



## Research Paper

## Alcohol policy changes during the first three-months of the COVID-19 pandemic: Development and application of a classification scheme

Sebastián Peña<sup>a,b,1,\*</sup>, Claire Wilkinson<sup>c,1</sup>, Giovanni Aresi<sup>d</sup>, Liz Barrett<sup>c</sup>, Sadie Boniface<sup>e,f</sup>, Niamh Fitzgerald<sup>g,h</sup>, Pablo Norambuena<sup>i,j</sup>, Catherine Paradis<sup>k</sup>, Francisca Román<sup>i,1</sup>, Paula Sierralta<sup>m,2</sup>

<sup>a</sup> Finnish Institute for Health and Welfare, Helsinki, Finland

<sup>b</sup> Facultad de Medicina, Universidad Diego Portales, Santiago, Chile

<sup>c</sup> University of New South Wales, Sydney, Australia

<sup>d</sup> CERISVICO Research Centre on Community Development and Organisational Quality of Life, Università Cattolica del Sacro Cuore, Milan, Italy

<sup>e</sup> Institute of Alcohol Studies, London, United Kingdom

<sup>f</sup> Institute of Psychiatry, Psychology & Neuroscience, King's College London, United Kingdom

<sup>g</sup> Institute for Social Marketing & Health, University of Stirling, United Kingdom

<sup>h</sup> SPECTRUM Consortium, United Kingdom

<sup>i</sup> Millennium Nucleus for the Evaluation and Analysis of Drug Policies (nDP), Chile

<sup>j</sup> Escuela de Salud Pública, Universidad de Chile, Santiago, Chile

<sup>k</sup> Canadian Centre on Substance Use and Addiction, Ottawa, Canada

<sup>l</sup> Universidad de La Frontera, Temuco, Chile

<sup>m</sup> Independent researcher, Santiago, Chile

## ARTICLE INFO

## Keywords:

Alcohol policy  
COVID-19  
Classification  
Policy monitoring  
Legal epidemiology

## ABSTRACT

**Background:** Policy changes in response to the COVID-19 pandemic have impacted on alcohol control. This study describes the development and application of a classification scheme to map alcohol policy changes during the first three-months of the COVID-19 pandemic in five countries and/or subnational jurisdictions.

**Method:** A pre-registered systematic review of policy decisions from March to May 2020, in Australia/New South Wales, Canada/Ontario, Chile, Italy and the United Kingdom. One author extracted the data for each jurisdiction using a country-specific search strategy of government documents. We coded policy changes using an adapted WHO classification scheme, whether the policy was expected to tighten or loosen alcohol control, have mainly immediate or delayed impact on consumption and harm and impact the general population versus specific populations. We present descriptive statistics of policy change.

**Results:** We developed a classification scheme with four levels. Existing policy options were insufficient to capture policy changes in alcohol availability, thus we added seventeen new sub-categories. We found 114 alcohol control policies introduced across the five jurisdictions, covering five (out of ten) WHO action areas. The majority aimed to change alcohol availability, by regulating the operation of alcohol outlets. All countries introduced closures to on-premise alcohol outlets and, except Chile, allowed off-sales via take away or home delivery. We also observed several pricing policies introducing subsidies to support the alcohol industry. Seventy-four percent of policy changes were expected to tighten alcohol control and 12.3 % to weaken control. Weakening policy changes were mostly related to retail mode switching or expansion (allowing take away or home delivery). **Conclusion:** Alcohol control policies during the first three months of the COVID-19 pandemic were targeted primarily at alcohol availability and about one tenth might weaken alcohol control. Temporary changes to

**Alcohol Industry Conflict of Interest:** Sebastián Peña, Claire Wilkinson, Catherine Paradis, Liz Barrett, Francisca Román, Sadie Boniface, Pablo Norambuena, Niamh Fitzgerald: declare no conflicts of interest. Giovanni Aresi has been the principal investigator of a research project funded by the European Foundation for Alcohol Research between 2015 and 2017.

\* Corresponding author at: Finnish Institute for Health and Welfare, Mannerheimintie 166, Helsinki, Finland.

E-mail address: [sebastian.penafajuri@thl.fi](mailto:sebastian.penafajuri@thl.fi) (S. Peña).

<sup>1</sup> Equal contributors.

<sup>2</sup> Other authors listed alphabetically.

<https://doi.org/10.1016/j.drugpo.2024.104373>

Available online 26 March 2024

0955-3959/© 2024 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

alcohol retail during the COVID-19 pandemic, if made permanent, could significantly expand alcohol availability.

## Introduction

The Coronavirus Disease 2019 (COVID-19) pandemic has had a tremendous global impact on population health and wellbeing. By August 30 2023, there have been more than 770 million cases reported worldwide and over 6.9 million deaths attributable to COVID-19 (World Health Organization, 2023). Policy responses against COVID-19 have varied greatly, ranging from large scale restrictions on the movement of individuals (also called “lockdown”), to night-time curfews to massive testing to identify, isolate and track patients infected with SARS-CoV2 (Hale et al., 2021).

COVID-19 policy responses often impacted on alcohol control. For example, certain types of alcohol outlets were closed during curfews and lockdown and curfew policies meant people could not frequent on-premises outlets (Aresi et al., 2022; Jacob et al., 2021; Rehm et al., 2020). In other cases, policies aimed to directly change alcohol control as a means of minimising the negative effects of alcohol use on health and wellbeing (Canadian Centre on Substance Use & Addiction, 2020; Jaguga & Kiburi, 2020). Such direct alcohol policy responses often targeted alcohol’s physical availability, tending to make alcohol less available, such as banning alcohol sales (i.e. South Africa, India, Thailand)(Ghosh et al., 2020; Matzopoulos et al., 2020; Singh et al., 2021; Thanthong-Knight, 2020), outlet closures, and purchasing limits (National Institute on Alcohol Abuse & Alcoholism, 2020). Other alcohol policies have included increases in alcohol taxes in parts of India (Miglani & Verma, 2020). Conversely, there have also been policies which sought to liberalise availability, such as declaring liquor stores essential businesses, permitting premises to sell take-away alcohol, in part to make up for reduced availability resulting from containment measures, and relief packages for the alcohol industry (Andreasson et al., 2021; Braillon, 2020; Reynolds & Wilkinson, 2020). We therefore saw an international natural experiment of great significance that could contribute evidence to our understanding of the causal association between alcohol policy, alcohol use and related harms.

