

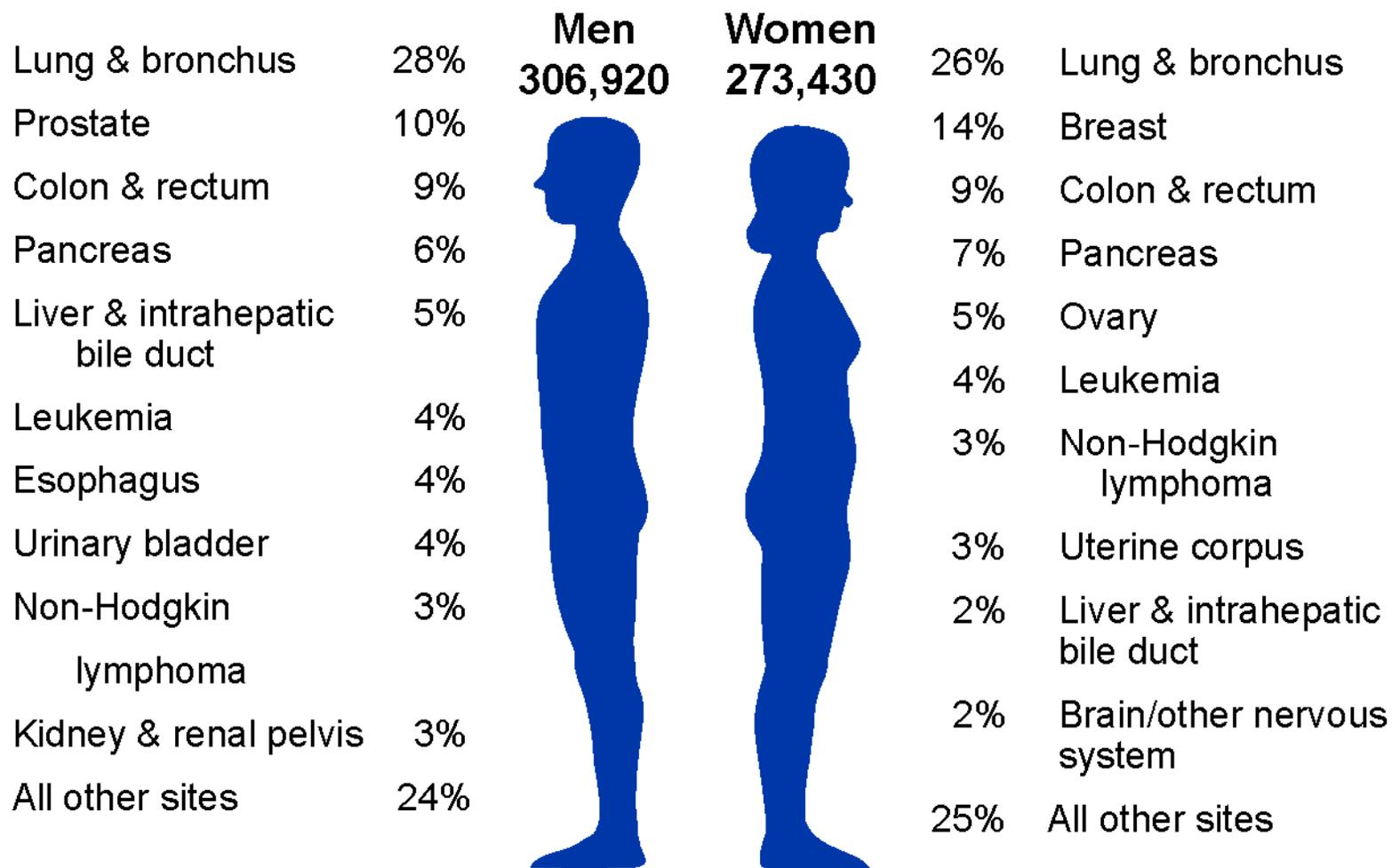
Cancer Statistics / Cancer Prevention and Control 2013

Commission to Study the Incidence of and Mortality
Related to Cancer

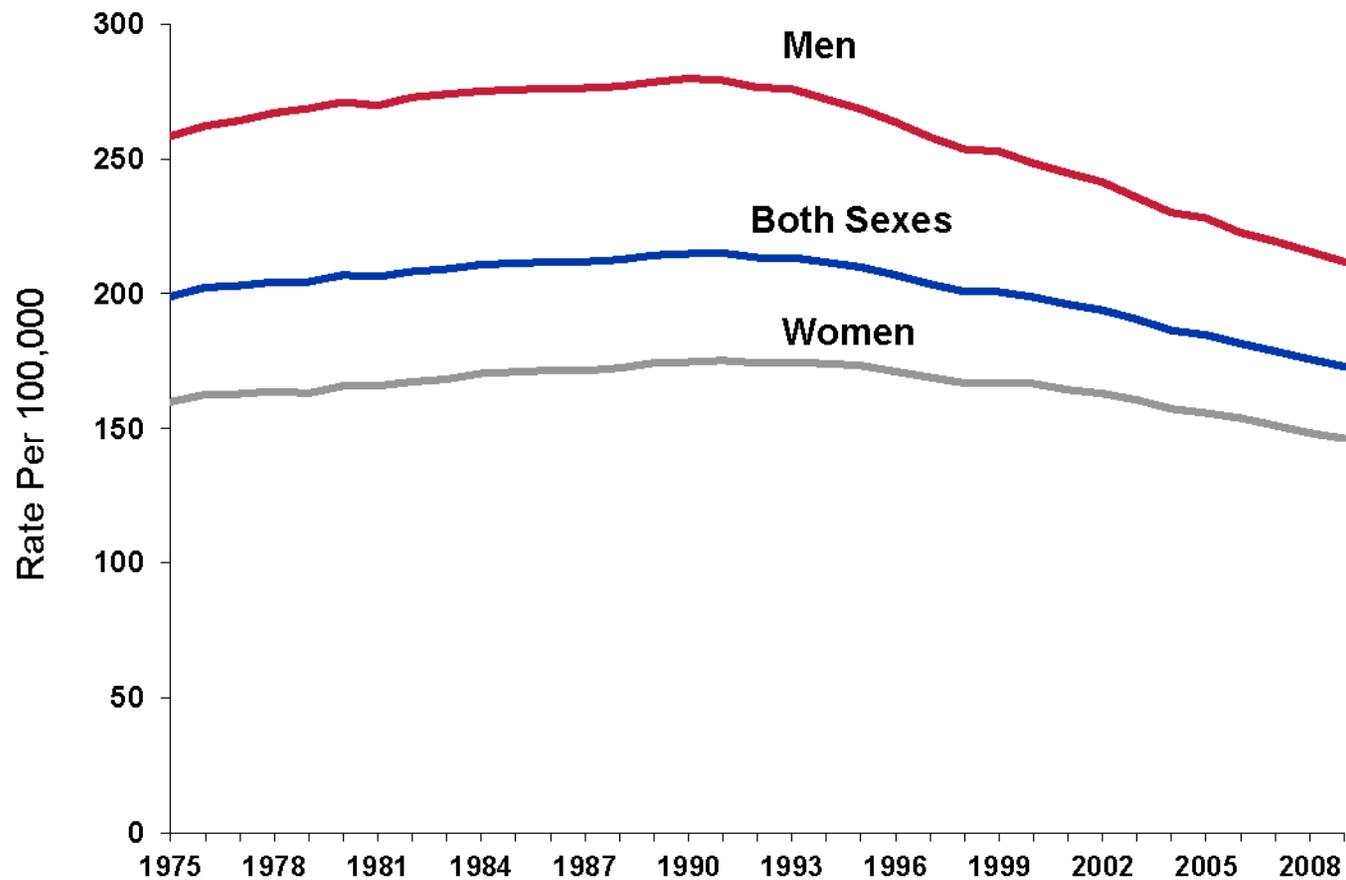
A Presentation from the American Cancer Society,
New England Division



Estimated Cancer Deaths in the US in 2013



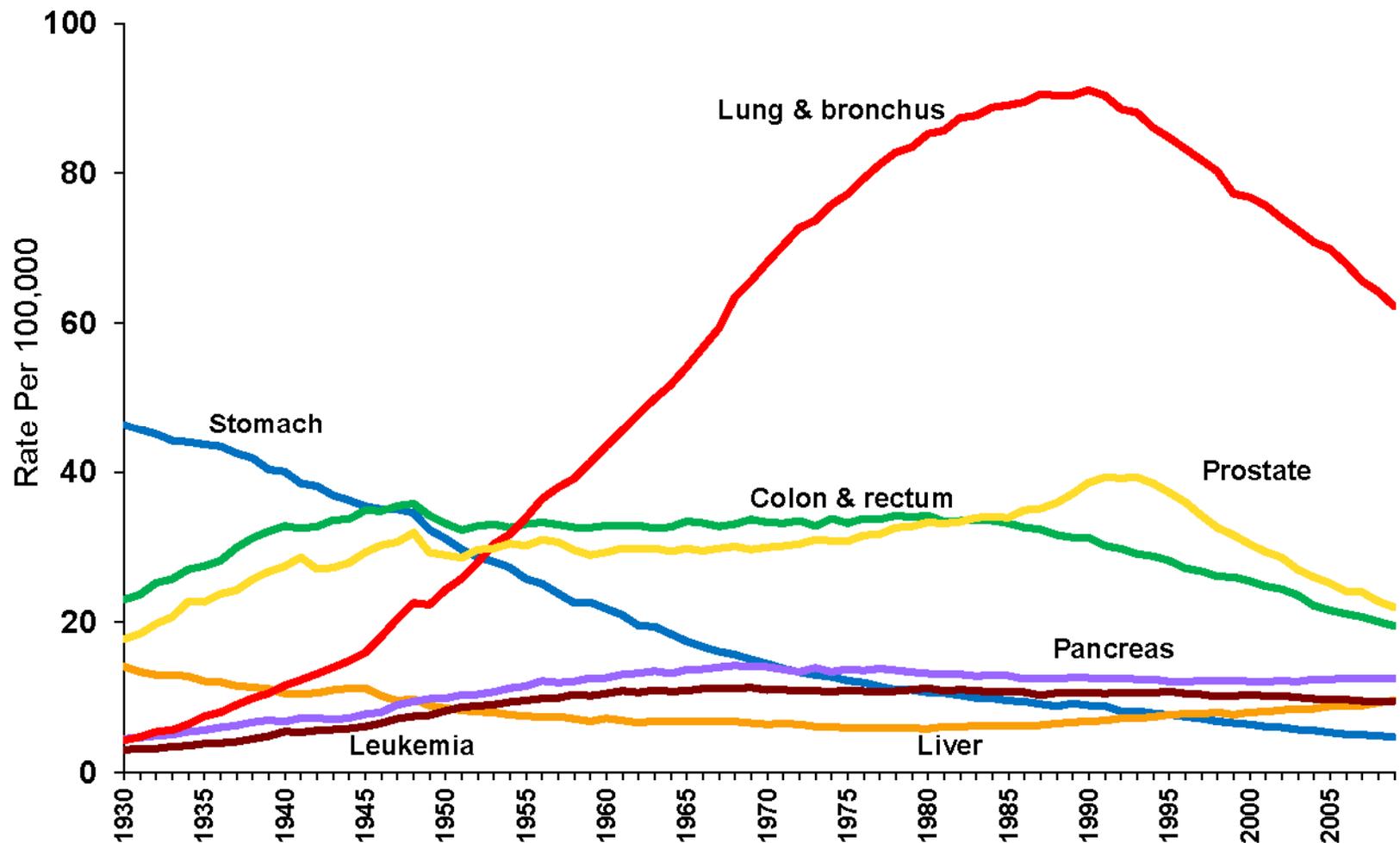
Cancer Death Rates* by Sex, US, 1975-2009



*Age-adjusted to the 2000 US standard population.

Source: US Mortality Data 1975-2009, National Center for Health Statistics, Centers for Disease Control and Prevention.

Cancer Death Rates* Among Men, US, 1930-2009

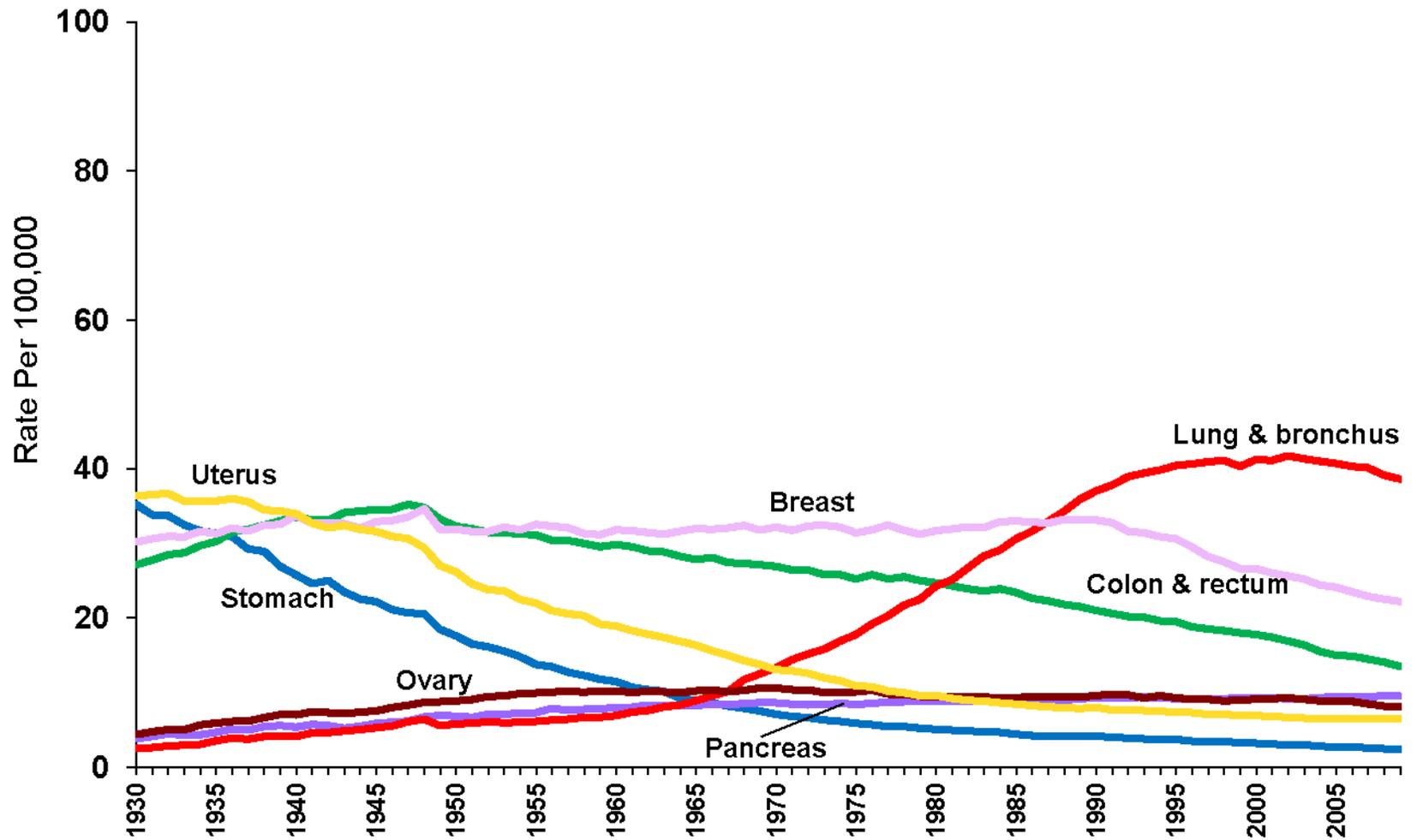


*Age-adjusted to the 2000 US standard population.

Source: US Mortality Data 1960-2009, US Mortality Volumes 1930-1959,

National Center for Health Statistics, Centers for Disease Control and Prevention.

