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Reflections on science and the governance of alcohol policy

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ABSTRACT

Aims To consider, briefly, science's role in informing alcohol policy, and how science could help reframe the present governance of alcohol policy. **Design** Expression of the two project coordinators' reflections based on discussions during project meetings of the Alcohol Measures for Public Health Research Alliance (AMPHORA) project. **Results** Three endeavours are considered important for science's role in informing alcohol policy: modelling studies that help predict the outcomes of differing policy approaches; studying the impact of live policy changes as a powerful set of natural experiments; and, improved study of the impact of integrated, coordinated and joined up alcohol policies, as opposed to the impact of individual alcohol policy measures. Three areas where science can contribute to strengthened alcohol policy governance include: analysis of different governance architectures that might promote joined-up actions between different sectors; the design of better metrics that measure the impact of public and private sector actions on health; and, by identifying incentives that help consumers make choices on the use of alcohol that improve health. **Conclusions** The impact of science on better alcohol policy governance can only happen if there is more and better dialogue between scientists and those who design alcohol policy.

Keywords Alcohol policy, European Union, science.

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BACKGROUND

The European Union (EU), an integrational entity of 27 Member States, could be viewed as an ongoing political and economic endeavour ripe for scientific study [1]. Currently, and in health terms, Europe faces at least the following three alcohol-related challenges:

1. A high level of alcohol consumption, alcohol-related harm and loss of life, compounded by enormous differences in alcohol-related life expectancy between different parts of the Union [2]. The true value of each year of lost life may be as much as one-third of European gross domestic product (GDP) [3].
2. An enormous social cost, draining the productivity [4] and social cohesion of Europe that mitigates the objectives of the Lisbon treaty [5].
3. Alcohol-related harm compounded by the economic recession [6], leading to an upturn in deaths from alcohol-use disorders [7].

In these concluding comments, based on reflections and discussions that we have had in Alcohol Measures for Public Health Research Alliance (AMPHORA), we briefly consider, first, science's role in informing alcohol policy, and secondly, how science could help to reframe the present governance of alcohol policy.

SCIENCE'S ROLE IN INFORMING ALCOHOL POLICY

The evidence base for alcohol policy is powerful and strong [8,9], in fact probably more so than in many other areas of public health policy [10]. We think that the role of science is more to advise on how to make and implement current alcohol policy more effectively rather than what policy to implement. Science has identified what to do and what not to do; we need an emphasis on fine tuning and implementation. Among other scientific endeavours, we highlight the following three as important.

Modelling studies

Modelling studies help predict the outcomes of differing policy approaches. Classic examples here are the Sheffield modelling studies for the Department of Health in England [11], the National Institute for Health and Clinical excellence (NICE) in the United Kingdom [12] and the

Scottish government [13]. For example, the estimates for the Department of Health demonstrate the power of such models in comparing the impact of an overall 10% increase in the price of alcoholic beverages with setting a minimum price per gram of alcohol [11].

The model estimated that a 10% increase in the price of alcoholic beverages would reduce alcohol consumption by 4.4%, an average reduction of 5.5 g alcohol per week, with a significantly greater reduction of 25 g per week for harmful drinkers (defined as men who drink more than 400 g alcohol per week and women who drink more than 280 g/week) than the 4 g/week reduction for moderate drinkers (men who drink up to 168 g alcohol per week and women who drink up to 112 g/week). The model estimated that in England (population 51 million) the annual number of deaths would fall by 232 within the first year and by 1681 after 10 years. In addition, hospital admissions would decline by an estimated 10 100 in the initial year, reaching full effect after 10 years with 50 800 avoided admissions annually. The model also predicted that a 10% price increase would reduce the number of criminal offences by 65 000 over the course of a decade, with savings in the direct costs of crime of €80 million per year. In the work-place, it was anticipated that the same intervention would mean 12 800 fewer unemployed people and 310 000 fewer sick days over 10 years. The estimated total value of this price increase is €8.9 billion over the 10 years modelled. The direct cost to consumers would vary significantly among different types of drinkers. The overall figure is €38 per drinker per annum, ranging from an estimated €132 annually for harmful drinkers to €19 for moderate drinkers. The effect 'on the pocket' if there were no change in consumption was estimated at €254 per year for harmful drinkers and €30 for moderate drinkers.

