

OPINION PIECE

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SHARPENING THE FOCUS OF ALCOHOL POLICY FROM AGGREGATE CONSUMPTION TO HARM AND RISK REDUCTION

TIM STOCKWELL¹, ERIC SINGLE², DAVID HAWKS¹
and JÜRGEN REHM³

¹National Centre for Research into the Prevention of Drug Abuse, Australia, ²Canadian Centre on Substance Abuse, Toronto, ³Addiction Research Foundation, Toronto, Canada

An argument is presented for shifting the main focus of the alcohol policy debate away from aggregate level of consumption as the key determinant of alcohol problems in favour of a sharper focus on the reduction of harm and of high risk drinking. This argument is developed by highlighting the advantages of the latter approach in relation to: (i) the ability to distinguish between low risk and harmful consumption of alcohol (ii) the ability to predict which drinkers are most likely to experience harmful consequences of drinking (iii) the acceptability of policy objectives to government and industry, and (iv) the acceptability of prevention strategies to the general public. It is suggested that this focused approach to the measurement and reduction of alcohol related harm is more likely to achieve tangible success in the policy arena than one which is overtly predicated upon the need to reduce total population consumption of alcohol.

INTRODUCTION

At one time when the Disease Model dominated thinking about alcohol-related problems, alcohol policy discussions focused on the prevention and treatment of alcoholism, which was viewed as the major source of alcohol-related chronic health problems such as liver cirrhosis (Makela *et al.*, 1981). In the 1960s and 1970s alcohol researchers and clinicians began to question this focus on a disease entity (Edwards, 1978). It was noted that there is no threshold at which one suddenly became at significant risk of alcohol-related problems and that there was some risk at consumption levels below that associated with 'alcoholism' (Room, 1977). Alcohol-related problems such as impaired driving and alcohol-related family dysfunction gained greater attention. A consensus gradually developed among scientific advisors to the World Health Organisation in favour of a more disaggregated approach in which alcohol policy was concerned with a wide variety of adverse con-

Address for correspondence: Professor Tim Stockwell, Director, National Centre for Research into the Prevention of Drug Abuse, Curtin University, GPO Box U1987, Perth WA 6001, Australia.

sequences arising from the use of alcohol, including but not consisting entirely of problems associated with alcohol dependence (Edwards *et al.*, 1977). This consensus also embraced the view that aggregate consumption of alcohol in a community is the principal determinant of the level of problems (Bruun *et al.*, 1975).

Just as the concept of alcoholism has been replaced by a more complex view of alcohol-related problems of which dependence is but one dimension, we now believe that it would be advantageous to shift the main focus of policy deliberations away from aggregate levels of consumption as the key determinant of alcohol problems. Instead, we wish to suggest that a sharper focus on high risk drinking patterns may avoid a number of impediments which have bedevilled attempts to recommend prevention policies to the wider community. From our collective experience of negotiating alcohol policies in Canada and Australia, a major advantage of such a change of emphasis is that there is no longer the implication that a reduction of *everyone's* consumption is a prerequisite for success.

It is important to state at the outset that we do not question the substantial evidence which links levels of alcohol-related harm with levels of consumption (Edwards *et al.*, 1994), whether at the individual or population level. Nor are we only concerned with the 'marketing' of scientific knowledge. We do wish to suggest, however, that there is a scientific challenge which the field must meet if it is to persuade sceptics and to present the case for alcohol preventive policy to its best advantage. This challenge is to develop the capability of measuring fluctuations in levels and types of both harm and high risk drinking in communities and to then relate these to variables over which policy makers have some influence (e.g. level of taxation, enforcement of liquor and drink-driving laws). We will briefly compare such an approach with one which relies on measuring aggregate alcohol consumption in relation to four key issues. These issues will also be explored in the forthcoming proceedings of a recent thematic meeting of the Kettil Bruun Society held in Toronto in November 1995 entitled "The social and health effects of different drinking patterns" (Rehm *et al.*, in press).

THE TWO APPROACHES COMPARED

1. The Distinction Between Low Risk and Harmful Consumption

Per capita alcohol consumption is the most average of average measures. It is usually expressed as the mean number of litres of pure ethyl alcohol consumed in one year by the average adult citizen of a country. No account is taken of rates of abstinence or patterns of consumption. We are given no indication of how much of that average person's consumption might be classifiable as low risk (perhaps even beneficial), hazardous or actually harmful.

