Commentary: Utilization and equity in lung cancer screening: time to abandon the one-size-fits-all approach?

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Commentary: Utilization and equity in lung cancer screening: time to abandon the one-size-fits-all approach?

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Central Message: Improving the underutilization and racial and sex-based disparities in lung cancer screening requires a paradigm change employing a targeted, individualized approach to better define eligibility.

Central Picture Legend: Elliot L. Servais, MD; Section Chief, Thoracic Surgery, Lahey Hospital and Medical Center

Main Text:

Lung cancer screening (LCS) saves lives. This once controversial statement has now been proven in large, prospective randomized trials 1,2. In addition, several studies, including a retrospective analysis from the Lahey Hospital and Medical Center 3, have shown minimal risk of unnecessary intervention or harm from LCS. LCS is, in fact, one of the most impactful interventions in the fight against lung cancer – and yet, a miniscule fraction of eligible patients are being screened. What is more, Potter et al 4 have shown in this issue of the Journal of Thoracic and Cardiovascular Surgery that the current LCS criteria fail to capture a large proportion of the most vulnerable populations. The present analysis of the Southern Community Cohort Study reveals that only 50.3% of Black females diagnosed with lung cancer would have been eligible for LCS under the 2021 United States Preventive Services Taskforce (USPSTF) criteria. Remember, however, that in 2021 only 5.8% of all eligible individuals in the United States actually underwent screening. In the context of this dismal overall uptake of LCS, the data presented by Potter et al sting that much more. Efforts to improve uptake and equity in LCS must involve: 1) concerted efforts to eliminate access barriers for vulnerable populations, and 2)
a paradigm change employing population targeted and individualized LCS eligibility criteria. The one-size-fits-all approach we have been taking with LCS is clearly not working.

The expansion of the original USPSTF LCS criteria in 2021 was a big win. It is estimated that the expanded criteria increased the eligible population from approximately 8 million to 15 million people in the United States. Applying a 2.3% cancer detection rate for LCS, this would equate to potentially 161,000 additional lung cancers diagnosed. The National Comprehensive Cancer Network (NCCN) guidelines further increase eligibility and potential lung cancers identified across all demographics. Unfortunately, as shown by Potter et al, the expanded criteria have not eliminated the gaps in screening for minorities – in fact, they may widen the disparities for these vulnerable populations. The fundamental issue is that different patient populations (not surprisingly) have different risk for developing lung cancer, which neither the USPSTF nor NCCN guidelines take into account.

Black patients, and Black women in particular, tend to develop lung cancer at a younger age and with lesser smoking history. Similarly, Asian women never-smokers have well documented increased risk of lung cancer, which falls outside of the current LCS eligibility criteria. If we hope to bridge the gaps in LCS for underrepresented populations, we need to embrace a paradigm change that would integrate individualize assessment adding demographic, race, ethnicity, biomarkers, and validated risk models to the current LCS criteria. Thoracic surgeons are well-positioned to champion such change and to help ensure the safe and appropriate expansion of LCS criteria. The study by Potter et al should serve as a call to action for the
JTCVS readership to focus research and advocacy on developing criteria to improve uptake and equity in LCS – the result will be more curable lung cancer and lives saved.

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References

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