Global alcohol policy surveillance and monitoring efforts have recorded the ways alcohol policy has changed over time. For example, the WHO Global Survey on Alcohol and Health, which monitors implementation of the WHO global strategy to reduce the harmful use of alcohol, collects data on alcohol control policies (based on the WHO Global Strategy) using a survey administered to member states every-three years. Many instruments have attempted to capture the degree to which countries have implemented stronger alcohol control policies. A common feature of such instruments is they create a composite score for national alcohol control (usually a 0–100 index). Composite scores have well-known limitations, including masking divergent trends (which might cancel each other numerically). For these alcohol specific scores, given a large degree of simplification and amalgamation is required, they tend to measure the presence/absence of policy, making them insensitive to incremental changes (Brand et al., 2007; Naimi et al., 2014; Pan American Health Organization, 2018; Trangenstein et al., 2021). These indexes are also not designed or well-equipped to capture policy change - such as quantifying the magnitude, direction or expected impact of alcohol policies.

Several international organisations and groups have developed databases on COVID-19 policy responses, such as the Oxford COVID-19 Government Response Tracker, the COVID-19 Health Systems Response Monitor, the Fiscal Policy Database and the COVID-19 Poli-Map. Such data can be brought to bear on the question of how COVID-19 impacted alcohol use. For example, Stockwell et al. (2022) using data from Canada’s Public Health Agency COVID-19 Stringency Index, an adaptation of the Oxford COVID-19 Government Response Tracker,

examined the impact of COVID-19 public health measures on alcohol sales across three Canadian provinces. They found alcohol sales increased by seven per cent during the pandemic (Stockwell et al., 2022). Such analysis is valuable in identifying how the extent and strictness of all public health measures impacted alcohol sales, suggesting, for example, that the observed increase in alcohol sales was consistent with the expansion of alcohol home delivery and off-premise trading hours. However, causal attribution to alcohol policy remains limited; the COVID-19 Stringency Index is based on a wide array of restrictions and social distancing requirements without a specific focus on alcohol policies. National records of alcohol policy changes made during COVID-19 do exist (e.g., in the United States (National Institute on Alcohol Abuse & Alcoholism, 2020), Canada (Canadian Centre on Substance Use & Addiction, 2021) and Australia (Miller, Mojica-Perez, Callinan & Livingston, 2021)), however, such data doesn’t easily lend itself to comparative analysis due to differences in the ways laws and policies are collected and categorised. A global database specifically on the key characteristics and degree of alcohol policy changes in response to COVID-19 would offer data to be brought to bear on the question of how alcohol policy changes impacted alcohol use and related harms (either used on its own or in combination with general COVID-19 policy surveillance measures).

The aims of this study, therefore, are to (i) describe the development process of a classification scheme of global alcohol policies and (ii) apply the classification scheme to examine alcohol policy changes in response to COVID-19 in five countries and/or subnational jurisdictions (Australia/New South Wales, Canada/Ontario, Chile, Italy and the United Kingdom) from March to May 2020. The results provide comparative insights about the type and extent of alcohol policy changes in just three months in response to COVID-19 - but by virtue of the systematic review methodology, they also increase the accuracy and replicability of our findings.

## Methods

### Study design

The study is a comparative alcohol policy analysis. We report the study in accordance with the Preferred Reporting Items of Systematic Reviews and Meta-Analyses (PRISMA) statement (Moheret al., 2009). The study included: Australia (restricted to national policies and New South Wales), Canada (restricted to Ontario), Chile (national and municipal levels), Italy (national and regional levels) and the United Kingdom (England, Scotland, Wales and Northern Ireland). These countries and subnational jurisdictions were selected by convenience after an open invitation for collaboration shared in several professional and research networks, including the Kettil Bruun Society, Global Alcohol Policy Alliance and the alcohol section of the Healthy America’s Coalition, as well as the first authors’ social media accounts. These professional networks comprise researchers and policy experts from all over the world. We pre-registered the study in the OSF framework (identifier osf.io/f3ecj).

### Search strategy and selection criteria

We used a double-entry system to obtain official policy documents. First, we obtained information on government policy responses from: (1) official government policy records including laws, decrees, official statements, administrative acts and clinical guidelines; and (2) websites of government institutions. We used a structured search of policy databases whenever possible for each country (see Supplementary

Appendix for details). The latter often summarised the official government policy position. We also carried out targeted searches in search engines, news outlets and Wikipedia to identify important policy events in each country and subnational unit. We developed a protocol for each country to improve the replicability of our search strategy. Policy documents from Chile and Italy were screened by native speakers.

Policies were eligible for inclusion if (i) policy decisions were enacted by national or selected subnational levels by any governmental agency, ministry or department in selected countries. This includes State executive and legislative powers. The intervention was eligible if it was considered to have an impact on alcohol use/harm; (ii) the policy decision was taken in the country and/or subnational jurisdiction of interest; and, (iii) the policy decision was enacted and enforced after the first case of COVID-19 reported in Wuhan, China, on December 31, 2019 and during the first three months of the COVID-19 pandemic (i.e. March 1 to May 31, 2020). After study registration we added a fourth eligibility criteria to exclude alcohol-related policies enacted during the study period but not related to the COVID-19 pandemic (i.e. we had found nine such alcohol policies in Chile, enacted coincidentally during the three-month study window but unrelated to COVID-19, see Table S1). There were no language restrictions. Where not in English, policies were screened by participating authors who are native speakers: SP, PN, FR and PS from Spanish (Chile) and GA from Italian (Italy). Policy eligibility was independently assessed by a single author. Any questions were resolved through discussion with the two lead authors (SP and CW).

We excluded policy decisions by non-State actors, such as professional and scientific associations, civil society, citizens, alcohol industry and other private companies, as well as policy responses from hospitals and universities. We also excluded general information campaigns and recommendations. We did not identify the degree to which the policy decisions are effective or of proven efficacy nor their implementation. All decisions are included. Some have a well-known impact on alcohol consumption and harm (such as trading hours), some have no, or limited empirical evidence about their impact (such as capacity restrictions and online alcohol delivery), and some, we believe, are new types of interventions developed in response to the specifics of COVID-19 (such as the requirement for alcohol sales to be combined with food).

#### Data extraction

One author extracted the data from Australia (LB), Canada (CP), Chile (PS), Italy (GA) and the United Kingdom (SB). Questions about coding policy changes were checked with the first authors.

