Addiction

BOOK SUMMARY

doi:10.1111/j.1360-0443.2010.02945.x

Alcohol: No Ordinary Commodity – a summary of the second edition

Alcohol and Public Policy Group

ABSTRACT

This article summarizes the contents of *Alcohol: No Ordinary Commodity* (2nd edn). The first part of the book describes why alcohol is not an ordinary commodity, and reviews epidemiological data that establish alcohol as a major contributor to the global burden of disease, disability and death in high-, middle- and low-income countries. This section also documents how international beer and spirits production has been consolidated recently by a small number of global corporations that are expanding their operations in Eastern Europe, Asia, Africa and Latin America. In the second part of the book, the scientific evidence for strategies and interventions that can prevent or minimize alcohol-related harm is reviewed critically in seven key areas: pricing and taxation, regulating the physical availability of alcohol, modifying the drinking context, drink-driving countermeasures, restrictions on marketing, education and persuasion strategies, and treatment and early intervention services. Finally, the book addresses the policy-making process at the local, national and international levels and provides ratings of the effectiveness of strategies and interventions from a public health perspective. Overall, the strongest, most cost-effective strategies include taxation that increases prices, restrictions on the physical availability of alcohol, drink-driving countermeasures, brief interventions with at risk drinkers and treatment of drinkers with alcohol dependence.

Keywords Alcohol, alcohol industry, alcohol problems, policy, prevention, treatment.

Correspondence to: Thomas F. Babor, University of Connecticut Health Center, 263 Farmington Avenue, Farmington, CT 06030-6325, USA.
E-mail: babor@nso.uchc.edu
Submitted 18 January 2010; initial review completed 15 February 2010; final version accepted 15 February 2010

SETTING THE POLICY AGENDA

From a public health perspective, alcohol plays a major role in the causation of disability, disease and death on a global scale. With the increasing globalization of alcohol production, trade and marketing, alcohol control policy needs to be understood not only from a national perspective but also from an international purview. The same is true of alcohol science, particularly policy research. In the past 50 years considerable progress has been made in the scientific understanding of the relationship between alcohol and health. Ideally, the cumulative research evidence should provide a scientific basis for public debate and governmental policy making. However, much of the scientific evidence is reported in academic publications and the relevance of this information for alcohol policy often goes unrecognized. To address the need for a policy-relevant analysis of the alcohol research literature, the authors published the first edition of *Alcohol: No Ordinary Commodity* in 2003, continuing in the tradition of integrative reviews dating back to 1975 [1,2].

The revised, second edition of *Alcohol: No Ordinary Commodity* [3] reflects the considerable expansion of scientific evidence for effective alcohol policy since the original publication. The second edition also responds to the fact that many parts of the world that have traditionally had relatively low aggregate levels of alcohol consumption and weak alcohol controls (e.g. sub-Saharan Africa and parts of Asia) are experiencing an expansion of commercial production and sophisticated marketing campaigns by the alcohol industry.

NO ORDINARY COMMODITY

Alcoholic beverages are an important, economically embedded commodity. Alcohol provides employment for

[1]The Alcohol and Public Policy Group consists of Thomas Babor, Raul Caetano, Sally Casswell, Griffith Edwards, Norman Giesbrecht, Kathryn Graham, Joel Grube, Linda Hill, Harold Holder, Ross Homel, Michael Livingston, Esa Österberg, Jürgen Rehm, Robin Room and Ingeborg Rossow.

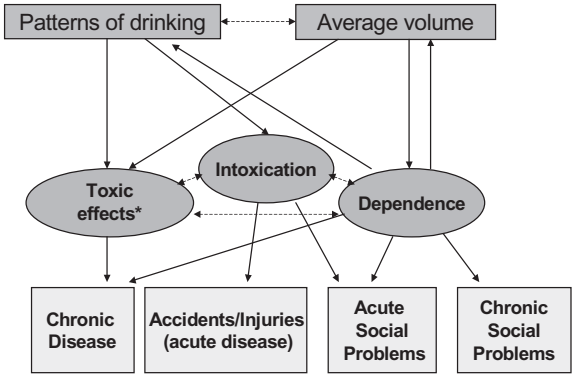

Figure 1 Why alcohol is no ordinary commodity; relationships among alcohol consumption, mediating factors and alcohol-related consequences (reprinted with permission)

people in bars, restaurants and the agricultural sector, brings in foreign currency for exported beverages and generates tax revenues for the government, but the economic benefits connected with the production, sale and use of this commodity come at an enormous cost to society. Three important mechanisms explain alcohol's ability to cause medical, psychological and social harm: (1) physical toxicity, (2) intoxication and (3) dependence.

Alcohol is a toxic substance in terms of its direct and indirect effects on a wide range of body organs and systems [4]. With chronic drinking and repeated intoxication a syndrome of interrelated behavioural, physical and cognitive symptoms develops, referred to as alcohol dependence. As illustrated in Fig. 1, the mechanisms of toxicity, intoxication and dependence are related to the ways in which people consume alcohol, referred to as 'patterns of drinking'. Drinking patterns that lead to elevated blood alcohol levels result in problems associated with acute intoxication, such as accidents, injuries and violence. Drinking patterns that promote frequent and heavy alcohol consumption are associated with chronic health problems such as liver cirrhosis, cardiovascular disease and depression. Sustained drinking may also result in alcohol dependence, which impairs a person's ability to control the frequency and amount of drinking. For these reasons, alcohol is not a run-of-the-mill consumer substance.

ALCOHOL CONSUMPTION TRENDS AND PATTERNS OF DRINKING

Alcohol consumption varies enormously, not only among countries but also over time and among different population groups. Alcohol consumption per capita is highest in the economically developed regions of the world. It is generally lower in Africa and parts of Asia, and is particularly low in the Indian subcontinent and in Moslem countries and communities. Western Europe, Russia and other non-Moslem parts of the former Soviet Union now have the highest per capita consumption levels, but levels in some Latin American countries are not far behind [4,5].