Prevention policies which are predicated upon the need to reduce the consumption of all drinkers necessarily involve reducing consumption which is low risk or even beneficial in some respects as well as consumption which is hazardous or harmful. A recent attempt to breakdown total consumption figures in this way for Western Australia, (Oddy and Stockwell, 1995), resulted in the estimate of 53% of all alcohol consumed each week being 'low risk', 15% 'hazardous' and 32% 'harmful' according to Australia's national guidelines for daily alcohol consumption, (Pols and Hawks 1991). A similar calculation for Ontario, Canada, employing data also from a 1994 survey (Adlaf, Ivis and Smart, 1994),

results in the estimate of 41.1% of alcohol consumption being 'low risk', 11.7% 'increased risk' and 47.2% being 'hazardous' according to more stringent guidelines for Canadians established by the Addiction Research Foundation (ARF) (1995). In both instances, these estimates were based on respondents' reports of the number of drinks consumed on each of the previous seven days. While the new evidence of potentially beneficial effects of low level consumption for some categories of illness (Ashley *et al.*, 1994), doesn't mean that drinking is always good for you, it does mean that it is no longer accurate to claim that drinking less is always better. It also underscores the need to distinguish between low risk, hazardous and harmful consumption whenever possible.

The job of advocating policies designed to reduce mean consumption (e.g. Kreitman, 1986) has become more difficult in a climate in which the alleged benefits of 'moderation' are well publicised. We believe that the job of advocating policies that target harm and harmful drinking is likely to be more rewarding.

2. The Prediction of Harmful Consequences of Drinking

In surveys, respondents are often classified according to the extent of their average daily consumption which is then related to whether they have experienced some form of harm. Although a significant and positive relationship is almost universally found between levels of consumption and the probability of harm occurring (Makela *et al.*, 1981), the numbers of drinkers who consistently drink at a level deemed to be 'hazardous' or 'harmful' using a measure of average daily consumption is not large e.g. 6% males and 3% females in Australia drink at a level considered 'harmful' by its peak medical research body (Lang *et al.*, 1992) and only 8.1% of Ontarians are 'hazardous' drinkers, the highest risk category according to ARF guidelines.

In recent years there has been an accumulation of evidence from various countries showing that the temporal pattern of drinking is more useful than average level of consumption for predicting the occurrence of alcohol-related problems. Other researchers have stressed the importance of drinking pattern long before us by, for example, pointing out the situational determinants of heavy drinking occasions. (Room, 1975). Also there were attempts to describe temporal variation in drinking patterns in such ways as adding a measure of 'variability' in amount consumed per occasion to quantity and frequency measures (Knupfer, 1984). A simpler measure is the frequency of 'heavy' drinking occasions which is highly relevant for current considerations since, in effect, this excludes drinking which is mostly 'low risk'. Single and Wortley (1993) found that number of days in which 5 or more 'drinks' were consumed by respondents to a national Canadian survey was a better predictor than average level consumption of the likelihood of experiencing a variety of chronic and acute problems. Midanik and her colleagues (1994) note similar findings in a 1988 US national survey. Stockwell *et al.*, (1996) report Australian data in which amount consumed on a drinking occasion identified many more survey respondents with problems than did a measure of average daily consumption. Similarly, Crawford (1993) compared average consumption with the number of days involving consumption of 8 or more 'drinks' as predictors of alcohol-related harm in a sample of Scottish drinkers. The latter variable had substantially greater predictive power.

In passing, it is interesting to note that when account is taken of the different sizes of

'standard drinks' in Canada (14g), the UK (8–10g) and Australia (10g), the above studies suggest that exceeding approximately 60g on *any* drinking occasion (for a man) might be a useful additional criterion for 'risky' consumption. We suggest that such advice could usefully supplement existing advice on low risk drinking which at present often concentrates on drinking levels which *on average* pose risks for long-term health. This additional criterion would identify occasional binge drinkers as 'at risk' who exceed 60g on an occasion but whose average daily consumption would otherwise be classified as 'low risk'. Those few drinkers who never exceed 60g on any day but whose average daily intake still exceeds 30–40g per day are, of course, still at increased risk of long term health problems (Pols and Hawks, 1991).

