



*A Policy Research Partnership  
to Reduce Youth Substance Use*

Supported by  
The Robert Wood Johnson Foundation

# Public Policy, State Programs, and Tobacco Use

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**Director, ImpacTeen, University of Illinois at Chicago**

**[www.uic.edu/~fjc](http://www.uic.edu/~fjc)**

**[www.impacteen.org](http://www.impacteen.org)**

*Funding provided by The Robert Wood Johnson Foundation,  
The Centers for Disease Control and Prevention,  
and the National Cancer Institute*

# Purpose of the Bridging the Gap Initiative:

- To evaluate the impact of:
  - *Policies*
  - *Programs*
  - *Practices*
  
- Addressing various types of substances:
  - *Alcohol Use*
  - *Illicit Drug Use*
  - *Tobacco Use*
  
- At various levels:
  - *State*
  - *School*
  - *Community*
  - *Individual*

# University of Michigan

## Institute for Social Research

**Monitoring the Future  
(MTF)**

**Youth, Education and  
Society (YES!)**

# University of Illinois at Chicago

## Health Research and Policy Centers

**ImpacTeen**

**Coordinating Center and  
Community Data Collections  
Polysubstance Use** UIC

**Alcohol Policy Research  
Team** U of MN

**Illicit Drug Policy Research  
Team** Andrews U

**Tobacco Policy Research  
Team** Roswell Park



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# **Investigators**

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**Several Research Assistants**

# Investigators

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**Katherine Smith, UIC - media grant/SLS evaluation**

**Glen Szczypka, UIC - media grant**

**Battelle Memorial Institute - Community Data Collection**

**(Jaana Myllyluoma, Project Director)**

**Research Triangle Institute - Community Mapping**

**Americans for Nonsmokers' Rights Foundation - Local**

**Tobacco Ordinance Database (Julia Carol)**

**SPAR-Burgoyne - Tobacco Price Study**

**Mayatech - Local Ordinance Tracking/Verification**

# Investigators

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**Rosalie Pacula, RAND Corporation**

**Lloyd Johnston, University of Michigan**

**Patrick O'Malley, University of Michigan**

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**Many others at each site**

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# Advisors

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**Marjorie Gutman, University of Pennsylvania**  
**Herb Kleber, Columbia University**

**Representatives from:**

**National Cancer Institute**

**National Institute on Drug Abuse**

**National Institute on Alcohol Abuse and Alcoholism**

**Centers for Disease Control and Prevention**

**Substance Abuse and Mental Health Services Administration**

**Office of National Drug Control Policy**

**National Association of State Alcohol and Drug Abuse Directors**

**Many others**

# Structure of the Samples

- Half-sample of MTF schools cycling out of the national sample
  - c. 215 schools per year
  - National replicate sample
- Administrators in those schools surveyed
- Community data collected from their catchment areas
  - Observational studies of retail outlets
  - Key informant interviews in the community
  - Other existing archival data
- State legislative and other data are collected on all states



# ImpacTeen Data Collections

- **Community Observations:**
  - **Unobtrusive observations in retail outlets for tobacco and alcohol**
    - product placement
    - pricing
    - promotions
    - advertising
    - counteradvertising
    - health/access signage
    - store characteristics
  - **Local alcohol, tobacco, other drug, and youth specific ordinances and regulations**
  - **General community observations (advertising, counteradvertising, social capital, and more)**

# ImpacTeen Data Collections

- **Key Informant Interviews:**
  - **Modular interviews, targeted and snowball approach**
  - **Detailed information on policy implementation and enforcement, wide range of other information**
- **Multiple Informants**
  - **Police chiefs and officers**
  - **Health department officials**
  - **Local coalition leaders**
  - **Treatment providers**
  - **Prosecutors**
  - **Diversion program administrators**
  - **Others**
- **Archival Data:**
  - **FDA data**
  - **population characteristics**
  - **Other price data (scanner)**
    - **Televised counteradvertising for tobacco**
    - **Newspaper coverage of tobacco**

# **YES! and ImpacTeen Data Collections**

- **State-level databases:**
  - **Separate databases for tobacco, alcohol and illicit drugs**
  - **State laws and regulations related to alcohol, tobacco, and other drug use and related outcomes**
  - **State level measures of alcohol, tobacco, and other drug use and the harms resulting from use**
  - **Wide variety of other state level information**
- **School-level information**
  - **Annual surveys of school administrators**
    - **Information on school alcohol, tobacco, and other drug related policies**
    - **Detailed information on school prevention curricula**
    - **Detailed information on other school programs targeting youth alcohol, tobacco and other drug use**
  - **School observations**

# Bridging the Gap Communications

- Web-site: [www.impactteen.org](http://www.impactteen.org)
- Research Paper Series (on web):
  - ImpacTeen Research Paper Series
  - ImpacTeen/YES! Research Paper Series
- Chartbooks:
  - Alcohol Policies in the United States: Highlights from the 50 States
  - Four others in progress
- Monograph describing overall initiative and each component
  - Journal articles, book chapters, presentations
    - Interactions with other RWJF programs
      - Policy Briefs, Press Releases, Testimony,

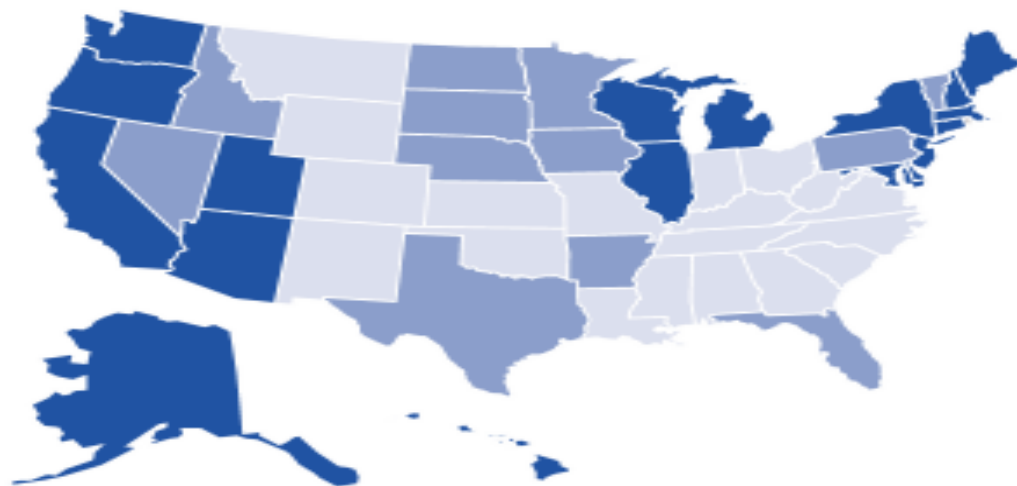
# Overview

## obacco control policies

- Cigarette Taxes
- Smoking Restrictions
- Youth Access, Possession, Purchase and Use
- Advertising Restrictions
- Preemption and Smoker Protection Laws

## comprehensive tobacco control programs

- State Specific Programs
  - New Econometric Studies of Program Impact



# State Cigarette Excise Taxes

January, 2001

Ranked by State Excise Taxes per Pack

Average State Tax = \$ .419

## \$ .50+ HIGH

1.11	New York
1.00	Alaska
1.00	Hawaii
.87	California
.825	Washington
.80	New Jersey
.76	Massachusetts
.75	Michigan
.74	Maine
.71	Rhode Island
.68	Oregon
.66	Maryland
.65	District of Columbia
.59	Wisconsin
.58	Arizona
.58	Illinois
.52	New Hampshire
.515	Utah
.50	Connecticut

## \$ .25-.49 MED

.48	Minnesota
.44	North Dakota
.44	Vermont
.41	Texas
.36	Iowa
.35	Nevada
.34	Nebraska
.339	Florida
.33	South Dakota
.315	Arkansas
.31	Pennsylvania
.28	Idaho

## < \$ .25 LOW

.24	Delaware
.24	Kansas
.24	Louisiana
.24	Ohio
.23	Oklahoma
.21	New Mexico
.20	Colorado
.18	Mississippi
.18	Montana
.17	Missouri
.17	West Virginia
.165	Alabama
.155	Indiana
.13	Tennessee
.12	Wyoming
.12	Georgia
.07	South Carolina
.05	North Carolina
.03	Kentucky
.025	Virginia

