

Maryland Tobacco Control Resource Center 19th Annual Best Practices Conference

Tobacco and Lung Cancer

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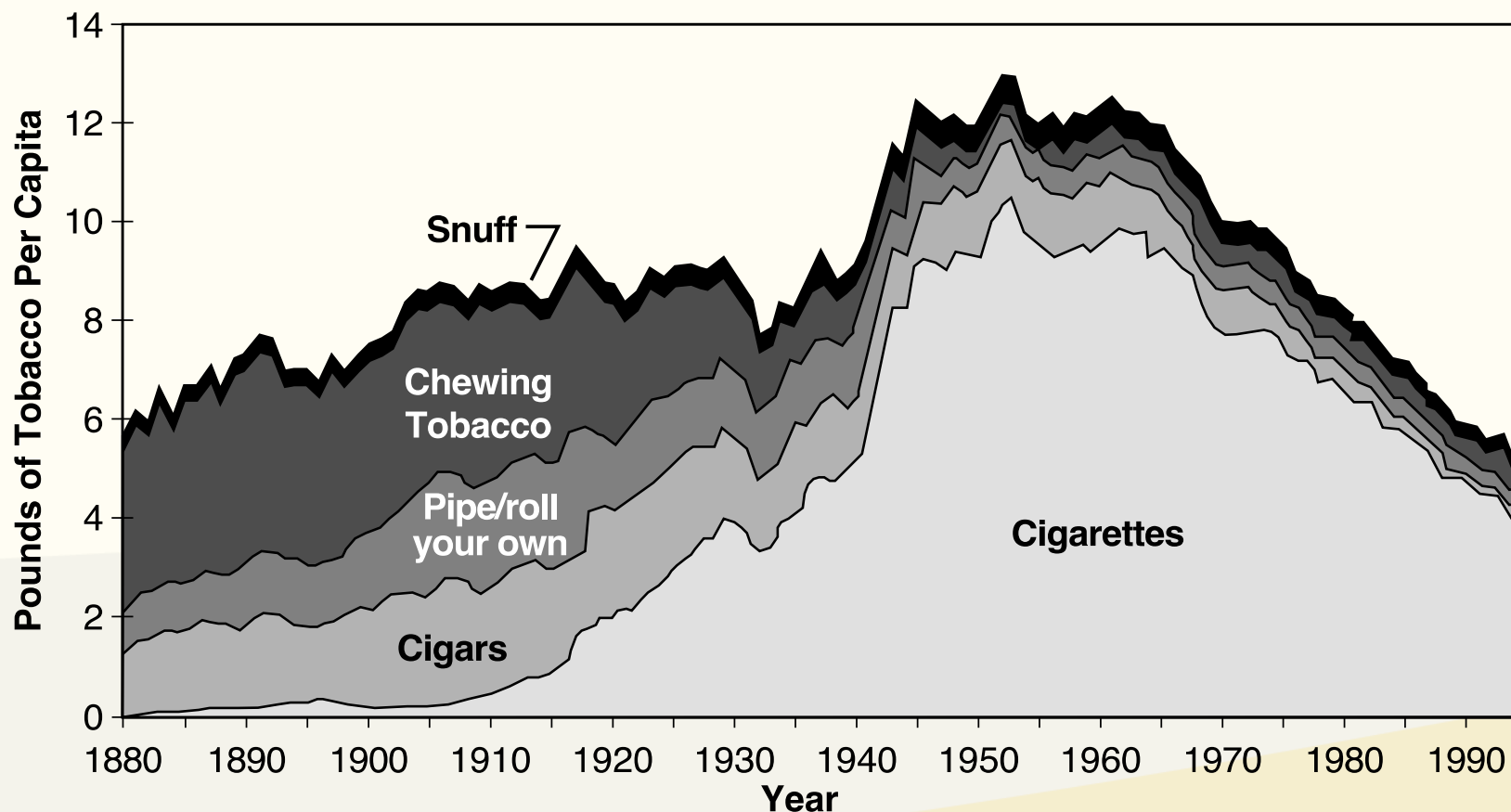


Disclosure Information

- **Paid Advisory Board:** Novartis; Lilly; Amgen; AstraZeneca; Boehringer Ingelheim; EMD Serono; Bayer; Roche/Genentech, Inc.; Merck; Jazz Pharmaceuticals; Daiichi Sankyo; Janssen; BeiGene; Genentech; Coherus Biosciences; GenCART; Heat Biologics; Meryx; Puma Biosciences; GSK, Gilead, Regeneron, Betta Pharmaceuticals; OncoHost; Boehringer Ingelheim
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- **IRC/DSMB:** EMD Serono, Roche/Genentech
- **Co-founder or Stock Ownership:** Cambium Oncology; Taobob LLC/Coherus Biosciences; GenCART;

Historical evolution of tobacco use in the US

Per capita consumption of different forms of tobacco in the United States, 1880-1995



Source: U.S. Department of Agriculture, 1996.

1884:
Invention of a machine to manufacture cigarettes

1913:
Mass marketing of cigarette

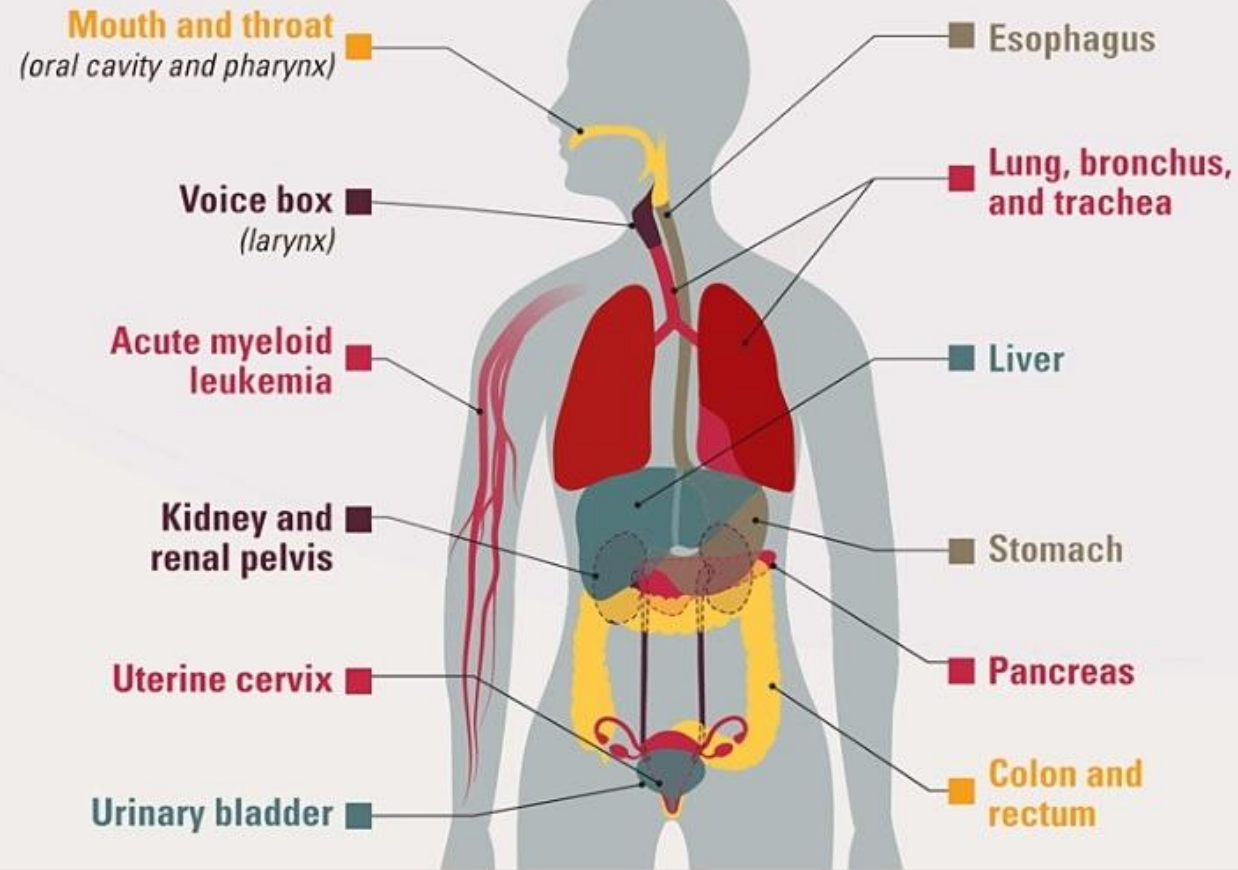
1928:
Introduction of cigarette advertising targeting women

