



*A Policy Research Partnership
to Reduce Youth Substance Use*

Supported by
The Robert Wood Johnson Foundation

Policy Levers for the Control of Tobacco Consumption

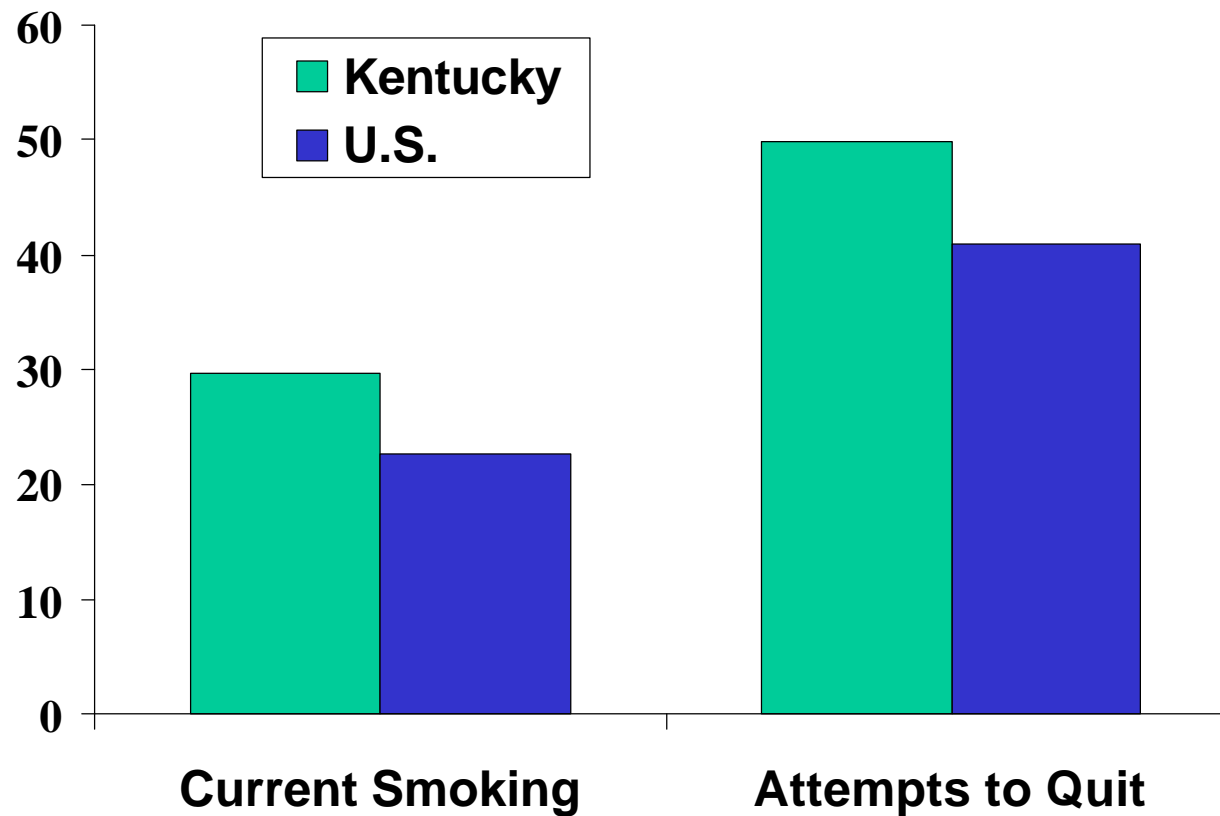
Frank J. Chaloupka

Director, ImpacTeen, University of Illinois at Chicago

www.uic.edu/~fjc

www.impacteen.org

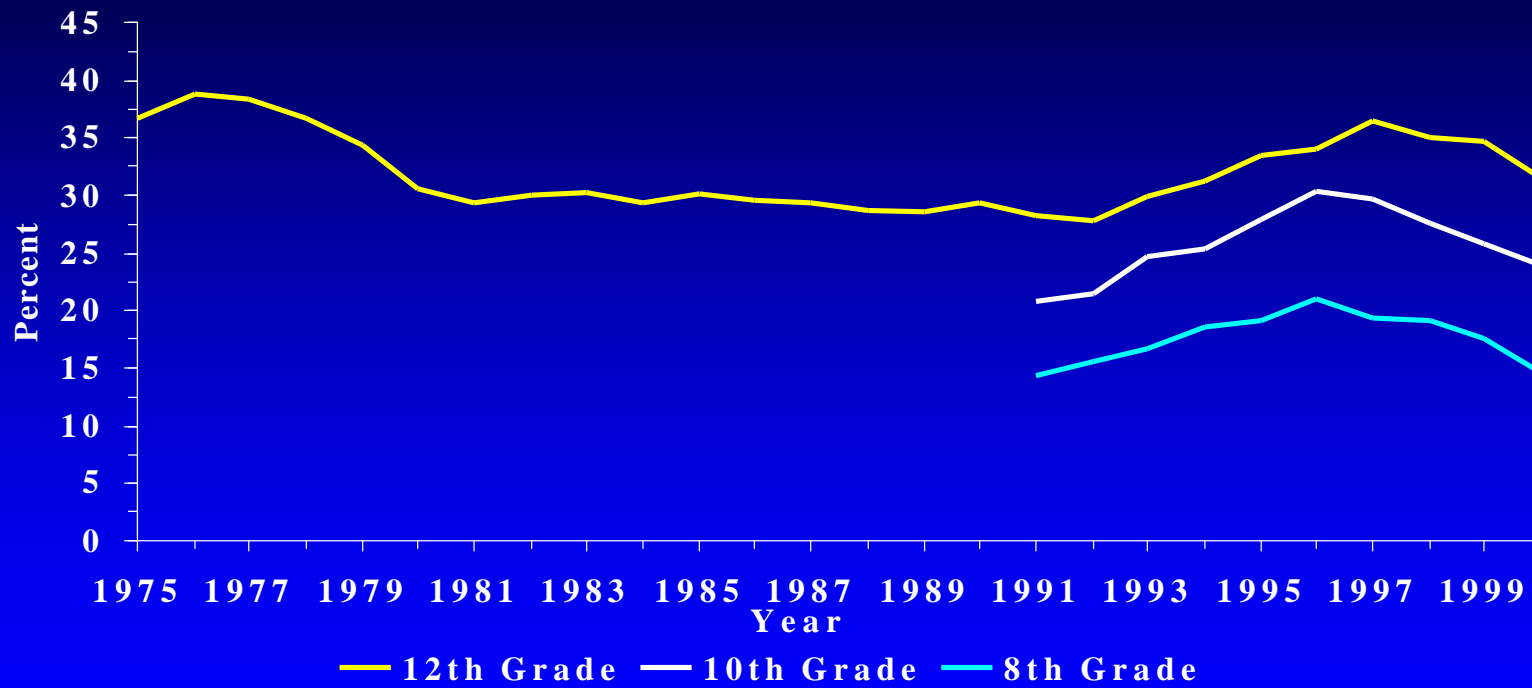
Adult Smoking, Kentucky and U.S., 1999



Behavioral Risk Factor Surveillance System, CDC, 1999

Background

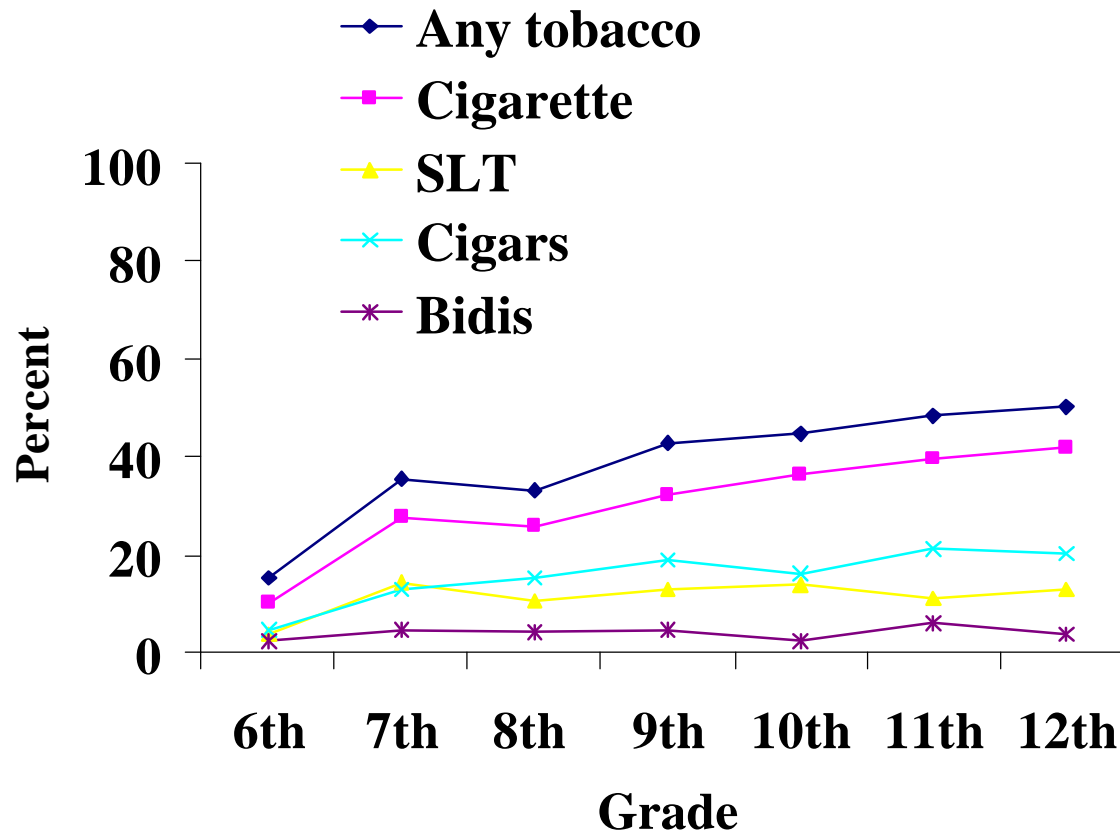
Trends in Cigarette Smoking Anytime in the Past 30 days* by Grade in School-- United States, 1975-2000



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

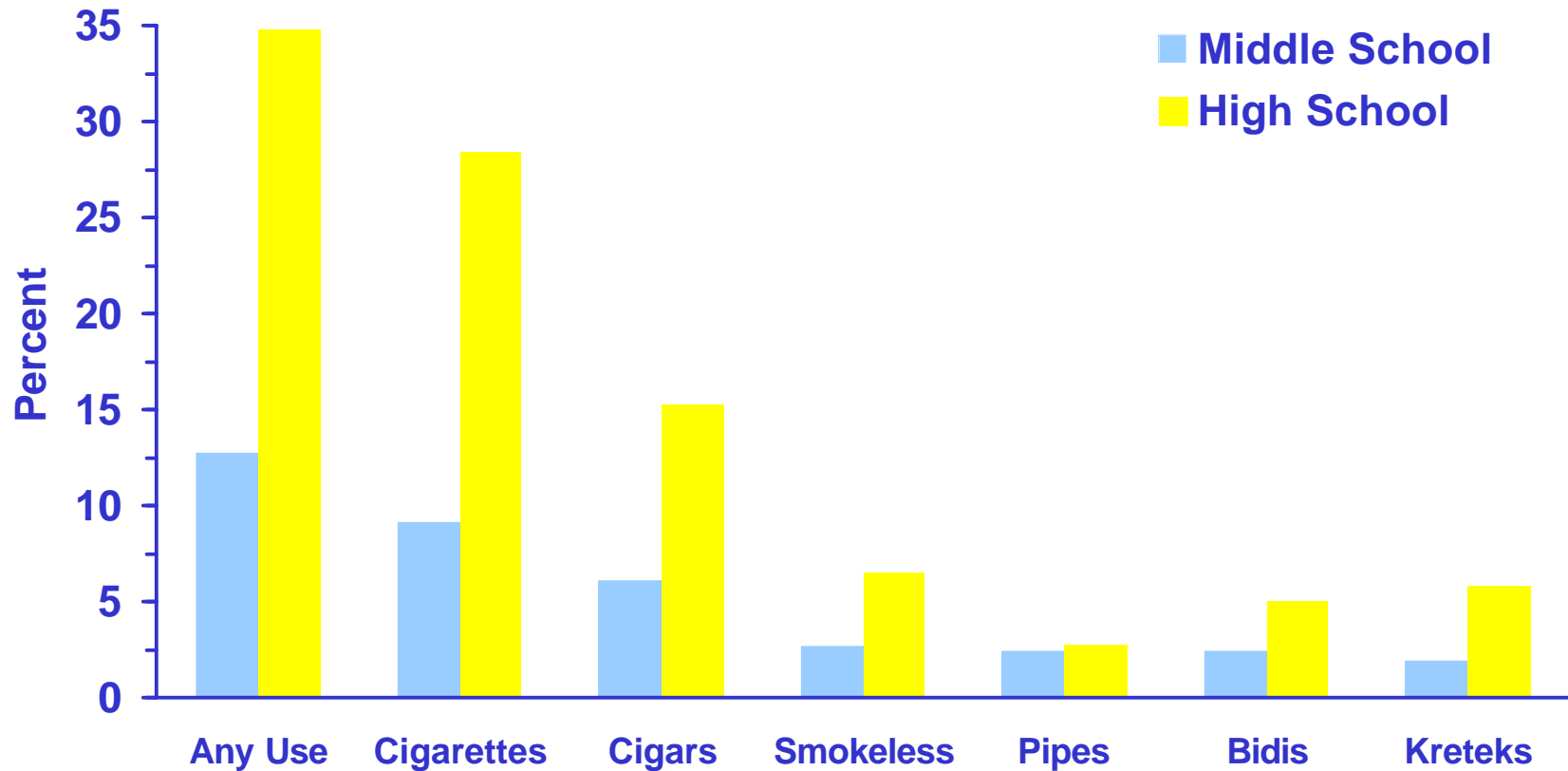
*Smoking 1 or more cigarettes during the previous 30 days

