Alcohol in Moderation

January 2024

*International Digest on alcohol and health and the responsible consumption of alcohol*

# Contents

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## Estonia

While there are a number of restrictions on alcohol advertising in Estonia, the law does not prevent manufacturers from promoting alcohol-free versions of their products using designs that look almost exactly the same as those containing alcohol. The Estonian National Institute for Health Development (TAI) has called for advertising restrictions to be extended to these products.

## Thailand

The Thai government is to cut alcohol taxes in an effort to boost tourism in the country. The move, which has been approved by the cabinet, will see import tariffs on wine exempted, which are currently at 54% and 60% of their declared value. In addition, the excise tax on wine will be reduced from 10% to 5% and locally produced alcohol from 10% to 0% in order to assist small-scale firms.

## Finland

In Finland, alcohol monopoly, Alko, sold fewer alcoholic and non-alcoholic beverages last year, with sales figures reflecting a 3.4 million litres decrease compared to 2022. Alko sold a total of 76.9 million litres of beverages in 2023, or 4.1% less than the 80.3 million litres sold in 2022. Sales also decreased in 2022, year-on-year.

Sales of wines decreased by 3.7%, sales of spirits were down by 4.4%, beer sales by 6.2% and sales of non-alcoholic beverages by 7.7% compared to 2022.

## Canada

A small majority of Canadians wants to see warning labels placed on bottles of beer, wine and liquor, according to polling commissioned by the country's Department of Health. The poll — conducted by Nanos Research — found 54% supported the move, while 28% responded that the labels wouldn't change their drinking habits.

## Cambodia

The Cambodian government has banned companies from using women and minors under the age of 18 to advertise alcoholic beverages. In a statement, Minister of Information, Neth Pheaktra, said that "the media advertises alcoholic products using women and underage people, which infringes on their rights and dignity". He added that some advertisers used images of women standing on a stage drinking beer to entice youths to buy their products, and sometimes the owners of companies offer rewards, such as a lucky prize, to encourage people to drink beer.

## France

In France, more than 45 professors of addiction studies signed a letter urging the state to promote a month of abstinence from alcohol. The group has written to the French health minister to say that not enough is being done by the state to campaign on alcohol risks, and the government should support an alcohol-free month at the start of the year.

# ISFAR reiterates its defence of moderate alcohol consumption's health benefits by Stockley et al.

ISFAR was invited to provide a commentary on the paper, Apologizing for the alcohol industry? A comment on ISFAR's defence of alcohol's purported health benefits by Stockwell et al. (2024) which is available in the Journal of Studies in Alcohol (JSAD) site: doi.org/10.15288/jsad.23-00193. It was duly accepted for publication and the following is an excerpt from the text which is reproduced with the journal's permission.

Observational longitudinal studies since 2000 continue to support the strong associations between lifestyle factors and healthy ageing published across 15 countries. Regular moderate alcohol consumption is consistently observed as one of the healthy lifestyle factors to reduce overall mortality, risk of vascular diseases, diabetes and dementias. After accounting for potential bias and confounders such as higher socio-economic status, moderate alcohol consumers still have better risk factor profiles than abstainers.

Healthy ageing studies have also looked at the additive effect of consuming alcohol in moderation for those already living healthily. These studies show that even when not smoking, having a healthy diet and a healthy weight, alcohol in moderation will further reduce mortality and myocardial infarction risk. The overall effect was associated with 12-to-14 additional years of life after age 50. Furthermore, in older adults, moderate alcohol consumption is shown to independently confer less frailty associated with ageing, and predicts fewer depressive symptoms. The resultant social interaction, seen as essential to healthy ageing, also improves. Indeed, quality of life as defined by the WHO (1948) does not depend only on biological health but also on mental health and social functioning. A regular pattern of consumption is as important as a moderate amount of alcohol consumed.

Decades of sound clinical and experimental data on biological mechanisms to explain how moderate alcohol consumption could reduce disease by improved multiple mechanisms associated with coronary heart disease risk, that are similarly related to risk of diabetes, dementia and certain cancers. Most importantly, the lipid profile improved by increasing high density lipoprotein (HDL) cholesterol. Not only was HDL-cholesterol increased, but HDL functionality also improved, e.g., lipoprotein oxidation inhibition improved as well as reverse cholesterol transport. Additionally, inflammation was reduced, fibrinolysis was stimulated and fibrinogen, pivotal in coagulation, was reduced. Similarly, diabetes risk reduction could be explained by adiponectin increases and haemoglobin 1Ac reductions.

Many of the experimental outcomes have been confirmed in epidemiological biomarker studies, that suggest increased levels of the biomarker HDL-cholesterol, lower levels of haemoglobin A1c, and reduced fibrinogen levels attenuated 75% of risk among women and fully attenuated the cardiovascular protective association among men.

The full text and references of *ISFAR reiterates its defence of moderate alcohol consumption's health benefits by Stockley et al. (2024)* is available on the JSAD site: doi.org/10.15288/jsad.23-00293.

# Circulating metabolites may illustrate relationship of alcohol consumption with cardiovascular disease

Two papers were recently published which consider the complexity of liver and gut-generated circulating metabolites of alcoholic beverages, such as wine, and their specific roles in human health (referred to as metabolomics). These papers collectively suggest that the 60 or more alcohol-associated metabolites following consumption, may be related to the risk of cardiovascular and other diseases.

**Title:** Circulating metabolites may illustrate relationship of alcohol consumption with cardiovascular disease

**Authors:** Li Y; Wang M; Liu X; Rong J; Miller PE; Joehanes R; Huan T; Guo X; Rotter JI; Smith JA; Yu B; Nayor M; Levy D; Liu C; Ma J

Citation: BMC Medicine (2023) https://doi.org/10.1186/s12916-023-03149-2

**Author's Abstract**

**Background** Metabolite signatures of long-term alcohol consumption are lacking. To better understand the molecular basis linking alcohol drinking and cardiovascular disease (CVD), we investigated circulating metabolites associated with long-term alcohol consumption and examined whether these metabolites were associated with incident CVD.

**Methods** Cumulative average alcohol consumption (g/day) was derived from the total consumption of beer, wine, and liquor on average of 19 years in 2428 Framingham Heart Study Offspring participants (mean age 56 years, 52% women). We used linear mixed models to investigate the associations of alcohol consumption with 211 log-transformed plasma metabolites, adjusting for age, sex, batch, smoking, diet, physical activity, BMI, and familial relationship. Cox models were used to test the association of alcohol-related metabolite scores with fatal and nonfatal incident CVD (myocardial infarction, coronary heart disease, stroke, and heart failure).

**Results** We identified 60 metabolites associated with cumulative average alcohol consumption ($p < 0.05/211 \approx 0.00024$). For example, 1 g/day increase of alcohol consumption was associated with higher levels of cholesteryl esters (e.g., CE 16:1, beta = 0.023 ± 0.002, p = 6.3e − 45) and phosphatidylcholine (e.g., PC 32:1, beta = 0.021 ± 0.002, p = 3.1e − 38). Survival analysis identified that 10 alcohol-associated metabolites were also associated with a differential CVD risk after adjusting for age, sex, and batch. Further, we built two alcohol consumption weighted metabolite scores using these 10 metabolites and showed that, with adjustment age, sex, batch, and common CVD risk factors, the two scores had comparable but opposite associations with incident CVD, hazard ratio 1.11 (95% CI = [1.02, 1.21], p = 0.02) vs 0.88 (95% CI = [0.78, 0.98], p = 0.02).

**Conclusions** We identified 60 long-term alcohol consumption-associated metabolites. The association analysis with incident CVD suggests a complex metabolic basis between alcohol consumption and CVD.

In conjunction with:

**Title:** Exploring human metabolome after wine intake - A review

**Authors:** Lekka P; Fragopoulou E; Terpou A; Dasenaki M

**Citation:** Molecules. 2023 Nov 15;28(22):7616. https://doi.org/10.3390/molecules28227616

**Author's Abstract**

**Background** Wine has a rich history dating back to 2200 BC, originally recognized for its medicinal properties. Today, with the aid of advanced technologies like metabolomics and sophisticated analytical techniques, we have gained remarkable insights into the molecular-level changes induced by wine consumption in the human organism.

**Method** This review embarks on a comprehensive exploration of the alterations in human metabolome associated with wine consumption. A great number of 51 studies from the last 25 years were reviewed; these studies systematically investigated shifts in metabolic profiles within blood, urine, and faeces samples, encompassing both short-term and long-term studies of the consumption of wine and wine derivatives.

**Results** Significant metabolic alterations were observed in a wide variety of metabolites belonging to different compound classes, such as phenolic compounds, lipids, organic acids, and amino acids, among others. Within these classes, both endogenous metabolites as well as diet-related metabolites that exhibited up-regulation or down-regulation following wine consumption were included. The up-regulation of short-chain fatty acids and the down-regulation of sphingomyelins after wine intake, as well as the up-regulation of gut microbial fermentation metabolites like vanillic and syringic acid are some of the most important findings reported in the reviewed literature.

**Conclusions** Our results confirm the intact passage of certain wine compounds, such as tartaric acid and other wine acids, to the human organism. In an era where the health effects of wine consumption are of growing interest, this review offers a holistic perspective on the metabolic underpinnings of this centuries-old tradition.

**Forum comments**

This preprint of an impressive study, which has not been peer reviewed yet, reports on 60 metabolites changing in long-term alcohol consumption using the Framingham Heart Study Offspring participants of whom the alcohol consumption has been well-monitored over a long period of time. Metabolite changes have been associated with cardiovascular disease (CVD) incidence to better understand the molecular basis between alcohol consumption and CVD. The study builds on some previous publications using metabolomics profiles predicting other health outcomes in the Framingham study (Wang et al., 2011).

Metabolomics profiling acts as a potent and high throughput tool offering new insights on disease pathogenesis and has potential in the early diagnosis. Early detection of pathogenesis through profiles used as a biomarker for a disease holds promise for early diagnosis and treatment.

However, metabolomics profiling is subject to numerous limitations, specifically in the case of an epidemiological setting. A factor like alcohol consumption may affect numerous pathways, many of these being unknown and therefore potentially missed. In this case, the targeted metabolite profiling included various negatively and positively charged metabolites as well as lipid metabolite species. In total 211 metabolites were included in the analysis, whereas about 40,000 metabolites are being identified in the Human Metabolome Database (HMDB) . Of these 211 metabolites, 60 metabolites were changed in long-term alcohol consumption, which may suggest that some pathways may have been missed.

One of the main metabolites being identified and significantly associated with the cumulative average total alcohol consumption adjusted for potential confounders was cholesteryl palmitoleate, a cholesterol ester involved in cholesterol metabolism. Only one other cholesterol ester was positively associated with alcohol consumption namely cholesteryl eicosapentaenoic acid. We already know that cholesterol metabolism is important in CVD aetiology, but the role of this specific cholesterol bound fatty acid is unclear. Palmitoleic acid (C16:1) is one of the main monounsaturated fatty acids of the omega-7 fatty acid family. Palmitoleic acid may be a major product of endogenous lipogenesis in the liver (Shramko et al., 2020) and its influence on the cardiovascular system is inconsistent.

It would have been interesting to know if this cholesterol ester was located in HDL particles or in LDL particles. HDL particles are important in reverse cholesterol transport (Marques et al., 2018), the disposal route of cholesterol from the vascular wall, whereas LDL particles are essential in the opposite direction bringing cholesterol to the vascular wall giving rise to so-called atherosclerotic plaques. The authors have adjusted their association analysis for various confounding factors including total and high-density lipoprotein. Could this mean that HDL particles are more enriched in cholesteryl palmitoleate with alcohol consumption, indicative for an increased reverse cholesterol transport? Some nutrition intervention studies have shown that moderate alcohol consumption with a meal changes postprandial lipoprotein composition. These effects were transient and still observed up to 11 hours after the meal, resulting in a raised HDL-cholesterol/apo A-I ratio. The effects were considered anti-atherogenic and may contribute to the observed protection against coronary heart disease by moderate alcohol consumption (Van Tol et al., 1998). Other human intervention studies have shown that moderate alcohol consumption does stimulate reverse cholesterol transport (Rohatgi et al., 2014; Van Der Gaag et al., 2001).

Similar observations were made for phospholipids (Hendriks et al., 1998). In a diet-controlled randomized trial with alcohol either as wine, beer and spirits with a meal, HDL phospholipids were increased still at 13 hours after a meal. These data correspond well with what has been reported in this metabolomics study.

