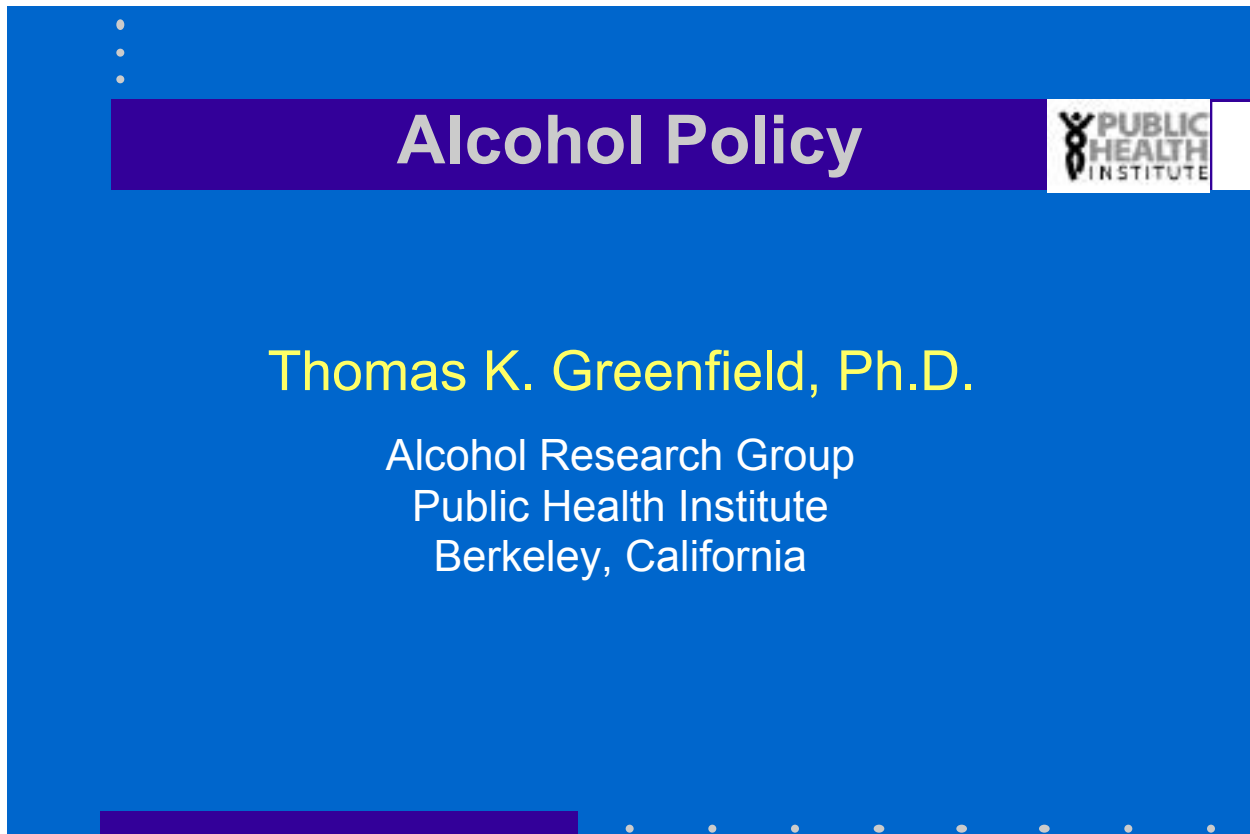


Slide 1



The slide features a blue background with a dark blue header bar at the top. The title "Alcohol Policy" is written in white, bold, sans-serif font within the header bar. To the right of the title is the logo for the Public Health Institute, which consists of a stylized caduceus symbol and the text "PUBLIC HEALTH INSTITUTE". Below the header bar, the name "Thomas K. Greenfield, Ph.D." is displayed in a yellow, sans-serif font. Underneath the name, the affiliation "Alcohol Research Group", "Public Health Institute", and "Berkeley, California" is listed in a white, sans-serif font. The slide also includes three small white dots in the top left corner and a series of small white dots along the bottom edge.

Introduction

This lecture on Alcohol Policy is given by Dr. Thomas K. Greenfield from the Alcohol Research Group of the Public Health Institute, Berkeley, California.

Slide 2

Alcohol Policies: Levels, Types, Issues

Jurisdictional Level

- Federal, state, county, municipal (or local community)

Type

- Taxation/pricing, access, advertising, transportation, etc.
- Legally based policies, enforcement, and justice system
- Institutional policies (e.g., schools, workplace, military)
- Health services and public health measures
- Science priorities and research policies

Issues

- Studies of policy making, policy analysis
- Evidentiary basis of policies and the role of science

Alcohol Policies: Levels, Types, and Issues.

Alcohol policies exist throughout society at a variety of levels, from federal (and even international, as in the case of trade agreements and commercial aviation), state, and county or local jurisdictions. Among the types of alcohol policies, one might consider pricing policies, usually involving taxation, and access policies. Many policies are based on the passage of laws, and policy enforcement is generally essential. There are also institutional policies governing, for example, student and faculty behavior in schools or that of employees in workplaces. This talk on alcohol policies emphasizes *prevention policies*. Because of the scope of the alcohol policy topic, it touches very little on treatment-related policies and only in passing on policies regarding science and research. These are important areas in and of themselves deserving of fuller presentation. The Health Services Research lecture covers some of the treatment policy issues. Although not the main focus, learnings from policy development studies are brought in when relevant, since theoretically excellent policies may not be politically viable or so modified in the policy making process as to be unrecognizable (Greenfield, 1994). This talk will emphasize the evidentiary basis of policy alternatives when possible.

Slide 3

Prevention Policies

“They are all policies that operate in a non-personalized way to alter the set of contingencies affecting individuals as they drink or engage in activities that (when combined with intoxication) are considered risky.”

Moore & Gerstein (1981), p 53
Beyond the Shadow of Prohibition

Prevention Policies

Prevention policies are heterogeneous indeed but share one similarity. To borrow a definition from an important report that helped shape public health policy as regards alcohol in the U.S., *Alcohol and Public Policy: Beyond the Shadow of Prohibition* (Moore & Gerstein, 1981):

They are all policies that operate in a nonpersonalized way to alter the set of contingencies affecting individuals as they drink or engage in activities that (when combined with intoxication) are considered risky (p 53).

Slide 4

Period	Status
• Up to 1906	• 3 Prohibition States
• 1907–1913	• 23 Prohibition States (17 by referenda)
• 1914–1918	• 48 Prohibition States (25 new referenda; 16 < war)
• 1917	• 18th Amendment introduced
• January 1918	• Ratified by Congress
• January 1919	• U.S. Prohibition Effective

Source: Moore & Gerstein, 1981

Historical Backdrop: Prohibition

One cannot discuss alcohol policy in the United States without reference to the most radical alcohol policy the country adopted early in the last century, familiar to most as Prohibition: the 18th Amendment to the Constitution, and its implementing legislation, the Volstead Act.

Without some awareness of the long experience of unbridled excesses of the alcohol industry and its antagonist, the Temperance Movement during the 19th Century, it is difficult today to understand the broad-based popularity of Prohibition that led both numerous states and, finally, the nation to legislate Prohibition. Yet:

Most of the dry victories came about through referenda, not legislative amendments. In 1906, only 3 states had prohibition; by 1913, there were 23 dry states, and in 17 of these states the measure was approved by direct vote of the people. Of the 25 [state] referenda victories between 1914 and 1918, 16 preceded America's entry into the war (Moore & Gerstein, 1981, pp 156-157).

These reforms resulted from sophisticated, vigorous organizing by the Anti-Saloon League following a century of maturation of the repeatedly reinvigorated “symbolic crusade” of the Temperance Movement (Gusfield, 1963). The language of the 18th Amendment introduced in Congress in 1917, ratified in January 1919 and taking effect 1 year later, prohibited the “manufacture, sale or transportation” of “intoxicating liquors” (but not possession, consumption, or home production). The Amendment gave states “concurrent power” for enforcement.

Ambivalence regarding intrusions on private behavior and drinking itself led to vagueness in the articles, which also provided a grace period for putting away stocks for those who wished and could afford to do so. The term “intoxicating liquors” was substituted for “alcoholic beverages,” and home production for “personal use,” was, in effect, permitted, since the Volstead Act required proof that liquor was for sale before a warrant for search and seizure could be issued. Bootleggers set up small stills, and numerous loopholes diverted industrially produced alcohol prior to its being “denatured” (or made unpotable). Grocery chains openly advertised wine- and beer-making ingredients and paraphernalia, and the California grape industry flourished with a 700% increase in the first 5 years of Prohibition. New York Mayor LaGuardia distributed wine and beer making instructions and offered legal advice to constituents:

The beverage may be called wine or beer, but must not be labeled as such. The average homemade wine may be considered nonintoxicating within the meaning of the law. It cannot be given to strangers; even though the beverage is nonintoxicating, it loses its legal character if sold (Moore & Gerstein, 1981, p 159 citing Brinkley 1930).

The prohibition policy’s lack of intrusion on the consumer’s *behavior* was not a tactical compromise in its passage:

Once the destruction of 170,000 saloons had been achieved, and the systematic spread of addiction stopped, it was believed that the appetite for drink would wither away without the artificial stimulation of an organized traffic (Moore & Gerstein, 1981, p 159).

Slide 5

Measure	Dates	Change
Cirrhosis mortality	1911–1929	29.5 to 10.7 per 100,000
Admissions for alcoholic psychosis	1919–1928	10.1 to 4.7
Arrests for drunk & disorderly	1916–1922	50% decline

Source: Moore & Gerstein, 1981

Reduction in Problems During Prohibition

Before considering the basis for Repeal, in what ways did the policy succeed? Viewed as a “natural experiment,” the leaky policy nonetheless led to reductions in volume of consumption estimated at one-third to one-half. Outcomes related to this reduction included:

- cirrhosis mortality 1911-1929 29.5 to 10.7 per 100,000
- admissions for alcoholic psychosis: 1919-1922-1928 10.1 to 3.7 to 4.7
- arrests for drunk & disorderly: 1916-1922: 50% decline

Source: Moore & Gerstein (1981, p 165).

