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*A Policy Research Partnership  
to Reduce Youth Substance Use*

# **The Effects of Price on Alcohol Use, Abuse and Consequences**

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*Prepared for the National Academy of Sciences' Committee on  
Developing a Strategy to Reduce and Prevent Underage  
Drinking's Workshop on Underage Drinking: Issues and  
Approaches, October 10-11, 2002, Washington DC*



# Overview

- Review of alcohol taxation and other policies that impact on the price of alcoholic beverages
- Review of the evidence on the impact of alcoholic beverage taxes and prices on alcohol consumption
  - youth and young adults
  - heavy and/or frequent consumption
- Review of the evidence on the impact of alcoholic beverage taxes and prices on the consequences of alcohol use and abuse
- Focus on work by Chaloupka and colleagues, including: Grossman, Saffer, Markowitz, Pacula, Laixuthai, Czart, Wagenaar, and others
  - also brings in key studies by other economists



# Policies Affecting Alcoholic Beverage Prices

- Excise taxation
- Policies controlling distribution of alcoholic beverages
  - state monopoly of wine/spirits
  - licensing of wholesalers/retailers
  - exclusive territory policies
  - price-posting policies
  - other policies to restrict competition
- Policies affecting promotion of alcoholic beverages
  - limits on quantity discounts at wholesale level
  - limits on promotions for alcoholic beverages
  - bans on happy hour promotions
  - limits on the sale of beer by the pitcher
  - other policies controlling prices

# Federal Excise Taxation

- Federal Taxes:
  - date back to 18<sup>th</sup> century
  - Increased infrequently, often during war-time
  - More recent increases motivated by budget deficits

## Beer Tax

- Set at \$9.00 per 31 gallon barrel in 1951
- Doubled to \$18.00 per barrel in 1991
  - 32 cents per six pack

## Wine Tax

- Vary based on alcohol content
- Currently range from \$1.07 per wine gallon to \$3.40 per wine gallon

## Distilled Spirits Tax

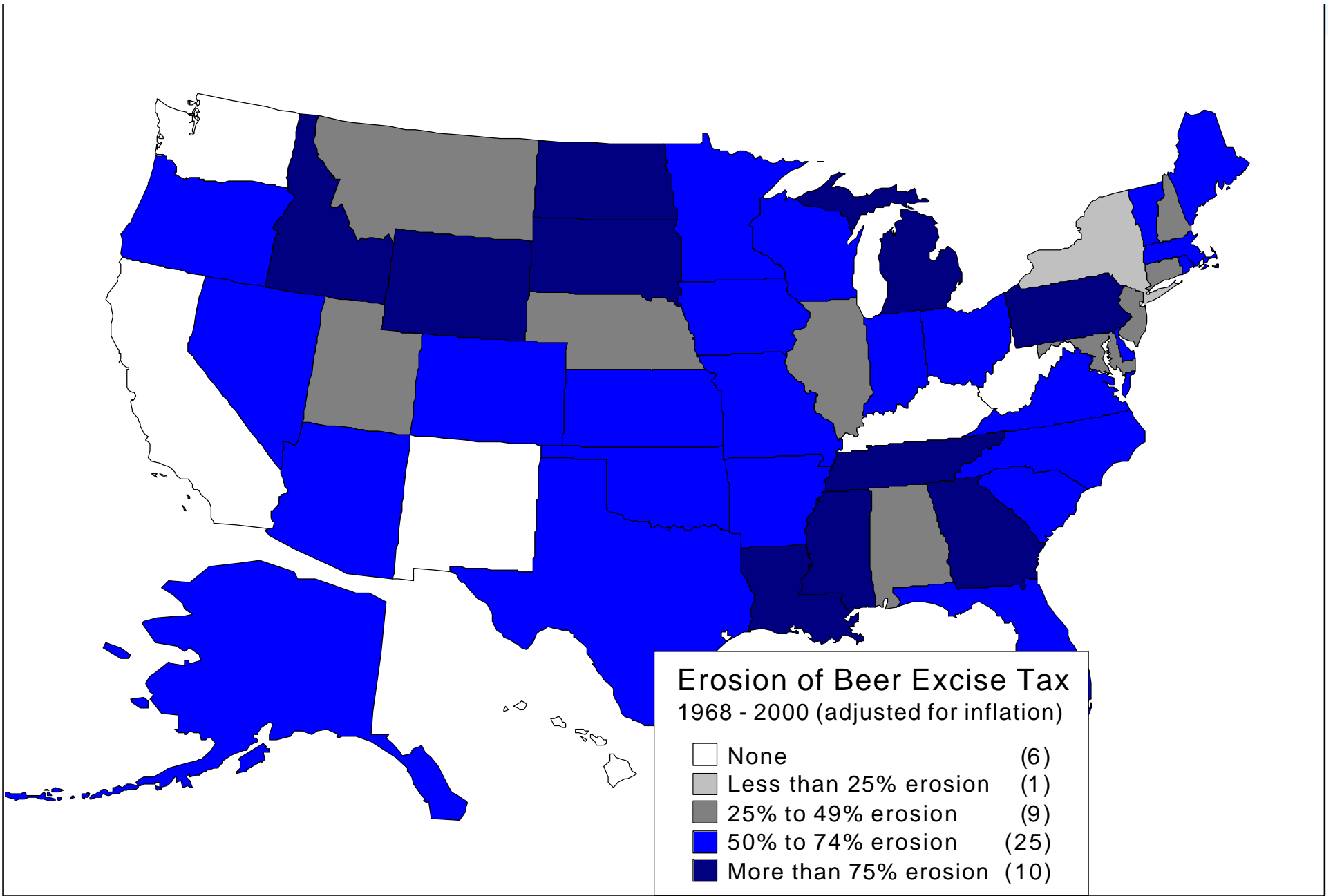
- Currently \$13.50 per proof gallon
- up from \$10.50 in 1951; \$12.50 in 1985