Metabolic profiles may be influenced by many different behavioural and environmental factors like diet, sleep pattern, drinking pattern,

1. https://en.wikipedia.org/wiki/Metabolome#:~:text=The%20Human%20Metabolome%20Database%20(HMDB,found%20in%20the%20human%20body.

treatments, living conditions and many other variables. It is likely that not all or that some have only been partially corrected for. So, identifying metabolites that can be used as a biomarker for CVD risk may be challenging. In a more controlled setting, e.g. in a nutrition intervention where at least alcohol consumption is controlled for, in quantity, pattern and as many as possible other confounding factors may increase the chances of identifying metabolic pathways related to for instance established CVD biomarkers. In case of the moderate alcohol CVD association, some suggest that most of the mechanisms and therefore the metabolites involved have been identified (Mukamal et al., 2005).

Also, because of the observational nature of the findings without experimental validation, as the authors state in their discussion section, causality cannot be inferred. The very descriptive nature of this research and the presence of many potential and various well-substantiated pathways involved in the association between moderate alcohol consumption and CVD risk makes one wonder what this study may add to the well-established association. In searching PubMed for papers on human studies reporting on metabolites in cardiovascular diseases 1417 studies were identified. How these studies relate to the findings based on this targeted panel is unclear. So, the added value of this type of research may be limited since the combination of a large group of people with heterogenous lifestyles analysed with the generalized but limited methodology of targeted metabolomics may rather confuse the existing concepts than add to our understanding of the well-documented moderate alcohol – CVD relationship.

**Specific Comments from Forum Members**

Forum member Mattivi suggests that "the study by Li et al. (2023) addresses, in its targeted metabolomics analysis, a considerable number of 211 circulating metabolites, which still remains very limited compared to the huge complexity of the human metabolome. With the aim of investigating the impact of alcoholic beverage consumption on observed concentrations.

On the one hand, a strength of this approach is to identify a limited number of significant metabolites (7, corresponding to 3.3% of those studied) that are impacted in the same direction by alcoholic beverage consumption (i.e. significantly associated with the cumulative consumption of all three types of alcoholic beverages), and deserve to be further investigated with analyses aimed at expanding the number of analytes in the chemical classes of interest (CE16:1, LPC 20:5, PC 32:0, PC 32:1, PC 34:1, PC-B 36:4, and fumarate-malate).

On the other hand, this study confirms how the consumption of the different types of beverages (beer, spirits, and wines) also induces drink-specific changes to the concentrations of a large number of circulating metabolites (81, accounting for 38.4% of the investigated compounds). Among the metabolites observed, the strength of associations is in many cases different for different beverages; in some cases, the direction in association with consumption is significant and specific only to consumption of the specific beverage.

This aspect again highlights the importance of not underestimating the role of the matrix and consumption patterns, which can often be associated with the type of alcoholic beverage consumed, even from the perspective of impact on the metabolome.

Forum member Harding comments that he was "struck by the comprehensive nature of review of Lekka et al. (2023) and in particular the large number of clinical intervention studies already undertaken to inform causation, as shown in Table 1. In the light of these, what is the point of conducting more epidemiology? Should not the epidemiology come first, to indicate what human studies are sensible to do? What possible use are epidemiological findings, which make their best (and often very approximate) estimate of wine consumption by a particular group in the population as in Li et al. (2003), when there are already so many studies on real subjects that control exactly how much wine is consumed, and then record the metabolical outcome? Unless of course this epidemiological study identified new metabolites that merit further study, and I don't know whether it has. I realise that Lekka et al. (2023) is only about wine, and the epidemiology covers all alcohol consumption, but this does not invalidate the general point."

Forum member Ellison suggests that "Lekka et al. (2023) is an extremely important contribution to the interpretation of existing and future studies by providing data to show the mechanisms of health effects related to the consumption of wine and other beverages containing alcohol. The approach presented can be used to explain why the regular and moderate intake of wine with food, in particular, has been shown to markedly decrease the occurrence of cardiovascular diseases and to decrease the risk of total mortality. Among cohort studies, such findings have been amazingly consistent over many decades. And, despite some biased or even fraudulent attempts by a small group of scientists to deny such results, continue to be exhibited in essentially all well-done, scientifically balanced epidemiologic studies today.

Studies of alcohol intake and health are generally based only on the self-report of alcohol intake. The use of the investigation of metabolic factors, as described in this paper, can add key information by which to substantiate (or question) the reported alcohol intake. Further, and more importantly, it can provide evidence on the mechanisms of effects, for both observational studies and intervention trials, when seeking to determine the net health effects associated with the consumption of wine and other beverages containing alcohol. While epidemiologic studies attempt to adjust for a multitude of potential confounders of effect (e.g., the pattern of drinking, the type of beverage, whether with or without food, socio-economic factors, diet, medical conditions such as obesity, etc.), the additional use of metabolomics can greatly advance our ability to determine the degree to which the effects seen are truly related to alcohol consumption or to confounding variables. The relationships described in this paper suggest that considering metabolic data will greatly strengthen the demonstrated beneficial effects on health from moderate drinking."

Forum member Mattivi considers that "the study by Lekka et al. (2023) shows how numerous the metabolic pathways are which, based on human intervention studies, are significantly impacted by wine consumption.

In the specific case of this beverage, which is a fermented fruit juice, not surprisingly all the metabolites and catabolites typical of fruit consumption are found. A very large part of the compounds observed are the result of the host-microbe co-metabolism (highlighting the fundamental role of the intestinal microbiome), and many of these also have prolonged persistence in biofluids.

In recent years, research has shown us how the intestinal microbiome can have an importance not unlike that of the liver for the metabolism of xenobiotics. And an individual diversity that can easily cause the circulating concentrations of some classes of metabolites (for example, gamma valerolactones) to vary by an order of magnitude with the same dietary intake.

The quantities of alcoholic beverages consumed and the methods of consumption (in association or not with food, with or without episodes of excessive consumption, etc.) are also expected to impact on the health of the microbiome, and therefore on how the numerous bioactive compounds of the wine, can be processed, possibly modulating the concentrations of dozens of microbial catabolites with potential bioactivity. This review highlights the metabolism deriving from the fact that man does not only consume "ethanol", but specifically - in the case of wine - a vegetal matrix of extraordinary compositional complexity."

**Concluding comments**

Forum member Ellison added that "a discussion of this paper with colleagues at Boston University led to questions related to the fact that in most observational studies of alcohol effects, there are no data on other dietary factors. It is well known that the consumption of alcohol is related to other components of the diet, in that wine consumers and moderate drinkers tend to report healthier diets than consumers of other beverages or heavy drinkers. Undoubtedly, many of the metabolites reported in this paper are affected by diet. This makes it difficult to determine if other dietary constituents may have contributed to the reported effects on metabolites attributed to alcohol. It makes the use of controlled trials even more important."

**References**

Hendriks, H. F. J., Veenstra, J., Van Tol, A., Groener, J. E. M., & Schaafsma, G. (1998). Moderate doses of alcoholic beverages with dinner and postprandial high density lipoprotein composition. Alcohol and Alcoholism, 33(4), 403–410. https://doi.org/10.1093/oxfordjournals.alcalc.a008410

Marques, L. R., Diniz, T. A., Antunes, B. M., Rossi, F. E., Caperuto, E. C., Lira, F. S., & Gonçalves, D. C. (2018). Reverse Cholesterol Transport: Molecular Mechanisms and the Non-medical Approach to Enhance HDL Cholesterol. Frontiers in Physiology, 9, 526. https://doi.org/10.3389/fphys.2018.00526

Mukamal, K. J., Jensen, M. K., Gronbaek, M., Stampfer, M. J., Manson, J. E., Pischon, T., & Rimm, E. B. (2005). Drinking frequency, mediating biomarkers, and risk of myocardial infarction in women and men. Circulation, 112(10), 1406–1413. https://doi.org/10.1161/circulationaha.105.537704

Rohatgi, A., Khera, A., Berry, J. D., Givens, E. G., Ayers, C. R., Wedin, K. E., Neeland, I. J., Yuhanna, I. S., Rader, D. R., De Lemos, J. A., & Shaul, P. W. (2014). HDL Cholesterol Efflux Capacity and Incident Cardiovascular Events A BS TR AC T. NEJM.Org. N Engl J Med, 25(18), 2383–2393. https://doi.org/10.1056/NEJMoa1409065

Shramko, V. S., Polonskaya, Y. V, Kashtanova, E. V, Stakhneva, E. M., & Ragino, Y. I. (2020). The Short Overview on the Relevance of Fatty Acids for Human Cardiovascular Disorders. Biomolecules, 10(8). https://doi.org/10.3390/biom10081127

Van Der Gaag, M. S., Van Tol, A., Vermunt, S. H. F., Scheek, L. M., Schaafsma, G., & Hendriks, H. F. J. (2001). Alcohol consumption stimulates early steps in reverse cholesterol transport. Journal of Lipid Research, 42(12).

Van Tol, A., Van Der Gaag, M. S., Scheek, L. M., Van Gent, T., & Hendriks, H. F. J. (1998). Changes in postprandial lipoproteins of low and high density caused by moderate alcohol consumption with dinner. Atherosclerosis, 141(SUPPL. 1). https://doi.org/10.1016/S0021-9150(98)00226-3

Wang, T. J., Larson, M. G., Vasan, R. S., Cheng, S., Rhee, E. P., McCabe, E., Lewis, G. D., Fox, C. S., Jacques, P. F., Fernandez, C., O'Donnell, C. J., Carr, S. A., Mootha, V. K., Florez, J. C., Souza, A., Melander, O., Clish, C. B., & Gerszten, R. E. (2011). Metabolite profiles and the risk of developing diabetes. Nature Medicine, 17(4), 448–453. https://doi.org/10.1038/nm.2307

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

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## The surprisingly controversial benefits of moderate drinking

British writer and researcher Christophe Snowdon writes that 'with the (US) Dietary Guideline Advisory Committee going through its twice-a-decade revision of what, and how much, Americans ought to be eating and drinking in order to look after their health, drinking alcohol is being subjected to the same demonization process that was once applied to smoking tobacco. There is a campaign to lower safe drinking limits in the US, in the same way that they have been lowered in other countries. Worse, there is pressure to eliminate altogether the concept of a 'safe level' of alcohol consumption'. In an updated article, originally published in the Spectator magazine in 2020, Snowdon takes an irreverant view of recent alcohol and health research findings.
https://snowdon.substack.com/p/the-surprisingly-controversial-benefits?

## The causal association between alcohol, smoking, coffee consumption, and the risk of arthritis

In a paper published in the journal *Nutrients*, researchers evaluated the genetic causality between alcohol intake, smoking, coffee consumption, and arthritis.

Mendelian randomization (MR) studies with alcohol, smoking, and coffee consumption behaviours as exposures, and osteoarthritis (OA) and rheumatoid arthritis (RA) as outcomes were retrieved from up to July 2023.

The researchers also applied MR analyses of four lifestyle exposures and five arthritis outcomes (two for OA and three for RA) with gene-wide association study (GWAS) data that were different from the included studies, and the results were also included in the meta-analysis.

A total of 84 studies were assessed. Of these, 11 were selected for meta-analysis. As a whole, the included studies were considered to be at a low risk of bias and were of high quality. Results of the meta-analysis showed no significant genetic causality between alcohol intake and arthritis (odds ratio (OR): 1.02 (0.94–1.11)). Smoking and arthritis had a positive genetic causal association (OR: 1.44 (1.27–1.64)) with both OA (1.44 (1.22–1.71)) and RA (1.37 (1.26–1.50)). Coffee consumption and arthritis also had a positive genetic causal association (OR: 1.02 (1.01–1.03)). Results from the subgroup analysis showed a positive genetic causality between coffee consumption and both OA (OR: 1.02 (1.00–1.03)) and RA (OR: 1.56 (1.19–2.05)).

There is positive genetic causality between smoking and coffee consumption and arthritis (OA and RA), while there is insufficient evidence for genetic causality between alcohol intake and arthritis.

Source: Wang J, Zhang B, Peng L, Wang J, Xu K, Xu P. The Causal Association between Alcohol, Smoking, Coffee Consumption, and the Risk of Arthritis: A Meta-Analysis of Mendelian Randomization Studies. Nutrients. 2023 Dec 4;15(23):5009. doi.org/10.3390/nu15235009.

## Hazardous, harmful, and dependent alcohol use in healthcare professionals

Healthcare professionals work in high-pressured and demanding environments, which has been linked to the use of alcohol as a coping strategy. An international review aimed (i) to determine the pooled prevalence of hazardous, harmful, dependent, and frequent binge drinking in healthcare professionals, and (ii) to explore factors associated with variation in these outcomes.

Scopus, MEDLINE, and PsycINFO were searched from 2003 to 17th November 2022, for studies reporting a prevalence estimate for any outcome among healthcare professionals. Random-effects meta-analyses determined pooled prevalence estimates. Sub-group analyses were conducted, stratifying the meta-analyses by pandemic period vs pre-pandemic period. Meta-regressions explored factors that were associated with variation in the outcomes.