We extracted data on the national or subnational unit of the policy decision, relevant dates (announcement, enforcement and end date), direction of change compared to pre-pandemic baseline, timing of effect, target population, type of policy instrument, and source of information. Direction of change was classified depending on the potential effect as tightening, neutral or weakening alcohol control (Rehm et al., 2021). The timing of the effect was categorised into immediate or delayed (Rehm et al., 2021). The target population was classified into the general population, underage drinkers, young adults, people with alcohol use disorders or other population groups (Rehm et al., 2021). We classified the policies according to the NATO classification of resources governments have at their disposal to enact change (Howlett, 2000): nodality (information or advice), authority, treasury and organisation. We describe in more detail the development of the classification scheme in the Results section.

#### Data synthesis

We narratively synthesise the findings, describing policy changes, for example, across the ten recommended action areas in the Global Strategy (World Health Organization, 2010).

#### Ethical approval

The study collected data from policy documents from national and subnational policies. No ethical approval was required for a study of this nature.

#### Results

##### Development of the classification scheme

Our initial starting point for categorising alcohol policy changes was the WHO Global Alcohol Strategy to Reduce the Harmful Use of Alcohol. The Global Strategy comprises ten evidence-based areas for alcohol policy action. We started by creating ten policy categories (level 1) consistent with the ten actions areas of the Global Strategy. The policy options and interventions proposed by the WHO for each action area became our level 2 policy category. Different ideas or enumerations in level 2 were broken down into level 3 sub-categories. For all policies, we adapted the Global Strategy language by simplifying the options and using neutral language, without adjectives, given real-world policies can both strengthen and weaken alcohol control. For example, the original text 'reducing or stopping subsidies to economic operators in the area of alcohol' was converted to 'subsidies to economic operators in the area of alcohol'.

Following an initial round of data collection, we made further changes to the alcohol availability area as the authors noticed that some policy changes did not properly apply to level 2 or 3. We therefore expanded this particular level 1 action area, based on a discussion and reflections with the authorship group, and created level 4. As displayed in Fig. 1, we expanded the level 2 category, 'Regulations on the operations of alcohol outlets', to encompass seventeen new categories across levels 3 and 4. The full classification scheme can be found in the Supplementary Appendix.

##### Policy change frequency and distribution according to the WHO global strategy action areas

Between March and May 2020, 114 changes to alcohol control policies were observed across the five countries/jurisdictions. All policy changes are available as a Supplementary Appendix. Table 1 presents their distribution according to the ten WHO Global Strategy action areas. The policies sit within five action areas (in order of prevalence): alcohol availability (area 5), pricing policies (area 7), reducing the negative consequences of drinking and intoxication (area 8), and equally prevalent, policies within health services' response (area 2) and drink-driving policies and countermeasures (area 4). No changes to alcohol control policies were observed in five action areas: leadership, awareness and commitment (area 1), community action (area 3) marketing of alcoholic beverages (area 6), reducing the public health impact of illicit or informally produced alcohol (area 9) or monitoring and surveillance (area 10). Action area 5. Alcohol availability represents 91.2 % of policy changes ( $n = 104$ ). This was followed, although by a long way, by pricing policies ( $n = 6$ , 5.3 %).

##### Alcohol availability (area 5)

All policy changes about alcohol availability reflected changes to the operation of alcohol outlets. Table 2 summarises these changes. In all five countries/jurisdictions on-premise alcohol outlets were closed (off-premises outlets were considered "essential" businesses), capacity restrictions were introduced, and the mode of on-premise retail sale was modified to allow off-sales for limited periods. Capacity restrictions were introduced in all five countries/jurisdictions: density limits or venue caps were set for off-premise outlets, or for on-premise if these had reopened during the observation period. In the UK, pavement licences were used to permit greater social distancing for on-premise

WHO Action Area 5. Availability of alcohol	Alcohol PoliMap classification scheme					
	Level 1	Level 2	Level 3	Level 4		
<p>(a) establishing, operating and enforcing an appropriate system to regulate production, wholesaling and serving of alcoholic beverages that places reasonable limitations on the distribution of alcohol and the operation of alcohol outlets in accordance with cultural norms, by the following possible measures:</p> <p>(i) introducing, where appropriate, a licensing system on retail sales, or public health oriented government monopolies;</p> <p>(ii) regulating the number and location of on-premise and off-premise alcohol outlets;</p> <p>(iii) regulating days and hours of retail sales; (iv) regulating modes of retail sales of alcohol;</p> <p>(v) regulating retail sales in certain places or during special events;</p> <p>(b) establishing an appropriate minimum age for purchase or consumption of alcoholic beverages and other policies in order to raise barriers against sales to, and consumption of alcoholic beverages by, adolescents;</p> <p>(c) adopting policies to prevent sales to intoxicated persons and those below the legal age and considering the introduction of mechanisms for placing liability on sellers and servers in accordance with national legislations;</p> <p>(d) setting policies regarding drinking in public places or at official public agencies' activities and functions;</p> <p>(e) adopting policies to reduce and eliminate availability of illicit production, sale and distribution of alcoholic beverages as well as to regulate or control informal alcohol.</p>	Alcohol availability	System to regulate alcohol production				
		System to regulate alcohol wholesaling				
		System to regulate sales to consumers	Licensing system on retail sales			
			Government monopolies			
			Closure of alcohol outlets <sup>†</sup>			
			Ban of alcohol sales on-premise <sup>†</sup>			
			Ban of alcohol sales off-premise <sup>†</sup>			
			Number/location of alcohol outlets (on and off)			
		Regulations on the operation of alcohol outlets	Opening hours <sup>†</sup>			
			Days and hours of retail sales		Days for alcohol sales <sup>†</sup>	
			Amount of alcohol purchased <sup>†</sup>		On-premise outlets <sup>†</sup>	
					Off-premise outlets <sup>†</sup>	
			Modes of retail sales of alcohol		Permitting online alcohol sales <sup>†</sup>	
					Mode switching or expansion (physical stores) <sup>†</sup>	
					Special events <sup>†</sup>	
			Retail sales in certain places or during special events		To those living in geographical proximity of the store <sup>†</sup>	
					Other places <sup>†</sup>	
					On-premise venues (either indoor/outdoor) <sup>†</sup>	
			Capacity regulations <sup>†</sup>		Private homes <sup>†</sup>	
					Special events (funerals, weddings etc.) <sup>†</sup>	
			Minimum purchasing age	Defining a minimum age		
			Sales to intoxicated persons and enforcement mechanisms	Mechanisms for placing liability on sellers and servers		
				Sales regulations to intoxicated persons		
			Drinking in public places or at official public agencies activities and functions	Drinking in public places		
		Drinking in official public agencies activities and functions				
	Unrecorded alcohol consumption	Illicit production				
		Informal sales and distribution				

**Fig. 1.** Example of the development of the alcohol availability category\*.

\*Highlights indicate where the WHO Global Strategy Action Areas are transformed into classification scheme levels.

