

Brazilian consensus on public policies on alcohol

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Abstract

This is the summary of a meeting where a group of experts, representing several health organizations and academic departments from different parts of Brazil, created a consensus about the main alcohol policies which should be implemented by different levels of the Brazilian government. The World Health Organization has been suggesting for 30 years the actions that should be implemented for the public good. Two important conclusions were reached: 1) The research establishes beyond doubt that public health measures of proven effectiveness are available to serve the public good by reducing the widespread costs and pain related to alcohol use; 2) To that end, it is appropriate to deploy responses that influence both the total amount of alcohol consumed by a population and the high-risk contexts and drinking behaviours that are so often associated with alcohol-related problems. To conceive of these intrinsically complementary approaches as contractory alternatives would be a mistake. The objectives of the consensus are:

- 1) To make the scientific evidences more available to the Brazilian policy makers;
- 2) To facilitate the evaluation of the available strategies according their effectivity, scientific support, cost and cultural adaptability;
- 3) To make the Brazilian health professionals familiar with the priorities of alcohol policies.

Keywords: Alcoholic beverages. Public policies. Consensus.

Introduction

Despite more than one century of political experimentations with a very wide spectrum of (different) options, what still often comes into our mind when talking about alcohol policies are the experiences of total prohibition which have occurred in some countries at the beginning of the last century. The US, Canada, Norway, Island, Finland and Russia have forbidden the production and sale of all or almost all alcoholic beverages since 1914.¹ Between 1920 and 1930 these laws were derogated and replaced by milder regulatory policies. However, seeing alcohol policies under the restricted perspective of total prohibition means neglecting the fact that many policies elaborated during the last century increased and respected the right of drinking moderately.

In the last 30 years the WHO has coordinated a project which aimed to analyze all available evidence on public policies regarding alcohol and has resulted in two fundamental books: Alcohol control policies in public health perspective,² and Alcohol policy and the public good.³ The conclusions were the following:

- 1) Research establishes, undoubtedly, that there are measures with proven efficacy to reduce alcohol-related costs and harm, aiming to the public good.
- 2) It is possible to develop strategies to influence the amount of alcohol consumed by a population as well as the consumption behaviors and the high-risk contexts which cause the problems related to alcohol consumption. Recently, continuing the tradition of collaboration between the WHO and the researchers of the field, a third book, *Alcohol: no ordinary commodity*, has been launched⁴. Its authors have written it for three reasons:
 - 1) Epidemiological researches reveal changes in the way in which alcohol affects the public health and well-being in different regions of the world. The population of developing countries is increasingly and specifically hit by problems related to alcohol consumption.
 - 2) Local and nation-wide governments have increasingly taken responsi-

bility for elaborating appropriate health policies to tackle these problems, including prevention and treatment programs.

There is currently solid scientific evidence grounding these policies, providing a unique opportunity for the elaborators of public policies.

This Consensus is based on this book. We hope to arise the same interest in those who elaborate public policies in Brazil, providing them the necessary scientific bases to support the possible measures and sparing them the work of 'reinventing the wheel', as the current state of scientific research allows to know which measures are efficient and which are not, allowing also, thus, the investment of public money in policies with proven results.

Therefore, the objectives of this Consensus are:

- 1) Making the scientific evidence more accessible for those who elaborate public policies.
- 2) Facilitating the assessment of the several available strategies according to effectiveness, scientific support, cost and feasibility of cultural adaptability criteria.
- 3) Acquainting health professionals, and especially those working on mental health, about the priorities of alcohol policy.

Alcohol is not an ordinary product

Despite all cultural and symbolic significances that alcohol consumption has acquired along human history, alcohol is not an ordinary product. It is a substance capable of causing harm through three different mechanisms: direct and indirect toxicity on several organs and body systems, acute intoxication, and dependence. This damage may be acute or chronic and depend on the consumption pattern of each person, which not only is characterized by the frequency in which one drinks and the quantity by episode, but also by the time between episodes and by the context in which one drinks. Figure 1 below displays the relationships between alcohol consumption, the three factors that mediate the harm and the several types of

harm.

Regarding the toxic effects of alcohol, it is important to highlight that some of its harmful effects to health may stem from a sole episode of excessive consumption, even though the person does not drink frequently. Regarding alcohol dependence, it is worth noting that dependence may perpetuate a heavy consumption, and this consumption may contribute for the development of dependence. Besides, prevalence studies reveal that less severe forms of dependence are widely distributed in the general population and are associated with a rising level of problems. Regarding alcohol intoxication, recent studies show that there is a direct relationship between occasional intoxication and problems such as violence, traffic deaths and other harm. Although there is a widespread trend to consider all problems related to alcohol consumption as alcoholism, studies show that there is a whole universe of problems caused by alcohol, which is beyond the borders of alcoholism.⁵ Actually, the greatest cause of alcohol-related problems in the general population is alcohol intoxication. The main conclusions of these studies are:

1) Drinking occasionally, but up to the point of becoming intoxicated, is very common. Intoxication, even when it occurs in a low frequency, may cause considerable social and physical harm. In fact, the risk of problems stemming from a sole intoxication episode is higher among those who do it infrequently than among those who drink more frequently^{6,7}.

2) Preventing alcohol intoxication is a powerful strategy to prevent great part of harm caused by alcohol.

As the relationship between intoxication and harm is under a strong influence of the social and physical context, the harm may be also prevented changing the environment, e.g. physically (making safer the drinking site), or temporally (separating the drinking habit from activities requiring attention).

Public policies for alcohol should consider this complexity and correspond to the understanding that alcohol is far of being an ordinary product.

Alcohol and public health

Contrarily to clinical medicine, focused on care and healing of diseases of individual cases, public health deals with groups of individuals, called *populations*. The concept of 'population' is based on the fact that certain groups of individuals constitute a specific population for their sharing of certain characteristics (e.g., gender), of a determined environment (neighborhood, city, nation), or of the same occupation (e.g., waiters and waitresses and bartenders).⁸ The value of the public health perspective for alcohol policies is its ability to identify risks and/or risk groups and suggest appropriate interventions in order to benefit the largest number of people.