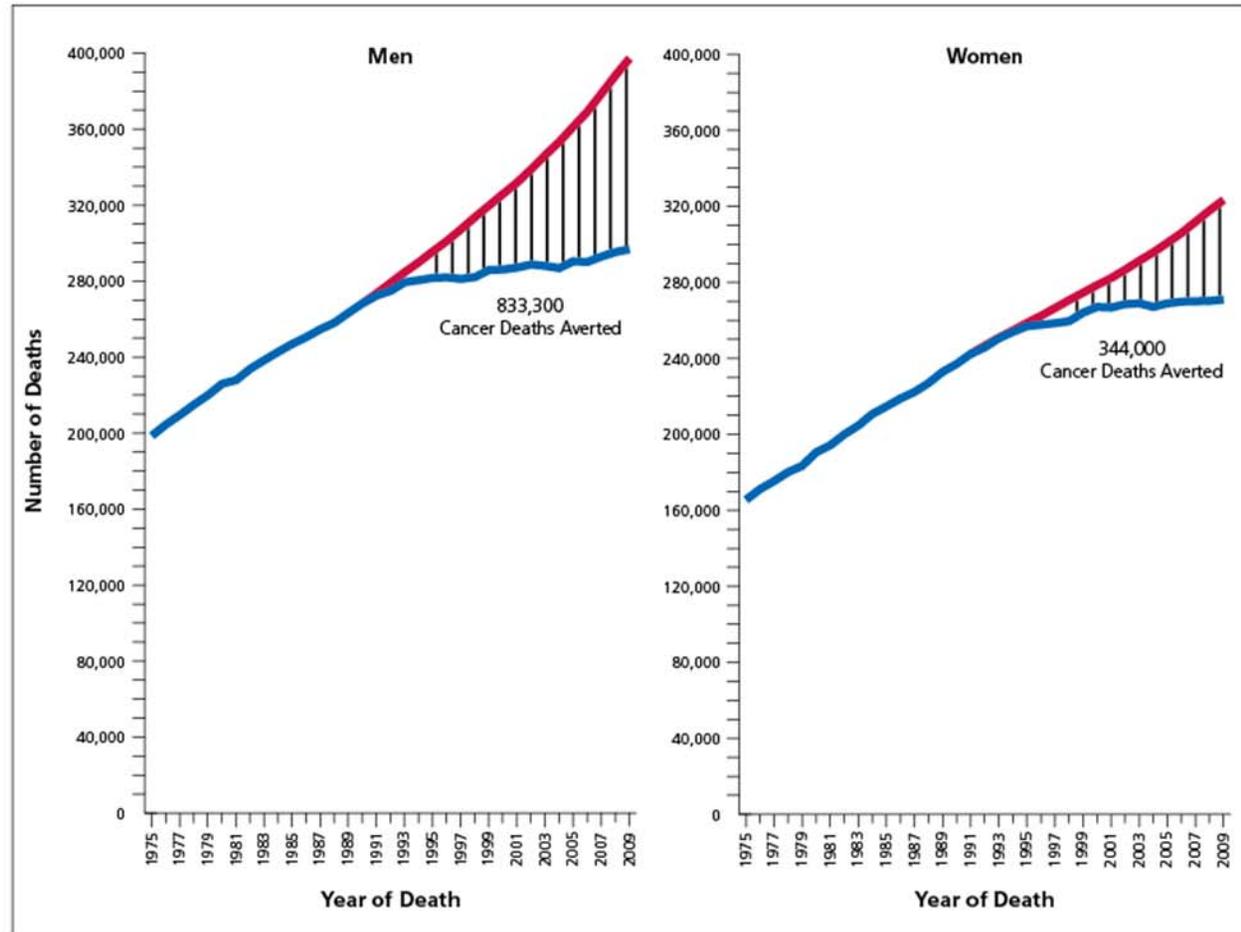
Cancer Death Rates* Among Women, US, 1930-2009



*Age-adjusted to the 2000 US standard population.

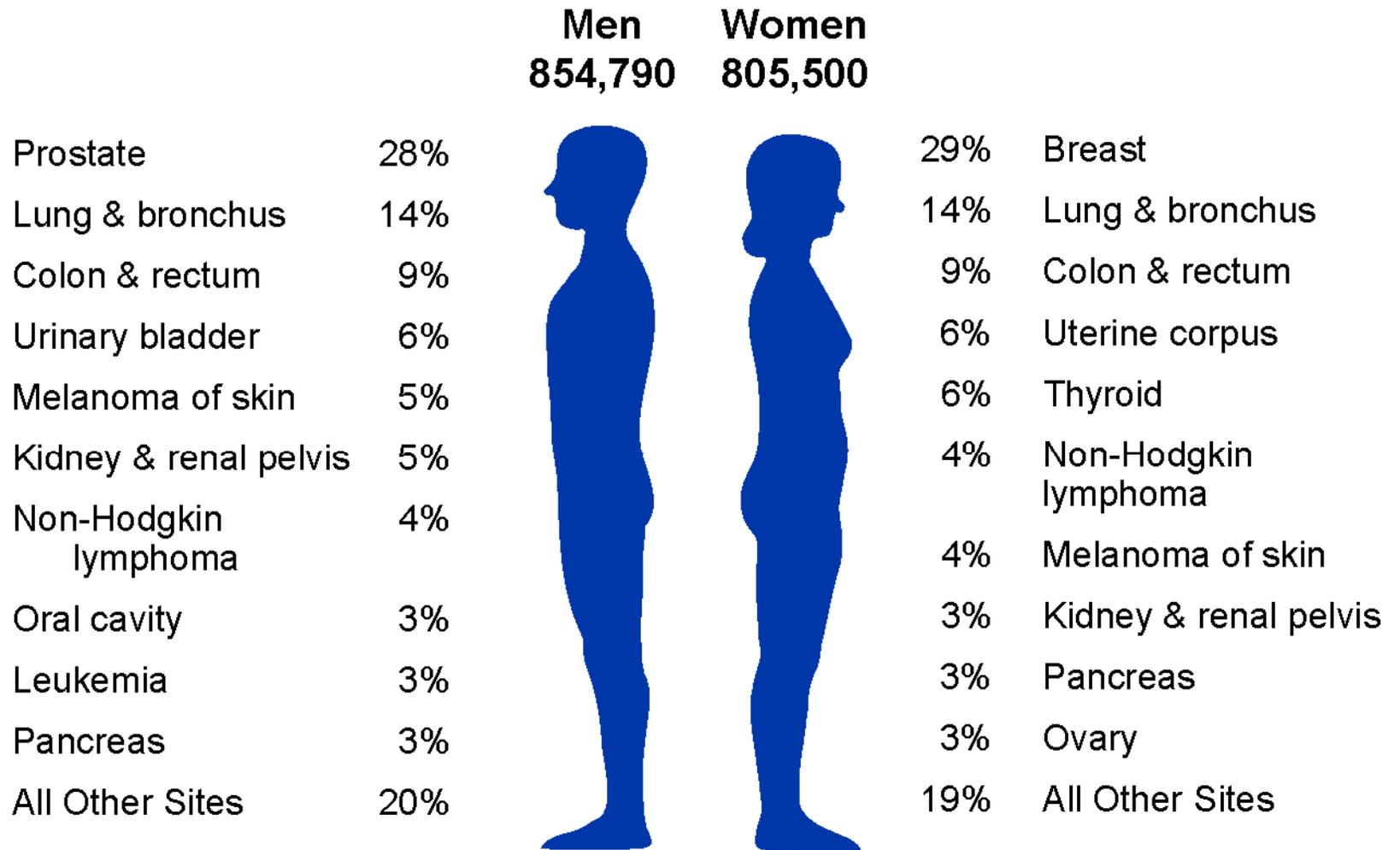
Source: US Mortality Data 1960-2009, US Mortality Volumes 1930-1959, National Center for Health Statistics, Centers for Disease Control and Prevention.

Total Number of Cancer Deaths Averted from 1991 to 2009 in Men and 1992 to 2009 in Women



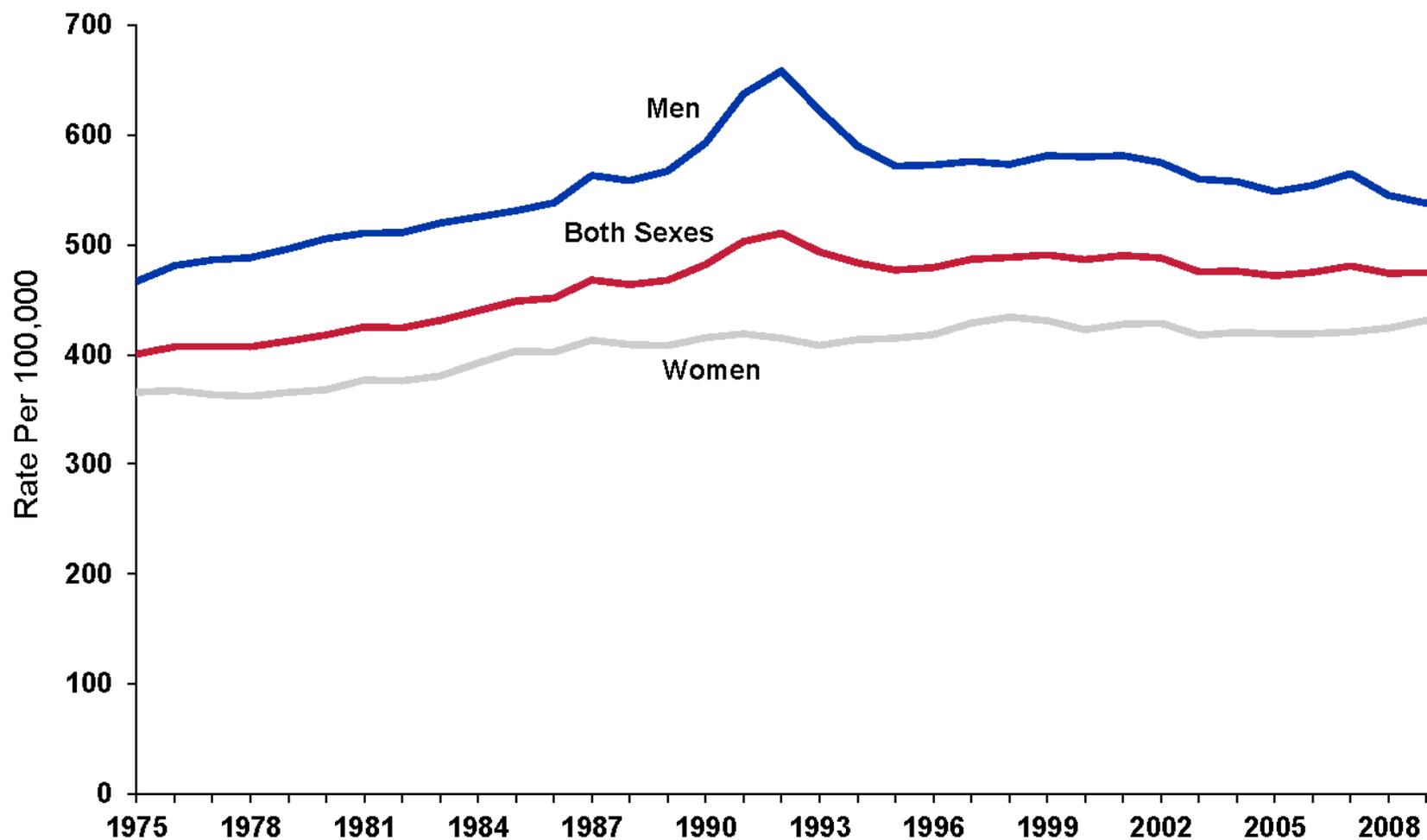
The blue line represents the actual number of cancer deaths recorded in each year, and the red line represents the number of cancer deaths that would have been expected if cancer death rates had remained at their peak.

Estimated New Cancer Cases* in the US in 2013



*Excludes basal cell and squamous cell skin cancers and in situ carcinoma except urinary bladder.

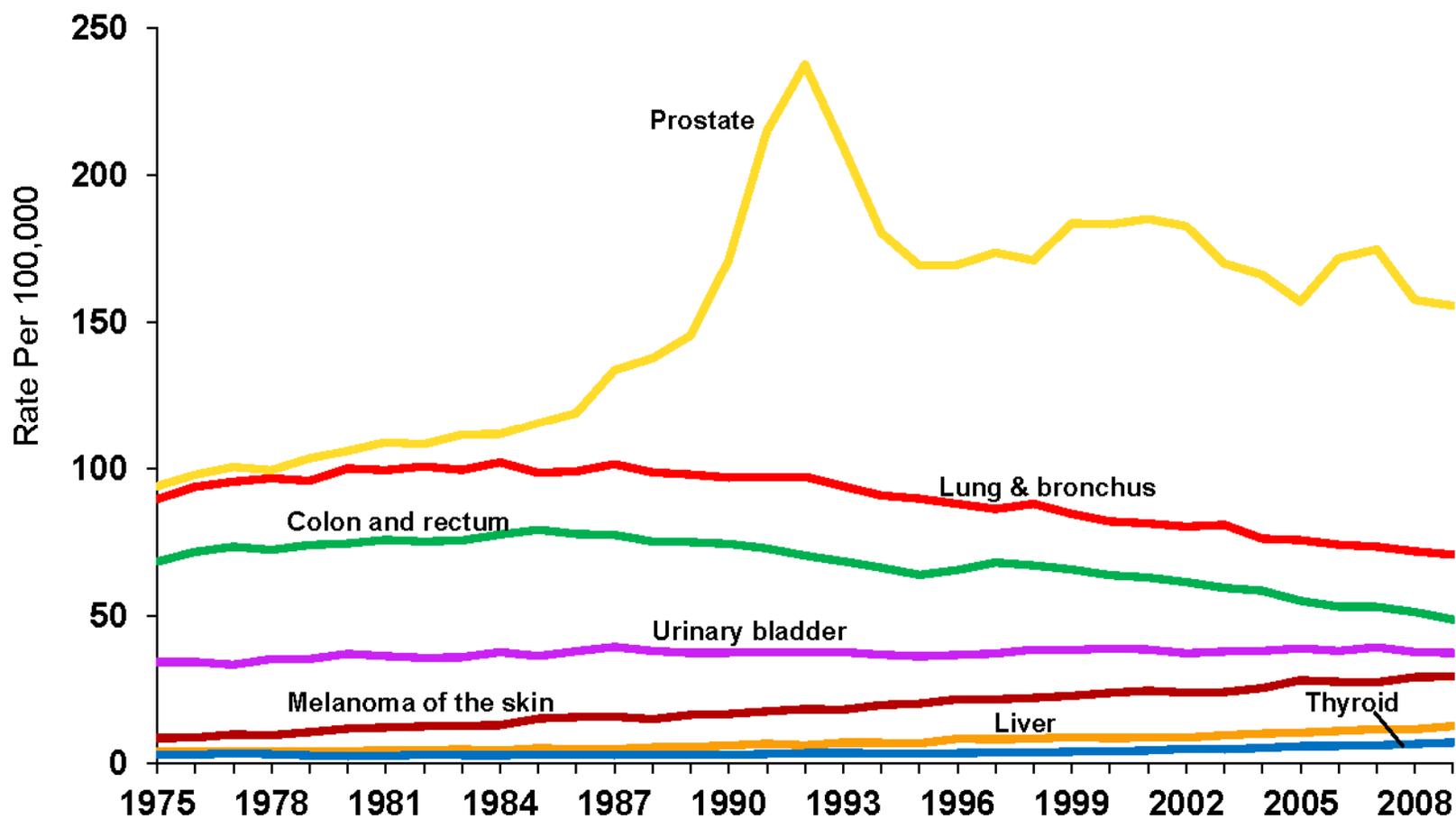
Cancer Incidence Rates* by Sex, US, 1975-2009



*Age-adjusted to the 2000 US standard population and adjusted for delays in reporting.

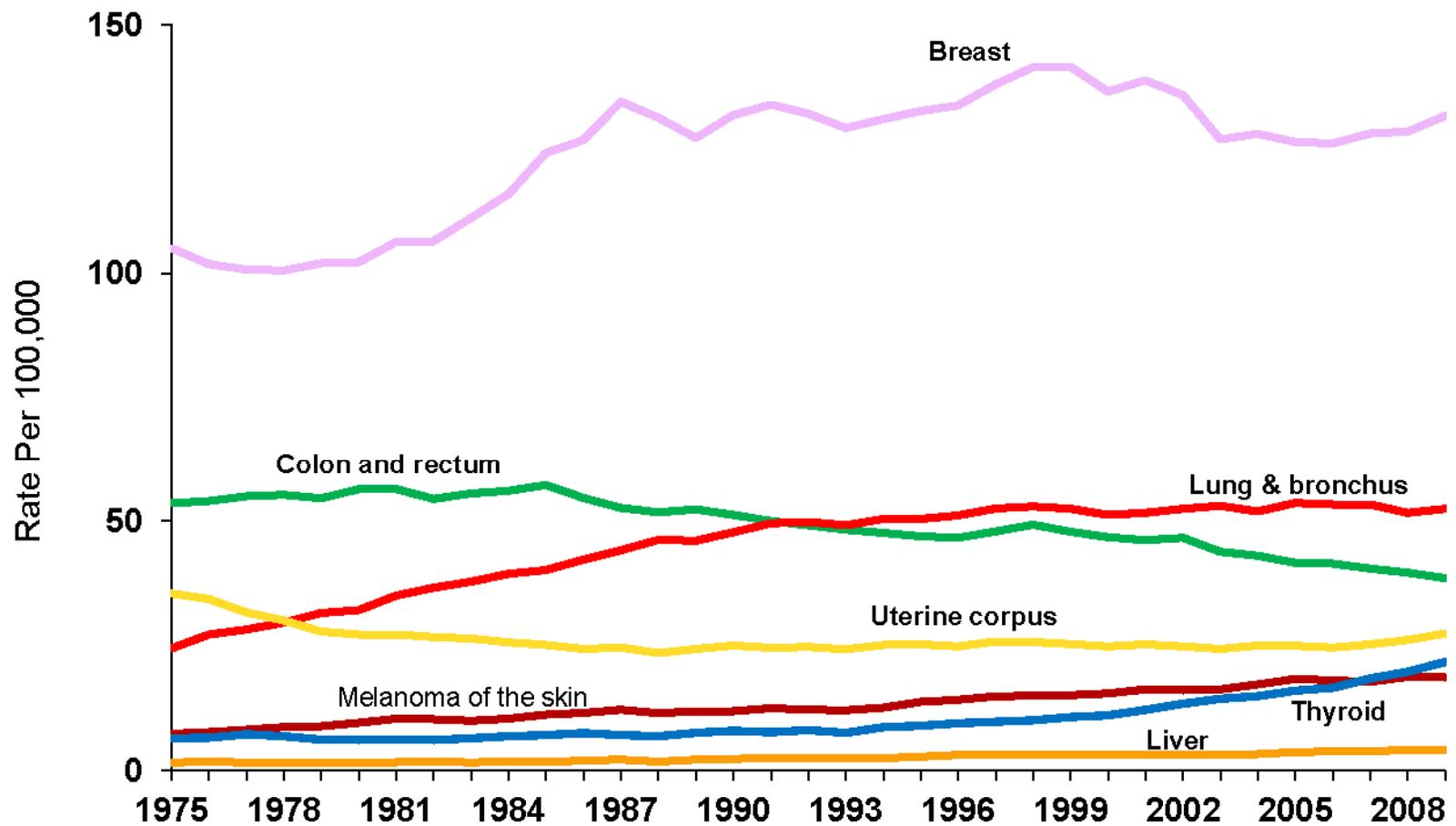
Source: Surveillance, Epidemiology, and End Results Program, Delay-adjusted Incidence database: SEER Incidence Delay-adjusted Rates, 9 Registries, 1975-2009, National Cancer Institute, 2012.

