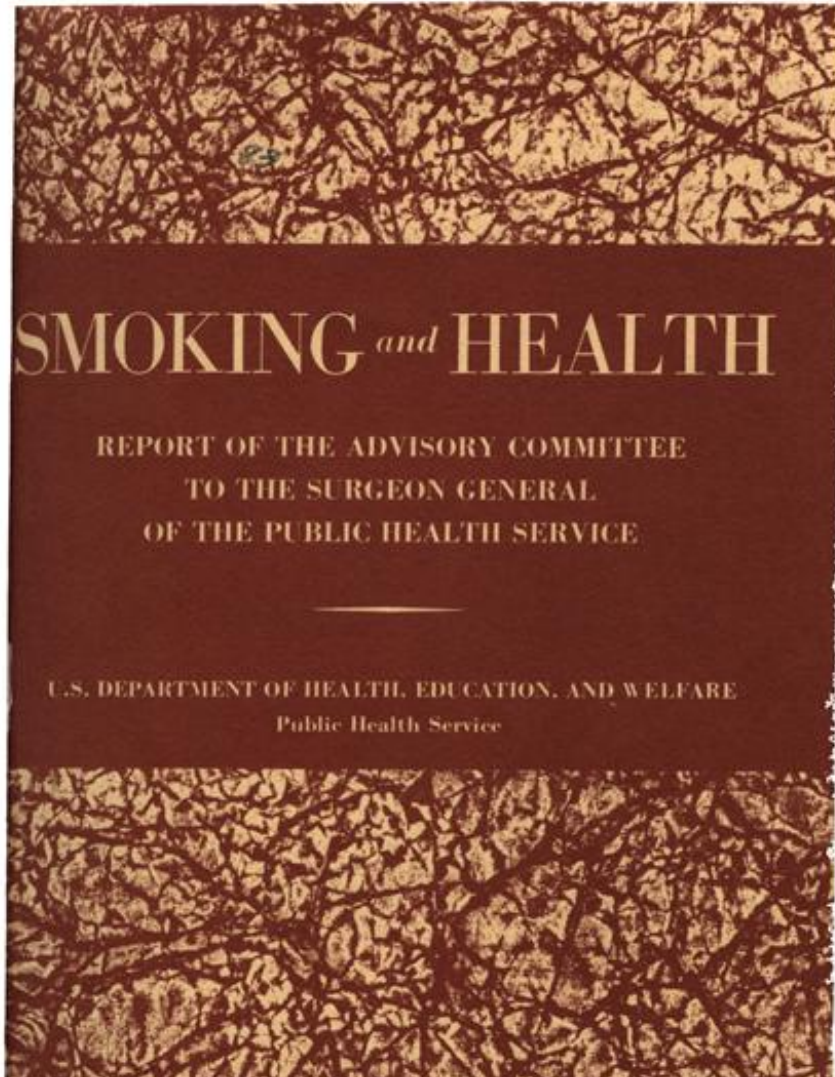


Cigarette Smoking Prevalence and Policies in the 50 States: An Era of Change – The Robert Wood Johnson Foundation ImpacTeen Tobacco Chart Book

Gary A. Giovino, PhD, MS
School of Public Health and Health Professions
University at Buffalo, SUNY

National Conference on Tobacco OR Health
Phoenix, Arizona
June 10, 2009



“Cigarette smoking is a health hazard of sufficient importance to warrant remedial action”

- 1964 Report of the Advisory Committee to the U.S. Surgeon General



**“We have won the war on smoking.
The rest is mopping up.”**

1978 Statement of Dr. Daniel Horn
*(outgoing Director of the National Clearinghouse
on Smoking and Health)*

to John Pinney

(incoming Director of the Office on Smoking and Health)



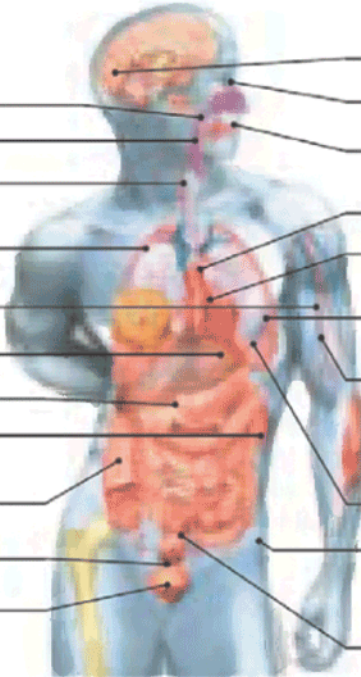
Smoking and Tobacco Smoke

Pollution Damage Every Part of the Body

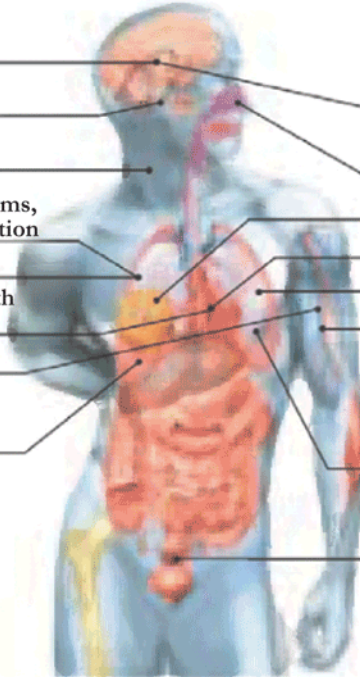
Smoking

Tobacco Smoke Pollution

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	



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*

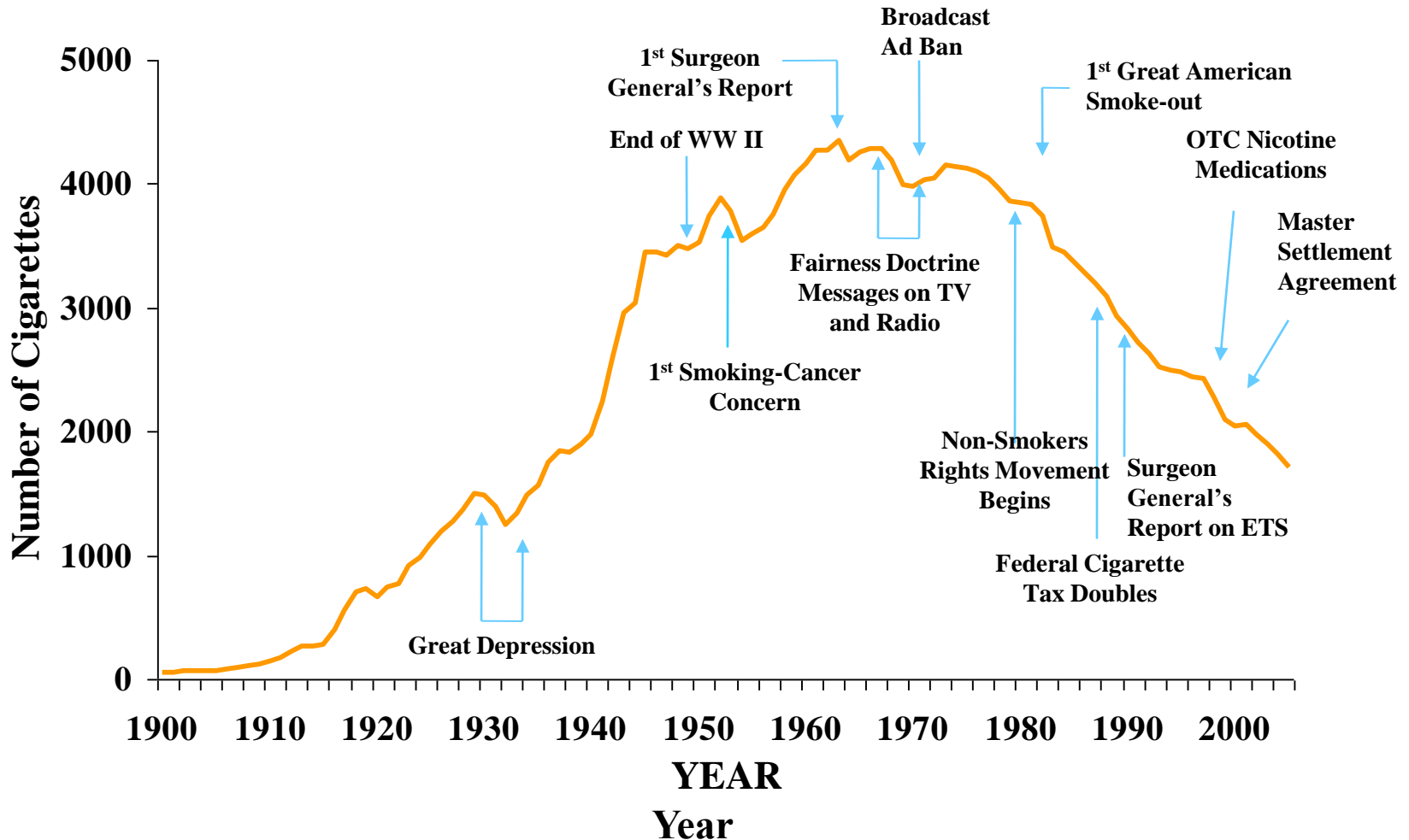


Source: Adapted from reference 9.

* Evidence of causation: suggestive
Evidence of causation: sufficient

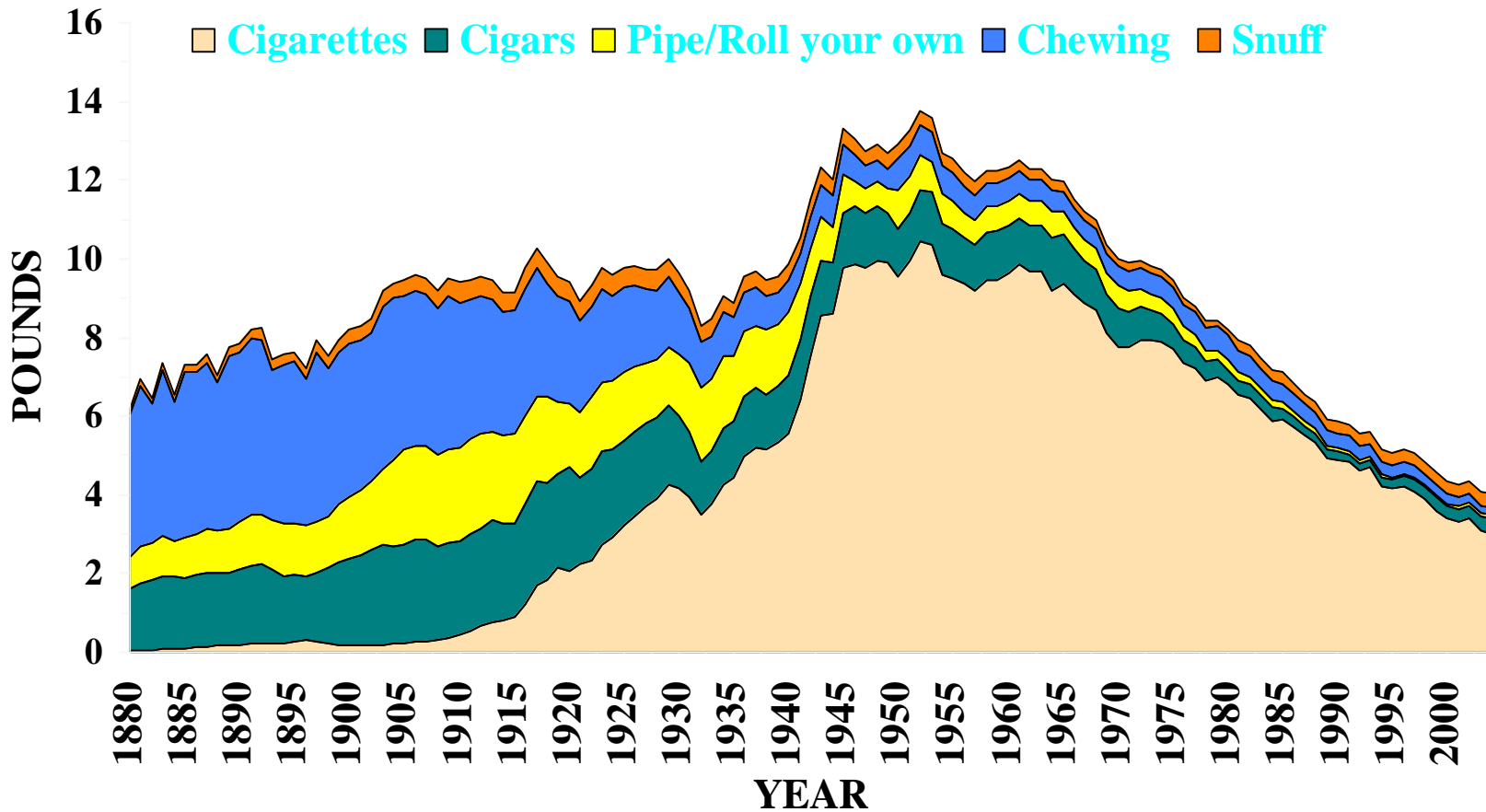


Adult Per Capita Cigarette Consumption and Major Smoking and Health Events – United States, 1900-2005

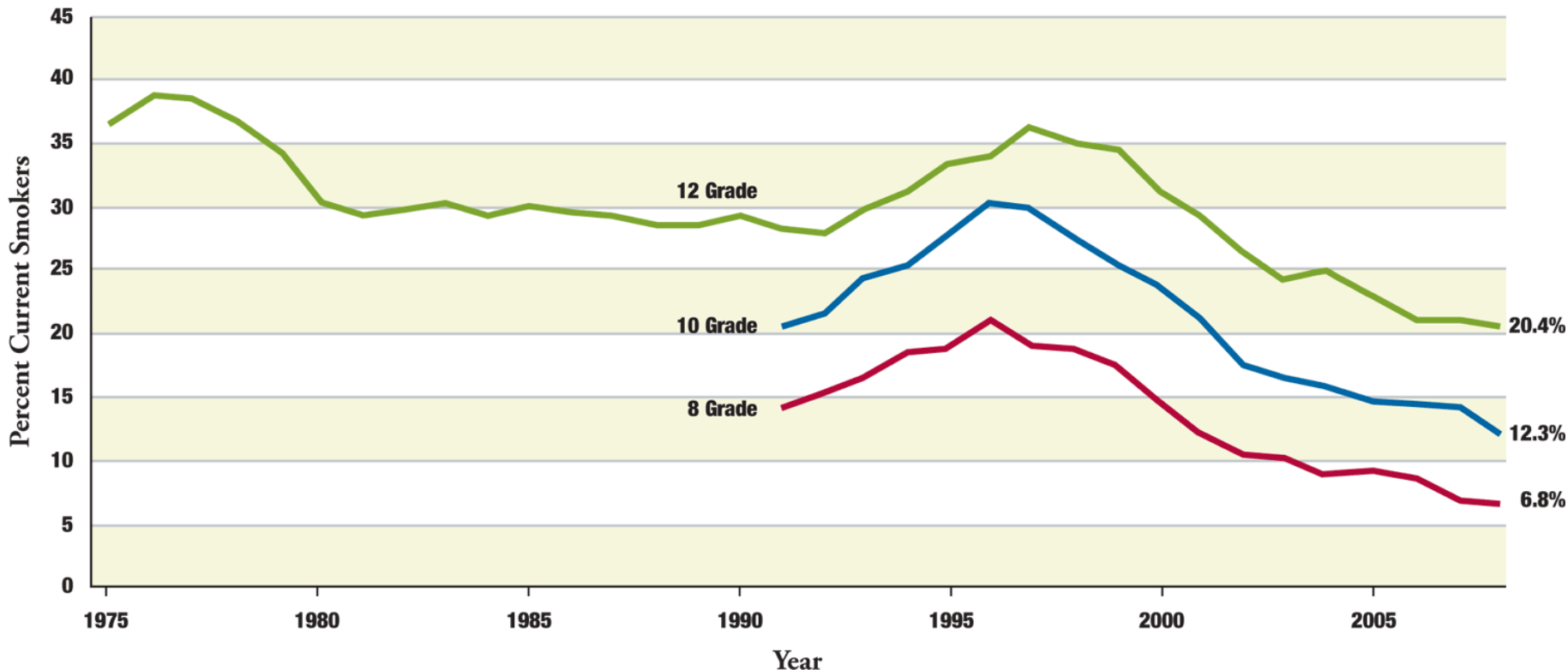


Source: United States Department of Agriculture; Centers for Disease Control and Prevention

Trends in Per Capita Consumption of Various Tobacco Products – United States, 1880-2004



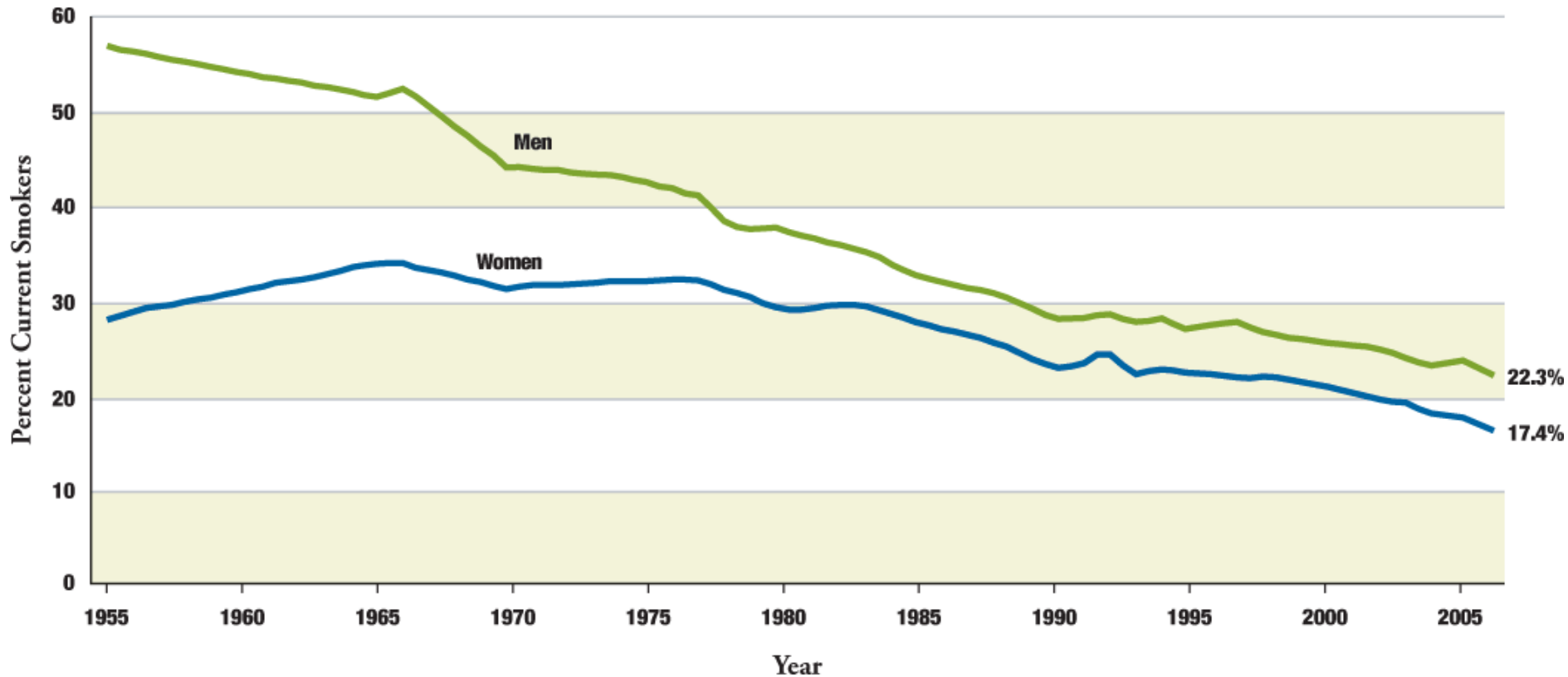
Trends in Cigarette Smoking Anytime in the Past 30 Days by Grade in School – United States, 1975-2008



Source: Institute for Social Research, University of Michigan, Monitoring the Future Surveys (25)



Trends in Cigarette Smoking* Among Adults Aged ≥ 18 Years, by Sex – United States, 1955-2007

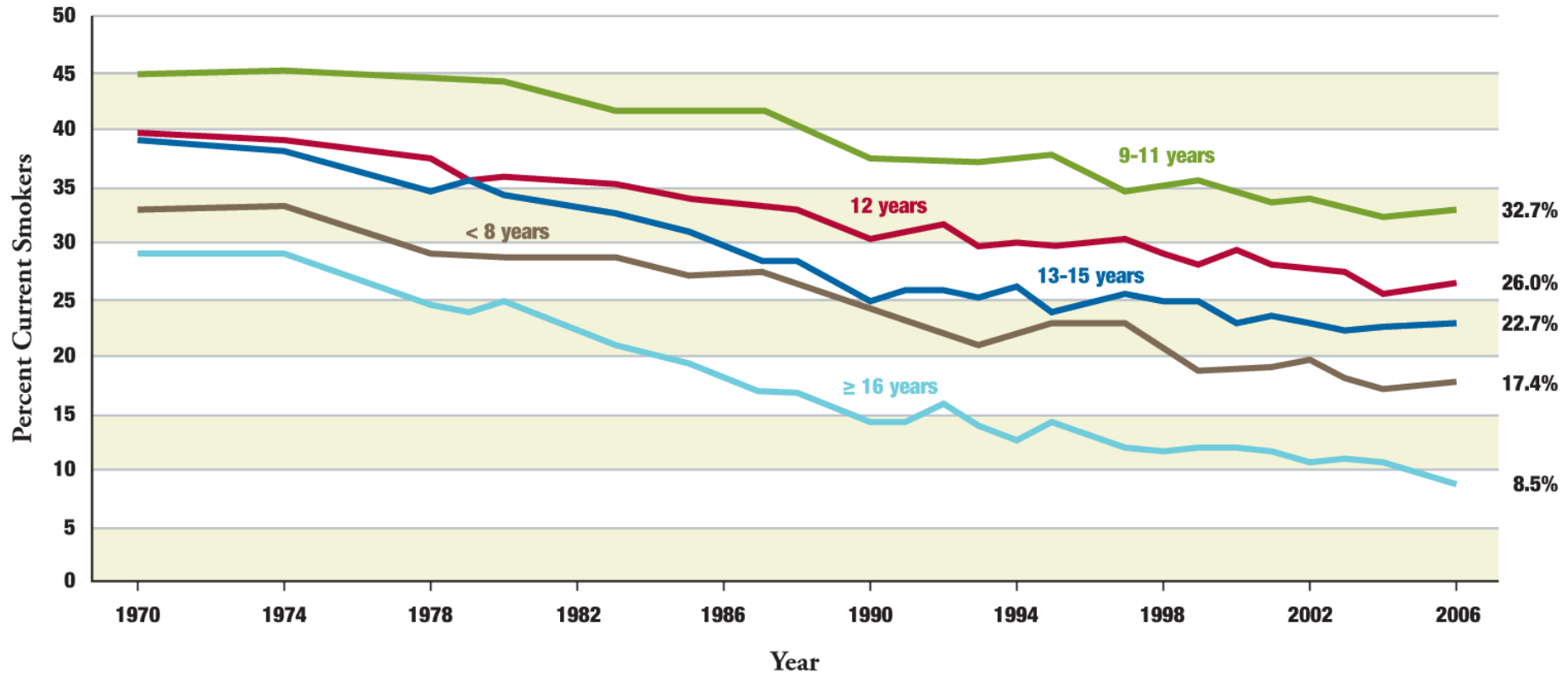


*See note 19.

Source: 1955 Current Population Survey; various National Health Interview Surveys from 1965-2007 (5, 20).



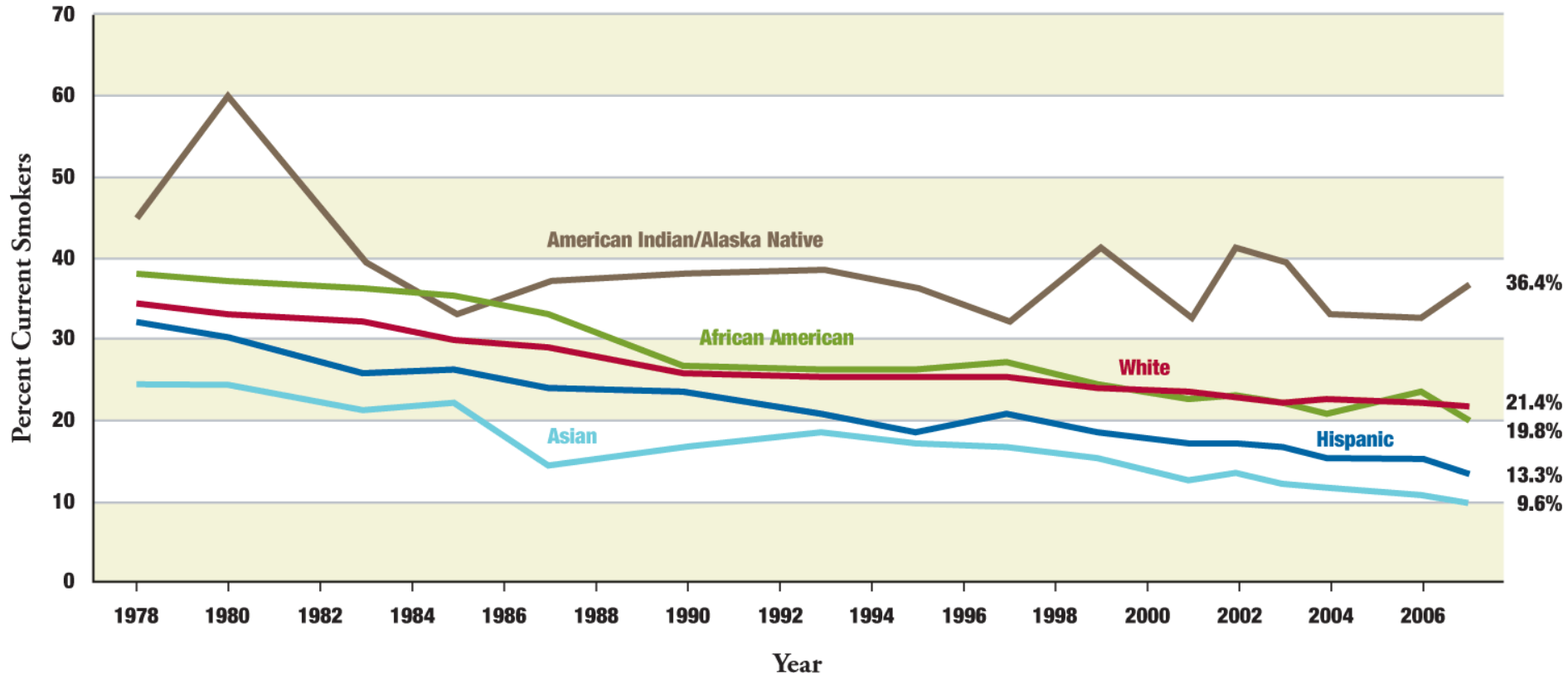
Trends in Cigarette Smoking* Among Adults Aged ≥ 25 Years, by Education – United States, 1970-2006



*Before 1992, current smokers were defined as persons who reported having smoked ≥ 100 cigarettes and who currently smoked. Since 1992, current smokers were defined as persons who reported having smoked ≥ 100 cigarettes during their lifetime and who reported now smoking every day or some days.

