

# A review of policy-relevant strategies and interventions to address the burden of alcohol on individuals and society in South Africa

**Charles DH Parry**

*Alcohol & Drug Abuse Research Group, Medical Research Council and Department of Psychology, Stellenbosch University\*, Stellenbosch, South Africa*

## Abstract

*This paper focuses on alcohol intervention strategies likely to be effective in a country like South Africa. It begins with an appraisal of the latest data on the burden of harm associated with the misuse of alcohol, globally, regionally and in South Africa. The main part of the paper comprises a critical analysis of a broad array of policy-relevant interventions to address the burden of alcohol on individuals and society. The paper ends with a listing of alcohol intervention strategies most likely to have the greatest efficacy for South Africa together with comments on issues relating to implementation of a national alcohol strategy.*

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For millennia concerns have been raised about the misuse of alcohol and much advice has been given on how to combat such misuse. Recently, however, there has been the emergence of several multi-authored books with a public health orientation dedicated to reviewing a broad array of strategies aimed at addressing this burden.<sup>1,2,3</sup>

The focus of this article is on alcohol intervention strategies likely to be most effective for a country like South Africa. The article is organised into three parts. The first contains an appraisal of the latest data on the global, regional and national burden of harm associated with the misuse of alcohol. The second comprises a critical analysis of the broad array of policy-relevant interventions to address the burden of alcohol on individuals and society that was outlined in the most recently published book on this topic, *Alcohol: No ordinary commodity. Research and public policy*.<sup>1</sup> In concluding, a mix of alcohol intervention strategies is proposed that is likely to have the greatest efficacy for South Africa and a few comments are provided regarding issues of implementation.

## Burden of alcohol globally, regionally and in South Africa

The World Health Organization's Global Burden of Disease study sought to quantify the global burden of alcohol and 19 other risk

factors in terms of death and disability.<sup>4</sup> Part of the measurement of the burden associated with alcohol involved rating regions of the world by average volume of alcohol consumption and patterns of drinking. Afro Region E (which includes countries like Ethiopia and South Africa) was rated as having the 7th highest consumption of all 14 WHO regions, with an estimated 7.1 liters of absolute alcohol consumed per adult per year. Regions indicated as having the highest levels of consumption included Europe A (Germany, France, and UK) and Europe C (Russian Federation and Ukraine). However, in Afro E, 45% of males and 70% of females were estimated to be abstainers. This gives a rate of 16.6 liters per drinker, which is the highest rate in the world and comparable to Europe C.<sup>5</sup>

In terms of patterns of drinking, countries were rated on a four point scale with "4" being the most harmful. Practices that were rated as being particularly harmful included, "not drinking with meals", "drinking in public places", "drinking daily or nearly daily", "drinking to intoxication", "festive drinking" and "high usual quantity of alcohol per occasion". Those regions of the world noted as having the highest patterns of harmful drinking (average of 3.0 or more) included Afro E, Americas B (e.g. Brazil, Mexico), Americas D (e.g. Bolivia, Peru), Southeast Asia D (Bangladesh and India) and Europe C.<sup>5</sup>

The global burden of alcohol in 2000 in terms of death and disability was estimated at between 1.6% (for high mortality developing countries) and 9.2% (for developed regions) of total disability adjusted life years lost, accounting for 58 billion years.<sup>6</sup> This has been interpreted to infer that as countries develop the burden from alcohol abuse will increase. The burden for Afro E was

## Correspondence:

*Professor Charles DH Parry, Alcohol and Drug Abuse Unit, Medical Research Council, Cape Town, PO Box 19070, Tygerberg, 7505, South Africa  
email: charles.parry@mrc.ac.za*

estimated to be 0.6% for females and 2.0% for males, accounting for 1.8 million years of life lost.<sup>6</sup>

Regional-level information is not especially useful to individual countries beyond giving a broad indication of how a country might compare to other countries and what broad level changes might be expected with development. In 1998 the South African Demographic & Health Survey found that one third of drinkers drink at risk levels of weekends, and 28% of males and 10% of females were found to have experienced symptoms of alcohol problems.<sup>7</sup> Below are listed specific statistics relating to negative health and other consequences associated with alcohol misuse in South Africa that need to be borne in mind in motivating for and informing the design of a national alcohol intervention strategy:

- *Alcohol-related mortality.* According to the 2002 report of the National Injury Mortality Surveillance System, just under half (46%) of the cases for which blood alcohol concentrations (BAC) were obtained had levels greater than or equal to 0.05g/100ml.<sup>8</sup>
- *Alcohol-related trauma.* A study of patients treated in trauma units in Cape Town, Durban and Port Elizabeth between 1999 and 2001 found that across sites and for each respective year of the survey, between 17% and 67% of patients had breath-alcohol concentrations greater than or equal to 0.05g/100ml.<sup>9</sup>
- *Fetal Alcohol Syndrome (FAS):* In research conducted in the Western Cape (Wellington), the prevalence of FAS among Grade 1 learners was found to be 46 per 1000 in 1997.<sup>10</sup> Similar research conducted in Gauteng in 2001 found FAS rates of 19 per 1000.<sup>11</sup>
- *Alcohol and crime.* In a study conducted in 2000 among 1050 arrestees in eight police stations in Cape Town, Durban and Johannesburg, between 6% and 23% reported being under the influence of alcohol at the time the crime for which they were arrested took place.<sup>12</sup>
- *Alcohol and risky sex.* Both qualitative and quantitative studies conducted in Gauteng Province between 2002 and 2003 have pointed to strong links between drinking and engagement in sexual risk behaviours. Specifically, alcohol use frequency, quantities consumed and problem drinking were associated significantly with the number of sexual partners and engagement in sex that was later regretted.<sup>13,14</sup>

- *Alcohol and HIV.* Almost one in five HIV patients studied at the Infectious Disease Clinic at Tygerberg Hospital in 2003 met criteria for alcohol abuse or alcohol dependence. Patients with alcohol use disorders were more likely to have symptomatic HIV infection.<sup>15</sup>
- *Alcohol and absenteeism/school failure.* Among a representative sample of Grade 8 and 11 students in Cape Town surveyed in 1997, past month use of alcohol was significantly associated with the number of days absent from school in the first term and with repeating a grade (for certain students).<sup>16</sup>
- *Economic costs.* Based on the experience of international research, the economic costs associated with the misuse of alcohol are likely to be in the order of 1% of South Africa's GDP (over R9 billion per year).<sup>17</sup>

### Review of policy-relevant strategies to address the burden of alcohol use

Unfortunately there is no single strategy or "magic bullet" by which to reduce or eliminate the burden of alcohol misuse to individuals and society.<sup>18</sup> According to WHO what is required are a mix of individual- and population-based approaches that target high risk groups and reduce per capita consumption in general.<sup>2</sup> Babor et al., in a project sponsored by WHO, reviewed 32 commonly used strategies available to policy-makers for addressing the burden imposed by alcohol on individuals and society.<sup>1</sup> These strategies were divided into seven categories: regulating physical availability (8 strategies), taxation and pricing (1), altering the drinking context (6), education and persuasion (4), regulating alcohol promotion (2), drinking and driving countermeasures (7), and treatment and early intervention (4). Of these 10 were rated highly by the authors based their rating on various dimensions: evidence of effectiveness, strength of research support, cross-cultural testing, cost to implement and target audience (Table I).

**Table I: Strategies indicated by Babor et al.<sup>1</sup> as having proven effectiveness**

| Specific strategy                                                                                                                                                                                       | Effectiveness | Breadth of research support | Cross cultural testing | Cost to implement | Target group |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|------------------------|-------------------|--------------|
| <i>Regulating physical availability</i>                                                                                                                                                                 |               |                             |                        |                   |              |
| Changes in minimum legal purchase age                                                                                                                                                                   | +++           | +++                         | ++                     | Low               | B            |
| Government monopoly on retail sales                                                                                                                                                                     | +++           | +++                         | ++                     | Low               | A            |
| Restrictions on hours/days of sale                                                                                                                                                                      | ++            | ++                          | ++                     | Low               | A            |
| Outlet density restrictions                                                                                                                                                                             | ++            | +++                         | ++                     | Low               | A            |
| Alcohol taxation                                                                                                                                                                                        |               |                             |                        |                   |              |
| Increase excise taxes on alcohol                                                                                                                                                                        | +++           | +++                         | +++                    | Low               | A            |
| <i>Drinking/driving counter-measures</i>                                                                                                                                                                |               |                             |                        |                   |              |
| Sobriety checkpoints                                                                                                                                                                                    | ++            | +++                         | +++                    | Moderate          | A            |
| Lowered BAC limits                                                                                                                                                                                      | +++           | +++                         | ++                     | Low               | A            |
| Administrative license suspension                                                                                                                                                                       | ++            | ++                          | ++                     | Moderate          | C            |
| Graduated licensing for novice drivers                                                                                                                                                                  | ++            | ++                          | ++                     | Low               | B            |
| <i>Brief interventions</i>                                                                                                                                                                              |               |                             |                        |                   |              |
| Brief interventions for hazardous drinkers                                                                                                                                                              | ++            | +++                         | +++                    | Moderate          | B            |
| A-general population, B-high risk drinkers or groups considered to be vulnerable to the effect of alcohol, C-persons already manifesting harmful drinking and alcohol dependence; ++-moderate, +++-high |               |                             |                        |                   |              |

