World Health Organization

European Region

Empowering public health advocates to navigate alcohol policy challenges

alcohol policy playbook

Abstract

Adults in the WHO European Region consume an average of 9.2 litres of pure alcohol per year, making them the heaviest drinkers globally. In this region, alcohol is a leading cause of death, responsible for nearly 800 000 deaths annually, largely from noncommunicable diseases such as cardiovascular disease and cancer. Implementing evidence-based policies is crucial to safeguard public health and lessen the strain of alcohol-related harms on health systems and communities. A major obstacle to this is that policy-makers are often confronted with conflicting perspectives when addressing alcohol-related issues.

Developed by the WHO Regional Office for Europe, the *Alcohol policy playbook* is designed for policy-makers, advocates and public health professionals. It addresses key questions about the impact of alcohol and the efficacy of key policies, including pricing, availability controls, marketing restrictions, labelling, drink-driving interventions, and regulations for no- and low-alcohol products.

For each question, the Playbook contrasts the alcohol industry's views with public health evidence, helping users to identify when alcohol-related issues are being framed from a commercial perspective. It guides policy-makers to prioritize public health evidence with the aim of reducing alcohol-related harm, improving health outcomes and reducing the financial burden on public finances.

Keywords

ALCOHOL DRINKING; PREVENTION AND CONTROL; PUBLIC HEALTH; PUBLIC POLICY; INDUSTRY

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Contents

Foreword

Alcohol consumption remains a major public health challenge worldwide, contributing to the loss of millions of lives and disability-adjusted life years annually. In the WHO European Region the health and social consequences of alcohol use are significant, ranging from chronic diseases and cancer to social harms, economic costs and health inequalities. Despite the clear evidence of harm, alcohol-related policies and regulations face opposition from powerful commercial actors whose primary goal is profit maximization.

The *Alcohol policy playbook* is a timely and essential tool in addressing the commercial determinants of health within the context of alcohol use. It provides insights into how commercial practices can influence policy decisions and shape public perceptions of alcohol consumption. Like other sectors such as tobacco and processed foods, the alcohol industry operates within a framework of strategies designed to promote their products, often at the expense of public health. This *Playbook* provides policy-makers, advocates and public health professionals with scientific insights to counter the industry's narrative and protect public health from commercial interference.

Drawing on the latest research, the *Alcohol policy playbook* presents clear, evidence-based responses to common industry arguments about alcohol consumption, its effects on health, the harms it causes, and the effectiveness of different policies in reducing these harms. It builds on the success of the WHO's *Tobacco Control Playbook*, recognizing the striking similarities in how these industries present scientific evidence and influence political and social systems.

WHO, in collaboration with its Member States, has long advocated well-designed alcohol policies, such as those related to pricing, marketing and availability, that can reduce alcohol-related harm and improve public health outcomes. Many countries have demonstrated success in this regard, but more needs to be done to extend these benefits, particularly to protect vulnerable populations, such as young people and socioeconomically disadvantaged groups, who are disproportionately affected by the negative effects of alcohol.

The *Playbook* is an important step towards achieving the goals set out in the *European framework for action on alcohol (2022–2025)* and the *Global alcohol action plan (2022–2030)*. By equipping policy-makers with the tools they need to confront commercial interests and enact evidence-based policies, we can create a healthier future for all.

The data are clear and the solutions are within reach. Now is the time to take decisive action to protect public health and reduce the harmful effects of alcohol.

Dr Hans Henri P. Kluge
Regional Director
WHO Regional Office for Europe

Preface

Over the years, public health efforts have faced substantial resistance, often fueled by misleading industry arguments designed to protect profits rather than people. However, the power of scientific evidence has proven indispensable in pushing back against these tactics and advancing life-saving policies.

In 2019, the WHO Regional Office for Europe launched the Tobacco Playbook—a compilation of scientifically backed arguments that equips policymakers to counter the tobacco industry's well-crafted playbooks. These playbooks, designed to maximize sales, have perpetuated dangerous myths, but with evidence in hand, we have seen successful policy implementations that safeguard current and future generations from the devastating health, social, and economic consequences of tobacco use.

Similarly, while alcohol is widely consumed, it remains a type 1 carcinogen with devastating effects on global health and development. Alcohol caused 2.6 million deaths in 2019 alone and contributed to 115.9 million lost disability-adjusted life years (DALYs)—yet it remains underregulated on a global scale. Misinformation perpetuated by the alcohol industry has contributed to a dangerous gap in public awareness; fewer than one in three Europeans know that alcohol increases cancer risk, and just 20% of women have the information necessary to make informed choices about alcohol consumption.

The commercial interests of industries like alcohol and tobacco persistently clash with public health objectives, but we must rise above these challenges. As highlighted in the recent WHO/EURO report on the commercial determinants of noncommunicable diseases, industries employ sophisticated tactics to shape public perception, influence media narratives, and even capture political processes. This underscores the urgency of equipping policymakers, health authorities, and advocates with the tools they need to expose and dismantle these harmful narratives.

The Alcohol Playbook, initiated in 2019, is a timely response to this need. It addresses common debates on alcohol policy—from pricing and taxation to marketing and labeling regulations. By contrasting industry arguments with robust scientific evidence, it provides policymakers with a clear, accessible resource to navigate industry opposition and make decisions that prioritize public health over profit.

We hope this Playbook will inspire you to take decisive action. By leveraging science, we can counter industry-driven misinformation, protect health, and promote well-being, in alignment with the WHO Global Program of Work and the European Programme of Work. Together, we can ensure that public health prevails.

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Abbreviations

AHTO	alcohol's harm to others
BAC	blood alcohol concentration
CAPs	community alcohol partnerships
CHD	coronary heart disease
CSR	corporate social responsibility
EU	European Union
GDP	gross domestic product
IARC	International Agency for Research on Cancer
IARD	International Alliance for Responsible Drinking
MUP	minimum unit pricing
NoLo	no- and low-alcohol
SAPROs	social aspects and public relations organizations
SD	standard drink

Introduction

Adults in the WHO European Region consume an average of 9.2 litres of pure alcohol per year, making them the heaviest drinkers globally. Alcohol is a leading cause of death, responsible for nearly 800 000 deaths annually, largely from noncommunicable diseases such as cardiovascular disease, cancer and liver disease.

Given this significant impact, discussions surrounding alcohol use, its associated risks, and the formulation of alcohol policies often prompt a series of enquiries. People engaging with this subject commonly seek answers to questions such as the impact of alcohol on health, the nature of its harms, the potential of different alcohol policies to reduce risks and harms and to enhance public health, the effectiveness of alcohol taxation and pricing policies, and the behavioural influences of alcohol labelling. These questions are fundamental considerations for public health stakeholders.

Powerful players in the alcohol industry have prepared standard responses to address these typical questions. In a similar fashion to what has been observed in the case of other unhealthy commodities, such as soft drinks, processed foods and tobacco, these answers are given from a commercial perspective. They form a "playbook", which presents strategies and arguments designed with the overarching goal of maximizing industry profits *(1)*.

The *Alcohol policy playbook* is a response to the playbook of the alcohol industry. It presents scientific insights to provide essential answers from a public health perspective. It summarizes what the most recent scientific data reveal about alcohol, its impacts, and the available strategies to mitigate harm to public health through its sale. In doing so, the Playbook also provides a critical analysis of the alcohol industry's claims about the impact of its products on people's health and well-being. It constitutes a tool for those who wish to make public health-informed decisions about alcohol.

The *Alcohol policy playbook* draws inspiration from the *Tobacco Control Playbook (2)*, which highlights the challenges faced by tobacco control advocates in implementing WHO's Framework Convention on Tobacco Control *(3)* and suggests evidence-based arguments to overcome these challenges. This is because there are striking similarities between the tobacco and alcohol industries in their approaches to science and policy and in the way they counter arguments based on public health *(4)*.

The *Alcohol policy playbook* has been developed for the benefit of three sets of important stakeholders: *(i)* government officials involved in alcohol policy-making, implementation, evaluation, enforcement and monitoring; *(ii)* civil society organizations, including nongovernmental organizations working in the area of policy advocacy, and local community advocates and leaders; and *(iii)* the public health community, which consists of medical professionals, health practitioners, academics and researchers involved in the study of alcohol consumption, harms and policy.

It is hoped that the *Alcohol policy playbook* will be a useful resource for all those involved in the implementation of the *European framework for action on alcohol (2022–2025) (5)* and the *Global alcohol action plan (2022–2030) (6)* to effectively achieve the *Global strategy to reduce the harmful use of alcohol as a public health priority (7)*, adopted by the World Health Assembly in May 2022.

Key actors in alcohol policy: industry and public health communities

There are two main groups of actors represented in the *Alcohol policy playbook*: the alcohol industry and the public health community. These are the main actors engaged in the public discourse on alcohol issues, usually providing competing arguments about alcohol policy to key politicians, policy-makers, the media and the general public.

The alcohol industry

Table 1 shows the major segments of the European alcoholic beverage industry, which includes the major producers of beer, wine and distilled spirits, as well as their networks of distributors and retailers. Trade associations and social aspects and public relations organizations (SAPROs), which are funded to promote industry interests *(8–11)*, are also included in the table, because they often act in concert when the financial interests of the producers are perceived to be jeopardized.

