



**RESEARCH AND NEWS SUMMARY**  
Date Compiled: January 2016

**UNDERAGE DRINKING: PREVALENCE AND CORRELATES OF RISKY DRINKING MEASURES AMONG YOUTH AGED 12–20**

December 2015

**Background:** Underage drinking and its effects have been researched extensively. However, no study to date has examined how the levels of drinking that have been defined as risky for adults might relate to youth who have a heightened physiological vulnerability to alcohol.

**Objectives:** To examine a range of drinking measures that go beyond common measures of youth alcohol use to gain a more detailed understanding of the nature of underage drinking and its associated correlates and outcomes.

**Methods:** Analyzing data from a 2013 nationally representative US survey, we examined a variety of measures of alcohol use among 24,445 youth (weighted  $N = 381,155,562$ ), the demographic groups most likely to have reported drinking in these ways, and associations between these measures of drinking and a number of adverse outcomes.

**Results:** On all measures of potentially risky drinking, including meeting diagnostic criteria for an alcohol use disorder, underage drinkers exceeded the rates found for adults. Independent of sex, race, and age, youth who reported drinking in ways that exceeded guidelines set for adults had increased odds of meeting diagnostic criteria for an alcohol, tobacco, or other drug use disorder, and of reporting a number of health problems.

**Conclusions:** The high rates at which youth report engaging in a range of risky drinking behaviors suggest a need for a more nuanced approach to substance use and mental health screening and interventions in clinical practice. The findings also underscore the need to address apparent misconceptions about what constitutes unhealthy or unsafe alcohol use among youth.

Source: <http://www.tandfonline.com/doi/full/10.3109/00952990.2015.1102923>

**ARE ALCOHOL TAXATION AND PRICING POLICIES REGRESSIVE? PRODUCT-LEVEL EFFECTS OF A SPECIFIC TAX AND A MINIMUM UNIT PRICE FOR ALCOHOL**

December 2015

**Aims** To compare estimated effects of two policy alternatives, (i) a minimum unit price (MUP) for alcohol and (ii) specific (per-unit) taxation, upon current product prices, per capita spending (A\$), and per capita consumption by income quintile, consumption quintile and product type.

**Methods** Estimation of baseline spending and consumption, and modelling policy-to-price and price-to-consumption effects of policy changes using scanner data from a panel of demographically representative Australian households that includes product-level details of their off-trade alcohol spending ( $n = 885$ ; total observations = 12,505). Robustness checks include alternative price elasticities, tax rates, minimum price thresholds and tax pass-through rates.

**Results** Current alcohol taxes and alternative taxation and pricing policies are not highly regressive. Any regressive effects are small and concentrated among heavy consumers. The lowest-income consumers currently spend a larger proportion of income (2.3%) on alcohol taxes than the highest-income consumers (0.3%), but the mean amount is small in magnitude

[A\$5.50 per week (95%CI: 5.18–5.88)]. Both a MUP and specific taxation will have some regressive effects, but the effects are limited, as they are greatest for the heaviest consumers, irrespective of income. Among the policy alternatives, a MUP is more effective in reducing consumption than specific taxation, especially for consumers in the lowest-income quintile: an estimated mean per capita reduction of 11.9 standard drinks per week (95%CI: 11.3–12.6).

**Conclusion** Policies that increase the cost of the cheapest alcohol can be effective in reducing alcohol consumption, without having highly regressive effects.

Source: <http://alcalc.oxfordjournals.org/content/early/2015/12/30/alcalc.agv133>

## **THE DENSITY OF ALCOHOL OUTLETS AND ADOLESCENT ALCOHOL CONSUMPTION: AN AUSTRALIAN LONGITUDINAL ANALYSIS**

January 2016

**Abstract:** Higher density of alcohol outlets has been linked to increased levels of adolescent alcohol-related behaviour. Research to date has been cross-sectional. A longitudinal design using two waves of annual survey data from the Australian arm of the International Youth Development Study was used. The sample comprised 2835 individuals with average age at wave 2 of 14 years (SD=1.67; range=11–17 years). GSEM was used to examine how absolute levels of alcohol outlet density was associated with student-reported alcohol use one year later, while controlling for prior alcohol use, risk factors at wave one and changes in density over the 2 years. Adolescents' perception of alcohol availability and friends' alcohol use were tested as potential mediators of the association between alcohol outlet density and adolescent alcohol use. Elasticity modelling identified a 10% increase in overall density at wave one was associated with an approximately 17% increase in odds of adolescent alcohol consumption at wave two. Living in areas with a higher density of outlets was associated with a statistically significant increase in the likelihood of adolescents developing early age alcohol consumption.

Source: <http://www.sciencedirect.com/science/article/pii/S1353829215001513>

## **ASSOCIATIONS BETWEEN ALCOHOL OUTLETS AND EMERGENCY DEPARTMENT INJURY PRESENTATIONS: EFFECTS OF DISTANCE FROM THE CENTRAL BUSINESS DISTRICT**

December 2015

**Objective:** To examine the effects of licensed outlets and sales on levels of alcohol-related injuries presenting to emergency departments (EDs) in the Inner, Middle and Outer postcode zones of Perth, Australia.