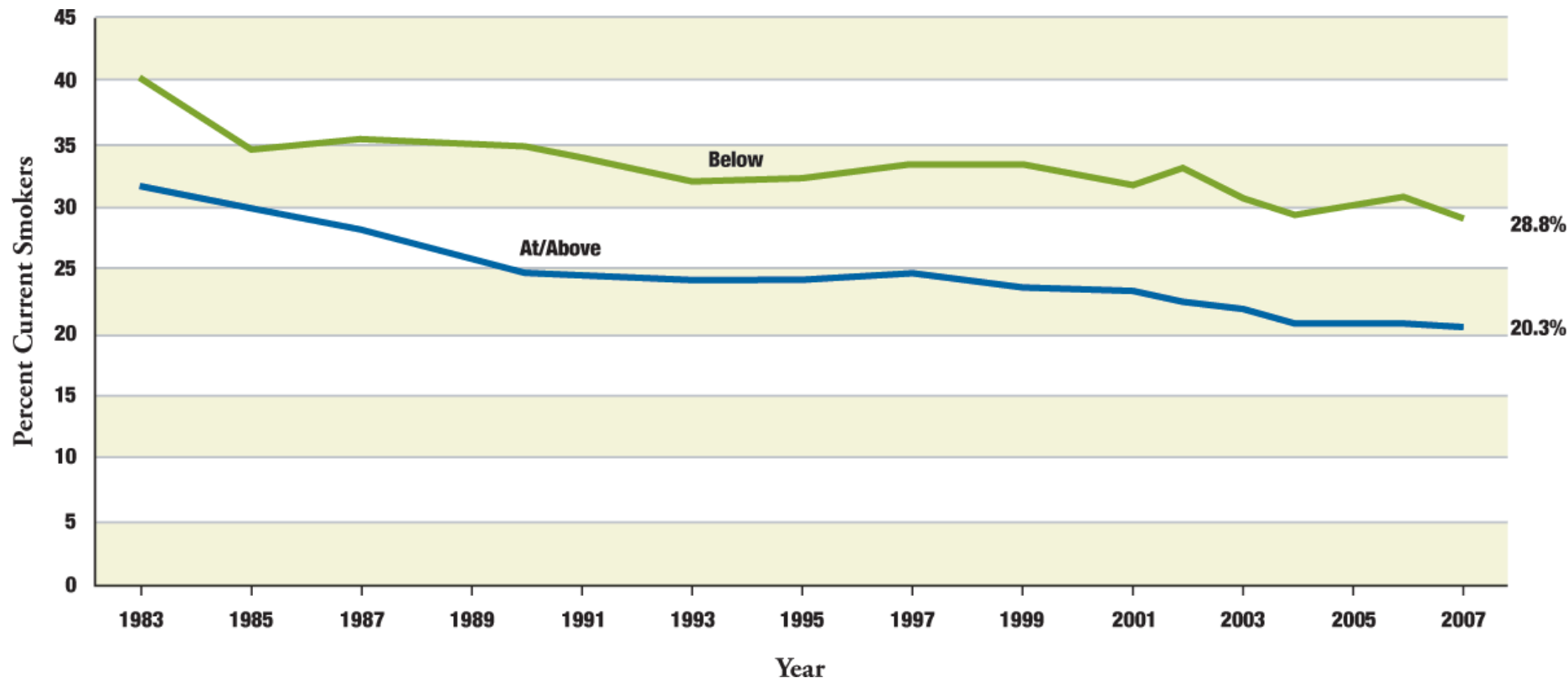
Source: various National Health Interview Surveys from 1970 - 2006, National Center for Health Statistics

Trends in Cigarette Smoking* Among Adults Aged ≥ 18 Years, by Race/Ethnicity, 1978-2007



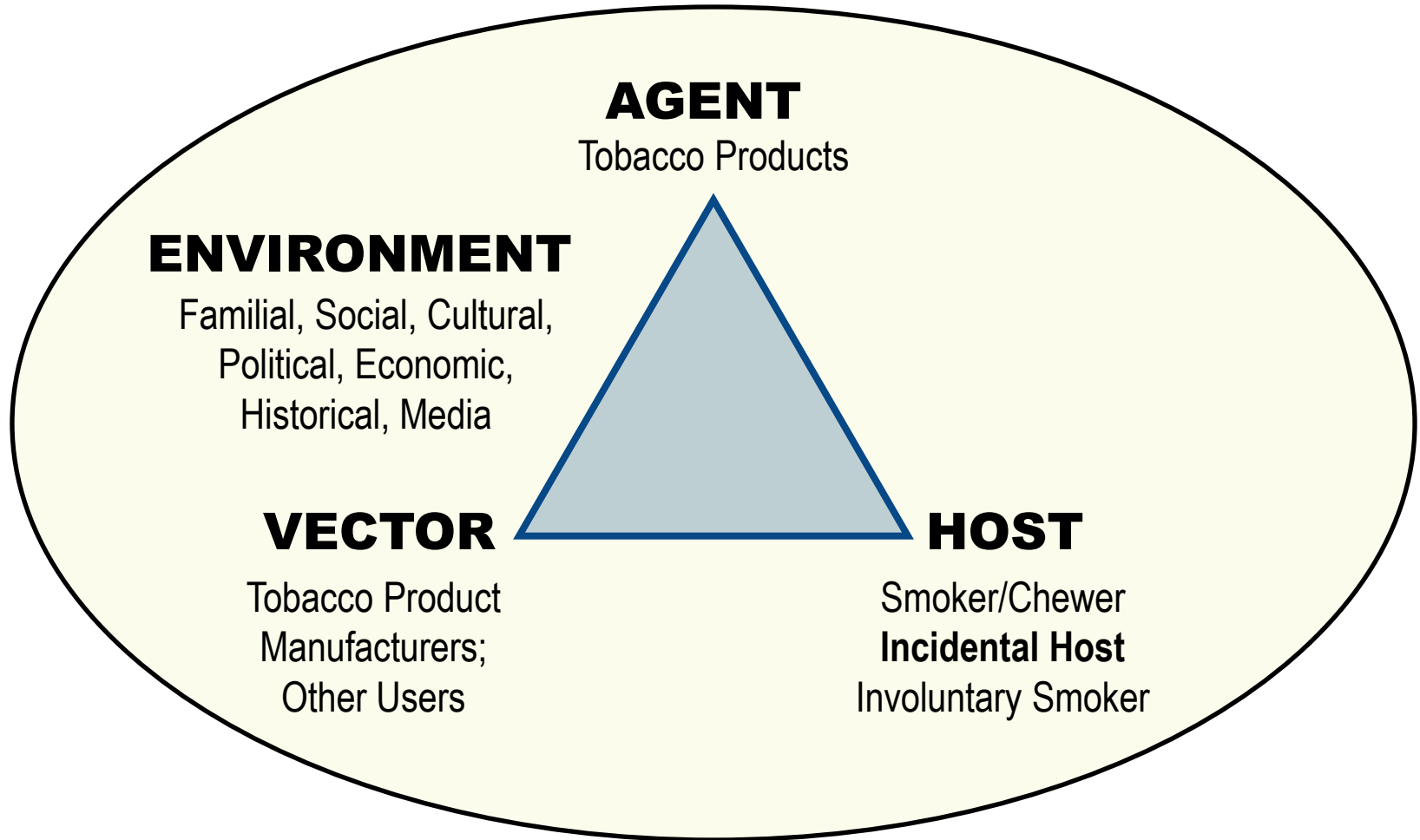
Source: various National Health Interview Surveys from 1978 - 2007 (5,20).

Trends in Cigarette Smoking* Among Adults Aged ≥ 18 Years, by Poverty Status – United States, 1983-2007



Source: various National Health Interview Surveys from 1983 - 2007 (5,20).

Epidemiologic Model of Nicotine Addiction and Tobacco Control



Source: Orleans & Slade, 1993;
Giovino 2002





Robert Wood Johnson Foundation



Cigarette Smoking Prevalence and Policies in the 50 States: An Era of Change



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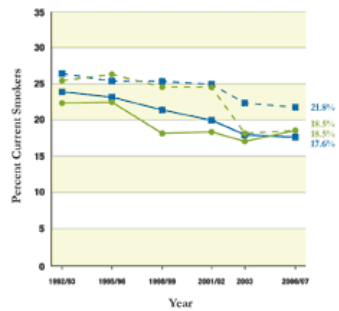
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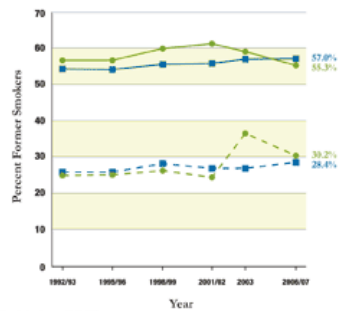
ARIZONA

Trends in Cigarette Smoking Among Adults

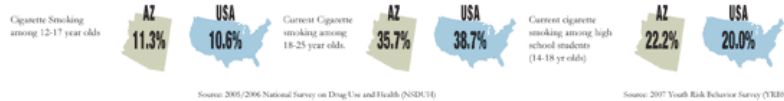


Source: Tobacco Use Supplements to the Current Population Survey (TUS-CPS)

Percent of Adult Ever Smokers Who've Quit



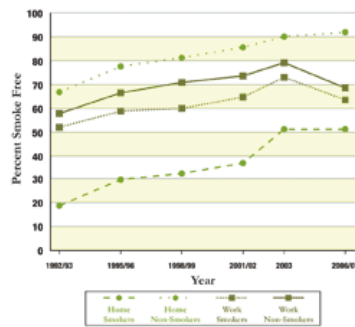
Cigarette Use Among Adolescents and Young Adults



Source: 2005/2006 National Survey on Drug Use and Health (NSDUH)

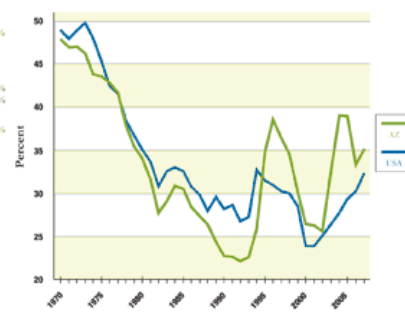
Source: 2007 Youth Risk Behavior Survey (YRBS)

Smoke-Free Homes and Work Places* in Arizona

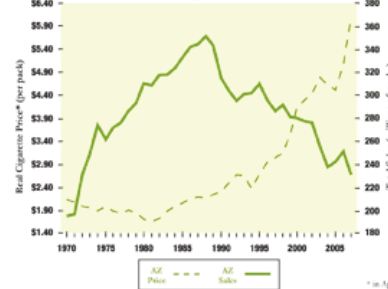


*Among persons who work indoors
Source: TUS-CPS

Tax as Percentage of Retail Price, 1970 - 2007



Total Cigarette Sales and Real Cigarette Prices*, Arizona, 1970 - 2007



* in April 2008 dollars

Real Average State Cigarette Excise Tax Rate* and Real State Cigarette Tax Revenues**, 1970 - 2007



Legislation

Protection From Tobacco Smoke Pollution in AZ

	1991	2008
Private Worksites	○	○○○
Restaurants	○	○○○
Bars	○	○○○
Pre-emption	NO	NO

○ No Protection ○ Minimal Protection ○○ Moderate Protection ○○○ Strong Protection

Minors' Access Laws in Arizona*

	1991	2006
Penalties for Minors		
Possession	Yes	Yes
Use	No	No
Purchase	Yes	Yes
Provisions for Retailers	1991	2006
Graduated Penalties	No	No
Statewide Enforcement	No	No
Random Inspections	No	No
Clerk Intervention	No	No
Vending Machine Restrictions	No	No
Extensiveness of Retailer Provisions (0-10)²	1	2

* Minimum Age in 1991: 18 yrs; Minimum Age in 2006: 18 yrs

² Zero is least extensive; 10 most extensive

Health and Economics

The Annual Costs of Cigarette Smoking in Arizona

Year	Smoking-Attributable Morbidity & Mortality	
2004	Number of Deaths	6,859 (247 ¹)
2004	Years of Potential Life Lost	87,777 (128 ¹)
2000	Persons Living with a Smoking-Attributable Disease	149,615
Smoking-Attributable Economic Costs		
2004	Adult Health Care Costs	\$1,542,000,000
2004	Productivity Costs	\$1,652,000,000

¹ Rate Per 100,000

² Years Per Smoking-Attributable Death

Percent of smokers who visited a health care provider during the previous 12 months who were advised to quit

	1992/93	2006/7
Physician	49.1%	56.1%
Dentist	21.5%	39.1%

Source: TUS-CPS

Medicaid Program Coverage of Tobacco Dependence Treatment in 2006

Nicotine Replacement	Zyban	Chantix	Counseling
Coverage	NO	NO	YES
Out-of-Pocket	NO	NO	NO

Cessation Services

Phone: 1-800-356-6222
Website: www.azdhs.org

*In evaluation or available (lightly used)

Arizona Tobacco Revenue* and Tobacco Control Investment** in 2002 and 2007

	2002	2007
Tobacco Settlement Revenue	\$127,064,000	\$94,185,000
Cigarette Excise Tax Revenue	\$193,074,000	\$373,464,000
Other Tobacco Control Funding Revenues	\$998,000	\$532,000
Tobacco Control Funding	\$45,121,000	\$27,366,000
State Settlement & Tax Funding as a Percent of Settlement & Tax Revenues	13.8%	5.7%

* in April 2008 dollars

Accessing the Chart Book:

- One copy for every 2009 NCTOH attendee

- For a pdf of the chart book:

<http://www.impacteen.org/chartbooks.htm>

- For the data in the chart book:

<http://www.impacteen.org/tobaccodata.htm>

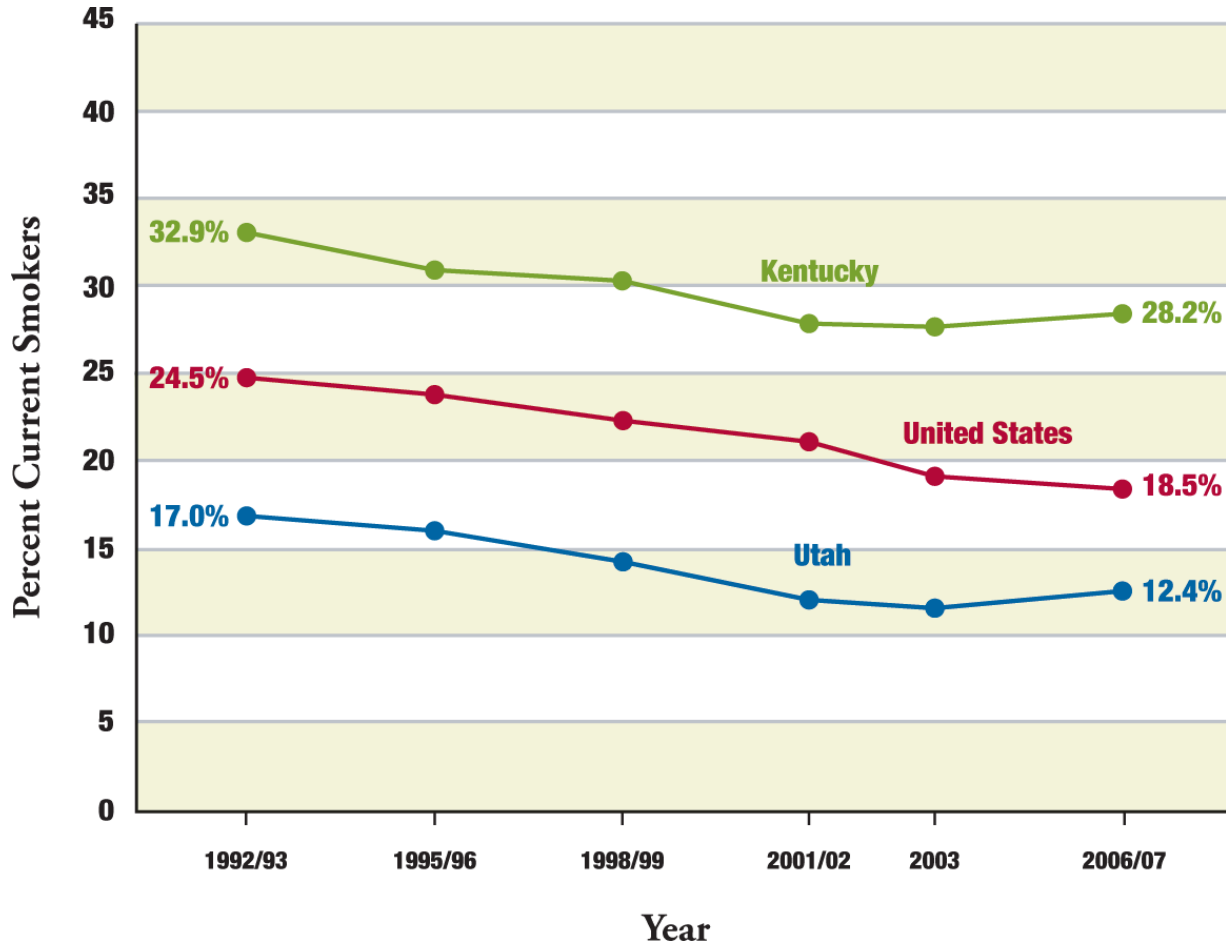
- For additional copies of the chart book, e-mail Leah Rimkus at the University of Illinois at Chicago: Irimkus@uic.edu



Prevalence (and Smoking-Attributable Mortality)

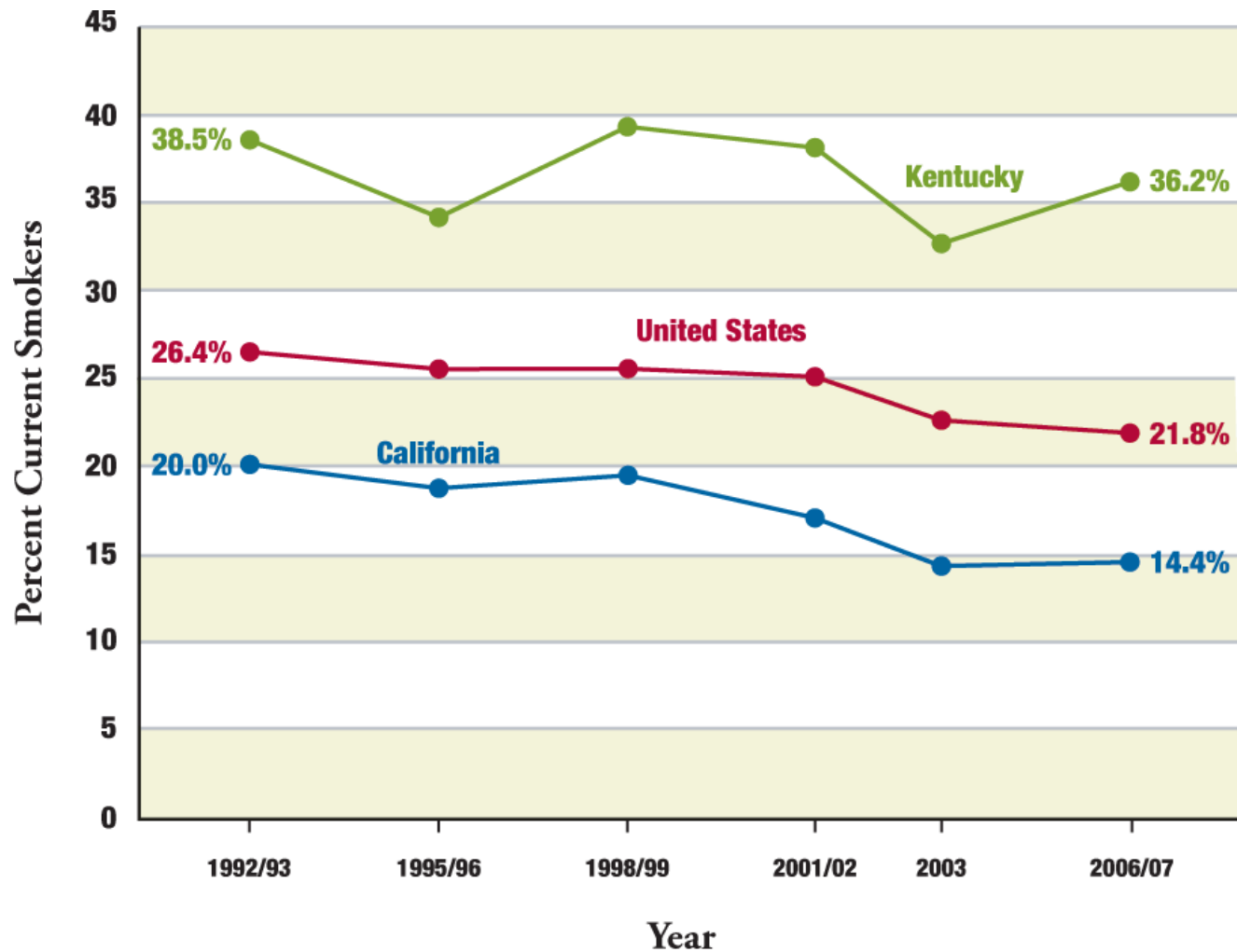


Trends in Cigarette Smoking Among Persons ≥ 18 Years Old – US, UT, and KY (1992/93 to 2006/07)



Source: Tobacco Use Supplements to the Current Population Survey

Trends in Cigarette Smoking Among Persons 18-29 Yrs Old – US, CA, and KY (1992/93 to 2006/07)

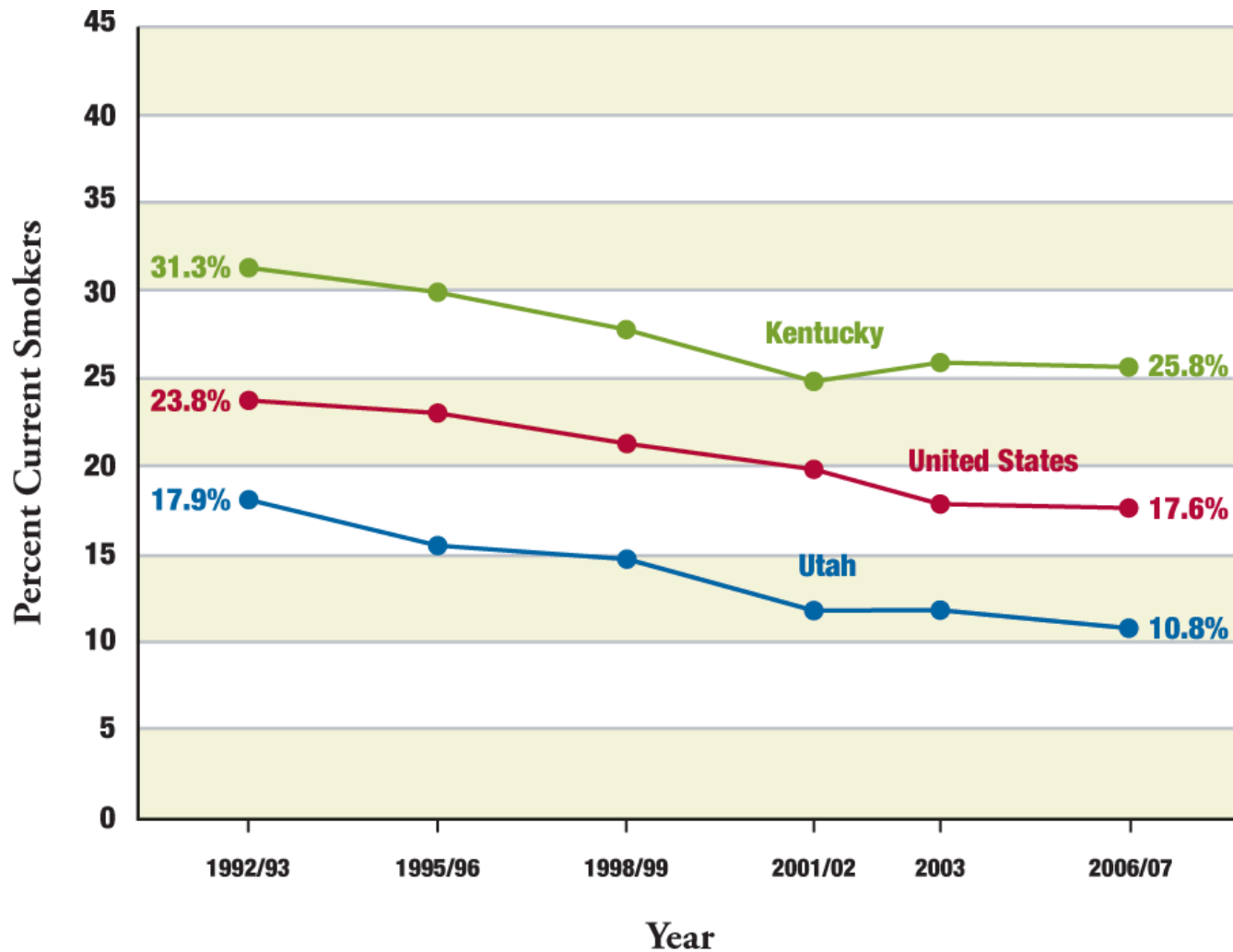


See note 86.

Source: Tobacco Use Supplements to the Current Population Survey.



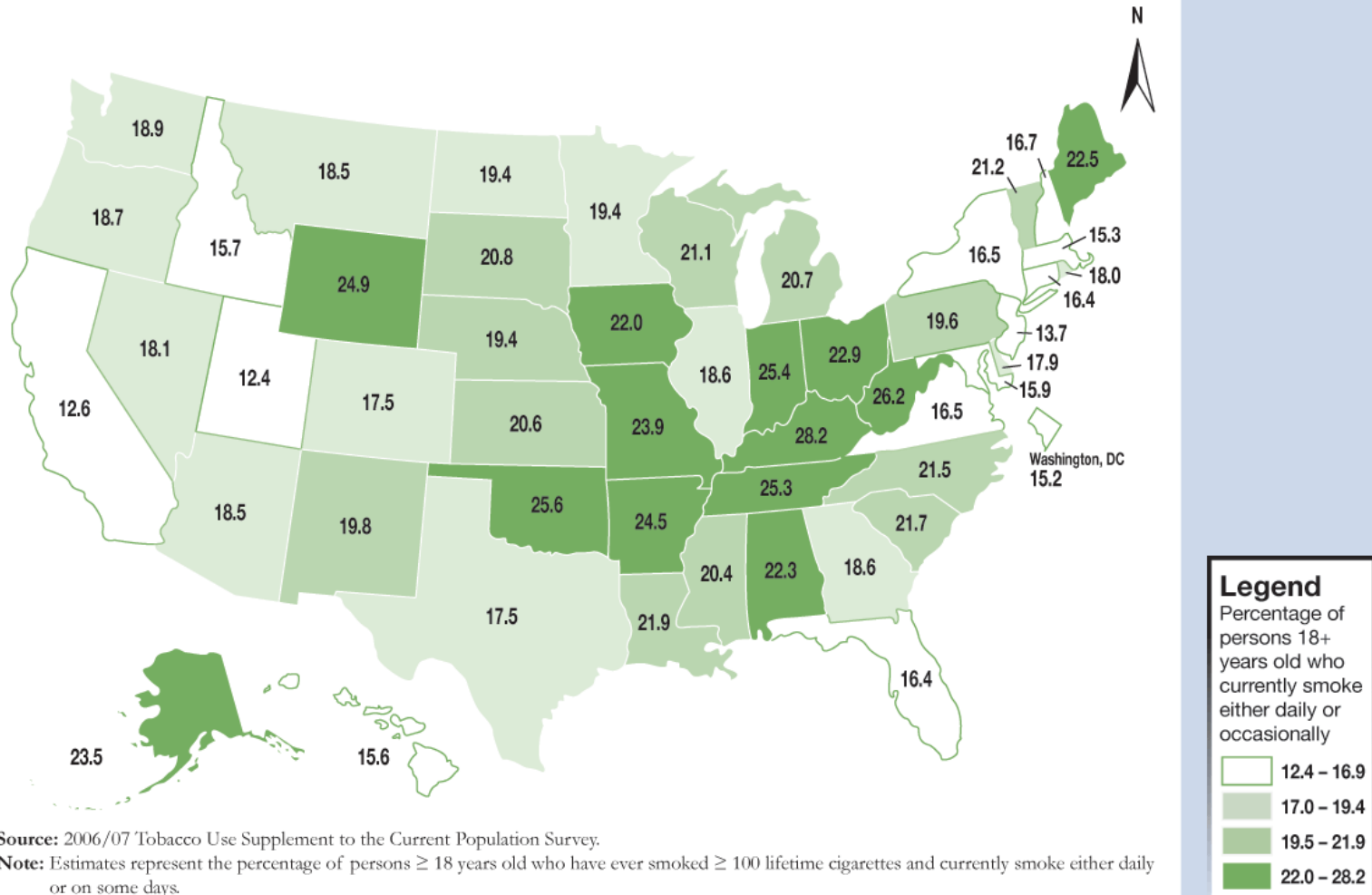
Trends in Cigarette Smoking Among Persons ≥30 Yrs Old – US, UT, and KY (1992/93 to 2006/07)



See note 86.

Source: Tobacco Use Supplements to the Current Population Survey.