Table 1. Major segments of the European alcoholic beverage industry

	Beer	Distilled spirits, wine
Largest producers	AB (Anheuser-Busch) InBev Asahi Group Carlsberg Heineken Kirin Europe Molson Coors Europe	Bacardi Beam Suntory Brown–Forman Diageo Gruppo Campari Moët Hennessy Pernod Ricard Rémy Cointreau
Trade associations	Assobirra Brewers of Europe British Beer and Pub Association Cerveceros de Espana	Comité européen des entreprises vins Scotch Whisky Association spiritsEUROPE (formerly European Spirits Organisation) Wine and Spirits Trade Association
SAPROs	Drinkaware European Forum for Responsible Drinking (formerly the Amsterdam Group) Fundación Alcohol y Sociedad International Alliance for Responsible Drinking (formerly International Center for Alcohol Policies) Portman Group Wine in Moderation	
Research groups	Foundation for the Investigation of Wine and Nutrition (Fundación para la investigación del vino y nutrición) Institut de recherches scientifiques sur les boissons	

Over the past two decades, transnational corporations, many based in Europe, have concentrated the market in the beer and malt beverage sector by purchasing local companies and regional breweries. The distilled spirits industry has become more concentrated, and consolidation has also occurred to a lesser extent in the wine industry *(12)*.

In a looser way, the alcohol industry includes proprietors of local hospitality outlets and entertainment and tourist businesses, such as bars, restaurants, clubs and hotels. Also included are shops, supermarkets and other retailers that sell and deliver alcohol via telephone and/or online purchases. Another group, though not directly under the control of alcohol producers or related entities, consists of advertising, marketing and other commercial sectors that are substantially dependent on alcohol industry funding. In this report, the alcohol industry is taken to mean major producers, trade associations and SAPROs, particularly the Europe-based organizations listed in Table 1. These organizations mostly act transnationally, and the companies are responsible for a significant proportion of the production and distribution of alcohol products in the WHO European Region.

The public health community

A range of organizations serve the public interest in matters relating to alcohol policy. They include nongovernmental organizations that work at national and international levels, associations of medical professionals and public health practitioners, and intergovernmental organizations including the WHO Regional Office for Europe, government agencies, and research centres involved in public health surveillance and policy research.

Approach and structure

The *Alcohol policy playbook* serves as a comprehensive resource tailored to address key alcohol-related topics faced by stakeholders. It is divided into two main sections: the first focuses on alcohol, its relationship to health, and the harms and costs associated with its use; the second focuses on key alcohol policies outlined by WHO, assessing their effectiveness and importance in improving and protecting public health.

The structure of each section is:

- to address common questions engaging stakeholders on alcohol-related topics;
- to present prevalent claims and arguments from the alcohol industry in response to these questions; and
- to counter these claims with a scientific stance, presenting the latest data and evidence-based responses to these questions.

For each question, the perspective of the alcohol industry is contrasted with scientific evidence gathered by the public health community.

To describe the alcohol industry's position, information was gathered from the scientific literature, mainly using discourse analysis of the industry's public submissions to various policy consultations. This literature was supplemented by relevant industry documents, public reports and organizational websites.

Public health perspectives were documented through a wide array of sources, including scholarly articles, systematic reviews, editorials, commentaries, newspaper articles, books, and reports from expert committees associated with national and international organizations.

The *Playbook* does not cover all possible alcohol policies. For example, while availability policies can include a broad range of interventions – such as national licensing systems, restrictions on outlet density, limitations on sales times and days, minimum age requirements, bans in specific settings, and mandated training for servers and salespeople – this publication focuses on a selected subset. Similarly, the marketing policy section concentrates on youth-targeted marketing, even though marketing practices extend beyond young people. Overall, the selected interventions presented in the Playbook are those that policy-makers may most frequently be asked to address in their decision-making processes.

The Playbook underwent multiple rounds of external review, including through expert technical meetings convened by WHO to discuss its usability and to identify gaps and areas for further collaboration in protecting public health-oriented alcohol policies from commercial interference.

Alcohol
policy playbook

1. Alcohol – harms, health and costs

This section addresses key questions about the nature of alcohol, its relationship to health, and the harms and costs associated with its use. These questions are fundamental in addressing a larger one that regularly confronts stakeholders and will be the focus of the next section: are alcohol policies beneficial to public health? In this first section, we juxtapose the responses of the alcohol industry with those of the public health community to provide a comprehensive perspective on these critical issues.

1.1. Alcohol and harms

1.1.1. Who experiences alcohol-related harms?

According to the alcohol industry
Typically, alcohol industry representatives portray alcohol problems as being confined to a small minority of problem drinkers *(13,14)* and focus attention on groups that engage in alcohol abuse *(15)*. Industry-produced materials imply that harm may be associated with certain populations at certain stages of life, but emphasize that most people do not experience serious problems *(16)*. In doing so, the industry promotes the idea that alcohol-related outcomes are primarily shaped by individual behaviour, downplaying systemic influences; it emphasizes personal responsibility and contends that alcohol harm is confined to those who act irresponsibly *(11,14,17,18)*.

According to the public health community
Alcohol-caused harms are spread across populations and can be experienced both by people who use alcohol and by those who do not.

In the case of people who use alcohol, recent evidence indicates that, for both health and social harms, there is a risk even at low consumption levels *(19–22)*. For example, in the European Union (EU), alcohol consumption is estimated to be the cause of 17% of the seven alcohol-related cancer types. Light to moderate alcohol consumption (less than 20 g of pure alcohol per day) was associated with 13.3% of these cases, equivalent to nearly 23 000 new cancer cases in 2017 *(19,23)*. Concerning social harms, the literature is more sparse, but even so, studies to date have shown that the heaviest 10% of drinkers by volume are responsible for less than half of alcohol-related problems such as alcohol-related work absenteeism *(24)* and alcohol-related quarrels and fights *(25)*. Hence, the social harms associated with drinking are attributable, to different degrees, to both heavy and non-heavy (ordinary) drinkers *(26)*.

Apart from those who use alcohol, other people, including children, families and communities, can experience alcohol-caused harms. While the decision to drink may often be a personal one, those affected by alcohol's harm to others (AHTO) are generally not given a choice or option *(27,28)*. In one Australian study conducted in 2021, approximately one third of all adults were harmed by the alcohol use of other people; women, younger people and heavier drinkers were at greater risk, and the source of the harm was more likely to be people they knew rather than strangers *(29)*. The most recent European data (from 2021),

covering 39 629 respondents from 32 European countries, demonstrate that AHTO disproportionately affects women and people with low incomes *(30)*. Overall, AHTO makes up a substantial proportion of the alcohol-attributable burden of disease *(31)*.

In broad terms, no amount of alcohol is risk-free. Research shows that the majority of drinkers face some level of risk of experiencing alcohol-related harm *(19,26,32)*.

1.2. Alcohol and health

1.2.1. Are there health benefits associated with alcohol use?

According to the alcohol industry

In recent decades, the alcohol industry has consistently pushed the idea that "moderate drinking" – often vaguely defined – fits seamlessly into a healthy lifestyle *(13,18)*. For over 30 years, their message has been clear: alcohol can be beneficial, primarily by reducing the risk of coronary heart disease (CHD) *(33)*. Today, this narrative continues, with the industry emphasizing potential health benefits such as reduced risk of CHD, diabetes and stroke (see, for example, *(34)* and *(35)*). This is often done by systematically praising research that supports the health benefits of moderate alcohol consumption, while harshly criticizing or omitting studies that are sceptical of this proposition *(36,37)*. The industry also often emphasizes the idea that alcohol can benefit health by contributing to overall well-being, through its social benefits and the pleasure it gives.

According to the public health community

For many years, observational studies have suggested that, compared to "abstainers", "moderate drinkers" have lower mortality and morbidity across a variety of disease conditions *(38–41)*. However, analysis of data from multiple studies reveals significant flaws in studies that came to this conclusion *(42–44)*. A key issue is how studies define abstainers, with most comparing moderate drinkers with current abstainers. Because current abstainers include "sick quitters" – former drinkers who have stopped or greatly cut down their drinking owing to health concerns – the inclusion of these participants in the abstainer group results in findings that moderate drinkers appear to be healthier. When former and occasional drinkers are removed from the abstainer group, eliminating "abstainer bias", studies find only attenuated or nonsignificant relationships between low-volume consumption and protective effects for CHD *(42,44–47)*. This kind of abstainer bias accumulates with advancing cohort age, being most pronounced in cohorts recruited over 55 years of age *(46–48)*.

The World Heart Federation *(33)* has suggested that there are multiple reasons for challenging popular notions that alcohol consumption is good for cardiovascular health:

- Such evidence has mostly been based on observational studies.
- Comparisons with people who do not use alcohol are often confounded by social, cultural, religious and medical reasons to not drink – that is, factors that can influence their overall health independently of alcohol consumption.
- Studies have been conducted in predominantly older (over 55 years of age) and Caucasian populations.
- Some studies that show positive effects are funded by the alcohol industry.

