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## **Best Advice -- Reducing The Harms Of Alcohol Related Collisions**

Drinking-driving collisions are one of the largest sources of alcohol-involved deaths and injuries. In the 20 - year period between 1977 and 1996, the estimated numbers of deaths involving a drinking driver is in excess of 35,000 (Evans, 1990; Transport Canada, 2002). The problem is particularly tragic among the young, but it is by no means restricted to them. Alcohol is the leading contributor to deaths on our highways, and in recent years it has been detected in about 40% of all drivers killed. The societal impact of injuries is much larger than that of deaths. The number of people seriously and often permanently injured is conservatively estimated to be at least 10 times the number of people killed. Research indicates that the more serious the collision, the more likely it is that alcohol is involved. Impaired driving is one of the largest contributors to the social and economic costs of alcohol abuse in Ontario and Canada (Single, Robson, Xie and Rehm, 1996; Xie, Rehm, Single and Robson, 1996). It is clear that there are unacceptable numbers of alcohol-related deaths and injuries on our roads.

The collisions, injuries and deaths resulting from drunk driving can be reduced by societal action. For example, over the past 20 years very important reductions in the rates of death and injuries resulting from impaired driving occurred. In 1981, 61% of all Ontario drivers killed had alcohol in their system; by the early 90's this figure had declined to around 40% (Wilson and Mann, 1990). These changes tell us that efforts to reduce this problem can be successful on a scale that can mean the avoidance of premature death and serious injury for thousands of people each year.

Prevention of these injuries and deaths remains an important priority for public health, the general public, and governments and there is substantial research evidence to guide our efforts. It is possible to reduce alcohol and traffic safety problems with a variety of measures. Research demonstrates four key components that, if used properly, can reduce deaths and injuries caused by drunk driving. It is also important to note that the principles and programs described here also apply to operation of all motorized vehicles, including boats and snowmobiles.

First, factors that influence the consumption of alcohol by individuals and populations will also influence rates of drinking after drinking and resulting problems. Measures that determine the economic, legal and social availability of alcohol will also influence drinking-driving rates. Thus, for example, alcohol taxes play an important health role in reducing drunk-driving fatalities. In general, any measure that will tend to increase alcohol consumption or make alcohol more accessible will also tend to increase rates of drinking-driving. Conversely, measures that tend to reduce alcohol consumption will tend to decrease rates of drinking-driving (Edwards et al, 1994; Mann and Anglin, 1990). For example, mandatory server training programs have been demonstrated to reduce excessive drinking and associated collisions (Gliksman, McKenzie, Single, Douglas, Brunet and Moffatt, 1993; Holder and Wagenaar, 1994).

Second, the legal environment and enforcement practices will influence drinking-driving by individuals and groups. Drinking-driving rates and problems have been shown to be subject to substantial general deterrent effects under appropriate circumstances. These general deterrent effects can reduce collisions, deaths and injuries by large amounts, and may be sustained over long periods of time under the proper circumstances (Homel, 1990; Mann, Macdonald, Stoduto, Shaikh and Bondy, 1998). Effective measures here have included the introduction and lowering of legal limits and the use of high-visibility, high-intensity enforcement campaign such as Ontario's RIDE programme and Random Breath Testing in Australia. Additionally, several sanctions have important specific deterrent effects, in that they appear to reduce drunk driving and collisions in the individuals to whom they are applied. License suspensions are very effective and inexpensive specific deterrent measures, and vehicle impoundment also appears promising. Ignition interlock devices, which are devices installed on the vehicles of convicted offenders which require that persons starting and operating the vehicles have a Blood Alcohol Content (BAC) of 0

or below some specified level, appear to reduce recidivism for the period when they are installed on the vehicle (Beck, Rauch, Baker and Williams, 1999). Imprisonment is costly and has not been found to be effective in reducing recidivism and collisions (Mann, Vingilis, Gavin, Adlaf and Anglin, 1991).

Third, rehabilitative and treatment measures are effective in improving traffic safety when they are combined with other effective sanctions like license suspensions. Convicted drinking drivers, as a group, are more likely to demonstrate heavy or abusive drinking patterns that can be addressed with rehabilitative or treatment measures (Macdonald and Mann, 1996). In the past, it has been the practice to reduce or waive license suspensions as an incentive for offenders to enter rehabilitation programs. This practice fails to take optimum advantage of the collision-reducing potential of combining rehabilitation with appropriate sanctions. Rehabilitative measures, appropriately applied, reduce recidivism and collisions (Wells-Parker, Bangert-Drowns, McMillen and Williams, 1996). Examples of Canadian programs that are consistent with these principles include Ontario's Back on Track program and Manitoba's Impaired Driver's Program.

Fourth, education and public awareness are important components of any successful attack on drunk-driving injuries and fatalities. Education and awareness involve informing the public about new legislative initiatives, consequences of drunk driving, and how to avoid drunk driving. While the specific effects of many educational activities can be difficult to assess, the example of deterrence initiatives serves to underline their importance. As noted above, deterrence initiatives have been demonstrated, under appropriate conditions, to reduce significantly alcohol-related collisions. However, for this effect to occur, public education is essential; without that education, benefits are greatly reduced (Vingilis and Salutin, 1980). Thus, education and public awareness initiatives are key components in coordinated efforts to reduce drunk driving collisions, and are most effect when they serve to draw the public's attention to the risks and penalties involved in drunk driving.