# Recent Tax Increases

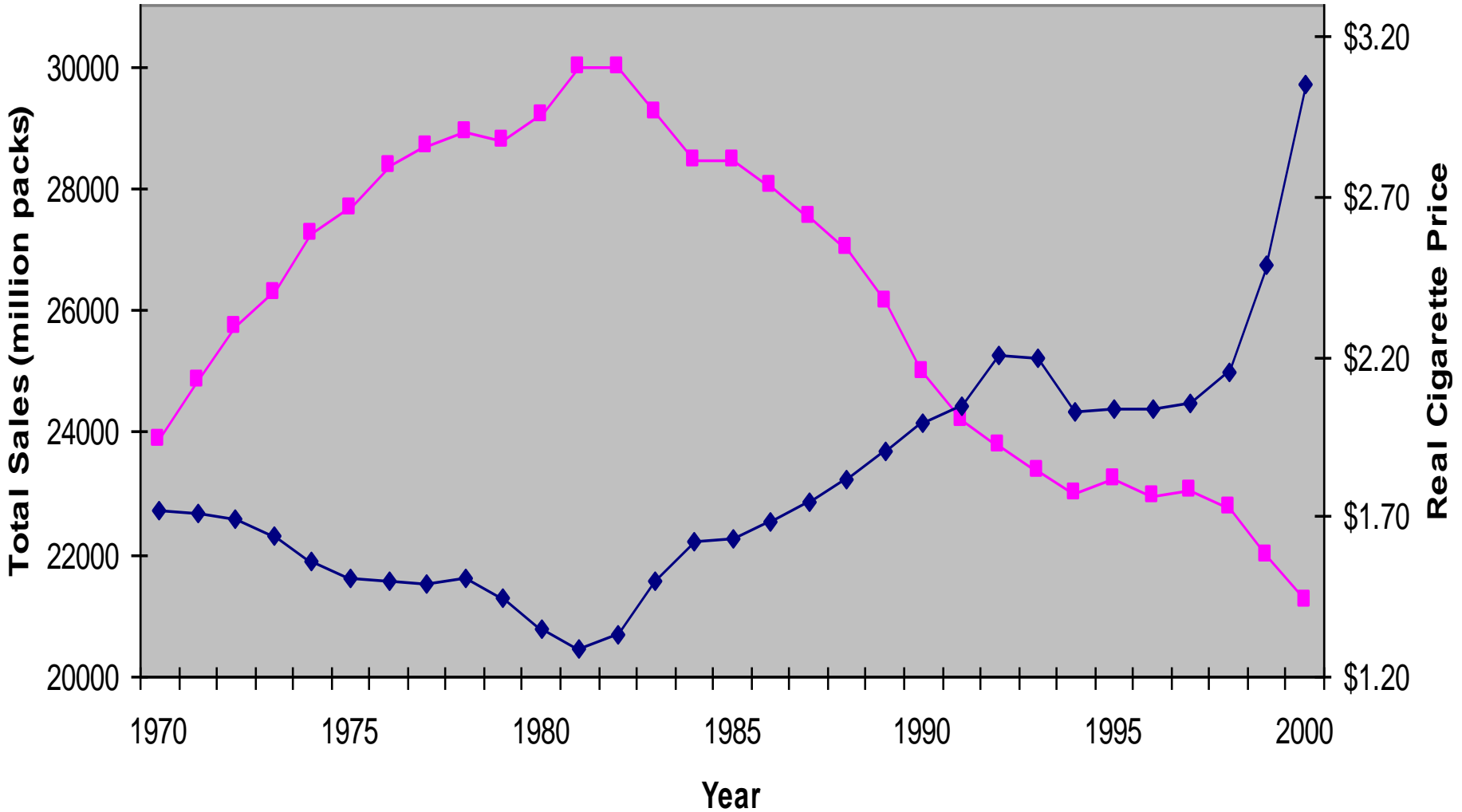
- **Wisconsin up 18 cents per pack to 77 cents, effective October 1, 2001**
- **Rhode Island (up 29 cents) and Maine (up 26 cents) to \$1.00 per pack as part of coordinated efforts to Raise cigarette taxes in six New England states**
- **Washington voters last week approved Initiative 773 raising the state cigarette excise tax to \$1.425 per pack, the highest in the country, effective January 1, 2003**
- **Many of the most recent tax increases earmark most of the new revenues generated for health related programs, including expanded public health insurance programs and comprehensive tobacco control programs**

# Tobacco Taxes and Tobacco Use

- Higher taxes induce quitting, prevent relapse, reduce consumption and prevent starting.
- Estimates indicate that 10% rise in price reduces overall smoking by about 4%
- About half of impact of price increases is on smoking prevalence
- Recent estimates for young adult smokers indicate that 10% price rise would raise probability of quitting smoking by over 3%
- Because of addictive nature of smoking, long term effects of tax and price increases are larger



# Total Cigarette Sales and Cigarette Prices, 1970-2000



—■— Cigarette Sales (million packs) —◆— Real Cigarette Price



# **Lower SES populations are more price responsive**

- **Growing international evidence shows that cigarette smoking is most price responsive in lowest income countries**
- **Evidence from U.S. and U.K. shows that cigarette price increases have greatest impact on smoking among lowest income and least educated populations**
  - **In U.S., for example, estimates indicate that smoking in households below median income level about 70% more responsive to price than those above median income level**

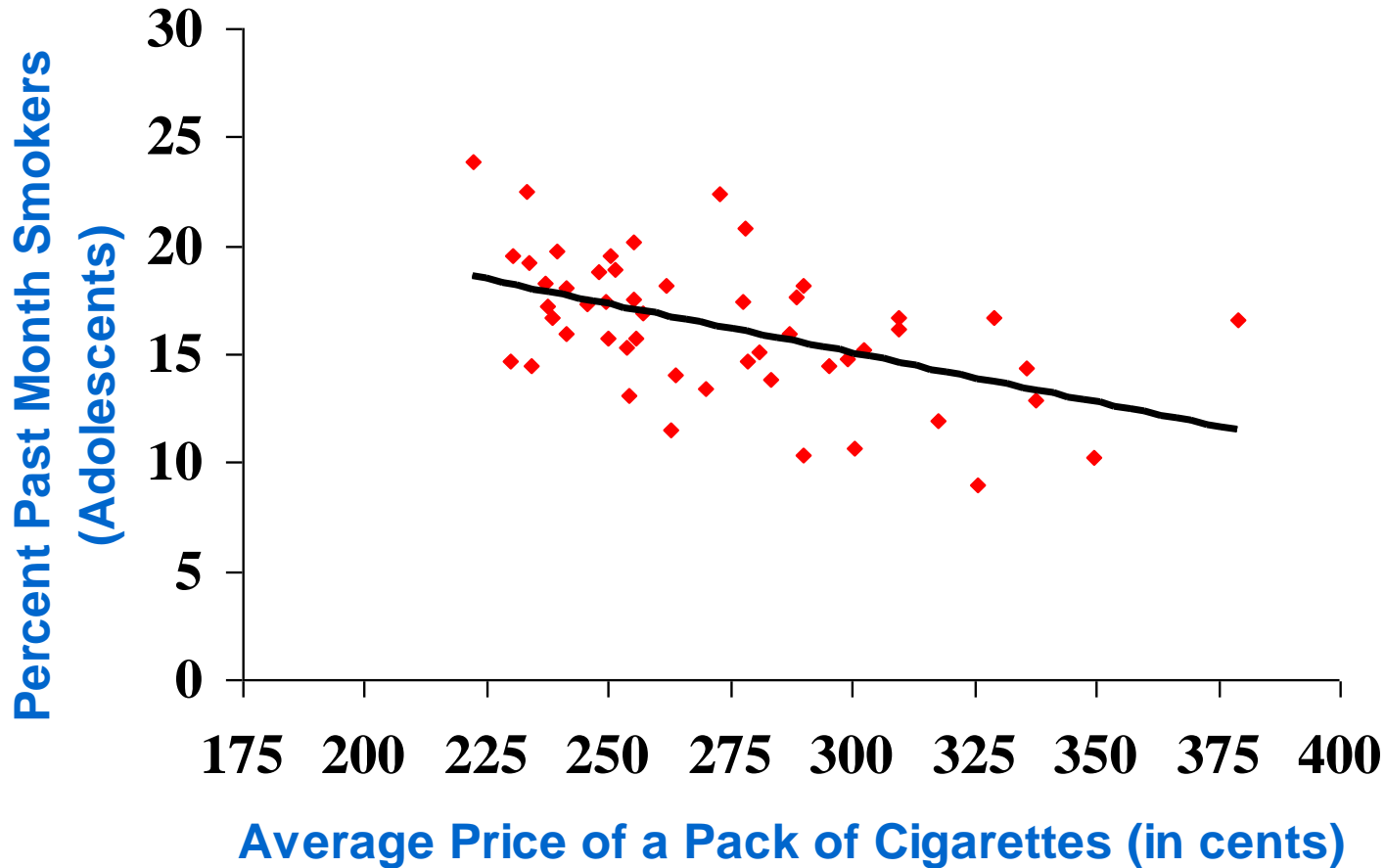
**Implies tax increases may be progressive**

# Young people more price responsive

- **Economic theory suggests several reasons, including lower income, peer influences, shorter smoking histories, and greater discounting of future**
- **Evidence from U.S. suggests that youth are up to three times more sensitive to price than adults while young adults are about twice as price sensitive**
  - **Recent studies conclude that greatest impact of price is in preventing transitions from experimental smoking to more regular smoking**

**Because kids are highly price sensitive and 90 percent of smokers start as teens, higher taxes can sharply reduce smoking in the long run**

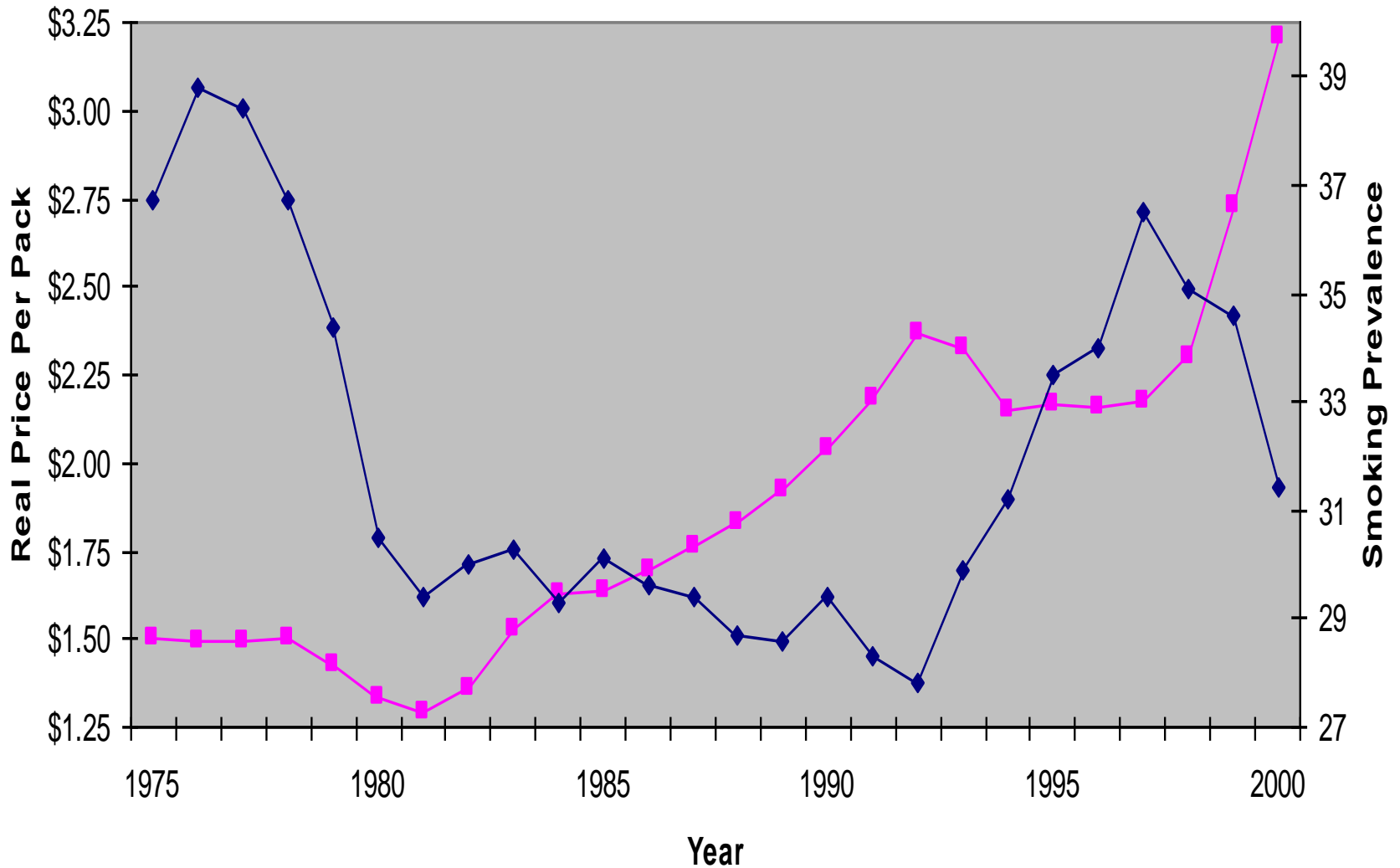
# Cigarette Smoking Among Youth by the Average Price of a Pack of Cigarettes in 50 States and the District of Columbia, 1999