Although the reduced risk of certain cardiovascular diseases among moderate drinkers is a fairly consistent finding in older adults, recent studies suggest that these findings are likely to reflect residual confounding, such as the fact that lifetime abstainers often have worse health due to pre-existing conditions and face greater socioeconomic disadvantages than moderate and occasional drinkers, with these disparities accumulating over the lifespan *(48,49)*. At the same time, studies from China and India have failed to replicate the findings of a protective effect of moderate drinking on CHD *(50,51)*. In addition, studies using new genetic techniques have found only harmful associations between alcohol consumption and CHD and stroke *(52)* – in other words, there is no evidence of a protective effect of alcohol on CHD in this study type *(53)*. Taken together, these studies call for a re-evaluation of the idea that alcohol consumption might be beneficial to health.

Also, recent research suggests that the small reductions in health-related harms associated with low levels of alcohol consumption for some health conditions are outweighed by the increased risk of other health-related harms, including cancer, that occur at the same doses *(21,44,54,55)*. No safe level of alcohol consumption can be established for health *(19)*, and people should be advised that less alcohol is better for overall cancer risk *(56)*.

1.2.2. Does alcohol use cause cancer?

According to the alcohol industry

The alcohol industry tends to portray cancer as a multifaceted disease with numerous causes and factors, emphasizing its complexity while also promoting alternative causation arguments to dispute the independent links between alcohol and cancer *(57,58)*. It often contests the scientific evidence connecting alcohol to cancer, asserting that the association is "scientifically debatable" *(58)*. When the risk is acknowledged by industry sources, it is often downplayed and listed alongside a list of other risk factors, potentially obscuring and creating uncertainty about the causal link between alcohol consumption and cancer risk *(59,60)*.

According to the public health community

There is strong and consistent causal evidence linking alcohol consumption to overall cancer risk. Alcohol is classified as a Group 1 carcinogen, meaning that there is enough evidence to conclude that it can cause cancer in humans *(61)*. This classification was first made in 1988 by WHO's International Agency for Research on Cancer (IARC), based on rigorous evidence evaluation procedures *(62)*. In 2009 the IARC Monographs Working Group again reviewed epidemiological evidence, animal bioassays, and mechanistic and other relevant data to confirm the conclusions regarding the carcinogenic hazard of alcohol consumption *(61)*.

Alcohol consumption plays a causal role in several types of cancer, including that of the female breast, colon, liver, oesophagus, oral cavity, larynx and oropharynx (63). Within the WHO European Region, about 180 000 cases of cancer and almost 92 000 cancer deaths were caused by alcohol in 2018 *(63)*.

There are four main mechanisms that contribute to how alcohol causes cancer *(63,64)*:

- **Acetaldehyde.** Alcohol is converted into acetaldehyde in the body, mainly in the liver but also in other parts such as the gut or mouth. Acetaldehyde can cause cancer by damaging DNA and stopping cells from repairing this damage.
- **Hormone changes.** Hormones act as important messengers in the body and can regulate cell growth and division. Alcohol can change the levels of hormones such as oestrogen or insulin.
- **Alcohol-induced oxidative stress.** Chronic alcohol intake can induce oxidative stress, which damages DNA and affects its repair; it has been linked to alcohol-induced carcinogenesis in various organs.
- **Folate depletion and DNA methylation.** Alcohol in itself, and an unhealthy lifestyle related to alcohol consumption, cause folate deficiency, which, in turn, impairs DNA methylation. Folate deficiency is associated with colorectal cancer, among others.

All types of alcoholic beverages are causally linked to cancer, with the primary carcinogenic compound being ethanol. Overall cancer risk from alcohol is linear – the more you drink, the more your risk goes up – and evidence demonstrates that there is no safe level of alcohol consumption for cancer risk *(19,20,65)*.

1.3. Alcohol and costs

1.3.1. Do public health restrictions on the alcohol industry risk significant economic consequences?

According to the alcohol industry

The alcohol industry emphasizes its financial contributions to national and subnational governments, primarily through taxation and, in some jurisdictions, through state participation in the wholesale and retail sale of alcohol (see, for example, *(66)*). Export sales and job creation are also cited by the alcohol industry as further contributions to the broader economy. Critically, industry voices caution against public health measures, asserting that interventions – such as trading hour interventions, licensing fees, marketing restrictions and taxation – could jeopardize economic interests and government revenues *(67,68)*. Specifically, concerning pricing policies, they suggest that it is essential to balance public health objectives against maintaining government revenue, protecting industry jobs, and promoting exports and trade. Industry bodies and organizations emphasize that high alcohol duties (taxes) threaten their economic success *(69–71)*.

According to the public health community

While alcohol production and sales typically do generate revenues for governments via taxation and, sometimes, participation in the wholesale and retail sale of alcohol, the resulting harms caused by the use of alcohol place a substantial burden on national economies across the globe. These financial burdens placed on governments have been shown in some cases to outweigh the revenue generated. For instance, a 2020 study in the context of Canada found that, although Canadian governments generated Can$ 13.3 billion in revenue from alcohol sales, the social cost of alcohol use in the same year was Can$ 19.7 billion, resulting in a net annual deficit of Can$ 6.4 billion *(72)*. On a per-standard drink (SD) basis, this equated to a deficit of Can$ 0.38 for every drink sold.

There is a substantial and growing body of literature estimating the economic costs to society that are caused by alcohol use. For example, a 2021 PROSPERO-registered systematic review and analysis identified 29 studies focused on the estimation of alcohol's social cost *(73)*. An analysis aggregating these identified studies from 29 primarily high-income countries showed that, if all harms caused by alcohol were included, the social cost of alcohol use expressed as a percentage of national gross domestic product (GDP) was 2.6%. In the United States a 2015 study by Sacks et al. *(74)* estimated that, in 2010, excessive alcohol use was responsible for USD$ 249.0 billion in costs, of which USD$ 100.7 billion (40.4%) was borne by the government. On a per-SD basis, this was reported to be a cost of US$ 2.05/SD, of which US$ 0.828 was the social cost paid by the government.

In Canada a more recent iteration of the study reported an alcohol-caused social cost of Can$ 49.1 billion in 2020 *(75)*. A 2016 study by Kopp and Ogrodnik *(76)* estimated an alcohol-caused social cost of €118 billion in France, while Thavorncharoensap et al. (2010) *(77)* estimated a social cost of 156 105.4 million baht in Thailand in 2006, which was equivalent to 1.99% of the country's GDP in that year. Beyond these examples, other studies are consistent in reporting that alcohol use results in substantial costs borne by societies around the world.

There are no academic studies that have quantified the overall economic impact of alcohol production, sales, use and harms. This would need to be a comprehensive study that considers the revenues generated by all private and public entities involved in the alcohol industry, as well as the social and private costs incurred due to alcohol use. Such an undertaking would include considering the redirection of productive financial capital towards industries with a more positive health profile. In general, it is likely that a substantial fraction of alcohol profits would be accrued by alcohol corporations and producers, and not by the public sector. When considering how to cover the costs caused by alcohol consumption, it is likely that the opposite will be true: the costs of these alcohol-caused problems will largely be borne by society.

Alcohol control policies leading to a reduction in alcohol consumption can have significant economic benefits for national economies by addressing the public alcohol deficit, which is the discrepancy between alcohol revenues and the social costs associated with alcohol-related harms.

First, these policies contribute to a decrease in alcohol-caused harms, resulting in reduced economic losses from lost productivity due to deaths and hospitalizations, and lower health-care costs. One notable example of this is the significant reduction in wholly alcohol-attributable deaths which followed the implementation of alcohol minimum unit pricing (MUP) in the United Kingdom (Scotland) in 2018 *(78)*.

Second, the reduction in alcohol sales that results from an increase in alcohol prices and taxes does not necessarily have negative economic effects. Consumers are likely to redirect their spending towards other goods and services, while governments can reallocate the savings from lower alcohol-attributable costs to additional public services *(79)*.

Third, researchers at the Fraser of Allander Institute have estimated that a 10% increase in alcohol taxes in the United Kingdom would lead to a 1.1% fall in alcohol sales and, in turn, the loss of 7000 jobs in the alcohol industry. However, reinvesting the tax revenue in public services could result in the creation of an additional 17 000 full-time equivalent jobs, offsetting industry losses *(80)*.

Lastly, evaluations suggest that the introduction of MUP in the United Kingdom (Scotland) did not have a significant negative impact on the economic performance of the alcohol industry *(81)*. Studies suggest that small retailers were largely satisfied with the policy, with some even reporting increased sales *(82,83)*.

Alcohol use leads to significant public expenditures and economic losses in the areas of health care, criminal justice and economic loss of production. When a full accounting of government revenues and social costs is completed, it is typically the case that nations are found to run an alcohol deficit. Well-designed and implemented alcohol control measures, such as price and tax strategies, restrictions on availability, and reductions in marketing and advertising, may have the effect of strengthening national economies by improving government balance sheets, while at the same time improving the health and well-bring of citizens. Overall, recent alcohol control policies have the potential to deliver both public health and economic benefits.

