



Reducing the Harmful Use of Alcohol: Have International Targets Been Met?

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Alcohol use has been identified in major United Nations (UN) initiatives, such as the Sustainable Development Goals and the Non-Communicable Disease Action Plan, as a major contributor to the global burden of disease. As a result, levels of alcohol use serve as an official indicator of progress towards these UN-set goals. Given current trends, UN targets for reduced alcohol consumption are unlikely to be met. Moreover, in many countries, especially in low- and middle-income countries, the alcohol-attributable burden of disease continues to increase. Pressure will need to be exerted on national and international decision-makers to arrive at more powerful and normatively persuasive instruments, such as a treaty.

I. INTRODUCTION

While other United Nations (UN) bodies have occasionally taken notice of alcohol's role in health and welfare issues, only the World Health Organization (WHO) has paid sustained attention to alcohol issues; however, that attention has been sporadic and

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generally poorly resourced.¹ One factor that has contributed to some increase in the attention given in the new millennium to alcohol-related issues has been the advent of estimations of the Global Burden of Disease Study as a tool for evaluation and priority-setting, including the assessment of contributions of diverse risk factors to the burden of disease.²

Since the mid-1990s, there have been Comparative Risk Assessments for the most important risk factors such as alcohol,³ and regardless of how many risk factors were compared, alcohol use was ranked in all of these assessments as one of the top 10 contributors to the global burden of disease.⁴ The current mortality burden of alcohol use is estimated to be about 3 million deaths per year.⁵

The realisation of alcohol's marked public health impact was one of the major reasons behind the WHO's increased activity since the early 2000s in alcohol policy formulation: indeed, the resolution of the World Health Assembly in 2005 on "Public Health Problems Caused by Harmful Use of Alcohol"⁶ was the first notable activity since its 1983 resolution on "Alcohol Consumption and Alcohol-Related Problems: Development of National Policies and Programmes".⁷ The 2005 resolution begins by referring to alcohol as a risk factor and references the prior Comparative Risk Assessment,⁸ which was the first such comprehensive assessment, comparing twenty-six different risk factors.⁹

Beginning in 2005, alcohol use was finally included in some international resolutions and statements of political commitment. Three such resolutions deserve the most attention: the WHO's *Global Strategy to Reduce the Harmful Use of Alcohol* (Global

¹ R Room, "Global Intergovernmental Initiatives to Minimise Alcohol Problems: Some Good Intentions, but Little Action" (2020, under review) *European Journal of Risk Regulation*.

² Institute for Health Metrics and Evaluation, "About GBD: The Global Burden of Disease: A Critical Resource for Informed Policymaking" (2020) <<http://www.healthdata.org/gbd/about>> (last accessed 17 August 2020).

³ C.J.L. Murray and A. Lopez, "Global Mortality, Disability, and the Contribution of Risk Factors: Global Burden of Disease Study" (1997) 349 *The Lancet* 1436–42. For the most recent study, see GBD 2017 Risk Factors Collaborators, "Global, Regional, and National Comparative Risk Assessment of 84 Behavioural, Environmental and Occupational, and Metabolic Risks or Clusters of Risks, 1990–2017: A Systematic Analysis for the Global Burden of Disease Study 2017" (2018) 392 *The Lancet* 1923–94.

⁴ J. Rehm and S. Intiaz, "Alcohol Consumption as a Risk Factor for Global Burden of Disease. A Narrative Review" (2016) 11 *Substance Abuse Treatment, Prevention and Policy* 37.

⁵ K.D. Shield et al, "National, Regional, and Global Burdens of Disease from 2000 to 2016 Attributable to Alcohol Use: A Comparative Risk Assessment Study" (2020) 5 *Lancet Public Health* E51–E61; World Health Organization, "Global Status Report on Alcohol and Health 2018" (World Health Organization, 2018) <https://www.who.int/substance_abuse/publications/global_alcohol_report/en/> (last accessed 20 May 2019).

⁶ World Health Assembly, "Public Health Problems Caused by Harmful Use of Alcohol" (2005) <https://www.who.int/substance_abuse/wha_resolution_58_26_public_health_problems_alcohol.pdf?ua=1> (last accessed 16 August 2019).

⁷ World Health Assembly, "Alcohol Consumption and Alcohol-Related Problems: Development of National Policies and Programmes" (World Health Organization, 1983) <<https://apps.who.int/iris/handle/10665/160567>> (last accessed 19 August 2019).

⁸ World Health Organization, "The World Health Report 2002 – Reducing Risks, Promoting Healthy Life" (World Health Organization, 2002) <<https://www.who.int/whr/2002/en/>> (last accessed 19 August 2019).

⁹ M. Ezzati et al, "Selected Major Risk Factors and Global and Regional Burden of Disease" (2002) 360 *The Lancet* 1347–60. For alcohol specifically, see J. Rehm et al, "Alcohol Use" in M. Ezzati et al (eds), *Comparative Quantification of Health Risks: Global and Regional Burden of Disease Attributable to Selected Major Risk Factors* (Geneva, World Health Organization 2004).

