

networking and partnership. If we are not all singing from the same page, our voices will be lost in the wilderness. Our success will be measured in lives saved and families spared the tragic consequences of alcohol-related crashes. But we must remember, there is no acceptable minimum number of deaths. Each number represents a face, a name, a hope and a dream.

APPENDIX C2

EFFECTIVE USE OF DETERRENCE

APPROACHES TO REDUCE ALCOHOL-IMPAIRED DRIVING

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In combating impaired driving through deterrence approaches in an era of diminished resources and shifting priorities, it is important to use available resources wisely and to take advantage of emerging priorities in other highway safety areas.

EMERGING PRIORITIES

The trend to graduated licensing systems represents an opportunity to address alcohol-impaired driving. In graduated licensing, driving privileges are phased in, with initial on-road driving of young beginners limited to lower-risk settings. A key feature of a graduated system is a night driving curfew for the first months of licensed driving. Nighttime driving is riskier than driving during daylight hours for a variety of reasons including greater likelihood of alcohol use. The problem of alcohol-impaired driving among youth has lessened in the past 15 years, but it is still a substantial contributor to motor vehicle injuries and is largely a nighttime phenomenon. In 1994, 75 percent of the driver fatalities of 16 and 17 year-olds that involved alcohol use occurred in crashes between 9 p.m. and 5:59 a.m. (National Highway Traffic Safety Administration, 1995). Thus by prohibiting recreational driving with other teenagers at night, the problem of alcohol-impaired driving can be reduced. Efforts to ensure that graduated licensing systems include night driving curfews (and zero tolerance if a state does not already have it) are important.

Another emerging priority that can impact alcohol-impaired driving is the new emphasis on seat belt use. This has been fueled recently by recognition that belt use in the United States still is quite low: 58 percent in the noncrash population based on a national probability sample (National Highway Traffic Safety Administration, 1995a), and 45 percent among those in serious crashes with delta V > 30 mph (National Center for Statistics and Analysis, 1995). Emphasis on belt use also is fueled by concern about airbag injuries to unrestrained children and adults. Because people who do not use belts are more likely than belt users to drive after drinking (Preusser, Williams, and Lund, 1986),

programs aimed primarily at one of these behaviors also can logically target the other, e.g. by publicizing that police are looking for those not using belts and are thereby finding alcohol-impaired drivers. This has been done successfully in Binghamton, New York (Wells, Preusser, and Williams, 1992) and, more recently, in the statewide North Carolina Governor's Highway Safety Initiative (Williams, Reinfurt, and Wells, 1996). In daytime seat belt checkpoints and associated patrols in North Carolina that concentrated on seat belt use, 14,205 arrests for alcohol-impaired driving were made. These were in addition to the 102,852 citations issued for not using belts.

A third example is the recent emphasis on fatigued drivers. Since fatigue and alcohol often are associated, it is likely that many countermeasures considered for the fatigued driver (e.g., continuous shoulder rumble strips) also could affect the alcohol-impaired driving problem.

USING RESOURCES WISELY

In terms of using resources wisely, accurate targeting of the impaired driver problem is important. The major resources should be devoted to alcohol as the drug of primary interest when it comes to motor vehicle injuries. Other legal and illegal drugs contribute to crashes, but alcohol is by far the predominant one (Terhune et al., 1992).

There also needs to be emphasis on efficient applications of approaches known to be effective in reducing the problem. License suspension stands out as an effective penalty, with suspension through administrative procedures representing the most efficient way to apply this penalty. Sobriety checkpoints stand out as a primary enforcement technique.

License Suspension License suspension has been found to produce both specific and general deterrence. That is, it effectively penalizes offenders and deters potential offenders—and the positive effect on offenders extends beyond the suspension period (Klein, 1989; Zador et al, 1989; Ross, 1987; Nichols and Ross, 1988; Stewart, Gruenewald, and Roth, 1989). Ideally, suspension does not merely reduce crashes and violations but virtually eliminates them. However, as is well known from studies in the United States and around the world, many suspended drivers still drive (e.g. Ross and Gonzales, 1988; Hagen, McConnell and Williams, 1980; Smith and Maisey, 1990).

According to a study in California, 8.5 percent of drivers in fatal crashes were suspended at the time of their crashes whereas only 1.5 percent of the driving population had been suspended (DeYoung, 1990). Although license suspension for alcohol offenses does reduce DUI/DWI recidivism, these data indicate both that suspended drivers continue to drive and that driving while suspended is a high risk activity. Thus, efforts to deter suspended drivers from driving are important. One way is to improve identification of suspended drivers. Sobriety and seat belt checkpoints

can help accomplish this if officers examine the licenses of motorists passing through the checkpoints. For example, 16,032 sobriety and seat belt checkpoints were conducted in North Carolina over a three-year period, and they led to 21,170 citations for driving while suspended or revoked. It also may be possible to identify suspended drivers or their vehicles using photo radar or other speed cameras. The use of speed cameras is presently limited in the United States, although it is standard enforcement practice in many countries. Techniques for identifying suspended drivers using advanced technology that would automatically read license plates and immediately identify whether the vehicle is owned by a person with a suspended license are currently being studied by the National Highway Traffic Safety Administration. The Insurance Institute for Highway Safety demonstrated in the 1970s that using license plates to identify suspended drivers on the roads could be an effective enforcement approach (Miller, 1978), and modern technology should allow this to be done much more efficiently. More widespread use of special markings on the license plates of suspended drivers also would facilitate identification.

