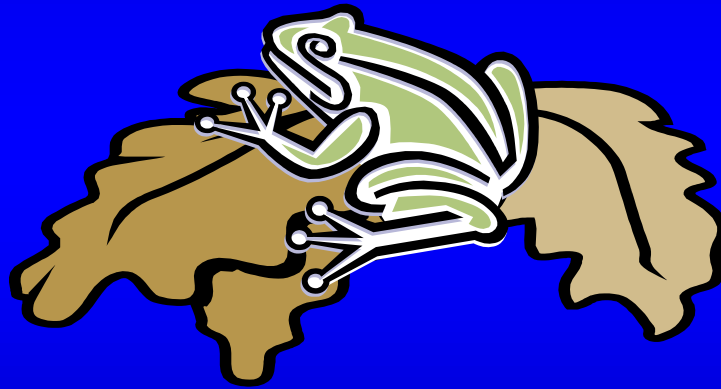


Lung Cancer Screening in the Veterans Health Administration: Ongoing Efforts and Future Plans



Samuel M. Aguayo, MD
Associate Chief Of Staff for Research
Phoenix VA Health Care System
Chairman, Board of Directors
Carl T. Hayden Medical Research Foundation

Objectives:

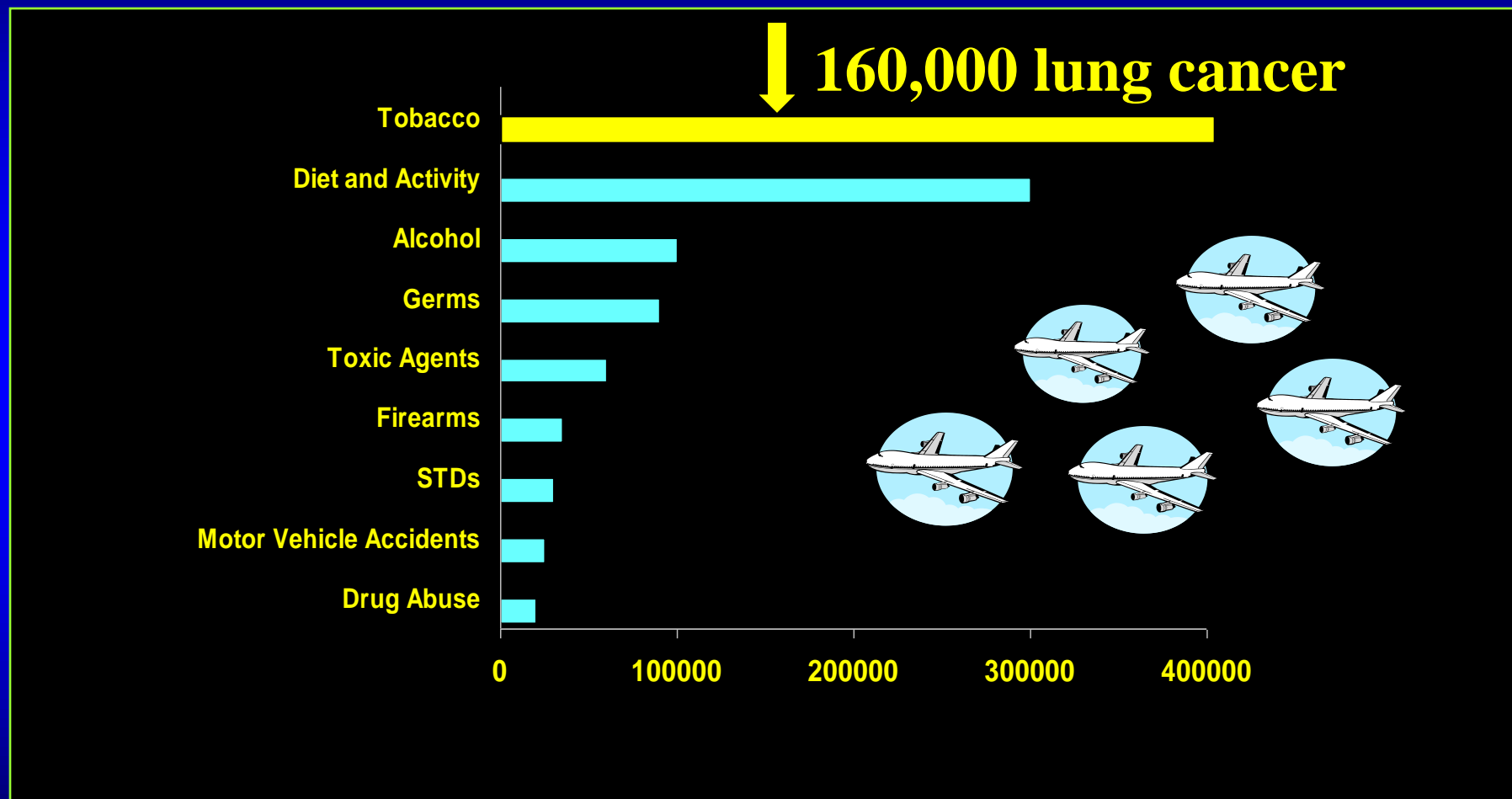
1. Describe the burden of lung cancer and other tobacco-related diseases among Veterans
2. Recognize certain common perceptions that may affect diagnosis and care of lung cancer patients
3. Identify opportunities to save lives and improve lung cancer care for Veterans

*** No Conflicts Of Interests to disclose.**

*** A personal bias to disclose.**

Tobacco is the Number One Killer!(!)

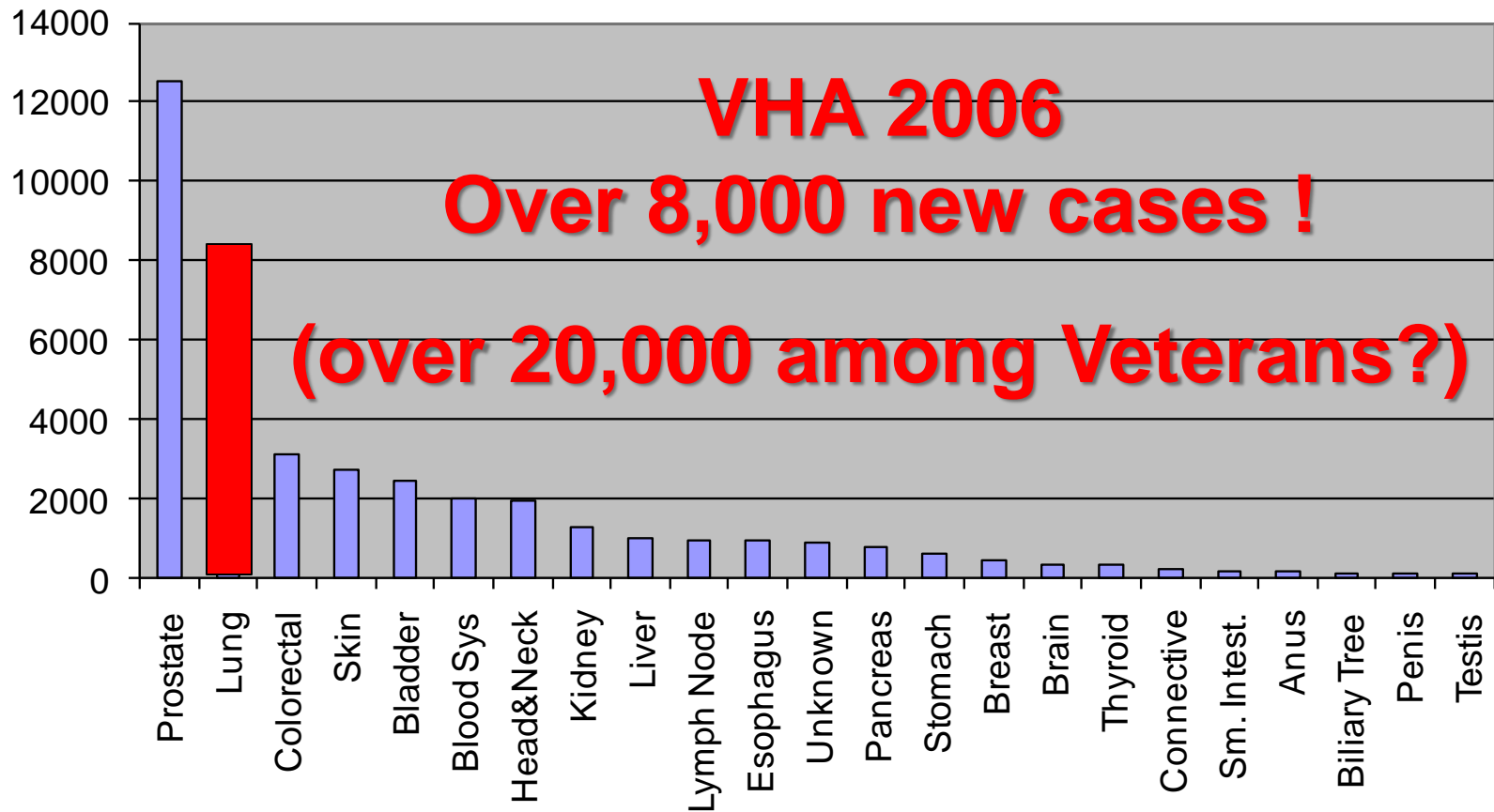
(Estimated Number of Deaths Per Year Actually Caused By Preventable Lifestyle)

