

Library Watch on driving

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Drugs and driving: When science and policy don't mix. (editorial).

Asbridge M. *Canadian Journal of Public Health* 97(4): 283-285, 2006. (40 refs.)

This commentary briefly looks at the Canadian federal government's proposed legislation to strengthen the enforcement of drug-impaired driving, placing special emphasis on cannabis. After outlining the legislation, three issues are examined. Of primary concern is at what level cannabis use impairs driving ability leading to an increased risk of motor vehicle collision. Current epidemiological evidence is reviewed. Equally important is the government's emphasis on the training and implementation of Drug Recognition Experts (DREs), specially trained police officers whose role is to detect drivers under the influence of drugs. Research on the effectiveness of DREs is discussed, along with a dialogue regarding the potential shortcomings of the DRE program. Finally, a brief surveillance of international policy literature on drugs and driving is offered, along with some sober thoughts on the potential difficulties that may emerge in the enforcement of the proposed legislation. Copyright 2006, Canadian Public Health Association.

'Rushing behind the wheel': Investigating the prevalence of 'drug driving' among club and rave patrons in Melbourne, Australia.

Duff C; Rowland B. *Drugs: Education, Prevention and Policy* 13(4): 299-312, 2006. (20 refs.)

The paper reports the findings of survey research recently completed in Melbourne, Australia, among a sample of 455 club and rave festival patrons. This research aims to provide a clearer account of the prevalence of drug driving within such settings in Melbourne, as well as identifying relevant 'predictors' of this drug driving. Just under half of the sample (48%) indicated that they had driven a motor vehicle within four hours of consuming an illicit substance at least once in the past year; 22% of respondents reported driving while 'knowingly intoxicated' in the previous year. Fifteen percent reported such behaviour 'several times' or more in this time. Relatively permissive attitudes towards drug driving, coupled with higher than average prevalence of drug driving in one's peer group, were found to be significant predictors of drug driving. So too was the reported

frequency of the use of cannabis and ecstasy, and the propensity to use these substances in 'rave' and 'party' settings. Given the levels of drug driving revealed in this study, the paper closes with a series of recommendations regarding the design and delivery of more effective anti-drug-driving strategies within rave and club settings. Copyright 2006, Taylor & Francis.

Segment characteristics and severity of head-on crashes on two-lane rural highways in Maine.

Garder P. *Accident Analysis and Prevention* 38(4): 652-661, 2006. (27 refs.)

More than two out of three of all fatal crashes in Maine occur on rural, two-lane collector or arterial roads. Head-on crashes on these roads account for less than 5% of the crashes, but they are responsible for almost half of all fatalities. Data analyzed in this study was provided by Maine Department of Transportation and covers all head-on crashes for 2000-2002 during which period there were 3136 head-on crashes reported. Out of these, 127 were fatal crashes and 235 produced incapacitating but not fatal injuries. These two categories made up over 75% of the crash cost. A clear majority of head-on crashes on two-lane, rural roads in Maine were caused by drivers making errors or misjudging situations. Illegal/unsafe speed was a factor in 32% of the crashes while driver inattention/distraction was a primary factor in 28%. Fatigue was responsible for around one in 40 crashes and one in 12 fatal crashes. Alcohol or drugs was a factor in one in 12 crashes and one in nine fatal head-on crashes. Less than 8% of fatalities involved someone overtaking another vehicle, and only around 14% involved a driver intentionally crossing the centerline. Two in three fatal head-on crashes occurred on straight segments and 67% of these happened on dry pavement. There is a clear trend towards higher speed limits leading to a higher percentage of crashes becoming fatal or having incapacitating injuries. There is also a clear trend - if one keeps speeds constant and AADT within a certain range - that wider shoulders give higher crash severities. Also, for higher-speed roads, more travel lanes (than two) increase crash severity. In summary, there seems to be two major reasons why people get across the centerline and have head-on collisions: (a) people are going too fast for the

roadway conditions; or (b) people are inattentive and get across the centerline more or less without noticing it. The latter category of crashes could probably be reduced if centerline rumble-strips were installed. More or less all head-on collisions could be eliminated if median barriers were installed. In-vehicle technology could also be used to significantly reduce the incidence of lane departures. Furthermore, today's speed limits should be better enforced since a high percentage of serious crashes involve illegal speeding. This should be combined with lowered speed limits for targeted high-crash segments. Copyright 2006, Elsevier Science.