Cancer Incidence Rates* Among Men, US, 1975-2009



*Age-adjusted to the 2000 US standard population and adjusted for delays in reporting.
Source: Surveillance, Epidemiology, and End Results Program, Delay-adjusted Incidence database: SEER Incidence Delay-adjusted Rates, 9 Registries, 1975-2009, National Cancer Institute, 2012.

Cancer Incidence Rates* Among Women, US, 1975-2009



*Age-adjusted to the 2000 US standard population and adjusted for delays in reporting.
 Source: Surveillance, Epidemiology, and End Results Program, Delay-adjusted Incidence database: SEER Incidence Delay-adjusted Rates, 9 Registries, 1975-2009, National Cancer Institute, 2012.

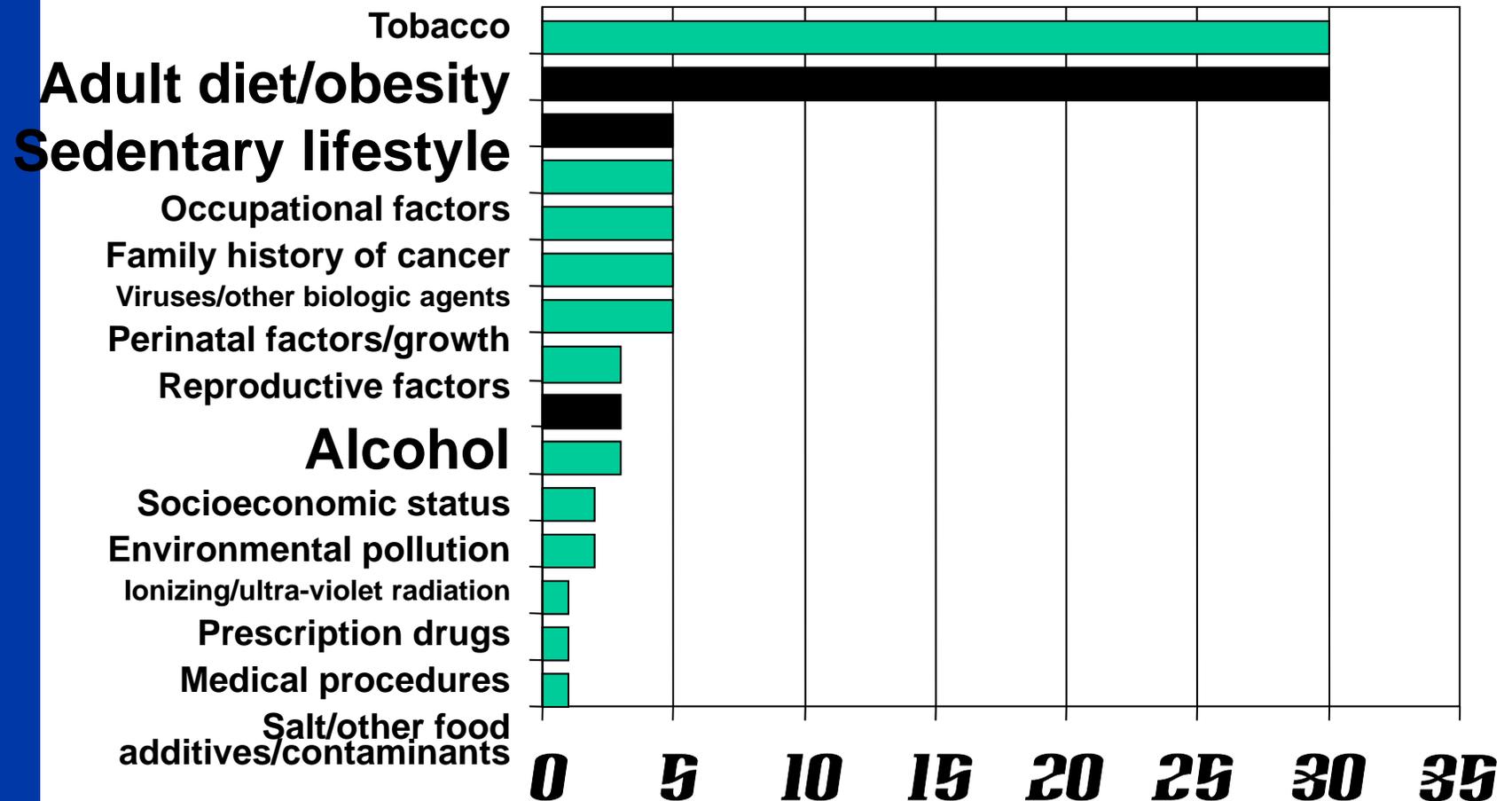
Trends in Five-year Relative Cancer Survival Rates (%), 1975-2008

Site	1975-1977	1987-1989	2002-2008
All sites	49	56	68
Breast (female)	75	84	90
Colon	51	61	65
Leukemia	34	43	58
Lung & bronchus	12	13	17
Melanoma	82	88	93
Non-Hodgkin lymphoma	47	51	71
Ovary	36	38	43
Pancreas	2	4	6
Prostate	68	83	100
Rectum	48	58	68
Urinary bladder	73	79	80

5-year relative survival rates based on patients diagnosed from 2002 to 2008, all followed through 2009.
 Source: *SEER Cancer Statistics Review 1975-2009* (SEER 9 registries), National Cancer Institute, 2012.

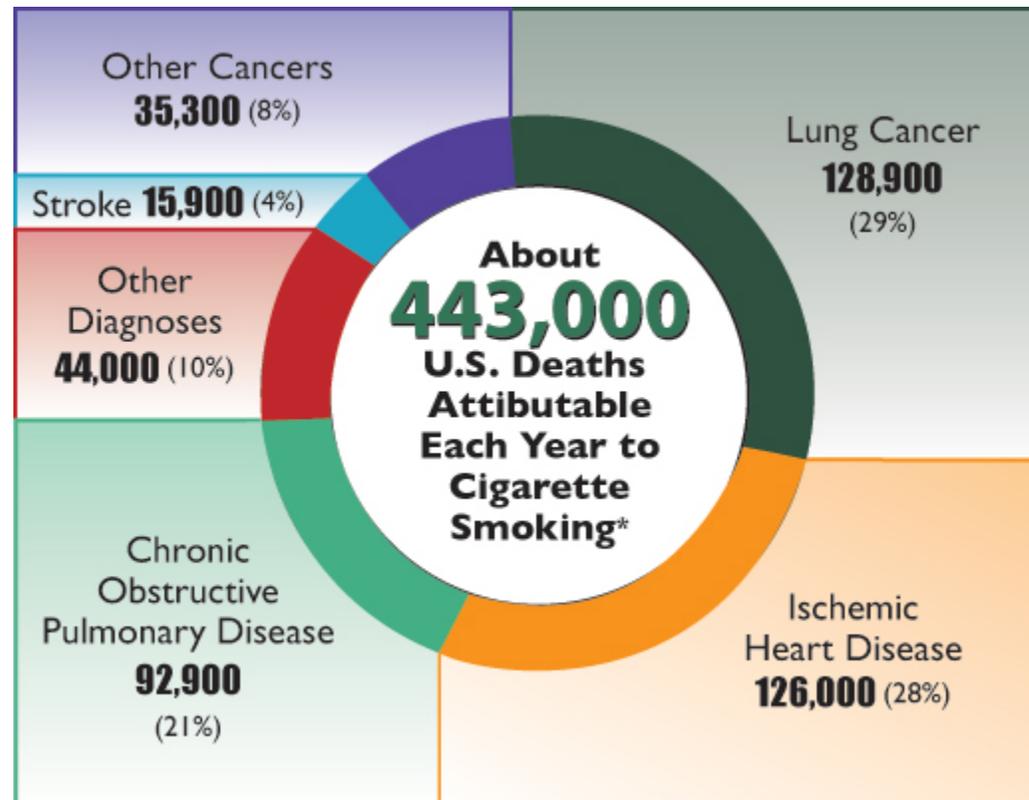
Causes of Cancer

Estimate percentage of total cancer deaths attributable to established causes of cancer



Source: Harvard Report on Cancer Prevention, Cancer Causes and Control, November/December, 1996

Annual Tobacco Related Deaths, U.S.



Tobacco Related Cancers

Oral cavity and pharynx

Esophagus

Larynx

Lung, trachea and bronchus

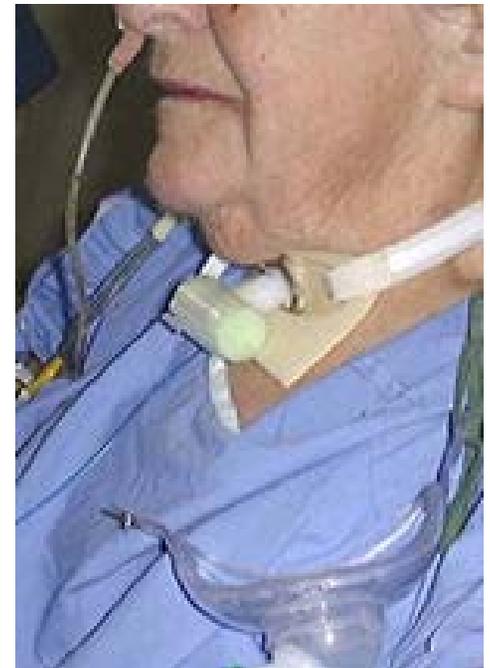
Urinary bladder

Renal pelvis

Uterine cervix

Pancreas

Kidney



Tobacco Related Cardiovascular Diseases

Hypertension

Ischemic heart disease

Atherosclerosis

Pulmonary heart disease

Aortic aneurysm

Stroke



Tobacco Related Respiratory Diseases

Chronic bronchitis

Emphysema

Asthma

Pneumonia

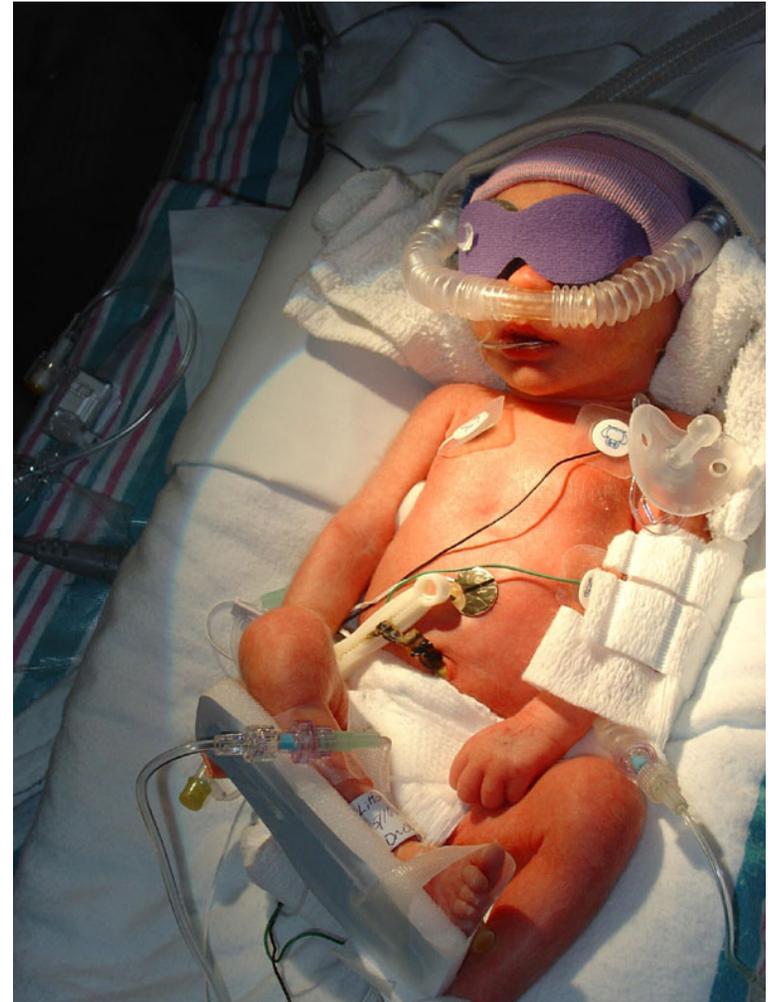


Tobacco Related Pediatric Diseases

Low birth weight

Respiratory distress
syndrome

Sudden infant death
syndrome



Secondhand Tobacco Smoke Problems

Heart Disease

Lung cancer

Asthma attacks

Bronchitis and pneumonia (especially children)

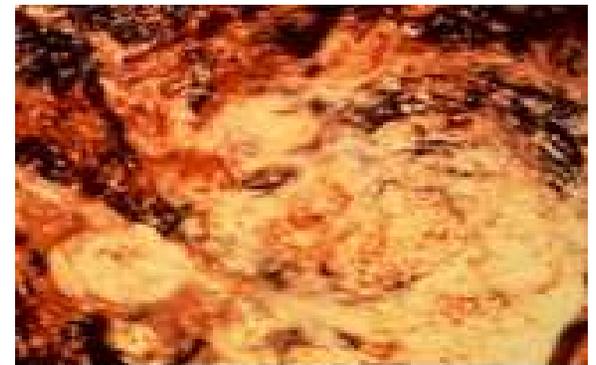
Coughs and croup (especially children)

Middle ear infections (children)



Conclusion of the U.S. Surgeon General— 2004

“Smoking harms nearly every organ of the body, causing many diseases and reducing the health of smokers in general.”

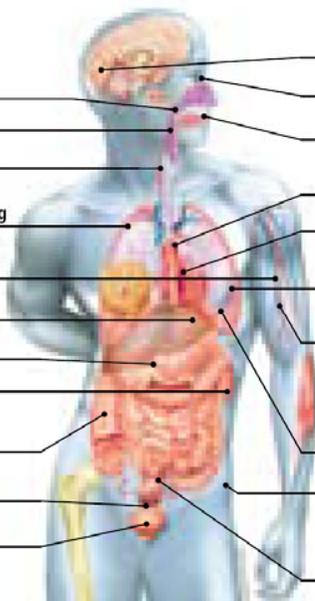


Lung with Tar (black)
and Cancer (white)

Smoking and Second-Hand Smoke Damage Every Part of the Body

CANCERS	CHRONIC DISEASES
Larynx	Stroke
Oropharynx	Blindness, Cataracts
Oesophagus	Periodontitis
Trachea, bronchus or lung	Aortic aneurysm
Acute myeloid leukemia	Coronary heart disease
Stomach	Pneumonia
Pancreas	Atherosclerotic peripheral vascular disease
Kidney and Ureter	Chronic obstructive pulmonary disease (COPD), asthma, and other respiratory effects
Colon	Hip fractures
Cervix	Reproductive effects in women (including reduced fertility)
Bladder	

