

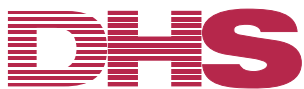
# Reducing Drinking and Driving in Europe

**RECOMMENDATIONS & CONCLUSIONS**



**European Commission**





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# REDUCING DRINKING AND DRIVING IN EUROPE

## 1. RISKS OF DRINKING AND DRIVING

The risk of drinking and driving increases with both the amount of alcohol consumed and the frequency of high volume drinking occasions, with impairment in driving skills beginning with any departure from a zero blood alcohol level (BAL). Comparison of BALs of drivers in accidents with the BALs of drivers not involved in accidents find that male and female drivers at all ages who had BALs between 0.2g/l and 0.49g/l had at least a three times greater risk of dying in a single vehicle crash. The risk increased to at least 6 times with a BAL between 0.5g/L and 0.79g/L and 11 times with a BAL between 0.8g/l and 0.99 g/L. The risks are greater for serious and fatal crashes, for single-vehicle crashes, and for younger people. The use of alcohol increases both the possibility of being admitted to hospital from drink-drive injuries, and the severity of the injuries.

More than 1 in 3 road traffic fatalities in the European Union are due to alcohol<sup>1</sup>. These drink-driving deaths are not equally split between genders, with 15,000 male deaths compared to 2,000 deaths for females. Of these 17,000 deaths, some 10,000 are for people other than the driver. Looking only at damage to property, the cost of traffic accidents in the EU has been estimated to be €10bn in 2003. Overall traffic fatality rates are significantly worse in southern Europe than the rest of the EU<sup>152</sup> and much of the EU<sup>103</sup>, something that has become much more apparent over the last 30 years.

## 2. REGULATING THE AVAILABILITY AND MARKETING OF ALCOHOL AND DRINK DRIVING ACCIDENTS

A wide range of studies have found that increasing the price of alcohol and beer reduces road traffic accidents and fatalities among people of all ages, but particularly for younger drivers. For example, a policy adjusting the US beer tax for the inflation rate since 1951 to the mid-1980s would have reduced total road traffic fatalities by 11.5 percent and fatalities among 18- to 20-year-olds by 32.1 percent<sup>4</sup>.

Outlet density refers to the number of outlets available for the retail purchase of alcohol. The smaller the number of outlets for alcoholic beverages, the greater the difficulty in obtaining alcohol, a situation that is likely to deter alcohol use and problems. The distribution of alcohol-related crashes (single-vehicle night-time crashes) is related to the distribution of on-premise outlets and rates of these crashes decrease with greater distance from concentrated

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1 Anderson, P. & Baumberg, B. (2006) *Alcohol in Europe: A Public Health Perspective – Report to the European Commission*. London: Institute of Alcohol Studies. ([http://ec.europa.eu/health-eu/news\\_alcoholineurope\\_en.htm](http://ec.europa.eu/health-eu/news_alcoholineurope_en.htm)).

2 Austria, Belgium, Denmark, France, Finland, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom,

3 Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia

4 Chaloupka F.J., Saffer H., and Grossman M. (1993) Alcohol-control policies and motor-vehicle fatalities. *Journal of Legal Studies* 22, 161-186.

areas. Further, greater outlet concentrations have a greater impact on alcohol-related crashes in areas with greater amounts of highway traffic, and in lower income areas. A number of studies have indicated that although changing either hours or days of alcohol sale can redistribute the times at which many alcohol related crashes and violent events

related to alcohol take place, it does so at the cost of an overall increase in problems. One study that has investigated this was in Reykjavik, Iceland, where around-the-clock opening produced net increases in police work, in emergency room (ER) admissions and in drink-driving cases, Figure 1.

