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Iceland

A parliamentary bill on the retail sale of alcohol proposes lifting the ban on the sales of alcohol in retail outlets in Iceland. Vínbúo (a chain of shops run by the Icelandic Alcohol and Tobacco Monopoly (ÁTVR)) is currently the sole legal vendor of alcohol for off-premises consumption in Iceland. The new rules would allow the sale of all types of alcohol prior to 8pm, subject to it being sold in a specific demarcated area within retail outlets and vendors being over the required age. The bill will now have its second reading in Albingi (The General Affairs and Education Committee of the Icelandic Parliament).

US

The Kentucky General Assembly has passed Senate Bill 133 which significantly expands the use of ignition interlocks for convicted DUI offenders. The legislation requires first-time DUI offenders with high-BACs (.15>), those who refuse to provide a breath test, and offenders who drive with minors in the vehicle at the time of their arrest to install an interlock for a period of six months.

UK

The UK Civil Aviation Authority (CAA) has released figures that suggest a significant rise in cases of "disruptive" behaviour on flights. The number of alcohol-related incidents on UK flights has tripled over the last three years, with 114 incidents of "disruptive" passengers over the past year. Alcohol consumption before and during flights is specifically identified as a "threat to safety" of passengers and crew, including the pilot.

Russia

From May 1, the sale of low-alcohol energy drinks will be prohibited in Moscow. Low-alcohol energy drinks are defined as up to 9% abv beverages containing caffeine or other tonic components.

Penalties for the sale of low-alcohol energy drinks include fines of between 5,000 and 10,000 rubles ($81 - $162) and confiscation of the product for salespersons, as well as fines of 50,000 to 100,000 rubles ($810-$1,600) and confiscation of the product for companies.

Legislation that restricts the sale and consumption of low-alcohol energy drinks has been already adopted in Chechnya, the Stavropol, Krasnodar and Altai territories, the Chukotka Autonomous Area, and the Tula, Kaluga, Rostov, Nizhny Novgorod and Astrakhan regions, among others.

Indonesia

Indonesian minimarts will no longer be able to sell alcoholic beverages following a new government regulation that takes full effect in April.

The regulation, signed by Indonesia's trade minister Rachmat Gobel on January 16, bans the small retail chains from selling Class A liquor, which contains less than five percent alcohol. This includes beverages such as beer, low-alcohol wine, and shandy. Previously, such restrictions were applied mostly to alcoholic beverages with over five percent of alcohol.

Alcohol as a component of the Mediterranean-type diet; effects on the risk of mortality among diabetics

Bonaccio M, Di Castelnuovo A, Costanzo S, Persichillo M, De Curtis A, Donati MB, de Gaetano G, Iacoviello L, on behalf of the MOLI-SANI Study Investigators.

Adherence to the traditional Mediterranean diet and mortality in subjects with diabetes. Prospective results from the MOLI-SANI study. European Journal of Preventive Cardiology 2015. Pre-publication. DOI: 10.1177/2047487315569409.

Authors' Abstract

Background: Adherence to the Mediterranean diet is associated with lower mortality in a general population but limited evidence exists on the effect of a Mediterranean diet on mortality in subjects with diabetes. We aim to examine the association between the Mediterranean diet and mortality in diabetic individuals.

Design: Prospective cohort study on 1995 type 2 diabetic subjects recruited within the MOLI-SANI study.

Methods: Food intake was recorded by the European Project Investigation into Cancer and Nutrition food frequency questionnaire. Adherence to the Mediterranean diet was appraised by the Greek Mediterranean diet score. Hazard ratios were calculated using multivariable Cox-proportional hazard models.

Results: During follow-up (median 4.0 years), 109 all-cause including 51 cardiovascular deaths occurred. A 2-unit increase in Mediterranean diet score was associated with 37% (19%–51%) lower overall mortality. Data remained unchanged when restricted to those being on a hypoglycaemic diet or on antidiabetic drug treatment. A similar reduction was observed when cardiovascular mortality only was considered (hazard ratio=0.66; 0.46–0.95). A Mediterranean diet-like pattern, originated from principal factor analysis, indicated a reduced risk of overall death (hazard ratio=0.81; 0.62–1.07). The effect of Mediterranean diet score was mainly contributed by moderate alcohol drinking (14.7% in the reduction of the effect), high intake of cereals (12.2%), vegetables (5.8%) and reduced consumption of dairy and meat products (13.4% and 3.4% respectively).

Conclusions: The traditional Mediterranean diet was associated with reduced risk of both total and cardiovascular mortality in diabetic subjects, independently of the severity of the disease. Major contributions were offered by moderate alcohol intake, high consumption of cereals, fruits and nuts and reduced intake of dairy and meat products.

Forum Comments

Many scientists have reported on health benefits associated with the traditional diet of much of the Mediterranean area: the primary basis of the diet is on plant-based foods (whole grains, vegetables, fruits), olive oil, moderate wine consumption, and limited intake of meat or dairy products. In 2003, Antoniao Trichopoulou and her associates (Trichopoulou et al, 2003) created a scoring system based on the number of components of the Mediterranean Diet (Med-Diet) consumed by subjects, using a total score to judge the degree that individuals were following a Med-Diet pattern. They found that greater adherence to such a diet (a higher score) had a favorable effect on the risk of mortality. Most studies since then have shown the same, but generally have related the full dietary pattern to outcomes; there are limited data on the relative merits of each component of the diet. The authors report here on their attempt to judge the proportion of the protection against mortality that can be attributed to each component of the score.

In the present study, the investigators used this scoring system that includes each component of the Med-Diet assessed from dietary records, with the intake of 7 items (cereal intake, ratio of monounsaturated to saturated fats, vegetables, fruits, nuts, fish, and moderate alcohol), considered to have positive effects and 2 items (dairy products, meat and meat products) considered to have negative effects. Subjects whose intake of each positive component was above the median level of intake were given 1 point on the Med-Diet score, with those consuming less than the median values given 0 points (for negative items, intake below the median point resulted in 1 point). For alcohol, men reporting 10-50 g/day and women reporting 5-25 g/day received 1 point, with subjects reporting less or more than these levels being given 0 points. Possible scores ranged from 0 to 9 points, with higher scores indicating greater adherence to a Med-Diet pattern.

The authors' calculations estimated that, in descending order of importance, moderate alcohol consumption (associated with a reduction of 14.7% in the protection against mortality when it was removed from the total score), cereal intake (12.2% reduction), ratio of monounsaturated to saturated fats (5.8%), and consumption of vegetables (5.8%), fruits and nuts (5.2%) and fish (5.0%) lowered mortality risk. Low intakes of dairy products (reduction of 13.4%) and meat and meat products (3.4%) were also associated with lower mortality.

Specific Comments on Study by Forum Members: Most Forum members considered this to be a well-done attempt to tease apart the relative importance of each component of the Med-Diet as it relates to health outcomes. Said reviewer Finkel: "Diabetes provides a severe test for any regimen aspiring to cardiovascular health benefits: in this study, most components of the Med-Diet provided protection among such subjects." Reviewer Goldfinger agreed: "In contemporary medical practice, diabetics are already presumed to have established vascular disease and thus are subject to more stringent targets for cholesterol and LDL cholesterol lowering and more aggressive pharmaceutical and lifestyle intervention, as their health is expected to be more easily compromised. This is indeed a high-risk group."

In regards to the present study, Forum member Skovenborg stated: "Kudos to these researchers from the MOLI-SANI study with this convincing analysis extending the known benefits of the Mediterranean diet to a cohort of type 2 diabetics. Serge Renaud was among the pioneers in the study of the Cretan Mediterranean diet for prevention of coronary heart disease (Renaud et al). The beneficial effects of the Mediterranean dietary pattern have been studied in US populations within both smoking and BMI strata (Mitrou et al). The results of the MOLI-SANI Study are in accordance with the Greek EPIC prospective cohort study analysis of the contributions of the individual components of the Mediterranean diet regarding moderate alcohol consumption, the major contributor with 23.5%, while minimal contributions were found for cereals and dairy products (Trichopoulou et al, 2009)."

Forum member Goldfinger agreed that this study provides important data regarding the management of diabetes mellitus: "The Med Diet has been proposed especially as a tool for primary prevention. With respect to diabetics, this study provides useful data to suggest an important role of the Med-Diet in secondary prevention, that is, reduced cardiovascular and other clinical end points among those with established disease. In addition to reinforcing benefits of lifestyle modification in diabetics, it specially reinforces the benefit of moderate alcohol in these subjects, who are often ill advised not to drink."

Alcohol and diabetes mellitus: An inverse association between alcohol consumption and the development of diabetes mellitus has been consistently demonstrated for decades. For example, Stampfer and colleagues reported in 1988 that moderate drinkers in the Nurses' Health Study had a lower risk for development of diabetes than did abstainers. Numerous studies since then have confirmed such an association (Rimm et al, Perry et al); good summaries of the effect have been provided by Howard et al and Koppes et al. Forum member Ellison noted that cumulative evidence shows a J-shaped or U-shaped curve, with usually an approximately 30% reduction in the risk of developing diabetes among light to moderate drinkers in comparison with abstainers (Koppes et al).

Reviewer Puddey commented: "The authors in discussing their results mention the potential beneficial effect of moderate alcohol intake on the incidence of type II diabetes mellitus. Any commentary needs to consider evidence that there is a U-shaped relationship between alcohol use and incidence of type II diabetes, with a meta-regression of 20 cohort studies by Baliunas et al concluding that when compared to lifetime abstainers, the relative risk (RR) for Type 2 Diabetes among men is lowest in those consuming 22 g/day of alcohol (RR 0.87 [95% CI 0.76 –1.00]) but deleterious at just over 60 g/day of alcohol. Among women, RR was at its lowest when consuming 24 g/day of alcohol (0.60 [95% CI 0.52–0.69]) and became deleterious at about 50 g/day alcohol."

Reviewer Van Velden noted: "The Med Diet plays an important role in primary and secondary prevention of CVD. Pharmacological treatment to increase insulin secretion may increase inflammation, and more attention should be placed on dietary interventions. The Med-Diet is important in this regard, as is wine."

How precise an estimate of effect can come from the Med-Diet score? Forum member Lanzmann-Petithory insists that "There is no such thing as a single Med-Diet, but many variations throughout the Mediterranean region. In this heterogeneity, Serge Renaud identified alpha-linolenic acid (ALA) and wine as key factors (Renaud et al). In the present analysis, not only is the alcohol not identified as mainly wine, but the fat score does not take into account alpha-linolenic acid (ALA), nor the ratio of omega-6 to omega-3 fatty acids. ALA effect is diluted among the other groups: vegetables (primary source of ALA), meat and dairy products (following the food

chain of the country), fruits and nuts. ALA was the principal factor in the cardiovascular protection of the diet in the Lyon Diet-Heart Study, a transposition of the Cretan traditional diet, rich in wild greens, and with an ALA enriched food made with canola oil (de Lorgeril et al). Many studies have focused on the benefits of ALA, the most recent being that of Cespedes et al, in which ALA, but not EPA and DHA, had a protective effect against development of the metabolic syndrome."

Forum member Puddey had some criticisms of the scoring system used in this study to judge the effects of each component of the Med-Diet. "The observation in this paper that moderate alcohol consumption is a major contributor to an observed protective effect of a Mediterranean diet against mortality in Type II diabetic subjects is consistent with an already strong literature indicative of a protective effect of moderate alcohol consumption on overall and cardiovascular mortality in subjects with Type II diabetes mellitus. However, the article would be more informative from a preventative viewpoint if there was a comparison of mortality outcomes for those who drank either above or below the defined moderate drinking limits. As it stands, low or no alcohol consumers are lumped together with high alcohol consumers, with both groups scoring a zero on the Mediterranean diet score for alcohol intake. We therefore do not know if the 14.7% contribution of moderate alcohol intake to the reduction in overall mortality with a Mediterranean diet is due to not drinking heavily or whether it is possibly due to a specific protective effect of moderate alcohol use relative to low or no alcohol intake."

Reviewer Ellison agreed that, "Theoretically, the broad categories of the Med-Diet score of Trichopoulou et al could make it difficult to interpret the implications of alcohol consumption on mortality risk. However, in the present study, the subjects given a 0 value for an alcohol intake that was outside the moderate limits were predominantly abstainers or light drinkers. Of the 676 women in this study, the large majority were abstainers (n=363) or very light drinkers (n=100), and there were only 64 women (9%) whose consumption exceeded the 'moderate' category of ≥ 25 g/d. Of the 1,319 men in the study, 397 (30%) were abstainers or light drinkers, while 245 (18.5%) exceeded the moderate limits. Given that, overall, the large majority of subjects not in the moderate category in this study were non-drinkers or light drinkers, I would interpret the findings to indicate that the demonstrated reduction in risk is more likely to be due to a specific protective effect of moderate alcohol use relative to low or no alcohol intake."

Reviewer Zhang had some uncertainties about the approach used to interpret the individual components of the Med-Diet score, noting that nutritional analysis is especially complicated, as it may be difficult to interpret effects of not consuming a single item without considering the effect of its omission from the diet affecting the input of other foods. He also had a comment on another aspect of the analyses: "If the Med-Diet reduces the risk of diabetes, and we assume a person's diet, in general, is relatively stable, examining the association of Med-Diet and risk of mortality conditioning on diabetes (akin to adjusting for an intermediate variable) would not only be susceptible to collider stratification bias, but also change the interpretation of the effect estimate. Such an effect estimate is reflecting the association of Med-Diet on mortality not through diabetes. This could mean that the total effect of the diet (and alcohol) on mortality might be even greater than estimated in this paper."

Differential effects according to type of alcoholic beverage consumed: Professor Puddey commented further: "In the present analysis, there has been no account taken of the pattern of alcohol use or type of alcohol beverage. In terms of the latter, wine drinkers make different dietary choices compared to beer or spirits drinkers (Johansen et al) and higher wine intake associates with a higher intake of healthy food items (Tjonneland et al). Beverage preference may therefore be an unmeasured confounder in studies that associate alcohol in the Mediterranean diet with its protective effect." Forum member Ellison noted: "While specific proportions are not given in the present study, most of the alcohol consumption in the Moli-Sani Study has been shown to be from the consumption of wine."

