

Alcohol, Other Drugs, and Transportation

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During the past 15 years, the number of deaths and injuries related to impaired driving has declined significantly in the United States, as well as in other industrialized countries. For example, 57 percent of all highway fatalities in the United States in 1982 involved a driver or pedestrian with a measurable blood alcohol concentration (BAC). By 1997 this figure had decreased to 38.6 percent of fatalities. The total number of traffic fatalities decreased from 43,945 in 1982 to 41,967 in 1997 (a decline of 4.5 percent), whereas alcohol-related fatalities decreased from 25,170 to 16,189 during the same period (a decline of 35.7 percent).

Similar reductions have occurred in other industrialized countries, including Australia, Canada, Germany, Great Britain, and the Netherlands. The general trend has been very encouraging, and an enormous amount of harm has been avoided. For example, if alcohol-involved crash rates had continued unchanged since 1982 in the United States, 7,732 more people would have died in 1997; many thousands of serious injuries were also avoided.

What accounts for these changes, which have occurred in different countries with different cultural, legal, economic, and social environments? It is possible that some portion of the reductions observed is due to global economic or demographic shifts. Certainly, norms about drinking and driving have changed dramatically, in large part because of efforts of citizen activist groups such as Mothers Against Drunk Driving. A notable decrease in alcohol consumption has also occurred in the United States, as well as in other countries. There is sufficient research evidence, however, indicating that a significant portion of the progress made in reducing impaired driving has resulted from changes in laws, policies, and practices, some of which are described here.

It is important to note that many of the strategies designed to reduce alcohol-related harm in general also reduce alcohol-related crashes. These strategies, which include limits on the availability of alcohol, increases in price, and public education about alcohol, deserve considerable attention as a means of preventing impaired driving, as well as other alcohol-related health and social problems.

The role of drugs other than alcohol in traffic safety is less well known. Although the impairing effects of illegal and some medicinal drugs have been established, they appear to have a much smaller causal role in traffic crashes than the effects of alcohol. In some cases, drugs appear to act synergistically with alcohol.

COMMERCIAL TRANSPORTATION

Commercial transportation represents a special and very important aspect of alcohol and drugs in the transportation environment. During the past decade, the United States has implemented a drug testing program and, more recently, an alcohol testing program for people in safety-sensitive positions in commercial vehicle operations in all modes of transportation. These testing programs appear to have had a beneficial effect in reducing the percentage of positive results in both random and postcrash testing. Policy makers and researchers must continue to address this area.

LEGAL LIMITS ON ALCOHOL

Reductions in Legal BAC Thresholds

The BAC threshold at which driving becomes illegal varies widely throughout the world. In most countries, the threshold is based on what is politically and socially acceptable. Most U.S. states have established 0.10 percent as the legal BAC threshold, but reductions in this level are beginning to be more widely applied. Currently, 18 states have reduced the BAC threshold to 0.08 percent, which also is the legal threshold in Canada and Great Britain. Other European countries, such as Belgium, Finland, France, Germany, the Netherlands, Norway, and Portugal, have established a threshold of 0.05 percent, as has Australia. Sweden's legal threshold is 0.02 percent.

It is expected that in the coming years, many more U.S. states will be shifting to a 0.08 percent BAC threshold in response to incentives included in the recent Transportation Equity Act for the 21st Century (TEA-21). Under TEA-21, states with a 0.08 percent BAC threshold are eligible to share \$500 million during the next 6 years. Lowering the legal BAC threshold appears to have a general deterrent effect. That is, drivers perceive they are more likely to be arrested and punished for driving after drinking; therefore, they are less inclined to do so.

Lower BAC Thresholds for Underage Drivers

In the United States, raising the legal age for purchase of alcohol to 21 has been highly successful in reducing alcohol-related crashes among young drivers. It has also been recognized increasingly that young drivers are particularly vulnerable to impairment at low BACs. Thus all states have established lower BAC thresholds for young drivers—usually 0.00 or 0.02 percent. In addition, these states have seen the importance of supporting minimum drinking-age laws with other related policies. Evaluations of these laws indicate they have reduced alcohol-related traffic deaths significantly among the affected age groups.