With a few exceptions, there has been a levelling-off or decline in drinking in many of the high alcohol consumption countries from the early 1970s to the early 2000s, particularly in the traditional wine-producing countries in Europe and South America [6]. In contrast, increases in per capita consumption have been noted in emerging markets for alcohol in many low- and middle-income countries [5].

As the per capita consumption in a population increases the consumption of the heaviest drinkers also rises, as does the prevalence of heavy drinkers and the rate of alcohol-related harm [7,8]. Much of the variation in alcohol consumption from one part of the world to another is attributable to differences in the proportions of adults who abstain from drinking altogether. This suggests that per capita consumption will increase steeply if the proportion of abstainers declines, particularly in the developing world, where abstention is common.

Men are more likely to be drinkers, and women abstainers. Among drinkers, men drink 'heavily' (i.e. to intoxication, or large quantities per occasion) more often than women. Older age groups favour abstinence and infrequent drinking while young adults have higher levels of frequent intoxication [9].

The composition of social and health problems from drinking in any particular country or region is related to the drinking patterns and total amounts consumed in that country or region. These differences may help to explain why prevention and intervention strategies vary from one society to another. However, with the spread of commercial alcohol increasing homogeneity in drinking patterns, alcohol policy needs are likely to become increasingly similar.

THE GLOBAL BURDEN OF ALCOHOL CONSUMPTION

Alcohol accounts for approximately 4% of deaths worldwide and 4.65% of the global burden of injury and disease, placing it alongside tobacco as one of the leading preventable causes of death and disability [4,10]. In high-income countries, alcohol is the third most detrimental risk factor, whereas in emerging economies such as China alcohol ranks first among 26 examined. Some of the most important individual harms related to alcohol are coronary heart disease, breast cancer, tuberculosis, motor vehicle accidents, liver cirrhosis and suicide. Overall, injuries account for the largest portion of the alcohol-attributable burden. Volume of drinking is linked to most disease outcomes through specific dose–response

relationships. Patterns of drinking also play an important role in the disease burden. Coronary heart disease (CHD), motor vehicle accidents, suicide and other injuries have all been linked to heavy episodic drinking [4]. Moderate drinking has CHD benefits for some individuals, but has also been linked to an increased risk of cancer and other disease conditions.

Alcohol consumption is also a risk factor for a wide range of social problems [11]. Although there is plausible evidence for a direct causal link between alcohol consumption and violence [12], the relationship is more complex for problems such as divorce, child abuse and work-related problems. Alcohol consumption can impact negatively people other than the drinker through alcohol-related crime (e.g. domestic violence), family dysfunction, traffic accidents and problems in the work-place. In sum, alcohol contributes to both social and health burdens.

GLOBAL STRUCTURE AND STRATEGIES OF THE ALCOHOL INDUSTRY

The alcohol industry is an important but understudied part of the environment in which drinking patterns are learned and practised, especially with the growth of modern industrial production, the proliferation of new products (e.g. caffeinated alcohol 'energy drinks' and alcopops) and the development of sophisticated marketing techniques. At the national level, the industry comprises beer, wine and spirits producers and importers, as well as bars, restaurants, bottle stores and often food stores that sell alcohol to the public. Alcohol is seen as an important contributor to business opportunities and jobs in the hospitality and retail sectors.

In recent years the international alcohol market has become dominated by a few large corporations [13,14]. In 2005, 60% of the world's commercially brewed beer was produced by global companies, with 44% made by the largest four: Inbev, Anheuser Busch, SABMiller and Heineken. A similar trend has occurred in the spirits sector, with Diageo and Pernod Ricard now managing some of the world's leading brands. The size and profitability of these companies support integrated marketing on a global scale. Size also allows considerable resources to be devoted, directly or indirectly, to promoting the policy interests of the industry. These developments challenge the public health sector and governments to respond with national and global public health strategies to minimize the health consequences and social harms resulting from the expanding global market in alcoholic beverages.

It is often assumed that an industrialized alcohol supply will have positive economic effects in low-income countries, but the evidence for this is equivocal, particularly concerning job creation [15]. Research suggests that alcohol problems increase with economic development [16]. Many developing countries have alcohol laws and policies but often do not have the resources to enforce them adequately.

THE INTERNATIONAL CONTEXT OF ALCOHOL POLICY

Alcohol control policies at the national and local levels have come increasingly under pressure because of conflict with international trade policies, which tend to treat alcoholic beverages as ordinary commodities such as bread and milk [17]. At the beginning of 2000 there were 127 trade agreements registered at the World Trade Organization, most of which apply to trade in alcoholic beverages. Trade agreements generally require governments to reduce and eventually abolish all tariff and non-tariff barriers to international trade.

When alcohol is regarded as an ordinary commodity, these agreements often hamper the effectiveness of alcohol control policies. With the growing emphasis on free trade and free markets, international organizations such as the European Union have pushed to dismantle state alcohol monopolies and other restrictions on the availability of alcoholic beverages, and disputes under trade agreements have resulted in reduced taxes and other increases in availability [18,19]. Nevertheless, the impact of international trade agreements and economic treaties cannot be blamed entirely for the lack of effective alcohol control policies at the national level. Although trade agreements constrain how domestic regulations are designed, they also allow government measures to protect human and environmental health specifically. Policies restricting the supply and marketing of alcohol have been defended successfully against challenge as both necessary and proportionate to achieving a clearly stated government health goal. However, restrictive policies often have an aspect that is protective of local economic interests, which makes them difficult to defend. At the international level, public health considerations concerning alcohol must have precedence over free trade interests [17].