Alcohol Strategy),¹⁰ the *Global Action Plan for the Prevention and Control of NCDs 2013–2020* (Global NCD Action Plan), with a specific target of reducing the harmful use of alcohol by 10%,¹¹ and the *Sustainable Development Goals* (SDGs), where a reduction of harmful alcohol use is explicitly included in SDG Goal 3, Target 3.5, Indicator 3.5.2.¹²

The term “harmful use” is used herein in accordance with the terminology used in the original texts. However, in the operationalisation of the monitoring of “harmful use”, adult alcohol per capita consumption is used, in most cases, as an indicator. This is the case with the SDGs and the Global NCD Action Plan.¹³

The use of per capita consumption as an indicator is based, in part, on the fact that any amount of alcohol consumption is associated with the risk of a negative health outcome. For instance, an elevated risk of female breast cancer has been clearly linked to average drinking levels of less than one standard drink per day (ie less than ten grams of pure alcohol per day).¹⁴

In light of alcohol consumption constituting a leading risk factor for the burden of disease, and with regard to the international resolutions aimed at reducing alcohol use and its attributable burden, this article aims to examine:

- Whether the objectives and targets of the relevant international resolutions have been or will be met;
- Whether the public health consequences attributable to alcohol use have increased or decreased; and
- How international agencies have reacted to the evaluations of alcohol targets.

II. METHODS AND DATA ANALYSES

UN documents were searched for evaluations of the progress towards the Global Alcohol Strategy, the Global NCD Action Plan and the SDGs.¹⁵ In addition, we searched the

¹⁰ World Health Organization, “Global Strategy to Reduce the Harmful Use of Alcohol” (World Health Organization, 2010) <https://www.who.int/substance_abuse/activities/gsrhua/en/> (last accessed 16 August 2019).

¹¹ World Health Organization, “Global Action Plan for the Prevention and Control of NCDs 2013–2020” (World Health Organization, 2019) <https://www.who.int/nmh/events/ncd_action_plan/en/> (last accessed 16 August 2019).

¹² United Nations Statistics Division, “World Health Organization (WHO) Concepts and Definitions” (World Health Organization, 2018) <<https://unstats.un.org/sdgs/metadata/files/Metadata-03-05-02.pdf>> (last accessed 20 August 2019).

¹³ *ibid*; V Poznyak et al, “The World Health Organization’s Global Monitoring System on Alcohol and Health” (2013) 35 *Alcohol Research* 244–49; for a discussion of the use of per capita consumption as an indicator, see J Rehm et al, “What Is the Best Indicator of the Harmful Use of Alcohol? A Narrative Review” (2020, epub ahead of print) *Drug and Alcohol Review*, and the subsequent discussion in the same journal.

¹⁴ KD Shield, I Soerjomataram and J Rehm, “Alcohol Use and Breast Cancer: A Critical Review” (2016) 40 *Alcoholism, Clinical and Experimental Research* 1166–81.

¹⁵ World Health Organization, “Global Developments in Alcohol Policies: Progress in Implementation of the WHO Global Strategy to Reduce the Harmful Use of Alcohol since 2010. Background Paper” (World Health Organization, 2017) <https://www.who.int/substance_abuse/activities/fadab/msb_adab_gas_progress_report.pdf?ua=1> (last accessed 19 August 2019); World Health Organization, “Noncommunicable Diseases Progress Monitor 2017” (World Health Organization, 2017) <<https://www.who.int/nmh/publications/ncd-progress-monitor-2017/en/>> (last accessed 19 August 2019); World Health Organization, “The Sustainable Development Goals Report” (World Health Organization, 2019) <<https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-Goals-Report-2019.pdf>> (last accessed 19 August 2019).

peer-reviewed literature to obtain documents relevant to the evaluation of the three main resolutions described above.

Mortality and morbidity data were obtained from the Global Health Estimates,¹⁶ population data were obtained from the UN Population Division (2017 revisions)¹⁷ and Human Development Index (HDI) data were obtained from the UN Development Programme.¹⁸ Data on country-specific and global levels of alcohol use were taken from a recent modelling study based on country-validated data and forecasts.¹⁹ Uncertainty intervals (UIs) were estimated using a Monte Carlo-like approach.²⁰ We use the term “UI” rather than “confidence interval” (CI) to avoid misunderstandings created by the latter term.²¹

Based on these materials, a narrative review was conducted and key statistics for alcohol use and the alcohol-attributable health burden were calculated.

III. RESULTS

1. Policy changes following the Global Alcohol Strategy: extent of implementation

The Global Alcohol Strategy²² arose from a resolution of the World Health Assembly in 2010. It is a non-binding statement of political commitment from WHO members, which does not specify exact quantifiable objectives, but rather offers a toolkit of dozens of policies from which members may choose. Thus, it is difficult to evaluate.

