

Position Statement:

Encourage Lung Cancer Screening in High Risk Populations

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The Society of Behavioral Medicine supports low-dose computed tomography screening to reduce lung cancer mortality for eligible populations, particularly when screening is accompanied by tobacco treatment and shared decision making.



The Society of Behavioral Medicine (SBM) supports the United States Preventive Services Task Force (USPSTF) recommendation of low-dose computed tomography (LDCT) screening of the chest for eligible populations to reduce lung cancer mortality. SBM also encourages health care providers and policy makers to support: (1) integration of evidence-based tobacco treatment as an essential component of LDCT-based lung cancer screening; (2) expanded access to high-quality LDCT-based screening among underserved high-risk populations; and (3) incorporation of shared decision making as a clinical platform to facilitate consultations and engagement with individuals at high risk for lung cancer. Individuals should receive consultations about the potential benefits and harms associated with participation in a lung cancer screening program.

Background

Lung cancer mortality claims more lives than breast, colorectal, and prostate cancers combined. Based on results from the landmark National Lung Screening Trial (NLST), lung cancer screening with LDCT has been shown to reduce lung cancer mortality. Current recommendations from the USPSTF include screening for adults who are 55-80 years of age; are asymptomatic; currently smoke, or quit within the last 15 years; have a 30 pack-year smoking history (e.g., smoked at least one pack a day for 30 years or two packs a day for 15 years); and do not have other medical conditions that would preclude benefitting from screening.

Despite recent public policies establishing coverage for lung cancer screening among high-risk populations, lung cancer screening awareness, access, and adherence remain extremely low, particularly among underserved populations.

Integration of Evidence-Based Tobacco Treatment

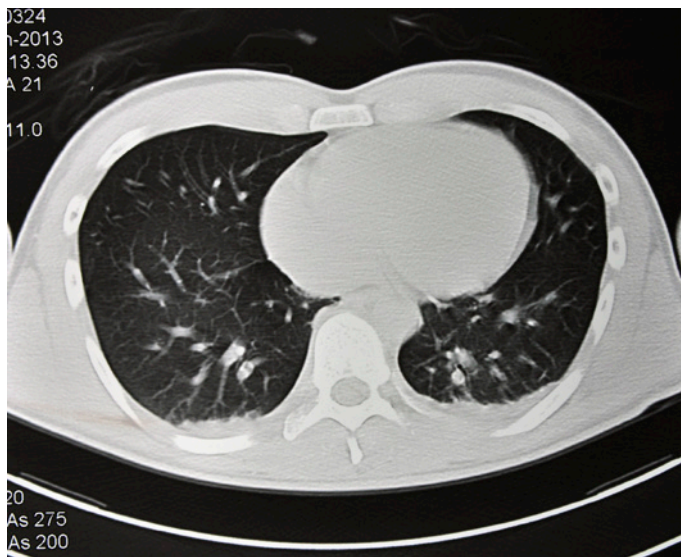
Tobacco abstinence remains the primary method of lung cancer prevention, and evidence-based guidelines for treating tobacco dependence exist. Because adults interested in lung cancer screening are concerned about their lung cancer risk, integrating evidence-based tobacco treatments and resources within screening programs capitalizes on this "teachable moment." Such interventions within the framework of lung cancer screening programs can extend the benefit and cost-effectiveness of screening.

Special Considerations for Underserved Populations at High Risk

Regrettably, large health disparities remain a nearly endemic aspect of lung cancer epidemiology. The disproportionate burden of lung cancer incidence and mortality largely tracks disparities associated with higher tobacco use among individuals with fewer socioeconomic resources; some racial/ethnic minority groups; individuals residing in rural areas; the lesbian, gay, bisexual, transsexual, and questioning community; and individuals with psychiatric comorbidity. Efforts to implement high-quality lung cancer screening should incorporate targeted efforts to reach underserved populations that experience an unequal burden of lung cancer. Efforts should be targeted in terms of public awareness campaigns as well as access to high-quality lung cancer screening programs in local community settings.

Shared Decision Making

With the unprecedented decision to require documentation of shared decision making for lung cancer screening as a prerequisite for coverage, the Centers for Medicare & Medicaid Services highlighted an important aspect of the screening process. Despite its demonstrated benefits, individuals seeking LDCT-based lung cancer screening should also be informed of potential harms, including false-positive results, radiation exposure, significant incidental findings, overdiagnosis, and adverse psychological effects, specifically for patients who receive an indeterminate screening result.



Summary and Recommendations

SBM supports a shared decision making model and integration of evidence-based tobacco treatment in the context of LDCT-based lung cancer screening for eligible, informed adults.

