Alcohol policy reform in Australia: what can we learn from the evidence?

Christopher M Doran, Wayne D Hall, Anthony P Shakeshaft, Theo Vos and Linda J Cobiac

ABSTRACT

- Alcohol consumption is a major risk factor contributing to the burden of disease in Australia.
- The National Preventative Health Taskforce recommends the long-term goal of reshaping Australia's drinking culture to produce healthier and safer outcomes.
- A study of the cost-effectiveness of interventions to reduce alcohol-related harm in Australia suggests that policymakers could achieve over 10 times the health gain if they reallocated the current level of investment.
- The optimal package of interventions identified in the study comprises, in order of cost-effectiveness, volumetric taxation, advertising bans, an increase in the minimum legal drinking age to 21 years, brief intervention by primary care practitioners, licensing controls, a drink-driving mass media campaign, and random breath testing.
- Australia has a window of opportunity to significantly expand activities to reduce alcohol-related harm. It is important that federal and state governments take this opportunity to reform alcohol policy in Australia.

MJA 2010; 192: 468–470

An estimated 3.8% of deaths globally and 4.6% of disability-adjusted life-years (DALYs) are attributable to alcohol use.[1] Alcohol imposes economic costs equivalent to about 1% of gross national product in high-income countries.[1] In Australia in 2003, 3.3% of the total disease burden was attributable to alcohol use, while a protective effect of alcohol was estimated to have prevented 1%.[2] Indigenous Australians experienced a much greater burden of alcohol-related harm, estimated to be 6.2% of the total burden of disease in Indigenous peoples, with 0.8% prevented by protective effects.[3] In 2004–05, the total net tangible cost of alcohol use (which included lost productivity, health care costs, road accident-related costs and crime-related costs) was $10.8 billion.[4]

Governments can and should take action to reduce the burden and costs of alcohol.[1,5] In Australia, the National Preventative Health Taskforce (NPHT) has recommended the long-term goal of reshaping Australia's drinking culture to produce healthier and safer outcomes.[6] The NPHT outlined a three-staged approach involving a combination of strategies such as education campaigns, advertising and product regulation, taxation reform and improved training for health care professionals.[5]

Much of the current debate about alcohol policy has arisen from two Senate inquiries into the appropriateness of equalising the tax rates imposed on ready-to-drink spirit-based beverages (RTDs; "alcopops") and straight spirits.[7,8] The alcopops tax debate has raised a number of important issues for alcohol policy in Australia.[9] First, the quality of currently available data on alcohol use and harm needs to be improved. Second, policy needs to be evaluated using these improved measures. Third, more effective liaison needs to be established between researchers and governments to demonstrate the relevance and pragmatic role of measures in public policy. Fourth, measures need to be adopted to counteract the intense lobbying by alcohol industry groups opposed to any policy that may reduce harm by reducing alcohol consumption.

A comprehensive global assessment of the effectiveness and cost-effectiveness of policies to reduce alcohol-related harm, based on the World Health Organization's policy target areas, found that policies that regulate the environment in which alcohol is marketed (particularly its price and availability) are effective in reducing alcohol-related harm, as are brief interventions targeting people who drink at risky levels and legislation to reduce drink-driving.[10] School-based education, a popular measure, was found to be ineffective in reducing alcohol-related harm, although the authors note that public education has a role in providing information and increasing the attention given to alcohol on political and public agendas. By adding an economic dimension to the analysis, they found that making alcohol more expensive and less available and banning alcohol advertising were the three most cost-effective strategies for reducing harm.[10]

Cobiac and colleagues have assessed the cost-effectiveness of interventions to reduce alcohol-related harm in Australia.[11] The interventions they considered included volumetric taxation (ie, equalising alcohol excise rates according to alcohol content), advertising controls, mass media campaigns, brief intervention by primary care practitioners, residential treatment for alcohol dependence, licensing controls, increasing the minimum legal drinking age to 21 years, and random breath testing (RBT). Their focus was on identifying an optimal package of interventions that provided the best value for money in reducing alcohol-related harm. They used a multistate, multiple cohort life-table model to predict the changes in mortality and morbidity associated with alcohol-related diseases and injuries due to each intervention.