Nonetheless, the 2019 World Health Assembly asked the WHO “to report to the Seventy-third World Health Assembly in 2020 on the implementation of the Global Alcohol Strategy during the first decade since its endorsement, and the way forward”.²³ This request led to regional consultations and to a new round of data collection from all Member States (in the second half of 2019).²⁴ Based on these

¹⁶ World Health Organization, “Global Health Estimates (GHE)” (World Health Organization, 2019) <https://www.who.int/healthinfo/global_burden_disease/en/> (last accessed 25 August 2019).

¹⁷ United Nations, “World Population Prospects: The 2017 Revision” (United Nations Development Programme, 2017) <<https://www.un.org/development/desa/publications/world-population-prospects-the-2017-revision.html>> (last accessed 25 August 2019).

¹⁸ United Nations Development Programme, “Human Development Data (1990–2017)” (United Nations Development Programme, 2019) <<http://hdr.undp.org/en/data>> (last accessed 25 August 2019).

¹⁹ J Manthey et al, “Global Alcohol Exposure between 1990 and 2017 and Forecasts until 2030: A Modelling Study” (2019) 393 *The Lancet* 2493–502.

²⁰ G Gmel et al, “Estimating Uncertainty of Alcohol-Attributable Fractions for Infectious and Chronic Diseases” (2011) 11 *BMC Medical Research Methodology* 48.

²¹ A Gelman and S Greenland, “Are Confidence Intervals Better Termed ‘Uncertainty Intervals’?” (2019) 366 *BMJ* 15381.

²² World Health Organization, *supra*, note 10.

²³ World Health Organization, “Seventy-Second World Health Assembly Agenda Item 11.8. Follow-up to the Political Declaration of the Third High-Level Meeting of the General Assembly on the Prevention and Control of Non-Communicable Diseases” (World Health Organization, 2019) <[http://apps.who.int/gb/ebwha/pdf_files/WHA72/A72\(11\)-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA72/A72(11)-en.pdf)> (last accessed 20 August 2019).

²⁴ World Health Organization, “Implementation of WHO’s Global Strategy to Reduce the Harmful Use of Alcohol During the First Decade since Its Endorsement, and the Way Forward. Assignment Given to the WHO Secretariat by the World Health Assembly” (World Health Organization, 2019) <https://www.who.int/substance_abuse/activities/globalstrategy/en/> (last accessed 20 August 2019).

consultations and other data collected, in February 2020 the WHO Executive Board adopted a decision²⁵ requesting WHO staff “to develop an action plan (2022–2030) to effectively implement the global strategy to reduce the harmful use of alcohol as a public health priority”, and “to develop a technical report on the harmful use of alcohol related to cross-border alcohol marketing, advertising and promotional activities, including targeting youth and adolescents”. Any clearer objectives, or exploration of the feasibility of developing a more binding international instrument for alcohol control akin to the framework convention on tobacco, as proposed by some Member States,²⁶ were not considered, and further steps were put off until 2030.²⁷

The decision taken by the WHO Executive Board seems to acknowledge that the Global Alcohol Strategy needs to be accelerated, but does not go further, and it does not address the problems that have been evidenced in the evaluations to date, which will be summarised below.

The World Health Assembly in 2020 was significantly shortened and held as a virtual meeting due to the coronavirus pandemic (COVID-19),²⁸ and alcohol use was not considered to be a priority topic in the context of the global health crisis.²⁹ Another abbreviated World Health Assembly will take place in the autumn of 2020, but again alcohol use is not expected to play a major role there.

Some interim evaluations of the first five years following the Global Action Strategy’s implementation have been published.³⁰ A review of the implementation of the most effective and cost-effective measures among these policies, the so-called “best buys” (ie raising excise taxes for alcoholic beverages, increasing restrictions in physical availability, bans on advertising),³¹ leads to the following assessments about the extent to which these “best buys” have been implemented in domestic law and policy.³² It is difficult to evaluate the effects of increases in the price of alcohol due to increased taxation, as it would be necessary to take into consideration inflation in

²⁵ World Health Organization, “Executive Board, 146th Session Agenda Item 7.2: Accelerating Action to Reduce the Harmful Use of Alcohol” (2020) <[https://apps.who.int/gb/ebwha/pdf_files/EB146/B146\(14\)-en.pdf](https://apps.who.int/gb/ebwha/pdf_files/EB146/B146(14)-en.pdf)> (last accessed 17 August 2020).

²⁶ *ibid*; the draft decision was proposed by the delegations of Bangladesh, Bhutan, Indonesia, Iran, Sri Lanka, Thailand and Vietnam.

²⁷ S Casswell and J Rehm, “Reduction in Global Alcohol-Attributable Harm Unlikely after Setback at WHO Executive Board” (2020) 395 *The Lancet* 1020–21.

²⁸ World Health Organization, “Coronavirus Disease (COVID-19) Pandemic” (World Health Organization, 2020) <<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>> (last accessed 19 August 2020).

