



# **IOM Workshop Implementation of Lung Cancer Screening**

**June 20-21, 2016**

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Centers for Disease Control and Prevention

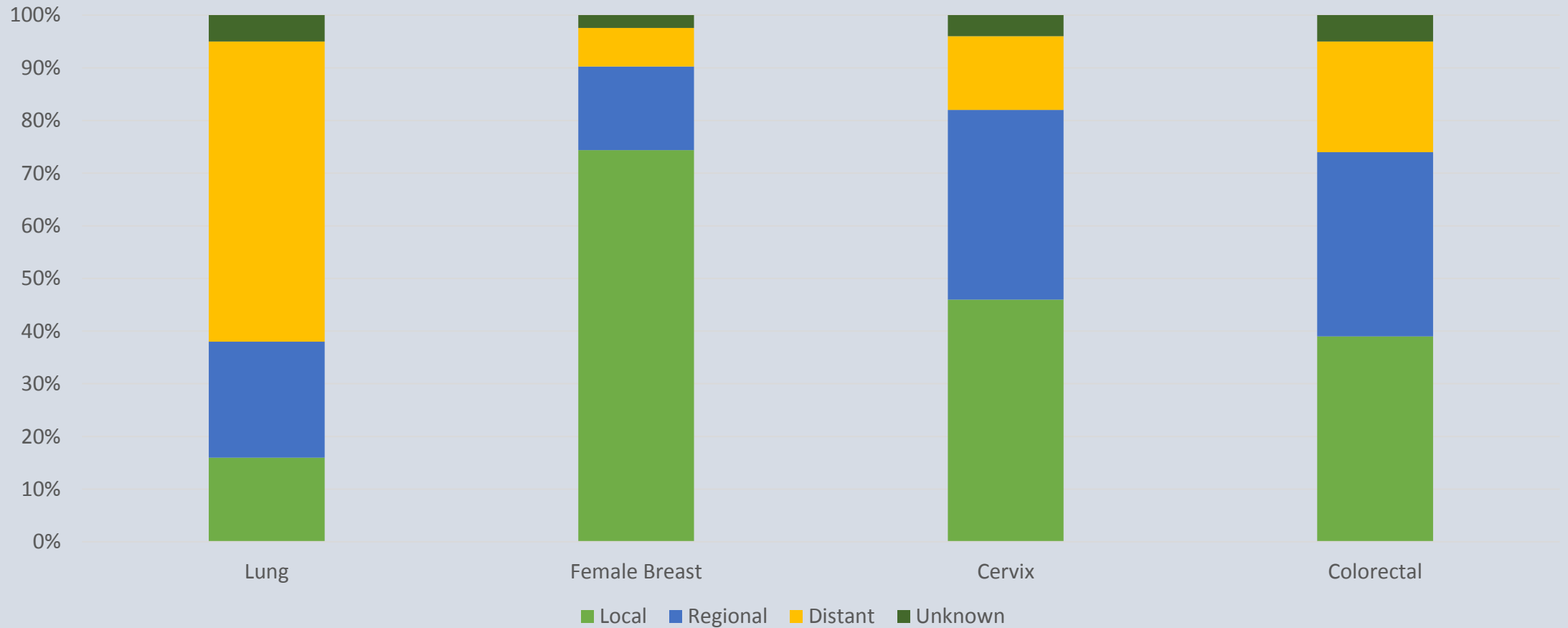
# Public health burden of lung cancer



Lung cancer is the leading cause of cancer deaths in the U.S.

- 210,000 new cancer cases each year
- More than 150,000 deaths each year
- Cigarette smoking causes 87% of lung cancer deaths