<sup>†</sup>Denotes new categories in level 3 and 4.

**Table 1**  
Policy changes according to the ten WHO Global Strategy Action Areas.

Action area	# Policies
1. Leadership, awareness and commitment	0
2. Health services' response	1
3. Community and workplace action	0
4. Drink-driving policies and countermeasures	1
5. Availability of alcohol	104
6. Marketing of alcoholic beverages	0
7. Pricing policies	6
8. Reducing the negative consequences of drinking and alcohol intoxication	2
9. Reducing the public health impact of illicit alcohol and informally produced alcohol	0
10. Monitoring and surveillance	0
<b>Total</b>	<b>114</b>

outlets. On-premise retail regulations were modified in all places but Chile to temporarily allow off-sales via takeaway and/or home delivery.

In three of five countries/jurisdictions (Chile, Ontario and Italy) regulations reducing the days or hours of sale were introduced in order to enact social distancing at licensed venues. Government retailers (monopoly off-premise outlets) in Ontario were closed on Mondays ('for the health and well-being of employees and customers') and their store hours were reduced to 11am-6pm (these were subsequently extended under a temporary order). Municipalities in Chile reduced trading hours (some places specific to alcohol premises and other places all retail, including alcohol). In Italy, the Lombardy region government introduced restrictions on public venues (restaurants, cafés, bars and clubs) opening hours from 24 h to 6am to 6pm.

#### Pricing policies (area 7)

Most policy changes introduced subsidies to alcohol economic operators. Such policies were observed in New South Wales and the UK. In New South Wales, the Government introduced a 12-month waiver on

**Table 2**

Narrative synthesis of regulatory changes to the operation of alcohol outlets in five jurisdictions during the first three-months of the COVID-19 pandemic.

	Australia (and NSW)	Canada (Ontario)	Chile (national and municipal)	Italy (national and regional)	United Kingdom (all UK countries)
<i>Regulation on the operation of alcohol outlets</i>					
Closure of alcohol outlets	Closure of all on-premise outlets across Australia (March 23 2000,. Restaurants and cafés allowed take away or home delivery of alcohol.	Bars and restaurants close for in-person dining. Only permitted to provide takeout or delivery	Closure of all on-premise outlets in municipalities under lockdown. Take away allowed in restaurants and cafés (does not include alcoholic beverages). Curfew from 22:00 to 05:00 started on March 22. Locally, Municipality of Recoleta issued the closure of certain types of alcohol outlets (i.e. bars, pubs, and clubs)	Closure of all on-premise outlets across Italy, except take away of food and drinks, including alcohol (March 12 - May 18 2020, national lockdown).	Closure of all on-premise outlets across UK, except take away of food. Off-licences designated essential businesses and permitted to remain open throughout national lockdown.
Ban of alcohol sales on-premise				Special events forbidden on March 9, 2020.	
Modes of retail sales	Restaurants and cafés allowed take away or home delivery of alcohol.	Eligible licensees able to offer the sale of liquor with food for takeout and delivery orders.		Restaurants and cafés allowed take away or home delivery of alcohol (March 12, 2020).	Alcohol licensing changes allowing operators of eligible on-sale licences to serve alcohol for consumption off the premises without needing to apply for a variation in licence type
Days and hours of retail sales		Ontario Government reduced opening hours of alcohol outlets to 11am-6pm (March 19, 2020). On March 20, 2020, this was extended to 7am-11pm. On March 30, 2020, alcohol outlets were mandated to close on Mondays.	Twelve <sup>†</sup> (out of 345) municipalities restricted opening hours tighter than those required by the Alcohol Act.	Lombardy Regional Government introduced restrictions to opening hours (Feb 23, 2020)	
Capacity restrictions	National and NSW advice against public gatherings of more than 500 people (March 16, 2020). Licenced venues specifically restricted to density of 1 person/4 sqm2 in indoor gatherings under 100 people (March 18, 2020). Capacity restrictions relaxed on May 15, 2020, with licensed venues allowed to seat 10 people, further expanded to 50 people on June 1, 2020.	Stores that sell liquor, including beer, wine and spirits may open for in-person shopping: at a maximum capacity of 25 % between 7:00 a.m. and 8:00 p.m.	Capacity restrictions for public gatherings to maximum 200 people, further strengthened to 50 people on March 22.	Capacity restrictions to one meter distancing started in Veneto, Lombardy and Emilia-Romagna (March 1, 2020), further expanded nationally (March 9, 2020).	Introduction of 'pavement licences' to facilitate outdoor hospitality for licensees such as cafes, restaurants and bars. The licence permits the business to use furniture placed on the pavement to sell or serve food or drink and/or allow it to be used by people for consumption of food or drink supplied from, or in connection with the use of the premises.

\*Subcategories here are those where policy change was observed. No policy change observed in the other Level 3 categories.

<sup>†</sup>San Javier, Independencia, Punta Arenas, Hijuelas, Arica, Calama, Calera, Calbuco, Pedro Aguirre Cerda, Peñalolén, Quinta Normal, and Valparaíso.

licensing fees and in the UK, hospitality businesses received reductions on their business rates. We did observe one change to minimum pricing: in Ontario, the Government reduced the minimum price of spirits sold by on-premise licensed establishments with food delivery and takeout by 33 percent: a measure aimed at making spirits less cost prohibitive, and therefore helping the on-premise trade while they were closed for in-house service<sup>3</sup> ([Alcohol & Gambling Commission of Ontario, 2020](#)).

#### *Reducing the negative consequences of drinking and alcohol intoxication (area 8)*

In Ontario, in order to increase the availability of alcohol delivery drivers, the Government temporarily offered free registration to the responsible service of alcohol certification program. In Chile, the Minister of Labor and Social Welfare, required companies to amend their workplace health and safety provisions to include the prohibition of working under the influence of alcohol when working from home.