The above studies provide important, if not surprising, evidence that measures of alcohol consumption which are sensitive to temporal pattern predict both chronic and acute harm better than do measures of average consumption. It is due to the fact that, as Kreitman (1986) showed, many people whose average consumption is moderate put themselves at risk due to a pattern of occasional excessive or 'binge' drinking. It is not a tiny minority of drinkers who are at risk but, at some time, the majority. A recent Australian national survey of drinking habits found that 70% of male and 58% of female drinkers drank at levels considered 'hazardous' (McAllister, 1993), at some time in the previous year.

These findings suggest that the risk of alcohol-related harm is distributed on a continuum throughout the drinking population and is certainly not limited to the small number of consistently heavy drinkers. This continuum is best characterised in terms of frequency of heavy drinking rather than average measures of consumption.

The fact that in both Canada and Australia almost half of all alcohol consumption can be categorised as hazardous, also suggests that the best strategy to prevent the occurrence of harm is to target hazardous levels of drinking, especially in high risk situations.

In keeping with what we believe to be a more discerning focus on hazardous alcohol use, Holman and English (1995) have described an 'improved' aetiologic fraction for alcohol caused mortality arising from their latest meta-analysis of the scientific literature on alcohol consumption and harm. In essence, they have dropped the previous practice of calculating relative risk of alcohol against abstinence and now use 'safe' alcohol use as the base level.

3. Acceptability of Policy Objectives to Government and Industry

It is difficult to cite examples of governments which have set about reducing alcohol-related problems explicitly by the means of reducing per capita consumption—at least short of total prohibition. The Northern Territory government in Australia is probably one of few to have done so when it announced the policy of addressing alcohol problems by attempting to reduce consumption to the national average by a combination of educational strategies and controls on availability (d'Abbs, 1993). Examples of unsuccessful attempts to persuade governments to reduce per capita consumption via controls on availability are easier to identify (Stewart, and Casswell, 1988; Hawks, 1990). The USSR, immediately prior to its collapse, would appear to present an example of an unsuccessful attempt by a government to persuade its people to reduce per capita consumption (Partanen, 1993). Price increases and production controls resulted in an increase in black market liquor and

related criminal activity. With the advent of *glasnost*, opponents of the restrictions aired their grievances publicly and the restrictions were gradually eased.

There are obvious and compelling conflicts of interest for governments in relation to alcohol policy which underlie this lack of governmental response. A policy which aims to reduce harm by the mechanism of reducing total consumption will, if successful, usually also have the consequence of reducing the considerable revenues generated by taxation on alcoholic products. (An important exception to this rule would be a revenue-positive increase in taxation). Furthermore, a policy which seeks to reduce total alcohol consumption, whether through taxation or other means, invites the implacable opposition of the alcohol industry which has frequently used its considerable resources and influence to stop prevention initiatives in their tracks (Hawks, 1990; Hawks, 1993; Stockwell and Beel, 1994; Reynolds, 1993).

There is also a general and increasing difficulty in persuading governments to regulate any industry in an era where deregulation has been aggressively pursued by governments of various political persuasions (Lloyd, 1985), and in which free trade agreements hamper unilateral regulatory action (Osterberg, 1992). This difficulty is illustrated by the recent decision of the Canadian federal government to reduce cigarette taxes, apparently in order to stem the flow of contraband tobacco (Canadian Centre on Substance Abuse, 1994), from the USA and contrary to the full weight of medical and public health opinion.

A policy which aims to reduce hazardous and harmful drinking is harder to oppose and, in fact, is frequently espoused by alcohol industry advocates. We submit that such an approach is more likely to win support from politicians and draw less effective resistance from the alcohol industry than approaches which stress the need to reduce total consumption.

4. Acceptability of Prevention Strategies to the General Public

It has often been suggested that there is a gulf between prevention strategies that are popular and those that are effective (Saunders, 1989). Certainly there are several strategies which enjoy strong scientific support with regard to efficacy but which appear to be profoundly unpopular, at least in English-speaking countries. Examples include raising the price of alcohol specifically to reduce consumption (Flaherty, Homel and Hall, 1991), raising the drinking age (Lang, Stockwell and White, 1994), and reducing the number of retail outlets (Room *et al.*, 1992). However, it is possible to identify harm or risk-reduction strategies which have some evidence of being effective as well as enjoying high levels of acceptability (Stockwell, 1995). Corresponding examples of effective and popular strategies would be, respectively: raising a 'harm-reduction levy' on all alcoholic drinks (Flaherty *et al.*, 1991) the proceeds of which would be used to fund prevention and treatment programs; enforcing the existing laws regarding serving alcohol to persons underage (Lang *et al.*, 1992) and, possibly, having an extended probationary driving period with a zero blood alcohol (Smith, 1984); compulsory licensee and server training (Holder and Wagenaar, 1994) plus increased enforcement of laws regarding the sale of alcohol to intoxicated customers on licensed premises (Hawks *et al.*, 1993; Lang, *et al.*, 1992).