Current use of any tobacco product by grade level



Background

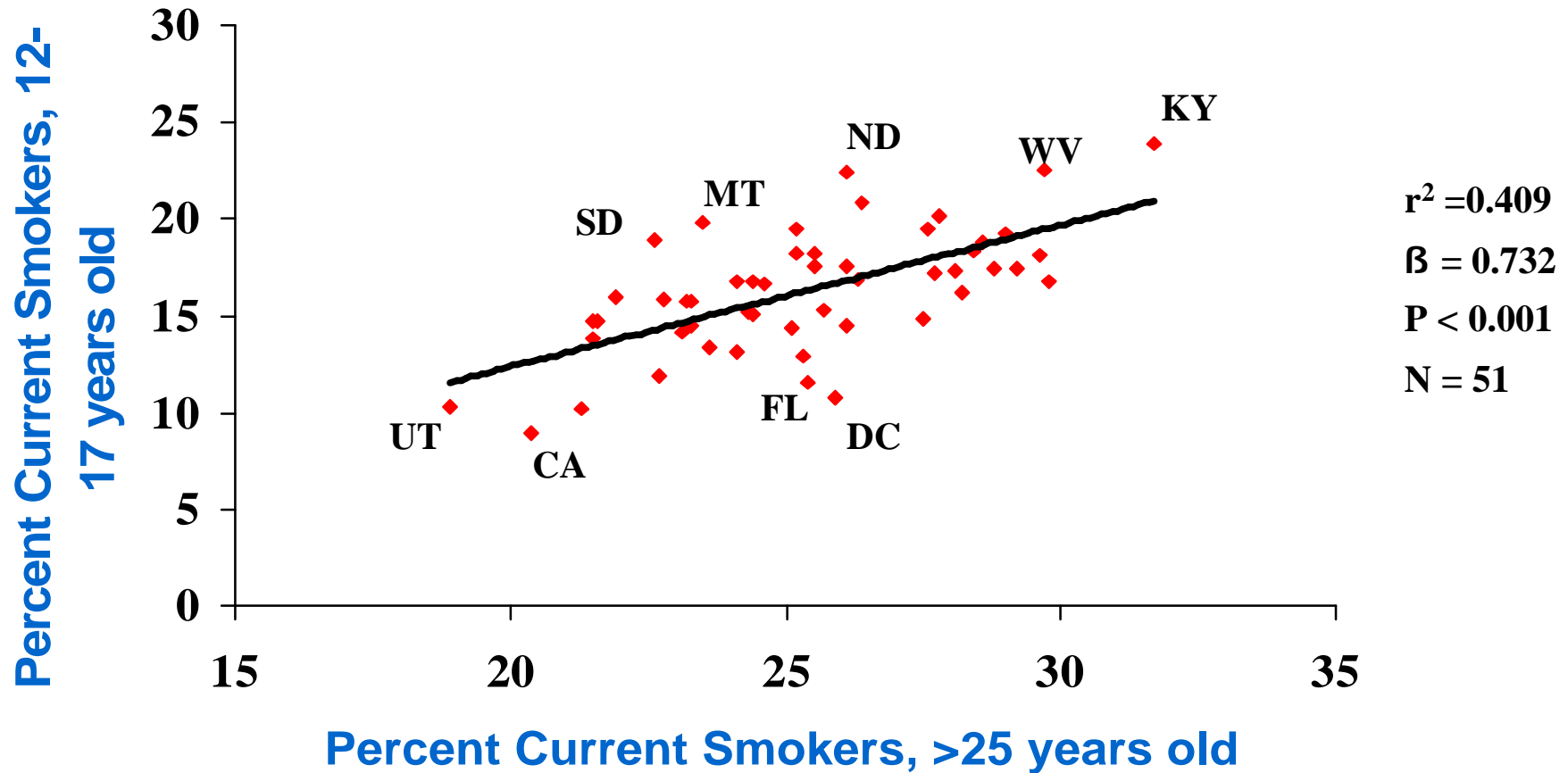
Current* use among middle and high school students by type of tobacco product— National Youth Tobacco Survey, 1999



* Used tobacco on ³ 1 of the 30 days preceding the survey.

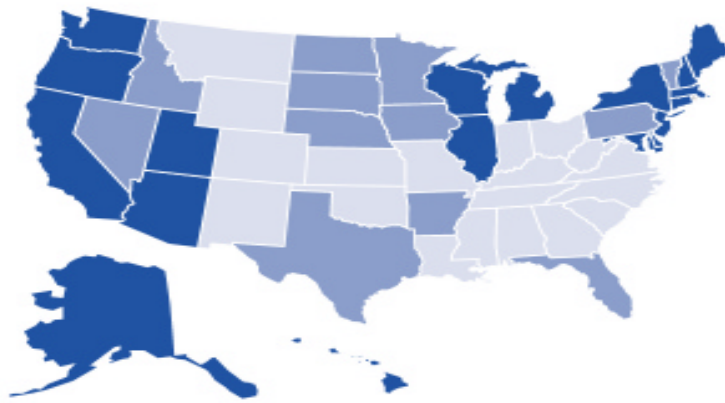
† Use of cigarettes, smokeless, cigars, pipes, Bidis, or Kreteks.

Smoking Prevalence Among Youths Aged 12-17 Years Old and Adults Aged ≥ 26 Years Old in All 50 States and the District of Columbia, 1999 NHSDA



Note: Current smokers were persons who smoked on ≥ 1 day during the previous 30 days

Source: 1999 National Household Survey on Drug Abuse



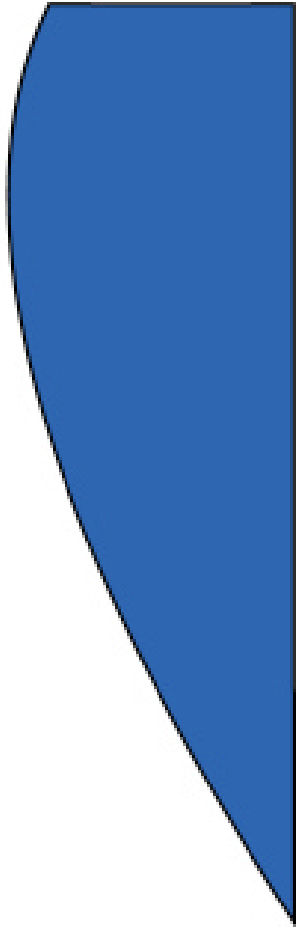
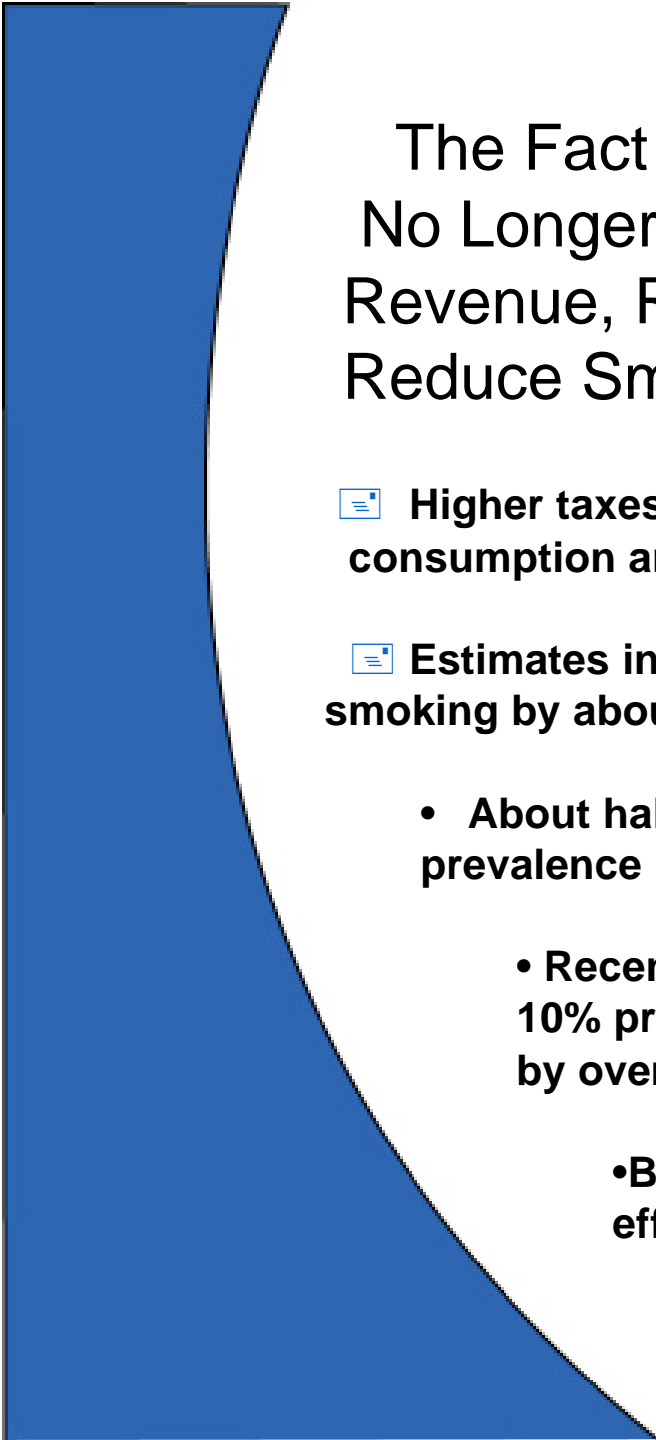
State Cigarette Excise Taxes

January, 2001

Ranked by State Excise Taxes per Pack

Average State Tax = \$.419

\$.50+ HIGH		\$.25-.49 MED		< \$.25 LOW	
1.11	New York	.48	Minnesota	.24	Delaware
1.00	Alaska	.44	North Dakota	.24	Kansas
1.00	Hawaii	.44	Vermont	.24	Louisiana
.87	California	.41	Texas	.24	Ohio
.825	Washington	.36	Iowa	.23	Oklahoma
.80	New Jersey	.35	Nevada	.21	New Mexico
.76	Massachusetts	.34	Nebraska	.20	Colorado
.75	Michigan	.339	Florida	.18	Mississippi
.74	Maine	.33	South Dakota	.18	Montana
.71	Rhode Island	.315	Arkansas	.17	Missouri
.68	Oregon	.31	Pennsylvania	.17	West Virginia
.66	Maryland	.28	Idaho	.165	Alabama
.65	District of Columbia			.155	Indiana
.59	Wisconsin			.13	Tennessee
.58	Arizona			.12	Wyoming
.58	Illinois			.12	Georgia
.52	New Hampshire			.07	South Carolina
.515	Utah			.05	North Carolina
.50	Connecticut			.03	Kentucky
				.025	Virginia

