Alcohol Use in Wisconsin: Costs, Consequences and Potential Policy Solutions

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"Hello, my name is Bucky and I have a drinking problem..."
Presentation Today

- Alcohol use Patterns in Wisconsin Adults and Adolescents
- Societal Consequences of Alcohol Use
- Potential Population-level Strategies to Reduce Problems Related to Alcohol


Note: Current alcohol use is defined as at least one drink of alcohol in the past 30 days.

Source: Behavioral Risk Factor Survey, Bureau of Health Information and Policy, Division of Public Health, Department of Health and Family Services; U.S. Centers for Disease Control and Prevention.
Adult binge drinking prevalence: Range of state estimates: Low, high, and United States median, 2002–2006


Note: Change in threshold for women began in 2006 (4 drinks as of 2006).

Per capita alcohol consumption, in gallons, Wisconsin and the United States, 1996–2005

In WI this translates to 996 drinks per drinker per year or 2.7 drinks/day


Note. Per capita consumption is gallons of ethanol consumed per person, based on population age 14 and older.
...but they said a drink a day was good for you...

Wisconsin binge drinking
Current drinking among high school students, Wisconsin, Milwaukee Public Schools, and the United States, 1997–2007

Source: Youth Risk Behavior Survey, Department of Public Instruction; Milwaukee Public Schools; U.S. Centers for Disease Control and Prevention.
Alcohol use among High School Students, Wisconsin, Milwaukee Public Schools, and the United States, 2007

Initiation Before Age 13
- United States (2005): 26%
- Wisconsin: 24%
- Milwaukee Public Schools: 27%

Current Use
- United States (2005): 43%
- Wisconsin: 49%
- Milwaukee Public Schools: 31%

Binge Drinking
- United States (2005): 25%
- Wisconsin: 32%
- Milwaukee Public Schools: 14%

Source: Youth Risk Behavior Survey, Wisconsin Department of Public Instruction; Milwaukee Public Schools; U.S. Centers for Disease Control and Prevention.
Prevalence of Binge Drinking among High School Students: Wisconsin, Milwaukee Public Schools and the United States

Source: Youth Risk Behavior Survey, Department of Public Instruction; Milwaukee Public Schools; U.S. Centers for Disease Control and Prevention.
The Long Term View—Good News from Monitoring the Future!

% US students who had 5+ drinks in previous 2 weeks
CONSEQUENCES of ALCOHOL USE

- Treatment Cost
- Arrests, Citations and Incarceration
- Highway Crashes and Deaths
- Other Societal Problems

Source: Inpatient hospital discharge file, Wisconsin Hospital Association Information Center.
Public funds expended for alcohol and other drug abuse treatment, Wisconsin, 1997–2006

Source: Human Services Reporting system, Division of Mental Health and Substance Abuse Services, Wisconsin Department of Health and Family Services.
Costs of Underage Drinking

- National Estimate: $61.9 Billion/year
- WI estimate: $1.16 Billion/year

- Underage Drinking—16% or more of all alcohol sales
- Costs include
  - $5.4 B medical costs,
  - $14.9 B work and other resource loss,
  - $41.6 B lost quality of life
- When challenged—review showed these costs primarily due to alcohol attributable violence and traffic crashes.
- Ignoring quality of life, cost is still about $1/drinkin societal harm

(Miller et al., JSA, 2005)
Arrests and Citations
Rate of liquor law arrests (adult and juvenile) per 100,000 population, Wisconsin and the United States, 1996-2006

Sources: *Crimes and Arrests in Wisconsin*, Wisconsin Office of Justice Assistances; *Crime in the United States*, U.S. Department of Justice, Federal Bureau of Investigation, Criminal Justice Information Services Division.
Rate of arrests (adult and juvenile) for operating while under the influence (OWI) per 100,000 population, Wisconsin and the United States, 1996–2006

Sources: Crimes and Arrests in Wisconsin, Wisconsin Office of Justice Assistance; Crime in the United States, U.S. Department of Justice, Federal Bureau of Investigation, Criminal Justice Information Services Division.
Rate of disorderly conduct arrests (adult and juvenile) per 100,000 population, Wisconsin and the United States, 1996–2006

Sources: *Crimes and Arrests in Wisconsin*, Wisconsin Office of Justice Assistance; *Crime in the United States*, U.S. Department of Justice, Federal Bureau of Investigation, Criminal Justice Information Services Division.

