

Dead on arrival: Zero tolerance laws don't work.

Grant D. *Economic Inquiry* 48(3): 756-770, 2010. (26 refs.)

By 1998, all states had passed laws lowering the legal blood alcohol content for drivers under 21 to effectively zero. Theory shows these laws have ambiguous effects on overall fatalities and economic efficiency, and the data show they have little effect on driver behavior. A panel analysis of the 1988-2000 Fatality Analysis Reporting System indicates that zero tolerance laws have no material influence on the level of fatalities, while quantile regression reveals virtually no change in the distribution of blood alcohol content among drivers involved in fatal accidents. Copyright 2010, Wiley-Blackwell.

Comparing the cost of alcohol-related traffic crashes in rural and urban environments.

Czech S; Shakeshaft AP; Byrnes JM; Doran CM. *Accident Analysis and Prevention* 42(4): 1195-1198, 2010. (22 refs.)

Context: Existing studies have identified that, although to a lesser extent than individual factors such as males and young people, rural (compared to urban) communities represent a disproportionately high-risk of alcohol-related traffic crashes (ARTCs). To date, however, few studies have attempted to apply different costs to alcohol crashes of different severity, to provide more precise, and practically useful, data on which to base public health policy and intervention decisions. Objective: The aim of this study is to quantify the per capita prevalence and differential costs of alcohol crashes of different levels of severity to determine the extent to which urban and rural geographical areas may differ in the costs attributable to ARTCs. Design: A cross-sectional analysis of alcohol-related traffic crash and costs data from 2001 to 2007. Setting and participants: Data from New South Wales, Australia. Main outcome measures: Modified routinely collected traffic accident data to which costs relevant to alcohol crashes of different severity are applied. Results: Although the rate per 10,000 population of alcohol-related crashes is 1.5 times higher in rural, relative to urban, communities, the attributable cost is four times higher, which largely reflects that rural alcohol-fatalities are seven to eight

times more prevalent and costly. Conclusions: Given that per capita alcohol-related fatal crashes in rural areas account for a disproportionately large proportion of the harms and costs associated with alcohol-related traffic crashes, the cost-effectiveness of public health interventions and public policy initiatives should consider the relative extent of ARTC-harm in rural versus urban communities. Copyright 2010, Elsevier Science.

Trends in alcohol-related traffic risk behaviors among college students.

Beck KH; Kasperski SJ; Caldeira KM; Vincent KB; O'Grady KE; Arria AM. *Alcoholism: Clinical and Experimental Research* 34(8): 1472-1478, 2010. (38 refs.)

Background: Alcohol-impaired driving is a major public health problem. National studies indicate that about 25% of college students have driven while intoxicated in the past month and an even greater percentage drive after drinking any alcohol and/or ride with an intoxicated driver. The purpose of this investigation was to examine the change in these various alcohol-related traffic risk behaviors as students progressed through their college experience. Methods: A cohort of 1,253 first-time first-year students attending a large, mid-Atlantic university were interviewed annually for 4 years. Repeated measures analyses were performed using generalized estimating equations to evaluate age-related changes in prevalence and frequency of each behavior (i.e., ages 19 to 22). Results: At age 19, 17%(wt) of students drove while intoxicated, 42%(wt) drove after drinking any alcohol, and 38%(wt) rode with an intoxicated driver. For all 3 driving behaviors, prevalence and frequency increased significantly at age 21. Males were more likely to engage in these behaviors than females. To understand the possible relationship of these behaviors to changes in drinking patterns, a post hoc analysis was conducted and revealed that while drinking frequency increased every year, frequency of drunkenness was stable for females, but increased for males. Conclusions: Alcohol-related traffic risk behaviors are quite common among college students and take a significant upturn when students reach the age of 21. Prevention strategies targeted to the college

population are needed to prevent serious consequences of these alcohol-related traffic risk behaviors. Copyright 2010, Wiley-Blackwell.

Alcohol-related injury and driving while intoxicated: A risk function analysis of two alcohol-related events in the 2000 and 2005 National Alcohol Surveys.

