

Impaired Driving

Introduction

This edition of ACICR's Injury Examiner addresses impaired driving providing injury prevention stakeholders with background information depicting the problem in Alberta followed by summaries of research related to evaluations of specific impaired driving interventions. The research presented comes primarily from systematic reviews and meta-analyses presented in the World Health Organization sponsored publication, *Alcohol: No Ordinary Commodity Research and Public Policy* and in publications from the Traffic Injury Research Foundation and the Transportation Research Board. Where possible, this document presents provincial programs and research to facilitate a greater understanding of the Alberta context. Stakeholders may use this evidence presented as a guide for developing strategies to address impaired driving.

The Issue

In Alberta in 2008, 22.5 per cent of drivers involved in fatal collisions were judged to have consumed alcohol prior to the crash. With regard to injury collisions, 5.3 per cent of drivers had consumed alcohol. Males between 18 and 24 years of age were most likely to have been drinking before the crash. There were almost five times as many male drivers as female drivers who had consumed alcohol prior to the collision (Alberta Transportation, 2008). Of all Alberta collisions (fatal and nonfatal) in 2008, 5.7 per cent of drivers (n = 1,293) consumed alcohol (Alberta Transportation, 2008).

Hard core impaired drivers account for less than 1 per cent of the weekend nighttime driving population; however, they contribute to an estimated 35 per cent of drivers in alcohol-related fatal crashes, 67 per cent of impaired driver fatalities, and 80 per cent of legally impaired driver fatalities (Simpson H.M., Beirness D.J., Robertson, R.D., Mayhew D.R. & Hedlund J.H., 2004). The Traffic Injury Research Foundation's (TIRF) operational definition of hard core impaired drivers is "drivers who have driven with a [blood alcohol concentration] BAC of 0.15 per cent or above, or drivers with more than one recorded alcohol-impaired driving offense" (Simpson H.M. et al., 2004).

Compared to other provinces in 2006, Alberta had the highest rate of deceased drivers who tested with a BAC greater than 0.08 per cent. Alberta's rate was 3.44 driver deaths per 100,000 licenced drivers whereas the average Canadian provincial rate was 1.84 (Canadian Council of Motor Transport Administrators, 2009).

When comparing 2002 rates of persons charged with impaired driving, there were significant variations between provinces (territories were not included). Alberta had the second highest rate in Canada with 417 per 100,000 population 16 years and older behind Saskatchewan with 618 per 100,000 population 16 years and older. Of Canada's largest cities, Edmonton and Calgary reported the highest rate of persons charged with impaired driving (272 and 244, respectively). Variations in provincial and city rates can be explained, in part, by the degree of police enforcement activities (Janhevich D., Gannon M. & Morisset N., 2003).

Reviewed Interventions and Alberta

The following presents evaluated interventions that specifically address impaired driving. Broader based interventions addressing alcohol availability and consumption along with initiatives like community mobilization also play very important roles in reducing impaired driving related injuries and deaths. Please refer to the ACICR's Injury Examiner entitled, *Alcohol & Injury* for more information.

Mass Media Campaigns

A systematic review of impaired driving mass media campaigns showed a decrease in alcohol-related crashes. Campaigns included in the review either focused on promoting local enforcement activities and legal consequences or focused on the social and health consequences of impaired driving. All of the campaigns in the review pre-tested the messages with the selected target audience, had high levels of audience exposure usually through paid advertising, and included corresponding activities like highly-visible enforcement activities (Centres for Disease Control and Prevention, 2009).

Designated Drivers

There is insufficient evidence to indicate if designated drivers programs prevent alcohol-impaired driving and associated crashes (Ditter S.M., Elder R.W., Shults R.A., Sleet D.A. & Compton R., Nichols J.L., 2005, Transportation Research Board, 2005). Some research shows, however, that the individuals who serve as or use designated drivers tend to be heavier drinkers and more likely to report that they have driven while impaired or have been a passenger with an impaired driver in the past. This may be an indication that designated drivers interventions are, at least, reaching the appropriate target population (Transportation Research Board, 2005).