STRATEGIES AND INTERVENTIONS TO REDUCE ALCOHOL-RELATED HARM

Alcohol policy is defined broadly as any purposeful effort or authoritative decision on the part of governments to minimize or prevent alcohol-related consequences. Policies may implement a specific strategy with regard to alcohol problems (e.g. increase alcohol taxes or controls on drinking and driving) or allocate resources toward prevention or treatment services.

Effective policies are evidence-informed and based upon sound theory, which increases the likelihood that a policy that is effective in one place will be effective in

Table 1 Theoretical assumptions underlying seven broad areas of alcohol policy, and the 'best practices' identified within each policy area.

Policy approach	Theoretical assumption	Best practices[a]
Alcohol taxes and other price controls	Increasing economic cost of alcohol relative to alternative commodities will reduce demand	Alcohol taxes
Regulating physical availability through restrictions on time and place of sales and density of alcohol outlets	Restricting physical availability will increase effort to obtain alcohol, and thereby reduce total volume consumed as well as alcohol-related problems	Ban on sales, minimum legal purchase age, rationing, government monopoly of retail sales, hours and days of sale restrictions, restrictions on density of outlets, different availability by alcohol strength
Altering the drinking context	Creating environmental and social constraints will limit alcohol consumption and reduce alcohol-related violence	Enhanced enforcement of on-premises policies and legal requirements
Drink-driving countermeasures	Deterrence, punishment and social pressure will reduce drink driving	Sobriety checkpoints, random breath testing, lowered BAC limits, administrative licence suspension, low BAC for young drivers ('zero tolerance'), graduated licensing for novice drivers
Education and persuasion: provide information to adults and young people especially through mass media and school-based alcohol education programmes	Health information that increases knowledge and changes attitudes will prevent drinking problems	None
Regulating alcohol advertising and other marketing	Reducing exposure to marketing which normalizes drinking and links it with social aspirations will slow recruitment of drinkers and reduce heavier drinking by young people	Legal restrictions on exposure
Conduct screening and brief intervention in health care settings; increase availability of treatment programmes	Alcohol dependence will be prevented by motivating heavy drinkers to drink moderately; various therapeutic interventions will increase abstinence among people who have developed a dependence on alcohol	Brief interventions with at-risk drinkers, detoxification, talk therapies, mutual help/self-help organization attendance

[a]Based on consensus ratings of effectiveness, amount of scientific evidence and cross-national testing, these strategies and interventions received two or more plusses (on a scale of 0–3) in all three categories. BAC: blood alcohol concentration.

others. Research has the capacity to indicate which strategies have demonstrated successful achievement of their public health intentions and which have not. Table 1 lists the seven main areas within which alcohol policies have been developed and describes the theoretical assumptions behind each policy approach as well as the specific interventions that have been found to be 'best practices' because of the evidence of effectiveness, amount of research support and extent of testing across diverse countries and cultures.

CONTROLLING AFFORDABILITY: PRICING AND TAXATION

Governments have long used customs tariffs on alcohol imports and excise duties on domestic production to generate tax revenue and to reduce rates of harm from drinking. Dozens of studies, including a growing number in developing countries, have demonstrated that increased alcohol prices reduce the level of alcohol consumption and related problems, including mortality rates, crime and traffic accidents (see [17,20,21]). The evidence suggests that the effects of pricing apply to all groups of drinkers, including young people and heavy or problem drinkers, who are often the focus of government attention.

Some governments have restricted discounted sales or established minimum sale prices for alcoholic beverages. While somewhat limited, the evidence suggests that raising the minimum price of the cheapest beverages is effective in influencing heavy drinkers and reducing rates of harm [22]. Other research [23] shows that alcohol consumption can be reduced by increasing the price of

drinks (e.g. alcopops) that are designed and marketed in a way that appeals to young adults.

Despite its apparent effectiveness, taxation as a method of reducing harm from drinking appears to have been under-used. In recent decades, the real price of alcoholic beverages has decreased in many countries, at a time when other alcohol control measures have been liberalized or abandoned completely [19,24,25]. Prices have declined partly because governments have not increased tax levels in accordance with inflation and rising incomes. In some cases alcohol taxes have been reduced to compete with cross-border imports and smuggling, or to comply with trade dispute decisions.

REGULATING THE PHYSICAL AVAILABILITY OF ALCOHOL

Restrictions on alcohol availability focus upon regulating the places, times and contexts in which consumers can obtain alcohol, and include both partial and total bans on alcohol sales. There is great variability in regulation of access to alcohol. A number of countries have monopolies for at least some form of retail sale, and many Islamic states and some localities elsewhere practice total prohibition. In contrast, there is concern in many developing countries that cheap, informal-produced and illegal alcohol is largely unregulated [17].

Research indicates strongly that as alcohol becomes more available through commercial or social sources, consumption and alcohol-related problems rise. Conversely, when availability is restricted, alcohol use and associated problems decrease. The best evidence comes from studies of changes in retail availability, including reductions in the hours and days of sale, limits on the number of alcohol outlets and restrictions on retail access to alcohol [16,26–28]. Consistent enforcement of regulations is a key ingredient of effectiveness. Licence suspensions and revocations often provide the most direct and immediate enforcement mechanism.

Government ownership of alcohol outlets can regulate alcohol availability in a comprehensive way. There is strong evidence that off-premises monopoly systems limit alcohol consumption and alcohol-related problems if alcohol control is a central goal, and that elimination of those monopolies can increase total alcohol consumption, especially when privatization leads to increased outlets, expanded hours of sale and reductions in the enforcement of policies such as not selling to underage customers [29,30].

For young people, laws that raise the minimum purchase age reduce alcohol sales and problems, if they are enforced at least minimally. This strategy has strong empirical support, with research indicating substantial impacts on traffic and other casualties from changes to the purchase age [23,31,32].

In general, the regulation of availability can have large effects. The cost of restricting physical availability of alcohol is cheap relative to the costs of health consequences related to drinking, especially heavy drinking. The most notable adverse effects of availability restrictions include increases in informal market activities (e.g. home production, illegal imports). Nevertheless, where a legal supply is available, informal market activities can generally be limited by effective enforcement.