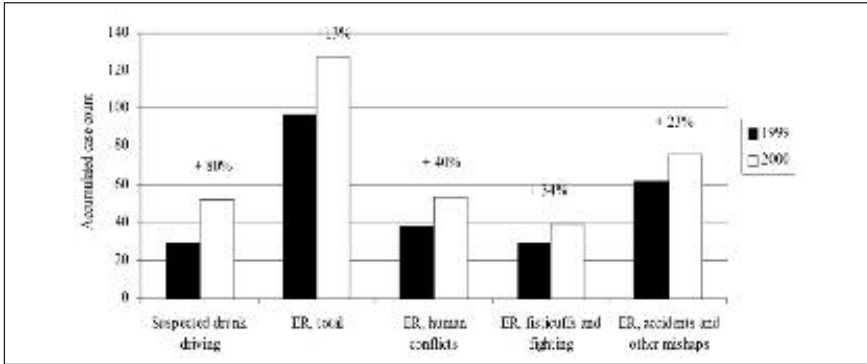


Figure 1 Iceland: impact of 24 hour opening of bars and restaurants<sup>5</sup>

Six US-based well designed longitudinal studies and one Belgian well designed longitudinal study show that the volume of advertisements and media exposure increase the likelihood of young people starting to drink, the amount they drink, and the amount they drink on any one occasion<sup>6</sup>. Increases in alcohol advertising have been found to be significantly related to increases in total and night time vehicle fatalities across US states, suggesting that a total ban on alcohol advertising might reduce motor vehicle fatalities by as much as 5,000 to 10,000 lives per year<sup>7</sup>.

### 3. DRINK DRIVING COUNTERMEASURES

Drink driving countermeasures are among the most heavily researched

strategies to reduce alcohol-related problems. Establishing a maximum blood-alcohol level (BAL) for driving is a well-established and widely diffused drinking-driving countermeasure. Over the years, the level specified as maximum has been lowered in a number of countries, and is as low as zero or 0.2g/l in a number of countries, and 0.5g/l or lower in most countries in Europe. Both estab-

5 Ragnarsdottir, T., Kjartansdottir, A. and Davidsdottir, S. (2002) Effect of extended alcohol serving hours in Reykjavik, Iceland. In: Room, R., ed. The Effects of Nordic Alcohol Policies, pp. 145–154. NAD Publication 42. Helsinki: Nordic Council for Alcohol and Drug Research.

6 Anderson, P. (2007) Commercial Communications and Alcohol. Utrecht: National Foundation for Alcohol Prevention.

7 Saffer, H. (1997). Alcohol advertising and motor vehicle fatalities. *Rev Econ Stat* 79(3):431–442

lishing a BAL and lowering it are effective in reducing drinking-driving casualties, Figure 2. Setting lower BALs (includ-

ing a zero level) for young or novice drivers is additionally effective in reducing drink driving casualties.

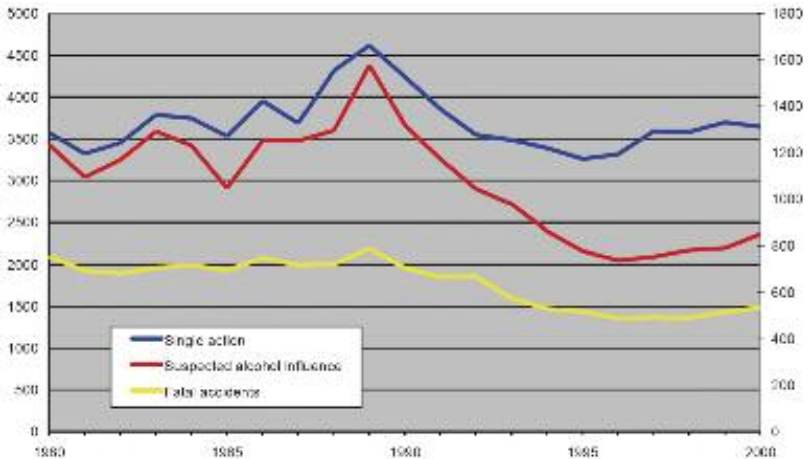


Figure 2 Reductions in single accidents (left axis, n), suspected driving under the influence of alcohol and fatal accidents (right axis, n) following the reduction of the BAL from 0.5g/l to 0.2g/L in Sweden in 1990<sup>8</sup>

There is also convincing evidence that both intensive random breath testing, where police regularly stop drivers on a random basis to check their BAL, and sobriety checkpoints, where all cars are

stopped and drivers suspected of drinking driving are breath-tested, reduce alcohol-related injuries and fatalities, Figure 3.