Cherpitel CJ; Ye Y; Greenfield TK; Bond J; Kerr WC; Midanik LT. *American Journal of Drug and Alcohol Abuse* 36(3): 168-174, 2010. (28 refs.)

Background: National population data on risk of alcohol-related injury or driving while intoxicated (DWI) are scarce. Objective: The association of alcohol-related injury and perceived DWI (PDWI) with both volume and pattern of consumption are examined in a merged sample of respondents from the 2000 and 2005 National Alcohol Surveys using risk function analysis. Methods: Self-reported consumption patterns on 8,736 respondents who consumed at least one drink in the last 12 months were assessed as the average daily volume and frequency of consuming 5 or more (5+), 8 or more (8+), and 12 or more (12+) drinks in a day. Risks were defined using CHAID segmentation analysis implemented with SPSS Answer Tree. Results: For alcohol-related injury (n = 110), those most at risk drank at lower volumes with some high maximum occasions, or at higher volumes, where high maximum occasions had little added effect. Risk was highest for those reporting more than 6 drinks per day (9.7%). For PDWI (n = 696), those most at risk drank at higher volumes and with a greater number of high maximum occasions. Risk was highest for those reporting more than 6 drinks per day and more than one 8+ occasion during the last year (39%). Conclusions: Overall risk appears to increase with increasing volume, but at a given volume level, risk also increases with frequency of high maximum occasions. These data lend relatively weak support for previous findings suggesting that less frequent drinkers who only occasionally consume larger quantities may be at greater risk, and any alcohol consumption appears to carry some risk of these harms. Copyright 2010, Taylor & Francis.

High mortality among people suspected of drunk-driving. An 18-year register-based follow-up.

Impinen A; Makela P; Karjalainen K; Rahkonen O; Lintonen T; Lillsunde P et al. *Drug and Alcohol Dependence* 110(1-2): 80-84, 2010. (34 refs.)

Objectives: The aim of this study was to examine the overall and cause-specific mortality of DUI arrestees compared to a reference population with no history of DUI and to recognize the risk factors of premature

death. Methods: The data used were a register of all DUI arrestees between April 1988 and December 2006. All drivers with drug-positive samples were excluded. DUI arrestees were compared to a reference population with no previous history of DUI. Overall and cause-specific hazard ratios were calculated and risk factors were estimated. Results: Alcohol causes, diseases of the circulatory system and accidents constituted the most common causes of death among DUI arrestees. Suspected DUI was linked with higher mortality in every observed cause of death. The risk of death by alcohol-related or external cause was especially high. Among women DUI arrests caused sharper increase to the risk of death than increase found among male arrestees. Within the group of DUI arrestees the risk of death was affected by age, sex, marital status, education, multiple arrests as well as time and observed blood alcohol level of the arrest. Half of the suspected DUI cases and one in five of the references had alcohol as a contributing factor to death. Conclusions: Arrest on suspicion of drunk-driving is an indicator for elevated risk of death. Alcohol is often related to deaths of DUI arrestees. Drunk-drivers should be efficiently guided with respect to evaluations and treatments for harmful drinking. Copyright 2010, Elsevier Science.

The effects of minimum legal drinking age 21 laws on alcohol-related driving in the United States.

McCart AT; Hellinga LA; Kirley BB. *Journal of Safety Research* 41(2): 173-181, 2010. (74 refs.)

Objective: To examine trends in alcohol consumption and alcohol-related crashes among people younger than 21 in the United States and to review evidence on the effects of minimum legal drinking age (MLDA) laws. Methods: Trends in alcohol-related crashes and alcohol consumption among young people were examined, and studies on the effects of lowering and raising the drinking age were reviewed. Results: MLDA laws underwent many changes during the 20th century in the United States. Since July 1988, the MLDA has been 21 in all 50 states and the District of Columbia. Surveys tracking alcohol consumption among high school students and young adults found that drinking declined since the late 1970s, and most of the decline occurred by the early 1990s. These were the years when states were establishing, or reinstating, a MLDA-21. Among fatally injured drivers ages 16-20, the percentage with positive BACs declined from 61% in 1982 to 31% in 1995, a bigger decline than for older age groups: declines occurred among the ages directly affected by raising MLDA (ages 18-20) and among young teenagers not directly affected (ages 16-17). Almost all studies designed