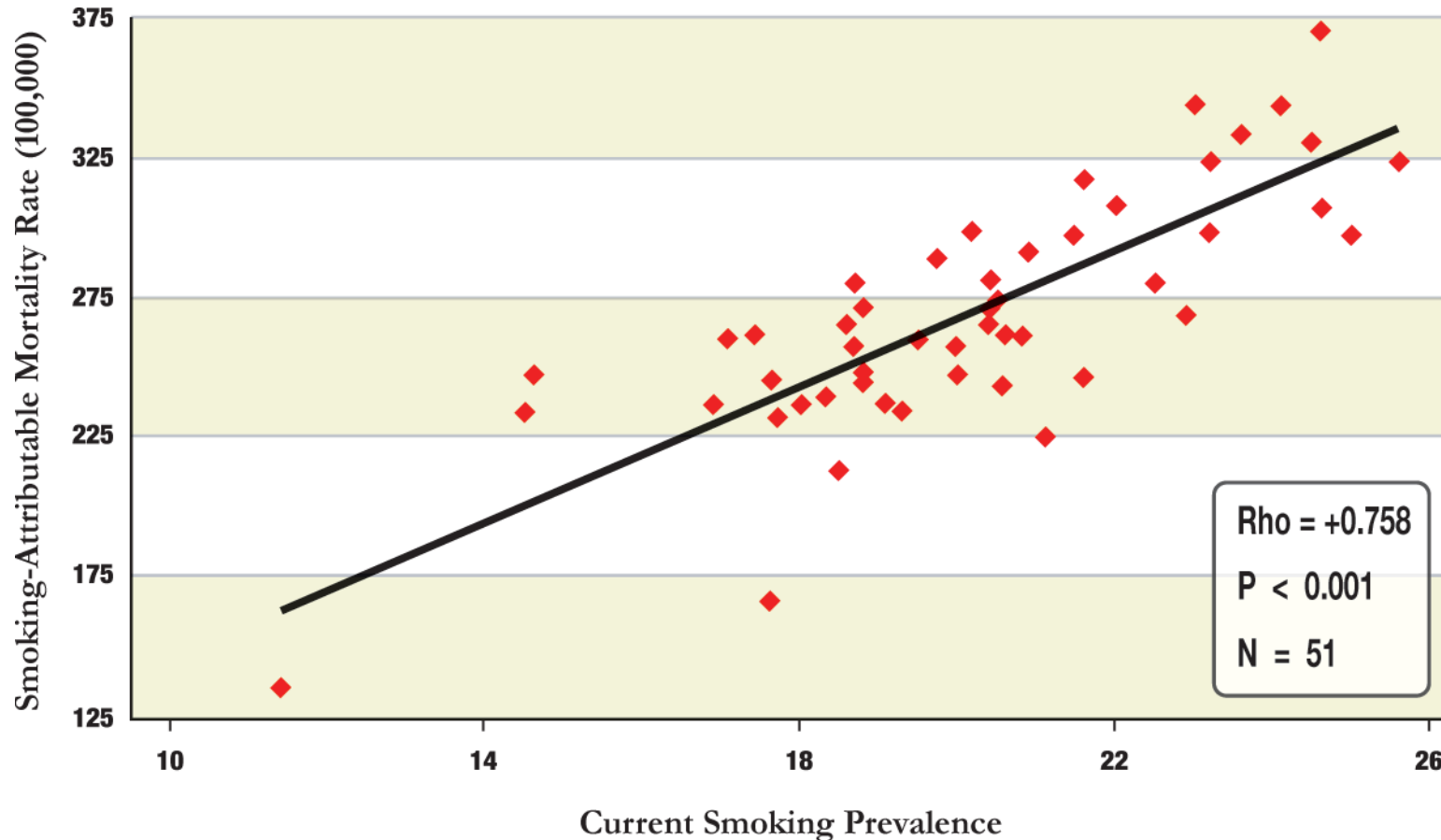
Current Cigarette Smoking (%) Among Adults – 2006/07



Source: 2006/07 Tobacco Use Supplement to the Current Population Survey.

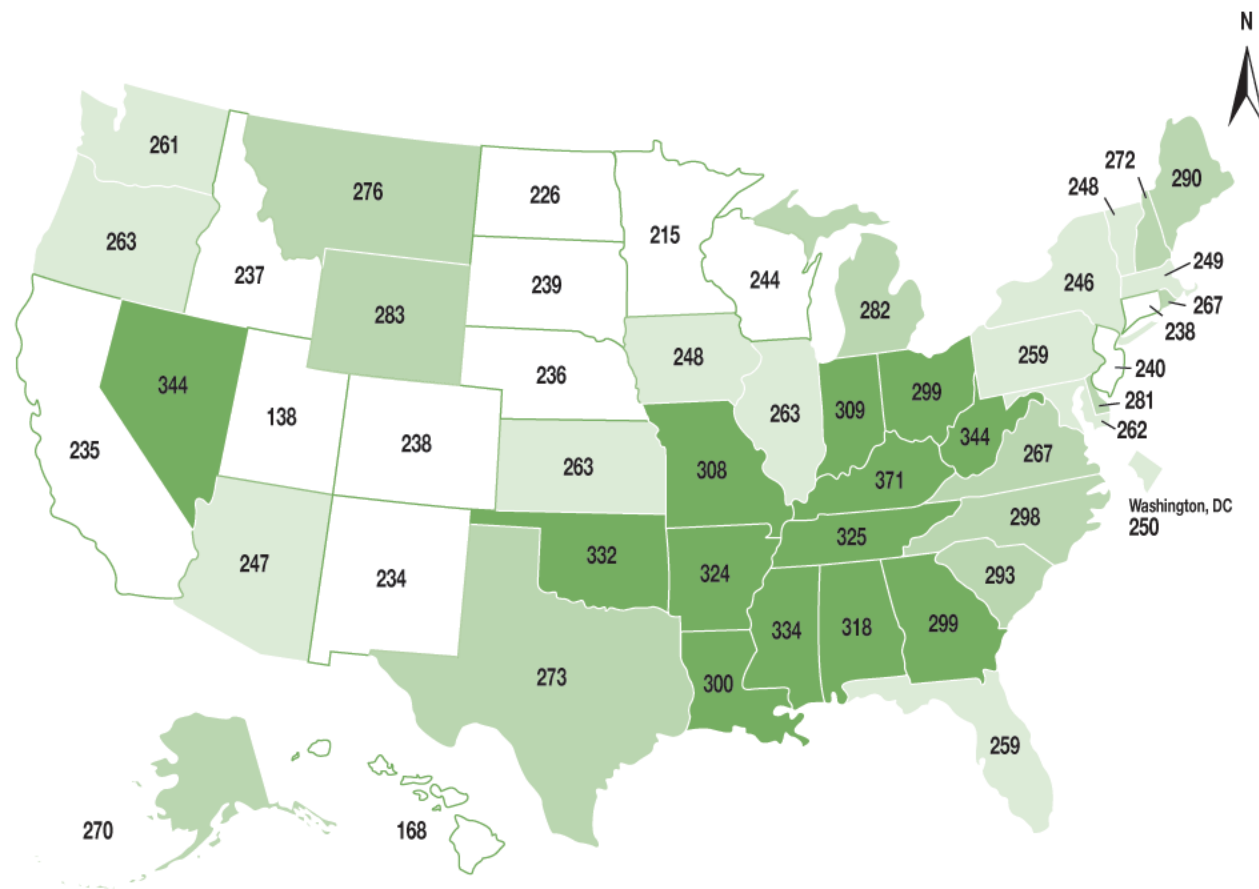
Note: Estimates represent the percentage of persons ≥ 18 years old who have ever smoked ≥ 100 lifetime cigarettes and currently smoke either daily or on some days.

State-Specific Estimates of Cigarette Smoking Prevalence (1) and Smoking-Attributable Mortality Rate (2) Among US Adults



1. Among persons age 35 years and older; **Source:** Tobacco Use Supplement to the Current Population Survey, 2001-2002;
2. Average annual deaths among persons aged 35 yrs and older during 2000-2004| not including burn and tobacco smoke pollution deaths.

Average Annual Smoking-Attributable Mortality Rates – 2000-2004

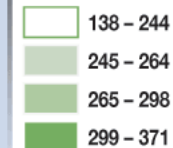


Source: Centers for Disease Control and Prevention (97).

Note: Average Annual Age-Adjusted SAM Rate Per 100,000 among adults aged 35 years and older.

Legend

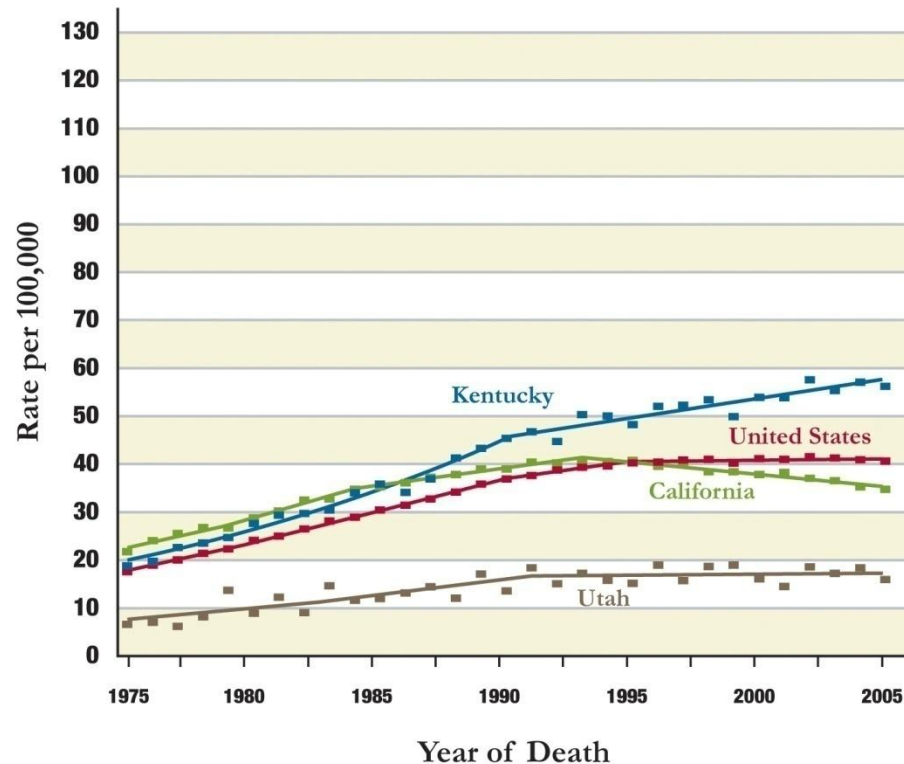
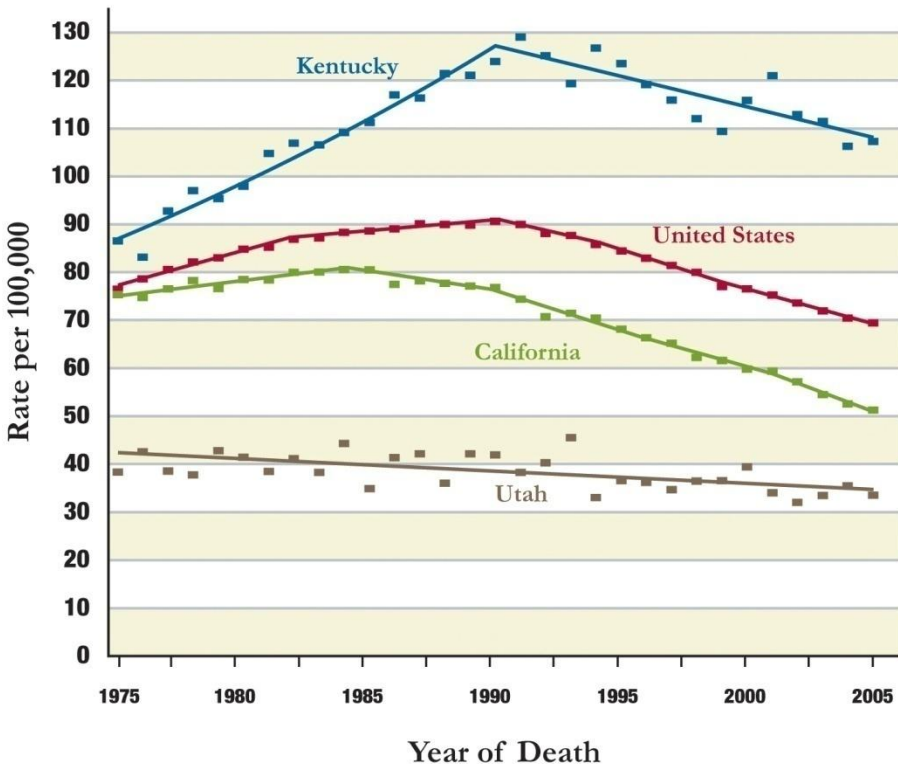
Smoking-Attributable Mortality Rate



Trends in Age-Standardized Lung Cancer Death Rate for the US and Selected States by Sex, 1975-2005

Males

Females



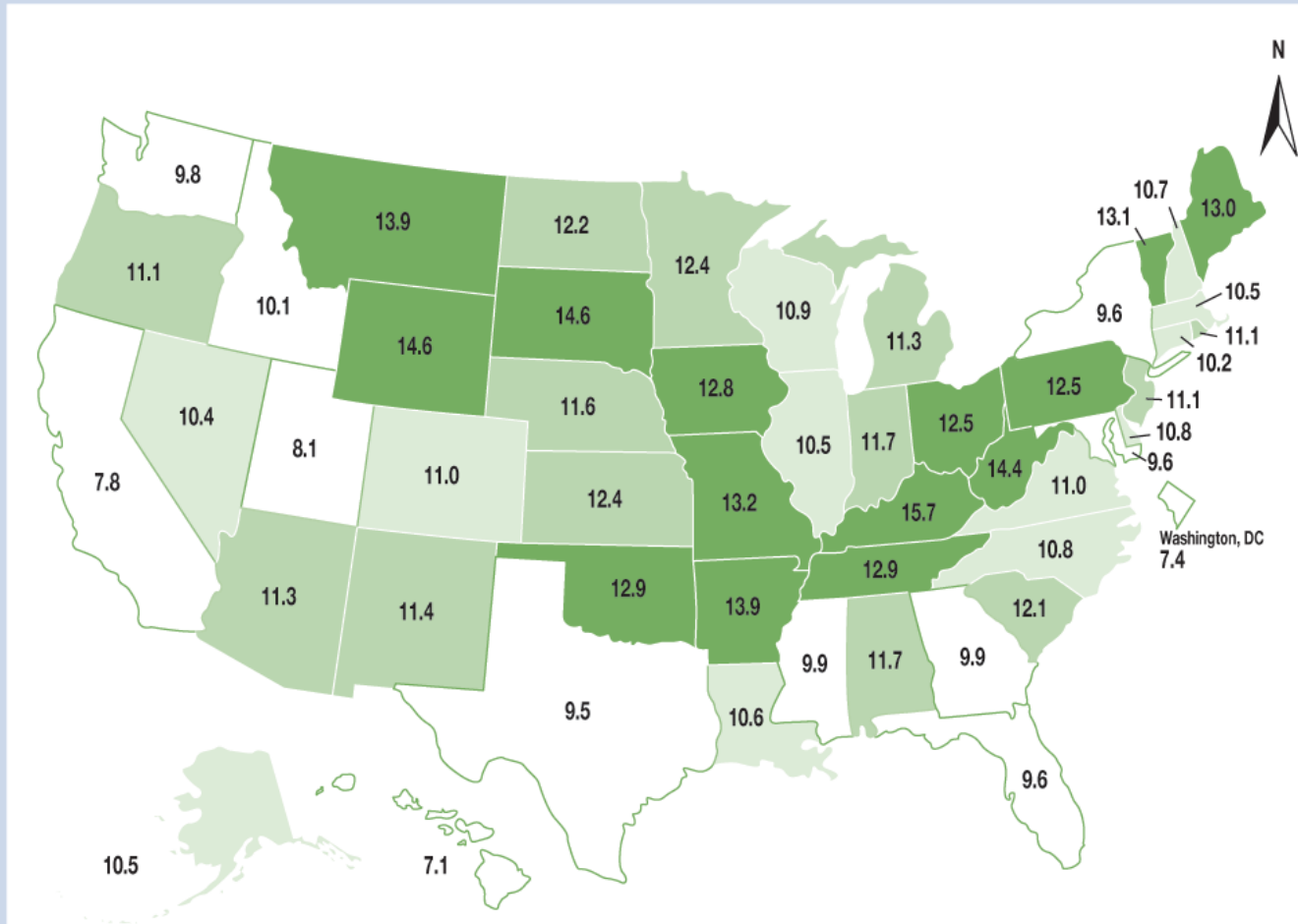
Source: Reference 75. Reprinted with author's permission.

Solid lines represent fitted values based on joinpoint analyses. **Squares** represent observed rates.

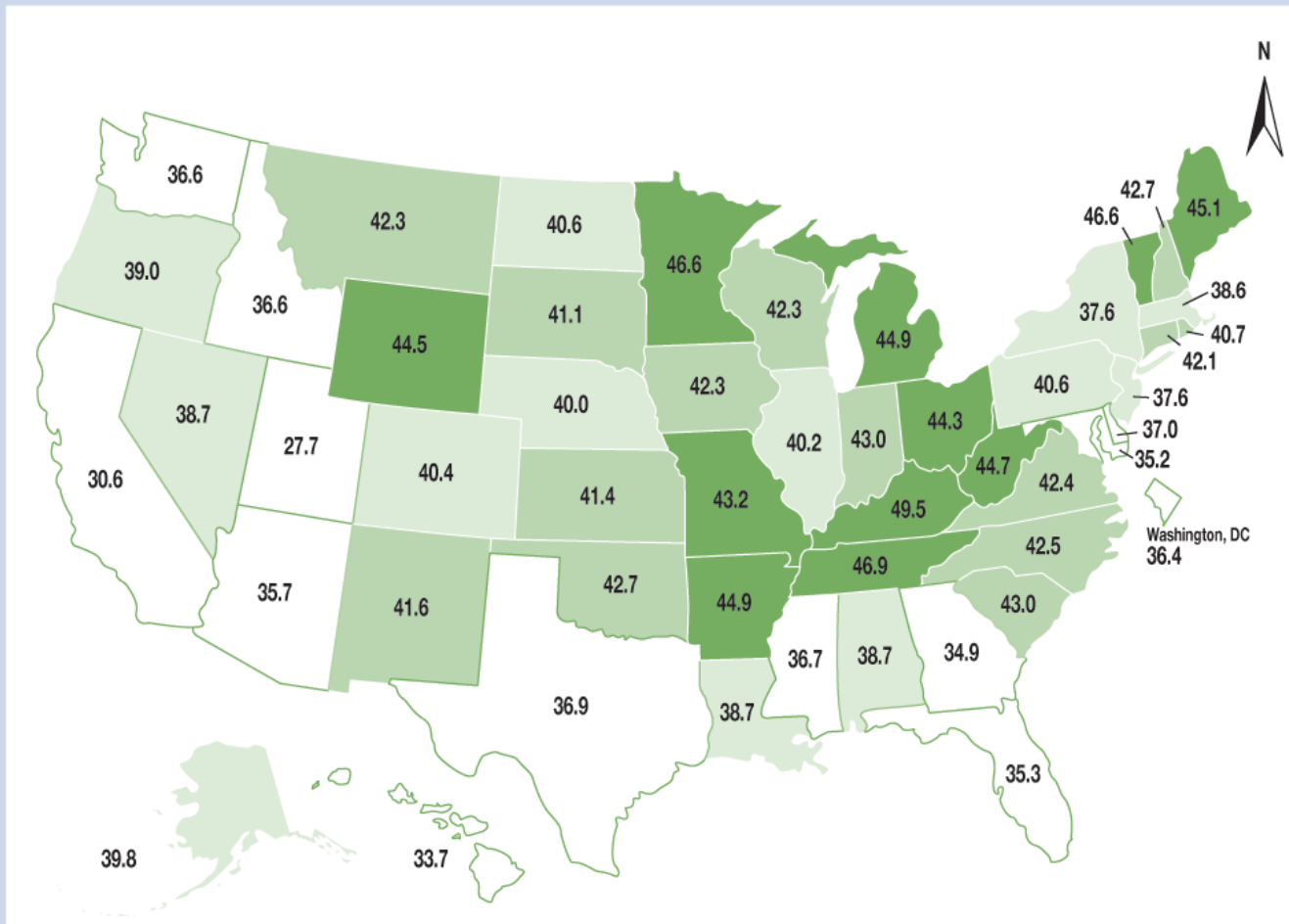
Data are from the National Center for Health Statistics, 2005 Mortality Special Research File.



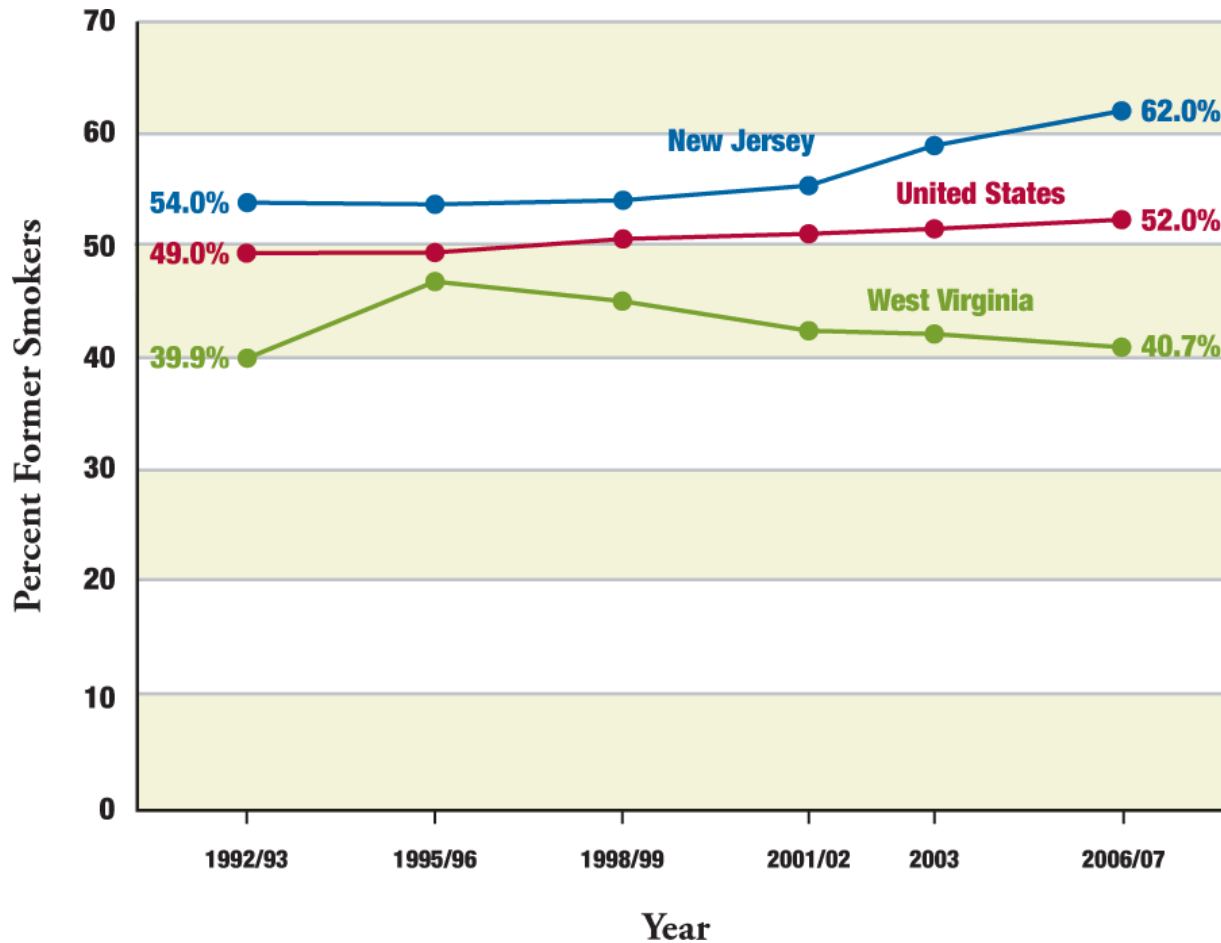
Current Cigarette Smoking (%) Among Adolescents – 2005/2006



Current Cigarette Smoking (%) Among Young Adults – 2005/2006

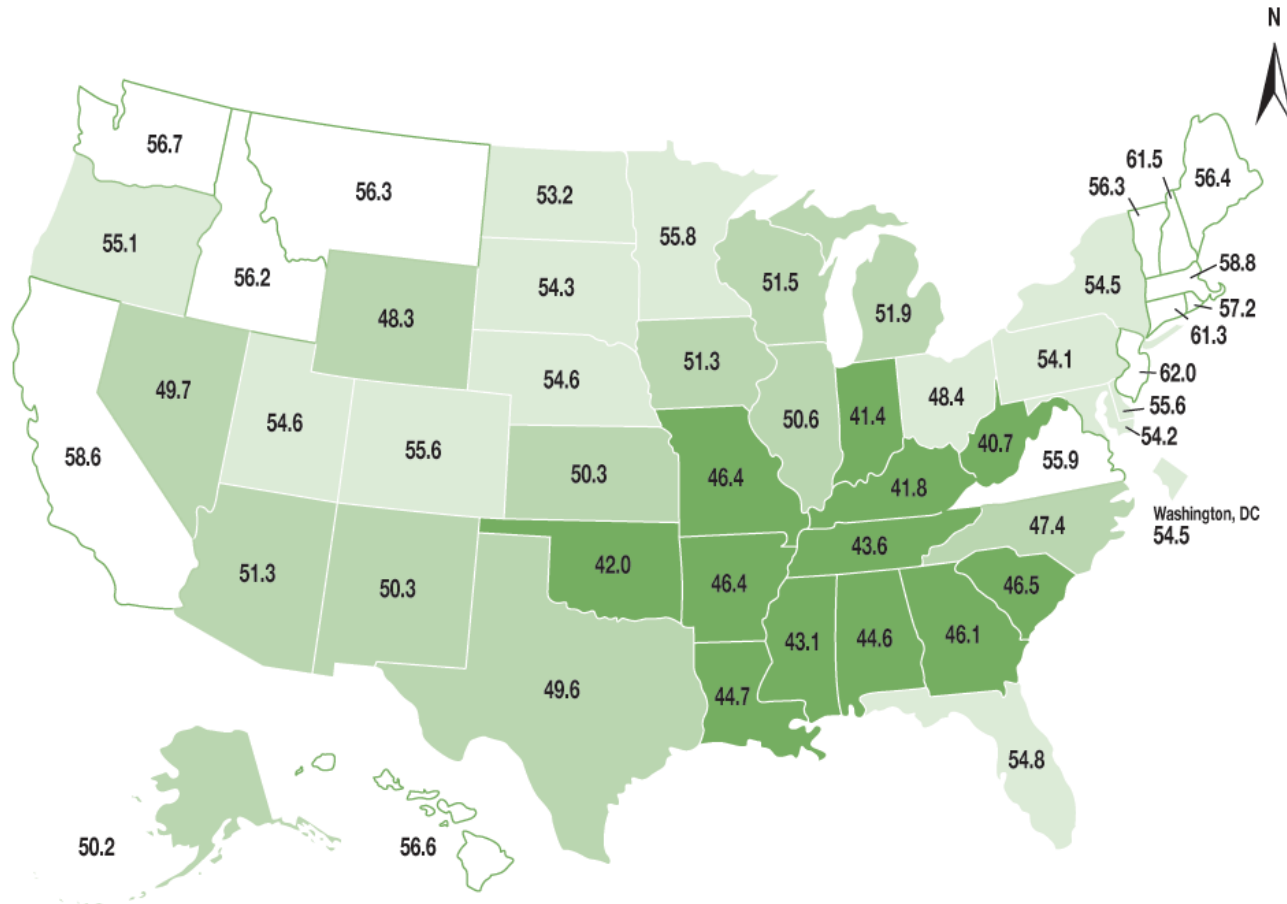


Trends in the Percentage of ≥ 18 Year Old Ever Smokers Who've Quit – US, NJ, and WV (1992/93-2006/07)



Source: Tobacco Use Supplement to the Current Population Survey

Percentage of Ever Smokers Who've Quit – 2006/2007



Legend
 Percentage of 18+ year olds who have ever smoked ≥ 100 lifetime cigarettes and who reported they no longer smoke

- 40.7 – 46.6
- 46.7 – 51.9
- 52.0 – 55.8
- 55.9 – 62.0

Source: 2006/07 Tobacco Use Supplement to the Current Population Survey.

Note: Estimates represent the percentage of persons ≥ 18 years old who have ever smoked ≥ 100 lifetime cigarettes who reported they no longer smoke.