Reviewer Skovenborg had some comments on Professor Puddey's views on beverage preference and diet. "In a cross sectional study of customers in Danish supermarkets wine buyers made more purchases of healthy food items than people who buy beer; however, in Denmark the change from beer to wine was inspired by the increasingly popular holiday travels to Mediterranean countries. The same trend

was observed in Finland where wine drinkers have more antioxidants in their diet. (Männistö et al)."

Skovenborg continued: "The traits of persons who choose wine might well be different in other nations – especially in the Mediterranean countries. For example, a cross-sectional analysis of the relation between wine drinking and intake of selected foods in Italy did not find an association of wine preference with indicators of healthy diet (Chatenoud et al). The conclusion of the SUN cohort study of alcoholic beverage preference and dietary pattern in Spanish university graduates found no relevant differences in adherence to the Mediterranean food pattern according to alcoholic beverage preference (Alcácera et al). In a sample of middle-aged French males, there was a linear trend between increasing alcohol intakes and worsening of quality of diet, while no difference was observed according to beverage preference (Herbeth et al)."

Differences between the response of men and women to the Med-Diet: Reviewer Puddey also wondered about differences in the relation between alcohol and mortality between men and women. He stated: "There were substantial differences in the definition of moderate drinking for men and women. In fact, men could have been drinking up to 10 times as much as women (50g vs 5g per day) and still be categorised within the same moderate drinking category. Given previous evidence of gender differences in alcohol – mortality relationships it would have been useful to know if the Mediterranean diet – mortality relationships in this study were of identical magnitude in men and women."

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Forum Summary

Many scientists have reported on health benefits associated with the traditional diet of much of the Mediterranean area: the primary basis of the diet is on plant-based foods (whole grains, vegetables, fruits), olive oil, moderate wine consumption, and limited intake of meat or dairy products. In 2003, Antonia Trichopoulou and her associates created a scoring system based on the number of components of the Mediterranean Diet (Med-Diet) consumed by subjects, giving a total score to judge the degree that individuals were following a Med-Diet pattern. The score is based on the intake of 7 items (cereal intake, ratio of monounsaturated to saturated fats, vegetables, fruits, nuts, fish, and moderate alcohol), considered to have positive effects, and 2 items (dairy products, meat and meat products) considered to have negative effects. Many groups have found that greater adherence to such a diet (a higher score) is associated with a lower risk of many diseases, and lower mortality. There are limited data on the relative merits of each component of the Med-Diet. In the present paper, the authors attempt to judge the proportion of the protection against mortality that can be attributed to each component of the score.

The authors' calculations estimated that, in descending order of importance, moderate alcohol consumption (associated with a reduction of 14.7% in the protection against mortality when it was removed from the total score), cereal intake (12.2% reduction), ratio of monounsaturated to saturated fats (5.8%), and consumption of vegetables (5.8%), fruits and nuts (5.2%) and fish (5.0%) lowered mortality risk. Lower intakes of dairy products (reduction of 13.4%) and meat and meat products (3.4%) were also associated with lower mortality. Alcohol has long been known to relate to a lower risk of developing diabetes, and the present study indicates that it is an important factor in reducing the risk of mortality among subjects who have already developed diabetes, as has been shown in previous studies. This study indicates further that the full Med-Diet has very favorable effects on mortality among diabetics.

Forum members considered this to be a well-done attempt to tease apart the relative importance of each component of the Med-Diet as it relates to health outcomes among diabetics. They felt that these researchers from the MOLI-SANI study have published a convincing paper extending the known benefits of the Mediterranean diet to a cohort of type 2 diabetics, a group of subjects at high risk for cardiovascular and all-cause mortality.

There were some questions raised about the precision of the Med-Diet Score, as published and used in this study, in judging the relative contributions of the different dietary constituents, especially because of known complexities in judging the effects of avoiding one particular food when its absence may affect the intake of other foods. And for alcohol, the score used did not permit an evaluation of the role of the pattern of drinking or even the type of beverage consumed, which are known to affect the net effects of drinking on health.

Nevertheless, the results of this study add to an accumulating base of knowledge of the importance of the Mediterranean-type diet in reducing the risk of many health outcomes, including mortality among diabetics.

Comments on this critique by the International Scientific Forum on Alcohol Research were provided by the following members:

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Note on Potential Conflict of Interest: It should be pointed out that one of the authors of this paper (Giovanni de Gaetano) is a member of the International Scientific Forum on Alcohol Research. Dr. de Gaetano has not provided comments for the critique of this paper.

The effects of alcohol consumption on the risk of hip fracture

Zhang X, Yu Z, Yu M, Qu X. Alcohol consumption and hip fracture risk. Osteoporos Int 2015;26:531–542. DOI 10.1007/s00198-014-2879-y

Authors' Abstract

Summary: The present meta-analysis shows that a nonlinear association between alcohol consumption and the risk of hip fracture was observed. Light alcohol consumption was inversely significantly associated with hip fracture risk, whereas heavy alcohol consumption was associated with an elevated hip fracture risk.

Introduction: Previous studies examining the association between alcohol consumption and the risk of hip fracture have reported conflicting findings. Therefore, we conducted a meta-analysis of prospective cohort studies to assess the association between alcohol consumption and the risk of hip fracture.

Methods: PubMed and EMBASE were searched for prospective cohort studies on the relationship between alcohol consumption and the risk of hip fractures. Relative risks (RR) with 95 % confidence intervals (CI) were derived using random-effects models throughout the whole analysis.

Results: Eighteen prospective cohort studies were included with 3,730,424 participants and 26,168 hip fracture cases. Compared with non-drinkers, the pooled RR of hip fractures for alcohol consumption was 1.03 (95 % CI, 0.91–1.15), with high heterogeneity between studies (P<0.001, I2=72.6%). A nonlinear relationship between alcohol consumption and the risk of hip fracture was identified (P nonlinearity = 0.003). Compared with non-drinkers, the pooled RRs of hip fractures were 0.88 (95 % CI, 0.83–0.89) for light alcohol consumption (0.01–12.5 g/day), 1.00 (95 % CI, 0.85–1.14) for moderate alcohol consumption (12.6–49.9 g/day), and 1.71 (95 % CI, 1.41–2.01) for heavy alcohol consumption (≥50 g/day).

Conclusions: There was no evidence of publication bias. In conclusion, a nonlinear association between alcohol consumption and the risk of hip fracture was observed in this meta-analysis. Further, light alcohol consumption was inversely significantly associated with hip fracture risk, whereas heavy alcohol consumption was associated with an elevated hip fracture risk.

Forum Comments

Especially among the elderly, hip fractures and other fractures are common causes of morbidity and especially of disability, and increase the risk of subsequent mortality. Osteoporosis of bones and instability of gait are generally considered to be key underlying factors. Because heavy alcohol intake can lead to a decrease in bone mineral density and to problems with balance and stability, the role of alcohol consumption as a contributing factor to the risk of hip fracture has been questioned for many years.

For several decades, many epidemiologic studies have reported that moderate drinking is associated with an increase in bone mineral density (Holbrook & Barrett-Connor, Felson et al, Ganry et al, McLernon et al), although the specific mechanisms are not clear (Jugdaohsingh et al). Further, many studies have also reported lower risk of hip fracture among light-to-moderate drinkers (Mukamal et al, Berg et al), although the risk is increased among heavy drinkers, especially alcoholics (Yuan et al).

In a previous meta-analysis on alcohol and hip fracture by Berg et al in 2007, the authors stated: "We pooled effect sizes for 2 specific outcomes (hip fracture and bone density) and synthesized data qualitatively for 4 outcomes (non-hip fracture, bone density loss over time, bone response to estrogen replacement, and bone remodeling). Compared with abstainers, persons consuming from more than 0.5 to 1.0 drinks per day had lower hip fracture risk (relative risk=0.80 [95% confidence interval, 0.71-0.91]), and persons consuming more than 2 drinks per day had higher risk (relative risk=1.39 [95% confidence interval, 1.08-1.79]). A linear relationship existed between femoral neck bone density and alcohol consumption."

The present meta-analysis was based on data from 18 prospective studies that included 3,730,424 participants, among whom 26,168 hip fractures were recorded. Studies included subjects from the USA, France, Europe, Sweden, the Netherlands, Australia, Canada, Denmark, and Japan. The analysis concluded that there was a nonlinear association between alcohol consumption and the risk of hip fracture, with a decrease in risk for subjects reporting light alcohol consumption but an elevated hip fracture risk for heavier drinkers.

Specific comments on the paper: This was a meta-analysis of a very large number of subjects from prospective studies, with more than 26,000 cases of hip fracture. The follow-up period of studies ranged from 3 to 30 years. All of the studies included were adjusted for age, and almost all for most other known risk factors, including smoking, physical activity, and BMI. Alcohol intake was categorized as none, light (up to 12.5 g/day, or one typical drink by US standards), moderate (from 12.6 to 49 g/day, or up to about 4

to 5 typical drinks), and heavy for those with greater consumption. Data are not presented to estimate effects if "moderate" drinking was defined as only up to 24 or 36 g/day, levels that would relate more to current guidelines.

Overall, Forum members considered this to be a very good summary on an important topic. The main results show a decrease in risk of hip fracture for light drinkers, no effect for moderate drinkers, and an increased risk for heavy drinkers. In sub-analyses by gender, males showed a significantly lower risk of hip fracture for both light and moderate drinking, but a reduced risk among women was seen only for light drinkers. For both genders, heavy drinkers showed an increase in risk.

There was a reasonable discussion by the authors of associations that have been shown in other studies of the effects of alcohol intake on bone mineral density and various aspects of bone metabolism. As stated by member Van Velden: "This article gives a balanced view on the influence of alcohol on bone density, and we support the findings."

Forum member Zhang also considered this to be a nice review paper. He stated: "The conclusion that there is a J-shaped association between alcohol consumption and risk of fracture appeared to be fair. In contrast to a J-shaped association between alcohol consumption and risk of fracture, it appears that there was a linear relationship between alcohol consumption and bone density at the femoral neck, up to about 2 drinks/day. Although biological mechanisms linking alcohol consumption to bone density are not well understood, several studies have found that alcohol consumption may increase the concentration of serum estradiol and liver estrogen receptors (Gavaler)(Chung)."

Reviewer Thelle noted: "My only small concern is that the frequency of osteoporosis differs considerably on a global level, and the studies included in this analysis are mainly from North America and Europe. I am not sure whether this actually matters with regard to their conclusion. The paper is otherwise balanced and only confirms that being in the middle is a safe area."

Reviewer Finkel pointed out that there is always a problem comparing people who drink very moderately with those who consume alcohol heavily. There are many lifestyle and other differences in these groups, which raises the possibility of confounding, regardless of how many factors are 'controlled for' in the analysis. Bone health is surely not the only difference. Forum member Svilaas agreed, and added that this study provides further evidence of the adverse effects of heavy drinking.

Differential effects according to type of alcoholic beverage: Forum member Estruch commented: "After reviewing the paper and others, I also support the findings. However, I think that the manuscript did not remark on the effects of non-alcoholic components of some beverages (mainly wine and some beer) on bone. In fact, postmenopausal wine drinkers have shown lower hip fracture incidence. In a study of 31,785 men and women in Denmark, moderate drinkers of all beverages showed no increase in fracture risk over that of abstainers, but increased risk was seen for heavier drinkers. Overall, subjects who preferred wine or spirits had a reduced risk of hip fracture compared to those who preferred beer, among whom there was an increase in risk (Høldrup et al).

"Similarly, in the Women's Health Initiative Clinical Trials and Observational Study (involving 115,655 women), those who preferred wine were at lower risk of hip fracture than non-drinkers, past drinkers and those with other alcohol preferences (Kubo et al). Interestingly, this protective effect has been related to the polyphenol content of wine since studies in animals have shown that resveratrol protected against bone loss during immobilization (Habold et al) and may potentially promote osteoblast formation (Rayalam et al). In addition to flavonoids, beer is also rich in phytoestrogens, especially in lignans, B-vitamins and other minor components. Thus, wine and beer may exert a higher protective effect on bone than other alcoholic beverages, suggesting that constituents other than alcohol may contribute to bone health." Reviewer Lanzmann-Petithory noted that, unfortunately, other studies have not supported protection from beer; in fact, as stated, the large study in Copenhagen by Høldrup et al showed a significantly higher risk of hip fracture among subjects who preferred beer.

Estruch added: "Finally, it should be noted that, up to now, there has been no long-term randomized intervention study that has analyzed the long-term effects of moderate wine or beer intake (with and without alcohol) on bone mineral density and the possible beneficial mechanisms involved. These studies are needed."

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Forum Summary

Among elderly people, falls leading to hip fracture are a major health problem, leading to severe morbidity and mortality. Underlying factors that increase the risk of hip and other fractures include osteoporosis and low bone mineral density, as well as an unsteady gait making falls more common. The role that alcohol consumption among the elderly may relate to hip fracture has been a topic of concern for many decades, but data from a number of prospective studies now suggest that light-to-moderate drinking may actually decrease the risk of such fractures, while heavy drinking may increase the risk.

The present meta-analysis is based on prospective studies that have yielded more than 26,000 incidences of hip fracture. It concludes that there is a "J-shaped" association between alcohol consumption, especially of wine, and the risk of hip fractures, with lower risk for a reported consumption of about 1 drink/day, no effect from drinking between 1 and 4 to 5 drinks, and an increased risk from heavier drinking. Part of the "protection" from light drinking is apparently from the effects of alcohol on increasing bone mineral density.

Forum reviewers considered this to be a very well-done meta-analysis that provides balanced information on the risk of this common public health problem. Noting that the major differences seen in this study were between light drinkers and heavy drinkers, it was commented that there are many differences between people who are moderate in their habits, including moderate drinking, and people who usually consume more than 4 or 5 drinks/day; thus, there is still the possibility of other lifestyle factors confounding this association. Also, it was noted that most of the subjects in this analysis were North American or European, so applicability to other racial/ethnic groups may be limited.

In summary, this large and very well-done meta-analysis supports a protective effect of light alcohol consumption on the risk of hip fracture, with an increase in bone density from alcohol being a probable important factor. Data suggest that wine consumption may have the most favorable effect, perhaps indicating that polyphenols and other compounds may also play a role. The study shows that heavy drinking (an average of 4 to 5 or more drinks/day) is associated with an increase in the risk of hip fracture.

