EHN position paper on the impact of alcohol consumption on cardiovascular disease

May 2025

Acknowledgements

**Co-funded by
the European Union**

Summary

The relationship between alcohol consumption and cardiovascular health is complex, but emerging evidence casts serious doubt on any potential benefits, even at low/moderate levels of alcohol consumption. Contrary to common belief, there is no conclusive evidence of a protective effect of low- to -moderate alcohol consumption on cardiovascular health in general and on heart health in particular. Furthermore, alcohol consumption above low amounts is an important risk factor for coronary heart disease, heart failure, hypertension, atrial fibrillation and stroke. Cardiovascular disease is the leading category of alcohol-attributable mortality in the EU.

Europe has the highest rates of alcohol consumption per person, the highest prevalence of heavy episodic (i.e. binge drinking) alcohol use, and the lowest rates of alcohol abstention **in the world**. Of the 10 countries that have the highest levels of consumption in the world, nine are located in the WHO European Region, where alcohol also makes the largest contribution to all-cause mortality.[1]

In the EU, **approximately 290,000 deaths** each year are attributed to alcohol-related causes. This includes deaths from liver disease, cancers, accidents, and cardiovascular diseases. **At least 50 000 deaths are CVD deaths from alcohol consumption**. Disadvantaged and vulnerable populations have higher rates of alcohol-related death and hospitalisation, as harm from a given amount and pattern of drinking is higher for poorer drinkers and their families than for richer drinkers in any given society.[2]

Therefore, the European Heart Network recommends EU policy makers to:

- Introduce **mandatory, front-of-pack energy labelling** on alcohol.

- Introduce **mandatory ingredients list** on alcoholic beverages.

- Include **mandatory health warnings** on alcohol products: health labels should be developed at the EU level to inform consumers of the harm caused by alcohol consumption.

- **Raise minimum excise duties on alcoholic beverages to the highest possible level and introduce minimum unit pricing (i.e. fixed floor prices per unit of ethanol).**

- **Reduce availability of alcohol** by setting a harmonised, legal minimum age for purchase (online and offline) and drinking of alcohol products at 18 years and by banning marketing of alcohol products (online and offline) to children and young people up to the age of 18.

- **Stop subsidising** the production of alcohol in the EU whether directly or through products used in alcohol manufacture.

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1   The European Health Report 2021: taking stock of the health-related sustainable development goals in the COVID-19 era with a focus on leaving no one behind. Copenhagen: WHO Regional Office for Europe; 2022:
    https://apps.who.int/iris/handle/10665/352137
2   https://www.who.int/europe/news/item/04-01-2023-no-level-of-alcohol-consumption-is-safe-for-our-health

The burden of cardiovascular disease in Europe

People dying from CVD

Over the past 50 years, CVD mortality has declined, but cardiovascular events like heart attacks and strokes remain by far the leading cause of death in the EU, accounting for around 1 in 3 of all deaths.[3] A total of 1.7 million people in the EU die from cardiovascular diseases (32.7% of all deaths in the EU): 37% of women's deaths and 31% of men's deaths.[4] In the wider European Region, CVD accounts for 47% of all deaths in women and 39% of all deaths in men.[5] Moreover, the fight against CVD mortality seems to have peaked and, in some countries, mortality has even started to increase again. These adverse trends have been attributed to an insufficient awareness of CVD, limited and geographically varied investment in cardiovascular prevention and treatment, and the rising prevalence of obesity (and with that of diabetes, hypertension, dyslipidaemia and atherosclerosis).

Premature death from CVD *(before the age of 65)*

For people dying prematurely (before the age of 65), CVD is the leading cause of mortality in Europe as a whole, and the second largest cause of death (after cancer) in the EU, where it is responsible for 20% of all deaths.

The chronic burden of CVD: people living with CVD

In the EU, 62 million people live with the burden of CVD, and close to 13 million new cases of CVD occur every year.[6]

The economic cost of CVD

CVD is costing the EU €282 billion per year of which 132 billion are for healthcare costs, 25 billion for social care, 79 billion for informal care, 15 billion for morbidity loss and 32 billion for mortality loss.[7]

The unequal burden of CVD

Inequalities in mortality from CVD account for almost half of the excess mortality in lower socio-economic groups in most European countries.