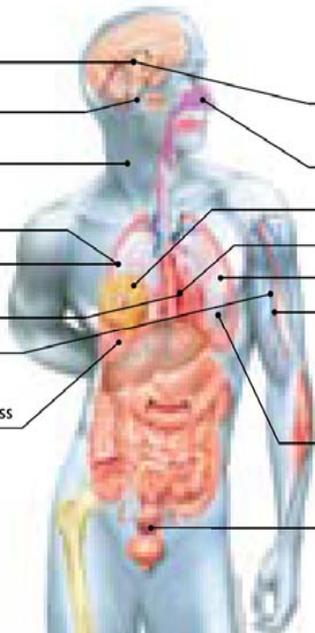
Smoking



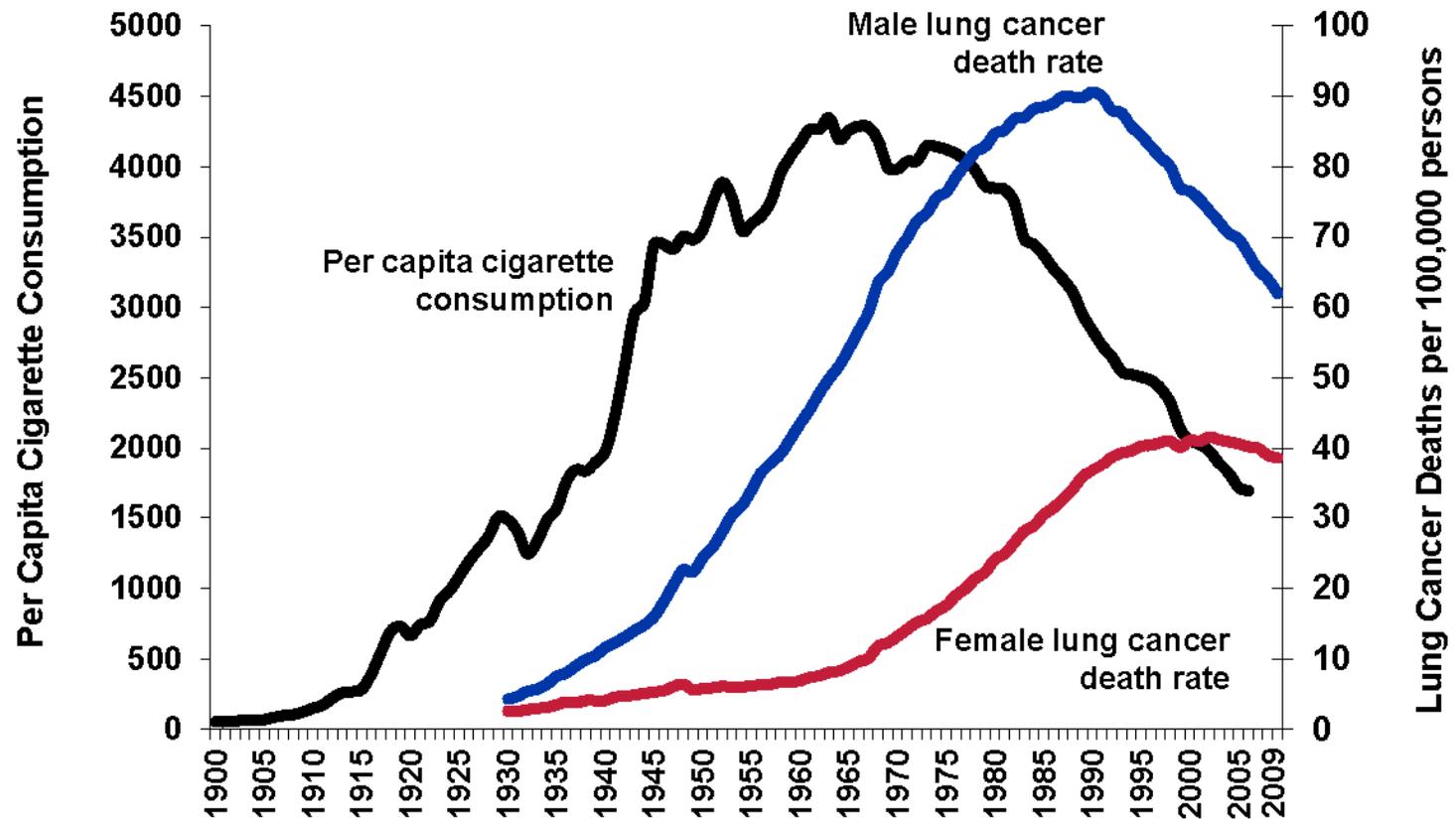
Second-Hand Smoke

CHILDREN	ADULTS
Brain tumours*	Stroke*
Middle ear disease	Nasal irritation, Nasal sinus cancer*
Lymphoma*	Breast cancer*
Respiratory symptoms, Impaired lung function	Coronary heart disease
Asthma*	Lung cancer
Sudden Infant Death Syndrome (SIDS)	Atherosclerosis*
Leukemia*	Chronic obstructive pulmonary disease (COPD)*, Chronic respiratory symptoms*, Asthma*, Impaired lung function*
Lower respiratory illness	Reproductive effects in women: Low birth weight; Pre-term delivery*

* Evidence of causation: suggestive
Evidence of causation: sufficient



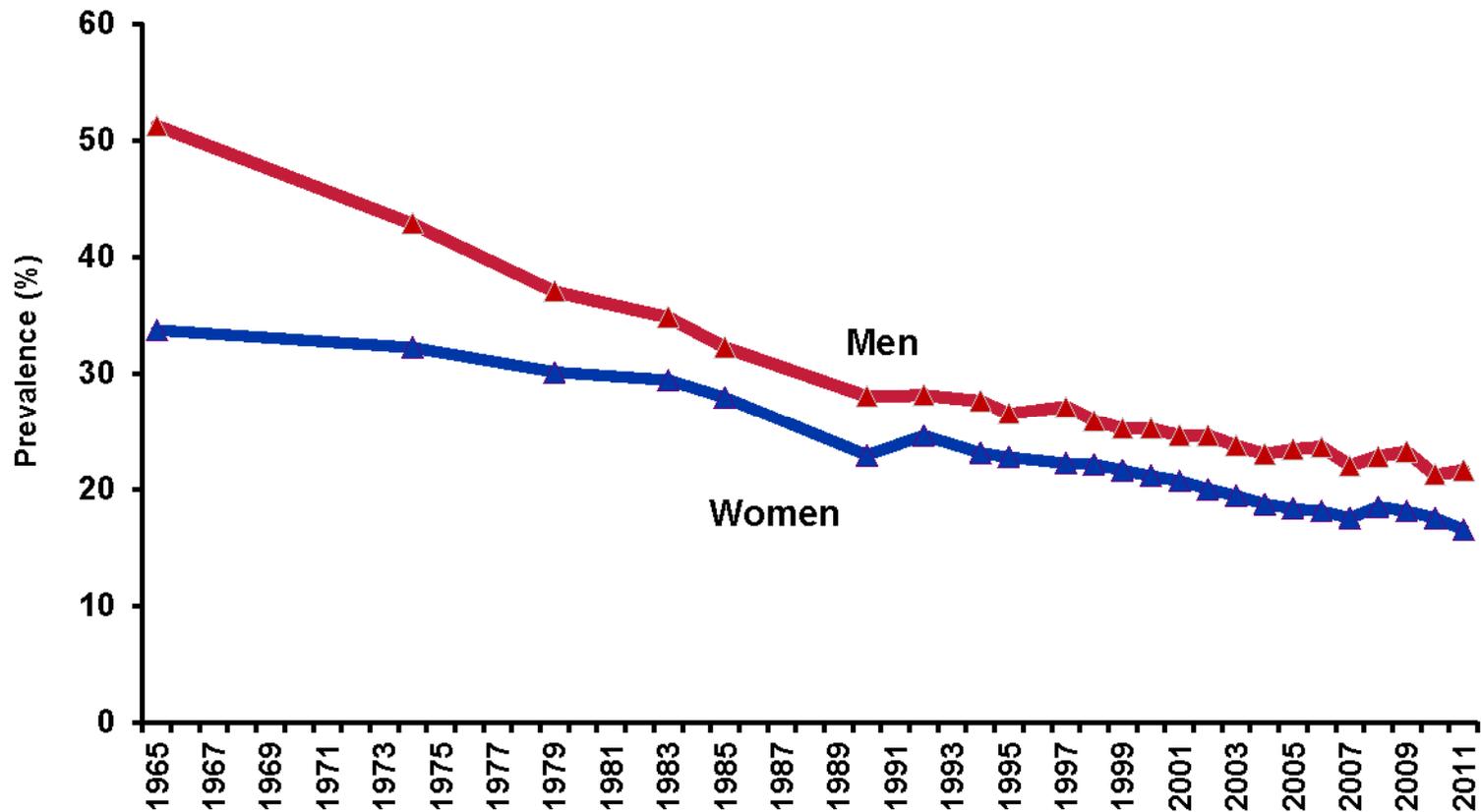
Trends in Tobacco Use and Lung Cancer Death Rates* in the US



*Age-adjusted to 2000 US standard population.

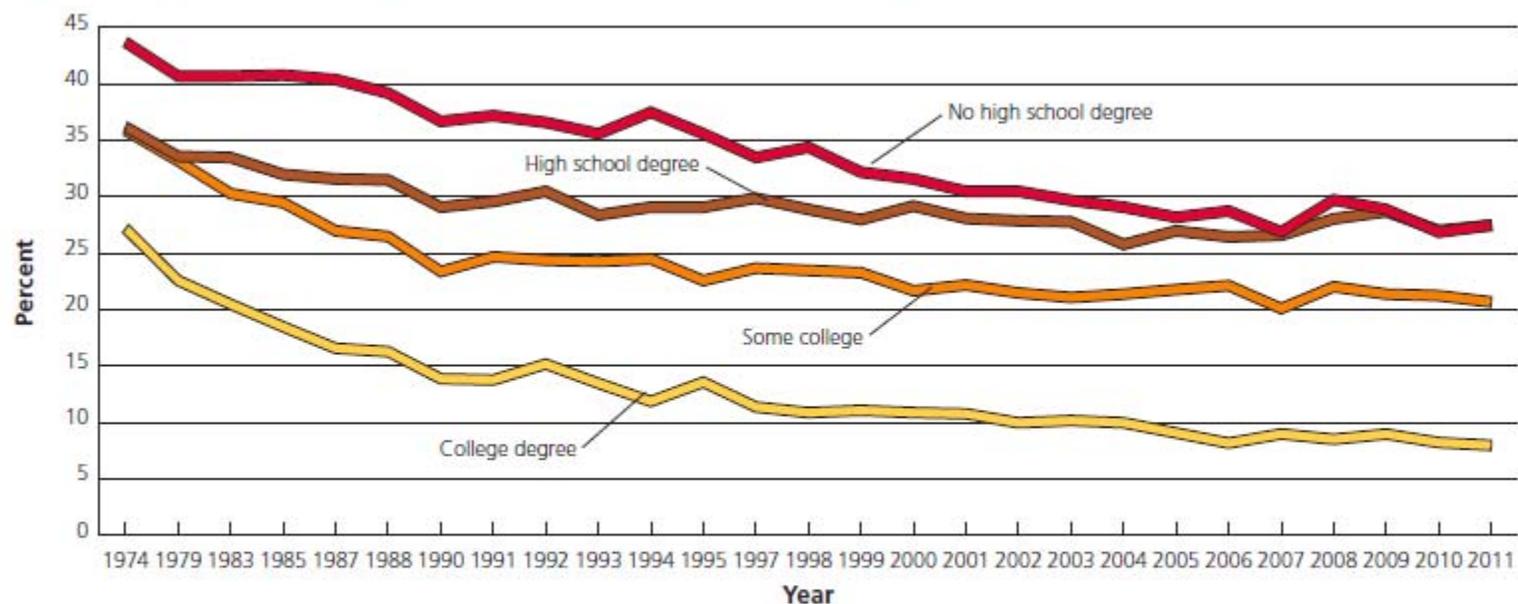
Source: Death rates: US Mortality Data, 1960-2009, US Mortality Volumes, 1930-1959, National Center for Health Statistics, Centers for Disease Control and Prevention. Cigarette consumption: US Department of Agriculture, 1900-2007.

Trends in Cigarette Smoking, Adults 18 and Older, US, 1965-2011



Redesign of survey in 1997 may affect trends. Estimates are age adjusted to the 2000 US standard population. Source: National Health Interview Survey, National Center for Health Statistics, Centers for Disease Control and Prevention, 2012.

Figure 1C. Cigarette Smoking* Trends†, Adults 25 and Older, by Education, US, 1974-2011

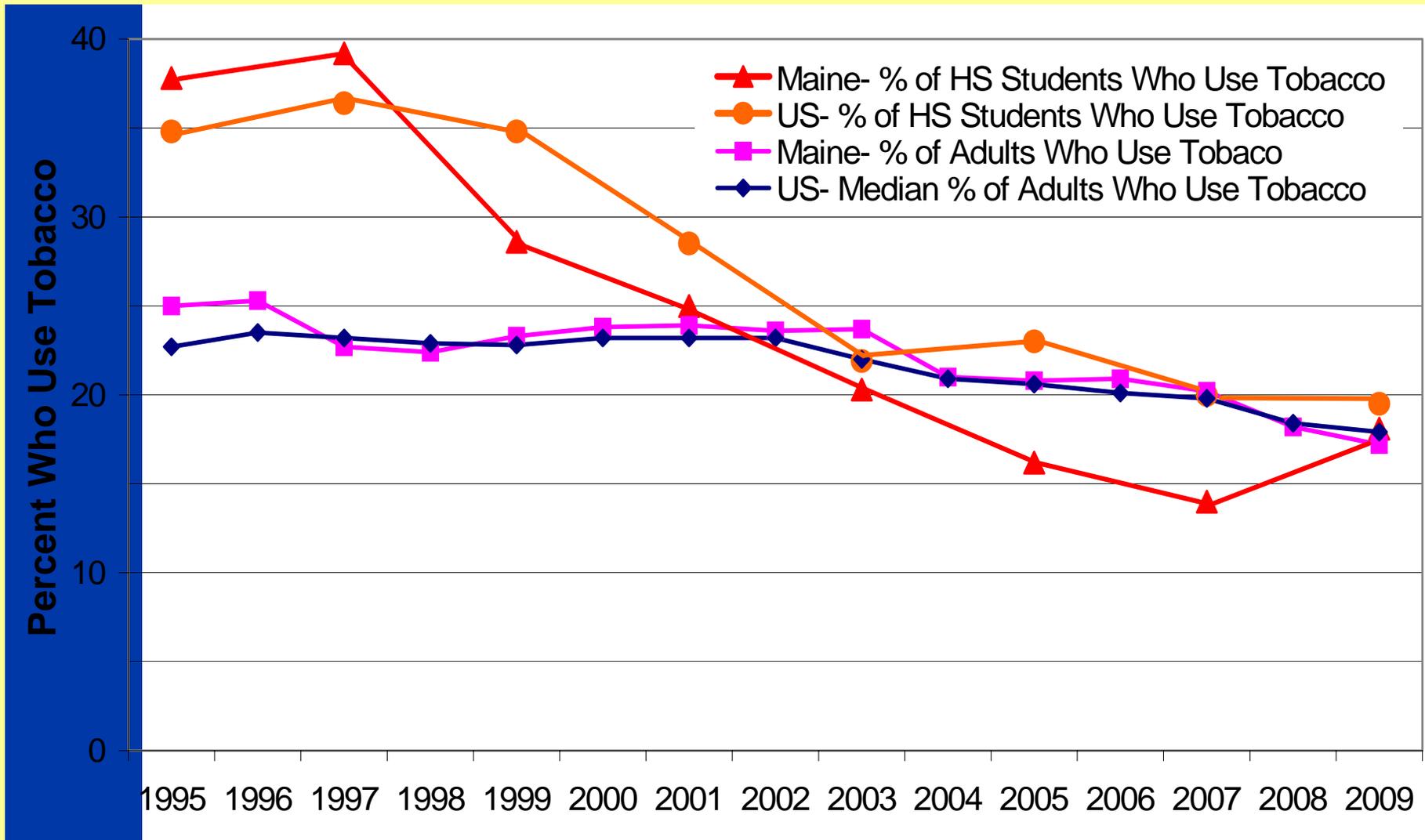


*Adults 25 and older who have smoked 100 cigarettes in their lifetime and are current smokers (every day or some days). †Estimates are age adjusted to the 2000 US standard population using four age groups: 25-34 years, 35-44 years, 45-64 years, and 65 years and over.

Source: 1974-2007: National Center for Health Statistics, Health, United States, 2007. With Chartbook on Trends in the Health of Americans. Hyattsville, Maryland, 2008. 2008-2010: National Health Interview Survey Public Use Data Files, National Center for Health Statistics, Centers for Disease Control and Prevention, 2011.

