A GLOBAL PERSPECTIVE ON DRINKING AGES AND ALCOHOL USE

David Jernigan, PhD
Johns Hopkins Bloomberg School of Public Health
Dartmouth in the 1970s...
# Death and Disability Attributable to Alcohol Use Among Youth Ages 15-29, 2000

<table>
<thead>
<tr>
<th>REGION</th>
<th>Males 15-29</th>
<th>Females 15-29</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Deaths (000s)</td>
<td>% total Deaths</td>
</tr>
<tr>
<td>Afr D</td>
<td>10</td>
<td>5.90%</td>
</tr>
<tr>
<td>Afr E</td>
<td>28</td>
<td>7.90%</td>
</tr>
<tr>
<td>Amr A</td>
<td>9</td>
<td>23.00%</td>
</tr>
<tr>
<td>Amr B</td>
<td>52</td>
<td>35.50%</td>
</tr>
<tr>
<td>Amr D</td>
<td>5</td>
<td>17.20%</td>
</tr>
<tr>
<td>Emr B</td>
<td>2</td>
<td>4.80%</td>
</tr>
<tr>
<td>Emr D</td>
<td>1</td>
<td>1.20%</td>
</tr>
<tr>
<td>Eur A</td>
<td>9</td>
<td>25.60%</td>
</tr>
<tr>
<td>Eur B</td>
<td>9</td>
<td>24.30%</td>
</tr>
<tr>
<td>Eur C</td>
<td>42</td>
<td>41.00%</td>
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<tr>
<td>Sear B</td>
<td>14</td>
<td>11.70%</td>
</tr>
<tr>
<td>Sear D</td>
<td>26</td>
<td>5.70%</td>
</tr>
<tr>
<td>Wpr A</td>
<td>2</td>
<td>18.40%</td>
</tr>
<tr>
<td>Wpr B</td>
<td>39</td>
<td>13.70%</td>
</tr>
<tr>
<td>WORLD</td>
<td>249</td>
<td>12.90%</td>
</tr>
</tbody>
</table>

Source: Rehm et al. 2003
Review of public health findings

- The earlier young people start to drink, the worse the alcohol-related consequences:
  - Alcohol dependence
  - Traffic crashes
  - Physical violence after drinking
  - Other unintentional injuries after drinking (e.g. drowning, falls)
  - Potential damage to still-developing adolescent brain
  - Lower chances of success in school

- Bottom line: strong public health interest in delaying onset of drinking
Minimum drinking age laws

- One of many steps taken by societies to limit alcohol-related harm
- EVERY society must take on question of how to control intoxicants and their effects
- Minimum drinking age laws only one strategy — cannot be expected to do the whole job
- International experience reflects U.S. experience: minimum age laws do affect onset of drinking
Age requirement for on- and off-premise purchase of beer and spirits
Countries greater than 18

- 19
  - Canada (all but Alberta, Manitoba and Quebec)
  - Republic of Korea
  - Nicaragua
- 20
  - Iceland
  - Japan
  - Norway
  - Sweden
- 21
  - Egypt
  - Indonesia
  - Micronesia
  - Palau
  - USA

Source: WHO GAD 2006
Recent changes

- **France:**
  - Moves to increase minimum purchase for alcohol and tobacco from 16 to 18 in 2009

- **New Zealand** *(AJPH 2006;96:126–131)*
  - Reduced from 20 to 18 in 1999
  - Comparing four years before and after the change from 20 to 18, compared to crashes among 20 to 24 year-olds (comparison group), alcohol-involved traffic crashes grew:
    - 14% among 15-17 year-old males
    - 24% among 15-17 year-old females
    - 12% among 18 and 19 year-old males
    - 51% among 18 and 19 year-old females
Drinking Ages in Europe

- 15 – Slovenia
- 16 – Italy, Malta, Portugal
- 17 – Greece
- 18 – Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, France, Germany, Hungary, Ireland, Latvia, Lithuania, Netherlands, Poland, Romania, Russia, Slovakia, Spain, Switzerland, Ukraine, United Kingdom
- 20 – Iceland, Norway, Sweden
Drinking Among 15-16 year-olds: U.S. and Europe, 2007

Percent Drank in Past Twelve Months

- Countries with the highest percentage of 15-16 year-olds who drank in the past twelve months include Austria (92%), Bulgaria (84%), and Cyprus (93%).
- Countries with the lowest percentage include the United States (56%) and the United Kingdom (56%).