Notes: These two sources provide rates per 100,000 population for reported index crimes (property offenses and violent offenses), plus numbers of arrests for index crimes and numbers of crimes/arrests for non-index crimes. Where rates were not directly obtained, rates per 100,000 population were calculated using the standard formula: rate = number / population x 100,000.
Alcohol–Involved Highway Deaths

- WI is highest in self-reported past year drunk driving: 26.6% vs. 15.1% nationally (NSDUH)

- WI tied for eighth highest state in percent of fatal crashes that are alcohol related.

- In 2005, of 815 traffic fatalities in WI, 40% had BAC > .08; 5% more had lower but positive BAC.

- Good News: This 45% compares to 62% in 1982—there has been marked improvement over 23 years!
## Drivers in Fatal Crashes
### US, 2006 (NHTSA, 2008)

<table>
<thead>
<tr>
<th>BAC Level</th>
<th>With Prior DWI</th>
<th>No Prior DWI</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>.08 or higher</td>
<td>8%</td>
<td>92%</td>
<td>12,491 (22%)</td>
</tr>
<tr>
<td>.01 to .07</td>
<td>4%</td>
<td>96%</td>
<td>2,349 (4%)</td>
</tr>
<tr>
<td>.00</td>
<td>1%</td>
<td>99%</td>
<td>42,855 (74%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3%</strong></td>
<td><strong>97%</strong></td>
<td><strong>57,695</strong></td>
</tr>
</tbody>
</table>
Other Societal Costs (with estimated percent related to alcohol as an indirect cause)

- Crime
  - Sexual Assaults (up to 60%)
  - Assaults (37–40%)
  - Homicides and Manslaughter (49–86%)
- Suicides (20–37%)
- Incarceration
  - 65% of adult prisoners have alcohol/drug problem
  - 67% of Juveniles in state corrections have alcohol/drug problem (41% alc)
- Falls (44%)
- Drowning (69%)
- Domestic Violence
- Fires (26%)
- Lost productivity
- FASD and ARND (100%)
- Unintended pregnancy and STDs

(Source: Moore and Gerstein, 1982; Chesson et al., 2000; Winters et al., 2003; Rooney & Hargarten, 2007)
Wisconsin leads the nation in rates of alcohol use and many alcohol problem indicators, and has for quite some time.

In the long run (20+ years), several key indicators improved both in WI and nationally.

Very high monetary and social costs.

The problem is not necessarily the individual “alcoholic” or the repeat DWI offender, but the overall rates and risky patterns of consumption in the population.
Based on epidemiological workgroup analysis, the following priorities emerged:

- Risky Drinking: underage drinking and young adult binge drinking among ages 12 – 25.
- Alcohol related motor vehicle fatalities, injuries and crashes for individuals between ages of 16–34.
Population Level Alcohol Interventions

- Population level alcohol interventions target harmful behavior through regulatory policies, environmental controls and through education.

- Regulatory policies typically focus on limiting alcohol availability, minimizing drinking and driving, and reducing underage drinking. Regulatory policies have been found to be more effective than educational approaches.

- Harm reduction approaches have also demonstrated some effectiveness in reaching their primary goals.

- The strongest supporting evidence is for raising alcohol prices, reducing outlet density, reducing access to minors, raising the minimum drinking age, lowering blood alcohol content for drivers, sobriety checkpoints and random breath testing, and restrictions on licensing for minors.
Alcohol Availability and Cost
Alcohol Availability in WI

- State average = 336 people per liquor license
  (includes all sales, on and off-premise; state total = 16,349 licenses)
  - Iron County = 69 residents per license
  - Waukesha Co = 685 residents per license

(Source: DOT, 2003 Wisconsin Alcohol Traffic Facts)
Price Increase through Taxation

- Price increase has been shown to be one of the most effective methods of alcohol regulation (WHO, 2002).

- Minors are especially sensitive to higher alcohol taxes (Chaloupka, 2000; Miller, 2000).

- Federal taxes have not kept up with inflation (Grube, 2005), and many states have not raised alcohol excise taxes in decades. (WI beer tax 6.4 cents/gal has not changed since 1969.)
Nationally, beer…

- Accounts for 67% of alcohol consumed
- The top 10% of beer drinkers consume 42% of the alcohol in US
- Beer accounts for 81% of all alcohol drunk in hazardous amounts. (Rogers and Greenfield, 1999)
In 1984 the minimum drinking age was set nationally to 21.

Studies have consistently found that this has reduced alcohol consumption and related problems in young people (Grube, 2005; Wagenaar).

