

Current lung cancer public health screening guidelines under count African Americans

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Public health screening guidelines for lung cancer followed by the United States Preventive Services Task Force (USPSTF) and the Center for Medicare and Medicaid Services (CMS) undercount African Americans, contributing to disparities in lung cancer screening and treatment, according to a study published today in the *Journal of Thoracic Oncology*.

Current USPSTF and CMS guidelines, established by results from the National Lung Cancer Screening Trial, recommend low dose computed tomography [screening](#) for individuals that meet the following criteria: age 55-80 or 55-77 years, respectively, 30 or more pack-years cigarette smoking history, and in former smokers having quit smoking within the past 15 years.

However, African American individuals are more likely to start smoking at a later age, smoke fewer cigarettes per day, have a longer duration of smoking, are less likely to quit, and tend to be diagnosed with [lung cancer](#) at an earlier age. Previous research conducted of 48,364 ever-smokers in the Southern Community Cohort Study showed that a smaller proportion of African American individuals would have met the current USPSTF criteria compared to Whites—17 % versus 31 %, respectively. African American ever-smokers are at increased risk for [lung cancer](#) compared to their White counterparts after adjusting for age and smoking history.

Even among those African Americans or Hispanics who are

appropriately screened, access to treatment and participation in leading edge clinical trials is limited.

"Black and Hispanic patients are under represented in cancer clinical trials and COVID-19 trials, even though they are more likely to be more affected by both diseases," said Janet Freeman-Daily at the IASLC World Conference on Lung Cancer Virtual Presidential Symposium last week. Freeman-Daily is a lung cancer patient advocate and runs the weekly lung cancer Twitter discussion #LCSM.

"In a rapid moving area like cancer care, [clinical trials](#) are treatment and represent hope," she said.

To follow up on the Southern Community Cohort Study, researchers from the University of Illinois at Chicago performed a retrospective analysis of 1,050 patients with thoracic cancer from their cancer registry. The cohort was assessed for whether each case would have been eligible by USPSTF criteria for screening based on age, pack-years (average packages of 20 cigarettes smoked per day times years smoked) and quit time. After some exclusions, the cohort of 883 ever-smokers was comprised of the following racial/ethnic makeup: 258 (29.2%) White, 497 (56.3%) African American, 69 (7.8%) Hispanic, 24 (2.7%) Asian, and 35 (4.0%) other.

The researchers analyzed this cohort using the PLCOm2012 lung cancer risk prediction screening model, based on data collected from the control arm of the Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial (PLCO), a randomized controlled trial studying screening to reduce cancer mortality. The PLCOm2012 model incorporates 11 predictors, which include sociodemographic, medical history, and four smoking exposure variables.

Compared to the USPSTF criteria, the PLCOm2012 model increased

the sensitivity for the African American cohort at lung cancer risk thresholds of 1.51%, 1.70%, and 2.00% per 6-years. The USPSTF criteria and the PLCOm2012 model with 1.70% risk threshold identified 62.4% and 66.0% of White cases, respectively, and 50.3% and 71.3% of African American cases, respectively. Thus, the PLCOm2012 model improved sensitivity in both Whites and African American ever-smokers and eliminated the eligibility disparity. Of the 64 African Americans ever smokers who were USPSTF-ineligible because their ages were less than 55 years, 23.4% would have qualified by the PLCOm2012 with risk threshold of 1.7%. Of 53 African American ever smokers who were USPSTF-ineligible because they had quit smoking more than 15 years ago, 49.1% would have qualified by the PLCOm2012. And of the 193 of African American ever smokers who were USPSTF-ineligible because they had pack-years less than 30, 40.4% would have qualified by the PLCOm2012.

"We found that the PLCOm2012 model was significantly more sensitive in selecting lung cancer patients as being eligible for screening for the entire cohort," said lead author Mary Pasquinelli, DNP, from the University of Illinois at Chicago. "Broader use of this model in racially diverse populations may help overcome disparities in [lung cancer screening](#) and outcomes."

More information: Mary M. Pasquinelli et al, Risk Prediction Model versus United States Preventive Services Task Force Lung Cancer Screening Eligibility Criteria – Reducing Race Disparities, *Journal of Thoracic Oncology* (2020). [DOI: 10.1016/j.jtho.2020.08.006](https://doi.org/10.1016/j.jtho.2020.08.006)

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