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Title

Trends and Disparities in Lung Cancer Screening Rates in Southeast Michigan

Priority 1 (Research Category)

Screening, prevention, and health promotion

Presenters

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Abstract

Context: Lung cancer is the leading cause of cancer-related deaths globally. Annual low-dose computed tomography (LDCT) for lung cancer screening (LCS) has been proven to reduce mortality. In March 2021, the US Preventive Services Task Force (USPSTF) expanded the eligibility criteria for LCS. Despite this, screening rates among eligible individuals remain low. Objective: This study aims to evaluate screening rates and factors influencing LCS in a large healthcare system in Southeast Michigan. Study Design: Retrospective cohort study. Dataset: Electronic medical records (EMR) from an 8-hospital health system in Southeast Michigan. Population Studied: Patients 50-80 years old without lung cancer eligible for LCS from April 1, 2021, to December 31, 2023. Intervention/Instrument: We extracted the following data for the study population from the EMR: age, sex, race/ethnicity, body mass index, smoking status, primary health insurance, family history of lung cancer, Area Deprivation Index (ADI), and LDCT. Summary statistics compared characteristics of eligible patients who underwent LCS via LDCT versus those who did not. Univariate and multivariable logistic regression analyses identified significant factors associated with undergoing LCS. Outcome Measures: Completion of at least one screening LDCT during the study period. Results: Of the 42,769 eligible patients, only 9,249 (22%) completed at least one screening LDCT during the study period. Screening rates increased from 5-10% in the first year to nearly 35% by the end of the second year. Significant factors associated with higher rates of LCS included age (60-69 and 70-80), female sex, Asian race, and former smoking status. Factors significantly associated with lower rates included Arab or Middle Eastern descent, Black race, Medicaid insurance, and ADI scores of 4 and 5, indicating higher socioeconomic disadvantage. Conclusions: Despite expanded eligibility criteria, lung cancer screening remains suboptimal. Demographic factors such as age, sex, race/ethnicity, Medicaid insurance, and ADI significantly influence screening rates. Targeted interventions focusing on these high-risk groups may improve LCS and potentially reduce lung cancer mortality.

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