1. Definition of alcohol policy

Public policies are consensual decisions adopted by governments in the form of laws, rules or regulations.⁹ The word 'consensus' indicates that the decisions originate in abundantly documented evidence up to the point of becoming a consensus among the field's specialists and authorities; they should also stem from the legitimate reach of legislators or other established authorities for the benefit of the public good, but never from the

industry or its lobbies. When the public policies regard the relationship between alcohol, health and social well-being, they are deemed alcohol policies. Therefore, laws destined to prevent alcohol-related traffic accidents are considered as public policies, rather than laws destined to punish the infractors.

Based on their nature and proposal, alcohol policies may be divided into two categories: allocation and regulation ones.⁹ Allocation policies are those which promote a resource to a specific group or organization (sometimes in detriment to other group or organization), as to obtain determined objectives of public good. Financing the training of bartenders and waiters to serve alcoholic beverages with responsibility and providing treatment to alcohol-dependent subjects are examples of policies aiming to reduce the harm caused by alcohol. As to regulatory policies, they seek to influence the behaviors and decisions of individuals through more direct actions. Laws regulating the price and taxation of alcoholic beverages, laws imposing a minimum age for the acquisition of alcohol, laws limiting the functioning hours of bars, laws which totally or partially forbid the time and place in which alcoholic beverages may be served or bought have been used to restrict the access to alcohol for health and public security reasons, and are examples of regulatory policies.

We list below a series of strategies and interventions possible of being adopted, whose effectiveness is documented in the literature. We have also considered important reporting those whose effectiveness has not been proven, in order to provide an alert and prevent the spending of public money with unsuccessful projects.

Strategies and Interventions

1. Alcohol price and taxation

Among the several strategies which governments in several countries have used to control the problems related to alcohol consumption, the regulation of alcohol price and taxes have been by far the most popular ones. This does not occur because governments need to increase their tax collection, but also as this kind of regulation is easy to be established by law and it is easily supervised in practice. Besides, it must be highlighted that it is a measure of extremely low cost. Studies performed in several developed countries and in and some developing countries showed that the increase in the price and taxation of alcoholic beverages results in a decrease in the consumption and in the related problems.⁴

In the absence of any formal control over the production, distribution and sale, the price of an alcoholic beverage will be merely a resultant of the market conditions, based on its supply and demand. In several countries, during a period of their history, the taxation of alcoholic beverages has been an important source of income for the State. Between 1911 and 1917, in the US, one third of all tax collection came from alcoholic beverages.⁴ Similar cases are found in Holland, England, Denmark, Finland, Island, Norway and Sweden.⁴ There are also well-succeeded experiences in developing countries, such as India and Camerun.⁴ However it must be considered that there is a limit beyond which the expected effects cease to be produced, as the population tends to seek the black market or household production.

2. Supply and demand

The effect of changes in the price of alcohol on its consumption has been more extensively studied than any other measure. Econometric studies show that alcohol behaves as any ordinary product under the law of supply and demand, i.e., a decrease in the price leads to an increase in the consumption. The point here is that governments may regulate the demand for alcoholic beverages through the control of prices, obtaining not only a higher tax collection, but also benefits for the public health.⁴

Example of success - in Canada, the setting of minimum prices for beer in the provinces of Quebec and Ontario has contributed for the public health and security.¹⁰ Local example - in the city of Paulinia, São Paulo, the setting of a price increase for beer during carnival in the local *sambódromo*¹ resulted in lower indices of medical occurrences and violence.

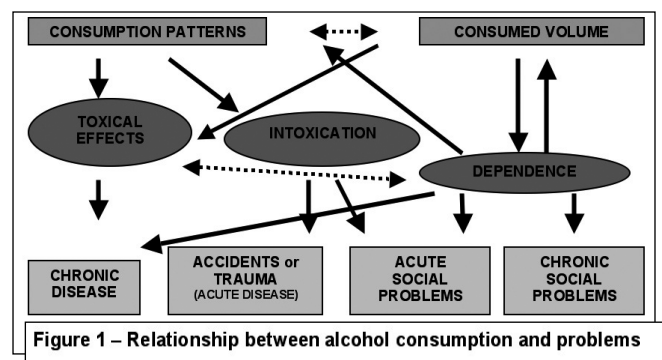


Figure 1 – Relationship between alcohol consumption and problems

3. Effects of price in specific groups

Several studies have demonstrated that youngsters are a group particularly sensitive to changes in the price of beer. Besides, contrarily to what is usually thought, heavy drinkers tend to be more sensitive to the variations of prices than mild and sporadic ones. Therefore, price-increasing strategies tend to be efficient both to reduce the consumption and its associated problems, and this occurs exactly in the most vulnerable groups: adolescents and heavy drinkers.⁴

4. Price of alcohol and alcohol-related problems

The best way to assess the impact of price increases is by quantifying the problems stemming from alcohol use; this includes alcohol-related morbidity and mortality, such as hepatic disease, traffic accidents, violence and suicide. This form of assessment is not only more feasible than quantifying retail sales of alcohol, but is also more reliable as it provides a more realistic measure of the consumption, avoiding the possible bias from the replacement of beverages bought in the formal market by those originated from household production or smuggling.

Adopting this presupposition, several studies reveal that the increase in prices is very efficient to reduce mortality by cirrhosis and to reduce the rates of fatal and non-fatal accidents.⁴ One specific study has verified the impact of the increase in the price of beer in fatal traffic accidents among youngsters, finding a significant decrease after the rising of prices.^{11 12} Specialists see the increase in prices as the most efficient way of reducing drunkenness when driving.⁴ It is estimated that an increase of 10% in the price of alcoholic beverages in the US succeeded to reduce the probability of driving inebriated in 7% for men and 8% for women, with higher reduction in people under 21 years of age.¹³ Several studies have examined the impact of prices of alcoholic beverages in homicides and other crimes (including kidnapping, robbery, theft, robbery of vehicles, domestic violence, and child abuse) and indicate that the increase in the price of alcoholic beverages is associated with the decrease in the occurrence of these crimes.⁴

Regulating the physical availability of alcohol

Physical availability refers to the accessibility of the product, and has political implications in the prevention of alcohol-related problems by means of the control in the conditions of sale to the end consumer. The main objective of these measures along history up to the modern times has been always to reduce the harm stemming from alcohol intake.