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[3]   Global burden of Disease 2021: https://vizhub.healthdata.org/gbd-results/
[4]   EU27 Cardiovascular realities 2025:
      https://www.flipsnack.com/escardio/eu-27-cardiovascular-realities-2025/full-view.html
[5]   ESC Cardiovascular Realities 2020.
[6]   EU27 Cardiovascular realities 2025:
      https://www.flipsnack.com/escardio/eu-27-cardiovascular-realities-2025/full-view.html
[7]   EU27 Cardiovascular realities 2025:
      https://www.flipsnack.com/escardio/eu-27-cardiovascular-realities-2025/full-view.html

The prevalence of CVD is higher in Eastern and Central European countries and lower in Western, Northern and Southern European countries.

Death rates from both heart disease and stroke are higher in Central and Eastern Europe than in Northern, Southern and Western Europe. For example, the age-standardised death rate for heart disease in 2017 is 13-fold higher in women in Lithuania than in France, and 9-fold higher in men. For stroke, the age-standardised death rate is 7-fold higher in women in Bulgaria than in France, and 8-fold higher in men. The single most important contributor to excess mortality in Eastern European countries is CVD. While among men less than 50% of the excess mortality is due to CVD, in women this percentage is 80%.

Death rates from alcohol consumption

Cardiovascular diseases are the leading alcohol-attributable cause of death in the WHO European Region, followed by cancers, digestive diseases and injuries.[8] Alcohol consumption is estimated to be responsible for close to 50,000 CVD deaths annually in the EU.[9]

8   https://www.who.int/europe/news-room/fact-sheets/item/alcohol-use
9   https://www.who.int/europe/news/item/04-01-2023-no-level-of-alcohol-consumption-is-safe-for-our-health

Consumption of alcohol in the EU and the WHO European region

Alcohol consumption in the European Union (EU) varies significantly across member states, both in terms of overall consumption levels and drinking patterns. The World Health Organisation (WHO) data from 2019 shows that the average alcohol consumption per capita in the EU is **around 11 litres of pure alcohol** per year (for people aged 15 and over).

Of the 10 countries that have the highest levels of consumption in the world, nine are located in the WHO European Region, where alcohol also makes the largest contribution to all-cause mortality.[10]

In the WHO European Region, men drink approximately 3.5 times more alcohol than women, and there are large gender differences in the prevalence of alcohol use disorders: 14.8% among men and 3.5% among women.[11]

However, there are significant variations among countries:[12]

- **High-consumption countries**: Austria, Germany, Latvia, Czech Republic and Romania tend to have the highest levels of alcohol consumption, often above 12 litres of pure alcohol per capita per year.

- **Moderate-consumption countries**: Belgium, Portugal, Slovakia, Hungary, Spain, Slovenia, Estonia, France, Luxembourg, Poland, Ireland, Lithuania and Bulgaria report moderate levels (10–12 litres per capita annually).

- **Lower-consumption countries**: Greece, Italy, Cyprus, Croatia, Malta, Finland, Netherlands, Sweden and Denmark tend to have lower consumption levels of less than 10 litres per capita).

In the EU, **approximately 290,000 deaths** each year are attributed to alcohol-related causes. This includes deaths from liver disease, cancers, accidents, and cardiovascular diseases.[13]

Countries with higher alcohol consumption rates, such as the **Baltic states and Central Europe**, face higher rates of alcohol-related health issues.[14]

10   The European Health Report 2021: taking stock of the health-related sustainable development goals in the COVID-19 era with a focus on leaving no one behind. Copenhagen: WHO Regional Office for Europe; 2022: https://apps.who.int/iris/handle/10665/352137
11   Global information system on alcohol and health [online database]. In: The Global Health Observatory [website]. Geneva: World Health Organization; 2022: https://www.who.int/data/gho/_data/themes/global-information-system-on-alcohol-and-health
12   Figures from OECD Data explorer 2022: https://data-explorer.oecd.org/vis?tm=alcohol&pg=0&snb=62&vw=tb&df[ds]=dsDisseminateFinalDMZ&df[id]=DSD_HEALTH_LVNG%40DF_HEALTH_LVNG_AC&df[ag]=OECD.ELS.HD&df[vs]=1.0&dq=.A.....&pd=2010%2C&to[TIME_PERIOD]=false&ly[cl]=TIME_PERIOD&ly[rs]=AGE&ly[rw]=REF_AREA
13   Eurostat: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Alcohol_consumption_statistics
14   OECD (2021), Preventing Harmful Alcohol Use, OECD Health Policy Studies, OECD Publishing, Paris: https://doi.org/10.1787/6e4b4ffb-en

Drinking patterns in the EU[15] and the WHO European Region[16]

In 2019, 8.4 % of the EU population aged 15 and over reported having an alcoholic drink every day, compared to 28.8 % of weekly alcohol consumers and 22.8 % of monthly alcohol consumers.