The chart shows a comparison of drinking rates among 15-16 year-olds in various countries, with the United States and the United Kingdom having notably lower rates compared to many European countries.
Drunkenness Among 15-16 year-olds: U.S. and Europe, 2007

Percent Drunk in Past Twelve Months

Source: ESPAD 2007
Drinking Among 15-16 year-olds: U.S. and Europe, 2007

Percent Drank in Past 30 Days
Drinking Among 15-16 year-olds: U.S. and Europe, 2007

Percent Drunk in Past 30 Days

- Averia: 31
- Belgium: 10
- Bulgaria: 21
- Croatia: 21
- Cyprus: 20
- Czech Republic: 12
- Denmark: 49
- Estonia: 21
- Finland: 22
- France: 18
- Germany: 26
- Greece: 19
- Hungary: 19
- Ireland: 12
- Italy: 12
- Latvia: 20
- Lithuania: 19
- Malta: 18
- Netherlands: 16
- Norway: 20
- Poland: 13
- Portugal: 11
- Romania: 11
- Russia: 19
- Slovak Republic: 25
- Slovenia: 25
- Spain: 17
- Sweden: 20
- Switzerland: 12
- Ukraine: 18
- United Kingdom: 12
- United States: 33
“Extreme drinking worse in U.S.”

- Actually, looking at indicator “drunk in past 30 days” 21 countries worse off than U.S., 14 countries better off

- Extreme drunkenness worse in U.S.?
  - 15-16 year-olds reporting 10-19 incidents of drunkenness in past 30 days
    - 1 percent of U.S. 10th graders report this
    - Same percentage as in 14 European countries, including Austria, Italy and Spain
“Eyeball analyses”

- Many shortcomings — much more going on in each country than this cursory analysis can capture
- More important to review literature in its entirety — never rely on any single study
  - Single studies may mis-specify variables to “wash out” effects, e.g.
    - Using 15-24 year-olds as focus of analysis
    - Using all traffic crashes instead of alcohol-related traffic crashes as outcome variable
    - Diluting statistical power by performing state-by-state analyses which increase range of error, involve fitting linear analysis to trends that are by no means linear
- Key question: what can international research literature overall tell us?
No Magic Bullet

No single strategy to reduce burden of alcohol-related harm.

WHO

“Need individual & population based approaches that target high risk groups/situations + reduce per capita consumption in general (given prevention paradox)”
Progress of science

- Moves forward through repetition and replication – single studies are rarely taken as guides to action
- Rely on meta-analyses, systematic reviews to assess the literature periodically, summarize for us what we are learning
- Cannot rely on anecdote or opinion, because research results often surprising, and fly in the face of popular assumptions
Review of global research literature

- Jointly published by WHO and Oxford University Press
- Result of reviews by 15 of the most prominent scholars globally in alcohol research
- 3rd review due out later this year
- Thanks to Dr. Thomas Babor, UConn
Prevention Strategies
Reviewed and Evaluated

- Pricing and Taxation
- Regulating Physical Availability
- Altering the Drinking Context
- Education and Persuasion
- Regulating Alcohol Promotion
- Drinking-Driving Countermeasures
- Treatment and Early Intervention
Ratings of 32 Policy-relevant Prevention Strategies and Interventions

1) Evidence of Effectiveness — the quality of scientific information
2) Breadth of Research Support — quantity and consistency of the evidence
3) Tested Across Cultures, e.g. countries, regions, subgroups
4) Cost to Implement and Sustain — monetary and other costs

Rating Scale: 0, +, ++, +++, (?)
Rating Scale: Low, Moderate, High
## Assumptions Underlying Pricing and Taxation Policy Options

<table>
<thead>
<tr>
<th>Policy</th>
<th>Assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>High taxes, prices</td>
<td>Reduce demand by increasing economic cost of alcohol relative to alternative commodities</td>
</tr>
</tbody>
</table>
## Taxation/Pricing Controls