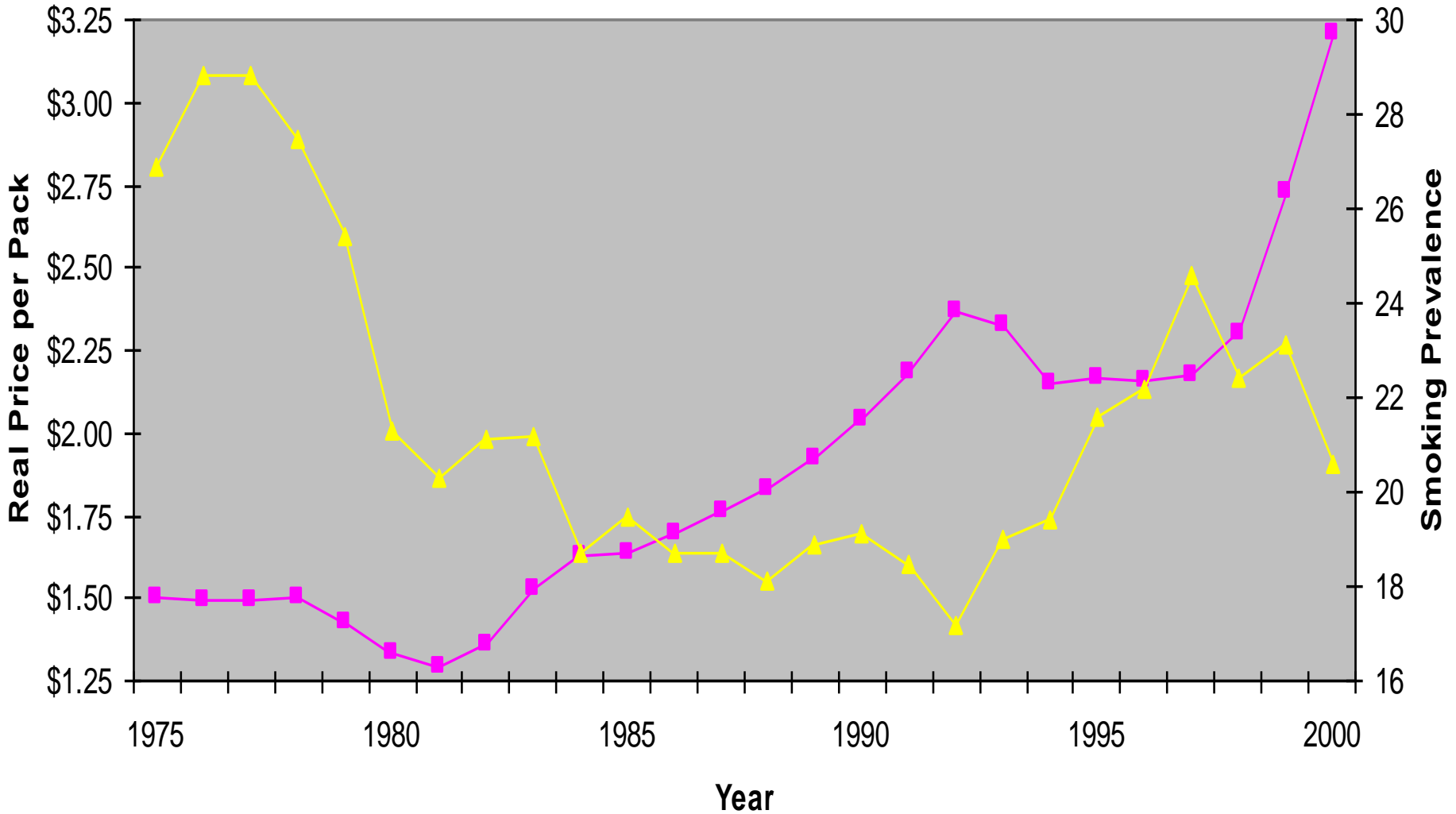
Data: 1999 NHSDA (12-17 year olds); 1999 *Tax Burden On Tobacco*