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2. Policies for reducing alcohol harm

The following is an overview of key policies of interest to WHO as previously described in the *Global strategy to reduce the harmful use of alcohol (7)*, the *Global alcohol action plan (2022–2030) (6)* and the *European framework for action on alcohol (2022–2025) (5)*. For each policy issue, specific and common questions about efficiency, usefulness and necessity of the recommendations are addressed by contrasting the views generally held by the alcohol industry with the scientific evidence gathered by the public health community. The aim is to equip policy-makers with a thorough understanding of these crucial interventions they often need to address. Specifically, the section juxtaposes the industry's framing of issues in order to oppose alcohol policies with evidence supporting WHO's frequently debated recommendations. These include alcohol pricing and taxation policies, availability controls, marketing restrictions, labelling requirements, drink–driving interventions, and no- and low-alcohol (NoLo) products.

2.1. Alcohol pricing and taxation policies

2.1.1. Can raising the price of alcohol help reduce harm?

According to the alcohol industry

According to alcohol industry bodies, the heaviest alcohol users are less responsive to price increases, while measures such as excise taxes and minimum pricing disproportionately affect moderate alcohol consumers *(84,85)*. They assert that such policies may not effectively reduce alcohol-related harms *(85)* and often express their concerns in emotive terms, portraying these measures as unnecessary burdens on responsible alcohol users and businesses *(67,86)*. Overall, the arguments, frequently voiced by industry representatives, raise questions about the efficacy of pricing interventions in addressing alcohol-related issues.

According to the public health community

Robust international evidence demonstrates that alcohol pricing and taxation policies are a cost-effective means of reducing alcohol consumption and alcohol-related harms *(87–94)*. Increasing excise taxes on alcoholic beverages is listed as a "best buy" policy in the WHO action plan against noncommunicable diseases *(95)*. *The Global alcohol action plan (2022–2030) (6)* includes, as appropriate in national contexts, implementation of high-impact and effective strategies and interventions, supported by legislative measures, including the affordability of alcoholic beverages, by appropriate taxation and pricing policies. Evidence-based policies include excise taxes and minimum pricing policies such as MUP – that is, setting a "floor price" per unit (SD or gram) of alcohol to tackle harms associated with cheaper alcohol products *(93)*.

Alcohol excise taxes come in various forms, including ad valorem taxes (based on the value of the product), unitary taxes (based on the volume of the product), and volumetric taxes (based on the alcohol content of the product). These types of taxes are often used in combination. Of these, volumetric taxation stands out as the most effective method for reducing alcohol consumption and related harms *(96,97)*. This system targets higher alcohol content products, which are associated with more harm, ensuring that heavier drinkers, who consume the most, contribute more in taxes than lighter drinkers *(98)*. In contrast, ad valorem taxation can allow high-strength products to be sold cheaply, potentially increasing consumption, especially among lower socioeconomic groups, young people and heavy episodic drinkers. Additionally, ad valorem taxation is less effective at curbing alcohol use among those who typically opt for cheaper alcohol products. However, a limitation in the case of all taxation methods is the potential for retailers to absorb the tax costs instead of passing them on to consumers, often through tactics such as heavy discounting or selling below cost to attract customers *(99)*.

The following points summarize the evidence on pricing and taxation policies:

- According to WHO, increasing excise taxes on alcohol is considered one of the most effective policy interventions *(93)*.
- While exact estimates vary from study to study, economists have found that, in general, a 1% increase in the price of alcohol leads to a 0.44% decline in sales or self-reported alcohol use *(90)*.
- At the very least, current tax rates should not be lowered. When Finland reduced the tax on alcohol in 2004, death rates from alcohol-induced liver disease rose by 46% *(100)*.
- In British Columbia, Canada, minimum alcohol price increases were associated with reductions in alcohol consumption, alcohol-impaired driving and alcohol-related hospital admissions *(101)*.
- A recent systematic review found consistent evidence that MUP policies are effective at reducing alcohol-related hospital admissions and hospitalizations *(102)*.
- Evaluation of the impact of MUP in the United Kingdom (Scotland) shows a sustained fall in alcohol consumption in the years following its introduction; further reports demonstrate reductions in weekly household alcohol expenditure in households that purchased the most alcohol *(103)*.

In recent years, there has been significant focus on minimum pricing policies, which establish a baseline price for alcohol, preventing its sale below this threshold. These policies are specifically aimed at inexpensive alcohol products with high alcohol content, such as discounted cider, cask wine and vodka, which are typically sold in off-licence shops and supermarkets. These types of beverages are often favoured by individuals who consume alcohol heavily *(93,104–107)*. Research suggests that this approach leads to larger reductions in consumption among heavier drinkers and smaller reductions among more moderate drinkers *(103,108)*. Notably, minimum pricing policies typically do not affect prices in on-trade establishments such as pubs and bars, where drinks are generally more expensive. Unlike taxation, minimum pricing does not generate revenue for the government to offset alcohol-related costs (health care, loss of productivity, criminal justice, etc.). A similar policy, known as a minimum excise tax, is employed for tobacco in some countries, ensuring additional revenue for governments *(93)*. However, this approach has not yet been implemented for alcohol.

Across 32 months of implementation of MUP in the United Kingdom (Scotland), the final report from Public Health Scotland found a significant 13% reduction in deaths wholly attributable to alcohol consumption, compared to estimates of what would have been expected had the legislation not been implemented *(78)*. In addition, there was a 4% relative decrease in hospital admissions wholly attributable to alcohol, which was nonsignificant. The use of a controlled interrupted series study design permitted inference that the estimated impacts were plausible causal effects attributable to MUP legislation.

Volumetric taxation and MUP demonstrate their most substantial effects on heavy drinkers, while exerting much smaller influence on those who consume alcohol at low or moderate levels *(98,105, 108–111)*. Rather than being seen as mutually exclusive policy measures, volumetric taxation and MUP can be considered complementary strategies *(112)*. This approach allows the government to maintain revenue from taxes while maximizing reductions in alcohol-related harms *(97,98)*. Furthermore, reallocating these revenues to medical and social services as "health taxes" *(112)* helps to offset the substantial costs associated with alcohol-related mortality and morbidity. Evidence from the United Kingdom (Scotland) suggests that benefits in terms of reduced pressure on services may not accrue if the minimum price is too low *(113)*.

2.1.2. Are alcohol pricing and taxation policies regressive and discriminatory?

According to the alcohol industry

The alcohol industry tends to oppose pricing and taxation policies by framing them as regressive and targeting less wealthy alcohol users *(13,114)*. For instance, industry submissions to Australia's *National Alcohol Strategy* and the WHO consultation for its *Global alcohol action plan* argued that such policies would disproportionately and unfairly impact those in lower socioeconomic groups *(18,37)*.

According to the public health community

While low socioeconomic groups generally have lower rates of consumption, they paradoxically experience higher rates of alcohol-related morbidity and mortality *(115,116)*. Alcohol pricing policies reduce consumption among heavy drinkers from all income groups, yet those who are most deprived experience the greatest health benefits, making tackling alcohol affordability an important step towards reducing health and social inequalities.

A policy may be considered regressive if it causes those who earn less to lose a larger proportion of their economic assets than those who earn more. It is acknowledged that, to consume the same amount, lower-income groups would have to spend a larger share of their income on alcohol. However, this assumes that different income groups spend the same amount on alcohol, which is not supported by the evidence. Research shows that people with lower incomes, as a population, drink less *(116)*, and when looking at total household expenditure, alcohol accounts for a smaller share of spending compared to higher-income households *(117,118)*. This suggests that alcohol taxes are more progressive than regressive *(109,117,119)*. Similarly, Holmes et al. *(108)* provide evidence that demonstrates that MUP reduces alcohol consumption among low-income harmful drinkers but has little effect on low-income moderate drinkers.

Research suggests that raising alcohol prices can benefit lower-income groups more, thus helping to alleviate potential regressiveness. Studies indicate that alcohol pricing policies can reduce health disparities across income levels *(98)*. For instance, in the United Kingdom (England), MUP was found to be the most effective policy in reducing inequality in alcohol-related deaths, followed by a volumetric tax *(98)*. Similarly, a Canadian study demonstrated that minimum price increases led to greater decreases in hospital admissions among low-income populations *(48)*. Moreover, directing tax revenue towards improving access to health and other services for vulnerable groups could yield additional benefits *(108,112,120)*.

As recognized by WHO *(121)*, the "lower the economic development of a country or region, the higher the alcohol-attributable mortality and burden of disease and injury per litre of pure alcohol consumed". Taking into account the evidence of effectiveness described above, low- and middle-income regions could derive the greatest health benefits from excise taxes. Furthermore, pricing policies have been shown to prevent alcohol use initiation among people, which is critical for prevention in low- and middle-income countries *(92)*.

While, as a population, lower-income groups consume less alcohol, it is important to recognize that they bear a disproportionate share of alcohol-related harm per litre of alcohol consumed *(122–125)*. Determining the extent to which a policy is regressive is complex and must take into account not only who bears the greatest tax burden, but also who bears the largest burden of harm.

2.1.3. Key insights

Alcohol pricing and taxation policies are a smart choice for policy-makers seeking to improve public health and reduce alcohol-related harm. A strong international evidence base supports the effectiveness of these policies, showing that they can significantly reduce alcohol consumption and related harms. For this reason, WHO and the Organisation for Economic Co-operation and Development support increased excise taxes on alcohol as an effective intervention and investment to address harms caused by alcohol consumption *(126,127)*.