A qualitative study on designated drivers which focused on young Alberta drivers aged 18 – 29 years (n=146) highlighted a number of distractions including in-car pranks, disorderly behaviour, and in-car vomiting that put young designated drivers and their passengers at risk. Furthermore, data indicated that designated drivers selected during or after the drinking event were impaired themselves. Authors suggest that educational/promotional efforts should focus on the role and responsibilities of designated drivers and their passengers as well as on the prevention and management of in-car problems (Rothe P. & Carroll L., 2009).

Ride Service Programs

Evaluations of well established programs providing free transportation for intoxicated persons showed no impact on annual crash rates as ride service programs are used by a relatively small number of drivers. The persons using Ride Service programs, however, tend to be heavier drinkers and more likely to report having driven while impaired which indicates that this intervention, at least, reaches the appropriate target population (Babor TF et al., 2003; Transportation Research Board, 2005).

A provincial study designed to identify locally relevant and strategic recommendations for addressing local action on drinking and driving issues showed that Albertans recommended that communities increase access to and affordability of alternative transportation (including taxi and bus) for impaired people (Rothe P, 2008).

Surety of Detection

Increasing the public's perception around the possibility of "getting caught" through highly profiled and frequent check stops throughout the year reduces impaired driving-related fatalities and injuries. Furthermore, random breath testing (RBT) is significantly more effective than sobriety check stops. With RBT, drivers undergo roadside testing randomly even if they do not present any evidence of impairment; whereas, with sobriety check stops only drivers showing evidence of impairment or admitting to alcohol consumption can be tested. RBT has a larger impact because legally impaired drivers tolerant to alcohol and denying alcohol consumption (such as hard core drinking drivers) may not exhibit behaviours warranting breath testing and, therefore, will get away and avoid punishment (Babor TF et al., 2003; Transportation Research Board, 2005). In Canada, only drivers showing evidence of possible impairment or admitting to alcohol consumption can be subjected to roadside screening device testing (Department of Justice Canada, 2009).

An alternative to RBT is to use passive BAC sensors which measure BAC while the driver is simply responding to officers' questions. Using a passive BAC sensor gives law enforcement a more accurate, objective method to identify drivers who should undergo breathalyser testing (Transportation Research Board, 2005).

Rothe's (2008) participatory study, *A Blueprint for Community-Based Drinking and Driving Interventions: A Participatory Study* showed that Albertans recommended that police run more check stops and increase their monitoring of rural back roads and drinking facilities.

Campaigns such as *Curb the Danger* in Edmonton and *Campaign 911* in Calgary have been implemented to increase surveillance by encouraging citizens to call 911 and report suspected impaired drivers to police. From October, 2006 to October, 2009 *Curb the Danger* received 26,616 calls. As a result of the calls, 7,973 vehicles were intercepted, 2,551 impaired charges were laid, 816 24-hour suspensions and 5,927 letters were issued (Edmonton Police Service, 2009). Another campaign, the Enhanced Alberta Checkstop Program was rolled out in the province November, 2008. Since its inception, the program has checked 79,323 vehicles and 348 impaired drivers were charged and 683 24-hour suspensions were handed out. The Enhanced Alberta Checkstop Program has reported an increase in the public visibility of checkstops, has built relationships between agencies and has organized checkstops in rural locations that have limited enforcement resources (Enhanced Alberta Checkstop Program, 2010). It is not known what overall impact these campaigns have had on impaired driving in Alberta.

Swiftness of Punishment

Swift punishments like immediate administrative licence suspensions are effective deterrents (Babor TF et al., 2003).

In Canada, if a police officer has reasonable grounds (physical signs, driving pattern, or statements) to suspect that a driver has alcohol in their body, the officer may demand a roadside screening device test. The roadside test only provides a reading of pass, fail or warning. From the results of the roadside screening device the officer may have grounds to demand that the driver take a breathalyser test which measures BAC. Refusal to participate in the roadside test and/or a breathalyser test results in the same penalty for impaired driving. Albertans with a BAC of 0.08 per cent or more or who have refused to participate in testing are subject to terms of the Alberta Administrative Licence Suspension (AALS) Program. With AALS, the offender is issued an immediate 24-hour licence suspension and then given a 21-day temporary driving permit to get affairs in order before the 3 to 6 month licence suspension begins. Albertans with a BAC of 0.08 per cent or more or who have refused to participate in testing are also charged by federal courts where the minimum penalty for impaired driving is \$1000 and a one year driving prohibition. The timeline of AALS is faster than punishment issued by federal courts (Alberta Infrastructure and Transportation, 2007; Student Legal Services of Edmonton, 2009).