In England, 59% of the alcohol sold for consumption elsewhere ('off trade') and 14% of the alcohol sold for consumption on the premises ('on trade') is sold for less than €0.06/g of alcohol. The Sheffield model was able to estimate that setting a minimum price of €0.06/g alcohol would reduce overall consumption by 2.6% (3.4 g reduction per week), affecting harmful drinkers tremendously more (25 g/week) than moderate drinkers (0.01 g/week). The model estimated the value of these harm reductions to society as €6.2 billion over 10 years. If no changes were made to consumption, such a minimum price would cost harmful drinkers an estimated additional €157 per annum and moderate drinkers €7.

Natural experiments

Studying the impact of policy changes is a powerful set of natural experiments. Unfortunately, and perhaps shamefully, natural experiments are rarely and poorly studied. A classic exception to this has been cross-border trade in Finland [14,15]. Finland joined the EU in 1995, and was given until 2003 to lift its restrictions on alcohol imports. After that date, alcohol imports were expected to increase heavily, not only because the borders were opening, but also because neighbouring Estonia, with its lower alcohol prices, was scheduled to join the EU in 2004. The Finnish government therefore decided to lower the alcohol taxes by an average of 33% in March 2004. Total consumption of alcohol per capita increased by 10%, from 9.4 litres in 2003 to 10.3 litres in 2004. Recorded consumption increased by 6.5%, from 7.7 litres to 8.2 litres per capita, while unrecorded—and thus untaxed—consumption increased an estimated 25%, from 1.7 litres to 2.1 litres per capita. While the health impact of Estonia's accession was not significant for Finland, the health impact of the Finnish alcohol tax cuts were, resulting in a 17% increase in alcohol-positive deaths per week [14], with the largest number of deaths occurring among the underprivileged [15]. Tax revenues also dropped by 17%. In 2008, Finland again raised its alcohol taxes.

Integrated alcohol policy

Policy documents call repeatedly for comprehensive, integrated, coordinated and joined-up alcohol policy [16]. However, and surprisingly, we actually have very little evidence for the impact of the interactions between different alcohol policy elements and the added value of joined-up alcohol policy. Europe is an ideal testing ground for such studies, given the heterogeneous and changing nature of alcohol polices between European Member States. Where this *has* been studied is the United States, which also provides a natural setting of heterogeneous alcohol policies between the states. Since the repeal of Prohibition in 1933, two different kinds of alcohol control systems have restricted the alcohol market in the United States. Control states adopted more restricted control systems, which included state-owned monopolies on segments of the market. Licence states adopted less regulated control policies, in which all parts of the market were licensed to private companies. Control states usually provide fewer outlets for retail sales, often restrict credit card purchases and concurrent sales of alcohol with other commodities (e.g. forbidding sales in grocery and convenience stores) and sometimes restrict days of sale and operating hours. In the past, control states have also set significantly higher minimum legal drinking ages.

Thus, one might expect that the price elasticity of the demand for alcohol is lower in control states, which leads to higher transaction costs in association with purchases of alcohol, implying that the full price of an alcoholic beverage (i.e. the transaction cost plus the nominal cash

price of the beverage) is higher in this type of market compared to a less regulated and restricted market. Consequently, higher transaction costs are likely to lead to lower price elasticities, as consumers are assumed to react primarily to changes in the full price of the beverages. This has been found to be the case. A study of alcohol price elasticities in control and licence states in the United States for the period 1982–1999 found significant price elasticities of –0.25 for spirits and –0.07 for beer, but not for wine (–0.02) in the licence states, but insignificant elasticities in the control states (0.014 from spirits, 0.001 for beer and 0.03 for wine) [17]. The differences in elasticities for spirits and beer between control and licence states were significant.