<table>
<thead>
<tr>
<th>Strategy or Intervention</th>
<th>Effectiveness</th>
<th>Research Support</th>
<th>Cultural Testing</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Taxes</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>Low</td>
</tr>
</tbody>
</table>
Evidence suggests that:

- People increase their drinking when prices are lowered, and decrease their consumption when prices rise.
- Adolescents and problem drinkers are no exception to this rule.
- Increased alcoholic beverage taxes and prices are related to reductions in alcohol-related problems.
- Alcohol demand is elastic:
  - In the U.S., a 10% increase in price of alcohol would lead to a 7.4% drop in beer consumption, a 4.9% drop in wine consumption, and a 14.7% drop in distilled spirits consumption.
- Alcohol taxes are thus an attractive instrument of alcohol policy because they can be used both to generate direct revenue and to reduce alcohol-related harm.
- The most important downside to raising alcohol taxes is smuggling and illegal in-country alcohol production, so they will only work if the illegal/informal market is under control.

*Note:* Nominal tax rates converted to cents per ounce of included ethanol and converted to 2005 dollar values using the CPI.

Other price interventions:

- Eliminate happy hours, ladies’ nights, other discounting
- Eliminate bulk discounts such as sales in pitchers
- Establish or raise retail license fees to fund enforcement, prevention, education and surveillance activities
## Assumptions Underlying Restrictions on Physical Availability of Alcohol

<table>
<thead>
<tr>
<th>Policy</th>
<th>Assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictions on time, place, and density of alcohol outlets</td>
<td>Reduce demand by restricting physical availability — increase effort to obtain alcohol</td>
</tr>
</tbody>
</table>
# Regulating Physical Availability

<table>
<thead>
<tr>
<th>Strategy or Intervention</th>
<th>Effectiveness</th>
<th>Research Support</th>
<th>X-Cultural Testing</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total ban on sales</td>
<td>+++</td>
<td>+++</td>
<td>++</td>
<td>High</td>
</tr>
<tr>
<td>Minimum legal purchase age</td>
<td>+++</td>
<td>+++</td>
<td>++</td>
<td>Low</td>
</tr>
<tr>
<td>Rationing</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>High</td>
</tr>
<tr>
<td>Government monopoly of retail sales</td>
<td>+++</td>
<td>+++</td>
<td>++</td>
<td>Low</td>
</tr>
<tr>
<td>Hours and days of sale restrictions</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>Low</td>
</tr>
<tr>
<td>Restrictions on density of outlets</td>
<td>++</td>
<td>+++</td>
<td>++</td>
<td>Low</td>
</tr>
<tr>
<td>Different availability by alcohol strength</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>Low</td>
</tr>
</tbody>
</table>
Regulating Alcohol Availability

- Changes in availability can have large effects in nations or communities where there is popular support for these measures.
- The cost of restricting alcohol availability is cheap relative to the costs of health consequences related to drinking, especially heavy drinking.
- The most notable adverse effects of availability restrictions include increases in informal market activities (e.g., cross-border purchases; home production, illegal imports).
Regulating Alcohol Availability Through Minimum Legal Purchase Age (MPLA)

- Principal source of evidence is U.S. studies
  - Numerous reviews of multiple studies have concluded 21 has been effective in saving young lives.
  - CDC – 49 studies reviewed, including studies using panel data: “…changes in the MLDA result in changes of roughly 10% to 16% in alcohol-related crash outcomes for the targeted age groups.”
  - Wagenaar and Toomey (2002) – review of 241 studies: “preponderance of evidence indicates there is an inverse relationship between the MLDA and two outcome measures: alcohol consumption and traffic crashes.”
“Place” strategies

- **Increase community involvement**
  - in determination of liquor hours (reduce hours of opening e.g.)
  - require direct or indirect input from communities in annual reviewing of liquor licenses
  - set up liquor agreements in problematic areas (involving local authorities, police, liquor outlets) to proactively deal with complaints & address problems which do arise
“Place” strategies