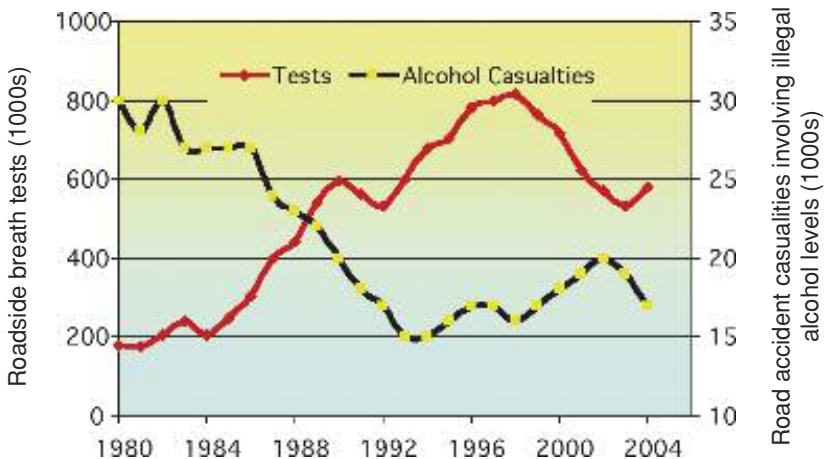


Figure 3 Inverse relationship between number of roadside breath tests and number of roadside casualties involving illegal alcohol levels, England<sup>9</sup>

**Suspending the license** of those convicted of impaired driving is only partially effective as a way to reduce drink driving recidivism and alcohol-related crashes. Without some form of education, counselling or treatment program, the effects of suspension upon alcohol-impaired driving last only as long as the driver is incapacitated by the license suspension, and these periods can be relatively short. Further, driving on a suspended license can be common because it cannot be detected by the police unless drivers are apprehended for another infraction. The deterrent effect of any penalty is benefited by certainty and immediacy, particularly in legal systems in which a criminal drinking-driver case may be delayed or successfully fought by a defence lawyer.

The use of **alcolocks** (a mechanical device which does not allow a car to be driven by a driver with a BAL above a low level) for drink driving offenders lasts for only as long as the device is fitted. Some countries have introduced alcolocks as a prevention strategy for commercial drivers.

Licensed drinking environments are associated with drunkenness, drink-driving and problem behaviours such as aggression and violence, with some licensed premises being associated with a disproportionate amount of harm. In terms of the effects on customer intoxication, several studies have found that **training the servers** of alcohol can result in lower blood alcohol levels of customers generally and fewer customers with high levels. Studies of the impact of adhering to bar policies for avoiding intoxication have also found modest effects in reducing heavy consumption

and high risk drinking, but were not as successful as originally expected. The impact of responsible beverage service is greatly enhanced when there is active, but ongoing enforcement of laws prohibiting sale of alcohol to intoxicated customers.

In **designated driver** programmes, the designated driver should abstain from all alcohol, be assigned before drinking alcohol, and drive other group members from drinking places to their homes. Although the BALs of designated drivers are generally lower than those of their passengers they are still often higher than the legal limit for drinking and driving. Further, an increase in passenger alcohol consumption is often found when a designated driver is available. Further, no study has evaluated whether the use of designated drivers actually decreases alcohol-related motor vehicle-related injuries.

There is no evidence for an effective impact from **school-based education** courses in reducing drinking and driving.

**Brief advice** delivered in emergency departments and trauma centres has been shown to be effective in reducing alcohol consumption and alcohol-related harm, including substantial reductions in motor-vehicle crashes and related injuries. On the other hand, **remedial programs** have only limited impact in reducing the recurrence of alcohol-impaired driving offences and in alcohol-related accidents.

**Community based** prevention programmes can be effective in reducing drinking and driving, alcohol related traffic fatalities and assault injuries. Communi-

ty mobilization has been used to raise awareness of problems associated with on-premise drinking, develop specific solutions to problems, and pressure bar owners to recognize that they have a responsibility to the community in terms of such bar-related issues as noise level and customer behaviour. Evaluation results from community mobilization approaches as well as documentation from grassroots projects suggest that community mobilization can be successful at reducing aggression and other problems related to binge drinking in licensed premises. Geographical analysis can be used to identify specific drinking localities and problems related to alcohol, particularly motor vehicle crashes, pedestrian injuries, and violence. This allows targeted public health and law enforcement approaches.