**Methods:** Using panel data (2002–2010), a surrogate measure (based on day of week and time of day of presentation) was used to identify alcohol-related injuries presenting at EDs. Postcodes were grouped according to their distance from the central business district (CBD). Numbers of alcohol outlets and their sales were the primary explanatory variables. Data were analysed using negative binomial regression with random effects.

**Results:** In the Inner and Outer postcode zones, counts of on-site outlets were positively associated with alcohol-related injury (IRR: 1.008; 95%CI 1.003–1.013 and IRR: 1.021; 95%CI 1.013–1.030 respectively). An additional off-site outlet was associated with 6.8% fewer alcohol-related injuries (95%CI 0.887–0.980). In the Middle postcode zone, mean off-site sales were positively associated with injury (IRR: 1.024; 95%CI 1.003–1.044).

**Conclusions:** Associations between alcohol availability variables and injury differed by outlet type and distance from the CBD.

**Implications:** These findings provide further evidence to support stronger controls on liquor licensing, and indicate the need for different controls according to the location and type of license.

Source: <http://onlinelibrary.wiley.com/doi/10.1111/1753-6405.12492/abstract>

## **ALCOHOL REGULATES GENES THAT ARE ASSOCIATED WITH RESPONSE TO ENDOCRINE THERAPY AND ATTENUATES THE ACTIONS OF TAMOXIFEN IN BREAST CANCER CELLS**

December 2015

**Abstract:** Hereditary, hormonal, and behavioral factors contribute to the development of breast cancer. Alcohol consumption is a modifiable behavior that is linked to increased breast cancer risks and is associated with the development of hormone-dependent breast cancers as well as disease progression and recurrence following endocrine treatment. In this study we examined the molecular mechanisms of action of alcohol by applying molecular, genetic, and genomic approaches in characterizing its effects on estrogen receptor (ER)-positive breast cancer cells. Treatments with alcohol promoted cell proliferation, increased growth factor signaling, and up-regulated the transcription of the ER target gene GREB1 but not the canonical target TFF1/pS2. Microarray analysis following alcohol treatment identified a large number of alcohol-responsive genes, including those which function in apoptotic and cell proliferation pathways. Furthermore, expression profiles of the responsive gene sets in tumors were strongly associated with clinical outcomes in patients who received endocrine therapy. Correspondingly, alcohol treatment attenuated the anti-proliferative effects of the endocrine therapeutic drug tamoxifen in ER-positive breast cancer cells. To determine the contribution and functions of responsive genes, their differential expression in tumors were assessed between outcome groups. The proto-oncogene BRAF was identified as a novel alcohol- and estrogen-induced gene that showed higher expression in patients with poor outcomes. Knock-down of BRAF, moreover, prevented the proliferation of breast cancer cells. These findings not only highlight the mechanistic basis of the effects of alcohol on breast cancer cells and increased risks for disease incidents and recurrence, but may facilitate the discovery and characterization of novel oncogenic pathways and markers in breast cancer research and therapeutics.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/26661278>

## **NICE TOLD TO BACK OFF “NATIONAL POLICY ISSUES”**

December 2015

The supposedly independent National Institute for Health and Care Excellence (NICE) bowed to political pressure from ministers and removed references to a controversial alcohol policy from its guidance on the prevention of dementia, disability, and frailty in later life.

The edit appears to have been made as the result of a letter sent by the Department of Health to NICE's chief executive just two weeks after the guidance was published in draft form.

When the draft version of Dementia, Disability and Frailty in Later Life—Mid-Life Approaches to Prevention was published for consultation on 11 July 2014, it included a recommendation that minimum unit pricing should be introduced as part of efforts to reduce alcohol consumption.

Only minor changes were made to the document as a result of the two month consultation, which ended on 5 September 2014. But when the final version of the guidance was published on 20 October 2015—more than a year later—all mention of minimum unit pricing and any role for national government had been stripped out.

The changes eroded the original recommendations of the seven member public health advisory committee appointed by NICE to develop the guideline and flew in the face of expert testimony given to the committee.

John Britton, professor of epidemiology at the University of Nottingham, who chaired the guideline committee, expressed his disappointment at the changes, which had been “imposed after the committee had signed off a final version of the guidance.”

“Speaking personally,” he told The BMJ, “I think the guidance was diminished by these changes, since in my view both national and local policies and practices are key components of disease prevention.

“Smoking, harmful use of alcohol, and obesity are all major causes of disability, dementia, and frailty in later life and require national as well as local action if they are to be prevented.”

Source: <http://www.bmj.com/content/351/bmj.h6766.full>

## **EFFECTIVENESS OF A DUTCH COMMUNITY-BASED ALCOHOL INTERVENTION: CHANGES IN ALCOHOL USE OF ADOLESCENTS AFTER 1 AND 5 YEARS**

December 2015

**Background:** Underage alcohol drinking is a severe public health problem. The aim of this study was to evaluate the short- and long-term effects of a Dutch community-based alcohol intervention on alcohol use of adolescents in the second and fourth grade of high school.