Source: *Giovino, et al., 2001*

# 12th Grade 30 Day Smoking Prevalence and Price

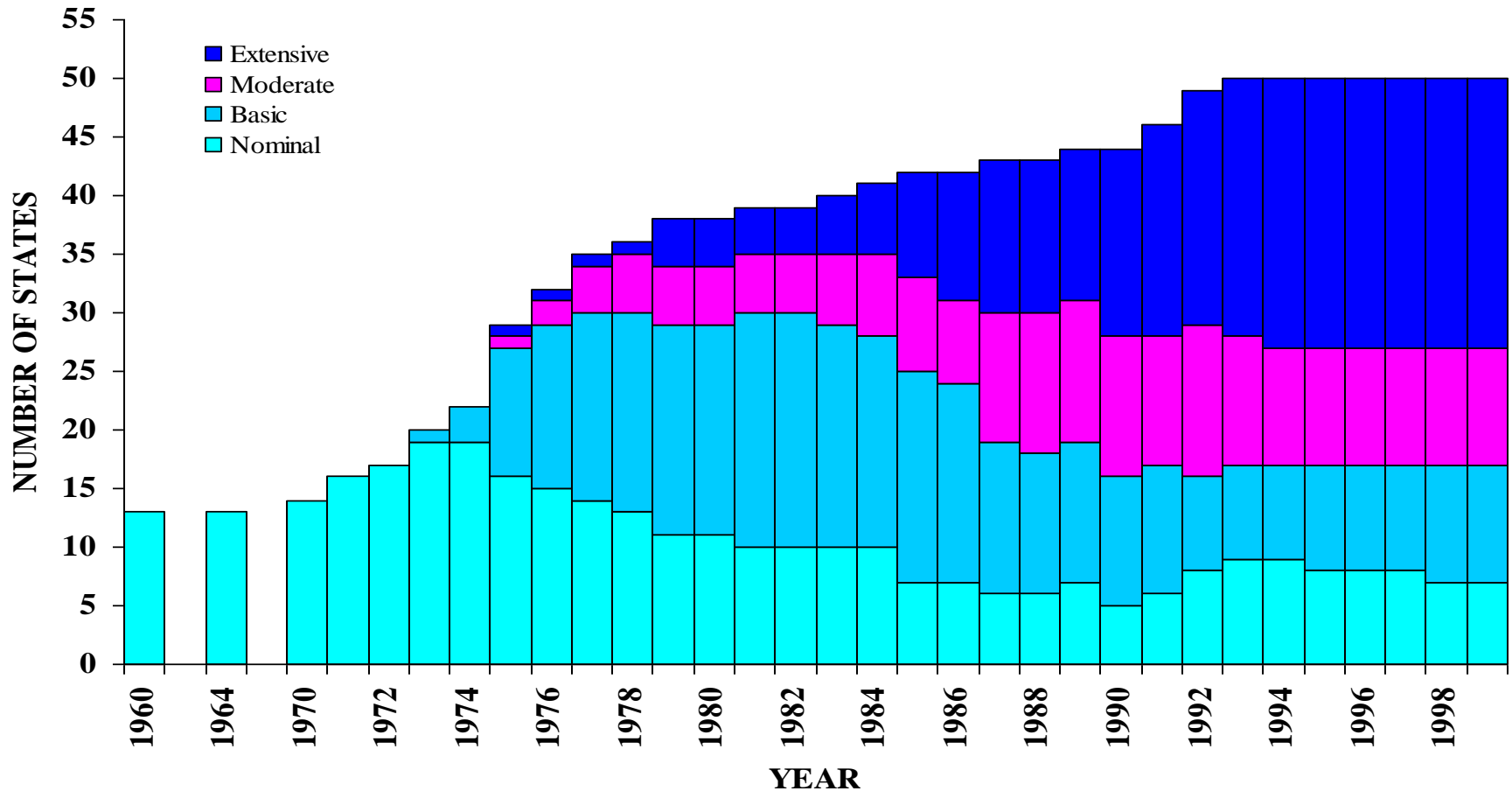


# 12th Grade Daily Smoking Prevalence and Price



# Tobacco Policy Data

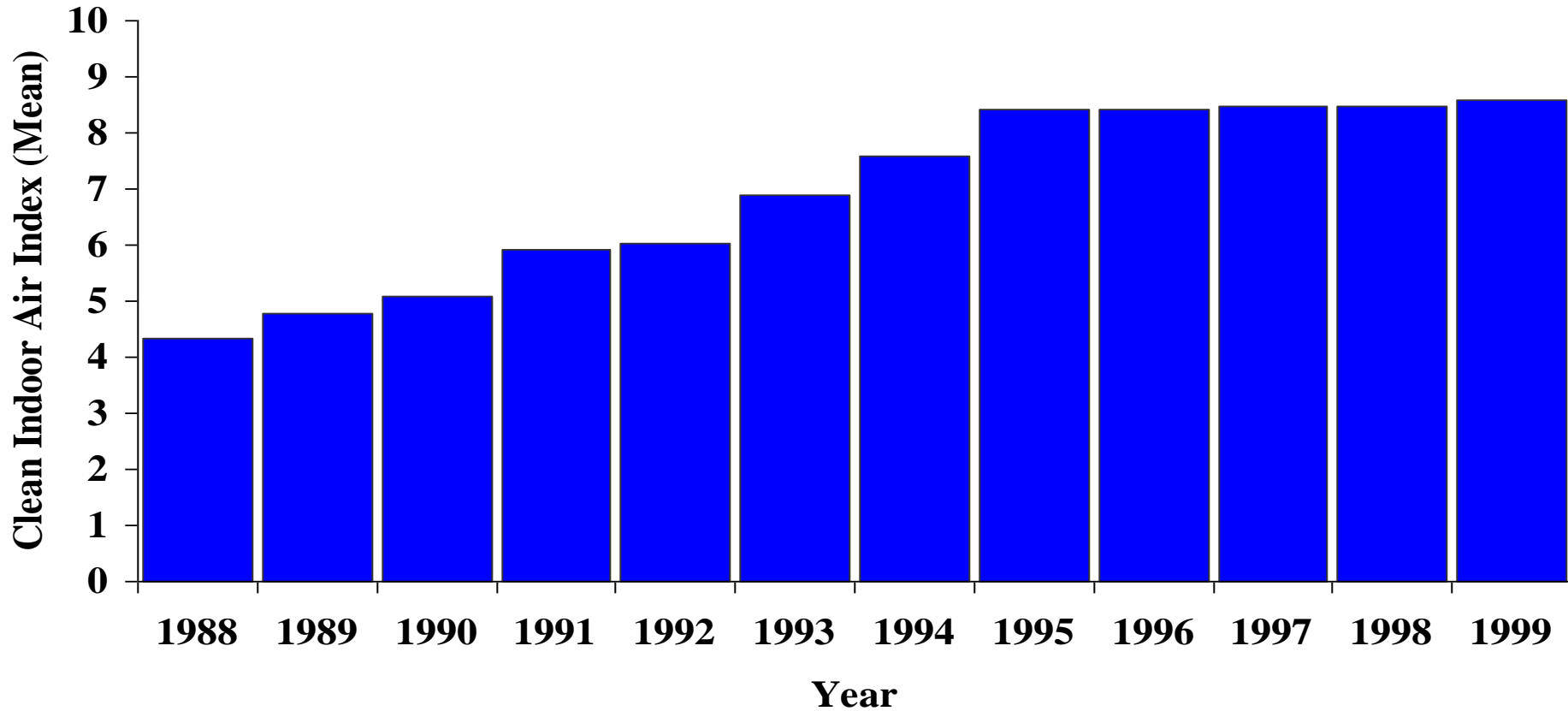
## Restrictive ness Of State Laws Regulating Smoking In Public Places – U.S., 1960-1999



Source: Giovino, et al., 2001

# Tobacco Policy Data

## Mean Comprehensiveness of State Laws Regulating Smoking In Public Places – U.S., 1960-1999



*Source: Giovino, et al., 2001*

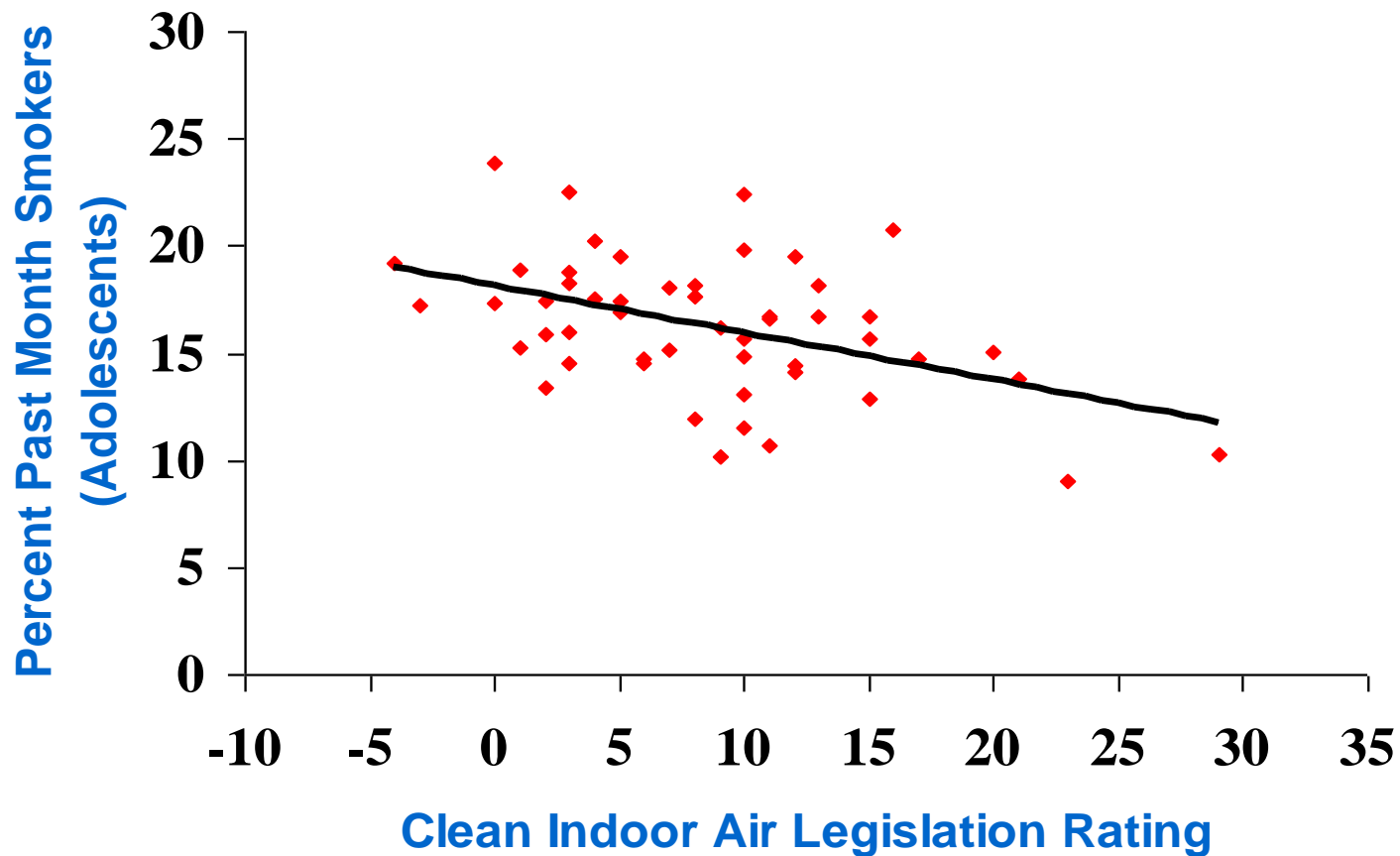


# Research – Smoking Restrictions

- **Stronger and more comprehensive restrictions on smoking reduce smoking prevalence, increase smoking cessation, and reduce cigarette use among continuing smokers**
  - **Workplace restrictions particularly important in promoting cessation among adults**
  - **Consistent evidence that restrictions on smoking in public places also reduce smoking among youth and young adults**
  - **Strong evidence that restrictions on smoking at home significantly reduce the probability of youth smoking, smoking uptake, and youth cigarette consumption**

*Sources: Evans et al., 2000; Wakefield et al. 2000; Woollery et al. 2000*

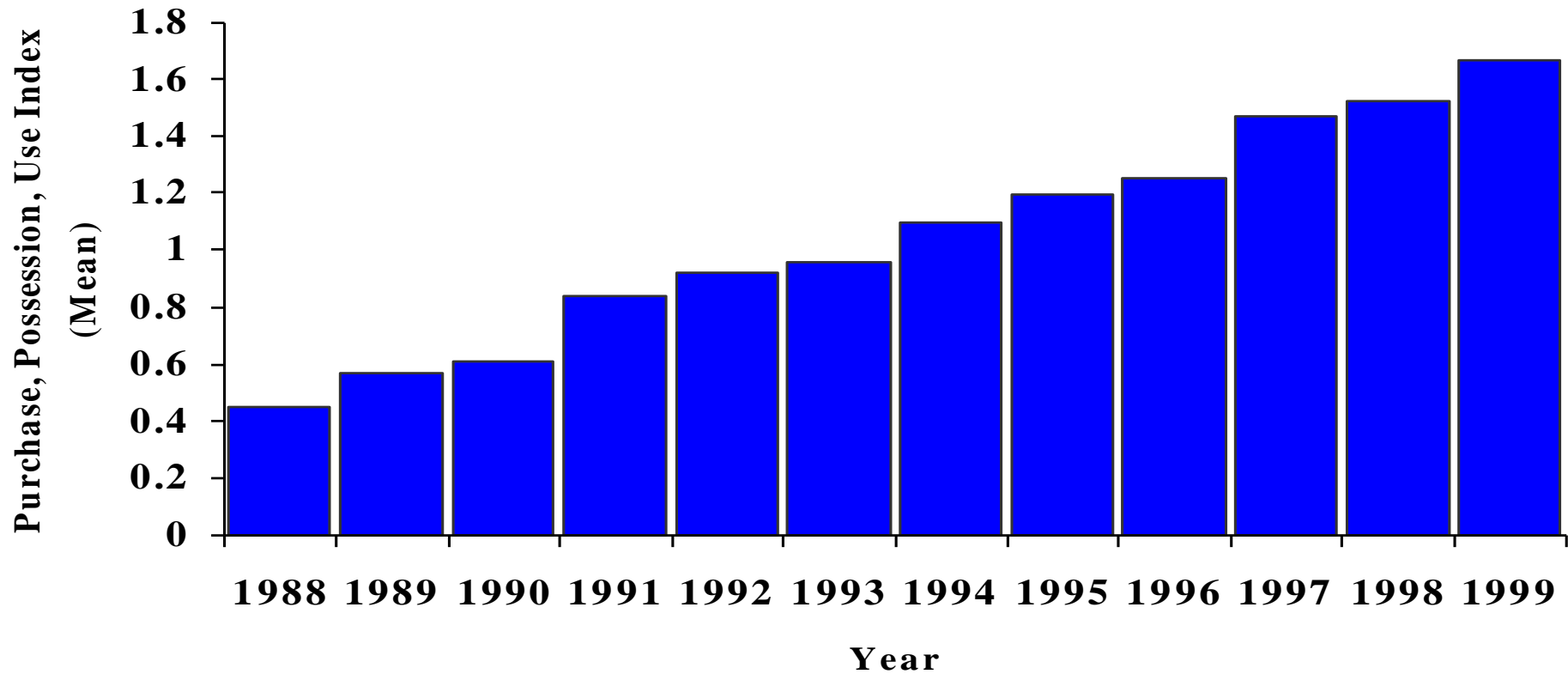
# Cigarette Smoking Among Youth by the Clean Indoor Air Legislation Rating in 50 States and the District of Columbia, 1999



