Lung Cancer Screening Action Team Presents: *The Consortium in Action*

September 27, 2023 | 11 AM – 12:30 PM

New York State Cancer Consortium

NYSCC QUARTERLY MEETING SERIES

Housekeeping

Please mute your line.

If you have a question, please type it in the Chat Box.

Questions will be answered after the panel discussion.

This meeting is being recorded.

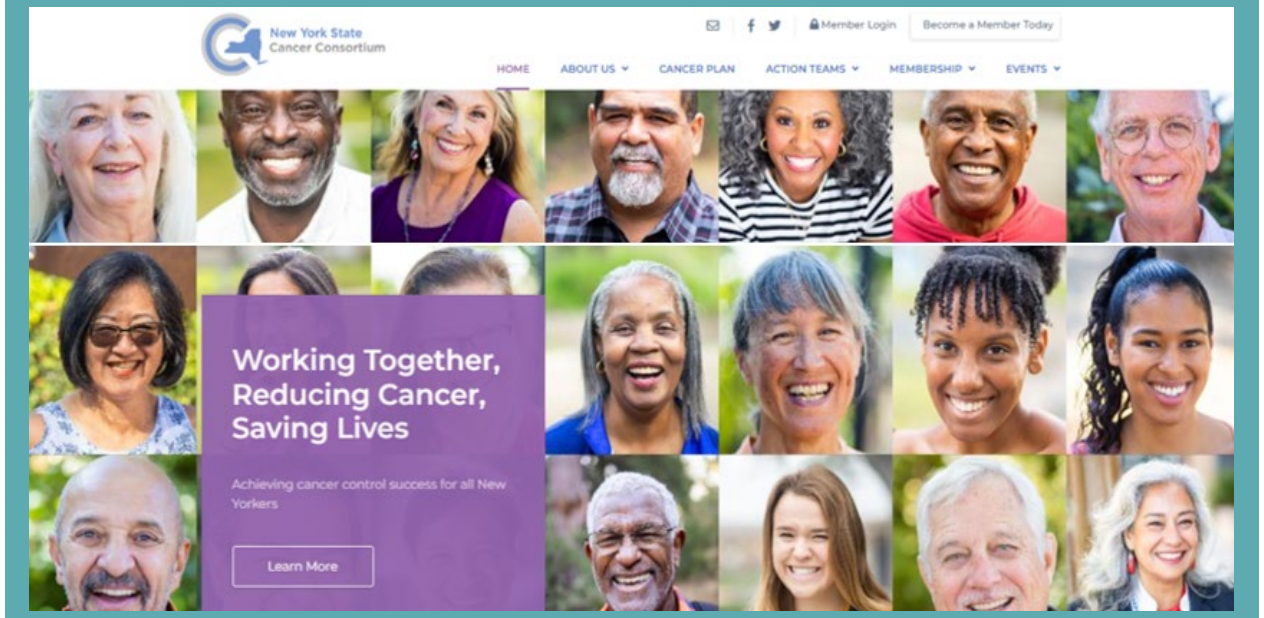
A link to the recording will be e-mailed to everyone who registered.

About Us

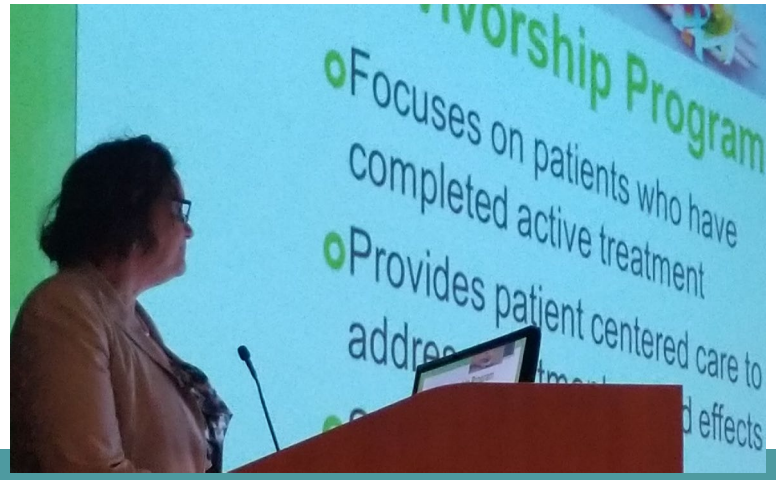
Working Together, Reducing Cancer, Saving Lives

We are New Yorkers from all walks of life who work together to reduce the burden of cancer.

www.nyscancerconsortium.org



SCAN ME



Join Today!

SCAN ME

- ***Learn about state-wide cancer prevention efforts***
- ***Find resources to promote and implement Cancer Plan priorities and measure progress***
- ***Collaborate with other members to achieve Cancer Plan goals and objectives***

New York State Cancer Consortium

NYSCC E-BLAST

Consortium News /Updates | June is National Cancer Survivor Month | July is UV Safety Month | Resources & Data of Interest | Meetings & Trainings of Interest

Do you or your organization have any cancer-related webinars, trainings or events planned? How about suggestions for health promotion articles and funding opportunities? If so, let us know! We'll be happy to include them in our upcoming blasts. Send us an email today

CONSORTIUM NEWS/UPDATES

Quarterly Member Meeting Series: *The Consortium in Action*

Did you miss the June 9th NYS HPV Coalition Presentation?

Click here to watch the recording of *Taking a Jab at Cancer Prevention: Closing the HPV Vaccination Gap in New York State*

Upcoming *Consortium in Action* Events

- September 27, 2023
  The Lung Cancer Screening Action Team
  Register Here
- December 14, 2023
  The Survivorship and Lifestyle Behaviors Action Teams
  Register Here
- March 12, 2024
  The Environmental Carcinogen Action Team
  Register Here

Revisit our March 14th session titled "*Addressing the Cancer Burden in LGBTQ+ Communities: A Training from the National LGBT Cancer Network*"

national lgbt cancer network
ADVOCATING FOR HEALTH EQUALITY

The National LGBT Cancer Network provided a training for Consortium members on best and promising practic foster inclusive cancer education, prevention, and screening in LGBTQIA+ communities. Topics included termir identities, and population trends, cancer related health disparities impacting LGBTQIA+ communities, and facili and barriers to cancer prevention, education, and screening.

Click here for the recording and presentation.

Join an Action Team to implement Cancer Plan priorities

- Colorectal Cancer
- HPV Coalition
- Skin Cancer
- Survivorship Lifestyle
- Environmental Carcinogens
- Lung Cancer
- Survivorship

NYSCC Quarterly Meeting Series

SCAN ME

Upcoming Meetings

- **Survivorship and Lifestyle Action Teams**

  December 14, 2023 11:00 AM – 12:30 PM

- **Environmental Carcinogens Action Team**

  March 12, 2024 11:00 AM – 12:30 PM

Meeting Poll

What best describes your role related to lung cancer screening?

Meeting Facilitators

Whitney Mendel, MSW, PhD

Dr. Whitney Mendel is a Research Scientist in Cancer Screening within the Department of Medicine at Roswell Park Comprehensive Cancer Center. She also serves as the Coordinator of the NYS Cancer Consortium's Lung Cancer Screening Action Team. As part of her work with the Action Team, Whitney is spearheading a NYS lung cancer screening environmental scan that seeks to enumerate every lung cancer screening site across the state, as well as to better understand the current capacity, barriers and facilitators related to lung cancer screening.

Mary Reid, BSN, MSPH, PhD

Dr. Reid is a cancer epidemiologist, Distinguished Professor of Oncology, Chief of Cancer Screening and Survivorship, and Director of Collaborative Research at Roswell Park Comprehensive Cancer Center (RPCCC). The lung cancer screening program at RPCCC has been in existence since 1998. The program has grown under her leadership to provide screening at three clinical sites, and most recently on a RPCCC owned mobile CT Unit. The mobile unit, EDDY (Early Detection Driven to You). Dr. Reid's research is focused on studies to identify early genetic and transcriptomic changes indicative of progression to lung cancer. Finally, Dr. Reid is leading several efforts to improve the rates of lung cancer screening as the leader of the statewide NYS Department of Health Cancer Consortium Lung Cancer Screening Action Team (LCSAT), is a founding member of the NCCN Lung Cancer Screening Panel, and as the PI on a federally-funded Lung Cancer Screening Registry, based at RPCCC.

Lung Cancer Screening

Objectives

- Explore the status of lung cancer screening (LCS) in NYS
- Examine the current efforts to increase screening:
- Eligibility and risk modeling
  - ✓Legislative action
  - ✓Education and outreach
  - ✓Access

Meeting Poll

From your experience, which of the following are barriers to lung cancer screening? (choose all that apply)

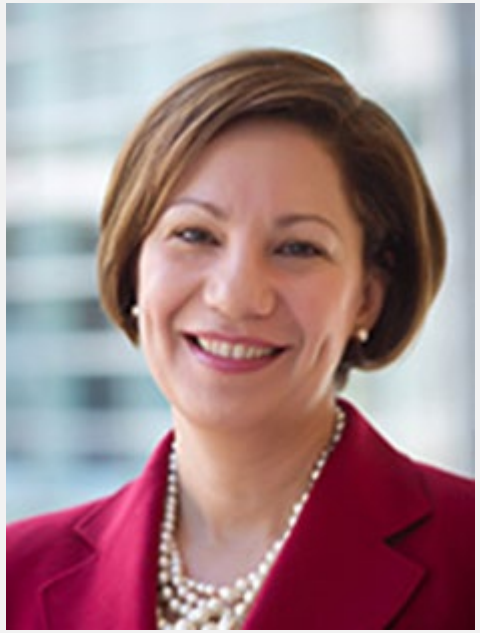
Lung Cancer Screening Action Team (LCSAT)

- **Mission:**

To combat the devastating effects of lung cancer on NYS by mobilizing multi-level resources to decrease lung cancer mortality by increasing lung cancer screening using guideline-driven, evidence-based strategies.