1955:
Marketing of filtered cigarettes

1970:
Counter-advertising and eventual ban on cigarette adverts

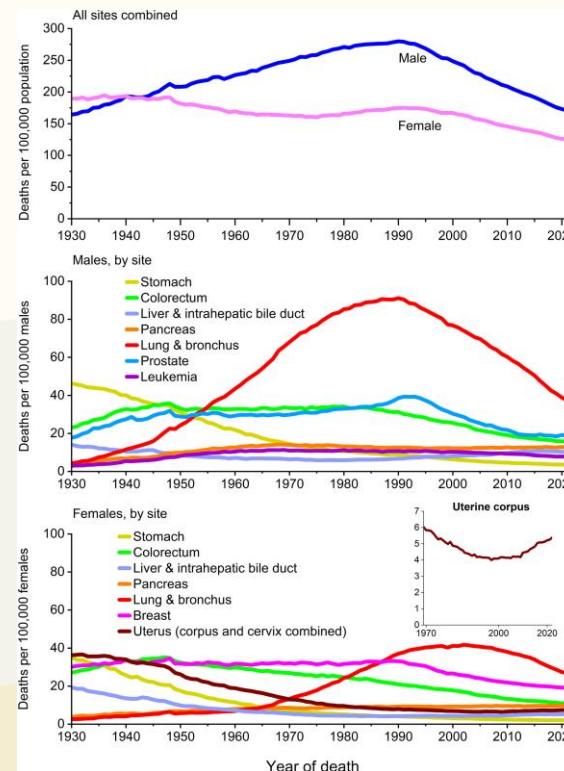
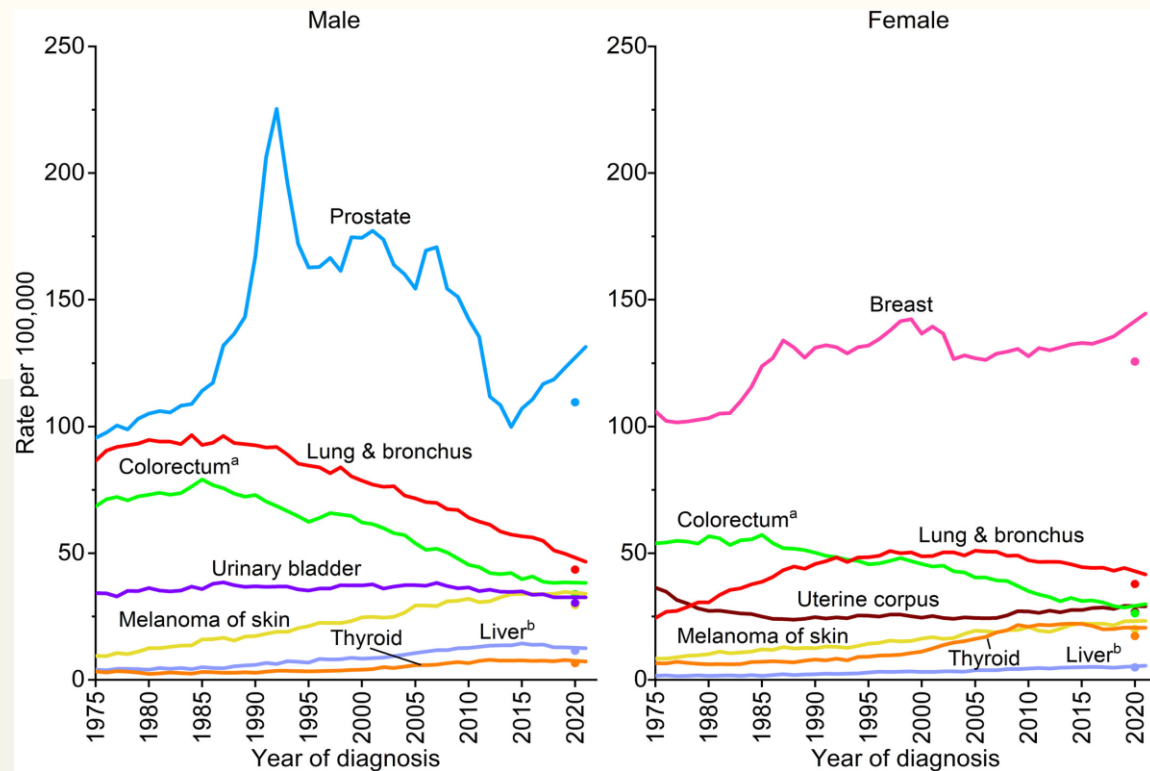
Tobacco and Cancer

Tobacco use* causes cancer throughout the body.



* Tobacco use includes smoked (cigarettes and cigars) and smokeless (snuff and chewing tobacco) tobacco products that, to date, have been shown to cause cancer.

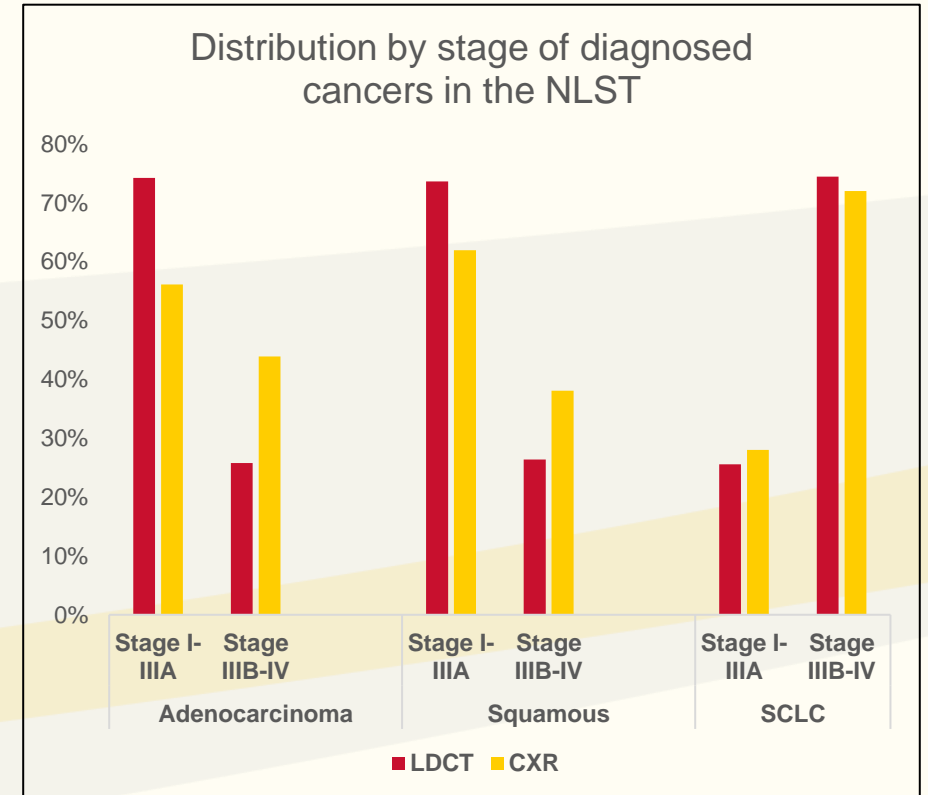
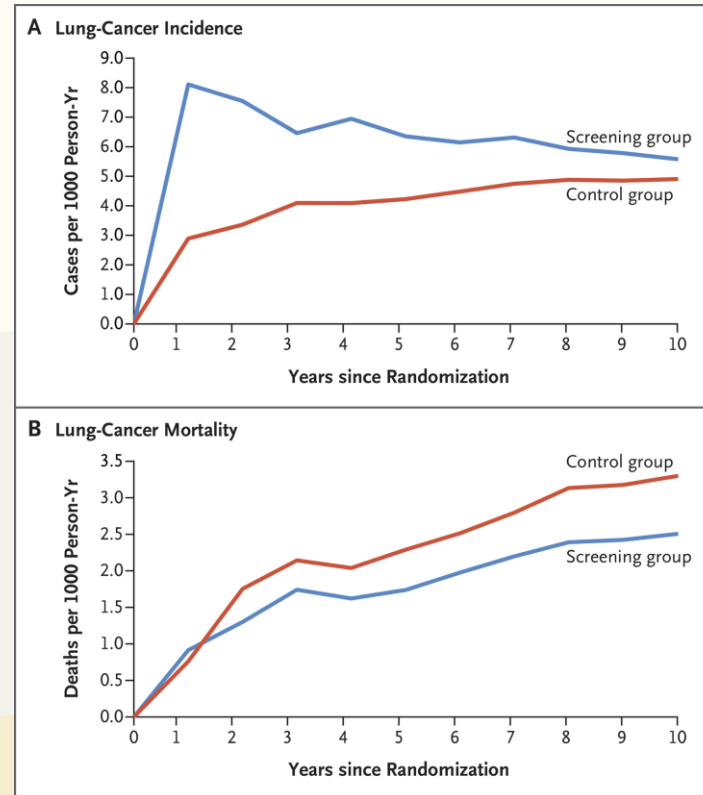
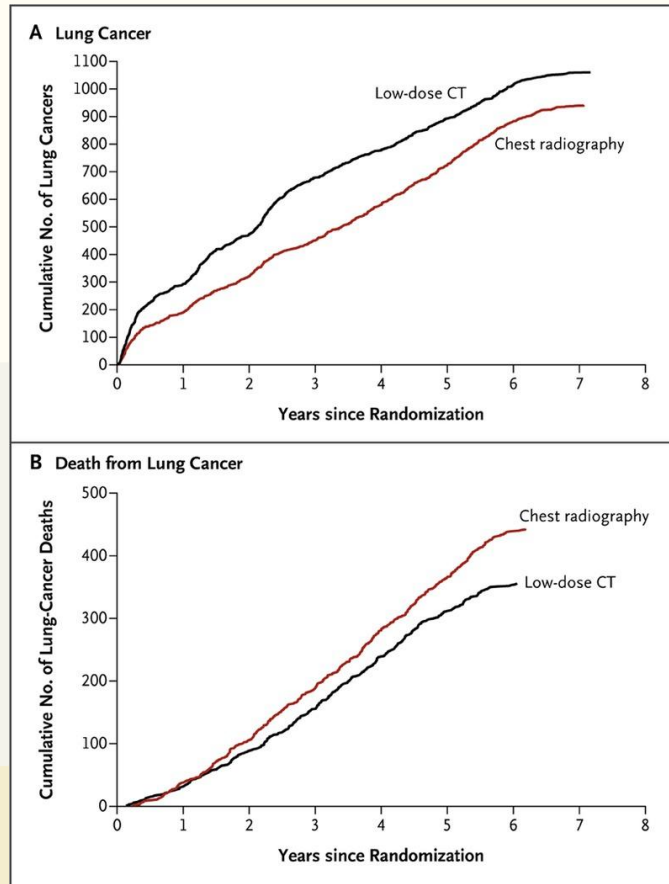
Trends in lung cancer by gender



