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Saudi Arabia

In Saudi Arabia, an alcohol shop is to open in the Diplomatic Quarter, the first exception to the nationwide prohibition that has been in place since 1952. The store will be accessible only to non-Muslim diplomats.

Purchasing quotas will be enforced and access to the store will be restricted to those who register via an application. Additionally, customers will be asked to keep their phones in a “special mobile pouch” while they browse for beer, wine and spirits.

Thailand

The Bangkok post reports that a government panel in Thailand has rejected a proposal by the Thai Alcohol Beverage Business Association to scrap the long-standing ban on sales of alcoholic beverages between 2pm and 5pm, citing the risk to public health and safety.

The Alcoholic Beverage Control Committee at the Ministry of Public Health including representatives from the ministries of Public Health, Tourism, Interior, Finance, and Social Development and Human Security — and other experts were unanimous that the afternoon sales ban should stay in place.

Alaska

Alaska State Representative Andrew Gray has introduced the “Alcoholic Beverages and Cancer Act” or “ABC Act,” a first of its kind bill to require all alcohol retailers in Alaska to post cancer warning signs at the point-of-sale. This law is the first in the US to single out alcohol specifically as a carcinogen.

Caribbean

St Vincent and the Grenadines Prime Minister Dr Ralph Gonsalves has announced plans to introduce legislation aimed at regulating alcohol consumption during funeral processions and cemetery gatherings. Speaking on NBC Radio St Vincent, Gonsalves expressed concern over the lack of reverence exhibited during funeral ceremonies, citing instances of alcohol consumption and revelry akin to carnival festivities. He emphasized the need for a shift in behaviour to uphold the solemnity of such occasions, particularly within churchyards.

UK

Twickenham Stadium is trialling alcohol-free zones during the Six Nations in a bid to tackle excessive drinking. The trial comes almost exactly a year after former England rugby coach Sir Clive Woodward described Twickenham as “the world’s biggest pub” and called on the Rugby Football Union (RFU) to “do something about the huge number of supporters who spend most of the match getting up and down to either go to the bar to buy more beers or to go to the toilet.”

US

Lawmakers in the state of Tennessee are trying to pass a bill to ban convenience stores from selling chilled alcoholic drinks. Those in favour of the Bill think the initiative would make consumers more proactive in buying beer ahead of time to refrigerate at home, therefore lowering the risk of drink driving. Indiana is currently the only state with similar legislation.

Multi-ancestry study of the genetics of problematic alcohol use in over 1 million individuals

Authors: Zhou H; Kember RL; Deak JD; Xu H; Toikumo S; Yuan K; Lind PA; et al (48 authors)

Citation: Nature Medicine (2023) doi: [10.1038/s41591-023-02653-5](https://doi.org/10.1038/s41591-023-02653-5)

Author's Abstract

Background Problematic alcohol use (PAU), a trait that combines alcohol use disorder and alcohol-related problems assessed with a questionnaire, is a leading cause of death and morbidity worldwide.

Methods Here we conducted a large cross-ancestry meta-analysis of PAU in 1,079,947 individuals (European, N = 903,147; African, N = 122,571; Latin American, N = 38,962; East Asian, N = 13,551; and South Asian, N = 1,716 ancestries).

Results We observed a high degree of cross-ancestral similarity in the genetic architecture of PAU and identified 110 independent risk variants in within- and cross-ancestry analyses. Cross-ancestry fine mapping improved the identification of likely causal variants. Prioritizing genes through gene expression and chromatin interaction in brain tissues identified multiple genes associated with PAU. We identified existing medications for potential pharmacological studies by a computational drug repurposing analysis. Cross-ancestry polygenic risk scores showed better performance of association in independent samples than single-ancestry polygenic risk scores. Genetic correlations between PAU and other traits were observed in multiple ancestries, with other substance use traits having the highest correlations.

Conclusions This study advances our knowledge of the genetic aetiology of PAU, and these findings may bring possible clinical applicability of genetics insights - together with neuroscience, biology and data science - closer.

Forum comments

Problematic alcohol use (PAU) contributes to approximately 6% of annual morbidity and mortality in the USA, for example, and similarly worldwide (Stahre et al. 2014). It is a chronic psychiatric disorder characterised by harmful consumption patterns leading to negative

emotional, physical and social ramifications. Because of the interaction of genetics and environment, a person cannot be born with an alcohol use disorder (NIAAA, 2008). Although people can have genes that predispose them to developing an alcohol use disorder, genetics only account for approximately half of a person's overall risk (NIAAA, 2008). The rest of these predispositions come from the social and environmental factors that a person encounters throughout their childhood and life (Edenber and Foroud, 2013; NIAAA, 2008).

This impressive genetic study published in the prestigious journal Nature Medicine concerned an extended follow-up study on the correlations between genes and their variants and the outcome Problematic Alcohol Use (PAU) (Zhou et al., 2023). PAU consists of alcohol use disorder and alcohol-related problems assessed with a questionnaire (AUDIT-P). Interesting parts in this study are the extension into cross-ancestry analysis and the study of targets for drugs and medication based on these genetic analyses.

Multi-ancestry genetic analysis (cross-ancestry analysis) seems to be a new and complex way to identify new genes that may contribute to the aetiology of a specific disease. Whereas the first study appeared in 2014 on the genes underlying the susceptibility to glaucoma, 46 studies were published in 2023 alone on various disease outcomes. By combining data of populations of various descent common pathways or common predispositions for a disease may be identified and specific and differentiating pathways and predispositions may be discovered. This new approach may lead into new insights and treatment avenues for multifactorial diseases.

The scope of this study was extensive. The authors not only used various populations in the world representing various ancestries, to analyse the genes (GWAS) associated with PAU, they also included, amongst other genetic and statistical methods, transcriptomics data (TWAS), phenotypic data (pheWAS), included brain chromatin interaction profiles and investigated drug repurposing.

One important aspect is how much of the problems observed may be explained by this new

approach. The authors state that approximately 50% of PAU may be explained by genetic factors. The new approach increased the percentage of genetic factors identified contributing to PAU from 5% before up to 12% now. This means that the total percental explanation has increased from 2.5% (5% from 50%) to 6% (12% from 50%). It is progress, but these numbers also indicate that there is still a long way to go.

There are several inherent problems with this type of genetic association studies. Of course, the multi-ancestry approach provides insight in the joint alleles involved in the disease and therefore the generalizability of the results. However, results may be confounded by cultural and environmental factors that vary across ancestries affecting the expression of the various genetic traits.

Also, it may be challenging to have an equal and equivalent representation of each of the ancestries involved in the analysis. In this specific case the European and African cohorts were best represented, whereas the European cohort comprised the vast majority (83.6%) of the total population under study. Cross-ancestry replication of the European variants (85 variants) was good for the African cohort (76 variants), which corresponds to approximately 90%. Of these 76 variants, 64 (about 84%) had the same direction of effect.

The most significant allele identified was the ADH1B*rs1229984 a variation in the gene code for one of the alcohol dehydrogenase enzymes. This allele has been investigated in various other large cohorts (Millwood et al., 2023) and has not only been associated with all-cause mortality and risk for specific cancers (Zhang et al., 2023), but also for alcohol use disorder (AUD) (Kilcoyne et al., 2014). This allele is a so-called missense variant, so one nucleotide difference in the DNA that leads to a change in the coded protein, the enzyme alcohol dehydrogenase. These variants are associated with an increased catalytic activity, so a faster breakdown of alcohol and, therefore, a potential protective effect on long-term consequences of alcohol use (Polimanti & Gelernter, 2018). On the other hand, a higher ADH activity may lead into higher alcohol consumption levels, higher oxidative stress levels and change the rewarding effect of

alcohol so that more alcohol is needed to get the rewarding effect. The current allele identification indicates that this specific allele is really involved in PAU across various ancestries and may also be interpreted as a positive control for the methodology applied.

Of the 100 variants identified, 80 were previously reported to be associated with PAU and of these, 53 variants were in protein-coding genes, of which 9 were missense variants. So, possibly roughly 10% of all variants identified potentially lead into functional protein changes.

From the identified cross-ancestry variants, candidate drug targets were searched for. Among them OPRM1 and GABRA4 were found, both targets for naltrexone and acamprosate respectively, again confirming what is currently used in medical practice. An additional nine other genes were identified as druggable. Trichostatin-a was put forward as a potentially re-purposable drug. The drug has been around for several years and tested in cells and animals and has growth arresting effects (Taddei et al., 2005).

Other re-purposable drugs include spironolactone and chlomethiazole. Spironolactone reduced alcohol use in both rats and humans in a recent study (Farokhnia et al., 2022) according to the authors. The study however, showed clear effects in rodents, but did not include human data obtained in clinical trials. The data were generated in a pharmacoepidemiologic cohort study showing a significant association between spironolactone treatment and reduction in self-reported alcohol consumption. The effect of spiro lactone on self-reported alcohol consumption, however, was small. The authors are aware of the potential pitfalls in drug development. Many of those exist, specifically in multifactorial diseases like PAU, and the authors state "however, the pathway from genetic variants to the function of encoded protein to a biologically important therapeutic target is complicated and intricate, requiring more work in many modalities."

The study uses PAU as an outcome parameter. PAU is a combination of alcohol use disorder (AUD) and AUDIT-P which differ phenotypically and genetically from typical alcohol consumption. The general idea is that only problematic alcohol

use and alcohol dependence are included in this term. Interestingly, others have tried to characterize the genetic influences shared across various substance use disorders and found that all substance use disorders had one common so-called Addiction-Risk-Factor. The 'Addiction-Risk-Factor' included aspects like risk-taking, preoccupation and negative affect. This factor showed that there was a common genetic liability for all addictions tested and were largely independent of the substance of use (Hatoum et al., 2022). It may be interesting to see what common genetic variants exist in the various substance use disorders. Rather than cross-ancestry analysis that may be confounded by cultural and environmental factors, cross-substance-use-disorder analysis may better elucidate the genetic predisposition for problematic substance use including problematic alcohol use.

Specific Comments from Forum Members

Reviewer Ellison noted: "I agree that this is an important paper. If people do not just say 'It is all in the genes, so there is nothing we can do,' the data presented will be very helpful in development of potential ways for preventing and managing alcohol misuse. Genetic analyses such as this one will especially help direct pharmaceutical endeavours to find drugs that may be useful in these disorders.

Still, we must remember that approximately one half of factors that influence the risk of alcohol misuse relate to cultural or environmental effects, and we must not give up on public health approaches (e.g., advocating the consumption of alcoholic beverages with food and other aspects of the pattern of drinking) for the prevention of these disorders."

Reviewer Harding comments that he "questions the premise set out at the beginning that 'excessive alcohol use and alcohol use disorder are leading causes of death and morbidity worldwide, 2.2% of female deaths and 6.8% of male deaths.' I don't doubt that excessive alcohol use is a serious problem, but is it really a leading cause of death to the extent that it is responsible for 6.8% of all male deaths worldwide? According to UK Government data published by the Office of National Statistics,

in 2020 there were 8,974 deaths due to alcohol specific causes, representing 1.47% of all deaths. It is hard to believe that other western countries are much different, or in European populations that comprise the majority of the cohort studied in the Zhou et al. (2023) paper. If the figures quoted above are correct, other countries must have much higher levels of deaths due to alcohol consumption to arrive at the worldwide figures quoted. Excessive alcohol use does not feature in the top 10 causes of death 2000-2019 globally according to WHO."

Reviewer Waterhouse also considered that "this is a very helpful dataset, but I am also concerned about over reliance on the genetic information it reveals. In particular, I can imagine a situation where if an individual has any one of the identified genetic variants, they will be presumed to be on the road to PAU if they touch alcohol. I hope that future clinical advice will be more nuanced than that."

Concluding comments

As suggested by Reviewer Goldfinger, "this is an ambitious study and identifies genetic variables that may be associated with problematic alcohol use, certainly a societal plague with serious consequences. Its potential utility for therapeutic intervention is an idealistic goal.

I am struck by the reference to The Global Burden of Disease Study 2016, which would suggest systemic alcoholism in the USA, with 29.5 million persons with an alcohol abuse disorder, that is, about 9% of the American adult population (328M according the 2020 US Census Bureau). This study has been repeatedly quoted, by a very many news agencies, as a justification to challenge any alcohol consumption whatsoever.

As a society, we have exposure to many morbid conditions. Persons living in cold climates wear sweaters and jackets, those with familial hyperlipidemia take statins or other life-saving lipid-lowering therapies, and so on. As suggested by others, those with genetic predisposition to alcoholism (very frequently identified during a family history at a GP office visit without the benefit of genetic mapping) can be addressed with counselling in moderation or abstinence as indicated. Novel pharmacologic therapies is certainly of interest."