# Federal Excise Taxation

- Infrequent increases in Federal alcohol taxes has led to significant erosion in inflation adjusted values of these taxes
  - Beer:
    - inflation adjusted value of 1951 tax: \$61.60 per barrel
    - current value \$18.00 per barrel
  - Wine (under 14%):
    - inflation adjusted value of 1951 tax: \$1.16 per wine gallon
    - current value \$1.07 per wine gallon
  - Distilled Spirits:
    - Inflation adjusted value of 1951 tax: \$71.87 per proof gallon
    - current value: \$13.50 per proof gallon

# State Alcohol Taxation

- All states apply specific excise tax to beer
  - Range from 0.18 cents per can of beer to 9.87 cents
- Taxes on wine and spirits typically specific taxes in license states and combination of specific, *ad valorem*, and implicit taxes in control states
- Similar pattern of erosion in inflation adjusted value of state alcoholic beverage excise taxes over time
  - Six states have beer taxes that retain inflation adjusted value since 1968; 35 states had erosion of more than 50 percent



# Alcohol Taxation And Price

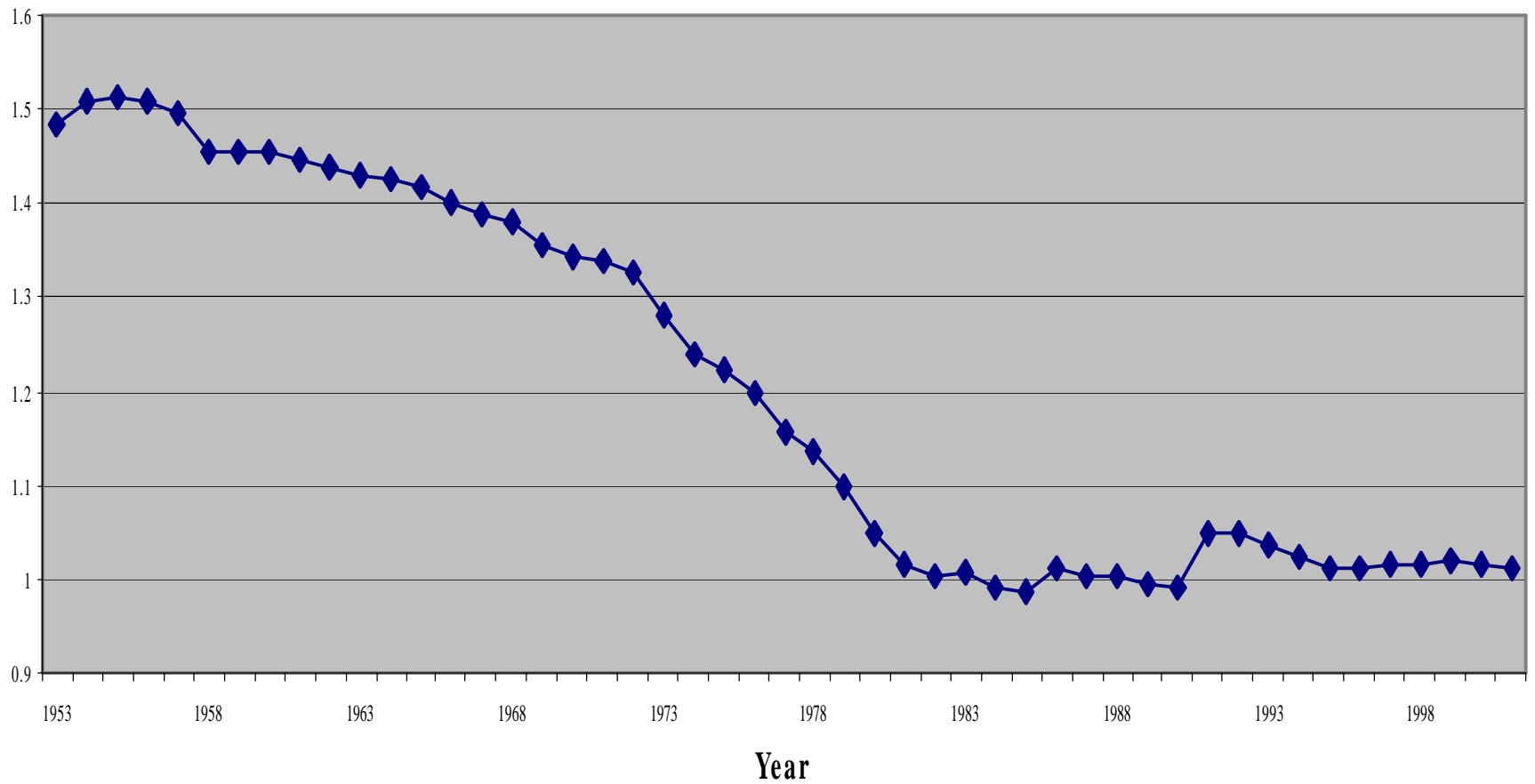
- Infrequent and modest increases in state and Federal alcoholic beverage excise taxes contribute to declines over time in inflation adjusted alcoholic beverage prices
- Little research that examines the impact of alcoholic beverage taxes on alcoholic beverage prices
- Recent study by Young and Bielinska-Kwapisz suggests that 1991 Federal tax increases more than passed on to drinkers
  - Estimate that \$9.00 increase in beer tax/barrel led to rapid \$15.00-\$17.00 increase in retail beer price



