

A Case for Regulation: Less Access to Alcohol, Fewer Traffic Deaths

Research on the structure, policies, and practices of alcohol beverage control agencies

SUMMARY

Investigators at Louisiana State University Health Sciences Center examined the relationship between regulatory practices of alcohol-control agencies and alcohol-related traffic deaths in 107 cities that participate in the National Highway and Traffic Safety Administration's Fatality Analysis Reporting System (FARS).

Investigators surveyed state Alcohol Beverage Control agencies and local city police departments in the 107 cities and interviewed staff from alcohol-enforcement agencies in 20 cities.

The goal was to determine whether local policies and practices reduce alcohol-related automobile fatalities.

The project was part of the Robert Wood Johnson Foundation's (RWJF) national *Substance Abuse Policy Research Program* (SAPRP) (for more information see the Program Results Report).

Key Findings

The investigators reported their findings in an article in the February 2002 issue of Preventive Medicine:

- Lower rates of alcohol-related traffic fatalities, were found in states and communities that:
 - Limit alcohol accessibility.
 - Require licensure of outlets selling alcohol.
 - Provide for disciplinary actions against outlets that violate laws.
 - Enforce blood alcohol concentration laws.

- Alcohol-related fatalities were most effectively reduced with regulations that:
 - Restrict access to alcohol by prohibiting drive-through liquor stores.
 - Require kegs to be registered.
 - Prohibit drinking in public and in cars.
 - Prohibit people under age 21 from entering bars.
 - Require outlets that serve alcohol to serve food as well.
 - Restrict alcohol at sports events.
 - Reduce the number of outlets per 100,000 people.

Funding

RWJF provided a \$218,804 grant from April 1997 to March 2000 to fund the study.

The principal investigator received a subsequent SAPRP grant (ID# 042190) to determine whether alcohol-control policies are associated with alcohol-related deaths in areas other than traffic fatalities.

THE PROBLEM

Alcohol was estimated to cost the United States \$184.6 billion in direct and indirect costs of illness, death, and lost wages and productivity in 1998, according to a 2000 report by the U.S. Department of Health and Human Services.

This figure is second only to the impact of tobacco and is one and a half times greater than costs attributable to illegal drugs. Alcohol-related traffic fatalities accounted for 50,562 deaths nationally during the three years from 1995 through 1997, according to the National Highway Traffic Safety Administration's fatality analysis reporting system.

These variations might be explained by differences in local alcohol-control policies and practices. Community interventions to control alcohol problems have not advanced in the same way as interventions that focus on tobacco control.

There is great variation in the existence and enforcement of laws, licensing requirements and fees, and disciplinary practices used to monitor and enforce compliance with the laws. Enforcement of some policies—such as the National Minimum Drinking Age Act requiring states to outlaw drinking among people under age 21 (which contributed to a significant reduction in traffic fatalities)—has been low, and it has been suggested that better enforcement of this and other laws would further reduce mortality rates.

Similarly, cities have been slow to enact policies that could reduce fatalities. While price controls in the form of taxes are likely to control alcohol consumption, taxes on alcohol are less than 1 percent of all taxes, significantly lower than at the turn of the century, when alcohol taxes comprised 40 percent of all taxes; alcoholic beverages sometimes cost less per ounce than bottled water, orange juice or milk.

THE PROJECT

This study is based on and reinforces the "population consumption model," which holds that individual alcohol consumption is, in part, a function of the overall consumption in the community, and suggests that controlling access to alcohol at the community level may reduce alcohol consumption and alcohol-related problems.

Investigators sought to identify which alcohol-control laws and enforcement practices are associated with the best outcomes for communities as a whole. They surveyed state Alcohol Beverage Control (ABC) agencies and local city police departments in the 107 cities with population over 150,000 that participate in the National Highway and Traffic Safety Administration's Fatality Analysis Reporting System (FARS).