MODIFYING THE DRINKING CONTEXT

Alcohol is consumed in a variety of places. Research suggests that licensed premises provide an opportunity for preventing alcohol-related problems through training bar staff in both responsible beverage service and managing or preventing aggression [33,34]. However, responsible beverage service is only effective if accompanied by enforcement. Enhanced enforcement of laws and regulations by police, liquor licensing, municipal authorities and other methods is likely to have impact through situational deterrents, in particular the threat of suspending or revoking the licence to sell in cases of irresponsible selling and, where laws permit, through holding servers and owners liable for the harms resulting from over-service.

Community action programmes, wherein local organizers work with the police, are an effective strategy for reducing problem behaviour when focused upon licensed premises, possibly because these are able to incorporate broad multi-component approaches [35,36]. However, these programmes require extensive resources and long-term commitment, including enhanced and sustained enforcement.

DRINK-DRIVING PREVENTION AND COUNTERMEASURES

Alcohol is a major risk factor for traffic fatalities and injuries and an issue of great concern in emerging alcohol markets with rapidly expanding ownership of motor vehicles. Traditionally, law enforcement directed at drink-driving has been designed to catch offenders on the assumption that such practices will deter people from driving after drinking. There is limited evidence to support the positive impact of these laws, perhaps because they are enforced inconsistently and the punishment is often delayed. The one punishment that seems to have a consistent impact on drink-driving offences is administrative licence suspension or revocation for drink-driving [37,38].

The evidence indicates that laws setting a reasonably low level of blood alcohol concentration (e.g. 0.05%) at which one may drive legally, combined with well-publicized enforcement, reduces drink-driving and alcohol-related driving fatalities significantly. This is a required first step for effective drink-driving policy [39,40].

The evidence is strong that frequent highly visible, non-selective testing (and selective testing if carried out with sufficient intensity) can have a sustained effect in reducing drink-driving and the associated crashes, injuries and deaths [41,42]. The most effective approach is random breath testing or compulsory breath testing. Sobriety checkpoints also increase the public perception of likelihood of apprehension.

Several approaches reduce recidivism of drink-driving, including counselling or therapy plus licence suspension and ignition interlock devices that prevent a vehicle from being started until the driver passes a breath test [43]. While 'designated driver' and 'safe ride programmes' may have some effect for people who, presumably, would otherwise drive while intoxicated, no overall impact on alcohol-involved accidents has been demonstrated [44].

Effective interventions for young drivers, who are at higher risk for traffic accidents, include a policy of zero tolerance [i.e. setting a blood alcohol concentration (BAC) level as close to 0% as possible] and the use of graduated licensing for novice drivers (i.e. limits on the time and other conditions of driving during the first few years of licensing) [45,46]. Traditional countermeasures such as driver training and school-based education programmes are either ineffective or yield mixed results.

RESTRICTIONS ON MARKETING

Alcohol marketing is a global industry. Many countries are now subject to unprecedented levels of exposure to sophisticated marketing, through traditional media (e.g. television, radio and print), new media (e.g. internet and cell phones), sponsorships and direct promotions, including branded merchandise and point-of-sale displays.

Evidence shows that exposure of young people to alcohol marketing speeds up the onset of drinking and increases the amount consumed by those already drinking. The extent of research available is considerable (e.g.[47–49]), and shows effects consistently with young people. Marketing contributes undoubtedly to the ongoing recruitment of young people to replace older drinkers and to expand the drinking population in emerging markets.

Legislation restricting alcohol advertising is a well-established precaution used by governments throughout the world, despite opposition from the alcohol industry. However, many bans have been partial, applying only to spirits, to certain hours of television broadcasting or to state-owned media. They have covered only the measured media, which represents only about half the marketing currently in force. These bans often operate alongside codes of industry self-regulation that specify the content of permitted forms of alcohol advertising.

Imposing total or partial bans on advertising produce, at best, small effects in the short term on overall consumption in a population, in part because producers and sellers can simply transfer their promotional spending into allowed marketing approaches. The more comprehensive restrictions on exposure (e.g. in France) have not been evaluated.

However, the fact that exposure to marketing produces an effect on alcohol consumption puts the question of controls on advertising high on the policy agenda. The extent to which effective restrictions would reduce consumption and related harm in younger age groups remains an open question. The most probable scenario, based upon the theoretical and empirical evidence available, is that extensive restriction of marketing would have an impact.

Despite industry claims that they adhere to codes of responsible advertising, the detrimental influences of exposure to marketing messages are not addressed adequately by the voluntary codes on the content of alcohol advertisements adopted by the industry under a self-regulation approach. Self-regulation by means of industry voluntary codes does not seem to prevent the kind of marketing that has an appeal to younger people [17,49,50].

The evidence demonstrating the impact of current levels of marketing on the recruitment of heavier-drinking young people suggests the need for a total ban to restrict exposure to alcohol marketing, one that is able to cross national boundaries.

EDUCATION AND PERSUASION STRATEGIES

Education and persuasion strategies are among the most popular approaches to the prevention of alcohol-related problems. Some school-based alcohol education programmes have been found to increase knowledge and change attitudes toward alcohol, but drinking behaviour often remains unaffected [51]. Many programmes include both resistance skills training and normative education, which attempts to correct adolescents' tendency to overestimate the number of their peers who drink or approve of drinking. Scientific evaluations of these programmes have produced mixed results, with generally modest effects that are short-lived unless accompanied by booster sessions [52]. Some programmes include both

individual-level education and family- or community-level interventions. Evaluations suggest that even these comprehensive programmes may not be sufficient to delay the initiation of drinking, or to sustain a small reduction in drinking beyond the operation of the programme. The strongest effects have been found in programmes directed at high-risk groups, an approach akin to assessment and brief intervention [52–54].