To be effective, drink driving laws must be publicized. If the public is unaware of a change in the law or an increase in its enforcement, it is unlikely that it will affect their drinking and driving.

#### 4. DRINK DRIVING POLICIES IN EUROPE

In line with a Commission Recommendation, most EU15 countries have a maximum BAL of no more than 0.5g/L, although the UK, Ireland and Luxembourg continue to have a higher limit (0.8g/L). Limits in the EU10 tend to be lower, with three countries (Czech Republic, Hungary and Slovak Republic, as well as Romania) prohibiting any alcohol in drivers. Data on the perceived chances of being breathalysed are available from the SARTRE project<sup>10</sup>. Across 21 EU countries (and Switzerland), nearly 30% of drivers believed that they would never be

breathalysed, with a further 45% believing they would only be breathalysed rarely; over 70% of drivers stated that they had not been checked for alcohol in the last three years. In the countries with random breath testing (RBT), 22% of drivers thought they would never be checked, compared to 46% of drivers in the six countries without RBT. Although one half of the EU population is correctly aware of the maximum legal blood alcohol level for drivers, some two fifths admit that they “don’t know” what is the current BAL in their country<sup>11</sup>. Almost three quarters of Europeans would agree to a lower blood alcohol level for young and novice drivers of 0.2g/l, and eight in ten believe that random police alcohol checks would reduce peoples’ alcohol consumption before driving.

#### 5. COST EFFECTIVE APPROACHES

The World Health Organization has modelled the costs and impact of five policy measures (taxation, controls on availability, advertising controls, drink driving measures, and health care based interventions) in reducing harmful alcohol use. Throughout the European Union, taxation had the greatest impact in reducing the harm done by alcohol, followed by health care interventions delivered by primary providers. The three regulatory measures, (taxation, restricted sales and advertising controls)

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10 Sardi, G. M. and C. Evers (2004). "Drinking and Driving." European drivers and road risk: part 1 - reports on principal analyses, Edited by Sartre. Institut National de Recherche sur les Transports et leur Sécurité INRETS.

11 Eurobarometer (2007). Attitudes towards Alcohol. [http://ec.europa.eu/health/ph\\_determinants/life\\_style/alcohol/documents/ebs272\\_en.pdf](http://ec.europa.eu/health/ph_determinants/life_style/alcohol/documents/ebs272_en.pdf)

were the cheapest in terms of cost to implement, with drink driving measures and health care interventions being the most expensive. Thus, in the European Union, taxation, restricted access, and advertising bans were the most cost-

effective policy options in reducing harmful alcohol use. Drink driving strategies were in a middle rank among effective alcohol policy measures, since substantial police effort is involved in implementing them.

## 6. RECOMMENDATIONS

### I. REGULATING THE AVAILABILITY AND MARKETING OF ALCOHOL

| Recommendations   | Effectiveness | Breadth of research support | Cost efficiency |
|---|---------------|-----------------------------|-----------------|
| I.1. Minimum tax rates for all alcoholic beverages should be increased in line with inflation; should be at least proportional to the alcoholic content of all beverages that contain alcohol; and should at least cover the external costs of alcohol as determined by an agreed and standardized methodology. | +++           | +++                         | +++             |
| I.2. Jurisdictions that manage outlets through number and density, location and hours and days of sale should consider not relaxing their regulations; jurisdictions without such regulations or with very limited regulations should analyze the impact of introducing or strengthening them.                  | +++           | +++                         | +++             |
| I.3. Agreements and mechanisms should be explored to restrict or ban the marketing of alcoholic beverages at the European level, ensuring a common approach across Europe.  | +             | +                           | +++             |