The effectiveness of reducing illegal limits for driving: Evidence for blood alcohol concentration (BAC) lowering the limit to .05 BAC.

Fell JC; Voas RB. *Journal of Safety Research* 37(3): 233-243, 2006. (52 refs.)

Purpose: This scientific review provides a summary of the evidence regarding the benefits of reducing the illegal blood alcohol concentration (BAC) limit for driving and providing a case for enacting a .05 BAC limit. Results: Fourteen independent studies in the United States indicate that lowering the illegal BAC limit from .10 to .08 has resulted in 5-16% reductions in alcohol-related crashes, fatalities, or injuries. However, the illegal limit is .05 BAC in numerous countries around the world. Several studies indicate that lowering the illegal per se limit from .08 to .05 BAC also reduces alcohol-related fatalities. Laboratory studies indicate that impairment in critical driving functions begins at low BACs and that most subjects are significantly impaired at .05 BAC. The relative risk of being involved in a fatal crash as a driver is 4 to 10 times greater for drivers with BACs between .05 and .07 compared to drivers with .00 BACs. Summary: There is strong evidence in the literature that lowering the BAC limit from .10 to .08 is effective, that lowering the BAC limit from .08 to .05 is effective, and that lowering the BAC limit for youth to .02 or lower is effective. These law changes serve as a general deterrent to drinking and driving and ultimately save lives. Impact on Industry: This critical review supports the adoption of lower illegal BAC limits for driving. Copyright 2006, National Safety Council.

The effects of Fatal Vision Goggles on drinking and driving intentions in college students.

Hennessy DA; Lanni-Manley E; Maiorana N. *Journal of Drug Education* 36(1): 59-72, 2006. (46 refs.)

The present study was designed to examine the effectiveness of Fatal Vision Goggles in reducing intentions to drink and drive. Participants performed a

field sobriety task and drove in a traffic simulator while wearing the goggles. A regression analysis was performed in order to predict changes in intentions to drink and drive, using typical drinking patterns, perceived likelihood of getting into a collision when drinking and driving, self efficacy, and driving independence as predictor variables. Results showed that drinking and driving intentions were reduced following the use of Fatal Vision Goggles among those that typically drink more during outings, among those that believe the likelihood of collisions when drinking and driving are greater, and among those less likely to drive to achieve independence and autonomy. These results indicate that Fatal Vision Goggles can be an effective tool in altering drinking and driving attitudes among drivers with specific attitudinal and personal characteristics. Copyright 2006, Baywood Publishing Co.

Acculturation and driving under the influence: A study of repeat offenders.

Hunter SB; Wong E; Beighley CM; Morral AR. *Journal of Studies on Alcohol* 67(3): 458-464, 2006. (36 refs.)

Objective: In California, driving under the influence (DUI) arrest and conviction rates are disproportionately higher among the Hispanic population. Acculturation and other factors associated with drinking and driving may help explain this disparity. Method: Interviews with Hispanic repeat DUI offenders were conducted immediately prior to sentencing and 2 years later. Arrest records from these offenders were also examined. Analyses were performed to examine the association between acculturation and other sociodemographic characteristics at baseline with DUI arrests and convictions at a 2-year follow-up. Results: Logistic regression modeling showed that acculturation was significantly related to self-reported DUI recidivism even after controlling for other factors associated with DUI convictions during a 2-year follow-up. Acculturation was not found to have a statistically significant relation to DUI arrest rates during that same period. Conclusions: Among a Hispanic sample of repeat DUI offenders, the less-accultured members were more likely to report a repeat DUI conviction at 2-year follow-up than the more-accultured ones, even after controlling for other characteristics associated with DUI behaviors, such as drinking severity and marital status. The same pattern was not found between acculturation and arrest rates. Acculturation may serve as a risk factor for repeat convictions. Efforts to reduce multiple DUI convictions may need to consist of ways to target

persons who are less acculturated. Copyright 2006, Alcohol Research Documentation, Inc.

Drug and alcohol-impaired driving among electronic music dance event attendees.

Furr-Holden D; Voas RB; Kelley-Baker T; Miller B. *Drug and Alcohol Dependence* 85(1): 83-86, 2006. (19 refs.)