Lower BAC Limits

While there is a wide variation in the effects of alcohol from one individual to another, the evidence shows that driving performance begins to deteriorate significantly at 0.05 per cent BAC. Positive results in other countries indicate that lowering the BAC limit from 0.08 per cent to 0.05 per cent can be beneficial to traffic safety (Fell JC & Vaos RB, 2006).

ACICR recommends that the Government of Alberta incorporate a 0.05 per cent BAC limit for the AALS Program while the federal Criminal Code level remains at 0.08 per cent. This would bring Alberta in line with other provinces (ACICR, 2009).

Graduated Drivers Licence (GDL)

Research indicates that restrictions directed at new drivers such as lower BAC limits (0.00 per cent to 0.02 per cent), increased minimum ages for drivers' licences, and night-time driving restrictions can reduce the incidence of drinking and driving among youth (Babor TF et al., 2003).

The Alberta Zero Alcohol Tolerance law states that new drivers of any age having a Learner Stage and Probationary Stage licence must maintain a zero blood alcohol level while driving. GDL program drivers found with any alcohol in their blood will face an immediate 30-day licence suspension. Regarding night-time restrictions, Alberta drivers having a Learner Stage licence are restricted from driving between midnight and 5 AM; however, there are no time restrictions at the Probationary Stage where youth are driving without adult supervision (Alberta Transportation, 2004).

Remedial Programs

Evidence shows that well-designed educational and therapeutic remedial programs can positively influence recidivism and collisions associated with impaired driving. It is recommended that participation in such programs should be a condition of license reinstatement for all persons convicted of an impaired driving offence. Remedial interventions should include education regarding alcohol and traffic safety, an examination of one's substance use and driving behaviour, and strategies to avoid driving while impaired (Health Canada, 2004). Treatment programs should contain quality assessments to determine the type of treatment needed and to measure treatment impact on offenders. For example, gender-sensitive treatment programs have been shown to be much more effective for women than gender-neutral programs (The Traffic Injury Research Foundation, 2009).

In Alberta, a convicted impaired driver must take the Alberta Impaired Drivers' Program which is administered and delivered by the Alberta Motor Association. There is a one-day course for first-time impaired drivers (*Planning Ahead*) as well as a weekend live-in alcohol and/or drug use assessment and pre-treatment course for repeat impaired drivers with 2 or more convictions in a 10-year period (*IMPACT*) (Alberta Motor Association, 2009).

Ignition Interlock Program

Ignition interlock systems restrict offenders from driving their vehicles when their breath samples indicate a BAC above a low, set value (usually < 0.02 per cent) or zero. Interlocks have features that prevent impaired driver deception. Research has demonstrated that there is a lower level of additional impaired driving offenses during the sentence period among offending drivers with interlocks than among offending drivers with licence suspensions. After interlock removal, recidivism rates among participants match rates of offending drivers with licence suspensions. Researchers conclude that while interlocks and licence suspensions alone do not rehabilitate chronic re-offenders, interlocks, at least, keep more impaired drivers off the road than impaired drivers with licence suspensions (Transportation Research Board, 2005).

In Alberta, the Ignition Interlock Program is mandatory for drivers having more than one alcohol related Criminal Code conviction in the past 10 years, for first-time offenders convicted for driving with a blood alcohol concentration of 0.16% BAC or higher, or for drivers refusing to provide a breath/blood sample. The offender must pay fees for the interlock system application, installation, rental, and removal. Furthermore, they must participate in the Alberta Impaired Drivers' Program (Alberta Transportation, 2009).

Conclusion

Decreasing the incidence of impaired driving requires a comprehensive approach addressing alcohol accessibility and community norms along with impaired driving countermeasures focusing on policy, enforcement, behaviours within specific target groups, and rehabilitation. This means working in partnerships with community, police, justice, treatment/rehabilitation, schools, media, business, etc.

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