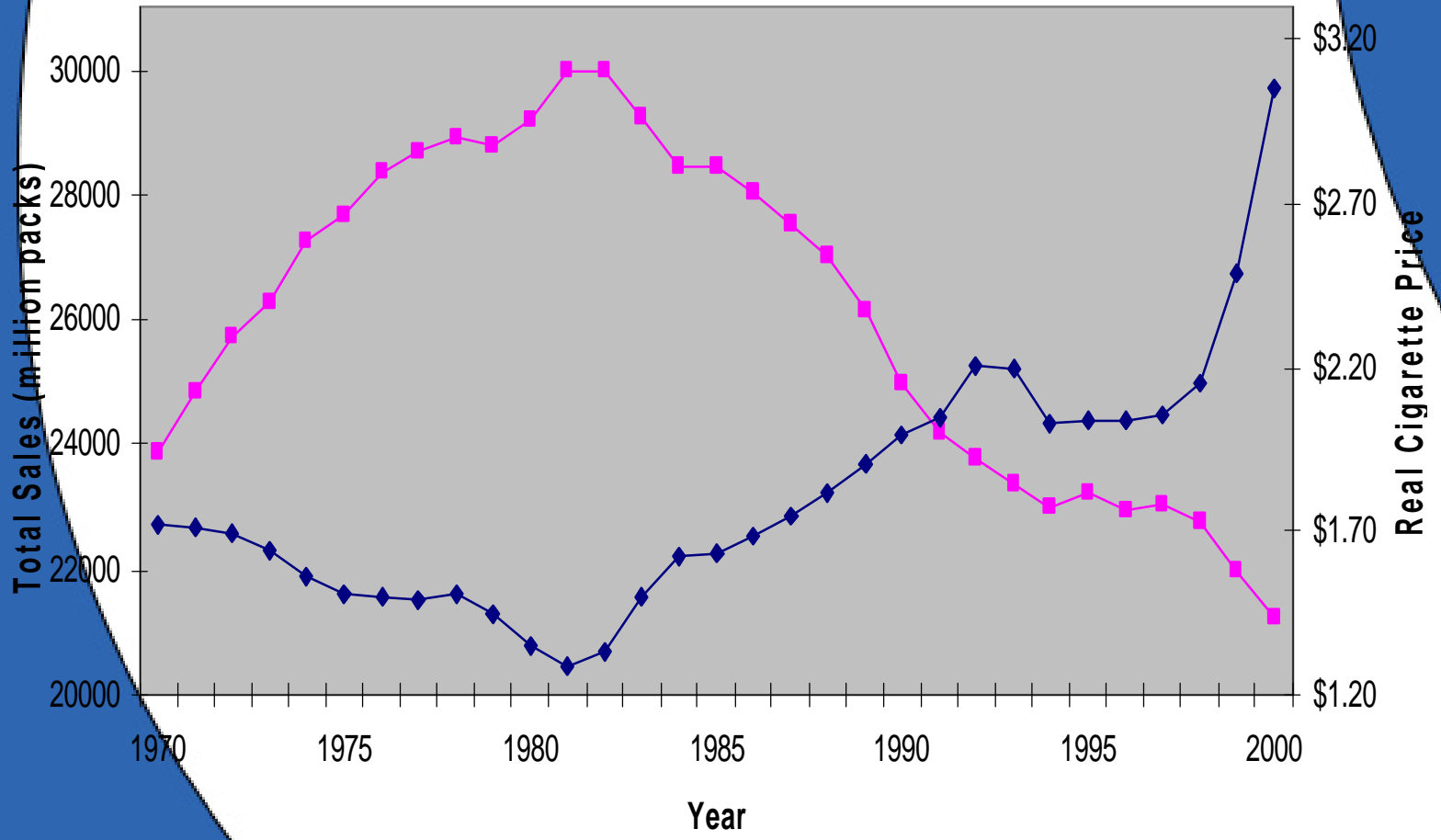


The Fact is, Raising Tobacco Prices is No Longer Solely a Means of Generating Revenue, Rather, a Proven Measure to Reduce Smoking!

- ☒ 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

Source: Chaloupka *et al.*, 2000

Total Cigarette Sales and Cigarette Prices, 1970-2000



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

Lower SES populations are the most 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**

Source: Chaloupka *et al.*, 2000



YOUNG PEOPLE MORE RESPONSIVE TO PRICE INCREASES

- Proportion of disposable income youth spends on cigarettes likely to exceed corresponding portion of adult's income
- Peer influences much more important for young smokers than for adult smokers
- Young smokers less addicted than adult smokers
- Young people tend to discount the future more heavily than adults

Because kids are highly sensitive to price, and given that 90 percent of smokers start when they are 18 or younger, an increase in excise taxes appears to be one of the best ways to deter them from taking up cigarettes in the first place.



*A Policy Research Partnership
to Reduce Youth Substance Use*

CIGARETTE PRICES AND KIDS

■ YOUTH

A 10% Increase in Price Reduces Smoking Prevalence Among Youth by nearly 7%

A 10% Increase in Price Reduces Conditional Demand Among Youth by over 6%

Higher cigarette prices are associated with substantially reducing adolescents' probability of becoming daily, addicted smokers, helping prevent moving from lower to higher stages of smoking.

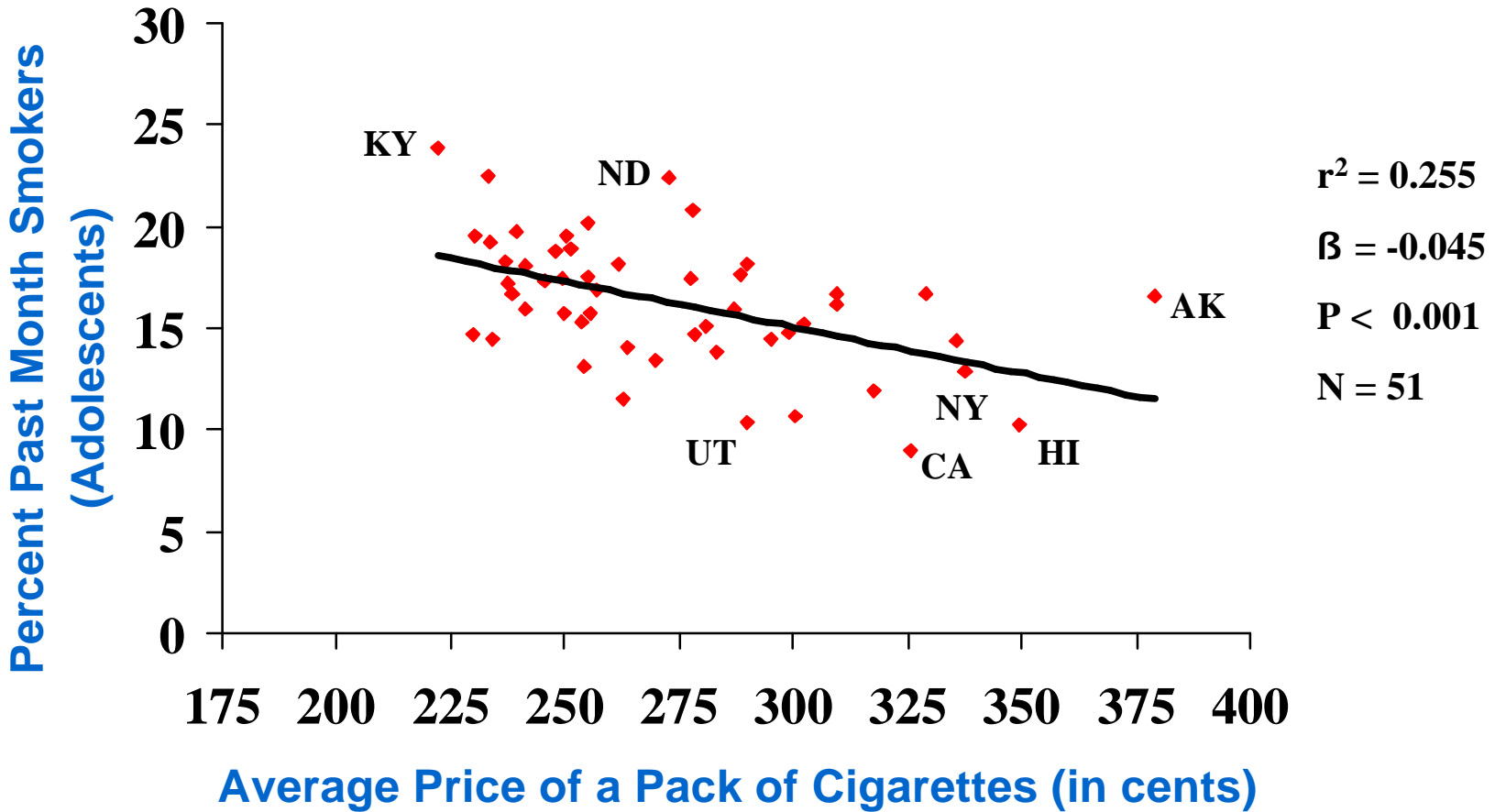
- **10% price increase reduces probability of any initiation by about 3%, but reduces probability of daily smoking by nearly 9% and reduces probability of heavy daily smoking by over 10%**

■ YOUNG ADULTS (College Students)

A 10% Increase in Price Reduces Smoking Prevalence Among Young Adults by about 5%

A 10% Increase in Price Reduces Conditional Demand Among Young Adults by another 5%

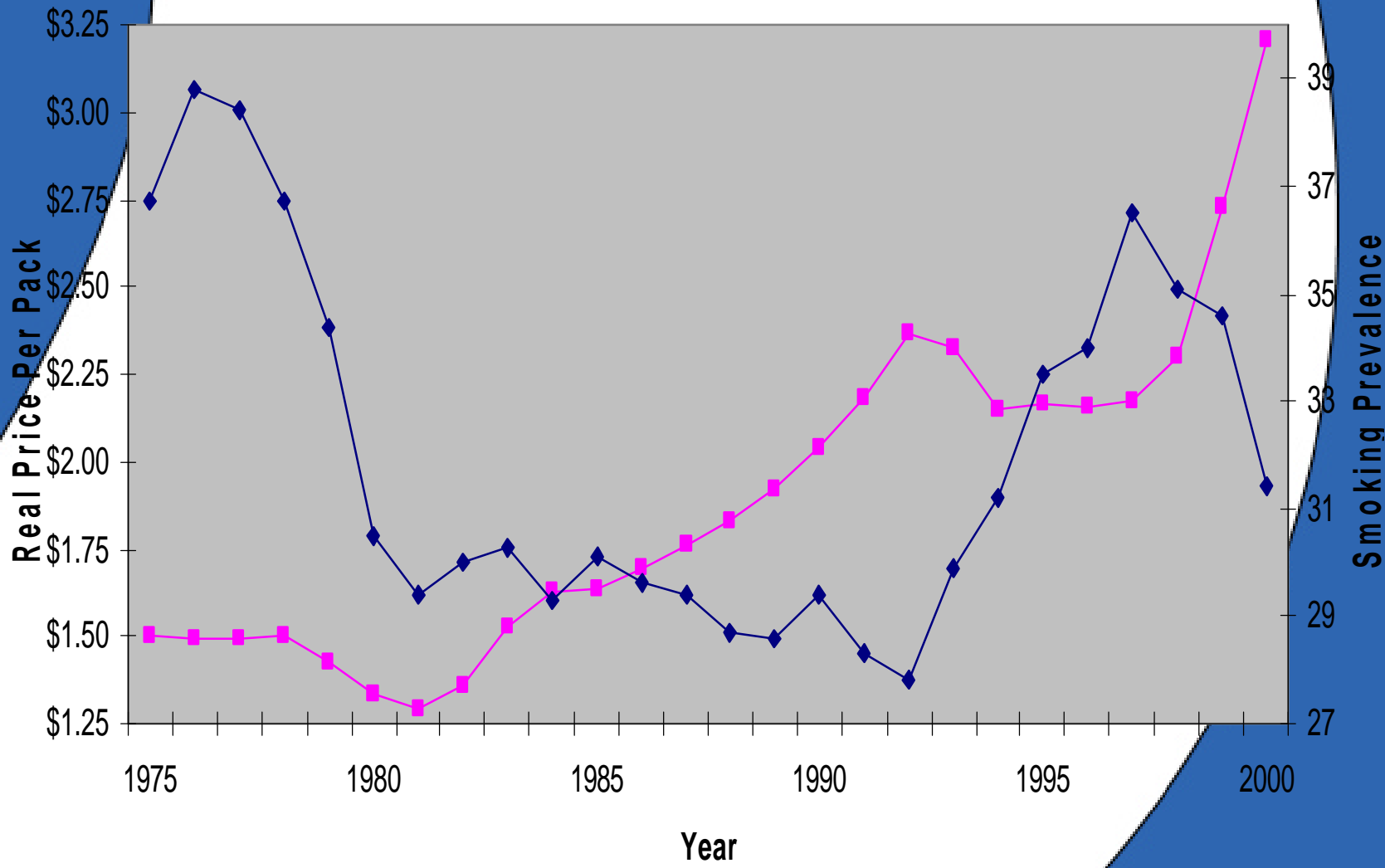
Cigarette Smoking Among Youth by the Average Price of a Pack of Cigarettes in 50 States and the District of Columbia, 1999