# More lung cancers are diagnosed at distant stage



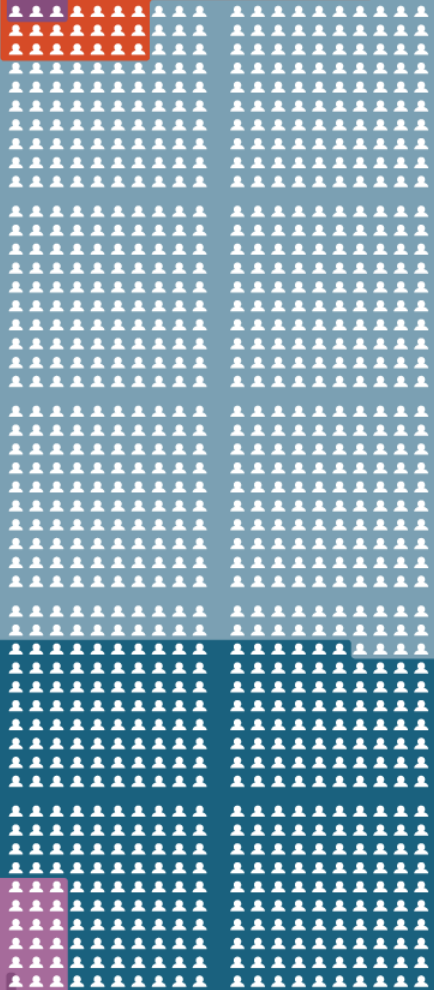
# Localized lung cancer survival is low



**Out of 1,000 people screened with LDCT for lung cancer:**

3 lung cancer deaths will be prevented.

18 people will die of lung cancer.



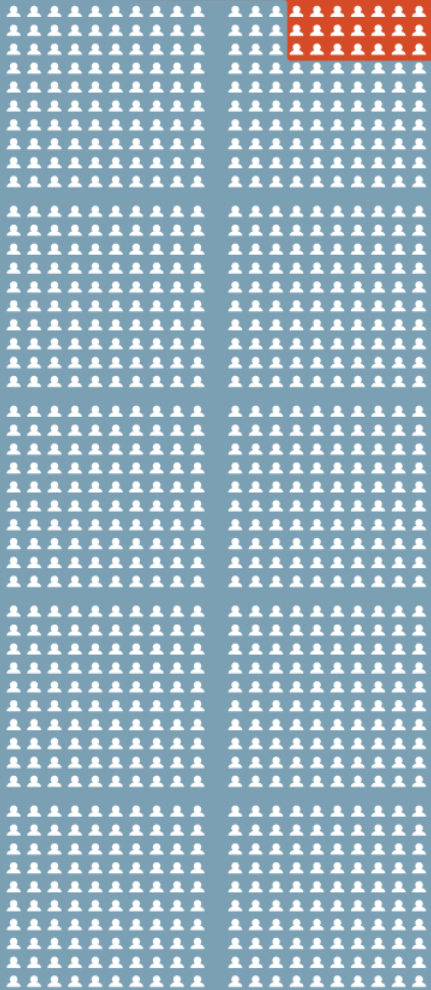
356 people will get a "false alarm."

18 of the people who get a "false alarm" will have an invasive procedure like a biopsy.

Less than 1 of the 18 people who have an invasive procedure will have a major complication (e.g., infection, bleeding in lung, collapsed lung).

**Out of 1,000 people not screened with LDCT for lung cancer:**

21 people will die of lung cancer.



\* For people screened once a year for 3 years and followed for an average of 6.5 years. This information applies to people who are at high risk of lung cancer because of their smoking history and age.