²⁹ World Health Organization, “WHA73” (World Health Organization, 2020) <https://apps.who.int/gb/e_e_wha73.html#decisions> (last accessed 19 August 2020).

³⁰ Most prominently, World Health Organization, *supra*, note 15.

³¹ World Health Organization, “Tackling NCDs: ‘Best Buys’ and Other Recommended Interventions for the Prevention and Control of Noncommunicable Diseases” (World Health Organization, 2019) <<https://www.who.int/ncds/management/best-buys/en/>> (last accessed 16 August 2019); D Chisholm et al, “Are the ‘Best Buys’ for Alcohol Control Still Valid? An Update on the Comparative Cost-Effectiveness of Alcohol Control Strategies at the Global Level” (2018) 79 *Journal of Studies on Alcohol and Drugs* 514–22.

³² World Health Organization, *supra*, note 15; WHO Regional Office for Europe, “Alcohol Policy Implementation in the European Region. Update with 2015” (World Health Organization, 2017) <<http://www.euro.who.int/en/health-topics/disease-prevention/alcohol-use/publications/2017/alcohol-policy-implementation-in-the-european-region.-update-with-2015-data>> (last accessed 19 August 2019); WHO Regional Office for Europe, *Status Report on Alcohol Consumption, Harm and Policy Responses in 30 European Countries 2019* (København, WHO Regional Office for Europe 2019).

the particular jurisdiction. Thus, increases in taxation are not per se an implementation of the recommended policy if they do not at least keep up with the regular price increases caused by inflation. As a result, no comprehensive evaluation has been done in this respect, but the available information seems to indicate that adjustments for inflation are not frequent; in addition, subsidies for alcohol production are still in place. In other words, alcohol has become cheaper in real terms, and if average income is also considered, alcohol has become more affordable over recent years in almost all countries (eg for beer, see Blecher et al³³). Similarly, there has been no overall success observed as a result of the implementation of availability restrictions or of comprehensive bans on marketing.³⁴ There are a few exceptions of note, such as the alcohol control policies in Russia,³⁵ in Lithuania³⁶ and in Sri Lanka,³⁷ but such exceptions do not change the evaluation overall.

On the other hand, the soft policies – infrastructural measures without any clear impact on harmful use – seem to have been implemented the most frequently (eg the establishment of a national plan or a monitoring system).³⁸ In other words, the measures suggested by the Global Alcohol Strategy that were the most widely implemented are the same ones that, to date, have not shown much impact on the main objective of this strategy: a reduction in alcohol-attributable harm.

2. Changes in the harmful use of alcohol

As indicated above, the Global NCD Action Plan specified that, from a baseline of 2010, a relative reduction in the harmful use of alcohol of at least 10% should be achieved for each country.³⁹ The SDG Goal 3.5 uses the same indicator, but extends the timeframe to 2030.⁴⁰

The last comprehensive alcohol monitoring study found that global alcohol consumption was almost static, with a change from 2010 to 2017 of only 1.0% (95% CI: –3.1 to 4.9) from 6.4 litres/year in terms of adult per capita consumption (95% CI: 6.2 to 6.6) to 6.5 litres/year (95% CI: 6.0 to 6.9).⁴¹ This overall stagnation hides some notable regional changes: the greatest proportional decrease was seen in Andean Latin America, in the countries of the former Soviet Union and in the newly

³³ E Blecher et al, “An International Analysis of the Price and Affordability of Beer” (2018) 13 *PLoS One* e0208831.

³⁴ World Health Organization, *supra*, note 15.

³⁵ M Neufeld et al, “Alcohol Policy Has Saved Lives in the Russian Federation” (2020) 80 *International Journal of Drug Policy* 102636; World Health Organization Regional Office for Europe, “Alcohol Policy Impact Case Study. The Effects of Alcohol Control Measures on Mortality and Life Expectancy in the Russian Federation” <<http://www.euro.who.int/en/health-topics/disease-prevention/alcohol-use/publications/2019/alcohol-policy-impact-case-study-the-effects-of-alcohol-control-measures-on-mortality-and-life-expectancy-in-the-russian-federation-2019>> (last accessed 23 April 2020).

³⁶ J Rehm, M Štelemėkas and R Badaras, “Research Protocol to Evaluate the Effects of Alcohol Policy Changes in Lithuania” (2019) 54 *Alcohol and Alcoholism* 112–18.

³⁷ B Sornpaisarn et al, “Alcohol Consumption and Attributable Harm in Middle-Income South-East Asian Countries: Epidemiology and Policy Options” (2020) 83 *International Journal of Drug Policy* 102856.

³⁸ World Health Organization, *supra*, note 15; WHO Regional Office for Europe, *supra*, note 32.

³⁹ World Health Organization, *supra*, note 11. The exact wording of the indicator even leaves loopholes: “At least 10% relative reduction in the harmful use of alcohol, as appropriate, within the national context” (p 5).