#### *Health services' response (area 2)*

In Chile, the Ministry of Health provided guidance on mental health and psychosocial support during the COVID-19 pandemic, including recommendations for the support of people with alcohol use disorders and alcohol use guidelines for older adults.

#### *Drink-driving policies and countermeasures (area 4)*

In New South Wales, stationary random breath testing was temporarily suspended<sup>4</sup> a measure aimed at protecting New South Wales Police from the virus, and enabling Police resources to be redeployed as new needs arose.

#### *Tighten or weaken control*

Of the 114 policies affecting alcohol control, 73.7 % ( $n = 84$ ) were expected to tighten alcohol control and 12.3 % ( $n = 14$ ) to weaken it ([Table 3](#)). In Italy and Chile, all and almost all policies were expected to tighten alcohol control, whereas in New South Wales and Ontario, policies predominantly sought to tighten alcohol control, but still an important number were anticipated to weaken alcohol control. In the UK, policies were predominantly neutral, followed by policies expected to tighten alcohol control.

#### *Timing of effect*

A vast majority of the policies (93.9 %) had an expected immediate effect on alcohol use and harm. In Ontario, Italy and the UK, all policies were expected to have immediate effects, while in New South Wales and Chile, there were also policies with expected delayed effects.

#### *Target population*

While in most jurisdictions policies were aimed at the general population (98.3 %), in Chile we also found a policy aimed at workers (workplace health and safety regulations) and in Australia the policy

was aimed for small businesses.

#### *Type of instrument*

Most policy changes (92.1 %) were enacted by governments 'authority' resource (i.e. statutory power).

### **Discussion**

#### *Summary of findings*

This study aimed to measure changes to alcohol control during COVID-19. Starting with the ten target action areas of the WHO Global Alcohol Strategy, we developed a four-level alcohol policy classification scheme measuring alcohol control policy changes during the first three-months of the COVID-19 pandemic in five countries and/or subnational jurisdictions. We found a surprisingly large number of alcohol policy decisions, over 100, considering the short time span examined. The alcohol policies primarily sought to change alcohol availability, although we found policies for five, out of ten, WHO Global Strategy action areas. We found that, while tightening alcohol control was the predominant expected effect, more than ten percent of policy changes could weaken alcohol control. A majority of the policy changes used the government's statutory power ('authority' policy instrument) and impacted the general population.

#### *Comparison with previous studies*

We used an existing monitoring framework of evidence-based policy interventions, but we expanded this to measure what has occurred - thus we captured policy change and innovation that is missed in the WHO Global Strategy. Furthermore, our classification scheme allows policy-makers and researchers to capture real-world change where evidence might not yet exist, or may be limited, as well as negative developments such as the increased availability of alcohol through expansion of restaurant/cafe licences to provide home/online delivery. This approach differs with the normative approach of the WHO Global Strategy, which also might not be sensitive/specific enough to capture the level of detail needed to understand policy decisions and their potential effects.

Comparison with previous studies is limited as comparative descriptions of policies are scarce. We found that most policies aimed to influence alcohol availability. This is consistent with WHO research in Africa and South-East Asia ([World Health Organization, 2022a, 2022b](#)). However, we did not find total bans on alcohol sales as introduced in South Africa, Thailand and India ([Andreasson et al., 2021; Neufeldt et al., 2020](#)). In Chile, the curfew starting in March 2020, had, in practice, a similar effect, although for a more restricted period of time. Similar partial bans on alcohol sales were reported in Estonia and Finland ([Finnish Government, 2021; Nordic Alcohol & Drug Policy Network, 2021](#)).

Noteworthy, lockdowns (i.e. in Chile, Italy and the United Kingdom) established different regulations on alcohol availability, depending on whether alcohol was allowed to be sold as takeaway from on-premise outlets or to be sold at all in off-premise outlets. Such variations might depend on whether alcohol is considered an essential product ([Lange et al., 2020](#)) but also on political and economic factors. We also observed a variety of responses regarding capacity restrictions, bans of alcohol sales on specific days or alcohol sales in on-premise alcohol outlets. This is in line with the variability observed in alcohol availability responses in the United States and some settings in Northern Europe ([National Institute on Alcohol Abuse & Alcoholism, 2020; Nordic Alcohol & Drug Policy Network, 2021](#)).

We observed an expansion of alcohol home delivery services. A systematic review found that regulations restricting online alcohol sales and home delivery were temporarily or permanently liberalised in 53

<sup>3</sup> As on-premise licensed premises were only permitted to sell alcohol in sealed, unopened containers, spirits were deemed to be relatively cost prohibitive for consumers to purchase for takeaway.

<sup>4</sup> Stationary random breath testing are fixed operations designed to target a number of drivers in a given period, while mobile random breath testing can take place anywhere, anytime. Every police car is a mobile random breath testing unit, and police have the power to stop drivers at random to test for alcohol or to ask a driver to take a sobriety test. Mobile random breath tests were not suspended.

**Table 3**

Summary of policy changes in five national or subnational jurisdictions.

Country or jurisdiction	n	Direction of effect			Timing of change		Target population		Type of policy instrument			
		Weakening	Neutral	Tightening	Delayed	Immediate	General population	Other groups	Authority	Nodality	Organisation	Treasury
NSW, Australia	11	5	1	5	4	7	10	1	8	1	1	1
Ontario, Canada	13	6	1	6	0	13	13	0	13	0	0	0
Chile	67	0	8	59	3	64	66	1	66	1	0	0
Italy	9	0	0	9	0	9	9	0	9	0	0	0
United Kingdom	14	3	6	5	0	14	14	0	9	1	0	4
Total	114	14	16	84	7	107	112	2	105	3	1	5

out of 77 jurisdictions examined (69 %) since the onset of the COVID-19 pandemic (Colbert et al., 2021). Qualitative research with licensing stakeholders and ambulance clinicians in England and Scotland noted their concern with an observed shift from on- to off-premise trade, arguably driven by increases in alcohol home delivery (Fitzgerald et al., 2022). The rapid growth of remote selling presents an emerging challenge for jurisdictions internationally, as it represents a de facto expansion of the number of alcohol outlets, it is more difficult to regulate and can facilitate alcohol imports. It is important to ensure that regulations regarding minimum age, selling to intoxicated persons and days and hours of sales are safeguarded in this regard. The WHO Global Alcohol Strategy, approved in 2010, is outdated in this sense, as it does not mention online or home deliveries. Global policy monitoring efforts, such as the Global Survey on Alcohol and Health, would do well to include measurements on remote delivery and to appraise whether restrictions on age, days, hours and selling to the intoxicated were guaranteed.

