

Preventing Alcohol Trauma: A Community Trial Story of Discovery

Statement of the Problem

The use of alcohol is involved in 40% to 50% of all fatal auto crashes, 30% to 40% of fatal recreational injuries, and 10% to 25% of injuries in the home. Each year, 14,000 persons die in alcohol-related crashes while 2.7 million violent victimizations occur. These injuries arise from the use of alcohol on single drinking occasions and may affect all drinkers.

One of the key scientific problems for understanding the impacts of drinking upon injury rates in human populations is the determination of the behavioral and social mechanisms that give rise to problems related to alcohol. Just as the excessive use of alcohol can impair the functioning of organ systems, the use of alcohol in specific social contexts can impair individual and social behaviors to such a degree as to lead to accidents, injuries and death.

History of Discovery

Research conducted over the past two decades has demonstrated that environmental conditions that affect the behavioral and social mechanisms that lead to alcohol-related injuries. Researchers discovered that changes in access to alcohol (for example, raising the minimum drinking age) could reduce drinking among young people and delay the age at which they start to drink. Researchers also found that increases in the enforcement of drinking and driving laws could reduce rates of drinking and driving and the numbers of alcohol-related crashes. Stricter alcohol service policies and reduced numbers of alcohol outlets were found to change drinking patterns and reduce alcohol-related traffic injuries.

These discoveries led researchers to examine how aspects of community environments (e.g., the number and location of alcohol outlets, the activities of law enforcement, the behavior of alcohol servers) can be used to prevent alcohol-related injuries. Theories of community systems and statistical evaluations of the performance of these theories in predicting alcohol problems in communities demonstrated that system components are interrelated in the ways they affect alcohol problems. For example, models of the relationships of the number and location of alcohol outlets to drinking patterns and problems demonstrated how the environment interacts with individual characteristics to affect drinking and problems. Social and behavioral models of access to alcohol and its impact upon the drinking of young people demonstrated the importance of focusing on the link between access and enforcement in the control of youth drinking. These important discoveries showed that communities could act rationally and effectively to reduce alcohol-related injuries.

Thus the mandate for "environmental preventionists" at this time was to implement and evaluate experiments designed to produce safer alcohol environments. This story is about one such effort: The Community Trials Project."

Focusing on Environmental Prevention

The Community Trials Project implemented five strategies to change alcohol environments in three experimental communities. The project worked with local community members to bring about the following desired changes:

- Responsible serving practices were encouraged to reduce service of alcohol to intoxicated patrons at bars and sales to underage persons at off-premise outlets.
- Local staff worked with police to increase enforcement of laws prohibiting drinking and driving.
- Local media were used to enhance perceptions of increased law enforcement.
- "Stings" of off-premise outlets (liquor stores and other stores that sell alcohol) were used to reduce underage access to and purchase of alcohol.
- The physical availability of alcohol was reduced through changes in outlet densities, planning and zoning laws, and challenges to license applications in certain locations.

The occurrence of alcohol-related injuries in these communities was compared to injuries in matched comparison communities over ten years. Some key findings are listed below.

- 49% reduction in heavy alcohol consumption
- 51% reduction in driving with a blood alcohol content over the legal limit
- 10% reduction in traffic crashes that occurred at night and resulted in injuries (usually assumed to be alcohol-related)
- 6% reduction in the average amount that people reported drinking
- 6% reduction in crashes involving drinking drivers
- 43% reduction in injuries resulting from assaults presenting in emergency rooms

Based on these results, the Community Trials Project was awarded the prestigious "model program status" by the Center for Substance Abuse Prevention. As a result, communities across the country are adopting this program and receiving federal support under the State Incentive Grants program.

Strengthening the Neighborhood Connection

While the Community Trials Project demonstrated overall reductions in target outcomes at the community level, it left a number of questions unanswered: Could

similar programs be implemented at the neighborhood level? Would similar interventions work among populations with substantial low income and ethnic minority representation? Could similar programs be targeted to youth populations? The Sacramento Neighborhood Alcohol Prevention Project (SNAPP) was implemented to answer these questions and to reduce alcohol involved injuries in two Sacramento, California neighborhoods with substantial minority populations. SNAPP program activities were recently completed and the project is in the early phase of evaluating the outcomes. Early results demonstrate a reduction in sales of alcohol to minors and a dramatic enhancement of police and training activities oriented toward controls on alcohol sales and service in these minority neighborhoods.

Future Directions

The implementation and evaluation of these programs have led researchers to pose several central questions in discovering strategies to reduce alcohol-related injuries in communities: Are the outcomes of these trials and the effects of these interventions generalizable across communities in the US? Can these interventions be replicated and delivered in a cost-effective manner to communities for the purposes of injury reduction? Are social systems for access to alcohol flexible enough to allow young people to obtain alcohol in other ways when the environment changes to restrict easy access? Given the national commitment to reduce youth drinking (rather than just reducing problems using "harm reduction" strategies), can these programs reduce consumption as well as preventing negative outcomes?

The Take-Home Message

- Communities can change their environment with regard to the ways alcohol is sold and consumed and with regard to enforcement of alcohol laws through specific strategies, including:
 - Implementing responsible alcohol service practices in bars and restaurants
 - Increasing enforcement of impaired driving laws
 - Involving the media in publicizing enforcement efforts
 - Increasing enforcement of laws against sales to minors
 - Limiting the number and location of outlets selling alcohol
- If communities change their alcohol environment, they can significantly reduce alcohol consumption, impaired driving, and the deaths and injuries that result from alcohol consumption.