This policy may be said to have “failed” since it was not sustained. Public enthusiasm for the “noble experiment” progressively soured. Aside from the simple desire by many for accessible drinking venues, crime, corruption of officials, speakeasies, and flagrant disregard for the law became increasing problems tending to offset any benefits. The political agendas of business elites facing labor unrest in the economic turmoil of the late 1920’s painted the evils of Prohibition in terms of the breakdown of authority, even inducements to Bolshevism. Magazines talked of public health hazards through corruption of youth and interference with workers’ needs to “blow off steam.” Roosevelt campaigned in 1932 for repeal of the 18th Amendment, and the 21st Amendment achieved Repeal when 35 states ratified it by December 1933, with a 3 to 1 overall popular vote.

Slide 6

Repeal: Alcohol Control

- 1932: Roosevelt campaigns for repeal of 18th Amendment
- December 1933: 21st Amendment (Repeal) ratified by 35 states
- Alcohol Control becomes “a pivotal idea” in post-Repeal era

Federal

- regulate production of spirits, wine & beer (curb illegal production)
- manage product purity and labeling; impose excise taxes
- Authority with Department of Justice (ATF since 1972)

State

- Devolved Powers including dry option, retail monopolies, taxation
- Alcoholic Beverage Control (ABC Laws)

Sources: Levine 1980; Moore & Gerstein, 1981

Repeal: Alcohol Control

Nonetheless, Prohibition did produce a lasting policy “legacy.” The corporate-led movement opposing Prohibition promoted the concept of *alcohol control* as a pivotal idea (Levine, 1980).

Basically, advocates of control took a position that they defined as a just mean between dangerous polarities. Permitting saloon power to run amok had given rise to futile attempts at imposing moral fetters. A policy of control avoided this dual extremism (Moore & Gerstein, 1981, p 169)

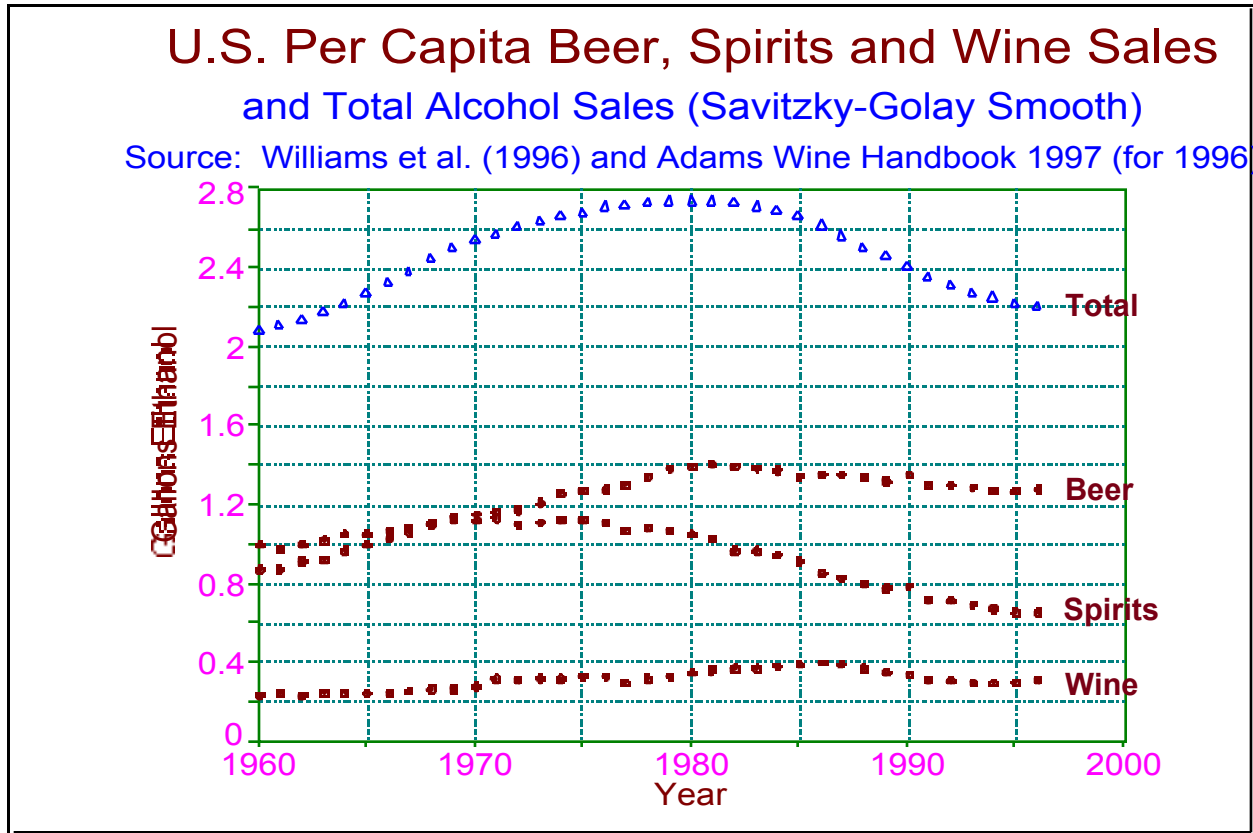
Canadian, Swedish and English systems were appealed to as models. The state could directly supervise sales, regulate patterns of consumption, and diffuse a divisive social issue. The following policy framework emerged, much of it continued to the present:

- **Federal government:**
- Responsibility to regulate production of spirits, wine and beer, to prevent illegal production, manage product purity and labeling.
- Consolidated since 1972 in Justice’s Bureau of Alcohol, Tobacco, and Firearms (ATF).
- Power to impose excise taxes.

State governments:

- Most policies devolved to states. Initially 7 retained prohibition (5 of these deemed beer nonintoxicating); 12 states permitted liquor for home consumption only; 29 states permitted liquor by the glass.
- Alcohol beverage Control (ABC) laws were enacted designed to eliminate pre- and mid-Prohibition abuses via distribution regulations and access restrictions—hours/days of sale, Sunday/Election day closings; no vertical integration (“tied houses” owned by producers).
- Between 1933 and 1935, 15 states adopted various monopoly systems largely for economic reasons (to raise revenue, often earmarked for special purposes, hospitals, schools, drought relief, etc.). Prevailing political discourse saw drinking in terms of prestige, tolerance, civility. Responsibility could be taught not coerced (Moore & Gerstein, 1981).
- States also apply taxation at levels typically lower than the federal excise taxes. In the U.S., taxes have generally been applied under the rubric of revenue generation rather than as a public health measure.

Slide 7



Per Capita Beer, Spirits, and Wine Sales

How successful has the alcohol control policy framework in place since Repeal been? Public health advocates viewed a steady liberalization of alcohol controls in the 1960's and 1970's as upsetting the balance, since per capita consumption steadily climbed until 1981.

Starting in the mid 1970's, a new public health paradigm among prevention specialists developed (see Kaskutas' Primary Prevention Master Lecture and initial definition). Instead of widely discredited individual responsibility and early school-based informational approaches to prevention, found largely ineffective (Moskowitz, 1989), environmental, policy and legislative methods of prevention were re-emphasized (Room, 1974; Room, 1992). Some have called this a new temperance movement (Miller, 1984).

Slide 8

Controversy in Optimal Policy Approaches

- **Single Distribution Theory (Ledermann Theory)**
Posits that a substantial decrease in a population's mean (or per capita) consumption will be accompanied by a decrease in the prevalence of heavy drinkers
- **Harm Reduction: Abates hazardous drinking patterns**
Attention is less on trying to modify everyone's drinking, be it light or heavy, and more on policy measures targeting heavy quantity per occasion drinking patterns

Sources: Skog, 1985; Edwards et al, 1994; Rehm et al, 1996; Stockwell et al, 1997

Continuing Controversy in Current Approaches to Prevention Policy

Two essential models represent apparently opposing but actually complementary frameworks for policy development.