In addition to these four components that have been demonstrated to influence significantly rates of drunk driving, two other components are generally accepted by researchers as crucial for achieving the maximum effects of countermeasure efforts. First, in order to be successful and to achieve maximum benefits, drinking driving countermeasures should work together and be mutually supportive. For example, the introduction of a new legal initiative to prevent drunk driving may hold substantial promise for reducing deaths and injuries. However, if it is not accompanied by any public education measures, those effects will be reduced. Similarly, if a major effort to reduce drinking driving problems occurs at the same time that the availability of alcohol is substantially increased, for example by a marked reduction in price, beneficial effects may be completely masked, and collisions and injuries may be unaffected or even increase. Second, it is essential to maintain a long-term commitment to reducing this problem. Previous experience demonstrates that short-term efforts do not have long-term benefits. Governments, educators, and the public must remain committed over the long term for sustained reductions in collisions, injuries and deaths to occur.

These principles identify specific effective measures and provide a general context within which effective public policy to prevent drunk driving can be created. With these principles in mind, current opportunities for reducing deaths and injuries due to drunk driving can be considered. It is also important to keep in mind that most initiatives to reduce the harm caused by drunk driving involve a consideration of the balance between public health and civil liberties concerns. Keeping this balance in mind, the following recommendations are made with the goal of reducing the aggregate or population levels of deaths and injuries caused by drunk driving. These recommendations address three areas of current interest:

- lowering the legal limit in the Criminal Code of Canada to 50 mg%;
- mandatory server training programs; and
- ignition interlock devices for the vehicles of convicted drinking drivers.

1) There has been recent interest in lowering the legal limit set in the Criminal Code of Canada at which a drinking-driving offence occurs, and groups such as Mothers Against Drunk Driving, the Canadian

Medical Association, the Addictions Foundation of Manitoba and the Ontario Community Council on Impaired Driving have recommended a 50 mg% limit. The question of what the legal limit should be is not an easy one to answer. However, there is substantial research that is available on this issue that is summarised in a recent report to Transport Canada (Mann et al, 1998). Currently, legal limits in developed countries vary from low levels such as 0 or 20 mg% (e.g., Sweden) to levels as high as 100 mg% (in some American states). The Canadian limit was set initially at 80 mg% in 1969, in part based on the experience in Great Britain where an 80 mg% limit was introduced in 1967. Many countries have introduced or lowered the legal limit to 50 mg% including Australian states and many European states. The research evidence clearly demonstrates that impaired driving behaviour and collision risks are increased significantly at BACs of 50 mg%. As well, in the majority of instances where legal limits have been reduced, including those instances where they have been reduced to 50 mg%, significant reductions in aggregate measures of driving fatalities have been observed. Based on experiences in Australia and Sweden, it has been estimated that a 50 mg% legal limit could have prevented between 185 and 555 deaths in 1996 alone (Mann et al, 1998). The reductions observed when legal limits are lowered are due to general deterrence, and are not restricted to drivers at lower BAC levels (Mann et al, 1998 and 2001). The Centre for Addiction and Mental Health therefore recommends that the legal limit for driving as defined in the Criminal Code of Canada be reduced to 50 mg%. However, it is important to note that additional factors can influence the success of this measure in reducing alcohol-related deaths and injuries, including the availability of resources to implement and enforce the reduced limit. These resource issues need to be addressed in any process to revise the legal limit.

2) Server training programs were developed to assist those who serve alcohol in identifying situations in which patrons may be served to intoxication, and in taking action to prevent excessive alcohol consumption. Well-designed programs have demonstrated their effectiveness in reaching those goals (Gliksman et al, 1993; Sloan et al, 2000). One of the major consequences of serving to intoxication is drunk driving, and server training programs have demonstrated their ability to reduce the incidence of drunk driving, or driving over the legal limit, among patrons of licensed establishments. The implementation of mandatory server training programs, that is, programs where every individual who serves alcohol is mandated to receive high quality server training, has been shown to reduce aggregate measures of alcohol-related collisions (Holder and Wagenaar, 1994). Server training programs which are not mandatory, or which do not involve high quality instruction, have not been shown to influence aggregate collision rates. Effective programs also involve training for owners and managers, as well as for servers. Therefore, the Centre for Addiction and Mental Health recommends that all individuals who serve alcohol be required to complete successfully a programme of server training, taught by highly qualified instructors and demonstrated by evaluation research to be effective.

3) The Province of Ontario has recently passed legislation which will require convicted drinking drivers to complete an ignition interlock requirement in the process of getting their license back after a period of suspension. As noted, these devices appear to have the ability to reduce recidivism during the period when they are installed on the vehicle of a convicted offender (Beck et al, 1999) and thus the Centre for Addiction and Mental Health supports their use as part of a period of restricted licensing. However, there are at present several measures of proven effectiveness that are applied to convicted offenders in Ontario, including license suspensions and remedial requirements if they chose to obtain a license following the period of suspension. It is important to remember that interlocks cannot simply replace these programs of proven effectiveness. A key goal in the process of introducing the ignition interlock requirement must therefore be that the beneficial effects of license suspensions and remedial requirements not be interfered with or reduced. Thus, the Centre for Addiction and Mental Health recommends that the Province of Ontario introduce an ignition interlock requirement for convicted offenders that complements, and does not interfere with, existing measures of proven effectiveness.

Additionally, the reduction of the deaths and injuries resulting from drunk driving requires personal and social action. Because both alcohol and driving are imbedded within our society, it can be easy to combine the two. Thus each of us must also look on preventing drunk driving as a personal responsibility.

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