- We have 68 members from across the state and across a broad spectrum of disciplines related to lung cancer and LCS
- Partnerships with American Cancer Society, G02 Foundation, Genentech, American Lung Association, & Association of Community Cancer Centers
- Standing education and legislative subcommittees

Panelist



Patricia Rivera, MD

Dr. Rivera is a Professor of Medicine in the Division of Pulmonary Diseases and Critical Care Medicine at University of Rochester Medical Center and the C. Jane Davis & C. Robert Davis Distinguished Professor in Pulmonary Medicine and the Chief of the Pulmonary and Critical Care Medicine Division, and the Associate Director of Diversity, Equity, and Inclusion at the Wilmot Cancer Institute. Her expertise includes screening, diagnosing, and staging lung cancer and managing treatment complications. For more than 20 years, Dr. Rivera has served and held leadership positions on National Pulmonary and Critical Care and Cancer societies, including the American Thoracic Society (ATS), The American College of Chest Physicians (CHEST), and the American Cancer Society National Lung Cancer Round Table. She currently serves as the President of ATS.

CURRENT STATE OF LUNG CANCER SCREENING (LCS)

M. Patricia Rivera, MD

The C. Jane Davis & C. Robert Davis Distinguished Professor in Pulmonary Medicine

Chief, Division of Pulmonary Diseases and Critical Care Medicine

Associate Director, Wilmot Cancer Institute

University of Rochester Medical Center

Co-Director, North Carolina Lung Screening Registry

NORTH CAROLINA
Lung Screening
Registry

2013	**United States Preventive Services Task Force**
Population	-Asymptomatic aged 55 to 80 years -30 pack-year smoking history -Currently smoking or quit ≤15 years
Recommendation	-Screen annually with low-dose CT -Discontinue screening: - Quit for 15 years or - Develops health problems limiting life expectancy
Level of recommendation	**GRADE B**

CISNET MICROSIMULATION
2013 USPSTF LCS RECOMMENDATIONS

Table 1. Smoking prevalence, lung cancer incidence, and mortality by race

Race/Ethnicity	Smoking Prevalence*			Lung Cancer Incidence†			Lung Cancer Mortality†		
	Overall	Male	Female	Overall	Male	Female	Overall	Male	Female
White	16.6	17.2	16.0	56.7	63.5	51.8	42.7	51.7	35.6
Black	16.7	20.9	13.3	56.2	73.5	44.6	44.3	62.1	32.4
Hispanic	10.1	13.1	7.1	29.8	36.1	25.4	19.2	26.6	13.8
AI/AN	21.9	19.0	24.0	37.8	43.3	33.9	27.7	33.6	23.1
API	7.0	12.0	2.6	36.0	46.3	28.2	22.7	30.2	17.3

Definition of abbreviations: AI/AN = American Indian/Alaskan Native; API = Asian/Pacific Islander; SEER = surveillance, epidemiology, and end results.
*Weighted percent, population adjusted; from 2015 National Health Interview Survey, United States (27).
†Age-adjusted per 100,000; SEER 21 Area Registry, 2012–2016 (2).

Haddad DN et al. Annals ATS 2020;17(4):399-405

- USPSTF 2013 excluded a high proportion of high-risk persons with lower smoking history (Black men, women)
  - *Katki HA et al. JAMA. 2016;315:2300-11; Pinsky PF et al. J Natl Cancer Inst.2015;107-111*

Southern Community Cohort Study (12 states) 2002-2009- 48,364 individuals who smoke

Table 2. Reasons for USPSTF Lung Cancer Screening Ineligibility for SCCS Smokers With Lung Cancer

Characteristic[a]	SCCS Smokers, No. (%)			
	White	African American	Total	*P* Value
All cancer cases				
No.	478	791	1269	NA
Age <55 y	91 (19)	192 (24)	283 (22)	.03
<30 Pack-years	77 (16)	358 (45)	435 (34)	<.001
Smoking cessation >15 y	43 (9)	47 (6)	90 (7)	.04
Ineligible lung cancer cases				
No.	208	536	744	NA
Age <55 y	91 (44)	192 (36)	283 (38)	.046
<30 Pack-years	77 (37)	358 (67)	435 (58)	<.001
Smoking cessation >15 y	43 (21)	47 (9)	90 (12)	<.001

Aldrich M. et al. JAMA Oncology 2019; 5(9):1318–24

Lowering age/smoking history to increase proportion of eligible Blacks

What does the USPSTF recommend? **2021**	Adults aged 50 to 80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years: • Screen for lung cancer with low-dose computed tomography (CT) every year. • Stop screening once a person has not smoked for 15 years or has a health problem that limits life expectancy or the ability to have lung surgery. Grade: B **USPSTF 2021 does not endorse risk-modeling assessment**
To whom does this recommendation apply?	Adults aged 50 to 80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years. (See below for definition of pack-year.)
What's new?	The USPSTF has revised the recommended ages and pack-years for lung cancer screening. It expanded the age range to 50 to 80 years (previously 55 to 80 years) and reduced the pack-year history to 20 pack-years of smoking (previously 30 pack-years).
How to implement this recommendation?	1. Assess risk based on age and pack-year smoking history: Is the person aged 50 to 80 years and have they accumulated 20 pack-years or more of smoking? a. A pack-year is a way of calculating how much a person has smoked in their lifetime. One pack-year is the equivalent of smoking an average of 20 cigarettes—1 pack—per day for a year. 2. Screen: If the person is aged 50 to 80 years and has a 20 pack-year or more smoking history, engage in shared decision-making about screening. a. The decision to undertake screening should involve a discussion of its potential benefits, limitations, and harms. b. If a person decides to be screened, refer them for lung cancer screening with low-dose CT, ideally to a center with experience and expertise in lung cancer screening. c. If the person currently smokes, they should receive smoking cessation interventions.
How often?	• Screen every year with low-dose CT. • Stop screening once a person has not smoked for 15 years or has a health problem that limits life expectancy or the ability to have lung surgery.

JAMA. 2021;325(10):962-970. doi:10.1001/jama.2021.1117

JAMA | US Preventive Services Task Force | MODELING STUDY

Evaluation of the Benefits and Harms of Lung Cancer Screening With Low-Dose Computed Tomography

Modeling Study for the US Preventive Services Task Force

JAMA. 2021;325(10):988-997.

2021 USPSTF criteria:

- 14.5 million US adults, **81%** increase

- Eligibility increase:
  - Women (96%)
  - Non-Hispanic Blacks (106%)
  - Hispanics (112%)
  - Asians (61%)

- Increase in screen-detected cancer by 21%

- Greater gains in lung cancer deaths averted and life-years gained in women c/w men

USPSTF 2021: OPTIMISM WITH CAUTION

- Uncertainty about the relevance of NLST findings to real-world populations, more research needed
  - *USPSTF Recommendation Statement. JAMA. 2021;325(10):962*

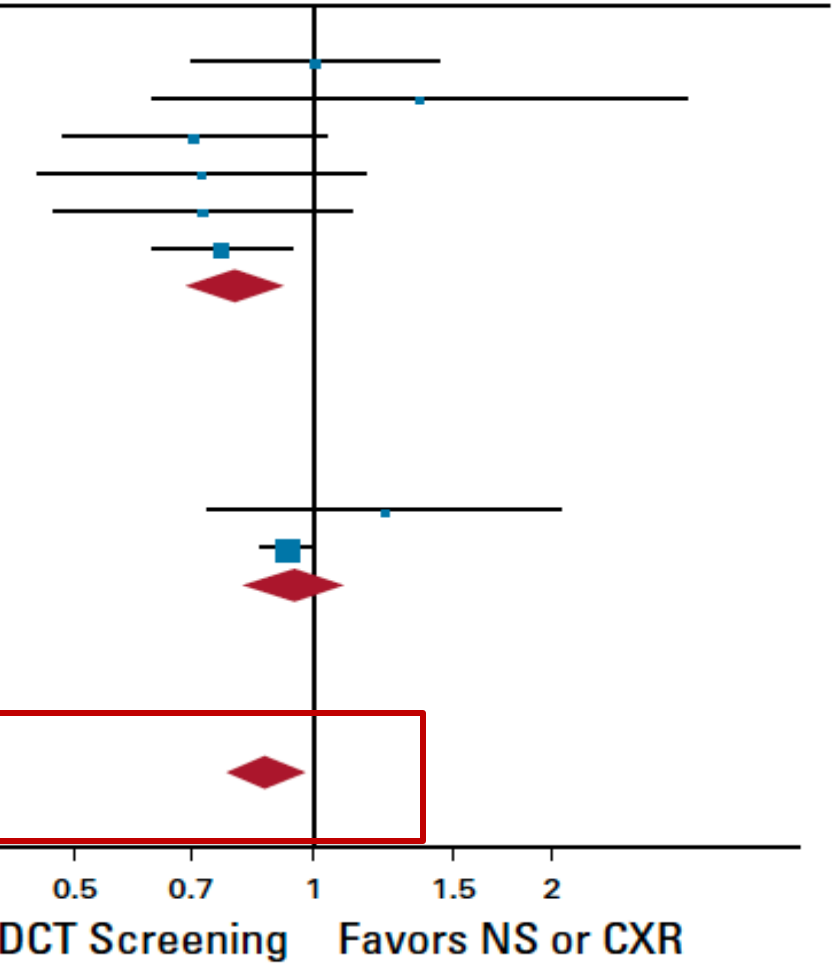
- Population eligible for lung cancer screening may be less likely to benefit from LCS than NLST participants because they face a high risk of death from competing causes, such as heart disease and stroke.
  - *Jonas DE, et al. Updated Evidence Report and Systematic Review for the USPSTF JAMA. 2021;325(10):971.*

Benefits and Harms of Lung Cancer Screening by Chest Computed Tomography: A Systematic Review and Meta-Analysis