- Make it difficult for underage youth to purchase alcohol
  - train servers of liquor not to sell to underage youth
  - conduct sting operations to root out “bad” outlets and mobile services that sell alcohol to youth
- Better policing
  - Increasing law-enforcement around liquor issues
  - Better training for police re liquor issues
  - Get police to be more proactive in working with 8-10 liquor outlets each (more routine inspections)
  - Set up information system whereby police collect/collate information on place of last drink when motor vehicle/pedestrian injuries or violence/public disturbance AND ALCOHOL INVOLVED
  - Deal strongly with “bad” outlets
- Reduce outlet concentration – strong research base here
Modifying the Drinking Context

Many prevention measures seek to re-define the contexts or change the environments where alcohol is typically sold and consumed (e.g., bars and restaurants), under the assumption that such changes can reduce alcohol-related aggression and intoxication.

Options include training bar staff, imposing voluntary house policies to refuse service, enforcement of regulations, community mobilization to influence problem establishments.
# Modifying the Drinking Context

<table>
<thead>
<tr>
<th>Strategy or Intervention</th>
<th>Effectiveness</th>
<th>Research Support</th>
<th>X-Cultural Testing</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet policy to not serve intoxicated patrons</td>
<td>+</td>
<td>+++</td>
<td>++</td>
<td>Moderate</td>
</tr>
<tr>
<td>Training bar staff and managers to prevent and better manage aggression</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>Moderate</td>
</tr>
<tr>
<td>Voluntary codes of bar practice</td>
<td>O</td>
<td>+</td>
<td>+</td>
<td>Low</td>
</tr>
<tr>
<td>Enforcement of on-premise regulations and legal requirements</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td>High</td>
</tr>
<tr>
<td>Community mobilization</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>High</td>
</tr>
</tbody>
</table>
Industry spends billions on promoting alcoholic beverages

Promotional activities far outstrip efforts of public health/educators to supply counter-messages

Industry is more innovative than public health, both in new product development and in pioneering of new forms of marketing and promotion
Are the alcohol industry’s promotional activities effective?

- No one likes to admit that advertising affects them.
- Current research looks at effects on young people.
- Three recently published longitudinal reviews, including one done with alcohol industry representation, concluded that the more young people are exposed to alcohol marketing, the more likely they are to drink, or if already drinking, to drink more.
- Forms of alcohol advertising and marketing that predict drinking onset among youth:
  - Television beer advertisements (Collins et al. 2007, Snyder et al. 2006, Stacy et al. 2004)
  - Alcohol ads in magazines (Collins et al. 2007, Snyder et al. 2006)
  - Alcohol ads on billboards (Snyder et al. 2006, Pasch et al. 2007)
  - In-store beer displays (Collins et al. 2007)
  - Beer concessions at sporting events (Collins et al. 2007)
  - Per capita spending on alcohol advertising in their media market (Snyder et al. 2006)
  - Alcohol use in movies (Sargent et al. 2006)
  - Ownership of alcohol promotional items (McClure et al. 2006, Henriksen et al. 2008)
Youth exposure to alcohol advertising: magazines

In 2006, compared to adults 21 and over, youth ages 12-20 saw per capita...

- 20% more beer ads
- 34% more ads for alcopops
- 50% fewer wine ads

The overwhelming majority of youth exposure – 77% - came from ads placed in magazines with disproportionate youth audiences. (2005 data in MMWR, 8/3/2007)
Does the industry “target” youth?

Siegel et al. 2008:
- Census of alcohol advertisements in 20 national magazines, 2001 to 2003
- The number of alcohol advertisements in magazines increases significantly with the proportion of youth readers, even after controlling for young adult readership.
- A one standard deviation increase in percent youth readership increased the number of alcohol advertisements by a factor of between 2.5 and 2.8.
- Published in Contemporary Economic Policy, July 2008
Does the industry “target” youth?

- King et al., in press, *Journal of Adolescent Health*:
  - Larger analysis of advertisements in 118 national magazines, 2002 to 2006
  - Compared advertising schedules for beverages most popular with youth to those least popular with youth
  - Controlled for cost of advertising, size of young adult readership, median income of readers, etc.
  - The ratio of the probability of a youth alcoholic beverage type advertising in a magazine to that of an adult type advertising in a magazine increased from 1.5 to 4.6 as youth readership increased from 0% to 40%.
  - Thus in magazines with highest youth readerships, youth alcoholic beverage types were more than four times more likely to advertise than adult alcoholic beverage types.
Does the industry “target” youth?