These 10 strategies are described in more detail and a subjective analysis given regarding whether their implementation is likely to be feasible in South Africa. Four of the "effective" strategies involve regulating the physical availability of alcohol.

#### *Changing the minimum legal purchase age*

Babor et al, point out that raising the minimum legal age for purchasing alcohol can have substantial effects on youth drinking, particularly in reducing levels of drinking-driving, single vehicle night-time crashes and fatal crashes involving young drinking drivers.<sup>1</sup> However, they acknowledge that it does not eliminate underage drinking. This strategy is regarded as being effective with minimal enforcement, but enforcement substantially increase its effectiveness. In South Africa it would be difficult politically in the short- to medium-term to raise the drinking age to 21, but this strategy might be worth considering in the longer-term.

#### *Instituting a government monopoly on retail sales*

According to the WHO Global Status Report on Alcohol Policy<sup>19</sup> state monopolies for off-consumption retail sales for one or more alcoholic beverages exist in 15% of countries. The evidence is quite strong that off-premise monopoly systems limit alcohol consumption and alcohol-related problems. Typically the density of outlets in a government-operated system is low and the opening hours limited. Elimination of a profit motive also facilitates the enforcement of rules against selling to minors or persons already intoxicated. According to Babor et al<sup>1</sup>, however, such monopolies are effective only if operated with public health and public order goals. With regard to South Africa, given the movement of the state sector out of the retail liquor trade in the 1970s and 1980s and the government's push for the development of small and medium micro enterprises, there would be very little support for reintroducing a government monopoly in this area.

#### *Instituting restrictions on hours/days of sale*

Babor et al, cite evidence from a variety of countries to indicate that having reduced hours and days of sale of alcohol can reduce alcohol consumption and problem levels, with the effects concentrated during the time of closure.<sup>1</sup> With regard to South Africa, efforts in this area are unlikely to be fruitful if not accompanied by innovative efforts to draw in the many unregulated outlets into the regulated market. Also important will be strengthening community input in the process of allocating liquor licenses and dealing with complaints, ensuring improved enforcement and handling of complaints, and providing increased access to information and accountability by those agencies tasked with monitoring and enforcing regulations on hours and days of sale.<sup>20</sup>

#### *Instituting restrictions on outlet density*

Restricting the number of outlets in an area may affect levels of drinking and alcohol-related problems due to an increase in the opportunity costs associated with obtaining alcohol. Babor et al, acknowledge that policy changes in this area require a longer time course for implementation when drinking establishments have become concentrated due to vested economic interests.<sup>1</sup> This is likely to be the case in South Africa, where more than 80% of retail outlets for alcohol operate outside the

regulated market (often from within residential areas) and there is estimated to be one outlet for every 190 adults.<sup>18</sup> In this country it will first be necessary to encourage existing unlicensed outlets to become licensed and to move to business nodes or corridors within residential areas and to place greater restriction on those outlets not operating in business nodes or along business corridors or operating near educational institutions before tackling the issue of outlet density. Perhaps subsidies or other incentives could be offered to existing liquor outlets that are willing to move out of areas where there are already too many outlets.

The fifth "effective" strategy involves decreasing the accessibility of alcohol through increasing its price via raising excise taxes.