References

- Edenber, H.J., Foroud, T. (2013) Genetics and alcoholism. *Nature Reviews Gastroenterology & Hepatology*, 10(8), 487-494.
- Farokhnia, M., Rentsch, C. T., Chuong, V., McGinn, M. A., Elvig, S. K., Douglass, E. A., Gonzalez, L. A., Sanfilippo, J. E., Marchette, R. C. N., Tunstall, B. J., Fiellin, D. A., Koob, G. F., Justice, A. C., Leggio, L., & Vendruscolo, L. F. (2022). Spironolactone as a potential new pharmacotherapy for alcohol use disorder: convergent evidence from rodent and human studies. *Molecular Psychiatry*, 27(11), 4642–4652. doi.org/10.1038/s41380-022-01736-y
- Hatoum, A. S., Johnson, E. C., Colbert, S. M. C., Polimanti, R., Zhou, H., Walters, R. K., Gelernter, J., Edenberg, H. J., Bogdan, R., & Agrawal, A. (2022). The addiction risk factor: A unitary genetic vulnerability characterizes substance use disorders and their associations with common correlates.
- Neuropsychopharmacology : Official Publication of the American College of Neuropsychopharmacology, 47(10), 1739–1745. doi.org/10.1038/s41386-021-01209-w
- Kilcoyne, B., Shmulewitz, D., Meyers, J. L., Aharonovich, E., Greenstein, E., Frisch, A., Weizman, A., Spivak, B., Edenberg, H. J., Gelernter, J., & Hasin, D. S. (2014). Alcohol consumption mediates the relationship between ADH1B and DSM-IV alcohol use disorder and criteria. *Journal of Studies on Alcohol and Drugs*, 75(4), 635–642. doi.org/10.15288/jsad.2014.75.635
- Millwood, I. Y., Im, P. K., Bennett, D., Hariri, P., Yang, L., Du, H., Kartsonaki, C., Lin, K., Yu, C., Chen, Y., Sun, D., Zhang, N., Avery, D., Schmidt, D., Pei, P., Chen, J., Clarke, R., Lv, J., Peto, R., ... Chen, Z. (2023). Alcohol intake and cause-specific mortality: conventional and genetic evidence in a prospective cohort study of 512 000 adults in China. *The Lancet. Public Health*, 8(12), e956–e967. [doi.org/10.1016/S2468-2667\(23\)00217-7](https://doi.org/10.1016/S2468-2667(23)00217-7).
- National Institute on Alcohol Abuse and Alcoholism. (2008). Genetics of alcohol use disorder.
- Polimanti, R., & Gelernter, J. (2018). ADH1B: From alcoholism, natural selection, and cancer to the human phenome. *American Journal of Medical Genetics. Part B, Neuropsychiatric Genetics: The Official Publication of the International Society of Psychiatric Genetics*, 177(2), 113–125. doi.org/10.1002/ajmg.b.32523.
- Stahre, M., Roeber, J., Kanny, D., Brewer, R. D., & Zhang, X. (2014). Peer reviewed: contribution of excessive alcohol consumption to deaths and years of potential life lost in the United States. *Preventing Chronic Disease*, 11.
- Taddei, A., Roche, D., Bickmore, W. A., & Almozni, G. (2005). The effects of histone deacetylase inhibitors on heterochromatin: implications for anticancer therapy? *EMBO Reports*, 6(6), 520–524. doi.org/10.1038/sj.embor.7400441
- Zhang, B., Peng, Y.-H., Luo, Y., Hong, C.-Q., Lin, Y.-W., Zhang, Y.-L., Xu, Y.-W., Su, X.-F., & Wu, F.-C. (2023). Relationship between esophageal squamous cell carcinoma risk and alcohol-related ALDH2 and ADH1B polymorphisms: Evidence from a meta-analysis and Mendelian randomization analysis. *Cancer Medicine*, 12(20), 20437–20449. doi.org/10.1002/cam4.6610
- Zhou, H., Kember, R. L., Deak, J. D., Xu, H., Toikumo, S., Yuan, K., Lind, P. A., Farajzadeh, L., Wang, L., Hatoum, A. S., Johnson, J., Lee, H., Mallard, T. T., Xu, J., Johnston, K. J. A., Johnson, E. C., Nielsen, T. T., Galimberti, M., Dao, C., ... Gelernter, J. (2023). Multi-ancestry study of the genetics of problematic alcohol use in over 1 million individuals. *Nature Medicine*, 29(12), 3184–3192. doi.org/10.1038/s41591-023-02653-5

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Smoking, alcohol consumption, and the development of myopia and astigmatism

The influence of environmental factors like smoking and alcohol on myopia and astigmatism is controversial.

Following comprehensive screenings, 326 single nucleotide polymorphisms (SNPs) related to myopia and astigmatism were included in the dataset. The causal association between exposures such as cigarette smoking, alcohol consumption, and coffee intake, and outcomes namely astigmatism and myopia were modelled. The results showed a 1.379-fold increase in the risk of astigmatism (OR = 1.379, 95%CI 0.822~2.313,) and a 0.963-fold increase in the risk of myopia (OR = 0.963, 95%CI 0.666~1.393) for each unit increase in smoking. For each unit increase in coffee intake, the risk of astigmatism increased 1.610-fold (OR = 1.610, 95%CI 0.444~5.835) and the risk of myopia increased 0.788-fold (OR = 0.788, 95%CI 0.340~1.824, P = 0.578). For

each additional unit of alcohol consumption, the risk of astigmatism increased by 0.763-fold (OR = 0.763, 95%CI 0.380~1.530), and none of the differences were statistically significant. However, for each unit of alcohol consumption, the risk of myopia increased by 1.597 times, and the difference was statistically significant (OR = 1.597, 95%CI 1.023~2.493).

The findings indicate that alcohol consumption is a risk factor for myopia but smoking and coffee intake do not affect its development. Additionally, there is no association between smoking, alcohol consumption, coffee intake, and the risk of astigmatism.

Source: Wei D, Wang H, Huang L, Hou M, Liang HG, Shi X, Wei X, Li J, Gan L, Lv B, Deng J, Qing L. A Mendelian randomization study on the causal relationship between smoking, alcohol consumption, and the development of myopia and astigmatism. *Sci Rep.* 2024 Jan 22;14(1):1868. doi.org/10.1038/s41598-024-52316-9

Longitudinal clustering of health behaviours and their association with multimorbidity in older adults in England

Health-risk behaviours such as smoking, unhealthy nutrition, alcohol consumption, and physical inactivity (termed SNAP behaviours) are leading risk factors for multimorbidity and tend to cluster (i.e., occur in specific combinations within distinct subpopulations). However, little is known about how these clusters change with age in older adults, and whether and how cluster membership is associated with multimorbidity.

Repeated measures latent class analysis using data from Waves 4-8 of the English Longitudinal Study of Ageing (ELSA; n = 4759) identified clusters of respondents with common patterns of SNAP behaviours over time. Disease status (from Wave 9) was used to assess disorders of eight body systems, multimorbidity, and complex multimorbidity. The research examined how clusters were associated with socio-demographic characteristics and disease status.

Seven clusters were identified: Low-risk (13.4%), Low-risk yet inactive (16.8%), Low-risk yet heavy drinkers (11.4%), Abstainer yet inactive (20.0%), Poor diet and inactive (12.9%), Inactive, heavy drinkers (14.5%), and High-risk smokers (10.9%). There was little evidence that these clusters changed with age. People in the clusters characterised by physical inactivity (in

combination with other risky behaviours) had lower levels of education and wealth. People in the heavy drinking clusters were predominantly male. Compared to other clusters, people in the Low-risk and Low-risk yet heavy drinkers had a lower prevalence of all health conditions studied. In contrast, the Abstainer but inactive cluster comprised mostly women and had the highest prevalence of multimorbidity, complex multimorbidity, and endocrine disorders. High-risk smokers were most likely to have respiratory disorders.

Health-risk behaviours tend to be stable as people age and so ought to be addressed early. The researchers identified seven clusters of older adults with distinct patterns of behaviour, socio-demographic characteristics and multimorbidity prevalence. Intervention developers could use this information to identify high-risk subpopulations and tailor interventions to their behaviour patterns and socio-demographic profiles.

Source: Suhag A, Webb TL, Holmes J. Longitudinal clustering of health behaviours and their association with multimorbidity in older adults in England: A latent class analysis. *PLoS One.* 2024 Jan 25;19(1):e0297422. doi.org/10.1371/journal.pone.0297422

Modifiable and non-modifiable risk factors for premature coronary heart disease

A study published in the journal, Heart, Lung and Circulation, compared the prevalence of modifiable and non-modifiable coronary heart disease (CHD) risk factors among those with premature CHD (PCHD) and healthy individuals.

PubMed, CINAHL, Embase, and Web of Science databases were searched for relevant studies and 208 primary studies were included in the review.

Individuals presenting with premature CHD (PCHD, age ≤ 65 years) had higher mean body mass index (MD 0.54 kg/m², 95% CI 0.24, 0.83), total cholesterol (SMD 0.27, 95% CI 0.17, 0.38), triglycerides (SMD 0.50, 95% CI 0.41, 0.60) and lower high-density lipoprotein cholesterol (SMD 0.79, 95% CI: -0.91, -0.68) compared with healthy individuals.

Individuals presenting with PCHD were more likely to be smokers (OR 2.88, 95% CI 2.51, 3.31), to consume excessive alcohol (OR 1.40, 95% CI 1.05, 1.86), had higher mean lipoprotein (a) levels

(SMD 0.41, 95% CI 0.28, 0.54), and had a positive family history of CHD (OR 3.65, 95% CI 2.87, 4.66) compared with healthy individuals.

Also, they were more likely to be obese (OR 1.59, 95% CI 1.32, 1.91), and to have had dyslipidaemia (OR 2.74, 95% CI 2.18, 3.45), hypertension (OR 2.80, 95% CI 2.28, 3.45), and type 2 diabetes mellitus (OR 2.93, 95% CI 2.50, 3.45) compared with healthy individuals.

This meta-analysis confirms current knowledge of risk factors for PCHD. Identifying these early may reduce CHD in young adults.

Source: Adeel Khoja, Prabha H. Andraweera, Zohra S. Lassi, Zahra A. Padhani, Anna Ali, Mingyue Zheng, Maleesa M. Pathirana, Emily Aldridge, Melanie R. Wittwer, Debajyoti D. Chaudhuri, Rosanna Tavella, Margaret A. Arstall, Modifiable and Non-Modifiable Risk Factors for Premature Coronary Heart Disease (PCHD): Systematic Review and Meta-Analysis, Heart, Lung and Circulation, 2024, ISSN 1443-9506, doi.org/10.1016/j.hlc.2023.12.012.

The role of alcohol in the relationship between C-reactive protein and osteoarthritis

Despite the known inflammatory nature of osteoarthritis (OA) and the established role of C-reactive protein (CRP) as an inflammation marker, the influence of alcohol consumption on the CRP-OA relationship remains uncertain, with previous research providing conflicting results.

A study examined the potential moderating effect of alcohol on the association between CRP concentrations and self-reported OA. Researchers conducted a cross-sectional study involving 50,259 participants, all data collected from NHANES between 2005-2010 and 2015-2018. The relationship between CRP and OA was analysed.

A nonsignificant positive association between CRP concentration and prevalence of self-reported OA after adjusting for covariates was found in the raw dataset or 5 multiple imputed datasets. In the stratified analysis by alcohol drinking, for every 10 mg/L higher in CRP concentration, the prevalence of self-reported OA was higher by 13 % in non-drinkers. Conversely, for every 10 mg/L higher in CRP

concentration, the prevalence of self-reported OA was lower by 59% in drinkers. Furthermore, the researchers discovered that the directions of the association between CRP concentrations (10 mg/L) and prevalence of self-reported OA [odds ratio (OR) < 1 in the drinking subgroup and OR > 1 in the no-drinking subgroup] were stable in both the main and sensitivity analyses. The significant interaction between CRP concentration and alcohol drinking on the prevalence of self-reported OA was shown in most of the analyses.

Alcohol consumption may be an interaction factor between CRP and self-reported OA. The researchers say that their findings are the first to highlight the importance of incorporating analysis of alcohol consumption differences into future studies of CRP and self-reported OA.

Source: He K, Huang H. The Significant Role of Alcohol in the Relationship between C-Reactive Protein and Self-Reported Osteoarthritis. J Nutr. 2024 Feb;154(2):600-609. doi.org/10.1016/j.tjn.2024.01.009

New knowledge of how addictions form has the potential to change approaches to treatment

Writing for *The Conversation*, Karla Kaun, Associate Professor of Neuroscience, Brown University says that: "Many people are wired to seek and respond to rewards. Your brain interprets food as rewarding when you are hungry and water as rewarding when you are thirsty. But addictive substances like alcohol and drugs of abuse can overwhelm the natural reward pathways in your brain, resulting in intolerable cravings and reduced impulse control".

A popular misconception is that addiction is a result of low willpower. But an explosion of knowledge and technology in the field of molecular genetics has changed our basic understanding of addiction drastically over the past decade. The general consensus among scientists and health care professionals is that

there is a strong neurobiological and genetic basis for addiction".

As a behavioral neurogeneticist leading a team investigating the molecular mechanisms of addiction, Kaun combines neuroscience with genetics to understand how alcohol and drugs influence the brain. In the past decade, she has seen changes in researchers' understanding of the molecular mechanisms of addiction, largely due to a better understanding of how genes are dynamically regulated in the brain. New ways of thinking about how addictions form have the potential to change how we approach treatment. theconversation.com/alcohol-and-drugs-rewire-your-brain-by-changing-how-your-genes-work-research-is-investigating-how-to-counteract-addictions-effects-220134

Alcohol consumption, high-density lipoprotein particles and subspecies, and risk of cardiovascular disease

The associations of HDL particle (HDL-P) and subspecies concentrations with alcohol consumption are unclear. A research team aimed to evaluate the interplay between alcohol consumption, HDL parameters and cardiovascular disease (CVD) risk.

In the PREVENT study of 5151 participants (mean age, 53 years; 47.5% males), self-reported alcohol consumption and HDL-P and subspecies (small, medium, and large) by nuclear magnetic resonance spectroscopy were assessed. Hazard ratios (HRs) with 95% CIs for first CVD events were estimated. In multivariable linear regression analyses, increasing alcohol consumption increased HDL-C, HDL-P, large and medium HDL, HDL size, and HDL subspecies (H3P, H4P, H6 and H7) in a dose-dependent manner. During a median follow-up of 8.3 years, 323 first CVD events were recorded. Compared with abstainers, the multivariable adjusted HRs (95% CIs) of CVD for occasional to light, moderate, and heavy alcohol consumers were 0.72 (0.55–0.94), 0.74 (0.54–1.02), and 0.65 (0.38–1.09), respectively. These associations remained consistent on additional adjustment for each HDL parameter. For CVD, only HDL-C was associated with a

statistically significant decreased risk of CVD in a fully adjusted analysis (HR 0.84, 95% CI 0.72–0.97 per 1 SD increment). For coronary heart disease, HDL-C, HDL-P, medium HDL, HDL size, and H4P showed inverse associations, whereas HDL-C and HDL size modestly increased stroke risk. Except for H6P, alcohol consumption did not modify the associations between HDL parameters and CVD risk. The addition of HDL-C, HDL size, or H4P to a CVD risk prediction model containing established risk factors improved risk discrimination.