Media campaigns prepared by government agencies and non-governmental organizations (NGOs) that address responsible drinking, the hazards of drink-driving and related topics are an ineffective antidote to the high-quality pro-drinking messages that appear much more frequently as paid advertisements in the mass media [17].

In sum, the impact of education and persuasion programmes tends to be small, at best. When positive effects are found, they do not persist and a focus upon educating and persuading the individual drinker to change his or her behaviour without changing the broader environment cannot be relied upon as an effective approach.

TREATMENT AND EARLY INTERVENTION SERVICES

During the past 50 years there has been a steady growth, primarily in high-income countries, in the provision of specialized medical, psychiatric and social services to individuals with alcohol use disorders. Typically, treatment involves a range of services from diagnostic assessment to therapeutic interventions and continuing care. Researchers have identified more than 40 therapeutic approaches evaluated by means of randomized clinical trials [55]. These are delivered in a variety of settings, including freestanding residential facilities, psychiatric and general hospital settings, out-patient programmes and primary health care. More recently, treatment services in some countries have been organized into systems that are defined by linkages between different facilities and levels of care, and by the extent of integration with other types of services, such as mental health, drug dependence treatment and mutual help organizations.

Regarding the clinical management of non-dependent high-risk drinkers, the cumulative evidence [56] shows that brief interventions, consisting of one or more sessions of advice and feedback provided by a health professional, can produce clinically significant reductions in drinking and alcohol-related problems. Despite evidence of the benefits of brief interventions, it has been found difficult to persuade practitioners to deliver such care.

Specialized or formal treatment consists of detoxification, out-patient counselling and residential care. Detoxification services are directed mainly at patients with a history of chronic drinking (especially those with poor nutrition) who are at risk of experiencing withdrawal symptoms. Administration of thiamine and multivitamins is a low-cost, low-risk intervention that prevents alcohol-related neurological disturbances, and effective medications have been used for the treatment of alcohol withdrawal. Treatment that obviates development of the most severe withdrawal symptoms can be life-saving.

Following detoxification, a variety of therapeutic modalities have been incorporated into different service settings to treat the patient's drinking problems, promote abstinence from alcohol and prevent relapse. In most comparative studies, out-patient and residential programmes produce comparable outcomes [57]. The approaches with the greatest amount of supporting evidence are behaviour therapy, group therapy, family treatment and motivational enhancement.

Despite advances in the search for a pharmacological intervention that could reduce craving and other precipitants of relapse (alcohol-sensitizing drugs, medications to directly reduce drinking and medications to treat co-morbid psychopathology), the additive effects of pharmacotherapies have been marginal beyond standard counselling and behaviour therapies [58,59].

Mutual help societies composed of recovering alcoholics are inexpensive alternatives and adjuncts to treatment. Mutual help groups based on the Twelve Steps of Alcoholics Anonymous (AA) have proliferated throughout the world. In some countries other approaches, often orientated to the family as well as the drinker, are also flourishing. Research suggests that AA itself can have an incremental effect when combined with formal treatment, and that AA attendance alone may be better than no intervention at all [60].

THE POLICY ARENA

Alcohol policies are developed and implemented at many different levels of government. National or subnational laws often establish the legislative framework, including an oversight by the state of production, export and import of commercial alcohol products; control of wholesaling and retailing; legal minimum purchase ages for alcoholic beverages; apprehension of drivers with specified blood alcohol levels; alcohol marketing restrictions; and the support of treatment and prevention services. For this reason, policy systems at the national level are dominated rarely by one decision-making authority, but tend rather to be decentralized, with different aspects of policy delegated to a variety of different and sometimes competing decision-making entities, such as the health ministry and the taxation agency.

Public interest groups, often represented by NGOs, contribute to the policy-making process in many countries. More recently, alcohol issues have become increas-

ingly the concern of health professionals, mirrored by a change in the organization of health and welfare services as well as increasing professionalization in the 'caring' occupations. International agencies, such as the World Health Organization, can also play an important role.

In many nations there is a vacuum in advocacy for the public interest. Commercial interests have moved increasingly into this vacuum in the policy arena. Although the alcohol industry is not monolithic in terms of its motives, power or operations, in most instances the industry's producers, retailers and related groups share a common commercial imperative to make a profit. To promote their policy objectives, over the past 25 years the largest alcohol companies have set up more than 30 'social aspects' organizations, mainly in Europe, the United States and, more recently, in the emerging markets of Asia and Africa [61,62]. Typically, social aspects organizations promote a set of key messages that support ineffective policies for reducing harm [61,63]. Experience suggests that working in partnership with the alcohol industry is likely to lead to ineffective or compromised policy and is best avoided by governments, the scientific community and NGOs [64].

An appreciation of the various players in the alcohol policy arena can heighten our understanding of the following fundamental conclusion: alcohol policy is often the product of competing interests, values and ideologies.

ALCOHOL POLICIES: A CONSUMER'S GUIDE

Table 1 lists 20 'best practices' that represent the most effective, evidence-based policy approaches to reduce alcohol-related harm. Many of the interventions are universal measures that restrict the affordability, availability and accessibility of alcohol. Alcohol taxes and restrictions limiting the opening hours, locations and density of alcohol outlets have a considerable amount of research support. The enforcement of a minimum purchase age for alcohol is another very effective strategy. Given their broad reach, the expected impact of these measures on public health is relatively high, especially when the informal market and illegal alcohol production can be controlled. Many drink-driving countermeasures received high ratings as well, especially those that increase the likelihood of apprehension and are part of a core alcohol policy mix.

Alcohol treatment services have good evidence of effectiveness but they can be expensive to implement and maintain, with the exception of mutual help organizations. At the population level, their impact is limited relative to other policy options, as full treatment for alcohol problems can benefit only those individuals who come to treatment. Nevertheless, these programmes have the potential to impact the heaviest drinkers in a society, and could lower population levels of alcohol consumption and harm if they could be disseminated widely.