The markets of alcoholic beverages may be formal or informal. Formal are those regulated by the government, be it in the municipal, state or nationwide level. These regulations generally aim to assure minimal degrees of purity, safeness and the appropriate description of the product and allow also the collection of taxes. In some countries, the special regulation to which the market of alcoholic beverages is subjected reflects the level of social concern about public health and security. Therefore, several restrictions may exist: to the hours or days of sales, to the placement of the points of sales, to the advertisement and promotion of alcoholic beverages and to who may or may not buy these products. Special taxations over alcoholic beverages may be part of a regulatory regime. Restricting alcohol availability has been a key-policy in Canada, in the US and Scandinavian countries, and in many other parts of the world.⁴

Experiences have demonstrated that extreme restriction, such as the total prohibition of alcoholic beverages, may reduce the consumption and the related problems. But these restrictions frequently have side-effects, such as the increase in violence and criminality associated with illicit markets.⁴ Such side-effects may overcome the positive effects of restrictions. Therefore, the emphasis here is on strategies in which the side-effects of milder regulations could be minimized.

Changes in the general availability

The policies discussed in this section are based on the economy's principle that both the supply and the demand affect the consumption of alcohol; the reduction in the supply leads to increases in the costs and consequently to

a decrease in the sales of alcoholic beverages. Therefore, the physical availability may influence the demand of alcohol consumers.¹⁴

Partial prohibition

According to what was said above, the total prohibition is not a politically acceptable option, even if it has the potential of reducing alcohol-related problems. But partial prohibitions may be effective, without the side-effects of total prohibition.⁴

Example of success - the city of Eindhoven, in Holland, provides a good example of partial prohibition as a measure to reduce harm: during the European soccer championship in 2000, only low-alcohol beer (2.5%) could be sold in downtown, and its sale could not be performed in glass bottles. Despite the presence of a great number of English fans, the streets remained predominantly calm. Contrastingly, in the following week, in Belgium, in which no special prohibition was established, there were large-scale violent disarray and acts of vandalism.⁴

Regulating the points of sale

The power to influence the consumption of alcohol beverages is higher in stores which sell alcoholic beverages to be consumed at the same place, as they have the opportunity of directly influence what occurs during and after the acquisition. The regulations may:

- 1) Specify the volume of doses (in one unpublished study performed in all points of sale of alcohol in the city of Paulinia, SP, there were wide variations in the volume of the dose of distilled beverages. The mean volume per dose was 75 ml, quite above the international standard of 35 ml)
- 2) Inhibit the promotions of discounts, such as the sale at a lower price during the 'happy hour.
- 3) Demand that the staff receive training about how to serve responsibly.
- 4) Regulate the lay-out and inputs of the bar or restaurant.

Include specifications regarding the supply of edible food, availability of leisure and other issues not directly related to the consumption of alcohol. Example of success - in Island, Norway, Sweden and Finland, monopolistic state systems have been implemented at the beginning of the 20th century, with power over the production, sale and distribution of alcohol. State monopoly over sale may be used to reduce the number of points of sale, limit their functioning hours and remove the need of profit that induces the increase in sales. There is strong evidence that the monopoly on the sale limits the consumption of alcohol and their related problems, and that the elimination of governmental monopolies increases the consumption of alcohol.⁴

Placement of points of sales and of 'bar clusters'

Local governments may resort to several measures to limit the placement of points of sales, such as zoning laws and others, such as minimal distance from schools and churches or simply limiting the number of points of sales in the region or city. The clustering of bars, restaurants, and snack-bars in a determined region is a problem in itself. Violence and traffic accidents occur more frequently in these places.⁴

Days and hours of sale

Restricting sale's days and hours narrows the buying opportunities and may reduce the consumption. Numerous studies indicate that these restrictions reduce alcohol-related problems; the contrary is also true: when the restrictions are lifted, there is an increase in problems. Those who drink up to late hours during the week constitute a layer of the population drinking in a particularly heavy way.

Density of points of sales

The lower the density, the greater the opportunity of making profits from the sale of alcohol, what tends to increase its price and, consequently, decrease the consumption and the related problems. Studies show that the rates of violence are higher in the areas with higher density of points of sale.

- 1) Dramatic reality: the most dramatic situation was observed in Finland in 1969, when markets and retail sales outlets were authorized to sell beer with more than 4.7% of alcohol, and it became easier to obtain a license to

open restaurants: the number of markets and retail sales outlets jumped from 132 to 17,600, and the number of bars and restaurants, from 940 to more than 4000; the global consumption of alcohol increased 46% and, in the following five years, the mortality due to hepatic cirrhosis increased 50%, hospitalizations due to alcoholic psychosis increased 110% among men and 130% among women, and arrests due to drunkenness increased 80% among men and 160% among women. There is some evidence that this effect is higher among youngsters.⁴

Suggested measures: urban zoning and planning laws may be used to regulate the density of points of sales and to restrict their placement.

Restrictions to the buying and sale of alcohol

The most used and efficient ones are the prohibition of sale for those under age and for those already inebriated.

Minimum age: Changes in the minimum age for drinking may provoke substantial effects in the youngest population.

Successful example - in the US, the rising in the minimum age from 18 years to 21 years old has considerably reduced the occurrence of nocturnal traffic accidents involving youngsters, in 11% to 16%, independently from the severity of accidents⁴. And even a moderate increase in the supervision may reduce the sale to minors in 35% to 40%, especially when compared to media strategies and other community activities.⁴

Prohibition of sale to an already-inebriated person: Although forbidden by the Brazilian Civil Code, never has any owner been considered responsible for the damages originated in occasional drunkenness of a client. A more effective enforcement of this law, currently used in other countries, tends to reduce harm caused by heavy drinking.