#### *Increasing excise taxes on alcohol*

The primary reasons for increasing excise taxes on alcohol are to correct for the external costs associated with alcohol consumption and to raise revenues for programmes aimed at reducing the social burden of alcohol misuse.<sup>17</sup> Research suggests that price also influences the behaviour of heavy drinkers and that young drinkers are especially responsive to price. Increases in alcohol taxes have been shown to be associated with reductions in motor vehicle fatalities, crime, cirrhosis mortality, industrial injuries and dropping out of school.<sup>17</sup> The effectiveness of policy changes in this area depends on government oversight and control of alcohol production and distribution.<sup>1</sup> High taxes can also lead to smuggling and illicit production. The National Treasury has set as its target increasing the total tax on beer, wine and spirits to 33%, 23% and 43% of the retail sales price. This is a step in the right direction, but is still less than international averages and taxes should be increased by three to five percentage points. Furthermore, South Africa has fallen behind in terms of taxing sorghum beer.<sup>17</sup>

The next four "effective" strategies outlined by Babor et al, involve various drink-driving countermeasures.<sup>1</sup>

#### *6. Sobriety checkpoints*

At sobriety check points only motorists who are judged by police to have been drinking are asked to take a breath test. Such checkpoints are part of a strategy to increase the frequency and visibility of enforcement of drink-driving laws and the certainty of apprehension and punishment. While there is a considerable breadth of research support for such measures across various cross-cultural settings, the effectiveness of such checkpoints is moderate. An alternative to sobriety checkpoints is random breath testing (RBT) where the alcohol levels of motorists are checked at random, even if they are not suspected of driving under the influence of alcohol. The effectiveness of RBT based on research studies was judged as being greater than for sobriety checkpoints, but the breath of research and the degree of cross-cultural testing has been less. RBT was also judged as being more costly to implement. According to Babor et al, the effects of police campaigns are typically of short duration unless sustained.<sup>1</sup> With regard to South Africa, consideration should be given to increasing the level of RBT, and strategies would need to be sought for processing cases quickly and not clogging up the court system.

### *Lowering BAC limits*

Here the emphasis is on passing legislation to lower allowable BAC levels for drivers. While policy changes in this area have been shown to be highly effective, are supported by cross-cultural research, and to be of low cost to implement, Babor et al<sup>1</sup>. acknowledge that there are diminishing returns when lowering already low BAC limits. With a BAC limit for ordinary drivers of 0.05g/100ml in South Africa, efforts in the short-term would probably be better spent on enforcing existing limits. This might, however, be a strategy worth revisiting in the longer term.

### *Administrative license suspension*

Administrative license suspension refers to the immediate revoking of a driver's license for a period of time (e.g. six months) without a court hearing following a drink-driving offense. This action is permitted in 80% of US states and has been shown to reduce alcohol-involved crashes by 5%.<sup>1</sup> A key motivation behind this strategy is to dramatically decrease the time between the drink-driving event and the proximity of punishment. With the over-crowded court system in South Africa, this is certainly something worth considering, although strategies would also need to be instituted to deal harshly with suspended drivers who drive without a license.

### *Graduated licensing for novice drivers*

Another counter-measure that has been applied to reduce rates of driving-related problems is to place certain restrictions on young/inexperienced drivers. Among the restrictions that are relevant to drink-driving are having lower BAC limits for such drivers (i.e. 0.01 or 0.02g/100ml) and placing curfews on their driving at night.<sup>1</sup> Graduated licensing schemes, which can incorporate all of these strategies within one system, have been shown to show safety benefits. Implementing such a strategy would be very feasible in a country like South Africa, and given the strong link between alcohol use and injury among young drivers<sup>21</sup>, is likely to receive widespread support.

The final strategy indicated by Babor et al, as having proven effectiveness is that of brief interventions for hazardous drinkers.<sup>1</sup>

### *Brief interventions for hazardous drinkers*

Brief interventions are characterized by their low intensity and short duration and usually comprise one to three sessions of counseling and education. The goal is to provide early intervention. Randomised control trials to assess the efficacy of such interventions have generally been positive, but one problem with implementing such approaches is that primary care practitioners lack the training and time to conduct screening and brief interventions.<sup>1</sup> In South Africa one pilot study involving various categories of health workers in Cape Town has highlighted the need for further demonstration projects in this area.<sup>22</sup>