After screening 9,108 records, 64 studies were identified as eligible. The pooled prevalence was 19.98% [95% Confidence Intervals [CI]: 16.05–24.23%] for hazardous alcohol use, 3.17% [95% CI: 0.95–6.58%] for harmful drinking, 14.59% [95% CI: 7.16–25.05%] for dependent drinking and 17.71% [95% CI: 8.34–29.63%] for frequent binge drinking. The prevalence of hazardous drinking was greater during the pandemic (28.19%) compared with pre-pandemic estimates (17.95%), though this was not statistically significant. Studies including all hospital staff (32.04%) showed higher prevalence estimates for hazardous drinking compared with studies of doctors (16.78%) and nurses (27.02%).

Approximately one fifth of healthcare professionals drink to hazardous levels, with higher prevalence estimates observed during the COVID-19 pandemic. It may be that healthcare professionals used alcohol to cope with the additional trauma and stressors. The authors say that further research is needed to investigate whether this is sustained in the post-pandemic period.

Source: Halsall L, Irizar P, Burton S, Waring S, Giles S, Goodwin L, Jones A. Hazardous, harmful, and dependent alcohol use in healthcare professionals: a systematic review and meta-analysis. Front Public Health. 2023 Nov 28;11:1304468. doi.org/10.3389/fpubh.2023.1304468.

## The significant contribution of interleukin-16 genotypes, smoking, alcohol drinking, and helicobacter pylori infection to gastric cancer

Elevated serum interleukin-16 (IL-16) levels have been reported in gastric cancer (GC) tissues; however, the role of IL-16 genotypes in GC susceptibility remains largely unexplored. A study investigated the contribution of IL-16 genotypes to GC susceptibility and assessed their interactions with smoking, alcohol drinking, and Helicobacter pylori (H. pylori) infection.

Genotypic characteristics for IL-16 rs4778889, rs11556218, and rs4072111 were determined in 161 patients with GC and 483 controls. Significant differences were observed in the distribution of genotypic and allelic frequencies of IL-16 rs11556218 among cases and controls. Specifically, the frequencies of TG and GG genotypes of IL-16 rs11556218 were 37.3% and 6.8% among patients with GC, respectively, which were higher than those among the controls (26.7% and 2.7%). In contrast, no significant differences were found concerning IL-16 rs4778889 or rs4072111. Notably, individuals with IL-16 rs11556218 TT genotypes exhibited significant protective effects against GC when exposed to risk factors, such as smoking, alcohol drinking, and H. pylori infection.

IL-16 rs11556218 T allele was associated with reduced susceptibility to GC. Furthermore, carriers of the TT genotype showed protection against GC risk factors, including smoking, alcohol drinking, and H. pylori infection. These findings provide valuable insights into the potential role of IL-16 genotypes in GC development and their interactions with lifestyle and infectious factors.

Source: Fu CK, Mong MC, Tzeng HE, Yang MD, Chen JC, Hsia TC, Hsia NY, Tsai CW, Chang WS, Chen CP, Bau DT. The Significant Contribution of Interleukin-16 Genotypes, Smoking, Alcohol Drinking, and Helicobacter Pylori Infection to Gastric Cancer. In Vivo. 2024 Jan-Feb;38(1):90-97. doi.org/10.21873/invivo.13414.

## Recovery of neuropsychological function following abstinence from alcohol in adults diagnosed with an alcohol use disorder

Alcohol use disorders (AUD) associate with structural and functional brain differences, including impairments in neuropsychological function; however, reviews (mostly cross-sectional) are inconsistent with regards to recovery of such functions following abstinence. Recovery is important, as these impairments associate with treatment outcomes and quality of life.

A study assessed neuropsychological function recovery following abstinence in individuals with a clinical AUD diagnosis. The secondary objective was to assess predictors of neuropsychological recovery in AUD.

APA PsycInfo, EBSCO MEDLINE, CINAHL, and Web of Science Core Collection were searched between 1999–2022. Eligible studies were those with a longitudinal design that assessed neuropsychological recovery following abstinence from alcohol in adults with a clinical diagnosis of AUD. Studies were excluded if participant group was defined by another or co-morbid condition/injury, or by relapse. Recovery was defined as function reaching 'normal' performance.

Sixteen studies (AUD n = 783, controls n = 390) were selected for narrative synthesis. Most functions demonstrated recovery within 6–12 months, including sub-domains within attention, executive function, perception and memory, although basic processing speed and working memory updating/tracking recovered earlier. Additionally, verbal fluency was not impaired at baseline (while verbal function was not assessed compared to normal levels), and concept formation and reasoning recovery was inconsistent.

These results provide evidence that recovery of most functions is possible. While overall robustness of results was good, methodological limitations included lack of control groups, additional methods to self-report to confirm abstinence, description/control for attrition, statistical control of confounds, and of long enough study durations to capture change.

Source: Powell A, Sumnall H, Smith J, Kuiper R, Montgomery C (2024) Recovery of neuropsychological function following abstinence from alcohol in adults diagnosed with an alcohol use disorder: Systematic review of longitudinal studies. PLoS ONE 19(1): e0296043. doi.org/10.1371/journal.pone.0296043

## Risk factors for young-onset dementia in the UK Biobank

There is limited information on modifiable risk factors for young-onset dementia (YOD). A study published in *JAMA Neurology* investigated whether there are modifiable risk factors associated with young-onset dementia (YOD).

A prospective cohort study used data from the UK Biobank, with baseline assessment between 2006 and 2010 and follow-up until March 31, 2021, for England and Scotland, and February 28, 2018, for Wales. Participants younger than 65 years and without a dementia diagnosis at baseline assessment were included in this study. Participants who were 65 years and older and those with dementia at baseline were excluded.

A total of 39 potential risk factors were identified from systematic reviews of late-onset dementia and YOD risk factors and grouped into domains of sociodemographic factors (education, socioeconomic status, and sex), genetic factors (apolipoprotein E), lifestyle factors (physical activity, alcohol use, alcohol use disorder, smoking, diet, cognitive activity, social isolation and marriage), environmental factors (nitrogen oxide, particulate matter, pesticide, and diesel), blood marker factors (vitamin D, C-reactive protein, estimated glomerular filtration rate function, and albumin), cardiometabolic factors (stroke, hypertension, diabetes, hypoglycaemia, heart disease, atrial fibrillation and aspirin use), psychiatric factors (depression, anxiety, benzodiazepine use, delirium and sleep problems), and other factors (traumatic brain injury, rheumatoid arthritis, thyroid dysfunction, hearing impairment and handgrip strength).

In this cohort study including more than 356 052 participants in the UK Biobank, there were multiple modifiable and nonmodifiable risk factors for YOD. Alcohol use, higher formal education, and lower physical frailty (higher handgrip strength) were associated with lower risk of incidence of YOD, whereas increased risk of YOD was associated with low socioeconomic status, apolipoprotein E status, alcohol use disorder, social isolation, vitamin D deficiency, high C-reactive protein levels, hearing impairment, orthostatic hypotension, stroke, diabetes, heart disease, and depression.

The authors comment that the modifiable risk factors should be incorporated in future dementia prevention initiatives and raise new therapeutic possibilities for YOD.

Source: Hendriks S, Ranson JM, Peetoom K, et al. Risk Factors for Young-Onset Dementia in the UK Biobank. JAMA Neurol. Published online December 26, 2023. doi.org/10.1001/jamaneurol.2023.4929

## High adherence to a Mediterranean alcohol-drinking pattern and Mediterranean diet can mitigate the harmful effect of alcohol on mortality risk

A study by researchers in Italy investigated the joint associations between the Mediterranean Diet (MedDiet), alcohol consumption patterns and mortality from the following: all causes, cardiovascular, neoplastic, the digestive system, and other causes.

A sample of 3,411 alcohol consumers aged ≥18 years was selected from two prospective cohort studies: the MICOL and NUTRIHEP Study. Cohorts were enrolled in 2005-2006, and followed up until December 2022, capturing data on alcohol consumption, diet, and mortality. Adherence to the MedDiet was measured by the relative Mediterranean score (rMED), and alcohol consumption by the Mediterranean Alcohol-drinking Pattern index (MADP).

A significant increase in digestive-system (SHR 2.77, 95% CI 1.16; 63) and cancer mortality risk (SHR 2.25, 95% CI 1.08; 4.70) was observed among individuals with low adherence to the MADP. Low adherence to the Mediterranean pattern of alcohol consumption, combined with low adherence to the MedDiet, was associated with higher overall mortality (HR 2.29, 95% CI 1.04, 5.04), and, in particular, with higher mortality from digestive system diseases (SHR 4.38, 95% CI 1.22, 15.8).

This study suggests that deleterious effects of alcohol on mortality vary, depending on alcohol consumption patterns and dietary context. Higher adherence to the MedDiet appears to mitigate the adverse effects of moderate alcohol consumption, particularly for wine drinkers.

Source: Campanella A, Bonfiglio C, Cuccaro F, Donghia R, Tatoli R, Giannelli G. High Adherence to a Mediterranean Alcohol-Drinking Pattern and Mediterranean Diet Can Mitigate the Harmful Effect of Alcohol on Mortality Risk. Nutrients. 2023 Dec 24;16(1):59. doi.org/10.3390/nu16010059.

## Risk of newly developed atrial fibrillation by alcohol consumption differs according to genetic predisposition to alcohol metabolism

The predictive relationship between mild-to-moderate alcohol consumption and the risk of incident atrial fibrillation (AF) remains controversial. Researchers investigated whether the relationship between alcohol consumption and the risk of incident AF could be associated with the genetic predisposition to alcohol metabolism.

A total of 399,329 subjects with genetic data from the UK Biobank database, enrolled between 2006 and 2010, were identified and followed for incident AF until 2021. Genetic predisposition to alcohol metabolism was stratified according to the polygenic risk score (PRS) tertiles. Alcohol consumption was categorised as non-drinkers, mild-to-moderate drinkers (< 30 g/day), and heavy drinkers (≥ 30 g/day).

During the follow-up (median 12.2 years), 19,237 cases of AF occurred. When stratified by PRS tertiles, there was a significant relationship between genetic predisposition to alcohol metabolism and actual alcohol consumption habits. Mild-to-moderate drinkers showed a decreased risk of AF (HR 0.96, 95% CI 0.92–0.99), and heavy drinkers showed an increased risk of AF (HR 1.06, 95% CI 1.02–1.10) compared to non-drinkers. When stratified according to PRS tertiles for genetic predisposition to alcohol metabolism, mild-to-moderate drinkers had equivalent AF risks, and heavy drinkers showed increased AF risk in the low PRS tertile group. However, mild-to-moderate drinkers had decreased AF risks and heavy drinkers showed similar risks of AF in the middle/high PRS tertile groups.

Differential associations between alcohol consumption habits and incident AF across genetic predisposition to alcohol metabolism were observed; individuals with genetic predisposition to low alcohol metabolism were more susceptible to AF, the research concludes.

Source: Park CS, Choi J, Choi J, Lee KY, Ahn HJ, Kwon S, Lee SR, Choi EK, Kwak SH, Oh S. Risk of newly developed atrial fibrillation by alcohol consumption differs according to genetic predisposition to alcohol metabolism: a large-scale cohort study with UK Biobank. BMC Med. 2023 Dec 21;21(1):509. doi.org/10.1186/s12916-023-03229-3.

## IARC's perspective on alcohol reduction or cessation and cancer risk

The results of an extensive review by the International Agency for Research on Cancer (IARC) are summarised in The New England Journal of Medicine. The IARC's Working Group, comprising global experts, evaluated literature on the relationship between alcohol consumption and cancers of various organs. This evaluation, a part of the IARC Handbooks series known for its definitive cancer prevention analyses, marks a first-ever comprehensive review of the impact of alcohol reduction or cessation across seven alcohol-related cancer types.

Based on the evidence reviewed, the Working Group concluded that there is sufficient evidence that, compared with continuing consumption, reduction or cessation of alcoholic beverage consumption reduces the incidence of cancers of the oral cavity and the oesophagus. The evidence that reduction or cessation of alcohol consumption reduces risk of the other alcohol-related cancer types was either limited or inadequate.

The Working Group also concluded that there is sufficient evidence from mechanistic studies that cessation of alcohol consumption reduces alcohol-related carcinogenesis. This conclusion is based on strong evidence that three alcohol-related mechanistic pathways are reversible upon cessation of alcohol consumption: those involving acetaldehyde metabolism, genotoxicity (such as DNA damage), and the immune and inflammatory systems (intestinal permeability and microbial translocation).

The report's conclusions are based on rigorous analysis of various studies, including pooled analyses and meta-analyses, adhering to the IARC's strict evaluation criteria. The findings hold significant implications for public health, reinforcing the WHO's stance on alcohol as a major health concern, with no safe level of consumption established.