# Lung cancer screening recommendations

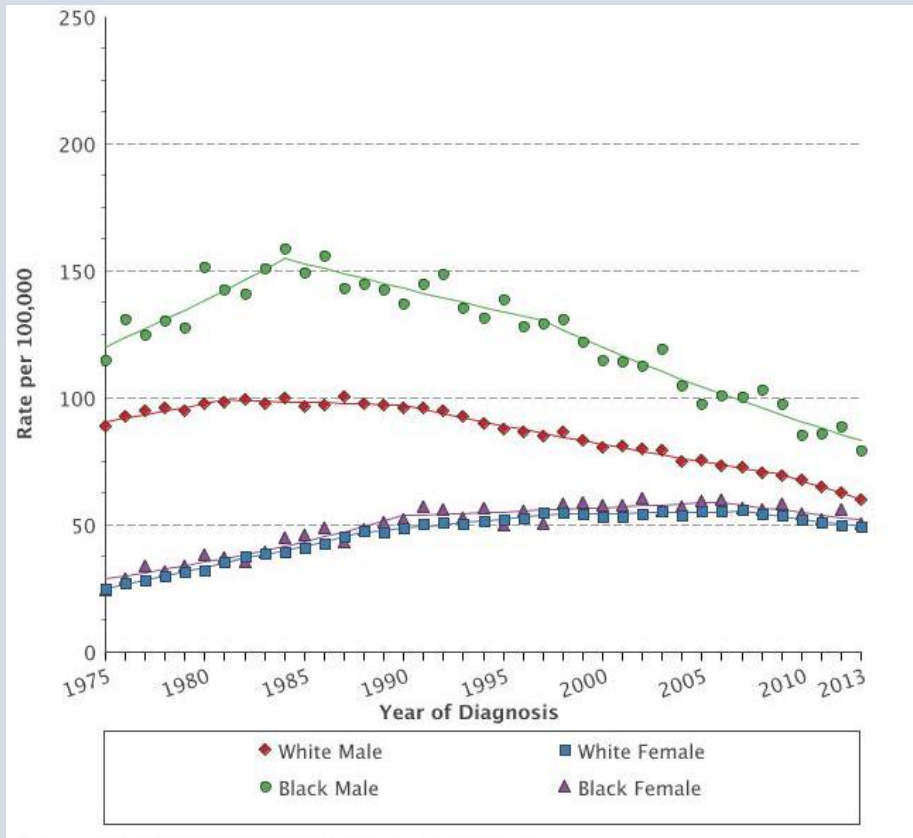
- USPSTF recommends annual screening for lung cancer with low dose CT in high-risk individuals: B recommendation
  - Based on results of National Lung Screening Trial
- High-risk defined as:
  - 55 to 80 years old
  - Have a history of heavy smoking (30 pack years)
  - Current smokers or quit within the past 15 years

# Implementation of lung cancer screening

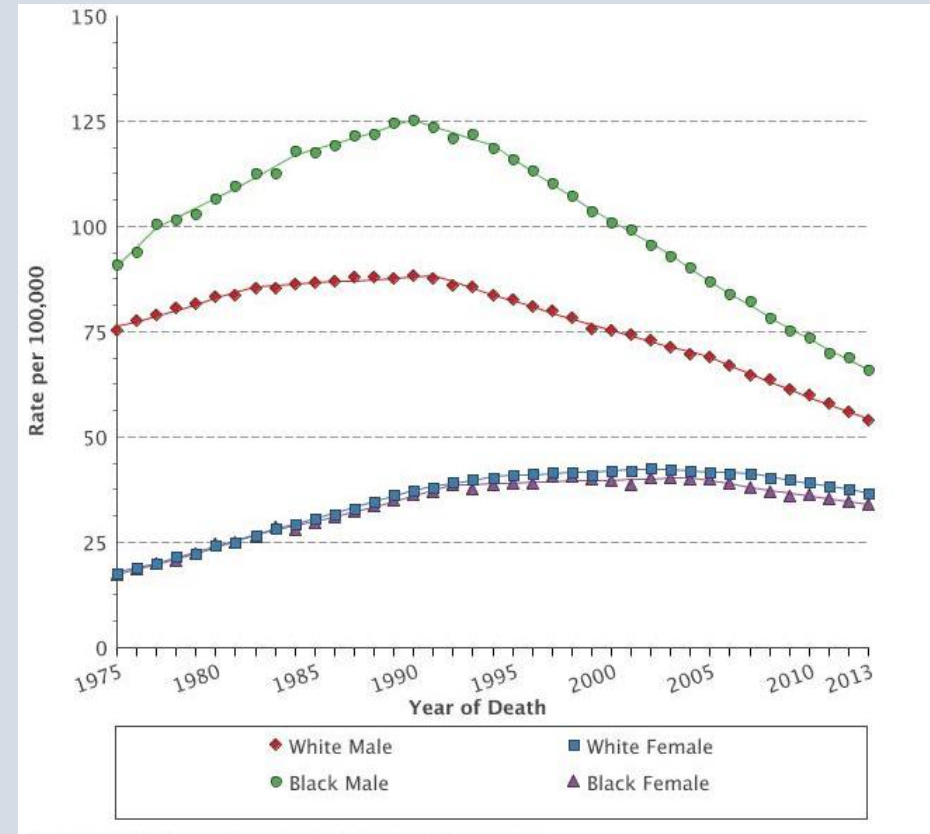
- Balance of harms and benefits
- Promoting informed, shared decision making
- Defining and reaching the eligible population
- Health system needs, infrastructure, and capacity
- Smoking
- Monitoring outcomes for individual patients and at the population level
- Addressing health disparities