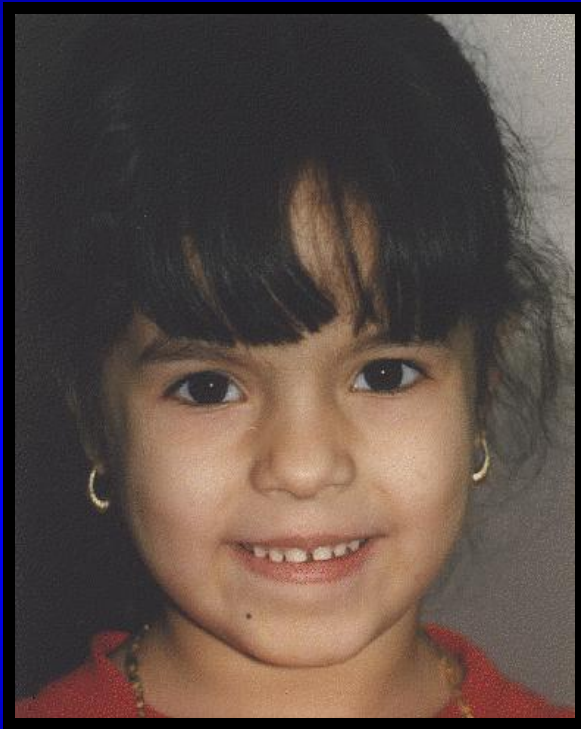


1990's Data from the Centers for Disease Control, Atlanta, GA



VA OQP Special Study: Quality of VA Lung Cancer Care January 14, 2010





**“Just tell people
not to smoke
because it is bad
for them.”**

“The significant problems we face cannot be solved at the same level of thinking we were at when we created them.”

Albert Einstein

“Susceptible”

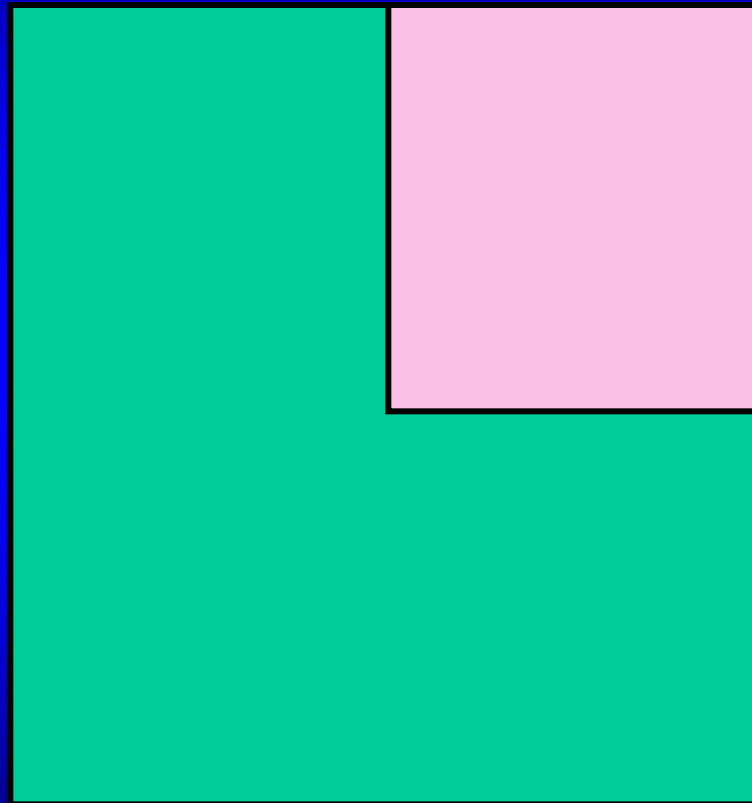




“Resistant”