Background: Drug-impaired driving has received increased attention resulting from development of rapid drug-screening procedures used by police and state laws establishing per se limits for drug levels in drivers. Venues that host electronic music dance events (EMDEs) provide a unique opportunity to assess drug-impaired driving among a high proportion of young adult drug users. EMDEs are late-night dance parties marked by a substantial number of young adult attendees and elevated drug involvement. No studies to date have examined drug-impaired driving in a natural environment with active drug and alcohol users. Methods: Six EMDEs were sampled in San Diego, California, and Baltimore, Maryland. A random sample of approximately 40 attendees per event were administered surveys about alcohol and other drug (AOD) use and driving status, given breath tests for alcohol, and asked to provide oral fluid samples to test for illicit drug use upon entering and exiting the events. Results: Driving status reduced the level of alcohol use (including abstaining) but the impact on drug-taking was not significant. However, 62% of individuals who reported their intention to drive away from the events were positive for drugs or alcohol upon leaving. This suggests that these events and settings are appropriate ones for developing interventions for reducing risks for young adults. Copyright 2006, Elsevier Science.

Drinking-driving fatalities and consumption of beer, wine and spirits.

Mann RE; Zalcmann RF; Asbridge M; Suurvali H; Giesbrecht N. *Drug and Alcohol Review* 25(4): 321-325, 2006. (38 refs.)

Drinking-driving is a leading cause of preventable morbidity and mortality in Canada. The purpose of this paper was to examine factors that influenced drinking driver deaths in Ontario. We examined the impact of per capita consumption of total alcohol, and of beer, wine and spirits separately, on drinking-driving deaths in Ontario from 1962 to 1996, as well as the impact of the introduction of Canada's per se law and the founding of People to Reduce Impaired Driving Everywhere -Mothers Against Drunk Driving (PRIDE-MADD) Canada. We utilised time-series analyses with autoregressive integrated moving average (ARIMA)

modelling. As total alcohol consumption increased, drinking driving fatalities increased. The introduction of Canada's per se law, and of PRIDE-MADD Canada, acted to reduce drinking driving death rates. Among the specific beverage types, only consumption of beer had a significant impact on drinking driver deaths. Several factors were identified that acted to increase and decrease drinking driver death rates. Of particular interest was the observation of the impact of beer consumption on these death rates. In North America, beer is taxed at a lower rate than other alcoholic beverages. The role of taxation policies as determinants of drinking-driving deaths is discussed. Copyright 2006, Taylor & Francis.

Preventing cannabis users from-driving under the influence of cannabis.

Jones C; Donnelly N; Swift W; Weatherburn D. *Accident Analysis and Prevention* 38(5): 854-861, 2006. (45 refs.)

Face-to-face, structured interviews were conducted with 320 recent cannabis users in New South Wales, Australia to assess the likely deterrent effects of (a) increasing the certainty of apprehension for driving under the influence of cannabis (DUIC) and (b) doubling the severity of penalties for DUIC. Participants were presented with a drug-driving scenario and asked to indicate their likelihood of driving given that scenario. The perceived risk of apprehension and severity of punishment were manipulated in each scenario to create four different certainty/severity conditions and participants were randomly allocated to one of these four groups. A subsidiary aim was to assess the likely impact of providing factual information about the accident risk associated with DUIC. Recent drug drivers who felt at low risk of accident when DUIC were asked to rate their willingness to drive if convinced that it was dangerous. The results suggested that increasing the certainty but not severity of punishment would produce reductions in cannabis-intoxicated driving among recent cannabis users. Providing factual information about the risks associated with DUIC would appear to have little impact on drug-driving rates among this population. Copyright 2006, Elsevier Science.

Observed smoking in cars: A method and differences by socioeconomic area.

Martin J; George R; Andrews K; Barr P; Bicknell D; Insull E et al. *Tobacco Control* 15(5): 409-411, 2006. (14 refs.)