American Cancer Society, Surveillance Research, 2013

SMOKING PREVALENCE DECREASING, BUT STILL LOT OF WORK TO DO

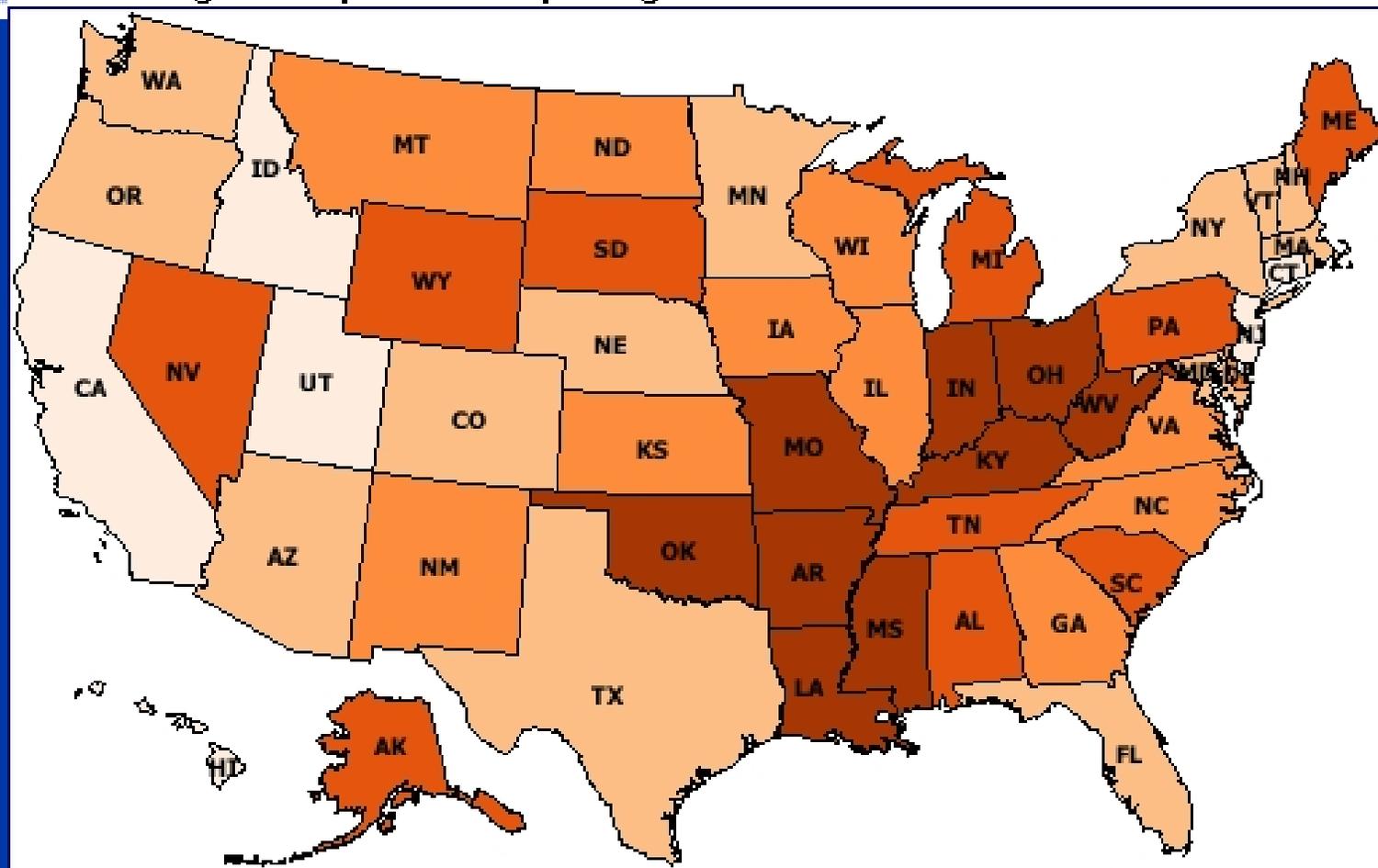


BRFSS Maps

Year - 2011

Adults who are current smokers

Percentage of respondents reporting Yes



Legend

Percent

- <= 17.4
- 17.5 to 20
- 20.1 to 22.1
- 22.2 to 24.3
- >= 24.4
- No Data

Classification Method:
Natural Breaks

Image saved:
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HHS



CDC



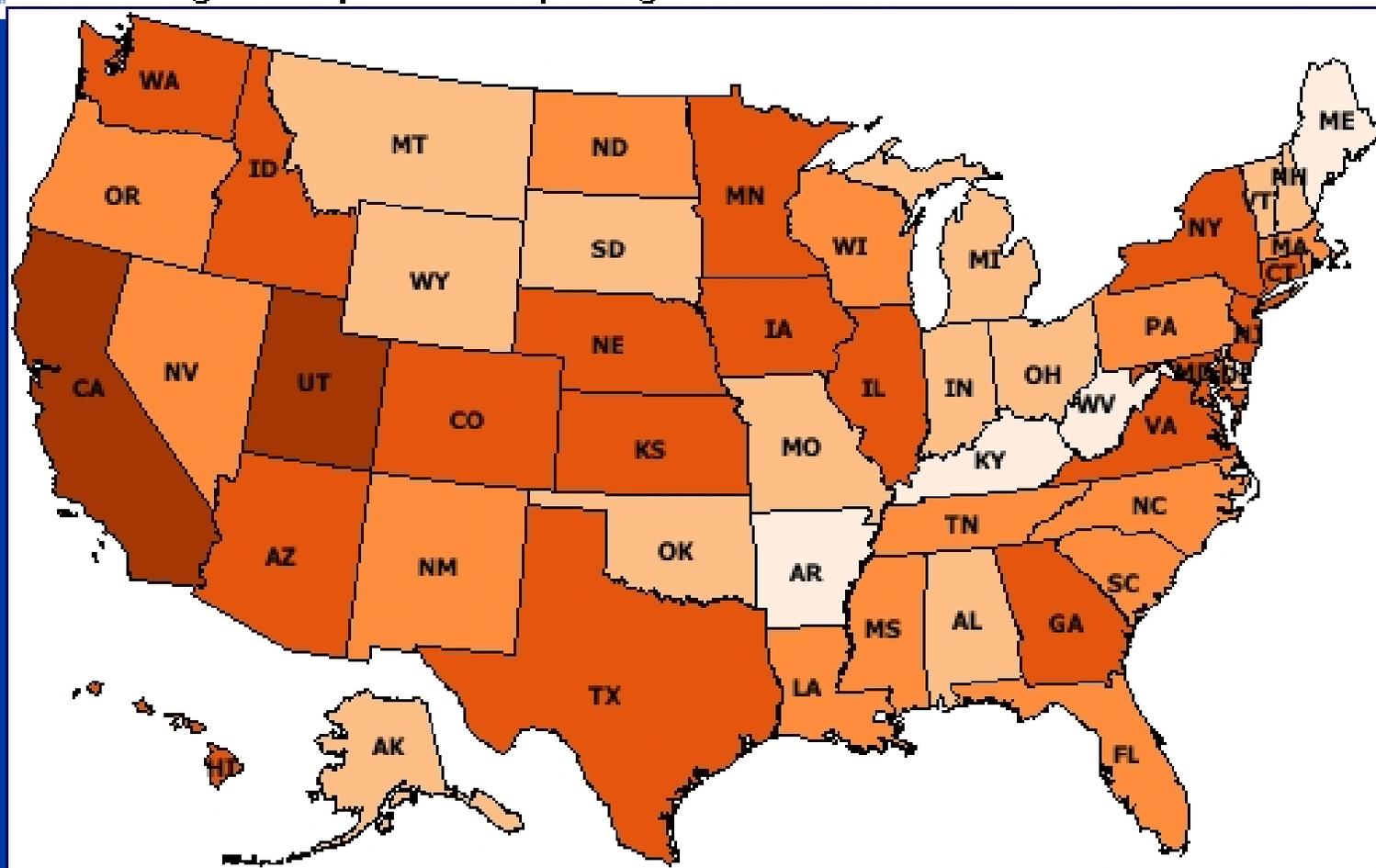
BRFSS

BRFSS Maps

Year - 2011

Four Level Smoking Status

Percentage of respondents reporting Never smoked



Legend

Percent

- <= 49
- 49.1 to 51.5
- 51.6 to 53.6
- 53.7 to 59
- >= 59.1
- No Data

Classification Method:
Natural Breaks

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7/10/2013



HHS



CDC



BRFSS

TOBACCO USE VARIES BY DEMOGRAPHICS

% Adults Smoke Every Day, among all interviewed via BRFSS- 2011

State:		18-24	25-34	35-44	45-54	55-64	65+
Nationwide (States and DC)	Median %	15.9	19.9	17	18.1	13.9	6.6
	# States	50	51	51	51	51	51
Maine	%	21.2	29.3	22.9	19.8	12.4	5.7
	CI	(16.6-25.9)	(25.7-32.9)	(20.1-25.7)	(17.8-21.8)	(11.0-13.8)	(4.8-6.6)
	n	72	229	277	445	390	255

State:		Male	Female
Nationwide (States and DC)	Median %	23.6	18.8
	# States	51	51
Maine	%	25.1	20.6
	CI	(23.4-26.8)	(19.3-22.0)
	n	982	1237

of States includes District of Columbia and excludes territories in years >1995

% = Percentage, CI = Confidence Interval, n = Cell Size

Percentages are weighted to population characteristics.

TOBACCO USE VARIES BY DEMOGRAPHICS

% Adults Smoke Every Day, among all interviewed via BRFSS- 2011

State:		H.S.	G.E.D.	H.S.	graduate
Nationwide (States and DC)	Median %	35.6	26.1	21	8.8
	# States	51	51	51	51
Maine	%	41.3	28.3	21.5	8.3
	CI	(36.4-46.3)	(26.4-30.2)	(19.6-23.4)	(7.2-9.4)
	n	237	981	635	362

State:		\$15,000	24,999	34,999	49,999	\$50,000+
Nationwide (States and DC)	Median %	35.8	29.7	24.4	21	13.4
	# States	51	51	51	51	51
Maine	%	38.9	30	26.4	21.1	12.5
	CI	(35.3-42.6)	(27.1-32.9)	(23.1-29.8)	(18.4-23.8)	(11.1-13.8)
	n	514	510	274	277	429

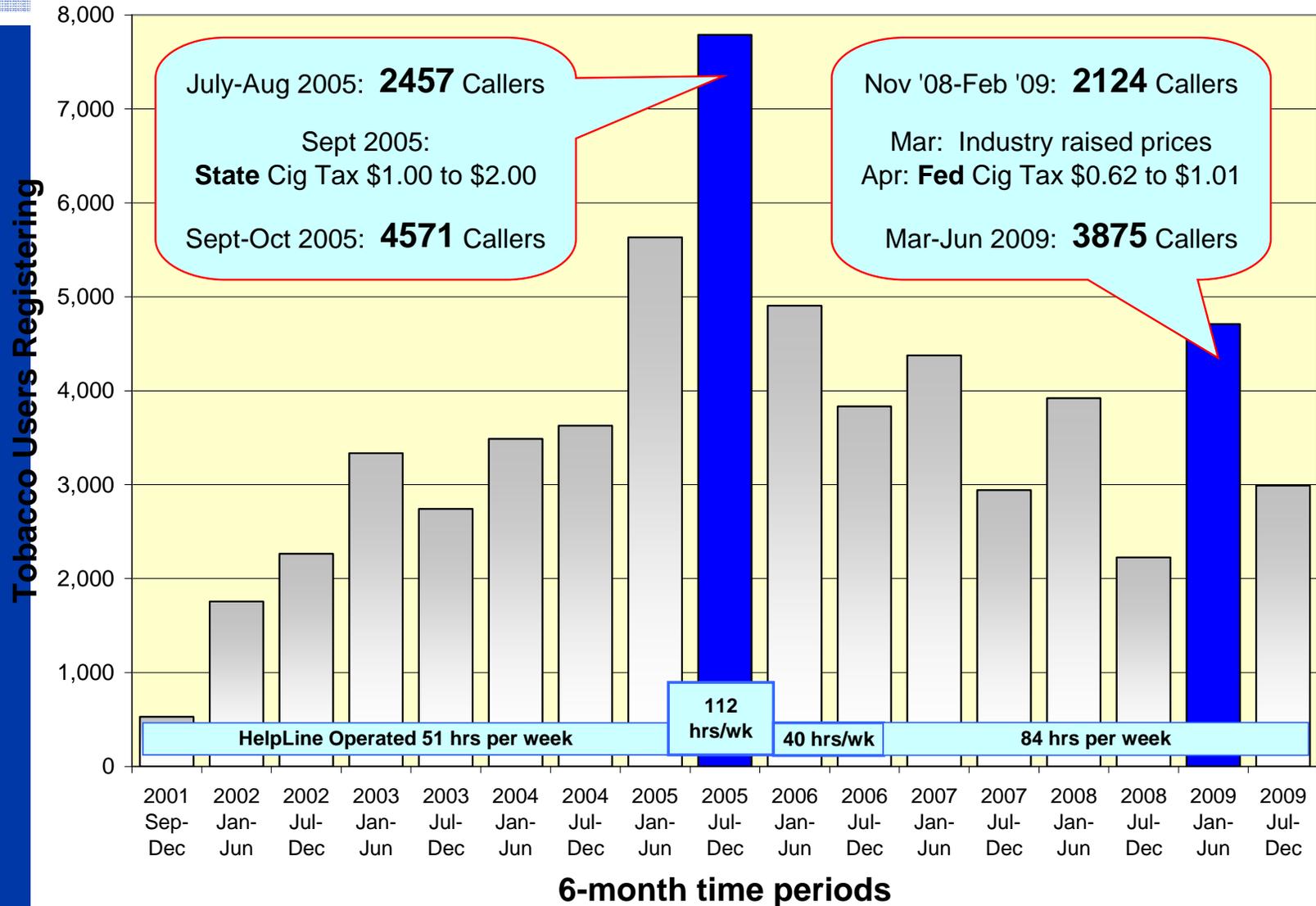
of States includes District of Columbia and excludes territories in years >1995

% = Percentage, CI = Confidence Interval, n = Cell Size

Percentages are weighted to population characteristics.

SUPPORTIVE CULTURE: QUITTERS USING HELPLINE

Tax Increase = Calls



SUPPORTIVE CULTURE

Clinician Support for Quitting

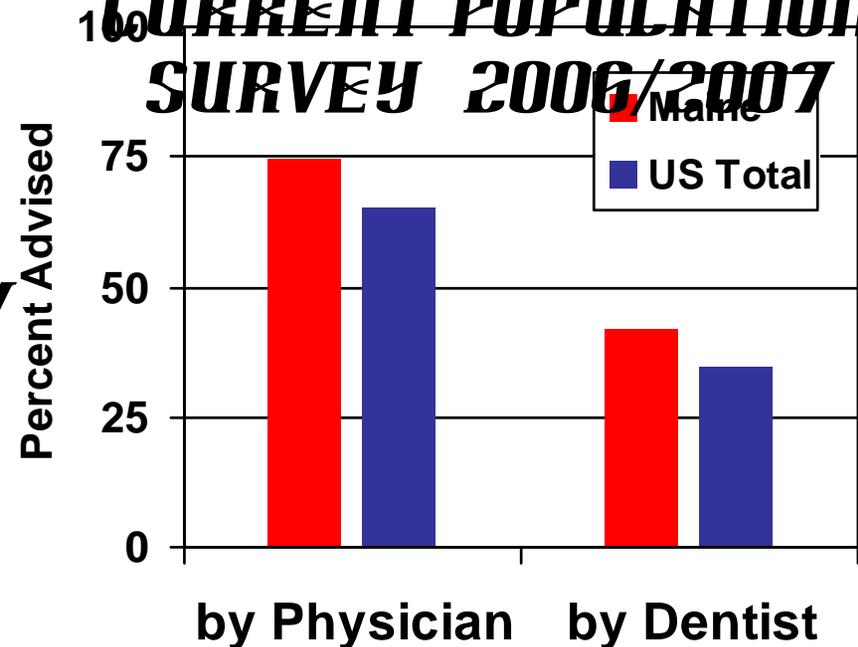
**AMONG MAINE
SMOKERS WITH A
CLINICAL VISIT IN
THE PAST 12
MONTHS...**

**% WHO REPORTED
CLINICIAN ADVISED
THEM FOR BOTH
PHYSICIANS &
DENTISTS**

2ND HIGHEST IN US.

➤ **PERCENTS ADVISED
IN MAINE
SIGNIFICANTLY
HIGHER THAN US**

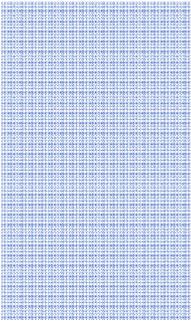
**TOBACCO USE
SUPPLEMENT OF
CURRENT POPULATION
SURVEY 2006/2007**



**AMONG
ADULTS WHO
EVER SMOKED
REGULARLY...**

**% WHO ARE
NOW QUIT
(I.E. FORMER
SMOKERS)**

State:	% Former Among All Ever Smokers	Rank- % Former Among All Ever Smokers
Nationwide (States and DC)	54.3%	
California	63.7%	1
Connecticut	61.9%	2
Vermont	61.7%	3
Massachusetts	60.9%	4
Hawaii	60.5%	5
New Jersey	60.4%	6
New Hampshire	60.0%	7
Colorado	59.8%	8
Washington	59.8%	9
Florida	59.2%	10
Idaho	58.7%	11
New York	58.4%	12
Oregon	58.1%	13
Maine	58.1%	14
Rhode Island	57.9%	15
Minnesota	57.8%	16
Utah	57.6%	17
Delaware	56.5%	18
Arizona	56.3%	19
Wisconsin	55.6%	20



Guide to Community Preventive Services Tobacco Control Recommendations

Excerpt from Task Force on Community Preventive Services' *The Guide to Community Preventive Services: What Works to Promote Health?*

“Based on the evidence of effectiveness documented in the scientific literature, recommendations from the Task Force support the following population-based tobacco prevention and control efforts:

Clean indoor air legislation prohibiting tobacco use in indoor public and private workplaces.

Federal, state, and local efforts to increase tobacco product excise taxes as an effective public health intervention to promote tobacco use cessation and to reduce the initiation of tobacco use among youth.

The funding and implementation of long-term, high-intensity mass media campaigns using paid broadcast times and media messages developed through formative research.

Proactive telephone cessation support services (quit lines).

Reduced or eliminated co-payments for effective cessation therapies.