Individual buying limit: Many countries have implemented this strategy, and it counts on some favorable evidence. There were also initiatives to implement a buying limit only in specific events, such as popular parties. Successful examples: between 1979 and 1982 there has been a significant decrease in the mortality due to hepatic cirrhosis, violence and other consequences of heavy drinking in Greenland, due to the implementation of a system which globally limited the amount of alcoholic beverages that a subject could buy. During the political-economic crisis in Poland in 1981-1982, it was established a buying limit of half a liter of distilled beverages per month for its inhabitants. Heavy drinkers were the most affected ones. Psychiatric hospitalizations due to alcoholic psychosis had a reduction of 60%, deaths due to hepatic diseases decreased 25%, and deaths caused by accidents decreased 15%.⁴

Control over those authorized to sell alcoholic beverages:

- 1) Checking of criminal antecedents.
- 2) Minimum age for the seller of alcoholic beverages. Studies have demonstrated that under-age sellers tend to more easily sell alcoholic beverages to buyers under the minimum legal age.
- 3) Implementation of a registration system for the people in charge of buying draft-beer barrels; this allows making the buyer responsible when there are minors drinking in parties and tends to inhibit the occurrence of private parties for minors.

Control of alcohol grade

There is suggestive although not conclusive evidence that stimulating the sale of low-alcohol beverages (e.g., through a differentiated taxation) may be an efficacious strategy. The idea consists of promoting the replacement of the sale of high-alcohol beverages by low-alcohol ones, reducing thus the global consumption of alcohol.

Promotion of alcohol-free activities and events

This is a widely-used strategy and with a strong popular appeal, but which unfortunately lacks scientific proof. Systematic assessments of these alternative programs are rare. The few programs with positive results had also applied at least one other parallel strategy. There are also alternative programs which had negative results, such as increase in the frequency of

inebriation.⁴

Cost-effectiveness and potential side-effects

The strategies here presented are generally very cheap when compared to the costs related to the consumption of alcohol, mainly heavy drinking. A good example is the establishment of a minimum age for the buying of alcohol beverages, a measure with an insignificant cost and a great impact. The implementation cost of these measures tends to increase if they find resistance; e.g., commercial interests may hamper the implementation of zoning or other measures destined to regulate the geographical distribution of points of sales. In the same way, the cost tends to decrease the higher the popular support to the measures implemented.

The main side-effect of the measures which impose great restrictions to the physical availability of alcohol is the increase in the informal market (illegal production, illegal imports). But, as a rule, informal activities do not seem sufficient to fill the gap of formal activities and do not produce the same level of problems⁴. The reduction in the density of points of sale may lead some people to drive to great distances to buy alcoholic beverages, but studies have not shown relationship with the increase in traffic accidents. The WHO recommends as an exemplary alcohol-control measure and a well-succeeded example of cost-effectiveness the closing of points of sales on Saturdays, although being less efficacious than a substantial increase in the taxation¹⁵.

Environmental strategies

The strategies considered up to now consist of measures which affect the environment in which occurs the consumption of alcohol; they are, therefore, called environmental strategies. The literature consistently reveals that preventive regulations aimed at alcohol sales and supported by an efficient control are more effective than preventive programs based only on the education or persuasion directed to probable drinkers.⁴

Implementation of a licensing system

Behind the words 'control', 'supervision' and the measures aimed at 'enforcing the law' are hidden a series of threats: criminal process, liability, etc. But the most direct and immediate mechanism of control over alcohol tends to be the implementation of a licensing system for the sale of alcoholic beverages. If the system were empowered to effectively suspend or cancel the license of the shop in case of infractions, it would become an effective and flexible tool to reduce alcohol-related problems.⁴

Modifying the context

The use of alcohol has its place in a social, cultural, and community context. Therefore, heavy consumption may be modified and the problems reduced through strategies altering this context. These efforts are considered as harm-reducing measures, as they start accepting that there will be a consumption of alcoholic beverages, trying thus to modify or limit this consumption or the context in which this consumption occurs, as to reduce the potential harm. In this part, we will focus on the strategies whose target is the environment in which alcohol is sold and consumed. Interestingly, its effectiveness does not depend on the support or adhesion of individuals who drink, although such a support may increase the effect of those measures. A prevention aimed at environments with high-risk of drinking is an alternative or complement for preventive measures with a more comprehensive focus, such as price increase, and individual approaches, such as treatment.⁴

Due to the high rate of problems occurring in shops authorized to sell alcoholic beverages, these shops are a priority target of preventive alcohol policies. Aggressive behavior is a great problem which is associated with alcohol consumption in places such as bars and night-clubs. Studies reveal a cause-effect relationship between alcohol intoxication and aggressive behavior. Circumstantial and personality factors have obviously a role on the effects of alcohol. For example, the high rate of problems

in bars may be assigned, at least partially, to the type of drinkers who attend these places. Certain aspects of the bar's environment also increase the probability of problems, such as the habit of serving beverages which promote intoxication, the staff's inability to deal with behavioral problems, crowdedness of the bar, permissiveness of the staff and the type of bar.

The focus on high-risk environments has many advantages. It may have a wider impact than individual approaches. Several strategies may be simultaneously used (training of the staff, control and supervision, reduction of environmental risks) in order to amplify the effects. Besides, many strategies directed to high-risk environments have a good acceptance level and are readily adopted in many cultures.⁴

Training to serve with responsibility

These programs are focused on attitudes, knowledge, skills and practice of people involved in the act of serving alcoholic beverages. The main objective is to prevent intoxication and the sale for minors. They have been much studied in Canada, the US, Australia and Sweden and were successful to inhibit negative practices such as 'pushing' alcoholic beverages and stimulate positive practices such as offering food or slowing down the service. Besides, these programs tend to provoke the reduction of the clients' blood alcohol concentrations (BAC) and to reduce the number of clients with high BAC, besides reducing the rate of evening traffic accidents with the involvement of only one vehicle.⁴

Besides training the staff, the shops should be stimulated to develop the 'rules of the house', with the following topics: providing positive incentive to inhibit the intoxication of clients (edible food, lower prices for low-alcohol or no-alcohol beverages), preventing incentive to intoxication (lower prices at the 'happy hour'), policies to minimize harm (transportation options) and policies to minimize intoxication (slowing down the service, and, then, refusing to serve to already-intoxicated clients). Studies show that training programs, when supported by changes in the 'rules of the house' and supervised by local authorities, reduce heavy consumption and high-risk drinking.⁴