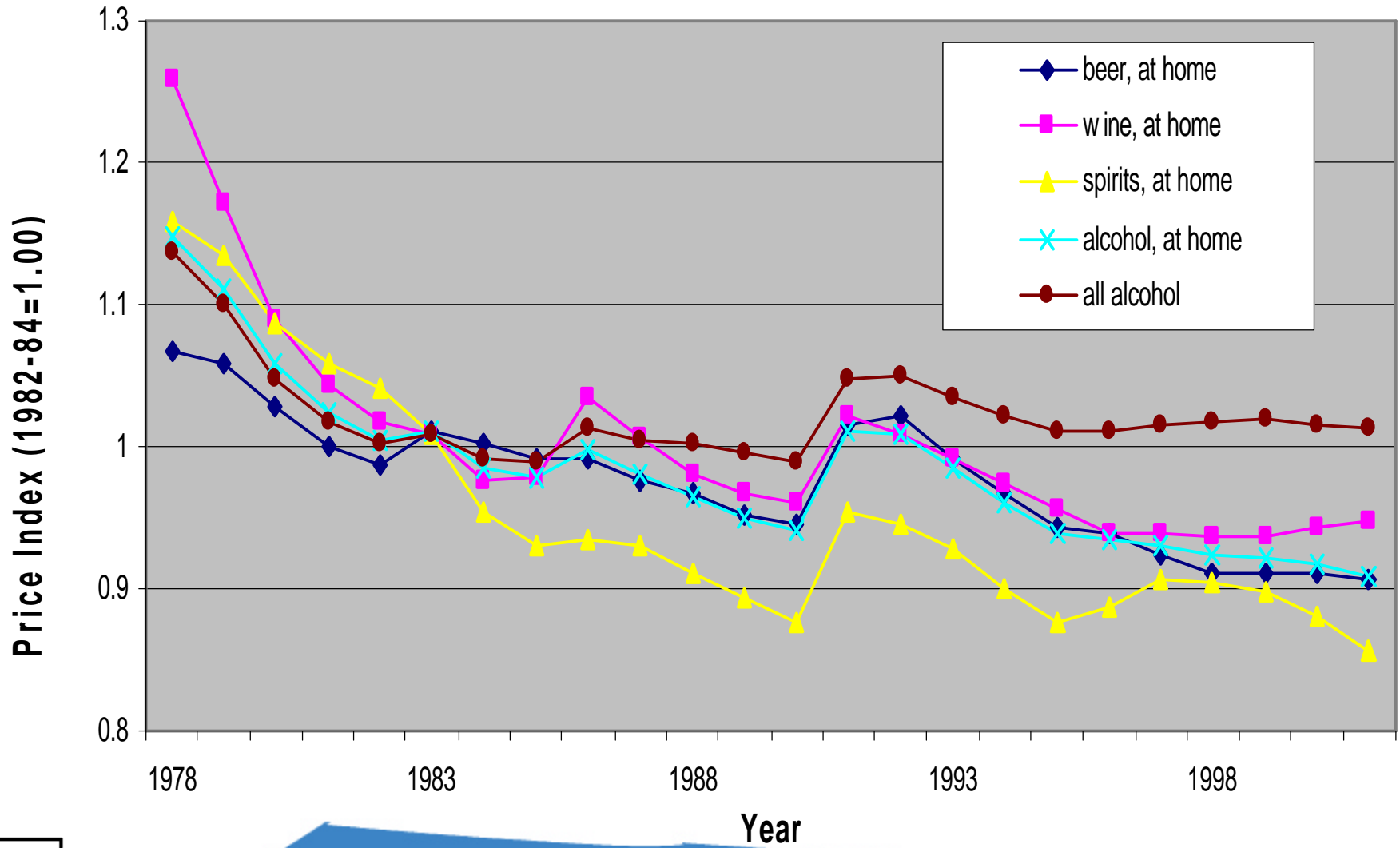
## Other Alcohol Policies and Alcohol Prices

- Economic theory suggests that policies that limit competition in alcoholic beverage markets will lead to higher prices
- Little empirical evidence on the impact of these policies on price
  - Nelson (1990) finds that prices are slightly higher in monopoly states
  - MacDonald (1986) finds that relaxing of monopoly control led to lower prices in some markets
  - Several studies find that exclusive territory policies for beer distribution result in higher prices
  - More research needed on these/other policies

# Inflation Adjusted Alcoholic Beverage Prices, 1953-2001



# Inflation Adjusted Alcoholic Beverage Prices 1978-2001





## Alcohol Prices and Drinking

- Estimates of overall price elasticity of alcohol demand based on aggregate data (Leung and Phelps, 1993):
  - Beer: -0.3
  - Wine: -1.0
  - Distilled Spirits: -1.5
- Estimates from individual level data suggest demand might be more responsive to price
  - Higher prices reduce drinking prevalence, frequency of consumption, and number of drinks per drinking occasion
    - Limited evidence of substitutability across beverages
    - Estimates from models that account for addictive nature of alcohol consumption suggest that long run impact of price even larger