Comments on this critique by the International Scientific Forum on Alcohol Research have been provided by the following members:

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Association of alcohol consumption and components of metabolic syndrome among people in rural China

Previous studies have suggested that moderate alcohol consumption is a protective factor of the metabolic syndrome (MS). However, few studies investigated the relationship between alcohol consumption and components of MS. Researchers examined association of several types of alcoholic beverage with components of MS among people in rural China.

In the Nantong Metabolic Syndrome Study (NMSS), a cross-sectional study, a total of 20,502 participants, including 13,505 women and 6,997 men aged 18-74 years, were recruited between 2007 and 2008 in Nantong, China. Socio-economic status, dietary intake, physical exercise, alcoholic beverage consumption, and smoking status information were obtained, and triglycerides (TG), high-density lipoprotein cholesterol (HDL-c), blood pressure (BP) and blood glucose level were examined for all participants. Logistic regression model and the restricted cubic spline approach were used to analyse the associations between alcoholic beverage consumption and MS components.

The MS prevalence was 21.1% in the whole population, which was significantly lower among drinkers (20.6%), compared with non-drinkers (23.6%) in women, and was comparable in men (16.4% versus 17.1%). Higher 'good' cholesterol(HDL-c) levels were observed among drinkers, compared with non-drinkers in both men and women. Low TG level and Systolic BP (SBP) were found only among rice wine drinkers in women, and high waist circumference, high TG and BP were found among beer and liquor drinkers in men.

The data suggested that all alcoholic beverages increased HDL-c level. Rice wine decreased both TG level and blood glucose in women only. Excessive liquor consumption increased blood pressure and waist circumference level and it may lead to hypertension and central obesity in Chinese men, the authors concluded.

Source: Association of alcohol consumption and components of metabolic syndrome among people in rural China Xiao J; Huang JP; Xu GF; Chen DX; Wu GY; Zhang M; Shen Y; Cai H. Nutrition and Metabolism. Vol 12, Art no 5, 2015, 12pp.

Do the calories in alcoholic beverages lead to increased obesity?

Traversy G, Chaput JP. Alcohol Consumption and Obesity: An Update. Curr Obes Rep 2015;4:122–130. DOI 10.1007/s13679-014-0129-4

Authors' Abstract

Recreational alcohol intake is a widespread activity globally and alcohol energy (7 kcal/g) can be a contributing factor to weight gain if not compensated for. Given that both excessive alcohol intake and obesity are of public health interest, the present paper provides an update on the association between alcohol consumption and body weight.

In general, recent prospective studies show that light-to-moderate alcohol intake is not associated with adiposity gain while heavy drinking is more consistently related to weight gain. Experimental evidence is also mixed and suggests that moderate intake of alcohol does not lead to weight gain over short follow-up periods. However, many factors can explain the conflicting findings and a better characterisation of individuals more likely to gain weight as a result of alcohol consumption is needed. In particular, individuals who frequently drink moderate amounts of alcohol may enjoy a healthier lifestyle in general that may protect them from weight gain.

In conclusion, despite the important limitations of current studies, it is reasonable to say that alcohol intake may be a risk factor for obesity in some individuals, likely based on a multitude of factors, some of which are discussed herein.

Forum Comments

While it would be assumed that, among drinkers, the excess calories provided by alcohol would add to their risk of obesity, current data suggest that the association may be more complex. For example, alcohol is metabolised differently from other foods, which suggests that its calories may not be as readily available as those from fat, carbohydrate, and protein. Also, it is unclear to what extent people who consume alcohol may modify other aspects of their diets, either decreasing or increasing other sources of calories. Further, while the focus of this critique is on "alcohol," it is realised that in mixed drinks, many of the calories are not just from alcohol but from sugar, juices, or other added substances.

The present paper provides an update on scientific data on the association between alcohol consumption and obesity. It summarises results from cross-sectional observational studies, longitudinal observational studies, and the limited number of clinical trials that have been done; most of the latter were relatively short-term studies. In a previous study on this topic, Suter stated: "Regarding the effects of alcohol on obesity, there seems to be a large individual variability according to the absolute amount of alcohol consumed, the drinking frequency as well as genetic factors. Presently it can be said that alcohol calories count more in moderate nondaily consumers than in daily (heavy) consumers. Further, they count more in combination with a high-fat diet and in overweight and obese subjects."

The overall conclusions of this present update on the topic are that light-to-moderate drinking does not increase the risk of obesity, while heavier drinking (or even moderate drinking among obese subjects) may lead to weight gain. Given the key role of obesity in terms of impairing health, and the tendency of some people (especially women) to avoid alcohol because of fears that it will increase their weight, it seems important that a balanced message on this topic be made widely available to the public and to officials setting health policy.

Specific Comments on the Paper by Forum Members: Most Forum members appreciated the well-done summary of data that was presented in this review article. Many, however, agreed that the mechanisms for the effects of moderate drinking remain unclear. Review Finkel wrote: "For a number of years studies published on this subject have reported similar results, and mysterious relationships that still elude neat explanation. The law of conservation of energy and matter seems to be sometimes broken, and gender equality sometimes violated. Nevertheless, this paper seems to me well done and helpful." Forum member Stockley agreed: "From my investigations over the years, I completely agree with Finkel here. There are so many factors that make precise analysis difficult, or impossible."Reviewer Lanzmann-Petithory considered this to be a "high-quality review article."

Wrote Forum member Puddey: "The authors correctly highlight 'the mixed and conflicting available evidence on the topic of alcohol consumption and obesity' and have offered a balanced and interesting critique. Many of the referenced studies are of varying size and quality and have often led to contrasting conclusions. If evidence-based recommendations are to be made, however, this subject really deserves a systematic review and meta-analytic approach with carefully pre-defined inclusion and exclusion factors for all studies ultimately reviewed.

"Given the very large and equally confusing literature on alcohol consumption in relation to prevalence and incidence of the metabolic syndrome [of which obesity is a key element], it is imperative a better understanding is developed of not just the potential positive or negative effects of alcohol on body weight but also on body fat distribution. A meta-analysis by Sun et al suggests a J-shaped relationship between alcohol and the metabolic syndrome with RR reduction of 0.86 (CI 0.75, 0.99) in light drinkers (up to 5 g/day of alcohol) and increased RR of 1.84 (95% CI 1.34-2.52) in those drinking >35g/day. This relationship could to a considerable extent underpin the J-shaped relationship between alcohol and cardiovascular disease."

Puddey continued: "In Australia the general public is very familiar with the concept of a 'beer belly' in heavy drinkers but overall the evidence linking alcohol consumption independently to increased waist circumference remains quite confusing, let alone the even larger literature on alcohol in relation to cardiovascular risk factors associated with the metabolic syndrome. This paper has carefully considered many of the potential confounders in relation to alcohol and obesity. A further consideration however, might be that excessive alcohol consumption and overeating could be linked aetiologically by a common genetic predisposition, with recent evidence that genetic variants in the fat mass- and obesity-associated gene (FTO) are associated with alcohol dependence (Wang et al). Cross-sectional and intervention studies have consistently confirmed independent and additive effects of obesity, especially abdominal obesity, and heavy alcohol consumption on risks for elevated blood pressure. The take home message with respect to alcohol and obesity therefore once again needs to be a light to moderate alcohol intake together with a healthy diet and lifestyle."

Potential mechanisms explaining why moderate drinking does not increase obesity: Reviewer Ellison commented: "Unfortunately, it is not clear to me whether adding alcohol, particularly wine, to a meal increases, decreases, or has little effect on total calorie consumption. I have found contradictions in research on this topic, perhaps partly because we have not determined the degree to which alcohol (or any nutrient) adds to or replaces other foods. However, to the extent that alcohol calories are added to total consumption, complex mechanisms related to utilisation of such calories may play a role." Forum member Skovenborg considered this to be "A meticulous review with a fair selection of references from the large body of literature. However, I missed a discussion of 'Non-exercise Activity Thermogenesis' (NEAT) as one of the possible explanations of the alcohol-obesity paradox (Levine et al, Orozco et al)".

Reviewer Van Velden stated: "It is a well-balanced article, but the mechanism is not explained. We must remember that alcohol is classified as a carbohydrate macro nutrient. Our own research demonstrated that alcohol stimulates insulin secretion and lowers blood glucose. Insulin is an obesogenic (anabolic) hormone, that promotes storage of carbohydrates as fat. This could explain the effect of alcohol on weight gain. On the other hand, alcohol is also thermogenic, and I might note that the alcoholic patients I have treated were not obese: they were often found sleeping in the rain and in gutters, but the metabolism of the ethanol kept them warm."

Forum member Teissedre stated that he agreed with Van Velden. "There are calories liberated by alcohol metabolism because alcohol is a nutrient with an obligation of combustion (particularly of proteins). With a restricted or normal diet it's possible to lose weight with 3 glasses of wine daily (around 30 g of alcohol a day). With a high-caloric diet, ethanol is in addition of the other nutrients and in this case there is gain weight (possibly due to enhanced metabolism of lipids and carbohydrates)."

Reviewer de Gaetano suggested other possible confounders: "Data from the Moli-sani study indicate that a higher income and education are independently associated with a greater adherence to Mediterranean Diet-like eating patterns [that include wine] and a lower prevalence of obesity (Bonaccio et al). Obesity prevalence was higher in the lowest-income group (36%) in comparison with the highest-income category (20%, $p<0.0001$). Income was associated with dietary patterns in all categories of education. The possible influence of income and /or education on the relationship between Mediterranean Diet, alcohol intake, and obesity is an additional confounding factor for the complex relation between alcohol and obesity."

Reviewer Finkel provided an anecdote related to the discussion: "A friend, a research surgeon, who

had grown large in retirement, lost 30+ pounds in a relatively short time. Surprised to see this, I asked how he did it. 'Wine,' said he. He found that his meals, however small, if accompanied by a moderate quantity of good wine, provided the requisite satisfaction to enable him to leave the table when he should, not when some 'satiation switch' was tripped in his brain. Or so we thought."

Forum member Ursini commented on the anecdote from Finkel: "A control (or at least extra information) is missing. What did your friend drink before shifting to wine? Coca-Cola, maybe? This would explain a lot." To this, Finkel replied: "While I cannot match your biochemical dexterity, I can assure you, both from the testimony of the subject and from my time-to-time observations, my friend's usual mealtime beverage was never high-sugar soft drinks. However, his pre-diet food consumption vastly exceeded energy expenditure requirements."

Forum member Skovenborg thought that there may be some truth in this anecdote "It is anecdotal, but true – and evidence-based. The same principle was applied with success many years ago in a study of a weight-reduction programme among obese subjects by Dr. Giorgio Lolli, described below".

An interesting early paper on wine and obesity: During the discussions on this paper among Forum members, reviewer Skovenborg identified for other members a publication by Lolli in 1962, entitled: "The Role of Wine in the Treatment of Obesity." This was a case-crossover study among 27 obese patients on a weight-reduction programme who were instructed for periods of about one week each to (1) ingest no wine (a control period), and then (in varying sequences) to consume 3 ounces of a wine of their choice either (2) 30-60 minutes before dinner, (3) during dinner, or (4) 30-60 minutes after dinner.

It was found that the largest decrease in reported calories and measured weight occurred when wine was consumed in period 3 (wine with dinner). During this period, subjects reported a 12% decrease in calories and 24 of 27 subjects showed a decrease in weight, ranging up to 1.6 pounds, with a mean loss of 0.5 pounds. Wine consumed before or after the meal was associated with less effect on reported calories and weight. The author, from the International Center for Psychodietetics, also reported that wine with meals was reported by subjects showing the largest effect was related to "the relief of hunger and emotional stress associated with their weight loss programme." Forum members noted that the amount of wine reported by subjects in this study was quite small, only between 3 and 4 ounces, so not adding a large number of calories.

Reviewer Ursini commented further on potential mechanisms by which alcohol intake could affect weight. "From a biochemical and metabolic point of view, ethanol must be considered a fat. It generates AcCoA and this inhibits pyruvate dehydrogenase. Pyruvate is transformed into oxaloacetate and more citrate is produced. At the same time glyconeogenesis is activated (increasing glycemia) as well as the availability of NADPH (needed for fatty acid synthesis) from pentose phosphate shunt increases. Due to that large availability of energetic substrates (both lipids and CHO), the Krebs cycle is saturated, citrate exits to cytosol, activates acetyl CoA Carboxylase producing malonyl CoA and this inhibits acyl CaA-Carnitine transferase I. The outcome is an increased fatty acid synthesis and a decreased beta-oxidation. This can lead to more TG exported by VLDL, hyperglycaemia, and more fat in adipose tissue. A reasonable interpretation of the fat tissue decrease related to 'moderate' ethanol intake could be an associated decreased intake of carbohydrates. One glass of wine (150 – 190 kcal) substituting for approximately 50 g of glucose could be a reasonable mechanism for shifting the metabolism from lipogenesis to oxidation of lipids. But, no Coke for lunch!"

References from Forum Comments

Bonaccio M, Bonanni AE, Di Castelnuovo A, De Lucia F, Donati MB, de Gaetano G, Iacoviello L; Moli-sani Project Investigators. Low income is associated with poor adherence to a Mediterranean diet and a higher prevalence of obesity: cross-sectional results from the Moli-sani study. BMJ Open 2012;2:pii:e001685. doi:10.1136/bmjopen-2012-001685.

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Wang L, Liu X, Luo X, Zeng M, Zuo L, Wang KS. Genetic variants in the fat mass- and obesity-associated (FTO) gene are associated with alcohol dependence. J Mol Neurosci 2013;51:416-424.

Forum Summary

Among people who consume alcohol, it would be assumed that the excess calories provided by the alcohol would add to their risk of obesity; however, current data suggest that the association may be more complex. It is unclear to what extent people who consume alcohol may modify other aspects of their diets, either decreasing or increasing other sources of calories. Further, alcohol is metabolised differently from other foods, which suggests that its calories may not be as readily available as those from fat, carbohydrate, and protein to increase obesity. The present paper provides an update on scientific data on the association between alcohol consumption and obesity. The overall conclusions of the authors are that light-to-moderate drinking does not increase the risk of obesity, while heavier drinking (or even moderate drinking among obese subjects) may lead to weight gain.