Passiglia F. et al. JCO 2021, 39:2574-

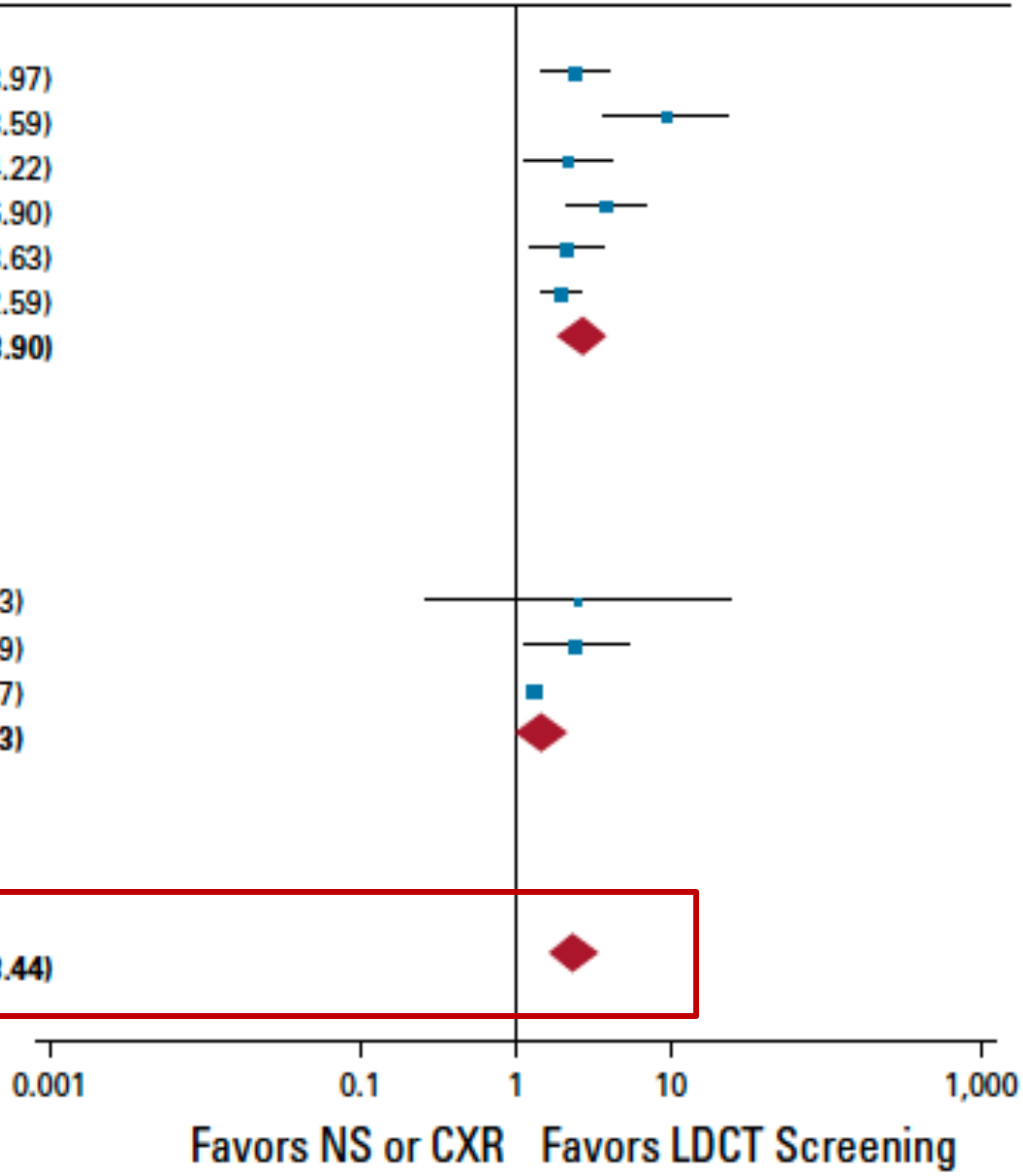
A Lung Cancer-Related Mortality

Study or Subgroup	LDCT Screening Events	LDCT Screening Total	NS or CXR Events	NS or CXR Total	Weight (%)	RR M-H, Random (95% CI)
LDCT *v* NS						
DANTE	59	1,264	55	1,186	8.8	1.01 (0.70 to 1.44)
DLCST	15	2,052	11	2,052	2.2	1.36 (0.63 to 2.96)
ITALUNG	43	1,613	60	1,593	7.8	0.71 (0.48 to 1.04)
LUSI	29	2,029	40	2,023	5.4	0.72 (0.45 to 1.16)
MILD	40	2,376	40	1,723	6.3	0.73 (0.47 to 1.12)
NELSON	160	6,583	210	6,612	20.6	0.77 (0.62 to 0.94)
Subtotal (95% CI)		**15,917**		**15,189**	**51.1**	**0.80 (0.69 to 0.92)**
Total events	346		416			
Heterogeneity: $\tau^2 = 0.00$; $\chi^2 = 4.33$, $df = 5$ ($P = .50$); $I^2 = 0\%$						
Test for overall effect: $Z = 3.16$ ($P = .002$)						
LDCT *v* CXR						
LSS	32	1,660	26	1,658	4.7	1.23 (0.74 to 2.05)
NLST	1,147	26,722	1,236	26,730	44.2	0.93 (0.86 to 1.00)
Subtotal (95% CI)		**28,382**		**28,388**	**48.9**	**0.95 (0.82 to 1.10)**
Total events	1,179		1,262			
Heterogeneity: $\tau^2 = 0.00$; $\chi^2 = 1.13$, $df = 1$ ($P = .29$); $I^2 = 11\%$						
Test for overall effect: $Z = 0.71$ ($P = .48$)						
Total (95% CI)		**44,299**		**43,577**	**100.0**	**0.87 (0.78 to 0.98)**
Total events	1,525		1,678			
Heterogeneity: $\tau^2 = 0.01$; $\chi^2 = 9.21$, $df = 7$ ($P = .24$); $I^2 = 24\%$						
Test for overall effect: $Z = 2.30$ ($P = .02$)						
Test for subgroup differences: $\chi^2 = 2.83$, $df = 1$ ($P = .09$); $I^2 = 64.6\%$						