Source: Giovino, et al., 2001

# Tobacco Policy Data

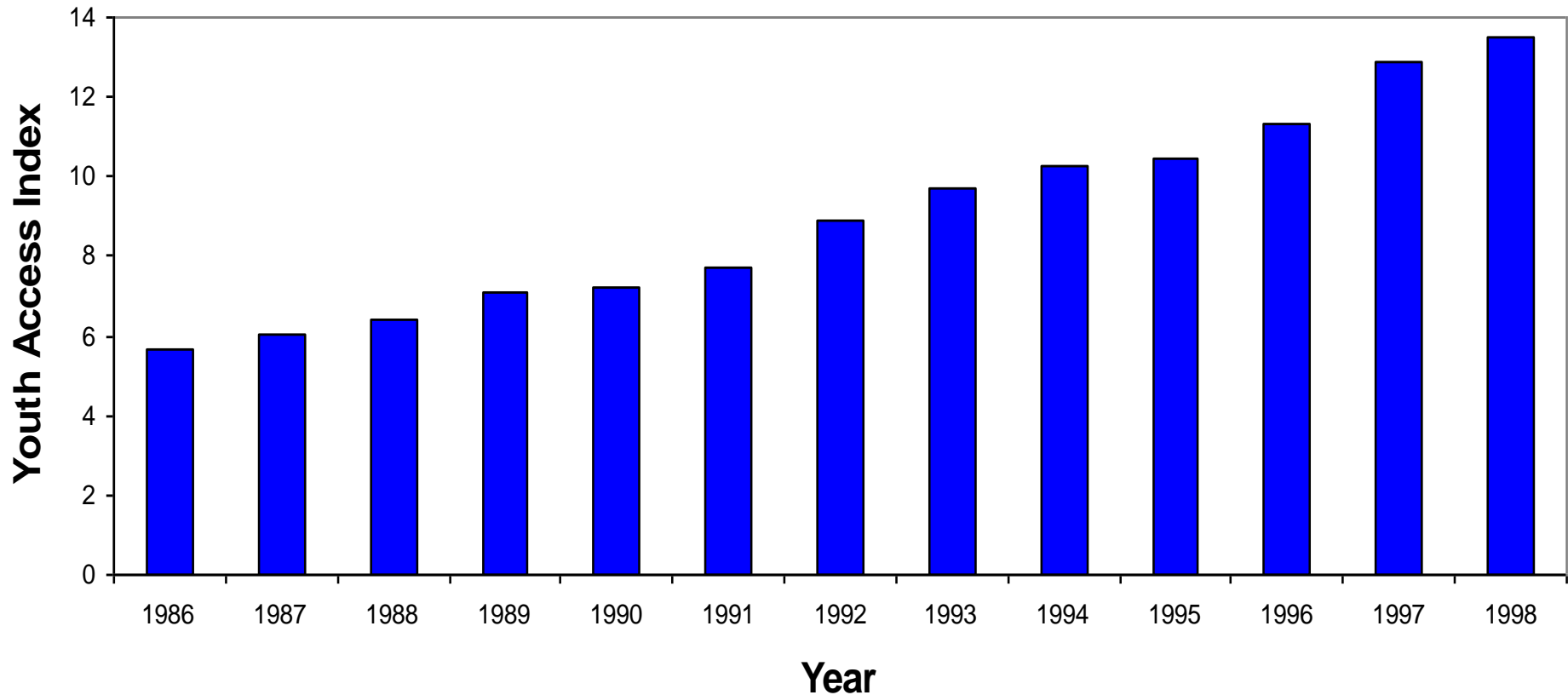
**Mean Number of Purchase, Possession, and Use Laws per State\* --  
United States, 1988-1999**



*Source: Giovino, et al., 2001*

# Tobacco Policy Data

## Restrictiveness of State Laws Limiting Youth Access to Tobacco

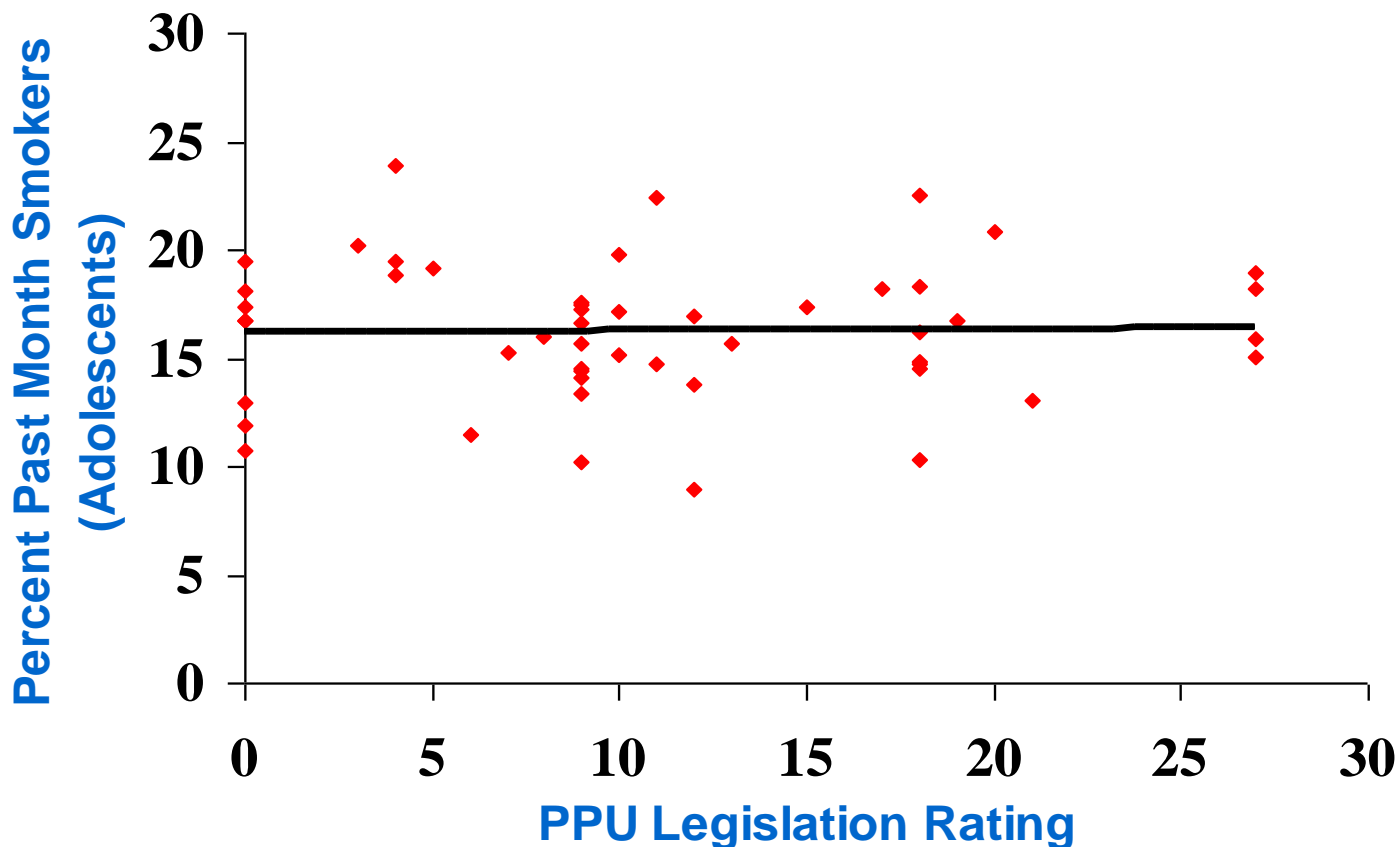


# Research – Youth Access and PPU

- Generally little evidence that restrictions on youth access to tobacco products reduce youth smoking
  - likely due to the generally poor enforcement of and compliance with these laws
- Growing evidence that increased retailer compliance with limits on youth access leads to significant reductions in youth smoking prevalence and consumption
  - little impact on youth experimentation
  - impact increases as youth progress to more regular smoking
- Little evidence that policies prohibiting youth purchase possession and/or use of tobacco products have any impact on youth smoking
  - only effect appears to be among lowest risk youth

*Sources: Chaloupka and Grossman, 1996; Ross and Chaloupka, 2001; Giovino, et al, 2001, Wollery et al. 2000; USDHHS, 2001 and others*

# Cigarette Smoking Among Youth by the Historical PPU Legislation Rating in 50 States and the District of Columbia, 1999



Source: Giovino, et al., 2001

# Research – Preemption, Smoker Protection, and Advertising Bans

- **Growing evidence that state preemption of stronger local tobacco control ordinances results in greater smoking among youth and adults**
- **Evidence that smoker protection laws result in higher youth smoking prevalence, likely due to the more favorable social norms about smoking reflected by these laws**
- **Growing evidence that comprehensive restrictions on advertising and promotion lead to significant reductions in smoking; little impact, however, of partial restrictions**

*Sources: Chaloupka and Grossman, 1996; Ross and Chaloupka, 2001; Saffer 2000; Saffer and Chaloupka 2000*

## Investment Acknowledgments

California's tobacco control program began in January 1989, when the excise tax was increased from \$0.10 to \$0.35 per pack of cigarettes. On November 3, 1998 California voters approved Proposition 10, a measure that increased the state tax on cigarettes by 50 cents per pack starting January 1, 1999, to a total of 87 cents tax per pack. The increase made California's tax per pack of cigarettes the fourth highest amongst the states - only New York's, Hawaii's, and Alaska's taxes are greater.