**U.S.A.
Population**

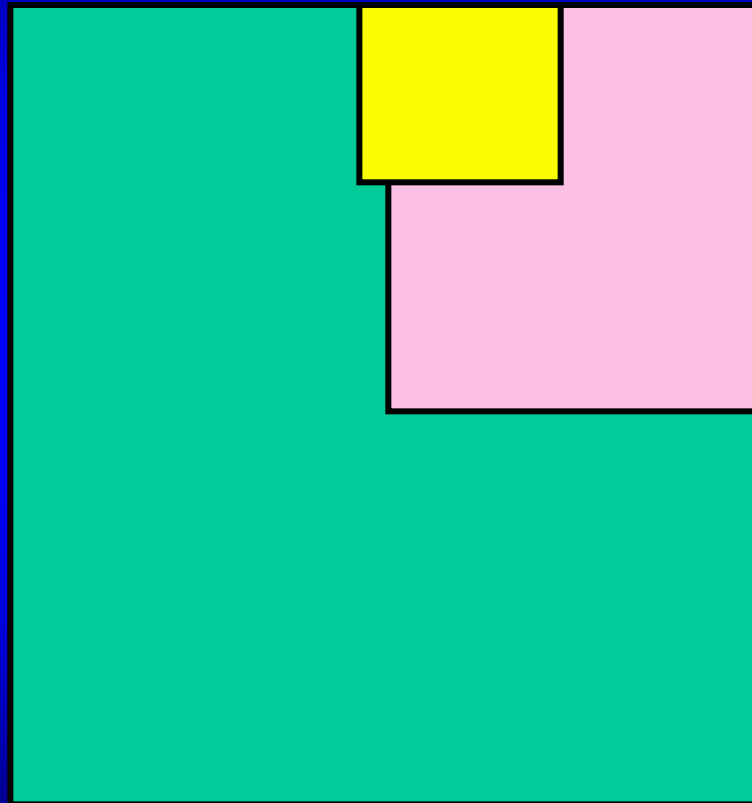


**Cigarette
Smokers**

COPD

**Cigarette
Smokers**

**U.S.A.
Population**

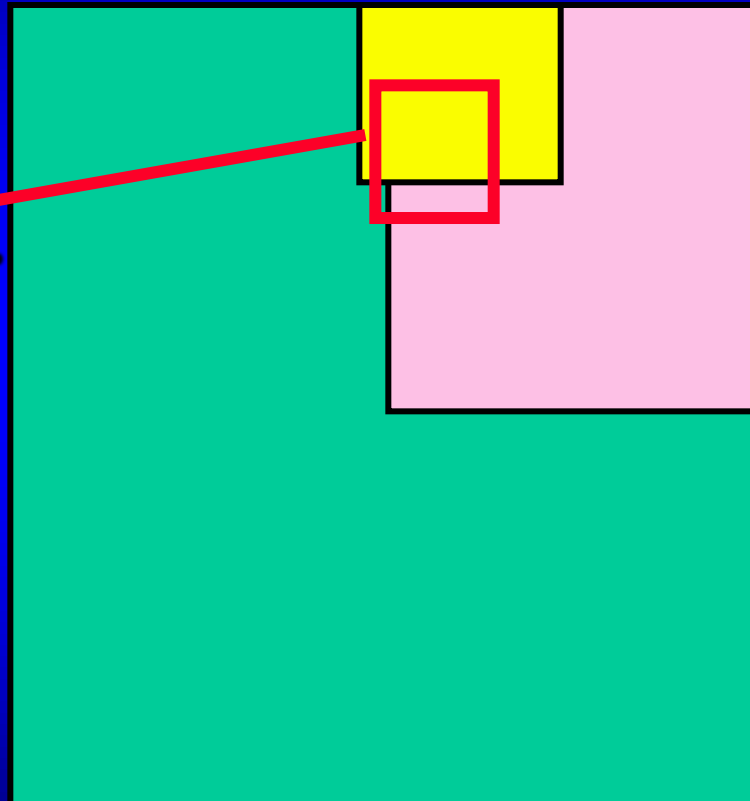


COPD

**Lung
Cancer**

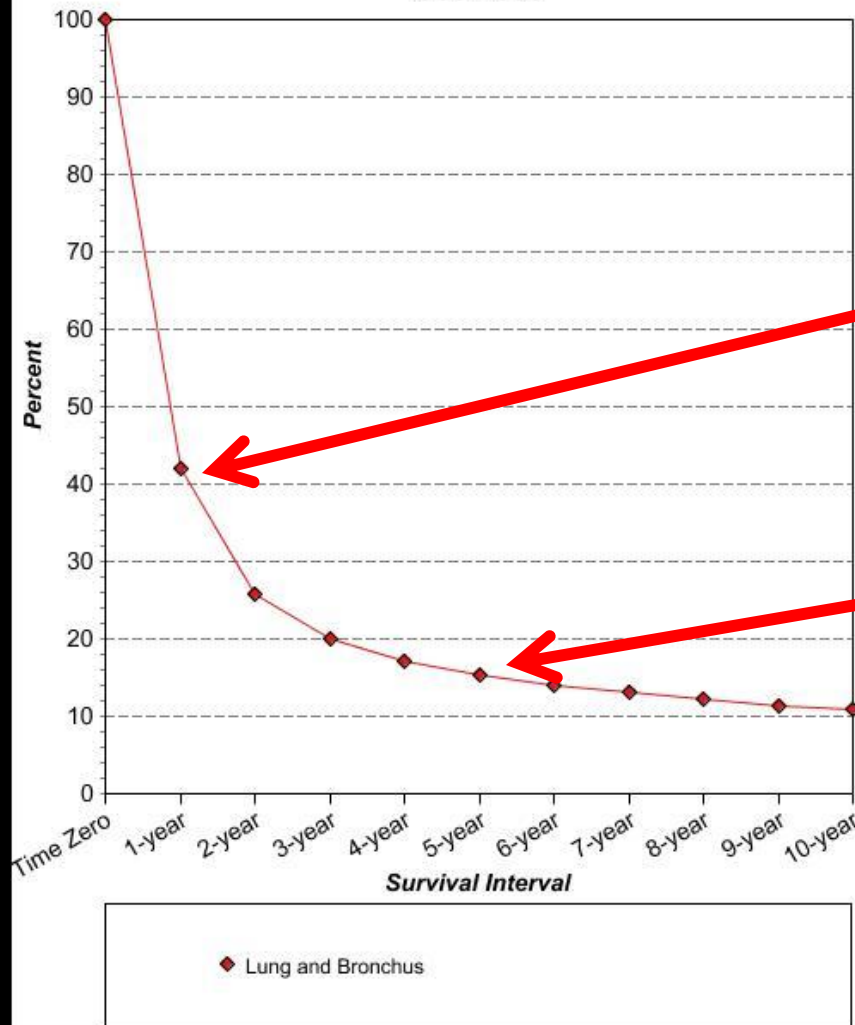
**Cigarette
Smokers**

**U.S.A.
Population**



Relative Survival By Survival Time
By Cancer Site
All Ages, All Races, Both Sexes
1988-2006

All lung cancers 1988-2006



~ 40% alive @ 1 yr

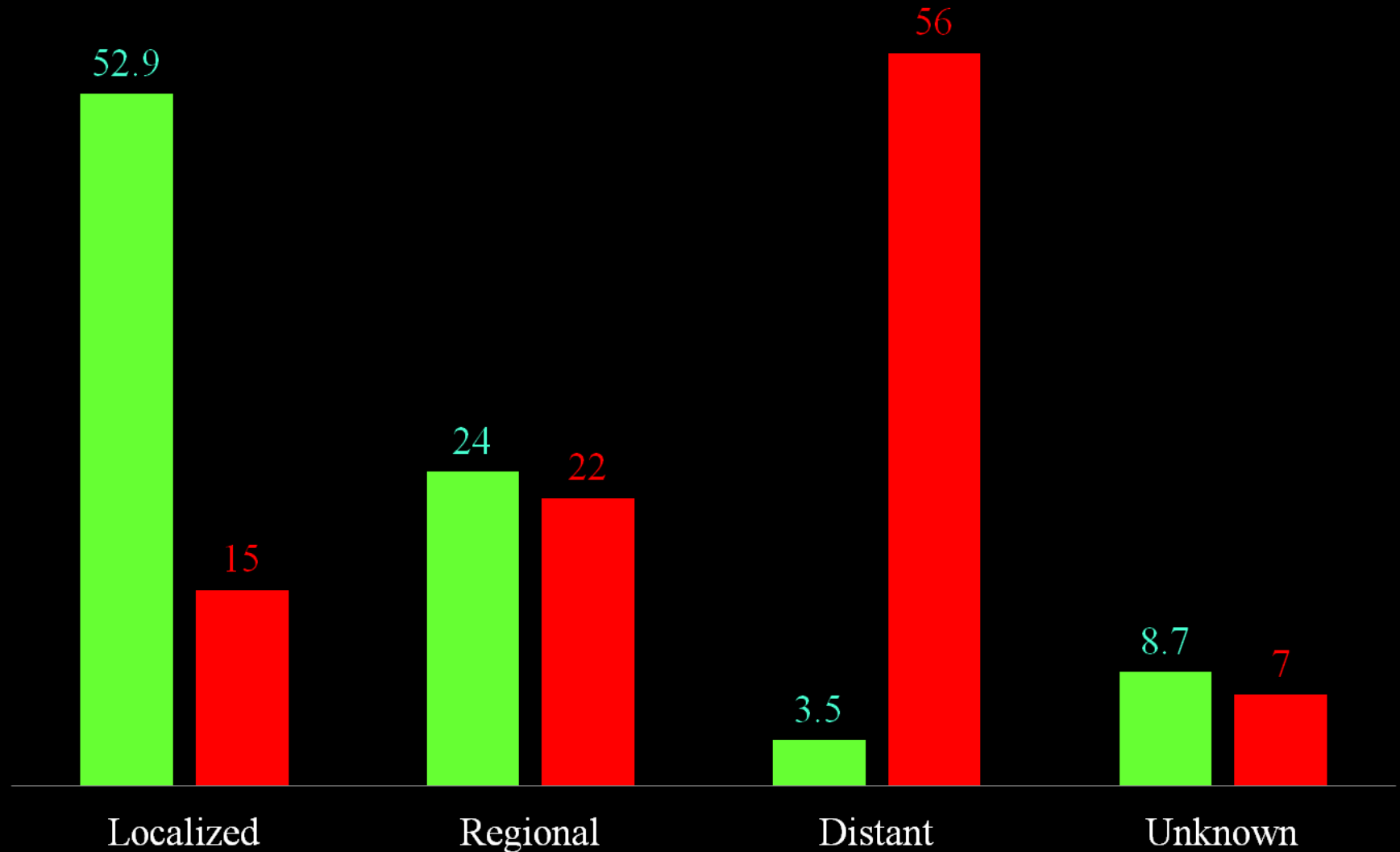
~ 15% alive @ 5 yrs

~ 10% alive @ 10 yrs

Cancer sites include invasive cases only unless otherwise noted.
Survival source: SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).
The annual survival estimates are calculated using monthly intervals.

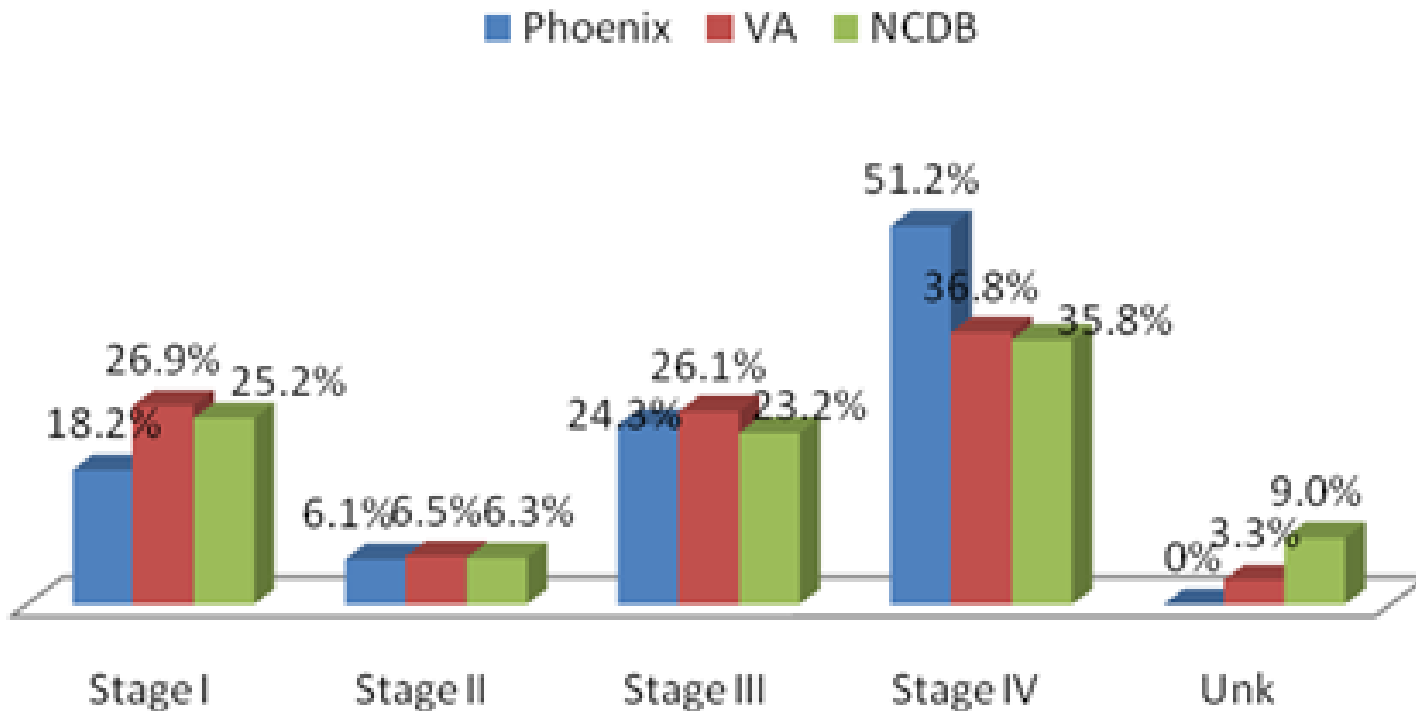
Lung Cancer Staging and Relative Survival (SEER 1999-2006)