Source: Gapstur SM, Bouvard V, Nethan ST, Freudenheim JL, Abnet CC, English DR, Rehm J, Balbo S, Buykx P, Crabb D, Conway DI, Islami F, Lachenmeier DW, McGlynn KA, Salaspuro M, Sawada N, Terry MB, Toporcov T, Lauby-Secretan B. The IARC Perspective on Alcohol Reduction or Cessation and Cancer Risk. N Engl J Med. 2023 Dec 28;389(26):2486-2494. Doi.org/10.1056/NEJMsr2306723.

## The relationship between alcohol consumption and chronic kidney disease in patients with non-alcoholic fatty liver disease

A study examined the impact of moderate alcohol consumption on the progression of chronic kidney disease (CKD) in individuals diagnosed with non-alcoholic fatty liver disease (NAFLD), as NAFLD has been identified as an autonomous risk factor for CKD and previous research has demonstrated a reduction in overall mortality in NAFLD patients who consume alcohol in moderation.

The study included participants from ten consecutive rounds of the National Health and Nutrition Examination Survey (NHANES:1998-2018). Multivariate logistic regression models were employed to assess the impact of moderate alcohol consumption on chronic kidney disease (CKD) in both male and female populations. Subgroup analysis was conducted by categorising patients with non-alcoholic fatty liver disease (NAFLD) based on the Fibrosis-4 (FIB-4) index.

17,040 participants were eligible to be included in the study. The logistic regression analysis model showed that moderate alcohol consumption was a protective factor for CKD in male NAFLD patients, with an unadjusted OR: 0.37 (0.22,0.65. After further adjustment, the association persisted. However, the association was not significant in female patients with NAFLD. Among men with low risk of liver fibrosis group, moderate alcohol consumption remained a protective factor for CKD (OR = 0.32, 95% CI 0.12-0.84), but the association was not significant in the high risk of liver fibrosis group. In female patients, both moderate alcohol consumption and excessive alcohol consumption were not significantly associated with CKD in either the low-risk group or the high-risk group.

The researchers conclude that moderate alcohol consumption is associated with a lower prevalence of CKD in men with NAFLD.

Source: Zheng T, Wang X, Kamili K, Luo C, Hu Y, Wang D, Wang B, Gao P, Tian G. The relationship between alcohol consumption and chronic kidney disease in patients with nonalcoholic fatty liver disease. Scand J Gastroenterol. 2024 Jan 5:1-9. Doi.org/10.1080/00365521.2023.2299304.

## Modifiable lifestyle factors, genetic risk, and incident peripheral artery disease among individuals with type 2 diabetes

A paper published in the January edition of *Diabetes Care* prospectively evaluated the association between modifiable lifestyle factors and peripheral artery disease (PAD) among individuals with type 2 diabetes (T2D).

14,543 individuals with T2D from the UK Biobank were included in the research. Researchers defined a weighted healthy lifestyle score using non-smoking, regular physical activity, high-quality diet, moderate alcohol consumption, optimal waist-to-hip ratio, and adequate sleep duration, and categorised into unfavourable, intermediate, and favourable lifestyles. A genetic risk score (GRS) was also created using 19 single nucleotide polymorphisms previously found to be associated with PAD. The association between lifestyle score and PAD was modelled, overall and stratified by PAD genetic susceptibility.

After a median 13.5 years of follow-up, 628 incident cases of PAD were documented. A linear inverse association between the weighted lifestyle score and PAD was observed, with a hazard ratio (HR) (95% CI) of 0.27 (0.19, 0.38) for favourable compared with unfavourable lifestyle. The study authors estimate that 58.3% (45.0%, 69.1%) of PAD in this population could be potentially avoidable if all participants attained a favourable lifestyle. Moreover, the PAD GRS was associated with increased PAD risk (HR [95% CI] per SD increment: 1.13 [1.03, 1.23]). A favourable lifestyle was able to partially mitigate the excess risk of PAD associated with higher GRS, albeit as a nonsignificant interaction. Several biomarkers in the lipid metabolism, hepatic/renal function, and systemic inflammation pathways collectively explained 13.3% (8.5%, 20.1%) of the association between weighted lifestyle score and PAD.

A favourable lifestyle was associated with lower risk of PAD among individuals with T2D, independent of genetic predisposition to PAD.

Source: Zhu K, Qian F, Lu Q, Li R, Qiu Z, Li L, Li R, Yu H, Deng Y, Yang K, Pan A, Liu G. Modifiable Lifestyle Factors, Genetic Risk, and Incident Peripheral Artery Disease Among Individuals With Type 2 Diabetes: A Prospective Study. Diabetes Care. 2024 Jan 5:dc231503. doi.org/10.2337/dc23-1503.

## US heart disease deaths linked with substance use rose 4% per year between 1999-2019

Cardiovascular disease (CVD) deaths involving substance use (SU) rose an average of 4% per year from 1999 to 2019, despite a drop in overall cardiovascular disease deaths, according to research published in the *Journal of the American Heart Association*.

Publicly available data from the Centers for Disease Control and Prevention's Wide-Ranging Online Data for Epidemiologic Research (WONDER) database were reviewed to investigate death trends related to substance use from 1999 and 2019.

636,572 substance use-related CVD deaths were identified. Of these, 75.6% were among men, and 70.6% of the individuals were non-Hispanic white people. Smoking/tobacco use was not included as a form of substance use in this study.

The analysis found that the overall rate of substance use-related CVD deaths increased from 9.9 per 100,000 population in 1999 to 21.4 per 100,000 population in 2019, representing an average annual increase of 4%. Increases in substance use-related average annual percent changes were noted across all subgroups and were pronounced among women (4.8%); American Indian or Alaskan individuals (5.4%); younger adults, ages 25-59 (5.3%); people living in rural areas (5%); people who used cannabis (12.7%) and psychostimulants (16.8%). 65% of cardiovascular disease deaths were related to alcohol, followed by opioids (13.7%), cocaine (9.8%), stimulants (6.5%), sedatives (4.1%) and cannabis (0.5%). The highest rate of change was noted among adults aged 25-39 (5.3%), followed by adults aged 55-69 (4.9%). The age-adjusted death rate was 15.2 per 100,000 in adults living in non-metropolitan/rural areas, 22.5 per 100,000 in men; and 37.7 per 100,000 in American Indian or Alaska Native adults.

The study found that there was a prominent increase in SU+CVD-related mortality in the USA between 1999 and 2019. Women, non-Hispanic American Indian or Alaska Native individuals, younger individuals, nonmetropolitan area residents, and users of cannabis and psychostimulants had pronounced increases in SU+CVD mortality. The increases in substance use found in rural areas have been connected to socioeconomic vulnerabilities, access to health care and substance abuse treatment differences and will require further evaluation, the researchers noted.

Source Abdul Mannan Khan Minhas, Jakrin Kewcharoen , Michael E. Hall , et al. Temporal Trends in Substance Use and Cardiovascular Disease–Related Mortality in the United States, Journal of the American Heart Association. 2024. doi.org/10.1161/JAHA.123.030969

## The association of alcohol consumption with the risk of sarcopenia

Sarcopenia is defined as a progressive loss of skeletal muscle mass plus a decline in muscle strength and/or reduced physical performance with advancing age. The results of current studies on the relationship between drinking and sarcopenia remain controversial.

A meta-analysis was conducted to evaluate the association of alcohol consumption with the risk of sarcopenia. Systematic searches were conducted on PubMed, Embase, Cochrane Library, Web of Science, Wanfang Data, Chinese BioMedical Literature, and China national knowledge infrastructure databases. Sixty-two studies with 454,643 participants were enrolled.

The meta-analysis revealed that alcohol consumption was not associated with the presence of sarcopenia, with a pooled OR of 0.964 (95% CI = 0.912-1.019). Further subgroup analysis indicated that alcohol consumption was correlated with lower risk of sarcopenia in men (OR = 0.763; 95% CI = 0.622-0.938). The nonlinear dose-response analysis suggested a J-shaped association between alcohol consumption and the risk of sarcopenia, with a nadir at the amounts of alcohol consumption of 6.6 grams/day (OR = 0.765; 95% CI = 0.608-0.957).

The meta-analysis results indicate that alcohol consumption is not a risk factor for the development of sarcopenia. The authors warn, however, that any suggestion of a putative protective effect of alcohol should be treated with caution, particularly in light of the overall lack of relationship reported in the present comprehensive meta-analysis.

Source: Bu YL, Wang C, Zhao C, Lu X, Gao W. The association of alcohol consumption with the risk of sarcopenia: a dose-response meta-analysis. Am J Drug Alcohol Abuse. 2024 Jan 17:1-16. doi.org/10.1080/00952990.2023.2300049.

## Lifetime alcohol consumption patterns and young-onset breast cancer by subtype among women in the Young Women's Health History Study

The role of alcohol in young-onset breast cancer (YOBC) is unclear. A research team examined associations between lifetime alcohol consumption and YOBC in the Young Women's Health History Study, a population-based case-control study of breast cancer among Non-Hispanic Black and White women < 50 years old.

1,812 breast cancer cases were diagnosed in the Metropolitan Detroit and Los Angeles County SEER registry areas, 2010-2015 and 1,381 controls were identified through area-based sampling and were frequency-matched to cases by age, site, and race. Alcohol consumption and covariates were collected from in-person interviews. Adjusted odds ratios (aOR) and 95% confidence intervals (CI) for associations between alcohol consumption and YOBC overall and by subtype (Luminal A, Luminal B, HER2, or triple negative) were calculated.

The study found that lifetime alcohol consumption was not associated with YOBC overall or with subtypes. Similarly, alcohol consumption in adolescence, young and middle adulthood was not associated with YOBC. An inverse association with triple-negative YOBC, however, was observed for younger age at alcohol use initiation (< 18 years vs. no consumption), aOR (95% CI) = 0.62 (0.42, 0.93). No evidence of statistical interaction by race or household poverty was observed.

These findings suggest that alcohol consumption has a different association with YOBC than postmenopausal breast cancer. Lifetime consumption, was not linked to increased risk and younger age at alcohol use initiation was associated with a decreased risk of triple-negative YOBC. Future studies on alcohol consumption in YOBC subtypes are warranted, the study authors say.

Source: Hirko KA, Lucas DR, Pathak DR, Hamilton AS, Post LM, Ihenacho U, Carnegie NB, Houang RT, Schwartz K, Velie EM. Lifetime alcohol consumption patterns and young-onset breast cancer by subtype among Non-Hispanic Black and White women in the Young Women's Health History Study. Cancer Causes Control. 2024 Feb;35(2):377-391. doi.org/10.1007/s10552-023-01801-z.

## Alcohol consumption patterns and adherence to the Mediterranean diet in the adult population of Spain

The association between various indicators of alcohol consumption and the degree of adherence to the Mediterranean diet was evaluated among the Spanish adult population in a study published in the *European Journal of Nutrition*.

The cross-sectional study included 44,834 participants ≥ 15 years of age from the 2017 National Health Survey and the 2020 European Health Survey in Spain. Alcohol patterns were defined based on (1) average intake: individuals were classified as low risk (1-20 g/day in men and 1-10 g/day in women) and high risk (> 20 g/day in men or > 10 g/day in women), (2) binge drinking, and (3) alcoholic beverage preference. Non-adherence to the Mediterranean diet was defined as scoring < 7 points on an adapted Mediterranean Diet Adherence Screener index (range 0-10).

Compared to non-drinkers, low and high-risk drinkers were more likely to report non-adherence to the Mediterranean diet: ORs 1.35 (95% CI 1.23; 1.49) and 1.54 (95% CI 1.34; 1.76), respectively. Similarly, reports of binge drinking less than once a month was associated with higher likelihood of non-adherence (OR 1.17; 95% CI 1.04; 1.31). Individuals reporting no preference for a specific beverage and those with a preference for beer or for spirits had lower adherence: ORs 1.18 (95% CI 1.05; 1.33), 1.31 (95% CI 1.17; 1.46), and 1.72 (95% CI 1.17; 2.54), respectively, while a preference for wine showed no association (OR 1.01; 95% CI 0.90; 1.13).

Alcohol consumption, even in low amounts, is associated with lower adherence to the Mediterranean diet. Therefore, alcoholic beverages should not be included in measures that define the Mediterranean diet, the study authors conclude.

Source: Fontán-Vela J, Ortiz C, López-Cuadrado T, Téllez-Plaza M, García-Esquinas E, Galán I. Alcohol consumption patterns and adherence to the Mediterranean diet in the adult population of Spain. Eur J Nutr. 2024 Jan 13. Doi.org/10.1007/s00394-023-03318-2.

## Drinking patterns of alcohol and risk of major adverse cardiovascular events after an acute coronary syndrome

In a paper published in the *European Journal of Preventive Cardiology*, researchers evaluated the risk of alcohol consumption after acute coronary syndromes (ACS).