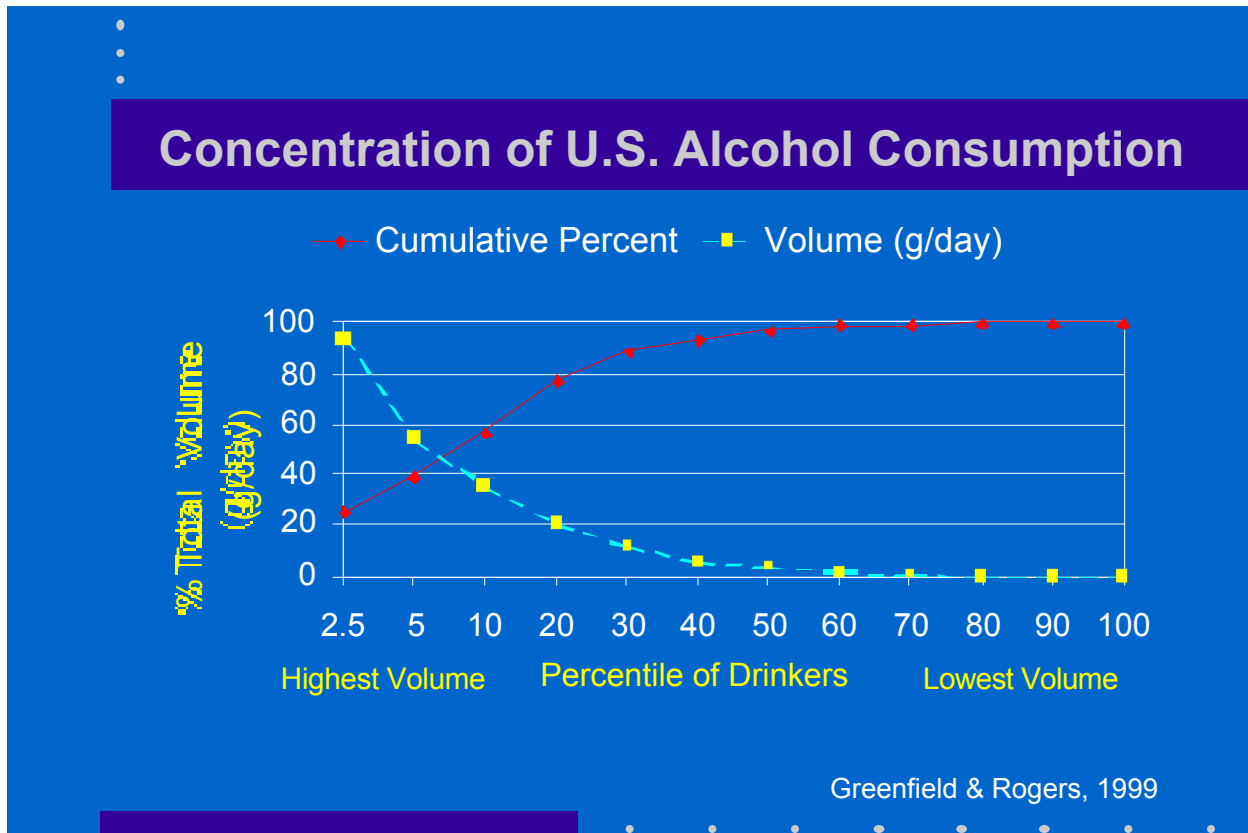
1) Single Distribution Theory (Ledermann Theory) Posits that a substantial decrease in a population's mean (or per capita) consumption is very likely to be accompanied by a decrease in the prevalence of heavy drinkers. Given the concentration of alcohol consumption (see Greenfield & Rogers (1999) above and Russell's Master Lecture on Epidemiology) one argument is that since such a large portion of the country's total (aggregate) amount drunk is consumed by heavy drinkers, a sizeable reduction in overall consumption will not occur unless some portion of the heavy drinkers reduce their intake (Moore & Gerstein, 1981, p 67). Though the exact mathematical properties of drinking distributions that Ledermann (1956) proposed have not held up, there is empirical support for general regularities in drinking distributions. Skog (1985) looking at drinking distributions across countries found that as you move from *dryer* (lower overall consumption) to *wetter* (higher) drinking countries, considering percentiles of the drinking distribution, *all types of drinkers* tended to increase their consumption (Edwards, et al., 1994, Fig 4.5 p 89 taken from; Skog, 1985). Some (Duffy, 1986) argued this conclusion was invalid, being based on cross-cultural not longitudinal data, but similar findings based on change across time have tended to confirm the view (Lemmens, Tan & Knibbe, 1990; Skog, 1985) though not without some exceptions.

2) Harm Reduction Approach Emphasizing Abatement of Hazardous Drinking Patterns.

A repeated epidemiological finding is that even at relatively lower levels of volume, many types of alcohol-related problems are associated with drinkers who at least intermittently report high quantity per day or per occasion consumption, e.g., social and health harms (Room, Bondy & Ferris, 1995), non-fatal injuries (Cherpitel, et al., 1995), DSM-IV alcohol dependence (Caetano, et al., 1997), drunk driving and other alcohol-related consequences (Midanik, et al., 1996), and even all-cause mortality (Rehm, Greenfield & Rogers, in press). As a result of this and other research implicating hazardous drinking amounts (Greenfield, Rogers & Midanik, 1999; Rogers & Greenfield, 1999; Stockwell, et al., 1996), attention has shifted from the agenda of trying to modify everyone's drinking, be it light or heavy, to specific policy measures targeting heavy (episodic) drinking patterns (Rehm, Ashley & Room, 1996), or environments promoting heavy drinking, not overall volume. It has been suggested that an important, politically feasible (Stockwell, et al., 1997) prevention strategy is to focus on reducing the quantities per occasion drunk by the population and changing the circumstances associated with heavy drinking— both harm reduction approaches (Plant, Single & Stockwell, 1997).

Several studies have considered optimal mixes of both approaches (Greenfield & Rogers, 1999; Lemmens, 1994; Norstrom, 1995).

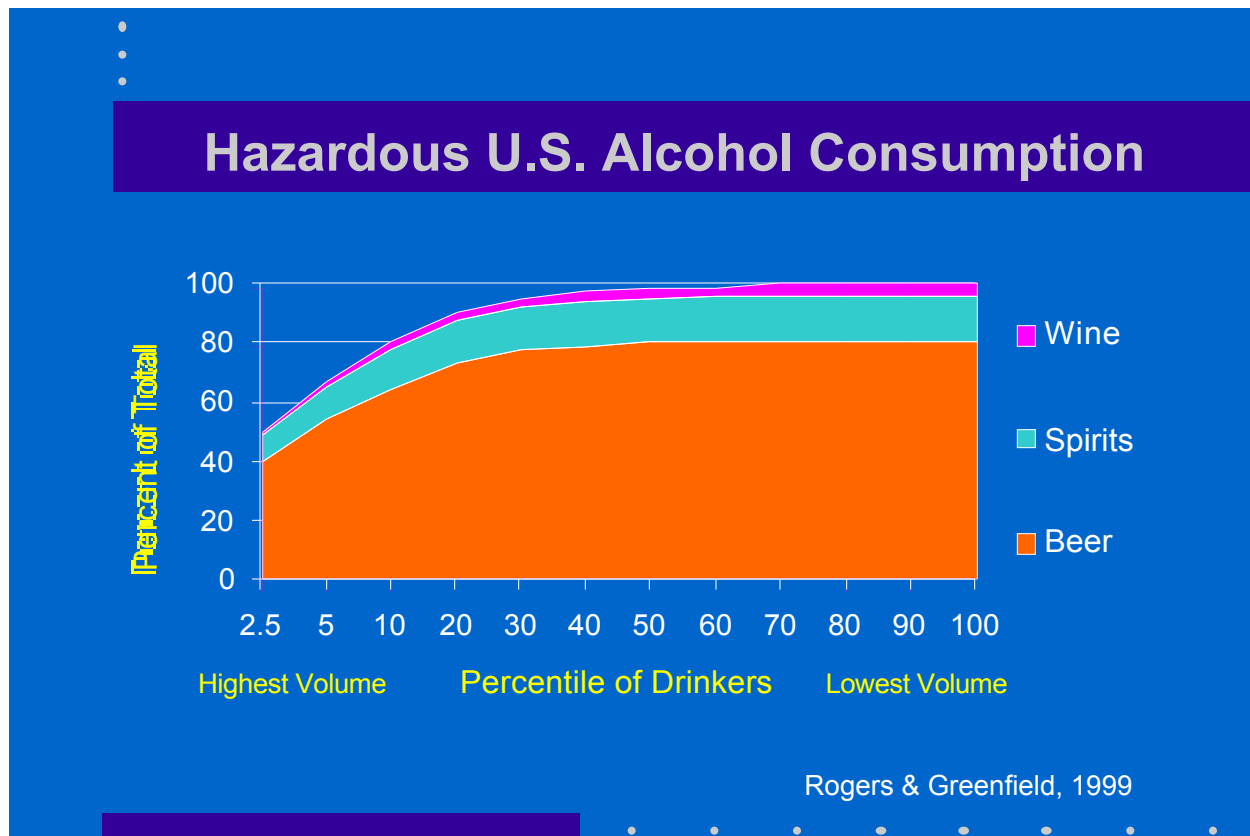
Slide 9



Concentration of U.S. Alcohol Consumption

Hazardous drinking and its reduction is a part of both approaches, but the term hazardous—meaning drinking that places one at substantial risk of problems—is used in different ways. Skog’s understanding emphasizes hazardous levels of average volume. In the U.S., the top 2.5 percentile group by volume, drinking at least 6 drinks a day and reporting as a group an average of 94 grams of ethanol (8 drinks) per day, accounts for a quarter of the alcohol reportedly consumed by adults (Greenfield & Rogers, 1999). Sixty-three percent of this group is aged 18–29 (versus 27% of the population) and it is mostly male. Those continuing to drink at average levels indicated by the top 5% (above about 4 drinks per day) are at risk of chronic health harms and excess mortality (Rehm, Greenfield & Rogers, in press). Compared to those drinking under 1.5 drinks per day (about 80% of drinkers), those drinking 4–6 drinks per day had a ten-fold increased risk of cirrhosis based on case control studies (Pequignot, Tuyns & Berta, 1978). Thus, policies designed to reduce high volumes of consumption make public health sense.