■ 5-yr Survival (%) ■ Stage Distribution (%)

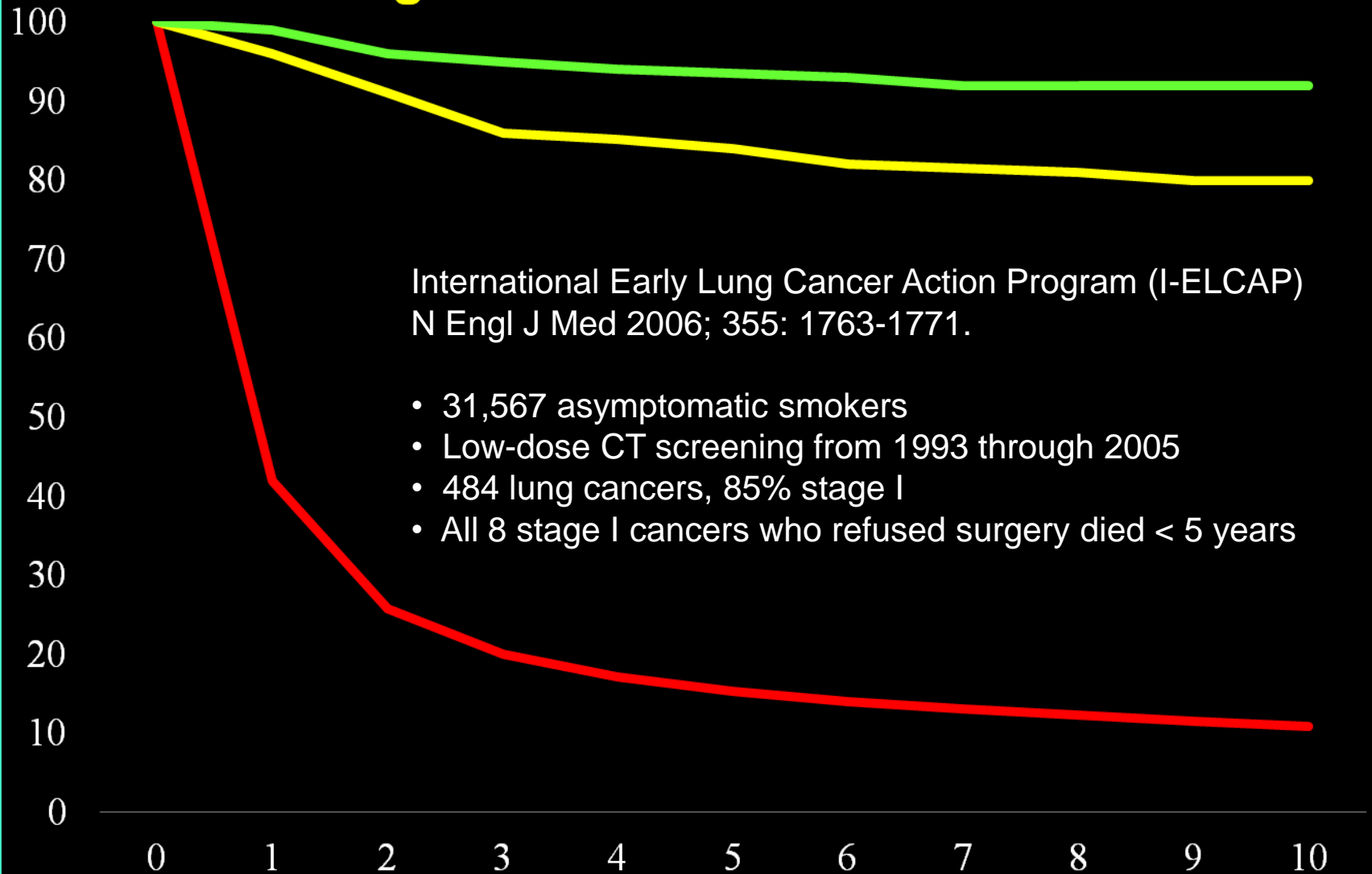


Phoenix VAHCS NSCLC by Stage 2008

Non Small Cell Carcinoma of Lung 2008 diagnosis year
by Stage Distribution



Lung Cancer Relative Survival %

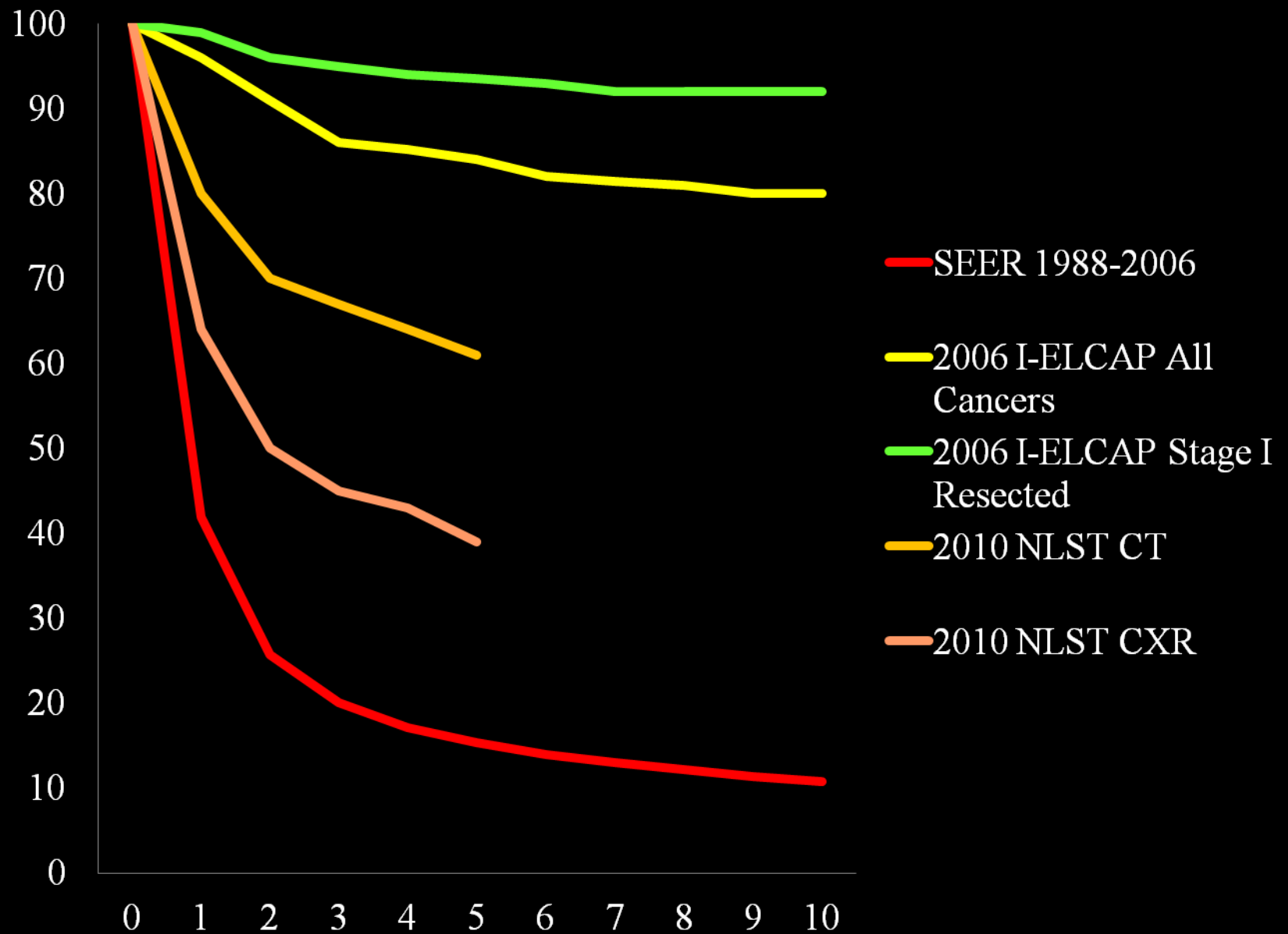


International Early Lung Cancer Action Program (I-ELCAP)
N Engl J Med 2006; 355: 1763-1771.