Although the evidence is limited by the relative lack of research, it is likely that a total ban on the full range of marketing practices could affect drinking by young people, particularly if diversion of the promotional spending to other channels were blocked. There is no evidence that the alcohol industry's favoured alternative to marketing restrictions—voluntary self-regulation—protects vulnerable populations from exposure to alcohol advertising and other marketing practices.

The amount of evidence on the effects of altering the drinking context has been growing, and we now think that strategies in this area can have modest effects. The fact that these strategies are applicable primarily to on-premises drinking in bars and restaurants somewhat limits their public health significance, as a high proportion of alcohol is purchased more cheaply for consumption elsewhere.

Despite a growing amount of research using randomized controlled research designs, there is only weak evidence for the effectiveness of programmes that combine alcohol education with more intensive family and community involvement. Similarly, the expected impact is low for mass media 'responsible drinking' campaigns. Although the reach of educational programmes is thought to be excellent, the population impact of these programmes is poor, and effectiveness is limited to several of the more recent college programmes.

Policy options are often moulded to existing conditions and are implemented typically over time in a way that is fragmented, piecemeal and uncoordinated, in part because of the range of policy areas covered, in part because different ministries, departments and administrative agencies each have some aspect of alcohol policy under their purview. As a result, most countries do not have a single comprehensive policy towards alcohol but rather fragmented regulations and practices that sometimes are based upon profoundly different assumptions about the role of alcohol in society and the nature of alcohol-related problems. To enhance the likelihood of effectiveness, alcohol policies would benefit from greater public health orientation, integration and coordination.

In sum, opportunities for evidence-based alcohol policies that serve the public good more effectively are more available than ever before. However, the policies to address alcohol-related problems are too seldom informed by science, and there are still too many instances of policy vacuums filled by unevaluated or ineffective strategies and interventions. Because alcohol is no ordinary commodity, the public has a right to expect a more enlightened approach to alcohol policy.

Acknowledgements

The writing of this book was sponsored the UK Society for the Study of Addiction and the Pan American Health Organization (PAHO). The findings and conclusions represent solely the consensus views of its 15 authors, none of whom received either direct or indirect support for their participation from any of the sponsoring organizations or any other organization that might represent a conflict of interest. We are grateful to Jean O'Reilly PhD for her assistance with the editorial management of this revision.

Declarations of interest

JR received financial support to travel to and participate in meetings sponsored in whole or in part by the alcohol industry (ICAP; Association of the American Brewers). JR also received various unrestricted funds for projects by the pharmaceutical industry (Eli Lilly, Schering-Plough Canada). KG has had travel costs paid by the Responsible Hospitality Institute (http://rhiweb.org/) and the International Harm Reduction Association. RH received a grant for project development, not research, from Drinkwise Australia in 2008, a body funded by the alcohol industry and at the time also co-funded by the Australian Government—a relationship which has now ended. All other authors have no interests to declare.

References

1. Bruun K., Edwards G., Lumio M., Mäkelä K., Pan L., Popham R. E. *et al. Alcohol Control Policies in Public Health Perspective*. Helsinki, Finland: Finnish Foundation for Alcohol Studies; 1975.
2. Edwards G., Anderson P., Babor T. F., Casswell S., Ferrence R., Giesbrecht N. *et al. Alcohol Policy and the Public Good*. Oxford, UK: Oxford University Press; 1994.
3. Babor T., Caetano R., Casswell S., Edwards G., Giesbrecht N., Graham K. *et al. Alcohol: No Ordinary Commodity—Research and Public Policy*. Oxford, UK: Oxford University Press; 2010.
4. Rehm J., Mathers C., Popova S., Thavorncharoensap M., Teerawattananon Y., Patra J. Global burden of disease and injury and economic cost attributable to alcohol use and alcohol use disorders. *Lancet* 2009; **373**: 2223–33.
5. World Health Organization. *Global Status Report on Alcohol*. Geneva, Switzerland: World Health Organization; 2004. Available at: http://www.who.int/substance_abuse/publications/global_status_report_2004_overview.pdf (accessed 12 July 2009).
6. Gual A., Colom J. Why has alcohol consumption declined in countries of southern Europe? *Addiction* 1997; **92** (Suppl. 1): 21–31S.
7. Skog O.-J. The collectivity of drinking cultures: a theory of the distribution of alcohol consumption. *Br J Addict* 1985; **80**: 83–99.
8. Skog O.-J. Commentary on Gmel and Rehm's interpretation of the theory of collectivity in drinking culture. *Drug Alcohol Rev* 2001; **20**: 325–31.
9. Wilsnack R. W., Wilsnack S. C., Kristjanson A. F., Vogeltanz-Holm N. D., Gmel G. Gender and alcohol consumption: patterns from the multinational GENACIS project. *Addiction* 2009; **104**: 1487–500.
10. Ezzati M., Lopez A. D., Rodgers A., Murray C. J. L. *Comparative Quantification of Health Risks: Global and Regional Burden of Disease Attributable to Selected Major Risk Factors*. Geneva, Switzerland: World Health Organization; 2004.
11. Klingemann H., Gmel G. Introduction. Social consequences of alcohol—the forgotten dimension? In: Klingemann H., Gmel G., editors. *Mapping of Social Consequences of Alcohol Consumption*. Dordrecht, the Netherlands: Kluwer; 2001, p. 1–9.
12. Room R., Rossow I. The share of violence attributable to drinking. *J Subst Use* 2001; **6**: 218–28.
13. Hill L. The alcohol industry. In: Quar S., Heggenhougen H. K., editors. *International Encyclopaedia of Public Health*. London, UK: Elsevier; 2008, p. 124–35.
14. Jernigan D. H. The global alcohol industry: an overview. *Addiction* 2009; **104** (Suppl. 1): 6–12.
15. Baumberg B. *The Value of Alcohol Policies: a Review of the Likely Economic Costs and Benefits of Policies to Reduce Alcohol-Related Harm on the Global Level. Background Paper Prepared for the WHO Expert Committee on Problems Related to Alcohol Consumption* (second report). Geneva: World Health Organization; 2007.
16. Room R., Jernigan D., Carlini-Marlatt B., Gureje O., Mäkelä K., Marshall M. *et al. Alcohol in Developing Societies: A Public Health Approach*. Helsinki: Finnish Foundation for Alcohol Studies/World Health Organization; 2002.
17. World Health Organization (WHO). *WHO Expert Committee on Problems Related to Alcohol Consumption* (second report). WHO Technical Report Series 944. Geneva: WHO; 2007.
18. Anderson P., Baumberg B. *Alcohol in Europe: A Public Health Perspective: A Report for the European Commission*. Luxembourg: Institute of Alcohol Studies, European Communities; 2006.
19. Österberg E., Karlsson T., editors. *Alcohol Policies in EU Member States and Norway: A Collection of Country Reports*. Helsinki, Finland: STAKES; 2002.
20. Wagenaar A. C., Salois M. J., Komro K. A. Effects of beverage alcohol price and tax levels on drinking: a meta-analysis of 1003 estimates from 112 studies. *Addiction* 2009; **104**: 179–90.
21. Anderson P., Chisholm D., Fuhr D. Effectiveness and cost-effectiveness of policies and programmes to reduce the harm caused by alcohol. *Lancet* 2009; **373**: 2234–46.
22. Gruenewald P. J., Ponicki W. R., Holder H. D., Romelsjö A. Alcohol prices, beverage quality, and the demand for alcohol: quality substitutions and price elasticities. *Alcohol Clin Exp Res* 2006; **30**: 96–105.
23. Toumbourou J. W., Stockwell T., Neighbors C., Marlatt G. A., Sturge J., Rehm J. Interventions to reduce harm associated with adolescent substance use. *Lancet* 2007; **369**: 1391–401.
24. Cook P. J. *Paying the Tab: The Economics of Alcohol Policy*. Princeton, NJ: Princeton University Press; 2007.
25. Leppänen K., Sullström R., Suoniemi I. *The Consumption of Alcohol in Fourteen European Countries: A Comparative Econometric Analysis*. Helsinki: STAKES; 2001.