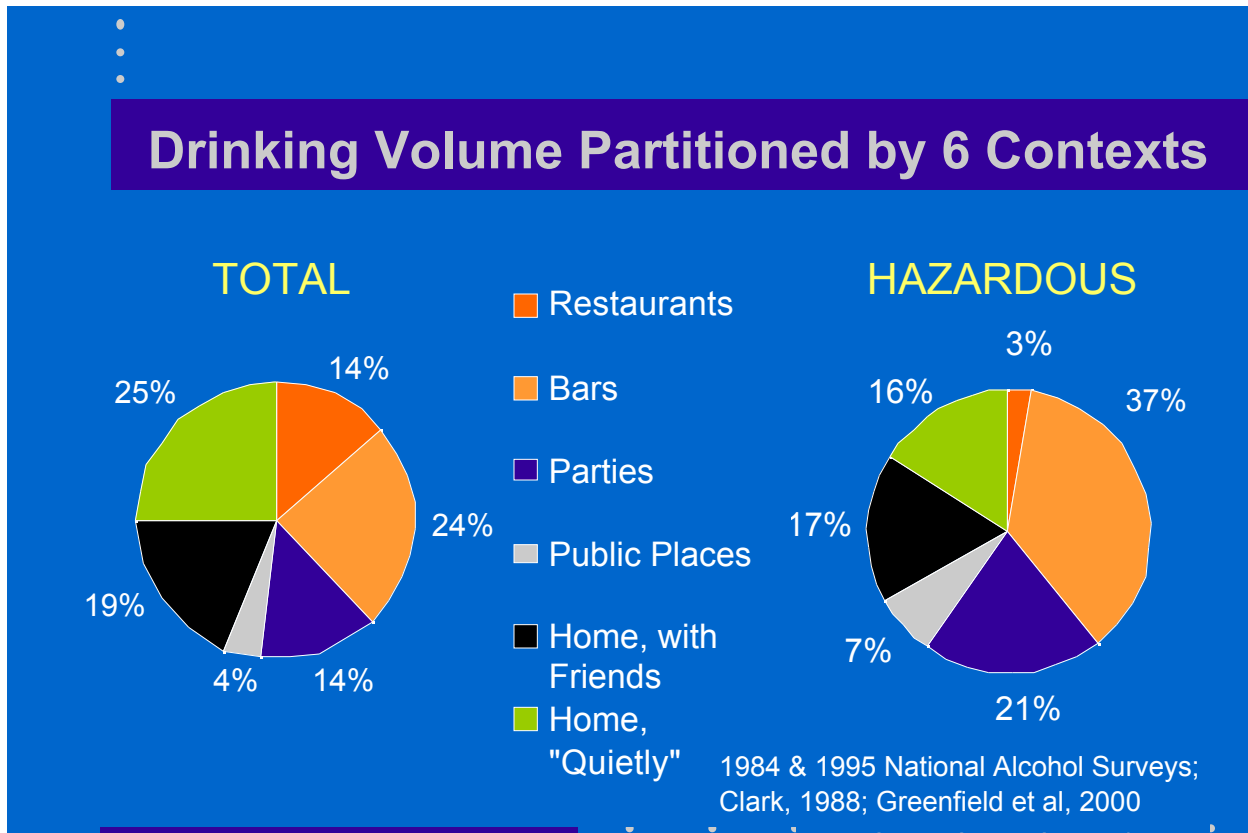
Slide 10



Hazardous U.S. Alcohol Consumption

Hazardous drinking can also be defined in terms not of average amounts but of whether, and how often, one drinks 5 or more drinks in a day (60–70 g ethanol), taken as an indicator of a hazardous drinking pattern. One may drink rather a low volume and still be at risk of acute problems, injuries, accidental drownings, driving accidents, or becoming a victim of a crime, for example, by dint of drinking to intoxication. Risks increase steeply with repeated occurrences but then level off when heavy drinking becomes “usual” (Midanik, et al., 1996; Room, Bondy & Ferris, 1995). Beverage preferences relate to heavy quantity drinking: overall a majority (59%) of beer is drunk in hazardous (5+/day) amounts versus 37% for spirits and 14% for wine (Rogers & Greenfield, 1999). Beer drinking by the top 5 percentile volume group accounts for more than half (55%) of all hazardous consumption. The odds of drinking hazardous amounts are doubled if you are 18–29, with men being five-and-a-half times as likely to drink this way than women (Rogers & Greenfield, 1999).

Slide 11: Total and Hazardous Drinking Volumes in Context



One reason that environmentally oriented alcohol policies make sense is that drinking hazardous amounts tends to be associated with particular types of settings and circumstances more than with others. An analysis using 1984 National Alcohol Survey (NAS) data by Clark (1988)—recently replicated in the 1995 NAS—shows the effect. While drinking in bars, taverns and cocktail lounges accounted for 24% of the overall volume reported in 6 drinking contexts, bars accounted for 37% of the hazardous (5+) drinking. Conversely, restaurants accounted for 14% of the total volume but only 3% of the volume attributable to hazardous amounts. A relatively larger share of hazardous drinking also occurs at others' parties and when hanging out with friends in public places like parking lots and street corners. As we will see, policies increasingly are designed to affect drinking behavior in such settings.

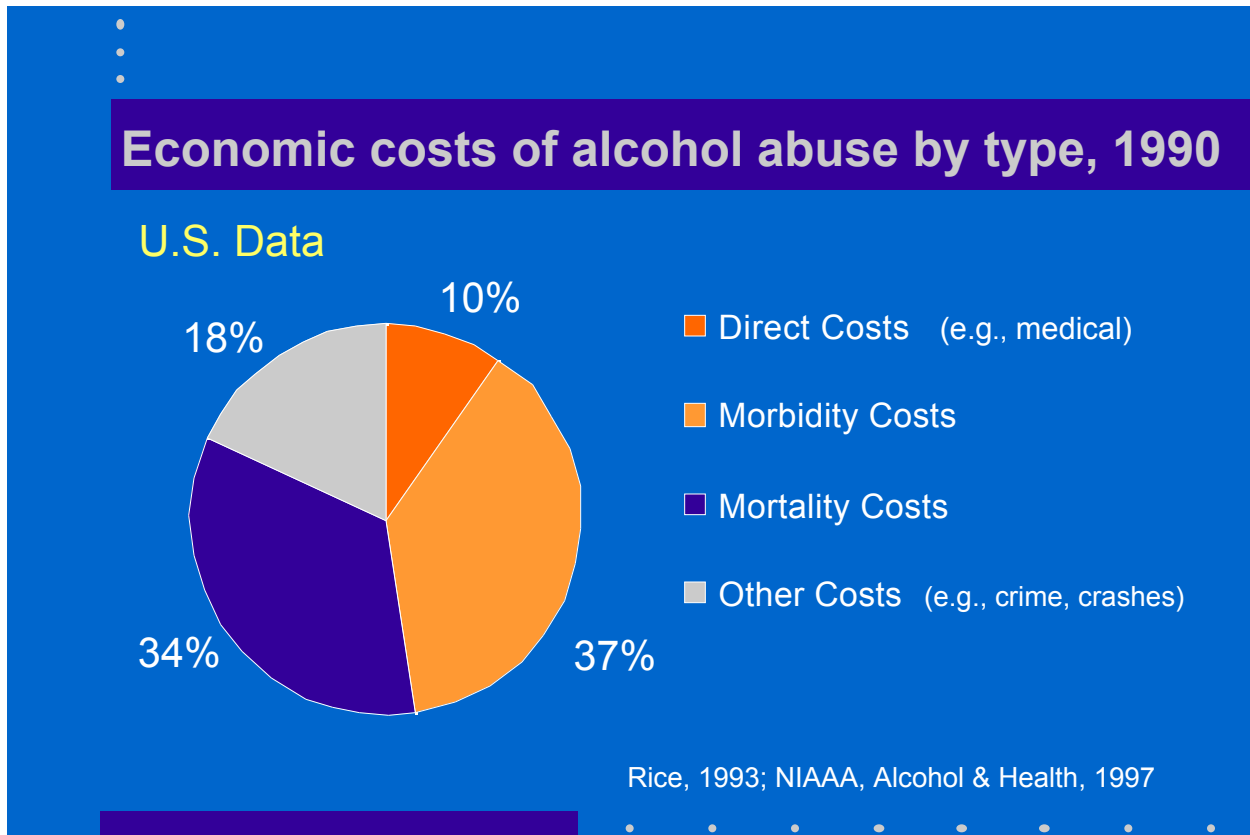
Slide 12



Costs to Society of Alcohol Abuse and Alcoholism

As estimated for 1990, total costs of alcohol problems to the nation are considerable—conservatively approximately 100 billion dollars in 1990 (Rice, 1993) and likely to be a great deal more today. While core medical expenditures involved in caring for those dependent on alcohol are large (\$10.5 billion), morbidity (some \$36.6 billion) and mortality (\$33.6 billion) associated with alcohol abuse count for the largest costs, the latter based on productivity loss estimations (U.S. National Institute on Alcohol Abuse and Alcoholism, 1997). You can see approximately how these costs break out in the next slide.

Slide 13



Economic Costs by Type

Younger people are again heavily implicated in these costs. For example, for mortality, due less to chronic than acute conditions (suicide, homicide, accidents, etc.), in 1985, those aged 15–44 accounted for 36% of those dying from alcohol abuse, 59% of the person years lost, and 71% of the total mortality costs (Rice, et al., 1990).

Several important reports have summarized and evaluated evidence for the effectiveness of prevention policy instruments, international (Bruun, et al., 1975; Edwards, et al., 1994; Moser, 1979) and U.S. (Moore & Gerstein, 1981).

Slide 14

Jurisdictional Levels: Example Policies

Federal

- Excise taxes
- Transportation (e.g., Minimum Drinking Age, aviation)
- Commercial regulation, labeling, advertising
- Federal agencies: NIAAA, SAMHSA, CDC, USDA, FTC, ATF, etc.

State

- State alcohol taxes
- Access: alcohol distribution systems, State ABCs, retail monopolies, local options, regulating outlets, labeling, etc.
- Server licensing, training, dram shop or server liability
- Drinking driver laws: mandatory license actions, treatment, etc.

Jurisdictional Levels: Example Policies

As mentioned, policies may be implemented at various jurisdictional levels. Legislative measures involve price, availability, and health information. These are all population-wide measures with reflections at both federal and state levels. Because of the multiplicity of specific policies, only selected policies are addressed here.