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

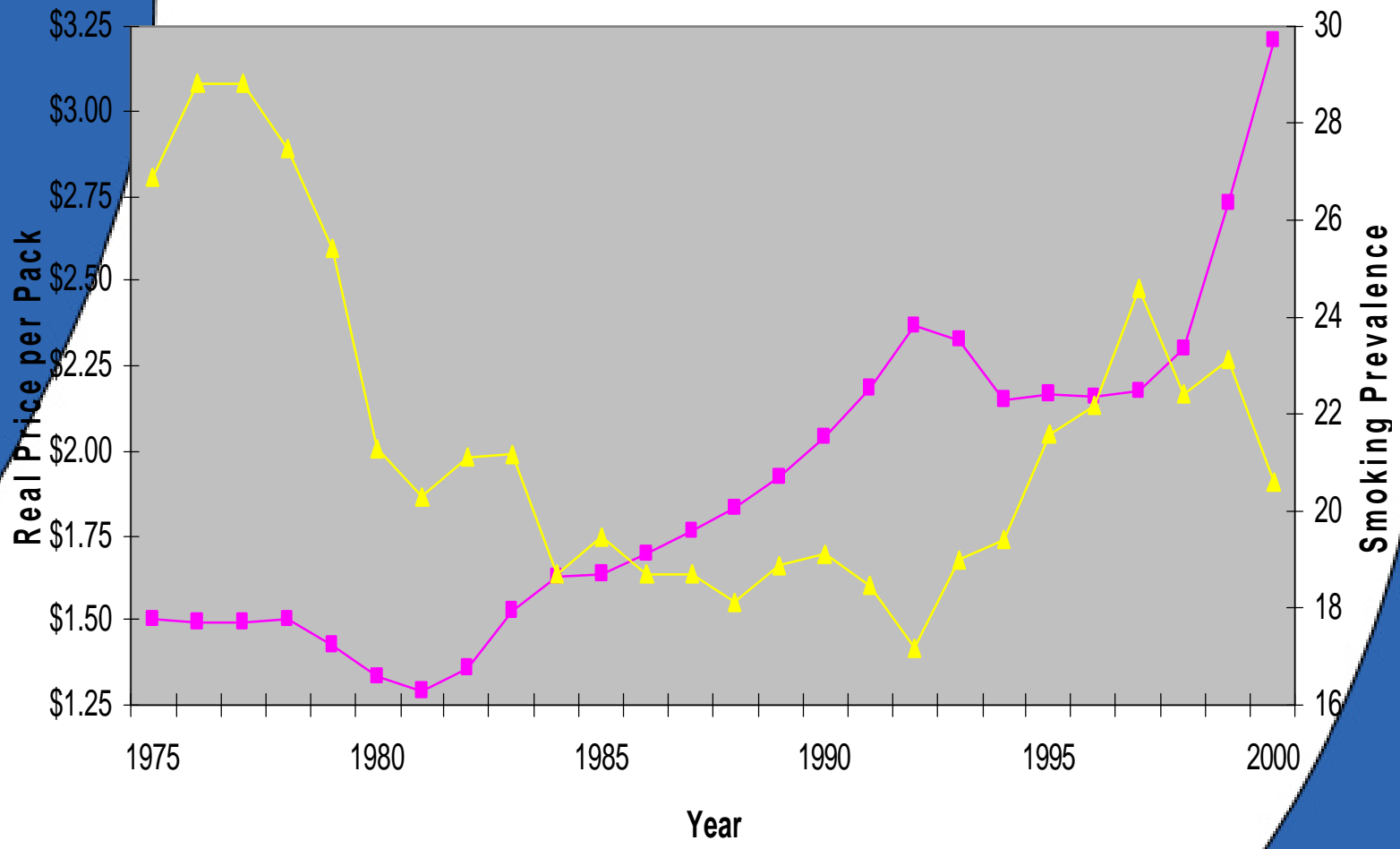
Note: Past Month Smoking = smoking on ≥ 1 day during the previous 30 days

12th Grade 30 Day Smoking Prevalence and Price



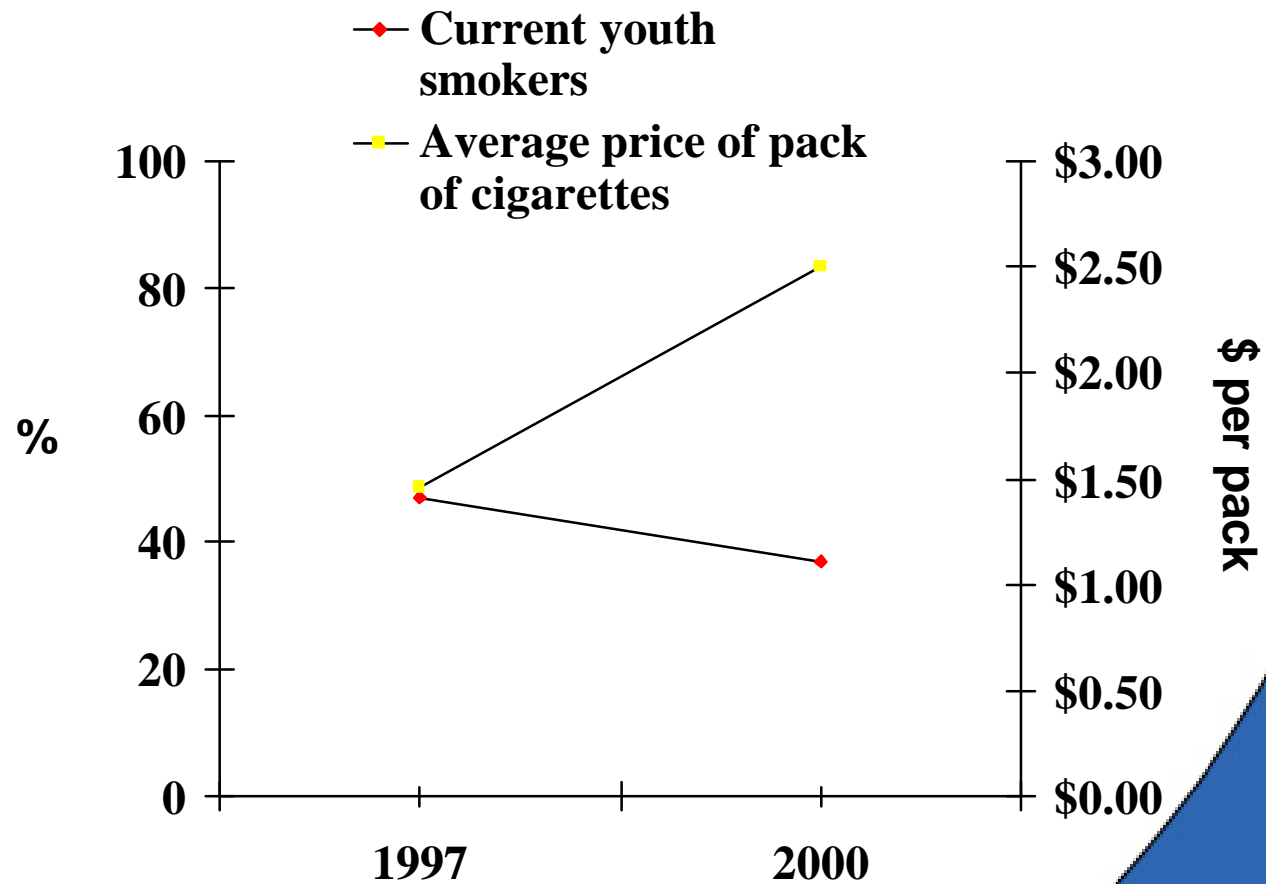
—■— Cigarette Price —◆— 30 Day Smoking Prevalence

12th Grade Daily Smoking Prevalence and Price



■ Cigarette Price ▲ Daily Smoking Prevalence

Current youth smokers and the average retail price of cigarettes in Kentucky, 1997-2000



CIGARETTE PRICES AND HEALTH

According to a study conducted by Pacific Institute for Research and Evaluation and the Roswell Park Cancer Institute:

- An increase of \$1 in the current cigarette excise tax, indexed for inflation, would result in 2.3 million fewer smoking-attributable deaths over the projected 40-year period the study measures.
- The greatest benefit from the tax hike would be to youth smokers who are, as a group, the most sensitive to price fluctuations, projecting that a \$1 cigarette tax hike would immediately decrease youth smoking by 30 percent while reducing overall smoking rates by 11 percent.



*A Policy Research Partnership
to Reduce Youth Substance Use*

Myths About Impact of Tobacco Taxation

☰ REVENUE LOSSES?

Revenues actually rise with taxes, particularly in lowest tax states where taxes comprise relatively low share of prices; average revenue increases from 10% tax increase would exceed 7%

☰ JOB LOSSES?

Temporary, minimal, and gradual; most state/regions would benefit in short and long run from the reduced tobacco sales resulting from higher tobacco taxes as money once spent on cigarettes is spent on other goods and service.

☰ POSSIBLE SMUGGLING

Generally overstated; appropriate solution is to crack down on criminal activity, not forego the benefits of higher tobacco taxes.

☰ COST TO INDIVIDUALS, ESPECIALLY THE POOR

Partially offset by lower consumption; can be offset by additional tax revenues to finance programs targeting income populations

NEW YORK: \$1.11 Per Pack

Preliminary Findings on the Impact of March 2000 55-Cent Increase in Cigarette Excise Tax

Cigarette Price Increases

NY: Marlboro- \$1.00 (30.7%); Newport - \$1.00 (31.0%)
US: Marlboro - 33 cents (11.5%); Newport 31 cents (10.2%)

Cigarette Sales

Sales have dropped about 20 percent since the increase.

Smoking Prevalence

(NY matched schools, after 4/1; US all schools after 4/1)

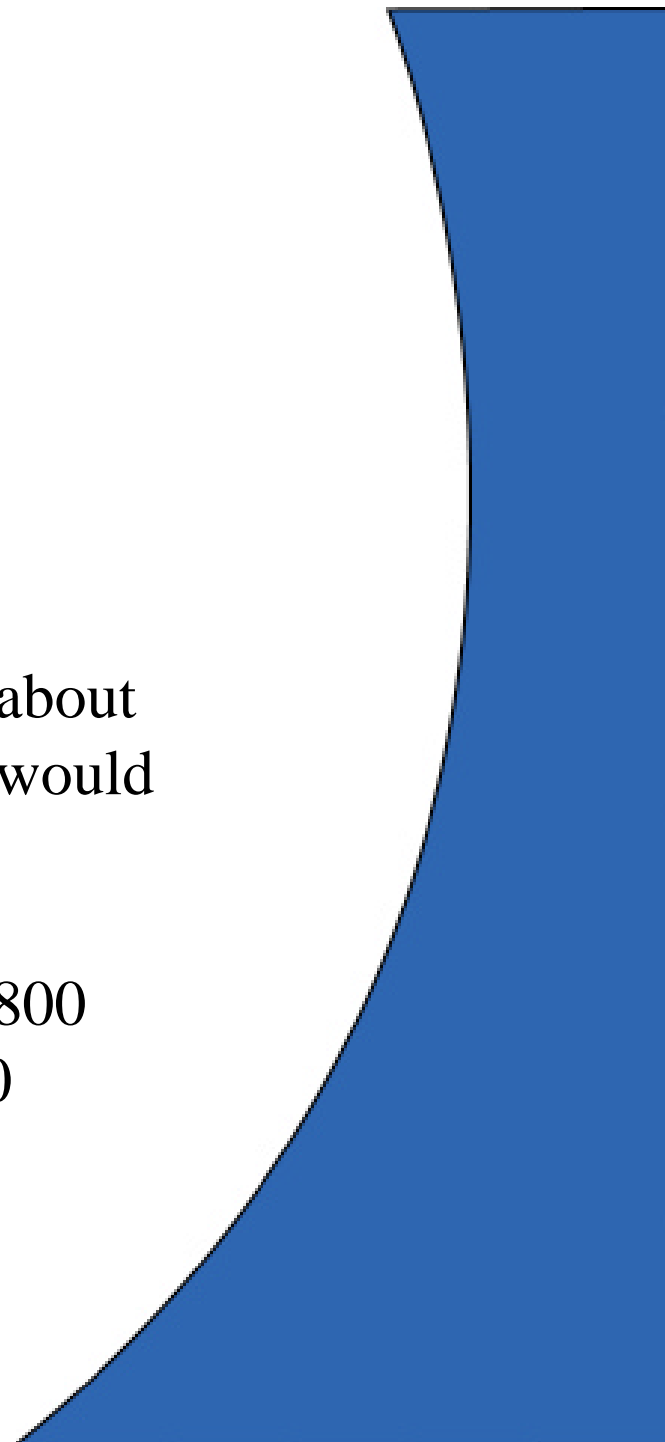
8th Grade - NY: -17.8%; US: - 11.2%

10th Grade - NY: -18.9%; US: -1.0%

Cigarette Taxes and Kentucky

Impact of alternative tax increases:

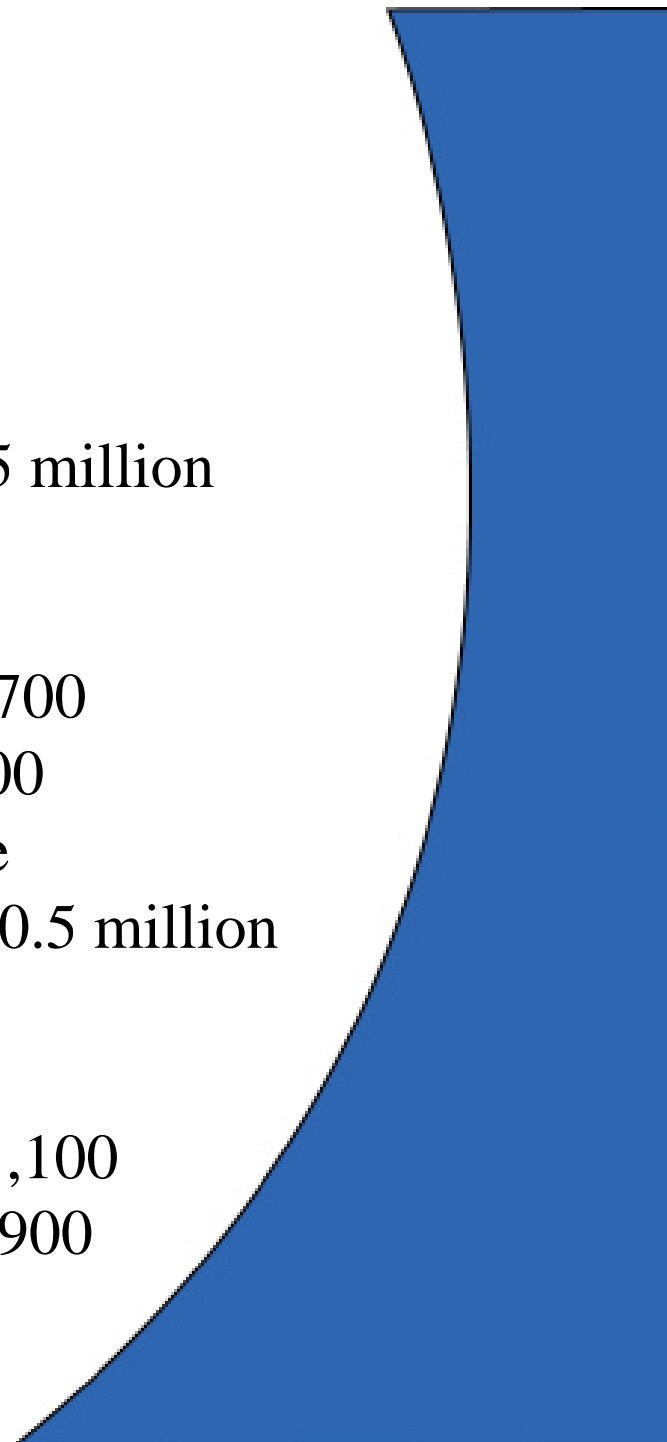
- Doubling of state tax to 6 cents per pack
 - Revenues rise by \$18.6 million
 - Even under extreme assumptions about loss of out of state sales, revenues would rise by \$10.0 million
 - Sales decline by 2.6 million packs
 - Number of young smokers falls by 1,800
 - Deaths caused by smoking fall by 900



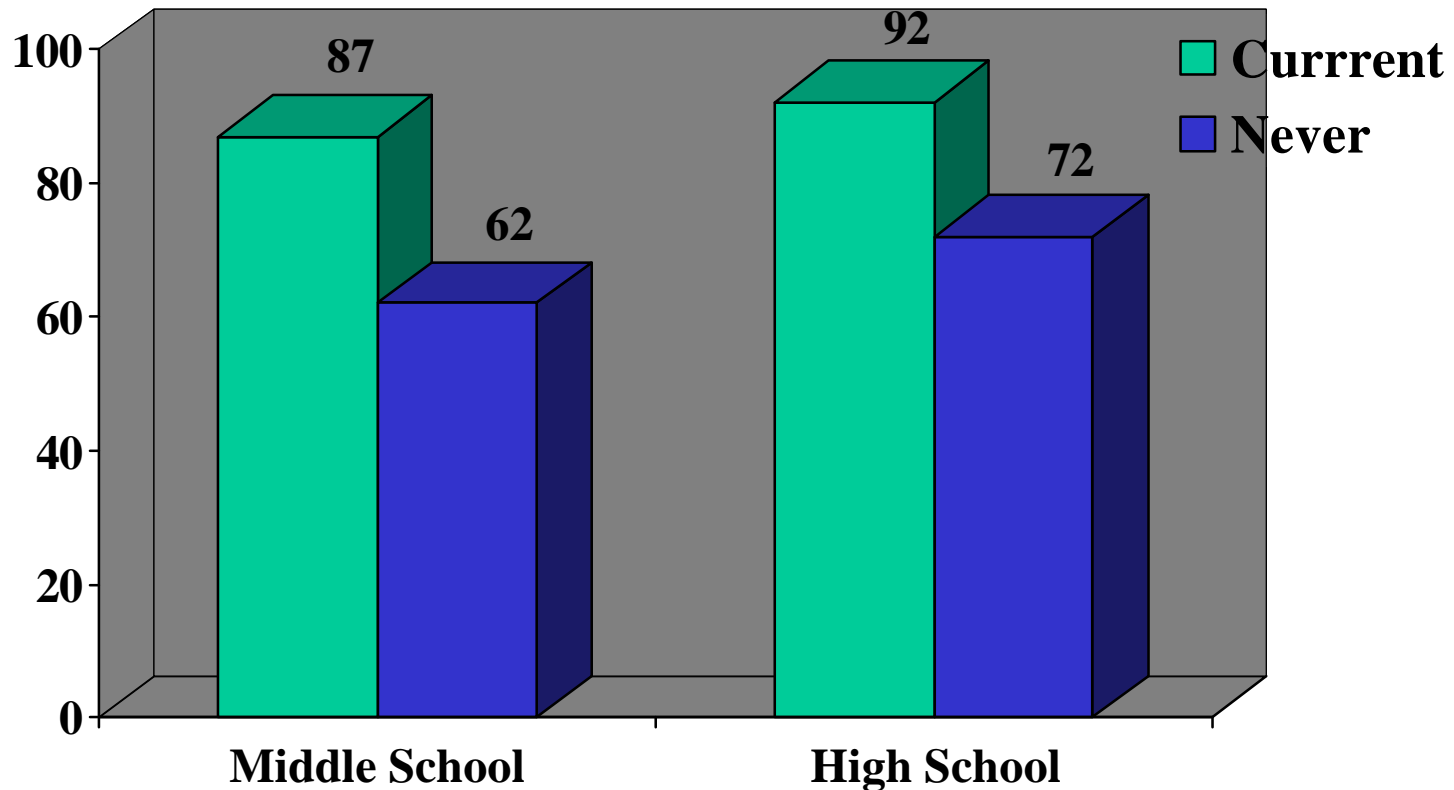
Cigarette Taxes and Kentucky

Impact of alternative tax increases:

- Tripling of state tax to 9 cents per pack
 - Revenues rise by \$37.0 million (\$28.5 million under extreme assumptions)
 - Sales decline by 5.2 million packs
 - Number of young smokers falls by 3,700
 - Deaths caused by smoking fall by 2000
- More ambitious 50 cent per pack increase
 - Revenues rise by \$289.0 million (\$280.5 million under extreme assumptions)
 - Sales decline by 43.5 million packs
 - Number of young smokers falls by 31,100
 - Deaths caused by smoking fall by 16,900

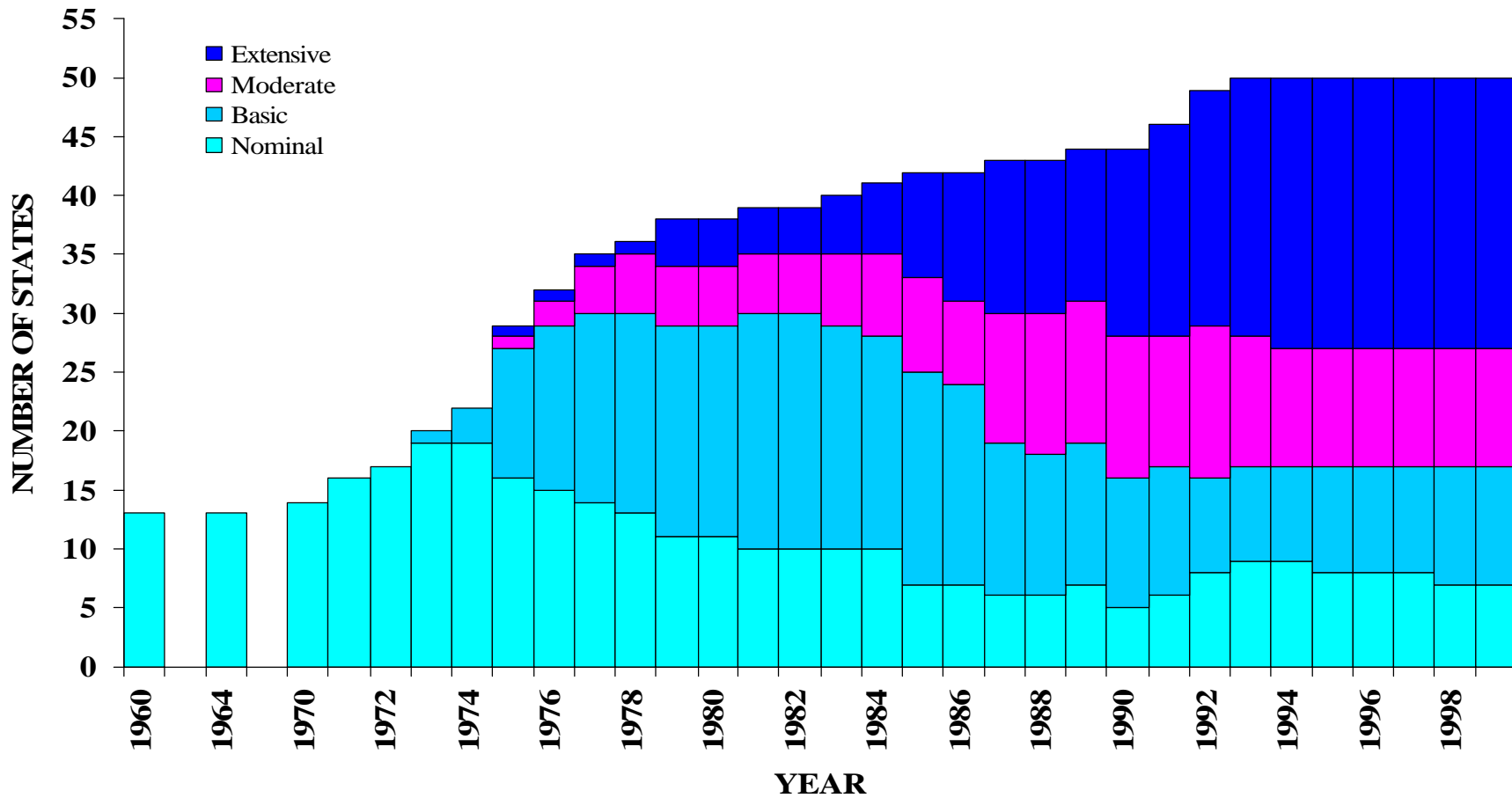


Current tobacco users and never smokers exposure to secondhand smoke during the past 7 days