Various other strategies were reviewed by Babor et al, that currently are not yet as strongly supported by research but which probably have some effect.<sup>1</sup> These include (1) regulating physical availability by allowing server liability whereby alcohol servers and owners of liquor outlets can be held civilly liable for damages in cases where they have served per-

sons who were clearly intoxicated and who went on to hurt themselves or others; (2) regulating alcohol promotions by instituting advertising bans (e.g. banning alcohol advertising via billboards, or restricting it on radio/TV till after 9 pm, or not permitting sports sponsorships where more than 25% of the audience are expected to be under the legal drinking age); (3) facilitating community action approaches, such as community mobilization against the granting/renewing of particular liquor licenses; (4) altering the drinking context by training alcohol servers and managers not to serve intoxicated patrons and to prevent/manage aggression, and backing this up by enforcing on-premise regulations and legal requirements; and (5) supporting other forms of treatment and early intervention (e.g. 12-step approaches, motivational enhancement therapy and cognitive behavioural therapy), attendance at mutual help/self-help meetings and mandatory extended treatment of repeat drinking-drivers. With regard to these strategies, mandating server liability is probably only likely to work in the formal market and should perhaps only be pursued in the medium- to long-term. Considerations should, however, be given to promoting the other strategies listed in this paragraph.

Alcohol policies identified as having not been shown empirically to be effective include, (1) regulating physical availability via voluntary codes of bar practice, (2) education and persuasion strategies such as alcohol education in schools and public information campaigns, (3) alcohol-free activities, and (4) regulating alcohol promotion via advertising content regulations and warning labels. With regard to school-based education and persuasion programmes there are things that can be done to enhance their effectiveness, including starting them in primary school; involving parents and the community; including peer education; having intensive long-term programmes; incorporating life skills, resistance training and normative concepts; and ensuring developmental, cultural and local relevance.<sup>23</sup> The effectiveness of warning labels is likely to be enhanced if they are rotated, easy to read and conspicuous. In addition, for a country with relatively low rates of adult literacy it might be useful to include provocative pictures. In general, however, far greater emphasis should be placed on more active forms of counter-advertising using all forms of media.<sup>18</sup> Strategies missing from the review that would need to be considered in South Africa include work-place interventions, broad-based community development initiatives, and specific interventions aimed at drunk pedestrians. In addition consideration should be given to implementing various product restrictions such as restricting the size of beer, wine and spirits containers (e.g. only 340ml containers of beer, and no sachets of spirits or 5 liter papsakke), requiring the inclusion of the number of standard drinks on container labels together with calories and other ingredients. Products with a clear youth appeal should be restricted and special labeling and bottling requirements should be required so that alcohol products are distinguishable from non-alcoholic products.

### **Conclusion**

In the short-term, priority should be given to implementing the following alcohol-intervention strategies in South Africa:

- Improving the enforcement of existing legislation/regulations regarding minimum purchase age of alcohol, drinking and driving, and retail sales of alcohol.
- Increasing the total tax on all alcohol products by three to

five percentage points.

- Pilot testing and facilitating brief interventions and other forms of treatment for high risk and hazardous drinkers.
- Implementing a graduated licensing policy for novice drivers (e.g. 0.02g/100ml for drivers within first three years) and increasing administrative license suspensions.
- Implementing a coherent liquor outlet policy (bringing unregistered outlets into the regulated market, encouraging outlets in residential areas to move to business nodes/corridors, and training alcohol servers/managers).
- Increasing restrictions on alcohol marketing (e.g. limiting radio/TV advertising till after 9 pm and not permitting sports sponsorship where a substantial proportion of the viewing audience are underage) and increasing alcohol counter-advertising (beyond warning labels)
- Encouraging community mobilization against alcohol misuse.
- Implementing product restrictions on the size of alcohol packaging (e.g. no sachets or papsakke), requiring specific labeling (including the number of standard drinks, calories and other ingredients) and restricting products with clear appeal to underage youth.
- Accrediting school-based prevention programmes to ensure that they follow best practice principles.<sup>24</sup>

To date, alcohol intervention strategies have been fragmented across different government departments and across different levels of government. A national strategy is required that brings together a coordinated response that includes civil society. The focus needs to go beyond legislation and regulation. Priority needs to be given to implementation, and this includes making the necessary financial and other resources available.<sup>18</sup> Attention also needs to be given to establishing an adequate information base to underpin the implementation of a national alcohol strategy. Included here should be funding for a clearinghouse for alcohol and drug abuse information, demonstration projects in the prevention and treatment area, periodic epidemiological studies, and monitoring and evaluating the implementation of all interventions.

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