⁴⁰ United Nations Statistics Division, *supra*, note 12.

⁴¹ Our calculations are based on Manthey et al, *supra*, note 19.

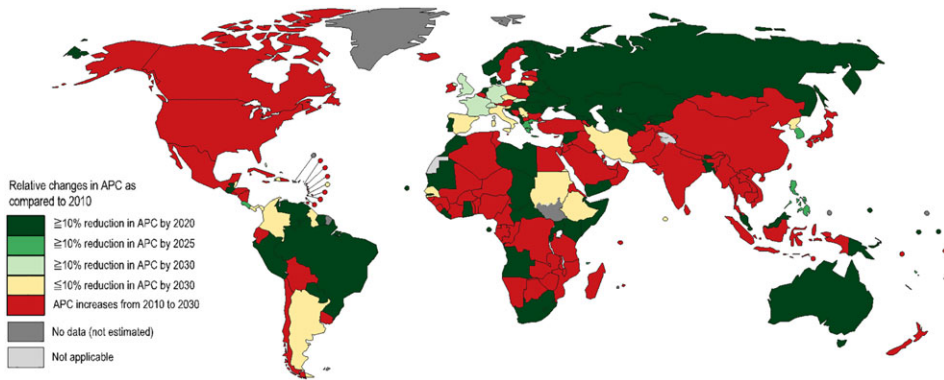


Figure 1. Estimated or predicted relative changes in the level of alcohol consumption in litres of pure alcohol per adult per year compared to 2010. APC = adult alcohol per capita consumption (in litres of pure alcohol); adult is defined as fifteen years of age and older.

independent countries in Eastern Europe and Central Asia, and the greatest proportional increase was seen in South Asia and South-East Asia.⁴²

The predictions for change by 2030 do not foresee decreases in consumption; in fact, globally higher levels of consumption are predicted for 2025 and 2030. Obviously, predictions from 2019 could not have taken COVID-19 into account, and availability restrictions resulting from the pandemic will likely cause a temporary reduction in the level of alcohol consumption.⁴³

The expected proportional changes in consumption by 2020, 2025 and 2030, by country, are shown in Figure 1.

Predicted changes in heavy episodic drinking, another indicator of harmful drinking that was proposed in the last round of UN consultations,⁴⁴ are summarised in Table 1. These changes, although with wide CIs based on the estimation method, also indicate no decreases.

3. Changes in alcohol-attributable harms since 2010

The international instruments discussed here are restricted to those that relate to health harms caused by alcohol, leaving out any other kinds of harm (eg social harms). In order to discuss such harms, different indicators have to be considered, as well as the economic wealth of countries, as alcohol consumption⁴⁵ and harm⁴⁶ have been shown to vary by economic wealth.

⁴² *ibid.*

⁴³ J Rehm et al, "Alcohol Use in Times of the COVID 19: Implications for Monitoring and Policy" (2020) 39 Drug and Alcohol Review 301–04.

⁴⁴ United Nations Statistics Division (UNSD), "Indicators and Targets in Global Indicator Framework Where IAEG-SDG Is Considering Proposals for the 2020 Comprehensive Review" (World Health Organization, 2019) <https://unstats.un.org/sdgs/files/ope-consultation-comp-rev/Targets%20and%20Indicators%20in%20Open%20Consultation%20of%202020%20Review_v2.pdf> (last accessed 3 September 2019); United Nations Statistics Division (UNSD), "Proposals for Consideration in the Open Consultation for the 2020 Comprehensive Review" (World Health Organization, 2019) <<https://unstats.un.org/sdgs/files/ope-consultation-comp-rev/Proposals%20in%20Open%20Consultation%20for%202020%20Review.pdf>> (last accessed 3 September 2019).

⁴⁵ Manthey et al, *supra*, note 19.

⁴⁶ Shield et al, *supra*, note 5.

Table 1. Global prevalence of heavy episodic drinking in selected years and proportional change between years.

Year	Heavy episodic drinking prevalence (95% confidence interval)	Proportional change compared to 2010 (95% confidence interval)	Proportional change compared to 2015 (95% confidence interval)
2010	19.5% (16.1% to 22.9%)	–	+3.1% (–21.7% to 28.8%)
2015	20.1% (16.6% to 23.5%)	+3.1% (–21.7% to 28.8%)	–
2017	20.3% (16.8% to 23.8%)	+4.3% (–20.6% to 29.9%)	+1.2% (–23.3% to 26.2%)
2025	21.8% (18.2% to 25.4%)	+12.0% (–13.6% to 37.2%)	+8.6% (–16.3% to 34.2%)
2030	23.1% (19.5% to 26.8%)	+18.8% (5.6% to 31.9%)	+15.2% (5.5% to 24.9%)