Volumetric taxation and MUP have demonstrated substantial impacts, particularly among heavy drinkers who contribute most to alcohol-related harms. These policies not only lower consumption rates but also generate revenue that can be reinvested into health and social services, addressing the broader costs of alcohol-related harm. Importantly, alcohol pricing policies help to reduce health disparities, offering the greatest benefits to lower-income groups who suffer disproportionately from alcohol-related morbidity and mortality.

By implementing these evidence-based strategies, policy-makers can effectively reduce alcohol-related harms, promote healthier communities, and ensure a more equitable public health landscape.

2.2. Alcohol availability policies

2.2.1. Can restrictions on the hours of alcohol sale reduce alcohol harm?

According to the alcohol industry

The alcohol industry often opposes government plans to restrict alcohol trading hours in an effort to reduce alcohol-related violence and other health and social harms. Their argument contends that such restrictions will not effectively reduce rates of alcohol harm, claiming that the complex interplay between alcohol availability, consumption patterns and outcomes is explained by underlying socioeconomic and cultural factors *(128)*. Industry groups propose alternative solutions, such as collaborative partnerships with alcohol retailers, which are seen as a more effective approach than blanket restrictions. They argue that treating retailers as part of the solution rather than the source of the problem may be more effective in addressing alcohol-related issues within communities *(67,129,130)*.

According to the public health community

There is robust and consistent evidence to demonstrate that restricting the physical availability of alcohol by limiting the hours and days of sale is an effective way to achieve reductions in alcohol-related harms such as assaults, hospitalizations and drink–driving accidents. There is also strong evidence that relaxing availability restrictions by extending the hours or days when alcohol can be sold is associated with increased rates of these harms.

Studies worldwide have assessed the effects of restricted trading hours in the night-time economy, whereby bars, restaurants and nightclubs are subjected to earlier closing times. Several systematic reviews have consistently reported evidence that altering trading hours results in changes to rates of alcohol harm *(131–134)*. Extended trading hours are generally associated with increases in assault, injury and drink–driving. Conversely, shortened trading hours result in reduced rates of alcohol consumption and harm. For instance, a study conducted in 18 cities in Norway, which implemented a series of extensions and restrictions on late-night trading, found that each additional hour of trading led to a 16% increase in police-reported assaults (with similar reductions when hours were reduced) *(135)*. Likewise, in Newcastle, Australia, reducing trading hours by moving closing times from 05:00 to 03:30 resulted in a 33% decrease in assaults *(136)*.

Studies have assessed the effects of changes in trading hours for off-premise alcohol sales, such as those taking place in shops and liquor stores. Restrictions on night-time trading hours in Germany and Switzerland led to significant reductions in hospitalizations for alcohol intoxication, particularly among young people *(137–139)*. In Lithuania similar restrictions were associated with significant reductions in road traffic accidents and alcohol-related injuries *(140)*. In the United Kingdom (England and Wales) new legislation introduced in 2003 made it difficult for local authorities to decline applications from retailers for later trading hours or 24-hour licences to sell alcohol. The most robust evaluations of these changes found little or no impact, with overall levels of violence and consumption appearing unchanged, although the timing of violent episodes shifted to later in the night, posing a challenge for services and policing *(141,142)*.

Extending the permitted days of alcohol sales is similarly associated with increased consumption rates. A 2018 systematic review of studies from Sweden, the United States and Canada examined the impact of allowing an extra day per week (either Saturday or Sunday) for off-premises alcohol sales *(143)*. A meta-analysis of the six studies estimated that the additional day of sale per week was associated with increases in per-capita consumption of 3.4% (total alcohol), 5.3% (beer), 2.6% (wine) and 2.6% (spirits).

To date, there is no convincing evidence that alcohol industry partnership initiatives are effective at reducing alcohol-related violence and assault. An independent evaluation of 88 "community alcohol partnerships" (CAPs) across the United Kingdom, which involved partnership initiatives between alcohol retailers and local government, found no evidence to demonstrate that CAPs had reduced alcohol-related antisocial behaviour or other harms *(144)*. The authors concluded that CAPs may serve primarily as corporate social responsibility measures for the alcohol industry, aimed at limiting reputational damage associated with alcohol-related antisocial behaviour.

2.2.2. Can restrictions on alcohol outlet density reduce alcohol harm?

According to the alcohol industry

In line with common framing strategies for alcohol issues, the industry has previously emphasized the complexity of the relationship between alcohol outlet density and alcohol-related harm, arguing that variance in harm may be due to social, economic, demographic and cultural factors, rather than to availability *(145)*. As a result, industry bodies argue that alcohol outlet density is not associated with alcohol abuse, and some caution that restricting availability could prove to be counterproductive. For instance, they have suggested that the introduction of a public health objective in licensing in the United Kingdom (England and Wales) would lead authorities to impose a blanket ban on new entrants, which would prevent the entry of retailers who might be more progressive and committed to health initiatives than existing retailers *(146)*.

According to the public health community

Restricting the number and location of alcohol outlets has been widely used in countries around the world to reduce harms due to alcohol consumption. Studies have shown that areas with a high density of alcohol outlets report higher rates of alcohol-related harm. This may be due to the increased availability of alcohol and other factors such as the encouragement of large groups of drinkers to gather, thus increasing the opportunity for potential victims and perpetrators of alcohol-related crime and violence to interact *(116)*.

Research has shown a clear link between the density of alcohol outlets and harm, particularly alcohol-related violence. Many studies have found that reducing the density of alcohol outlets can lead to a decrease in associated problems. Indeed, a 2015 systematic review of the literature found that over 90% of studies on the link between outlet density and violence found significant positive relationships *(147)*. The review analysed evidence from studies conducted in the United States, the United Kingdom (Wales) and Australia. All studies found significant positive associations for drinking in on-premises establishments such as bars and pubs, and most also found positive associations for off-premises outlets. Some evidence suggests that these associations are stronger in disadvantaged or high-density population areas. This finding has been reported in other cross-sectional analyses, such as Pridemore and Grubesic (2012) *(148)*.

Studies using health systems data have found an association between alcohol outlet density, hospitalizations and emergency department visits. These include a 2016 study by de Vocht et al., which looked at changes in local-level licensing policy in the United Kingdom aimed at limiting new licences, especially in dense "clusters" of existing availability *(149)*.

A recent study of United Kingdom (England and Scotland) stakeholder views on how alcohol availability might lead to harms concluded that it is important to consider not only ease of access but also how greater availability can prompt drinking, contribute to normalization, and lead to downward price pressures due to competition between premises *(150)*. Retail availability constantly exposes people in recovery or those trying to reduce or stop their consumption to alcohol cues. Additionally, it exposes children to alcohol throughout their day, driving pro-consumption norms. By limiting retail availability, the number of cues and opportunities to drink in daily life can be reduced. Restrictions on retail availability of alcohol can complement other measures to reduce alcohol-related harm.

2.2.3. Key insights

Alcohol availability policies, specifically restricting the hours and density of alcohol sales, are essential public health strategies for reducing alcohol-related harms. Scientific evidence has demonstrated that limiting the hours and days of alcohol sales significantly reduces incidents of violence, hospitalizations and drink–driving accidents. Similarly, controlling alcohol outlet density has proved effective in mitigating alcohol-related violence and health issues.

Research consistently indicates that areas with fewer alcohol outlets experience lower rates of harm. These policies not only reduce overall alcohol consumption but also help to address health disparities, particularly benefiting lower-income communities who face higher alcohol-related harms.

Implementing availability policies can lead to healthier, safer communities, making them a smart choice for policy-makers aiming to reduce the societal and economic burden of alcohol-related issues. By prioritizing public health, these measures offer a practical and evidence-based approach to enhancing community well-being.

2.3. Alcohol marketing policies

2.3.1. Does alcohol marketing target underage alcohol users?

According to the alcohol industry

Alcohol industry stakeholders argue that they are responsible advertisers whose marketing targets adults only *(151)*. In submissions to the WHO consultation for the *Global alcohol action plan*, they claimed that they never market their products to children and that they have implemented highly effective self-regulatory advertising codes around the world that aim to protect vulnerable groups, especially minors and young adults *(18,152)*. These claims are usually accompanied by more general claims to the effect that alcohol advertising has no impact on alcohol use and is not a significant factor in youth drinking *(18,37)*.

According to the public health community

In response to concerns about the impact of marketing activities on young people, a review of internal marketing documents from alcohol industry stakeholders, commissioned by the United Kingdom Parliament's House of Commons Health Select Committee, concluded that young people are a "key target" for alcohol advertisers *(153)*. Examples given included the use of sponsorship of sport and other entertainment activities that are used to associate alcohol products with youth culture and sporting prowess. The review also showed that market research data on 15- and 16-year-olds has been used to guide the development of campaigns and the introduction of new products, including some that appeal to children. Internal industry documents suggest that marketing restrictions designed to prevent exposure to young people are seen as detrimental to the alcohol industry *(154)*. In a report to its board, Heineken stated that restrictions on advertising could lead to a decline in sales, particularly in Europe, and pose a significant threat to the Heineken brand and the alcohol industry as a whole *(155)*.

The trend is continuing, and according to WHO, alcohol brands heavily sponsor sports and cultural events appealing to young people, fostering emotional connections and brand loyalty *(156)*. This marketing strategy targets young men, who are the heaviest alcohol users, while also reaching a significant audience of children and adolescents attending these events. In this way, the industry integrates its brands into both event publicity and products sold.