Forum reviewers appreciated the excellent summary of scientific reports on this topic provided by this article, and thought that the authors gave a sound and balanced update on the topic. However, mechanisms why numerous prospective epidemiologic studies show that moderate drinking does not increase the risk of obesity are unclear. Given that alcohol contains calories, and if drinking alcohol does not displace the intake of other foods, it would be assumed that such calories would increase the risk of obesity unless there are particular metabolic differences between alcohol calories and those from protein, fat, and carbohydrate.

Potential mechanisms suggested have included a decreased utilsation of calories from alcohol due to what is known as 'Non-exercise Activity Thermogenesis' (NEAT), in which the metabolism of alcohol may create more heat than fat. Also, the Forum discussion included comments that alcohol could bring into play effects on insulin, glucose, and fat mobilisation (however, in the laboratory, such mechanisms tend to increase, rather than decrease, body fat). Also, a reasonable interpretation of the fat tissue decrease related to 'moderate' ethanol intake seen in many studies could be an associated decrease in the intake of carbohydrates. One glass of wine substituting for approximately 50 g of glucose could be a reasonable mechanism for shifting the metabolism from lipogenesis to oxidation of lipids. Genetic factors undoubtedly play a role in the effects among individuals. Further, while the focus of this critique is on "alcohol," it is realized that in mixed drinks, many of the calories are not just from alcohol but from sugar, juices, or other added substances, which must also be taken into account.

In summary, this update on the association of alcohol consumption and obesity concludes that most well-done prospective studies show that moderate drinkers do not have an increase in their risk of becoming obese, and in some studies there is even a slight decrease in weight among moderate drinkers, when compared with non-drinkers. One possibility is that, especially for wine with meals, satiety may occur earlier and result in less intake of food. However, precise mechanisms for a lack of increase in weight are not known, and the effect could still result from drinkers compensating for their drinks by taking in fewer calories from other sources and perhaps also by being a little more physically active. Heavier drinking may relate to an increase in body weight.

Reference: Traversy G, Chaput JP. Alcohol Consumption and Obesity: An Update. Curr Obes Rep 2015;4:122–130. DOI 10.1007/s13679-014-0129-4.

Comments on this critique were provided by the following members of the International Scientific Forum on Alcohol Research:

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Comments on alcohol and obesity

by Creina S Stockley, PhD, MBA, Health and Regulation, The Australian Wine Research Institute

Whether the increase in energy intake due to ingestion of alcohol is a risk factor for obesity is controversial. Despite widespread belief that alcohol intake contributes to the risk of obesity, the data emerging from a large number of epidemiological studies is contradictory, and on balance suggests that moderate alcohol intake may actually be associated with reduced risk of weight gain and consequent obesity unless the alcohol is consumed through binge-drinking; the key is the total amount of alcohol consumed. Evidence in support of an association between alcohol intake and body weight includes epidemiological data reporting a positive correlation between body mass index (BMI) or measures of obesity and alcohol consumption either overall (Kent and Worsley 2009, Schroder et al. 2007, Wannamethee and Shaper 2005) or specifically in men (Colditz et al. 1991). Other studies suggest that both abstinence and heavy alcohol consumption are associated with a higher BMI or waist-to-hip ratio but that light to moderate alcohol consumption is associated with decreased body-size , that is, there is a J-shaped relationship between alcohol and weight gain (Arif and Rohrer 2005, Lukasiewicz et al. 2005). A further complication is that opposite effects have been reported in some studies depending on the gender of participants, with an inverse relationship (that is, body-size decreases with increasing alcohol consumption) for various measures of body-size and alcohol consumption in women (Colditz et al. 1991, Wannamethee and Shaper 2003, Barry and Petry 2009), whereas either no relationship or increased body-size with alcohol consumption has been reported in men (Colditz et al. 1991). For example, in a Finnish study, women who did not consume any alcohol had the highest risk of obesity whereas for men it was those who consumed moderate to high amounts of alcohol who were most at risk (Lahti-Koski et al. 2002). Women with high alcohol consumption have also been found to have reduced subcutaneous adipose tissue (Molenaar et al. 2009). In contrast, other studies have reported an inverse relationship between alcohol consumption and body-size, irrespective of gender (Gearhardt and Corbin 2009).

A recent Spanish study provides a review of 31 studies of the association between alcohol consumption and body weight (Sayon-Orea et al. 2011). It includes descriptions of cross-sectional and prospective studies, as well as small intervention studies, among subjects who varied in age (adolescence to old age), culture (from Americans and Europeans to Asians), and principal type of beverage consumed and pattern of drinking. Sayon-Orea et al. (2011) state that many of the studies they reviewed appear to be contradictory in their results. Based on their review, however, they conclude that "as positive associations between alcohol and weight gain were mainly found in studies with data on higher levels of drinking, it is possible that an effect on weight gain or abdominal adiposity may only be experienced by heavy drinkers." A second conclusion of Sayon-Orea et al. (2011) is that "the type of alcoholic beverage might play an important role in modifying the effect of alcohol consumption on weight gain," with more favorable effects generally seen among consumers of wine. Their overall conclusion is that it is currently unclear whether alcohol consumption a risk factor for weight gain, but if so it appears to occur mainly among heavier drinkers. They also state that "light-to-moderate alcohol intake, especially of wine, may be more likely to protect against, rather than promote, weight gain."

Recent studies suggest that moderate wine drinking in particular, is not associated with increasing body weight, while heavy drinking most probably is. Most studies have found that the odds ratios for having a

high body mass index (BMI) was lower among subjects drinking more frequently (Wannamethee et al. 2004, Tolstrup et al. 2005). The studies have concluded that for a given level of total alcohol intake, obesity was inversely associated with drinking frequency, whereas the amount of alcohol intake was positively associated with obesity. These results suggest that the frequent consumption of small amounts of alcohol is the optimal drinking pattern associated with a lower risk of obesity.

It should be highlighted that the relationship of alcohol consumption to obesity is especially difficult to study in the population because, traditionally, most alcohol consumers, and particularly heavy consumers, have tended to also be smokers, and smoking is known to lower the risk of obesity. The majority of papers included in the review by Sayon-Orea at el. (2011), however, considered smoking as a confounder. A study limited to non-smokers clearly showed that whereas drinking more per occasion was associated with increased weight, drinking small amounts of alcohol on a frequent basis was associated with lower body mass; the highest risk of a high BMI was actually among abstainers (Breslow and Smothers 2005). Another large cross-sectional study limited to non-smokers, also found little effect of moderate drinking on weight and concluded that the risk of obesity was lowest for: (a) current drinkers; (b) drinkers reporting no binge drinking; (c) people averaging no more than 2 drinks/day; and (d) those who report an average of < 5 drinks/week (Arif and Rohrer 2005).

Alcohol does contribute to the total calorific intake of light to moderate consumers of alcohol and enhances the development of a positive energy balance. The significance of the contribution, however, does significantly depend on, for example, the composition of the diet of the consumer, the amount and pattern of alcohol consumed, and the level of physical activity or exercise of the consumer.

Indeed, the effect of alcohol on body weight and the development of obesity is complex. One standard drink (10 g alcohol) of a wine and sparkling wine contains between 220 and 285 kJ, which increases to approximately 345 for fortified wine. The extent to which the intake of alcohol affects total calorie intake is uncertain. It has been suggested that women may substitute alcohol for sugar calories, while men may add alcohol calories to their diet (Colditz et al. 1991). Alcoholic beverages, such as wine, may contribute up to 6% of the total foodstuff energy in the Australian diet for light to moderate alcohol consumers, as from epidemiological data, these consumers generally add alcohol to their normal diet and hence food calories (Suter et al. 1997). This figure is dependent, however, on factors, such as amount and pattern of alcohol consumption, concomitant food intake, diet (carbohydrate, fat and protein, which are the other major energy substrates), exercise and gender; this means that at least 94% of calories are derived from other sources. In contrast, for excessive consumers, such as those alcohol dependent or alcoholics, the contribution of alcohol to total foodstuff energy may increase to 50% as alcohol is often consumed instead of, or in preference to, other foodstuffs.

Approximately one third of epidemiological studies on alcohol and body weight suggest that there is a positive correlation between alcohol consumption and body weight, one third found a negative correlation and one third found no association at all (McDonald et al. 1993, Westerterp 1995). The discrepancies in data may result from methodological differences between the studies. Statistical analysis of the relationship between alcohol intake and body weight (body mass index), however, should not be used to determine whether the calories or energy from alcohol 'count' or 'do not count' towards body weight due to the limited contribution of alcohol to total energy intake. There have been a variety of other approaches for judging the relation of alcohol to weight and changes in weight. For example, a study on factors affecting weight loss after the surgical placement of a lap-band to induce weight loss (Dixon et al. 2001), observed that following the insertion of such a band, "Patients who consumed alcohol regularly had a better rate of weight loss ($R=0.23$, $p<0.005$) than did non-drinkers."

Epidemiological studies, which suggest that alcohol-derived energy 'does not count' are also not supported by the measurement of alcohol-induced thermogenesis, which indicates that the thermic effect of alcohol is intermediate between that of carbohydrate and fat (>5–10%), and that of protein (20–30%). The magnitude of the thermogenic effect is dependent, however, on the amount of alcohol consumed, where approximately 80–85% of the alcohol-derived energy is utilised by the body for healthy non-alcoholic consumers. In addition, when alcohol is consumed, in conjunction with a meal, it becomes the priority substrate and temporarily

displaces carbohydrate and fat from oxidative metabolism in the liver. Since there is a maximum oxidation rate for alcohol of approximately 0.1 g/kg (0.7 kcal/g) fat-free mass per hour, only approximately 50% of the resting energy expenditure can be covered by alcohol oxidation and substantially less if this is related to total energy expenditure, which includes physical activity. This implies that, potentially, alcohol can temporarily and transiently spare the oxidation of other substrates up to a maximum level of 50% the resting value. This contrasts with the effect of carbohydrate consumption on carbohydrate utilisation which can be highly modulated and which can contribute, even post-absorptive, approximately 100% of the energy expenditure following supra levels of glycogen stores consecutive to massive carbohydrate loading.

Alcohol consumed in addition to a normal diet is expected to lead to fat storage since it spares fat from oxidation, but this will be associated with a lower weight gain in bodyweight than when carbohydrate is stored as glycogen, such as excessive carbohydrate consumption, due to the significant difference in energy density of fat (9 kcal/g) versus the glycogen–water pool (1 kcal/g).

Another consideration is Non Exercise Activity Thermogenesis (NEAT) (Levine 2004). There is significant inter-individual variation in susceptibility to weight gain in response to overeating; the activation of NEAT dissipates excess energy to preserve leanness and failure to activate NEAT may result in ready fat gain (Levine et al. 1999). An effect of alcohol on NEAT could be a possible explanation for the seemingly missing effect of alcohol calories on weight gain found in many studies. The theory that alcohol may affect NEAT differently from other foods finds support from studies by Raben et al. (2003) who have shown that diet-induced thermogenesis was larger after an alcohol meal, whereas protein produced an intermediary response compared with carbohydrate and fat. After the alcohol meal, fat oxidation and leptin concentrations were greatly suppressed. These authors concluded that "Intake of an alcohol-rich meal stimulates energy expenditure but suppresses fat oxidation and leptin more than do isoenergetically dense meals rich in protein, carbohydrate, or fat."

There is a strong protective effect of moderate alcohol consumption on the risk of developing metabolic syndrome and type 2 diabetes, both of which are associated with obesity. Some studies suggest that even morbidly obese people may be at lower risk of developing diabetes if they are moderate alcohol consumers. The distinctive mechanisms by which alcohol is metabolised in the body (that is, it provides calories that are rapidly absorbed and are not stored in fat) could explain differences in the effects of calories from alcohol and from other foods.

Genetic changes to yeast improves nutrition and could eliminate hangover

A yeast engineered by scientists could reduce its toxic by-products, decreasing the risk of a hangover.

US scientists have modified the yeast saccharomyces cerevisiae, which is widely used in the wine and beer industries, to produce a GM yeast which they say offers "staggering" improvements in a food's nutritional value. They claim that the modified yeast could potentially bring an end to hangovers.

The breakthrough was made possible by the development of the "genome knife" method. This new method means that scientists are able to cut out unwanted copies, altering its genes in order to boost a compound's good qualities and eliminate the bad.

"Wine, for instance, contains the healthful component resveratrol. With engineered yeast, we could increase the amount of resveratrol in a variety of wine by 10 times or more," Jin said. "But we could also add metabolic pathways to introduce bioactive compounds from other foods, such as ginseng, into the wine yeast. Or we could put resveratrol-producing pathways into yeast strains used for beer, kefir, cheese, kimchee, or pickles – any food that uses yeast fermentation in its production."

The genome knife would also allow scientists to reduce the amount of acetaldehyde produced as one stage in the breakdown of alcohol that can cause hangovers. While the "genome knife" process is still to be perfected, it could result in a future for genetically modified wines, which could give winemakers consistent control over the specific flavour characteristics of their wine.

Source: This paper was published in the journal Applied and Environmental Microbiology.

Light to moderate alcohol consumption is associated with lower risk of aortic valve sclerosis

In developed countries, sclerotic and calcific degeneration of the aortic valve is a common disorder showing pathophysiologic similarities with atherothrombotic coronary disease. Light to moderate alcohol consumption has been associated with a lower risk for atherothrombotic coronary disease and mortality. Whether alcohol consumption affects the development of aortic valve sclerosis (AVS) is not well known. In the present study, researchers analysed the cross-sectional association between average daily alcohol consumption and AVS in the general population.

Cross-sectional data was analysed from 2,022 men and women, aged 45 to 81 years, from the population-based Study of Health in Pomerania. A computer-assisted interview that included beverage-specific questions about quantity and frequency of alcohol over the last 30 days to calculate the average quantity of alcohol consumption (in grams of ethanol per day) was used. AVS was ascertained by echocardiography.