There are three main indicators of alcohol-attributable harms. The first indicator compares the numbers of health harms, usually alcohol-attributable deaths and burden of disease, with the latter usually measured in disability-adjusted life-years (DALYs) lost.⁴⁷ This indicator has increased slightly globally since 2010, both overall and for men. The second indicator, the alcohol-attributable fractions of mortality and DALYs lost, indicates the proportion of overall mortality and burden of disease caused by alcohol (defined against a counterfactual scenario of a world without alcohol use).⁴⁸ This indicator has been more or less stable since 2010. Finally, the third indicator measures alcohol-attributable age-adjusted rates of health harm indicators (ie the number of deaths or DALYs per 100,000 or 1,000,000 of the general population caused by alcohol). Alcohol-attributable age-adjusted rates decreased, despite slightly increasing alcohol consumption, both for alcohol-attributable mortality (point estimate: –12.0%; 95% CI: –28.9% to 8.6%) and for alcohol-attributable DALYs lost (point estimate: –8.8%; 95% CI: –24.6% to 10.5%).⁴⁹ All three types of indicators are impacted by changes in population distributions (ie the growth and ageing of populations) and by changes in mortality and disability, but to varying degrees (see below for details). In general, the larger the population size and the older the population on average, the higher the number of deaths and DALYs lost. In addition, over the past century, there has been an overall trend of increasing life expectancies and thus decreasing mortality rates,⁵⁰ although this trend has come to a halt in some countries such as the USA,⁵¹ it will likely also be interrupted by COVID-19 in many other countries.

⁴⁷ DALYs are the main summary indicator for burden of disease. This indicator is composed of years of life lost due to premature mortality and years of life lost due to disability; see CJL Murray, “Rethinking DALYs” in CJL Murray and A Lopez (eds), *The Global Burden of Disease: A Comprehensive Assessment of Mortality and Disability from Diseases, Injuries, and Risk Factors in 1990 and Projected to 2020* (Cambridge, MA, Harvard School of Public Health 1996); J Rehm et al, “Steps Towards Constructing a Global Comparative Risk Analysis for Alcohol Consumption: Determining Indicators and Empirical Weights for Patterns of Drinking, Deciding About Theoretical Minimum, and Dealing with Different Consequences” (2001) 7 *European Addiction Research* 138–47.

⁴⁸ *ibid.*

⁴⁹ Our calculations are based on Shield et al, *supra*, note 5.

⁵⁰ A Deaton, *The Great Escape – Health, Wealth and the Origins of Inequality* (Princeton, NJ, Princeton University Press 2013).

⁵¹ J Rehm and C Probst, “Decreases of Life Expectancy Despite Decreases in Non-Communicable Disease Mortality: The Role of Substance Use and Socioeconomic Status” (2018) 24 *European Addiction Research* 53–59.

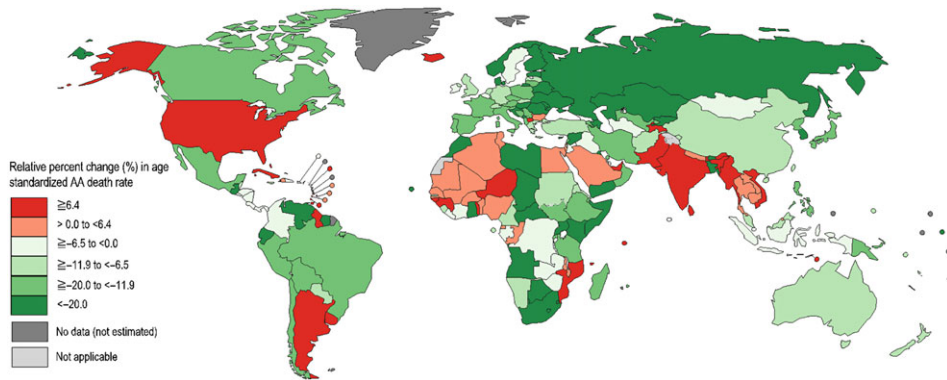


Figure 2. Relative changes in alcohol-attributable (AA) age-standardised mortality rates for 2010–2016 by country.

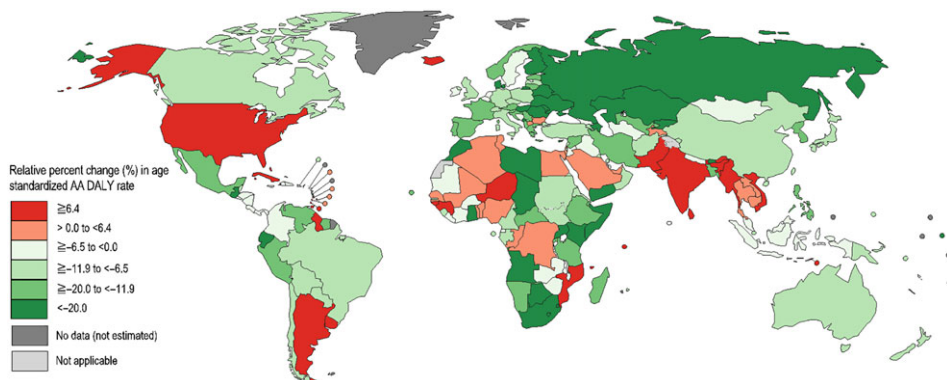


Figure 3. Predicted relative changes in alcohol-attributable (AA) age-standardised burden of disease rates for 2010–2016 by country. DALY = disability-adjusted life-year.