# Racial disparities in lung cancer

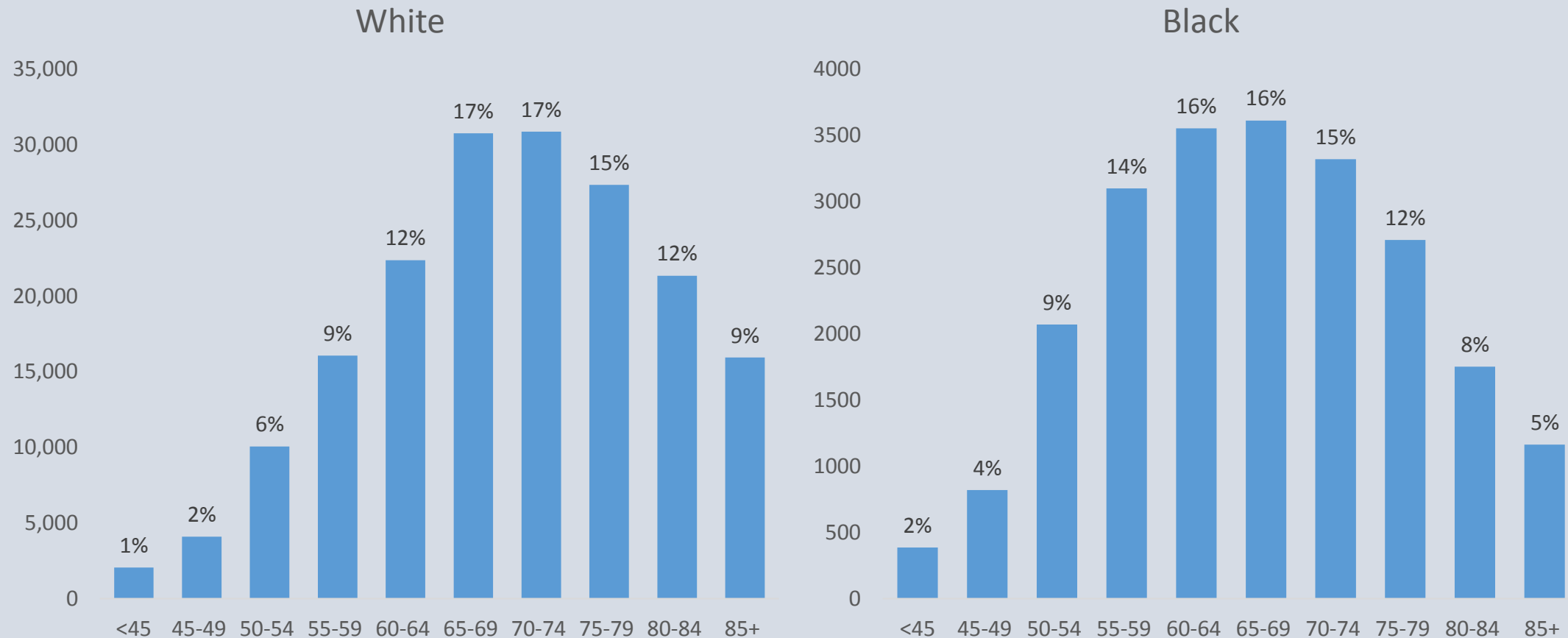
## SEER-9 Incidence



## US Mortality



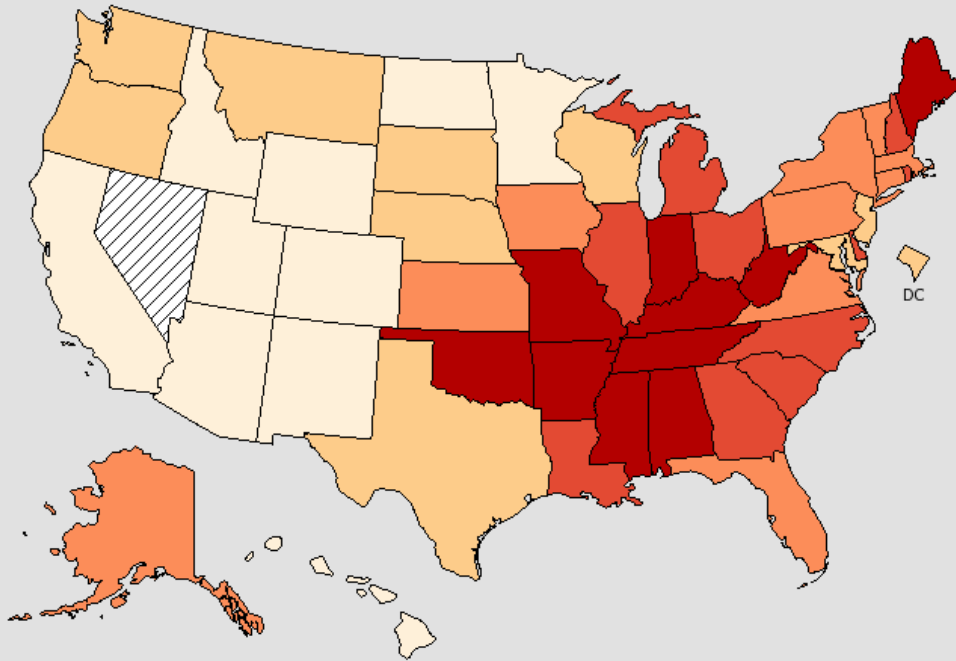
# Lung cancer is diagnosed earlier in Blacks





# Geographic disparities in incidence

Incidence Rates<sup>†</sup> for United States  
Lung & Bronchus, 2008 - 2012  
All Races (includes Hispanic), Both Sexes, All Ages



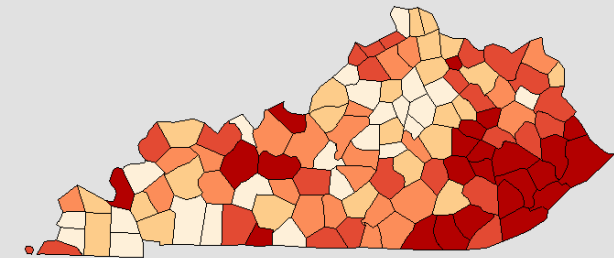
Age-Adjusted  
Annual Incidence Rate  
(Cases per 100,000)  
[Quantile Interval](#)

- 28.6 to 55.4
- 55.4 to 61.7
- 61.7 to 67.9
- 67.9 to 73.0
- 73.0 to 97.5

Data Not Available

US (SEER + NPCR)  
Rate (95% C.I.)  
63.7 (63.6 - 63.8)

Incidence Rates<sup>†</sup> for Kentucky  
Lung & Bronchus, 2008 - 2012  
All Races (includes Hispanic), Both Sexes, All Ages



Age-Adjusted  
Annual Incidence Rate  
(Cases per 100,000)  
[Quantile Interval](#)

- 71.2 to 88.7
- 88.7 to 97.6
- 97.6 to 108.0
- 108.0 to 119.5
- 119.5 to 153.4

US (SEER + NPCR)  
Rate (95% C.I.)  
63.7 (63.6 - 63.8)

Kentucky  
Rate (95% C.I.)  
97.5 (96.2 - 98.8)

**Notes:**

Created by statecancerprofiles.cancer.gov on 06/16/2016 3:05 pm.

Data for the United States does not include data from Nevada.

[State Cancer Registries](#) may provide more current or more local data.

Data presented on the State Cancer Profiles Web Site may differ from statistics reported by the State Cancer Registries ([for more information](#)).

<sup>†</sup> Incidence rates (cases per 100,000 population per year) are age-adjusted to the [2000 US standard population](#) (19 age groups: <1, 1-4, 5-9, ..., 80-84, 85+). Rates are for invasive cancer only (except for bladder which is invasive and in situ) or unless otherwise specified. Rates calculated using SEER\*Stat. Population counts for denominators are based on Census populations as modified by NCI. The [1969-2013 US Population Data](#) File is used for SEER and NPCR incidence rates.

[Data not available](#) for this combination of geography, statistic, age and race/ethnicity.