At a time when marketing in general has been transformed and digitalized, a WHO report has highlighted the invasion of children's and young people's digital social spaces by companies promoting alcohol consumption *(157)*. Digital platforms such as Facebook, Instagram, TikTok and YouTube are used by alcohol companies to interact with young people and collect personal data for targeted marketing. Computer algorithms adapt marketing content in real time according to consumers' interests. This means that a young person showing interest in alcohol-related content will be subjected to increasingly intrusive alcohol marketing *(158,159)*.

Finally, the nature of digital marketing is such that it allows alcohol companies to advertise on young people's mobile devices by evading parental control *(157)*. Age restrictions on alcohol websites are easily circumvented, posing a challenge to regulation and protection efforts *(160)*. Indeed, research has consistently found that alcohol companies are unwilling or unable to prevent children and young people from being exposed to their marketing and from accessing and interacting with it *(161)*. Included in this context are age-gating mechanisms used on Twitter, YouTube and Instagram, which have been found to be ineffective in preventing youth access *(162)*.

2.3.2. Does alcohol marketing contribute to youth alcohol initiation or binge drinking?

According to the alcohol industry

According to alcohol industry stakeholders, there is no link between alcohol advertising and alcohol consumption *(18)*, particularly among young people *(37)*. Global producers argue that research linking advertising to harmful drinking is weak and inconsistent *(152)*, and they consistently oppose the notion that advertising contributes to increased alcohol consumption, emphasizing its role in brand choice rather than consumption per se *(151)*. They further argue that the problem of youth drinking is complex and multifaceted, involving factors other than marketing, such as parental attitudes and peer pressure *(37,152)*.

According to the public health community

According to WHO, the extent and breadth of commercial communications on alcohol, particularly their impact on young people's drinking, represent a major public health concern *(156,163)*. Research on the effects of alcohol marketing, as summarized in a series of integrative reviews and meta-analyses, has found a remarkable degree of consistency regarding the detrimental effects of these marketing efforts *(164–167)*. Research demonstrates that alcohol advertisements are attractive to young people and stimulate their drinking behaviour *(168)*. Jernigan et al. reviewed the literature on the association between alcohol marketing and youth drinking, focusing on newer studies using sophisticated longitudinal designs *(167)*. This systematic review identified 12 studies reporting findings from nine unique cohorts that included more than 35 000 people across several countries. All studies found a significant association between youth exposure to alcohol marketing and subsequent drinking behaviour. Finan et al. reviewed 38 studies on the relationship between alcohol marketing and alcohol use behaviours among adolescents and young adults *(164)*. They found alcohol marketing exposure, particularly alcohol promotion and owning alcohol-related merchandise, to be consistently associated with young people's alcohol use.

Narrative reviews of digital marketing studies are consistent with previous reviews that have focused primarily on marketing in traditional media *(169,170)*. These reviews conclude that marketing through digital media uses approaches that are attractive to young people, and for this reason such marketing is likely to have an impact on their drinking behaviour.

Developmental theory and empirical research suggest that children and young people may be particularly vulnerable to alcohol marketing *(168)*. For example, children may be more susceptible to media imagery because they do not have the ability to compensate for biases in advertising portrayals and glamorized media imagery. Systematic reviews of hundreds of studies conducted in a wide range of countries show that alcohol marketing can be considered one of several causes that contribute to early onset of drinking and the development of subsequent heavy alcohol use *(164,167,171,172)*.

2.3.3. Does self-regulation of alcohol marketing protect young people?

According to the alcohol industry

Alcohol advertising codes have been developed by alcohol industry-sponsored corporate social responsibility organizations and adopted by alcohol producers around the world *(161)*. Many have, for example, endorsed the *Guiding principles* and the *Digital guiding principles for self-regulation of marketing communications for beverage alcohol*, developed by the International Alliance for Responsible Drinking (IARD) *(173,174)*, as voluntary safeguards to protect vulnerable populations, including young people, from alcohol marketing *(175)*. According to the alcohol industry, current self-regulatory systems are satisfactory, flexible, responsive and well adapted to the rapidly changing online and offline landscape *(37,151,176)*. In addition, self-regulation is presented as being advantageous compared to formal regulation because the costs are borne by the alcohol industry and the approach can provide local solutions to local problems *(67)*. The alcohol industry claims that an additional benefit of industry self-regulation is that it can help to create a safer environment in countries that have limited resources to establish and enforce formal regulations *(152,176)*.

According to the public health community

Research from several countries demonstrates that alcohol industry self-regulation of marketing is ineffective at protecting children and other vulnerable groups *(99)*. A systematic review of nearly 100 studies investigating the content of, and exposure to, alcohol marketing in relation to self-regulated guidelines found similar results; all reviewed studies that evaluated advertising content reported evidence of code violation or identified content that may be appealing to young people. The analysis highlighted an overall presence of content that could be considered potentially harmful for children and young people, including themes that strongly appeal to young men *(161)*. In the same systematic review, no studies were identified that supported the effectiveness of industry self-regulation programmes. The United Kingdom Parliament's House of Commons Health Select Committee inquiry into internal alcohol industry marketing documents found that the codes do not protect young people from alcohol advertising *(154)*.

Although the IARD *Guiding Principles* and other self-regulatory programmes include a complaints resolution process that allows individuals and organizations to ask companies to withdraw advertisements because they violate the self-regulation guidelines, they often lack a framework for a complaints resolution system, leaving it to individual countries or companies to organize and manage complaints *(174)*. A review of studies evaluating these systems in different countries found that they failed to identify the majority of noncompliant advertisements and were not effective in removing marketing materials identified as noncompliant with industry codes *(177)*. For example, a study on alcohol marketing in eight countries during the 2014 FIFA World Cup found substantial levels of exposure to young people and lack of compliance by numerous national and transnational producers who marketed alcoholic beverages during this global event *(161)*.

With respect to digital marketing, initial studies indicate that the *Digital Guiding Principles* have not prevented youth exposure to digital alcohol marketing practices *(178,179)* or the use of content that may be harmful to vulnerable populations *(177)*. Digital marketing, which heavily relies on data collection and utilization, often operates beyond the scope of traditional self-regulatory codes, which should extend beyond symbolic advertising messages or the sharing of alcohol-related content on social media to include data-driven optimization of consumer attention, engagement and behaviour *(170)*.

Industry-appointed review boards have major conflicts of interest in that they are appointed and paid by an industry that could lose considerable revenue if an advertisement complaint is upheld *(161,180)*. In addition, review panels have been found to lack expertise in public health and adolescent development, with no evidence that they employ objective review procedures specifically designed to detect code violations *(181)*. Moreover, there is some evidence to suggest that, even when a panel of experts has determined that an advertisement violates the code, few, if any, complaints are upheld by industry review boards *(177)*.

Faced with the ineffectiveness of self-regulatory approaches, public health advocates and WHO favour statutory bans on alcohol advertising *(99)*. To deal with the exposure of young people to digital marketing of alcohol, a 2021 WHO report provides examples of countries where various types of responses by governments have been implemented *(157)*. Further research is needed to assess the effectiveness of these approaches in achieving their intended goals. However, certain strategies show promise in safeguarding young people, though this is dependent on consistent monitoring and regional cooperation to enforce policies. Across all contexts, it is evident that countries must prioritize statutory regulation, including enforcement.

2.3.4. Key insights

There is considerable debate about the effectiveness of alcohol marketing policies, with divergent perspectives from industry stakeholders and scientific research. The industry insists that its advertising is responsible and targets adults, but the evidence indicates that marketing efforts are intentionally directed towards young people. Despite industry assurances about self-regulation, studies consistently highlight the failure to shield vulnerable demographics from alcohol advertising.

Scientific research underscores the significant impact of marketing on young people's alcohol use behaviours, with studies showing a strong association between exposure to alcohol marketing and subsequent drinking behaviour among young people. Digital marketing exacerbates concerns, with industry-endorsed guidelines proving ineffective in curbing youth exposure.

Conflicts of interest in industry-appointed review boards further undermine the efficacy of self-regulation. Consequently, implementing stringent marketing policies is a smart choice. Statutory bans have proved to be successful in limiting youth exposure to alcohol marketing, preventing the normalization of alcohol use among young people. and mitigating associated health risks.

2.4. Alcohol labelling policies

2.4.1. Do alcohol industry voluntary practices present adequate information on the labels of alcohol containers?

According to the alcohol industry

The alcohol industry favours voluntary initiatives over government mandates, preferring co- and self-regulatory measures and partnerships instead of mandatory regulations *(13,86)*. For example, the industry has traditionally favoured a self-regulatory approach to nutrition labelling proposals *(182–186)* and has opposed legislative proposals on health warnings on product labels *(187)*, most recently in Ireland, citing concerns over trade barriers *(188,189)*. At the same time, some segments of the industry have made their own voluntary commitments to include certain types of health information on labels *(190–192)*. Overall, alcohol industry bodies often oppose compulsory nutrition and health information on labels, arguing that self-regulation is sufficient and that consumers are already aware of the risks associated with drinking *(193,194)*.