**Methods:** The community intervention integrated health education, regulation, and enforcement in multiple settings, targeting adolescents as well as their environments. In order to evaluate effectiveness, a quasi-experimental pretest posttest design was used based on three independent cross-sectional surveys in 2003, 2007 and 2011, resulting in an analytical sample of approximately 5700 and 3100 adolescents in the intervention and reference region, respectively. For the main analyses, we compared the change in recent alcohol use and binge drinking in the intervention region with the reference region. Linear regression was used to obtain (adjusted) prevalence of alcohol use.

**Results:** During the study period, there was an overall decline in the prevalence of alcohol use. After 1 year of intervention, the decline was 11% ( $P < 0.01$ ) and 6% ( $P < 0.01$ ) stronger in the intervention region as compared to the reference region, for recent alcohol use and binge drinking respectively. This effect was restricted to the second grade and remained after 5 years of intervention. No clear subgroup effects or confounding were observed for ethnicity, gender or educational level.

**Conclusions:** The Dutch community intervention appears to be effective on the short- and long-term in reducing the prevalence of recent alcohol use and binge drinking of (underage) adolescents in the second grade of high school.

Source: [http://www.drugandalcoholdependence.com/article/S0376-8716\(15\)01786-X/abstract](http://www.drugandalcoholdependence.com/article/S0376-8716(15)01786-X/abstract)

## **A COHORT STUDY ON LONG-TERM ADVERSE EFFECTS OF PARENTAL DRINKING: BACKGROUND AND STUDY DESIGN**

December 2015

**Abstract:** Although many studies have addressed adverse outcomes in children of parents with alcohol abuse/dependence, less is known about the possible long-term effects of more normative patterns of parental alcohol consumption, including drinking at lower risk levels and heavy episodic or binge drinking. The extent of harm from parental drinking may therefore be underestimated. With this research proposal, we describe a project that aims to assess possible long-term adverse effects of parental drinking by combining survey and nationwide registry data. Advantages of a longitudinal general population cohort design include that it allows for detailed information on parental drinking through survey data and identification of possible negative long-term health and social outcomes from exposure to parental drinking 1–19 years after exposure through continuously updated nationwide registers. The rich information available from combining survey and registry data allows us to take into account important confounders, mediators, and moderators.

Source (full study): <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4682622/>

## **AGE-ASSOCIATED ALCOHOL AND DRIVER RISK DIFFERENCES IN OLDER ADULT DUI OFFENDERS**

December 2015

**Purpose:** The aim of the study was to characterize age-group differences on the Driver Risk Inventory–II (DRI-II) in a group of driving under the influence (DUI) offenders.

**Method:** Data from 11,066 DUI cases from the state of Nebraska were used. The sample was grouped by age (18-20, 21-39, 40-59, and 60-84) and compared on the subscales of the DRI-II.

**Results:** Older adult DUI finders accounted for 2.90% (95% confidence interval [CI] = [2.60, 3.23]) of all DUI cases. Older adult DUI offenders not only demonstrated significantly greater Alcohol Risk scores than younger age groups but also had significantly lower Driver Risk scores than younger age groups.

**Implications:** The results of this study demonstrate age-related differences in alcohol and driving risk among DUI offenders. This study provides a starting point from which investigators and clinicians can further address the issue of alcohol use and driving in older adults.

Source: <http://jag.sagepub.com/content/early/2015/12/29/0733464815624152.abstract>

## **EVALUATION OF THE GENERAL DETERRENCE CAPACITY OF RECENTLY IMPLEMENTED (2009–2010) LOW AND ZERO BAC REQUIREMENTS FOR DRIVERS IN ONTARIO**

December 2015

**Abstract:** The number of injuries and fatalities associated with drinking and driving continues to decline in the province of Ontario. However, this behavior remains as one of the major contributors to collision-related injuries and fatalities. Few large-scale studies of blood alcohol concentration (BAC) <0.08% limits exist in the literature, necessitating additional investigation. Here we evaluate the general deterrent effectiveness of three Ontario countermeasures implemented during 2009 and 2010, two of which impose lower allowable BAC on drivers in the province. Using ARIMA-based interrupted time-series analysis we found that Warn-range sanctions, which include immediate roadside suspension for the previously untargeted BAC range of 0.05–0.08%, were associated with a 17% decrease in the number of people injured or killed in drinking and driving collisions (relative to the number injured or killed in other collisions). Similarly, we found that Zero BAC requirements newly applied to young drivers (<22 y.o.) were associated with a reduction in the numbers of two other dissimilar drinking and driving sanctions received by young drivers (relative to the number of these sanctions received by non-young drivers). A roadside seven-day vehicle impoundment for BAC > 0.08%, which was added to an already existing roadside 90-day license suspension, was not found to produce *general* deterrence. Taken together, our results suggest that sanctions which target previously untargeted groups, specifically via lower BAC requirements, are effective as general deterrents against drinking and driving.

Source: <http://www.sciencedirect.com/science/article/pii/S0001457515301536>