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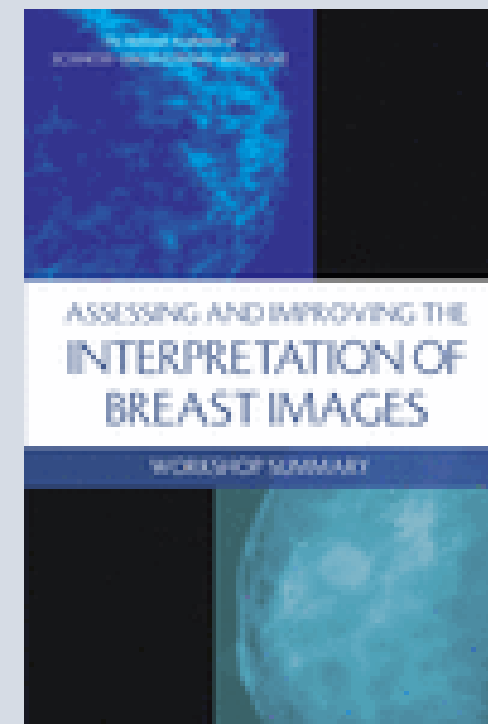
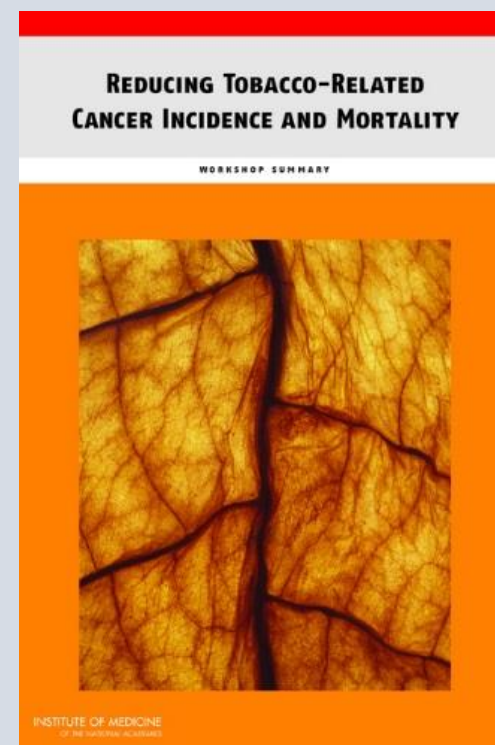
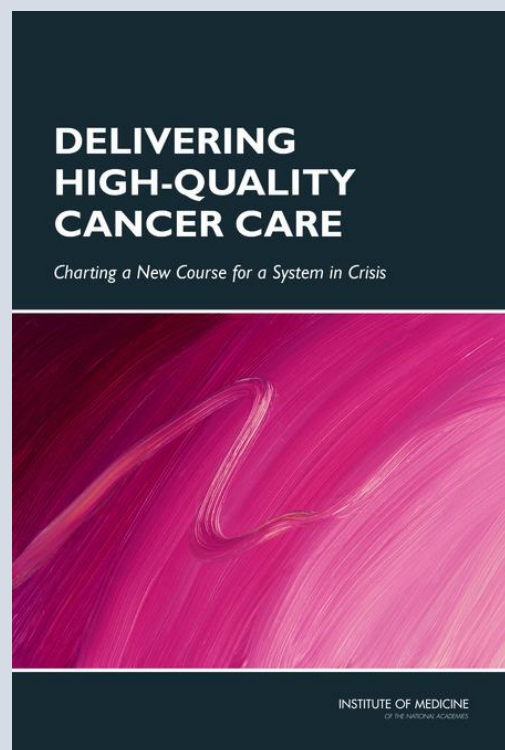
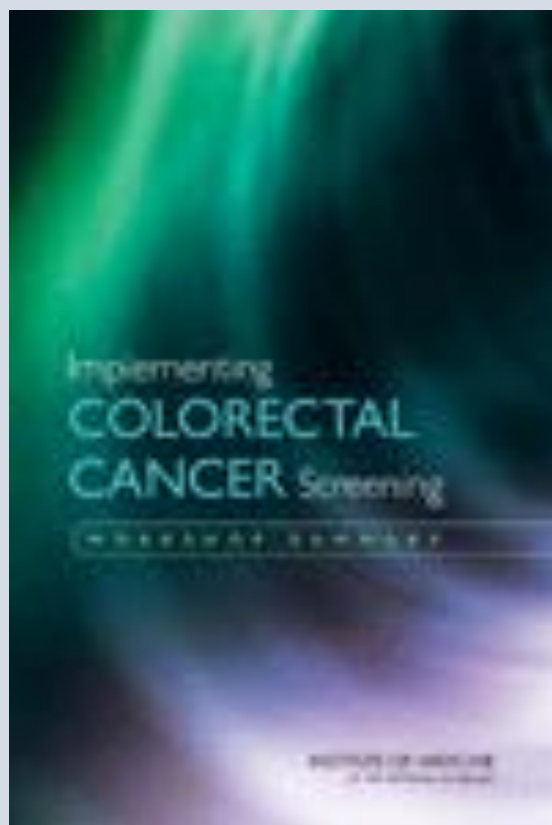
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# Relvant IOM workshops



# Workshop Statement of Task

Examine the current state of lung cancer screening, challenges to the clinical implementation of LDCT screening for lung cancer, and potential policy action to improve lung screening programs.