Increasing alcohol consumption is associated with increased HDL-C, HDL-P, large and medium HDL, HDL size, and some HDL subspecies. Associations of alcohol consumption with CVD are largely independent of HDL parameters. The associations of HDL parameters with incident CVD are generally not attenuated or modified by alcohol consumption.

Source: Kunutsor SK, Bhattacharjee A, Connelly MA, Bakker SJL, Dullaart RPF. Alcohol Consumption, High-Density Lipoprotein Particles and Subspecies, and Risk of Cardiovascular Disease: Findings from the PREVENT Prospective Study. *International Journal of Molecular Sciences*. 2024; 25(4):2290. doi: [10.3390/ijms25042290](https://doi.org/10.3390/ijms25042290)

Trait impulsivity moderates rate of alcohol consumption in daily life

Rate of alcohol consumption, the speed with which people drink, has been linked to a range of outcomes, including alcohol use disorder symptoms and increased positive affect. However, there has been minimal research investigating who is most likely to drink at elevated rates. Impulsivity is associated with increased attention to positive reinforcers specifically (e.g., positive affect). Researchers therefore examined whether people higher in trait impulsivity engage in faster consumption during drinking episodes.

The study included 113 current drinkers, of whom 54 people had borderline personality disorder [BPD], a disorder that involves elevated impulsivity, who completed a 21-day ecological momentary assessment (EMA) protocol. Multilevel models examined whether self-reported trait impulsivity, measured at baseline, was associated with faster rise in estimated blood alcohol concentration (eBAC) at each follow-up period.

All UPPS sub-scales (negative urgency, lack of premeditation, lack of perseveration, sensation seeking, and positive urgency) were associated

with faster rise in eBAC across a drinking episode. In a multivariate model including all sub-scales as simultaneous predictors, sensation seeking and (lack of) perseverance were independently positively associated with rate of consumption. Additional analyses indicated that greater negative urgency and sensation seeking were associated with faster rises in eBAC in participants with BPD, relative to community comparisons.

In a sample that captured a wide spectrum of impulsivity, greater impulsivity was associated with drinking alcohol at a faster rate. People higher in sensation seeking and (lack of) perseverance may be prone to drink at faster rates out of a desire to maximize the hedonic effects of alcohol.

This study finds that people who are more impulsive tend to drink alcohol faster, putting them at greater risk for negative consequences. This may explain, in part, why impulsivity is linked to experiencing alcohol-related problems.

Source: McNamara IA, Nance M, Lane SP, Trela CJ, Wood PK, Piasecki TM, Trull TJ, Carpenter RW. Trait impulsivity moderates rate of alcohol consumption in daily life. *Addict Behav.* 2024 Jan 28;152:107976. doi.org/10.1016/j.addbeh.2024.107976

Alcohol – a scoping review for Nordic Nutrition Recommendations 2023

A scoping review by Dag Thelle Department of Biostatistics, Institute of Basic Medical Sciences, University of Oslo, Oslo, Norway and Morten Grønbaek National Institute of Public Health, Copenhagen, Denmark evaluates the updated evidence on the consumption of alcohol and health outcomes regarded as relevant for the Nordic and Baltic countries, including cardiovascular disease, cancer, and all-cause mortality. It is based upon the previous Nordic Nutrition Recommendations of 2012, and relevant papers published until May 31, 2021.

The review finds that current evidence from mainly observational epidemiological studies suggests that regular, moderate alcohol consumption may confer protective effects against myocardial infarction and type 2 diabetes. Mendelian randomization analyses do not fully support these findings, possibly because these analyses may fail to identify low alcohol intake. For several cancers, it is not possible to set any

safe limit. All-cause mortality is not increased with light to moderate alcohol intake in middle-aged and older adults who do not engage in binge drinking. Total abstinence is associated with the lowest risk of mortality in young adults. Observational studies on alcohol consumption are hampered by a number of inherent methodological issues such as ascertainment of alcohol intake, selection of appropriate exposure groups, and insufficient control of confounding variables, colliders and mediators. It should also be emphasized that there is a socio-economic contribution to the alcohol-health axis with a stronger detrimental effect of alcohol in the lower social classes. The above issues contribute to the complexity of unravelling the causal web between alcohol, mediators, confounders, and health outcome.

Source: Thelle D. S., & Grønbaek M. (2024). Alcohol – a scoping review for Nordic Nutrition Recommendations 2023. *Food & Nutrition Research*, 68. doi.org/10.29219/fnr.v68.10540

European cancer mortality predictions for the year 2024 with focus on colorectal cancer

A study published in the cancer journal *Annals of Oncology* predicts death rates from cancer in the EU and UK for 2024. It is the first time that an increase in bowel cancer death rates among young adults has been predicted for some EU countries, and it confirms a trend in the UK that the researchers first noted in 2021.

Researchers led by Carlo La Vecchia (MD), Professor of Medical Statistics and Epidemiology at the University of Milan (Italy) analysed cancer death rates in the EU 27 Member States as a whole and separately in the UK. They looked at the five most populous EU countries (France, Germany, Italy, Poland and Spain) and, individually, for stomach, intestines, pancreas, lung, breast, uterus (including cervix), ovary, prostate, bladder and leukaemias for men and women. Data on deaths were collected from the World Health Organization and Eurostat databases from 1970 to 2018 for most of the EU-27 and the UK.

The researchers predict that the greatest increase in bowel cancer death rates among younger people will be seen in the UK where they will rise by 26% in men and nearly 39% in women in 2024 as compared to 2018. Increases will also be seen in Italy (up 1.5% in men and 2.6% in women), among Spanish and Polish men (up 5.5% and 5.9% respectively) and German women (up 7.2%).

“Key factors that contribute to the rise in bowel cancer rates among young people include overweight, obesity and related health conditions, such as high blood sugar levels and diabetes,” said Prof. La Vecchia. “Additional reasons are increases in heavier alcohol drinking over time in central and northern Europe and the UK, and reductions in physical activity. Alcohol consumption has been linked to early onset bowel cancer, and countries where there has been a reduction in alcohol consumption, such as France and Italy, have not experienced such marked rises in death rates from this cancer. Early onset bowel cancer tends to be more aggressive, with lower survival rates, compared to bowel cancer that is diagnosed in older people.

“National governments should consider strengthening policies to encourage increased physical activity, a reduction in the number of people who are overweight or obese, and a reduction in alcohol consumption...In terms of prevention, governments should consider the extension of screening for bowel cancer to younger ages, starting at ages 45 years.”

Source: Santucci C, Mignozzi S, Malvezzi M, Boffetta P, Collatuzzo G, Levi F, La Vecchia C, Negri E. European cancer mortality predictions for the year 2024 with focus on colorectal cancer. *Ann Oncol.* 2024 Jan 17:S0923-7534(23)05110-4. doi.org/10.1016/j.annonc.2023.12.003

Effect of the Mediterranean diet in cardiovascular prevention

The Mediterranean diet is the best evidence-based model for cardiovascular prevention. In addition to 2 major randomized secondary prevention trials (Lyon Heart and CORDIOPREV) and 1 primary prevention trial (PREDIMED) that have demonstrated these benefits, there is an unprecedented body of high-quality prospective epidemiological evidence supporting these beneficial effects. The key elements of this traditional pattern are the abundant use of extra-virgin olive oil and high consumption of foods of natural plant-based origin (fruits, vegetables, nuts, and legumes) and fish, along with a reduction in processed meats, red meats, and ultra-processed products. Moderate consumption of wine, preferably red wine, with

meals is an essential element of this traditional pattern. Although removing wine consumption from the Mediterranean diet has been associated with a reduction in its preventive efficacy, doubts have recently arisen about the possible adverse effect of even low or moderate intake of any alcoholic beverages.

A new large Spanish trial, UNATI, which will begin in June 2024, will randomize 10 000 drinkers aged 50 to 75 years to abstinence or moderate consumption. UNATI aims to answer these doubts with the best possible evidence.

Source: Martínez-González MÁ, Hernández AH. Effect of the Mediterranean diet in cardiovascular prevention. *Rev Esp Cardiol (Engl Ed).* 2024 Feb 7:S1885-5857(24)00043-4. English, Spanish. doi.org/10.1016/j.rec.2024.01.006

Biological aging markers in blood and brain tissue indicate age acceleration in alcohol use disorder

Alcohol use disorder (AUD) is associated with increased mortality and morbidity risk. A reason for this could be accelerated biological aging, which is strongly influenced by disease processes such as inflammation. As recent studies of AUD show changes in DNA methylation and gene expression in neuroinflammation-related pathways in the brain, biological aging represents a potentially important construct for understanding the adverse effects of substance use disorders. Epigenetic clocks have shown accelerated aging in blood samples from individuals with AUD. However, no systematic evaluation of biological age measures in AUD across different tissues and brain regions has been undertaken.

As markers of biological aging (BioAge markers), the research assessed Levine's and Horvath's epigenetic clocks, DNA methylation telomere length (DNAmTL), telomere length (TL), and mitochondrial DNA copy number (mtDNAcn) in post-mortem brain samples from Brodmann Area 9 (BA9), caudate nucleus, and ventral striatum (N=63–94), and in whole blood samples (N=179) of individuals with and without AUD. The association between AUD status and Bio Age markers was evaluated.

The majority of Bio Age markers were significantly associated with chronological age in all samples. Levine's epigenetic clock and DNAmTL were indicative of accelerated biological aging in AUD in BA9 and whole blood samples, while Horvath's showed the opposite effect in BA9. No significant association of AUD with TL and mtDNAcn was detected. Measured TL and DNAmTL showed only small correlations in blood and none in brain.

The present study is the first to simultaneously investigate epigenetic clocks, telomere length, and mtDNAcn in post-mortem brain and whole blood samples in individuals with AUD. The researchers found evidence for accelerated biological aging in AUD in blood and brain, as measured by Levine's epigenetic clock, and DNAmTL. The researchers state that additional studies of different tissues from the same individuals are needed to draw valid conclusions about the congruence of biological aging in blood and brain.

Source: Zillich, L., Cetin, M., Hummel, E.M., Poisel, E., Fries, G.R., Frank, J. et al. (2024) Biological aging markers in blood and brain tissue indicate age acceleration in alcohol use disorder. *Alcohol: Clinical and Experimental Research*, 48, 250–259. doi.org/10.1111/acer.15241

Alcohol consumption and latent fasting blood glucose trajectories among midlife women

An investigation examined the correlations between alcohol intake and trajectories of fasting blood glucose (FBG) among American women in midlife.

The analysis used data from the Study of Women's Health Across the Nation (SWAN), a comprehensive longitudinal study centred on US women during their midlife transition. Researchers charted the FBG trajectories spanning from 1996 to 2005.

The cohort comprised 2,578 women in midlife, ranging in age from 42 to 52, each having a minimum of three subsequent FPG assessments. Two distinct FBG trajectories were identified: a low-stable pattern (n = 2,467) and a high-decreasing pattern (n = 111). Contrasted with the low-stable group, there was an inverse relationship between alcohol intake and the

high-decreasing FBG trajectory in the fully adjusted model 3. The most pronounced reduction was evident in the highest tertile of daily servings of alcoholic beverages (OR: 0.23, 95% CI: 0.10-0.52), percentage of kilocalories sourced from alcoholic beverages (OR: 0.30, 95% CI: 0.16-0.58, p < 0.001), and daily caloric intake from alcoholic beverages (OR: 0.31, 95% CI: 0.16-0.62,).

Moderate alcohol consumption may protect against high FPG trajectories in middle-aged women in a dose-response manner. Further research is needed to investigate this causality in midlife women, the researchers conclude.

Source: Wang X, Lin S, Wang X, Gao P, Chen J. Association between alcohol consumption and latent fasting blood glucose trajectories among midlife women. *Front Public Health*. 2024 Jan 24;12:1331954. doi.org/10.3389/fpubh.2024.1331954

Exploring the link between lifestyle, inflammation, and insulin resistance

Lifestyle factors-such as diet, physical activity (PA), smoking, and alcohol consumption-have a significant impact on mortality as well as healthcare costs. Moreover, they play a crucial role in the development of type 2 diabetes mellitus (DM2). There also seems to be a link between lifestyle behaviours and insulin resistance, which is often a precursor of DM2.

A study used an enhanced Healthy Living Index (HLI) integrating accelerometric data and an Ecological Momentary Assessment (EMA) to explore differences in lifestyle between insulin-sensitive (IS) and insulin-resistant (IR) individuals. Moreover, it explored the association between lifestyle behaviours and inflammation. Analysing data from 99 participants of the mPRIME study (57 women and 42 men; mean age 49.8 years), researchers calculated HLI scores-ranging from 0 to 4- based on adherence to specific low-risk lifestyle behaviours, including non-smoking, adhering to a healthy diet, maximally moderate alcohol consumption, and meeting World Health

Organization (WHO) PA guidelines. Insulin sensitivity was assessed using a Homeostatic Model Assessment of Insulin Resistance (HOMA-IR) and C-reactive protein (CRP) levels were used as a proxy for inflammation. Lifestyle behaviours, represented by HLI scores, were significantly different between IS and IR individuals ($U = 1529.0$). The difference in the HLI score between IR and IS individuals was mainly driven by lower adherence to PA recommendations in the IR group. Moreover, reduced PA was linked to increased CRP levels in the IR group ($r = -0.368$).

The study findings suggest that enhancing PA, especially among individuals with impaired insulin resistance, holds significant promise as a preventive strategy.