### Initially, Consumption Decreased Rapidly

Initially, following the 1989 excise tax increase, consumption decreased rapidly.

### Further Decline Throughout the 1990's

Overall tobacco use in California declined throughout the 1990s at a rate two or three times faster than that in the rest of the country. Between 1988 and 1999, per capita cigarette use in California declined by almost 50%, while in the rest of the country it declined by only about 20%.

### Prevalence Among Youth Declined

Between 1995 and 1999, the prevalence of cigarette use among youth dropped by 43% in California.

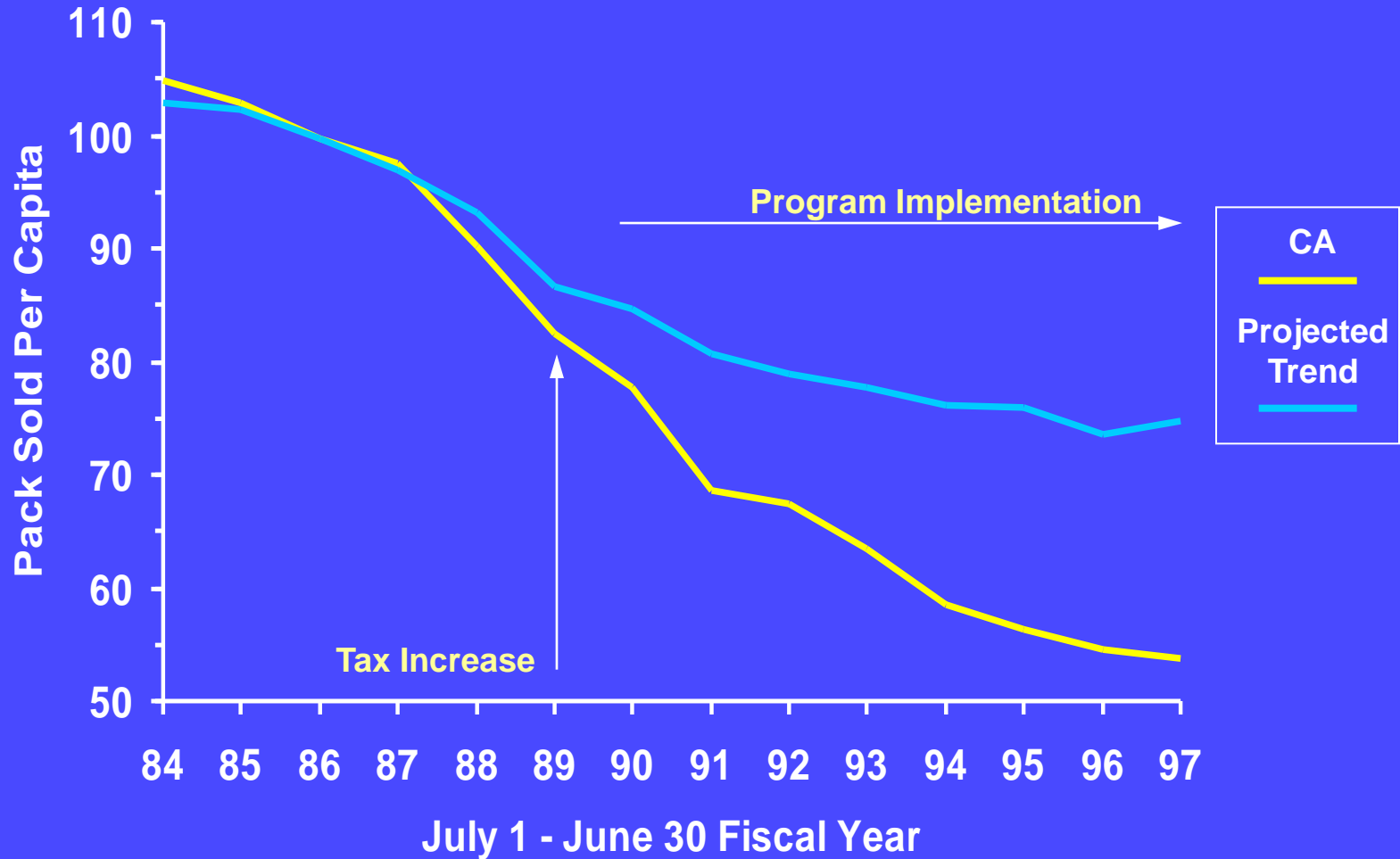
### Tobacco-Related Deaths Reduced

By virtue of its duration and intensity, the California program also has the distinction of being the first program to demonstrate a reduction in tobacco-related deaths.

Source: Investment in Tobacco Control: State Highlights 2001; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease prevention and health Promotion, Office on Smoking and Health.



# Per Capita Consumption Trends California versus Projected Trend, 1984-1997



Source: CDC

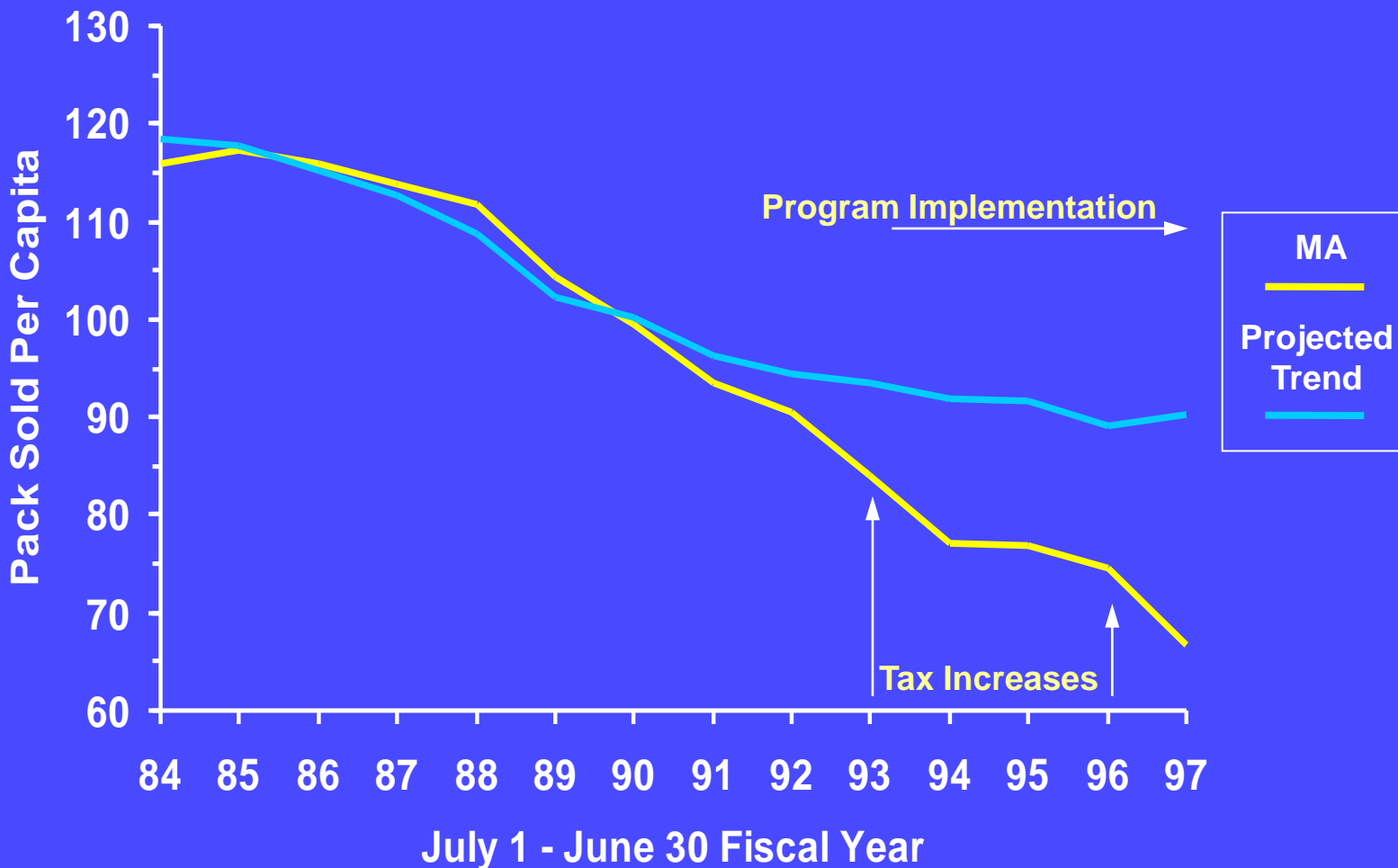
## **Key Messages**

**The Massachusetts Tobacco Control Program (MTCP) was created through a statewide referendum held in November 1992 and is entirely funded by a tax on cigarettes and smokeless tobacco products. Since its introduction through June 1999, program successes include:**