- 31,567 asymptomatic smokers
- Low-dose CT screening from 1993 through 2005
- 484 lung cancers, 85% stage I
- All 8 stage I cancers who refused surgery died < 5 years

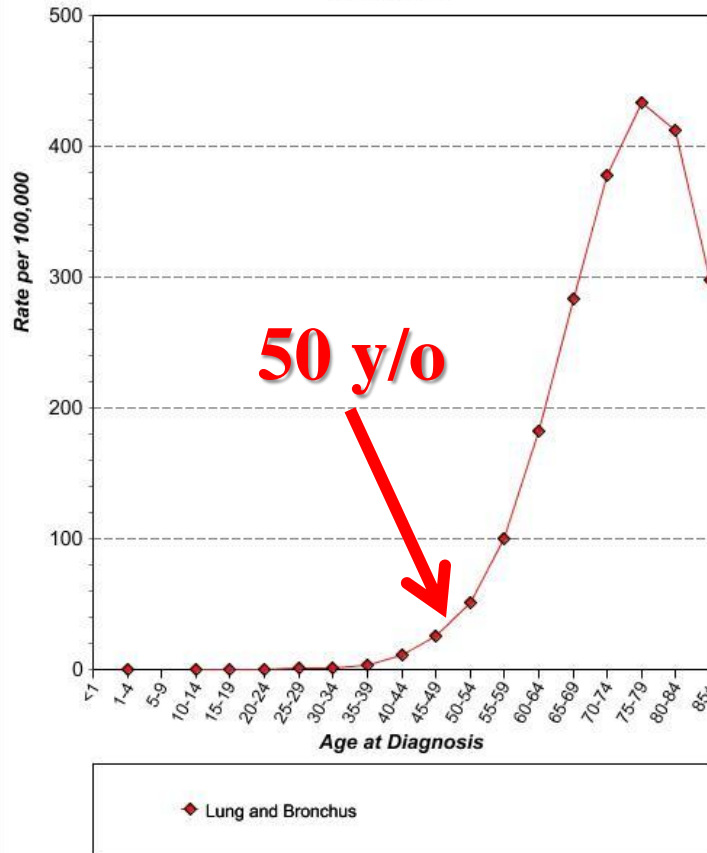
— SEER 1988-2006 — I-ELCAP All Cancers — I-ELCAP Stage I Resected

Lung Cancer Relative Survival %



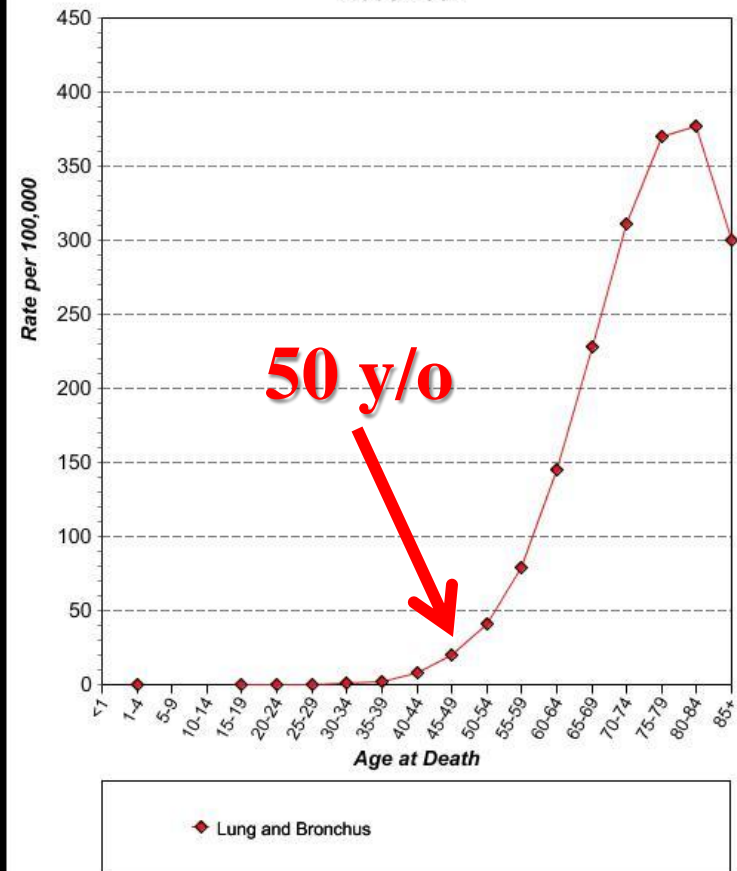
All lung cancers: Incidence and Mortality

Age-Specific (Crude) SEER Incidence Rates
By Cancer Site
All Ages, All Races, Both Sexes
2000-2007



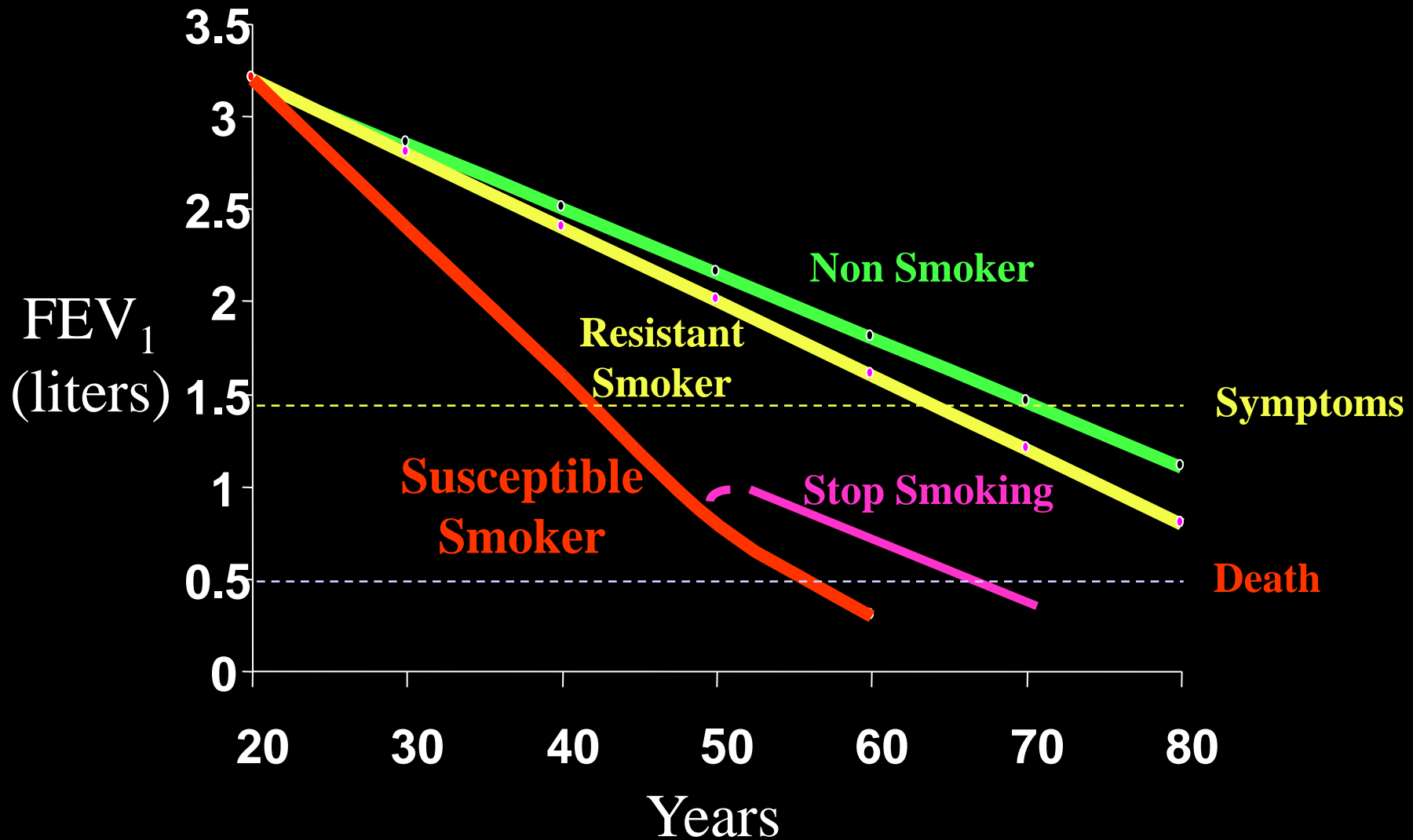
Cancer sites include invasive cases only unless otherwise noted.
Incidence source: SEER 17 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana and New Jersey).
Rates are per 100,000.
Datapoints were not shown for rates that were based on less than 16 cases.