Source: Bruckner F, Gruber JR, Ruf A, Edwin Thanarajah S, Reif A, Matura S. Exploring the Link between Lifestyle, Inflammation, and Insulin Resistance through an Improved Healthy Living Index. *Nutrients*. 2024; 16(3):388. doi.org/10.3390/nu16030388

Alcohol consumption and 10-year mortality in oral and pharyngeal cancer

Previous studies on the association of alcohol drinking with the prognosis of patients with oral and pharyngeal cancer are scarce and conflicting. Most previous studies are surveys from Europe, and examined up to 5 years of overall survival. A research team therefore evaluated the association between alcohol consumption and 10-year mortality among oral and pharyngeal cancer patients in Japan.

2,626 eligible cancer patients diagnosed between 1975 and 2010, identified through a hospital-based cancer registry in Japan, were followed up for up to 10 years. Alcohol consumption was used to divide subjects into five categories: non-drinker, ex-drinker, light (≤ 23 g/day of ethanol), moderate ($23 <$ and ≤ 46 g/day of ethanol), and heavy drinker (> 46 g/day of ethanol), respectively. The association of alcohol consumption with 10-year all-cause mortality was evaluated, adjusting for sex, age, primary site, cancer stage, number of multiple cancers, surgery, radiotherapy, chemotherapy, smoking status and diagnosis year.

Of the 2,626 case of oral and pharyngeal cancer cases analyse, a total of 2626 oral and pharyngeal

cancer cases, 77.0% of total cases was men ($n = 2022$). Of the total sample, 579 (22.0%) patients were heavy drinkers. The median survival time was 2800 days in non-drinkers, 682 days in ex-drinkers, 2923 days in light drinkers, 2101 days in moderate drinkers, and 1114 days in heavy. Ex-drinker and heavy drinker cases had a significantly higher risk of death than non-drinkers (ex-drinker; HR=1.59; 95% CI,1.28-1.96, heavy drinker; HR=1.36; 95% CI,1.14-1.62). Heavy drinkers had a significantly higher risk of death than non-drinkers in both men and women (men; HR=1.35; 95% CI,1.10-1.65, women; HR=2.52; 95% CI,1.41-4.49).

Among oral and pharyngeal cancer patients, an elevated risk of death was observed for heavy drinkers who consumed more than 46 g/day of ethanol compared with non-drinkers. In addition, this relationship was observed in both men and women.

Source: Shihoko Koyama, Takahiro Tabuchi, Toshitaka Morishima, Isao Miyashiro, Alcohol consumption and 10-year mortality in oral and pharyngeal cancer, *Cancer Epidemiology*, Volume 89, 2024,102540, ISSN 1877-7821, doi.org/10.1016/j.canep.2024.102540

Alcohol use associated alterations in the circulating metabolite profile in the general population and in individuals with major depressive disorder

In a study published in the journal, *Nutrients*, researchers from Finland and Norway conducted a study to evaluate whether alcohol use is associated with changes in the circulating metabolite profile similar to those present in persons with depression. If so, these findings could partially explain the link between alcohol use and depression.

A targeted liquid chromatography mass spectrometry method was employed to evaluate correlates between concentrations of 86 circulating metabolites and self-reported alcohol use in a cohort of the non-depressed general population (GP) (n = 247) and a cohort of individuals with major depressive disorder (MDD) (n = 99). Alcohol use was associated with alterations in circulating concentrations of metabolites in both cohorts.

The main finding was that self-reported alcohol use was negatively correlated with serum

concentrations of hippuric acid in the GP cohort. In the GP cohort, consumption of six or more doses per week was associated with low hippuric acid concentrations, similar to those observed in the MDD cohort, but in these individuals it was regardless of their level of alcohol use. Reduced serum concentrations of hippuric acid suggest that already moderate alcohol use is associated with depression-like changes in the serum levels of metabolites associated with gut microbiota and liver function; this may be one possible molecular level link between alcohol use and depression.

Source: Kärkkäinen O, Tolmunen T, Kivimäki P, Kurkinen K, Ali-Sisto T, Mäntyselkä P, Valkonen-Korhonen M, Koivumaa-Honkanen H, Honkalampi K, Ruusunen A, Velagapudi V, Lehto SM. Alcohol use associated alterations in the circulating metabolite profile in the general population and in individuals with major depressive disorder. *Alcohol*. 2024 Jan 24;50741-8329(24)00014-4. doi.org/10.1016/j.alcohol.2024.01.005

Gut-liver-brain axis and alcohol use disorder: treatment potential of fecal microbiota transplantation

Chronic alcohol use is a major cause of liver damage and death. In the United States, multiple factors have led to low utilization of pharmacotherapy for alcohol use disorder (AUD), including lack of provider knowledge and comfort in prescribing medications for AUD. Alcohol consumption has direct effects on the gut microbiota, altering the diversity of bacteria and leading to bacterial overgrowth. Growing evidence suggests that alcohol's effects on the gut microbiome may contribute to increased alcohol consumption

An article published in *Alcohol Research Current Reviews*, reviews human and preclinical studies investigating the role of fecal microbiota transplantation (FMT) in ameliorating alcohol-associated alterations to the liver, gut, and brain resulting in altered behaviour. The article also discusses the therapeutic potential of FMT.

For the narrative review, a literature search was conducted in September 2022 of PubMed, Web of Science Core Collection, and Google Scholar to identify relevant studies. Very few

papers described clinical or preclinical studies that were directly investigating the effects of FMT on alcohol drinking or related behaviours. Ultimately, 16 studies were included in the review.

The literature search identified only a few studies that were directly investigating the effect of FMT on ALD or alcohol drinking and related behaviours. Largely proof-of-concept studies, these findings demonstrate that alcohol can alter the gut microbiome and that the microbiome can be transferred between humans and rodents to alter affective behaviours frequently associated with increased alcohol use. Other studies have shown promise of FMT or other probiotic supplementation in alleviating some of the symptoms associated with ALD and drinking. These results show that the implementation of FMT as a therapeutic approach is still in the investigatory stages.

Source: Wolstenholme JT, Duong NK, Brocato ER, Bajaj JS. Gut-Liver-Brain Axis and Alcohol Use Disorder: Treatment Potential of Fecal Microbiota Transplantation. *Alcohol Res*. 2024 Feb 1;44(1):01. https://doi.org/10.35946/arcv.v44.1.01

The causal effects of genetically predicted alcohol consumption on endometrial cancer risk

Endometrial cancer is a common gynaecological tumour in females with an increasing incidence over the past few decades. Alcohol consumption has been linked to the occurrence of various cancers; However, epidemiological studies have shown inconsistent associations between alcohol consumption and EC risk. In order to avoid the influence of potential confounding factors and reverse causality in traditional epidemiological studies, Mendelian randomization (MR) analysis was used to test whether there is a causal relationship between alcohol consumption and Endometrial cancer.

MR analysis was conducted using publicly available summary-level data from genome-wide association studies (GWAS). Fifty-seven single nucleotide polymorphisms (SNPs) were extracted as instrumental variables for alcohol exposure from the GWAS and Sequencing Consortium of Alcohol and Nicotine GWAS summary data involving 941,287 participants of European ancestry. SNPs for EC were obtained from the Endometrial Cancer Association Consortium, the Endometrial Cancer Epidemiology Consortium, and the UK Biobank, involving 121,885 European participants.

An increase of 1 standard deviation of genetically predicted log-transformed alcoholic drinks per day was associated with a 43% reduction in Endometrial cancer risk [odds ratio (OR) = 0.57, 95% confidence interval (CI) 0.41-0.79]. Subgroup analysis of Endometrial cancer revealed that alcohol consumption was a protective factor for endometrioid endometrial cancer (OR = 0.56, 95% CI 0.38-0.83) but not for non-endometrioid endometrial cancer (OR = 1.36, 95% CI 0.40-4.66). The consistent results of sensitivity analyses indicated the reliability of the causal estimates. Additionally, alcohol consumption was associated with decreased human chorionic gonadotropin (HCG) and insulin-like growth factor 1 (IGF1) levels.

This MR study suggests that genetically predicted alcohol consumption is a protective factor for Endometrial cancer, particularly for endometrioid endometrial cancer, and this protective effect may be mediated through the reduction of HCG and IGF1.

Source: Yang J, Qu X, Zheng AJ, Jiang F, Chang H, Zhang JR, Yan LJ, Ning P. The causal effects of genetically predicted alcohol consumption on endometrial cancer risk from a Mendelian randomization study. *Sci Rep.* 2024 Feb 12;14(1):3478. doi.org/10.1038/s41598-024-53926-z

Causality between alcohol usually taken with meals and Meniere disease

The recurrence of Meniere disease (MD) strongly affects patient quality of life. Identifying the risk factors for Meniere disease is highly important for its prevention and treatment. Previous studies have suggested that alcohol intake may play a role in the development of MD. However, recent studies have shown that the causal relationship between alcohol consumption and MD remains controversial.

A study used the Mendelian randomization (MR) method to determine the causal relationship between alcohol consumption usually consumed with meals and Meniere disease, with the aim of providing suggestions for alcohol intake management in individuals with Meniere disease and helping in the prevention and treatment of Meniere disease.

Two-sample MR was used to investigate the causal relationship between alcohol usually taken with meals and Meniere disease. A dataset

from a publicly available large-scale genome-wide association study (GWAS) was used. Inverse variance weighting (IVW), MR-Egger, simple weighting, weighted weighting and the weighted median method were used for analysis. The final results showed that IVW results (OR = 0.991, 95% CI: 0.983-0.998) suggested that there was statistical significance, but MR-Egger (OR = 0.978, 95% CI: 0.886-1.080), weighted median methods (OR = 0.994, 95% CI: 0.985-1.004) and Simple mode (OR = 0.995, 95% CI: 0.980-1.010), Weighted mode (OR = 0.995, 95% CI: 0.981-1.010) found no significant causal relationship. The results suggest that alcohol usually taken with meals may be negatively correlated with MD.

Source: Liu S, Zhang L, Luo W. Causality between alcohol usually taken with meals and Meniere disease: A 2-sample Mendelian randomization study. *Medicine (Baltimore).* 2024 Feb 16;103(7):e37209. doi.org/10.1097/MD.0000000000037209

Why do only some cohort studies find health benefits from low volume alcohol use?

Assumptions about alcohol's health benefits profoundly influence global disease burden estimates and drinking guidelines. Utilising theory and evidence, researchers identify and test study characteristics that may bias estimates of all-cause mortality risk associated with low volume drinking.

107 longitudinal studies were identified by systematic review with 724 estimates of association between alcohol consumption and all-cause mortality for 4,838,825 participants with 425,564 recorded deaths. "Higher quality" studies had a mean cohort age of ≤ 55 years, followed-up beyond 55 years, and excluded former and occasional drinkers from abstainer reference groups. "Low volume" alcohol use was defined as between one drink per week (>1.30 g ethanol/day) and two drinks per day (<25 g ethanol/day).

As predicted, studies with younger cohorts and separating former and occasional drinkers from abstainers estimated similar mortality risk for low volume drinkers (RR=0.98, 0.87-1.11) as

abstainers. Studies not meeting these quality criteria estimated significantly lower risk for low volume drinkers (RR=0.84, 0.79-0.89). In exploratory analyses, studies controlling for smoking and/or socio-economic status had significantly reduced mortality risks for low volume drinkers. However, mean RR estimates for low volume drinkers in non-smoking cohorts were above 1.0 (RR=1.16, 0.91-1.41).

Studies with lifetime selection biases may create misleading positive health associations, the researchers say. These biases pervade the field of alcohol epidemiology and can confuse communications about health risks. Future research should investigate whether smoking status mediates, moderates or confounds alcohol-mortality risk relationships.

Source: Stockwell T, Zhao J, Clay J, Levesque C, Sanger N, Sherk A, Naimi T. Why do only some cohort studies find health benefits from low volume alcohol use? A systematic review and meta-analysis of study characteristics that may bias mortality risk estimates. *J Stud Alcohol Drugs*. 2024 Jan 30. doi.org/10.15288/jsad.23-00283

Differential patterns of reproductive and lifestyle risk factors for breast cancer according to birth cohorts among women in China, Japan & Korea

The birth cohort effect has been suggested to influence the rate of breast cancer incidence and the trends of associated reproductive and lifestyle factors. An international research team conducted a cohort study to determine whether a differential pattern of associations exists between certain factors and breast cancer risk based on birth cohorts.

The study used pooled data from 12 cohort studies. Associations between reproductive (menarche age, menopause age, parity and age at first delivery) and lifestyle (smoking and alcohol consumption) factors and breast cancer risk were analysed. Hazard ratios (HRs) with 95% confidence intervals (CIs) using the Cox proportional hazard regression analysis on the 1920s, 1930s, 1940s and 1950s birth cohorts were obtained.

Parity was found to lower the risk of breast cancer in the older but not in the younger birth cohort, whereas lifestyle factors showed

associations with breast cancer risk only among the participants born in the 1950s. In the younger birth cohort group, the effect size was lower for parous women compared to the other cohort groups (HR [95% CI] 0.86 [0.66-1.13] compared to 0.60 [0.49-0.73], 0.46 [0.38-0.56] and 0.62 [0.51-0.77]). Meanwhile, a higher effect size was found for smoking (1.45 [1.14-1.84] compared to 1.25 [0.99-1.58], 1.06 [0.85-1.32] and 0.86 [0.69-1.08]) and alcohol consumption (1.22 [1.01-1.48] compared to 1.10 [0.90-1.33], 1.15 [0.96-1.38], and 1.07 [0.91-1.26]).

The researchers observed different associations of parity, smoking and alcohol consumption with breast cancer risk across various birth cohorts.