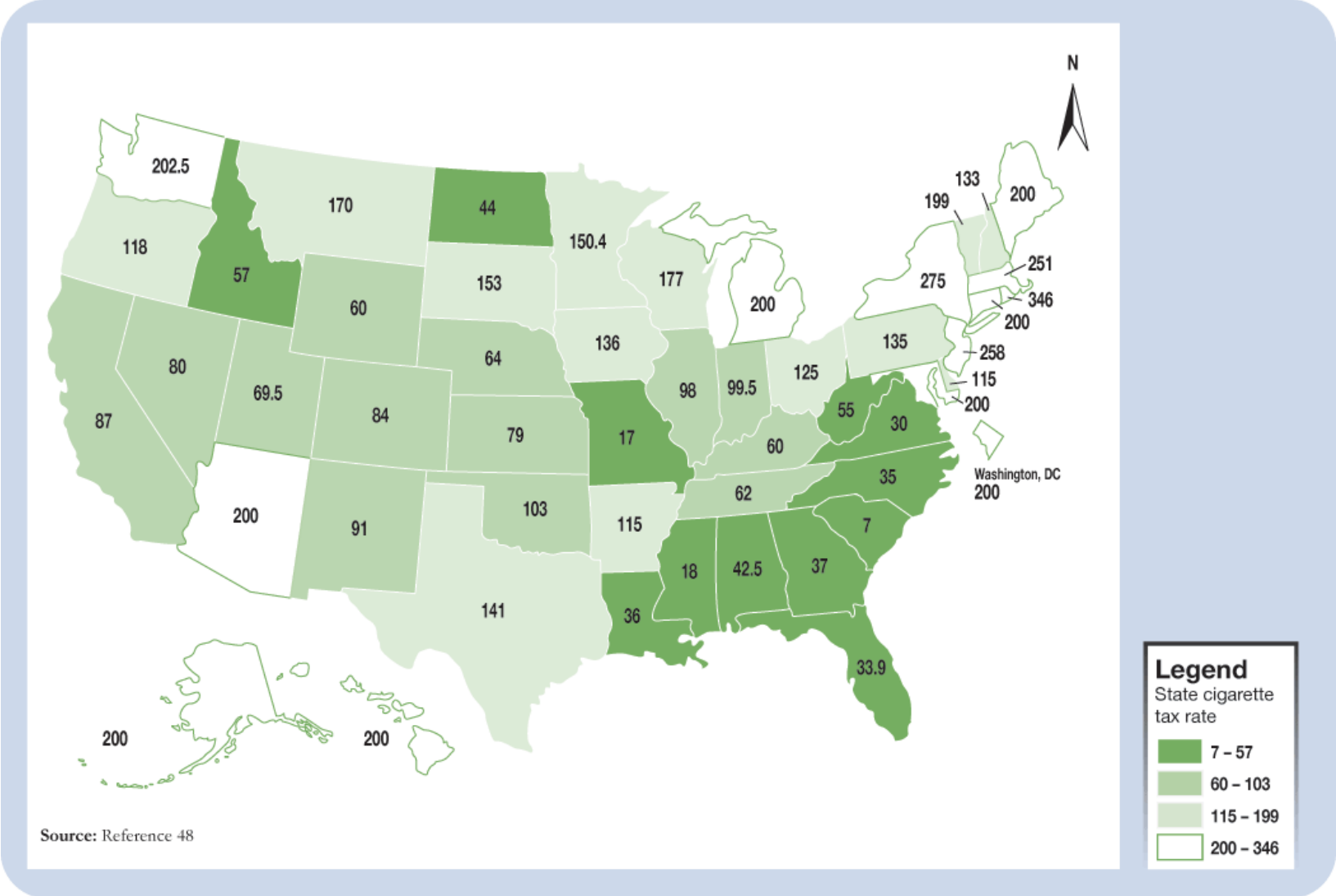
Programs and Policies



Economics

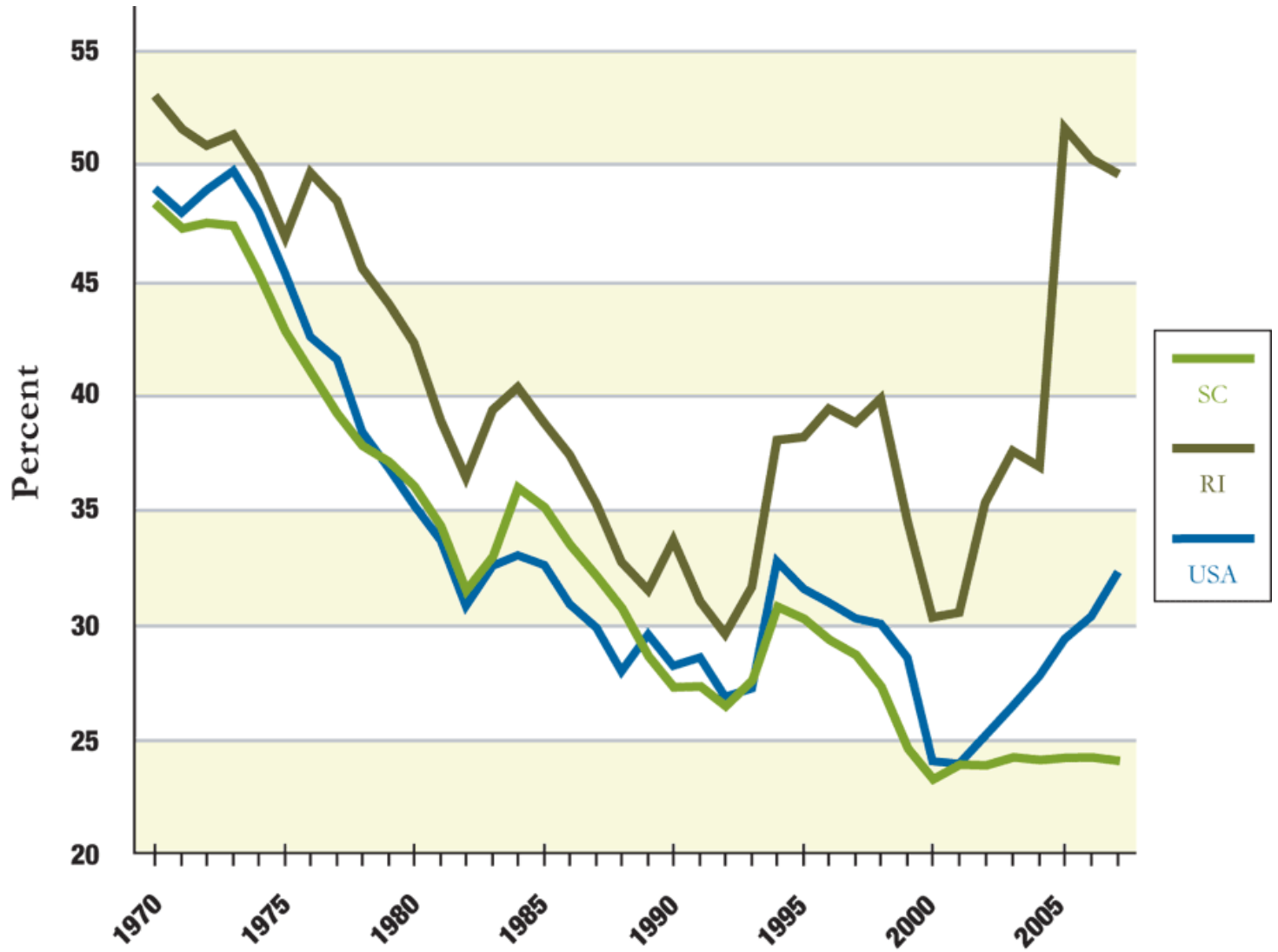


State Cigarette Excise Tax Rates (in cents) – as of June 30, 2009

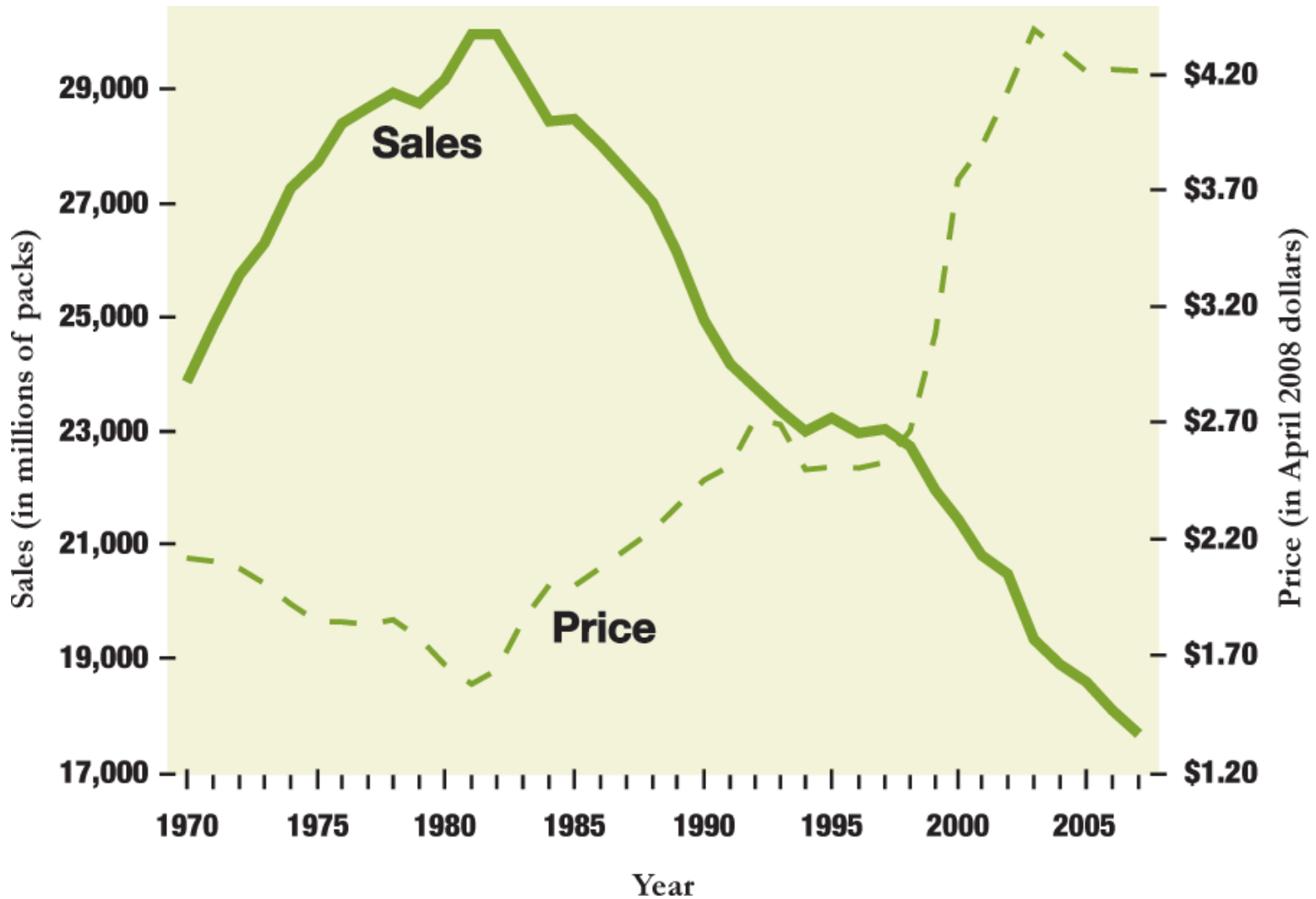


Source: Reference 48

Tax as Percent of Retail Price – US, Rhode Island, and South Carolina, 1970-2007



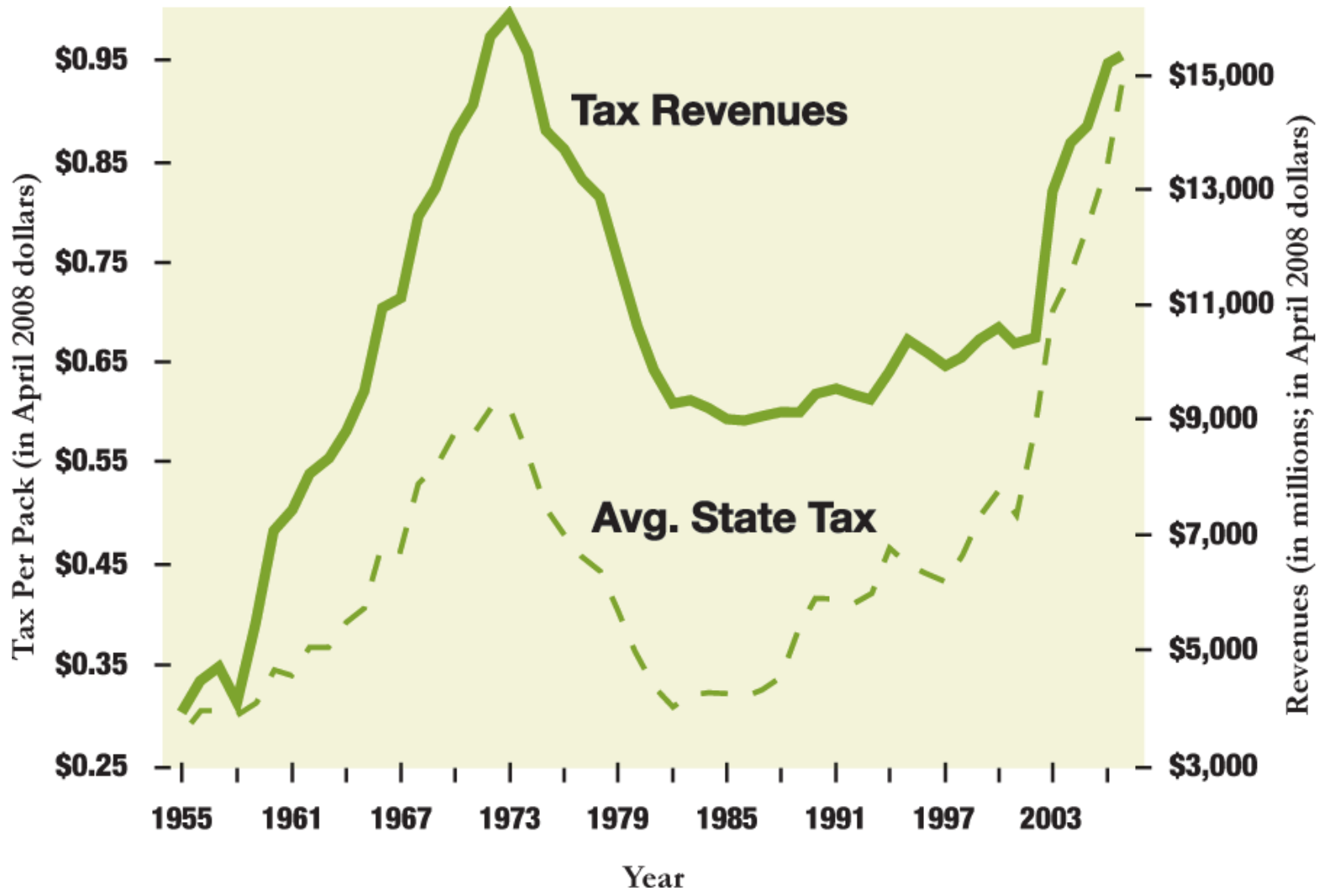
Cigarette Prices and Cigarette Sales – United States, 1970-2007



Source: Reference 165, and authors' calculations.

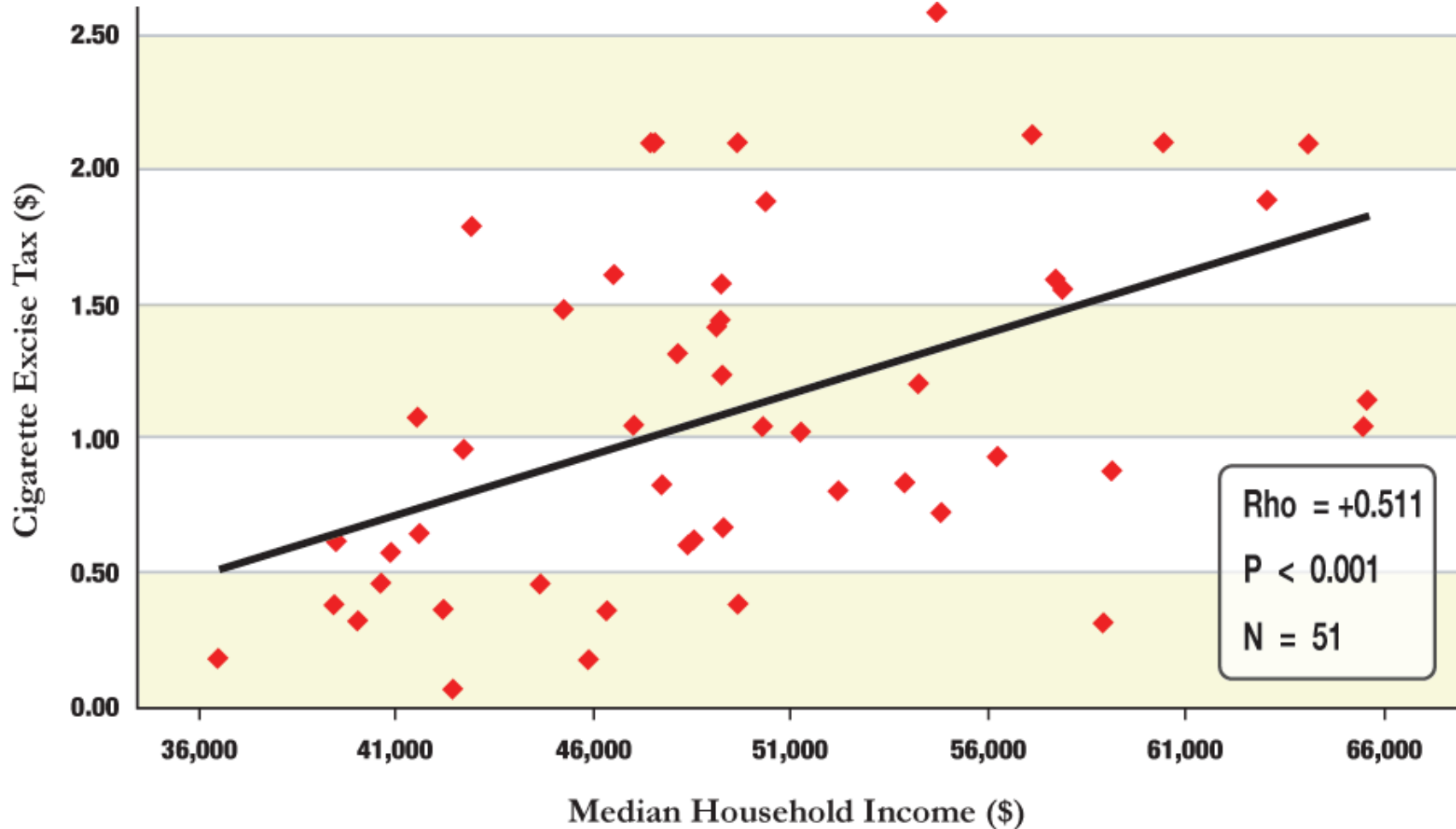


State Cigarette Excise Taxes and Tax Revenues – United States, 1955-2007



Source: Reference 165, and authors' calculations.

Median Household Income and Cigarette Excise Tax Rate, by State – United States, 2006/07



Source: US Census Bureau and Campaign for Tobacco-Free Kids.

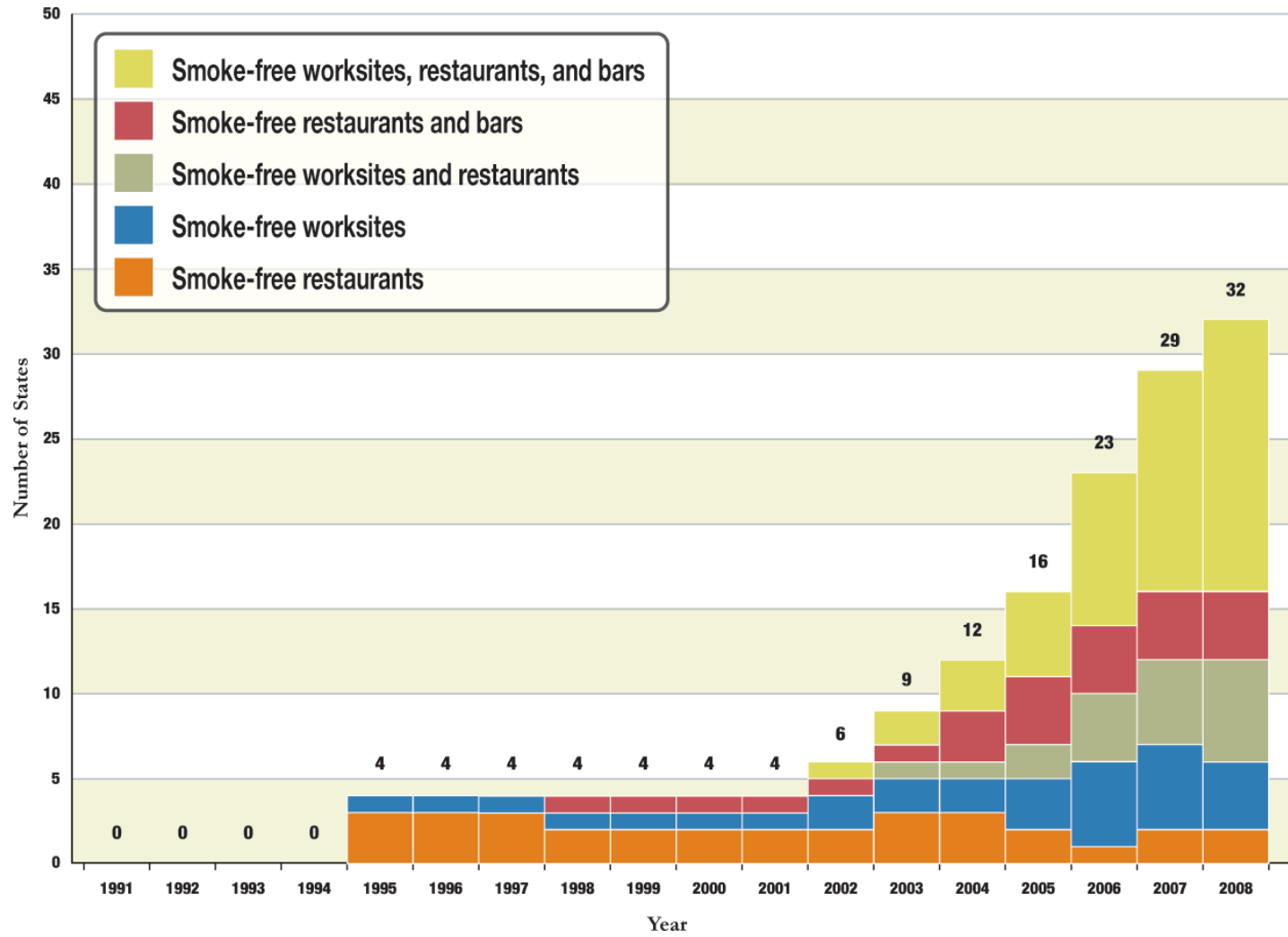
- Annual number of tobacco-caused jobs < annual number of tobacco-attributable deaths
- 14 years of life lost for every year of tobacco employment
- Tobacco-caused jobs are replaceable – tobacco-caused deaths are not
- Decreasing tobacco sales stimulates job creation in the United States



Smoke-free Air



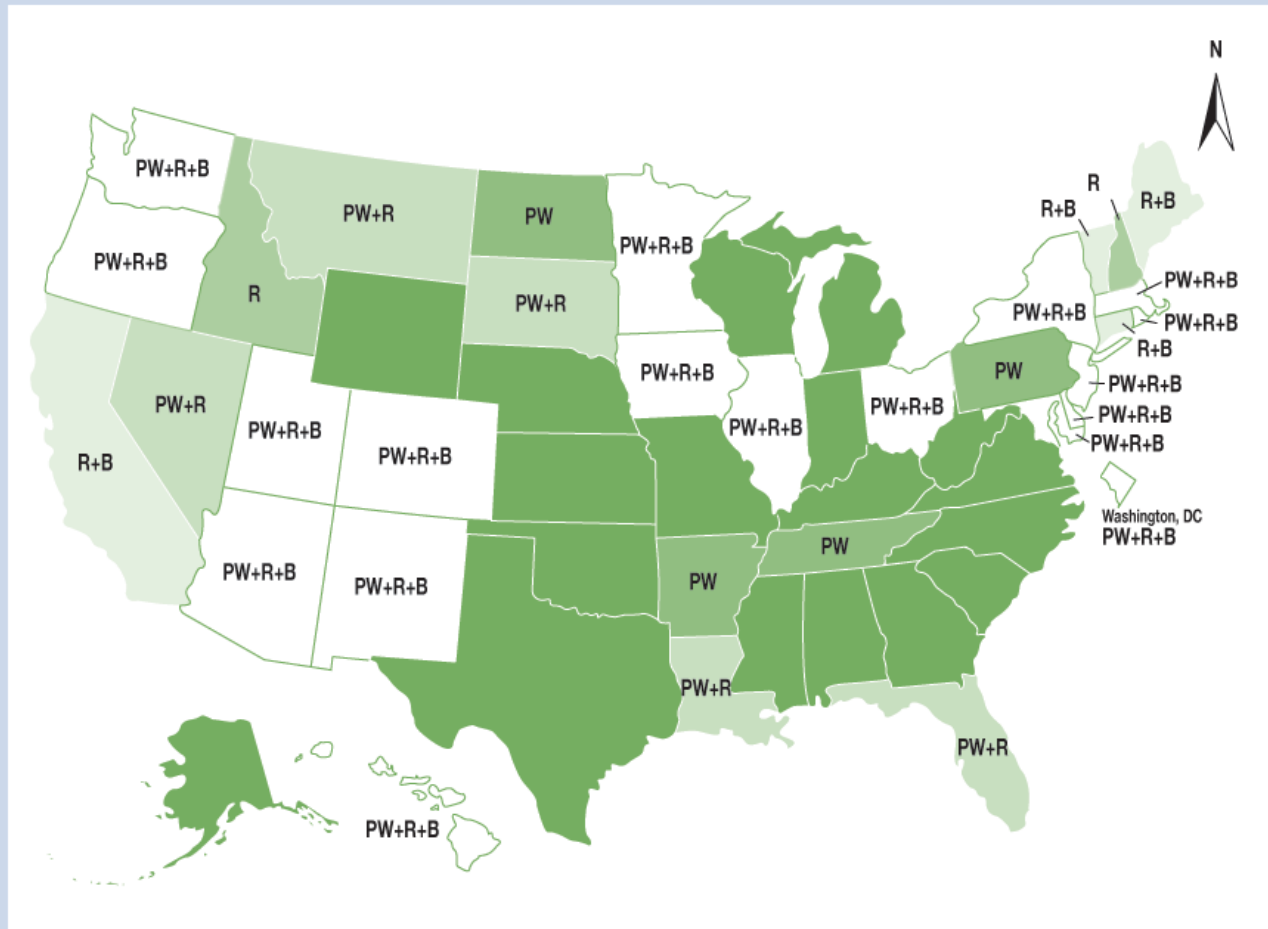
Major Smoke-free Air Legislation in the 50 States and the District of Columbia – 1991-2008



Source: The MayaTech Corporation.

Notes: data are for effective laws through 9/30/2008.

States Providing Strong Protection from Tobacco Smoke Pollution in Private Worksites, Restaurants and/or Bars – as of April 30, 2009

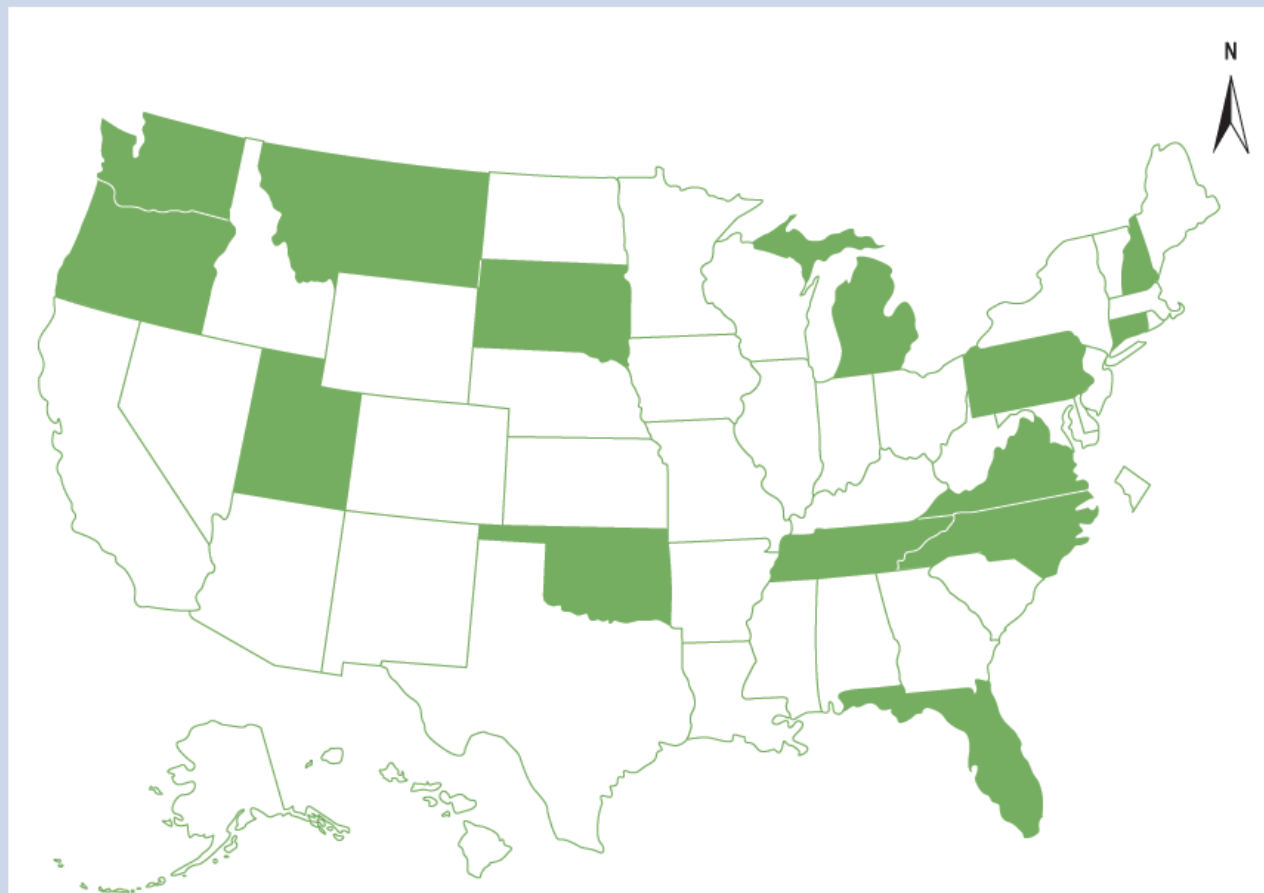


Legend

- No ban
- Priv. Worksite ban
- Restaurant ban
- Priv. Worksite & Restaurant ban
- Restaurants & Bars ban
- Priv. Worksites, Restaurants & Bars ban

Source: The MayaTech Corporation.