- Chung et al., in press, AJPH:
  - Census of 608,591 alcohol advertisements on cable television, 2001 to 2006
  - Each one-point increase in the percentage of the audience that was adolescent was associated with more beer (+7%), spirits (+15%), and alcopop (+22%) ads per viewer-hour, but fewer wine (-8%) ads (P<.001 for all).
PROMOTION POLICY INTERVENTIONS:
Industry self-regulation

- U.S. Beer Institute code:
  - Beer advertising and marketing materials should not...claim or represent that individuals cannot obtain social, professional, educational, athletic, or financial success or status without beer consumption.
Limits of self-regulation

- Content provisions unenforceable
- Placement provisions require independent data source and steady monitoring
- Code provisions are weak and can be made weaker with impunity
  - E.g. 2006 changes in U.S. Beer Institute code
Promotion policy interventions

- Placement restrictions
  - % of audience (proportional to youth?)
  - Time or category watersheds (e.g. nothing before 10 p.m., or nothing on sports programming)
  - Physical placement restrictions, i.e. outdoor advertising near schools, libraries, playgrounds
  - Restrictions on public transit advertising
Promotion policy interventions

- “Equal time” for public health counter-advertising
  - Effective on tobacco in U.S., provided ads are hard-hitting
  - Funded in the U.S. at the state level through tobacco tax increases
Promotion policy interventions

- Warning on advertisements
  - Some evidence they may be effective
- Ban alcohol industry sponsorship of events
  - Especially those appealing to children or families
- Prohibit distribution or sale of alcohol promotional items
  - “Trinkets and trash” strong predictors of alcohol use
  - Prohibition could be limited to minors but much less effective
- Litigation to prevent industry marketing abuses
**Assumption Underlying Regulation of Alcohol Marketing Policy Options**

<table>
<thead>
<tr>
<th>Policy</th>
<th>Assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulating alcohol marketing and advertising</td>
<td>Reducing exposure to social modeling of excessive drinking will prevent underage drinking</td>
</tr>
</tbody>
</table>
# Regulating Alcohol Promotion

<table>
<thead>
<tr>
<th>Strategy or Intervention</th>
<th>Effectiveness</th>
<th>Research Support</th>
<th>X-Cultural Testing</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising bans</td>
<td>+</td>
<td>+</td>
<td>++</td>
<td>Low</td>
</tr>
<tr>
<td>Voluntary controls by alcohol industry</td>
<td>0</td>
<td>+</td>
<td>++</td>
<td>Low</td>
</tr>
</tbody>
</table>
Promotion policy case study: Loi Evan

- Passed in 1985 but not defined and enforced until 1991
- Definition of alcoholics drinks (1.2%)
- No advertising targeted at young people
- No ads on TV or in movies
- No sponsorship of cultural or sporting events
Promotion policy case study:
Loi Evan

- Advertising permitted only in the press for adults, on billboards, on radio
- Messages and images should refer only to the qualities of the product such as origin, composition, production, etc.
- A health message must be included on each ad
<table>
<thead>
<tr>
<th>Policy</th>
<th>Assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drink-driving countermeasures</td>
<td>Reduce drink driving though deterrence, punishment and social pressure</td>
</tr>
</tbody>
</table>
## Drinking-Driving Countermeasures

<table>
<thead>
<tr>
<th>Strategy or Intervention</th>
<th>Effectiveness</th>
<th>Research Support</th>
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<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sobriety check points</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
<td>Moderate</td>
</tr>
<tr>
<td>Random breath testing (RBT)</td>
<td>+++</td>
<td>++</td>
<td>+</td>
<td>Moderate</td>
</tr>
<tr>
<td>Lowered BAC Limits</td>
<td>+++</td>
<td>+++</td>
<td>++</td>
<td>Low</td>
</tr>
<tr>
<td>Administrative license suspension</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>Moderate</td>
</tr>
<tr>
<td>Low BAC for young drivers (&quot;zero tolerance&quot;)</td>
<td>+++</td>
<td>++</td>
<td>+</td>
<td>Low</td>
</tr>
<tr>
<td>Graduated licensing for novice drivers</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>Low</td>
</tr>
<tr>
<td>Designated drivers and ride services</td>
<td>O</td>
<td>+</td>
<td>+</td>
<td>Moderate</td>
</tr>
</tbody>
</table>
Random Breath Testing (RBT)