Source: Nabila S, Choi JY, Abe SK, Islam MR, et al. Differential patterns of reproductive and lifestyle risk factors for breast cancer according to birth cohorts among women in China, Japan and Korea. *Breast Cancer Res*. 2024 Jan 22;26(1):15. doi.org/10.1186/s13058-024-01766-0

Differential associations of alcohol use with ischemic heart disease mortality by socioeconomic status in the US

A U-shaped association has been established between alcohol use and ischemic heart disease (IHD), but no study has explored how such an association differs by SES in the US.

A cohort study investigated how the association of alcohol use with ischemic heart disease mortality differs by SES in the general US population. The study used record-linked, cross-sectional National Health Interview Survey data for US adults aged 25 years and older, covering 1997 to 2018 with mortality follow-up until 2019. SES and alcohol consumption were obtained from self-reported questionnaires.

A cohort study of 524 035 participants found a statistically significantly greater protective association of drinking less than 20 g per day (vs lifetime abstinence) with IHD mortality in the high-SES group compared with the low-SES group (interaction term hazard ratio [HR], 1.22 [95% CI, 1.02-1.45] in men; HR, 1.35 [95% CI, 1.09-1.67] in women). In addition, the differential associations of drinking less than 20 g per day with IHD mortality by SES were observed only among people with less than monthly heavy episodic drinking (HED) (interaction term, HR, 1.20 [95% CI, 1.01-1.43] in men; HR, 1.34 [95% CI, 1.08-1.67] in women); no difference was found in people with at least monthly HED. Among women there was

a greater protective association of drinking less than 20 g per day with IHD mortality in the high-SES group than the middle-SES group (interaction term, HR, 1.35 [95% CI, 1.06-1.72]). Among men, the harmful association of drinking more than 60 g per day with IHD mortality in the low-SES group was largely explained by other behavioural risk factors (i.e., smoking, body mass index, and physical activity).

This cohort study found a greater protective association between drinking less than 20 g per day with less than monthly HED and IHD mortality in the high-SES group compared with the low-SES group, in both sexes even after adjusting for key covariables and behavioural risk factors. The study authors say that their findings suggest that public health interventions on alcohol use should account for different socioeconomic backgrounds when assessing the level of risk related to alcohol exposure, bearing in mind that levels of consumption deemed safe regarding a specific outcome such as IHD may indeed be less safe or not safe across all sociodemographic groups.

Source: Zhu Y, Llamosas-Falcón L, Kerr W, Puka K, Probst C. Differential Associations of Alcohol Use With Ischemic Heart Disease Mortality by Socioeconomic Status in the US, 1997-2018. *JAMA Netw Open*. 2024 Feb 5;7(2):e2354270. doi.org/10.1001/jamanetworkopen.2023.54270

Influence of eight lifestyle factors on metabolic syndrome incidence

Although previous studies have shown significant associations between individual lifestyles and metabolic syndrome, limited studies have explored the combined effect of lifestyles. The purpose of this study was to investigate whether a combined lifestyle score was associated with metabolic syndrome incidence in Hong Kong Chinese women.

This prospective cohort study included 1634 women (55.9 ± 8.6 years) without baseline metabolic syndrome, diabetes, myocardial infarction, or stroke. Eight lifestyle factors (smoking, physical activity, sedentary time, sleep, stress, fatigue, diet, and alcohol (with an intake of >0 and <20 g/day defined as healthy)) were included by assigning 0 (unhealthy) or 1 point (healthy). The overall score was the sum of these points, ranging from 0 (the least healthy) to 8

points (the healthiest). Metabolic syndrome was diagnosed by the joint interim statement.

During a 1.16-year follow-up, 179 (11.0%) new metabolic syndrome cases were identified. The incidences for the 0–3-point, 4-point, 5-point, and 6–8-point groups were 12.8% (79/618), 11.5% (42/366), 9.4% (29/309), and 8.5% (29/341), respectively. Compared to the lowest combined lifestyle score group, the highest group had a 47% reduced metabolic syndrome incidence, with an adjusted odds ratio and 95% confidence interval of 0.53 (0.33–0.86) (p = 0.010).

These findings indicate that a higher combined lifestyle score was associated with a lower metabolic syndrome incidence in this population.

Source: Deng Y-Y, Ngai F-W, Qin J, Yang L, Wong K-P, Wang H-H, Xie Y-J. Combined Influence of Eight Lifestyle Factors on Metabolic Syndrome Incidence: A Prospective Cohort Study from the MECH-HK Study. *Nutrients*. 2024; 16(4):547. doi.org/10.3390/nu16040547

Medical research listed by publication date

- Multi-ancestry study of the genetics of problematic alcohol use in over 1 million individuals 07/12/2023
- The Significant Role of Alcohol in the Relationship between C-Reactive Protein and Self-Reported Osteoarthritis 12/01/2024 Available online, Version of Record 15/02/2024.
- A Mendelian randomization study on the causal relationship between smoking, alcohol consumption, and the development of myopia and astigmatism 22/01/2024
- Differential patterns of reproductive and lifestyle risk factors for breast cancer according to birth cohorts among women in China, Japan and Korea 22/01/2024
- Association between alcohol consumption and latent fasting blood glucose trajectories among midlife women. 24/01/2024
- Gut-Liver-Brain Axis and Alcohol Use Disorder: Treatment Potential of Fecal Microbiota Transplantation. 24/01/2024 Available online
- Alcohol use associated alterations in the circulating metabolite profile in the general population and in individuals with major depressive disorder. 24/01/2024 Available online
- Longitudinal clustering of health behaviours and their association with multimorbidity in older adults in England: A latent class analysis. 20240125
- Biological aging markers in blood and brain tissue indicate age acceleration in alcohol use disorder. 26/01/2024
- Trait impulsivity moderates rate of alcohol consumption in daily life. 28/01/2024 Version of Record 5 February 2024
- European cancer mortality predictions for the year 2024 with focus on colorectal cancer. 28/01/2024
- Exploring the Link between Lifestyle, Inflammation, and Insulin Resistance through an Improved Healthy Living Index. 29/01/2024
- Why do only some cohort studies find health benefits from low volume alcohol use? A systematic review and meta-analysis of study characteristics that may bias mortality risk estimates. 30/01/2024 Available online
- Differential Associations of Alcohol Use With Ischemic Heart Disease Mortality by Socioeconomic Status in the US, 1997-2018 01/02/2024
- Alcohol consumption and 10-year mortality in oral and pharyngeal cancer 06/02/2024 Available online, Version of Record 6 February 2024.
- Effect of the Mediterranean diet in cardiovascular prevention 07/02/2024 Available online
- Alcohol – a scoping review for Nordic Nutrition Recommendations 2023 07/02/2024
- The causal effects of genetically predicted alcohol consumption on endometrial cancer risk from a Mendelian randomization study. 12/02/2024
- Alcohol Consumption, High-Density Lipoprotein Particles and Subspecies, and Risk of Cardiovascular Disease: Findings from the PREVENT Prospective Study 14/02/2024
- Combined Influence of Eight Lifestyle Factors on Metabolic Syndrome Incidence: A Prospective Cohort Study from the MECH-HK Study. 16/02/2024
- Causality between alcohol usually taken with meals and Meniere disease: A 2-sample Mendelian randomization study. 16/02/2024
- Modifiable and Non-Modifiable Risk Factors for Premature Coronary Heart Disease (PCHD): Systematic Review and Meta-Analysis 19/02/2024

Alcohol-related emergency department presentations and hospital admissions around the time of minimum unit pricing in Ireland

Minimum unit pricing (MUP) was recently introduced in Ireland to reduce alcohol-related harms. The size of the impact of alcohol on hospital emergency departments (EDs) in Ireland is poorly understood due to inconsistent alcohol screening and documentation.

A research team sought to systematically characterise the volume, timing, and nature of alcohol-related presentations and admissions to a busy urban ED in Dublin, Ireland.

Patients presenting to the ED were assessed by a dedicated clinician during selected time periods before (Nov-Dec 2021) and after (Feb-Apr 2022)

the introduction of MUP. A total of 725 interviews were conducted over 168 h in the ED.

Alcohol consumption was a factor in 19.4% of ED presentations and in 17.3% of hospital admissions across the entire study period. A 6.7% reduction in overall alcohol-related ED presentations was noted in the period following MUP, although the researchers emphasise that it is not possible to conclude a direct effect.

Source: Maharaj T, Fitzgerald N, Gilligan E, Quirke M, MacHale S, Ryan JD. Alcohol-related emergency department presentations and hospital admissions around the time of minimum unit pricing in Ireland. *Public Health*. 2024 Feb;227:38-41. doi: [10.1016/j.puhe.2023.11.016](https://doi.org/10.1016/j.puhe.2023.11.016)

Characteristics of alcohol, marijuana, and other drug use among persons aged 13–18 years being assessed for substance use disorder treatment in the US

Among adolescents being assessed for substance use disorder treatment, the most commonly reported reasons for substance use included seeking to feel mellow or calm, experimentation, and other stress-related motivations. Most reported using substances with friends; however, approximately one half of respondents who reported past-30-day prescription drug misuse reported using alone.

The authors of a study published by the Centers for Disease Control and Prevention in the US say that understanding the motivations reported by adolescents for using alcohol, marijuana, and other drugs and the persons with whom they use these substances could guide strategies to prevent or reduce substance use and its related consequences among adolescents.

A cross-sectional study was conducted among adolescents being assessed for substance use disorder (SUD) treatment in the United States during 2014–2022, to examine self-reported motivations for using substances and the persons with whom substances were used. The most commonly reported motivation for substance

use was “to feel mellow, calm, or relaxed” (73%), with other stress-related motivations among the top reasons, including “to stop worrying about a problem or to forget bad memories” (44%) and “to help with depression or anxiety” (40%); 50% reported using substances “to have fun or experiment.” The majority of adolescents reported using substances with friends (81%) or using alone (50%).

The study findings suggest that interventions related to reducing stress and addressing mental health concerns might reduce the leading motivations for substance use among adolescents. Education for adolescents about harm reduction strategies, including the danger of using drugs while alone and how to recognize and respond to an overdose, could also reduce the risk for fatal overdose.

Source: Connolly S, Govoni TD, Jiang X, et al. Characteristics of Alcohol, Marijuana, and Other Drug Use Among Persons Aged 13–18 Years Being Assessed for Substance Use Disorder Treatment — United States, 2014–2022. *MMWR Morb Mortal Wkly Rep* 2024;73:93–98. [dx.doi.org/10.15585/mmwr.mm7305a1](https://doi.org/10.15585/mmwr.mm7305a1).

Proportion of at-risk alcohol consumers according to the new French Guidelines

A study estimated the proportion of consumers in France exceeding the country’s new low-risk drinking guidelines according to sociodemographic and clinical factors.

The study included 34,470 participants with follow-up data in 2019, among volunteers aged 18–69 years and enrolled in the CONSTANCES cohort in 2016 and 2017. Weighted prevalence and odds ratios with 95% confidence intervals (CI) exceeding the guidelines were estimated, stratified for age, gender, education, occupational grade, employment, income, marital status, pregnancy, work stress, depression, alcohol dependence, binge drinking, cannabis use, smoking status, e-cigarette use, cardiovascular diseases, and cancer.

The guidelines were exceeded more by men at 60.2% (95%CI: 59.3%–61.0%) than by women at 36.6% (95%CI: 35.9%–37.4%). Exceeding the

guidelines increased with age, socioeconomic status, smoking, vaping, using cannabis, binge drinking, and alcohol dependence. Being depressed was associated with exceeding the guidelines in women. Even though pregnant women were less likely to exceed the guidelines, 7.6% (95%CI: 5.4%–10.6%) were at-risk drinkers.

These findings highlight the need to implement effective prevention measures for at-risk alcohol use among the French population, the researchers comment.

Source: Haddad Rita, Renuy Adeline, Wiernik Emmanuel, Melchior Maria, Zins Marie, Airagnes Guillaume, Proportion of At-Risk Alcohol Consumers According to the New French Guidelines: Cross-Sectional Weighted Analyses From the CONSTANCES Cohort. *International Journal of Public Health*, Vol 69, 2024 [sph-journal.org/articles/10.3389/ijph.2024.1606481](https://www.sph-journal.org/articles/10.3389/ijph.2024.1606481)

The effect of a minimum price per unit of alcohol in Scotland on alcohol-related ambulance call-outs

A minimum unit price (MUP) of £0.50 per unit of alcohol was introduced by the Scottish government in May 2018. A study published in the journal, *Addiction*, measured the association between MUP and changes in the volume of alcohol-related ambulance call-outs in the overall population and in call-outs subsets (night-time call-outs and subpopulations with higher incidence of alcohol-related harm).

The study used data from electronic patient clinical records from the Scottish Ambulance Service and included alcohol-related ambulance call-outs (intervention group) and total ambulance call-outs for people aged under 13 years (control group) in Scotland, from December 2017 to March 2020. Call-outs were deemed alcohol-related if ambulance clinicians indicated that alcohol was a 'contributing factor' in the call-out and/or a validated Scottish Ambulance Service algorithm determined that the call-out was alcohol-related. An interrupted time-series (ITS) was used to measure variations

in the daily volume of alcohol-related call-outs. Researchers performed uncontrolled ITS on both the intervention and control group and a controlled ITS built on the difference between the two series.

The results showed no significant association in the volume of call-outs in either of the uncontrolled series. Similarly, no significant changes were found for the night-time series or for any population subgroups.

The authors conclude that there appears to be no statistically significant association between the introduction of minimum unit pricing for alcohol in Scotland and the volume of alcohol-related ambulance call-outs, either overall, across subpopulations or at night-time.