specifically to gauge the effects of drinking age changes show MLDA of 21 reduce drinking, problematic drinking, drinking and driving, and alcohol-related crashes among young people. Yet many underage people still drink, many drink and drive, and alcohol remains an important risk factor in serious crashes of young drivers, especially as they progress through the teenage years. Stepped-up enforcement of MLDA and drinking and driving laws can reduce underage drinking. Recent efforts to lower MLDA to 18 and issue licenses to drink upon completion of alcohol education have gained local and national media attention. There is no evidence that alcohol education can even partially replace the effect of MLDA-21. Conclusions: The cause and effect relationship between MLDA of 21 and reductions in highway crashes is clear. Initiatives to lower the drinking age to 18 ignore the demonstrated public health benefits of MLDA of 21. Impact on Industry: Lowering the drinking age to 18 will increase highway crash deaths among young people. Copyright 2010, Elsevier Science.

The more you drink, the harder you fall: A systematic review and meta-analysis of how acute alcohol consumption and injury or collision risk increase together.

Taylor B; Irving HM; Kanteres F; Room R; Borges G; Cherpitel C et al. *Drug and Alcohol Dependence* 110(1-2): 108-116, 2010. (63 refs.)

Alcohol consumption causes injury in a dose-response manner. The most common mode of sustaining an alcohol-attributable injury is from a single occasion of acute alcohol consumption, but much of the injury literature employs usual consumption habits to assess risk instead. An analysis of the acute dose-response relationship between alcohol and injury is warranted to generate single occasion- and dose-specific relative risks. A systematic literature review and meta-analysis was conducted to fill this gap. Linear and best-fit first-order model were used to model the data. Usual tests of heterogeneity and publication bias were run. Separate meta-analyses were run for motor vehicle and non-motor vehicle injuries, as well as case-control and case-crossover studies. The risk of injury increases non-linearly with increasing alcohol consumption. For

motor vehicle accidents, the odds ratio increases by 1.24 (95% CI: 1.18-1.31) per 10-g in pure alcohol increase to 52.0 (95% CI: 34.50-78.28) at 120g. For non-motor vehicle injury, the OR increases by 1.30(95% CI: 1.26-1.34) to an OR of 24.2 at 140g (95% CI: 16.2-36.2). Case-crossover studies of non-MVA injury result in overall higher risks than case-control studies and the per-drink increase in odds of injury was highest for intentional injury, at 1.38 (95% CI: 1.22-1.55). Efforts to reduce drinking both on an individual level and a population level are important. No level of consumption is safe when driving and less than 2 drinks per occasion should be encouraged to reduce the risk of injury. Copyright 2010, Elsevier Science.

Requiring suspended drunk drivers to install alcohol interlocks to reinstate their licenses: Effective?

Voas RB; Tippetts SS; Fisher D; Grosz M. *Addiction* 105(8): 1422-1428, 2010. (11 refs.)

Aims: To evaluate a new method being used by some states for motivating interlock installation by requiring it as a prerequisite to reinstatement of the driver's license. Design: The driving records of Florida DWI offenders convicted between July 2002 and June 2008 were analyzed to determine the proportion of offenders subject to the interlock requirement who installed interlocks. Setting: Most driving-while-impaired (DWI) offenders succeed in avoiding state laws requiring the installation of a vehicle alcohol interlock. Participants: A total of 82,318 Florida DWI offenders. Findings: Due to long periods of complete suspension when no driving was permitted and the failure to complete all the requirements imposed by the court, only 21,377 of the 82,318 offenders studied qualified for reinstatement, but 93% of those who qualified did install interlocks to be reinstated. Conclusions: Because of the lengthy license suspensions and other barriers that the offenders face in qualifying for reinstatement, it is not clear that requiring a period on the interlock as a prerequisite to reinstating will greatly increase the current installment rate. Copyright 2010, Wiley-Blackwell.