Recommendations for Health Care Providers

1. Integrate evidence-based tobacco treatment in LDCT-based lung cancer screening protocols.
2. Consider structural barriers that impact screening access, uptake, and subsequent adherence, and develop approaches to reach underserved high-risk populations.
3. Engage in shared decision making with LDCT-seeking patients, communicating and exploring the potential benefits, harms, and uncertainties of screening to ensure informed uptake of services.

Recommendations for Policymakers

1. Support evidence-based tobacco treatment approaches, including combined pharmacological and behavioral programs integrated within lung cancer screening programs to help individuals achieve and/or maintain smoking cessation.
2. Expand resource capacity for lung cancer screening implementation within federally qualified health centers and other community health and medical centers that provide health care to a large proportion of patients at elevated risk for lung cancer to ensure access to high-quality screening services.
3. Reinforce high-value care, not high-utilization care, including efforts to screen the *right* people (i.e., eligible, informed, and committed), not simply *more* people.
4. Increase funding for research to include the following:
 - a. Implementation science to inform optimal clinical operations, including exploration of efforts to promote adherence, understand infrastructure requirements, and manage pulmonary nodules and incidental findings.
 - b. Public awareness efforts and patient navigation strategies that promote patient engagement and accurate understanding of the benefits, harms, and uncertainties of screening.
 - c. Continued exploration of the benefits, harms, and overall effectiveness of LDCT-based lung cancer screening among underserved populations, including those minimally represented in the NLST pivotal trial.

Endorsements



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References

- 1 American Cancer Society. (2016). What are the key statistics about lung cancer? Retrieved from <http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-key-statistics>
- 2 Aberle, D.R., Adams, A.M., Berg, C.D., Black, W.C., Clapp, J.D.... Sicks, J.D. (2011). Reduced lung-cancer mortality with low-dose computed tomography screening. *New England Journal of Medicine*, 365(5), 395-409.
- 3 American Lung Association (2016). Lung cancer screening. Retrieved from <http://www.lung.org/lung-health-and-diseases/lung-disease-lookup/lung-cancer/diagnosing-and-treating/lung-cancer-screening.html>
- 4 Moyer, V. (2014). Screening for lung cancer: U.S. Preventative Services Task Force recommendation statement. *Annals of Internal Medicine*, 160(5), 330-338.
- 5 Centers for Medicare & Medicaid Services. (2015). Decision making for screening for lung cancer with Low Dose Computed Tomography (LDCT) (CAG-00439N). Retrieved from <https://www.cms.gov/medicare-coverage-database/details/nca-decision-memo.aspx?>
- 6 Zonderman, A.B. Ejiogu, N., Norbeck, J., & Evans, M.K. (2014). The influence of health disparities on targeting cancer prevention efforts. *American Journal of Preventive Medicine*, 46 (3 Suppl 1), S87-S97.
- 7 Centers for Disease Control and Prevention. Lung cancer: risk factors. http://www.cdc.gov/cancer/lung/basic_info/risk_factors.htm
- 8 Fiore M. Tobacco Use and Dependence Guideline Panel: Treating tobacco use and dependence: 2008 update. Rockville, MD: U.S. Dept. of Health and Human Services, Public Health Service, 2008.
- 9 Munshi, V., McMahon, P. (2013). Importance of smoking cessation in a lung cancer screening program. *Current Surgical Reports*, 1(4), 242-248.
- 10 Ostroff, J. S., Buckshee, N., Mancuso, C. A., Yankelevitz, D. F., & Henschke, C. I. (2001). Smoking cessation following CT screening for early detection of lung cancer. *Preventive Medicine*, 33(6), 613-621.
- 11 Park, E.R., Ostroff, J.S., Rakowski, W., et al. (2009). Risk perceptions among participants undergoing lung cancer screening: baseline results from the National Lung Screening Trial. *Annals of Behavioral Medicine*, 37(3), 268-279.
- 12 McMahon, P. M., Kong, C. Y., Bouzan, C., Weinstein, M. C., Cipriano, L. E., Tramontano, A. C., . . . Gazelle, G. S. (2011). Cost-effectiveness of computed tomography screening for lung cancer in the United States. *Journal of Thoracic Oncology*, 6(11), 1841-1848.
- 13 Villanti, A. C., Jiang, Y., Abrams, D. B., & Pyenson, B. S. (2013). A cost-utility analysis of lung cancer screening and the additional benefits of incorporating smoking cessation interventions. *PLoS One*, 8(8), e71379.
- 14 Mazzone, P., Powell, C. A., Arenberg, D., Bach, P., Detterbeck, F., Gould, M. K., . . . Silvestri, G. (2015). Components necessary for high-quality lung cancer screening: American College of Chest Physicians and American Thoracic Society Policy Statement. *Chest*, 147(2), 295-303.
- 15 Bach, P.B., Mirkin, J.N., Oliver, T.K., et al. (2012). Benefits and harms of CT screening for lung cancer: a systematic review. *Journal of the American Medical Association*, 307(22), 2418-2429.