The prevalence of AVS was 32.3%. Average daily alcohol intake displayed a J-type relation with AVS (fully adjusted P value: 0.005). Compared with individuals with an average consumption of 10 g of alcohol per day, multivariable-adjusted odds ratios were 1.60 (95% confidence interval, 1.19-2.14) among current abstainers and 1.56 (95% confidence interval, 1.01-2.41) among individuals with an average consumption of 60 g per day.

The findings indicate that light to moderate alcohol consumption was associated with a lower odds of having AVS. The authors suggest that Prospective data need to address whether alcohol consumption and related changes over time in several biological markers affect the progression of AVS.

Source: Light to moderate alcohol consumption is associated with lower risk of aortic valve sclerosis: the Study of Health in Pomerania (SHIP). Markus MR; Lieb W; Stritzke J; Siewert U; Troitzsch P; Koch M; Dorr M; Felix SB; Volzke H; Schunkert H; Baumeister SE. Arteriosclerosis Thrombosis and Vascular Biology. Published early online 12 March 2015.

Acid in wine can make teeth vulnerable to erosion

Acid in wine can make teeth vulnerable to erosion "within minutes", with professional wine tasters most at risk, according to new research. The University of Adelaide's School of Dentistry replicated the short, multiple exposures to wine acid normally experienced by wine tasters as part of a study into the effects of acid in wine on teeth. The study found that just 10 one-minute episodes of wine tasting was enough to erode tooth enamel, with teeth becoming vulnerable within a few minutes of wine acid exposure.

"With professional wine tasters and winemakers tasting anywhere from 20 to 150 wines per day, and wine judges tasting up to 200 wines per day during wine shows, this represents a significant risk to their oral health," said Dr Sarbin Ranjitkar, from the University's School of Dentistry.

"Our results reinforce the need for people working in the profession to take early, preventative measures, in consultation with their dentists, to minimise the risks to their teeth."

Preventative measures include applying "remineralising agents in the form of calcium, phosphate and fluoride to coat and protect the teeth" the day before a tasting, according to Sue Bastian, associate professor at the University's School of Agriculture, Food and Wine.

The authors state that further research elucidating the fundamental mechanisms involved in early stages of erosion has the potential to lead to development of more effective preventive strategies.

Source: Nanoscratch testing for the assessment of enamel demineralization under conditions simulating wine erosion. SXR Kwek, M Mian, C Hall, Z Xie, R Yong, J Kaidonis, GC Townsend and S Ranjitkar. Australian Dental Journal. Article first published online: 26 Feb 2015.

Maternal alcohol use during pregnancy and offspring trajectories of height and weight

Previous studies have examined associations between alcohol use in pregnancy and offspring birth size but evidence on whether associations persist during childhood is limited.

A research team examined the association between maternal drinking during pregnancy and trajectories of offspring weight and height from 0-10 years in 7,597 mother-child pairs in the Avon Longitudinal Study of Parents and Children.

To strengthen the inference, maternal alcohol-offspring growth association was compared with the partner alcohol-offspring growth association, to partially control for unmeasured confounding. Sensitivity analyses were also performed to restrict the analysis to women of white ethnicity and participants with three or more growth measures.

Results indicate that maternal occasional or light daily drinking during pregnancy was not associated with reduced birth weight, birth length or offspring growth trajectories up to age 10 years. The infants of heavy drinking mothers were born 0.78 cm shorter (95% CI -1.34, -0.22) and 0.22 kg lighter (95% CI -0.34, -0.09) than infants of pregnancy abstainers but by age 10 offspring of heavy drinking mothers were of comparable height (mean difference 0.59 cm, 95% CI -0.93, 2.11) and weight (mean difference 0.41 kg, 95% CI -0.70, 1.52). These associations were not observed for heavy partner drinking and were not altered in sensitivity analyses.

The research concludes that maternal occasional or light daily drinking is not associated with birth weight, birth length or postnatal growth, but residual confounding may persist. Maternal heavy drinking may have an intrauterine association with reduced birth weight and length but this association is overcome during childhood

Source: Maternal alcohol use during pregnancy and offspring trajectories of height and weight: a prospective cohort study. Keeffe LM; Kearney PM; Greene RA; Zuccolo L; Tilling K; Lawlor DA; Howe LD. Drug and Alcohol Dependence. Published early online 12 March 2015.

Association between alcohol consumption and the risk of ovarian cancer

Alcohol consumption has been inconsistently associated with the risk of ovarian cancer. The purpose of this study was to summarise the data from prospective cohort studies on the relationship between alcohol consumption and ovarian cancer using a meta-analytic approach.

The authors performed electronic searches of PubMed, Embase, and the Cochrane Library in May 2014 to identify studies that examined the effects of alcohol consumption on the incidence of ovarian cancer. Only prospective cohort studies that reported effect estimates about the incidence of ovarian cancer with 95% confidence intervals (CIs) of alcohol intake were included.

Collectively, 13 prospective studies were included that reported on data from 1,996,841 individuals and included 5,857 cases of ovarian cancer.

It was found that alcohol consumption had little to no effect on ovarian cancer incidence when compared to non-drinkers (risk ratio [RR], 1.03; 95% CI, 0.96-1.10; P = 0.473). Similarly, low (RR, 0.96; 95% CI, 0.93-1.00; P = 0.059), moderate (RR, 1.08; 95% CI, 0.92-1.27; P = 0.333), and heavy (RR, 0.99; 95% CI, 0.88-1.12; P = 0.904) alcohol consumption was not associated with the risk of ovarian cancer. Furthermore, subgroup analyses suggested that low alcohol intake was associated with a reduced risk of ovarian cancer whereas heavy alcohol intake was associated with an increased risk of ovarian cancer in multiple sub populations.

The study suggests that alcohol intake is not associated with an increased risk of ovarian cancer. Subgroup analyses indicated that alcohol consumption might be associated with the risk of ovarian cancer in specific population or in studies with specific characteristics.

Source: Association between alcohol consumption and the risk of ovarian cancer: a meta-analysis of prospective observational studies Yan Hong H; Jing L; Hong L; Shan Shan H; Yan L; Ju L; BMC Public Health, published early online 7 March 2015.

World Cancer Research Fund report – Alcohol and Liver Cancer

As part of its Continuous Update Project (CUP) – an ongoing programme to analyse global research on how diet, nutrition, physical activity and weight affect cancer risk and survival – The World Cancer Research Fund has analysed worldwide research to produce a report on liver cancer, published March 2015.

The report provides a global analysis on diet, weight, physical activity and liver cancer, and which of these factors increase or decrease the risk of developing the disease. Data for the report was gathered and analysed by a research team at Imperial College London, and then independently assessed by a panel of leading international scientists. Around 8.2 million adults in 34 studies were included in the analysis.

The report finds

- There is strong evidence that being overweight or obese increases the risk of liver cancer (being overweight or obese is assessed by body mass index (BMI)).
- There is strong evidence that consuming approximately 45g (or three US drinks of 14g, or 5 UK units of 8g) or more a day) is a cause of liver cancer.
- There is strong evidence that consuming foods contaminated by aflatoxins (toxins produced by fungi) increases the risk of liver cancer. (Aflatoxins are produced by inadequate storage of food, and are generally an issue related to foods from warmer, developing regions of the world. Foods that may be affected by aflatoxins include cereals, spices, peanuts, pistachios, Brazil nuts, chillies, black pepper, dried fruit and figs).
- There is strong evidence that drinking coffee is linked to a decreased risk of liver cancer.

The findings on being overweight or obese, and for coffee in this report are new. The findings for alcoholic drinks and aflatoxins remain strong and unchanged from the WCRF 2007 Second Expert Report.

www.wcrf.org/sites/default/files/Liver-Cancer-2015-Report.pdf

DIET, NUTRITION, PHYSICAL ACTIVITY AND LIVER CANCER

		DECREASES RISK	INCREASES RISK
STRONG EVIDENCE	Convincing		Aflatoxins[1] Alcoholic drinks[2] Body fatness[3]
	Probable	Coffee	

Roles of alcohol consumption in fatty liver: a longitudinal study

Roles of alcohol consumption in non-alcoholic fatty liver disease are still controversial, although several cross-sectional studies have suggested the beneficial effect of light to moderate drinking on fatty liver. A study published in the Journal of Hepatology analysed the longitudinal relationship between drinking pattern and fatty liver.

5,297 Japanese individuals (3,773 men and 1,524 women) who underwent a baseline study in 2003 and follow-up at least once from 2004 to 2006 were included. Generalised estimating equation was used to estimate any association between drinking pattern and fatty liver assessed by ultrasonography.

At baseline, 1,179 men (31.2%) and 235 women (15.4%) had fatty liver; 2,802 men (74.2%) and 436 women (28.6%) reported alcohol consumption. At the latest follow-up, 348 of 2,594 men (13.4%) and 101 of 1,289 women (7.8%) had newly developed fatty liver; 285 of 1,179 men (24.2%) and 70 of 235 women (29.8%) demonstrated a remission of fatty liver.

In men, drinking 0.1-69.9 g/week (odds ratio, 0.79 [95% confidence interval, 0.68-0.90]), drinking 70.0-139.9 g/week (0.73 [0.63-0.84]), drinking 140.0-279.9 g/week (0.69 [0.60-0.79]), and drinking >/= 280.0 g/week (0.68 [0.58-0.79]) were inversely associated with fatty liver after adjusting for obesity, exercise, and smoking. In women, drinking 0.1-69.9 g/week (0.71 [0.52-0.96]) and drinking 70.0-139.9 g/week (0.67 [0.45-0.98]) were inversely associated with fatty liver after the adjustment.

The conclusion from the study is that light to moderate alcohol consumption, or even somewhat excessive amounts especially in men, are likely to protect most individuals against fatty liver over time.

Source: Roles of alcohol consumption in fatty liver: a longitudinal study. Moriya A; Iwasaki Y; Ohguchi S; Kayashima E; Mitsumune T; Taniguchi H; Ando M; Yamamoto K. Journal of Hepatology, published early online 24 November 2014.

Arterial compliance may be reduced by ingestion of red wine

This study assessed the effect of alcohol on blood pressure and arterial compliance over 24 h in a group of volunteers, comparing the same group of subjects on two consecutive but separate days, one with alcohol intake (alcohol day) and one free of alcohol (control day).

The researchers studied 18 healthy subjects (mean age 34.2 years, range 25-53). The subjects received the two days in random order. On the alcohol day, the subjects were asked to drink two glasses of red wine (12% ethanol) between 1830 hours and 0430 hours. Measurements of heart rate, blood pressure and QKD interval (Q wave to Korotkoff (K) sound, diastolic phase (D) using Diasys Integra (Novacor, France)) were recorded (usually 1500 hours to 1500 hours).

Three 'ingestion' periods were defined, from 1500 hours to 1830 hours ('before'), 1900 hours to 0430 hours ('during') and from 0430 hours to the following afternoon ('after') on both the alcohol day and on the control day.

Red wine increased heart rate during alcohol ingestion and reduced arterial compliance after ingestion. The significant effect of interaction between day and ingestion period on heart rate, diastolic blood pressure and QKD were found, suggesting that the differences in response among the ingestion periods depended on whether alcohol has been consumed that day. These results indicate the effect of alcohol on 24 h arterial stiffness in a healthy group of volunteers.

Source: Arterial compliance may be reduced by ingestion of red wine. Fantin F, Bulpitt CJ, Zamboni M, Cheek E, Rajkumar C. Journal of Human Hypertension advance online publication, 19 March 2015.

Moderate alcohol consumption stimulates food intake and food reward of savoury foods

A study investigated whether food reward plays a role in the stimulating effect of moderate alcohol consumption on subsequent food intake. In addition, the authors explored the role of oral and gut sensory pathways in alcohol's effect on food reward by modified sham feeding (MSF) or consumption of a preload after alcohol intake.

In a single-blind crossover design, 24 healthy men were randomly assigned to either consumption of vodka/orange juice (20 g alcohol) or orange juice only, followed by consumption of cake, MSF of cake or no cake. Food reward was evaluated by actual food intake measured by an ad libitum lunch 45 min after alcohol ingestion and by behavioural indices of wanting and liking of four food categories (high fat, low fat, sweet and savoury).

Moderate alcohol consumption increased food intake during the ad libitum lunch by 11% (+338 kJ). Alcohol specifically increased intake (+127 kJ) and explicit liking of high-fat savoury foods. Moreover, moderate alcohol consumption increased implicit wanting for savoury and decreased implicit wanting for sweet before the meal. Explicit wanting of low-fat savoury foods only was higher after alcohol followed by no cake as compared to after alcohol followed by cake MSF, but not as compared to alcohol followed by cake consumption. Both cake MSF and cake consumption had no overall effect on behavioural indices of food reward.

Moderate alcohol consumption therefore increased subsequent food intake, specifically of high-fat savoury foods, the authors conclude. This effect was related to the higher food reward experienced for savoury foods. The importance of oral and gut sensory signalling in alcohol's effect on food reward remains largely unclear.

Source: Moderate alcohol consumption stimulates food intake and food reward of savoury foods. Ilse C. Schrieks, Annette Stafleu, Sanne Griffioen-Roose, Cees de Graaf, Renger F. Witkamp, Rianne Boerrigter-Rijneveld, Henk F.J. Hendriks. Appetite. Volume 89, 1 June 2015, Pages 77–83.

Life course trajectories of alcohol consumption in the United Kingdom

A UK team investigated how alcohol consumption patterns change across life course, reporting both average weekly volume and frequency, using data from cohorts with repeated measures that cover different and overlapping periods of life.

Data were from nine UK-based prospective cohorts with at least three repeated alcohol consumption measures on individuals (combined sample size of 59,397 with 174,666 alcohol observations), with data spanning from adolescence to very old age (90 years plus). Information on volume and frequency of drinking were harmonised across the cohorts. Predicted volume of alcohol by age was estimated using random effect multilevel models fitted to each cohort. Quadratic and cubic polynomial terms were used to describe non-linear age trajectories. Changes in drinking frequency by age were calculated from observed data within each cohort and then smoothed using locally weighted scatterplot smoothing.

The analysis showed that for men, mean consumption rose sharply during adolescence, peaked at around 25 years at 20 units per week, and then declined and plateaued during mid-life, before declining from around 60 years. A similar trajectory was seen for women, but with lower overall consumption (peak of around 7 to 8 units per week). Frequent drinking (daily or most days of the week) became more common during mid to older age, most notably among men, reaching above 50% of men.