26. Stockwell T., Chikritzhs T. Do relaxed trading hours for bars and clubs mean more relaxed drinking? A review of international research on the impacts of changes to permitted hours of drinking. *Crime Prev Commun Saf* 2009; **11**: 171–88.
27. Livingston M., Chikritzhs T., Room R. Changing the density of alcohol outlets to reduce alcohol-related problems. *Drug Alcohol Rev* 2007; **26**: 553–62.
28. Gruenewald P. J. The spatial ecology of alcohol problems: niche theory and assortative drinking. *Addiction* 2007; **102**: 870–8.
29. Holder H. D., Kuhlhorn E., Nordlund S., Osterberg E., Romelsjo A., Ugland T. *European Integration and Nordic Alcohol Policies. Changes in Alcohol Controls and Consequences in Finland, Norway and Sweden, 1980–1997*. Aldershot: Ashgate; 1998.
30. Holder H., editor. *Alcohol Monopoly and Public Health: Potential Effects of Privatization of the Swedish Alcohol Retail Monopoly*. Stockholm: Swedish National Institute of Public Health; 2008.
31. Voas R. B., Tippetts A. S. *Relationship of Alcohol Safety Laws to Drinking Drivers in Fatal Crashes*. Washington, DC: National Highway Traffic Safety Administration; 1999.
32. Wagenaar A. C., Toomey T. L. Effects of minimum drinking age laws: review and analyses of the literature from 1960–2000. *J Stud Alcohol* 2002; **63**: S206–25.
33. Graham K. Preventive interventions for on-premise drinking: a promising but underresearched area of prevention. *Contemp Drug Probl* 2000; **27**: 593–668.
34. Lee K., Chinnock P. (2006) Interventions in the alcohol server setting for preventing injuries. *Cochrane Database Syst Rev* Issue 2. Art. no.: CD005244.pub2. DOI: 10.1002/14651858.CD005244.pub2.
35. Wallin E., Gripenberg J., Andréasson S. Overserving at licensed premises in Stockholm: effects of a community action program. *J Stud Alcohol* 2005; **66**: 806–15.
36. Warburton A. L., Shepherd J. P. Tackling alcohol related violence in city centres: effect of emergency medicine and police intervention. *Emerg Med J* 2006; **23**: 12–7.
37. Miller T. R., Lestina D. C., Spicer R. S. Highway crash costs in the United States by driver age, blood alcohol level, victim age, and restraint use. *Accid Anal Prev* 1998; **30**: 137–50.
38. Wagenaar A. C., Maldonado-Molina M. Effects of drivers' license suspension policies on alcohol-related crash involvement: long-term follow-up in forty-six states. *Alcohol Clin Exp Res* 2007; **31**: 1399–406.
39. Homel R. Random breath testing in Australia: getting it to work according to specifications. *Addiction* 1993; **88** (Suppl. 1): 27–33S.
40. Desapriya E. B. R., Shimizu S., Pike I., Subzwari S., Scime G. Impact of lowering the legal blood alcohol concentration limit to 0.03 on male, female and teenage drivers involved alcohol-related crashes in Japan. *Int J Injury Control Saf Prom* 2007; **14**: 181–7.
41. Shults R. A., Elder R. W., Sleet D. A., Nichols J. L., Alao M. A., Carande-Kulis V. G. *et al.* and the Task Force on Community Preventive Services. Reviews of evidence regarding interventions to reduce alcohol-impaired driving. *Am J Prev Med* 2001; **21**: 66–88.
42. Elder R. W., Shults R. A., Sleet D. A., Nichols J. L., Zaza S., Thompson R. S. Effectiveness of sobriety checkpoints for reducing alcohol-involved crashes. *Traffic Injury Prev* 2002; **3**: 266–74.
43. Marques P. R. The alcohol ignition interlock and other technologies for the prediction and control of impaired drivers. In: Verster J. C., Pandi-Perumal S. R., Ramaekers J. G., de Gier J. J., editors. *Drugs, Driving, and Traffic Safety*. Basel: Birkhäuser; 2009, p. 457–76.
44. Ditter S. M., Elder R. W., Shults R. A., Sleet D. A., Compton R., Nichols J. L. and the Task Force on Community Preventive Services. Effectiveness of designated driver programs for reducing alcohol-impaired driving: a systematic review. *Am J Prev Med* 2005; **28**: 280–7.
45. Zwerling C., Jones M. P. Evaluation of the effectiveness of low blood alcohol concentration laws for younger drivers. *Am J Prev Med* 1999; **16** (Suppl. 1): 76–80.
46. Hartling L., Wiebe N., Russell K., Petruk J., Spinola C., Klassen T. P. (2004) Graduated driver licensing for reducing motor vehicle crashes among young drivers. *Cochrane Database Syst Rev* Issue 2. Art. no. CD003300. DOI: 10.1002/14651858.CD003300.pub2.
47. Casswell S. Alcohol brands in young peoples' everyday lives: new developments in marketing. *Alcohol Alcohol* 2004; **6**: 471–6.
48. Snyder L., Milici F., Slater M., Sun H., Strizhakova Y. Effects of advertising exposure on drinking among youth. *Arch Pediatr Adolesc Med* 2006; **160**: 18–24.
49. Anderson P., de Bruijn A., Angus K., Gordon R., Hastings G. Impact of alcohol advertising and media exposure on adolescent alcohol use: a systematic review of longitudinal studies. *Alcohol Alcohol* 2009; **44**: 229–43.
50. Booth A., Meier P., Stockwell T., Sutton A., Wilkinson A., Wong R. *Independent Review of the Effects of Alcohol Pricing and Promotion. Part A: Systematic Reviews*. Sheffield, UK: School of Health and Related Research, University of Sheffield; Available at: (2008) http://www.dh.gov.uk/en/Publichealth/Healthimprovement/Alcoholmisuse/DH_4001740 (accessed 30 January 2009).
51. Perry C. L., Williams C. L., Veblen-Mortenson S., Toomey T. L., Komro K. A., Anstine P. S. *et al*. Project Northland: Outcomes of a community-wide alcohol use prevention program during early adolescence. *Am J Pub Health* 1996; **86**: 956–65.
52. Foxcroft D. R., Ireland D., Lowe G., Breen R. 2002) Primary prevention for alcohol misuse in young people. *Cochrane Database Syst Rev* Issue 3. Art no. CD003024. DOI: 10.1002?14651858.CD003024.
53. Johannessen K., Collins C., Mills-Novoa B., Glider P. A. *A Practical Guide to Alcohol Abuse Prevention: A Campus Case Study in Implementing Social Norms and Environmental Management Approaches*. Tucson, AZ: Campus Health Services, University of Arizona; 1999.
54. Perkins H. W., Craig D. W. *A Multifaceted Social Norms Approach to Reduce High-Risk Drinking: Lessons from Hobart and William Smith Colleges*. Newton, MA: Higher Education Center for Alcohol and other Drug Prevention, Department of Education; 2003.
55. Miller W. R., Brown J. M., Simpson T. L., Handmaker N. S., Bien T. H., Luckie L. F. *et al.* What works? A methodological analysis of the alcohol treatment outcome literature. In: Hester R. K., Miller W. R., editors. *Handbook of Alcoholism Treatment Approaches: Effective Alternatives*, 2nd edn. Boston, MA: Allyn and Bacon; 1995, p. 12–44.
56. Whitlock E. P., Polen M. R., Green C. A., Orlean T., Klein J. Behavioral counseling interventions in primary care to reduce risky/harmful alcohol use by adults: a summary of the evidence for the US Preventive Services Task Force. *Ann Intern Med* 2004; **140**: 557–68.