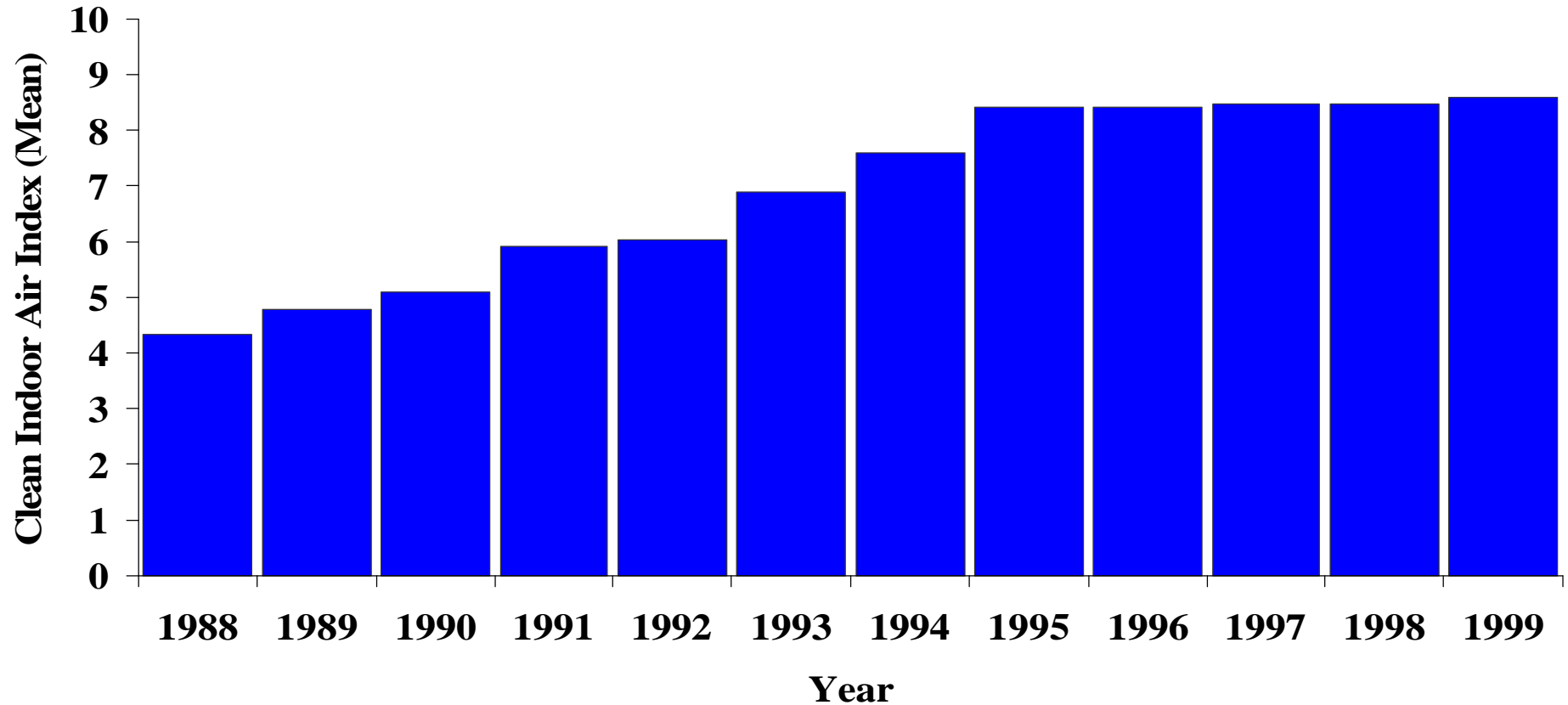
Tobacco Policy Data

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



Tobacco Policy Data

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



Smoke-free Food Service Establishments, October 2000

	Number and (%) of smoke-free food establishments	% of establishments that allow smoking and provide non- smoking seating	Average % of non- smoking seating in establishments that allow smoking
Kentucky n = 6,309	2,189 (34.7%)	32.4%	18.3%

Tobacco Policies and Practices in Kentucky Manufacturing Facilities (N = 437)

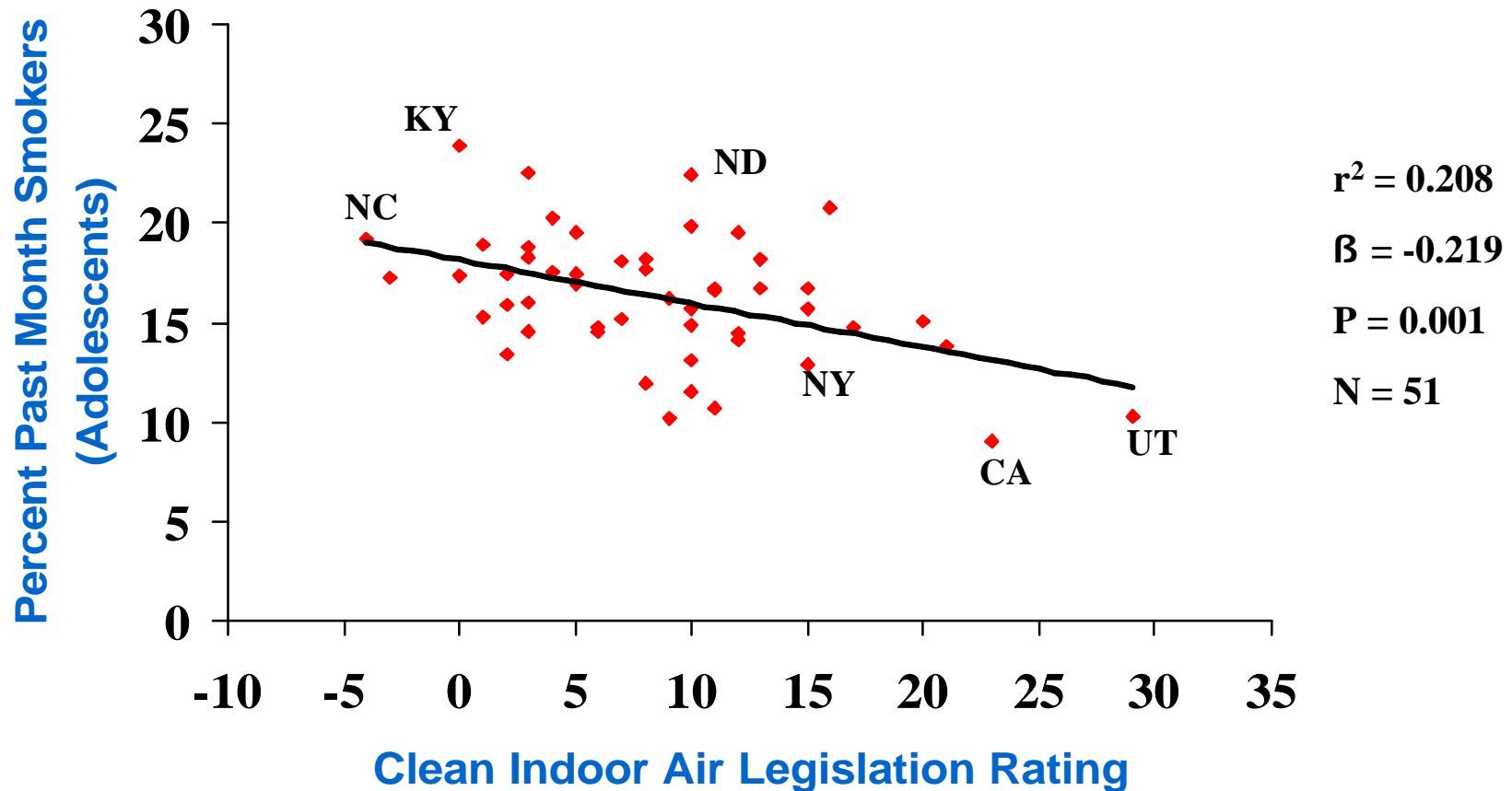
- 69% had a written smoking policy
- 57% permitted indoor smoking
- 97% permitted outdoor smoking
- 82% posted “NO SMOKING” signs
- 10% sold cigarettes on company property



Results – Smoking Restrictions

- Generally consistent evidence that restrictions on smoking in workplaces and public places significantly reduce youth, young adult, and adult cigarette smoking
 - More comprehensive restrictions lead to largest reductions
 - Reduce both prevalence and consumption among smokers
- Strong evidence that comprehensive restrictions on smoking in private worksites increase the probability of smoking cessation among young adults
- Strong evidence that restrictions on smoking at home significantly reduce the probability of youth smoking, smoking uptake, and youth cigarette consumption

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

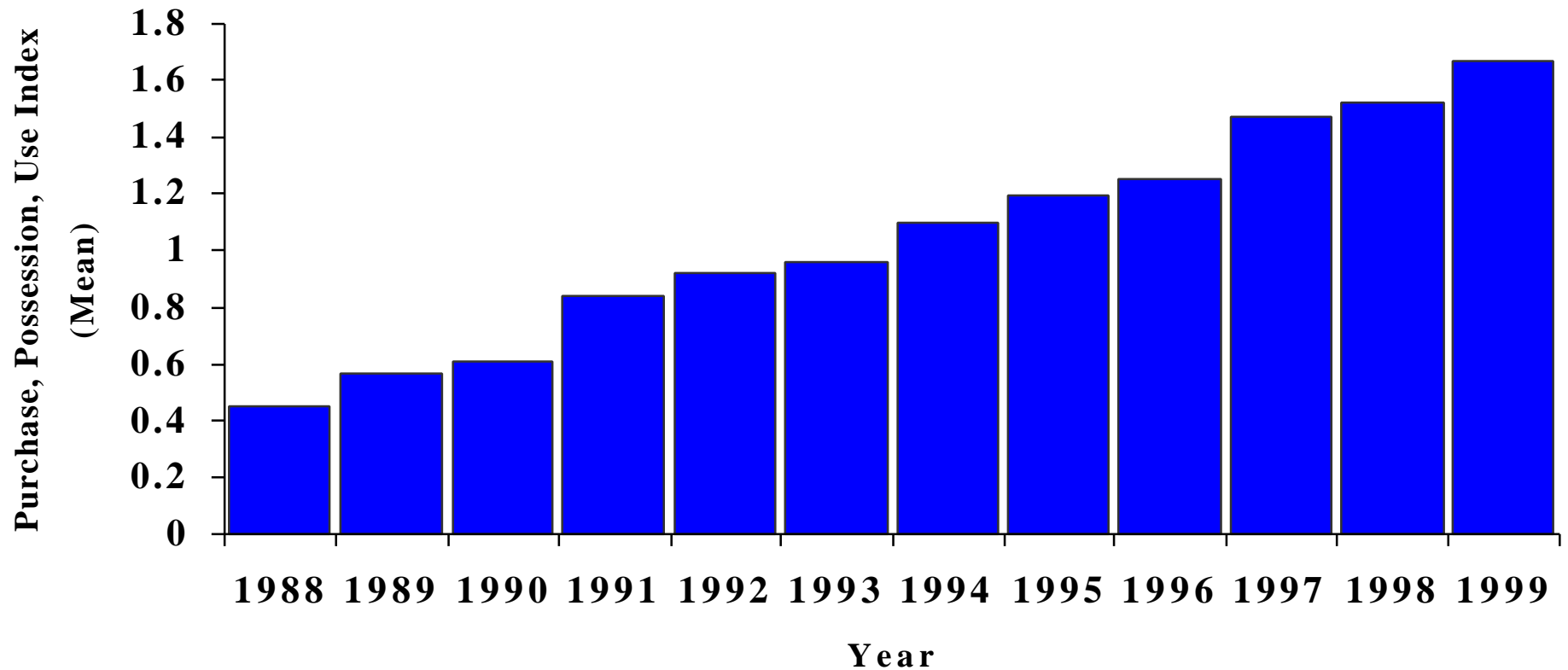


Sources: 1999 NHSDA (12-17 year olds); ALA's SLATI, CDC's STATE system, and the Roswell Park Cancer Institute.