Slide 15

Price and Taxation Policies

Studies at both federal and state levels show:

- generally significant price effect on consumption
- heavier drinkers are as or more affected than light ones
- some studies have found affects on population-level problem indicators: cirrhosis mortality, vehicular crashes
- not particularly regressive tax measure compared to other commodity taxes—there is a lower burden on the poor
- supported by public health experts, anathema to industry

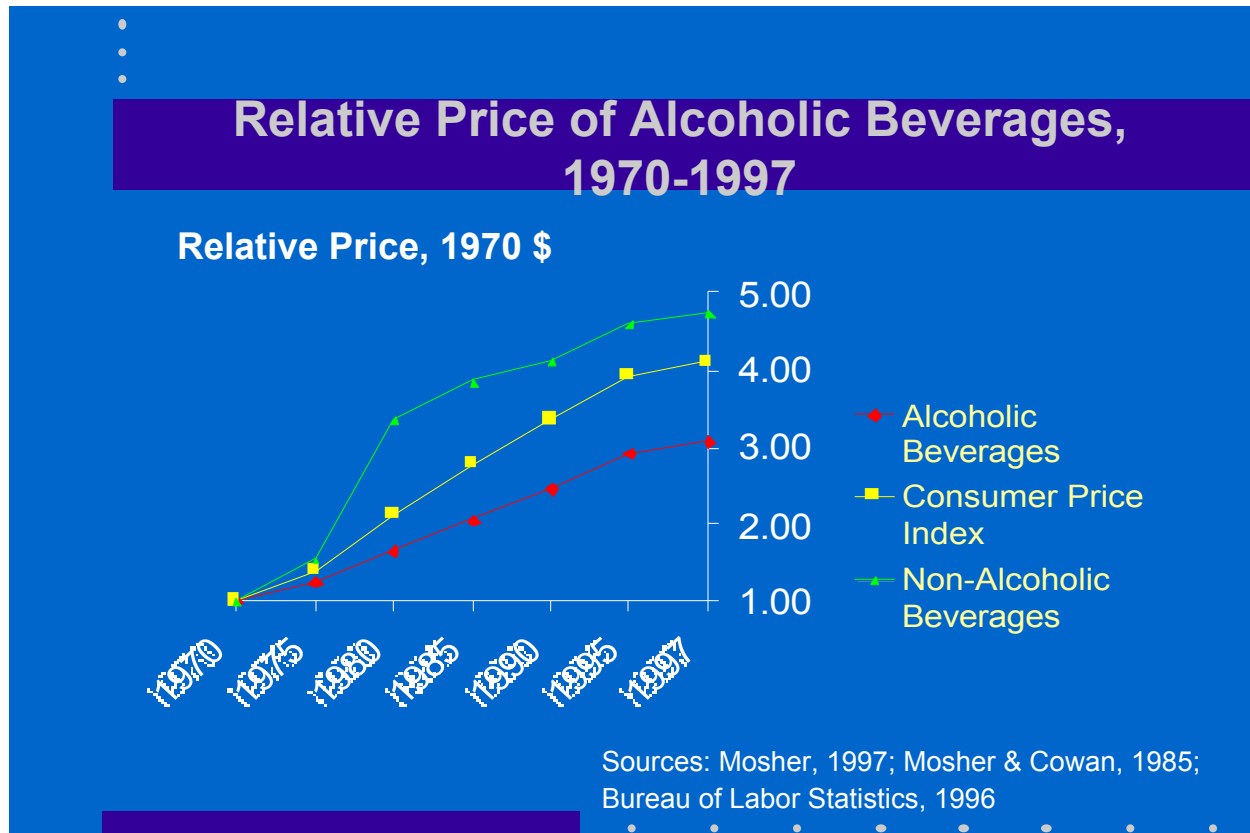
Sources: Coate & Grossman, 1988; Babor et al, 1978; Cook & Tauchen, 1982; Edwards et al, 1994

Price and Taxation Policies

An important concept is price elasticity—the unit change in demand caused by the unit change in price. Alcohol is subject to the laws of supply and demand; rising price generally leads to falling consumption and vice versa; increases in disposable income generally lead to increased demand. Results of nine U.S. studies through 1991, reviewed by Edwards et al (1994), gave mean price elasticities for beer, wine, and distilled spirits of -0.59, -0.73, and -0.81, respectively. In English speaking countries, beer is typically less price elastic than wine or spirits, though the “interpretation of elasticity values . . . calls for an informed understanding of drinking habits in the specific society and at a point in time” (Edwards, et al., 1994, p 116).

Critical for policy is the effect of rising price on heavy drinkers. Several studies suggest heavy drinkers are more responsive to price changes than light or moderate drinkers, particularly among young people (Coate & Grossman, 1988; Grossman, Coate & Arluck, 1987). “Happy hours,” involving reduced drink prices, seem to increase heavy drinkers’ consumption more than light drinkers, based on a study of males in a hospital setting (Babor, et al., 1978). Other time-series studies have used problems such as cirrhosis and vehicular crash fatalities as indicators of heavy drinking. States that increased excise taxes showed lower mortality rates by a larger percentage than per capita consumption, indicating heavy drinkers’ price sensitivity (Cook & Tauchen, 1982).

Slide 16

**Relative Price of Alcohol Beverages**

Since at least 1970 the real price of alcoholic beverages has been dropping relative to the consumer price index (CPI) (a measure of the price of consumer products in general) and relative to nonalcoholic beverages (Mosher, 1997). Public health advocates argue the merits of a policy to index alcohol excise taxes to the CPI so that the effective price of alcoholic products does not fall.

Tax measures, as one aspect of the country's prevention portfolio both at the federal or state level in the U.S., have widespread endorsement by alcohol researchers, public health practitioners and economists. When enacted by policy makers, however, they tend to be motivated for revenue generation and explicitly not framed as prevention measures. In part this is because politicians recognize that targeted tax measures are strongly opposed by the alcohol industry generally, both through lobbying and political contributions; raising alcohol taxes also has mixed public support, around 50% (Room, et al., 1995).

One example of industry political muscle comes from an effort to raise state alcohol taxes in California. In 1989, proposition number 134, informally called the "nickel a drink" tax initiative because state taxes per drink were to be set at approximately this level, qualified for the ballot after grassroots organizing. The initiative was designed by proponents to increase prices (at that time the state tax on wine stood at one cent a gallon) and to earmark resultant funds for various alcohol-related purposes including injury prevention and treatment. This initiative was defeated after a good early showing in the polls; industry interests, especially the state's vintners, spent some \$30 million on the campaign to defeat the proposition. During the campaign, two alternative initiatives

(also defeated) were included on the ballot with industry support which public health advocates characterized as “designed to confuse” the voters (Reynolds, 1993).

The proposition also recognized that taxes differentially affect beverage types and was a move toward tax equalization. Taxing by ethanol content has some quiet support from the spirits producers who, following Prohibition, are still “singled out”: Luxury products like champagne and spirits continue to be taxed at higher rates than beer and table wine (Greenfield, et al., 1999). One rationale for reforming alcohol taxation policy is the ratio of economic costs associated with alcohol problems to government revenues from taxes. One activist (Mosher, 1997) who advocates a use alcohol taxation to address the externalities of drinking has estimated, using the Rice (1993) findings, that national economic costs from abuse of alcohol are six times as large as the government revenues from alcohol including sales taxes, license fees, occupational taxes, import duties, and excise taxes combined (figures based on M Shanken Communications’ publication *Impact Databank Review and Forecast 1995*). It should be noted in regard to state tax policies, some economists have argued that border-crossing for tax avoidance can in some circumstances alter apparent elasticities of demand in ways that can significantly affect ability of state-level jurisdictions to benefit from independent alcoholic beverage tax policies (Beard, Gant & Saba, 1997).

Slide 17

Drinking Driving Legislative Policies

Minimum Drinking Age (MDA)

- Federal law required 21 year old MDA for states to receive national highway funds; created incentive
- By mid 1980's all states adopted uniform MDA of 21
- Changes before and after federal law provide natural experiments: most studies found reductions in indicators

1987 GAO Review

- Reviewed 32 studies; 14 deemed methodologically sound
- Found reductions of from 5 to 28% in drivers under 21
- Conclusion: Sound scientific evidence for effectiveness of MDA policy

Sources: Moore & Gerstein, 1981;
Edwards et al, 1994

Drinking Driving Legislative Policy Measures

As of 1979, 23 states set the minimum drinking age (MDA) at 18 or 19 years old. Three set it at 20, and twenty-four set it at 21, although twelve of these allowed beer sales to those 18 or 19 (Moore & Gerstein, 1981). In a somewhat rare instance of research having a direct impact on policy making (Wagenaar, 1993), following numerous studies showing the efficacy on traffic safety of states raising the minimum drinking age (MDA), the U.S. Congress passed a law creating an incentive for states to raise it to 21 by withholding allocations of national highway tax funds to states retaining lower MDAs. By the mid 1980's all states had raised the MDA to the uniform current level of 21. State changes through the 1970's and early 1980's provided the basis for studying effects of MDA on single vehicle night time crashes, traffic fatalities where drivers showed positive blood alcohol levels, and other indicators (Hingson, et al., 1983; Wagenaar, 1987). Although alcohol consumption in the late adolescent group remains prevalent (Johnston, O'Malley & Bachman, 1996), studies have found some lagged reductions in drinking that may even persist into the early 20's (O'Malley & Wagenaar, 1991). In 1987 the U.S. General Accounting Office (cited in Edwards et al., 1994, p 138) reviewed 32 studies of which 14 were deemed methodologically sound. The GAO, reporting reductions of from 5% to 28% in alcohol-involved crashes for young (under 21) drivers following state increases in the MDA, concluded there was robust scientific evidence for effectiveness of this policy measure.