- Motorists are stopped at random by police and required to take a preliminary breath test, even if they are in no way suspected of having committed an offence or been involved in an accident.

- Highly visible, non-selective testing can have a sustained effect in reducing drinking-driving and the associated crashes, injuries, and deaths.
Summary: Drinking-Driving Countermeasures

- Consistently produce long-term problem reductions of between 5% and 30%.
- Deterrence-based approaches, using innovations such as Random Breath Testing, yield few arrests but substantial accident reductions.
- Another effective measure is the use of graduated licensing for novice drivers, which limits the conditions of driving during the first few years of licensing.
### Assumptions Underlying Treatment and Early Intervention

<table>
<thead>
<tr>
<th>Policy</th>
<th>Assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase availability of treatment programs</td>
<td>Problem drinking is responsive to various therapeutic interventions</td>
</tr>
<tr>
<td>Conduct screening and brief intervention in health care settings</td>
<td>Heavy drinkers can be motivated to drink moderately before they acquire alcohol dependence</td>
</tr>
</tbody>
</table>
Treatment and Early Intervention Services

- In general, exposure to any treatment is associated with significant reductions in alcohol use and related problems, regardless of the type of intervention used.

- Regarding specific treatment modalities, the weight of evidence suggests that behavioral treatments are likely to be more effective than insight-oriented therapies.
Residential Treatment

- There is no consistent evidence that intensive in-patient treatment provides more benefit than less intensive outpatient treatment.

- Residential treatment may be indicated for patients who:
  - 1) are highly resistant to treatment;
  - 2) have few financial resources;
  - 3) come from environments that are not conducive to recovery;
  - 4) have more serious, coexisting medical or psychiatric conditions

(Finney et al., 1996).
Adjuncts to treatment

- Naltrexone, an opioid antagonist, and acamprosate, an amino acid derivative, have shown positive effects in the prevention of relapse.
- AA attendance alone may be better than no intervention at all and can have an incremental effect when combined with formal treatment.
**Brief interventions**

- Consist of one to three sessions of counseling or advice delivered in general medical settings.
- Randomized controlled trials (conducted in a variety of settings) indicate that clinically significant changes in drinking behavior and related problems can follow from brief interventions with non-alcoholic heavy drinkers.
## Treatment and Early Intervention

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<tr>
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<th>Research Support</th>
<th>X-Cultural Testing</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brief intervention with at-risk drinkers</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
<td>Moderate</td>
</tr>
<tr>
<td>Alcohol problems treatment</td>
<td>+</td>
<td>+++</td>
<td>+++</td>
<td>High</td>
</tr>
<tr>
<td>Mutual help/self-help attendance</td>
<td>+</td>
<td>+</td>
<td>++</td>
<td>Low</td>
</tr>
<tr>
<td>Mandatory treatment of repeat drinking drivers</td>
<td>+</td>
<td>++</td>
<td>+</td>
<td>Moderate</td>
</tr>
</tbody>
</table>
## Assumptions Underlying Education and Persuasion Policy Options

<table>
<thead>
<tr>
<th>Policy</th>
<th>Assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide information to adults and young people especially through mass media and school-based alcohol education programs</td>
<td>Health information increases knowledge, changes attitudes and prevents drinking problems</td>
</tr>
</tbody>
</table>
Education Strategies

- School-based alcohol education programs are among the most popular types of prevention programs for policymakers.
- Approaches include giving information, values clarification, building self-esteem, teaching general social skills, and “alternatives” approaches that provide activities inconsistent with alcohol use (e.g., sports).
Education and Persuasion Strategies

Public service announcements (PSAs)

- Messages prepared by nongovernmental organizations, health agencies, and media organizations that deal with responsible drinking, the hazards of drinking-driving, and related topics.