## II. DRINK DRIVING COUNTERMEASURES

| Recommendations  | Effectiveness | Breadth of research support | Cost efficiency |
|--|---------------|-----------------------------|-----------------|
| II.1. A maximum blood alcohol concentration limit of 0.5 g/L should be introduced throughout Europe; countries with existing lower levels should not increase them. Eventually, a lower limit of 0.2g/L should be introduced for all drivers | +++           | +++                         | +++             |
| II.2. A lower limit of 0.0 g/L should be introduced for young drivers and drivers of public service and heavy goods vehicles.  | +++           | ++                          | +++             |
| II.3. Unrestricted powers to breath test, using breathalysers of equivalent and agreed standard, should be implemented throughout Europe.  | +++           | ++                          | +               |
| II.4. Common penalties with clarity and swiftness of punishment, with penalties graded depending at least on the BAL level, should be implemented throughout Europe.   | ++            | +                           | +               |
| II.5. Driver education, rehabilitation and treatment schemes, linked to penalties, based on agreed evidence-based guidelines and protocols should be implemented throughout Europe.  | +             | +                           | +               |
| II.6. Action to reduce drinking and driving should be supported by a Europe wide campaign.   | +             | +                           | +               |

| Recommendations   | Effectiveness | Breadth of research support | Cost efficiency |
|---|---------------|-----------------------------|-----------------|
| <p>II.7. Existing designated driver campaigns should be evaluated for their impact in reducing drink driving accidents and fatalities before financing and implementing any new campaigns.</p>  | O             | +                           | ++              |
| <p>II.8. Effective and appropriate training for the hospitality industry and servers of alcohol should be implemented to reduce the risk of drinking and driving.</p>   | +             | ++                          | +               |
| <p>II.9. Comprehensive community-based educational and mobilization programmes, including urban planning and public transport initiatives, should be implemented to reduce drinking and driving, including alcohol awareness training in all in driver instructor training courses.</p> | ++            | ++                          | +               |
| <p>II.10. Resources should be made available to ensure the widespread availability and accessibility of identification and advice programmes to reduce drinking and driving in accident and emergency departments.</p>  | +             | +                           | +               |

## EFFECTIVENESS RATINGS FOR RECOMMENDATIONS\*

| Effectiveness   | Breadth of Research Support   | Cost Efficiency  |
|---|---|--|
| <p>This criterion refers to the scientific evidence demonstrating whether a particular strategy is effective in reducing alcohol consumption, alcohol-related problems or their costs to society. The following rating scale was used:</p> <ul style="list-style-type: none"> <li>○ Evidence indicates a lack of effectiveness</li> <li>+ Evidence for limited effectiveness.</li> <li>++ Evidence for moderate effectiveness.</li> <li>+++ Evidence of a high degree of effectiveness</li> <li>? No studies have been undertaken or there is insufficient evidence upon which to make a judgment.</li> </ul> | <p>The highest rating was influenced by the availability of integrative reviews and meta analyses. Breadth of research support was evaluated independent of the rating of effectiveness (i.e., it is possible for a strategy to be rated low in effectiveness but to also have a high rating on the breadth of research supporting this evaluation). The following scale was used:</p> <ul style="list-style-type: none"> <li>○ No studies of effectiveness have been undertaken</li> <li>+ Only one well designed study of effectiveness completed.</li> <li>++ From 2 to 4 studies of effectiveness have been completed.</li> <li>+++ 5 or more studies of effectiveness have been completed.</li> <li>? There is insufficient evidence on which to make a judgment.</li> </ul> | <p>This criterion seeks to estimate the relative monetary cost to the state to implement, operate and sustain this strategy, regardless of effectiveness. For instance, increasing alcohol excise duties does not cost much to the state but may be costly to alcohol consumers. In this criterion, the lowest possible cost is the highest standard. Therefore, the higher the rating, the lower the relative cost to implement and sustain this strategy. The following scale was used:</p> <ul style="list-style-type: none"> <li>○ Very high cost to implement and sustain</li> <li>+ Relatively high cost to implement and sustain.</li> <li>++ Moderate cost to implement and sustain.</li> <li>+++ Low cost to implement and sustain.</li> <li>? There is no information about cost or cost is impossible to estimate.</li> </ul> |

- ◆ Babor TF, Caetano R, Casswell S, Edwards G, Giesbrecht N, Graham K, Grube JW, Gruenewald PJ, Hill L, Holder HD, Homel R, Österberg E, Rehm J, Room R and Rossow I (2003). Alcohol: No Ordinary Commodity. Research and Public Policy. Oxford, Oxford Medical Publication, Oxford University Press.