Recently, there has been a failed effort to enact similar legislation at the federal level to induce states to lower the blood alcohol concentration (BAC) they use to define driving while intoxicated (DWI). There is strong evidence of the effectiveness of reducing the permissible BAC from 0.10% to

0.08%, based on the first five states that did so compared to five close-by states that did not (Hingson, Heeren & Winter, 1996). Overall postlaw reductions in fatal crashes with fatally injured drivers over the 0.08 BAC were 16%. Hingson and his colleagues concluded that were all states to adopt a 0.08 DWI threshold, there would be 500–600 fewer fatal crashes annually in the nation. Despite this and related evidence (Hingson, Heeren & Winter, 1998), after the Senate voted for such a law, similar legislation was killed in Congress after a concerted lobbying campaign by a coalition of industry interests led by national organizations of retailers. Reassertion of states rights appears to have been a factor. Nonetheless, 17 states have lowered their BAC limit from 0.10% to 0.08% for noncommercial drivers 21 and older (Hingson, Heeren & Winter, 1999). (Many states have zero tolerance for drivers under 21 consistent with the MDA.)

Slide 18

Alcohol Warning Label (PL100-690, 1988)

Federal law required health warning on container labels

- Government warning from credible source: Surgeon General
- Pregnant women should not drink : risk of birth defects
- Impairs ability to drive a car or operate machinery and may cause health problems

Major Results

- By 1994, 60% drinkers reported exposure to label—curve flattening
- Messages reach many but not all target groups, heavier drinkers; e.g., > 50% males 18-20 (drunk driving); > 65% drinkers 18-29 (pregnancy); may miss less educated and ethnic groups
- Modest associations with precautionary behavior, conversations

Sources: Greenfield & Kaskutas, 1998;
Greenfield et al, 1999; Hankin et al, 1993

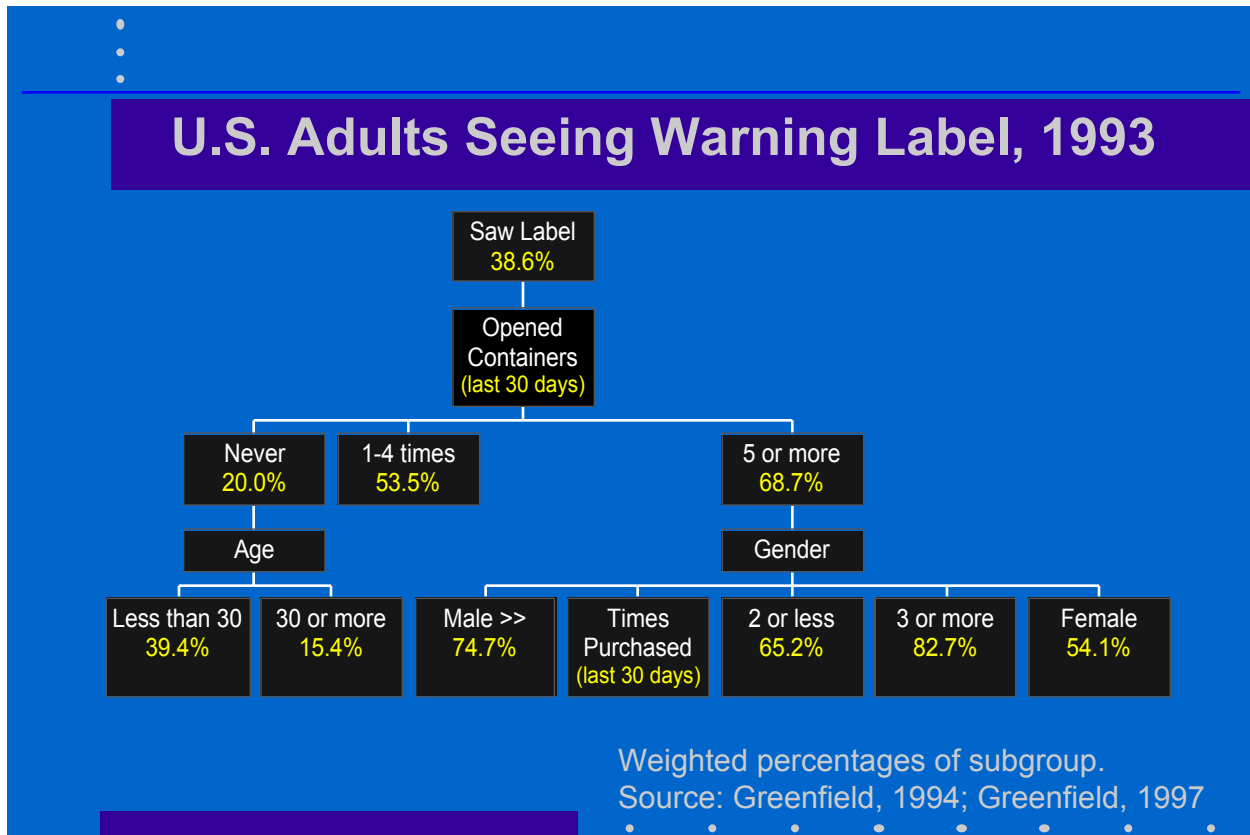
Warning Labels Policy

Among the relatively few federal alcohol policies motivated by public health concerns to be successfully enacted, after 20 years of legislative attempts (Kaskutas, 1995), is the alcohol warning label enacted in 1988 (PL 100-690) and implemented in November, 1989. The warning label (discussed before in Kaskutas' lecture) mandated on all alcohol containers carried a GOVERNMENT WARNING tag line and alludes to the Surgeon General as the source of the determinations covered. Not drinking when pregnant because of birth defects, impairment when driving or operating machinery, and health problems are the four alcohol-related risks covered. A five-year national survey conducted by the Alcohol Research Group was part of a nationally sponsored evaluation effort. No effect on overall consumption level was expected or found. However, some results were consistent with modest impacts from seeing the label on drinkers awareness indicated by conversations about drinking during pregnancy and drinking driving, and on precautionary behaviors related to avoiding DWI risk, especially deliberately not driving after drinking (Greenfield, Graves & Kaskutas, 1999). This research showed that in the face of generally declining rates, between 1990 and 1994, of reporting conversations about drinking driving (67 to 60%) and drinking during pregnancy (48 to 42%), controlling for volume consumed and demographics, those seeing the label remained more likely to engage in such conversations. Limiting drinking for health reasons showed a similar pattern, leading to the interpretation that "seeing the warning label may be acting to prevent declines in limiting drinking for health reasons" (Greenfield, Graves & Kaskutas, 1999, p 275) among those not exposed.

It is encouraging that the overall suggestion of an effect of warning label exposure on conversations about risks of drinking during pregnancy was seen also among women of childbearing age

(Kaskutas, et al., 1998), not limited to those with high levels of health consciousness (Kaskutas & Greenfield, 1997). Conversely, there is little indication that the warning label has much effect on drinking by inner city ethnic minority women in prenatal clinics (Hankin, Sloan & Sokol, 1998) so certain groups at particularly high risk may not be expected to be much reached. Relying on the warning label alone to bring health messages is ill advised. There is evidence, as in other areas of prevention, such as community and school-based projects, that synergies are achieved by implementing multi-faceted strategies. We found dose response relationships between the number of sources of health messages seen, such as by point of purchase signs, public service announcements (PSAs), and the warning label in having conversations about drinking during pregnancy and reducing drinking for health reasons (Kaskutas & Graves, 1994).