Age-Specific (Crude) U.S. Mortality Rates
By Cancer Site
All Ages, All Races, Both Sexes
2000-2007

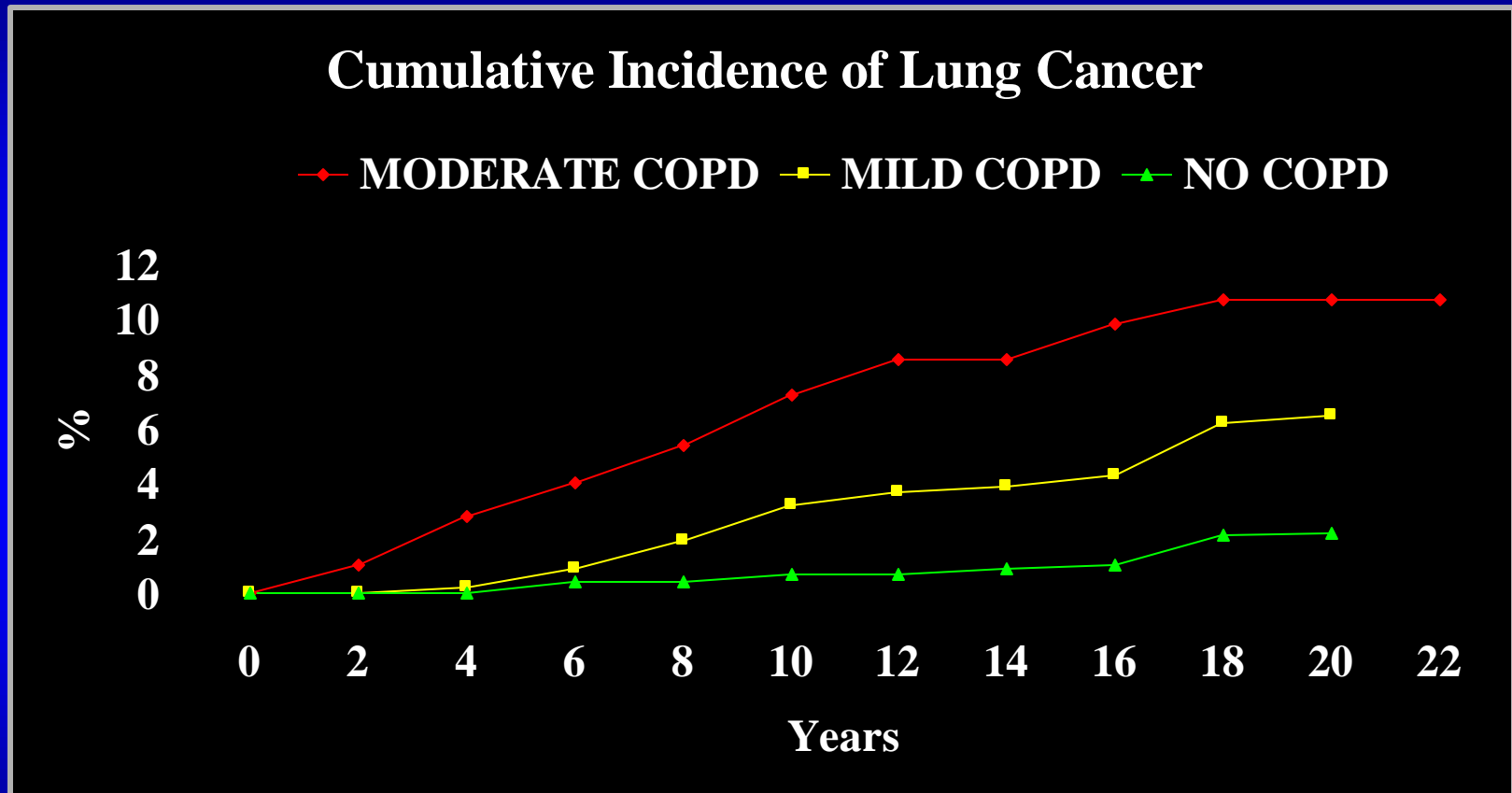


Cancer sites include invasive cases only unless otherwise noted.
Mortality source: US Mortality Files, National Center for Health Statistics, CDC.
Rates are per 100,000.
Datapoints were not shown for rates that were based on less than 16 cases.

Pulmonary Function and Cigarette Smoking

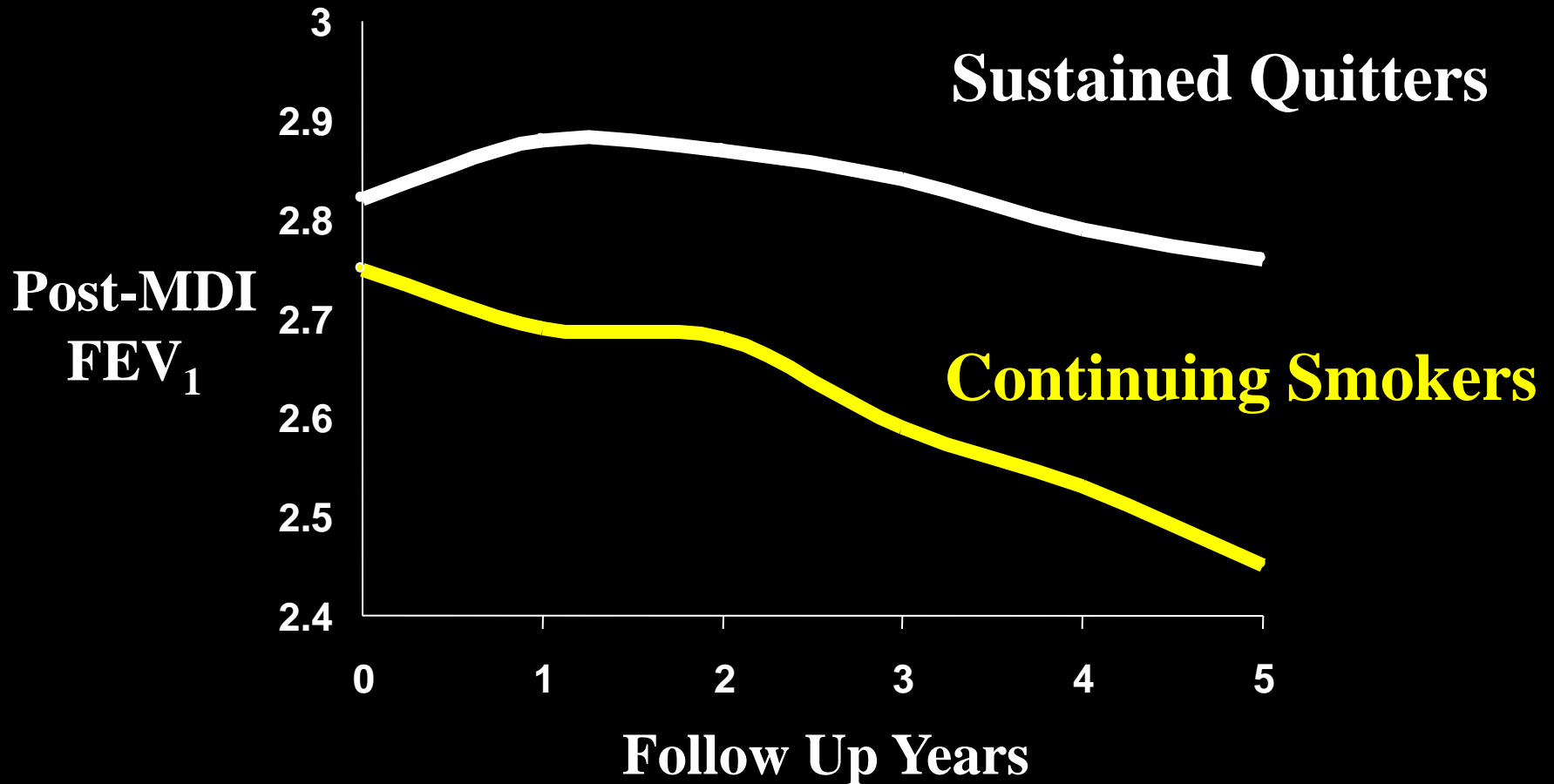


COPD = Increased Risk for Lung Cancer



**Lung function and incident lung cancer: Data from the First NHANES Follow-up.
David M. Mannino, Samuel M. Aguayo, Thomas L. Petty, and Stephen C. Redd.**

The Lung Health Study: Decline in FEV₁



LHS: 5,887 patients; **mean age 48.5 yrs** (35-59); **“mild” COPD** with FEV₁ of 40 to 80% of predicted and mean FEV₁/FVC ratio of 63.5%.