Once offenders are identified, they should face sanctions. It was found in California that many suspended drivers stopped by the police were not punished for driving while suspended (DeYoung, 1990). This presumably happens in other jurisdictions, too, and the reasons need to be better understood. At the same time, finding ways to identify suspended drivers on the roads and letting the public know about this capability are major steps in improving the penalty's deterrent power.

It is also important to continue researching promising techniques to reduce driving by suspended drivers through vehicle-based sanctions (e.g., impounding or immobilizing vehicles, taking license plates). The role of alcohol interlocks, designed to prevent driving after drinking without otherwise interfering with a driver's mobility, should be investigated further. Studies now in progress will help clarify the effect of interlocks.

Sobriety Checkpoints Sobriety checkpoints have been used extensively to identify alcohol-impaired drivers, especially late at night on weekends when they are most likely to be on the roads. Sobriety checkpoints can be configured in various ways. For a recent study in California, they were varied by mobility (remaining in one location per evening versus moving twice) and by staffing levels (3-5 officers versus 8-12), which affect costs. These programs reduced crashes resulting from alcohol-impaired driving however they were configured (Stuster and Blowers, 1995), so efficient application of checkpoints would feature the lower-cost approaches.

In addition, the effects of checkpoints can be magnified by publicity. Checkpoints gain publicity because they are highly visible to motorists who encounter them and attract news coverage. The power of visible checkpoints to affect

public perception was illustrated in a study in the Washington, D.C. area (Williams and Lund, 1984). In two neighboring counties—one with a few, well-publicized sobriety checkpoints and the other using unpublicized, drinking-driver patrols that actually achieved as high or higher arrest rates—residents of *both* counties incorrectly believed that the probability of arrest was higher in the county where checkpoints were conducted.

Generating widespread publicity about checkpoints is important in maximizing their deterrent effect. In the California checkpoint study, local citizens were involved in generating vigorous public information and education programs to accompany the checkpoints, a low-cost approach thought to contribute significantly to deterrent effects (Stuster and Blowers, 1995). Announcing checkpoint yields, including the number of license violations, may further this goal. Of course, if checkpoints operate extensively over time, many people gain personal experience with them, generating word-of-mouth publicity. This was found in Australia to be important in influencing people's perceived probability of arrest (Homel, 1990).

Most sobriety checkpoints are not very efficient at detecting drinking drivers. Police officers do not get much opportunity to observe driving behavior before interacting with a driver, and the interaction is limited. Research involving checkpoints where drivers not detained by the police subsequently were tested for alcohol indicates that about half of the drivers with illegally high blood alcohol concentrations (BACs) are not detained (Jones and Lund, 1986; Ferguson, Wells, and Lund, 1995). The deterrent effect of checkpoints would clearly be enhanced if a higher detection rate could be achieved.

Recent research has indicated that women and young drivers with high BACs are more likely to be missed at checkpoints than men and older drivers (Wells et al., 1996). Communicating this to police officers may prompt them to pay more attention to these groups and improve detection rates. It is more important, however, that police use technology that enhances their ability to quickly identify drivers who have been drinking. Passive alcohol sensors have been shown in studies to increase detection rates substantially. In one study, police by themselves identified 45 percent of high BAC drivers (≥ 0.10 percent), compared with 68 percent using sensors (Jones and Lund, 1986). In another study, the detection rate was 55 percent without sensors and 71 percent with them (Ferguson, Wells, and Lund, 1995). Laser detectors, which also may be useful to police, are now being assessed by the National Highway Traffic Safety Administration. Use of preliminary breath test devices on a voluntary basis at checkpoints would result in a high detection rate if a high enough cooperation rate could be achieved and maintained. The Insurance Institute for Highway Safety currently is seeking to carry out a research project that would investigate the use of preliminary breath testers at checkpoints in states where it is legal to do so.

Finally, better understanding of police attitudes and motivations should inform the effort to achieve greater deterrence through alcohol laws and penalties. Police apply the laws and may, for example, be less than enthusiastic about taking people's licenses because they believe most motorists will continue to drive with impunity. Police also may be indifferent to checkpoints because they think it is easier to find alcohol-impaired drivers through patrol activities. They may be reluctant to use passive alcohol sensors because they trust their ability to detect alcohol without them. To the extent that views such as these prevail, deterrence will be lessened. We know that law enforcement will be enhanced if there is strong political support for the enforcement, but there is much we could learn and benefit from in regard to the factors influencing police enforcement practices.

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APPENDIX C2A ENFORCEMENT OF DRINKING-DRIVING LAWS IN AN ERA OF REDUCED RESOURCES

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INTRODUCTION

The dramatic reduction in alcohol-related crashes which has occurred during the last 15 years has been a remarkable demonstration of the efficacy of the nation's highway safety