Note: Past Month Smoking = smoked on ≥ 1 day in the previous 30 days

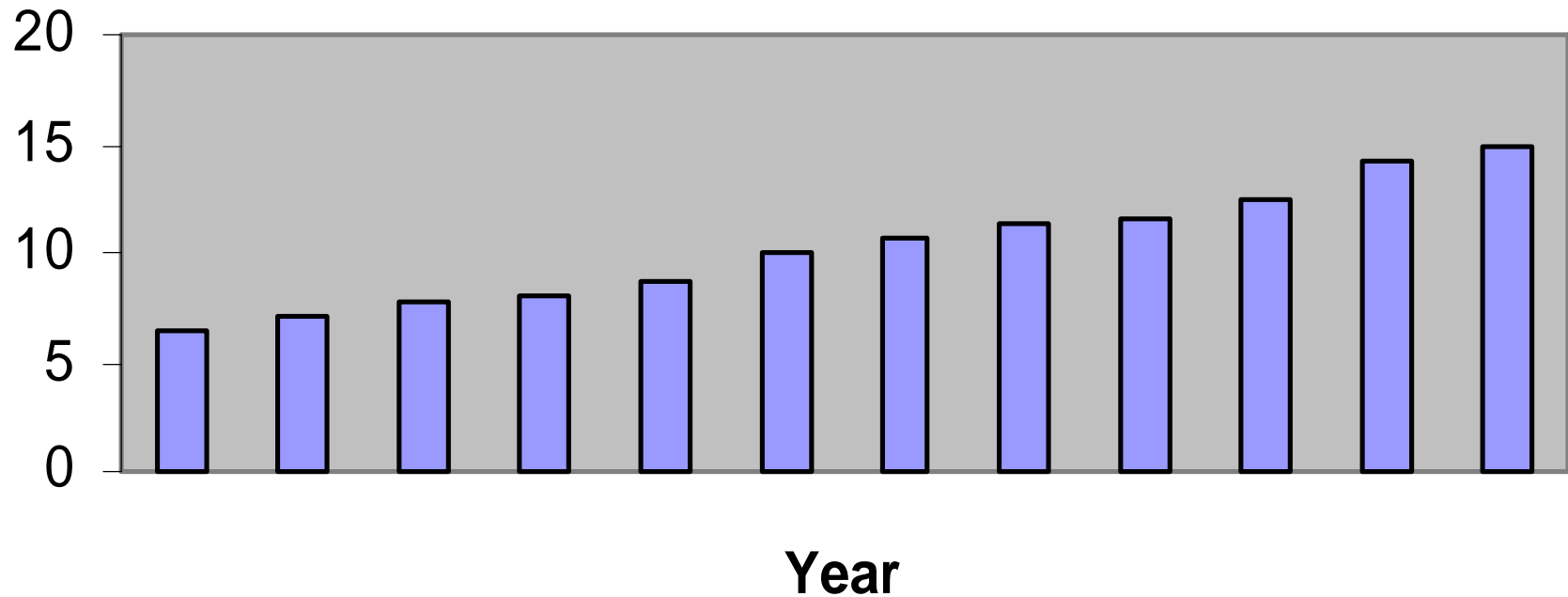
Tobacco Policy Data

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

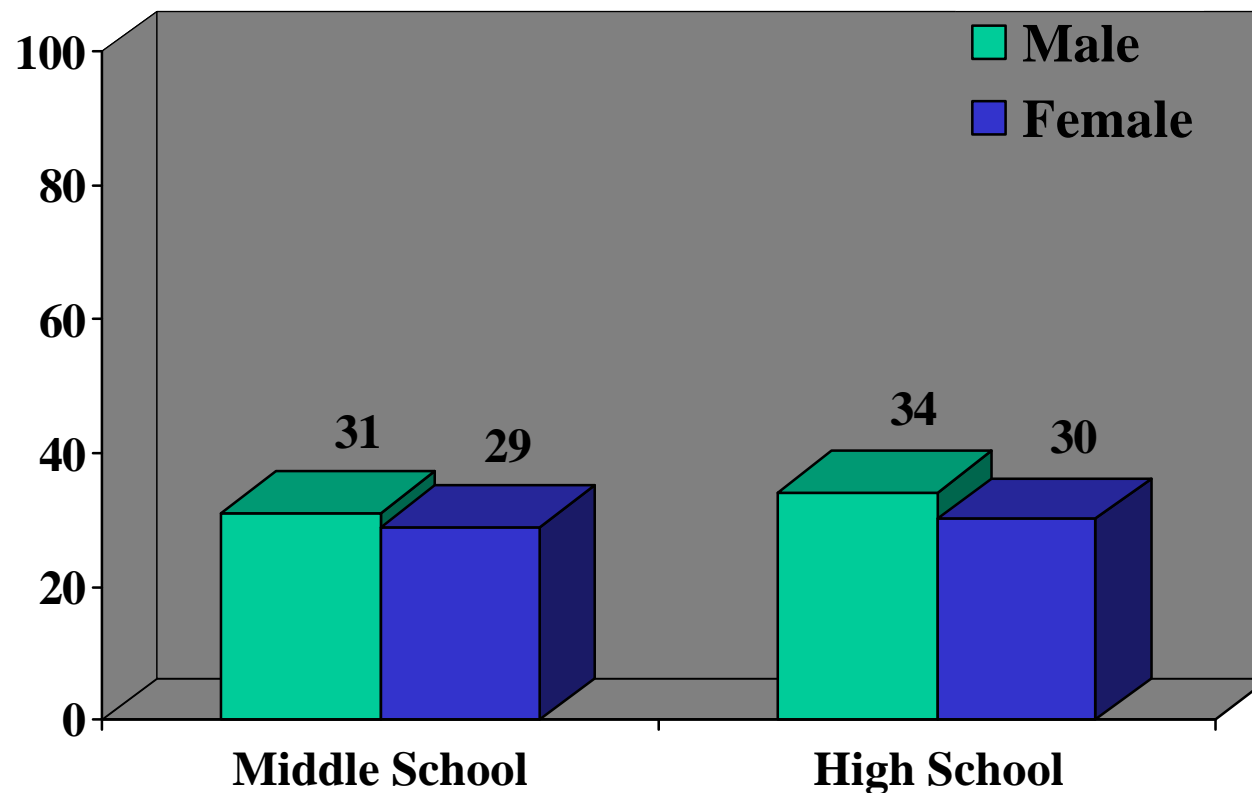


Tobacco Policy Data

Youth Access Index, 1987-1998



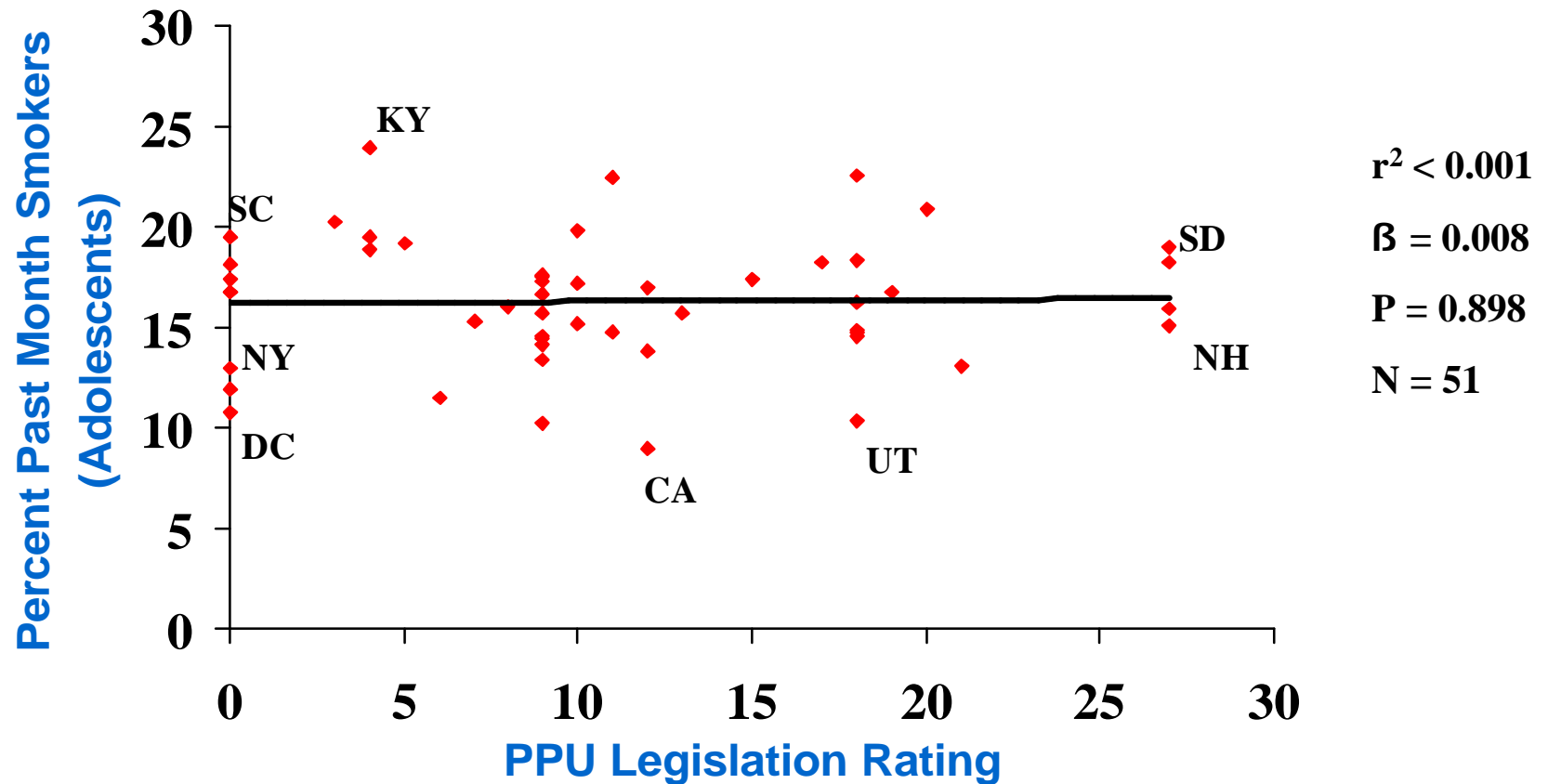
Current youth smokers refused purchase of cigarettes due to age during past 30 days



Results – Youth Access Restrictions

- Generally little evidence that restrictions on youth access to tobacco products reduce youth smoking
 - likely due to the generally poor enforcement of these laws
- Relatively strong evidence that increased retailer compliance with limits on youth access (resulting from stronger enforcement) leads to significant reductions in youth smoking prevalence and consumption
 - little impact on youth experimentation
 - impact increases as youth progress to more regular smoking
- Some weak evidence that combination of policies prohibiting youth purchase, possession and use of tobacco products lead to significant reductions in youth smoking
 - effect appears largest on lowest risk youth

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



Sources: 1999 NHSDA (12-17 year olds); ALA's SLATI, CDC's STATE system, and the Roswell Park Cancer Institute

Note: Past Month Smoking = smoked on ≥ 1 day during the previous 30 days
 Historical PPU Legislation Rating = Sum of PPU laws for previous 8 years (0 = no law; 1 = law present)

Results – Other Tobacco Related Policies

- Strong evidence that expenditures on comprehensive tobacco control programs and tobacco control coalitions lead to significant reductions in overall cigarette smoking, youth cigarette smoking
 - impact of mass-media counteradvertising campaigns most significant
- Consistent evidence that state preemption of stronger local tobacco control policies increases youth smoking prevalence and consumption
- Some evidence that smoker protection laws create favorable environment for tobacco use and lead to increased cigarette consumption

CALIFORNIA: 87-Cents Per Pack

California's tobacco control program began in January 1989, when the excise tax was increased from \$0.10 to \$.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