Besides policies on alcohol availability, we found policies in five of ten WHO alcohol action areas. We observed pricing policies introducing relief packages to alcohol outlets (UK) and reducing licensing fees (Australia). Similar incentives to alcohol economic operators have been described in France, where the Prime Minister announced a support package of €250 million euros to the wine industry (Brailion, 2020). There were five WHO target action areas, for which policies in our sample of five jurisdictions, were not employed (leadership, awareness and commitment (area 1), community action (area 3), marketing of alcoholic beverages (area 6), reducing the public health impact of illicit or informally produced alcohol (area 9) and monitoring and surveillance (area 10). Reasons these areas of action were not observed are mostly expected. For example, given our inclusion criteria of policy enacted by the government, it is unsurprising that alcohol policies and interventions enacted by communities were not observed. Likewise, as in our sample of jurisdictions an informal alcohol market is minimal, it is not surprising that no policies in this action area were observed.

We found a combination of national and subnational policies operating at the same time. This interplay between administrative levels has also been highlighted in COVID-19 policy responses in Brazil (Szylovec et al., 2021) and India (Salvatore et al., 2020). In Brazil, several states adopted stricter social distancing policies after a sharp increase in COVID-19 cases and clear inaction from national authorities (Szylovec et al., 2021). In our case, we found that subnational jurisdictions can also introduce policies that weaken alcohol control, such as the suspension of random breath testing in New South Wales and the reduction in the minimum price of spirits sold in Ontario.

### Strengths and limitations

Strengths of the study includes the use of an evidence-based, internationally recognised list of policy areas as a starting point (Global Alcohol Strategy), which we further expanded and developed into a classification scheme, as well as adding important qualifiers such as direction and timing of effect. By building on the WHO Global Alcohol Strategy the results here are more likely to contribute to policy and

public-health discussions. Furthermore, by recording and classifying policy change that has occurred where evidence might not yet exist, or may be limited, as with the increased availability of alcohol through expansion of restaurant/cafe licences to provide home delivery, our study captures new strategies for reducing alcohol consumption and heavy drinking occasions that have been demonstrated to be politically feasible, (albeit within the particular circumstances of COVID-19) and that may be either made permanent or become part of the suite of policy measures available to governments. We used a robust methodology, including a double-entry system to obtain official policy records from its primary source (i.e. without relying on self-report from key informants), a pre-registered protocol and harmonised methods for data extraction. These methodological developments increase our confidence in improving replicability and reducing selection bias of policy records. In addition, we achieved an international representation of the countries and jurisdictions examined, which we hope can expand in the future, providing greater external generalizability. The identification of more than 100 alcohol policy changes, we believe is a useful contribution to the field.

The study has limitations however. Firstly, our comparative study approach necessarily comprised trade-offs in measuring and mapping policy over place and time. The five jurisdictions give a sufficiently broad basis for understanding and mapping policy diversity, however, are not representative of policy change covering the majority of the world's population. Future research could use an informed sampling frame designed to sample maximum geographic variation or regulatory approaches to alcohol. Secondly, in the current study we limited data collection to a short observation period (three months), which will not capture all the variation in policy responses and the potential liberalisation of policy as concern over COVID-19 subsided. As noted above, Italy, Australia and to some extent Chile and the UK were under strict lockdowns and mobility restrictions which were lifted almost completely as COVID-19 cases dropped drastically. This was not the case with the second and third waves, where cases remained relatively high and restrictions were lifted gradually. The three-month observation period means we miss some first wave policy responses to COVID-19 where the first wave went beyond three months. The short time frame also means that we were not able to measure policy duration, as most policies were still in force at the end of our study observation period. The data, therefore, likely favour policies towards tightening alcohol control at the expense of policy variation emerging as jurisdictions lifted restrictions. Nevertheless, while our study results are illuminating in themselves, our primary focus was on employing transparent, reliable methods to produce detailed observations of the apparent characteristics of policy change to inform future research rather than making claims of representativeness. Thirdly, we examined policy decisions taken by governments (the observable form of the rule or the "law on the books"), but did not measure implementation. Given that most alcohol policies in the period rely on authority policy instruments, enforcement is crucial to exert such statutory power. Future avenues of research are policy implementation studies or measures which incorporate implementation (like the number of fines issued) (Burris, 2017). Fourthly, policy screening was done by a single reviewer, which might have introduced

some selection bias. While data extraction was also done by a single reviewer, first authors carefully reviewed each entry and provided feedback, in order to reduce errors.

### Implications for alcohol policy research

Future research could explore the motivations for policymakers to modify alcohol control policies during the COVID-19 pandemic. Several local ordinances in Chile, for example, have sought to limit opening hours of alcohol outlets as means to reduce mobility (and therefore SARS-CoV-2 transmission), while total bans on alcohol sales in South Africa have been put in place to reduce alcohol-related traffic accidents and injuries, as means to reduce the pressure of emergency care (Parry et al., 2021). In other settings, like the UK and Spain, alcohol economic operators have received financial support as part of relief packages for small and medium enterprises (International Monetary Fund, 2021). Understanding policymakers' motivations and incentives could shed light on potential future windows of opportunity to strengthen alcohol control. Qualitative research with policymakers, practitioners and health advocates can explore the impacts and implications of the alcohol policy changes observed through our policy surveillance. In addition, future studies could explore policy decisions taken by international and supranational organisations, which could have potentially shaped national policy space and decision making.

Our work could also be informative for future research examining the impact of the COVID-19 pandemic on alcohol use and harm. Existing studies have not considered alcohol control policies (Stockwell et al., 2022). As discussed above, this might be even more relevant for impact evaluations of the second and third waves of the COVID-19 pandemic, where social distancing policies became more nuanced and diverse across different settings. Liberalisation of alcohol control should be periodically monitored, placing special attention on changes that have been extended beyond the most acute phase of the pandemic or might become permanent after the COVID-19 pandemic. For example, in the UK, a decision was taken in August 2023 to extend alcohol licensing regulatory easements relating to off-sales from on-premise outlets and pavement licences for a further 18 months to Spring 2025, with a rationale of supporting on-trade businesses to recover from the pandemic (Home Office of the United Kingdom, 2023).