The country trends in alcohol-attributable burden can be seen in Figures 2 and 3.

Despite stable or slightly increasing levels of alcohol consumption, alcohol-attributable health burdens have decreased significantly since 2010 due to overall trends in these burdens. Both age-standardised mortality (−9.0%) and DALYs lost (−9.5%) decreased markedly between 2010 and 2016, most notably in low-income countries (see Table 2). Analyses done only on European countries have indicated that alcohol-attributable mortality between 2010 and 2016 was even more impacted by trends in mortality than by trends in alcohol use;⁵² however, this would not have been the case had all countries been included in the analyses.

Since 2010, age-adjusted mortality and the burden of disease have both decreased and life expectancies have increased. These trends follow a gradient of wealth and are most pronounced for low-income countries and least pronounced for high-income countries.

⁵² KD Shield et al, “Parts 1 and 2: Alcohol Consumption and Alcohol-Attributable Burden of Disease and Injury” in WHO Regional Office for Europe (ed.), *Status Report on Alcohol Consumption, Harm and Policy Responses in 30 European Countries 2019* (København, WHO Regional Office for Europe 2019).

Table 2. Trends for 2010–2016 for indicators impacting on the alcohol-attributable burden of mortality and disease.

Indicator	Low-income countries	Lower middle-income countries	Upper middle-income countries	High-income countries
Largest country in this grouping	Ethiopia	India	China	USA
Age-standardised mortality rate 2010 per 100,000	1373.5	1031.9	711.5	433.3
Δ% 2010–2016	–14.7	–8.5	–9.9	–5.9
Age-standardised burden of disease rate 2010 per 100,000	65,251.1	47,491.4	28,870.5	20,262.2
Δ% 2010–2016	–16.8	–9.6	–9.5	–3.1
Alcohol-attributable age-standardised mortality rate 2010 per 100,000	47.0	48.3	51.1	28.4
Δ% 2010–2016	–11.7	–5.8	–21.1	–7.1
Alcohol-attributable age-standardised burden of disease rate 2010 per 100,000	2165.3	1941.0	2112.1	1426.6
Δ% 2010–2016	–10.7	–2.1	–16.7	–5.8
Adult per capita alcohol consumption 2010	4.1	4.0	7.5	9.7
Δ% 2010–2016	–4.4	19.2	–5.5	0.7
Alcohol-attributable mortality fraction 2010	3.0	4.6	7.5	5.1
Δ% 2010–2016	10.4	7.6	–15.7	–5.1
Alcohol-attributable burden of disease fraction 2010	2.5	3.7	7.7	6.3
Δ% 2010–2016	14.5	14.2	–10.6	–5.0

Second, as indicated above, alcohol-attributable age-adjusted mortality and burden of disease rates have also decreased, at approximately the same rate globally. Notably, alcohol-attributable health harms decreased faster than overall health harms for upper middle-income and high-income countries, but more slowly than overall health harms in low-income and lower middle-income countries (Figure 4 and Table 2). As a result, the proportions of alcohol-attributable mortality and of burden of disease – which both remained stable globally – increased markedly for low-income and lower middle-income countries and decreased for upper middle-income and high-income countries (Table 2).

Finally, when all relevant variables were entered into regression equations to explain the changes in the alcohol-attributable mortality and DALYs lost rates, the following results emerged (see Rehm et al⁵³):

- Changes in adult per capita alcohol consumption had the most significant impact (ie the higher the adult per capita consumption, the higher the alcohol-attributable

⁵³ Rehm et al, supra, note 13.

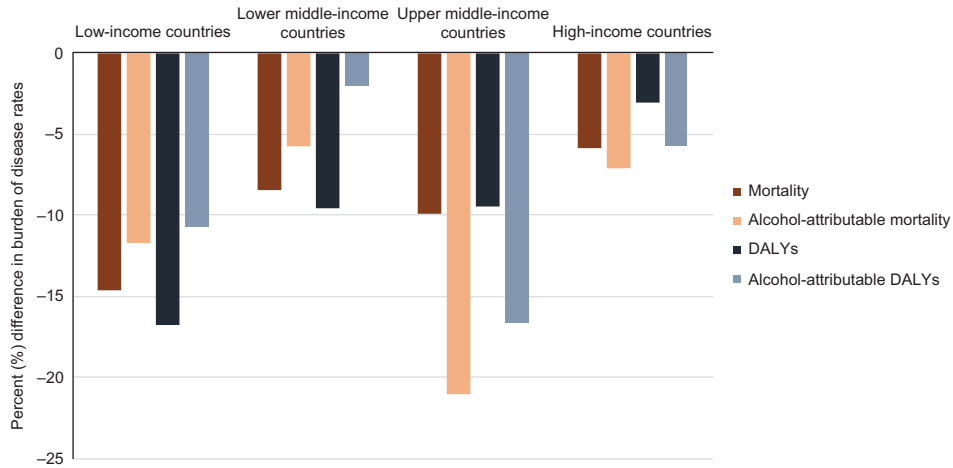


Figure 4. Changes in overall and alcohol-attributable age-adjusted mortality and burden of disease rates between 2010 and 2016. DALY = disability-adjusted life-year.

burden), but changes in the age-standardised death or DALYs lost rates were also notable.