The Lung Health Study: Deaths Within Five Years

CAUSE	SIA	SIP	UC	Total
Lung Cancer	18	20	19	57
Cardiovascular	18	7	12	37
Other	18	17	20	55
Total	54	44	51	149

LHS: 5,887 patients; mean age 48.5 yrs (35-59); “mild” COPD with FEV₁ of 40 to 80% of predicted and mean FEV₁/FVC ratio of 63.5%.

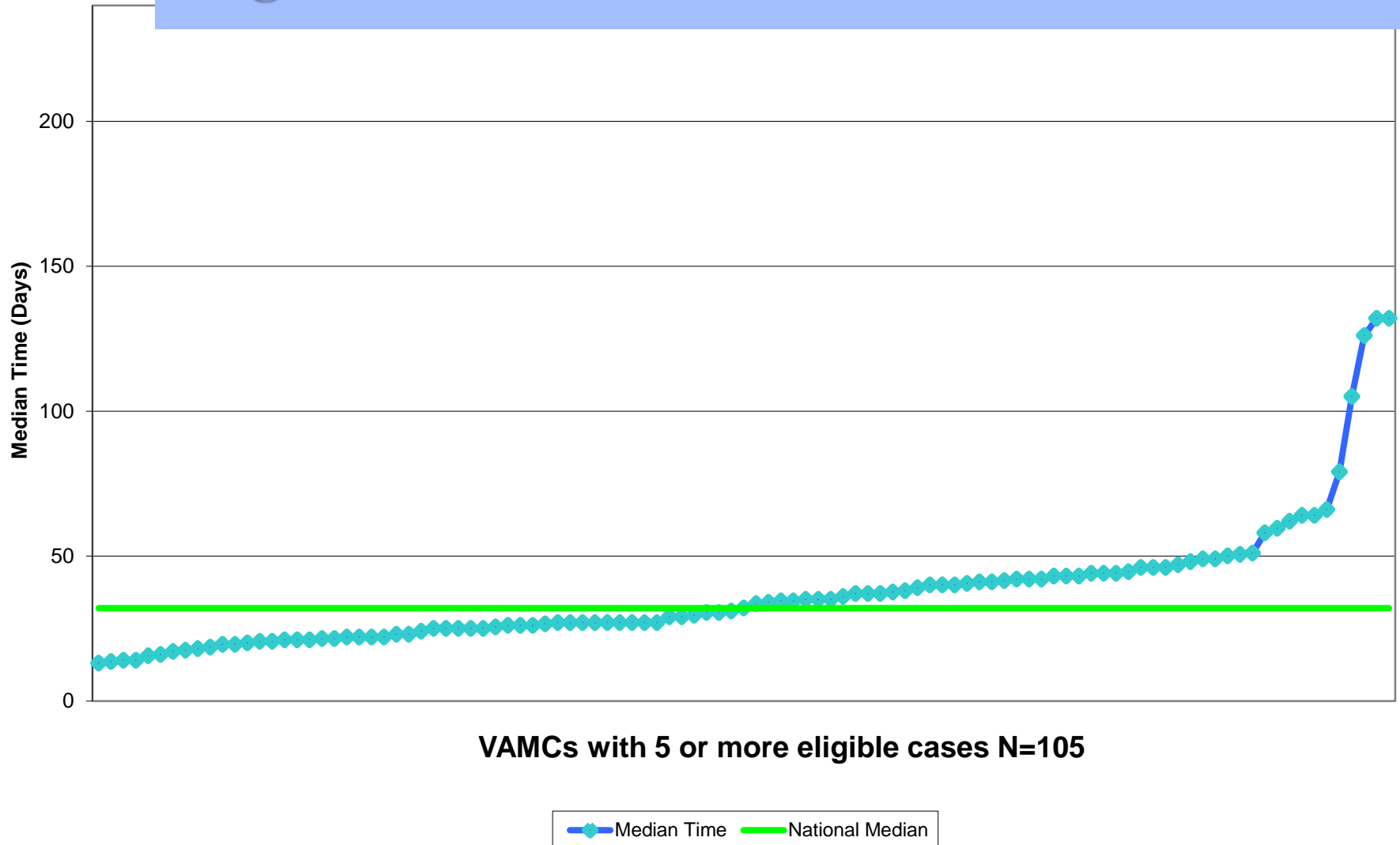
VA Cancer Care Collaborative III

VA Lung Cancer Care

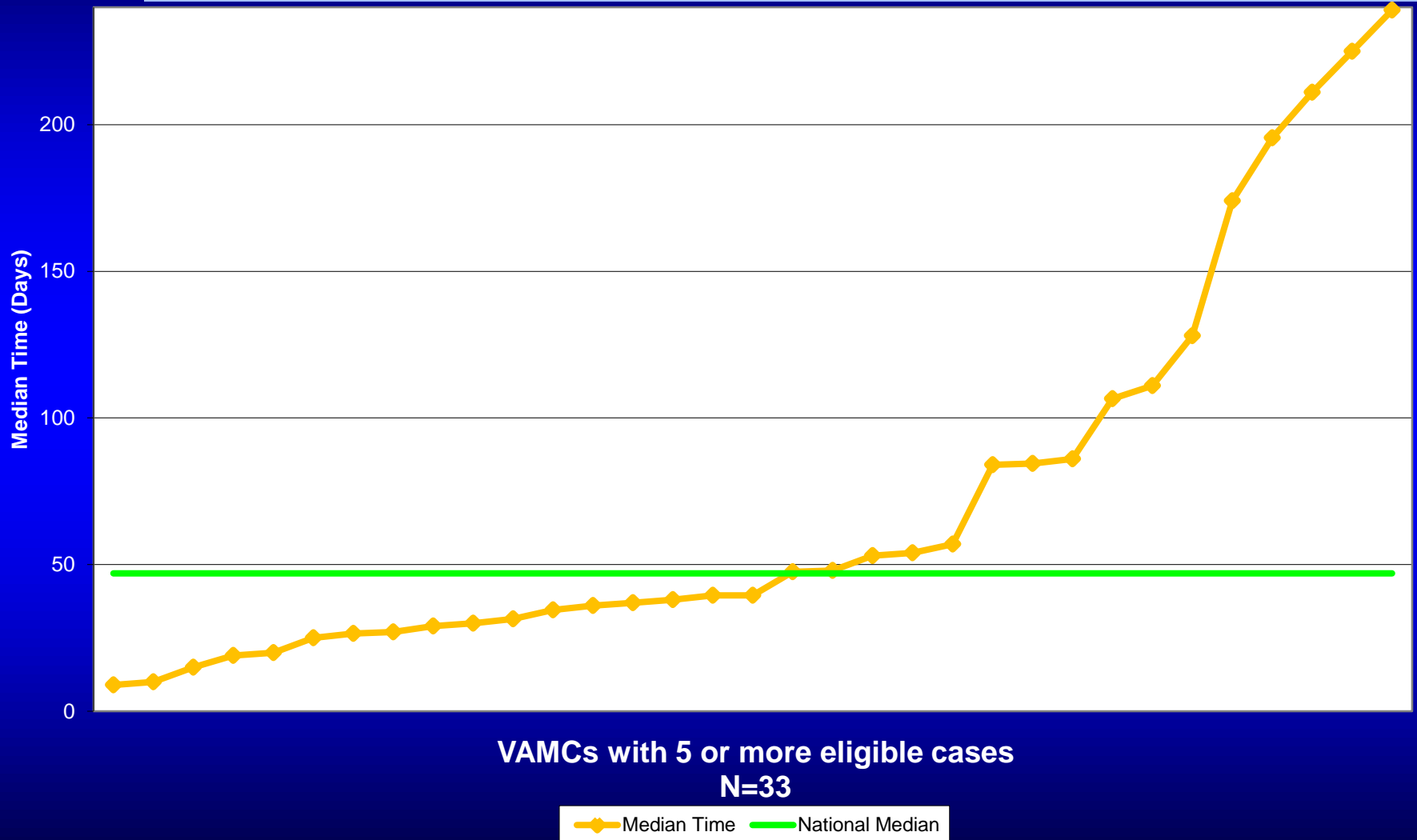
Phoenix VAHCS, Phoenix, AZ

Samuel M. Aguayo, MD: Pulmonary Medicine
Providencia Morales, RN, MSN

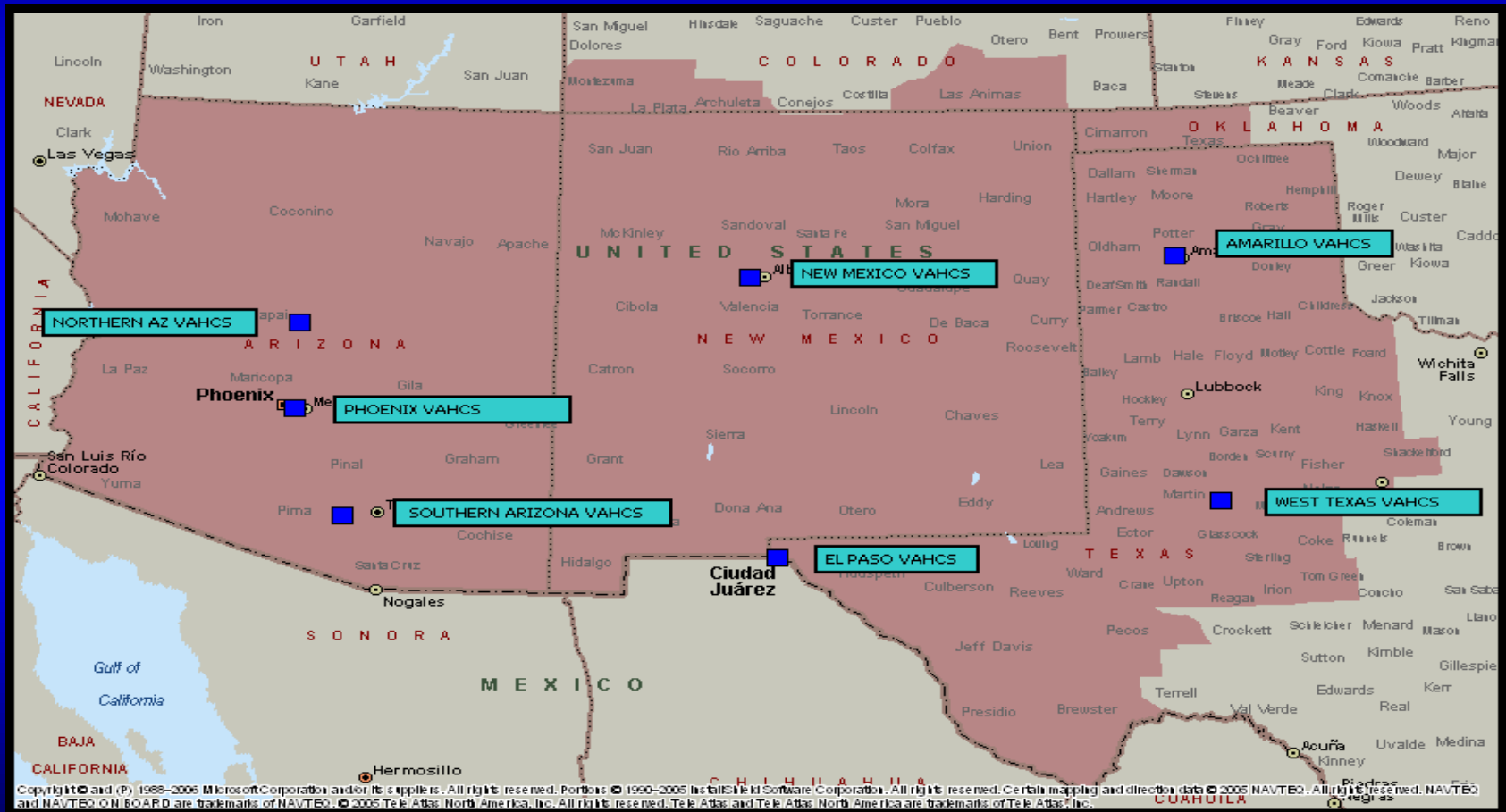
T1 - Time from initial suspicion of lung cancer to diagnosis



Time from initial suspicion of lung cancer to diagnosis: **solitary nodule or mass <10 mm**



VA Southwest Health Care Network (VISN 18)



Phoenix VA Health Care System Service Area



- 4 Counties (Maricopa, Gila, La Paz, and Navajo)

**Demographics of Veteran Patients Attended During Last Year,
According to VA Facility Within VISN 18 - 2010**

	Phoenix VAHCS	Tucson SAVAHCS	New Mexico VAHCS	El Paso VAHCS	Amarillo VAHCS	Prescott NAVAHCS	West Texas VAHCS
Number of Persons	70,512	47,131	46,441	24,603	23,495	23,401	16,093
% of Total VISN 18	28.0	18.7	18.4	9.8	9.3	9.3	6.4
Sex Distribution							
Women (%)	4,893 (6.9)	3,720 (7.9)	3,218 (6.9)	2,157 (8.8)	1,188 (5.1)	1,174 (5.0)	885 (5.5)