States that Preempt Local Jurisdictions from Passing Stronger Smoke-free Air Laws – as of September 30, 2008



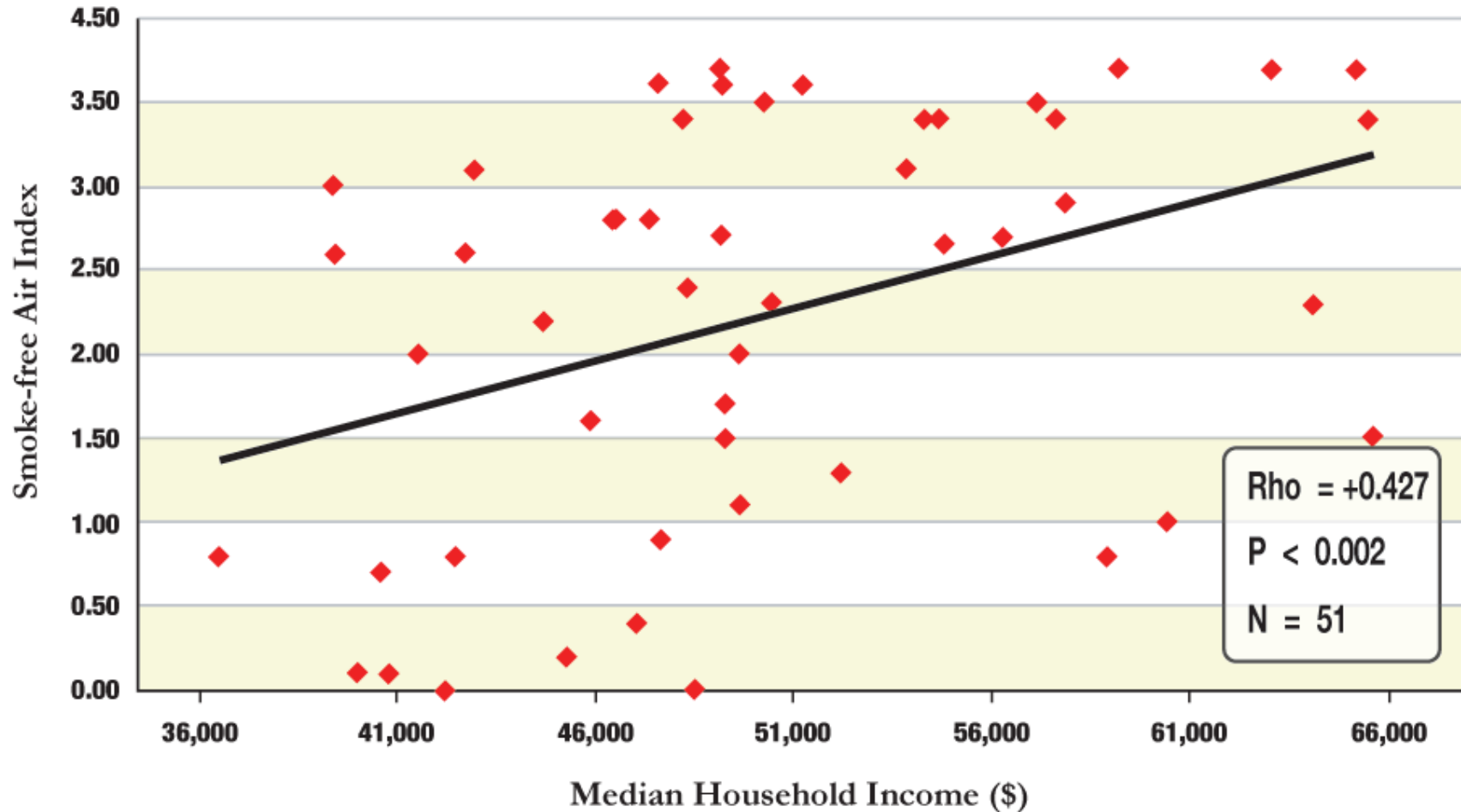
Legend

- State law preempts local smoke-free air laws
- No preemption of local smoke-free air laws

Source: The MayaTech Corporation.
Preemption prevents local jurisdictions from providing stronger protection to residents and visitors in various locations.

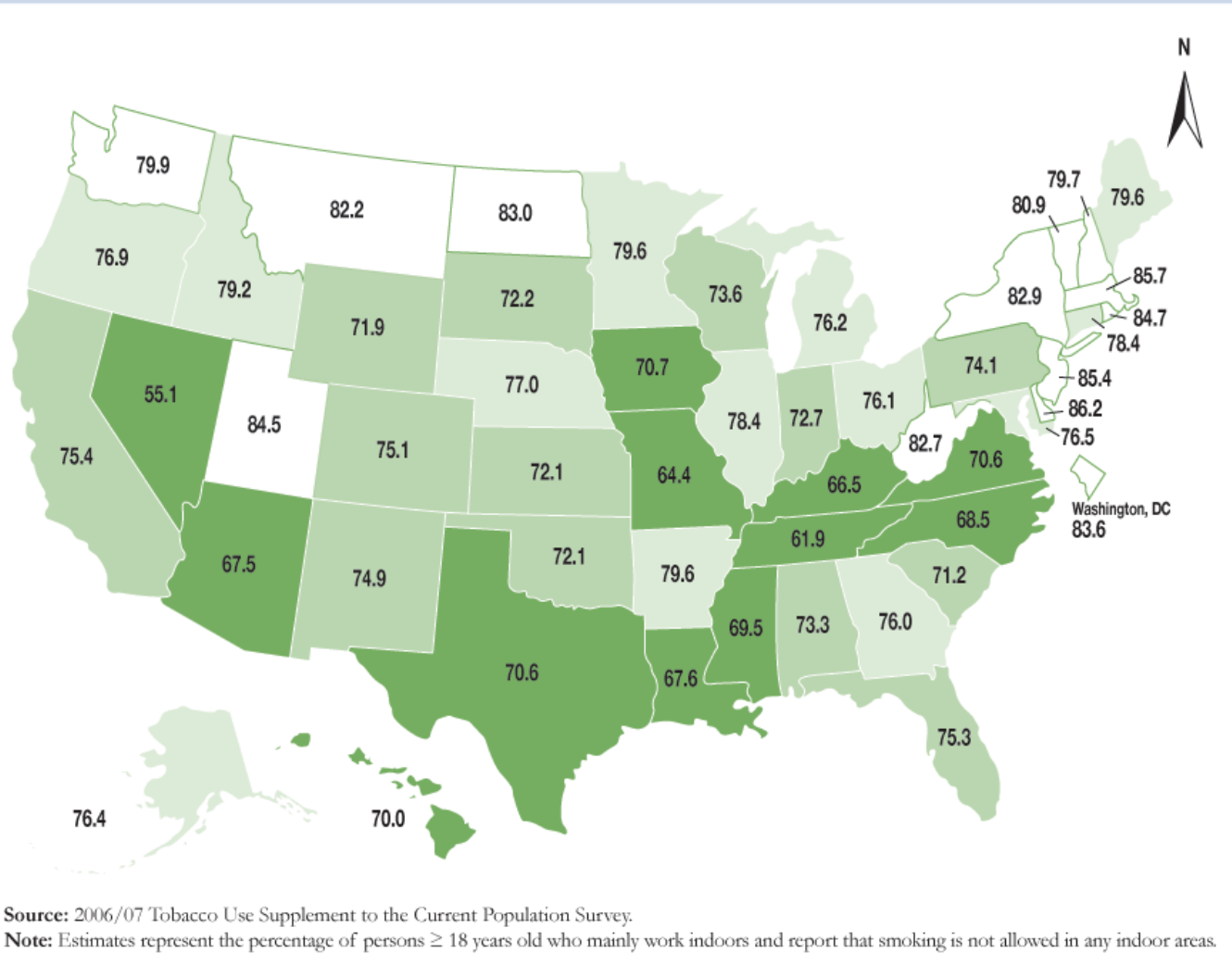


Median Household Income and Smoke-free Air Index, by State – United States, 2006/07

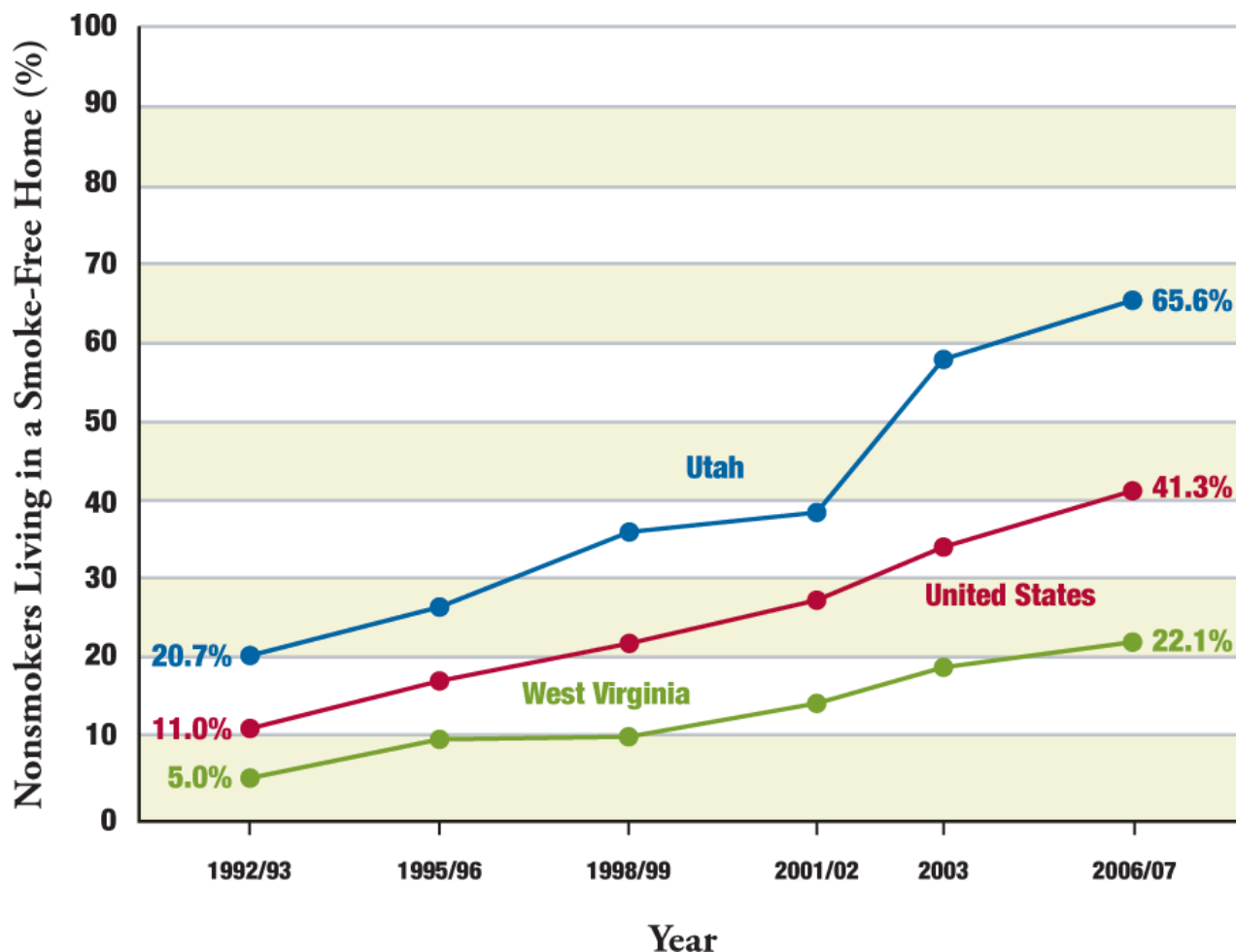


Source: US Census Bureau and Campaign for Tobacco-Free Kids.

Percentage of Indoor Workers Who Work in a Smoke-free Work Place – 2006/07



Trends in the Percentage of Smokers Living in a Smoke-free Home – US, UT, and WV (1992/93 to 2006/07)

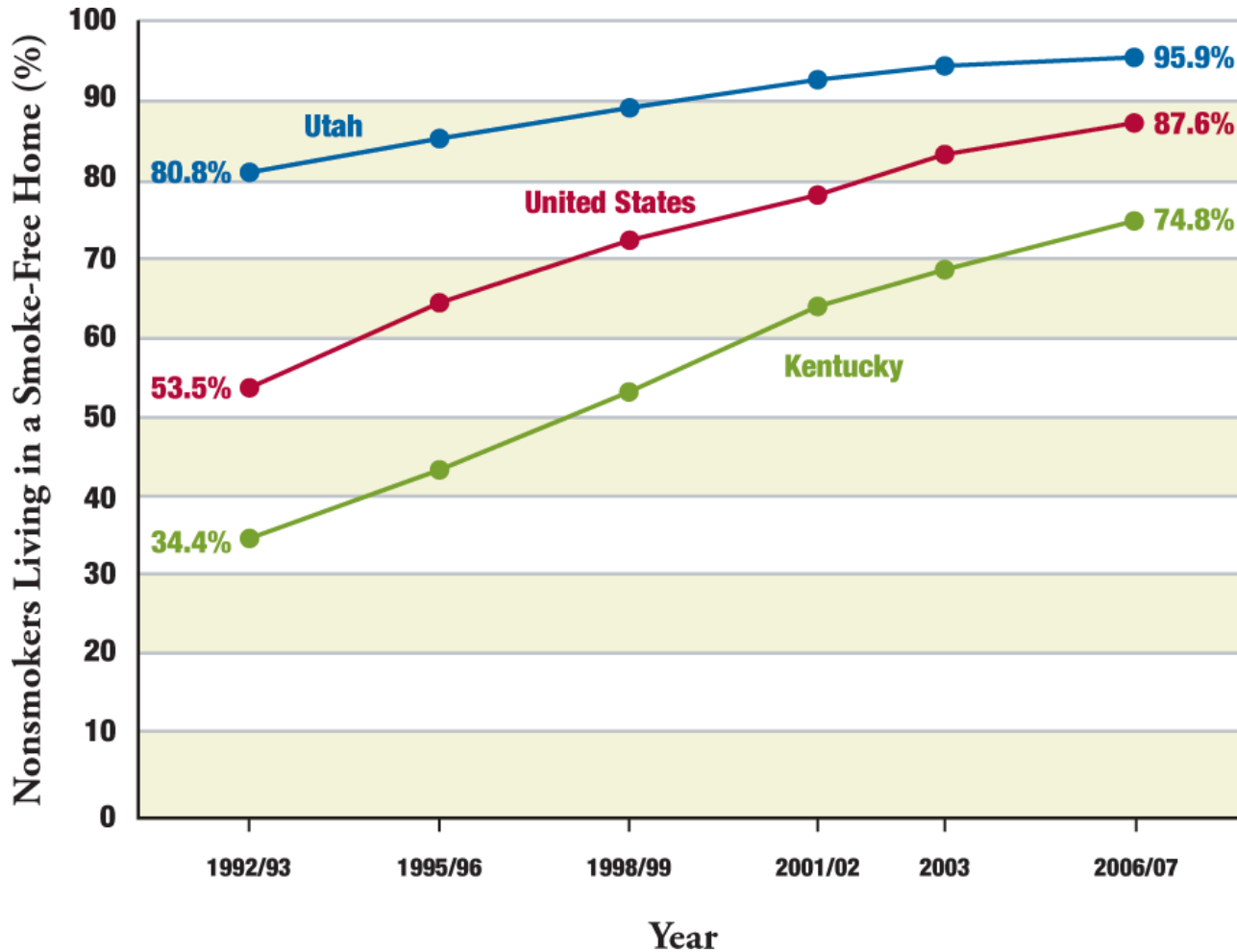


See note 86.

Source: Tobacco Use Supplements to the Current Population Survey.



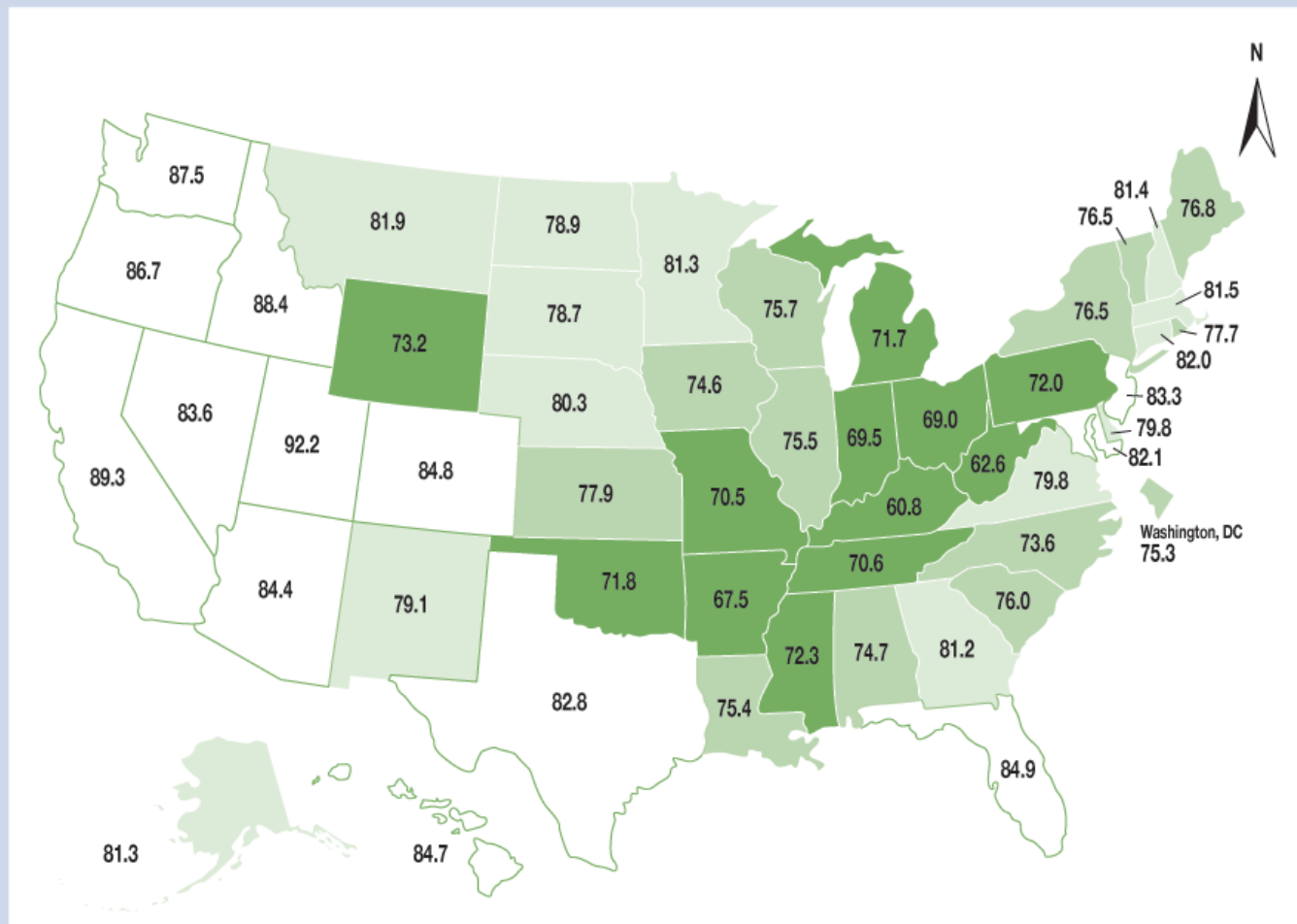
Trends in the Percentage of Nonsmokers Living in a Smoke-free Home – US, UT, and KY (1992/93 to 2006/07)



See note 86.

Source: Tobacco Use Supplements to the Current Population Survey.

Percentage of Adults Living in a Smoke-free Home – 2006/07



Legend
 Percentage of adults living in a smoke-free home

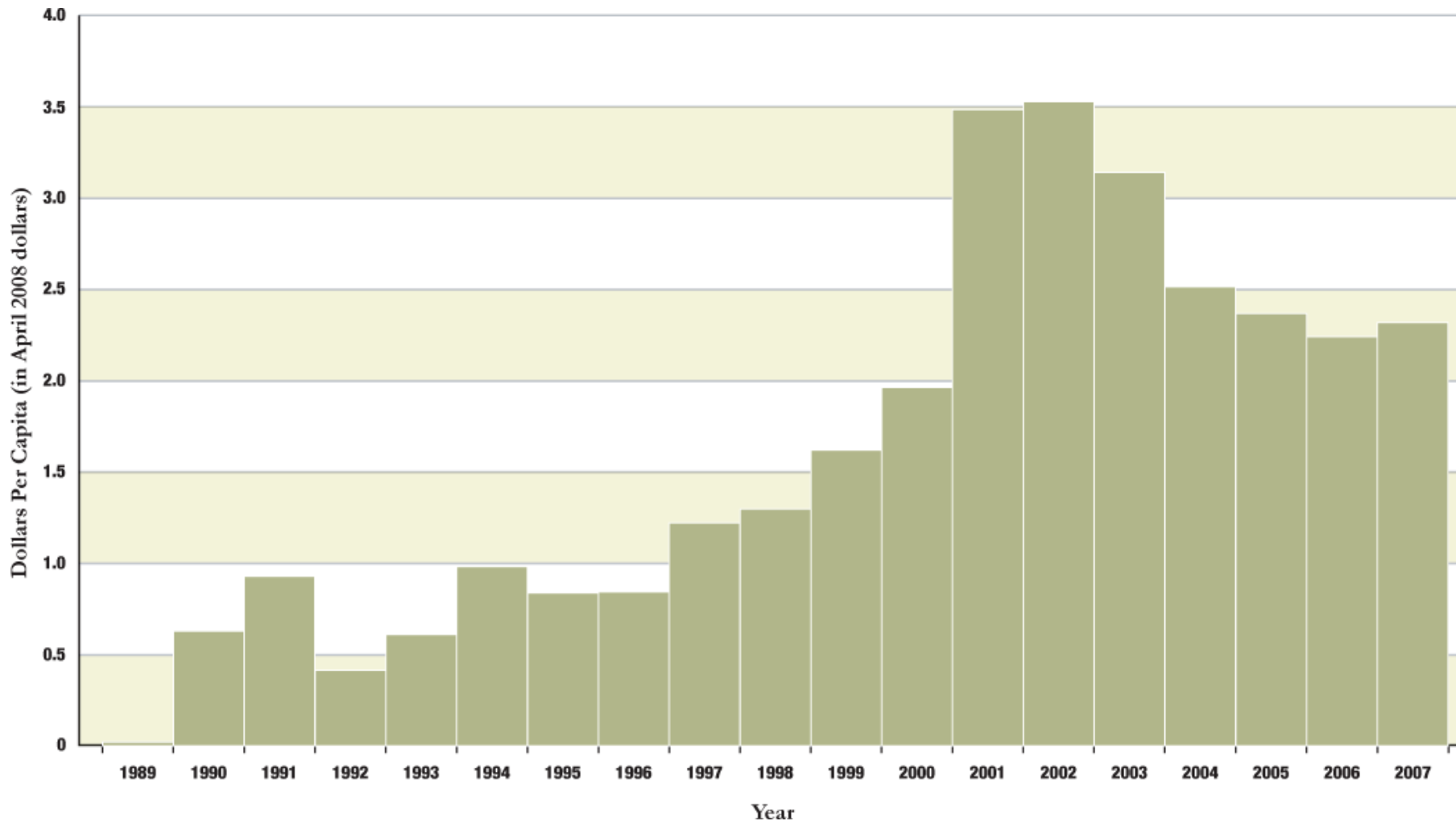
- 60.8 – 73.2
- 73.3 – 78.0
- 78.1 – 82.0
- 82.1 – 92.2

Source: 2006/07 Tobacco Use Supplement to the Current Population Survey.
 Note: Estimates represent the percentage of persons ≥ 18 years old who live in a home where smoking is not allowed.

Tobacco Control Programming



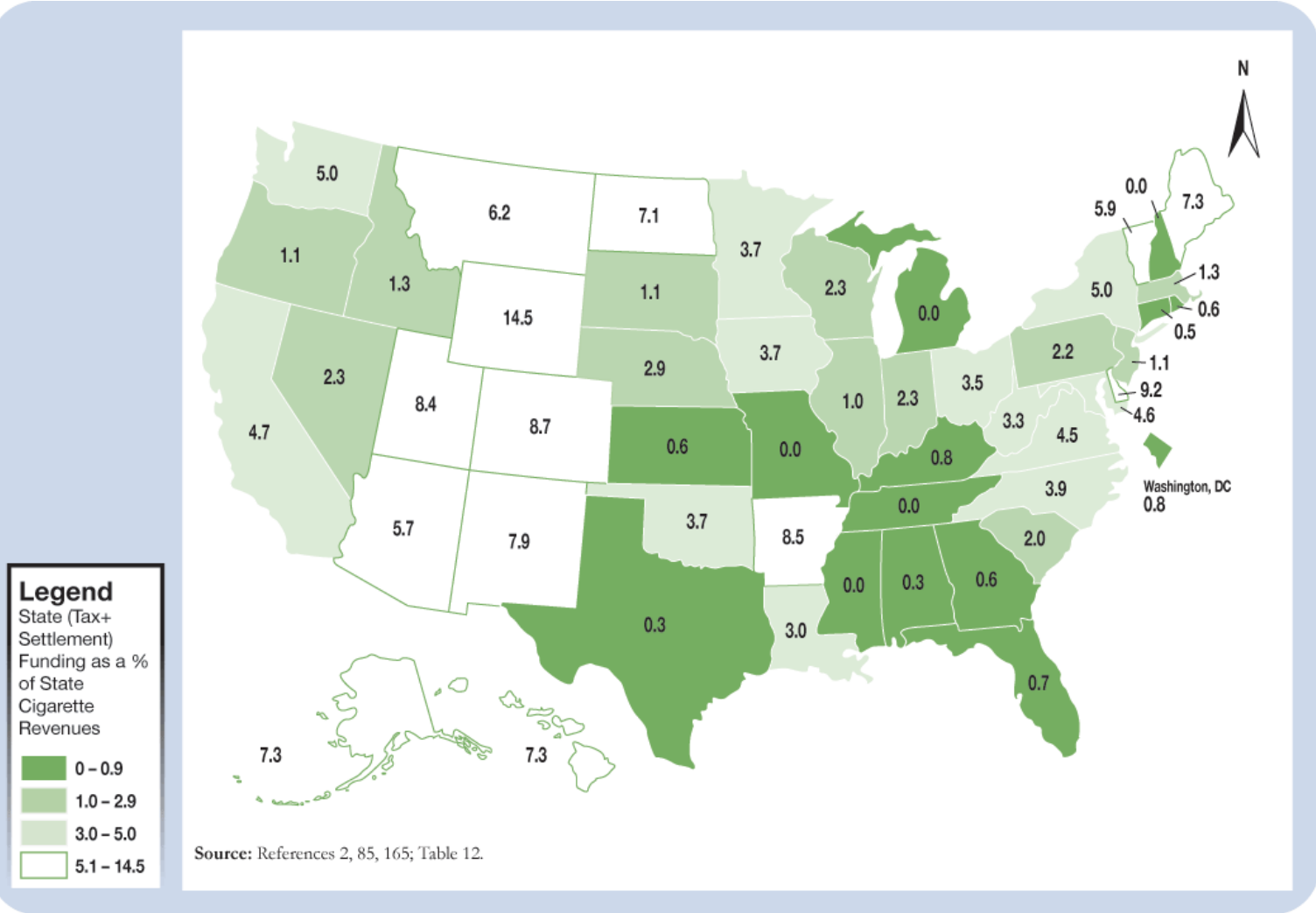
Per Capita Funding for State Tobacco Control Programs



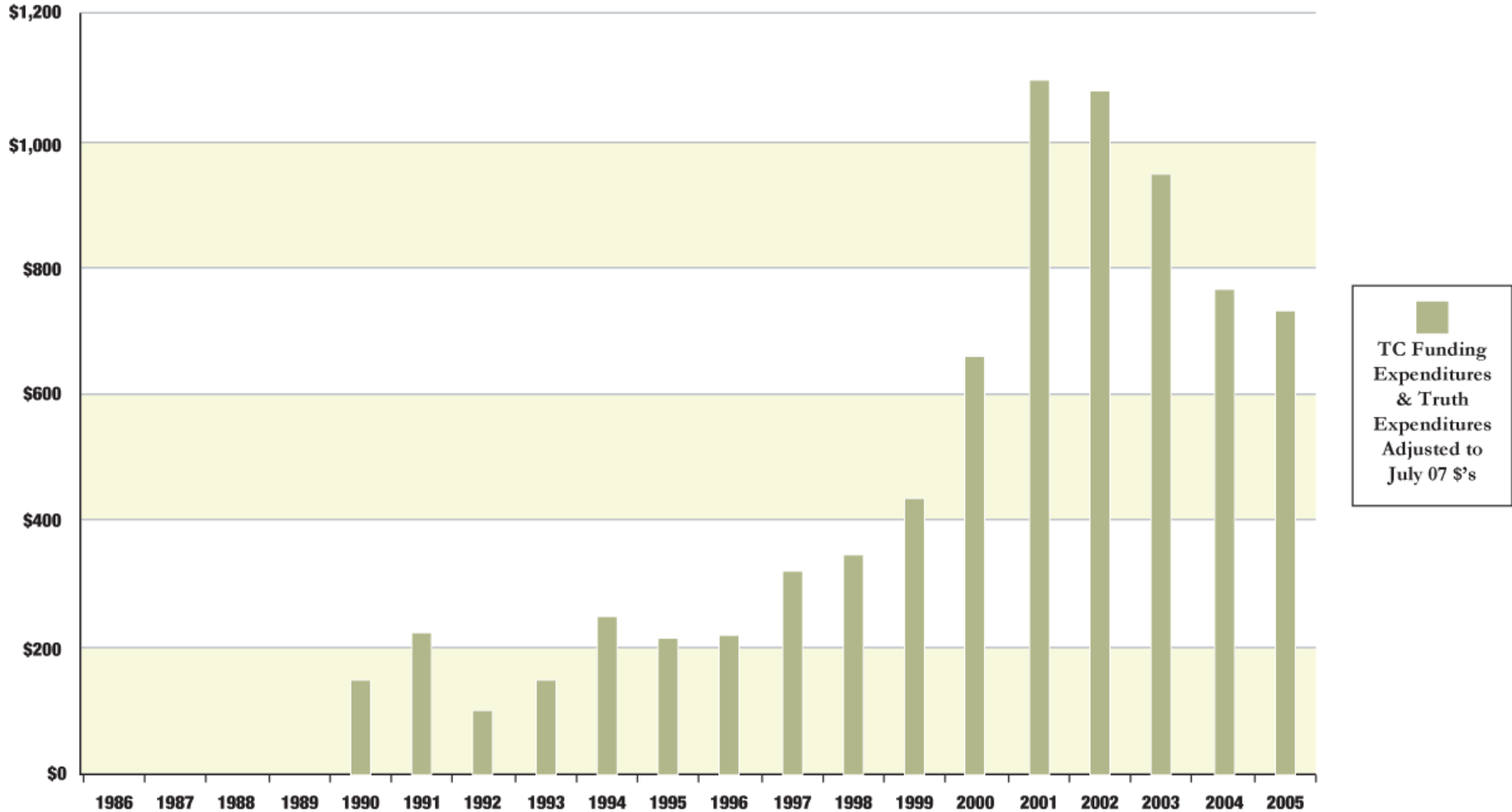
Source: See pages 217 and 218.