The survey asked about 1997 alcohol-control practices in seven categories:

- 1. Laws governing accessibility of alcohol.
- 2. Licensure requirements for alcohol outlets.
- 3. Disciplinary procedures for outlets that violate existing laws.
- 4. The type, frequency and quality of the enforcement of existing laws and whether these practices had changed since the previous year.
- 5. Policies related to driving under the influence (DUI).
- 6. Resources available to enforcement officers.
- 7. Public relations and education undertaken by the agencies targeted toward the public or the alcohol outlets.

The survey results were analyzed in conjunction with data for alcohol-related traffic fatalities during 1995–1997 as documented in the FARS database. Out of 107 cities surveyed, 97 responded: 61 in which both the state ABC agency and the local police department responded; 25 in which only the ABC agency responded; and 11 in which only the police responded. Investigators interviewed staff from enforcement agencies in 20 cities, several with low alcohol-related traffic mortality, several with high traffic mortality and a few that had a mid-range rate of traffic fatalities.

FINDINGS

- The number of alcohol-related traffic fatalities per 100,000 people varied between 0.86 and 10.23. The average number of fatalities per 100,000 people was 4.75. Lincoln, Neb. was lowest at 0.86; Kansas City and Dallas were highest at 10.10 and 10.23, respectively.
- Community-level alcohol regulatory policies and practices explain many differences in alcohol-related traffic fatalities across U.S. cities.
- Regulations related to alcohol accessibility, licensure and disciplinary procedures taken against alcohol outlets that violated the law, and enforcement of blood alcohol concentration laws were associated with lower rates of alcohol-related traffic fatalities. Cities with 9 or fewer of the 20 alcohol-control regulations surveyed had 1.46-fold greater mortality than cities with 15 or more of these regulations. This difference represents 392 excess deaths annually.
- Regulations that most protected against alcohol-related fatalities were those that restricted access to alcohol by prohibiting drive-through liquor stores; requiring kegs to be registered; prohibiting drinking in public and in cars; prohibiting people under age 21 from entering bars; requiring outlets that serve alcohol to serve food as well; restricting alcohol at sports events; and reducing the number of outlets per 100,000 people.
- Cities with stricter licensure and fee requirements for outlets had lower alcoholrelated fatalities.
- Where outlets were given strict penalties for violations, traffic fatalities were reduced, probably because of higher compliance with laws and thus fewer sales of alcohol to people for whom drinking is illegal. Publishing violations in the local newspaper is also associated with reduced traffic fatalities.
- Blood alcohol concentration levels for driving under the influence set at <0.08 reduced the number of alcohol-related fatalities.
- Localities with a legal limit for blood alcohol concentration (BAC) <0.08 are more likely to conduct random sobriety checkpoints and to show an overall greater local commitment to using blood alcohol levels to control alcohol use. Among states with a blood alcohol concentration law of <0.08, 68 percent set up random checkpoints and only 3 percent did not use checkpoints. In contrast, 21 percent of cities with BAC at 0.10 set up random checkpoints and 49 percent did not set up checkpoints at all.
- Beer consumption, in comparison to wine and spirits, was disproportionately responsible for alcohol-related traffic fatalities. This may be because beer is the most common type of alcohol sold, and it is widely available cold, in single servings, at convenience stores and gas stations. It is heavily promoted with advertisements that

often show people drinking beer in outdoor settings, such as beaches, parks and fairs—places one would need to drive to in a car.

- Most cities increased enforcement of alcohol-control laws after they experienced an increase in alcohol-related traffic fatalities, suggesting that enforcement often may be reactive rather than routine. This is especially true of operations such as raids, underage compliance checks and disciplinary practices, all of which vary widely from year to year and are usually implemented in response to political concerns or complaints, or when extra funding is available. In contrast, policies regarding access to alcohol and licensure of outlets are more stable over time.
- Public relations and education efforts were minimal nationwide, and no agency had a dedicated annual budget for this work.
- There is little variation across cities in the resources available to alcoholenforcement officers and there are few incentives for aggressive job performance. In contrast to illegal drug enforcement, where a proportion of seizures (including cash and vehicles) becomes the property of the police department, most localities send alcohol-related fines to the state's general fund.
- Because traffic fatalities are only one outcome of alcohol use, regulations that reduce alcohol consumption may have positive effects on other consequences as well, such as crime and violence, homicide and suicide, and sexually transmitted diseases.