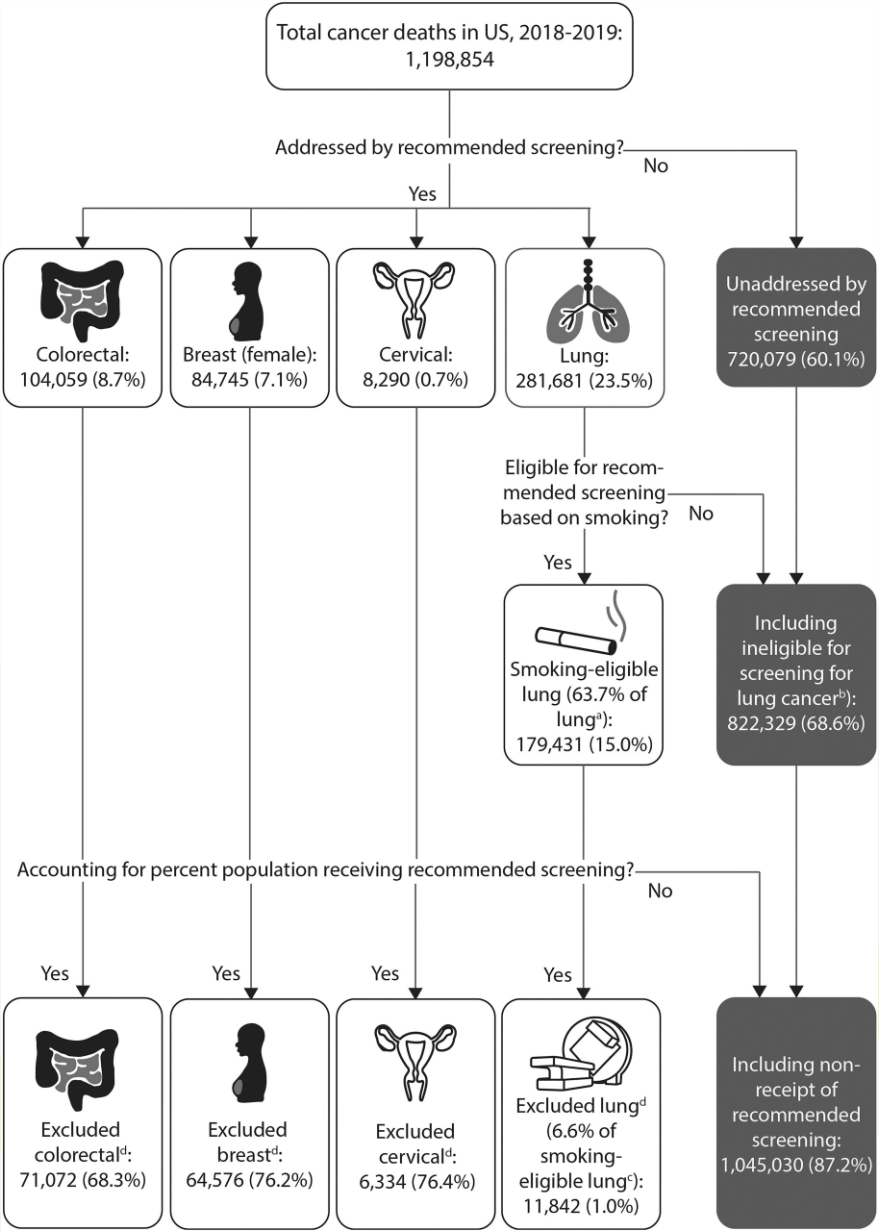
- Lung cancer incidence declined over the past decade (2012–2021) by 3% per year in men and 1.4% per year in women
- The downturn began in women in 2010 and in men in 1995
- Women took up cigarette smoking in large numbers later and also slower to quit

Current LDCT screening guideline

NLST and NELSON trials not effective for early detection of SCLC



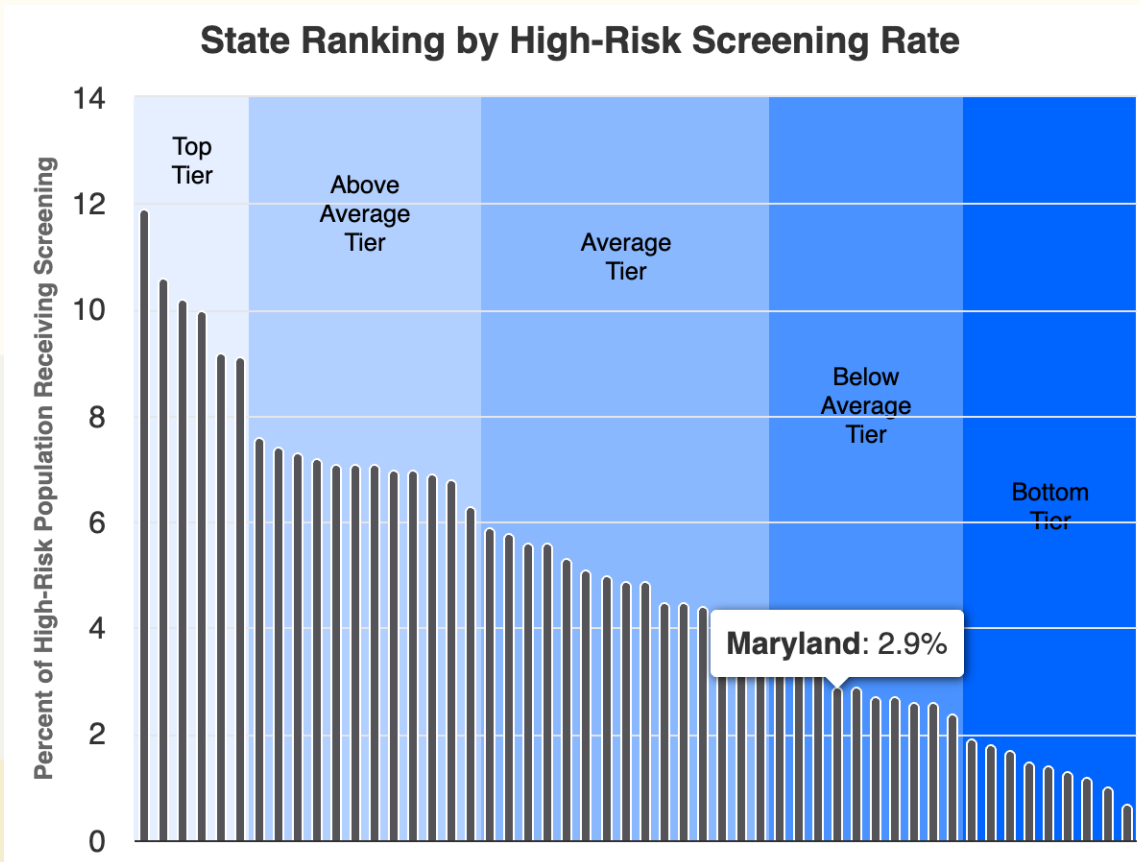
High proportion of cancer deaths not addressed by current cancer screening efforts in the US



- 39.9% of all cancer deaths attributable to cancer types covered by current USPSTF screening recommendations.
- 63.7% of US lung cancer cases meet current USPSTF smoking-based eligibility criteria for LDCT screening
- Proportion of cancer deaths addressed by screening recommendations decreased to 31.4%