In these examples, it is the strategies which are focused on reducing harm and high risk drinking which enjoy public support rather than those which are perceived as attempting to make all drinkers (or at least all in a particular age group) pay for the sins of the few.

This opinion research suggests that it is hard to persuade people who drink in a low risk fashion that they should drink less or have less access to alcohol but most people seem willing to support sensible strategies that are focused on reducing alcohol-related harm or on deterring behaviour which renders such harm likely.

It is important to recognise that there will be considerable local variation in the extent to which controls on the physical availability of alcohol are acceptable. Many remote communities of indigenous people in both Australia and Canada prohibit the sale and consumption of alcohol. Others, like Halls Creek in Western Australia, have managed to persuade a centralised liquor licensing authority to restrict the sales of cask wine to one cask per person per day between the hours of 4pm and 6pm only (Holmes, 1994), in response to the very high local levels of alcohol-related violence, death and illness in that community. We believe that the ability of communities to influence local alcohol availability in this way should be fostered through flexible liquor licensing arrangements. What may not be desirable or acceptable across the board, will usually be considered essential somewhere.

IMPLICATIONS FOR RESEARCHERS AND POLICY ADVOCATES

Focusing on the control or reduction of aggregate consumption levels as a means of preventing alcohol related problems introduces a needless distraction into debates about optimal harm reduction strategies. By placing the primary focus of prevention on mean level of consumption, it implies that changes in consumption levels of the whole population are a prerequisite for the reduction in alcohol-related problems. Aggregate consumption levels are in fact likely to fall if effective strategies are introduced, but this would be co-incident with the desired outcome not a prerequisite. Indeed, the introduction of random breath testing in Australia during the 1980s appears to have been associated with an overall decline in alcohol consumption, (Makkai and McAllister, 1993), possibly contributed to also by the increased availability and consumption of low alcohol products. If such a decline in consumption occurred this was not the primary purpose for introducing RBT, the principle purpose of which was to reduce death and injury associated with road crashes.

A similar argument could be advanced in relation to the proposal that the price of alcohol should rise so as to reduce the frequency of heavy drinking occasions and consequent harm: overall consumption is likely to be reduced too but this would not be the policy objective. We need more data regarding the effects of prevention policies on different types and patterns of consumption. By way of illustration, it is useful to extrapolate the results of a brief telephone intervention program which was successful in assisting problem drinkers to reduce their intake to lower risk levels (Sanchez-Craig, Davila and Cooper, 1995). If such a program were to reach 1% of the target population then it can be estimated that per capita consumption would fall by 3.6% but 'hazardous' consumption by 6.4%.

While an emphasis on achieving a reduction in per capita consumption may appear to some researchers and advocates to be putting the horse before the cart, to the voting public and to those who make policy the reverse is more likely. They are not concerned with logical consistency in causal modelling but with the reduction of problems caused by

excessive drinking. Alcohol researchers and policy advocates have some choice about whether they focus on aggregate measures of consumption or on measures of high risk drinking. We believe that the latter give us the best handle on the probability and extent of alcohol-related harm and also speak more directly to the concerns of the many non-specialists who, collectively, have the greatest influence on the direction of national policy in this area. Thus, somewhat ironically, shifting the emphasis away from reducing aggregate consumption may actually be the most effective way of achieving this objective.

We recommend, therefore, that a greater emphasis be placed on the objective of reducing high risk drinking patterns rather than aggregate consumption levels while recognising that both will fall if we are successful. We recommend further that greater efforts be made to measure and monitor alcohol consumption that is hazardous or actually harmful and to distinguish this from consumption which is low risk to health—or even, for some people, possibly beneficial. Not only will this enable more powerful prediction of the occurrence of alcohol related harm but it will also assemble evidence for effective prevention strategies which will be credible and persuasive to those who make policy.

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