

facts

Road safety - Alcohol

Impairment by alcohol is an important factor influencing both the risk of a road crash as well as the severity of the injuries that result from crashes.

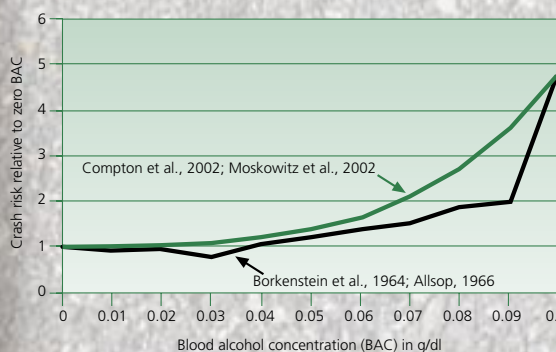
The frequency of drinking and driving varies between countries but it is almost universally a major risk factor for road traffic crashes.

The extent to which alcohol contributes to road traffic crashes varies between countries and direct comparisons are difficult to make. In many high-income countries about 20% of fatally injured drivers have excess alcohol in their blood (i.e. above the legal limit). Studies in low-income countries have shown alcohol to be present in between 33% and 69% of fatally injured drivers.

ALCOHOL AS A RISK FACTOR FOR TRAFFIC COLLISIONS

- Drivers who have been drinking have a much higher risk of involvement in crashes than those with no alcohol in their blood, and this risk increases rapidly with increasing blood alcohol content. A study carried out in the 1960s in the United States showing this relationship provided the basis for the international levels of blood-alcohol content, set in many countries at 0.08 g/dl.
- However, more recent analyses suggest that the risks associated with these blood alcohol levels are higher than originally thought. This has led many countries to reduce legal blood alcohol content limits to 0.05 g/dl.

Relative risk of driver involvement in police-reported crashes



RELATIVE RISK OF DRIVER INVOLVEMENT IN POLICE-REPORTED CRASHES

- Increasing blood alcohol levels are also associated with an increase in the severity of injury incurred in a road crash. This is particularly true for the risk of death: an alcohol-impaired driver has 17 times the risk of being involved in a fatal crash than an unimpaired driver.
- Alcohol is a risk factor for many pedestrians who are involved in road crashes. A study in the United Kingdom found that 48% of pedestrians killed in road crashes had been drinking alcohol. In South Africa, alcohol was found to contribute to 61% of fatalities among pedestrians.
- Any drug that affects the central nervous system has the potential for driver impairment. However, the use of both medicinal and recreational drugs and their effect on driving performance and crash involvement is much less well understood than alcohol.

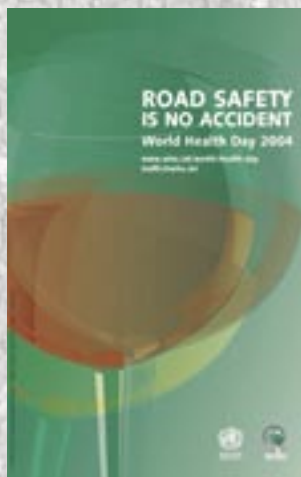
WHAT FACTORS AFFECT ALCOHOL-RELATED ROAD CRASHES?

- Inexperienced young drivers with a blood alcohol content of 0.05 g/dl have 2.5 times the risk of a crash compared with more experienced drivers.
- The risk of a road crash when a driver is alcohol impaired varies with age. Teenagers are significantly more likely to be involved in a fatal crash than older drivers. At almost every blood alcohol content level, the risk of crash fatality decreases with increasing driver age and experience.
- Teenage drivers who are alcohol impaired are at increased risk of having a road crash if they have passengers in the vehicle relative to those driving alone.
- A low expectation of getting caught with a blood alcohol content above the legal limit has been shown to lead to an increase risk of a crash.



WHAT CAN BE DONE TO PREVENT ALCOHOL-IMPAIRED DRIVING?

- Setting blood alcohol limits is effective in reducing road crashes. However, these limits should be consistent with current epidemiological information concerning the relationship between alcohol and crash involvement. Upper limits of 0.05 g/dl for the general driving population and 0.02 g/dl for young drivers are generally considered to be the best practice at this time.
- Laws that establish a lower legal blood alcohol content limit for younger or inexperienced drivers than for older, more experienced drivers have been shown to reduce alcohol-related crashes. Research has shown the establishment and enforcement of these laws to be cost-effective interventions.
- The level of enforcement of drink-driving laws has a direct effect on the incidence of drinking and driving. Increasing drivers' perception of the risk of being detected is the most effective means of deterring drinking and driving.
- Breath-testing devices that provide objective evidence of blood alcohol content are a very effective enforcement tool. The implementation of random breath testing and sobriety checkpoints for drivers has been found to significantly reduce crashes.
- Minimum legal drinking-age laws specify an age below which the purchase or public consumption of alcoholic beverages is illegal. Studies have shown that raising the minimum drinking age leads to a reduction in alcohol impaired driving and resultant crashes.
- 'Alcohol ignition interlocks' are devices that require a driver to take a breath test before starting a car. If the test is failed, the device locks the ignition so the engine will not start. Such devices, when fitted in the cars of repeat drink-driving offenders, have been shown to be effective as a deterrent. The high technology required for these devices means that although they are effective, their use is limited.
- 'Graduated driver-licensing' systems require new drivers to have a period where restrictions are placed on any unsupervised driving they do. These include a prohibition against driving after drinking any alcohol. These restrictions are lifted as new drivers gain experience and teenage drivers mature to gain a full licence. Graduated driver-licensing systems have consistently been proved to be effective in reducing new-driver crash risk.



WHO recommends that member countries set and enforce blood alcohol concentration levels for drivers.