**The Impact of Removing the 15-year Since Quitting Smoking Criterion on Lung Cancer Screening Eligibility**

**Author:** Alexandra Potter, Priyanka Senthil, Quiana Guo, Arian Mansur, Uma Sachdeva, Hugh Auchincloss, Chi-Fu Jeffrey Yang

**Word Count:** 348/350

**Objective**

Current lung cancer screening eligibility criteria exclude individuals with heavy smoking histories who quit smoking more than 15 years ago (“15-year since quitting requirement”). We evaluated the impact of removing the 15-year since quitting requirement on lung cancer screening eligibility using data from the Southern Community Cohort Study.

**Methods**

Individuals who formerly smoked in the Southern Community Cohort Study (SCCS)—a large prospective cohort study comprising 85,000 predominately low-income Black and white individuals from 12 southeastern U.S. states—were identified for analysis. The proportions of individuals diagnosed with incident lung cancer who would have qualified for screening under the 2021 United States Preventative Services Task Force (USPSTF) guideline vs. that of a modified guideline that removes the 15-year since quitting requirement were compared using McNemar’s test. Subgroup analyses were conducted by race and by sex.

**Results**

A total of 22,151 individuals formerly smoked in the SCCS, of which 594 were diagnosed with lung cancer during follow-up. Among individuals with lung cancer, only 48.8% (n=290) would have qualified for lung cancer screening under the 2021 USPSTF guideline. Quitting smoking more than 15 years ago was the predominant reason for ineligibility, with 65.5% (n=199) of individuals ineligible for screening having quit smoking more than 15 years ago. Under the modified guideline—which removes the 15-year since quitting smoking requirement—67.2% (n=399) of individuals with lung cancer would have qualified for lung cancer screening, representing a significant increase in eligibility compared to the 2021 USPSTF guideline (*P*<0.001). Increases in screening eligibility under the modified guideline vs. 2021 USPSTF guideline occurred in all patient subgroups evaluated; however, the largest increases in eligibility occurred among males and White patients (**Figure**). Many lung cancer patients, especially those who were Black and female, remained ineligible due to having smoked fewer than 20 pack-years.

**Conclusion** The 15-year since quitting criterion excluded many individuals who formerly smoked and were diagnosed with lung cancer. Removing the 15-year since quitting criterion increased the proportion of lung cancer patients who formerly smoked that would have qualified for screening but did not reduce race- or sex-based disparities in screening eligibility.

**Figure.** Eligibility Under the 2021 USPSTF Guideline vs. Modified Guideline (“USPSTF-modified”)—which Removes the 15-year Since Quitting Smoking Criterion—Among Individuals Who Formerly Smoked and Were Diagnosed with Lung Cancer in the Southern Community Cohort Study