The authors state that this study is the first attempt to synthesise longitudinal data on alcohol consumption from several overlapping cohorts to represent the entire life course and illustrates the importance of recognising that this behaviour is dynamic. The aetiological findings from epidemiological studies using just one exposure measure of alcohol, as is typically done, should be treated with caution, they argue. Having a better understanding of how drinking changes with age may help design intervention strategies.

Source: Life course trajectories of alcohol consumption in the United Kingdom using longitudinal data from nine cohort studies. Annie Britton, Yoav Ben-Shlomo, Michaela Benzeval, Diana Kuh, Steven Bell. BMC medicine.

www.biomedcentral.com/1741-7015/13/47

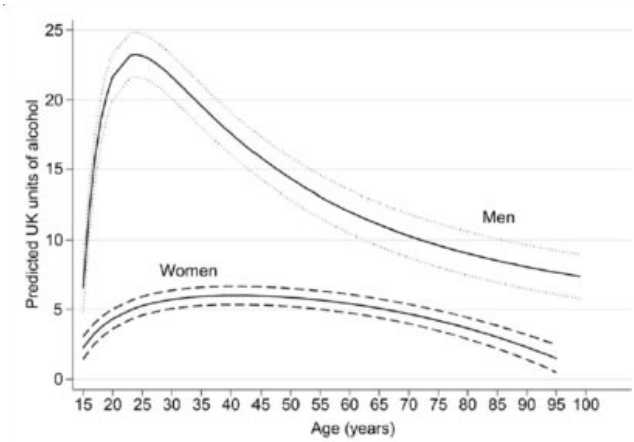


Figure 3 Combined predicted mean alcohol consumption trajectories (in units of alcohol per week) and 95% CI across the life course in nine UK cohort studies among men and women.

Brain's response to different levels of alcohol in wine

Over the last few decades, wine makers have been producing wines with a higher alcohol content, assuming that they are more appreciated by consumers.

To test this hypothesis, researchers used functional magnetic imaging to compare reactions of human subjects to different types of wine, focusing on brain regions critical for flavour processing and food reward. Participants were presented with carefully matched pairs of high- and low-alcohol content red wines, without informing them of any of the wine attributes. Contrary to expectation, significantly greater activation was found for low-alcohol than for high-alcohol content wines in brain regions that are sensitive to taste intensity, including the insula as well as the cerebellum.

Wines were closely matched for all physical attributes except for alcohol content, thus the authors interpret the preferential response to the low-alcohol content wines as arising from top-down modulation due to the low alcohol content wines inducing greater attentional exploration of aromas and flavours. The authors state that their findings raise intriguing possibilities for objectively testing hypotheses regarding methods of producing a highly complex product such as wine.

Source: What Can the Brain Teach Us about Winemaking? An fMRI Study of Alcohol Level Preferences. Ram Frost , Ileana Quiñones, Maria Veldhuizen, Jose-Iñaki Alava, Dana Small, Manuel Carreiras. PLoS One. March 18, 2015.

Understanding the Alcohol Harm Paradox

Alcohol Research UK has published a study examining why deprived populations that apparently consume the same or less alcohol than more affluent populations suffer far greater levels of harm the alcohol harm paradox. Key findings from the report include:

- There is good evidence that people with low individual or neighbourhood socioeconomic status (SES) show a greater susceptibility to the harmful effects of alcohol, but a lack of evidence means that it is not possible to conclude what mechanisms and pathways might underlie this difference in risk.
- Lower SES is associated with an almost two fold greater risk of alcohol related death compared with individuals in higher SES classifications.
- Relative to high SES, low SES is associated with an increased risk of head and neck cancers, strokes, hypertension, liver disease and pre-term birth. These findings are independent of a number of other known risk factors for these conditions such as diet and smoking.
- Although people in different SES groups do not differ in the unit amount and frequency of alcohol drunk across the week, there are important differences in 'binge drinking', beverage choice, and patterns of heavy drinking.
- There is underreporting of alcohol use in general population surveys of alcohol use, and this differs by alcohol risk rather than SES.
- The use of alternative survey methodologies captures a greater amount of population alcohol use. This also leads to more people being classified as at increasing and higher risk from their alcohol use.

Source: Understanding the alcohol harm paradox, Alcohol Insight Number 122, March 4, 2015.

alcoholresearchuk.org/alcohol-insights/understanding-the-alcohol-harm-paradox-2

Socioeconomic status moderates genetic and environmental influences on alcohol use

A study of the moderating effects of socioeconomic status (SES) on genetic and environmental influences on alcohol use has found that genetic effects on amount of alcohol use are greater in socioeconomically disadvantaged environments.

Hamdi, a doctoral student at the University of Minnesota, and colleagues used data from the MacArthur Foundation Survey of Midlife Development in the United States, initially conducted during 1995-1996 to examine physical health, psychological wellbeing, and social responsibility throughout midlife, with a reassessment of participants during 2004-2006.

The study examined a sample of 672 complete twin pairs, ages 25-74, comprised of 350 monozygotic (MZ) pairs and 322 dizygotic (DZ) pairs. Phone interviews and self-administered questionnaires were used to examine whether SES, measured by household income and educational attainment, moderates genetic and environmental influences on three indices of alcohol use: amount used, frequency of use, and problem use.

The study found that found significant moderation for the amount of alcohol used. Specifically, genetic effects were greater in low-SES conditions, shared environmental effects (i.e., environmental effects that enhance the similarity of twins from the same families) tended to increase in high-SES conditions, and nonshared environmental effects (i.e., environmental effects that distinguish twins) tended to decrease with SES. This pattern of results was found for both income and education, and it largely replicated at a second wave of assessment spaced 9 years after the first. There was virtually no evidence of moderation for either frequency of alcohol use or alcohol problems.

The findings indicate that genetic and environmental influences on drinking amount vary as a function of the broader SES context, whereas the etiologies of other drinking phenomena are less affected by this context. Efforts to find the causes underlying the amount of alcohol used are likely to be more successful

Source: Socioeconomic Status Moderates Genetic and Environmental Effects on the Amount of Alcohol Use. Hamdi NR, Krueger RF, South SC. Alcohol Clin Exp Res. 2015 Mar 17.

Rise in advertising spend has not resulted in elevated consumption in the US

In research released by the University of Texas at Austin, it was found that alcohol advertising spending in the US has gone up exponentially since 1971, with an increase of more than 400 percent. Meanwhile, per capita consumption has remained relatively the same.

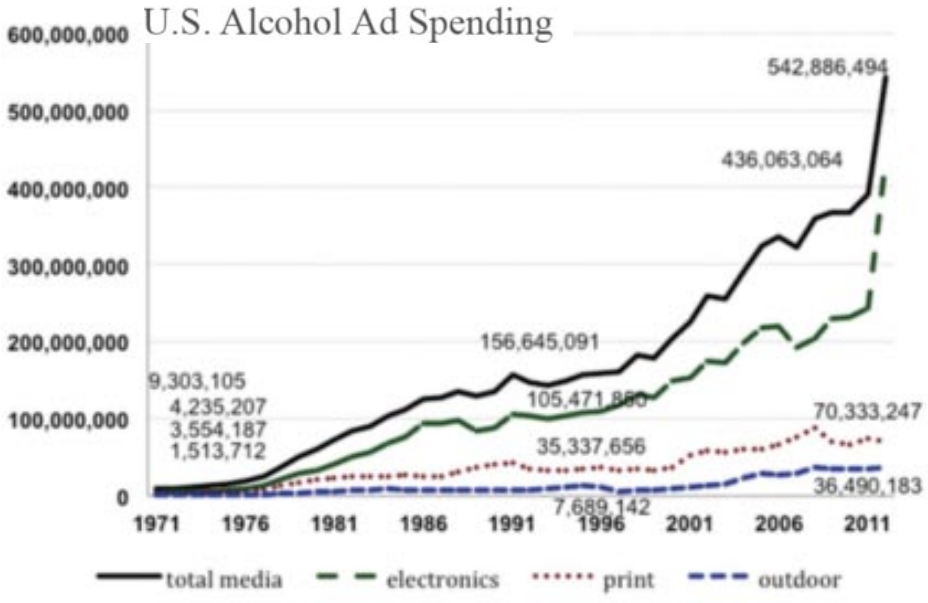
The perception that advertising increases consumption exists. However, the findings indicate that there is either no relationship or a weak one between advertising and alcohol sales. Therefore, advertising restrictions or bans with the purpose of reducing consumption may not have the desired effect. There was however, evidence of the notion that advertising does influence consumer brand preference and loyalty.

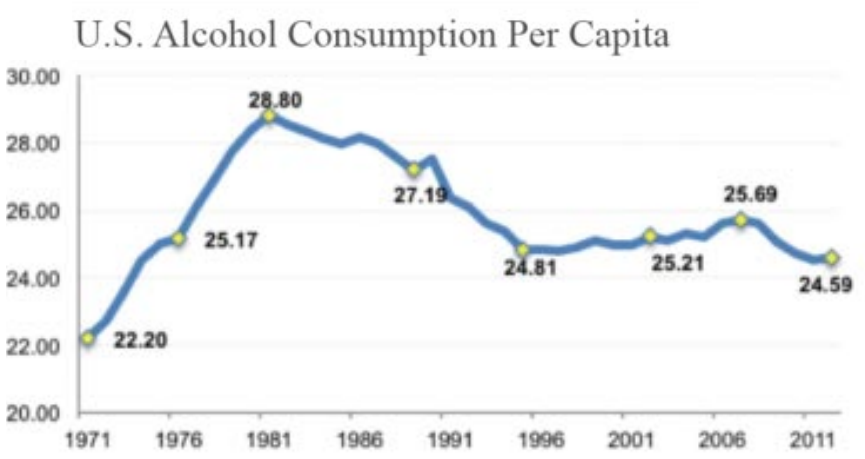
"Over this time period, beer sales have exhibited a downward trend since the early 1990s, while wine and liquor have increased their share of total alcohol sales. This is despite large increases in advertising expenditures across all three categories of alcohol," the study states.

The study further concludes that the changes exhibited in alcohol consumption over the last 40 years are due not to an increase in alcohol advertising, but rather to changes in demography, taxation and income levels.

Some cities in the US have recently passed bans on alcohol advertising. Philadelphia, for example, now prohibits alcohol advertising on municipal property, and San Francisco prohibits alcohol advertising on public transportation. Los Angeles also recently banned alcohol advertising from public transit in order to avoid underage exposure to alcohol ads.

In addition to these restrictions, most alcohol marketers have self-imposed restrictions on advertising in order to promote responsible consumption.





This research suggests that a better alternative to imposing restrictions on alcohol advertising is to spend more time and resources on informing the public on the dangers of excessive alcohol consumption.

"Instead, a more logical alternative would be to communicate as much information as possible to the public about the subject and encourage all viewpoints so our society makes an autonomous, rational choice regarding alcohol consumption," said the study's lead author, Professor Gary Wilcox of the Stan Richards School of Advertising and Public Relations.

Source: Beer, wine, or spirits? Advertising's impact on four decades of category sales. Gary B. Wilcox, Eun Yeon Kang & Lindsay A. Chilek. International Journal of Advertising: The Review of Marketing Communications. 17 Mar 2015.

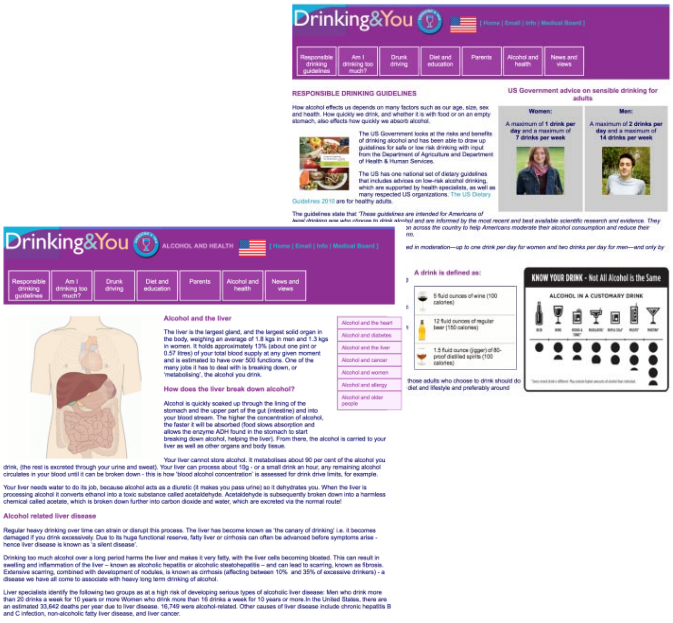
New Drinking and you site for the US

The US Drinking and You website had been redesigned and updated to give consumers information on low risk drinking, in line with the current 2010 US Dietary guidelines.

In addition, there are sections such as 'Am I drinking too much?', giving advice on simple ways to cut down and the risks of excessive consumption. The Drunk Driving section explains BAC and gives information on US law. There is also information on calories and how alcohol can form part of a healthy lifestyle in the Diet and education section. The parents section offers tips for parents on how to delay the onset of drinking for their children. Throughout there are links to other relevant sources and initiatives.

The Alcohol and Health section gives the latest information on medical research with specific pages for women and the older population.

www.drinkingandyou.com/site/us/moder.htm



Alcohol related offences in the UK

A request for information on alcohol related offences in the UK was made by Lord Roberts of Llandudno 'to ask Her Majesty's Government how many people in each police authority were convicted of alcohol and drug offences in each of the last four years; and what are those figures as a percentage of the population in each police authority area'.