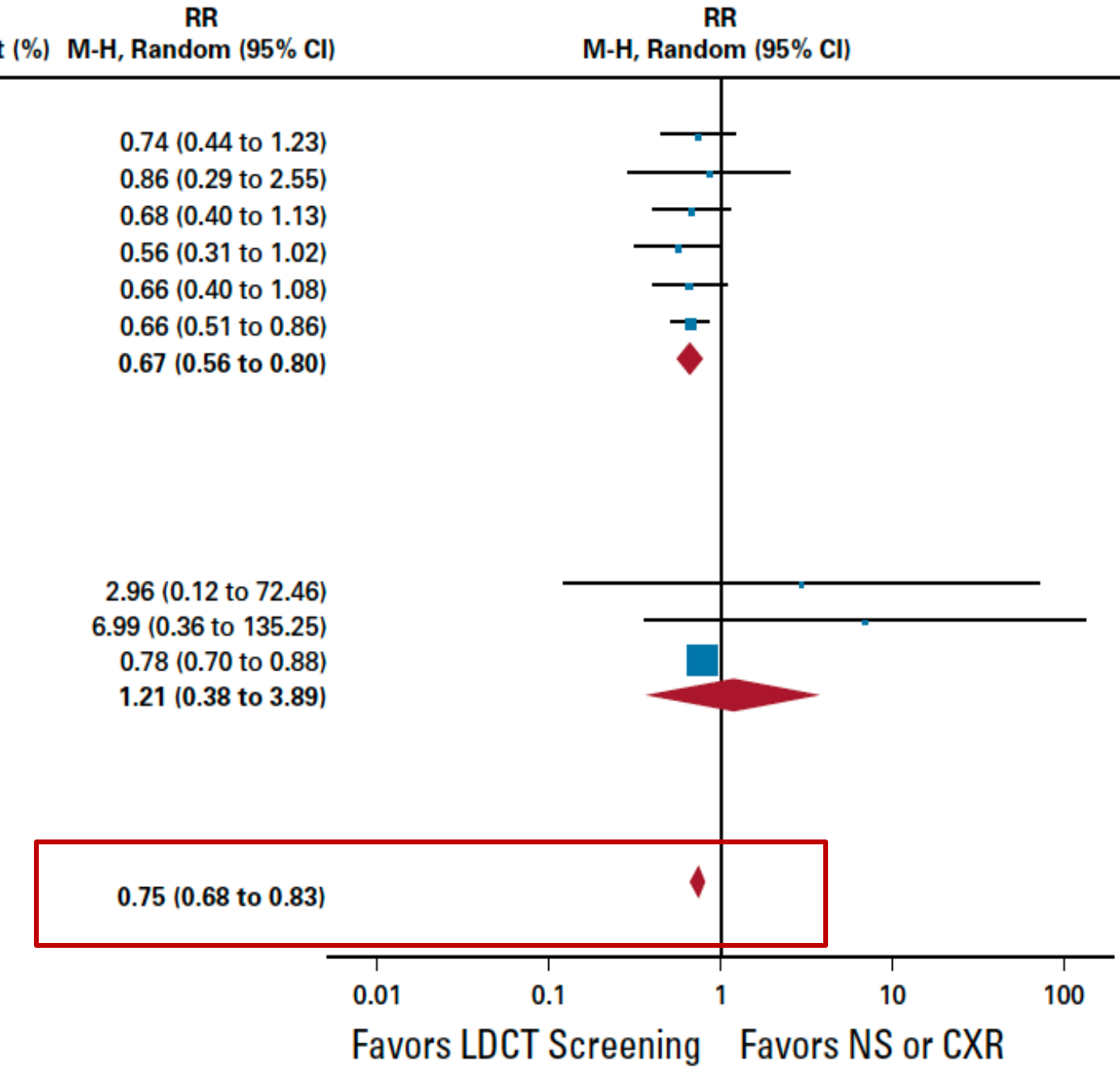
A early-stage tumor diagnosis rate

Study or Subgroup	LDCT Screening Events	LDCT Screening Total	NS or CXR Events	NS or CXR Total	Weight (%)	RR M-H, Random (95% CI)
LDCT *v* NS						
DANTE	54	1,264	21	1,186	12.9	2.41 (1.47 to 3.97)
DLCST	47	2,052	5	2,052	7.9	9.40 (3.75 to 23.59)
ITALUNG	29	1,613	13	1,593	10.9	2.20 (1.15 to 4.22)
LUSI	54	2,029	14	2,023	11.7	3.85 (2.14 to 6.90)
MILD	53	2,376	18	1,723	12.4	2.14 (1.26 to 3.63)
NELSON	138	6,583	71	6,612	15.6	1.95 (1.47 to 2.59)
Subtotal (95% CI)		**15,917**		**15,189**	**71.4**	**2.73 (1.91 to 3.90)**
Total events	375		142			
Heterogeneity: $\tau^2 = 0.12$; $\chi^2 = 13.49$, $df = 5$ ($P = .02$); $I^2 = 63\%$						
Test for overall effect: $Z = 5.52$ ($P < .00001$)						
LDCT *v* CXR						
DESPICAN	3	336	1	285	2.1	2.54 (0.27 to 24.33)
LSS	22	1,660	9	1,658	9.4	2.44 (1.13 to 5.29)
NLST	805	26,722	606	26,730	17.1	1.33 (1.20 to 1.47)
Subtotal (95% CI)		**28,718**		**28,673**	**28.6**	**1.52 (1.04 to 2.23)**
Total events	830		616			
Heterogeneity: $\tau^2 = 0.05$; $\chi^2 = 2.65$, $df = 2$ ($P = .27$); $I^2 = 24\%$						
Test for overall effect: $Z = 2.14$ ($P = .03$)						
Total (95% CI)		**44,635**		**43,862**	**100.0**	**2.42 (1.71 to 3.44)**
Total events	1,205		758			
Heterogeneity: $\tau^2 = 0.18$; $\chi^2 = 42.30$, $df = 8$ ($P < .00001$); $I^2 = 81\%$						
Test for overall effect: $Z = 4.94$ ($P < .00001$)						
Test for subgroup differences: $\chi^2 = 4.83$, $df = 1$ ($P = .03$); $I^2 = 79.3\%$						



B late-stage tumor diagnosis rate

Study or Subgroup	LDCT Screening Events	LDCT Screening Total	NS or CXR Events	NS or CXR Total	Weight (%)	RR M-H, Random (95% CI)
LDCT screening *v* no LDCT screening						
DANTE	26	1,264	33	1,186	3.9	0.74 (0.44 to 1.23)
DLCST	6	2,052	7	2,052	0.8	0.86 (0.29 to 2.55)
ITALUNG	24	1,613	35	1,593	3.8	0.68 (0.40 to 1.13)
LUSI	17	2,029	30	2,023	2.9	0.56 (0.31 to 1.02)
MILD	29	2,376	32	1,723	4.0	0.66 (0.40 to 1.08)
NELSON	92	6,583	139	6,612	14.7	0.66 (0.51 to 0.86)
Subtotal (95% CI)		**15,917**		**15,189**	**30.1**	**0.67 (0.56 to 0.80)**
Total events	194		276			
Heterogeneity: $\tau^2 = 0.00$; $\chi^2 = 0.67$, $df = 5$ ($P = .98$); $I^2 = 0\%$						
Test for overall effect: $Z = 4.32$ ($P < .0001$)						
LDCT *v* CXR						
DESPICAN	1	385	0	380	0.1	2.96 (0.12 to 72.46)
LSS	3	1,660	0	1,658	0.1	6.99 (0.36 to 135.25)
NLST	468	26,722	597	26,730	69.7	0.78 (0.70 to 0.88)
Subtotal (95% CI)		**28,767**		**28,768**	**69.9**	**1.21 (0.38 to 3.89)**
Total events	472		597			
Heterogeneity: $\tau^2 = 0.46$; $\chi^2 = 2.75$, $df = 2$ ($P = .25$); $I^2 = 27\%$						
Test for overall effect: $Z = 0.32$ ($P = .75$)						
Total (95% CI)		**44,684**		**43,957**	**100.0**	**0.75 (0.68 to 0.83)**
Total events	666		873			
Heterogeneity: $\tau^2 = 0.00$; $\chi^2 = 5.60$, $df = 8$ ($P = .69$); $I^2 = 0\%$						
Test for overall effect: $Z = 5.62$ ($P < .00001$)						
Test for subgroup differences: $\chi^2 = 0.96$, $df = 1$ ($P = .33$); $I^2 = 0\%$						



Annals of Internal Medicine

ORIGINAL RESEARCH

Characteristics of Persons Screened for Lung Cancer in the United States

Ann Intern Med. 2022;175:1501-1505.

A Cohort Study

Gerard A. Silvestri, MD, MS; Lenka Goldman, MSE; Judy Burleson, MHSA; Michael Gould; Ella A. Kazerooni, MD, MS; Peter J. Mazzone, MD, MPH; M. Patricia Rivera, MD; V. Paul Doria-Rose, DVM, PhD; Lauren S. Rosenthal, MPH; Michael Simanowith, MD; Robert A. Smith, PhD; Nichole T. Tanner, MD, MSCR; and Stacey Fedewa, PhD

- Joint project with the ACS Lung Cancer Roundtable and the American College of Radiology (ACR)
- 2015 CMS required all patients have information entered into a registry. ACR only approved registry
- Age, sex, and smoking status distributions computed among 1,159,092 individuals received baseline LDCT between 2015 and 2019 and had no missing data and respondents in the 2015 National Health Interview Survey (NHIS) eligible for screening (8 million).
- Prevalence between the LCSR and the NHIS (8million eligible) was compared
- Adherence to annual screening was defined as having a follow-up test within 11 to15 months of an initial LDCT

WHO IS UNDERGOING LCS COMPARED TO THE 8 MILLION ELIGIBLE?

Characteristic	Adults, *n* (%)		Prevalence Ratio (95% CI) for Screened vs. Eligible†
	Eligible* (*n* = 1257)	Screened† (*n* = 1 052 591)	
Sex‡			
Female	535 (41.8)	544 482 (48.1)	1.15 (1.08–1.23)
Male	722 (58.2)	505 318 (51.9)	0.89 (0.85–0.93)
Missing	0	2791	–
Age			
55–64 y	636 (57.1)	504 794 (49.6)	0.87 (0.83–0.91)
65–74 y	560 (34.7)	379 841 (44.8)	1.29 (1.20–1.39)
75–80 y	61 (8.1)	67 956 (5.5)	0.68 (0.56–0.82)
Smoking status			
Current	678 (52.3)	645 875 (61.4)	1.17 (1.11–1.23)
Former	579 (47.7)	406 700 (38.6)	0.81 (0.75–0.87)

Ann Intern Med. 2022;175:1501-1505.

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[Thoracic Oncology Original Research]

CHEST

Outcomes From More Than 1 Million People Screened for Lung Cancer With Low-Dose CT Imaging

Gerard A. Silvestri, MD; Lenka Goldman; Nichole T. Tanner, MD, MSCR; Judy Burleson; Michael Gould; Ella A. Kazerooni, MD; Peter J. Mazzone, MD, MPH; M. Patricia Rivera, MD; V. Paul Doria-Rose, DVM, PhD; Lauren S. Rosenthal, MPH; Michael Simanowith; Robert A. Smith, PhD; and Stacey Fedewa, PhD

- Adherence to annual screening
- Factors associated with adherence
- Lung-RADS performance
- Cancer detection rate

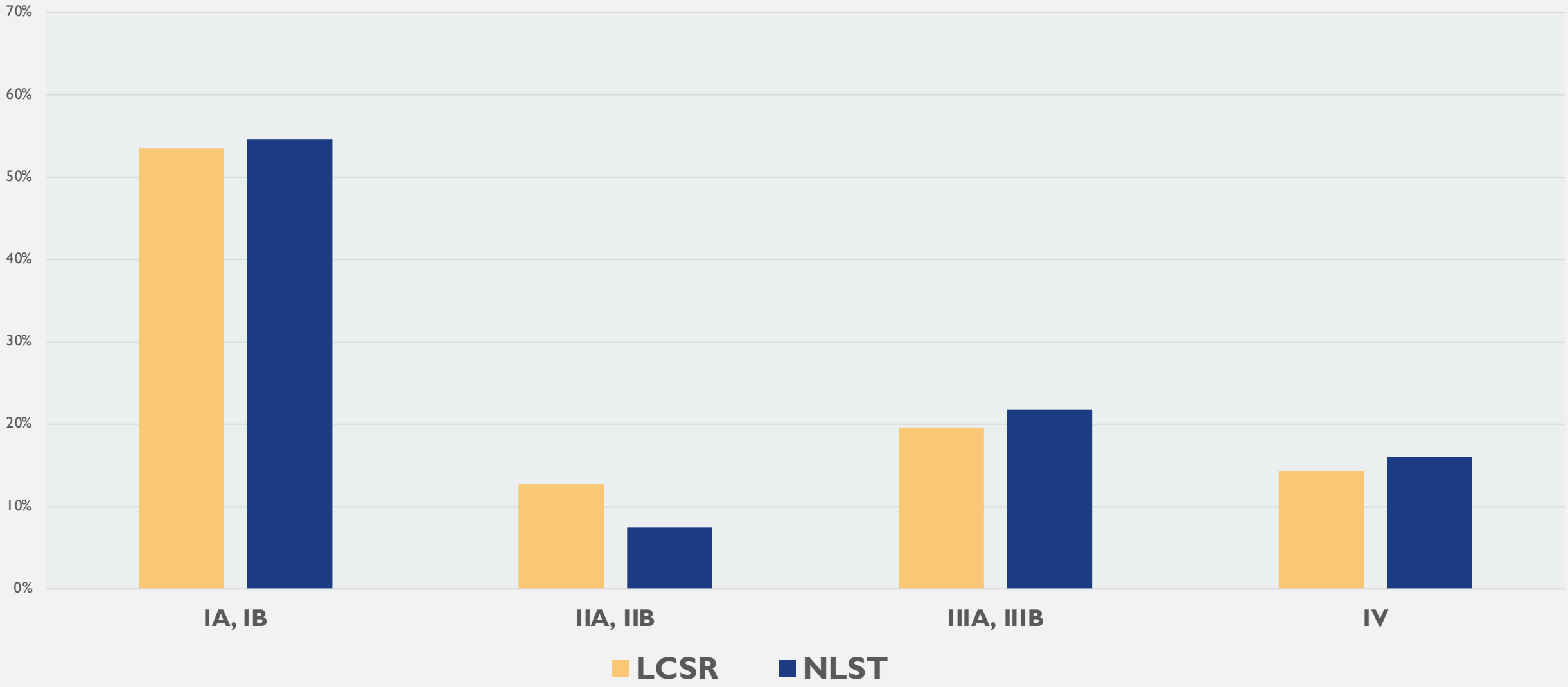
ADHERENCE TO ANNUAL SCREENING

- **22% Between 11-15 month**
  - **34%** Between 16-24 months
  - **40%** >24 months

- **Factors associated with low adherence:**
  - **Race and Ethnicity:**
    - Black Individuals: 0.79 (95%CI .76-.82)
    - Hispanic Individuals: 0.69 (95%CI 60-.70)
  - **Socioeconomic:**
    - < high school degree: 0.88 (95%CI .82-.95)
    - Self-pay/uninsured: 0.45 (95% CI .40-.50)
    - Residency in the South: 0.72 (95% CI .72-.74)
- **Smoking status:**
  - Currently smoking: 0.82 (95%CI .81-.83)
- **Low-Dose CT findings:**
  - Lung-RADS 3 findings on LDCT (probably benign) 3.6 (95% CI 2.9-4.7)

Silvestri G et al. Chest 2023; In Press

LUNG CANCER SCREENING RESULTS IN STAGE SHIFT



Silvestri G et al. Chest 2023; In Press

RISK STRATIFICATION:
CAN IT IMPROVE ELIGIBILITY ASSESSMENT?