Source: Manca F, Lewsey J, Mackay D, Angus C, Fitzpatrick D, Fitzgerald N. The effect of a minimum price per unit of alcohol in Scotland on alcohol-related ambulance call-outs: A controlled interrupted time-series analysis. *Addiction*. 2024. doi.org/10.1111/add.16436

Evaluating distress as a moderator of the relationship between drinking identity and hazardous drinking during the post-college transition

Drinking identity (the extent to which one associates the self with drinking alcohol) is a robust predictor of young adult hazardous drinking (HD; heavy drinking and alcohol-related problems), and decreases in drinking identity have been linked to the decline in HD that often occurs following college graduation. Identifying moderators is key to recognizing who is most at risk for continued HD given a drinking identity vulnerability.

Using data from a longitudinal study of graduating college students from the US, researchers evaluated distress (depression, anxiety, stress symptoms) as a potential moderator. Between- and within-person components of drinking identity and distress were evaluated to consider both individual differences and variations within a person across time and changing contexts.

Graduating college students who met HD criteria (N = 422) completed implicit and explicit drinking identity measures (assessed using reaction time

and self-report measures, respectively), distress symptom questionnaires, and self-reported alcohol consumption and problems at four-month intervals for 2.5 years.

Results supported moderation at the between-person level for alcohol consumption, with higher levels of implicit drinking identity and distress linked to greater subsequent alcohol consumption. Only between-person main effects for (explicit) identity and distress were linked to more subsequent alcohol-related problems.

Though moderation findings were mixed, having a stronger drinking identity and/or greater distress was linked to continued HD risk in this sample. Individuals with these risk factors may benefit from enhanced prevention efforts to help graduates transition out of HD post-college.

Source: Lindgren KP, Neighbors C, Teachman BA, Wiers RW. Evaluating distress as a moderator of the relationship between drinking identity and hazardous drinking during the post-college transition. *Addict Behav*. 2024 Jan 11;152:107955. doi.org/10.1016/j.addbeh.2024.107955

Social media use and alcohol sipping in early adolescents

Social media can influence alcohol initiation behaviours such as sipping, which can lead to future adverse alcohol-related outcomes. Few studies have examined the role of problematic social media use, characterized by addiction, mood modification, tolerance, withdrawal, conflict, and relapse, especially in early adolescence.

Researchers examined the prospective association between social media use and sipping alcohol in a nationwide sample of early adolescents, they also examined the extent to which problematic social media use mediates the association.

Data from the Adolescent Brain Cognitive Development Study (N=7514; ages 9–10 years at baseline; 2016–2018) was analysed to estimate associations between social media time (Year 1) and alcohol sipping (Year 3) and testing problematic social media use (Year 2) as a mediator.

Social media time (Year 1) was prospectively associated with 1.31 (95% confidence interval 1.20–1.43) times higher risk of new-onset sipping (Year 3). The association between social media time and new-onset alcohol sipping was partially mediated by problematic social media use at Year 2 (25.0% reduction in the association between the former two factors after adding problematic social media use).

Time spent on social media was associated with a higher risk of alcohol sipping in a diverse national sample of early adolescents, and the association was partially mediated by problematic social media use. Media literacy education and family media use plans could advise early adolescents about exposure to alcohol content on social media and warning signs for problematic use.

Source: Nagata JM, Sajjad OM, Smith N, Zamora G, Dhama S, Al-Shoaibi AAA, Ganson KT, Testa A, Moreno MA, Kiss O, Baker FC, Jackson DB. Social Media Use and Alcohol Sipping in Early Adolescents: A Prospective Cohort Study. *Subst Use Misuse*. 2024 Feb 9;1-6. doi.org/10.1080/10826084.2024.2310501

Trends in social inequality in mortality in Denmark

During the past decades, social inequality in mortality has increased in several countries, including Denmark. Modifiable risk factors, such as smoking and harmful alcohol consumption, have been suggested to moderate the association between socioeconomic position and health-related outcomes. A study investigated the contribution of smoking- and alcohol-related deaths to the trends in educational inequality in mortality in Denmark 1995–2019 among individuals aged 30–74 years.

Nationwide data on mortality and highest attained educational level divided into quartiles were derived from administrative registers. Alcohol-related mortality was directly estimated using information on alcohol-related deaths from death certificates. Smoking-related mortality was indirectly estimated using the Peto-Lopez method. The contribution of smoking- and alcohol-related deaths to the social inequality gap in mortality 1995–2019 was calculated.

Alongside a decrease in all-cause mortality in Denmark 1995–2019, absolute differences in the

mortality rate (per 100 000 person-year) between the lowest and the highest educational quartile increased from 494 to 607 among men and from 268 to 376 among women. Among both men and women, smoking- and alcohol-related deaths explained around 60% of the social inequality in mortality and around 50% of the increase in mortality inequality.

Smoking and harmful alcohol consumption continue to be important risk factors and causes of social inequality in mortality, with around half of the increase in Denmark 1995–2019 being attributable to smoking- and alcohol-related deaths, the researchers conclude. Future healthcare planning and policy development should aim at reducing social inequality in modifiable health risk behaviours and their negative consequences.

Source: Jensen HAR, Møller SR, Christensen AI, et al Trends in social inequality in mortality in Denmark 1995–2019: the contribution of smoking- and alcohol-related deaths. *J Epidemiol Community Health* 2024;78:18-24.

A social media intervention for high-intensity drinking among emerging adults

Individuals engaged in High-intensity drinking (HID), a pattern of risky drinking defined as at least 8 drinks (for women) or 10 drinks (for men) in a single episode, may be at greater risk for consequences, necessitating tailored interventions. A study investigated the feasibility and acceptability of a social media-delivered 8-week intervention for emerging adults with recent HID.

Using social media advertising, 102 emerging adults who reported past-month HID were recruited. Average age was 20.0 year-olds (SD = 2.0); 51.0% were male. Most identified as White (64.7%; 14.7% Black/African American, 13.7% multiracial) and 26.5% identified as Hispanic/Latinx. Participants were randomised to an 8-week intervention delivered via Snapchat by health coaches (N = 50) or to a control condition (psychoeducational website referral; N = 52). Follow-ups occurred at 2 and 4 months post-baseline.

The intervention was acceptable (85.1% liked it/liked it a lot) and there were high follow-up rates.

Participants rated coaches as supportive (91.5%) and respectful (93.6%). Descriptively, helpfulness ratings were higher for non-alcohol-related content (e.g., stress; 59.6% very/extremely helpful) than alcohol-related content (40.4% very/extremely helpful). Regarding engagement, 86.0% engaged approximately weekly and 59.6% indicated they saved intervention snaps. Descriptive data showed reductions over time in several measures of alcohol consumption and consequences as well as cannabis-impaired driving and mental health symptoms.

This 8-week social media intervention for HID was feasible and acceptable among emerging adults, supporting the benefit of future testing in a fully powered trial.

Source: Bonar EE, Tan CY, Fernandez AC, Goldstick JE, Chapman L, Florimbio AR, Walton MA. A social media intervention for high-intensity drinking among emerging adults: a pilot randomized controlled trial. *Alcohol Alcohol.* 2024 Jan 17;59(2):agae005. doi.org/10.1093/alcalc/agae005

Adolescent hazardous drinking and socioeconomic status in France

The “alcohol harm paradox” has been evidenced among adults, but it is still largely unexplored among adolescents. Researchers examined the relation between family socioeconomic status (SES), family living arrangement and parental substance use on the one hand, and heavy episodic drinking (HED), lifetime alcohol-induced emergency room visits (A-ERV), and number of alcoholic drinks and solitary drinking during the last episode on the other hand in a sample of French adolescents.

A cross-sectional nationwide survey in March 2017 involved 13,314 French adolescents aged 17-18.5 years. They completed a questionnaire about their own and their parents’ alcohol and tobacco consumption.

Adolescents from the lowest SES had reduced likelihood of reporting 1-2 or 3-5 episodes of heavy drinking compared to those from the highest SES (RR = 0.58, 95% confidence interval = [0.50; 0.66]

and 0.35 [0.27; 0.45]), but no difference for six or more episodes (RR = 0.81 [0.59; 1.12]). A-ERV was more frequent among lowest SES adolescents (RR = 1.86 [1.05; 3.30]), possibly due to drinking larger quantities of alcohol and to more frequent solitary drinking in their last episode. SES, parental substance use, and family living arrangement were independently associated with HED.

The study’s findings reveal an “alcohol harm paradox” in late adolescence in France. Lower SES adolescents exhibit reduced HED but were more likely to consume large quantities alone and experience A-ERV. This emphasises the significance of considering social determinants in alcohol-related research and interventions.

Source: Legleye S, Khlat M, Aubin HJ, Bricard D. Adolescent Hazardous Drinking and Socioeconomic Status in France: Insights Into the Alcohol Harm Paradox. *J Adolesc. Health.* 2024 Mar;74(3):458-465. doi.org/10.1016/j.jadohealth.2023.10.008

Alcoholic beverage types consumed by population subgroups in the US and implications for alcohol policy

A paper published in the *Drug and Alcohol Review*, examined which alcoholic beverage types are more likely to be consumed by demographic subgroups with greater alcohol-related health risk than others, mainly individuals with low socio-economic status, racial/ethnic minority status and high drinking levels.

37,657 participants in the National Epidemiologic Survey on Alcohol and Related Conditions Waves 2 (2004–2005) and 3 (2012–2013) were included in the study. The outcomes were the proportions of pure alcohol consumed as beer, wine, liquor and coolers (defined as wine-/malt-/liquor-based coolers, hard lemonade, hard cider and any pre-packaged cocktails of alcohol and mixer).

Adults with lower education and low or medium income were more likely to drink beer, liquor and coolers, while those with a 4-year college/advanced degree and those with high income preferred wine. Excepting Asian adults, racial/ethnic minority adults were more likely to drink

beer (Hispanics) and liquor (Blacks), compared with White adults. High- or very-high-level drinkers were more likely to consume liquor and beer and less likely to consume wine (and coolers), compared with low-level drinkers. High-level and very-high-level drinkers, who were less than 10% of all drinkers, consumed over half of the total volume of beer, liquor and coolers consumed by all adults.

Individuals with low socio-economic status, racial/ethnic minority status or high drinking level prefer liquor and beer. As alcohol taxes, sales and marketing practices all are beverage-specific, targeted approaches to reduce consumption of these beverages, particularly among individuals with these profiles, are warranted, the study authors argue.

Source: Cook WK, Kerr WC, Zhu Y, Bright S, Buckley C, Kilian C, et al. Alcoholic beverage types consumed by population subgroups in the United States: Implications for alcohol policy to address health disparities. *Drug Alcohol Rev.* 2024. doi.org/10.1111/dar.13819

Zero-alcohol beverages: A survey of Australian parents' practices and intentions

Zero-alcohol beverages (<0.5% alcohol by volume) appear and taste similar to alcoholic beverages but are regulated similarly to soft drinks in many countries, blurring the distinction between alcoholic and non-alcoholic beverages. How parents view provision of zero-alcohol beverages to adolescents is likely a key determinant of adolescent consumption.

Researchers investigated factors associated with parents' provision of zero-alcohol beverages to adolescents, including attitudes toward zero-alcohol beverages and demographic, knowledge, and behavioural factors known to be associated with provision of alcoholic beverages.

An online cross-sectional survey of N = 1197 Australian parents of adolescents aged 12-17 years in April-May 2022 was conducted. The associations with zero-alcohol beverage and with future provision intentions were assessed.

Factors significantly associated with parents' provision and future intentions to provide zero-

alcohol beverages to their adolescent included beliefs that zero-alcohol beverages had benefits for adolescents (Adjusted Odds Ratio [AOR] 2.69 (provision); 3.72 (intentions)), provision of alcoholic beverages (AOR 2.67 (provision); 3.72 (intentions)), and an incorrect understanding of alcohol guidelines for adolescents (AOR 2.38 (provision); 1.95 (intentions)).

Parents' provision and intentions to provide zero-alcohol beverages were associated with beliefs about zero-alcohol beverages as well as some factors associated with provision of alcoholic beverages. Precautionary advice to parents that the provision of zero-alcohol beverages may serve to normalise alcohol consumption may be warranted.

Source: Bartram A, Harrison NJ, Norris CA, Kim S, Pettigrew S, Room R, Miller C, Olver I, Jenkinson R, Bowshall M, Bowden JA. Which parents provide zero-alcohol beverages to adolescents? A survey of Australian parents' practices and intentions. *Prev Med.* 2024 Feb;179:107840. doi.org/10.1016/j.ypmed.2023.107840

Age at first drink and its influence on alcohol use behaviours in young adulthood

Public health guidelines recommend delaying the initiation age for alcohol. However, the causal link between age-at-first-drink (AFD) and future alcohol use in young adulthood is uncertain. A study examined the association between AFD and alcohol-related outcomes at age 20 years using an Australian sample.

The study used data from Waves 1-19 (years 2001-2019) of the Household, Income and Labour Dynamics in Australia Survey on 20-year-olds with responses across ≥ 3 consecutive waves ($n = 2278$). The AFD for each respondent (between 15 and 20 years) was analysed relative to Australian legal drinking age (18 years). Associations between AFD and four outcomes at age 20 years: risk of current alcohol use; quantity of weekly alcohol consumption; risk of binge drinking; and frequency of binge drinking were evaluated. Adjustments were made for confounders (e.g., heavy drinking by parents). Robustness of study findings was evaluated using several diagnostic tests/sensitivity analyses.

Among 20-year-olds, those with an AFD of 15-16 years consumed significantly more alcohol per week compared to an AFD of 18 years. Additionally, 20-year-old drinkers with an AFD of 16 years were significantly more likely to binge drink (though this association was likely confounded). An inverse dose-response relationship was observed between AFD and weekly alcohol consumption at 20 years, where a higher AFD led to lower alcohol consumption.

Study findings indicate an association between a higher AFD and consuming less alcohol in young adulthood, which could potentially support the scale-up of prevention programs to delay AFD among Australian adolescents.