Control of habits of serving alcohol

The higher the active control (strategies aimed at enforcing the law and other measures), the higher the impact of the policies aimed at the service of alcohol. Proactive policing, involving regular visits to the shops, is an effective strategy to prevent intoxication and sales to minors. The liability of those who serve alcoholic beverages for the consequences stemming from offering more alcohol to those who are already intoxicated or to minors also works. In the US, the states which have established the liability of owners and bartenders for the damages attributable to alcohol intoxication had lower rates of fatal traffic accidents and homicides. When a state just advertised about the liability of bartenders, the evening accidents involving only one vehicle were reduced in 12%.¹⁶

Use of voluntary conduct codes

Agreements between bar owners in order to limit the risk factors for violence and other problems are very useful when the problems of bars are concentrated in a specific geographic area. A successful example in Australia aimed to decrease the movement of youngsters from bar to bar and inhibit the intoxication of minors; it involved the establishment of entrance fees on bars after 11:00 pm, the end of free-entrance for women, prohibition of offers which stimulated intoxication, consistent service policies, increase in the supervision of law enforcement regarding sales to minors and the consumption on the streets. A good starting point for this project was the support of the local commercial association, but the leadership of the local police was determinant for the success of the adopted measures.⁴

Management of aggressiveness and other behavior alterations

Many programs have been specifically developed to train the staff regar-

ding certain laws, effects of alcohol and other drugs, fire security, first aid, early recognition of alert signs, management of anger and frustration of clients, conflict-solving techniques, communication skills to keep problematic clients out of the bar and procedures to reduce risk at closing hours. Such programs are needed for the following reasons:

- 1) Not always the problems occur because clients are inebriated. For example, many bars attract clients who may be 'looking for a fight'.
- 2) Some individuals arrive already inebriated to a bar.
- 3) Sometimes the problems are less related to the intoxication of clients than to an aggressive staff.
- 4) Although well-trained, a very busy staff may have no time to monitor the consumption level of clients.
- 5) Well-succeeded experiences have shown an increase in the control by the staff, decrease of its permissiveness and more friendly relationships with clients. Initiatives like this should count on a continued training in order to preserve their positive effects along time.

Reduction of environmental triggers of violence

The maintenance at each consumption place of a registration book for the occurrences may be used to identify and correct key-points. This strategy includes a self-reported questionnaire to assess risks for owners and managers, aimed at changing the environment of a bar in order to minimize the risk of aggression. The areas dealt with are the following:

- 1) Risk factors associated with the entrance of clients in the bar
- 2) Bar lay-out
- 3) Characteristics of the attendance and security staff
- 4) Closing hours

Involvement of the community

The involvement of the community has been used to increase the level of awareness about the problems associated with the consumption of alcoholic beverages in bars and night-clubs, to develop solutions for specific problems and to force bar owners to acknowledge their responsibility regarding the community, in terms of the behavior of problem clients or excessive noise, for example. Assessments of strategies to involve the community have shown high success in reducing aggressions and other consumption-related problems in bars, such as emergency medical care, trauma, and traffic accidents.⁴

Harm-reducing strategies in drinking environments, such as those described above, have had a rising interest especially in societies and places where alcohol consumption is widely accepted. However, this preventive approach is relatively new, and many of the interventions currently practiced have not been yet adequately assessed. And, although promising, they have a cost-effectiveness ratio not so advantageous as strategies for alcohol control and taxation.⁴

Measures to reduce harm caused by alcohol in the situations in which people normally drink are an interesting option within the more comprehensive mix of preventive strategies discussed in this Consensus. And they become particularly interesting in the absence of a political process to support control and taxation measures. But they cannot be considered as a replacement for other policies with better documented effectiveness.⁴

Traffic-aimed strategies

Accidents due to driving under the effects of alcohol are a serious problem in any country with a substantial use of motor vehicles. In Brazil, anecdotal data of the Traffic Department of São Paulo - DETRAN - SP - show that 50% of traffic accidents are related to the consumption of alcohol.¹⁷

BAC and driving performance

The blood alcohol level of a person is called blood alcohol concentration or BAC. The blood concentration will depend also on individual factors such as weight, gender, alcohol ingestion speed and presence of food in the stomach, among others, besides the amount of alcohol ingested by the sub-

ject. Results of lab tests show that alcohol levels much lower than the legally allowed affect the driving performance. Performance impairment becomes remarkable for BAC between 0.05% and 0.08%, but may be also present in BAC below 0.05%. In Brazil, the legal limit for driving is 0.06%. Studies show that the risk for an individual having an accident with BAC of 0.05% is two-fold that of another one with BAC equal to zero. And when BAC reaches 0.08%, the risk is 10-fold. CAB of 0.15% or higher has a relative risk hundreds of times higher. Due to the evidence showing a strong correlation between BAC and traffic accidents, many countries have established laws setting the maximum tolerated BAC levels for drivers.⁴ In Brazil, the National Traffic Act sets in 0.06% the maximum BAC allowed. Although this measure would theoretically contribute for the reduction of traffic casualties in Brazil, it is actually one more of not-enforced laws; the neglect of the authorities regarding this situation is alarming. A law, to be respected and enforced should count on the systematic supervision by a well trained and equipped police force.

Drinking and driving patterns

Studies performed with random samples of drivers show that countries are generally divided in two groups: those with a minimal percentage (<1%) of drivers who drive under the effect of alcohol, with BAC between moderate and high – in this group are the Scandinavian countries; in the second group are the US, Canada, France and Holland – where between 5% and 10% of drivers showed BAC between moderate to high during evening leisure hours. In 1988, one study revealed that 28% of Australians, 24% of Americans and only 2% of Norwegians admitted having driven in the previous year after drinking four or more drinks.⁴

Dissuasion as a preventive strategy

Normally, the law is enforced through the punishment of infractors, expecting that this may prevent or dissuade other drivers to drive after drinking. The dissuasion is essentially a tool to increase the perception of the risk of being punished; if the probability of being caught inebriated while driving is high, this actually persuades the driver to avoid drinking and driving.¹⁸ Interestingly, the perception of risk is also influenced by the severity and rapidness of punishment.