Despite their good intentions, PSAs are an ineffective antidote to the high-quality pro-drinking messages that appear much more frequently as paid advertisements in the mass media.
<table>
<thead>
<tr>
<th>Strategy or Intervention</th>
<th>Effectiveness</th>
<th>Research Support</th>
<th>X-Cultural Testing</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol education in schools</td>
<td>O</td>
<td>+++</td>
<td>++</td>
<td>High</td>
</tr>
<tr>
<td>College student education</td>
<td>O</td>
<td>+</td>
<td>+</td>
<td>High</td>
</tr>
<tr>
<td>Public service messages</td>
<td>O</td>
<td>+++</td>
<td>++</td>
<td>Moderate</td>
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<tr>
<td>Warning labels</td>
<td>O</td>
<td>+</td>
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<td>Low</td>
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</tbody>
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The impact of education and persuasion programs tends to be small at best. When positive effects are found, they do not persist. Among the hundreds of studies, only a few show lasting effects (after 3 years) (Foxcroft et al. 2003). AlcoholEdu study cited by CR is producer’s own study – not peer-reviewed – one peer-reviewed evaluation is in JACH 2008 – finds no effect on drinking behavior. The time is past for arguments on behalf of substituting education for other, more effective approaches. If educational approaches are to be used, they should be implemented within the framework of broader environmental interventions that address availability of alcohol.
Best Practices

- Minimum legal purchase age
- Government monopoly of retail sales
- Restriction on hours or days of sale
- Outlet density restrictions
- Alcohol taxes
- Random Breath Testing
- Lowered BAC limits
- Administrative license suspension
- Graduated licensing for novice drivers
- Brief interventions for hazardous drinkers
Environmental interventions: underage students

- Decreasing social access to alcohol
  - Decrease number of large drinking parties
    - Prohibit alcohol use in public places
    - Patrol public areas
    - Restrict parties at hotels/motels
    - Have alcohol-free parties/events
  - Prevent underage access at parties
    - Ban beer kegs
    - Implement beer-keg registration
    - Limit quantity per request
    - Create separate drinking areas
    - Do not allow self-service
    - Require server training
    - Check age identification

- Increase awareness of laws
  - Implement awareness campaigns
  - Distribute warning fliers

- Enforce social provision laws
  - Use shoulder tap campaigns
  - Spot check parties
  - Hire security monitors
  - Enact noisy assembly ordinance
  - Enact social-host liability law

Source: Toomey et al. 2007 review of 110 studies
Environmental interventions: underage students

- Decreasing commercial access to alcohol
  - Limit alcohol sales
    - Prohibit sales on campus
    - Restrict/ban home deliveries
  - Focus on alcohol establishment behavior
    - Check age identification
    - Provide incentives for checking identification
    - Develop monitoring system
    - Train managers/servers
    - Require server license
    - Restrict age of seller
  - Reduce use of false age-identification cards
    - Penalize users and producers
    - Design cards that are difficult to falsify
  - Enforce commercial provision laws
    - Implement compliance checks
    - Enact administrative penalties
    - Conduct walk-throughs
Environmental interventions: all college students

- Restricting where, when, and how alcohol is sold and distributed
  - Reduce density of alcohol establishments
    - Increase cost of alcohol license
    - Restrict days/hours of sale
    - Prohibit sales on campus
    - Monitor increases in availability due to privatization or community events
  - Promote responsible alcohol service
    - Serve standard sizes
    - Prohibit pitchers
    - Cut-off service to intoxicated individuals
    - Promote alcohol-free drinks/food
    - Eliminate last-call announcements
    - Require manager/server training
    - Enact dramshop liability
  - Reduce flow of alcohol at parties
    - Ban beer kegs
    - Restrict/ban home deliveries
    - Limit quantity of alcohol at events
    - Do not allow self-service
    - Make alcohol-free drinks and food available
    - Serve low-alcohol content drinks
Environmental interventions: all college students

- Increasing the price of alcohol
  - Restrict happy hours/price promotions
  - Limit free alcohol
  - Increase alcohol excise tax