Age and total pack years are a practical way to identify those eligible for LCS

This approach may be overly simplistic because LC risk varies among individuals

Logistic-regression prediction models of risk may improve risk assessment.

Age, per 1–yr increase†	1.081 (1.057–1.105)	<0.001	0.0778868
Race or ethnic group‡			
White	1.000		Reference group
Black	1.484 (1.083–2.033)	0.01	0.3944778
Hispanic	0.475 (0.195–1.160)	0.10	–0.7434744
Asian	0.627 (0.332–1.185)	0.15	–0.466585
American Indian or Alaskan Native	1		0
Native Hawaiian or Pacific Islander	2.793 (0.992–7.862)	0.05	1.027152
Education, per increase of 1 level†§	0.922 (0.874–0.972)	0.003	–0.0812744
Body-mass index, per 1-unit increase†	0.973 (0.955–0.991)	0.003	–0.0274194
Chronic obstructive pulmonary disease (yes vs. no)	1.427 (1.162–1.751)	0.001	0.3553063
Personal history of cancer (yes vs. no)	1.582 (1.172–2.128)	0.003	0.4589971
Family history of lung cancer (yes vs. no)	1.799 (1.471–2.200)	<0.001	0.587185
Smoking status (current vs. former)	1.297 (1.047–1.605)	0.02	0.2597431
Smoking intensity¶			–1.822606
Duration of smoking, per 1-yr increase†	1.032 (1.014–1.051)	0.001	0.0317321
Smoking quit time, per 1-yr increase†	0.970 (0.950–0.990)	0.003	–0.0308572
Model constant			–4.532506

PLCOm2012 Model. NEJM 2013;368:728-36

- Chicago Race Eligibility for Screening Cohort (CREST)
- 883 lung cancer cases (>50% B, 8% H)
- Sensitivity of USPSTF 2013 and 2021 vs PLCOm2012 eligibility criteria

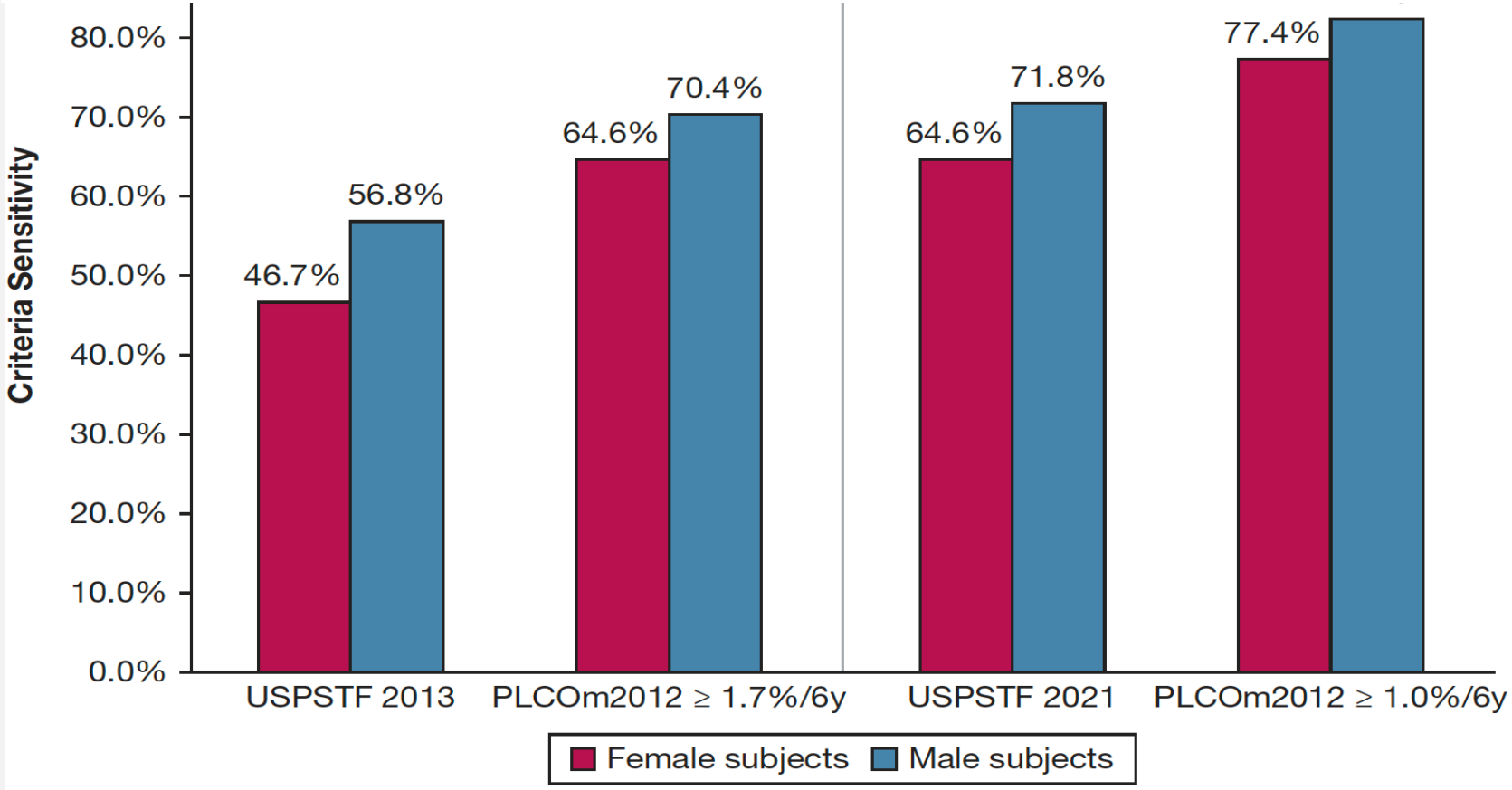
[Thoracic Oncology Original Research]

CHEST

Addressing Sex Disparities in Lung Cancer Screening Eligibility

USPSTF vs PLCOm2012 Criteria

Mary M. Pasquinelli, DNP; Martin C. Tammemägi, PhD; Kevin L. Kovitz, MD; Marianne L. Durham, DNP; Zanë Deliu, MS; Arielle Guzman, MPH; Kayleigh Rygalski, BS; Li Liu, PhD; Matthew Koshy, MD; Patricia Finn, MD; and Lawrence E. Feldman, MD



CHEST 2022;161(1):248-56

BALANCING BENEFITS AND POTENTIAL RISKS OF USING RISK-BASED STRATEGY

- **Risk-based strategies**
  - Select individuals with higher 5-year lung cancer risk (3.2% vs. 1.3%)
    - Lower number needed to screen to prevent 1 death (226 vs 647)

  - **Preferentially select:**
    - Black persons
    - Currently smoking
    - Low-intensity currently smoking
      - **61% of whom smoke ≤ half a pack/day**
      - **67% women and 25% Black**
    - Individuals who formerly smoked with high intensity, quit ≥ 15 years
    - Older individuals (70-80 years)
    - Individuals with more co-morbidities