Reducing BAC limits

The evidence of the effective impact of dissuasion through this strategy is high, although the effects may fade away along time. This has led several countries to reduce even more BAC's tolerated limits, with a considerable impact in reducing accidents and saving lives.⁴

Assuring law enforcement: random or selective check?

One strategy to increase the 'certainty of punishment' among drivers is to increase the frequency and visibility of supervision. That is, simply intensifying police actions to enforce the law (supervision at checkpoints). Short-term campaigns actually reduce accidents, but their effects are transient. These campaigns generally use selective checking, i.e., only drivers that the police consider being inebriated are submitted to test. But the police make mistakes: one American study showed that the police 'let pass', unnoticed, 50% of drivers with BAC >0.10%.¹⁹

An alternative to selective checking is random verification: any driver, at anytime, may be submitted to test, which may vary in frequency and place, without previous notice. Besides, they are always highly visible and have impact on the mass media. One review of 23 studies on selective and random checking revealed a decrease of 22% (variation from 13% to 36%) in fatal accidents. Other study showed that random checking is twice as much effective as selective one. In Queensland, Australia, programs based on random checking resulted in a decrease of 35% in fatal accidents, whereas those based on selective checking reached 15%. Estimations suggest that each 1000 daily tests correspond to a decrease of 6% in all severe accidents and 19% in evening accidents with only one vehicle. Other stu-

dies showed also that the effects of random checking remain for ten years and that this kind of checking provides a legitimate excuse for heavy drinkers drinking less with peers. There is strong scientific evidence therefore, that highly visible random checking, and not selective verification, has a sustained and significant effect in reducing accidents, trauma and deaths associated with drinking and driving.⁴

Severity of punishment

Severe punishments do not result in fewer accidents than milder punishments do. Their effects may be even counter-producing when the Judiciary system is overloaded, or when public prosecutors do not obtain the condemnation. The only punishment that seems to have a consistent impact is the loss or suspension of the driving license.⁴ It is an efficient measure both for alcohol-related accidents and for those not related to alcohol. Infractors who do not lose their license have high relapse rates. One study revealed that three fourths of drivers who lost their license remained driving, although less frequently and more cautiously.⁴

Rapidness of punishment

A good example is the administrative suspension of the driving license, without a law suit. In the US, this is a possibility in 40 out of the 50 states and its impact to reduce alcohol-related accidents is consistent, decreasing in up to 26% the rate of fatal accidents. One study with inexperienced drivers revealed that the cost-benefit of such program reaches US\$ 11 for each dollar invested.²⁰

In conclusion, there is evidence that the measures below represent a combined strategy with the highest potential of success in the prevention of problems related to drinking and driving:

- 1) Establishing a low level of tolerated BAC for drivers.
- 2) Accomplishing frequent and visible supervision of BAC limits.
- 3) Effectively suspending the driving license of infractors.
- 4) Establishing the certainty of punishment mainly through random checking.

Regulating the promotion of alcohol

Alcohol marketing is now part of a global industry, in which the big corporations have the upper hand in industrialized countries and in the new markets of developing countries. The strategies utilized to promote alcoholic-beverages use TV, radio, printed press, Internet and promotions in the points of sales. Specific market niches are developed from the association of a determined trademark with sports, life styles, and other schemes to entrap the consumer by means of identification. Studies consistently show that these strategies of alcohol promotion have public health consequences. This evidence is strong enough to change the neglectful role of the State in behalf of the public good, regulating alcohol promotion, rather than leaving the industry and the media exert their 'self-regulation'.

Experiences with other sectors of the economy demonstrated that self-regulation is generally performed when the industry is under the threat of state regulation; and self-regulation tends to be an underregulation and an undersupervision in detriment of the public interests. We have seen this in Brazil, when the CONAR (National Council of Self-Regulation on Advertisement, composed by the industry, mass media and advertisement agencies) enacted a resolution in 2003 - only after receiving a strong pressure from the civil society - recommending the prohibition of the use of cartoon characters in beer ads; and it probably acted to prevent a stricter restriction. Using the mechanism of self-regulation, many times the focus on the pertinent political issues (e.g., those related to the sale of beverages to minors) is deviated, consuming energy in the refinement of conduct codes, as if they were an end in themselves.

Effects of the regulation on advertisement: studies comparing 17 countries with total prohibition, partial prohibition and no prohibition of advertisement of alcoholic beverages showed the following:⁴

Countries which forbid advertisement of distilled beverages have con-

sumption levels 16% lower and 10% less fatal traffic accidents than countries without any kind of prohibition.

2) Countries which forbid advertisement of beers and wines, besides distilled beverages, have consumption levels 11% lower and 23% less fatal traffic accidents than those which forbid only the advertisement of distilled beverages.

Educational and persuasive strategies

These strategies are among the most popular approaches to prevent alcohol-related problems. However, they differ from the previous approaches due to their lack of effectiveness. Besides their low effectiveness, they are often very expensive, making their cost-effectiveness extremely disadvantageous when compared to the other approaches described in this article.⁴ They generally have the following objectives:

- 1) Divulging knowledge about alcohol and the risks related to its consumption.
- 2) Changing attitudes regarding drinking in order to reduce the risks involved.
- 3) Changing behaviors related to drinking.
- 4) Decreasing the frequency or the severity of alcohol-related problems.
- 5) Obtaining more resources and support for alcohol policies.