A total of 6,557 patients hospitalised for ACS at four Swiss centres were followed over 12 months. Weekly alcohol consumption was collected at baseline and 12 months. Binge drinking was defined as consumption of ≥6 units of alcohol on one occasion. Major adverse cardiovascular events (MACE) were defined as a composite of cardiac death, myocardial infarction, stroke or clinically indicated target vessel coronary revascularization. The risk of MACE in patients with heavy (>14 standard units/week), moderate (7-14 standard units per week), light consumption (<1 standard unit/week) or abstinence, and with binge drinking episodes, were assessed and adjusted for baseline differences.

At baseline, 13.4% of patients reported heavy weekly alcohol consumption. At one-year follow-up, 41.6% patients reported having at least one or more episodes of binge drinking per month. The risk for MACE was not significantly higher in those with heavy weekly consumption compared to abstinence (8.6% vs. 10.2%, HR 0.97, 95%CI 0.69-1.36) or light consumption (8.6% vs. 8.5 %, HR 1.41, 95%CI 0.97-2.06). Compared to patients with no-binge drinking, the risk of MACE was dose-dependently higher in those with binge drinking with less than one episode per month (9.2% vs 7.8%, HR 1.61, 95%CI 1.23-2.11), or one or more episodes per month (13.6% vs 7.8%, HR 2.17, 95%CI 1.66-2.83). Binge drinking during the year following an ACS, even less than once per month, is associated with worse clinical outcomes, the researchers concluded.

Source: Tessitore E, Branca M, Heg D, Nanchen D, Auer R, Räber L, Klingenberg R, Windecker S, Lüscher TF, Carballo S, Matter CM, Gmel G, Mukamal KJ, Rodondi N, Carballo D, Mach F, Gencer B. Drinking patterns of alcohol and risk of major adverse cardiovascular events after an acute coronary syndrome. Eur J Prev Cardiol. 2023 Nov 23:zwad364. doi.org/10.1093/eurjpc/zwad364.

## Adherence to a healthy lifestyle and its association with cognitive impairment in community-dwelling older adults in Shanghai

There is a growing body of recent literature linking the association of specific or multiple lifestyles with cognitive impairment, but most of these studies have been conducted in Western populations, and it is necessary to study multiple lifestyles and cognitive abilities in different populations. A paper published in *the Frontiers in Public Health* investigated adherence to a healthy lifestyle and its association with cognitive impairment in a group of 2,390 community-dwelling older adults in Shanghai, China.

The participant's cognitive function was assessed using the Mini-Mental State Examination (MMSE). A healthy lifestyle score was defined based on being non-smoking, performing ≥210 min/wk moderate/vigorous-intensity physical activity, having light to moderate alcohol consumption, eating vegetables and fruits daily, having a body mass index (BMI) of 18.5-23.9 kg/m2, and having a waist-to-hip ratio (WHR) <0.90 for men and <0.85 for women, for an overall score ranging from 0 to 6.

Compared with participants with ≤2 healthy lifestyle factors, the adjusted odds ratio (OR) and 95% confidence interval (CI) for participants with 4, 5, and 6 healthy lifestyle factors were 0.53 (95% CI, 0.29-0.98), 0.40 (95% CI, 0.21-0.75), and 0.36 (95% CI, 0.16-0.79), respectively. Only WHR (OR = 0.54, 95% CI = 0.37-0.78) and physical activity (OR = 0.69, 95% CI = 0.51-0.92) were associated with cognitive impairment. A healthy lifestyle correlated with overall cognition (β = 0.066, orientation (β = 0.049), language ability (β = 0.060), delayed recall (β = 0.045) and executive function (β = 0.044).

The study provides evidence on an inverse association between healthy lifestyles and cognitive impairment. Researchers investigated whether healthy lifestyle was related to specific cognitive functions to provide a theoretical basis for accurate clinical prescription.

Source: Qi Y, Zhang Z, Fu X, Han P, Xu W, Cao L, Guo Q. Adherence to a healthy lifestyle and its association with cognitive impairment in community-dwelling older adults in Shanghai. Front Public Health. 2023 Dec 18;11:1291458. Doi.org/10.3389/fpubh.2023.1291458

## The Southern European Atlantic diet and all-cause and cause-specific mortality: a European multicohort study

The Southern European Atlantic diet (SEAD) is the traditional dietary pattern of north-western Spain and northern Portugal, but it may resemble that of central, eastern, and western European countries. The SEAD has been found associated with lower risk of myocardial infarction and mortality in older adults, but it is uncertain whether this association also exists in other European populations and if it is similar as that found in its countries of origin.

Researchers conducted a prospective analysis of four cohorts with 35,917 subjects aged 18-96 years: ENRICA (Spain), HAPIEE (Czechia and Poland), and Whitehall II (United Kingdom). The SEAD comprised fresh fish, cod, red meat and pork products, dairy, legumes and vegetables, vegetable soup, potatoes, whole-grain bread, and moderate wine consumption. Associations were adjusted for sociodemographic variables, energy intake, lifestyle, and morbidity. After a median follow-up of 13.6 years (range = 0-15), there were 4,973 all-cause, 1,581 cardiovascular, and 1,814 cancer deaths. Higher adherence to the SEAD was associated with lower mortality in the pooled sample. Fully adjusted hazard ratios and 95% confidence interval per 1-standard deviation increment in the SEAD were 0.92 (0.89, 0.95), 0.91 (0.86, 0.96), and 0.94 (0.89, 0.99) for all-cause, cardiovascular, and cancer mortality, respectively. The association of the SEAD with all-cause mortality was not significantly different between countries [Spain = 0.93 (0.88, 0.99), Czechia = 0.94 (0.89,0.99), Poland = 0.89 (0.85, 0.93), United Kingdom = 0.98 (0.89, 1.07)].

The SEAD was associated with lower all-cause, cardiovascular, and cancer mortality in southern, central, eastern, and western European populations. Associations were of similar magnitude as those found for existing healthy dietary patterns.

Source: Carballo-Casla A, Stefler D, Ortolá R, Chen Y, Knuppel A, Kubinova R, Pajak A, Rodríguez-Artalejo F, Brunner EJ, Bobak M. The Southern European Atlantic diet and all-cause and cause-specific mortality: a European multicohort study. Eur J Prev Cardiol. 2023 Dec 15:zwad370. Doi.org/10.1093/eurjpc/zwad370.

## Medical research listed by publication date

- Lifetime alcohol consumption patterns and young-onset breast cancer by subtype among women in the Young Women's Health History Study 03/10/23
- Exploring human metabolome after wine intake - A review 15/11/23
- Circulating metabolites may illustrate relationship of alcohol consumption with cardiovascular disease 16/11/23
- Drinking patterns of alcohol and risk of major adverse cardiovascular events after an acute coronary syndrome 23/11/23
- The Causal Association between Alcohol, Smoking, Coffee Consumption, and the Risk of Arthritis: A Meta-Analysis of Mendelian Randomization Studies 4/12/23
- ISFAR reiterates its defence of moderate alcohol consumption's health benefits 12/12/23
- The Southern European Atlantic diet and all-cause and cause-specific mortality: a European multicohort study 15/12/23
- Adherence to a healthy lifestyle and its association with cognitive impairment in community-dwelling older adults in Shanghai 18/12 /23
- Risk of newly developed atrial fibrillation by alcohol consumption differs according to genetic predisposition to alcohol metabolism: a large-scale cohort study with UK Biobank 21/12 23
- Hazardous Alcohol Use among Community-Dwelling Older Adults with Persistent or Recurrent Pain: Findings from the Health and Retirement Study 22/12 23
- High Adherence to a Mediterranean Alcohol-Drinking Pattern and Mediterranean Diet Can Mitigate the Harmful Effect of Alcohol on Mortality Risk 24/12/23
- Risk Factors for Young-Onset Dementia in the UK Biobank 26/12/23
- The IARC Perspective on Alcohol Reduction or Cessation and Cancer Risk 28/12/23
- Recovery of neuropsychological function following abstinence from alcohol in adults diagnosed with an alcohol use disorder: Systematic review of longitudinal studies. 2/1/24
- The relationship between alcohol consumption and chronic kidney disease in patients with nonalcoholic fatty liver disease 5/1/24
- Modifiable Lifestyle Factors, Genetic Risk, and Incident Peripheral Artery Disease Among Individuals With Type 2 Diabetes 5/1/24
- US heart disease deaths linked with substance use rose 4% per year between 1999-2019 10/1/24
- Alcohol consumption patterns and adherence to the Mediterranean diet in the adult population of Spain 13/1/24
- The association of alcohol consumption with the risk of sarcopenia 17/1/24
- The significant contribution of interleukin-16 genotypes, smoking, alcohol drinking, and helicobacter pylori infection to gastric cancer Jan 2024

## Public awareness of the alcohol-cancer link in the EU and UK: a scoping review

A scoping review summarised recent findings on the public awareness of alcohol as a cancer risk factor in European Union (EU) and UK.

Four databases (Web of Science, MEDLINE, PsycInfo, CINAHL) were searched for papers containing data on awareness of alcohol as cancer risk factor in EU or UK published between January 2017 and December 2022, and complemented with grey literature searches.

In total, 45 studies were included covering 18 EU countries (Austria, Belgium, Cyprus, Czechia, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Netherlands, Poland, Romania, Slovakia, Slovenia, Spain, Sweden) and UK, presenting data collected between 2009 and 2022. Studies covered general population (17 studied a nationally representative sample), women, health professionals, patients and young people. Awareness of alcohol causing cancer in general was higher and studied more often than awareness of alcohol's impact on specific cancers.

Among the EU general population, awareness of the link between alcohol and breast cancer ranged between 10-20%, head and neck cancer 15–25%, colorectal and oesophagus cancer 15–45% and liver cancer 40%. Awareness was higher among young people and specialized health professions, and lower among women (the latter specifically for the breast cancer).

While awareness rates varied depending on the exact question wording, many studies showed low awareness of the alcohol-cancer link, especially for specific types such as breast and colon cancer. Public should be better informed about alcohol consumption-related cancer risk, the researchers argue.

Source: Daša Kokole, Carina Ferreira-Borges, Gauden Galea, Alexander Tran, Jürgen Rehm, Maria Neufeld, Public awareness of the alcohol-cancer link in the EU and UK: a scoping review, European Journal of Public Health, Volume 33, Issue 6, December 2023, Pages 1128–1147, doi.org/10.1093/eurpub/ckad141

## Have the personality and socio-demographic profiles of Australian adolescent drinkers changed?

Adolescent alcohol consumption has been declining across many countries, with rates of abstinence also increasing among younger cohorts. A range of socio-demographic variables and personality traits are associated with alcohol use; however, no study has examined whether the relationship between personality and drinking has changed over time as adolescent drinking has declined.

Data from 15- to 17-year-old respondents were extracted from four waves (2004/2005, 2008/2009, 2012/2013, 2016/2017) of a long running Australian cohort study. An analysis sought to determine whether personality traits (openness, conscientiousness, extraversion, agreeableness and emotional stability) and socio-demographic variables (age, gender, equivalised income, family structure, cultural background, school attendance and regionality) significantly differed between drinkers and abstainers and whether these relationships changed across cohorts.

The prevalence of drinking for 15- to 17-year-olds significantly declined over each survey wave from 54% in 2004/2005 to 24% in 2016/2017. Conscientiousness (odds ratio [OR] 0.82, confidence interval [CI] = 0.73, 0.93), extraversion ([OR] 1.25, [CI] = 1.11, 1.40) and emotional stability ([OR] 0.73, [CI] = 0.64, 0.83) were all significant predictors of alcohol consumption. No significant interactions between cohort and personality traits or socio-demographic variables were found.

The study found no evidence to indicate that the relationship between adolescent alcohol consumption and personality has changed. Similarly, socio-demographic relationships with drinking were stable as drinking prevalence dropped by more than half. This adds to the evidence that drinking declines among adolescents are spread broadly across the population and not concentrated within identifiable sub-groups of young people.

Source: Taylor N, Callinan S, Pennay A, Livingston M. Have the personality and socio-demographic profiles of Australian adolescent drinkers changed? Drug Alcohol Rev. 2023 Dec 18. doi.org/10.1111/dar.13793.

## Tobacco and alcohol co-use: Lifestyle and sociodemographic factors, and personality aspects as potential predictors

Tobacco and alcohol co-use are two major lifestyle modifiable risk factors. Understanding the determinants of both behaviours helps to develop interventions to prevent these exposures. However, previous studies have focused on predictors of individual tobacco or alcohol use. A study explored the potential predictors of tobacco and alcohol co-use among Spanish university graduates from the "Seguimiento Universidad de Navarra" (SUN) cohort study.

A total of 7,175 participants who were co-users of tobacco and alcohol were selected for analysis. Their mean age was 39.1 years (12.04 SD) and 57.3% were women. Baseline potential predictors included sociodemographic factors, lifestyle habits and perceived personality aspects.