The movement to reduce the legal BAC threshold for youth is sometimes part of a larger effort to limit the driving privileges of young, beginning drivers to less hazardous situations. Reductions in traffic crashes, both alcohol and nonalcohol related, have been attributed to nighttime driving restrictions, increased age of licensure, and graduated driving privileges (in which a variety of driving restrictions are lifted gradually as the driver gains experience and maturity). Since the mid-1990s, more than half of U.S. states have introduced some form of graduated licensing. Recent evaluations in the U.S. state of Florida, in Ontario, Canada, and elsewhere have revealed substantial reductions in crashes involving drivers in the affected age groups.

ENFORCEMENT

In any discussion of enforcement, it is important to note that in terms of traffic safety, detecting impaired drivers and removing them from the road can have only a small effect. By far the most effective means of preventing crashes is to convince the driving public that if they drink and drive, they are likely to be caught and promptly punished in a significant way. Some changes in enforcement policy have increased both the likelihood of apprehension and the public's perception of that likelihood.

The most well-known enforcement approach to increasing deterrence is random breath testing. Experience in the Australian states of New South Wales and Victoria provides the most dramatic examples of the effectiveness of this approach. Reductions of up to 50 percent in the rate of alcohol involvement in fatal crashes have been observed following the implementation of visible, frequent, and well-publicized random breath testing campaigns.

In the United States, random breath testing is not constitutionally permissible. Instead, some jurisdictions use sobriety checkpoints. Recent vigorously implemented sobriety checkpoint programs in North Carolina and Tennessee have confirmed the effectiveness of this approach in reducing alcohol-related crashes.

PENALTIES

Generally, the severity of punishment is not as important as its swiftness and certainty. For example, although jail terms for first offenders do appear to have a deterrent effect, these penalties are expensive and, in many jurisdictions, impractical. Evaluations have revealed that their impact on safety is not as great as that of more easily imposed sanctions, such as license penalties.

Administrative License Revocation

Administrative license revocation has been adopted in 39 U.S. states and in parts of Canada. This penalty allows for the immediate confiscation of the driver's license by the arresting officer if a person is arrested with an illegal BAC or refuses to be tested. Administrative license revocation has been shown to be effective in discouraging driving after drinking and reducing recidivism among offenders, and can be implemented at little or no net cost to the states.

Rehabilitative Programs

Currently, most U.S. states and a number of other countries include some sort of educational and rehabilitative program in the package of sanctions applied to impaired-driving offenders. Evaluations of a broad range of rehabilitative programs, based on a number of theoretical models and delivered in a variety of settings, have never measured more than modest effects on recidivism. A more recent meta-analysis indicated that, overall, rehabilitative programs decreased recidivism among participants by 8 to 9 percent. The impact of these programs on alcohol-related traffic crashes in general would, of course, be much smaller. Programs that combined education, psychotherapy or counseling, and some type of follow-up had stronger effects.

Closely related to rehabilitative programs is the system for recertifying drivers for licensure after an impaired-driving conviction. In most countries, the driver's license of a person convicted of drinking and driving is suspended or revoked. When the suspension period is over, the license generally is automatically reinstated. A number of countries,

however, including Germany, Austria, Sweden, Switzerland, and the United Kingdom, have programs requiring some offenders to provide medical certification that their problem with alcohol is under control before having their licenses returned. These programs vary from country to country. The type of rehabilitative program generally is not specified; only the results are measured. Program evaluation has demonstrated significant reductions in recidivism for high-risk drivers involved in these rehabilitation programs.

One concern related to any penalties involving loss of license is that a high proportion of such drivers never reinstate their suspended or revoked licenses, even after the suspension or revocation period has ended, though they resume driving. This problem has generated interest in the use of driver's licenses that are necessary to operate motor vehicles. The technology for these "smart cards" has been developed and is becoming more practical.