Several of Cobiac et al's results are worth noting, all of which are broadly consistent with those of two other analyses of cost-effectiveness[10,12] and an evidence-based review of alcohol policy conducted by the Royal Australasian College of Physicians and the Royal Australian and New Zealand College of Psychiatrists.[13] First, although RBT was found to be a cost-effective intervention, over 10 times the amount of health gain could be achieved if the $71 million currently spent on RBT were redirected to the optimal package of cost-effective interventions. The optimal package of interventions comprised, in order of cost-effectiveness, volumetric taxation, advertising bans, an increase in the minimum legal drinking age to 21 years, brief intervention by primary care practitioners, licensing controls, a drink-driving mass media campaign, and then RBT.[11]

Second, this optimal package of interventions could avert 26 000 DALYs (95% uncertainty interval [UI], 19 000–34 000 DALYs), nearly a third (31%) of the health gain that would be

achieved if all people who drink at hazardous and harmful levels drank at low-risk levels.

Third, the improvements in health would be achieved at a total intervention cost of $210 million (95% UI, $190 million–$230 million). These costs would be partly offset by an estimated reduction in the costs of treating alcohol-related diseases and injuries of $130 million (95% UI, $64 million–$220 million). Fourth, the prevention interventions modelled were more cost-effective in reducing alcohol-related harm than those used to treat alcohol dependence.

While evidence on cost-effectiveness was Cobiac et al's main focus,[11] we believe there are other criteria that can influence the priority ranking of the interventions by governments. These additional criteria include: strength of the evidence; capacity of the intervention to reduce inequity in health outcomes; acceptability to stakeholders; conflict of interest; feasibility and sustainability; and potential for other adverse consequences. Applying these criteria to Cobiac et al's study, we reached the following conclusions.

First, the strength of evidence underpinning the interventions varies.[11] This ranges from economic modelling of the effects of increased taxation on consumption, to analyses of pooled time series data (eg, on the effects of advertising bans and raising the minimum legal drinking age) and meta-analyses of randomised controlled trials of brief interventions.

Second, population-wide interventions, such as advertising bans and changes to taxation, may be more equitable than targeted interventions, such as residential treatment or brief interventions, that rely on access to a general practitioner who is prepared to deliver the intervention. Prioritising the latter may disadvantage regional areas where GPs are in short supply and residential detoxification facilities are limited. Cobiac et al did not address issues relevant to the Indigenous population or vulnerable sub-groups of the population, other than dependent drinkers. Analyses of impacts on Indigenous sub-groups are urgently required in light of the higher burden of alcohol-related harm within Indigenous communities.[3]

Third, the alcohol industry consistently opposes any policy that may reduce demand for alcohol.[14] This is perhaps the most politically relevant factor in alcohol policy today. The alcohol industry has become increasingly involved in the policy arena to protect its commercial interests, leading to a common criticism among public health professionals that the industry has been influential in setting the policy agenda, shaping the perspectives of legislators on policy issues, and pushing alcohol policy towards "self-regulation".[14]

To offset some of the industry's concerns, the Australian Government may consider a tiered volumetric system as recommended by the NPHT.[6] This system would include stepped increases in taxation rates to provide economic incentives for the production and consumption of lower strength alcohol products, and disincentives for the production and consumption of the highest risk alcohol products. In this way, taxation would reflect the negative social costs attributable to certain alcohol products.

Fourth, governments have a conflict of interest in alcohol policy. Using data from Euromonitor, Doran and Shakeshaft estimated that the total economic value of the Australian alcohol industry in 2006 was around $29 billion,[15] of which Australian governments received $6 billion in 2006–07 in taxation receipts.[16]

Fifth, interventions that require one-off legislative changes (eg, changes to taxation and the minimum legal drinking age) are the most feasible and sustainable because the systems to implement and monitor these changes are already in place. The feasibility and sustainability of brief intervention and residential treatment are less certain because they depend on a trained workforce of motivated GPs and other staff to provide counselling.

Sixth, it is unlikely that alcohol interventions will negatively affect population health. Although there may be some loss of the putative protective effects of moderate alcohol use for ischaemic heart disease, and gallbladder and bile duct disease, these small losses would be outweighed by the population health gains from reducing the more prevalent alcohol-related diseases and injuries.[1,2] There are also potential positive social effects of the interventions that have not been included in Cobiac et al's modelling. These include productivity gains from decreased alcohol-related disease and injury; reduced road traffic accidents, violence and crime; improvements in workforce and household productivity; and benefits to others from decreased alcohol-related road traffic accidents, violence and crime.[11]

Cobiac et al have provided policymakers with evidence for the most cost-effective strategies for reforming alcohol policy in Australia.[11] By reallocating resources committed to reducing alcohol-related harm, policymakers could achieve over 10 times the health gain for the current level of investment. Australia has a window of opportunity to significantly expand activities to reduce alcohol-related harm.[6] It is important that federal and state governments take this opportunity to reform alcohol policy in Australia.

