Joinpoint regression.
Statistical significance defined as $p < 0.05$.

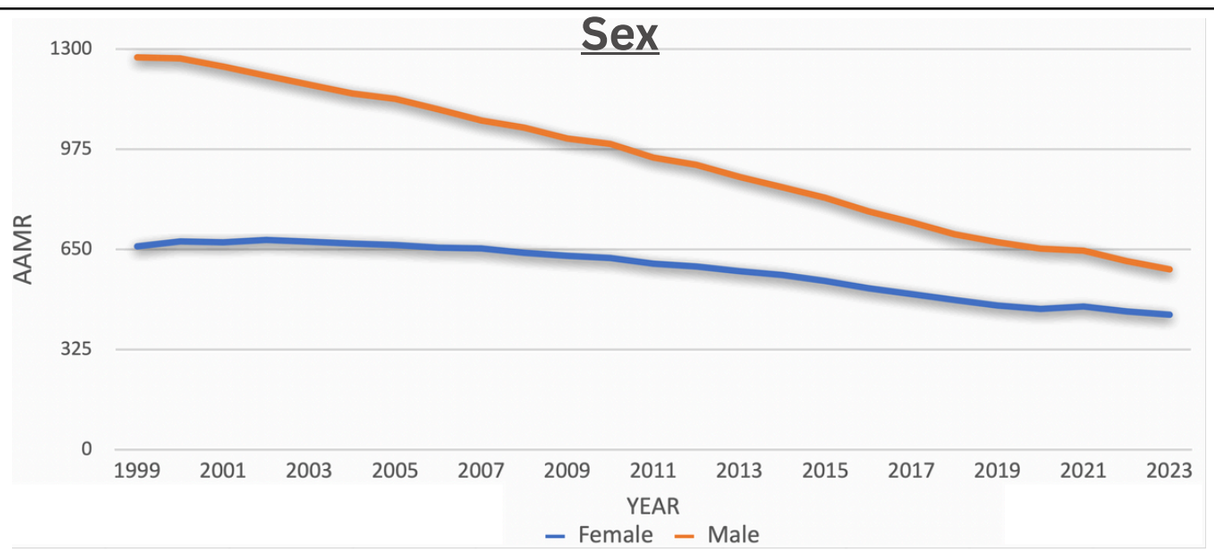
Results



Mortality declined across most age groups before and after COVID-19, except for a slight post-COVID rise among adults aged 25–34 years.



All racial groups showed declining AAMRs pre- and post-COVID-19, with persistently highest rates in NH White and NH Black populations.



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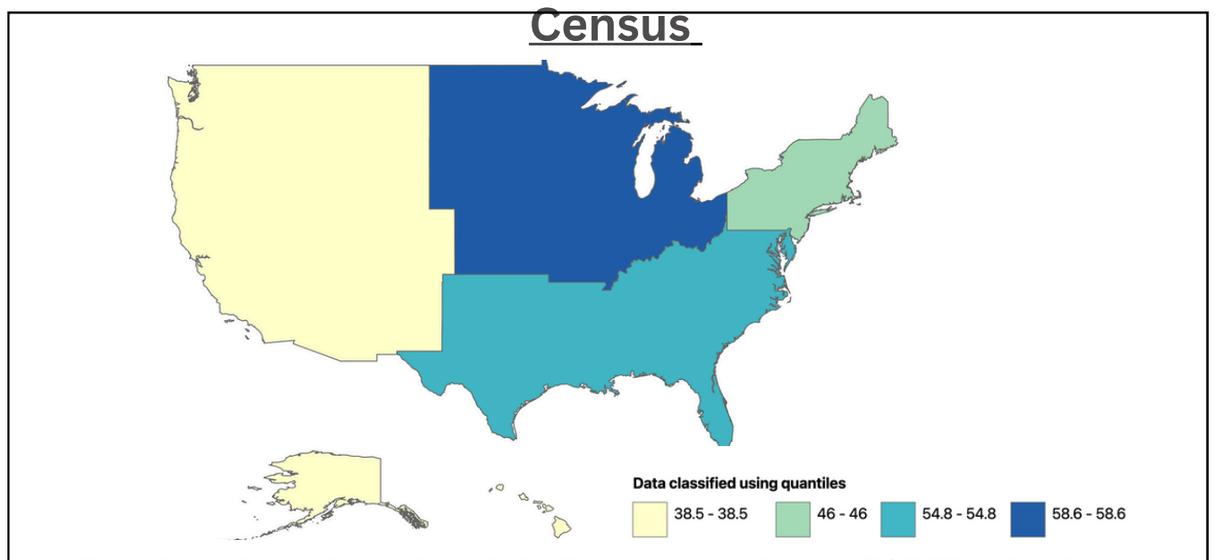

All regions showed continued declines pre- and post-COVID-19, with the steepest pre-COVID drop in the West and post-COVID in the Northeast.

Conclusion

Lung cancer mortality in U.S. adults fell markedly from 1999–2023, reflecting advances in detection and treatment. Yet rising disparities among younger adults, women, rural residents, and shifting racial trends call for urgent action. Broader low-dose CT screening, targeted outreach, and reducing geographic barriers are key to equitable post-pandemic progress.

References

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