In two countries in the EU (Luxembourg and Denmark) the pattern of alcohol consumption is characterised by high proportions of the population drinking at least every month but also high proportions of heavy drinking episodes at the same frequency, while in Romania risky, single-occasion drinking proportions are high despite the relatively low proportion of alcohol consumption at least every month. Also, there are countries that are characterised by daily drinking of alcohol (for example Spain, Italy, Portugal), but the levels of regular, heavy episodic drinking are relatively low.

There is growing recognition of binge drinking as a harmful pattern, particularly among young adults in countries like the UK, Ireland, Finland, and parts of Eastern Europe. The prevalence of binge drinking at least monthly was higher among those with upper secondary and post-secondary non-tertiary education. Public health campaigns have increasingly targeted binge drinking, focusing on its immediate harms (accidents, poisoning) and long-term health effects.

15 Alcohol consumption statistics from Eurostat: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Alcohol_consumption_statistics#General_overview
16 https://www.who.int/europe/news-room/fact-sheets/item/alcohol-use
17 Alcohol consumption statistics from Eurostat: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Alcohol_consumption_statistics#General_overview

Binge drinking is more prevalent in some EU countries than others, with noticeable variations based on geography, age, and cultural attitudes toward alcohol.

- **Northern Europe:** Countries like Ireland, the United Kingdom, Finland, Sweden, and Denmark have some of the highest rates of binge drinking. Cultural norms in these countries tend to accept or even encourage heavy episodic drinking, especially in social settings.

- **Eastern Europe:** Countries such as Latvia, Lithuania, Estonia, and Poland also report high rates of binge drinking. Eastern European countries have historically high levels of overall alcohol consumption, and binge drinking is a part of the drinking culture in certain demographics.

- **Western Europe:** Countries like Germany, Austria, and Belgium have moderate levels of binge drinking. However, the frequency of binge drinking among young adults and in some settings (e.g. universities) becomes a concern.

- **Southern Europe:** Countries such as Italy, Spain, Portugal, and Greece generally have lower rates of binge drinking. Drinking in these countries is more often associated with meals and family gatherings, which contributes to more moderate drinking habits. However, binge drinking is increasing, particularly among younger generations and in tourist-heavy areas.

In the WHO European Region, men drink approximately 3.5 times more alcohol than women, and there are large gender differences in the prevalence of alcohol use disorders: 14.8% among men and 3.5% among women.[18]

18   Global information system on alcohol and health [online database]. In: The Global Health Observatory [website]. Geneva: World Health Organization; 2022: https://www.who.int/data/gho/ data/themes/global-information-system-on-alcohol-and-health

Alcohol's Economic Burden on Health

Healthcare costs: The treatment of alcohol-related diseases and injuries places a significant burden on national healthcare systems. In the EU, alcohol-related harm costs the economy around €125 billion annually, which includes healthcare expenses, law enforcement and loss of productivity. Public recognition of this economic cost is a trigger for governments to introduce stricter alcohol policies.

The impact of alcohol consumption on cardiovascular disease

The weight of current scientific evidence indicates there are no beneficial effects of alcohol consumption, on cardiovascular health in general or heart health in particular even at low to moderate levels.

> **It should be clearly understood that – contrary to common belief – there is no evidence of a protective effect of low-to -moderate alcohol consumption on cardiovascular health in general and on heart health in particular.**

The recent research commissioned by EHN and performed by Tim Stockwell and colleagues at the University of Victoria in Canada shows that studies with stronger research designs find no evidence of protective effects of low to moderate alcohol use in relation to CVD incidence or mortality. By contrast, there is strong and consistent evidence across multiple study designs and disease outcomes for negative effects from higher levels of alcohol consumption, i.e., increased risk of CVD, morbidity and mortality.