According to the public health community

Alcohol producers can voluntarily include nutrition and health information on labels, and some industry stakeholders have committed to providing such information *(144,195,196)*. However, the format, extent and type of information vary, ranging from full alignment with other food and drink regulations (such as the EU's Regulation No. 1169/2011) to limited details such as energy value or information provided online only. In addition, implementation has been inconsistent: a 2021 market analysis showed that only 29.6% of alcoholic beverages audited in stores across the EU included ingredient information, 21.6% had energy value, and 2.5% had full nutritional information, and there were significant differences between drink sectors *(197)*.

Little evidence exists to demonstrate the impacts of alcohol industry voluntary labelling initiatives, and there have been few formal independent evaluation studies of industry practice *(192)*. The few evaluations that have been conducted by independent researchers and civil society groups to verify compliance with self-regulatory commitments generally conclude that voluntary labelling practices are less likely to be fully implemented than mandatory ones and are ineffective at giving consumers adequate information about the contents of products and health risks associated with drinking in a clear and visible manner (see, for instance, *(198)*).

In the United Kingdom an evaluation of the 2011 Public Health Responsibility Deal industry pledge to label 80% of all alcohol products with standardized health information found that 70% of products provided the agreed content and less than 50% followed the industry "best practice" guidance for size and visibility *(199)*. The proportion of alcohol labels displaying the United Kingdom low-risk drinking guidelines has fallen considerably since they were revised in 2016, with a study by the Alcohol Health Alliance reporting that less than 30% of labels carried the latest health advice from the United Kingdom Chief Medical Officers in 2020 *(200)*. Evaluation of the United Kingdom voluntary labels showed that people who consume alcohol paid minimal attention to them *(201)*, and among young people only a third noticed some kind of health information on alcohol packaging *(202)*.

In Australia and New Zealand two evaluations of a voluntary pregnancy health warning labelling scheme concluded that implementation was lacking: the final evaluation report in 2017 found that only 47.8% of alcohol products on the market in Australia carried the warnings, six years after the commitment was made *(203)*. Evaluation of the voluntary Australian labelling initiative indicated that there was a low recall rate and awareness of warning labels and that they were unlikely to encourage people to seek further information *(204,205)*. These findings led to the development of mandatory pregnancy warning labels, which were introduced in 2020 by the Ministerial Forum on Food Regulation *(206)*.

The lack of evidence that voluntary labelling approaches adopted by the alcohol industry are adequate to inform consumers led the WHO-commissioned Health Evidence Network review to "favour mandatory regulation over voluntary commitments, as it allows better control over the content and presentation of the message, presentation of stronger evidence, and more assurance of good penetration of the label" *(192)*. Mandatory labelling of alcohol products is the most effective means of communicating information to consumers about the contents and health risks of alcoholic beverages because it ensures that the information reaches consumers repeatedly and at key points of contact – at the point of sale and when alcohol is poured or consumed – and gives the policy-makers the opportunity to formulate the design requirements in a way for the labels to be clearly visible. Namely, where they are used, mandatory labels must be designed according to best design practices; otherwise, as suggested by a French eye-tracking study, they will not be noticed by consumers *(207)*.

2.4.2. Are health warnings on product labels effective?

According to the alcohol industry

The alcohol industry consistently argues that health warnings on product labels are ineffective. It has long been sceptical about the ability of labels to influence behaviour *(193)* and has often suggested that using them may have unintended consequences *(13)*. Industry bodies, such as the Alcohol Beverage Federation of Ireland *(208)*, argue that health labels may confuse consumers or lead young people to choose stronger drinks. Opposition to mandatory pregnancy warnings in Australia, New Zealand and France, meanwhile, highlights the industry's claimed doubts about their effectiveness, citing potential harm to pregnant women and negative economic consequences *(192,209,210)*. Global discourse, including statements from some World Trade Organization Members, aligns with industry arguments against the effectiveness of mandatory labelling, favouring alternative measures such as information campaigns and partnerships *(211)*.

According to the public health community

While alcohol producers often question the effectiveness of health warnings in changing behaviour, a newer public health perspective sees health warnings as an effective tool for informing consumers, raising awareness, and contributing to the long-term reduction of alcohol-related harm by increasing policy support and decreasing the appeal of alcoholic products *(212)*.

Existing studies show that health warnings are effective in increasing awareness of alcohol-related harms, particularly in the case of cancer, the least known harm associated with alcohol *(213–216)*. Evidence also indicates that health messages that cite specific disease risks, such as cancer, may increase people's intention to consume less alcohol *(199)*. However, research from the United Kingdom shows that, while health warnings with a cancer message decreased drink selection in an online experiment *(217)*, this result was not replicated in a test set up to look like a real-world shopping environment, possibly due to short warning exposure time *(218)*.

An experimental study in Yukon, Canada, reported that, when exposed to a cancer warning message on product labels in combination with low-risk drinking guidelines, purchasers of alcohol reported significantly higher levels of awareness of the link between alcohol and cancer compared to those in a control group *(216)*. Awareness of the alcohol-related cancer risk was associated with self-reported intentions to drink less in the future *(216)*, and there was also increased support for other alcohol policy measures *(219)*. Further research concluded that exposure to health warning labels in Yukon was associated with a 6.3% reduction in per-capita alcohol retail sales, as well as greater awareness of national drinking guidelines *(220)*.

The effectiveness of labels also depends on their design. Studies have shown that presenting health information on labels set in a larger and more legible format with bold type leads to higher recall and greater knowledge of alcohol-related health risks among consumers *(221)*. One example of the effectiveness of alcohol warning labels is the mandatory pregnancy warnings introduced in Australia and New Zealand in 2020 *(222)*. These warnings feature a pictogram alongside the text "PREGNANCY WARNING – Alcohol can cause lifelong harm to your baby" and must meet specific requirements in terms of font size and colour *(223)*. An impact assessment conducted by the relevant government authority, Food Standards Australia New Zealand, concluded that the cost burden to the alcohol industry for implementing these new labels was reasonable *(224)*. The assessment found that preventing just a small percentage (1.3%) of fetal alcohol spectrum disorder (FASD) cases annually would offset the total cost of alcohol label changes. Additionally, the report highlighted the significant human, social and financial benefits to the community from avoiding or mitigating new FASD cases, further supporting the effectiveness of mandatory warning labels.

2.4.3. Key insights

Labels play a crucial role in informing consumers about the contents of alcohol products and their associated risks, potentially leading to reduced alcohol consumption. Research indicates that clear and accessible information on alcohol labels can increase awareness of health conditions such as alcohol-related cancer and may influence consumers to make healthier choices. However, a self-regulatory approach to alcohol labelling, where the industry provides information voluntarily, has been shown to lead to less reliable implementation and visibility of the labels. Evidence shows that mandatory labelling schemes are the most effective method to ensure that consumers receive accurate, accessible and essential information. This allows them to make informed decisions about alcohol use. Mandatory labelling policies provide a consistent and effective means of communication to safeguard public health.

2.5. Drink–driving interventions

2.5.1. Who should be the target of drink–driving policies?

According to the alcohol industry

From the perspective of the alcohol industry, drink–driving policies should primarily target individuals known as "hardcore drink–drivers", who are characterized by previous convictions or arrests for driving under the influence of alcohol or with high blood alcohol concentration (BAC). Employing an argument based on the supposed "moderate majority" of the population, they contend that most harms stem from the behaviour of a small minority, and thus that policies should not unduly burden the broader population *(225)*. Consequently, the industry favours targeted interventions tailored to the treatment of heavy drinkers, such as the use of ignition interlock devices for repeat offenders *(226)*.

According to the public health community

General deterrence mechanisms combined with population measures are critical to addressing drink–driving. So-called hardcore drink–drivers make up a small but important percentage of drivers involved in drink–driving fatalities. Effective approaches to reducing recidivism in this group include administrative licence suspension or revocation *(116)* and laws requiring ignition interlocks that prevent a vehicle from being started until the driver passes a breath test *(228,229)*. However, it should be noted that compliance problems with regard to interlock installation rates have been documented (see, for instance, *(230)* and *(231)*). To increase compliance, monitoring is recommended *(232)*, and offenders can be offered incentives such as reduced fines. Finally, assessment and appropriate treatment (such as counselling or therapy), which can be linked to licence suspension or arrest, are an important part of reducing drink–driving in this group.

It is important to note that, by focusing attention on the "hardcore drink–driver", the majority of those driving under the influence of alcohol, who account for the majority of harms, go undetected *(233,234)*. As pointed out by Chamberlain and Solomon *(234)*, "the myth of the hard-core drinking driver detracts attention from more comprehensive approaches that are essential to reducing impaired driving among all segments of the population." Greater gains are made through general deterrence efforts, including laws setting a low BAC limit at which one may drive legally *(235,236)*. According to the WHO SAFER initiative *(236)*, reducing the legal limit from 0.08% to 0.05% could reduce the number of alcohol-related traffic accidents by 18%.

It is important that any BAC limit is combined with well-publicized enforcement *(226,236,237)*. Research evidence from a number of countries supports the use of frequent, highly visible and nonselective testing, especially random breath testing or compulsory breath testing, often implemented at "sobriety checkpoints" *(237–239)*. Such measures increase the public perception of likelihood of apprehension, thereby reducing the likelihood of drink–driving *(237,240)*.