Persons found guilty at all courts for alcohol related offences for each police force area in England and Wales, 2009 to 2013 (Highest and lowest % of population)

	Found guilty					% of population				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
England and Wales	**62,054**	**52,565**	**49,440**	**46,351**	**42,285**	**0.109%**	**0.092%**	**0.087%**	**0.081%**	**0.074%**
South Wales	1,825	1,447	1,462	1,149	1,131	0.141%	0.112%	0.113%	0.089%	0.087%
Cleveland	770	635	519	508	476	0.138%	0.113%	0.093%	0.091%	0.085%
Cheshire	1,388	1,237	1,215	1,180	913	0.134%	0.120%	0.117%	0.114%	0.088%
Warwickshire	723	585	434	467	455	0.132%	0.107%	0.079%	0.085%	0.083%
North Wales	906	765	635	667	623	0.131%	0.111%	0.092%	0.096%	0.090%
Lancashire	1,886	1,554	1,395	1,299	1,158	0.128%	0.106%	0.095%	0.088%	0.079%
West Midlands	3,499	2,354	2,565	2,263	1,822	0.126%	0.085%	0.092%	0.081%	0.065%
Derbyshire	991	837	791	804	655	0.096%	0.081%	0.077%	0.078%	0.064%
Leicestershire	974	886	826	750	725	0.094%	0.086%	0.080%	0.073%	0.070%
Surrey	1,068	887	943	973	924	0.093%	0.077%	0.082%	0.084%	0.080%
Norfolk	777	684	659	825	676	0.089%	0.079%	0.076%	0.095%	0.078%
Thames Valley	2,046	1,975	1,960	1,903	1,839	0.088%	0.085%	0.085%	0.082%	0.079%
Wiltshire	474	482	467	497	476	0.068%	0.069%	0.067%	0.072%	0.069%

Between 2009 and 2013, the number of people found guilty at all courts of alcohol and drug offences in England and Wales have reduced in all but a couple of police authority areas. The figures for England and Wales combined fell from 62,054 in 2009 to 42,285 in 2013 and from 0.109% of population in 2009 to 0.074% of the population in 2013.

The figures for individual police authority areas can be viewed at http://www.theyworkforyou.com/wrans/?id=2015-03-17.HL5791.h&s=speaker%3A12477#gHL5791.q0

European Alcohol Conference

On 24 April in London a conference on 'Comparing and contrasting practice across Europe' takes place. It aims to examine 'developments in national and urban settings that will provide inspiration and practical suggestions for how to improve our relationship with alcohol' based on the latest research and practice'.

The conference is being delivered by a range of partners including the London Drug and Alcohol Policy Forum and Esprit de Bois. Tickets are priced at £140+VAT. See here for the full conference programme and registration, or contact andy@espritdebois.org for further enquiries.

Europe's brewers commit to ingredients listing and nutrition information for consumers

On 26th March, The Brewers of Europe announced a major voluntary move from brewers to list ingredients and nutrition information on their brands per 100ml, in line with the legal requirements for all non-alcoholic drinks, including non-alcoholic beer. The information will progressively be provided across Europe by companies on pack and/or online, utilising an expanding range of consumer communication platforms.

Pierre-Olivier Bergeron, Secretary General of The Brewers of Europe, said "We want Europe's consumers to know the ingredients in beer and how these beers can fit within a balanced lifestyle. Brewers already label the alcohol content on their beer brands but we also agree with consumer groups that citizens would benefit from having access to the ingredients and nutrition information, allowing them to compare like-for-like facts with all the other beverages available to them, both non-alcoholic and alcoholic."

As companies and national brewers associations consider the local applications of this commitment and roll it out as appropriate, The Brewers will set targets, report on progress made, and showcase best practices. This action will also contribute to the implementation of the European Beer Pledge, a package of responsibility initiatives that was launched in the European Parliament in 2012.

All foods and beverages are covered by the EU Regulation on Food Information to Consumers. However, when it comes to ingredients listing and nutrition declarations, there is currently an exemption for alcoholic beverages of more than 1.2% ABV (alcohol by volume).

DIAGEO to add nutritional information to alcohol labels

Diageo has also committed to provide consumers with alcohol content and nutrition information per serving in a bid to help consumers make informed choices about their drinks.

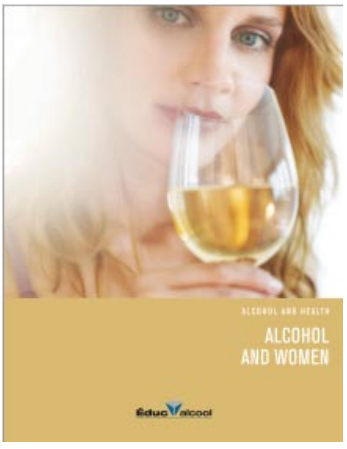
Diageo said in a statement that is has already gained approval for a nutritional label on its products in the United States, from the Alcohol and Tobacco Tax and Trade Bureau. In the United Kingdom, the company said it will work with the European Union to establish a standard alcohol unit across the 28 Member States to provide an effective way of communicating alcohol content to consumers.

"Currently, there is no obligation to provide such information in markets worldwide, but we know that consumers are increasingly discerning about what's in their glass. We want to provide alcohol and nutrition information that consumers can quickly understand, instead of expecting them to do the math," said Ivan Menezes, Diageo CEO, in a statement.

Alcohol and Women: A new Éduc'alcool publication

In time for International Women's Day: Éduc'alcool has released a publication on Alcohol and Women.

In this publication, which is intended for women of all ages, and men, too, Éduc'alcool attempts to answer questions such as How do women drink? Why do they drink? What impact does drinking have on their health and well-being? The publication aims to help consumers become better informed and make more enlightened decisions about drinking, to demystify drinking, separate common myth from reality, identify the environmental factors that influence how and why women drink, and list the impact of drinking on women's health and safety.



"Alcohol and Women" is available for download at the Éduc'alcool website. educalcool.qc.ca/wp-content/uploads/2015/02/EA-Alcohol-and-Women.pdf

TTB approves powdered alcohol, but opposition remains

The US Alcohol and Tobacco tax and trade bureau (TTB) has approved the reformulated labels for Palcohol, a form of alcohol that is manufactured in a powdered form through an encapsulation process. This allows the product to be sold legally in the US where allowed. TTB had previously approved labels for Palcohol in April 2014 but those labels were later turned back to TTB by the company upon TTB's request.

Several states have already enacted laws or policies to prohibit the manufacturing, possession, and sale of powdered alcohol products within their jurisdiction. Several more are considering such actions or have bills winding their way through the state legislature.

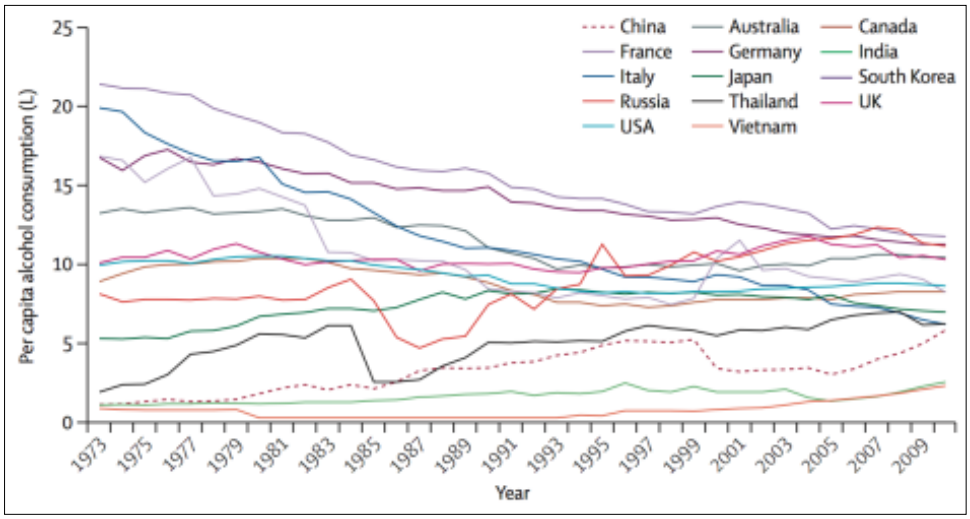
In Australia, The Victorian government is calling on other states to support a ban on Palcohol following concerns distributors will look to launch the powdered alcohol brand in Australia.

Minister for liquor regulation Jane Garrett said she would write to her interstate and federal counterparts to stop Palcohol from entering the Australian market.

Chinese are the world's third biggest drinkers

A study published in the Lancet, highlights that in the past three decades, along with rapid economic growth in China, there has been a striking increase in alcohol consumption, greater than in most other parts of the world . Although the population drinking level in china used to be far lower than in many high-income and middle-income countries, per capita alcohol consumption has risen from 2·5 l in 1978 to 6·7 l in 2010. The report states however that more than half of the Chinese population aged 15 years and older are alcohol abstainers—42% of men and 71% of women in 2010, so the alcohol consumption level of those who actually drink was 15·1 l in 2010, which is higher than the equivalent figure in the UK, the US, Sweden, Germany, Australia, New Zealand, and many other countries. There is also a great disparity in alcohol consumption and rates of dependence between the sexes: the rates of alcohol use disorder are 9·3% among men and 0·2% among women, with the male-to-female ratio of 47:1 being substantially higher than in most other countries in the world. The global burden of disease study 2010 revealed that alcohol use was ranked as the sixth greatest risk factor for men in china in terms of attributable disability-adjusted life-years (DALYs) lost, contributing to more than 310000 deaths and 13·8 million DALYs among men each year.

The report argues that 'given the dramatic increase in alcohol consumption and alcohol-related social and health problems in China, both policy attention and policy and cultural changes are needed'. A first step forward would be to establish a public- health-oriented commission or agency charged specifically with developing controls over the alcohol market and a strategy for reducing levels of alcohol consumption and problems, drawing on the strategies agreed on in the WHO Global Strategy for Reducing Harmful Use of Alcohol.



www.thelancet.com/pdfs/journals/langlo/PIIS2214-109X(15)70017-3.pdf

News on low alcohol wine production in the southern hemisphere

Dr Cristian Varela at the Australian Wine Research Institute has experimented with three different strains of yeast as a way of making low alcohol wines with a full-bodied flavour. His findings led to a 1.8% ethanol reduction in both Shiraz and Chardonnay ferments. Dr Varela's research was funded by the Australian Grape & Wine Authority.

The 2015 vintage of the New Zealand's flagship Sauvignon Blanc will be the first produced under a government-backed initiative to research and produce wines that dispel the image of low-alcohol, low-calorie wines as overly sweet, inferior tastes.

Low-alcohol wines have been marketed for years, often as a reduced-calorie option whose alcohol content has been lowered by filtration or reverse osmosis techniques. But critics say they often lack depth and complexity.

New Zealand winemakers are experimenting with newer viticulture techniques including strategically trimming vines to slow sugar development in grapes, as well as fermentation methods designed to "fill out" the flavour in the vat.

"The key point of difference between our wines and other lower alcohol wines is that we make our wine in the field," said Ollie Davidson, senior vice-president of viticulture at Constellation Brands, which last year introduced lower alcohol versions of its Sauvignon Blanc and Pinot Gris.

While New Zealand's relatively cooler climate has given it a head start in developing new grape growing techniques for lower alcohol wines, it has not been immune to the hotter summers affecting other wine growing countries.

Winemaker Forrest says the methods he is using in Marlborough could be applied worldwide.

"Being able to reduce the amount of sugar the plant is producing to put into the grape has tremendous commercial potential for all white wine varietals, particularly from global warming and hotter climates," he said.

Prevalence of alcohol consumption and pattern of use among the elderly in the WHO European Region

A study published in the journal European Addiction Research examined the frequency and patterns of alcohol consumption in older adults across different European countries, and analyzed the relationship between socioeconomic status and gender with alcohol consumption.

10,119 subjects, 61.9% women were drawn from general population-based household surveys of randomly selected adults, aged 60 years and over in 14 European countries.

The analysis found marked differences in alcohol consumption across countries. Except for three countries from eastern regions, most people in all countries present moderate consumption regarding the amount of alcohol and pattern of use. However, there are marked gender differences, with a higher intake in men (effect sizes ranging from 0.57 to 1.27), although these differences are relatively proportional across countries. Finally, a higher socioeconomic status is positively related (B = 0.845, 95% CI: 0.30/1.40) with alcohol consumption after controlling for gender, age, health-functioning status and the country's development level.

The authors conclude that there are marked differences in consumption of alcohol in the elderly between the different countries, and male gender, as well as a higher SES, were associated with higher alcohol consumption.

Source: Prevalence of alcohol consumption and pattern of use among the elderly in the WHO European Region Nuevo R; Chatterji S; Verdes E; Naidoo N; Ayuso Mateos JL; Miret M, European Addiction Research, Vol 21, No 2, 2015, pp88-96.

Lords report calls for stronger EU strategy to address alcohol harms

A House of Lords committee report has called for key EU level action to reduce alcohol-related harms, rather than relying solely on efforts by member states. The report highlights that there has been no EU alcohol strategy in place since 2012 when the six year strategy expired. It recommends that a meaningful strategy needs to focus on actions the EU itself can take, including reforming of alcohol tax structures and labeling legislation.

The report calls for future EU action to take a 'health in all policies' approach reflected through policies on related areas such as food labeling, cross-border marketing and taxation. It argues for 'measures at population level intended to reduce overall levels of consumption' to provide the over-arching context for effective national policies. On minimum unit pricing, it suggests that should Scotland overcome the current legal challenge, the rest of the UK should monitor and implement it should it prove successful.

The three main conclusions are:

- The 2006-12 strategy, while well-intentioned, did not concentrate on what the EU itself can act on. Consequently it achieved little. In developing any new action the EU should therefore concentrate on it can do, over and above any initiatives the Member States can take on their own. In particular, the EU should ensure that its own policies contribute to the reduction of alcohol-related harm and excessive drinking.
- The current EU alcohol taxation regime prevents Member States from raising duties on the most harmful substances, and provides incentives to purchase drinks with higher alcohol contents. This illogical taxation structure must be reformed.
- The EU rules of food labeling must be amended to include alcoholic drinks. These labels should include, as a minimum, the strength, the calorie content, guidelines on safe drinking levels, and a warning about the dangers of drinking when pregnant. Voluntary commitments are not enough.

www.parliament.uk/business/committees/committees-a-z/lords-select/eu-home-affairs-sub-committee-f-/news/alcohol-strategy-report-publication/

Resolution for EU strategy adopted

On 31 March, The European Parliament's committee on Environment, Public Health and Food Safety supported a resolution calling for a new EU strategy to tackle health harm from alcohol to be put into action for 2016-2022. The Resolution will now be tabled for approval by the full European Parliament Plenary.