The study found that the main significant potential predictors of tobacco and alcohol co-use were driving under the influence of alcohol (odds ratio [OR] = 1.65 [1.43-1.90]), drinking 1-2 cups of coffee daily (OR = 1.50 [1.24-1.84]), and drinking three or more cups of coffee daily (OR = 1.61 [1.35-1.91]) when compared with the reference group. Conversely, those who were married (OR = 0.87 [0.75-0.99], ate at home 7 days a week (OR = 0.69 [0.60-0.80]), did more physical activity than recommended (OR = 1.18 [1.02-1.34]), or had a high perceived level of competitiveness (OR = 0.83 [0.72-0.95]) had a lower risk of co-use (AUC 0.61 [confidence interval 95% 0.59-0.63]), compared to the reference group. These results could be used by healthcare professionals, especially nurses, to effectively assess patients at higher risk of tobacco and alcohol co-use.

Source: Neddermann-Carrillo S, Abidi L, Gea A, Bes-Rastrollo M, de la Fuente-Arrillaga C, Lahortiga-Ramos F, Martínez-González MÁ, Pardavila-Belio MI, Ruiz-Canela M. Tobacco and alcohol co-use: Lifestyle and sociodemographic factors, and personality aspects as potential predictors in the "Seguimiento Universidad de Navarra" cohort. Res Nurs Health. 2024 Jan 13. doi.org/10.1002/nur.22367.

## Understanding alcohol use and changes in drinking habits among people with a severe mental illness

Individuals with a severe mental illness (SMI) are more likely to drink at harmful levels or abstain. While it is known that drinking patterns change over time, the reasons for this among those with a SMI are unclear. A study explored (i) the experiences with alcohol, particularly in relation to mental health symptoms, and (ii) how drinking patterns have changed over time, among individuals who have a SMI diagnosis, who either currently drink alcohol or no longer drink.

One-to-one semi-structured telephone interviews were conducted to address the study aims. Current drinkers' alcohol use was assessed using the Alcohol Use Disorder Identification Test. A framework analysis was used to address the study aims with a specific focus on the differences in the experiences with alcohol use between current and former drinkers.

Sixteen participants were interviewed, and five themes were developed. The analysis highlighted how alcohol was increasingly used to cope with (i) trauma, (ii) SMI-related symptoms, or (iii) stress. Among those with a SMI, non-drinking was facilitated through declines in SMI-related symptoms, previous negative consequences due to alcohol and changing the social environment. Current drinking habits were facilitated through changes in the reasons for drinking and adopting different alcohol moderation techniques.

Among those with a SMI diagnosis and who either currently drink alcohol or no longer drink, the researchers' findings support the self-medication hypothesis and drinking motives model. However, their findings indicate the need for further development of drinking to cope with a focus on symptoms of a SMI and trauma. The findings also have implications on specialist alcohol and mental health services, the need to improve individuals' understanding of SMI, and the need to identify reasons for drinking among those with a recent diagnosis of a SMI.

Source: Puddephatt Jo-Anne, Makin Harriet, Gage Suzanne H., Jones Andrew, Goodwin Laura. Understanding alcohol use and changes in drinking habits among people with a severe mental illness: a qualitative framework analysis study . Frontiers in Psychology, Vol 14, 2023 doi.org/10.3389/fpsyg.2023.1282086.

## Alcohol use in multiracial American youth compared with monoracial youth

Although multiracial people comprise the fastest growing population in the USA, multiracial youth are nearly invisible in alcohol research. A meta-analysis synthesized the youth alcohol literature to estimate the magnitude of difference in alcohol use as a function of multiracial status.

Empirical studies reporting multiracial and monoracial comparisons in youth (aged 10-24 years) alcohol use were identified through a systematic literature search. A meta-analysis of 16 studies (a total of 1,555,635 youth were included) was conducted assessing life-time, past-year, past-month and binge alcohol use.

The study found that multiracial youth are suggested to be more likely to endorse life-time alcohol use than Asian youth; odds ratio (OR) = 1.81, 95% confidence interval (CI) = 1.01, 3.24, with significant between-study heterogeneity in effect size comparisons. Multiracial youth are suggested to be more likely to endorse past-month alcohol use than Black (OR = 1.54, 95% CI = 1.38, 1.71) and Asian (OR = 2.09, 95% CI = 1.52, 2.88) youth, but less likely than White (OR = 0.87, 95% CI = 0.84, 0.91) youth, with significant between-study heterogeneity for Black youth in effect size comparisons. Lastly, multiracial youth are suggested to be more likely to endorse binge alcohol use than Black (OR = 1.98, 95% CI = 1.62, 2.44) and Asian (OR = 2.82, 95% CI = 2.28, 3.48) youth, but less likely than White (OR = 0.75, 95% CI = 0.70, 0.81) and American Indian/Alaska Native (OR = 0.78, 95% CI = 0.71, 0.85) youth, with significant between-study heterogeneity among Black Asian youth in effect size comparisons.

US multiracial youth report distinct alcohol use patterns compared with monoracial youth and may be at elevated alcohol use risk compared with Black and Asian youth.

Source: Dobani F, Zaso M, Desalu JM, Park A. Alcohol use in multiracial American youth compared with monoracial youth: A meta-analysis. Addiction. 2024 Jan;119(1):47-59. Doi.org/10.1111/add.16310.

## Measuring exposure to the hazardous drinking of others and perceived opportunity to intervene as a bystander

The authors of a study published in the *Journal of Studies on Alcohol and Drugs* say that excessive alcohol use is very prevalent among young adults, and consequences of drinking are often observed by witnesses. They argue that understanding the circumstances under which witnesses of risky alcohol use help others, and whether they perceive these circumstances as an opportunity to engage in bystander intervention are important, but valid measures of these constructs are needed. Their study provided a psychometric evaluation of the Exposure to Hazardous Drinking in Others (EHDO) scale and a single item indicator of Perceived Alcohol-Related Bystander Opportunity (PARBO).

More than 1,000 young adults who reported being around someone who showed signs of alcohol intoxication in the past three months were recruited to the study. The initial item set for the EHDO was developed through qualitative methods and reflected observed or reported risks or consequences. Factor analyses and Item Response Theory analyses were used to reduce and categorize EHDO items, and construct validity was assessed for the EHDO and the PARBO item.

An initial set of 33 EHDO items was reduced to 21, representing two factors: Situational Risk Signs; and Problematic Pattern. Both factors demonstrated good model fit, internal consistency, and evidence of convergent validity. The PARBO item showed good construct validity but was distinct from the EHDO.

The study authors say that these instruments are useful for measuring second-hand alcohol risks in a community and are particularly applicable for evaluating bystander intervention for alcohol risk.

Source: Barnett NP, Haikalis M, Meisel MK, Merrill JE, Jones RN, Rosen RK, Carey KB, Orchowski LM, Bradley K. Measuring Exposure to the Hazardous Drinking of Others and Perceived Opportunity to Intervene as a Bystander. J Stud Alcohol Drugs. 2023 Dec 26. doi.org/10.15288/jsad.23-00042.

## Patterns of alcohol use over time among older couples: implications for self-rated health

Alcohol use in older adults is increasing, which can have implications for their health outcomes. Research has examined longitudinal patterns of drinking for individuals over time, but not couples. Couples often engage in concordant drinking behaviours but it is unknown if couples become more or less concordant or discordant in their drinking over time or how increased concordance or discordance influences health. A study examined patterns of alcohol use over time among older couples and their links with self-reported health.

A total of 8,570 husbands and wives completed the main interview of the Health and Retirement Study (HRS) for at least three consecutive biennial waves between 1996 and 2016. Analysis revealed five trajectories of couple drinking: 1. Concordant - husband and wife light (75%); 2. Concordant - husband and wife light/moderate (9%); 3. Concordant - husband and wife moderate (3.5%); 4. Discordant - husband heavy and wife light (3.5%); 5. Discordant - husband moderate and wife light (9%).

Discordant couples and concordant light couples reported worse self-rated health over time compared with concordant light/moderate and concordant moderate couples. The most common pattern of drinking was concordant drinking with husbands showing light decreasing drinking and wives showing light stable drinking over time. Findings are consistent with literature and suggest that discordant drinking couples have poorer health.

Source: Turkelson A, Birditt K, Polenick C, Cranford J, Blow F. Patterns of alcohol use over time among older couples: implications for self-rated health. Innov Aging. 2023 Dec 21;7(Suppl 1):779–80. doi.org/10.1093/geroni/igad104.2519

## Social research listed by publication date

- Alcohol use in multiracial American youth compared with monoracial youth 10/08/23
- Public awareness of the alcohol-cancer link in the EU and UK: a scoping review 6/10/23
- Understanding alcohol use and changes in drinking habits among people with a severe mental illness 4/12/23
- Have the personality and socio-demographic profiles of Australian adolescent drinkers changed? 18/12/23
- Patterns of alcohol use over time among older couples: implications for self-rated health 21/12/23
- Measuring exposure to the hazardous drinking of others and perceived opportunity to intervene as a bystander 26/12/23
- Tobacco and alcohol co-use: Lifestyle and sociodemographic factors, and personality aspects as potential predictors 13/1/24

## Safe and sober seminar in Ireland

In Ireland, results from the 2023 Behaviour and Attitudes survey of over 1,200 drivers were presented by the Road Safety Authority (RSA) at a Safe and Sober seminar in January. The seminar focussed on drink-driving in Ireland and raised awareness on the impact of 'Alcohol Ignition Interlock' technology and rehabilitation programmes to help reduce the number of alcohol-related road deaths.

Research from RSA shows that one in 10 Irish motorists have driven after consuming alcohol in the last 12 months. The incidence was higher among male drivers (14%), those who drive for work (14%), and those with a history of collision involvement(24%).

Also presented at the seminar was the latest analysis from the Medical Bureau of Road Safety (MBRS), which revealed that while the legal limit for the ordinary driver is 50 milligrams per 100 millilitres of blood, the average blood level remains alarmingly high at 160 milligrams per 100 millilitres of blood.

The latest analysis from An Garda Síochána reveals the total number of arrests for driving under the influence of alcohol or drugs for 2023 was 8,863. A total of 46,165 Mandatory Intoxicant Testing Checkpoints were conducted last year.

rsa.ie/news-events/news/details/2024/01/19/one-in-10-have-driven-after-consuming-alcohol-in-the-last-12-months-according-to-new-research-by-the-rsa

## New report reveals key features of no and low alcohol drinks market

A report into no and low alcohol drinks was published in the UK on January 18, lead by John Holmes, Professor of Alcohol Policy at the University of Sheffield. The report aims to help the government and health organisations better understand the role the beverages could play in improving public health. Funded by the Department of Health and Social Care through the NIHR Public Health Research programme, it is the first in a series of annual reports the researchers will publish between 2023 and 2026.

In 2022, one-third of adults consumed no/low drinks at least once in the last year. Of these, more than half consumed them more regularly, with 18% of adults drinking no/low alcohol drinks at least once a month, and 10% at least once a week. Risky drinkers were more likely to report consuming no/low alcohol drinks at least once a month compared to non-risky drinkers and non-drinkers (25%,20%,6% respectively). People in higher social grades were also more likely to consume no/low drinks regularly than those in lower social grades.

The authors say that no/low drinks could lead to large reductions in alcohol-related harm if people drink them instead of standard alcoholic drinks. However, they highlight that there are a number of challenges which policy makers need to consider, including the cost of no/low drinks, which remain more expensive than standard alcoholic beverages, which could limit potential improvements in public health.

The report finds that no/low products are increasingly popular in the UK, with sales growing to £221m in 2021, and continuing to rise. The government is committed to encouraging this trend as a central part of its public health policies. The proportion of alcohol sales accounted for by no/low alcohol drinks is also rising and was 1.06% of total alcohol sales volume and 0.60% of sales value in 2021. This proportion was higher in the off-trade than the on-trade. No/low beer accounted for 77% of total no/low sales volume.

The report highlights that a small number of brands dominate the no/low market. The three best-selling no/low beer brands in the off-trade accounted for 48% of all no/low beer sales by volume in 2021 and the 10 best-selling brands accounted for 76%. 98% of no/low beer sales in the off-trade come from products that share branding with a normal alcoholic drink, such as Heineken 0.0 and Heineken. Fellow author of the report, Dr Luke Wilson from the University of Sheffield's School of Medicine and Population Health, voice concern that although "No/low drinks from well-known brands might be encouraging people to try these less risky products, but this shared branding might also harm public health by promoting normal alcoholic drinks."

sheffield.ac.uk/news/new-report-reveals-key-features-no-and-low-alcohol-drinks-market

## Netherlands missing all preventive health targets

"The Netherlands is expected to miss all the preventive health targets set in the National Prevention Agreement for 2040," the public health institute RIVM said on January 17th. "While the numbers of smokers and overweight people are decreasing, it's not enough to achieve the 2040 target and the proportion of people consuming problematic amounts of alcohol remains unchanged".