Objectives: To establish a reproducible method to estimate the point prevalence of smoking and second-

hand smoke (SHS) exposure in cars, and to compare this prevalence between two areas of contrasting socioeconomic status. Method: A method involving two teams of observers was developed and evaluated. It involved observing 16 055 cars in Wellington, New Zealand. Two of the observation sites represented a high and a low area of deprivation (based on a neighbourhood deprivation index) and three were in the central city. Results: A 4.1% point prevalence of smoking in cars was observed (95% confidence interval (CI) 3.8% to 4.4%). There was a higher prevalence of smoking in cars in the high deprivation area relative to the other sites, and particularly compared to the low deprivation area (rate ratio relative to the latter 3.2, 95% CI 2.6 to 4.0). Of cars with smoking, 23.7% had other occupants being exposed to SHS. Cars with smoking and other occupants were significantly more likely to have a window open (especially if the smoker was not the driver). The observation method developed was practical, and inter-observer agreement was high (kappa value for the "smoking seen in car" category 0.95). Conclusions: Observational studies can be an effective way of investigating smoking in cars. The data from this survey suggest that smoking in cars occurs at a higher rate in relatively deprived populations and hence may contribute to health inequalities. Fortunately, there are a number of policy options for reducing SHS exposure in cars including mass media campaigns and laws for smoke-free cars. Copyright 2006, BMJ Publishing Group.

Use of drugs of abuse in less than 30-year-old drivers killed in a road crash in France: A spectacular increase for cannabis, cocaine and amphetamines.

Mura P; Chatelain C; Dumestre V; Gaulier JM; Ghysel MH; Lacroix C et al. *Forensic Science International* 160(2/3): 168-172, 2006. (16 refs.)

A collaborative study was conducted in France in order to determine the prevalence of cannabinoids, opiates, cocaine metabolites and amphetamines in blood samples from drivers killed in road accidents in 2003 and 2004 and to compare these values with those of a previous study performed during the period 2000-2001 involving 900 drivers. Blood samples were provided from 2003 under 30-year-old drivers, killed in a traffic accident. Drugs of abuse were determined by gas chromatography-mass spectrometry using the same analytical procedures in all the 12 laboratories. The most frequently observed compounds were by far cannabinoids, that tested positive in 39.6% of the total number of samples. Delta(9) tetrahydrocannabinol (THC), the most active of the principle constituents in

marijuana (*cannabis sativa*), was detected in the blood of 28.9% drivers and was the single drug of abuse in 80.2% of the positive cases. It was associated with amphetamines in 7.4% and with opiates and cocaine in 1.9 and 4.8%, respectively. Amphetamines were present in 3.1% of the total number of samples, cocaine metabolites in 3.0% and opiates in 3.5%. When comparing these results with those of a previous study performed 3 years before, a significant increase is observed for THC (28.9% versus 16.9%), cocaine metabolites (3.0% versus 0.2%) and amphetamines (3.1% versus 1.4%). This study demonstrates the critical necessity of implementing in France as soon as possible systematic roadside testing for drugs of abuse. Copyright 2006, Elsevier Science.

Changing patterns of drug and alcohol use in fatally injured drivers in Washington State.

Schwilke EW; dos Santos MIS; Logan BK. *Journal of Forensic Sciences* 51(5): 1191-1198, 2006. (31 refs.)

We have previously reported on patterns of drug and alcohol use in fatally injured drivers in Washington State. Here we revisit that population to examine how drug use patterns have changed in the intervening 9 years. Blood and serum specimens from drivers who died within 4 h of a traffic accident between February 1, 2001, and January 31, 2002, were analyzed for illicit and therapeutic drugs and alcohol. Samples suitable for testing were obtained from 370 fatally injured drivers. Alcohol was detected above 0.01 g/100 mL in 41% of cases. The mean alcohol concentration for those cases was 0.17 g/100 mL (range 0.02-0.39 g/100 mL). Central nervous system (CNS) active drugs were detected in 144 (39%) cases. CNS depressants including carisoprodol, diazepam, hydrocodone, diphen-hydramine, amitriptyline, and others were detected in 52 cases (14.1%), cannabinoids were detected in 47 cases (12.7%), CNS stimulants (cocaine and amphetamines) were detected in 36 cases (9.7%), and narcotic analgesics (excluding morphine which is often administered iatrogenically in trauma cases) were detected in 12 cases (3.2%). For those cases which tested positive for alcohol c. 40% had other drugs present which have the potential to cause or contribute to the driver's impairment. Our report also considers the blood drug concentrations in the context of their interpretability with respect to driving impairment. Over the past decade, while alcohol use has declined, some drug use, notably methamphetamine, has increased significantly (from 1.89% to 4.86% of fatally injured drivers) between 1992 and 2002. Combined drug and alcohol use is a very significant pattern too. Copyright 2006, Blackwell Publishing.