- **Alcohol consumption is a risk factor for CVD**: Alcohol consumption can cause a sustained increase in blood pressure. High blood pressure is a major risk factor for heart attacks, strokes, and other cardiovascular conditions. Even low-volume alcohol consumption (one glass per day) is a risk factor for hypertension for both men and women.

- Genetic studies find **no evidence of beneficial or protective effects** of low-dose alcohol against ischeamic heart disease and heart attack.

- Alcohol consumption is associated with an **increased risk of both ischeamic strokes (caused by blood clots) and hemorrhagic strokes (caused by bleeding in the brain).** High blood pressure, which is exacerbated by excessive alcohol use, is a major risk factor for stroke.

- There is evidence of **increased atrial fibrillation risk** for low levels of consumption in males and for increased risk for both males and females at higher levels of consumption. **No protective effects are detected**. Atrial fibrillation is an irregular and often rapid heart rate that can increase the risk of stroke, heart failure, and other complications.

- **Alcohol can weaken the heart muscle over time**, leading to heart failure. This condition occurs when the heart cannot pump blood effectively, leading to fluid build-up in the lungs, legs, and other parts of the body.

- **Alcohol increases total energy intake, and may lead to obesity, which is a major cardiovascular risk factor.**

These findings are also in line with the World Heart Federation policy brief on *The impact of Alcohol Consumption on Cardiovascular Health: myths and measures.*[19]

Conclusion

Alcohol is a leading, preventable cause of mortality in the EU, and the leading cause of alcohol attributable death in the EU. At other than low levels, alcohol consumption is associated with all major forms of CVD including coronary heart disease, heart failure, atrial fibrillation, hypertension and stroke. In addition, there is now strong evidence for scepticism about the hypothesis that alcohol use in moderation can protect against coronary heart disease and ischeamic stroke. The risks associated with alcohol consumption, including cardiovascular disease, outweigh any unproven benefits that might be suggested by some studies, and people should not begin to drink or purposefully continue to drink on the basis of health considerations. In terms of CVD risk, the evidence is clear and consistent that less alcohol use is better for health.

19   Arora, M., ElSayed, A., Beger, B., Naidoo, P., Shilton, T., Jain, N., Armstrong-Walenczak, K., Mwangi, J., Wang, Y., Eiselé, J.-L., Pinto, F.J. and Champagne, B.M. The Impact of Alcohol Consumption on Cardiovascular Health: Myths and Measures. Global Heart. 2022;17(1):45. DOI: https://doi.org/10.5334/gh.1132

EHN Recommendations

Considering the increasing scepticism about the claim of protective effects of alcohol consumption on CVD, and the very high levels of consumption of alcohol in Europe, there are no cardiovascular health benefits to be gained from alcohol consumption.

Therefore, EHN recommends:

On product labelling of alcohol products

Alcohol products should provide nutritional and ingredient information in line with other products sold to consumers, and consumers should be informed of the most important health risks of products, which have a substantial impact on the health and wellbeing of EU citizens.

Consumers have the right to be informed of the risks associated with alcohol consumption, especially the health risks, including harm to the cardiovascular system.

The EU should therefore:

- Introduce **mandatory, front-of-pack energy labelling** on alcohol.
- Introduce **mandatory ingredients list** on alcoholic beverages.
- Include **mandatory health warnings** on alcohol products: health labels should be developed at EU level to inform consumers of harm caused by alcohol consumption.

Increase alcohol prices

Raising alcohol prices is the most effective way to reduce alcohol harm, both through taxation and by introducing minimum prices. It is one of the WHO Best Buys to reduce NCDs. The EU should **therefore raise minimum excise duties on alcoholic beverages to the highest possible level and introduce minimum pricing units.**

Reduce availability

Reducing the availability of alcohol is a well-documented public health strategy aimed at decreasing alcohol-related harm. It can be achieved in different ways. The EU could contribute to this policy in the following way:

- The EU should set harmonised legal minimum age for purchase (online and offline) and drinking of alcohol products at 18 years.

Stop promotion of production and sales of alcohol products

- The EU should adopt legislative measures banning marketing of alcohol products (online and offline) to children and young people (under 18 years).
- The EU should therefore modify the common agriculture policy (CAP) and not promote the production of alcohol products.