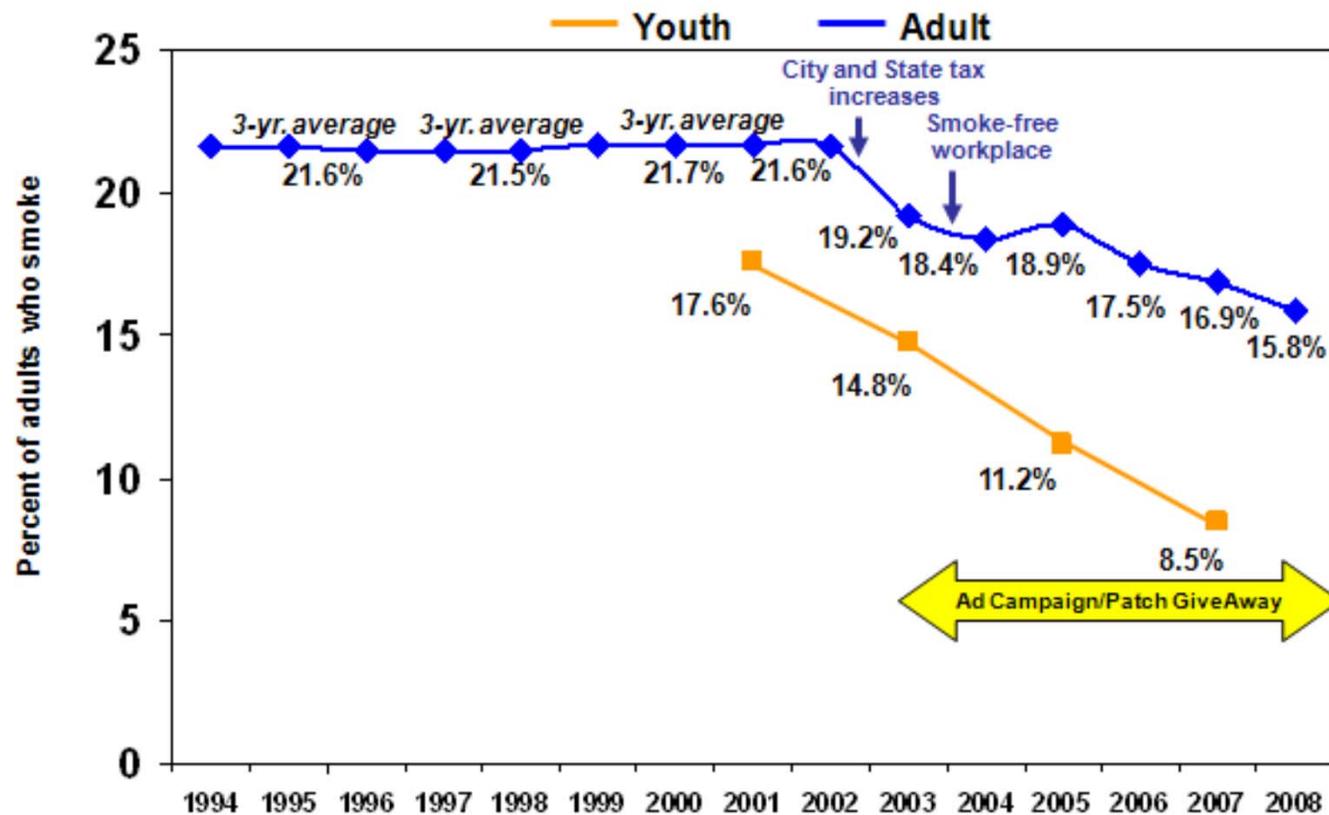
Reminder systems for healthcare providers.

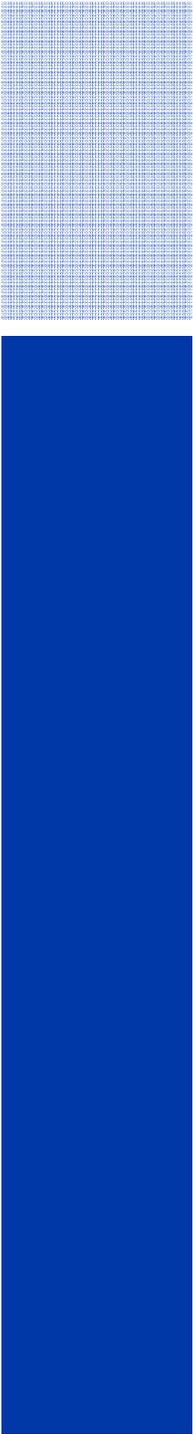
Combinations of efforts to mobilize communities to identify and reduce the commercial availability of tobacco products to youth.

“In reflecting the available evidence on effectiveness, recommendations from the Task Force confirm the importance of coordinated or combined intervention efforts in tobacco prevention. Evidence of effectiveness in efforts to reduce tobacco use among youth through access restrictions, to disseminate anti-tobacco messages through mass media, and to assist tobacco users in their efforts to quit via telephone comes predominantly from the studies that implemented these interventions combination with other strategies”



Policies work: NY example





Medicaid Cessation

MA study ROI

40% of MassHealth smokers used benefit to try to quit

26% drop in smoking over two years with full benefit

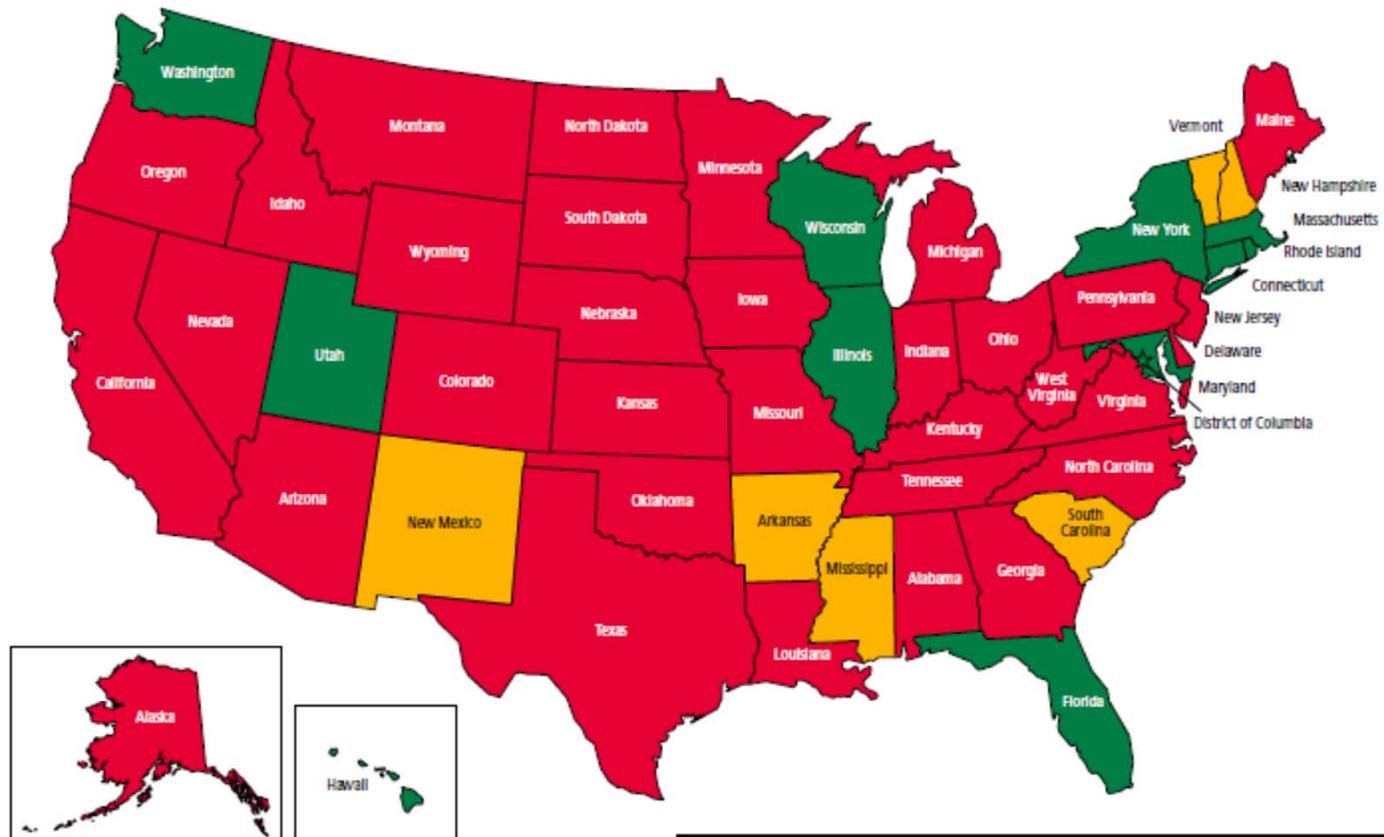
38% drop in heart attack hospitalizations among cessation benefit users

17% fewer emergency department visits for asthma symptoms

17% fewer claims for adverse maternal birth complications

State Cigarette Tax and Price Increases

Since July 1, 2007

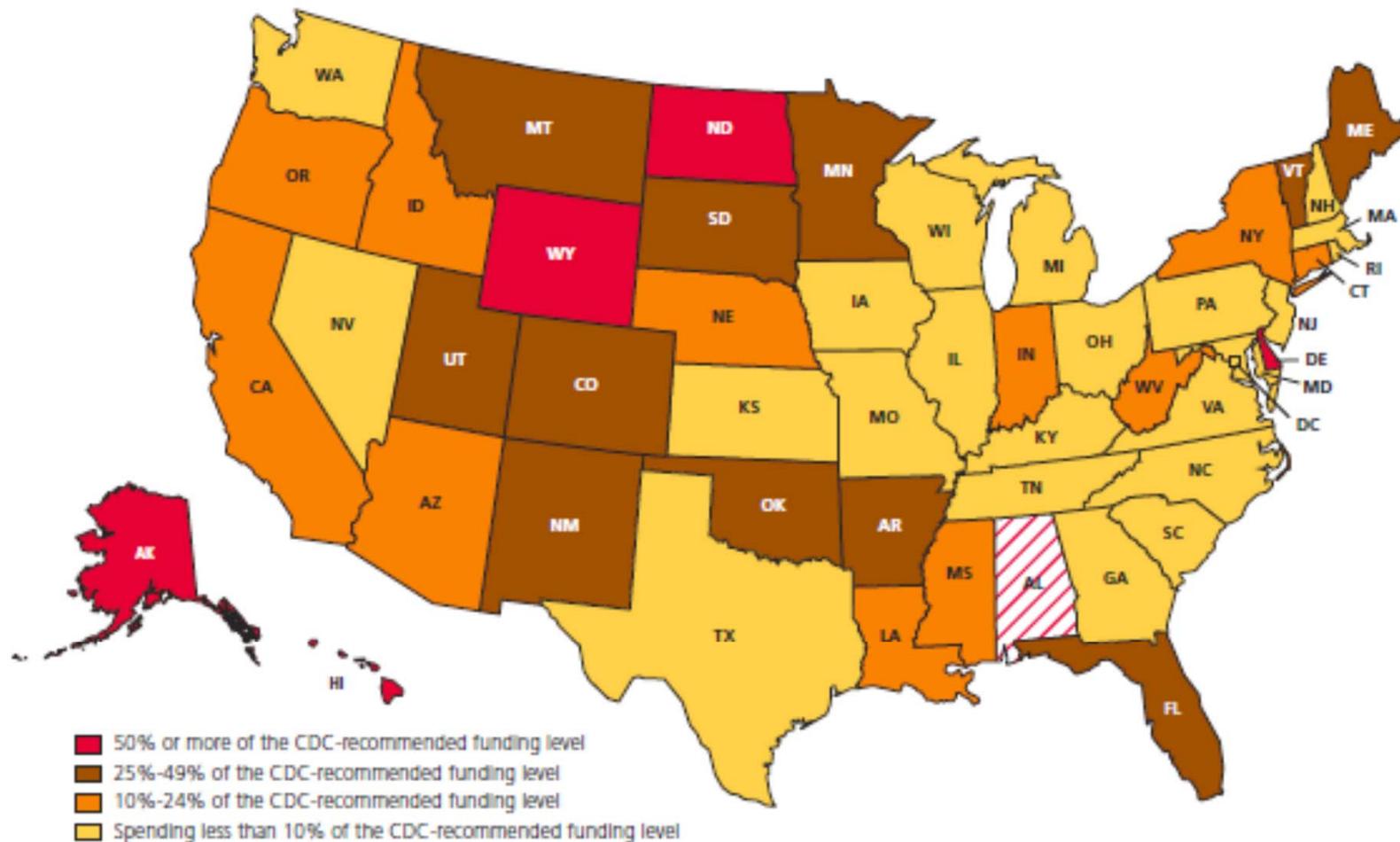


How Do You Measure Up?

- At least \$1.00 tax increase over 6 years and a 30% price increase per pack
- Tax increase over 6 years between \$.50 and \$.99 and a 30% price increase per pack
- No tax increase over 6 years or total tax increase less than \$.50

As of 7/1/13

Figure 1F. Funding for Tobacco Prevention, by State, US, Fiscal Year 2013



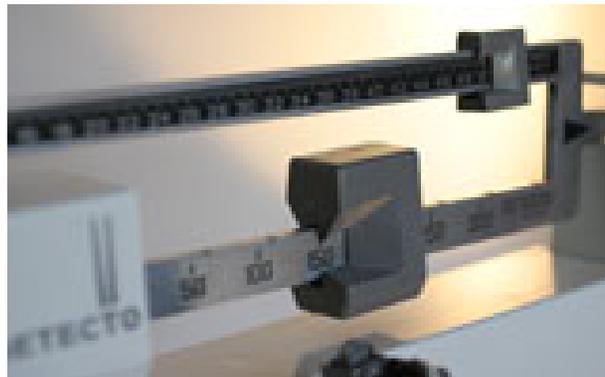
Source: Robert Wood Johnson Foundation. Campaign For Tobacco-Free Kids, American Cancer Society Cancer Action Network, American Heart Association, and American Lung Association. A Broken Promise to Our Children: The 1998 State Tobacco Settlement 14 Years Later. November 2013. Available at tobaccofreekids.org/what_we_do/state_local/tobacco_settlement/. Current annual funding includes state funds for FY2013 and does not include federal funds directed to states. Alabama data not available, but 2011 funding was less than 10% of recommended level.

Nutrition, Physical Activity and Cancer:

Why the obesity connection is so important

In the United States, overweight and obesity accounts for about 14% to 20% of all cancer deaths.

About 2 out of 3 Americans are overweight or obese.

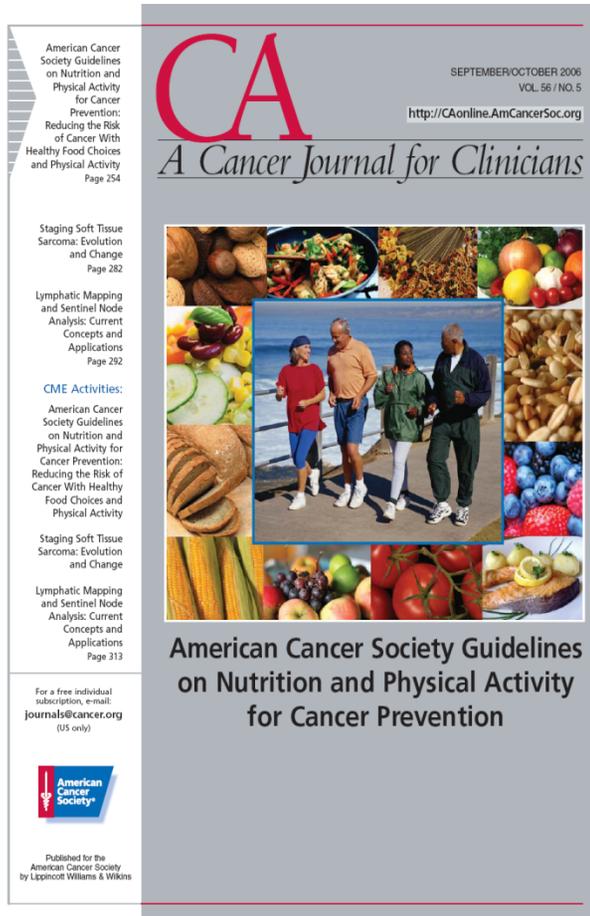


2012 Recommendations for Individuals:

- 1) Maintain a healthy weight throughout life.
- 2) Adopt a physically active lifestyle.
- 3) Consume a healthy diet, with an emphasis on plant sources.
- 4) If you drink alcoholic beverages, limit consumption.

Communities:

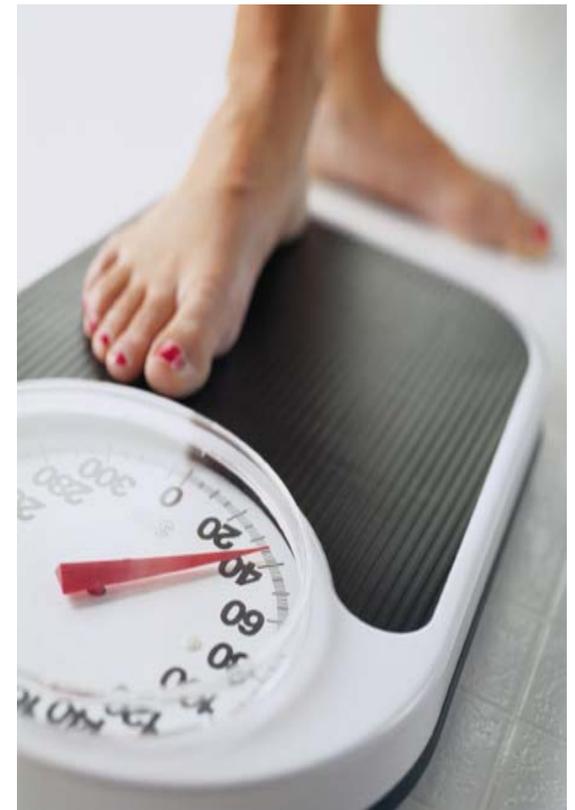
Work together to make it easier for people to eat better and be more active.