In addition to these deterrence efforts, there is growing evidence that population-wide measures to reduce overall levels of alcohol consumption – increases in taxation, restrictions on availability, minimum purchase age regulations and advertisement bans – can prevent heavy drinking and alcohol-impaired driving *(226)*. For example, there is strong evidence that increased alcohol taxes produce significant declines in alcohol-impaired driving and crash fatalities, at least in high-income countries *(120)*. Similarly, regulations that limit the physical availability of alcohol through restrictions on hours and days of sale, density of outlets and alcohol purchase age are effective ways to reduce all types of alcohol-related harm *(241)*. A more recent study to assess the impact of alcohol control policies on alcohol-related road traffic harm in Lithuania over a 15-year period found that the proportion of alcohol-related crashes, injuries and deaths decreased significantly following the implementation of a range of measures, including increases in taxation, restrictions on availability (such as minimum purchase age regulations), drink–driving laws and marketing bans *(242)*.

2.5.2. Are designated driver campaigns and safe ride programmes effective in preventing drink–driving?

According to the alcohol industry

The alcohol industry presents drink–driving as a narrow problem that tends to occur in particular contexts and at particular times *(13,114)*. Accordingly, the industry has become increasingly active in sponsoring designated driver, safe ride and responsible drinking campaigns through its corporate social responsibility (CSR) activities *(11)*. In a recent WHO consultation, several industry submissions provided lengthy examples of national drink–driving campaigns in which they had been involved *(145)*, and some claimed that these initiatives had led to declines in road traffic fatalities *(243)*.

According to the public health community

While designated driver and safe ride programmes, championed by many producers, may increase awareness, the impact on alcohol-involved accidents has not yet been demonstrated *(116,226,244,245)*. Beyond a lack of evidence to support their effectiveness, designated driver campaigns may have unintended consequences, including greater consumption by passengers *(237,245,246).* Intoxicated passengers act in ways that distract the driver, putting everyone at risk *(247).*

A content analysis of 266 randomly selected initiatives undertaken by the industry in the area of drink–driving found that:

- 0.8% were consistent with evidence of effectiveness;
- 87.6% had the potential to market a specific brand or product; and
- 66.9% had the potential to cause harm from a public health perspective *(244)*.

Additionally, industry drink–driving campaigns often occur around industry-sponsored events, such as concerts or festivals. This suggests that such activities (such as taxi vouchers) may be undertaken to mitigate potential reputational risks associated with drink–driving accidents or fatalities that could be linked back to an alcohol company or brand. As noted with other industry CSR activities, industry partnerships with public health stakeholders, including governments and nongovernmental organizations or influential organizations of transnational governance, provide credibility and legitimacy to the industry *(225)*. Furthermore, the industry's sponsorship related to motor racing, such as that of Formula 1 Grand Prix teams, sends mixed messages about drink–driving and represents a breach of marketing codes that prohibit the association of alcohol brands and driving *(248)*.

Effective drink–driving campaigns require thorough planning, multichannel delivery and heightened enforcement for effectiveness *(249)*. Evidence shows that few industry-sponsored programmes meet these criteria, and claims that alcohol industry CSR initiatives reduce harmful drinking lack scientific support. Emerging evidence indicates that these initiatives may in fact interfere with the way alcohol-related issues are framed, thereby impeding evidence-informed policy development to reduce alcohol harm *(11)*.

2.5.3. Key insights

The alcohol industry typically opposes effective measures to combat drink–driving, often diverting attention to "hardcore" drink–drivers while those causing the majority of harm remain undetected. The industry's mass-marketing campaigns promoting responsible drinking and designated driver schemes are not substitutes for effective measures; they can be counterproductive by serving marketing purposes and delaying more effective evidence-based measures.

Extensive research supports that general deterrence mechanisms, such as low BAC limits and highly visible enforcement, are crucial in reducing drink–driving incidents. Effective measures include random breath testing and sobriety checkpoints, which significantly increase the perceived likelihood of apprehension, thereby deterring potential offenders. Moreover, addressing drink–driving through comprehensive policies that reduce overall alcohol consumption, such as increased taxation and restricted availability, and providing effective treatment for alcohol dependence have proved to be effective in preventing alcohol-related traffic accidents and fatalities. These population-wide measures not only target habitual offenders but also prevent casual drinkers from becoming impaired drivers.

Prioritizing these evidence-based interventions can significantly reduce alcohol-related road traffic harms and promote safer driving behaviour.

2.6. No- and low-alcohol (NoLo) products

2.6.1. Can increasing the availability of no- and low-alcohol products reduce alcohol-related harm?

According to the alcohol industry

The market for no- and low-alcohol (NoLo) products has experienced notable expansion in recent years, with major producers committing to expand their NoLo product offerings as part of CSR initiatives aimed at reducing alcohol-related harm. For instance, AB InBev has pledged to ensure that NoLo products account for at least 20% of its global beer volume by the end of 2025, as part of its Smart Drinking Goals initiative *(250)*. Increased industry involvement in NoLo products is often portrayed as a response to growing interest in health and wellness and to cultural shifts towards sobriety and moderation in alcohol consumption *(251,252)*. According to the industry, NoLo options can help consumers to achieve higher levels of health and well-being, offering practical solutions for those who prioritize health and safety in their drinking habits *(253)*.

According to the public health community

To grasp the public health implications of NoLo products, data regarding their consumption and impact on overall alcohol intake are essential. Current evidence suggests that some individuals are indeed substituting part of their alcohol consumption with nonalcoholic alternatives, as observed in studies from the United Kingdom and Spain *(254,255)*. However, these findings hinge on the assumption of substitution, and it remains unclear to what extent consumers are replacing or simply adding NoLo options to their usual alcohol consumption *(256)*.

A modelling study indicated that introducing beer and wine with an alcohol strength below 0.5% could lead to some substitution of higher-strength beverages, but not to the extent that it could demonstrate a significant public health impact *(257)*. Overall, there is currently considerable uncertainty about the impact of NoLo products on alcohol consumption at the population level *(258)*. Uncertainty is also fuelled by a number of worrying issues relating to NoLo products.

First, the public health community has raised concerns over emerging evidence of the impact of NoLo products on consumer behaviour and health disparities. According to recent studies, individuals with higher socioeconomic status are more likely to purchase NoLo products *(259)*, so, while the increased availability of NoLo products might be effective in reducing alcohol use among more privileged segments of society, it may be of less benefit to the rest of the population *(260)*. To a lesser extent, concerns have also been raised over the implications of NoLo use on another population group – young people *(261)*. In particular, there is a lack of evidence on the impact such products might have on the establishment of social norms around drinking among young people and on the initiation of their drinking.

Second, the definitions and regulations applied to NoLo beverages vary significantly, which affects consumers' ability to make informed decisions about them *(258)*. There is no agreed definition of NoLo products and no agreement on how they should be labelled *(252)*. Thus, the term "NoLos" can be applied not only to completely alcohol-free products but also to lower-strength products with a relatively low, but still absolutely high, alcohol content, such as gins that are 20% alcohol by volume *(255)*.

Third, the scientific community is cautious about considering NoLo products as a public health tool, primarily amid concerns surrounding the way these products are marketed. Recent case studies have exposed the use of addition marketing and alibi advertising by both major and artisanal alcohol brands (262,263). While addition marketing associates NoLos with a healthy lifestyle and promotes their use in nontraditional alcohol consumption settings, alibi advertising circumvents alcohol marketing regulations by linking nonalcoholic products with familiar alcohol brands and events. This is particularly concerning in countries with existing alcohol marketing restrictions *(157,264,265)*. Overall, these marketing practices contribute to the continued presence of products that closely resemble alcohol. This may reinforce so-called "alcogenic"(alcohol-normalizing) cultures by reinforcing norms around alcohol consumption and perpetuating the myth that "everybody drinks" *(255,258,262)*.

Finally, it should be noted that the alcohol industry uses the promotion of NoLo products to boost its CSR image and to divert attention from evidence-based alcohol policy measures *(266)*.

2.6.2. Key insights

While the alcohol industry is increasingly investing in NoLo products, uncertainties persist over their effectiveness in reducing overall alcohol consumption and related harms. Questions raised by the public health community regarding consumer behaviour, health disparities, regulatory inconsistencies and marketing tactics underscore the need for further research and regulatory scrutiny in this area *(258)*. Ultimately, the potential benefits of NoLo products must be carefully weighed against their potential risks, and comprehensive policy measures addressing alcohol consumption as a whole remain essential in promoting public health and well-being.

Conclusion

Alcohol use and its associated burden represent a significant public health challenge, requiring a coordinated global response. Policy-makers dedicated to safeguarding public health must base their decisions on sound public health evidence when addressing alcohol-related harms.

This publication has highlighted several pressing alcohol-related issues, underscoring that many commonly heard answers to these questions stem from profit-driven perspectives designed to promote alcohol sales and profitability. In contrast, evidence from public health research shows, for example, that alcohol is harmful to everyone, that it is not good for health, that it can cause cancer and that it is not profitable to governments.

To protect and promote public health, it is crucial that policy decisions are guided by responses developed by the public health community and focused on improving health outcomes. It is hoped that this document will encourage policy-makers to critically evaluate the sources of information they rely on and prioritize evidence-based conclusions from the public health community when shaping alcohol-related policies.

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