Competing interests

None identified.

Author details

Christopher M Doran, PhD, Associate Professor in Health Economics[1]
Wayne D Hall, PhD, NHMRC Australia Fellow and Professor of Public Health Policy[2]
Anthony P Shakeshaft, PhD, Division Head, Research[3]
Theo Vos, MSc, PhD, Professor of Public Health and Evidence-based Policy[2]
Linda J Cobiac, BEng, MEngSc, MPhil, Research Officer[2]
1 National Drug and Alcohol Research Centre, University of New South Wales, Sydney, NSW.
2 School of Population Health, University of Queensland, Brisbane, QLD.
3 Sax Institute, Sydney, NSW.
Correspondence: c.doran@unsw.edu.au

References

1 Rehm J, Mathers C, Popova S, et al. Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders. *Lancet* 2009; 373: 2223-2233.
2 Begg S, Vos T, Barker B, et al. The burden of disease and injury in Australia 2003. Canberra: Australian Institute of Health and Welfare, 2007. (AIHW Cat. No. PHE 82.)
3 Vos T, Barker B, Begg S, et al. Burden of disease and injury in Aboriginal and Torres Strait Islander peoples. *Int J Epidemiol* 2009; 38: 470-477.
4 Collins DJ, Lapsley HM. The costs of tobacco, alcohol and illicit drug abuse to Australian society in 2004/05. National Drug Strategy Monograph Series No. 64. Canberra: Commonwealth of Australia, 2008. http://www.health.gov.au/internet/drugstrategy/publishing.nsf/Content/mono64 (accessed Aug 2009).

5 Casswell S, Thamarangsi T. Reducing harm from alcohol: call to action. *Lancet* 2009; 373: 2247-2257.
6 National Preventative Health Taskforce. Australia: The healthiest country by 2020 — National Preventative Health Strategy — the roadmap for action. Canberra: Commonwealth of Australia, 2009.
7 Senate Community Affairs Committee. Inquiry into Excise Tariff Amendment (2009 Measures No. 1) Bill 2009 and Customs Tariff Amendment (2009 Measures No. 1) Bill 2009 [provisions]. Public hearing and transcript. Mar 2009. http://www.aph.gov.au/senate/committee/clac_ctte/excise_customs_tariff/hearings (accessed Jun 2009).
8 Senate Community Affairs Committee. Inquiry into ready-to-drink alcohol beverages. Public hearings and transcripts. Jun 2008. http://www.aph.gov.au/senate/committee/clac_ctte/alcohol_beverages/hearings (accessed Jun 2009).
9 Shakeshaft AP, Doran CM, Byrnes J. The role of research in the failure of the alcopops excise in Australia: what have we learned? *Med J Aust* 2009; 191: 223-225.
10 Anderson P, Chisholm D, Fuhr DC. Effectiveness and cost-effectiveness of policies and programmes to reduce the harm caused by alcohol. *Lancet* 2009; 373: 2234-2246.
11 Cobiac L, Vos T, Doran CM, Wallace A. Cost-effectiveness of interventions to prevent alcohol-related disease and injury in Australia. *Addiction* 2009; 104: 1646-1655.
12 Chisholm D, Rehm J, Van Ommeren M, et al. Reducing the global burden of hazardous alcohol use: a comparative cost-effectiveness analysis. *J Stud Alcohol* 2004; 65: 782-793.
13 Royal Australasian College of Physicians, Royal Australian and New Zealand College of Psychiatrists. Alcohol policy: using evidence for better outcomes. Sydney: RACP, 2005.
14 Anderson P. Global alcohol policy and the alcohol industry. *Curr Opin Psychiatry* 2009; 22: 253-257.
15 Doran CM, Shakeshaft AP. Using taxes to curb drinking in Australia. *Lancet* 2008; 372: 701-702.
16 Distilled Spirits Industry Council of Australia Inc. Pre-budget submission 2008–09. http://www.dsica.com.au/pdfs/DSICAPreBudSub0809.pdf (accessed Jul 2009).

(Received 6 Oct 2009, accepted 18 Jan 2010) ❑