# Young People More Responsive To Price Increases

Economic theory suggests:

- Proportion of disposable income youth spends on alcohol likely to exceed that for adults
- Peer influences much more important for young drinkers than for adult drinkers
- Young drinkers less addicted than at least some older drinkers
- Young people tend to discount the future more heavily than adults

# Alcohol Prices and Youth Drinking

- Grossman and colleagues (1987, 1988) find consistent evidence that higher beer prices lead to significant reductions in frequency and intensity of beer consumption by youth

Frequent and fairly frequent young drinkers more responsive to price than infrequent drinkers

Heavy and fairly heavy young drinkers more responsive to price than young light drinkers

- Several other studies over the past decade reach similar conclusion that higher prices reduce youth drinking
- Exception is recent study by Dee (1999) that concludes that youth drinking is unresponsive to price

# Alcohol Prices and Young Adult Drinking

- Chaloupka and Wechsler (1996) find little or no effect of alcoholic beverage prices on drinking among college students

Attribute this to imperfect measure of price faced by students

- Several more recent studies using new information on self-reported alcoholic beverage prices, participation in “fixed price” drinking events, and indicators of state/local policies affecting alcoholic beverage prices conclude that higher prices reduce drinking among college students
- Williams and colleagues (2002), finds similar effects of price on transitions from abstinence to moderate drinking and from moderate drinking to binge drinking

# Alcohol Prices And Drunk Driving

- Many studies using data on motor vehicle accident fatality rates conclude that higher taxes and prices lead to significant reductions in drinking and driving
  - estimates suggest that a ten percent increase in price would:
    - reduce overall fatality rates by 5-10 percent
    - reduce youth fatality rates by 7-17 percent
- Estimates of impact on fatality rates consistent with estimates based on self-reported drinking/driving behavior from survey data
  - Kenkel (1993) estimated that ten percent price increase would:
    - Reduce drinking and driving by 7.4 percent among males and 8.1 percent among females
    - Lead to larger reductions (12.6 and 21.1 percent) among young males and females



# Alcohol Prices and Alcohol Related Health Consequences

- Studies have examined impact on:
  - liver cirrhosis death rates and other diseases for which alcohol is a primary cause
  - diseases for which alcohol is a contributing factor
  - suicide deaths and suicidal ideation
  - other accidental deaths
  - non-fatal workplace accidents
  - sexually transmitted disease rates
- Generally consistent findings that increases in alcoholic beverage taxes or prices lead to significant reductions in a number of consequences resulting from alcohol use and abuse

# Alcohol Prices and Violence and Other Crime

- Growing literature examining the impact of alcohol taxes and prices on violence and other crime, including:
  - homicide, rape, assault, and other violent crime rates
  - child abuse
  - spouse abuse
  - property crimes
  - delinquent behavior
- Again, generally consistent findings that increases in taxes or prices for alcoholic beverages lead to reductions in violence and other crime resulting from alcohol use and abuse

# Alcohol Prices and Educational Outcomes

- Several recent studies examine impact of alcohol taxes and prices on various measures of educational attainment and related outcomes
- Yamada and colleagues (1996) conclude that higher taxes would raise the likelihood of high school graduation
- Cook and Moore (1993) find that higher taxes would increase the probability of attending and graduating from a four year college or university
- Analyses of HCAS (Williams, et al. 2002; Powell et al. 2002) find that higher prices improve college student study habits, reduce frequency of missing classes and likelihood of falling behind in school, and lead to higher grade point averages



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## Conclusions

Federal, state and local governments can use variety of policies to raise the price of alcoholic beverages

- more research needed on impact on price

Infrequent/modest increases in taxes and repeal of some control policies have contributed to sharp reductions in inflation adjusted alcoholic beverage prices over time

The prevalence, frequency, and intensity of drinking, as well as numerous consequences of alcohol use and abuse are inversely related to alcoholic beverage prices, particularly among youth

- additional research would be useful in clarifying the magnitude of these effects, particularly among high-risk populations