Katki H et al.Ann Inter Med 2018;169:10-19

AMERICAN THORACIC SOCIETY DOCUMENTS

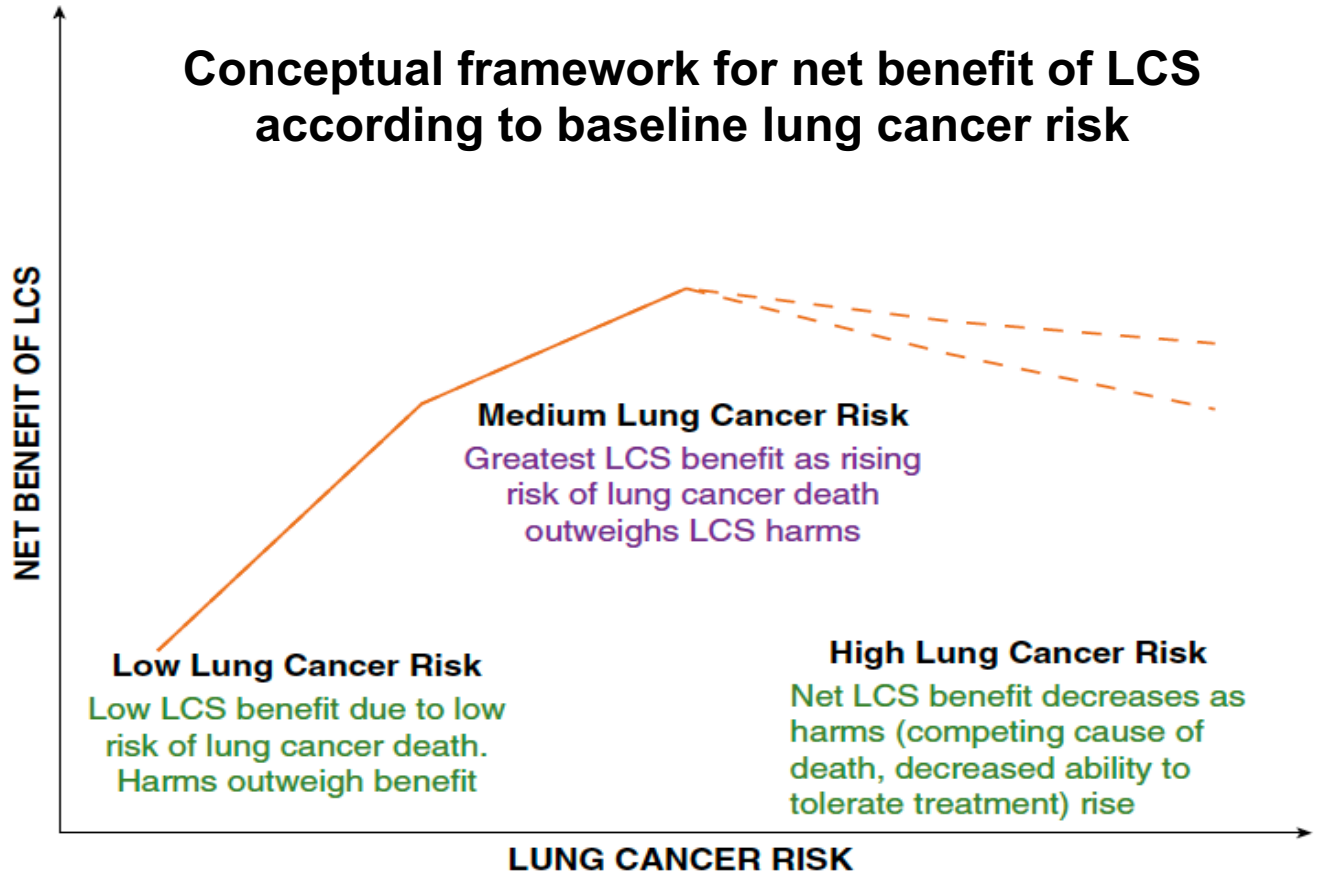
AJRCCM 2018;198:e3-e13.

Incorporating Coexisting Chronic Illness into Decisions about Patient Selection for Lung Cancer Screening

An Official American Thoracic Society Research Statement

M. Patricia Rivera, Nichole T. Tanner, Gerard A. Silvestri, Frank C. Detterbeck, Martin C. Tammemägi, Robert P. Young, Christopher G. Slatore, Tanner J. Caverly, Cynthia M. Boyd, Dejana Braithwaite, Joelle T. Fathi, Michael K. Gould, Jonathan M. Iaccarino, Stephen P. Malkoski, Peter J. Mazzone, Lynn T. Tanoue, Nancy L. Schoenborn, Javier J. Zulueta, and Renda Soylemez Wiener; on behalf of the American Thoracic Society Assembly on Thoracic Oncology

Conceptual framework for net benefit of LCS according to baseline lung cancer risk



CHALLENGES IN LUNG CANCER SCREENING

- **Have we eliminated disparities in eligibility?**

- **How to optimize risk-based assessment**
  - *Balance of enrollment criteria and screening efficiency*
  - *Impact of comorbidities*
  - *Individuals not represented in screening trials*

- **Low rates of uptake and adherence to follow-up screening**

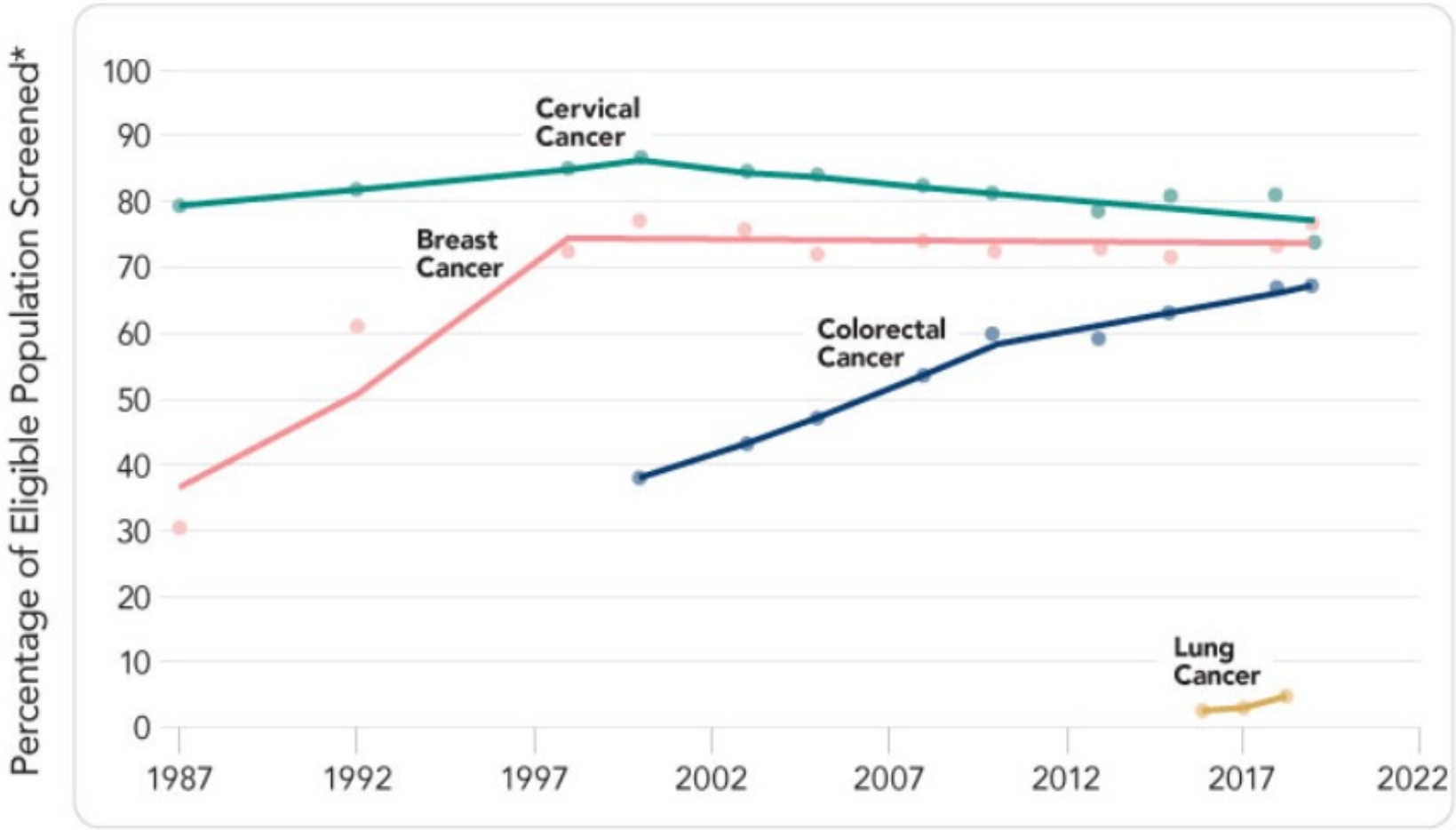
- **Lung cancer risk heterogeneity**
  - *How best to combine image screening with novel biomarkers*