Source: Lee YY, Slade T, Chatterton ML, Le LK, Perez JK, Faller J, Chapman C, Newton NC, Sunderland M, Teesson M, Mihalopoulos C. Age at first drink and its influence on alcohol use behaviours in young adulthood: Evidence from an Australian household-based panel study. *Prev Med.* 2024 Feb 15:107898. doi.org/10.1016/j.ypmed.2024.107898

Global trends in the prevalence of alcohol consumption among school-going adolescents aged 12–15 years

There is a scarcity of data available on time trends in adolescents' alcohol consumption particularly from non-Western countries and low- and middle-income countries. A study examined the temporal trend of alcohol use in a large representative sample of school-going adolescents aged 12–15 years from 22 countries in Africa, Asia, and the Americas. The authors say that this is, to the best of their knowledge, the first study on alcohol consumption trends with such a large number of countries for which trends were previously unknown.

Data on 135,426 adolescents aged 12–15 years from the Global School-based Student Health Survey were analyzed. Alcohol consumption was defined as consuming alcohol on at least one day in the past 30 days. The overall mean prevalence of past 30-day alcohol consumption was 14.1%.

Of the 22 countries included in the study, increasing, decreasing, and stable trends were observed in 3, 8, and 11 countries, respectively. Specifically, significant increases were observed in Benin between 2009 (16.1%) and 2016

(38.6%), Myanmar between 2007 (0.9%) and 2016 (3.6%), and Vanuatu between 2011 (7.6%) and 2016 (12.2%). The most pronounced decrease was observed in Samoa between 2011 (34.5%) and 2017 (9.8%), but the rate of decrease was modest in most countries. Finally, several distinct patterns in terms of sex differences were observed in eight countries.

Among school-going adolescents, decreasing trends in alcohol consumption were more common than increasing trends, but the rate of decrease was limited in most countries, suggesting that more global action is required to curb adolescent alcohol consumption, the authors conclude.

Source: Lee Smith, Guillermo F. López Sánchez, Damiano Pizzol, Hans Oh, Yvonne Barnett, Felipe Schuch, Laurie Butler, Daragh T. McDermott, Graham Ball, Asha Chandola-Saklani, Jae Il Shin, Ai Koyanagi, Global Trends in the Prevalence of Alcohol Consumption Among School-Going Adolescents Aged 12–15 Years, *Journal of Adolescent Health*, Volume 74, Issue 3, 2024, Pages 441-448, ISSN 1054-139X. doi.org/10.1016/j.jadohealth.2023.10.007

Declines in adolescent drinking and experience of alcohol-related consequences in the Nordic countries

There has been a generally decreasing trend in alcohol consumption among European adolescents in the Nordic countries of Finland, Iceland, Norway and Sweden. Reductions of approximately 15 percentage points in the prevalence of lifetime alcohol use have been observed between 1995 and 2015, with Denmark lagging somewhat behind. This decline continued between 2015 and 2019 in Finland, Norway and Sweden, and stagnated in Iceland, whereas the prevalence of lifetime alcohol use remained at a higher level in Denmark.

This study investigated whether self-reported acute alcohol-related consequences among adolescents in the Nordic countries have declined in concert with the decline in alcohol consumption; whether the relationship between alcohol consumption and alcohol-related consequences has strengthened; and whether the decline in alcohol-related consequences can be attributed to the decline in alcohol consumption.

The study used data from the European School Survey Project on Alcohol and Other Drugs (ESPAD) cross-sectional surveys in 2007, 2011 and 2015. Participants were students aged 15–16 years in 2007 (n=16,035), 2011 (n=14,765) and 2015 (n=13,517). Alcohol consumption variables included lifetime and 12-month alcohol use, volume ethanol at last drinking occasion and heavy episodic drinking in the

past 30 days. Self-reported acute alcohol-related consequences were measured as a sum index of experiencing the following at least once within the last 12 months: (1) an accident or injury; (2) being victimised by robbery or theft; or (3) had trouble with the police.

For all alcohol indicators, adolescent alcohol use decreased between 2007 and 2015. The highest prevalence estimates were found in Denmark, and here only the number of current drinkers decreased significantly. A decreasing trend in self-reported acute alcohol-related consequences was observed. A strengthening of the alcohol consumption consequences association from 2007 to 2015, was not found, except in Iceland. When all surveys were combined, the decrease in alcohol-related consequences could be explained by a decrease in alcohol consumption. Overall, adolescents aged 15–16 years exhibited decreasing trends in both alcohol consumption, less markedly in Denmark, and in the sum index of alcohol-related consequences between 2007 and 2015. Except for Iceland, there was no support for a strengthening of the alcohol-consequences association with declining drinking among adolescents.

Source: Ekholm O, Pisinger V, Jensen HAR, Bloomfield K. Implications of the decline in adolescent drinking on the experience of alcohol-related consequences in the Nordic countries: A study based on data from the ESPAD project. *Nordic Studies on Alcohol and Drugs*. 2024;0(0). doi.org/10.1177/14550725241229016

Prevalence and characteristics of co-occurrence of smoking and increasing-and-higher-risk drinking

Smoking and drinking alcohol both significantly contribute to mortality and morbidity, and there is a need to characterise the sociodemographic and health-related characteristics (e.g., mental distress) of people who do both in order to target resources. A study reports the prevalence and characteristics of adults in the general population in England who both drink alcohol at increasing-and-higher-risk levels and smoke.

37,258 adults from a monthly, nationally representative survey of adults in England (April 2020-March 2022) were included in the research. Weighted data were used to report prevalence and unweighted data were used to report descriptive statistics for sociodemographic and health-related characteristics.

The prevalence of both smoking and increasing-and-higher-risk drinking was 4.6% (95% CI = 4.4–4.9). These participants smoked a mean of 10.4 cigarettes per day and had a mean AUDIT

score of 12.8. 48.2% were trying to cut down on their smoking and 28.0% on their drinking. 25.3% had received General Practitioner advice on smoking while 8.7% had received advice on their drinking. 48.6% reported experiencing psychological distress in the past month and 44.6% had a diagnosed mental health condition, both of which were higher than among all adults (28.1% and 29.1%, respectively).

In England, from April 2020 to March 2022, the prevalence of both smoking and increasing-and-higher-risk drinking was 4.6%. This group appears to experience high rates of mental health problems and targeted support is needed.

Source: Claire Garnett, Melissa Oldham, Leonie Brose, Hazel Cheeseman, Sharon Cox, *Prevalence and characteristics of co-occurrence of smoking and increasing-and-higher-risk drinking: A population survey in England*, *Addictive Behaviors*, Volume 150, 2024, 107928, ISSN 0306-4603. doi.org/10.1016/j.addbeh.2023.107928.

Social research listed by publication date

- Trends in social inequality in mortality in Denmark 1995–2019: the contribution of smoking- and alcohol-related deaths 23/07/2023
- Prevalence and characteristics of co-occurrence of smoking and increasing-and-higher-risk drinking: A population survey in England 28/11/2023
Available online, Version of Record 13/12/2023
- Adolescent hazardous drinking and socioeconomic status in France: Insights into the alcohol harm paradox 08/12/2023
- Global Trends in the prevalence of alcohol consumption among school-going adolescents aged 12–15 years 09/12/2023
- Which parents provide zero-alcohol beverages to adolescents? A survey of Australian parents' practices and intentions 25/12/2023, available online, Version of Record 10 January 2024
- Evaluating distress as a moderator of the relationship between drinking identity and hazardous drinking during the post-college transition 11/01/2024, available online, Version of Record 29 January 2024.
- The effect of a minimum price per unit of alcohol in Scotland on alcohol-related ambulance call-outs 14/01/2024
- Alcoholic beverage types consumed by population subgroups in the United States: Implications for alcohol policy to address health disparities 05/02/2024
- Alcohol-related emergency department presentations and hospital admissions around the time of minimum unit pricing in Ireland 16/12/2023, available online, Version of Record 16/12/2023
- Characteristics of alcohol, marijuana, and other drug use among persons aged 13–18 years being assessed for substance use disorder treatment in the US 08/02/2024
- Implications of the decline in adolescent drinking on the experience of alcohol-related consequences in the Nordic countries 08/02/2024
- Social media use and alcohol sipping in early adolescents 09/02/2024
- A social media intervention for high-intensity drinking among emerging adults 13/02/2024
- Age at first drink and its influence on alcohol use behaviours in young adulthood 15/02/2024, Available online, Version of Record 24/02/2024.
- Proportion of at-risk alcohol consumers according to the New French Guidelines 16/02/2024

Know Your Units' Living Well campaign launched

In Northern Ireland, as part of the Living Well service, community pharmacies are highlighting the importance of why those who drink alcohol should 'Know Your Units'.

The 'Know Your Units' campaign aims to increase awareness of the UK Chief Medical Officers' guidelines of not drinking regularly more than 14 units per week, and the health risks associated with drinking alcohol in excess. The campaign will also be highlighting some of the free tools that can be used to check the number of units in a particular drink, what to do if you or someone you know is drinking to a harmful level and where to find help and support online and in the community.

The campaign will run in over 500 community pharmacies throughout February and March 2024 as part of the 'Living Well' service, a partnership between the Public Health Agency (PHA), Community Pharmacy NI (CPNI), and the Department of Health, providing information



and advice to individuals on public health issues in pharmacies across Northern Ireland. Visitors to the pharmacies are being encouraged to pick up a free 'Know Your Units' calculator and a booklet with guidance on alcohol and health.

Kevin Bailey, Regional Lead for Drugs and Alcohol at the PHA, said: "It is easy to forget that alcohol is a powerful drug and the 'Know Your Units' campaign enables pharmacists at the heart of our communities to urge people who are regularly drinking above the lower risk guidelines, to think about their drinking and the impact it could be having on their health."

UK consultation on digital age verification for alcohol sales

The UK government has opened a consultation on whether digital age verification should be used for alcohol sales in convenience stores and for home delivery and whether to amend legislation in order to specify that for sales of alcohol that do not take place face to face, age verification should take place at the point of delivery as well as sale.

The Licensing Act 2003 ('the act') covers the retail sale and supply of alcohol. One of the licensing objectives that the act seeks to uphold is the protection of children from harm, meaning that alcohol must not be sold to someone under 18. Currently, if anyone appears to be under 18, they need to produce identification which bears their photograph, date of birth and either a holographic mark or ultraviolet feature. In

practice this means that currently only physical identity documents are permitted.

The government is keen to enable the secure and appropriate use of new technologies that can improve the experience of consumers and retailers, saying that the need for robust national standards for digital identities and technology remains paramount in order to provide confidence to retailers and consumers alike that they are fit for purpose. Any change would reflect the wider cross-government position on the use of digital identities and technology for the sale of age-restricted products and will only take effect once there are government approved national standards in place. The consultation closes on 30 March 2024.

gov.uk/government/consultations/alcohol-licensing-age-verification

Partnership to help promote responsible drinking among football fans

Irish whiskey brand Jameson is partnering the English Football League (EFL) on an ad campaign designed to help promote responsible drinking. The campaign is part of Jameson's partnership with the EFL, which began six months ago when the whiskey brand became the official partner of the league ahead of the 2023-24 season.

The campaign will run on stadium big screens and digital boards, through video-on-demand via Sky Sports, on the EFL and the 72 EFL clubs' websites, social media and in matchday programmes.

The work will feature new taglines including: "Sip wisely. Water is always a super sub."

Jameson is offering light-hearted tips to encourage people to make "smarter drinking decisions", such as having tap water and drinking single measures of spirits, and has created an "excuse generator" for those who have opted not to drink alcohol. Its website features recipes for low- and no-alcohol cocktails that use the Jameson bottle cap as a 10ml measure.

Josh McCarthy, brand director for Pernod Ricard UK, said: "Our presence across all 72 clubs has given us a captive weekly audience. It was a no-brainer to dial-up our responsible drinking message to encourage people to make wise decisions when it comes to their alcohol intake".

Drinkaware publishes guide to increase sales of low and alcohol-free drinks

In the UK, Drinkaware has launched a free guide for the on-trade on how to boost their sales of low and alcohol-free products. The guide features five publicans who share their experiences and insights on how to enhance customer experiences and maximise sales of low and alcohol-free drinks. The interactive guide includes key statistics, engaging videos and tips on how to bring in more customers and how to upsell and boost sales of low and alcohol-free products. The guide also gives advice on what staff can do to promote low and alcohol-free products and how the visibility of low and alcohol-free products contributes to sales.

Drinkaware worked with Club Soda, a leading mindful drinking movement, along with Punch Pubs & Co, Star Pubs & Bars and Admiral Taverns. The guide will be distributed to more than 5,200 venues across the UK. The guide is also freely available online through this link.

Adam Jones, the charity Drinkaware's Director of Business Development and Partnerships, said, "Moderating and swapping alcoholic drinks for low and alcohol-free alternatives can be a great way to help people stay within the CMO's low-risk guidelines of 14 units a week while socialising any day of the week at pubs across the UK. We hope the guide helps venues further embrace the category, identify some great ideas and boost their sales of low and alcohol-free."

Minimum Unit Pricing rise in Scotland

Scotland was the first country in the world to set a minimum price for the sale of alcoholic drinks, introduced in May 2018. As part of a 'sunset clause' when Minimum Unit Pricing (MUP) legislation was introduced, the policy is due to end on 30 April this year unless Parliament votes to keep it.

Plans to continue setting a minimum price per unit of alcohol and to increase it by 15p went before the Scottish Parliament for approval in February. A price increase is required to counteract the effects of inflation and 65p has been selected as the Scottish Government seeks to increase the positive effects of the policy. The

change is due to take effect on 30 September 2024.

Deputy First Minister Shona Robison said, "We believe the proposals, which are supported by Scotland's Chief Medical Officer, strike a reasonable balance between public health benefits and any effects on the alcoholic drinks market and impact on consumers. Evidence suggests there has not been a significant impact on business and industry as a whole".

"Alongside MUP, we will continue to invest in treatment and a wide range of other measures, including funding for Alcohol and Drug Partnerships which rose to £112 million in 2023-24."