In 2018, the national government concluded the National Prevention Agreement with 70 social partners, agreeing on ways to work towards a healthier society by 2040. The main goals being to reduce smoking, problematic alcohol consumption, and overweight and obesity. The RIVM calculated what the situation would be in 2040 regarding these preventive health targets with and without these agreements.

The National Prevention Agreement has had no effect on the proportion of people who consume problematic amounts of alcohol and it is estimated that this will remain at 8% in 2040. The goal was to reduce it to 5%.

"It is clear that to achieve the ambitions, additional and stronger measures are needed. Intensifying the current measures can also contribute," the RIVM commented. It suggested making healthy food cheaper and limiting the outlets for (and advertising of) unhealthy food. The RIVM also suggested making alcohol more expensive, less available, and limiting its advertising, too. Cigarettes could also become even more expensive.

## No-alcohol share of overall alcohol market expected to be nearly 4% by 2027

A report from IWSR shows that no- and low-alcohol consumption across the world's leading 10 no/low markets, which account for approximately 70% of global no/low-alcohol volumes, grew by +5% in volume in 2023, and the market is now worth over USD 13bn. The no/low- alcohol category is forecast to grow at a volume compound annual growth rate (CAGR) of +6% between 2023 and 2027, led by no-alcohol at +7%, with low-alcohol expanding by +3% over the same period.

Although this forecast is a slightly slower growth rate from previous years (no-alcohol grew at a volume CAGR of +8% between 2019 and 2023), the no-alcohol category is continuing to attract new customers. 17% of all no-alcohol consumers in the past year were new entrants; for low-alcohol, the figure is 16%. This trend is especially evident in emerging no- and low-alcohol markets such as the US and Canada. Younger cohorts of legal drinking age (LDA) are recruited most frequently across markets, with fewer Boomers entering the category.

Susie Goldspink, Head of No- and Low-Alcohol Insights, IWSR commented, "As no- and low-alcohol becomes a more established part of the beverage alcohol landscape, growth is slowing after a peak in 2020 to 2021 – but the category is poised for robust gains in the coming years, spearheaded by no-alcohol and persistently strong recruitment levels."

No-alcohol now accounts for two-thirds of no/low-alcohol category volumes, with 72% of that made up of beer/cider. No-alcohol continues to take share from traditional alcohol, and IWSR expects no-alcohol to command nearly 4% of TBA volumes across the T10 markets by 2027.

Future growth in no-alcohol will be spearheaded by less developed no-alcohol markets, such as Canada, the US, Australia and Brazil. However, the more mature markets of Germany and Spain are each expected to grow at a CAGR of only +2%, 2023-2027, with Japan forecast to grow at +5%.

theiwsr.com/wp-content/uploads/IWSR_No-and-Low-Alcohol-press-release-December-2023.pdf

## YouGov survey shows rise in popularity of low and no alcohol alternatives, with young adults now the biggest consumers

The Portman Group's sixth annual survey in partnership with YouGov shows that young people are the biggest consumers of low and no alcohol alternatives, with 44% of 18 to 24-year-olds surveyed considering themselves either an occasional or regular drinker of alcohol alternatives, compared to 31% in 2022 and 39% of 18 to 24-year-olds not drinking alcohol at all.

The survey results show how these products have contributed to increasing moderation among UK drinkers – with a rise in respondents who have seen their alcohol consumption decrease as a result of low and no alcohol products (23% compared to 21% in 2022) and over 35% of those surveyed now consider themselves an occasional or regular drinker of alcohol alternatives – up from 29% in 2022.

The research confirms that low and no products have become an important and normal part of how the UK public moderate their drinking and tackle potential harm – with 75% of UK drinkers having at least tried a low and no alcohol alternative, compared to a third 33% of non-drinkers.

For the sixth year in a row the most popular reasons to drink alcohol alternatives are to avoid drinking excessively at social events and being able to drive home. Of those who could recall, UK consumers most often drink these products alternating with alcohol or on drink free days during the week and 83% first tried an alcohol alternative through a product which shared branding with an alcoholic product.

Matt Lambert, CEO of the Portman Group said, "It is welcome to see a further rise in the popularity of low and no alcohol alternatives as well as further evidence of how they are an important tool to help UK drinkers, particularly younger adults, to drink responsibly".

"The availability of alcohol alternatives has never been more abundant and we eagerly await the outcome of the recent UK Government consultation on low alcohol descriptors, which we hope will further facilitate the growth of the UK low and no alcohol market."

portmangroup.org.uk/yougov-survey-shows-rise-in-popularity-of-low-and-no-alcohol-alternatives-with-young-adults-now-the-biggest-consumers/

## Portman Group launches Alcohol Alternatives Guidance for packaging and marketing

On 17th January, the Portman Group launched the first industry-wide and freely-available 'Alcohol Alternatives Guidance' for packaging and marketing to help producers ensure alcohol alternative products are marketed and sold responsibly to consumers in the UK. The Portman Group's Advisory Service will now also offer free, confidential advice to producers launching products in the category and low cost training to the industry will also be available.

An 'alcohol alternative' drink is defined as having an ABV of 0.5% or below and may have references to the absence of alcohol on the product and in its marketing. It may also share branding with an alcoholic drink or have similar packaging.

The new principles for responsible marketing best practice stipulate that, as products aimed squarely at adults, steps should be taken to ensure that the marketing of alcohol alternatives has no particular appeal to under-18s. Marketing which shows people driving, playing sport, or taking part in risky activities after they've consumed an alcohol alternative product should make it clear they have consumed the alcohol alternative, and that the intention is to show a wider range of choice for consumers.

On a precautionary best practice basis, guidance recommends that marketing does not depict, or reference in copy, an alcohol alternative being consumed during pregnancy. Those who are or may be pregnant will make their own educated choices about whether they wish to drink products at 0.0%.

The guidance also lays out five other suggestions for producers, including:

- Making clear that the drink is at or below the threshold to be considered an alcoholic drink (0.5% ABV);
- Not associating alcohol with social or sexual success;
- No images of people who are, or look as if they are, under 25 years of age; and
- And the product should not cause serious or widespread offence.

Public Health Minister, Dame Andrea Leadsom, said, "I welcome the publication of this marketing guidance for alcohol alternatives, and the commitment of producers to market and sell these products responsibly to adult consumers".

Matt Lambert, CEO, the Portman Group said, "Our new guidance aims to help producers be clear and transparent in their marketing, ensuring that information is provided to consumers when considering which products to buy."

portmangroup21.wpenginepowered.com/wp-content/uploads/2024/01/Alcohol-Alternatives-Guidance.pdf

## The Spanish spirits sector reinforces its Advertising Self-Regulation Code

The spirits sector in Spain has modified its 'Self-Regulation Code' for communications made on social networks by influencers, and for advertising relating to 0.0 and low-alcohol alternatives. The Code is also adapted to recent regulations on audiovisual commercial communications, with special protection for minors.

The Code states that advertising for 0.0 and low-alcohol products may not be displayed in media and at times mainly aimed at minors. In the case of non-alcoholic beverages, a statement that the product is aimed at people over 18 years of age or the +18 pictogram will be included in those digital advertisements created to be shared with other users, specifying that the content is aimed at adults and should not be forwarded to minors.

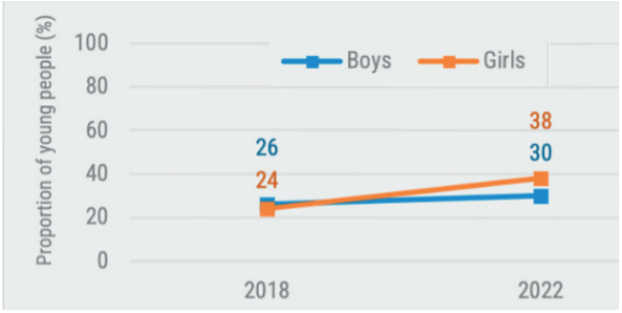
The marketing of spirits by influencers on social networks has also been regulated to maintain the protection of minors and avoiding abusive consumption. Thus, when available, influencers must use age verification mechanisms on digital platforms to prevent minors from accessing this content. On platforms where age verification mechanisms are not available, they can only collaborate with influencers who are at least 25 years old and address mainly to adult audiences (70% over 18 years old). The influencers chosen to promote spirit drinks must not have any relationship with the abusive or improper consumption of alcoholic beverages, nor will they have any reputation associated with irresponsible consumption. The Self-Regulation Code of the spirits sector will apply to companies associated with Spirits Spain that publish, disseminate, or broadcast advertising for Spanish territory.

# Comprehensive insights from the 2021/22 HBSC England study: a call to action for adolescent health

The latest results from the 2021/22 Health Behaviour in School-aged Children (HBSC) study in England were published in December. The report highlights significant declines in both mental and physical health among young people, with disparities intensified by gender, age, and socio-economic status. The authors comment that these results, encompassing responses from over 5,000 adolescents indicate particularly adverse outcomes for girls in areas of mental well-being, underlining the urgency for targeted mental health initiatives and comprehensive public health strategies.

For alcohol, 35% of young people (32% of boys and 38% of girls) reported having consumed alcohol on at least three days in their lifetime. The proportion reporting having drunk alcohol this frequently increased with age from 17% among 11-year-olds through to 54% among 15-year-olds. Gender differences reversed after the age of 11, with girls reporting higher rates of lifetime alcohol use than boys at the ages of 13 (41% vs 34%) and 15 (61% vs 48%). For both genders, those from the most affluent families reported higher levels of alcohol use compared with their peers from the least affluent families. 53% of 15-year-old boys from the most affluent families had drunk alcohol on at least three days in their lifetime compared to 37% of 15-year-old boys from the least affluent families. Overall, 15-year-old girls from the most affluent families were the most likely to have drunk alcohol on at least three days over their lifetime (64%).

**Young people reporting having drunk alcohol on at least 3 days in their lifetime, 2018-2022**

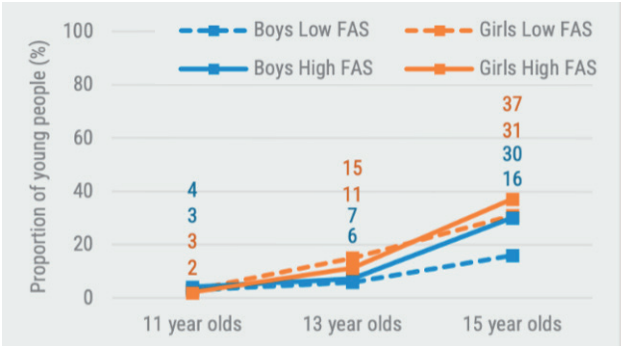



Between 2018 and 2022, there was an increase in young people regularly drinking alcohol (at least three times in the last 30 days) from 7% to 12% (10% of boys and 13% of girls). Regular alcohol consumption increased with age from 4% among 11-year-olds through to 22% among 15-year-olds. Gender differences also increased with age, particularly among girls.

By the age of 15, 25% of girls reported that they had consumed alcohol on at least three days in the last 30 days. A greater proportion of young people from the most affluent families reported drinking alcohol regularly; 20% of 15 year old boys from the most affluent families reported regular drinking compared with 14% of their peers from the least affluent families. Between 2010 and 2018, the proportion of young people drinking alcohol regularly remained relatively stable. However, the 2022 data showed an increase that, at least for girls, was greater than that seen between any of the previous survey waves

Overall, 13% of young people reported that they had drunk alcohol to excess (been drunk) at least twice in their lifetime (10% for boys and 16% for girls). The prevalence increased with age, and more so in girls than boys. By the age of 15, 28% of young people said they had been drunk at least twice in their lifetime (22% of boys and 34% of girls). Despite minimal differences by gender or family affluence at the age of 11, by age of 15, a greater proportion of young people from the most affluent families reported having been drunk twice or more compared with those from less affluent families. The gap by family affluence at this age was more pronounced in boys (high FAS boys, 15 years: 30% vs low FAS boys, 15 years: 16%) than girls (high FAS girls, 15 years: 37% vs low FAS girls, 15 years: 31%).

**Young people who had been drunk at least twice in their lifetime, by family affluence (FAS)**




hbscengland.org/wp-content/uploads/2023/11/2022_FULL_REPORT_final_21.11.23-1.pdf

# Monitoring The Future Survey results in the US

In December, the results of the 2023 Monitoring the Future Survey were released. The study tracks long-term behaviours of substance use and related attitudes amongst 8th, 10th, and 12th grade students in the US. The survey is conducted by researchers at the University of Michigan and funded by the National Institute on Drug Abuse, part of the National Institutes of Health.