Men (%)	65,619 (93.1)	43,411 (92.1)	43,228 (93.1)	22,446 (91.2)	22,307 (94.9)	22,227 (95.0)	15,208 (94.5)
Racial Distribution							
Black, not Hispanic	1,142	994	446	455	442	17	2,179
Hispanic, Black	115	56	33	26	43	2	23
Hispanic, White	802	2601	5505	1664	601	99	809
Non Hispanic White	10,609	14,788	6,353	1,300	6,099	2,974	2,949
Unknown/Undeclared	57,538	28,399	33,197	21,113	16,292	20,211	9,917
Age in years							
Mean	61.2	62.5	62.0	58.4	63.9	65.6	63.4
Standard deviation	16.0	15.5	14.8	16.3	16.0	13.5	15.8
Median	63.0	64.0	63.0	61.0	64.0	65.0	64.0

Lung Cancer Screening Demonstration Sites

- **VISN 3: New York Harbor**
- **VISN 6: Durham**
- **VISN 7: Charleston**
- **VISN 10: Cincinnati**
- **VISN 11: Ann Arbor**
- **VISN 20: Portland**
- **VISN 21: San Francisco**
- **VISN 23: Minneapolis**

Progressing Towards Implementation of Lung Cancer Screening in the VHA:

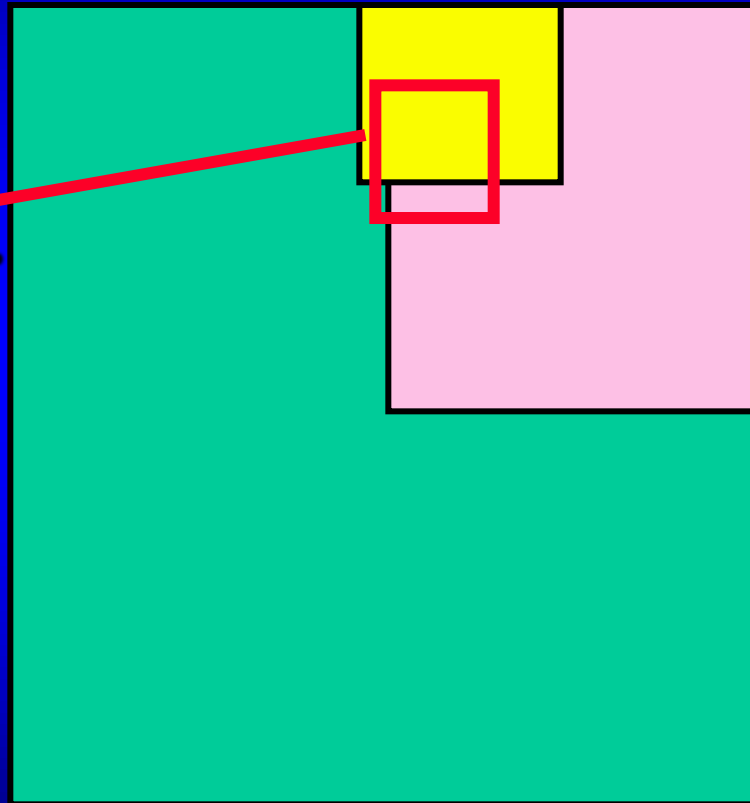
- 1. Determine perception of evidence and local context for lung cancer screening across VA sites**
- 2. Perform formative evaluation a 3 VA sites that have introduced screening programs**
 - ✓ Phoenix**
 - ✓ Boston**
 - ✓ Demonstration sites**

COPD

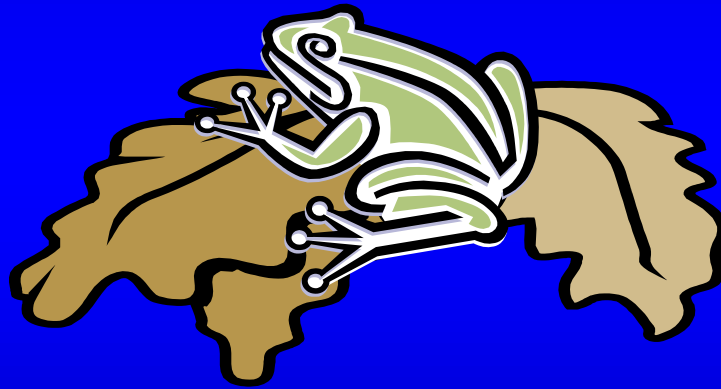
**Lung
Cancer**

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