Fatal crashes among minors fell by 12% as a result of raising the minimum age (Hingson, 1993).
Outlet Regulation

Four methods that show evidence of effectiveness:

- Reduced outlet density
  - Directly linked to overall alcohol consumption (WHO, 2002), violence (Gruenewald, 2006), and motor vehicle crashes (Scribner, 1994).
- Reduced hours of sale
- Alcohol monopoly systems—(e.g., state liquor stores)
- Compliance checks for enforcement of prohibition of sale to underage individuals
**Responsible Beverage Service (RBS) and Dramshop Liability**

- RBS involve either requirements or incentives for alcohol outlets to implement stricter sales policies and to promote training for manager and servers.
  - Aims to minimize sales to intoxicated persons, sales to minors, DUI, and alcohol-related violence.

- Dramshop liability laws make alcohol retailers accountable for injuries caused by intoxicated persons.
  - Have been shown to improve responsible service practices (Sloan et al, 2000) and to reduce alcohol-related traffic fatalities (Chaloupka et al, 1993).
Compliance Checks

- In off-premise alcohol outlets, compliance checks reduced sales to minors by 11% and a second round by 40% (Scribner and Cohen, 2001)
- In on-premise alcohol outlets, compliance checks produced an immediate reduction of sales to minors of 17% (Wagenaar et al, 2005)
- Both effects decreased over time—need sustained efforts
Stricter monitoring of keg use may reduce underage consumption, but little research has been done.
Drinking and Driving
BAC Levels

- All states have a blood alcohol content limit for drivers of .08 g/dL.
- States that initially adopted a .08 limit saw a 16% reduction in alcohol related traffic fatalities (Hingson, 1996)
- A more recent study with data from all 50 states estimated a 14% reduction (Villaveces, 2003).
- Zero Tolerance for drivers under 21
  - 15% greater reduction for fatal single vehicle nighttime crashes among those states that adopted zero tolerance laws (Hingson, 1996).
  - 24% decrease in alcohol–related traffic fatalities among minors (Voas et al, 2002).
Sobriety Checkpoints and Random Breath Testing

- 1992 review—multiple states—checkpoints reduced nighttime crashes or nighttime fatal crashes (Ross, 1992)
- 1999 review—US and Australia—decreases in alcohol-related motor vehicle fatalities from 8 to 71% (Peek-Asa, 1999)
- Random breath testing is not currently legal in the US
  - A review of studies from two countries found an average decline of 22% in fatal crashes (Shults et al, 2001)
  - A Queensland study found a 35% reduction in fatal crashes, compared to 15% for sobriety checkpoints (Henstridge, 1997)
Graduated Licensing

- Requires new drivers to pass through transitional phases; restrictions on driving times, number of passengers, or driving without an accompanying adult.

- Successful in reducing overall crashes and fatalities (Begg and Stephenson, 2003); also evidence it reduces DUI.

- 25% reduction in self-reported drinking and driving in Ontario (Mann et al, 1997)
In Wisconsin license suspension is discretionary for underage purchase, consumption or possession. In many states this is a mandatory/administrative penalty instead of discretionary, and there is evidence that use/lose laws lower crash rates.
Public service announcements are not very effective, but can be useful for supporting policy changes (Wallack et al, 1993)

Advertising restrictions reduce consumption: a large international study found reductions between 5 and 8% for countries introducing partial or total bans (Saffer and Dave 2002)
Community–based education

- Information-based education has been found ineffective in schools; resistance skills training has been somewhat more successful (Mattern and Neighbors, 2004)

- Life Skills Training shows some evidence of reducing frequency of alcohol use in HS students (Botvin et al., 1995)

- “Harm reduction” education and programs show some promising evidence of effectiveness (WHO, 2002; Rosenbaum). Harm reduction includes teaching about harmful versus social drinking, alcohol dosage, aggression management; safe ride programs and designated drivers are also harm reduction approaches.

- Brief advice from physicians may reduce problem drinking among older teens (Baer et al., 2001).
Families and Communities Can…

- Make clear to all family members, esp. older siblings that providing alcohol to underage persons is unacceptable and illegal.
- Secure personal alcohol supplies in homes.
- Support local law enforcement efforts to control underage drinking and sales to minors.
- Eliminate alcohol sponsorship at community events.
- Limit alcohol in parks.
- Limit/ban alcohol billboard placement.

(Wisconsin Clearinghouse for Prevention Resources, 2007)
Also of interest

- In Wisconsin, consumption is permitted by minors with the consent of a parent or guardian who is present.

- In Wisconsin, bartenders and servers, both on and off premises need be only 18.

- See handout from Resource Center on Impaired Driving for additional information on WI legislative policies.
In summary...

- Available evidence suggests that to reduce problems related to alcohol use in the population, we should address:

  - Access to/availability of alcohol
  - Affordability of alcohol
  - Attractiveness of alcohol use
  - Acceptability of excessive alcohol use
  - Reduction of harm related to use

Thank You!
"Hello, my name is Bucky and I have a drinking problem..."