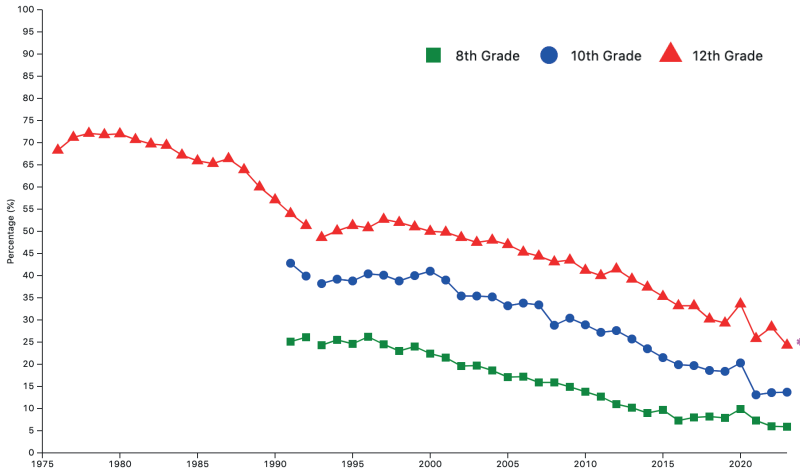
The latest report finds that long-term declines in underage drinking noted over the past few decades remain, and alcohol consumption among America's teens are at or near record low levels and below pre-pandemic prevalence rates. Among 12th grade students, lifetime, annual, current, and daily prevalence rates declined significantly from 2022 to 2023.

Additionally, lifetime abstention, defined as no alcohol, marijuana, or nicotine (either by cigarettes or by vaping) use, increased significantly among students in 10th and 12th grade. More specifically, the survey found the following:

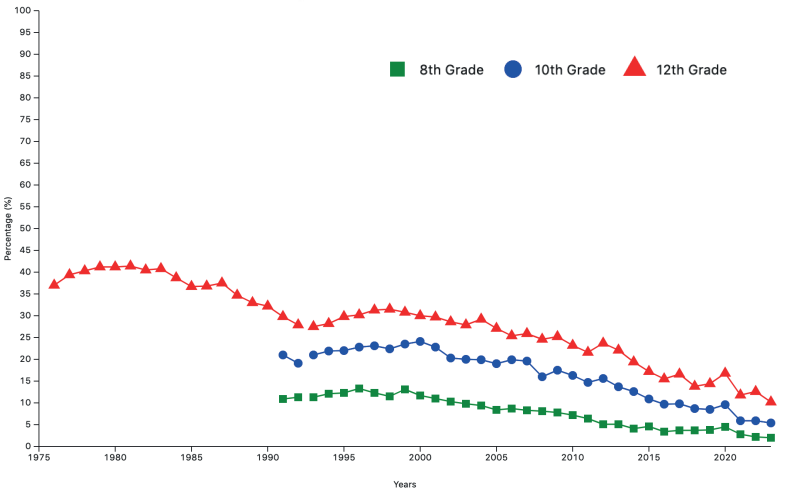
- A majority of teens report they have never consumed alcohol – 80% of students in 8th grade, 64% of 10th graders, and 47% of 12th graders. Lifetime consumption has declined 25%, proportionally, among 8th graders, 27% among 10th graders, and 20% among high school seniors;
- In 2023, past 30-day consumption and binge drinking remained at near record low levels and below pre-pandemic levels. Current drinking among teens remained relatively unchanged from 2022 to 2023 among 8th and 10th graders, but it declined significantly among high school seniors (down 4 percentage points). The longer-term trend shows declines of 24 percent among 8th graders, 42% among 10th graders, and 35% among 12th graders over the past decade;
- Binge drinking rates remained stable from 2022 to 2023 among students in all three grade levels, but over the past ten years the prevalence of binge drinking has been cut in almost half – down 51% proportionally among 8th graders, 57% among 10th graders, and 47% among 12th graders; and
- Peer disapproval of binge drinking remains high among 8th, 10th and 12th graders in 2023. The perceived risk of binge drinking remained relatively unchanged; ease of access to alcohol also remained relatively stable from 2022 to 2023 among all teens.

news.umich.edu/teen-drug-use-remains-below-pre-pandemic-levels/

**Alcohol: Trends in Last 30 Days Prevalence of Use in 8th, 10th, and 12th Grade**




**Alcohol: Trends in Binge Prevalence of Use in 8th, 10th, and 12th Grade**



# National Health Survey 2022 in Australia

The National Health Survey 2022 for Australia was published on 15 December 2023. The survey provides key statistics and information about alcohol consumption and its prevalence within Australia. The report finds that the consumption of alcohol is widespread within Australia and alcohol is consumed in a wide range of social and cultural activities.

26.8% of adults aged 18 years and over exceeded the guideline in 2022. This includes those who either consumed more than 10 drinks in the last week and/or consumed 5 or more drinks on any day at least monthly in the last 12 months (on at least 12 occasions per year). Males were more likely to exceed the guideline than females (35.8% compared to 18.1%). Young adults aged 18–24 years were more likely than any other age group to exceed the guideline in 2022 (36.1%).

Overall, 18.5% of adults consumed more than 10 drinks in the last week. Consumption peaked in later years, with 24.6% of people aged 55–64 years and 21.6% of people aged 65–74 years consuming more than 10 standard drinks in the last week. Of those who exceeded the guideline 70.6% consumed more than 14 standard drinks in the last week, with males were more likely than females to do so (72.1% compared to 66.8%).

20.5% of adults consumed 5 or more standard drinks on any day in the last year at least monthly, with young adults aged 18–24 years being most likely to consume to do so (33.7%). Of those who exceeded the guideline, 41.8% adults consumed 5 to less than 7 standard drinks on any day in the last month. The proportion of males who consumed 11 or more standard drinks on any day in the last month was almost double that of females (29.7% compared to 15.6%).

The report summarises the characteristics of adults who exceeded the guideline in 2022:

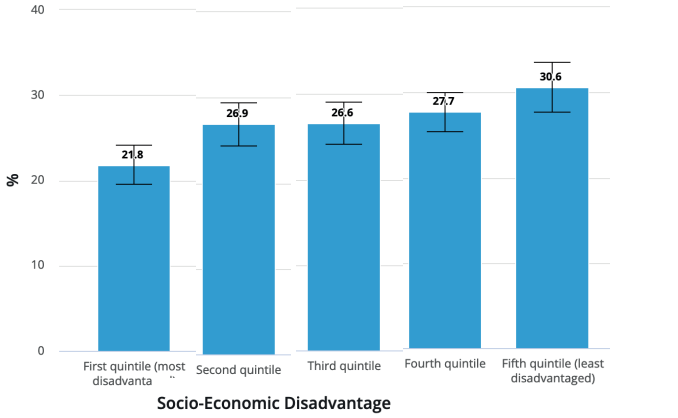
- Being born in Australia compared to being born overseas (33.0% compared to 16.0%);
- Speaking English as the main language at home compared to speaking any other language. (31.2% compared to 5.5%);
- Living in Outer Regional and Remote Australia compared to living in major cities (30.9% compared to 25.6%);
- Living in a group compared to living in any other household type (38.6%;)
- Being employed compared to those who were unemployed (30.4% compared to 19.9%) or those who were not in the labour force (30.4% compared to 19.5%); and
- Living in areas of least disadvantage compared to those in areas of most disadvantage (30.6% compared to 21.8%).

In 2022, respondents aged 18 years and over were asked whether the amount of alcohol they usually drink had changed or stayed about the same compared to 12 months ago. Of those adults who consumed alcohol in the last 12 months and exceeded the guideline:

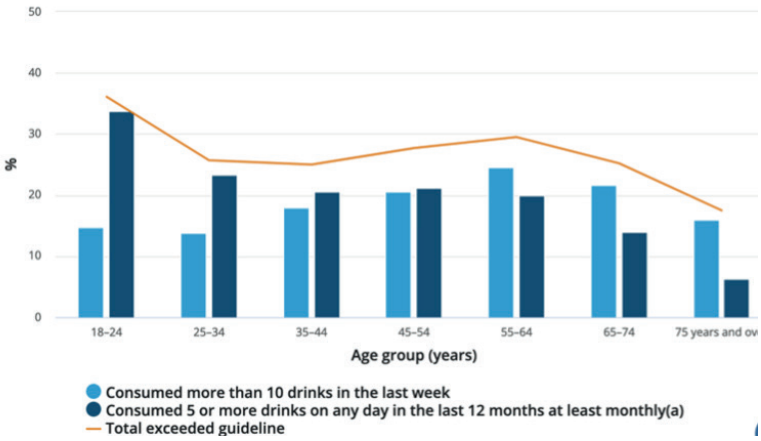
- 61.9% reported that their consumption had stayed about the same
- 25.8% reported decreased consumption
- 12.4% reported increased consumption.

abs.gov.au/statistics/health/health-conditions-and-risks/alcohol-consumption/2022

Proportion of adults who exceeded guideline by disadvantage(a), 2022




Proportion of adults who exceeded guideline by age, 2022

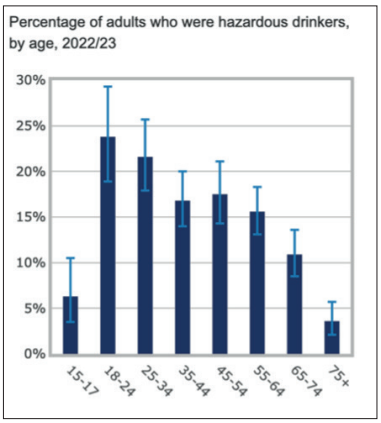


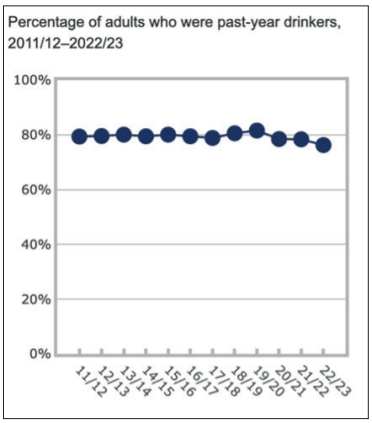
## Annual update of key results 2022/23: New Zealand Health Survey

The latest results from 2022/23 New Zealand Health Survey were published on 14th December 2023. Data for the survey were collected between July 2022 and July 2023, with a sample size of 6,799 adults and 2,029 children.

In 2022/23, 76.3% of adults said they had consumed alcohol in the past year, a decrease from 2021/22 (78.4%). Men were 1.1 times as likely to have been past-year drinkers than women, after adjusting for age. Pacific and Asian adults were less likely to have had alcohol in the past year than non-Pacific and non-Asian adults, after adjusting for age and gender. After adjusting for age, gender, and ethnic group, those in the most deprived neighbourhoods were less likely to have consumed alcohol in the past year than those living in the least deprived neighbourhoods. Disabled adults were less likely to have drunk alcohol in the past year than non-disabled adults, after adjusting for age and gender (60.5% and 78.0%, respectively).

In 2022/23, the highest prevalence of hazardous drinking was among those aged 18–24 years, at 23.8%. The prevalence of hazardous drinking was also high in those aged 25–34 (21.6%), 35–44 (16.8%) and 45–54 (17.5%). The overall rate of hazardous drinking in adults decreased from 18.7% in 2021/22 to 16.0% in 2022/23, after being relatively stable from 2016/17 (when the current time series began). The prevalence of hazardous drinking was 21.7% among men and 10.3% among women. Men were twice as likely to be hazardous drinkers than women, after adjusting for age. Asian adults (4.9%) had the lowest rate of hazardous drinking compared to other ethnic groups: Māori (25.1%), Pacific (21.5%) and European/Other (16.9%). In 2022/23, after adjusting for age, gender, and ethnic group, those in the least deprived neighbourhoods were less likely to be hazardous drinkers in the past year than those living in the most deprived neighbourhoods.




Although the legal age for purchasing alcohol in New Zealand is 18 years old, 50.9% of those aged 15–17 years drank alcohol in the past year. This rate has not changed significantly since 2011/12 (59.9%).

health.govt.nz/publication/annual-update-key-results-2022-23-new-zealand-health-survey

## Campaign makes moderation 'aspirational'

In December 2023, Diageo launched a new global responsible drinking campaign, 'The Magic of Moderate Drinking', which aims to make moderation aspirational and encourages consumers to drink responsibly.

The campaign demonstrates that by drinking better, not more, consumers can savour every moment and occasion. The story is told through a hero film which features Guinness, Johnnie Walker, Tanqueray 0.0 and Seedlip, where a host enables guests to experience the 'magic of moderate drinking', and shows how responsible drinking can take many forms for every individual. From spacing drinks with water or food, having a non-alcoholic option, or measuring units, the guests can all be seen choosing to moderate whilst not having to compromise on the fun.

Made in partnership with Marmalade Film and Media, the global campaign will continue throughout the year, including in main London underground stations and on Diageo social channels. Across the world in major markets including Great Britain, North America, China and Brazil the campaign will be shared throughout the year from local occasions to key sporting events.

Global Society Director for Diageo, Kate Gibson, said, "This (campaign) is challenging outdated perceptions about responsible drinking and demonstrates you can still have a great celebration!"

**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.

## AIM Social, Scientific and Medical Council