REFRAMING ALCOHOL POLICY GOVERNANCE

With regard to reducing the harm caused by alcohol, there is a puzzling asynchronization when it comes to the governance and implementation of effective alcohol policy. On one hand, poor health and premature death (of which some 8% is due to alcohol) present a threat to European wellbeing and development, and the financial burden that these impose diverts essential monies that could have dealt with other risks facing the EU. They also continue to be grossly undervalued in their centrality to human, business and social capital development. On the other hand, there is little evidence that different sectors are cooperating to achieve improved health and to reduce the harm caused by alcohol. The concept of 'stewardship' implies an obligation to provide conditions that allow people to be healthy and, in particular, to take measures to reduce health inequalities [18]. Science can also contribute to strengthened alcohol policy governance. We mention a list of three possible areas.

Architecture

As the paper in this supplement by Kønig & Segura [19] has shown, for an action plan to reduce alcohol-related harm to be effective it is necessary to ensure that the requisite infrastructure for policy development, priority-setting, monitoring and surveillance, research and evaluation, work-force development and programme delivery is all in place. Despite some advances in building core infrastructure for action on alcohol, it can be argued that there continues to be insufficient political will and investment by both the private and the public sector in many Member States, and ensuring that this infrastructure is sufficiently large and capable remains a challenge. There is also evidence that good infrastructure can facilitate the effective implementation of an alcohol action plan, while its absence can be an obstacle. Although vested interests—whether from the political, business, healthcare or academic sectors—can also be barriers to action, they can be overcome by effectively utilizing existing infrastructure or developing new infrastructure. This may require new forms of alcohol policy governance architecture to ensure policy coherence and joined-up actions between different sectors that can be analysed and studied from a policy science perspective [20].

A health footprint

Health and wellbeing, and alcohol's contribution to these, are grossly undervalued as central and crucial to human productivity and individual and social capital development and there is an enormous awareness gap [3,4]. One of the problems is that individuals, communities, businesses and countries have no ready, simply understood metric of the impact of their actions and inactions on promoting or negating health, and alcohol's key contribution to this. A health footprint, modelled on the carbon footprint (which is the total set of greenhouse gas emissions from an individual or organization, event or product, expressed in the metric carbon dioxide equivalent) could be developed as a summary metric from existing metrics produced by science [21] including, for example, global burden of disease, population health modelling and the chronic disease model of the National Institute for Public Health and the Environment of the Netherlands. The footprint could measure how much alcohol-related health and wellbeing is being created or diminished, and could act as an incentive and measurement tool for change. Measurement and public display of alcohol-related health impacts could act as an incentive to create new ways of working by countries, municipalities and producers.

Incentives

Incentives and stimuli are needed to help realign the actions of all government sectors, international organizations, the private sector and individuals towards alcohol-related healthier outcomes. Building on many of the recognized incentives across sectors, stimuli for change are needed to support governments in their alcohol policy reformulation and actions, helping them to realign existing resources to ensure that subsidies do not distort alcohol consumption patterns in a way that affect health and wellbeing negatively [5]. Governments also need to create frameworks and incentives for healthier products and services and healthier choices throughout the whole value chain to reduce alcohol-related harm. Governments and businesses outside the alcohol sector can be stimulated to utilize science, new technologies and social entrepreneurship to improve health literacy and develop metres and gauges for individual use that provide real-time feedback on purchasing decisions and daily

actions that promote health and wellbeing. For example, a universal system of symbols backed by rigorous metrics to inform shoppers about the health footprint of alcohol products on the shelves and an intelligent shopping-basket that monitors the health impact of alcohol-related shopping choices could be designed to help nudge people in the direction of healthier choices and to improve an individual's alcohol-related health footprint [22].

CONCLUSIONS

AMPHORA's scientific studies will inform alcohol policy, and hopefully lead to better alcohol policy governance in Europe. One of AMPHORA's strengths which will contribute particularly to this process is a series of science policy dialogues. Research appears to be most influential in setting a policy agenda and considering policy alternatives, less influential when amending draft laws and least influential in decision-making. We hope that the science policy dialogues, meeting-grounds between the AMPHORA scientists and those who work in ministries of health, the first of which will take place in Spain during June 2010, the second in Switzerland in 2011 and the third in Denmark in 2012, will help to address this imbalance.

Declarations of interest

None.

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