Tobacco Control Funding from Settlement and Cigarette Excise Tax as a Percentage of Settlement and Tax Revenues – 2007

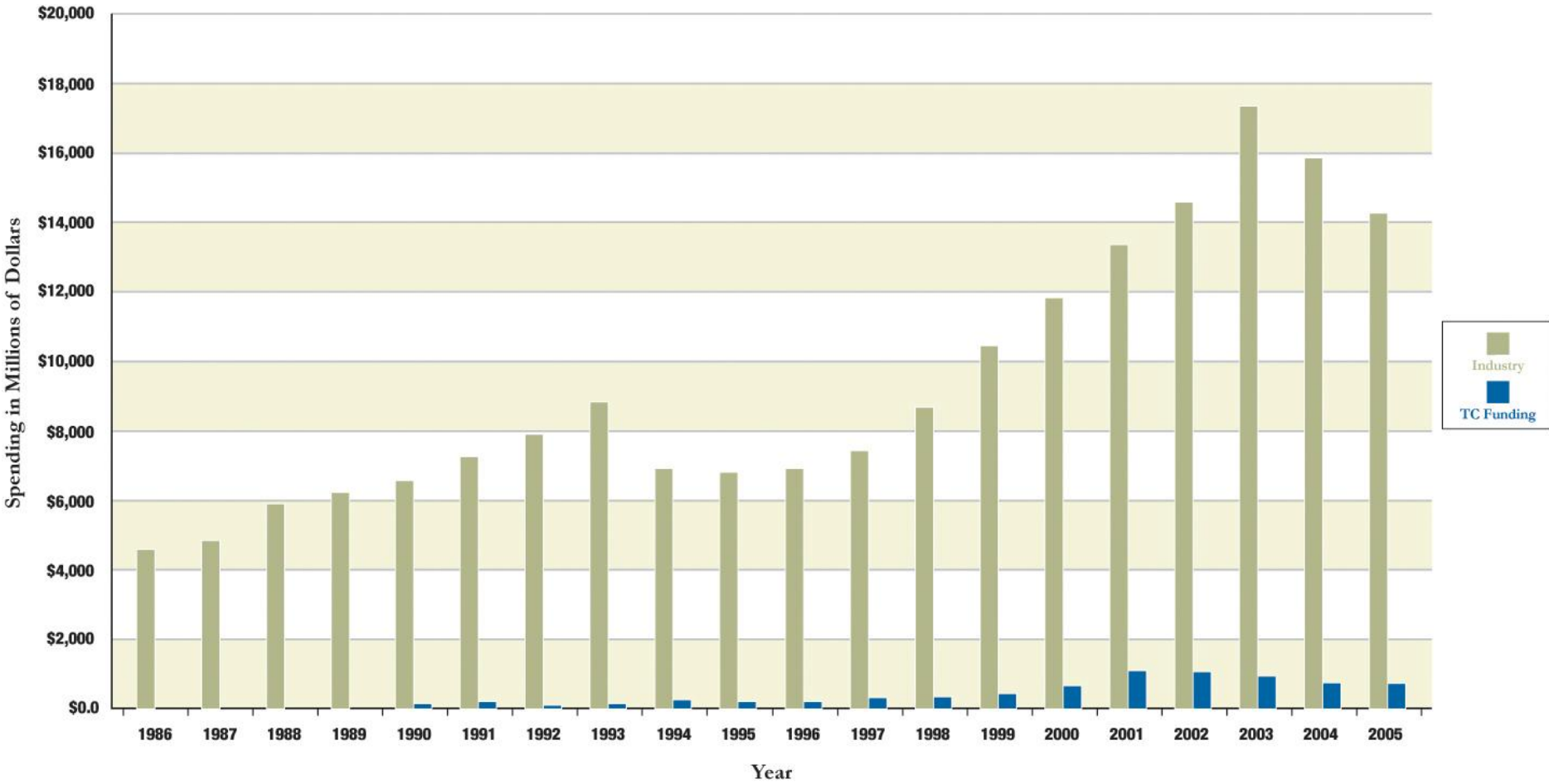


State Tobacco Control Funding (in millions of dollars) – United States, 1986-2005



Sources: Project ImpacTEEN, CDC/OSH, RTI, CFTFK, UIC, UB; data are in July 2007 dollars.

Tobacco Industry Marketing vs. Tobacco Control Spending (in millions of dollars) – United States, 1986-2005

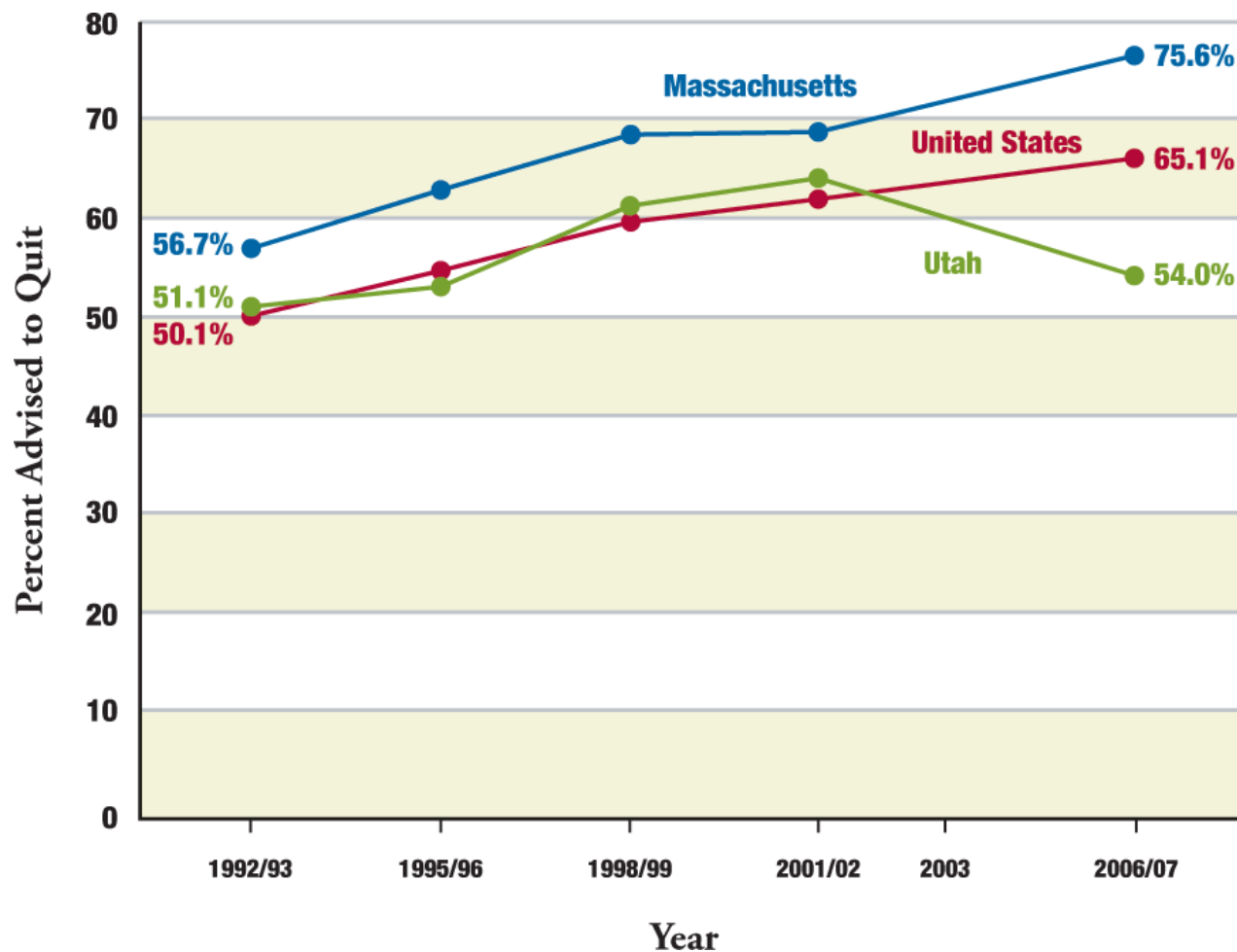


Source: FTC 2005 and Project ImpactTEEN; data are in July 2007 dollars.

Cessation



Trends in the Percentage of Smokers Who Received Advice to Quit From a Physician During the Previous Year – US, MA, and UT (1992/93-2006/07)

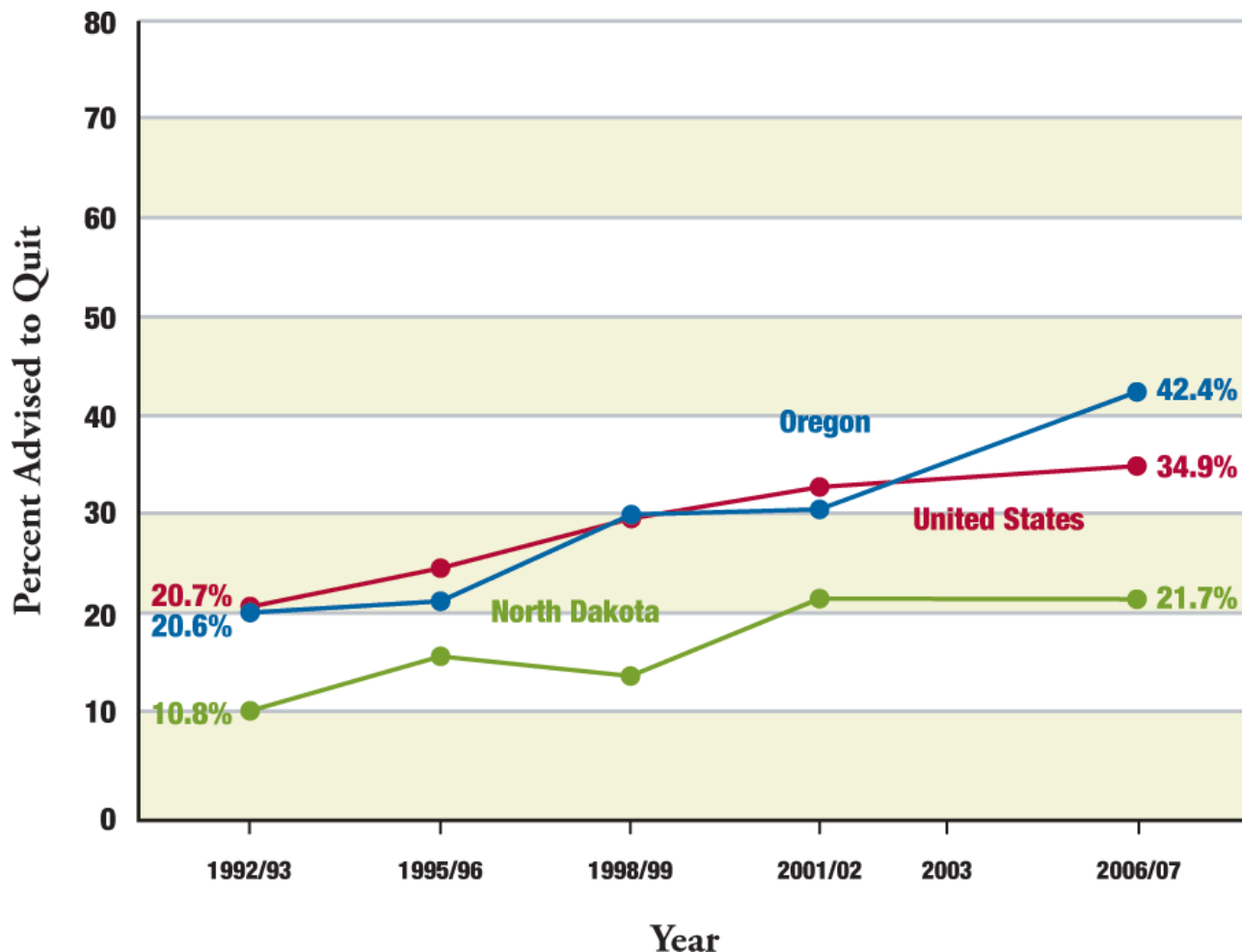


See note 86.

Source: Tobacco Use Supplements to the Current Population Survey.



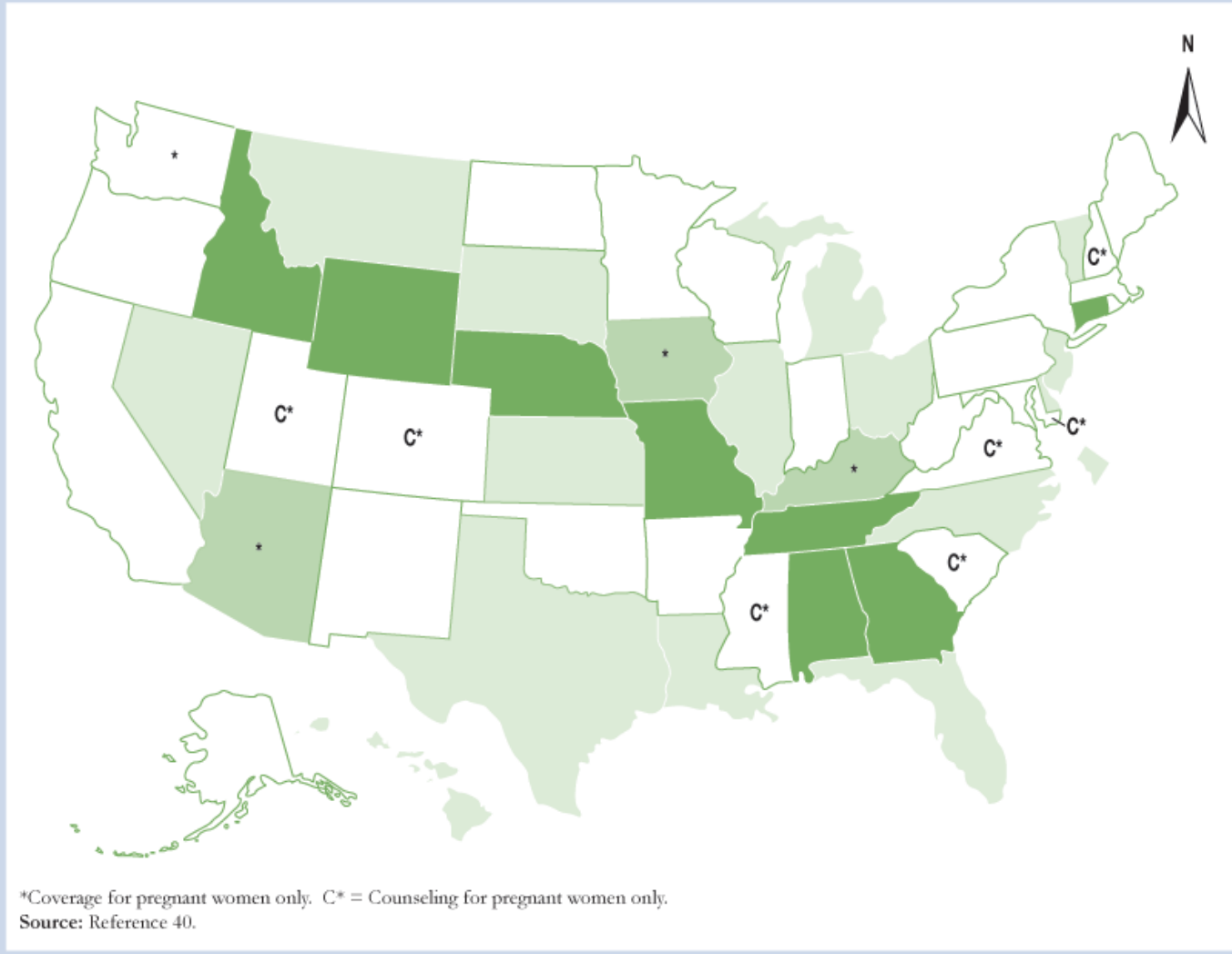
Trends in the Percentage of Smokers Who Received Advice to Quit From a Dentist During the Previous Year – US, OR, and ND (1992/93-2006/07)



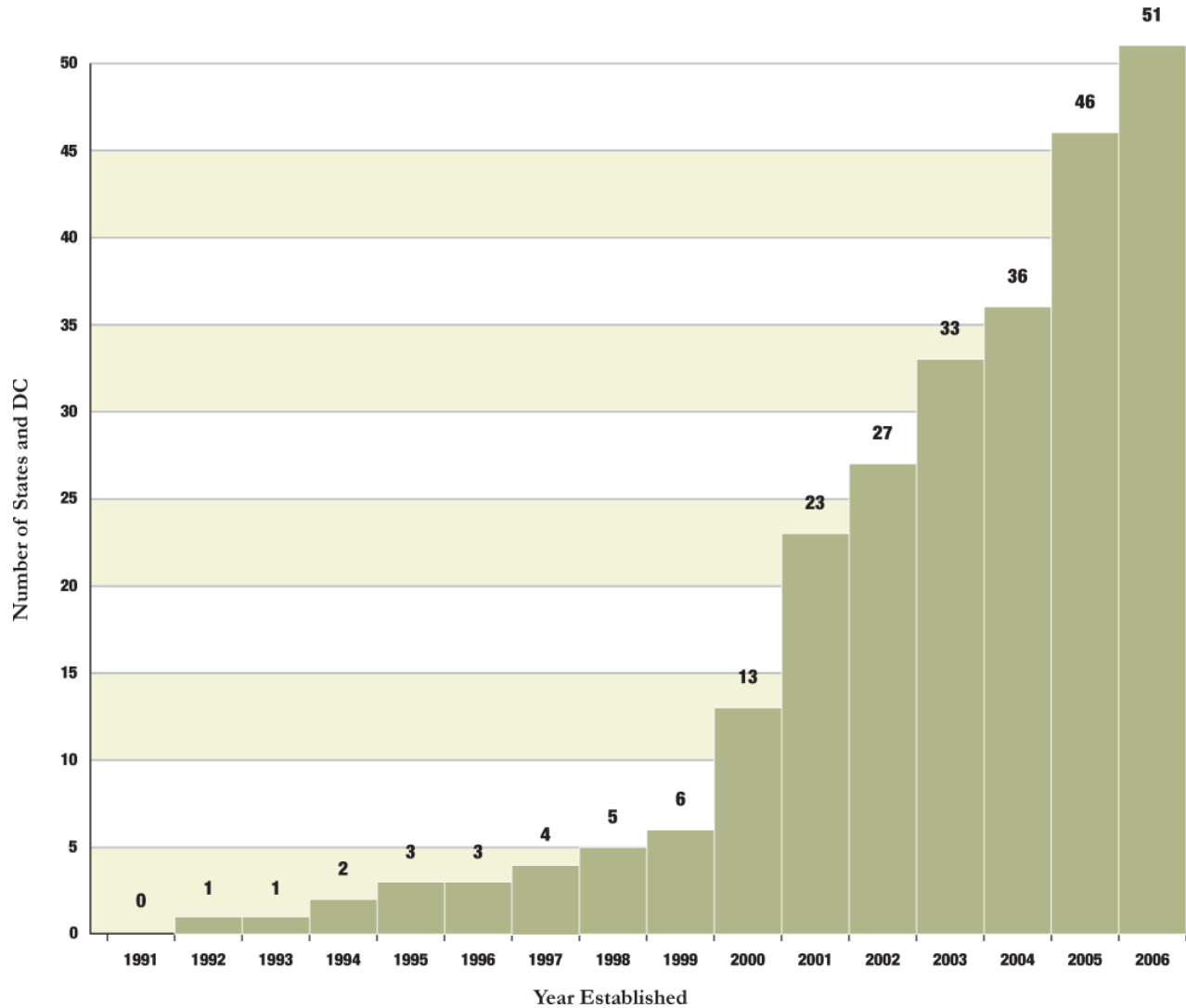
See note 86.

Source: Tobacco Use Supplements to the Current Population Survey.

Provision of Tobacco Dependence Treatment Services to Medicaid Recipients – 2006

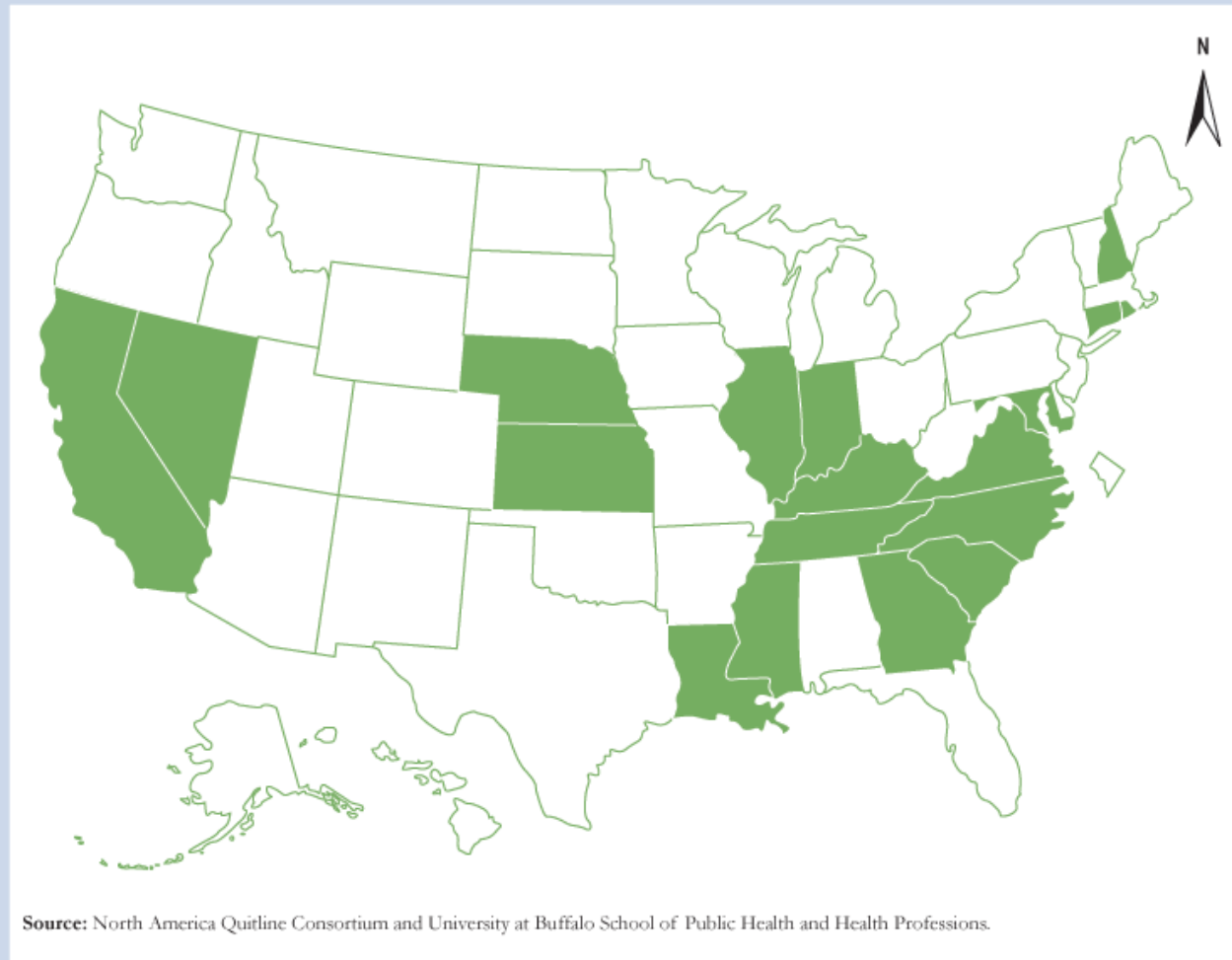


Establishment of Quitline Services in the 50 States and DC: 1991-2006



Source: North American Quitline Consortium.