Penalties and Strategies for Persistent Drinking Drivers

Recently, increased attention has been given to repeat offenders and other persistent drinking drivers who repeatedly drive after drinking, especially with high BACs. Several practical, cost-effective steps have been proposed to address this problem. The cornerstone of any program that addresses persistent drinking drivers is a comprehensive and efficient system for imposing and enforcing license penalties. Such a system includes (a) administrative license revocation to ensure prompt and certain punishment; (b) improvement in traffic records and information delivery systems to ensure that police officers, prosecutors, and judges have access to the complete prior records of offenders at the time of arrest and when charging and sentencing; (c) imposition of serious penalties for driving with a suspended or revoked license because of impaired driving or a related offense; and (d) elimination of programs that permit drivers arrested for impaired driving to avoid losing their licenses by entering a treatment or education program.

A variety of sanctions can be imposed on drivers who persist in driving while impaired or driving with a license suspended for drinking and driving. Such sanctions are designed to separate these individuals from the vehicles they were operating when caught driving illegally, and possibly from any other vehicles to which they might have access. As has been proven effective with the licensing sanction, this vehicle sanction should be applied administratively, although it may take a number of forms. For example, the vehicle can be impounded, immobilized, or confiscated, or the license plates can be seized. Evaluations of many of these vehicle sanctions have shown promising effectiveness. This is particularly true for alcohol interlock devices, which have been shown to decrease recidivism significantly when in place on vehicles.

CONCLUSION

The reductions in alcohol-related traffic fatalities achieved during the past decade have prevented great suffering and demonstrated the power of social and policy change to address public health issues. The problem of impaired driving is still immense, and many thousands of people die or are seriously injured in traffic crashes in which alcohol plays a part. If further progress is to be made, the effective strategies described above must be applied even more vigorously. Additional efforts must be made in other areas that have received less attention. These include changes in the social environment of alcohol use, such as controls on alcohol pricing and availability and the use of responsible serving practices that reduce the incidence of intoxication among the patrons of alcohol service

establishments and that reduce the likelihood that an impaired patron will drive. All of these strategies have been shown to reduce impaired driving, as well as other health and social problems related to alcohol. Changes in the transportation environment also may have an impact on impaired-driving fatalities.

On the whole, it appears that a partnership of citizens and government has been effective in reducing impaired driving. Citizen outrage and concern have led to changes in policies and laws, which together have led to changes in attitudes and behavior among the general public. The progress on impaired driving made during the past decade is not necessarily permanent, however. If public concern shifts to other issues, if laws and policies are weakened or not enforced, this progress may be eroded. The evidence of the past decade indicating that programs to combat impaired driving can be effective should serve as a motivation to continue such efforts and expand them with vigor and determination.

Recently, the U.S. Department of Transportation set an ambitious goal of no more than 11,000 alcohol-related traffic fatalities by the year 2005. This goal will not be met without expanding beyond the current state of the art; new ideas, creative approaches, innovative programs, new partners, and new or improved technologies will be required to significantly lower the number of alcohol-related deaths. The 1997 report by the National Highway Traffic Safety Administration, *Partners in Progress: An Impaired Driving Guide for Action*, laid a foundation for such efforts by setting strategies in four areas:

- “Partners: Expanding the Fight To Include Nontraditional Allies,” which is focused on including nontraditional partners, particularly in the health care and business communities.
- “Legislation: What the Future Holds,” which emphasizes passage of effective impaired-driving legislation, such as 0.08 percent BAC.
- “Enforcement and Adjudication: Making It Work for You,” which involves increasing support for enforcement initiatives and providing effective, consistent prosecution and adjudication.
- “Public Information and Education: Up-Close and Personal,” which deals with highlighting individual responsibility and recreating public concern for the impaired-driving problem.

Vigorous implementation of such strategies will be necessary if continued progress on reducing impaired driving is to be made in the new millennium.