COVID-19 provided a unique natural experiment within which to observe changes to alcohol policy in times of global crisis. In this context, we saw how alcohol policy changes (restrictions on availability) were made to support social distancing. Alcohol consumption or availability was rarely seen as problematic. Governments then provided financial subsidies or increased alcohol availability modes as a concession and support to the restrictions that had been placed on industry. A key lesson from this work is that very little policy was directed at reducing alcohol consumption.

### Conclusions

A classification scheme tied to the WHO Global Alcohol Strategy to Reduce the Harmful Use of Alcohol was developed to measure changes to alcohol policies, as well as quantify the magnitude, direction and expected impact of such change. This was done by drawing on an international network of researchers and an iterative approach to selecting, collecting and coding relevant policies. The classification scheme can be used for benchmarking, monitoring trends over time and comparing and evaluating policy. Alcohol policy changes during the first three-months of the COVID-19 pandemic primarily impacted alcohol availability and about one fifth might weaken alcohol control. We observed substantial variation in the content of alcohol policies, which should be taken into account in studies monitoring changes in alcohol use during the COVID-19 pandemic.

### Ethical approval

This is a legal epidemiology study that uses available data sources. No ethical approval is required for this kind of work.

### Funding sources

No funding was received for this work.

### Data statement

The dataset used for the analyses is available as a Supplementary Appendix. We ask readers to cite the article if the dataset is used.

### CRediT authorship contribution statement

**Sebastián Peña:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Claire Wilkinson:** Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Data curation, Conceptualization. **Giovanni Aresi:** Writing – review & editing, Investigation, Data curation, Conceptualization. **Liz Barrett:** Writing – review & editing, Data curation, Conceptualization. **Sadie Boniface:** Writing – review & editing, Data curation, Conceptualization. **Niamh Fitzgerald:** Writing – review & editing, Investigation, Data curation, Conceptualization. **Pablo Norambuena:** Writing – review & editing, Investigation, Conceptualization. **Catherine Paradis:** Writing – review & editing, Data curation, Conceptualization. **Francisca Román:** Writing – review & editing, Investigation, Data curation, Conceptualization. **Paula Sierralta:** Writing – review & editing, Data curation.

### Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Sebastián Peña, Claire Wilkinson, Catherine Paradis, Liz Barrett, Francisca Román, Paula Sierralta, Sadie Boniface, Pablo Norambuena, Niamh Fitzgerald: declare no conflicts of interest. Giovanni Aresi has been the principal investigator of a research project funded by the European Foundation for Alcohol Research between 2015 and 2017.

### Acknowledgements

The authors are thankful to Tom Greenfield for his helpful comments on an earlier draft and to Prashanta De Silva and Peter Miller for their participation during the initial phases of the study.

### Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.drugpo.2024.104373.

### References

- Alcohol and Gambling Commission of Ontario. (2020). *Ontario Announces new measures to support licensed restaurants, bars and cideries during COVID-19*. Alcohol and Gambling Commission of Ontario.
- Andreasson, S., Chikritzhs, T., Dangardt, F., Holder, H., Naimi, T., & Sherk, A. (2021). Alcohol and society 2021: Alcohol and the coronavirus pandemic: Individual, societal and policy perspectives. Swedish Society of Nursing, SFAM, SAFF, CERA, The Swedish Society of Addiction Medicine, SIGHT, Movendi International & IOGT-NTO. Retrieved March 14, 2024 from [https://movendi.ngo/wp-content/uploads/2021/01/Alcohol-and-the-coronavirus-pandemic\\_Alcohol-and-society-2021\\_report\\_en.pdf](https://movendi.ngo/wp-content/uploads/2021/01/Alcohol-and-the-coronavirus-pandemic_Alcohol-and-society-2021_report_en.pdf).
- Aresi, G., Sorgente, A., Cleveland, M. J., & Marta, E. (2022). Patterns of alcohol use among Italian young adults before and during a COVID-19 lockdown: A latent class analysis study. *Journal of Prevention*, 43(2022), 191–208.
- Brailon, A. (2020). Alcohol control and the COVID-19 crisis on the other side of the Atlantic. *Canadian Journal of Public Health*, 111, 663–664.