They may use the following approaches:

- 1) Media initiatives

Mass media and educational contra-propaganda

Warning messages on labels

Guidelines for drinking safely

- 2) School-based programs

Although having a strong popular appeal, educational propaganda is never so well designed and does not have the same resources and frequency in the mass media as alcohol industry. Seduction and persuasion carry weight in favor of the latter, more than any contra-propaganda could be. Which message contrary to the consumption of alcohol could have as much appeal as the beer ad starred by one of Brazil's main soccer idols? How counter-weight the effect of advertising messages of alcohol industry broadcasted by great TV, Brazilian music or sports stars? It is hard. Even though there were resources to produce an educational propaganda equivalent to that of the industry, its cost would be so high that it would not be rewarding. When it has some effectiveness, it is an integrating part of a more comprehensive policy program. It should be stated that forbidding alcohol advertisement costs much less and is more efficient than any contra-propaganda measure.⁴

The use of warnings on labels, although having a significant recall in surveys – recall surveys assess how easily something is evoked or remembered by the interviewee is neither efficacious in changing behaviors related to the consumption of alcohol nor preventing the consumption among heavy drinkers. Some studies showed that 17-year old adolescents reported awareness of the warnings on labels in the US, although this awareness did not result in changes of beliefs regarding the consumption of alcohol. It is probable that the impact of warnings on labels could be increased by its combination with other alcohol policy strategies.⁴

After epidemiological researches about the effect of moderate consumption of alcohol on cardiovascular problems, the industry resorted to a strategy which provides the public with promotional and informative material about the benefits of moderate use of alcohol. The effects of this strategy on the consumption of alcohol are not yet conclusive.⁴

The aim of school programs is to modify the adolescents' beliefs, attitudes and behaviors regarding alcohol. Although increasing the awareness, they do not change the consumption. Besides, providing information about the dangers of different psychoactive substances may arise the curiosity and stimulate the consumption among stimuli-seekers. Affective approaches directed to clarifying values, self-esteem, social skills, and 'alternative' approaches, which provide activities without relation to alcohol (such as sports), are equally inefficient to reach the objectives proposed.⁴

Social influence programs aim to increase the skills to resist the social pressure related to the consumption of alcohol, but it has been recently discovered that the use of alcohol among adolescents is due less to direct forms of pressure than to much more subtle social influences; it has been also suggested that such an approach (training on skills to resist the social pressure) may be counter-producing, as it leads adolescents to conclude that alcohol use is highly prevalent and approved of by peers. There have been established then normative education programs aimed at correcting the tendency of adolescents to overestimate the number of peers who drink and approve of the use of alcohol.⁴

Many current school programs combine the training to resist the pressure with normative education; the results are still ambiguous. When positive, the results produced are short-lived, unless they are periodically reinforced; some sub-groups of adolescents tend to be more responsive than others. For example, youngsters with few drinking experience are more responsive to the social influence programs. Normative education programs show better results among youngsters with rebellious behavior. More comprehensive school programs, including individual as well family or community educational approaches – some programs assessed even included parental education, training of community leaders and mass media – showed some results, although soon dissipated when the program ended.⁴ The specialized literature^{21,22} recommends some general orientations for the development of preventive school programs:

- 1) Preventive programs should aim to reach several areas of the youngster's life, called *life domains*, namely: individual, group, school, family, community and social. Recent preventive studies suggest that the more life domains are reached by the program, the more effective it becomes.
- 2) The development of the program should follow a logical and predictive sequence of substance use: alcohol – tobacco – cannabis – depressants – stimulants – hallucinogens – others.
- 3) The program should count on different preventive modalities: universal, selective and indicated.
- 4) Studies show that the most effective period for prevention comprises the age ranges from 10 to 15 years.
- 5) Programs based on interactive methods are much more effective than those based on didactic formats.
- 6) Young multiplying agents may be part of the preventive program, provided they receive constant orientation from the staff in charge.
- 7) School programs with interventions directed to the parents and the community show the best results.

The facts presented lead us to reach the following conclusions about the school-based approaches:

- 1) Whatever the educational program adopted it is a quite expensive and scarcely effective alternative.
 - 2) Its impact is small and hardly consistent.
- Education alone is too weak as a strategy opposed to the powerful forces which permeate the social environment.
- 3) The hegemony and popularity of these models are not due to the demonstration of their impact or potential of reducing harm related to the consumption of alcohol.

We should question the validity of employing financial resources in isolated initiatives and ask ourselves why valuable resources are still spent in initiatives with so limited potential.

It is recommended the use of school approaches as an integrating part of a set of allocation and regulation policies. Therefore, educational approaches may contribute to sustain the other measures in the several domains of the youngster's life – and these measures may provide the necessary environmental changes for the effectiveness of school-based approaches.

Summary of policies

Research is able to indicate which strategies will be successful and which tend to be less effective or even useless besides indicating a waste of resources. Table 1 clearly shows the imbalance between the several strate-

gies described above, facilitating their understanding.

Synthesis

- 1) Public policies for alcohol should correspond to the understanding that alcohol is far of being an ordinary product.
- 2) Taxes and charges on beverages are an important tool for alcohol policy, as they may be used both to generate income and to reduce harm caused by alcohol. They work also as a social compensation for the damages caused.
- 3) The availability of alcohol may be controlled in several ways: functioning hours and days, control of the density of points of sale, zoning laws, minimum age for buying alcoholic beverages, etc.
- 4) The control of alcohol availability is a low-cost and highly-effective strategy to reduce the consumption and its related problems.
- 5) The implementation of a licensing system for alcoholic beverages is one of the most accepted and recommended strategies by specialists; its implementation and supervision is not expensive, its effectiveness is high and allows the obtainment of an effective control on the sale of alcoholic beverages.
- 6) Alcohol consumption is related to half of all fatal traffic accidents; nowadays, there are effective measures to reduce problems in this area.
- 7) The requirement of lower levels of blood alcohol concentrations is related to lower rates of fatal and non-fatal traffic accidents.
- 8) For the effectiveness of these traffic strategies, the degree of certainty of punishment and the speed in which this punishment is applied should be increased.
- 9) Education alone is too weak as a strategy contrary to the risk factors which permeate the social environment and the context in which alcohol is consumed.