- Restricting where alcohol is consumed
  - Restrict consumption to specific areas
  - Create dry campuses/residences
  - Prohibit consumption in locations where heavy drinking occurs
Undercutting 21…

- **Federal commitment to the issue of underage drinking**
  - The sad tale of ICCPUD
    - Mandated by Congress, seldom meets
  - The sad tale of the STOP Act
    - Authorized in 2006 a minimal $18 million for underage drinking — thus far only $11 million appropriated (including $2.5 million of new funds for college prevention programs — “budget dust”)
  - Illegal drug media campaign vs. underage drinking media campaign
    - More than $100 million for illegals versus $1 million for underage drinking
  - OJJDP only federal agency with program funding dedicated solely to underage drinking
Laws are not magic – enforcement is key
- Even poorly enforced 21 has been effective
- Better enforcement leads to lower underage drinking rates (CDC 2007)

21 has been left to do the entire job
- Public health – multi-level, multi-sectoral interventions key
- Weitzman et al. 2004 – evaluation of AMA-sponsored program at 10 college campuses
  - Largest improvements found at campuses that implemented most “environmental” interventions
The alcohol industry and 21

1985: Miller Brewing Company (then part of Philip Morris Tobacco Co.):

“Strategically, we will be working behind the scenes to encourage the 27 states not already imposing a minimum drinking age of 21 to delay any enactment…”

The reason this was strategic for Miller was because they knew that 21 would be effective in reducing sales of alcohol to 18 to 20 year-olds, and they wanted to avoid that.

Source: Bond et al., Australian Medical Journal, 2009
Public Health Model of Corporate-borne Diseases

The Agent Alcohol

Vector: Alcohol Industry
Host: Vulnerable Populations
PRODUCT

- Yet another example of how 21 is undercut every day
- Industry tests more than 250 new products per year in U.S.
- Some of these products are clearly youth-oriented
PRODUCT: “alcopops”

- Industry spokespersons have described alcopops as designed for “entry-level drinkers” and those who do not like the taste of beer.
- Even though most of them have distilled spirits in them, the industry claimed they were made from beer, so that they could be:
  - Taxed lower
  - Sold in convenience stores
  - Advertised on TV
How popular are alcopops among kids?

- Most popular with the youngest drinkers.
- 78% of current 8th grade drinkers (past 30 days) drank alcopops in the past 30 days.
- 71% of current 10th grade drinkers (past 30 days) drank alcopops in the past 30 days.
- 65% of current 12th grade drinkers (past 30 days) drank alcopops in the past 30 days.
- 42% of current drinkers, age 19 to 30, drank alcopops in the past 30 days.
Alcopops most popular with females in every age group
Newer products
PRODUCT

- Shotpaks – 17% alcohol – US$.99 each...
- Featured on the Today show in July 2007 as great innovation
Ethical questions

- Do interventions enhance or detract from “freedom”?
- Who defines “freedom”? 
- Do all parties responsible for public health problems bear portion of the costs?
  - Tobacco – smokers’ rights, industry liability, non-smokers’ rights to clean air or lower medical costs
  - Alcohol – punish the kids and the parents, weaken liability for servers, sellers, producers
  - Obesity – freedom to market FLNVs anywhere and in any way?
Two dominant frames

- **Market Justice**
  - Self-determination and self-discipline
  - Rugged individualism and self-interest
  - Benefits based solely on personal effort
  - Limited obligation to collective good
  - Limited government intervention
  - Voluntary and moral nature of behavior

- **Social Justice**
  - Shared responsibility
  - Interconnection and cooperation
  - Basic benefits should be assured
  - Strong obligation to the collective good
  - Government involvement is necessary
  - Community well-being supersedes individual well-being
Beauchamp:  
Public health as social justice

- **Principles:**  
  1) controlling the hazards of this world  
  2) to prevent death and disability  
  3) through organized collective action (government or other)  
  4) shared equally by all except where unequal burdens result in increased protection of everyone’s health and especially potential victims of death and disability

- In midst of health care reform debate, we should work for a right to health (not just right to health care), defined as:

  The right to full and equal protection of all persons against preventable death and disability