States Offering Free/Discounted Cessation Medication to Eligible Smokers – as of September 30, 2008



“Hard-Core” Analyses

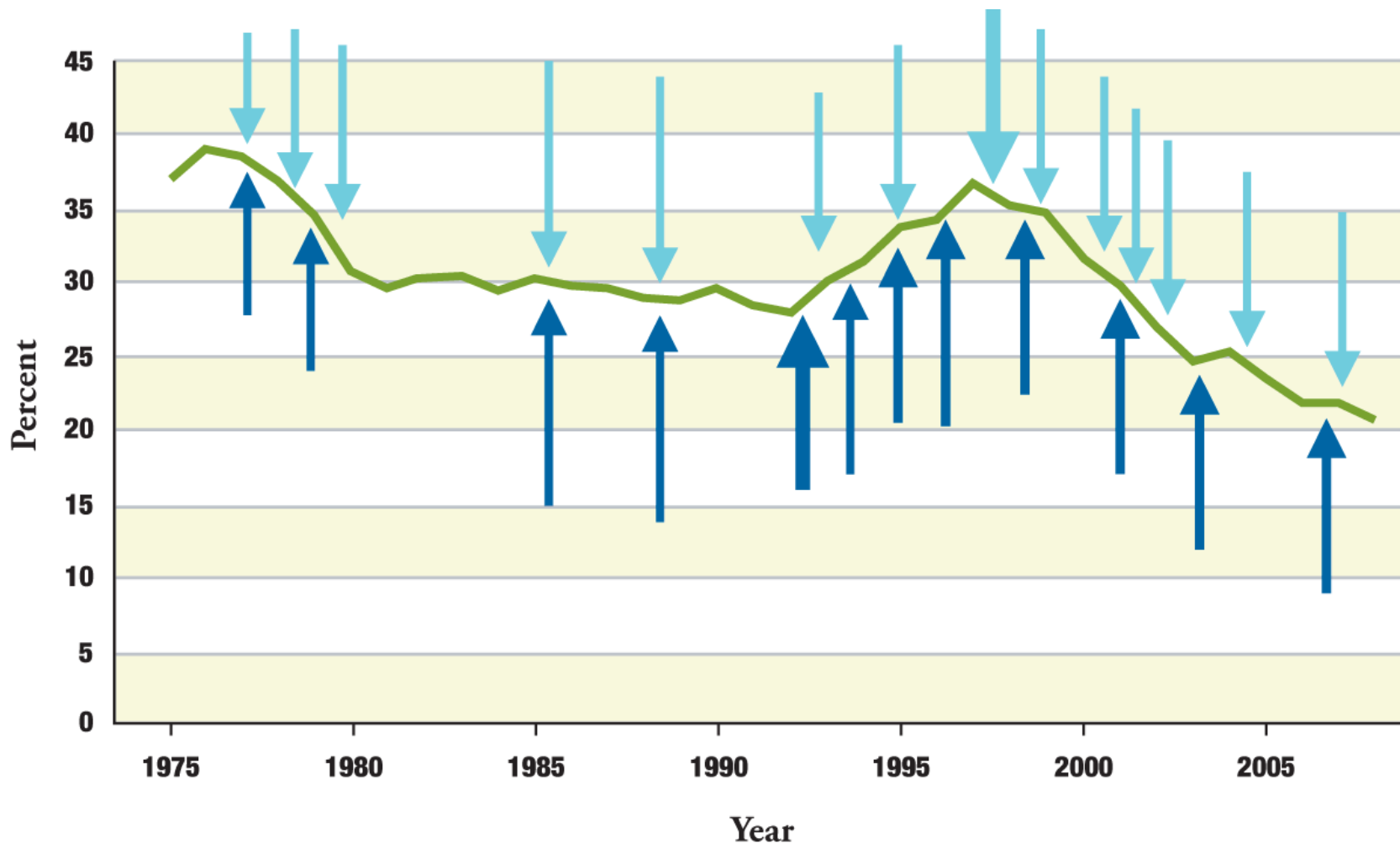


Where Prevalence Levels Off is a Function Of:

- % of population that is hard-core
- Industry fighting for its economic survival
- Governments' willingness to support tobacco control programs and policies and potentially lose revenues from taxes



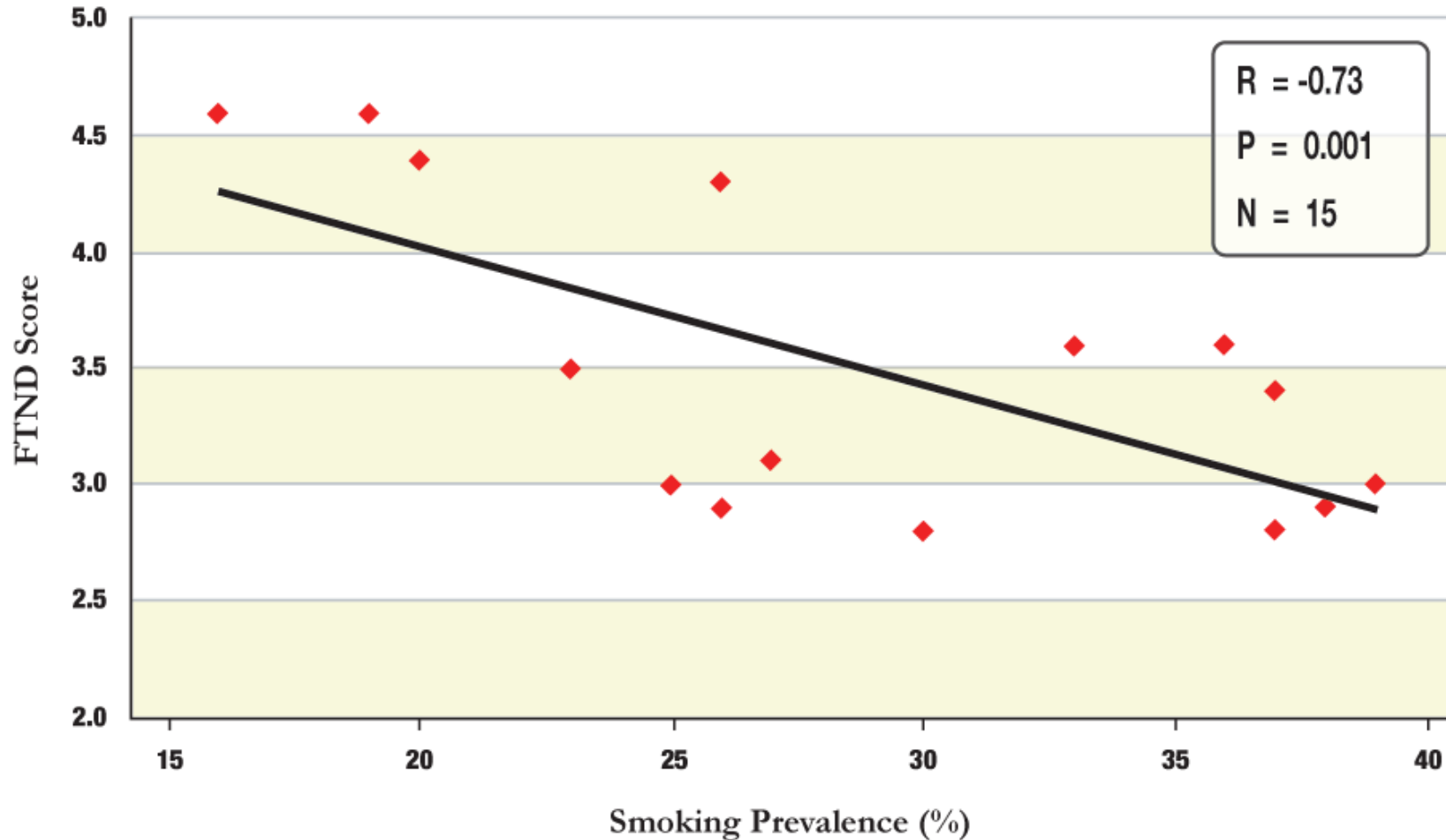
Conceptual Model of Factors Influencing Trends in Adolescent Smoking – US, 1975-2008



Data represent past 30-day smoking among high school seniors, from the Monitoring the Future Surveys, Institute for Social Research, University of Michigan.



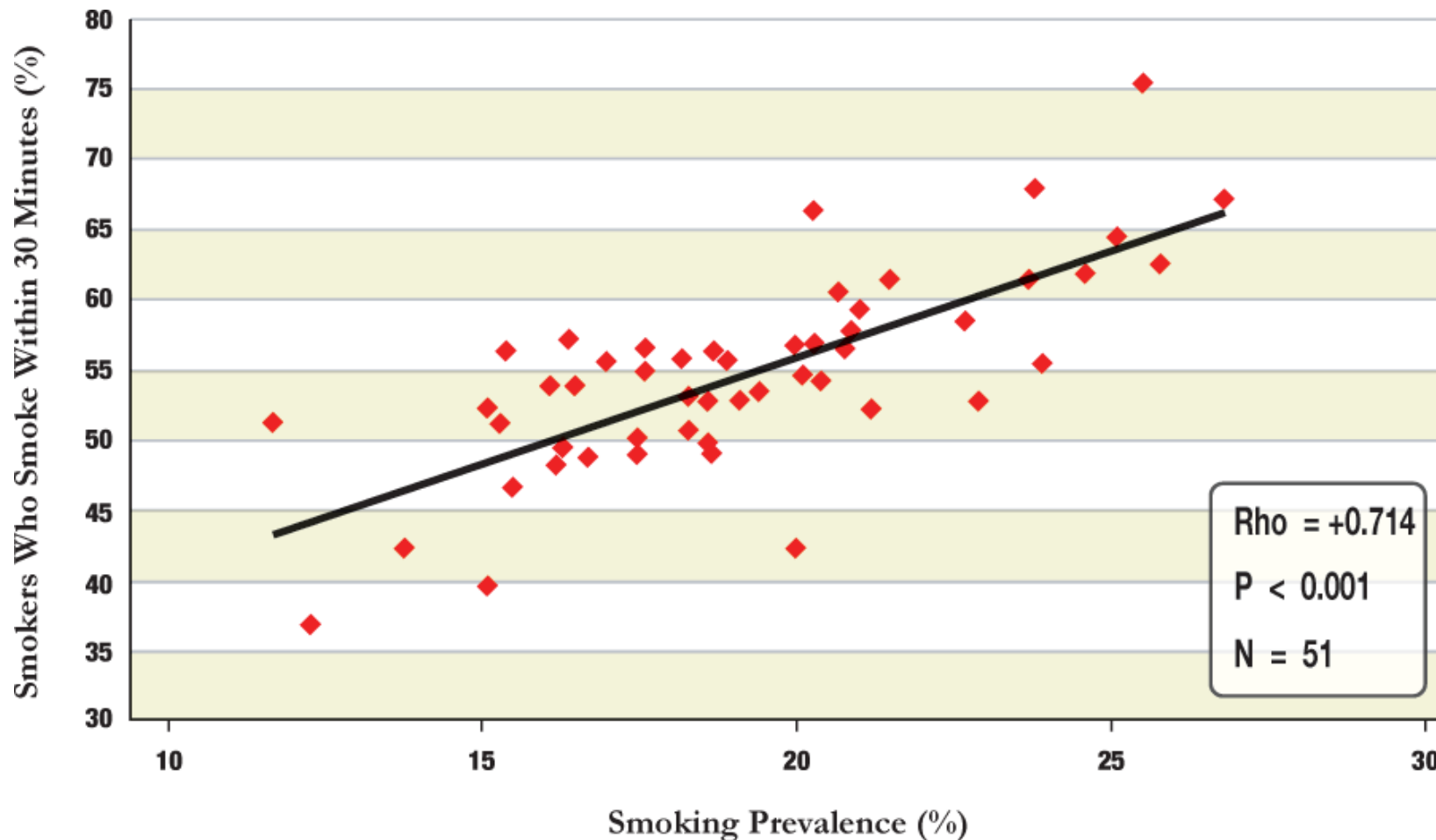
Fagerström Test for Nicotine Dependence Score and Cigarette Smoking Prevalence – by Country



Source: Fagerström & Furberg, *Addiction* 2008; 103:841-845.

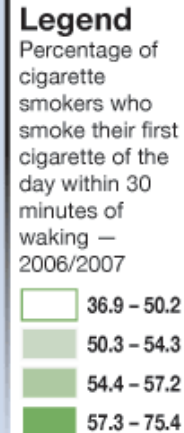
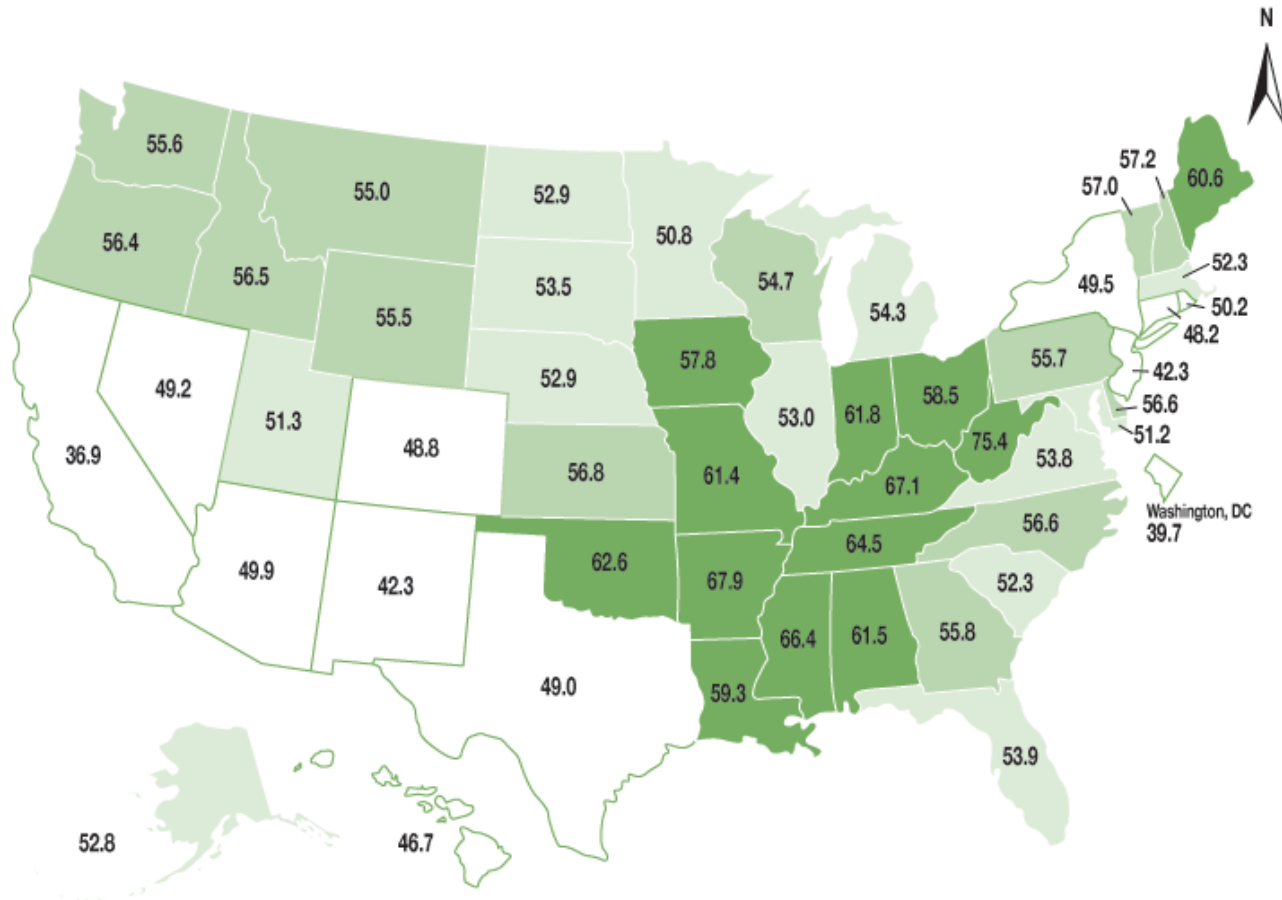


Percentage of Cigarette Smokers Who Smoke Within 30 Minutes of Waking and Smoking Prevalence, by State – US, Ages 25+ Yrs Old, 2006/07



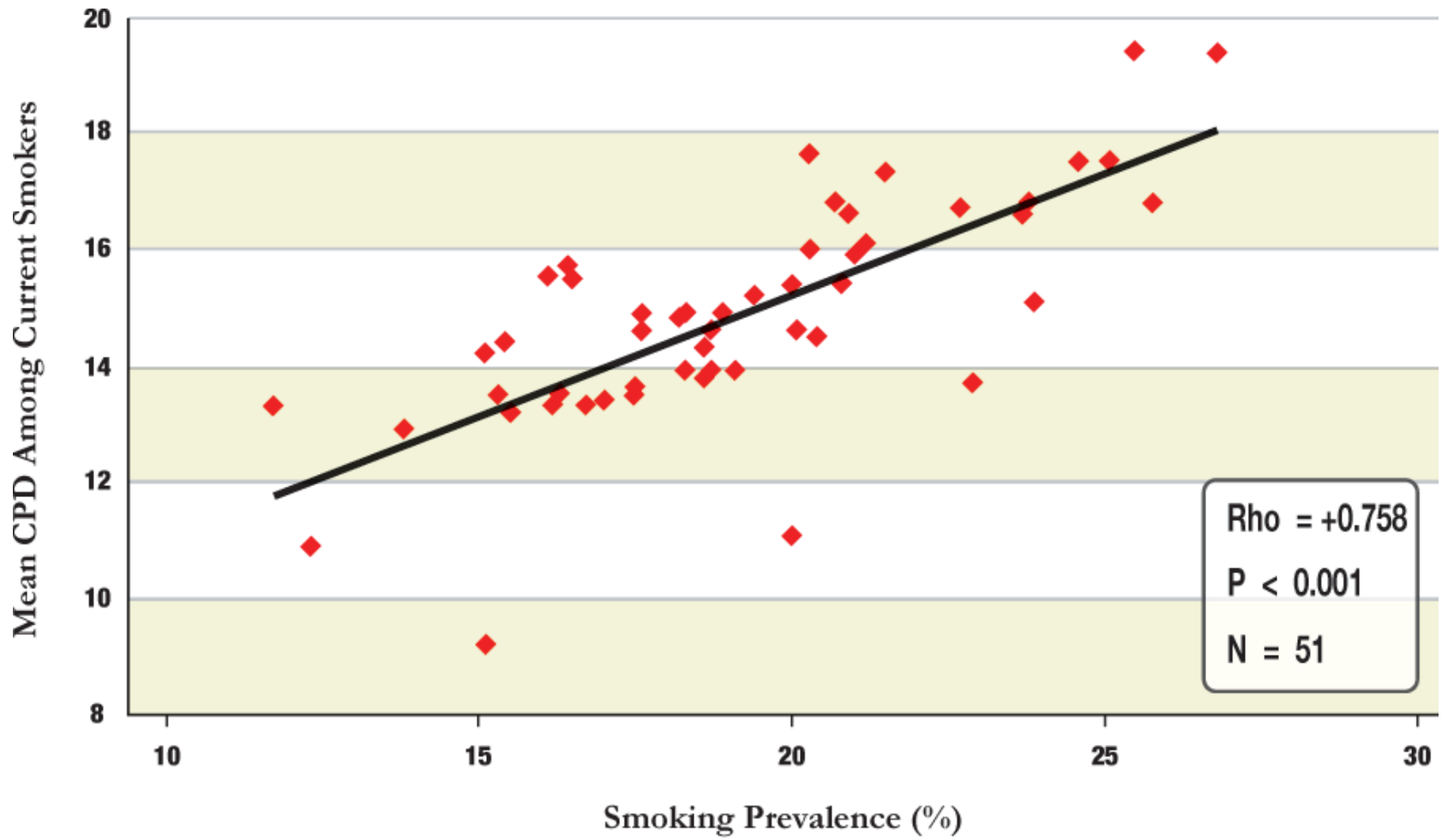
Source: Tobacco Use Supplement to the Current Population Survey, 2006/07

Percentage of Cigarette Smokers Who Smoke Within 30 Minutes of Waking – 2006/2007



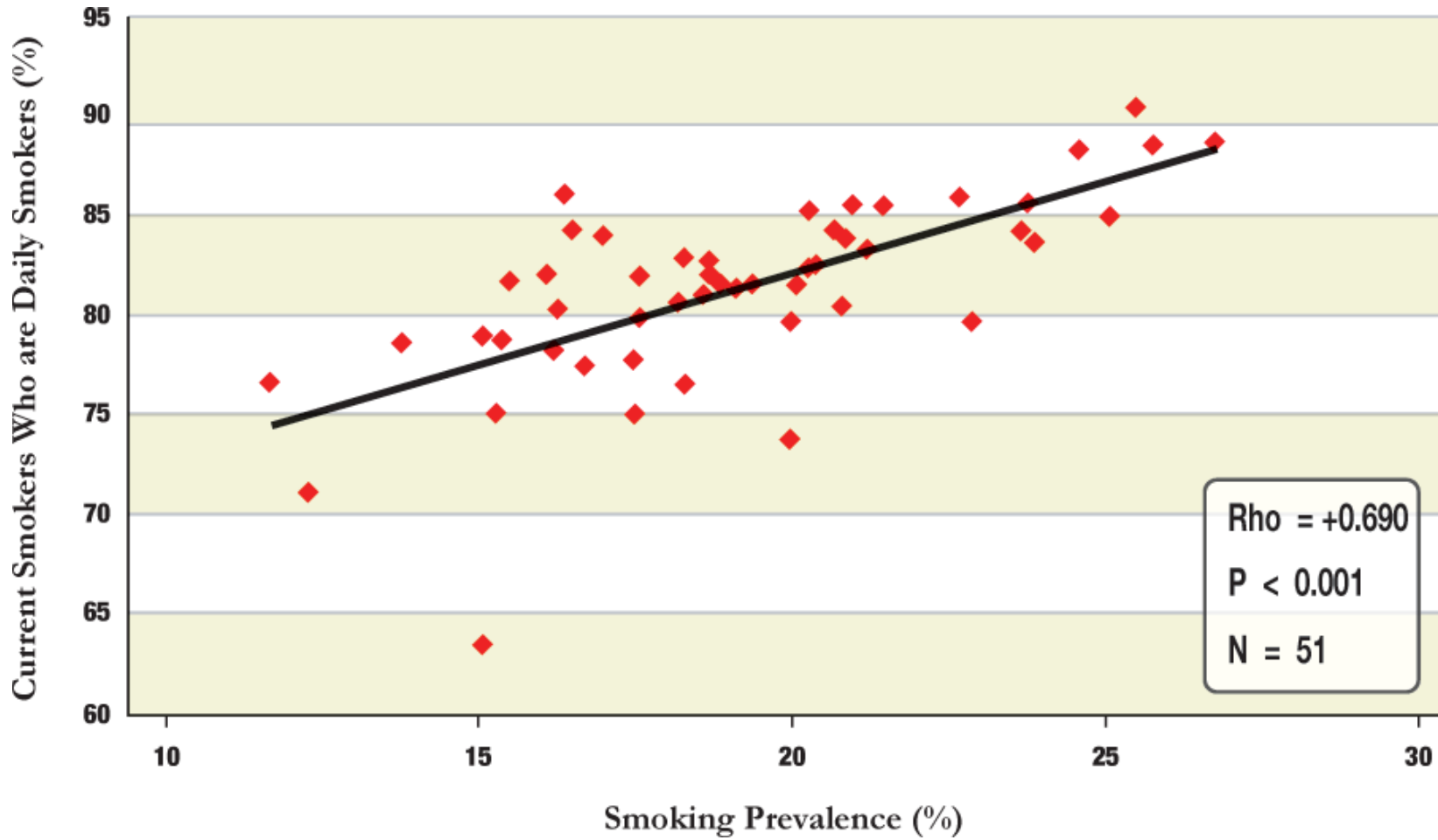
Source: 2006/07 Tobacco Use Supplement to the Current Population Survey.
Note: Estimates represent the percentage of current cigarette smokers ≥ 25 years old who smoke within 30 minutes of waking.

Mean Number of Cigarettes Smoked/Day Among Current Smokers and Smoking Prevalence, by State – US, Ages 25+ Yrs Old, 2006/07



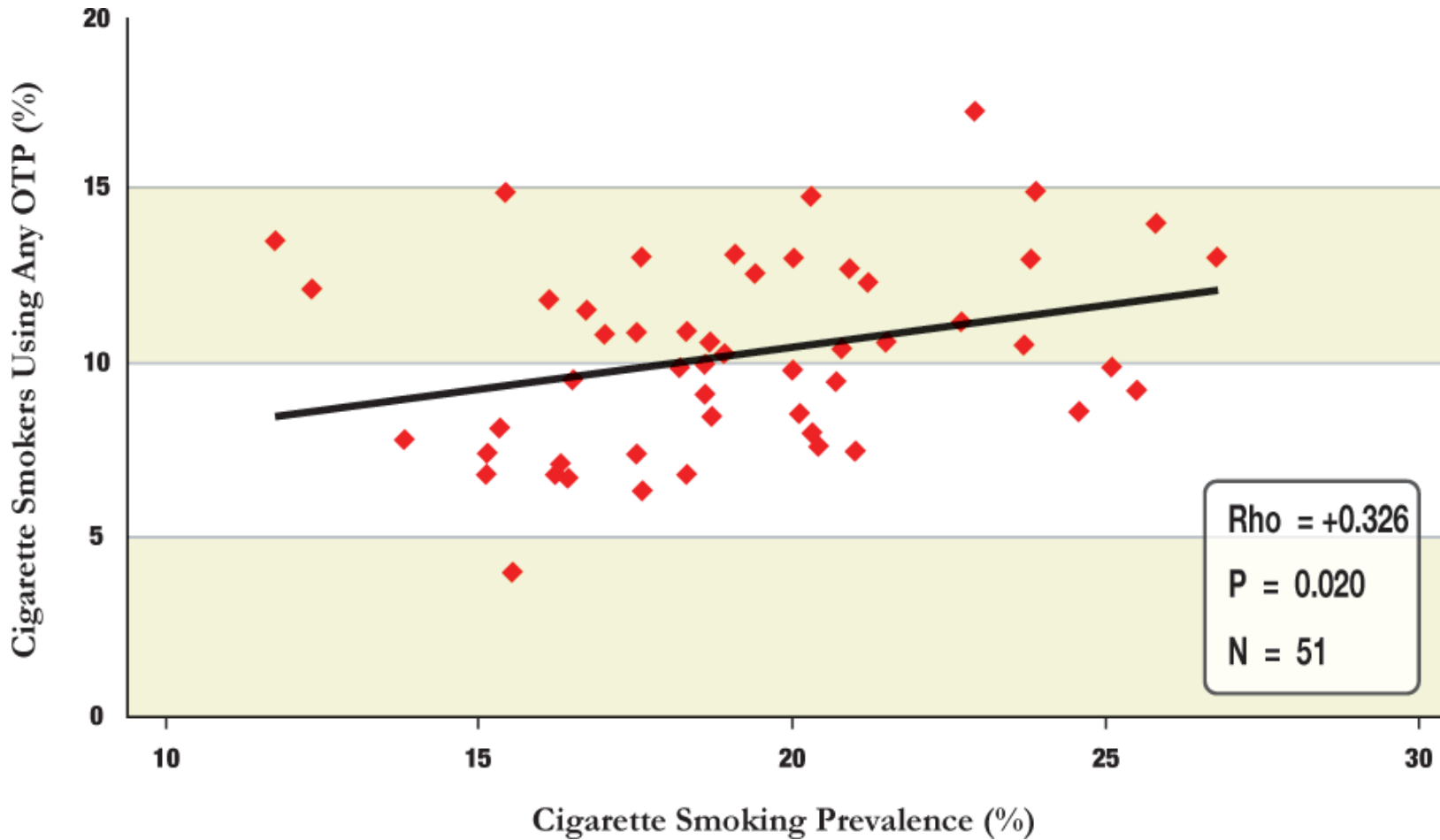
Source: Tobacco Use Supplement to the Current Population Survey, 2006/07

Percentage of Cigarette Smokers Who Smoke Every Day and Smoking Prevalence, by State – United States, Ages 25+ Years Old, 2006/07



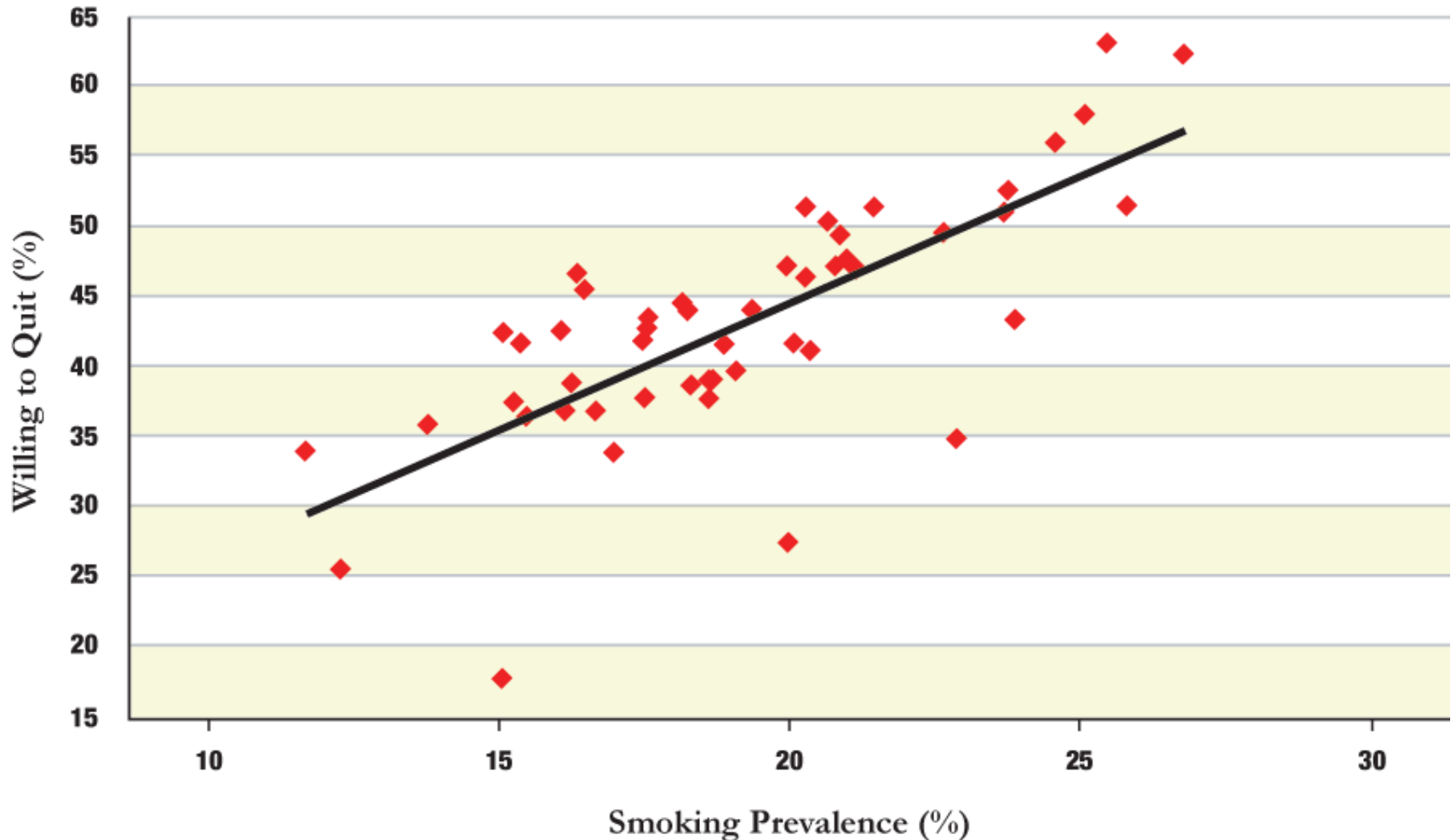
Source: Tobacco Use Supplement to the Current Population Survey, 2006/07.