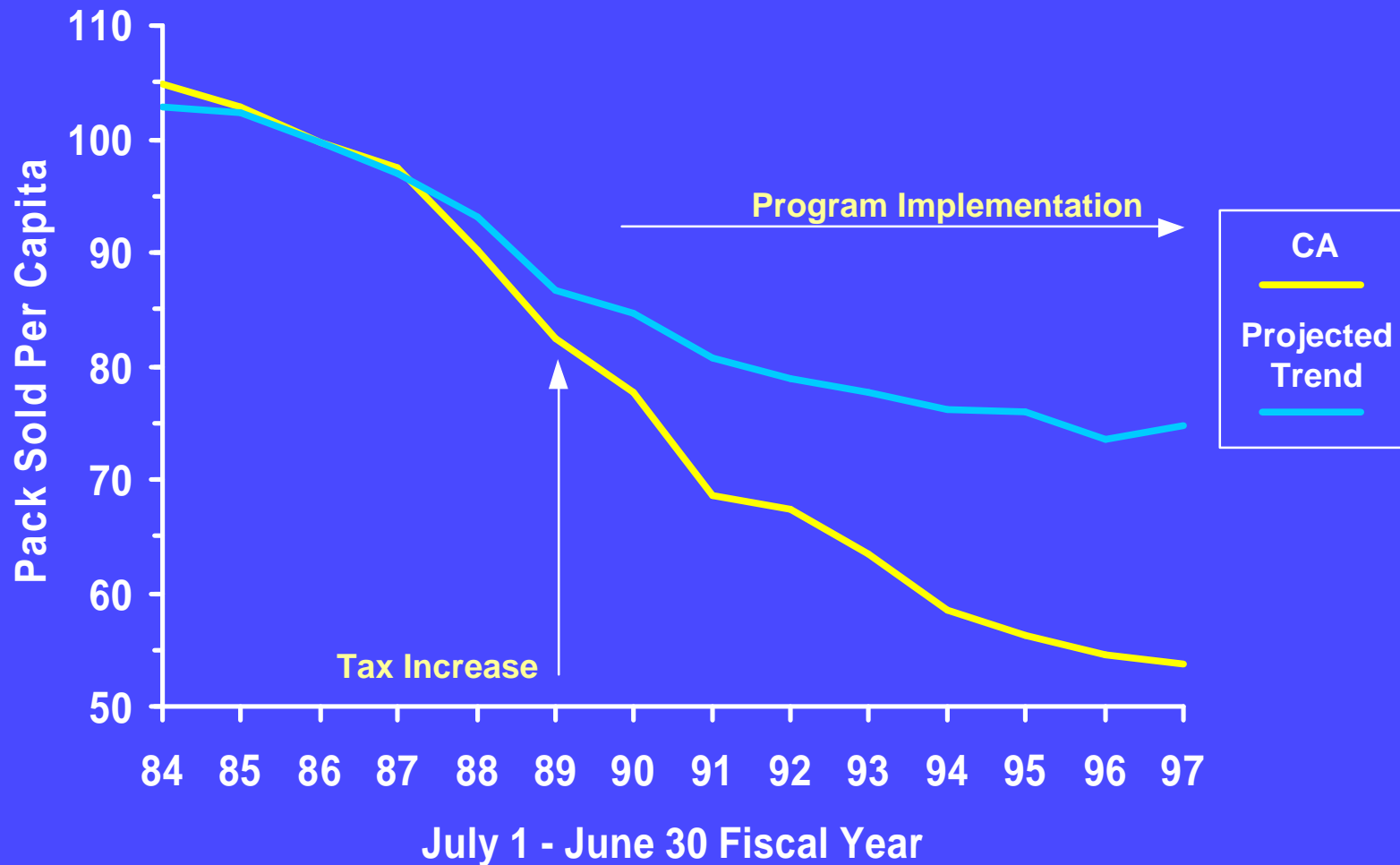
Between 1995 and 1999, the prevalence of cigarette use among youth dropped by 43% in California.

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



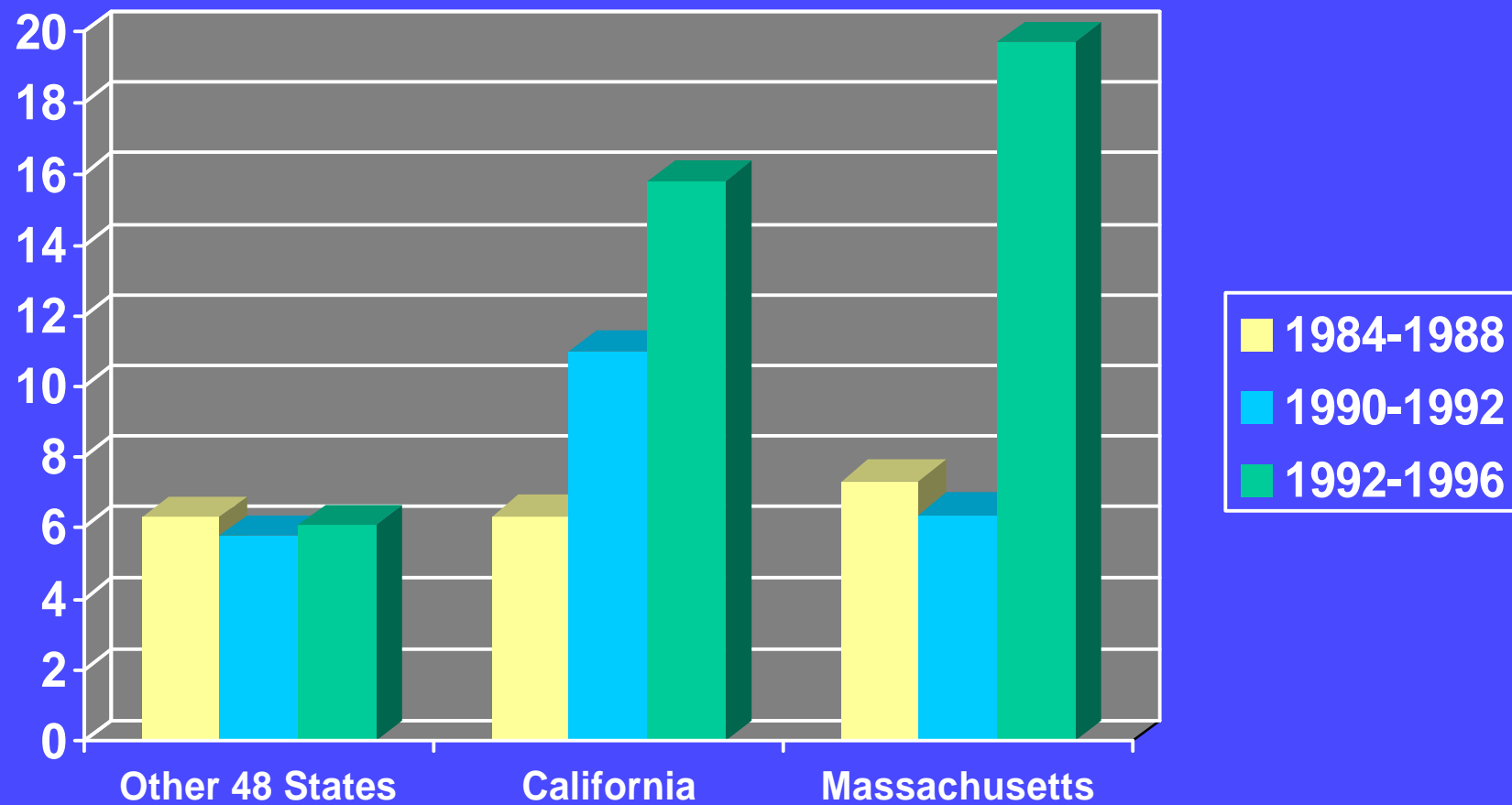
MASSACHUSETTS: 76-Cents Per Pack

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.**
- ☐ More recently, 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

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



OREGON: 68-Cents Per Pack

Oregon voter approved measure in 1996 to increase cigarette excise taxes by \$.30 (to \$.68 per pack) and to implement a new comprehensive tobacco prevention and education program.

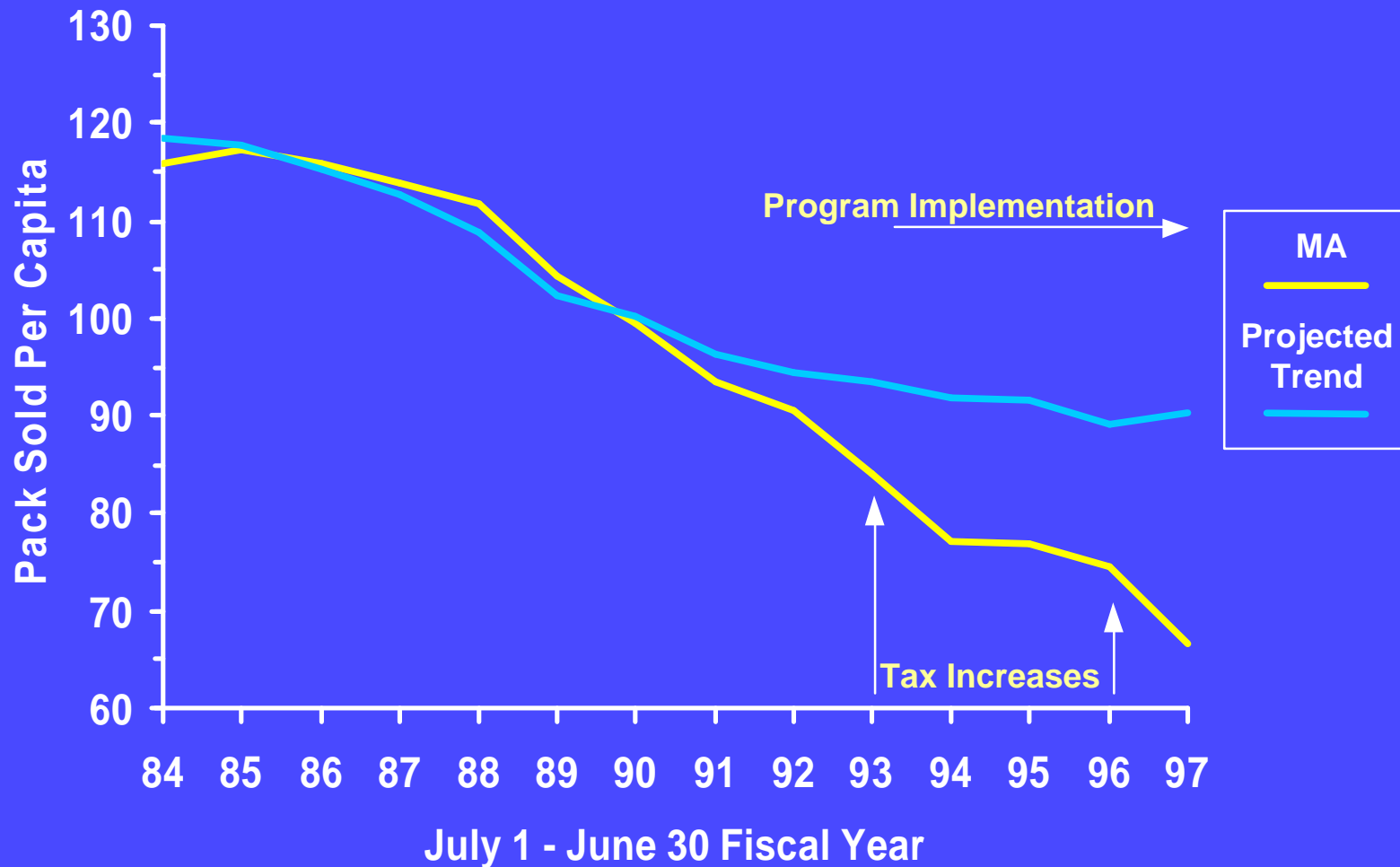
☰ Reduced cigarette consumption by 11.3% (or ten packs per person) between 1996 and 1998 (two years following the voter initiative); thus reversing a 4-year period (1993-1996) of increasing consumption prior to the measure. This drop in consumption compares favorably to a 2.2% increase in consumption between 1993 and 1996 (the years prior to the ballot initiative).

☰ In 1998, 25 million fewer cigarette packs were sold in Oregon compared to 1996, despite a population increase of 2.7 percent.

☰ Preliminary adult smoking prevalence data show a 6.4 percent decline from 1996 to 1998, representing 35,000 fewer smokers in Oregon.

Source: Oregon: Reducing Cigarette Consumption through a Comprehensive Tobacco Control Program - Fact Sheet; United States 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 Massachusetts versus Projected Trend, 1984-1997



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



Supported by
The Robert Wood Johnson Foundation



*A Policy Research Partnership
to Reduce Youth Substance Use*

Conclusions

- ☐ The price of tobacco is an important influence on the demand for tobacco products, particularly among young people.
- ☐ Substantial increases in excise taxes on cigarettes and other tobacco products significantly reduce the prevalence of tobacco use and, as a result, sharply reduce the public health toll caused by tobacco use.
- ☐ Comprehensive set of tobacco control policies and comprehensive approach to tobacco control lead to large reductions in youth and adult cigarette smoking, other tobacco use, and the death and disease caused by smoking.