EPH78

Lung Cancer Screening Eligibility and Use in the U.S.: A Cross-Sectional Analysis of 2022 Behavioral Risk Factor Surveillance System Data

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Introduction

In 2021, the United States Preventive Services Task Force (USPSTF) updated its recommendation on annual lung cancer screening (LCS) and expanded eligibility, by reducing its minimum age and reducing the smoking pack-year threshold.[1] A summary of the recommendation is provided in Figure 1, with the changed elements **in bold**.

Figure 1. 2021 Updated LCS Recommendation

- **50-80 years old***
- **20+ pack-year smoking history**
- Smoke currently or quit within 15 years
- Willing/able to have follow-up tests and/or annual screening
- Shared decision-making consultation (required for CMS reimbursement)

*The 2022 updated CMS criteria include an upper age limit of 77 years

These changes in eligibility were intended to help mitigate disparities in late-stage lung cancer diagnoses among females and minoritized racial groups, particularly Black Americans.[2,3]

Although these updates have increased the overall number of individuals who are eligible, it is **unknown whether the updated eligibility criteria have helped mitigate disparities in LCS**.

Our study's objective is to assess sociodemographic and health-related variations in lung cancer screening (LCS) use among eligible individuals in the U.S. in 2022.

Although about 1 in 6 eligible adults received LCS in 2022, we found persistent disparities in receipt of LCS among eligible adults.

Methods

We analyzed public-used data from the 2022 Behavioral Risk Factor Surveillance System.[4] We included adults 50 to 79 years old who reported smoking currently or quit within 15 years, and a 20-plus pack-year smoking history. Covariates include age, race and ethnicity, educational attainment, household income, health insurance coverage, delays in medical care due to cost, and general health.

We conducted multivariable logistic regression using the 'survey' package[5] in R, with RStudio.

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Results

The final weighted sample consisted of 12,826,424 respondents (mean [SD] age = 65.7 [6.9] years), most of whom were non-Hispanic White (78.9%). Overall, LCS was reported by 16.4% (95%CI: 15.5-17.3) of the eligible respondents. The multivariable logistic regression (Table 1) results showed significant differences in receipt of LCS based on sociodemographic and health-related variables.

Table 1. Sociodemographic associations with receipt of LCS

Variable	OR (95% CI)
Race and Ethnicity	
Non-Hispanic White (referent)	---
Non-Hispanic Black	0.90 (0.74-1.32)
Hispanic	1.06 (0.68-1.66)
Multiracial, Non-Hispanic	0.49 (0.33-0.73)***
Other race, Non-Hispanic	1.11 (0.55-2.21)
Health Insurance Status	
Private (referent)	---
Public	1.28 (1.06-1.54)*
No insurance	0.41 (0.25-0.69)***
Delayed Care Due to Cost (within 12 months)	
Has not delayed care (referent)	---
Has delayed care	0.53 (0.42-0.68)***
Self-Reported Health Status	
Poor health (referent)	---
Fair health	0.81 (0.65-1.01)
Good health	0.74 (0.59-0.93)*
Very good health	0.56 (0.44-0.72)***
Excellent health	0.51 (0.65-1.20)***

Note: *p<.05, **p<.01, ***p<.001

References

1. U.S. Preventive Services Task Force. Lung Cancer: Screening. https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/lung-cancer-screening
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