Updated Lung Cancer Screening Recommendation Lowers Bar for Eligibility

Draft recommendation would ensure more women and Black people meet the screening criteria.

July 24, 2020 By Sukanya Charuchandra

People with a history of heavy smoking should receive annual lung cancer screenings beginning at age 50, the U.S. Preventive Services Task Force (USPSTF) proposes in a draft recommendation. This update of USPSTF guidance from 2014 lowers the screening age from 55, while also decreasing the pack-year eligibility from 30 to 20.

The USPSTF considers this a "B recommendation," meaning there is a "high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial."

Some 228,820 individuals will be diagnosed with lung cancer in 2020, with smoking being responsible for 90% of all cases. Those who have smoked for 20 or more pack-years in their lifetime, still smoke or have stopped smoking sometime in the last 15 years are considered to be at high risk of developing lung cancer. A pack-year is equal to smoking one pack, containing 20 cigarettes, everyday for a year. Increasing age is another important risk factor for lung cancer. With an overall five-year survival rate of only 21%, lung cancer detected early is more easily treated.

The USPSTF draft advises that people between the ages of 50 and 80 who have been smoking for 20 pack-years, and who currently smoke or have given it up within the last 15 years, should undergo annual low-dose computed tomography (CT) scans. Compared to methods like chest x-ray and sputum cytology, CT scans are considered more sensitive and specific, especially for those at high risk. These screens need not be done if an individual has not smoked for 15 years or has a health condition with reduced life expectancy or one that precludes having lung surgery.

These new guidelines will nearly double the number of people that meet the criteria for lung cancer screening.

"New evidence provides proof that there are real benefits to starting to screen at a younger age and among people with lighter smoking history," USPSTF member Michael J. Barry, MD, of Massachusetts General Hospital, said in a press release.

The Task Force members analyzed seven randomized clinical trials that assessed the sensitivity, specificity or prognostic use of low-dose CT screening for lung cancer, of which only two made the cut.

The National Lung Cancer Screening Trial (NLST) included 53,454 participants aged 55 to 74 years with a smoking history of at least 30 pack-years. The Nederlands-Leuvens Longkanker Screenings Onderzoek (NELSON) trial included 15,792 participants aged 50 to 74 years who smoked three-quarters of a pack per day for more than 25 years or half a pack per day for more than 30 years. While the NLST included current smokers and those who had quit within the last 15 years, the NELSON trial included current smokers and those who had quit within the last 10 years.

While the NLST showed that screening improved both lung cancer mortality and overall mortality, the NELSON trial only saw reduced mortality from lung cancer. In the NLST, 323 screenings would be needed over six and a half years of follow-up to prevent a single lung cancer-related death. In the NELSON trial, 130 screenings over 10 years of follow-up would be needed to prevent a single lung cancer death.

The NLST screened participants annually for three years, while the NELSON trial screened at intervals of one year, two years and two and a half years. Modelling studies found that annual screening with low-dose CT screening is more beneficial in lowering lung cancer mortality and adding to life span than biennial screening.

These new recommendations will catch more cases earlier, improve mortality rates and add to life years. On the other hand, CT screening can sometimes lead to false positives, require needless follow-up tests and invasive procedures, and increase stress, anxiety and radiation exposure. But these issues are considered only moderately harmful.

The draft suggests that these new changes will reduce racial disparities in lung cancer screening. Based on the old recommendation, 17% of Black smokers met the criteria for screening compared with 31% of white smokers.

Black people and women smoke fewer cigarettes than white men. But Black people are more likely to develop lung cancer than white people, especially at lower levels of smoking.

“Some really good news from the changes to this recommendation is that it will mean more people are eligible for screening, including notably more African Americans and women,” USPSTF member John B. Wong, MD, a clinician at Tufts Medical Center, Boston, said in the release. “Making screening for lung cancer available to people who have smoked less over time will help doctors support the health and potentially save the lives of more of their African American and female patients.”

The USPSTF’s draft recommendation statement is open for public comment until August 3, 2020. “The task force feels very strongly about transparency and making recommendations,” Barry told STAT. “Anyone can comment. And we take those comments very seriously and can commonly tweak recommendations to help make things more clear for all.”

Click here to read the final recommendation statement.

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