Lung Cancer screening: State of Maryland in 2024



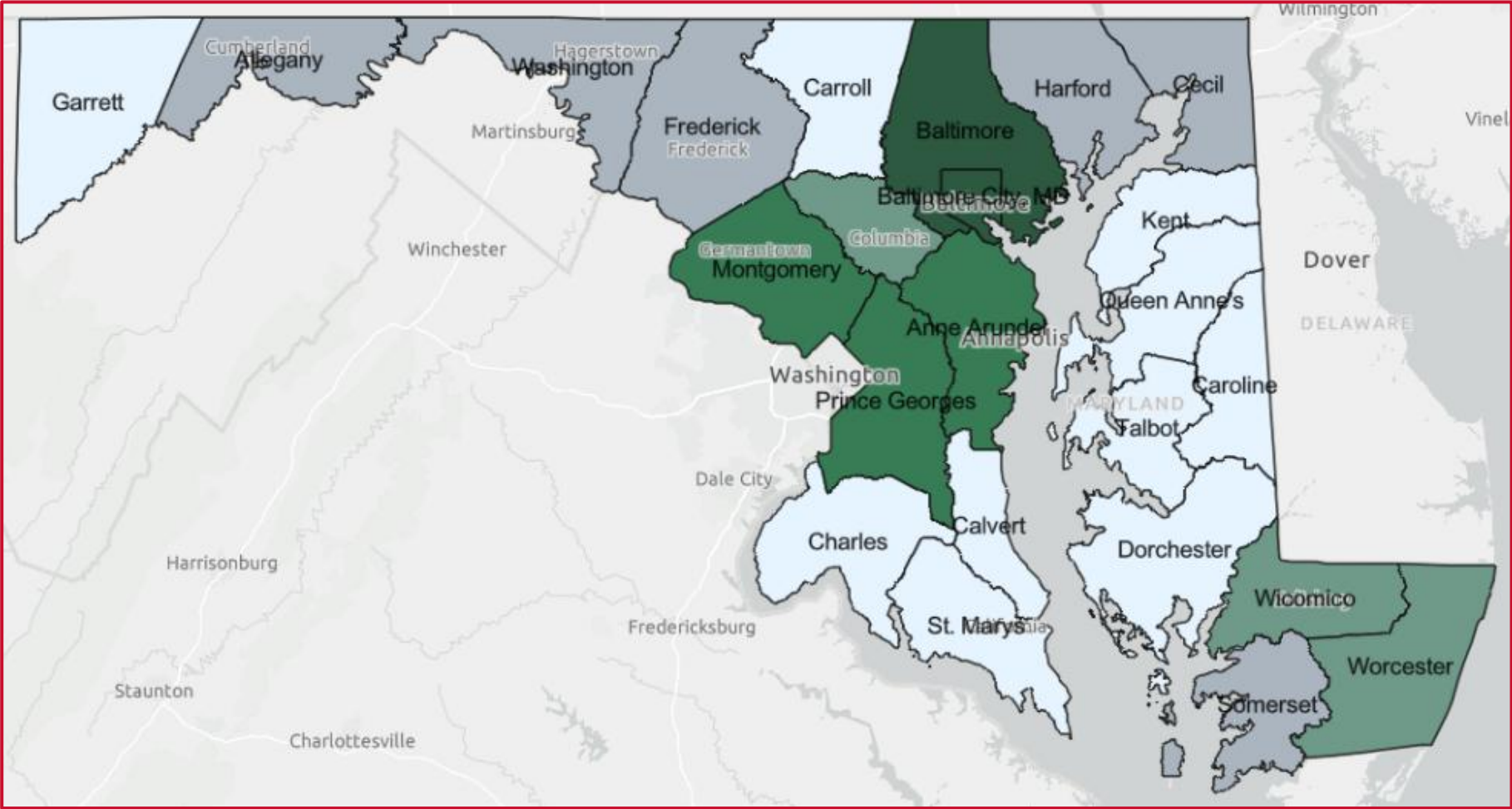
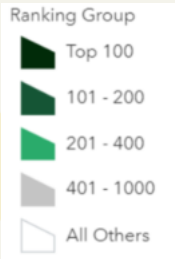
<https://www.lung.org/research/state-of-lung-cancer/states/maryland>

- 36,410 new cancer diagnoses
 - 4080 (11.2%) new cases of lung cancer
- 10,310 cancer related deaths
 - 2,010 (19.5%) deaths from lung cancer
 - Leading cause of cancer deaths
 - more than the next two most common, breast and colorectal cancer death combined

Maryland compared to national metrics in key attributes for lung cancer unmet needs

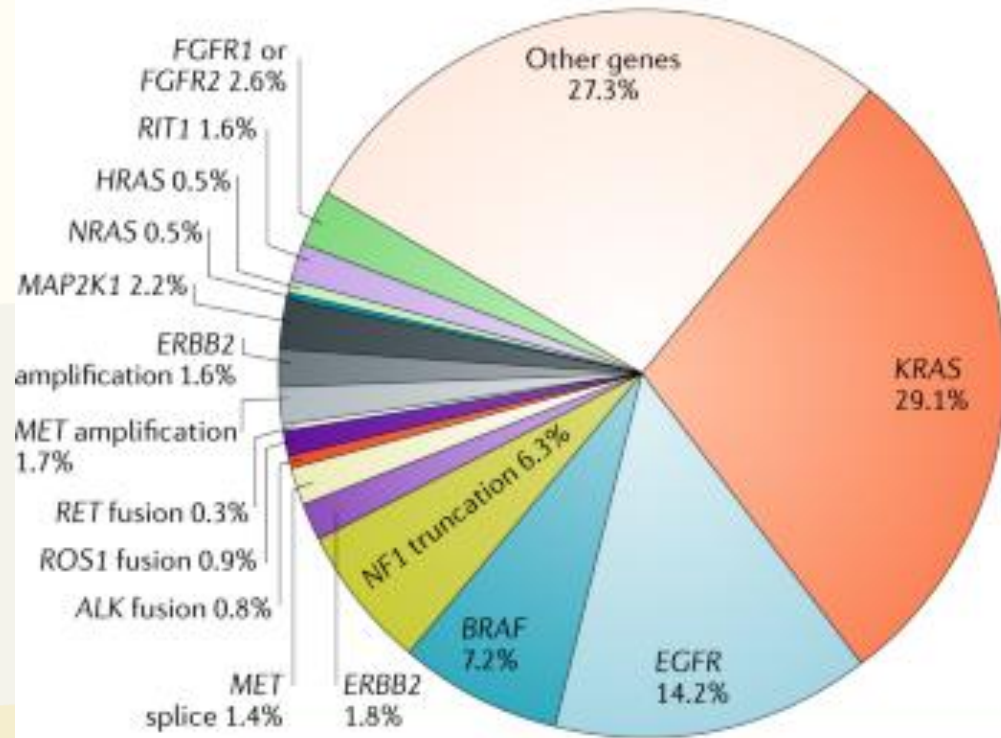
Descriptions	National Average	State Average
State		Maryland
State Rank		22
Total Annual Incidence Count		3,911
Average Incidence per 100,000	56.34	59.49
Total Annual Mortality Count		2,460
Average Mortality per 100,000	37.85	37.78
Average Mortality per Incidence count	0.55	0.63
Average Positivity Rate	4.02	5.46
Average Percent Current Smoking	24.78	21.40
Average Percent People Below Poverty	13.08	9.70
Average Percent People Age 65 over	18.79	17.27
Total High Risk Population		931,657
Total Population		6,018,848

Above National Average
± 10 % National Average
Below National Average



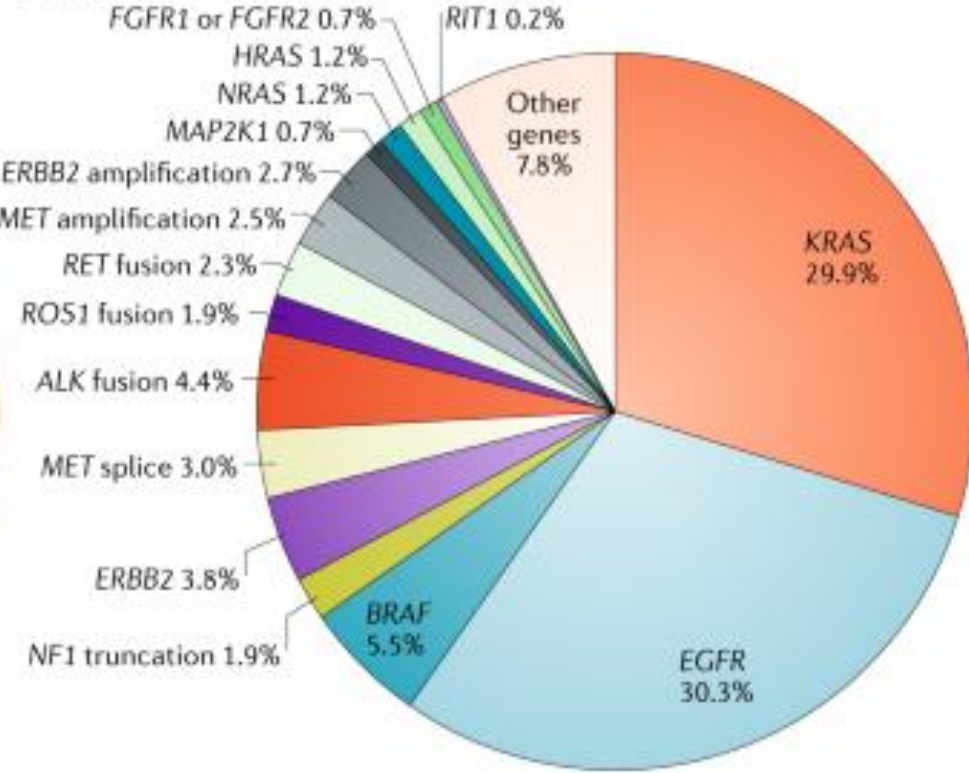
Molecular subtypes of lung cancer and novel therapies