- Barriers to implementation, strategies to overcome these obstacles.
- Challenges and strategies for identifying populations eligible for and most likely to benefit.
- Decision aids for providers and patients to support shared decision making.
- Strategies to provide smoking cessation support.
- Practical measures for state and national surveillance.
- Strategies to promote continuous quality improvement, monitor adverse outcomes and harms.
- Economics of LCS, including broad costs, impact on quality of life.
- Measurement of impact.

# Workshop Agenda

## Session I. Overview of the evidence, policy, and practice issues

- *Moderator: Barry Kramer, National Cancer Institute*
- Michael LeFevre, University of Missouri
- Peter Bach, Memorial Sloan Kettering Cancer Center
- Joseph Chin, CMMS
- Richard Hoffman, University of Iowa

## Session II. Considerations and challenges in the implementation of LCS

# Workshop Agenda

Session I. Overview of the evidence, policy, and practice issues

Session II. Considerations and challenges in the implementation of LCS

- *Moderator: Chris Lathan, Dana Farber Cancer Institute*
- Martin Tammemagi, Brock University
- Douglas Wood, University of Washington
- Chris Lathan, Dana Farber
- Fabrice Smieliauskas, University of Chicago

# Workshop Agenda

## Session III. Essential elements of effective screening programs

- *Moderator: Robert Volk, MD Anderson*
- Ella Kazerooni, University of Michigan
- Jane Kim, Department of Veterans Affairs
- Robert Volk, MD Anderson
- Jamie Studts, University of Kentucky

## Session IV. Strategies for incorporating smoking cessation

# Workshop Agenda

Session III. Essential elements of effective screening programs

Session IV. Strategies for incorporating smoking cessation

- *Moderator: Jamie Studts, University of Kentucky*
- Chris Slatore, Oregon Health & Sciences University
- Elyse Park, Dana Farber Cancer Center
- Kathryn Taylor, Georgetown University
- Jamie Ostroff, Memorial Sloan Kettering Cancer Center

# Workshop Agenda

## Session V. Health system infrastructure needs to implement and monitor screening

- *Moderator: Greta Massetti, CDC*
- Denise Aberle, University of California, Los Angeles
- Peter Mazzone, Cleveland Clinic
- Joshua Roth, Fred Hutchinson Cancer Research Center
- Paul Doria-Rose, NCI

## Session VI. Stakeholder panel



# Workshop Agenda

Session V. Health system infrastructure needs to implement and monitor screening

## Session VI. Stakeholder panel

- *Moderator: Dan Sullivan, Duke University*
- Steven Blumenfrucht, Aetna
- Amy Copeland, Lung Cancer Alliance
- Kelly Latimer, Naval Hospital Pensacola
- Peter Mazzone, Cleveland Clinic
- Ide Mills, Patient advocate
- Robert Smith, ACS
- Joanna Stoms, Pennsylvania Department of Health

# Planning Committee

- Chair: Greta Massetti, CDC
- Wendy Demark-Wahnefried, University of Alabama at Birmingham
- Lori Hoffman-Hogg, Department of Veterans Affairs
- Samir Khleif, Georgia Regents University Cancer Center
- Barry Kramer, National Cancer Institute
- Lee Krug, Bristol-Myers Squibb
- Chris Lathan, Dana-Farber Cancer Center
- Jennifer Pietenpol, Vanderbilt-Ingram Cancer Center
- Tina Shih, MD Anderson Cancer Center
- Bob Smith, American Cancer Society
- Jamie Studts, University of Kentucky
- Dan Sullivan, Duke University
- Robert Volk, MD Anderson Cancer Center

- IOM Staff:
  - Erin Balogh
  - Patrick Ross
  - Sharyl Nass