- Brand, D. A., Saisana, M., Rynn, L. A., Pennoni, F., & Lowenfels, A. B. (2007). Comparative analysis of alcohol control policies in 30 countries. *PLOS Medicine*, 4, e151.
- Burris, S. (2017). Theory and methods in comparative drug and alcohol policy research: Response to a review of the literature. *The International Journal on Drug Policy*, 41, 126–131.
- Canadian Centre on Substance Use and Addiction. (2020). *Maintaining a public health approach to alcohol policy during COVID-19 Ottawa*. Canadian Centre on Substance Use and Addiction.
- Canadian Centre on Substance Use and Addiction. (2021). *Alcohol and cannabis retail regulations during the COVID-19 pandemic in Canada*.
- Colbert, S., Wilkinson, C., Thornton, L., Feng, X., & Richmond, R. (2021). Online alcohol sales and home delivery: An international policy review and systematic literature review. *Health Policy (Amsterdam, Netherlands)*, 125, 1222–1237.
- Finnish Government. Restrictions on restaurants by region. Retrieved May 20, 2021 from <https://valtioneuvosto.fi/en/information-on-coronavirus/current-restrictions/restaurants>.
- Fitzgerald, N., Manca, F., Uny, I., Martin, J. G., O'Donnell, R., Ford, A., Begley, A., Stead, M., & Lewsey, J. (2022). Lockdown and licensed premises: COVID-19 lessons for alcohol policy. *Drug and Alcohol Review*, 41, 533–545.
- Ghosh, A., Choudhury, S., Basu, A., Mahintamani, T., Sharma, K., Pillai, R. R., ... Mattoo, S. K. (2020). Extended lockdown and India's alcohol policy: A qualitative analysis of newspaper articles. *The International Journal on Drug Policy*, 85, 102940–102940.
- Hale, T., Angrist, N., Goldszmidt, R., Kira, B., Petherick, A., Phillips, T., Webster, S., Cameron-Blake, E., Hallas, L., Majumdar, S., & Tatlow, H. (2021). A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker). *Nature Human Behaviour*, 5, 529–538.
- Home Office of the United Kingdom, Consultation outcome. (2023). *Licensing act 2003: Regulatory easements consultation responses*. Home Office of the United Kingdom.
- Howlett, M. (2000). Managing the "hollow state": Procedural policy instruments and modern governance. *Canadian Public Administration*, 43, 412–431.
- International Monetary Fund. Policy Responses to COVID-19. Retrieved May 20, 2021 from <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>.
- Jacob, L., Smith, L., Armstrong, N. C., Yakkundi, A., Barnett, Y., Butler, L., ... Tully, M. A. (2021). Alcohol use and mental health during COVID-19 lockdown: A cross-sectional study in a sample of UK adults. *Drug and Alcohol Dependence*, 219, Article 108488.
- Jaguga, F., & Kiburi, S. K. (2020). Reducing alcohol misuse during the COVID-19 pandemic in Kenya. *The Lancet Psychiatry*, 7, 935–936.
- Lange, S., Probst, C., & Rehm, J. (2020). Coronavirus disease 2019 crisis and intentional injuries: Now is not the time to erode alcohol control policies. *Canadian Journal of Public Health*, 111, 466–468.
- Matzopoulos, R., Walls, H., Cook, S., & London, L. (2020). South Africa's COVID-19 alcohol sales ban: The potential for better policy-making. *International Journal of Health Policy and Management*, 9(11), 486–487.
- Migliani, S., & Verma, N. (2020). India's Delhi imposes 70% 'corona tax' on alcohol to deter large crowds. Reuters.
- Miller, M., Mojica-Perez, Y., Callinan, S., & Livingston, M. (2021). *A timeline of alcohol-relevant restrictions during the COVID-19 pandemic*. Centre for Alcohol Policy Research.
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *BMJ (Clinical research ed.)*, 339, b2535.
- Naimi, T. S., Blanchette, J., Nelson, T. F., Nguyen, T., Oussayef, N., Heeren, T. C., ... Xuan, Z. (2014). A new scale of the U.S. alcohol policy environment and its relationship to binge drinking. *American Journal of Preventive Medicine*, 46(1), 10–16.
- National Institute on Alcohol Abuse and Alcoholism. (2020). *State alcohol-related laws during the COVID-19 emergency for on-premise and off-premise establishments as of April 13, 2020*. NIAAA.
- Neufeld, M., Lachenmeier, D. W., Ferreira-Borges, C., & Rehm, J. (2020). Is alcohol an "Essential Good" during COVID-19? Yes, but only as a disinfectant! *Alcoholism, Clinical and Experimental Research*, 44, 1906–1909.
- Nordic Alcohol and Drug Policy Network. Alcohol restrictions amid COVID-19 virus outbreak. Retrieved May 20, 2021 from <https://nordan.org/alcohol-restrictions-a-mid-covid-19-virus-outbreak/>.
- Pan American Health Organization. (2018). *Alcohol policy scoring: Assessing the level of implementation of the WHO global strategy to reduce the harmful use of alcohol in the region of the Americas*. Pan American Health Organization.
- Parry, C. D. H. (2021). A timely piece that resonates with the South African experience: Commentary on Stockwell et al. *Drug and Alcohol Review*, 40, 8–9.
- Rehm, J., Kilian, C., Ferreira-Borges, C., Jernigan, D., Monteiro, M., Parry, C. D. H., Sanchez, Z. M., & Manthey, J. (2020). Alcohol use in times of the COVID 19: Implications for monitoring and policy. *Drug and Alcohol Review*, 39, 301–304.
- Rehm, J., Stelemėkas, M., Ferreira-Borges, C., Jiang, H., Lange, S., Neufeld, M., Room, R., Casswell, S., Tran, A., & Manthey, J. (2021). Classifying alcohol control policies with respect to expected changes in consumption and alcohol-attributable harm: The example of Lithuania, 2000–2019. *International Journal of Environmental Research and Public Health*, 18, 2419.
- Reynolds, J., & Wilkinson, C. (2020). Accessibility of 'essential' alcohol in the time of COVID-19: Casting light on the blind spots of licensing? *Drug and Alcohol Review*, 39, 305–308.
- Salvatore, M., Basu, D., Ray, D., Kleinsasser, M., Purkayastha, S., Bhattacharyya, R., & Mukherjee, B. (2020). Comprehensive public health evaluation of lockdown as a non-pharmaceutical intervention on COVID-19 spread in India: National trends masking state-level variations. *BMJ Open*, 10, Article e041778.
- Singh, S., Sharma, P., & Balhara, Y. P. S. (2021). The impact of nationwide alcohol ban during the COVID-19 lockdown on alcohol use-related internet searches and behaviour in India: An infodemiology study. *Drug and Alcohol Review*, 40, 196–200.
- Stockwell, T., Zhao, J., Alam, F., Churchill, S., Shi, Y., & Naimi, T. (2022). Alcohol sales in Canadian liquor outlets as a predictor of subsequent COVID-19 infection rates: A time-series analysis. *Addiction (Abingdon, England)*, 117, 3069–3078.
- Szylovec, A., Umbelino-Walker, I., Cain, B. N., Ng, H. T., Flahault, A., & Rozanova, L. (2021). Brazil's actions and reactions in the fight against COVID-19 from January to March 2020. *International Journal of Environmental Research and Public Health*, 18, 555.
- Thanthong-Knight, S. (2020). *Bangkok bans alcohol sales in attempt to stop spread of Coronavirus*. Time Magazine. Retrieved January 20, 2024 from <https://time.com/5818203/bangkok-bans-alcohol/>.
- Trangenstein, P. J., Peddireddy, S. R., Cook, W. K., Rossheim, M. E., Monteiro, M. G., & Jernigan, D. H. (2021). Alcohol policy scores and alcohol-attributable homicide rates in 150 countries. *American Journal of Preventive Medicine*, 61, 311–319.
- World Health Organization. (2010). *Global strategy to reduce harmful alcohol use*.
- World Health Organization. (2022a). *Policy response to alcohol consumption and tobacco use during the COVID-19 pandemic in the WHO South-East Asia region: Preparedness for future pandemic events*. World Health Organization. Brief 7, July 2022.
- World Health Organization. (2022b). *Policy, system and practice response to alcohol consumption during the COVID-19 pandemic in seven countries of the WHO African region*. World Health Organization. Brief 9, October 2022.
- World Health Organization. (2023). *WHO Coronavirus (COVID-19) Dashboard*. Retrieved June 22 from <https://covid19.who.int/>.