Communications

Summary reports were distributed to all alcohol beverage-control agencies and local police departments that participated in the study. An article reporting the results of the study appeared in the February 2002 Preventive Medicine, and a news release announcing the findings generated widespread coverage in national and regional print and broadcast media, online outlets, and civic and substance abuse publications.

LESSONS LEARNED

- 1. When compiling data on alcohol policies and enforcement, it is important but at times difficult to identify the correct state and local agencies. Although most states have an Alcohol Beverage Control Board, in some places, a city tax or licensing department handles alcohol issues. In others, the state police enforce the alcohol-related laws, but a different agency handles licensing. (Project Director)
- 2. When conducting a community-level analysis, it is important to have units of analysis that are similar and at small levels. To improve the quality of research in the future, work needs to be done to make data available at a smaller common denominator so it can be aggregated to the relevant unit of analysis. Much data are available only at state, county or health-area levels, all of which are too large to

detect differences within cities or communities. Differences may be "washed out," because they have been averaged in the aggregation process. Once data has been aggregated it cannot easily be disaggregated. (Project Director)

- 3. Politics plays a significant role in determining which regulations and enforcement practices will be followed. Many regulations have been issued based on commercial and political interests and have not been evaluated as to their impact on public health. In states with the highest alcohol-related traffic mortality rates, legislators often are more influenced by special interests, and/or the judiciary prevents efforts for strict enforcement by blocking attempts to punish lawbreakers, especially in DWI cases. (Project Director)
- 4. Ranking cities by their alcohol-related mortality provided the local angle that media often require in order to report on a scientific study. Reporters from cities with the lowest mortality rates had an opportunity to write a "good news" story; those with high mortality rates had a "bad news" story; and those in the middle could write about changes that were needed to reduce alcohol-related mortality. Projects such as this, with findings that have broad applicability, can be widely disseminated. (Project Director)
- 5. Alcohol consumption data should be viewed with caution because it is taken at the state level rather than the city level. City level measures of alcohol use might be more precise and indicate a stronger mediating effect on fatalities than state level data indicate. (Project Director)

AFTERWARD

The principal investigator on the project described here, Deborah A. Cohen, PhD, MPH, received a subsequent SAPRP grant (ID# 042190) to complete a secondary analysis of the data collected under this grant to determine if alcohol-control policies are associated with alcohol-related mortality in areas other than traffic fatalities. This follow-up study also will collect additional data on city-level alcohol consumption. Bridget N. Brooks at Louisiana State University Medical Center received a supplemental grant (ID# 036016) to conduct a sub-study comparing incentives/constraints in the enforcement of alcohol, tobacco and narcotics laws.

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BIBLIOGRAPHY

(Current as of date of the report; as provided by the grantee organization; not verified by RWJF; items not available from RWJF.)

Articles

Cohen DA, Mason K and Scribner R. "The Population Consumption Model, Alcohol Control Practices, and Alcohol-Related Traffic Fatalities." *Preventive Medicine*, 34(2): 187–197, 2002. Abstract available online.

Reports

Cohen DA, Scribner R and Kaplan S. *Alcohol Enforcement Practices in 20 United States Cities*. New Orleans: Louisiana State University Medical Center, Department of Public Health and Preventive Medicine, Special Projects, 1999.

Mason KE. *Report on Alcohol Beverage Control Policy Survey*. New Orleans: Louisiana State University Medical Center, Department of Public Health and Preventive Medicine, Special Projects, 2000.

Survey Instruments

Louisiana State University Medical Center, *State Agency Alcohol Beverage Control Policy Survey*. Fielded nationally. 1997.

Louisiana State University Medical Center, *Local Agency Alcohol Beverage Control Policy Survey*. Fielded nationally. 1997.