- ☐ Massachusetts has seen more rapid declines than states without tobacco control programs in the overall prevalence of tobacco use among adults.**
- ☐ Rates of smoking among Massachusetts youth have declined sharply, with current smoking dropping 70% among 6th graders from 1996 to 1999.**
- ☐ Cigarette consumption has fallen by 33%, while consumption in the rest of the country declined just 10%**
- ☐ The number of adult smokers has declined**
- ☐ Smoking during pregnancy dropped sharply, from 25% to 13%**
- ☐ Youth smoking rates in Massachusetts from 1996-1999 have declined at a greater rate than the rest of the country**
- ☐ The number of smokers planning to quit has increased, and those who try to quit are more successful.**

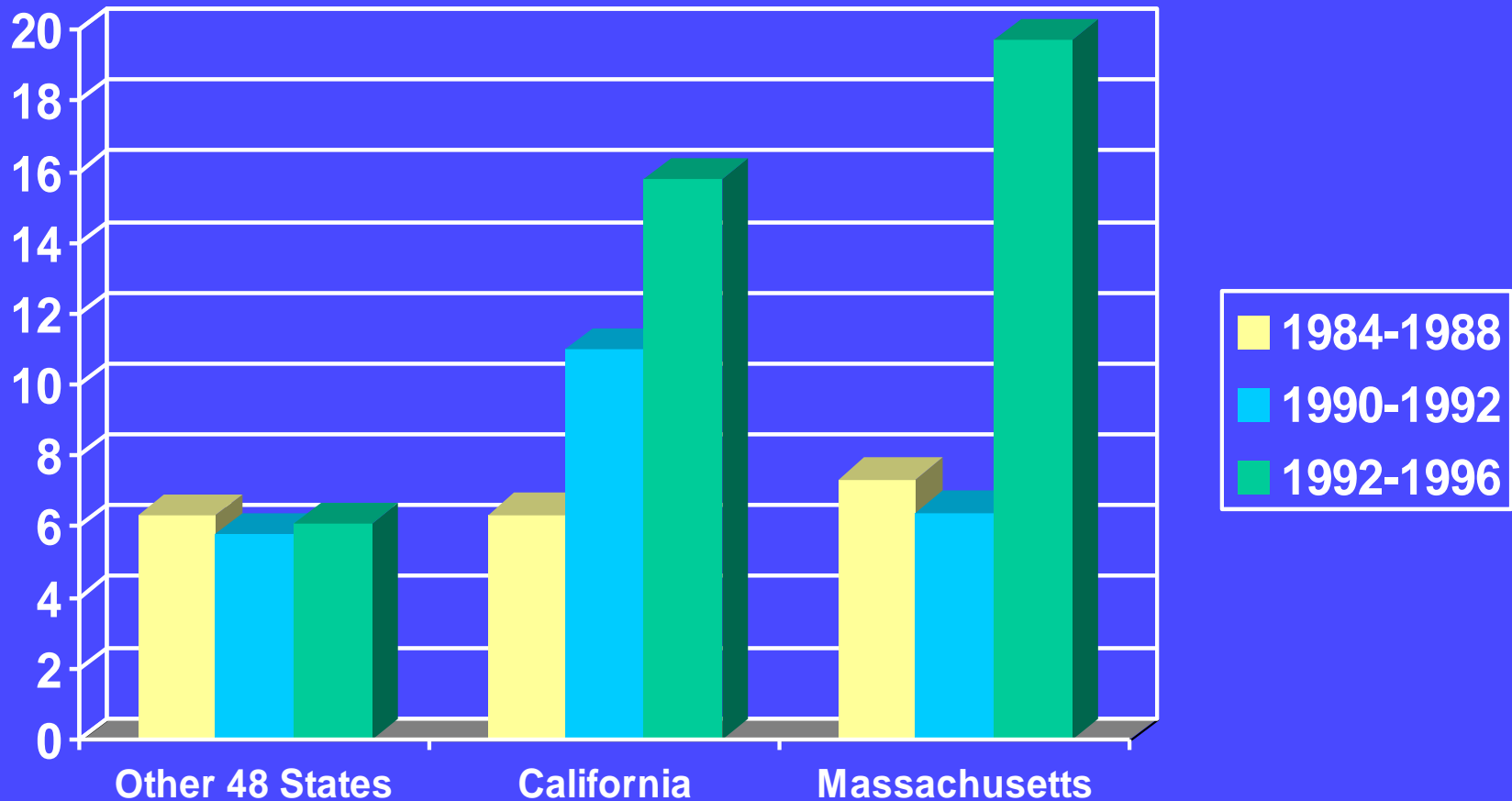
*Source: State of Massachusetts, Department of Public Health*

# Per Capita Consumption Trends Massachusetts versus Projected Trend, 1984-1997



Source: CDC

# Change in Per Capita Cigarette Consumption Before and After an Excise Tax Increase and an Antismoking Campaign California & Massachusetts versus Other 48 States, 1986 to 1996



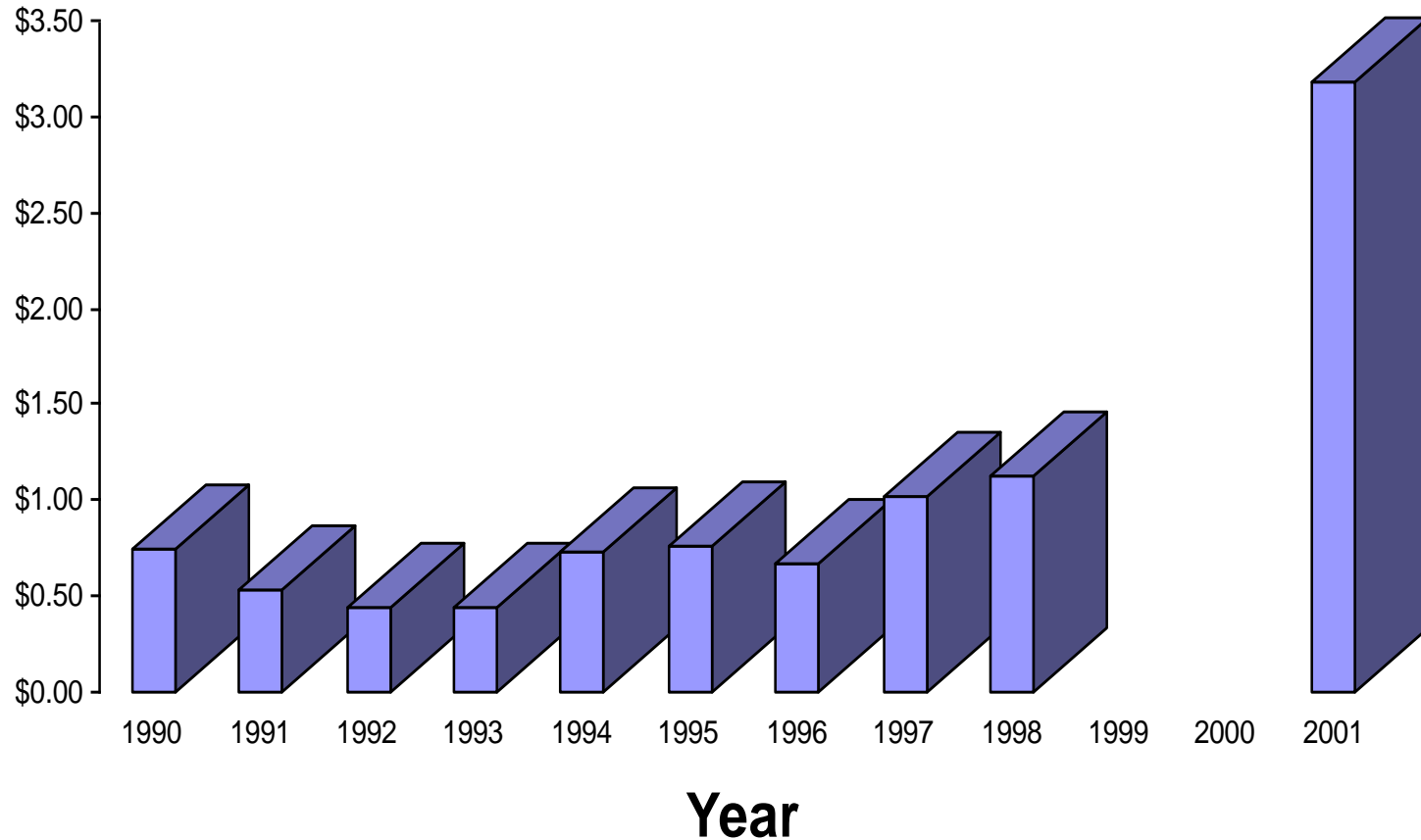
Source: CDC

# **New Econometric Research – Comprehensive State Programs**

- **Data on expenditures on various tobacco control programs, including: NCI's ASSIST program, CDC's IMPACT program, RWJF's SmokeLess States program, and state programs funded by earmarked tobacco taxes or tobacco settlement funds**
- **Data on overall smoking patterns based on tax paid state-level cigarette sales per capita**
- **Data on youth smoking prevalence and consumption from Monitoring the Future Surveys of 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grade students, 1991-1998, and CDC's National Youth Risk Behavior Surveys, 1991-1999**