57. Finney J. W., Hahn A. C., Moos R. H. The effectiveness of inpatient and outpatient treatment for alcohol abuse: the need to focus on mediators and moderators of setting effects. *Addiction* 1996; **91**: 1773–96.
58. Anton R. F., O'Malley S. S., Ciraulo D. A., Cisler R. A., Couper D., Donovan D. M. *et al.* for the COMBINE Study Research Group. Combined pharmacotherapies and behavioral interventions for alcohol dependence: the COMBINE Study: a randomized controlled trial. *JAMA* 2006; **295**: 2003–17.
59. Kranzler H. R., Van Kirk J. Naltrexone and acamprosate in the treatment of alcoholism: a meta-analysis. *Alcohol Clin Exp Res* 2001; **25**: 1335–41.
60. Ouimette P. C., Finney J. W., Gima K., Moos R. H. A comparative evaluation of substance abuse treatment: examining mechanisms underlying patient–treatment matching hypotheses for 12-step and cognitive–behavioral treatments for substance abuse. *Alcohol Clin Exp Res* 1999; **23**: 545–51.
61. Anderson P. The beverage alcohol industry's social aspects organizations: a public health warning. *Addiction* 2005; **99**: 1376–7.
62. International Center for Alcohol Policies (ICAP). *The Structure of the Beverage Alcohol Industry*. ICAP Report 17. Washington, DC: ICAP; 2006.
63. Bakke O., Endal D. Alcohol policies out of context: drinks industry supplanting government role in alcohol policies in sub-Saharan Africa. *Addiction* 2010; **105**: 22–8.
64. Stenius K., Babor T. F. The alcohol industry and public interest science. *Addiction* 2010; **105**: 191–8.