Percentage of Cigarette Smokers Using Any Other Tobacco Product and Cigarette Smoking Prevalence, by State – US, Ages 25+ Yrs Old, 2006/07

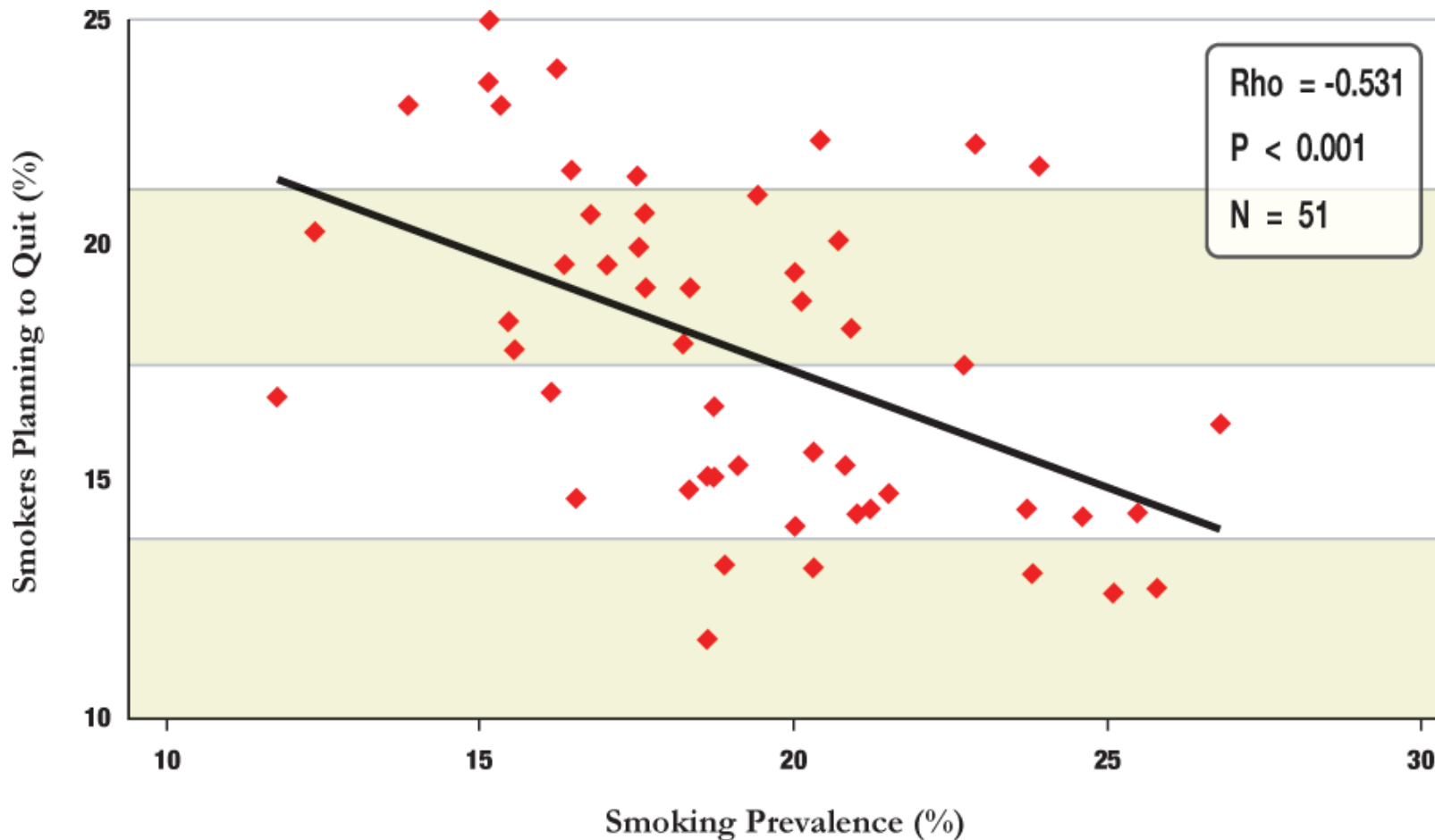


Source: Tobacco Use Supplement to the Current Population Survey, 2006/07.

Hypothetical Relationship Between Smoking Prevalence and Indicators of Willingness to Quit if Population is Hardening

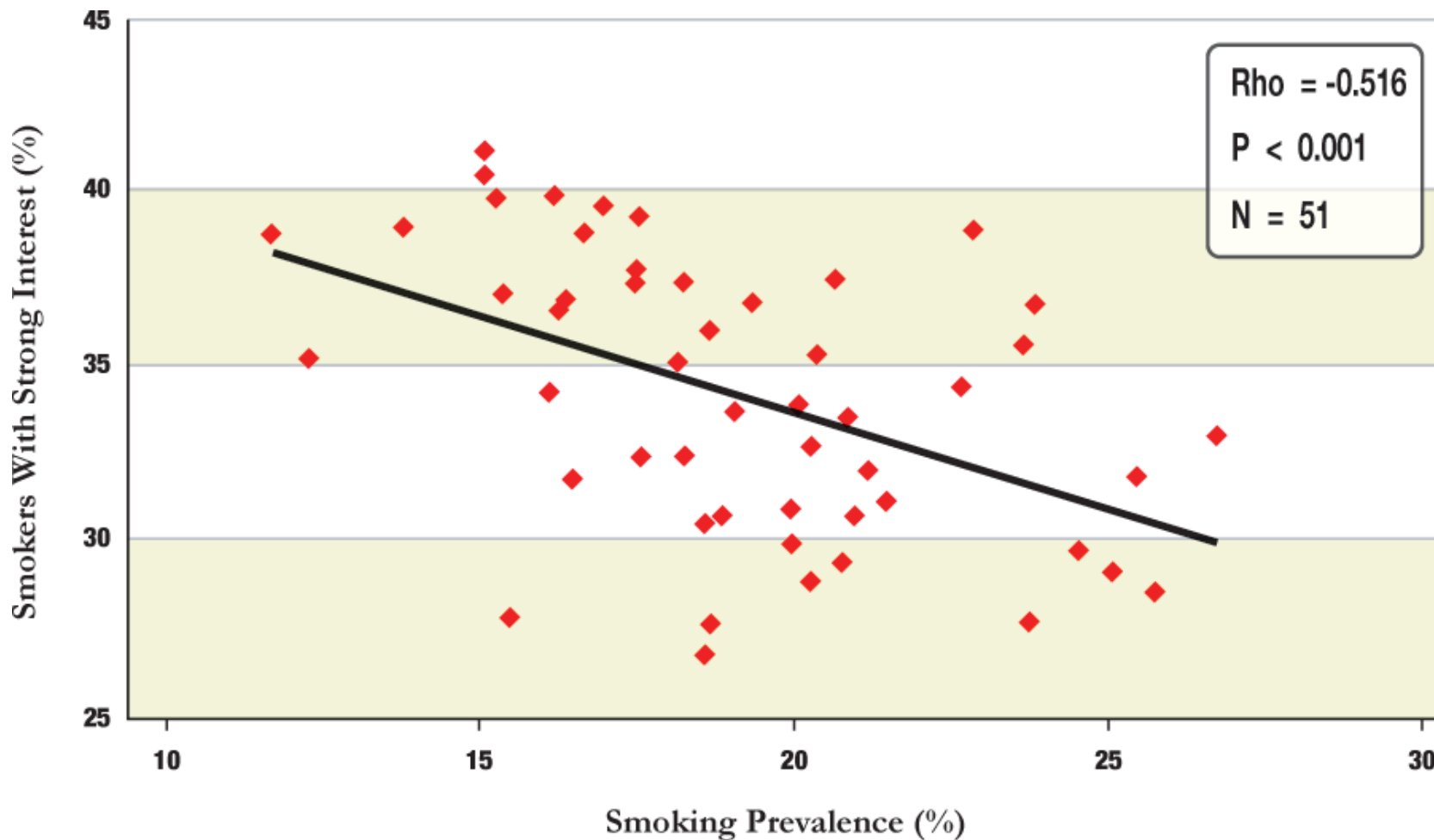


Percentage of Cigarette Smokers Who Plan to Quit Within 30 Days and Smoking Prevalence, by State – US, Ages 25+ Yrs Old, 2006/07



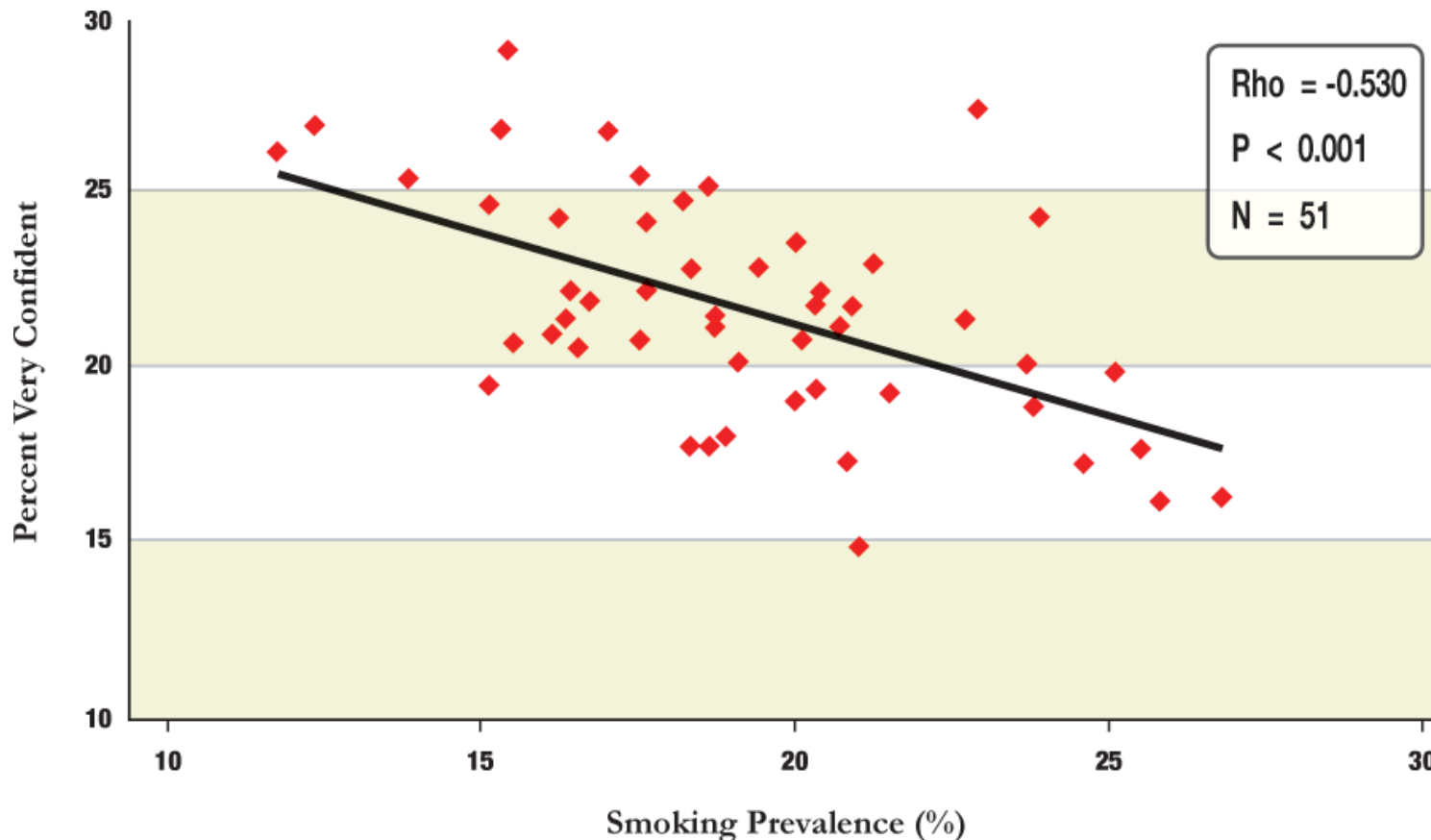
Source: Tobacco Use Supplement to the Current Population Survey, 2006/07.

Percentage of Current Smokers Who Have a Strong Interest in Quitting and Smoking Prevalence, by State – US, Ages 25+ Yrs Old, 2006/07



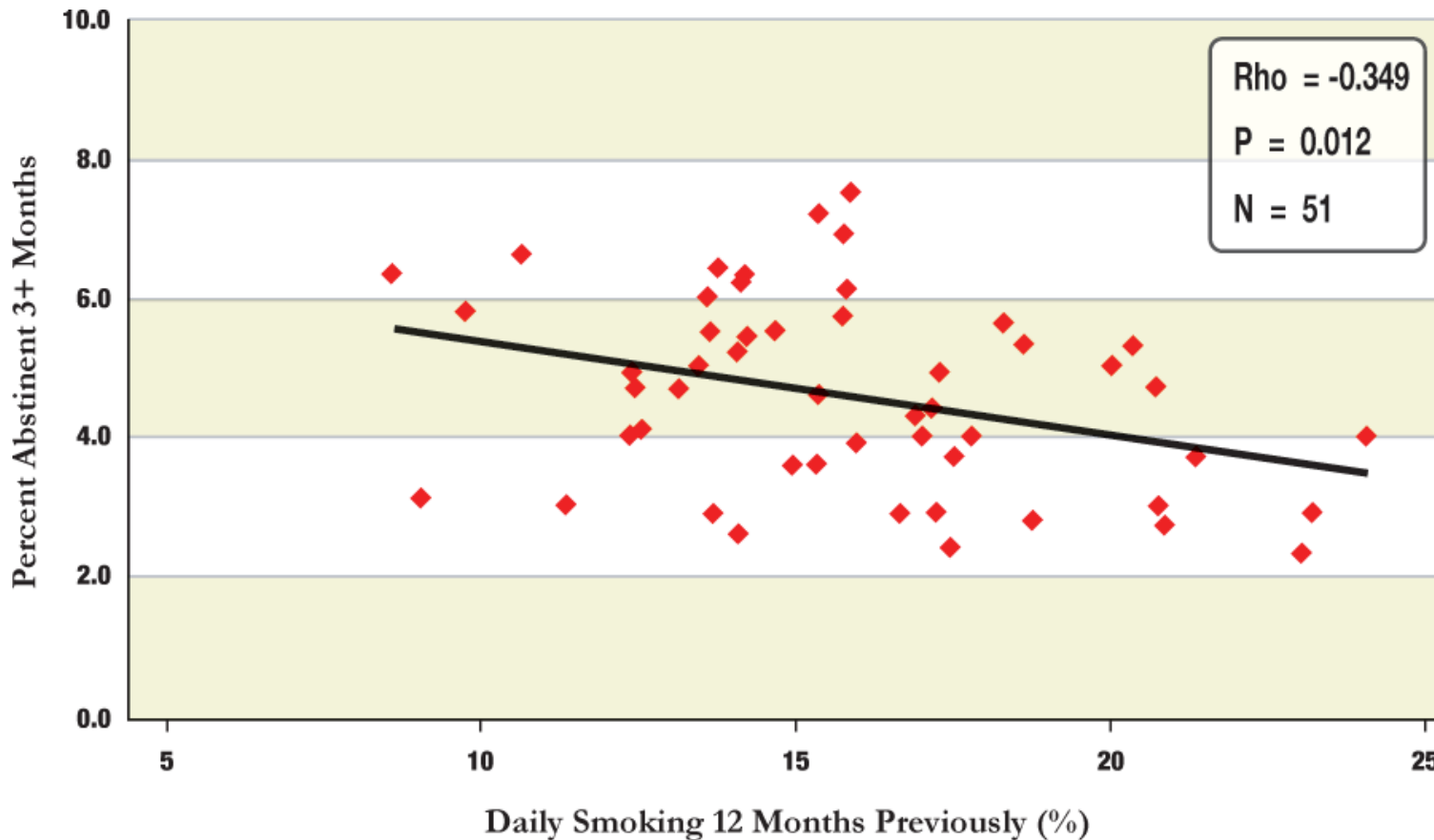
Source: Tobacco Use Supplement to the Current Population Survey, 2006/07

Percentage of Current Smokers Who Believe They Would be Very Likely to Succeed if They Tried to Quit and Smoking Prevalence, by State – US, Ages 25+ Yrs Old, 2006/07



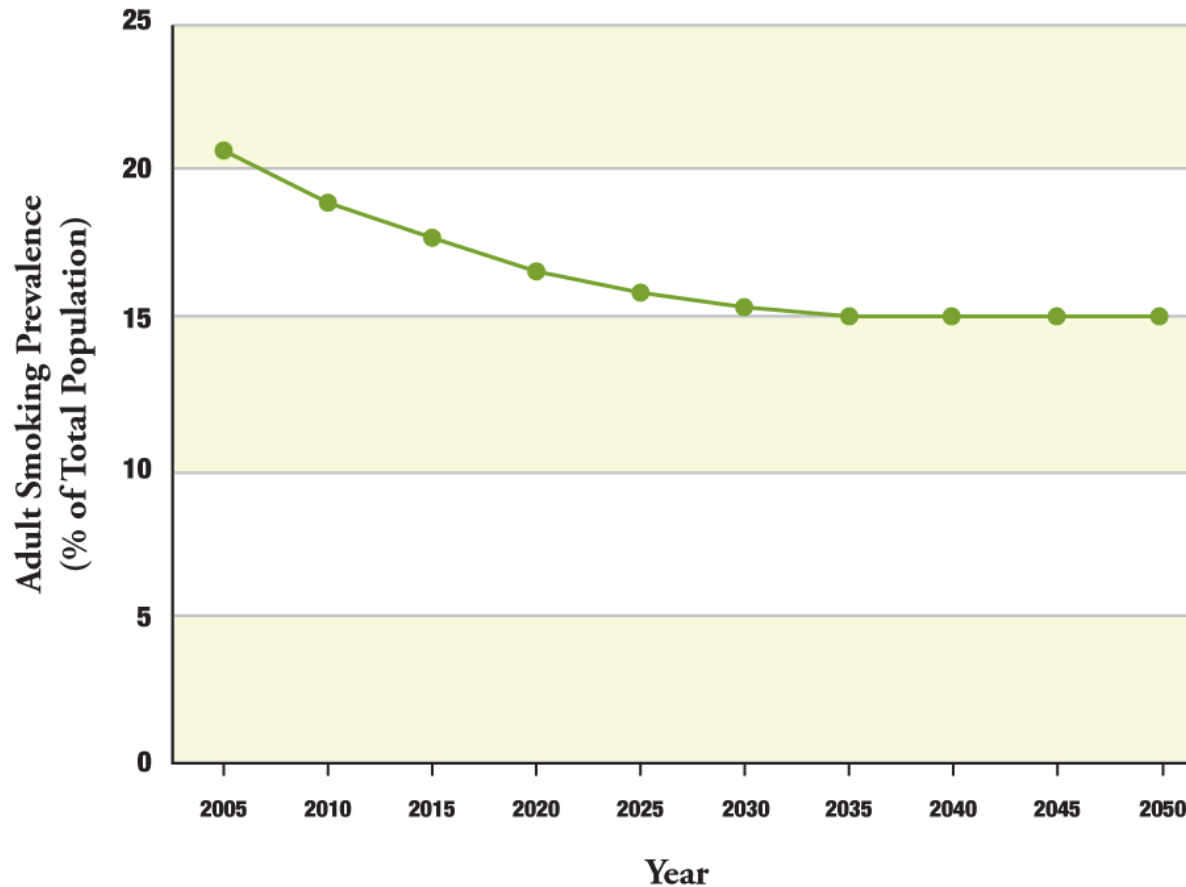
Source: Tobacco Use Supplement to the Current Population Survey, 2006/07

Percentage of Persons Who Were Daily Smokers 12 Months Previously Who Were Abstinent for 3+ Months by Prevalence of Daily Smoking 12 Months Ago in 50 States and DC – US, Ages 25+ Yrs Old, 2006/07



Source: Current Population Survey, 2006/07

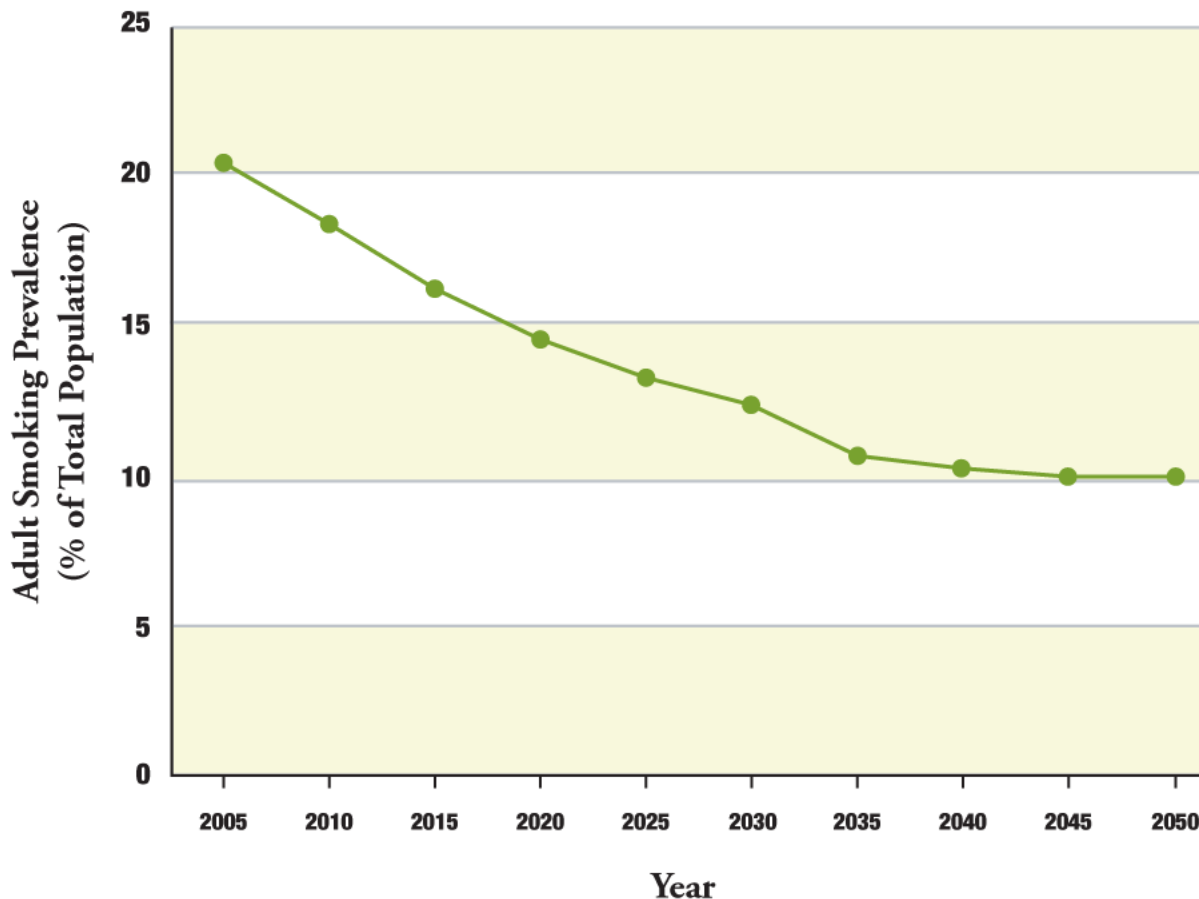
Estimated Adult Smoking Prevalence from the System Dynamic Model (2005 to 2050) – Assuming No Change in the Tobacco Control Environment (Status Quo Scenario)



Source: Institute of Medicine, 2007 (34)



System Dynamic Model Estimated Adult Smoking Prevalence Assuming the US Reaches California's 2004 Initiation and Cessation Rates by 2010

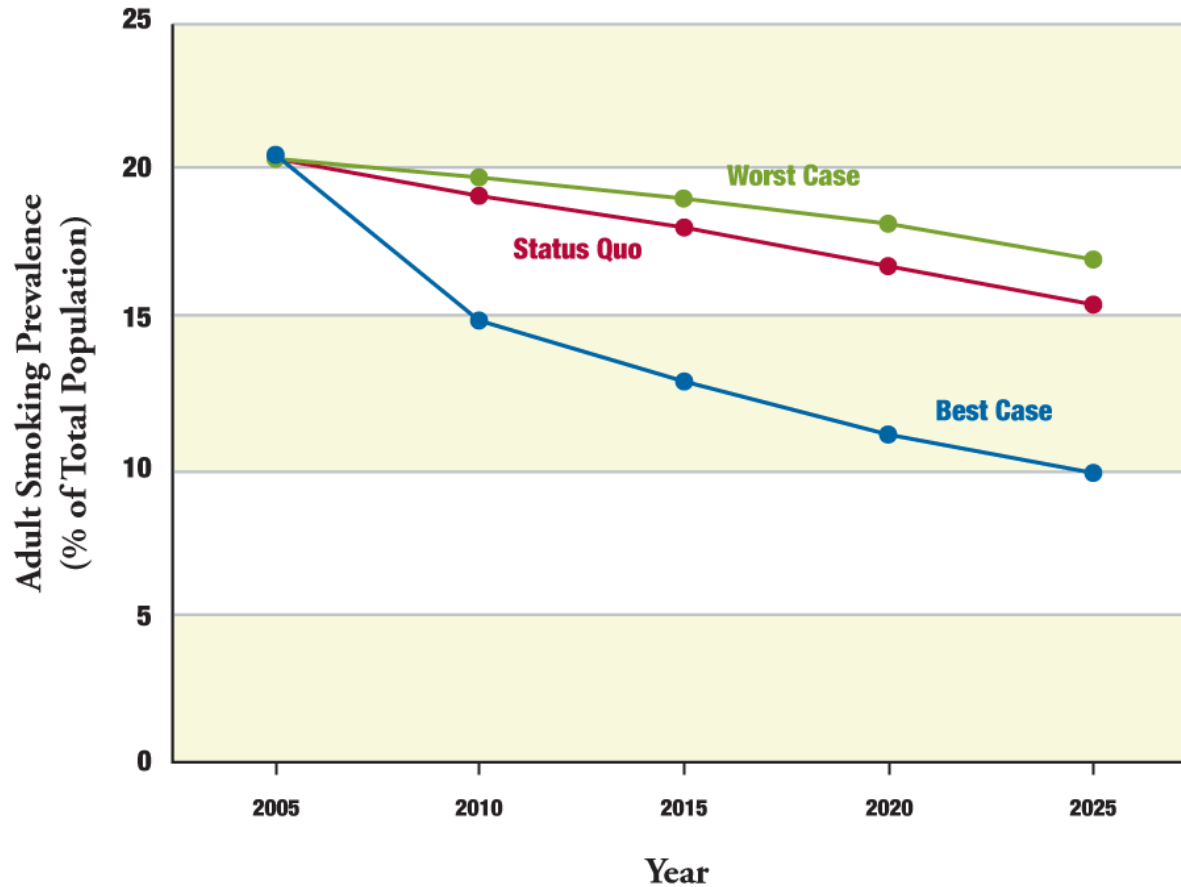


Source: Institute of Medicine, 2007 (34)



WHAT IS AT STAKE!

Comparison of SimSmoke Estimates of Adult Smoking Prevalence 2005-2025 Under the Best Case, Status Quo, and Worst Case Scenarios



Source: Institute of Medicine, 2007 (34)



We Need To:

- Enact evidence-based programs and policies
- Promote increased funding in all states
- Try promising interventions – especially in low-prevalence states
- Understand that we won't hurt the national economy while saving lives



Mop Well



Paradigm for Tobacco Control

impact **TEEN**

↓ Pro-tobacco marketing

- ↑ Price/economic incentives
- ↑ Smoke-free air
- ↑ Counter marketing
- ↑ Cessation activities
- ↑ Prevention activities
- ↑ Product regulation
- ↑ Liability

INDIVIDUAL