- **Tobacco control policy**

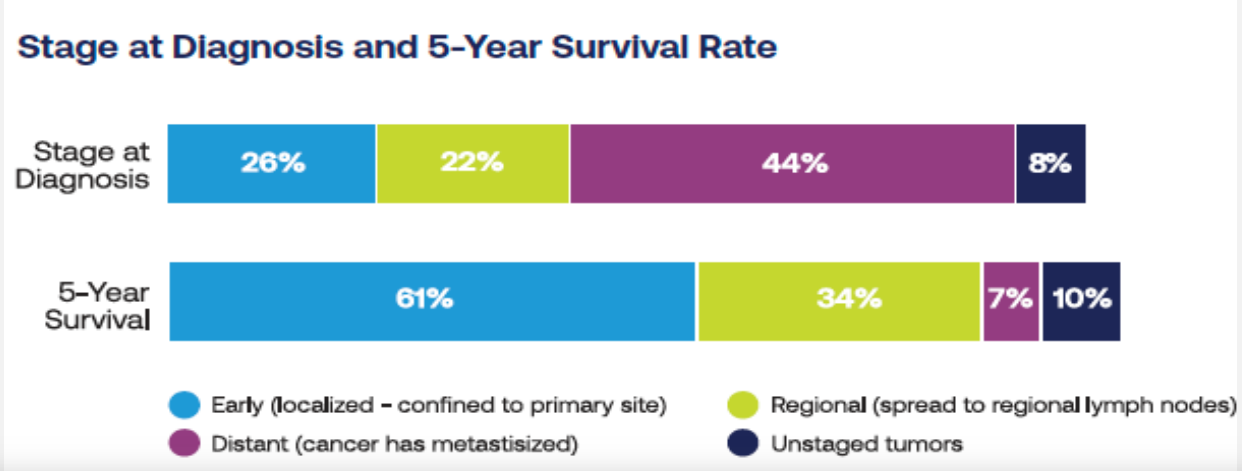
LOW RATES OF LUNG CANCER SCREENING

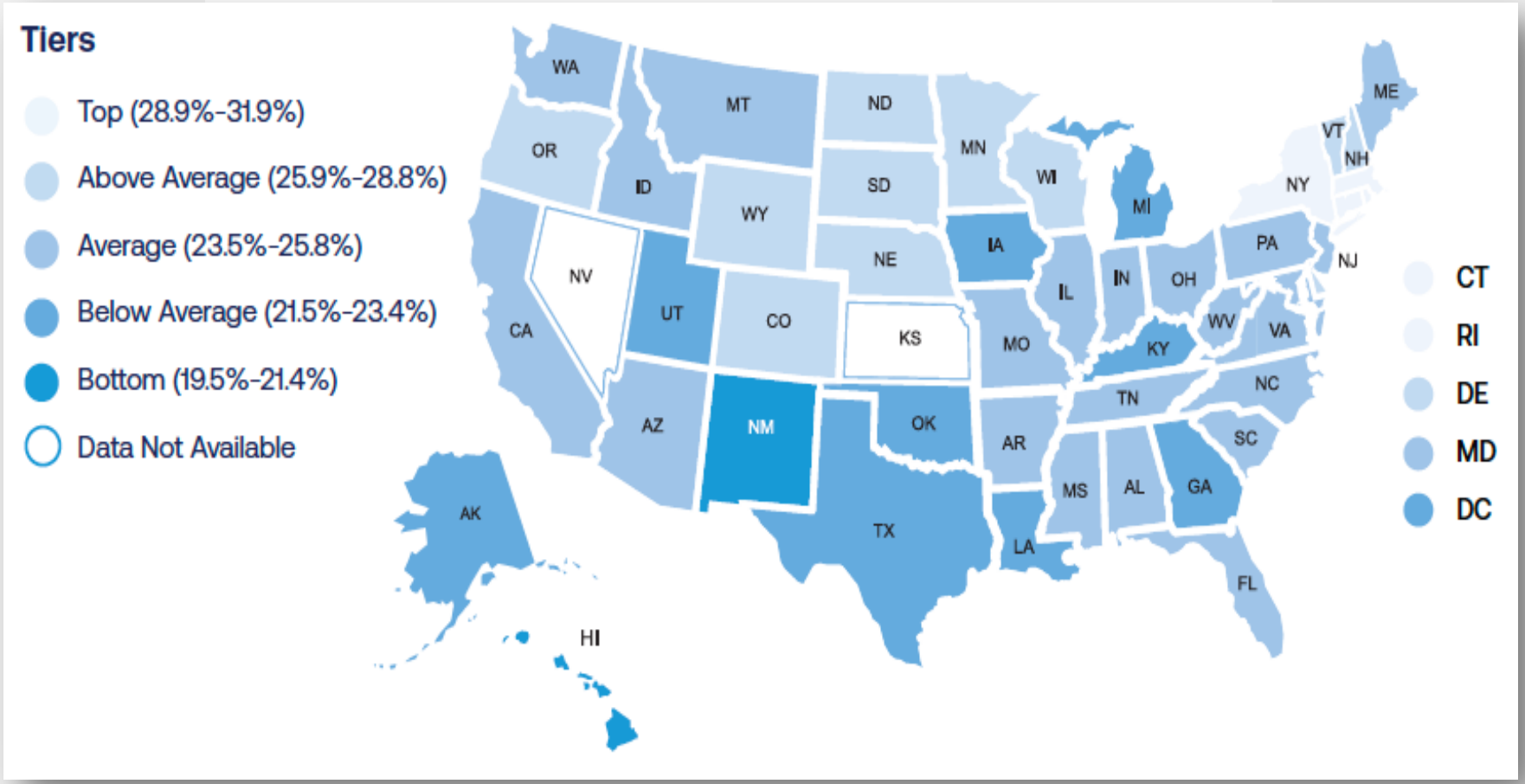
Closing Gaps in Cancer Screening:
Connecting People, Communities, and Systems to Improve Equity and Access

U.S. Cancer Screening Rates



https://prescancerpanel.cancer.gov/report/cancerscreening/PartI





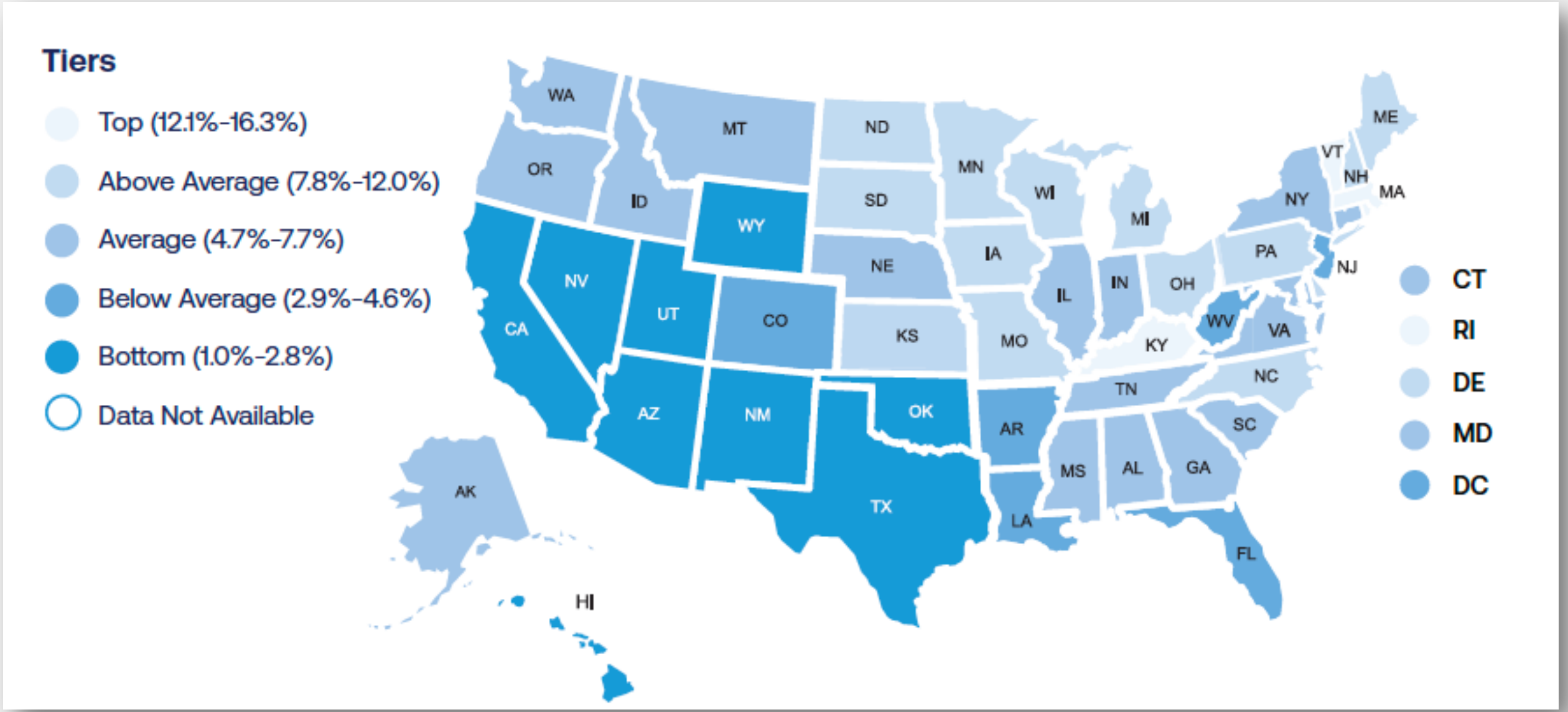
Early Diagnosis:

- **In NYS, 30%** of cases are diagnosed at an early stage, **significantly higher** than the national rate of 26%.

- NYS ranks **4th** among the 49 states with data on diagnosis at an early stage, placing it in the **top tier**.

- Over the last five years, the early diagnosis rate in New York **improved** by **22%**.

https://www.lung.org/research/state-of-lung-cancer



Screening for High Risk:

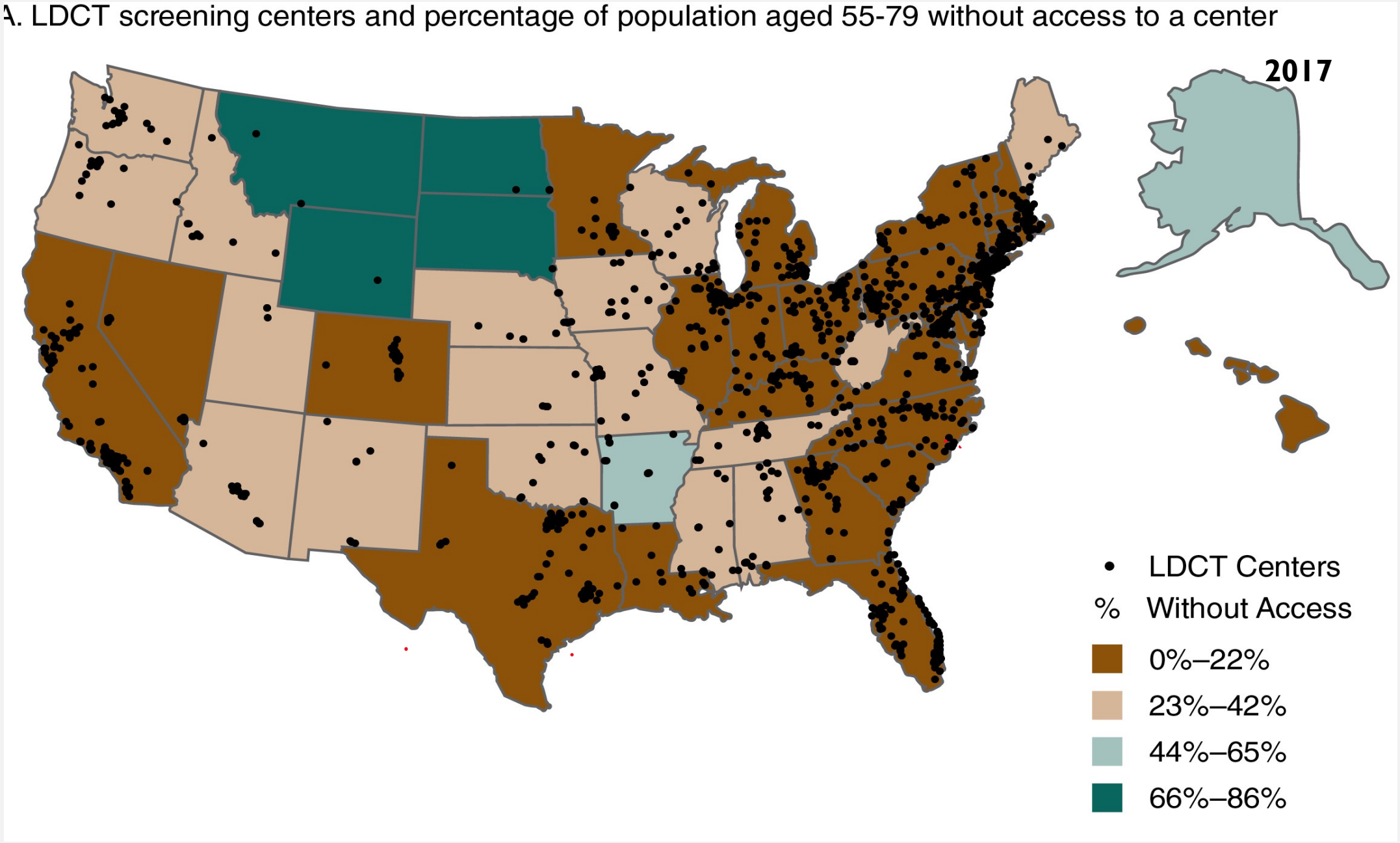
- In New York, **6%** of those at high risk were screened, **significantly higher** than the national rate of 6%.
- It ranks **27th** among all states, placing it in the **average tier**.