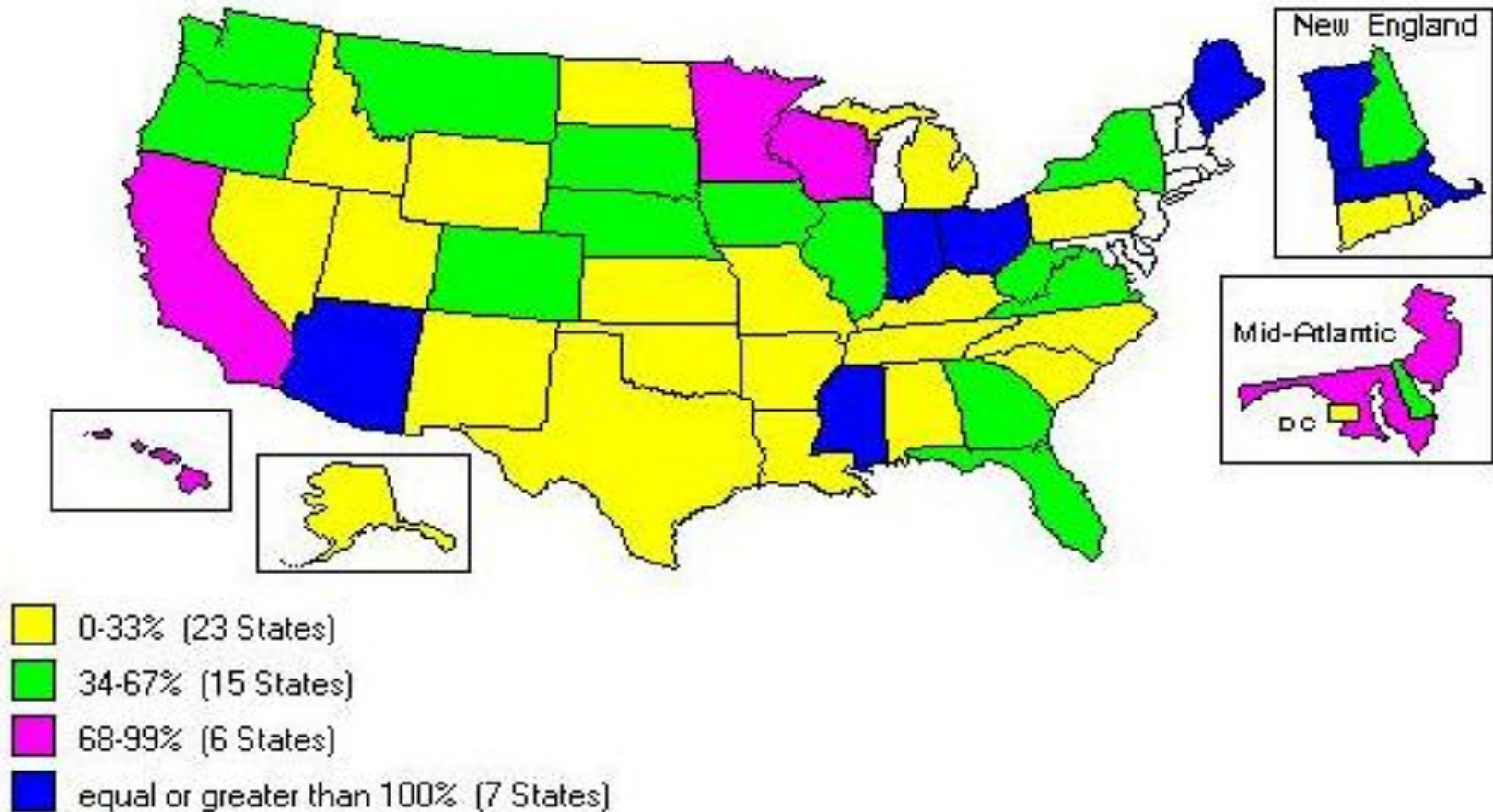
*Sources: Farrelly, et al. 2001; Chaloupka et al. 2001;  
Farrelly et al. 2001; Liang et. al 2001*

# Per Capita Tobacco Control Spending



*Per capita spending figures in July 2001 dollars*

# State Tobacco Control Funding as Percentage of CDC Minimum, 2001



Source: Centers for Disease Control and Prevention

# Research Findings – Comprehensive Programs and State Cigarette Sales

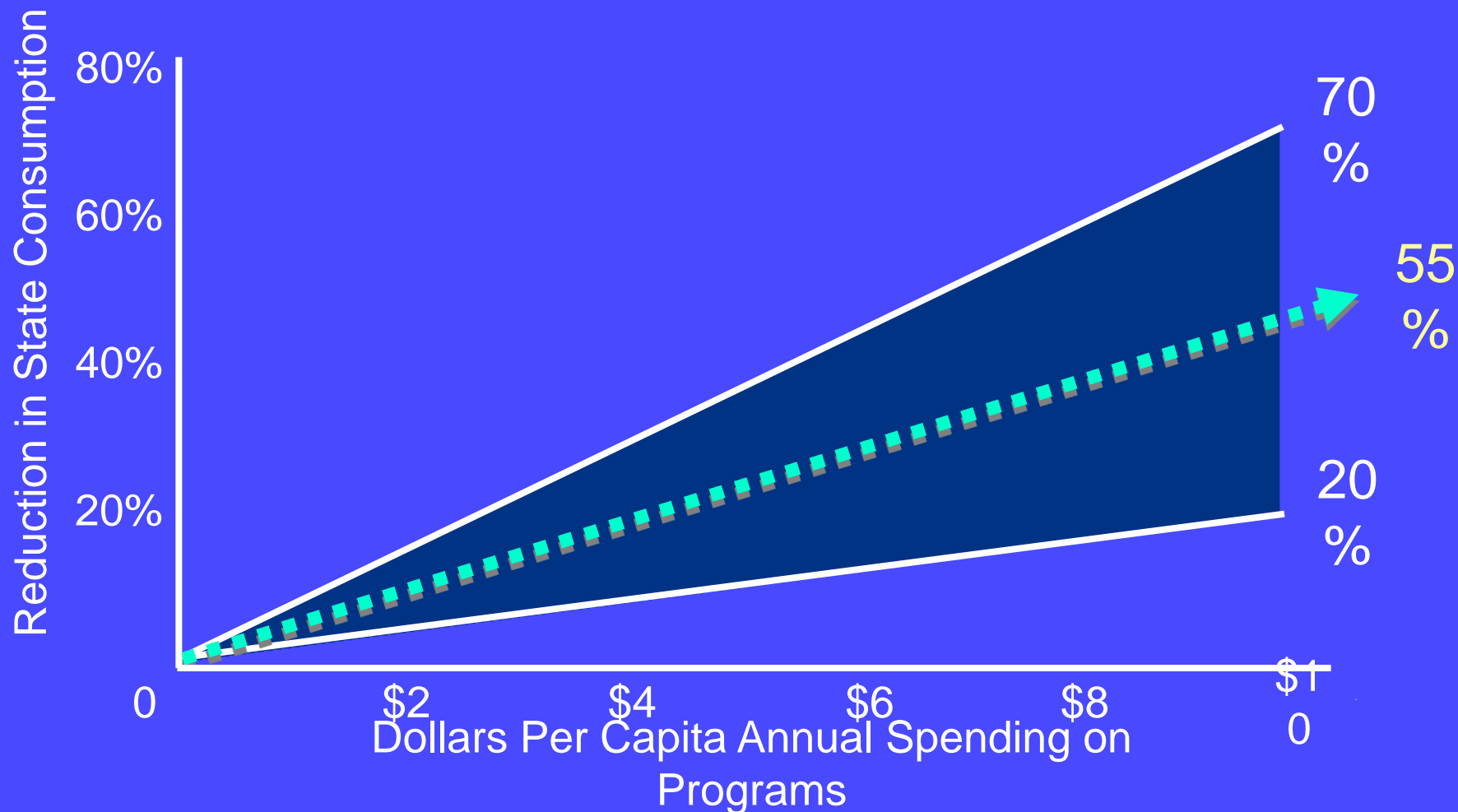
- **Higher spending on tobacco control efforts significantly reduces overall cigarette consumption**

Elasticity estimates for current year spending center on  $-0.006$ ; estimate for cumulative spending:  $-0.025$

- **Marginal impact of tobacco control spending greater in states with higher levels of cigarette sales per capita; average impact significantly higher in states with larger programs**
- **Disaggregated program spending suggests that impact of spending on programs focusing on policy change is greater than spending on other programs**



# Percent Reductions in Per Capita Cigarette Consumption Due to Tobacco Control Spending



Source: CDC

# Research Findings – Comprehensive Programs and Youth Smoking

- **Higher spending on tobacco control efforts significantly reduces youth smoking prevalence and cigarette consumption among young smokers**

Elasticity estimate for youth smoking prevalence: -0.011;  
estimate for conditional demand: -0.012 (MTF data)

- **Estimated impact of spending at CDC recommended levels: minimum: 7.7% reduction in youth smoking prevalence; maximum: 22.2% reduction**
- **Estimates based on YRBS data suggest that greatest impact of spending on tobacco control programs is on earlier stages of youth smoking uptake**

# Case Study - Florida

- Program begun in 1998 with funds from state settlement with tobacco industry; focused on prevention of youth smoking
- Initial impact of program substantial – 47% reduction in smoking prevalence among middle school students and 30% reduction among high school students by 2001
- Spending on program reduced sharply in most recent years
  - Declines in middle school smoking almost leveled out; continued declines in high school smoking

**Changes in smoking patterns consistent with evidence on impact of prices/programs on youth smoking**

# Results – Tobacco Marketing Practices

- Evidence that MSA ban on billboard advertising by cigarette companies increased advertising and promotional activities at the point of purchase
  - multipack discounts, gifts with purchase, cents off coupons more likely after billboard ban
  - exterior and interior store advertising more pervasive after billboard ban
  - functional objects more frequent after billboard ban
  - consistent with recent studies of impact of other advertising bans

# Results – Tobacco Marketing Practices

- Find that tobacco company marketing efforts vary with respect to key community characteristics
  - Marlboro prices significantly lower in neighborhoods with greater youth and young adult populations
  - cigarettes more likely to be available for self service in neighborhoods with larger youth population
  - more interior and exterior cigarette advertising in low-income neighborhoods
  
- Evidence that pro-tobacco marketing efforts at the retail level are stronger in states with comprehensive tobacco control programs
  - greater likelihood of gift-with-purchase and other promotions
  - more extensive cigarette advertising on storefronts and in stores



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## **Conclusions**

**Substantial increases in cigarette and other tobacco product prices significantly reduce tobacco use and the public health toll caused by tobacco use.**

**Comprehensive tobacco control policies lead to further reductions in tobacco use among youth and adults.**

**Spending on comprehensive tobacco control programs leads to significant reductions in overall smoking and in the prevalence of youth smoking.**

<http://www.impactteen.org>

<http://www.uic.edu/~fjc>

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