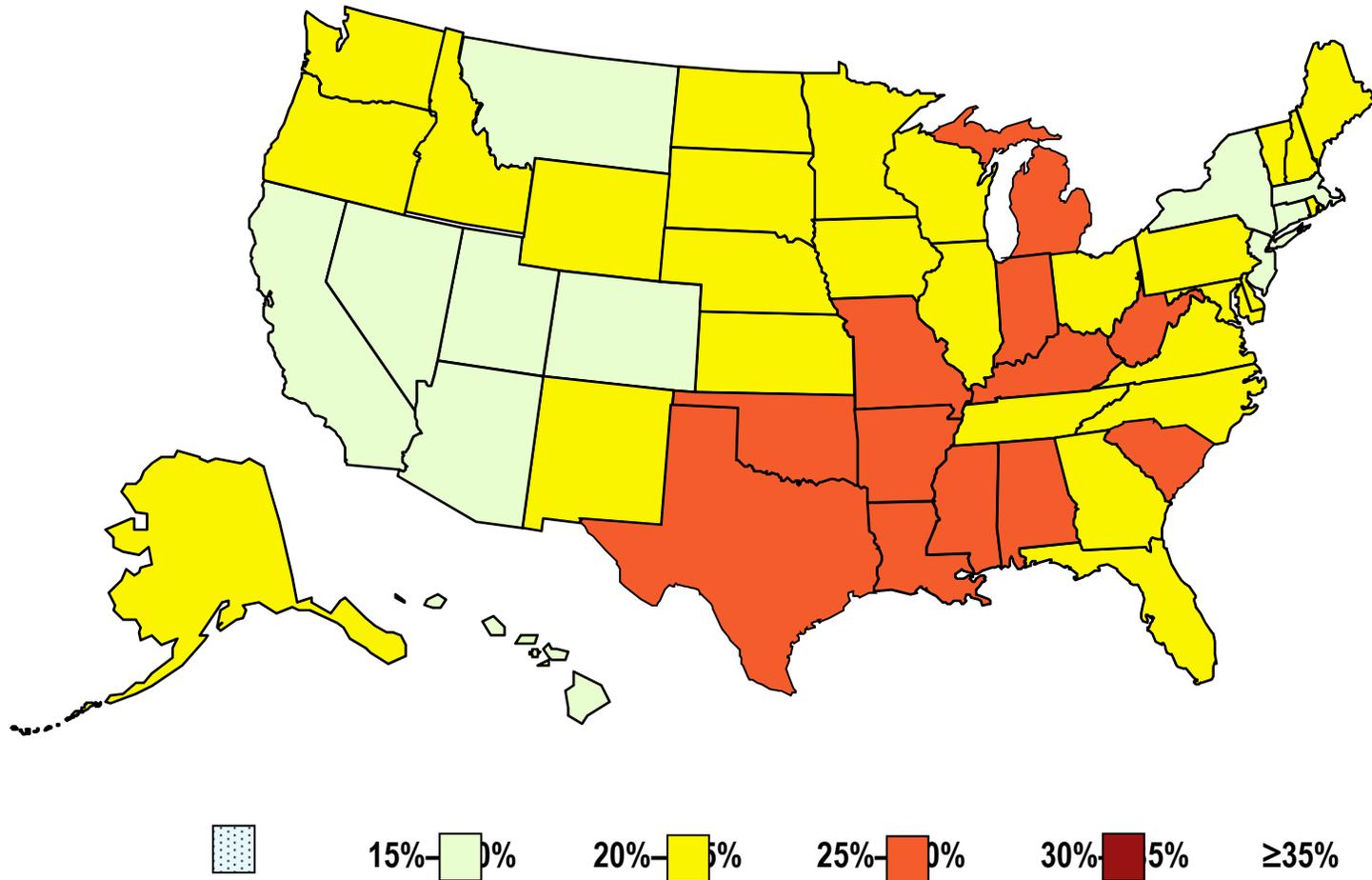
Society Recommendations for Individual Choices

Maintain a healthy weight throughout life.

- Be as lean as possible throughout life without being underweight.
- Avoid excess weight gain at all ages. If currently overweight or obese, losing even a small amount of weight has health benefits and is a good place to start.
- Engage in regular physical activity and limit high calorie foods and beverages as key strategies for maintaining a healthy weight.



Obesity Among U.S. Adults, 2011



Source: Behavioral Risk Factor Surveillance System, CDC. Prevalence reflects BRFSS methodological changes in 2011, and these estimates should not be compared to previous years.

Childhood Obesity

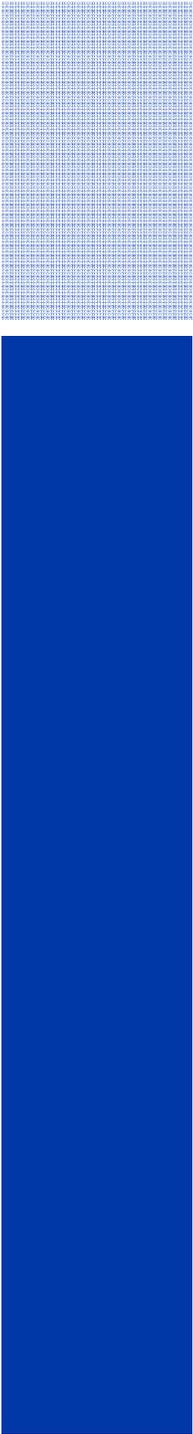
Childhood obesity has more than doubled in children and tripled in adolescents in the past 30 years.

THE PERCENTAGE OF CHILDREN AGED 6-11 YEARS IN THE UNITED STATES WHO WERE OBESE INCREASED FROM 7% IN 1980 TO NEARLY 18% IN 2010.

THE PERCENTAGE OF ADOLESCENTS AGED 12-19 YEARS WHO WERE OBESE INCREASED FROM 5% TO 18% OVER THE SAME PERIOD.

In 2010, more children and adolescents were obese.





Alcohol and Cancer Risk

Heavy drinking – esp combined with tobacco use - increases risk of cancers of:

MOUTH & PHARYNX

LARYNX

ESOPHAGUS

LIVER

Even moderate drinking increases risk of breast cancer in women

“I thought a glass of wine was good for me!”

Moderate intake of alcohol appears to decrease risk of heart disease

OTHER APPROACHES TO REDUCE HEART DISEASE RISK

Not recommended that non-drinkers begin drinking

Consider risk of both heart disease and cancer to make an informed decision





Cancer Epidemiology, Biomarkers & Prevention

ACR

Following cancer prevention guidelines reduces risk of cancer, cardiovascular disease and all-cause mortality

Marjorie L McCullough, Alpa V Patel, Lawrence H Kushi, et al.

Cancer Epidemiol Biomarkers Prev Published OnlineFirst April 5, 2011.

Conclusion: Adherence to cancer prevention guidelines for obesity, diet, physical activity and alcohol consumption is associated with a lower risk of death from cancer, CVD and all causes in non-smokers.

ACS Recommendation for Community Action

Public, private and community organizations should work collaboratively at national, state and local levels to implement policy and environmental changes that:

- Increase access to affordable, healthy foods in communities, worksites and schools, and decrease access to and marketing of foods and beverages of low nutritional value, particularly to youth.
- Provide safe, enjoyable and accessible environments for physical activity in schools and worksites, and for transportation and recreation in communities.



Breast Cancer Screening Guidelines

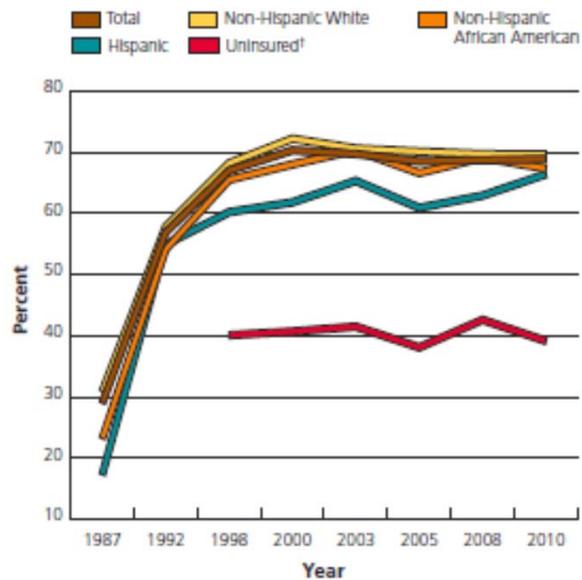
- Annual mammograms beginning at age 40

- Clinical breast exam:
 - Ages 20-39, as part of a periodic health exam at least every 3 years
 - Ages 40+, prior to mammogram as part of a periodic health exam annually.

- Breast self-exam:
 - Optional; beginning in their early 20s, women should be told about the benefits and limitations of breast-self examination. Women should know how their breasts normally feel and report any breast changes promptly to their health care providers.

Mammography Trends

Figure 4A. Mammography within the Past Two Years*, Women 40 and Older, among Race/Ethnic Categories and the Uninsured†, US, 1987-2010

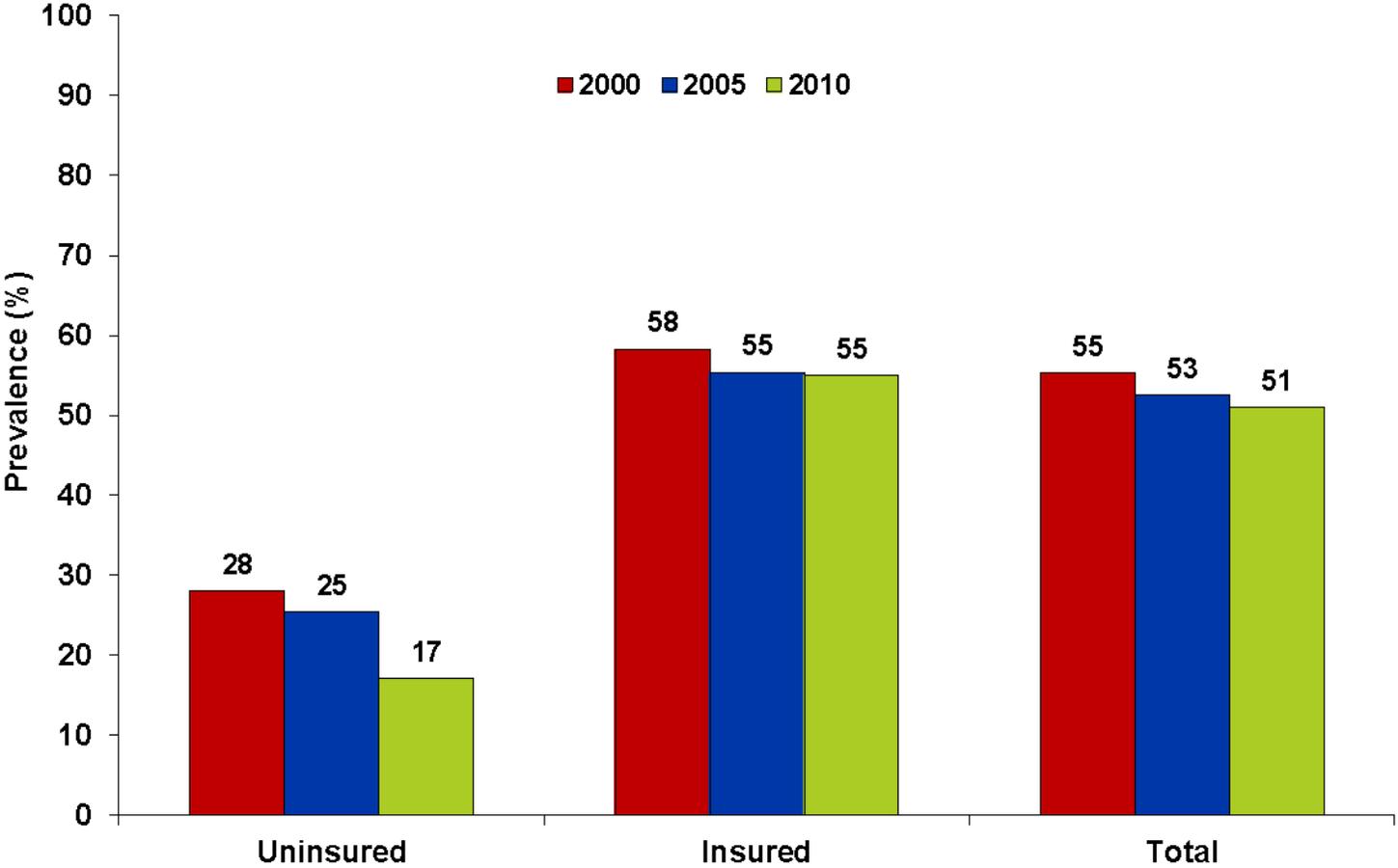


*Estimates for race and ethnic groups are age adjusted to the 2000 US standard population. †Estimates for the uninsured group are for women 40 to 64 years and are not age adjusted (see Statistical Notes for more information on age-adjustment).

Source: 1987-2003: National Cancer Institute. Cancer Trends Progress Report – 2007 Update. Available at progressreport.cancer.gov. Accessed September 10, 2009. Centers for Disease Control and Prevention, National Center for Health Statistics, Health, United States, 2008, With Special Feature on the Health of Young Adults. Hyattsville, Maryland: 2009. 2005, 2008, 2010: National Health Interview Survey Public Use Data File 2005, 2008, 2010. National Center for Health Statistics, Centers for Disease Control and Prevention, 2006, 2009, 2011.

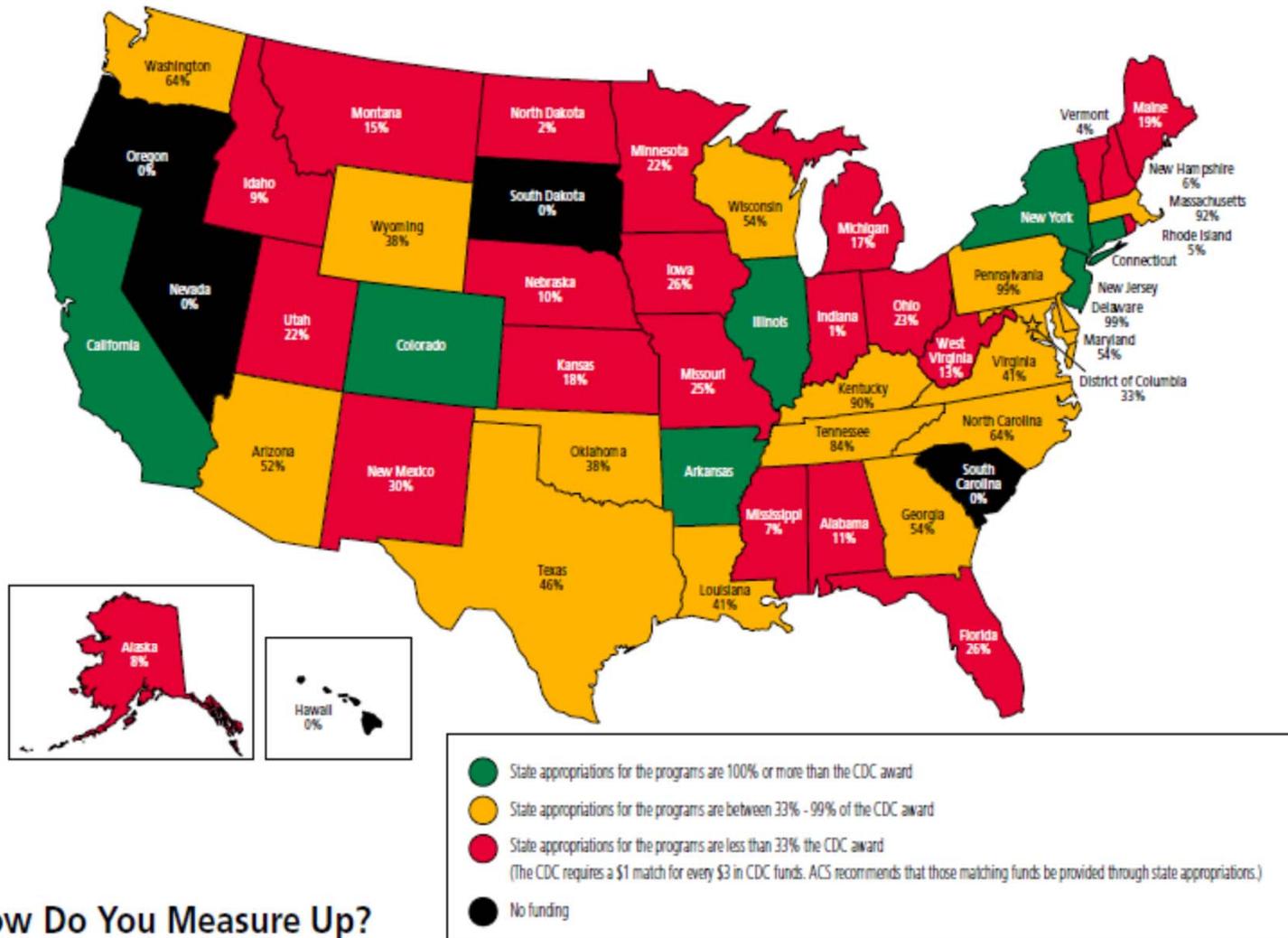
American Cancer Society, Surveillance Research, 2013

Trends in Annual Mammography Use by Health Insurance Status, US, 2000-2010



A mammogram within the past year among women ≥ 40 years; estimates are age-adjusted to the 2000 US standard population.
Source: National Health Interview Survey, National Center for Health Statistics, Centers for Disease Control and Prevention.

State Appropriations for Breast and Cervical Cancer Screening Programs - Fiscal Year 2012-2013



How Do You Measure Up?

American Cancer Society Cancer Action Network Updated July 1, 2013

Source: 2012-2013 data from the Centers for Disease Control and Prevention and unpublished data collected from ACS CAN and ACS Divisions, including input from NBCCEDP directors.