a Early stage



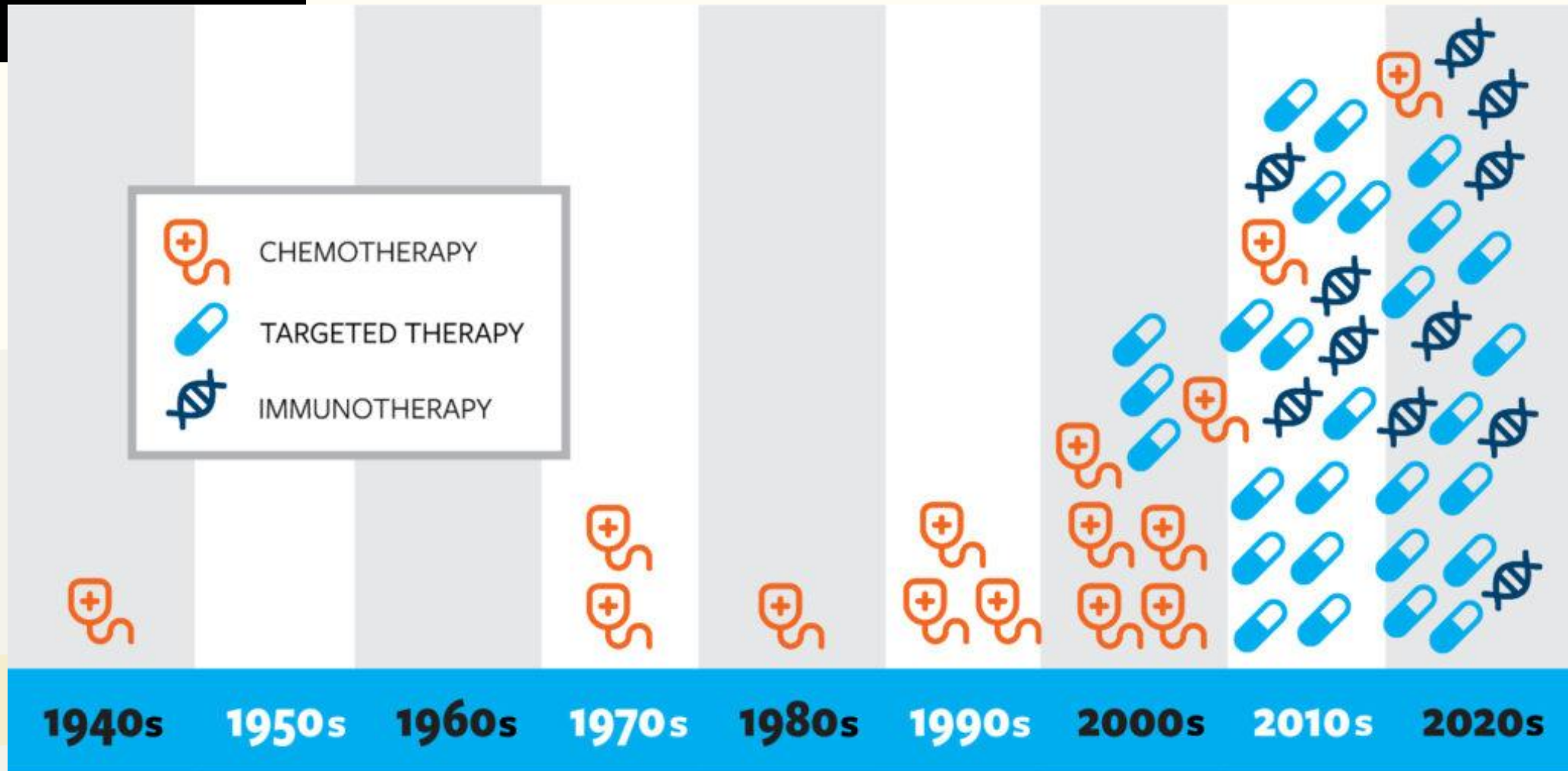
Data from TCGA (Sanchez-Vega et al.¹⁷⁸, Ellrott et al.¹⁷⁹ and Hoadley et al.¹⁸⁰), Imielinski et al.⁶² and Kadara et al.¹³³ (n = 741)

b Metastatic

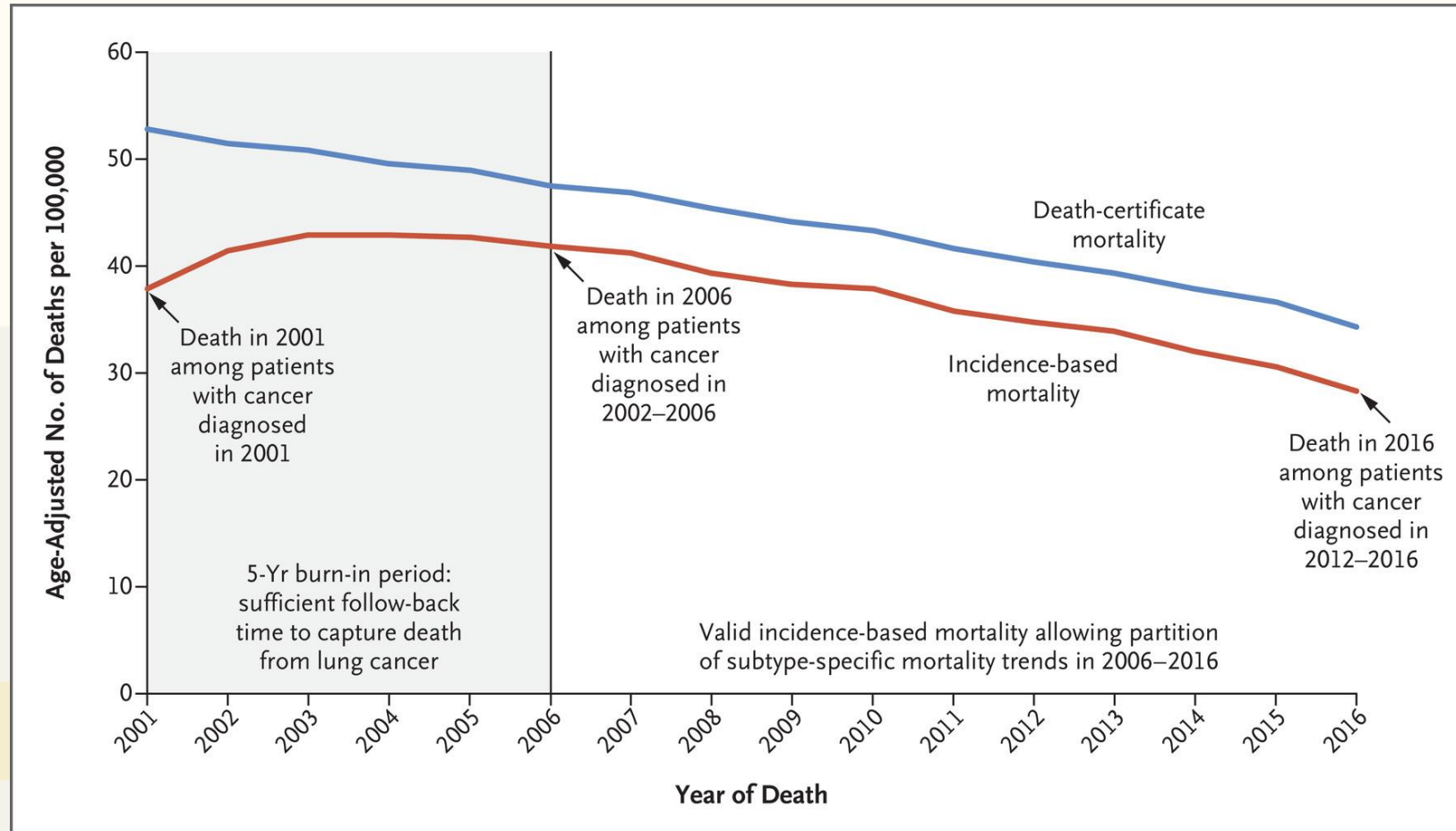


Data from MSK-IMPACT (Jordan et al.¹⁵⁹) and FoundationOne (Frampton et al.¹⁵) panels (n = 5262)