Posters raise awareness of serving laws in the UK

A poster campaign was launched in March to raise awareness on the UK law regarding the sale of alcohol to someone who is drunk.

Drinkaware, National Pubwatch and The British Beer & Pub Association (BBPA) have joined forces to create two poster designs to make clear it is an offence to knowingly sell alcohol to a drink, or to obtain alcohol for a drunken person for consumption on licensed premises.

Staff in licensed premises can be put in a very difficult position and could risk breaking the law if pressurised to serve drunk customers. These resources provide an important tool to help staff enforce the law. They also inform anyone trying to buy an alcoholic drink for a drunk friend that they are breaking the law.

Although there is no legal definition of drunkenness, the Section 182. Guidance to the Licensing Act highlights the offences and the significant penalties for not complying with the law in this area. These include a fine for the individual of up to £1,000 and the risk of losing a premises licence if the premises is taken to review based on this issue.

www.beerandpub.com/campaigns/servingdrunks

£50m to tackle substance misuse in Wales in 2015-16

More than £50m will be invested in programmes to tackle drug and alcohol misuse by the Welsh Government over the next year, Deputy Health Minister Vaughan Gething announced on 13 March.

More than £22m will address the priorities outlined in the Welsh Government's 10-year strategy, Working Together to Reduce Harm, which is aimed at tackling the harms associated with the misuse of alcohol, drugs and other substances. It is supported by the Substance Misuse Delivery Plan for 2013-15.

The Welsh Government investment includes ring-fenced funding for services to support children and young people, as well as residential rehabilitation and inpatient detoxification and counselling services.

More than £5m will be invested in capital projects to improve capacity, access to and the quality of treatment facilities across Wales through the creation of multi-agency bases, residential treatment and detoxification centres, increasing GP shared care participation, youth facilities, mobile outreach and day centres.

£2.2m will be invested in the All Wales Schools Liaison Core Programme, which educates children and young people about some of the dangers of substance misuse, anti-social behaviour and problems associated with personal safety. The programme was set up in 2004, recognising the role schools and education can play in tackling these problems.

£1m will be invested in a number of specific drug and alcohol initiatives, which support the delivery of the Substance Misuse Delivery Plan, including projects supported by Public Health Wales, such as the bilingual helpline Dan 24/7 and the Welsh national database for substance misuse contracts. It will also support existing and new policy developments, including the ground-breaking WEDINOS programme, the national naloxone programme and projects which work with hard-to-reach groups.

A further £17.134m has been ring-fenced in health boards' budgets for substance misuse services, bringing the total Welsh Government investment in 2015-16 to almost £50m.

'One Drink One Click' app launch

Public Health Wales, in partnership with Alcohol Concern, has developed the 'One Drink One Click' app to help people anonymously monitor how much they are drinking. Users can input the number of alcoholic drinks consumed, find out how many units this equates to and measure their data against healthy consumption guidelines.

Craig Jones, Alcohol Lead for Public Health Wales, said "The 'One Drink One Click' app will very quickly and simply inform the Welsh public about the reality of how much they are drinking. This is not an exercise for judging anyone or finger wagging; rather we want people to take control of their own health by giving them the right information and tools to do so."

The online platform will also be used as a resource for the 'Have a Word' programme, which motivates health professionals to offer health advice at times when patients are most receptive. The 'Have a Word' brand was created and developed by Cardiff University's Violence and Society Research Group after its trials showed that advice given in precise ways that capitalise on "teachable moments" in people's lives, such as when stitches are being removed, cut drinking to less dangerous levels.

Andrew Misell, Director of Alcohol Concern Cymru, adds: "Whether we're in a pub or restaurant or at home on the sofa, it's easy to lose track of home much we've drunk on any one day or through the week. This new app gives us all a simple way to keep a count of our drinks and stay in control. It's easy to use on your mobile phone, and it gives little pointers and reminders without being too preachy."

Users will be asked to input data on their level of alcohol consumption and based on this data will receive information on the number of units this contains and their level of health risk. The data provided through the app is anonymous. Public Health Wales may access the data to help them understand alcohol use in Wales unless the user has opted out.

The 'One Drink One Click' app is available to download at http://appstore.com/onedrinkoneclick.

DEMOS report - 'Character and Moderation': encouraging the next generation of responsible drinkers

Over the last decade in the UK, there has been a decline in problematic alcohol consumption, particularly among young Britons. A report by DEMOS 'Character and moderation: encouraging the next generation of responsible drinking examines how this positive trend can be built on by ensuring that 'programmes develop character and life skills which are promoted and supported by the next government'.

Demos recently held two roundtables on the subject of 'Character and Moderation: Tackling Alcohol Misuse' – one with Labour Parliamentarians and councillors, the other with Conservative Parliamentarians and councillors. The report presents a summary of these two roundtables, as well as the latest research and policy initiatives on these issues.

Based on these discussions and this research, Demos offer the following ten recommendations for the next government to incorporate into their alcohol strategy, and for the APPG on Alcohol Misuse to consider for their future work:

1. The next Government should provide a comprehensive early intervention strategy as part of its strategy to tackle alcohol misuse.
2. The government should continue to target resources at the home environment and support for parents, particularly those in vulnerable situations, through increased investment in Family Nurse Partnerships.
3. The size of public health budgets that local authorities receive from national government should be linked to alcohol harm profiles.
4. There should be better joined up working between government departments with current responsibility for alcohol (Home Office, Department for Health, Public Health England), the Department for Education and the Cabinet Office.
5. Public Health England needs to work with local authorities and the Department for Education to ensure that 'life skills' programmes in schools are considered an important component of public health strategies at a local level.
6. Public Health England should invest in research to understand what is causing the sustained decline in youth drinking.
7. The Department for Education should ensure that teacher training colleges are teaching best practice pedagogical approaches to ensure that teachers adopt teaching strategies that evidence shows are more likely to build character in their pupils.
8. Personal, Social and Health Education (PSHE) should be part of the national curriculum and a schools need to be incentivised to adopt a 'whole school' approach to character development.
9. Local alcohol partnerships should be strengthened to curb underage drinking – working with schools and public health workers – and should continue to promote diversionary activities and innovations such as non-drinking pubs for young people.
10. The alcohol industry should look at ways to engage positively with national campaigns aimed at building character skills.

www.aim-digest.com/gateway/pages/pdfs/Character%20and%20Moderation_DEMOS.pdf

Better Health For London: Next Steps

The Mayor of London Boris Johnson, NHS England, Public Health England, London Councils and the 32 GP-led clinical commissioning groups have come together to outline how they will work towards London becoming the world's healthiest major city. Chapter 4 of the report is dedicated to unhealthy habits and focuses on the potential to reduce alcohol related hospital admissions.

www.london.gov.uk/sites/default/files/Better%20Health%20for%20London%20Next%20Steps_1.pdf

Increase in sales for mini bottles of wine in the UK

Sales of mini bottles of wine have increased as consumers seek to limit their alcohol consumption, according to some of Britain's supermarket chains. Tesco wine buyer Ami Harmer said: "This is great news from a portion-control point of view because it reveals that a growing number of Brits are putting more thought into the amount of wine they are consuming."

Randomised trial evaluation of the IN:TUITION programme

Alcohol Research UK has published a summary report on the findings from two cluster-randomised trials of Drinkaware's school-based In:tuition life skills and alcohol education intervention: one trial of the programme for 10-11 year olds in primary schools, and another for 12-13 year olds in secondary schools. The evaluation trials were carried out by the National Foundation for Educational Research (NFER), funded and overseen by Alcohol Research UK using a grant provided by Drinkaware who produced the programme.

Key findings for the primary school trial

- The primary outcome was resistance skills (confidence to manage peer pressure) in 10 and 11 year-olds. There was no evidence of any impact on this primary outcome.
- There was an indication of an effect of the intervention on increased knowledge (a secondary outcome). On average, primary pupils in the intervention group had slightly better knowledge about alcohol and its effects than those in the control group, although the results were not significant at the 0.05 level (p=0.07).
- There was no evidence of impact on other secondary outcomes.
- In terms of programme fidelity, of 40 schools randomised into the intervention group, only 15 were known to have delivered at least some of the intervention lessons.

In:tuition
Inspiring Positive Choices

Key findings for the secondary school trial

- The primary outcome was the proportion of students aged 12-13 that were drinking frequently. Overall, there was no significant effect on frequency of drinking.
- In the intervention group, males were more likely and females were less likely to be frequent drinkers compared to their counterparts in the control group at follow up. However, there is insufficient evidence to assert this was a genuine effect of the intervention.
- There was no evidence of impact on any secondary outcomes.
- Of 28 schools randomised into the intervention group, only five were known to have delivered at least some of the intervention lessons; only two secondary schools delivered all or most of the lessons.

Key findings from the process evaluation

• Perceived impacts of In:tuition on pupils included: increased knowledge and awareness of alcohol; development of strategies and skills to cope with potential social and emotional situations; and a change in projected future drinking.

The teachers who implemented some of the resources were positive about the programme content and teaching approaches but adapted the programme to take account of the time available and the needs/ context of the school.

alcoholresearchuk.org/alcohol-insights/randomised-trial-evaluation-of-the-intuition-programme/

DCLG report on 'Alcohol Fund' project to tackle binge and underage drinking:

Findings from a £1 million project to support ten key areas to tackle alcohol-related problems have been released by the Department for Communities and Local Government (CLG).

The ten main 'alcohol fund' areas were announced in 2012 as a two year project led by Baroness Newlove, the Government's Champion for Active, Safer Communities and pledged in the Government Alcohol Strategy. The overall aims of the project were to 'develop sustainable community-based approaches to tackle problem drinking' and 'test innovative ideas' involving partnership approaches to:

- Education & awareness raising (incl. youth education work)
- Youth work – outreach & diversionary activities
- Youth work – targeted work for those already with alcohol misuse issues
- Targeting hardened drinkers / street drinkers
- Police led operations
- Responsible retailing of alcohol
- Night-time economy
- Better use of data / info-sharing

www.gov.uk/government/publications/alcohol-fund-end-of-project-summary

Backlash against new Scottish alcohol legislation

A new law in Scotland requiring pubs, bars and supermarkets applying for alcohol licenses to prove how they will reduce customers' drinking has been met with opposition.

The proposals, planned by MPs, would see the licensing boards of local authorities block businesses' applications if they do not demonstrate efforts to reduce consumption.

However, those opposing the plans argue that there is limited scope for establishments to control how their customers' consume alcohol.

The plans would come into effect through the Air Weapons and Licensing (Scotland) Bill, in addition to five existing licensing legislations designed to protect the public from excessive alcohol consumption-related problems.

Defending the new objective, Kevin Stewart MSP, of Holyrood's Local Government and Regeneration Committee, said "Licensing boards should have goals to protect and improve public health and clearly over consumption of alcohol affects public health greatly.

"The inclusion of an explicit objective would ensure that all boards must consider public health impacts in the future."

App promises to prevent drunk dialling

An app that sets your iPhone in "drunk mode" promises to stop you from making drunken texts and calls, track your movements so you can remember the night before and helps your friends find you down in an emergency.

Described as a "condom for your phone" and targeted firmly at college students, the Drunk Mode app is designed to be activated before the start of an evening of drinking.

The app functions as a GPS tracker with its "find my drunk" feature enabling your friends and family to track you down should you find yourself separated for the group. It also has a "find a ride home" feature to get you home safely. And if you want to disable Drunk Mode before the set time, you must answer a mental arithmetic question to prove you are sober.

The app can be downloaded to iPhones from the app store free of charge.

Serial Buveur, Social Loseur hits french nightclubs

The campaign against "binge drinking" in France expands its reach to bars and nightclubs

Having welcomed over 82,000 visitors to its website and with 5 million Facebook users, the campaign, "Serial drinker, Social Loseur" is moving to bars and nightclubs. Posters will be phased in throughout France to encourage young consumers of alcoholic beverages to keep control of their evenings.

The association Entreprise & Prevention, an alliance of 18 alcoholic beverage companies, is launching a new campaign around the slogan "Serial drinker, Social Loseur" with a poster, also available as postcard, designed for living spaces frequented by young. Warning against the consequences of excessive alcohol consumption on behaviour and reputation, these resources will be distributed in night bars and nightclubs by the member companies

"The success of the campaign Serial drinker, Social Loseur illustrates the merits of a non judgmental approach to encourage young people to become aware that significant alcohol consumption may also impact their social relationships," says Alexis Capitant, CEO of Enterprise & Prevention

The website tells the story of a young man of twenty years who underestimates the impact that excessive alcohol consumption might have on his health and social life. Antoine by his excessive consumption gradually loses all credibility with his friends or future employers. He is longer master of his actions or his virtual image. The thread of the evening rightful slowly when he discovers on social networks the "posts" and negative comments from friends.

www.serialbuveursocialoseur.com/

AIM – Alcohol in Moderation was founded in 1991 as an independent not for profit organisation whose role is to communicate "The Responsible Drinking Message" and to summarise and log relevant research, legislation, policy and campaigns regarding alcohol, health, social and policy issues.

AIM Mission Statement

- To work internationally to disseminate accurate social, scientific and medical research concerning responsible and moderate drinking
- To strive to ensure that alcohol is consumed responsibly and in moderation
- To encourage informed and balanced debate on alcohol, health and social issues
- To communicate and publicise relevant medical and scientific research in a clear and concise format, contributed to by AIM's Council of 20 Professors and Specialists
- To publish information via www.alcoholinmoderation.com on moderate drinking and health, social and policy issues – comprehensively indexed and fully searchable without charge
- To educate consumers on responsible drinking and related health issues via www.drinkingandyou.com and publications, based on national government guidelines enabling consumers to make informed choices regarding drinking
- To inform and educate those working in the beverage alcohol industry regarding the responsible production, marketing, sale and promotion of alcohol
- To distribute AIM Digest Online without charge to policy makers, legislators and researchers involved in alcohol issues
- To direct enquiries towards full, peer reviewed or referenced sources of information and statistics where possible
- To work with organisations, charities, companies and associations to create programmes, materials and policies built around the responsible consumption of alcohol.

AIM SOCIAL, SCIENTIFIC AND MEDICAL COUNCIL