Cervical Cancer Screening Guidelines

- Cervical cancer screening should begin at age 21.
- Preferred screening test/s and frequency vary by age:

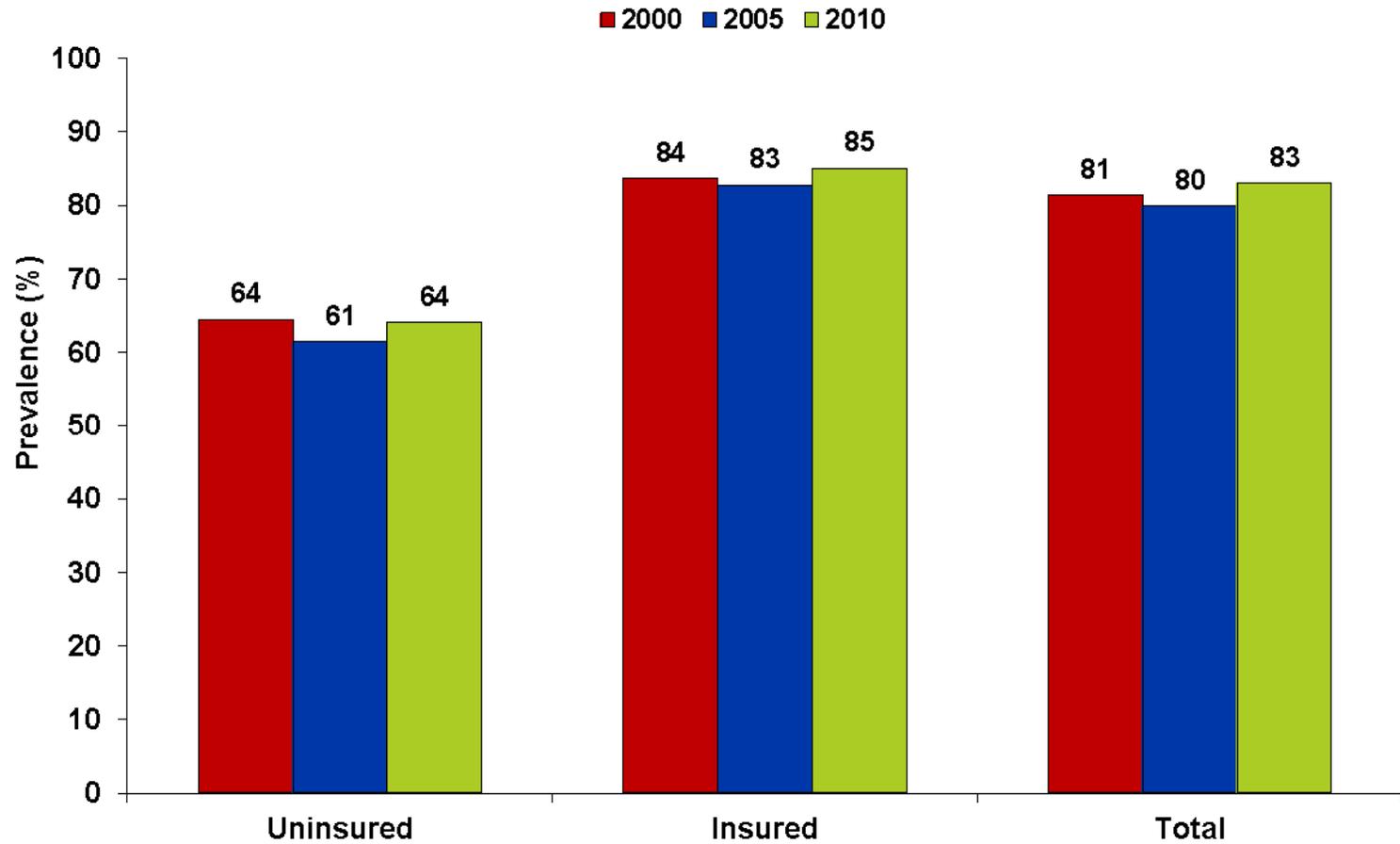
<u>Age</u>	<u>Frequency</u>	<u>Test</u>
21-29	Every 3 yrs	Pap test*
30-65†	Every 5 yrs	HPV & Pap tests

*Conventional or liquid-based test.

†Every 3 years with the Pap test alone is acceptable.

- Women should stop screening:
 1. At age 66 with adequate negative prior screening
 - ≥ 3 consecutive negative Pap tests within 10 yrs, most recent within 5 yrs **OR**
 - ≥ 2 consecutive negative HPV and Pap tests within 10 yrs, most recent within 5 yrs
 2. After hysterectomy

Trends in Pap Test Prevalence* by Health Insurance Status, US, 2000-2010



*A Pap test within the past three years among women age 21-65; estimates age-adjusted to the 2000 US standard population. Source: National Health Interview Survey, National Center for Health Statistics, Centers for Disease Control and Prevention.

Colorectal Cancer Screening Guidelines*

Beginning at age 50, men and women should follow one of the following examination schedules:

Test	Time interval
Fecal occult blood test	Annual
Flexible sigmoidoscopy	5 yrs
Double contrast barium enema	5 yrs
Colonoscopy	10 yrs
CT Colonography	5 yrs

*For people at average risk; individuals at higher risk should talk with a doctor about a different testing schedule.

Colorectal Cancer Death Rates

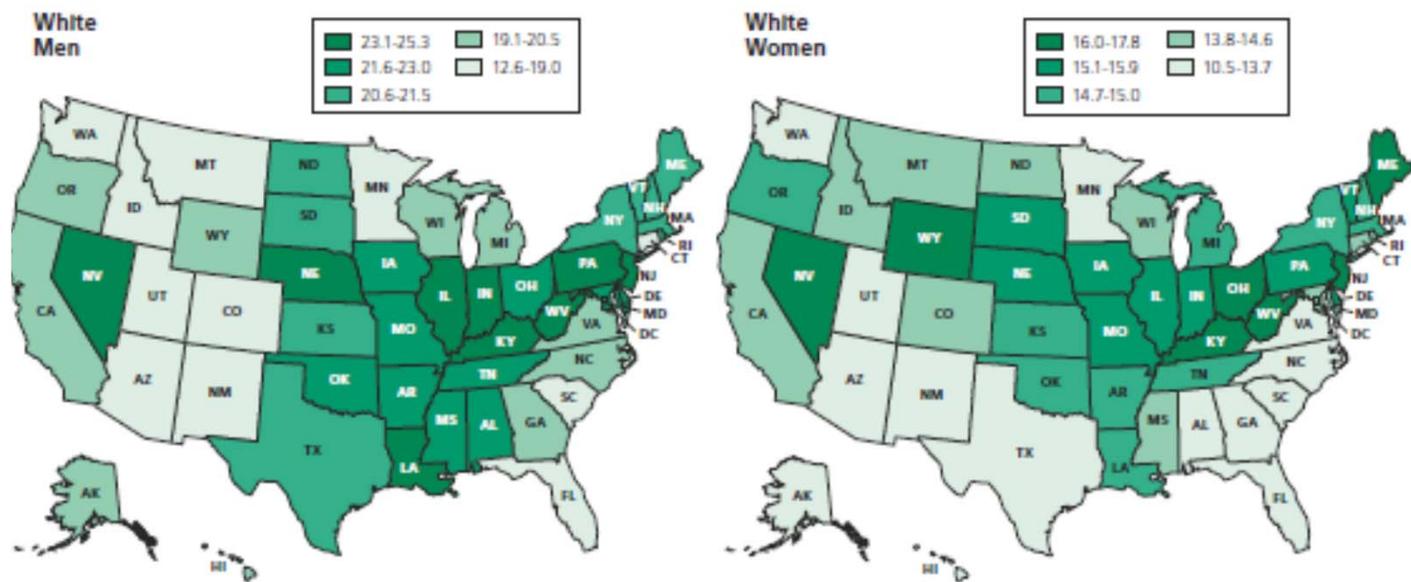


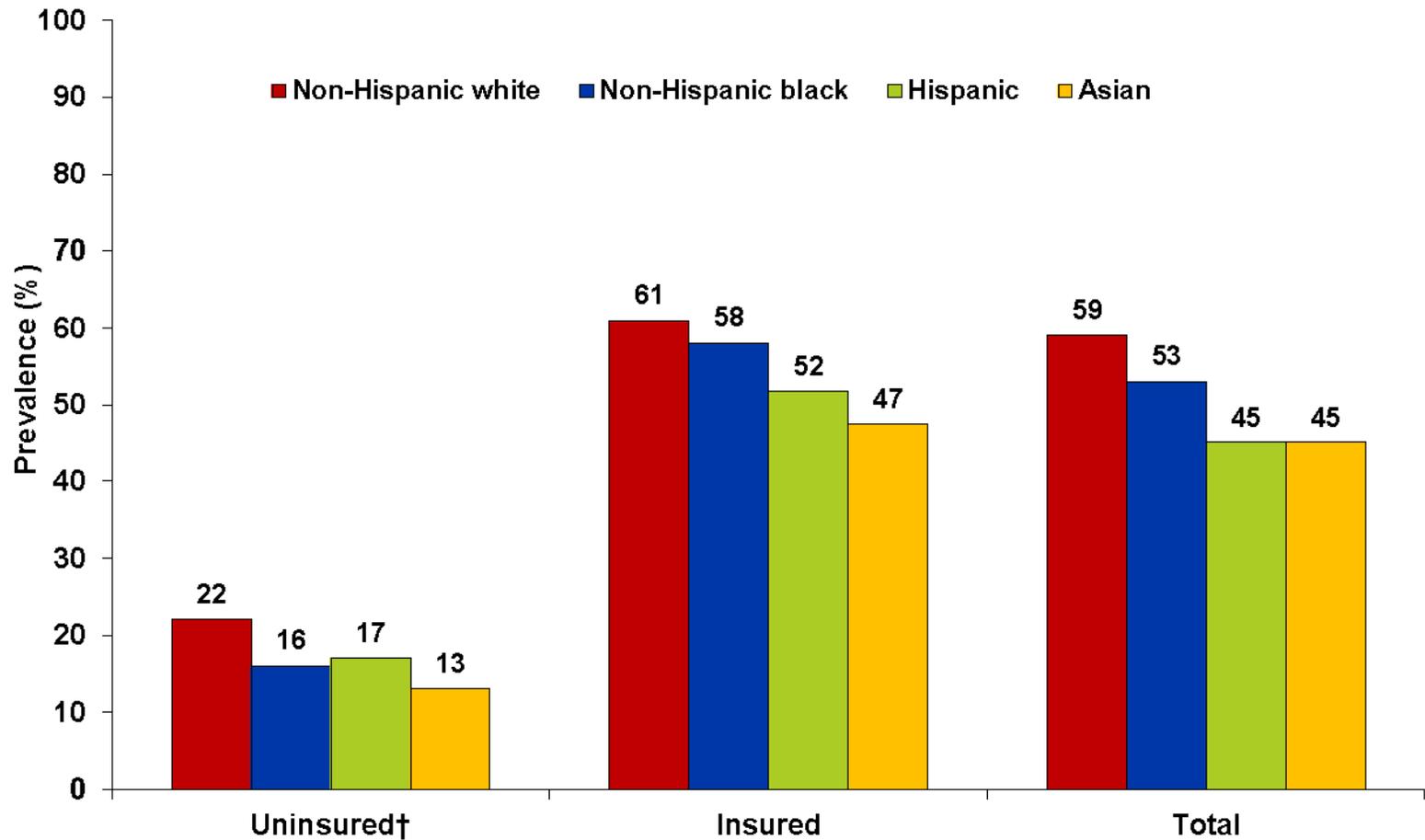
Figure 7. Colorectal Cancer Screening* Prevalence among Adults Aged 50 Years and Older by State, 2006-2008



*Either a fecal occult blood test in the past year or a sigmoidoscopy or colonoscopy in the preceding 10 years. See Table 7 for values.

Source: Behavioral Risk Factor Surveillance System Public Use Data Tapes 2006 and 2008, National Center for Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, 2007 and 2009.

Flexible Sigmoidoscopy or Colonoscopy Prevalence* by Race/Ethnicity and Health Insurance Status, US, 2010



* A sigmoidoscopy within five years or a colonoscopy within 10 years among adults ≥ 50 ; estimates age-adjusted to the 2000 US standard population. Source: National Health Interview Survey, National Center for Health Statistics, Centers for Disease Control and Prevention.

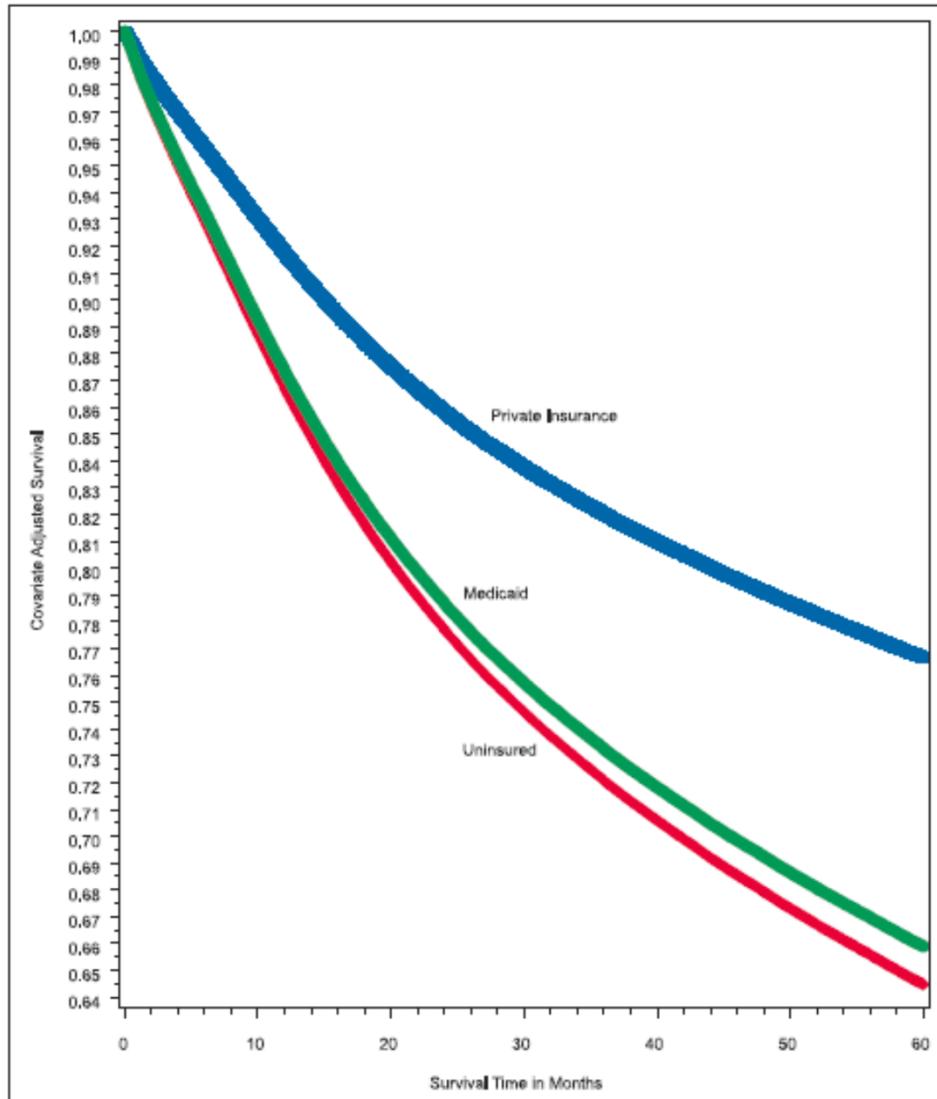
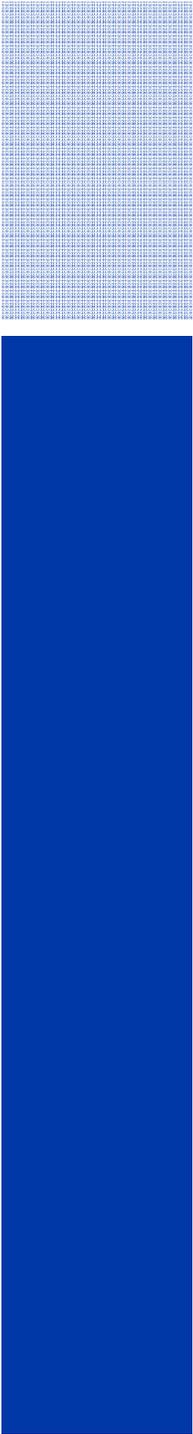


FIGURE 10 Cancer Survival by Insurance Status*.
 *Patients aged 18 to 64 years diagnosed from 1999 to 2000; excluded from the analysis: unknown stage; race/ethnicity other than White, African American, or Hispanic; missing information on stage, age, race/ethnicity, or zip code. Covariates included in the model are age, race, sex, and zip code-based income.
 Data Source: National Cancer Data Base.



Additional Issues and Comments:

>HPV Vaccine

>Protection from Ultraviolet Radiation

>Tobacco, Tobacco, Tobacco...and

>Overweight and Obesity>> Nutrition and
Physical Activity Matter

If we apply what we already know- -



***WE CAN REDUCE CANCER
MORTALITY BY 2/3...
IN THE U.S. THAT MEANS GOING
FROM 400 LIVES SAVED PER DAY TO***

Thank you!