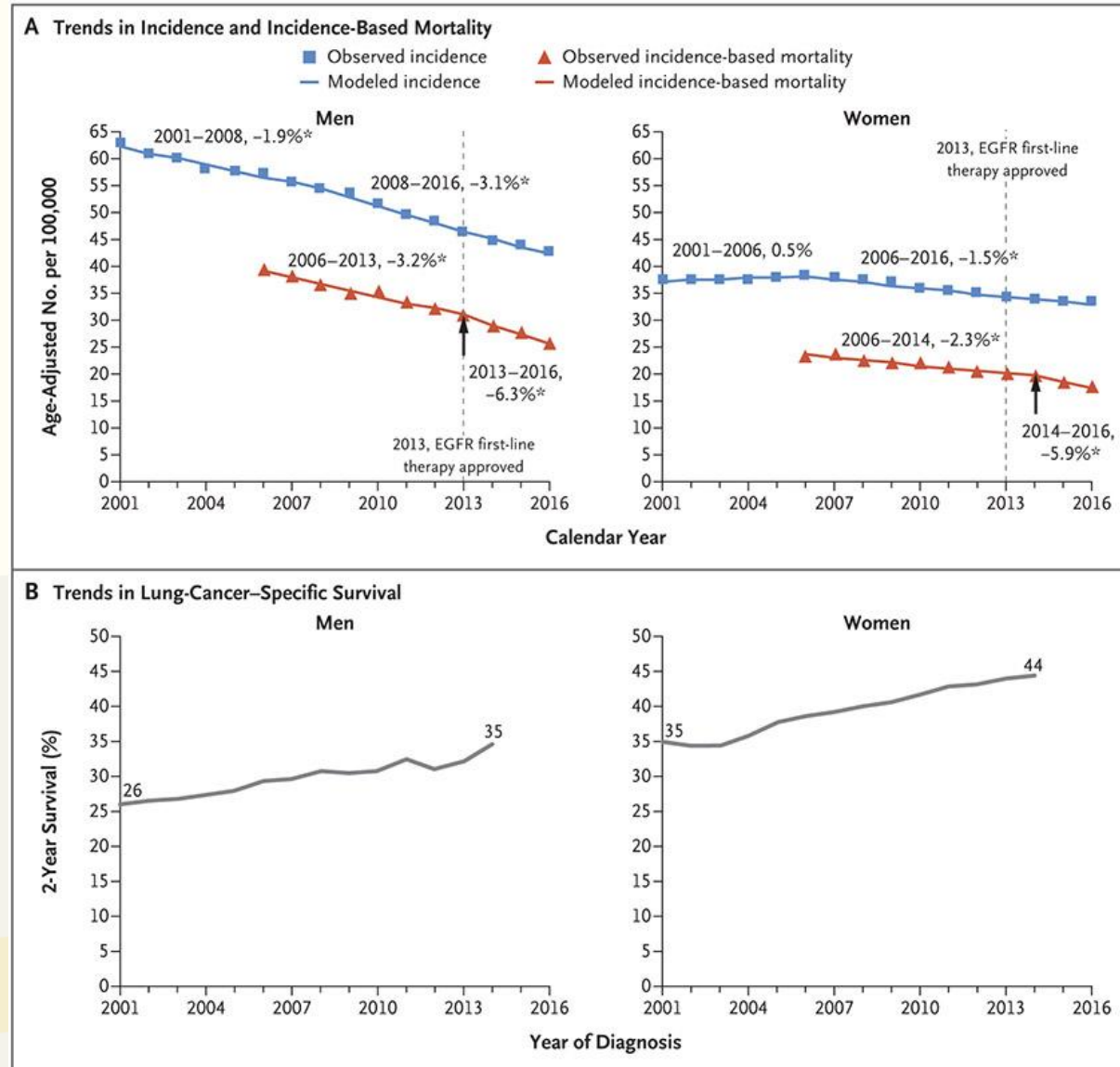
FDA approved drugs for lung cancer treatment



Improved survival for US lung cancer patients following introduction of targeted therapy



Improved survival for lung cancer with the use of EGFR targeted therapies

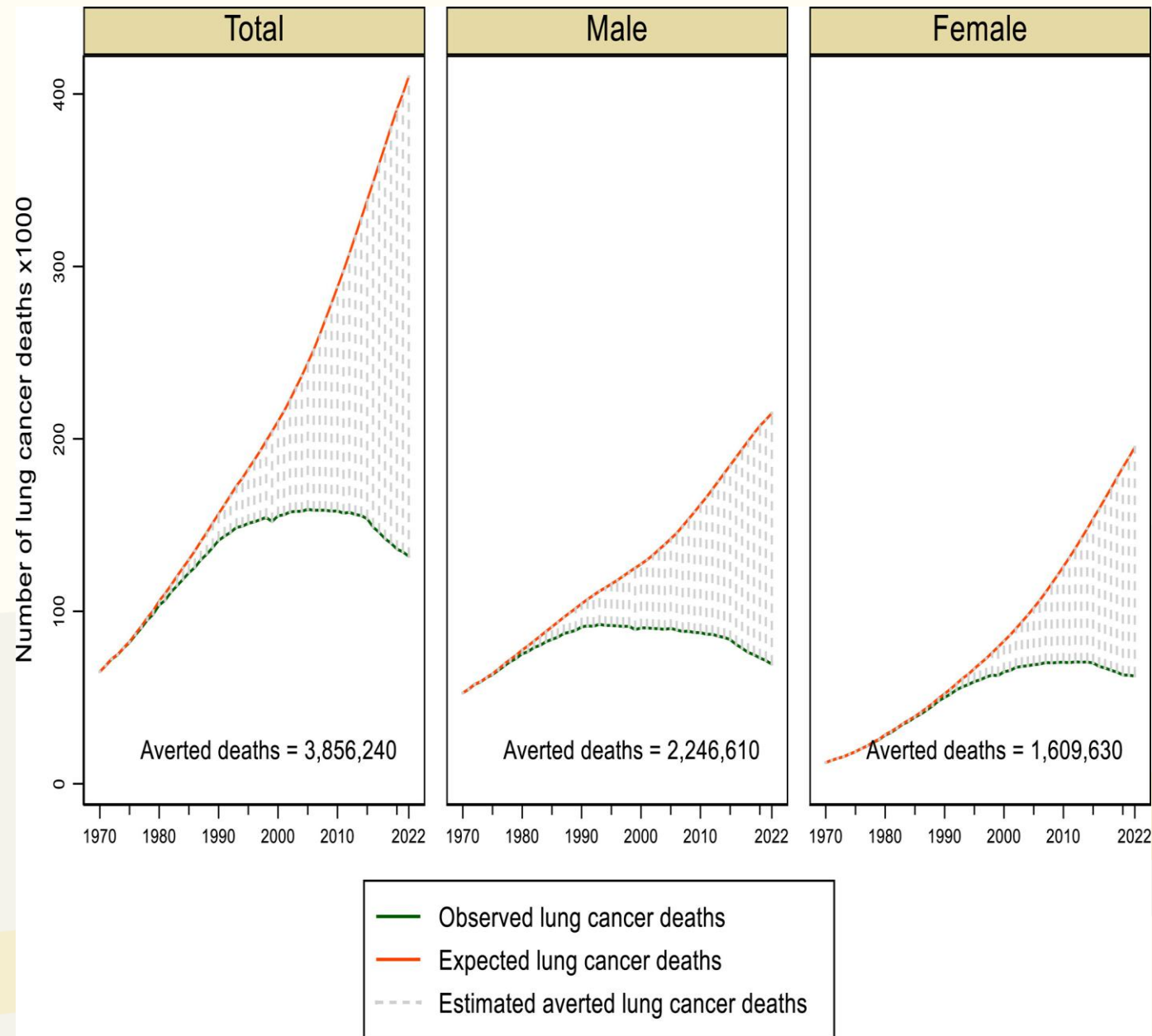


Howlader N et al. NEJM. 2020;383(7):640-9.

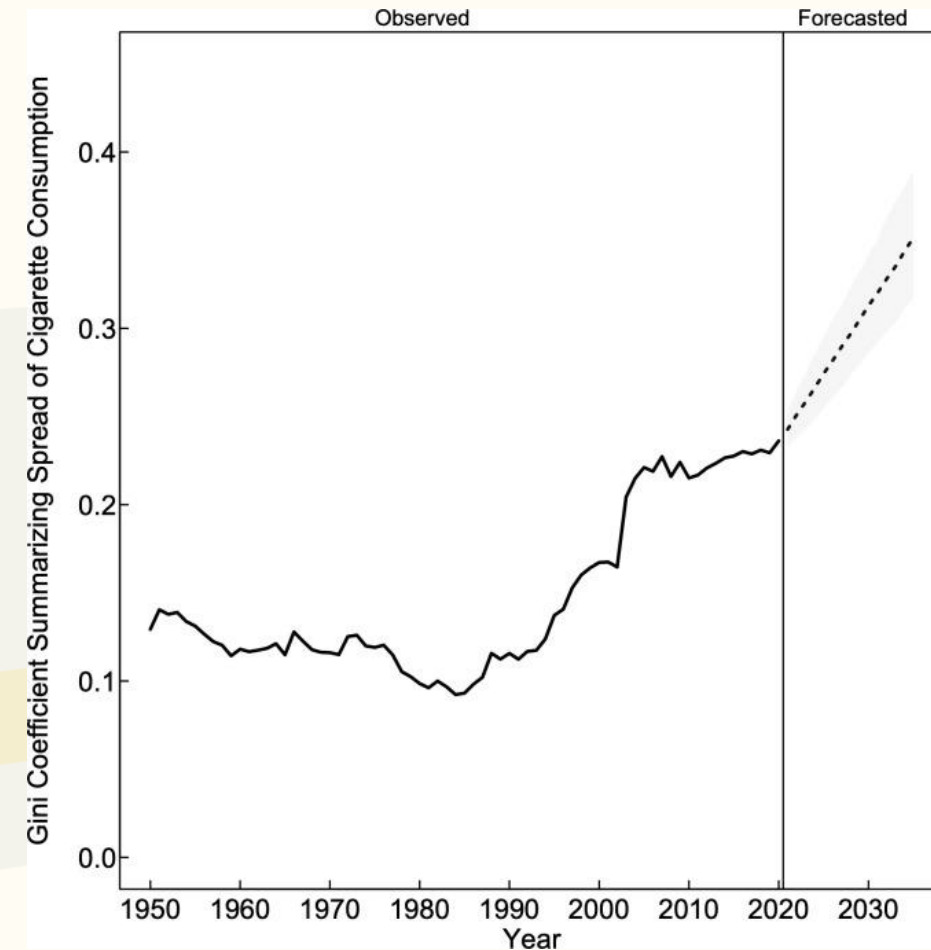
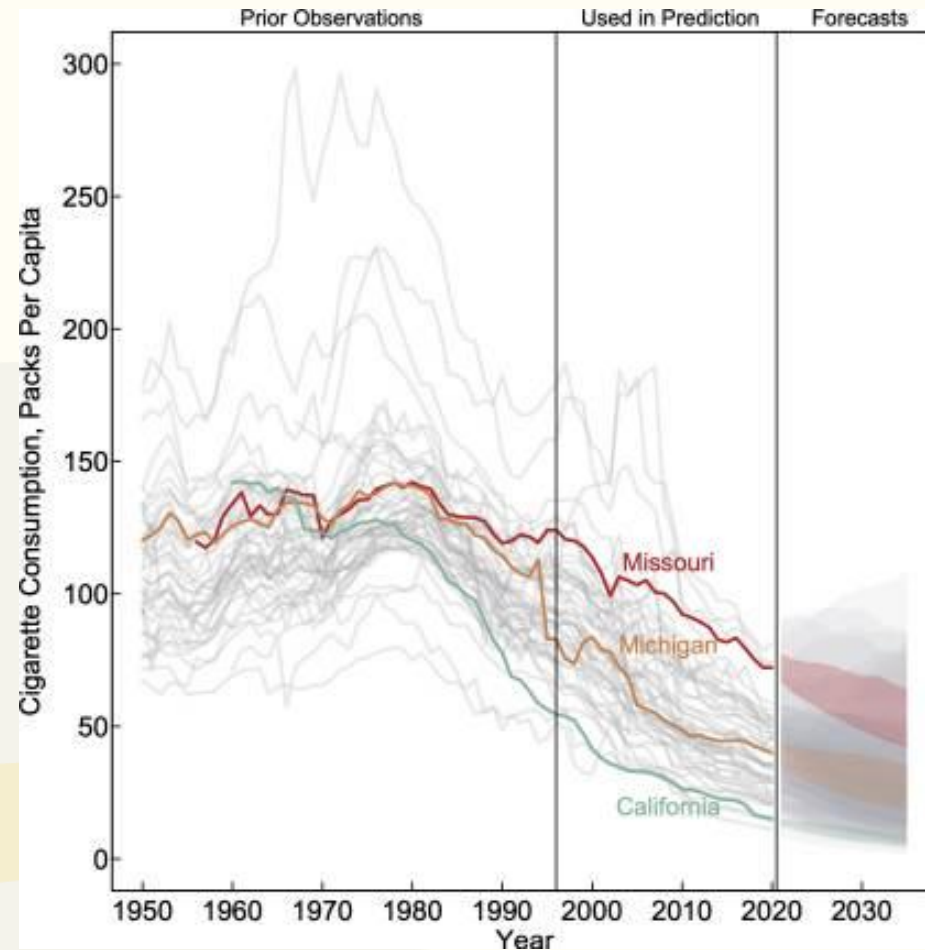