https://www.lung.org/research/state-of-lung-cancer

Barriers to LCS Dissemination, Implementation, and Follow-up of Abnormal Findings

Healthcare-system and provider level	• Multidisciplinary buy-in for implementation • Investment by health systems in additional resources (personnel, information technology, etc.) • Provider time constraints preventing SDM • Level of provider familiarity with LCS eligibility criteria and SDM requirements • Implicit bias and differences in trust and perception based on sex, race, ethnicity, and socioeconomic status
Patient level	• Individuals who smoke tend to be less educated and less likely to have a PCP, reducing access to LCS • Smoking carries a stigma, with many who smoke having a high level of nihilism • Cost and lack of health insurance • Travel to LCS facility • Medical mistrust
Geographic location	• An inverse relationship exists between individuals at highest risk for lung cancer and availability of accredited LCS programs • The southeastern United States has a disproportionately low number of accredited sites compared with the number of individuals who smoke and are at risk for lung cancer

Rivera MP,...Henderson L, Aldrich M. Am J Respir Crit Care Med 2020; 202: e95-e112



Eberth JM et al. Prev Chronic Dis 2018;15:E119-

ACR LCS LOCATIONS

- 263 screening locations in New York
  - California 141
  - Texas 169
  - Massachusetts 98
  - Florida 206

https://www.acr.org/Clinical-Resources/Lung-Cancer-Screening-Resources/LCS-Locator-Tool

PROPOSED STRATEGIES TO REDUCE LCS DISPARITIES: ACCESS TO CARE

Overall:
- Address existing multilevel barriers to LCS using a multipronged approach
- Propose quality metrics to evaluate equity in LCS dissemination and implementation

1. Strategies to ensure equity in LCS based on screening individuals with equal risk:
- Generate evidence on the benefits and risks of LCS in diverse populations
- Consider an approach to LCS eligibility assessment that includes both USPSTF guidelines and risk and/or gained–based assessment for high-risk, high-benefit individuals

2. Strategies to improve tobacco treatment:
- Provide access to tobacco treatment and develop programs that address differences in cultural beliefs, language, and literacy

3. Strategies to address healthcare system–level barriers:
- Integrate patient navigators within LCS programs to increase the uptake and adherence among vulnerable populations

4. Strategies to address provider-level barriers:
- Commit resources toward provider-level support and education to increase awareness and uptake of LCS
- Provide provider-level training on communication techniques to build and improve patient trust

5. Strategies to address patient-level barriers:
- Develop SDM tools that are culturally sensitive and understandable by those with lower literacy and numeracy and those with SMI
- Launch culturally adapted LCS marketing and outreach campaigns to reach vulnerable populations

6. Strategies to reduce geographic barriers:
- Determine feasibility of mobile LCS units to reach populations confronting geographic barriers
- Consider telehealth as a pragmatic approach to provide access to LCS services for rural populations

7. Proposed policies to improve LCS access:
- Mandate expansion of Medicaid coverage for LCS
- Propose federal mandates similar to the 1990 Breast and Cervical Cancer Mortality Prevention Act and the Mammography Quality Standards Act to ensure that all high-risk adults have access to high-quality LCS for the detection of lung cancer in its earlier, most treatable stages

8. Engage advocacy groups and organizations:
- Advocacy groups and organizations should leverage their resources to promote strategic planning, research funding, and advocacy to ensure equitable access to high-quality LCS in all populations

Rivera et al. Am J Respir Crit Care Med 2020; 202: e95-e112

SUMMARY

- Several randomized trials reinforced value of LCS = **reduces lung cancer mortality in high-risk individuals**

- **USPSTF 2021: lower age (50-80) and pack year history (20 P-Y), quit within 15 yrs**
  - More Blacks and women
  - Not likely to ensure equity in screening eligibility

- LCS is complex
  - Variation in stakeholder buy-in, patient selection, delivery across health care systems
  - Multiple barriers exist
    - Difficulty in identifying screening eligible patients
    - Limited resources to support screening
    - Competing demands for limited resources
    - Access to facilities/payment of LDCT

- Continued effort to develop and support interventions that address
  - Improvement in eligibility assessment
  - Improved uptake and adherence (centralized programs)
  - Dissemination of LCS to vulnerable communities
  - Barriers across the LCS pipeline

Thank you

Panelist

Andy Hyland, PhD

Dr. Hyland is the Chair of the Department of Health Behavior at Roswell Park Comprehensive Cancer Center as well as the Director of the New York Quitline. Dr. Hyland's primary research interests lie in evaluating the impact of policies aimed at reducing the morbidity and mortality associated with the use of tobacco products. Dr. Hyland also serves as Multiple Principle Investigator for a P01 that provides major support for the International Tobacco Control Policy Evaluation Project, which is conducting nationally representative surveys of tobacco use in 7 countries (including the US) to evaluate novel policies such as menthol bans in Canada and England, heated tobacco product policies in Japan and South Korea, and the reduced cigarette nicotine policy expected to be implemented in New Zealand. Dr. Hyland's research program is focused on providing an evidence base to inform interventions to reduce the disease burden caused by tobacco by as much and as quickly as possible.

Panelist

Nikia Clark, BS

Nikia is the Senior Community Outreach and Engagement Manager, and the staff lead for the Community Advisory Board (CAB) in the Office of Community Outreach and Engagement at Roswell Park Comprehensive Cancer Center. Nikia develops and nurtures strong partnerships with community organizations and key stakeholders who help champion and support the mission of health equity for cancer education, resources and cancer screenings to those underserved and most in need. Nikia manages a 12-member Community Advisory Board, a diverse group of community stakeholders that meet quarterly and help to strategically plan and advise the research and outreach efforts of the Office of Community Outreach and Engagement. She also holds the position of Program Manager for the ROCKstars (Research Oncology Community Knowledge) Advocate Program, where she leads the day-to-day operations as well as recruits and trains cancer survivors, community members and caregivers to become active research advocates

Panelist

Michael Davoli

Michael is the Senior Director of Government Relations New York at American Cancer Society Cancer Action Network, Inc. For more than 25 years, he has been a passionate advocate working on a variety of national, state and local policy campaigns across issues—from education to health care reform. Ensuring equitable access to cancer prevention and care has been a defining feature in 2022 and 2023. In the last year, Michael has built multiple coalitions of patient and provider groups, working to improve access to precision medicine through biomarker testing and expand access to cancer screening. Michael has mobilized stakeholders across the state and captured the attention of the media, resulting in bipartisan support for legislation to improve access to biomarker testing and cancer screening, help patients pay for prescription drugs, and curb tobacco use.

- **Quit sessions with coaches:** *Call, Chat, Text.*
- **A supply of nicotine patches, gum, and lozenge.**
- **Texting program** (Learn2QuitNY).
- **Web-based information and interactive tools**
- **Print materials.**

49% *of people calling the Quitline are eligible for lung cancer screening.*

Accessing Quitline Services:

-Direct:

Call: ***1-866-697-8487,***

Chat, Text:

NYSmokeFree.com/TalkNow

Learn2QuitNY: ***QUITNOW to 333888***

- Patient Referral Program

- Community-Based Organizations

Education and Outreach

Strategic Planning Process:

- **SURVEY & ASSESS** community demographics
- **IDENTIFY** who is already there doing the work
  -Support and enhance those efforts
- **BUILD** new partnerships/nurture existing ones
- **ENGAGE**- community stakeholders, faith-based organizations, housing developments, support groups, advocates, block clubs, social service orgs, FQHCs, Council members, etc.
- **SHOW UP-** tabling events, community events, etc.

Education and Outreach

- **EDUCATE**- Lung AIR (Awareness, Information and Resources) program, tailored handouts and outreach materials
- **EXPAND** reach through social media platforms, text messaging, newspaper, local radio, direct mailings, networks, etc.
- **BE PREPARED-** outreach budget
  Staffing, travel, vendor fees, giveaways, program refreshments
- **TIMING** is everything!

Lung AIR evidence-based educational intervention

Bouchard, E. et al. (2023) *J Can Ed.*

Prevent Cancer Foundation Grant: PI Bouchard

EDDY – Early Detection Driven to You

- Mobile low-dose CT for lung cancer screening

Quitline Services

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Introducing EDDY (Early Detection Driven to You) Lung Cancer Screening: Mobile Low-Dose CT

- Reaching underserved populations (urban and rural)
- Reaching high risk populations:
  - Fire Fighters and First Responders
- Providing navigation from PCP to LCS with recommendations for follow-up and management of lung nodules
- Utilizing local facilities to provide follow-up for highest risk

Meet Eddy (Early Detection Driven to You)

- Opened: November 7, 2022
- Screened to Date: 980
- Patients/Day: capacity of 20-30
- Focus on High Risk/High Burden of cancer
- Fire Fighters, HIV survivors, Rural and Urban communities
- Integrate into community networks
- Provide medical support on the unit (PA, RN)

Poll Question

What action are you most likely to take to help increase LCS?

Question & Answer

Join the Consortium and Attend Upcoming Meetings

Upcoming Meetings

- **Survivorship and Lifestyle Action Teams**

  December 14, 2023, 11:00 AM – 12:30 PM

- **Environmental Carcinogens Action Team**

  March 12, 2024, 11:00 AM – 12:30 PM

SCAN ME

Poll Question

If you aren't already a NYS Cancer Consortium member, did today's meeting influence you to join?

Thank you for Attending

cancerconsortium@health.ny.gov

New York State Cancer Consortium

SCAN ME