In a country like Brazil in which alcohol regulation is near to zero, and in a period in which the level of popular awareness about the harm caused by alcohol increases, there is an opportunity for an effective and transparent political action. In the scenery of alcohol policy there are several actors on stage:

- 1) Commercial interests: when great amounts of money are invested in marketing, the advertisement industry, the mass media and part of the sports industry become therefore an interested part in alcohol policy. This occurs mainly when proposals to restrict the advertisement arise. 'Preventive initiatives' sponsored by the industry or organizations financed by it should be monitored, as they aim at maintaining the *status quo* rather than at the public good.
- 2) Mass media: they may have a great nation-wide and local influence in the political debate; they may shape the debate by the choice of the subject, defining the problem and suggesting solutions. They may, therefore, be used to reinforce several alcohol policies, avoiding, thus, the acquisition cost of space in the media for divulging the contra-propaganda.
- 3) Non-governmental organizations: they may have a very relevant role. A good example is the association of American mothers, *Mothers Against Drunk Driving*.
- 4) Public campaigns: they may have an important place to arise the attention for the problems caused by alcohol, but they never suffice. Campaigns such as the "Alcohol-Combat Week" may provide great satisfaction to the people involved, but without causing impact in the problems related to the consumption of alcohol. Programs like this generate much public enthusiasm and recognition and may appear as if something was being performed, without, however, offering substantial and effective interventions.
- 5) Governments: alcohol policies may be developed and implemented at many different governmental levels, from nation-wide to local ones. This fact enables decentralization in the political decision-making processes, facilitating many times their implementation.
- 6) Communities: many political approaches of proven nation-wide or regional effectiveness may be also performed at the community level. Community approaches have several advantages: it is the community that

should deal not only with death and trauma caused by traffic accidents related to the consumption of alcohol, but also with the social cost of these problems and with the recovery and rehabilitation process. These problems, many times, generate personal histories and experiences which motivate a determined action; e.g., parents who lost their children in accidents may constitute a group to exert pressure against the sale of alcoholic beverages to minors.

Ideally the political process has a cycle which begins with a systematic assessment of alcohol-related problems, followed by the implementation of intervention policies, finishing with an objective assessment of their effects. But, in general, the political process is not so clear, being contaminated by conflicting interests, values and ideologies. Alcohol, besides being a product which, as any other, produces economic exchanges, is also one that requires extraordinary public policies in the form of regulation, taxation and services destined to the harm caused by its consumption.

The process of creating a policy for alcohol should be the most transparent possible and should correspond, in the best way, to the needs of the citizens who are the end consumers of this policy. Many of the actions of alcohol policy game occur in the backstage, subordinated to political considerations or unrevealed interests. Without the necessary scientific information and monitoring of its results, alcohol policy is neither qualified as evidence-based nor as having the necessary effectiveness. It is mandatory assuring that alcohol policy will serve, above all, the public good.

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Table 1

STRATEGY OR INTERVENTION	EFFECTIVENESS	SCIENTIFIC SUPPORT	CULTURAL ADAPTABILITY	COST	TARGET GROUP AND COMMENTS
Availability					
Total Prohibition	+++	+++	++	High	GP; many side-effects
Minimum Age	+++	+++	++	Low	HR; supervision is needed
Rationing	++	++	++	High	Difficult to implement
Restriction to the Density of Bars	++	+++	++	Low	GP; long-term implementation
Responsibility of Bartenders	+++	+	+	Low	HR; requires a legal definition of responsibility
Different Availability According to Alcohol Degree	++	++	+	Low	GP
Price and Taxation					
Taxation	+++	+++	+++	Low	GP; effectiveness depends on the capability of the government to control the production and distribution; side-effect: it may increase smuggling and illicit production
Altering the Context					
Not Serving Inebriated Customers	+	+++	++	Moderate	HR; needed training + supervision
Management of Aggressiveness	+	+	+	Moderate	HR
Conduct codes	0	+	+	Low	HR; inefficient without supervision
Supervision of Points of Sale	++	+	++	High	HR; adhesion depends on the perception about the certainty of supervision
Promotion of Alcohol-free Activities	0	++	+	High	GP
Involvement of the Community	++	++	+	High	GP
Education and Persuasion					
School Programs	0	+++	++	High	HR; increases the knowledge but does not decrease the consumption
Public Interest Messages	0	+++	++	Moderate	GP
Warning on Labels	0	+	+	Low	GP; increases the awareness, but does not change the behavior
Regulating Alcohol Promotion					
Prohibition of Advertisement	+	++	++	Low	GP; strong opposition from the industry
Control of the Content of Advertisement	?	0	0	Moderate	GP; subjected to self-regulation agreements, rarely monitored
Drinking and Driving					
Checking Points	++	+++	+++	Moderate	GP; short-term duration
Random Checking	+++	++	+	Moderate	GP; higher implementation cost
Reducing Allowed BAC	+++	+++	++	Low	GP
Suspension of Driving License	++	++	++	Moderate	ADP
Campaigns to Assigned Drivers	0	+	+	Moderate	HR; not prevents accidents

Target group: GP = General Population; HR = high-risk groups (high-risk drinkers or groups particularly vulnerable to the effects of alcohol, such as adolescents); ADP = people with alcohol abuse or alcohol dependence. **Evidence of effectiveness:** scientific demonstration that a strategy is capable of reducing the consumption, reducing related problems or the costs for society.

0 Evidence indicates lack of effectiveness
 + Limited effectiveness
 ++ Moderate effectiveness
 +++ High effectiveness
 ? There are no studies or the evidence is insufficient for assessment

Comprehensiveness of scientific support: it is related to the number of scientific studies and to the consistency of results; it depends of effectiveness, that is, a determined strategy may have low effectiveness and have a comprehensive scientific evidence which legitimates this assessment.

0 Without studies on effectiveness
 + Only one study with good methodology
 ++ Two to four completed studies
 +++ Five or more studies on effectiveness concluded

Cultural adaptability tests:

0 The strategy was not adequately tested
 + The strategy was studied in only one country
 ++ Studied in two to four countries
 +++ Studied in at least five countries

Implementation cost: cost for the State to implement, operate and maintain a strategy, independently of its effectiveness.

Low Low cost to implement and maintain
 Moderate Moderate cost of implementation and maintenance
 High High cost of implementation and maintenance

ver age, blood alcohol level, victim age, and restraint use. *Accident Analysis and Prevention* 1998;30:137-50.

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1 NT – Place built for the contests of carnival associations.

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