Averted lung cancer deaths due to reduced cigarette smoking in the US 1970-2022

- Substantial reductions in smoking prevalence driven by tobacco control led to
 - >3.8 million lung cancer deaths averted
 - 76 million years of life gained in the United States during 1970-2022



Trends in tobacco use and inequity in consumption in the US by states



Like filtered cigarette, like vaping!

To All Smokers of Filter Tips...
THIS IS IT!
 "JUST WHAT THE DOCTOR ORDERED"

1. SMOOTH TASTE, FROM A TRICELY NON-IRRITATING FILTER MATERIAL—Fibre Cellulose, Refine...
 2. MUCH LESS NICOTINE—The Kent Filter® removes...
 3. SMOOTH TASTE, FROM A TRICELY NON-IRRITATING FILTER MATERIAL—Fibre Cellulose, Refine...

L&M FILTER TIP CIGARETTES
Light and Mild

Why do these stains mean so much to 1 out of every 3 smokers?

Three friends ask Jonathan Blake if they can make the cigarette comparison test they see on TV in "The New York Times". Blake agrees and lights up a KENT... while his friends light up their other with known filter-tip cigarettes. Then each cigarette is put into the specially made test glasses.

Four puffs of smoke are drawn into each glass by each smoker. Then the glasses are placed in air on the glass where paper is a few minutes until the nicotine and tar particles as small as 1/10 of a micron... are trapped under the dot over the "K".

The difference between stains is the difference between filters!

As you can see, the irritants that come right through the filter of the other cigarette have left dark, ugly stains. But look the new KENT... nearly a trace! Here's irrefutable proof that KENT's exclusive Micronite Filter gives 21 million sensitive smokers—about 1 out of every 3 smokers—greater protection against nicotine and tar than any other filter cigarette on the market today. It is the greatest health protection in cigarette history.

The reason for the difference...
 Take apart the filter of any other filter-tip cigarette. You will find that it is made of stale old cotton, cellulose or crepe paper. But KENT's Micronite Filter is made of a material that has been used to purify the air in... It is so effective that KENT removes nicotine and tar particles as small as 1/10 of a micron... so that several thousand of them could be hidden under the dot over the "K".

Taste the difference today!
 With your first KENT, you'll discover the wonderful difference there is in smoking when you're not bothered by nicotine and tar. And if you're a sensitive smoker, why not try a carton of KENTs, and we'll give you the difference.

For... as the stains have shown you... you'll be smoking the one cigarette with a filter that really works... the one cigarette made especially for you. Why not buy a carton of KENTs today?

Kent with exclusive MICRONITE filter

You'll feel better about smoking with the taste of Kent!

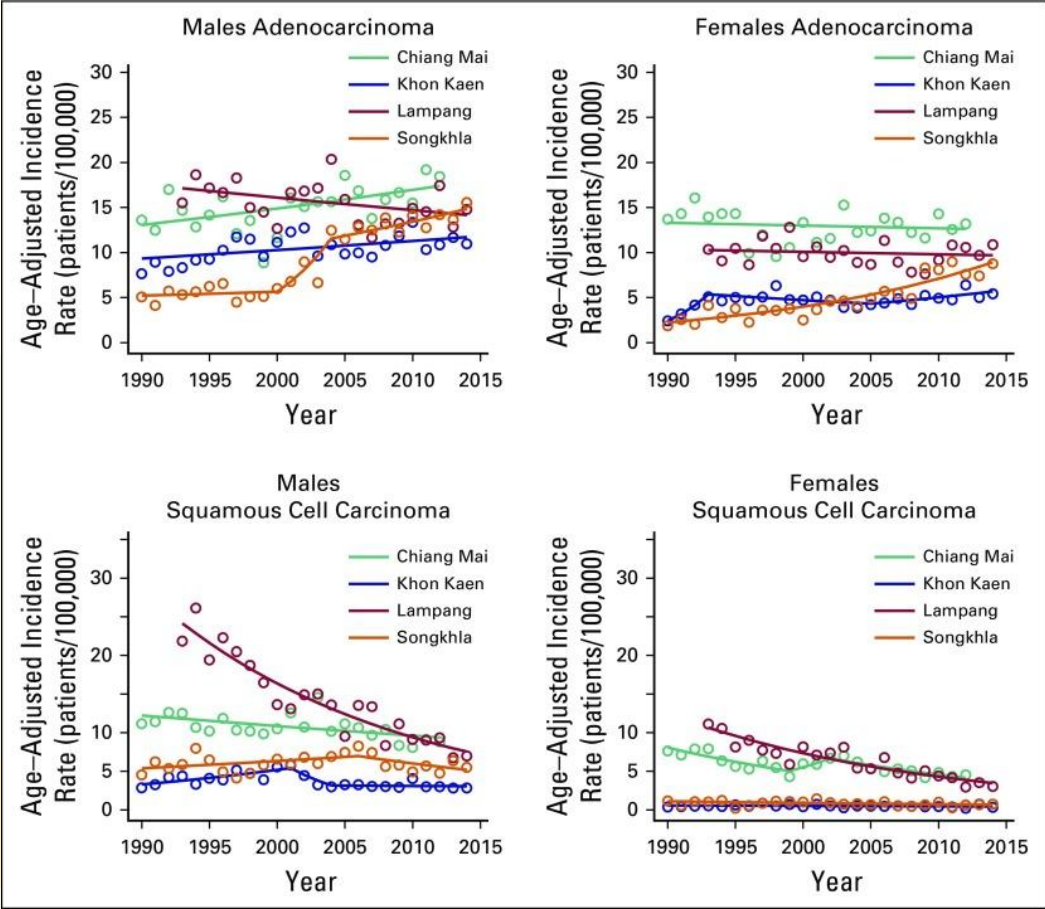
KENT with the "Micronite" Filter
 REFINES away harsh flavor... REFINES away hot taste... makes the taste of a cigarette mild!

Kent's the best... for the flavor you like!

Only Viceroy gives you 20,000 FILTER TRAPS FOR THAT SMOOTHER TASTE

AN ORDINARY FILTER... has only a few filter traps...
THE SMOOTHER FILTER... has 20,000 filter traps...
 Twice as many filter traps as the other two largest-selling filter brands!

Like filtered
cigarette, like
vaping!