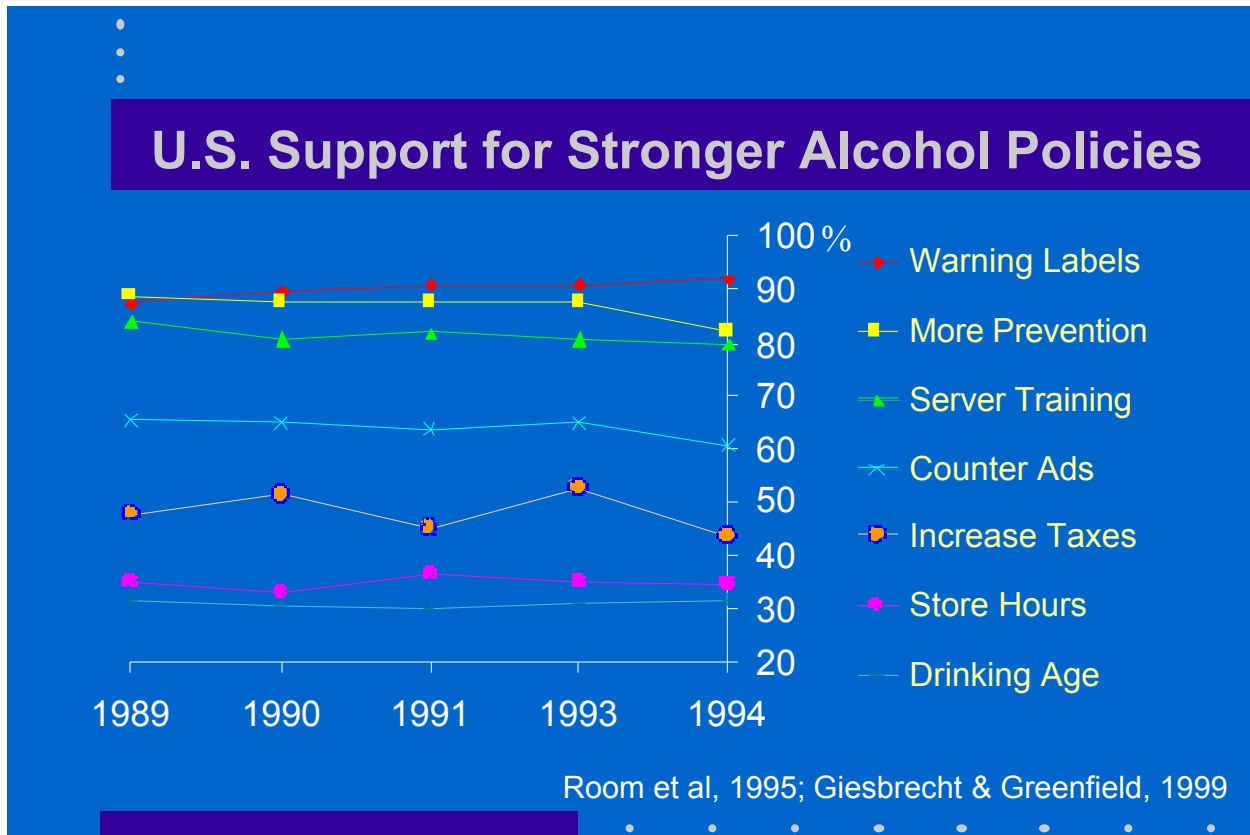
Slide 19



U.S. Adults Seeing Warning Label

It is clear that while, after four or more years experience with the warning label, rates of exposure to it may have plateaued (Greenfield & Kaskutas, 1998), penetration of the warning label has been sufficient to reach numerous heavy drinkers (Greenfield, 1997). In this slide we see results of a segmentation analysis undertaken four years after the policy took effect. One can see how the more drinkers handle (open) containers and, especially for men, the more alcohol they purchased in the last 30 days, the more they are likely to have seen the label (and also to recall its messages, not shown). Fully 83% of men who are most involved with buying and opening containers have seen the label, 53% for involved women. In contrast, only 15% of those over 30 who never opened containers saw the label. The warning label provides one of the few mass mechanisms to assure that those most involved in drinking will have exposure to health messages.

Slide 20



U.S. Support for Stronger Alcohol Policies

Is the attitude people bring a deterrent to their “openness” to the messages about health risks? Although it is true that heavier drinkers are less likely than others to believe the label will affect their own drinking (Kaskutas, 1993), only a small minority of the public does not react favorably to the warning labels policy, which is in fact the most popular of 11 alcohol policy measures studied over time, enjoying above 88% support (Giesbrecht & Greenfield, 1999), the only one of 11 policy opinions measured to increase in favorableness (Greenfield, et al., 1999; Room, et al., 1995) from 1989 to 1994. In summing up the evidence from the national surveys, Greenfield et al (1999) concluded that “From a consumer information standpoint, this policy measure, so long as it does no harm, represents a benefit. Although results were mixed, we believe the pattern of evidence, taken as a whole, suggests that Congressional intent to remind [the consumer of risks of alcohol] is being met to a modest extent”(p 280). Sales on the Internet, which sometimes do not strictly comply with state laws, may result in similar downward tax pressures.

Slide 21

Alcohol Access Regulation

Access primarily regulated at state and local levels

- Responsibility of State Alcoholic Beverage Control agency

Monopoly States

- By 2 years after Repeal, 15 states enacted retail monopolies
- 1980's saw increasing deregulatory pressure with privatization of wine sales in Idaho, Maine, Virginia, and Washington (3 of 4 showed increased wine consumption); also Iowa, W. Virginia
- Iowa and West Virginia case studied separately: significant increase in wine consumption and net increase in ETOH

Sources: Wagenaar & Holder, 1991; Edwards et al, 1994; Holder & Wagenaar, 1990.

State- and Local-Level Policy Measures

Access Policies

As mentioned before, following Repeal, the State Alcoholic Beverage Control (ABC) agencies became the primary vehicle for expressing the will of the people in balancing access to alcohol to legitimate consumers and its regulation to reduce the potential for excess remembered from the period before (and to some extent during) Prohibition. The activities of the ABCs involve the state's alcohol distribution systems, the particular formulation of the state in marketing via retail monopolies, providing for local options, or regulating alcohol outlets.

Soon after Repeal, between 1933 and 1935, 15 states enacted monopoly systems largely as a revenue device (Moore & Gerstein, 1981) but within the framework of curbing egregious pre-Prohibition practices (Room, 1988). The 1980's saw increased deregulatory pressure to eliminate or reduce state involvement in sales. A careful time-series analysis examined impacts of privatizing wine sales in two states (Iowa and West Virginia), finding not only statistically significant increases in wine sales, national sales trends controlled, but a net increase in ethanol consumption over all beverages in both states (Wagenaar & Holder, 1991) replicating earlier findings from Idaho, Maine, Virginia and Washington in which 3 of 4 showed wine privatization increased wine consumption (McDonald, 1986, cited in Edwards et al., 1994, p 131). Effects of privatizing spirits consumption have similarly been accompanied by increased distilled spirits sales (Holder & Wagenaar, 1990). Local (i.e., county) option to enact restrictive policies has also been a feature of some states, notably, North Carolina. A 1978 local-option law allowed liquor by the drink for the first time since

Prohibition in some, but not other, North Carolina counties, resulting in increase spirits sales in those exercising the local option (Holder & Blose, 1987) as well as increased drinking and driving problems (Voas, Holder & Gruenewald, 1997).

A common form of ABC availability regulation has been to limit outlet densities in local areas based on their populations. Studies have found elasticities in the order of 0.1 relating states' sales to outlet densities (Gruenewald, Ponicki & Holder, 1993; Watts & Rabow, 1983) implying that a 10% increase in outlet density would be likely to result in a 1% increase in alcohol consumption. Other alcohol-related problems like vehicular crashes (Scribner, MacKinnon & Dwyer, 1994) and assaults (Scribner, MacKinnon & Dwyer, 1995) have also been linked to outlet density. Geographic studies involving geomapping outlet locations and types are complex but promising ways for informing policy questions on availability at the local level (Gruenewald, Millar & Treno, 1993; Gruenewald, et al., 1996). Uses of planning and zoning tools by local communities is receiving considerable attention by policy makers for regulating alcohol availability so as to reduce externalities (Wittman & Hilton, 1987).

Slide 22

Case Study: Stiffening Regulatory Powers

1994: California law gave ABC the right to rescind licenses

- Outlet license revocation process began following 3 cited infractions of sales to a minor within a 3 year period (Three Strikes Bill)
- California Supreme Court rules police can use minors as decoys
- In 1997-98 law enforcement conducted 291 minor decoy operations, finding a 20.6% violation rate, down from 29.4% in 1993-94
- ABC developed Grant Assistance to local Law Enforcement (GALE)

1998: SB1696 introduced—weakens decoy & enforcement

- Provided fourth strike; notification on decoys, GALE funds redirected
- Supported by retail groups, grocers, and beverage industry
- Sponsor forced to compromise after intensive media advocacy

Sources: Ryan & Mosher, 2000; Grube, 1997

Case Study: Stiffening Regulatory Powers

ABCs have traditionally seemed more interested in achieving commercial regularity than in their preventive mission (Moore & Gerstein, 1981, p 174). However, it is not a foregone conclusion that the ABC will become captive to the interests it is mandated to regulate as shown by a recent case study (Ryan & Mosher, 2000). The California case involves a successful grass roots and media-advocacy effort to beat back an industry-led attempt to rescind earlier legislation called the Three Strikes bill. This bill allowed California's ABC Department to file for licence revocation when an outlet has been cited for three infractions of sales to a minor within a three year period. The 1994 state bill was one of several that year that stiffened regulatory powers. These included the establishment of operating standards for outlets; a moratorium on granting off-sale beer and wine licenses; and an act giving greater control to local communities (Ryan & Mosher, 2000 p 6).

Armed with these manifestations of legislative and judicial resolve, the ABC developed a Grant Assistance to Local Law Enforcement (GALE) project to “work with law enforcement agencies to develop an effective, comprehensive and strategic approach to eliminating the crime and public nuisance problems associated with problem alcoholic beverage outlets, and then institutionalize those approaches within the local police agency” (Ryan & Mosher, 2000 p 7). Beginning in 1997, alcohol outlets with the worst infraction records, at rates surpassing those in Three Strikes provisions, began to be closed down. As of April 13, 1999, 417 licensees in California had two strikes, 36 had three strikes, and 2 had four strikes. Under the 1994 law, the ABC, armed with legislative intent, had either revoked, or was in the process of revoking the 38 (p 9). Policy activists had a tool for holding outlets accountable. Led by state retail and marketing associations including

the Food and Beverage Association of San Diego County, a legislator was approached to introduce SB1696 in 1998 which drastically weakened the decoy and enforcement provisions used by the invigorated ABC and law enforcement. The bill appeared to be on the fast track, with its writer unwilling to take amendments sought by public health groups. Once introduced, Anheuser-Busch, Miller Brewing Co., the Wine Institute, and other commercial interests signed on as supporters of the legislation. Prevention lobbyists thought the bill unstoppable and advised seeking minor modifications. Well-researched, hard hitting Editorials, stories and Op-Ed pieces in San Diego and Sacramento, and later other state newspapers turned around the political realities. The ABC staff input paralleled that of the advocates, and they took the stand that they would recommend that the Governor not sign the bill, if enacted in its present form. The legislator amended the bill to remove the 4th strike provision and redirection of GALE grant funding, aspects of the original deemed most egregious by both the ABC and the activists. A victory was declared, and advocates now believe they will sit at the table and negotiate what bills will look like having been excluded before.

Community organizing and mobilization has, as this example indicates, become a major component of alcohol policy formation (Giesbrecht, et al., 1990; Greenfield & Zimmerman, 1993; Holder, 1998; Wagenaar & Perry, 1994). Efforts to mobilize communities to participate in reforming municipal policies and developing alcohol-relevant ordinances are promising prevention approaches and increasingly studied (Giesbrecht, Krempulec & West, 1993; Greenfield & Jones, 1993; Holder & Treno, 1997; Room, 1990; Wagenaar, et al., 2000). As in this example, media advocacy plays an important role in these policy development efforts (Holder & Treno, 1997; Wallack, et al., 1993).