Alcohol Profiles for England update

New data have been added to the Alcohol Profile tool on the Fingertips platform. Indicators for alcohol-specific mortality, alcohol-related mortality, mortality from chronic liver disease; potential years of life lost (PYLL) due to alcohol-related conditions and casualties in road traffic accidents where a failed breath test (or refusal to provide a sample) occurred have all been updated and are available at local authority level as well as for England, the regions, and various inequality groups.

A new indicator has been added, which is an estimated cost per capita of alcohol-related hospital admissions. For 2021/22 this was £48.60, up from £41.80 in 2019/20.

Following the publication by the Office for National Statistics of rebased mid-year population estimates based on the results of the Census 2021, all mortality trends have been recalculated and restored to the Alcohol Profile.

The update shows that in 2022, there were 7,912 alcohol-specific deaths (wholly due to alcohol) in England which was an increase of 56.7% from 5,050 deaths in 2006 and a 4.7% increase since 2021.

The trends in alcohol-related deaths (deaths wholly or partly due to alcohol) and deaths from chronic liver disease are similar

All 3 mortality rates updated were fairly stable between 2006 and 2019 before increasing sharply in 2020 followed by smaller increases in each of 2021 and 2022. The mortality rate between 2019 and 2022 increased by 34.5% for alcohol-specific

mortality, 8.8% for alcohol-related mortality, and 20.5% for mortality from chronic liver disease

In 2022, the alcohol-specific mortality rate was highest in the Northeast region (21.8 per 100,000 population) and lowest in the East of England region (11.0 per 100,000 population). The inequalities by region were similar for mortality from chronic liver disease but London had the lowest rate for alcohol-related mortality

The alcohol-specific mortality rate in the most deprived tenth of upper tier local authority areas was double the rate in the least deprived tenth (20.9 and 9.7 per 100,000 population respectively). There was a similar inequality gradient for alcohol-related mortality and mortality from chronic liver disease.

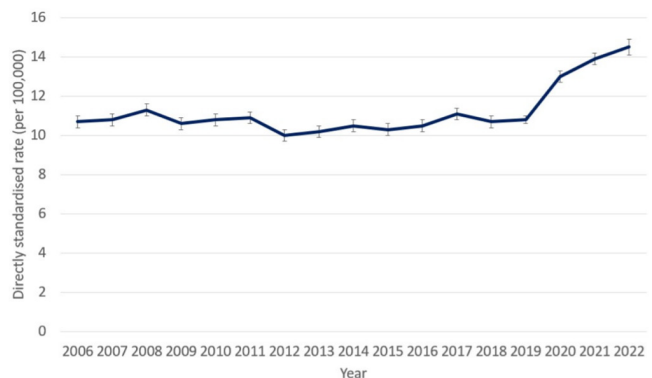


Figure 1: directly standardised alcohol-specific mortality rate, all ages, England, 2006 to 2022

Source: calculated by OHID Population Health Analysis (PHA) team from Office for National Statistics (ONS) death registration data and ONS mid-year population estimates.

Support dwindles for allowing supermarket wine sales in Finland

Prime Minister Petteri Orpo's (NCP) government in Finland is aiming to change legislation to allow shops and supermarkets to sell drinks with alcohol content up to 8 per cent alcohol content — up from the current 5.5 percent limit. However, a recent poll indicates that the majority of people in Finland would like to see the country's current alcohol policies remain unchanged.

A new survey from the Institute for Health and Welfare (THL) found that 57% of respondents said they like the status quo, up from 53 last year.

The survey also found that 11% of respondents supported tightening Finland's alcohol policies, with women more likely than men to hold such opinions, compared to 26% of respondents said they would like to see Finland liberalise its alcohol rules (the lowest level of support seen in similar surveys since 2015). In addition, 94% of respondents said that 18 is the right age requirement for the purchase of mild alcoholic beverages and 82% of respondents said the current age limit of 20 was appropriate for spirit sales.

Support for a Public Health Levy on alcohol sales in Scotland

A report from the Fraser of Allander Institute at the University of Strathclyde shows that a levy on shops and supermarkets that sell alcohol could raise £57 million a year. Alcohol Focus Scotland, who commissioned the research, say this could provide much-needed additional funding for local alcohol treatment, recovery support and prevention.

While off sales of alcohol have gone down by an estimated 3.5% due to minimum unit pricing, the research provides new estimates that suggest revenue from alcohol has increased by more than £30m a year. This means shops and supermarkets are likely making greater profits.

Alcohol Focus Scotland says this demonstrates the potential for retailers that profit from the sale of alcohol to contribute towards the financial burden it places on society. According to recent estimates alcohol costs Scotland up to £10 billion every year, including £700 million in health and social care costs.

Based on a levy on Non-Domestic Rates, the policy would principally affect big national supermarket chains, who the research found would make up 86% of all revenues. The research considered different levels of levy, finding an increase in revenue of £4.4 million for every 1p change in the levy rate.

Political support for a levy on alcohol retailers has been growing. The Scottish Government committed in their recent budget to explore reintroducing the Public Health Supplement, which raised £95 million from a levy placed on non-domestic rates of large retailers selling alcohol and tobacco between 2012 and 2015. Scottish Labour are also calling for a Public Health Levy to offset problems caused by alcohol in Scotland.

fraserofallander.org/wp-content/uploads/2024/01/Alcohol-Focus-NDR-Levy.pdf

Alcohol-Specific Deaths registered in Northern Ireland 2012-2022

The Northern Ireland Statistics and Research Agency has published figures for alcohol-specific deaths registered in Northern Ireland (NI), 2012-2022.

Key findings include:

- The total number of alcohol-specific deaths registered in 2022 was 356. This was six more than the previous year (350) and, accounted for 2.1% of all deaths registered in 2022.
- Since 2012, NI has seen deaths due to alcohol specific causes rise by 45.9% from 244 to the latest reported figure of 356.
- The alcohol-specific age-standardised mortality rate per 100,000 people was the highest on record, up from 14.6 in 2012 to 19.5 in 2022.
- 65.2% of the 356 deaths were male. Similarly, the age standardised mortality rate per 100,000 population of alcohol-specific deaths for males was almost twice that of the rate for females (26.1 and 13.2 respectively).
- Alcohol-specific deaths continue to be more prevalent among the 45-54 and 55-64 age groups, which together accounted for 55.1%

of all alcohol-specific deaths registered in 2022.

- Since 2012, alcoholic liver diseases have accounted for, on average, two thirds of alcohol-specific deaths, increasing from 62.3% in 2012 to 72.5% in 2022.
- Between 2018 and 2022, the percentage of alcohol-specific deaths from Northern Ireland's most deprived areas (36.6%) was over three times that of the least deprived areas (10%).
- Across the UK the most recent year with comparable data is 2021, wherein Scotland and Northern Ireland had the highest alcohol-specific death rates, recording 22.3 and 19.1 deaths per 100,000 respectively. In contrast, England and Wales had lower rates of alcohol-specific deaths, with 13.9 and 15.0 deaths per 100,000 respectively. It should be noted, however, that cross country comparisons will be affected by differences in data collection and collation processes in the separate jurisdictions.

nisra.gov.uk/news/alcohol-specific-deaths-registered-northern-ireland-2012-2022

Consumption of RTD and wine increase in Australia

New data from Roy Morgan's Alcohol Consumption Report shows the proportion of Australians who drink alcohol has increased since the pre-pandemic period in the 12 months to March 2020.

The number of Australians drinking wine, beer and spirits reached highs during the pandemic. Consumption of all of the 'big three' alcoholic beverages has since declined as a share of population over the last two years. However, consumption of RTDs (Ready-to-drink) has continued to increase.

In the year to September 2023 over 14 million Australians (14,013,000, 68.1%) aged 18+ consumed alcohol in an average four-week period for the first time compared to 13,073,000 (66.3%) in the year to March 2020 – an increase of nearly 1 million Australians and higher than at any point during the pandemic.

The standout alcoholic beverages over the course of the pandemic have been 'Ready-to-drink' (RTDs) for which consumption increased from 2,138,000 Australians (10.8%) pre-pandemic and that number has more than doubled to 4,319,000 (21.0%) in late 2023 – a massive increase of over 2.1 million people.

The most popular alcohol is wine which has stretched its lead over the last few years with the number of Australians drinking wine increasing from 8,096,000 (41.0%) pre-pandemic to 9,068,000 (44.1%) in the 12 months to September 2023 – an increase of nearly 1 million people.

roymorgan-cms-prod.s3.ap-southeast-2.amazonaws.com/wp-content/uploads/2024/02/13052235/9452-Alcohol-Consumption-2023-.pdf

NIAAA resources for educators and learners in the US

The National Institutes of Health (NIH) has partnered with Kahoot!, an online learning platform, to provide free interactive quizzes and games for educators and learners. The National Institute on Alcohol Abuse and Alcoholism (NIAAA) content is available in NIH's Kahoot! quiz collection.

High schoolers, whether at home or in the classroom, can take NIAAA's Kahoot! quiz about underage drinking to learn how alcohol affects their brain and body. The quiz is designed to help students have a better understanding

of underage drinking, the negative health consequences associated with drinking, the signs of an alcohol problem, and how they can find support for friends, family, or themselves.

NIAAA's has produced other resources for students, educators, and parents about underage drinking, including the new website Facts About Teen Drinking. This resource, designed for teens, contains more in-depth information about how alcohol affects health—both short and long term—how to identify signs of a problem, and how to get help.

niaaaforteens.niaaa.nih.gov/

Japan releases guidelines on alcohol consumption

In February, Japan's health ministry issued its first guidelines on alcohol consumption, aiming to reduce associated health risks. The guidelines document the level of alcohol consumption considered to raise the risk of developing diseases and conditions in order to encourage people to drink in moderation.

According to the guidelines, the amount of pure alcohol that raises the risk of lifestyle diseases is at least 40 grams for men and 20 grams for women per day.

The ministry warned that even a small amount of alcohol consumption raises the risk of high blood

pressure for both men and women, oesophagus cancer for men and haemorrhagic stroke for women, and say that 20 grams per day of pure alcohol increases the risk of bowel cancer for both men and women.

To reduce health risks, the ministry said that people should eat something either before or while consuming alcoholic beverages, drink water between alcoholic drinks and take time off from drinking during the week. The guidelines also warn against heavy drinking in a short period, forcing other people to consume alcohol and drinking to remedy high anxiety levels or sleep deprivation.

The HILDA Survey in Australia

The Household, Income and Labour Dynamics in Australia (HILDA) Survey is a household-based panel study that collects valuable information about economic and personal well-being, labour market dynamics and family life. The important HILDA Survey follows the same households and individuals every year, allowing researchers to see how their lives are changing over time.

For alcohol, the report examines consumption rates, focusing on the volume of alcohol consumed and the frequency of drinking, as well as exploring how drinking patterns vary across different demographic groups.

The proportion of males aged 15 years and over who have ever consumed alcohol declined from 84.4% in 2003 to 78.6% in 2021, and the proportion of females aged 15 years and over who have ever consumed alcohol declined from 76.3% to 72.8%. This decrease in alcohol consumption rates over a span of two decades is relatively modest, with a reduction of approximately 6 percentage points for both males and females.

Approximately one in five males aged 15 years and above reported usually drinking on five days or more per week in 2003 (19.3%). However, this proportion decreased to around one in

seven males in 2021 (14.8%). For females, there is no significant upward or downward trend over the years, suggesting a consistent but modest decreasing trend among females, with approximately one in 10 females reporting drinking on five or more days per week.

The HILDA Survey asks individuals how many standard drinks they usually have on a day on which they have an alcoholic drink. Men are twice as likely as women to report consuming five or more standard drinks on a single occasion. In 2021, 21.1% of males and 9.5% of females reported consuming five or more standard drinks on one occasion, and these rates have remained relatively stable since 2003.

In every two years since 2007, the HILDA Survey collects information on 'binge' drinking, defined as having five or more standard drinks (for women) or seven or more standard drinks (for men) on a single occasion of drinking. In 2007, 31% of males and 19.6% of females reported binge drinking at this frequency. The rates have declined to 24.3% for males and 14.8% for females in 2021.

melbourneinstitute.unimelb.edu.au/__data/assets/pdf_file/0008/4841909/HILDA_Statistical_Report_2023.pdf

Cocktails To-Go made permanent in Virginia

The Virginia House and Senate have passed companion bills (HB 688 & SB 635) that will permanently allow cocktails to-go to be sold from bars, restaurants and distilleries in support of businesses and consumers in Virginia. The temporary Law that allowed cocktails to-go for takeout and delivery in the state was set to expire July 1, 2024.

"Local bars, restaurants and distilleries continue to face headwinds with inflation, supply chain disruptions and staffing shortages," said Andy Deloney, senior vice president and head of state public policy at DISCUS. "Cocktails to-go offer a stable and important source of revenue for Virginia businesses while providing increased convenience for consumers."

Since the beginning of the pandemic, 23 states and the District of Columbia have enacted laws to permanently allow cocktails to-go, and 9 others have enacted laws that allow cocktails to-go on a temporary basis.

There remain a number of states where there is temporary legislation; including California (expires December 31, 2026), Colorado (expires July 1, 2025), Illinois (expires August 1, 2028), Massachusetts (expires April 1, 2024), Michigan (expires January 1, 2026), New Jersey (TBD), New York (expires April 9, 2025), Vermont (expires July 1, 2025).

Eric Terry, president and CEO of Virginia Restaurant, Lodging, and Travel Association (VRLTA). "As the restaurant industry is confronted with rising costs on a number of fronts, tools like this will help ABC-licensed establishments maintain their businesses and teams. We are grateful to have worked with our legislative patrons and partners across the alcohol and food service industries to make this permanent."

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, companies and associations to create programmes, materials or policies that communicate responsible alcohol consumption messages or work to reduce alcohol related harm.

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