Chang JT et al. J Glob Oncol. 2018 Sep 7;4:JGO.18.00013

Status	OR (95% CI) [*]
Vaping & Cigarette Smoking	57.8 (47.4–70.5)
Cigarette Smoking	13.9 (12.7–15.3)
Nonsmoking	1

Bittoni MA et al. Vaping, Smoking and Lung Cancer Risk. J Oncol Res Ther. 2024;9(3):10229



UMGCCC & Astra Zeneca

Partnership in Cancer Screening





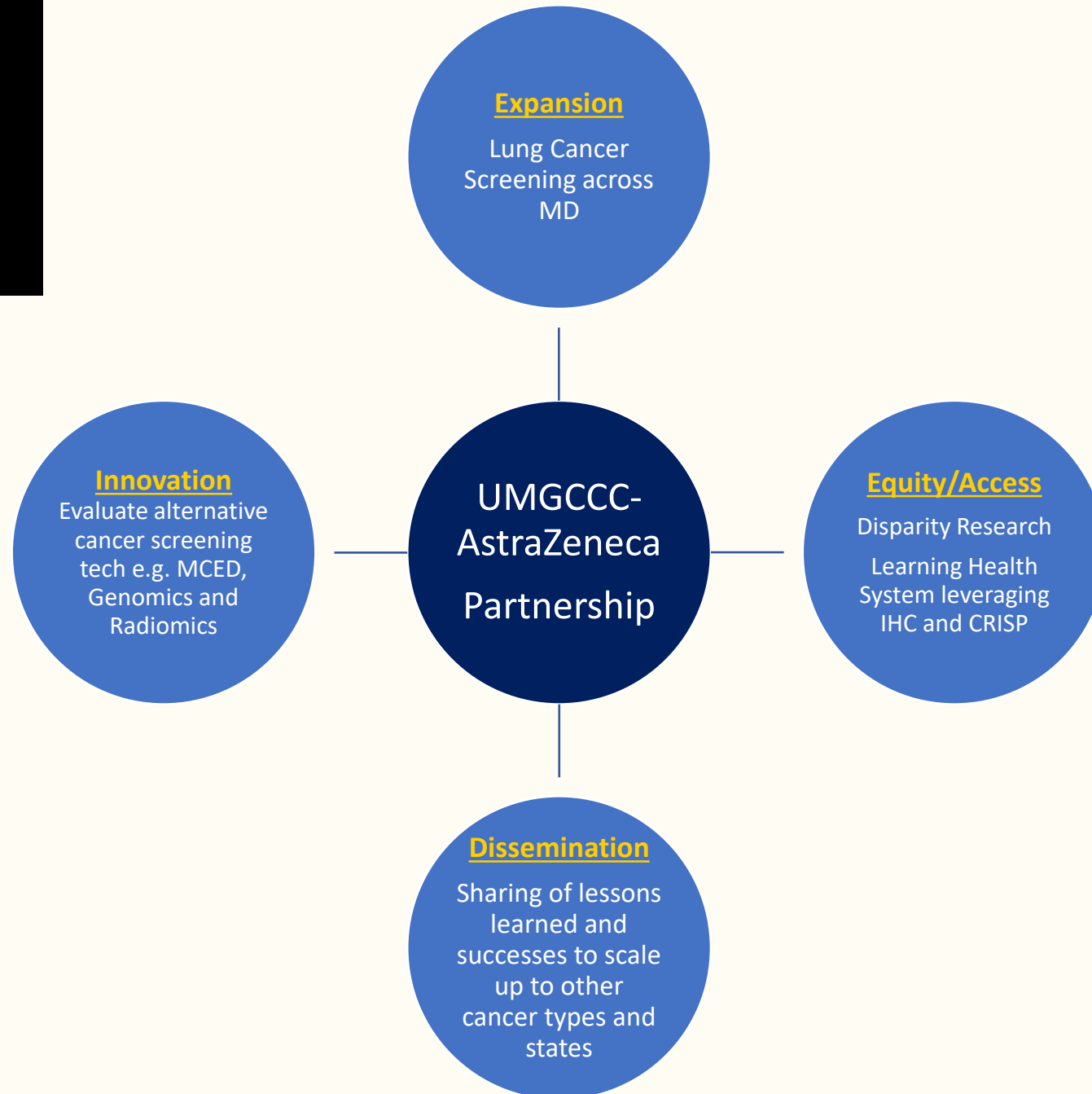
Our Mission

Undertake **innovative basic, clinical, population and prevention research** that will impact the understanding and treatment of cancer around the world and to **provide state-of-the-art clinical care to cancer patients in Maryland and beyond**

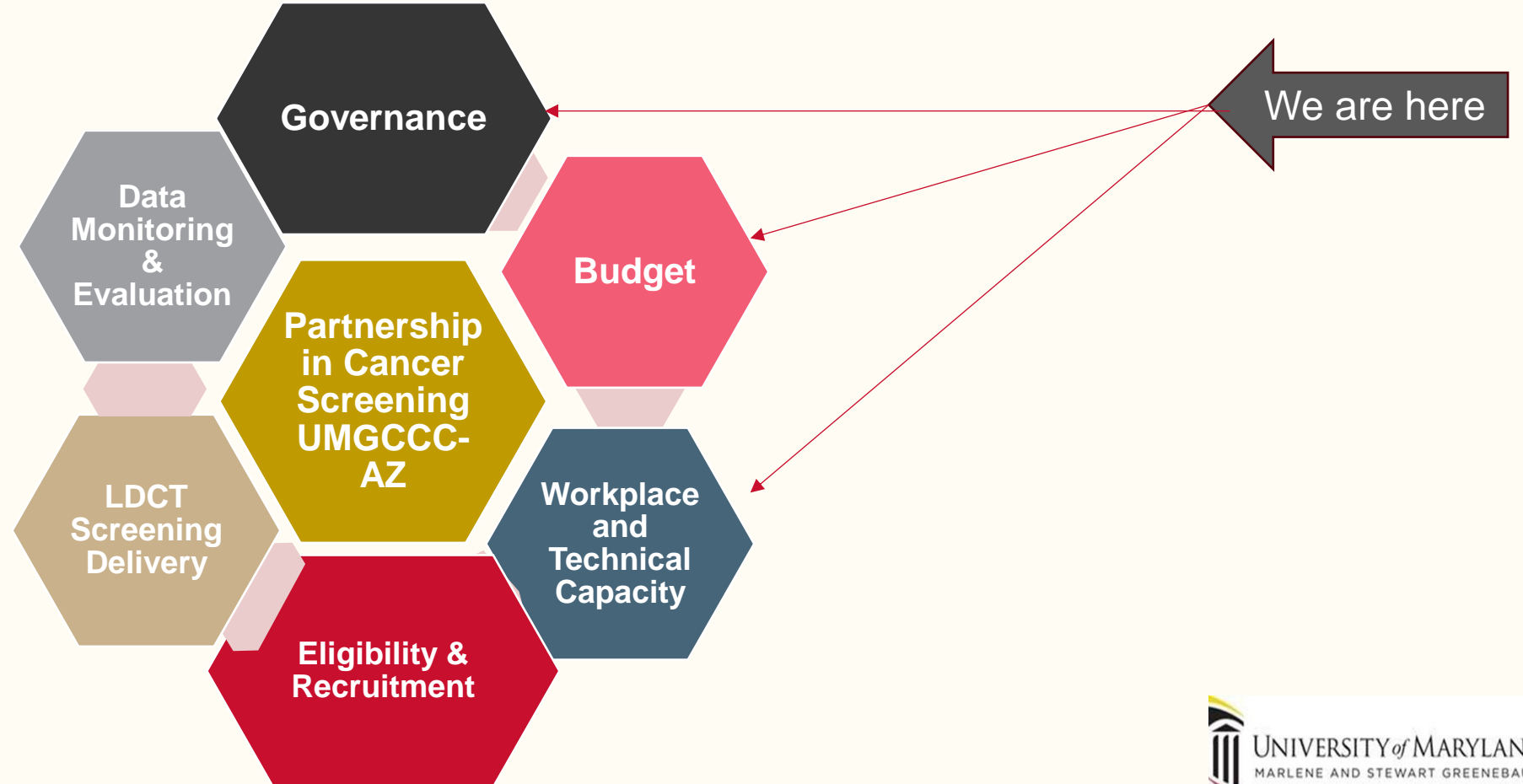


UNIVERSITY of MARYLAND
MARLENE AND STEWART GREENEBAUM
COMPREHENSIVE CANCER CENTER

Lung Cancer Early Detection Cancer Screening Initiative



LCS Partnership Framework



Characterizing Lung Cancer Patterns and Screening in Maryland

A

Researchers:

Clement Adebamowo

Warren D'Souza

Afsaneh Bahrami

Pratima Kshetry

Jay Rolla

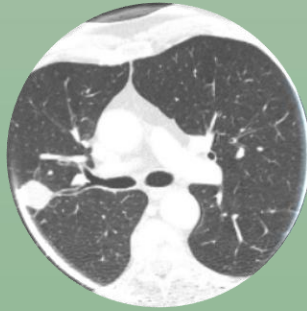
Colleen Reilly



UMGCCC Lung Cancer Early Detection Program



Lung Cancer Screening



Incidental Lung Nodule



Tobacco Treatment



Summary

- Tobacco use is a driver of major morbidities and mortality including lung cancer
- A significant decline in cigarette consumption has led to reduced incidence of lung cancer in the US especially in men; but tobacco smoke exposure remains the most important risk factor for lung cancer
- Tobacco use prevention efforts confer greater benefits at the population level than early detection of lung cancer or therapeutic strategies for advanced stage lung cancer
- Newer methods of inhaled carcinogens in the form of vaping and other delivery tools deserves great attention and systematic studies to avoid repeating the mistakes of the past



Questions and
comments?

Thank you!