Slide 23

Server Intervention, RBS Programs

Steps servers take to reduce chance of intoxication

- One third to one half alcohol-impaired drivers drank last at public places—bars or restaurants
- 1980's: Server intervention training demonstrated efficacy
- Newer studies focus on factors enhancing effectiveness: management incentives, enforcement of laws banning service to intoxicated patrons; community involvement

State mandated training program for servers—Oregon

- Time-series analyses estimate 23% reduction in crashes
- State-wide mandated programs may assure “critical mass” of trained servers, with greater adoption of RBS practices

Sources: Saltz, 1997; Holder & Wagenaar, 1994

Server Intervention and Responsible Beverage Service Programs

Server Intervention programs were largely developed to reduce the likelihood of alcohol-impaired drivers leaving establishments; more recently these activities have been termed Responsible Beverage Service (RBS), involving steps servers of alcoholic beverages may take to reduce chances that their patrons or guests become intoxicated in the first place (Saltz, 1997). These programs take their logic from the fact that between a third and a half alcohol-impaired drivers drank last at bars or restaurants (McKnight, 1993).

Efficacy of programs developed in the 1980's was mixed but evaluations showed some promising outcomes (Gliksman, et al., 1993; McKnight, 1993; Saltz, 1989). Attention has shifted to implementation issues (Saltz, 1997) in recognition of the importance of the legal and community context in which such programs exist (Mosher, 1983; Mosher, 1984). For success in altering serving practices, it appears crucial to create incentives at the management level, based on strong appreciation of the legal liabilities incurred from serving intoxicated patrons who harm themselves or others subsequently. A study in Michigan (McKnight & Streff, 1993) did this by increasing visible enforcement of laws prohibiting service to obviously intoxicated individuals, using plain clothes police and monitoring behavior with pseudo-patrons simulating intoxication. Service to these pseudo-patrons dropped from 84% to 47% then rose to 58%, while much smaller declines were seen in a comparison site. Proportions of DUI arrestees coming from the experimental establishments also differed significantly from that from the control site, where the proportion increased slightly (McKnight & Streff, 1993). Enacting and enforcing laws that hold servers responsible for injuries and damage caused by intoxicated customers is thus an important legislative

policy (Edwards, et al., 1994; Mosher, 1983). Communities, too, can play a role in pressuring establishments to implement and maintain fidelity of RBS practices (Saltz & Stanghetta, 1997).

Oregon developed a mandatory training program for all commercial servers, which has been evaluated (Holder & Wagenaar, 1994) using single-vehicle night-time crashes for the period 1976 to 1989, by which time only half the servers had been trained. In spite of this, time series analyses estimated a 23% reduction in crashes (net of confounding effects such as introduction of a 0.08% BAC law) due to the program. The question has appropriately been asked (Saltz, 1997) whether, in the case of this state-wide program, training effects were increased because a “critical mass” of trained servers may have resulted in greater adoption of appropriate serving practices than is possible with RBS programs involving a small number of establishments at any particular time.

Slide 24

Workplace Policies

Workplace management style

- Study contrasted U.S. traditional and Japanese management styles in 2 firms, same industry, same union
- Plant alcohol policies (and how genuine their enforcement) predicted drinking norms and alcohol availability on job
- Social control and enabling mechanisms mediated effect

New studies investigate drinking off the job & hangovers

- Hangovers found to relate to job problems and sleep on job
- Variation in experiences “thwarts the formulation of simple worktime-hangover policies”

Sources: Ames et al, 2000; Ames et al, 1997; Moore, 1998

Institutional Policies: Schools, Universities and the Workplace

Policies in Higher Education. Alcohol policy approaches to prevention have increasingly been used in universities and colleges since the mid 1970's. One longitudinal study bracketing a campus policy intervention found that student involvement in regulatory roles in sanctioned alcohol-serving events appeared to contribute to reduced alcohol use (Greenfield, 1982). The same study found, contrary to expectation, that drinking by students opting for the Greek system was better explained by self-selection than a post recruitment environmental effect (Greenfield & Duncan, 1985). However, campus policies aimed at reducing substantially heavier than average consumption and problems in Greek letter organizations have remained a staple of university policies (Riordan & Dana, 1998). Among the correlates of a campus having lower levels of heavy drinking and alcohol-related problems are its articulation and enforcement of campus alcohol policies (Wechsler, et al., 1995; Wechsler, et al., 1998). Continuing problems and the increasing dissemination of policy guidelines for administrators have led to greater adoption of meaningful campus alcohol policies (DeJong & Langenbahn, 1995). Often it is an incident such as an alcohol-linked sexual assault which galvanizes administrators into radical policy remedies; when sufficiently stringent and comprehensive, these can be effective (Cohen & Rogers, 1997). Absent coherent, well-defined policies with student “buy in” and consistent enforcement, such policies may backfire (Whitcomb, 1999); when heavy drinking students perceive harsh policies to be externally imposed they have sometimes lead to beer riots.

School Policies. School-based programs including prohibition policies are ubiquitous today (Modzeleski, Small & Kann, 1999). Although early individually-focused K-12 school-based programs have been critiqued as ineffective (Moskowitz, 1989), impelled by convictions rather than evidence (Mauss, 1991), multi-pronged community-engaging school-based models including policy changes have been more successful (Greenfield & Zimmerman, 1993; Pentz, et al., 1989) especially when integrating elements of supply and demand reduction (Pentz, Bonnie & Shopland, 1996), linked to community-wide campaigns, and greater enforcement in a regulatory and legislative framework (Bauman & Phongsavan, 1999).

Workplace Policies. Although the workplace, like academic institutions, has institutional inertia and many policy-resistant barriers (Ames, Delaney & Janes, 1992), this has become a fruitful area for studying policy approaches (Roman & Blum, 1993). One sophisticated study (Ames, Grube & Moore, 2000) contrasted effects of two management styles in the same industry with the same union—"an organizational culture that is traditional to U.S. management, and a nontraditional Japanese transplant model"—using both surveys and ethnography. Alcohol policies, and how genuine their enforcement was, predicted drinking norms and availability of alcohol at work. The ethnographic component highlighted the social control and enabling mechanisms tied to these cultures through which articulated company policies may be mediated. Consistent with attention to harm reduction and heavy drinking occasions in the policy arena, studies have begun to consider drinking *outside* the workplace and the effects of hangovers, which have been found related to work problems such as conflicts with supervisors and falling asleep on the job (Ames, Grube & Moore, 1997). To this point, however, though performance decrements have been well documented, variation in how hangovers are manifest and experienced "thwart the formulation of simple worktime-hangover policies" (Moore, 1998). Alcohol policies in commercial aviation have been cited as exemplary models for study of policies within safety critical environments, but have not yet been well researched (Cook, 1997b). Such policies recognize performance decrements from prior drinking and include bans on drinking by aircrew in defined periods prior to flight; few included screening procedures for detecting alcohol or drug misuse (Cook, 1997a).

Employment Assistance Programs (EAPs), including mandatory referrals from supervisors, are part of many company policies and have been demonstrated to be effective (Carroll, 1991; Miller, 1992). Yet it is rare for substance abuse to have parity with mental health or other disorders in employee health plans (Sturm, Goldman & McCulloch, 1998). The American Society of Addiction Medicine has recently called for better employee protection and access to rehabilitation services when affected by alcoholism and other addictive disabilities, including language in the Americans with Disabilities Act discriminating against persons with such disabilities (American Society of Addiction Medicine, 1997).

Slide 25

Summary and Conclusions

- A wide range of legislative policies at various jurisdictional levels is currently regulating public alcohol commerce and use in the U.S.; over time these evolve
- In the last 20 years, policy analysis and evaluation has matured, demonstrating efficacy of model programs; implementation and effectiveness studies are now underway and are accelerating
- We need both policies that affect all drinkers and targeted harm reduction measures aimed at heavy drinkers and settings in which drinking large quantities is promoted
- Policy development studies reveal opportunities and may improve strategies for enacting evidence-based policies

Summary and Conclusions

A wide range of legislative policies at various jurisdictional levels is currently regulating public alcohol commerce and use in the U.S.; over time these have evolved so that there is a constant dynamic between interests promoting heavier consumption and those deterring it. Based on the efficacy and natural experiment findings of the 1970's and 1980's, we know that numerous policy measures have the potential to control drinking and alter cultural and situational norms (Greenfield & Room, 1997). In some cases, legislated policies and their enforcement is a direct mechanism for influencing drinking and heavy drinking. Many policies can also be put in place by institutions and drinking establishments, which may affect drinking environments and hence drinking behaviors. In the last 20 years, policy analysis and evaluation has matured, demonstrating efficacy of model programs; implementation and effectiveness studies are now underway and are accelerating. Needed are both population-wide policy instruments, such as alcohol excise taxes, and targeted, harm reduction policies aimed at reducing high quantity per occasion drinking, especially in settings prone to enable this, such as bars. Harm reduction may be thought of as multi-faceted, since multiple influences combine to constrain alcohol consumption and perceived appropriateness of drinking heavy quantities in a given setting. There are, therefore, multiple policy intervention alternatives possible. Combining regulatory, enforcement, and community approaches seems more effective than single strategy approaches, especially when mandated on a large-area basis such as a state.

RSA Lecture: Alcohol Policy (Greenfield)

New policy development studies reveal opportunities for moving agendas and potentially becoming more politically adept. The hope is that, ultimately, these policy formation analyses may improve strategies for enacting evidence-based policies.

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RSA Lecture: Alcohol Policy (Greenfield)

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