- Neither changes in heavy episodic drinking nor changes in economic wealth as measured by the gross domestic product based on purchasing power parity had a significant impact in either regression model.

IV. DISCUSSION

While there were decreases between 2010 and 2016 in the age-adjusted alcohol-attributable mortality and burden of disease rates, these decreases primarily reflect overall progress in global health during this time; indeed, during this time, the impact of alcohol remained stable or increased in low- and middle-income countries. Predictions are for a worsening of the situation: levels of alcohol use are expected to increase globally despite a predicted decrease in consumption in high-income countries.

However, as indicated above, these predictions do not take into account changes in alcohol consumption caused by COVID-19 and triggered by the resulting reduced availability and lower affordability for some groups.⁵⁴ It is not yet clear if such changes will be permanent or temporary.⁵⁵ Other major public health crises have caused short-term reductions in alcohol use, but consumption and harm actually increased in the long run, especially for some populations.⁵⁶ However, any changes in alcohol consumption caused by COVID-19 and associated economic changes are clearly independent of the resolutions and statements discussed here.

⁵⁴ *ibid.*

⁵⁵ See also MG Monteiro, J Rehm and M Duennbier, “Alcohol Policy and Coronavirus: An Open Research Agenda” (2020) 81 *Journal of Studies on Alcohol and Drugs* 297–99.

⁵⁶ MCM. De Goeij et al. “How Economic Crisis Affect Alcohol Consumption and Alcohol-Related Health Problems: A Realist Systematic Review” (2015) 131 *Social Science and Medicine* 131–46.

The international attempts to control alcohol use and its attributable burden have not been successful overall, and reactions from UN agencies to the largely negative evaluations of international goals⁵⁷ have not, thus far, resulted in any changes in strategy. In the most recent example, which was discussed in more detail above, the Executive Board of the WHO, while asking for acceleration of the Global Alcohol Strategy, maintains its continuation despite no evidence of its success in reducing the harmful use of alcohol. Moreover, the Executive Board rejected requests from low-income and middle-income countries to even explore the feasibility of more powerful and normatively persuasive instruments, such as a treaty or convention.⁵⁸ This will mean that changes in policy will be left up to countries and civil societies in a globalised world, where such changes face more and more international barriers.⁵⁹ The burden of alcohol use is borne primarily in low-income and middle-income countries, and the UN system appears unwilling or unable to effect real change, in part because of the influence of high-income countries, where most of the alcohol producers are situated.

V. CONCLUSIONS

If the current trends in international policymaking and the resulting increases in alcohol consumption continue, more than 3 million deaths will be caused by alcohol use each year. The only way to change this situation seems to be the implementation of normatively more persuasive instruments, such as a treaty or a framework convention.⁶⁰ The example of tobacco has shown us that such instruments require more pressure from national governments and from international non-governmental organisations to counter the pressures exerted from the alcohol industry. Unfortunately, there seems to be a lack of such non-governmental organisations that are willing to participate in the field of alcohol policy.⁶¹

⁵⁷ Manthey et al, *supra*, note 19; JE Bennett et al, “NCD Countdown 2030: Worldwide Trends in Non-Communicable Disease Mortality and Progress Towards Sustainable Development Goal Target 3.4” (2018) 392 *The Lancet* 1072–88.

⁵⁸ For the decision of the WHO Executive Board, see World Health Organization, *supra*, note 25; for an interpretation: Casswell and Rehm, *supra*, note 27.

⁵⁹ J Kelsey, “How Might Digital Trade Agreements Constrain Regulatory Autonomy: The Case of Regulating Alcohol Marketing in the Digital Age” (2020) 29 *New Zealand Universities Law Review* 153–79; P O’Brien et al, “Marginalising Health Information: Implications of the Trans-Pacific Partnership Agreement for Alcohol Labelling” (2017) 41 *Melbourne University Law Review* 341.

⁶⁰ R Room and J Cisneros Örnberg, “A Framework Convention on Alcohol Control: Getting Concrete about Its Contents” (2020, in press) *European Journal of Risk Regulation*.

⁶¹ P Hepworth, S Ward and L Schölin, “Alcohol Labelling in the Global Food System: Implications of Recent Work in the Codex Committee on Food Labelling” (2020, in press) *European Journal of Risk Regulation*.