Chapter 5

Mental Health and Hygiene, Behaviour and Society

5.2. Alcohol use: epidemiology and prevention

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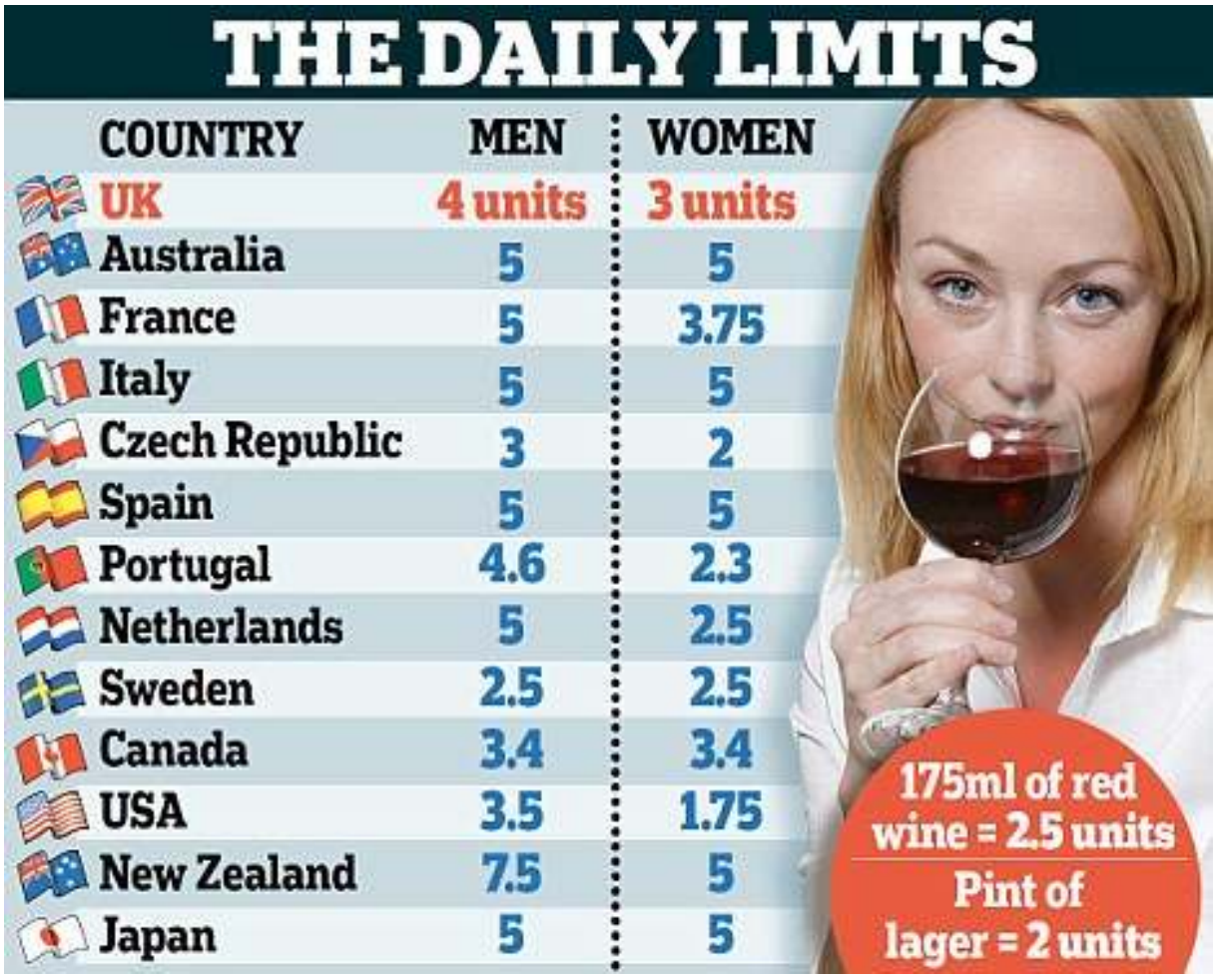
5.2.1. The epidemiology of alcohol consumption

Purposeful production of alcoholic beverages is common in many cultures and often reflects their cultural and religious traits The discovery of late Stone Age beer jugs has established the fact that purposely fermented beverages existed at least as early as 10,000 BC. Alcohol consumption has decreased in the past decades, but still poses a major threat due to the increased rate of under-age drinking.

The restriction of alcohol consumption is much more complicated than the fight against drugs for instance. First of all moderate and sometimes even excessive alcohol consumption is socially accepted in most parts of the world. Second of all, moderate alcohol consumption has been proved to be beneficiary for the health.

5.2.1.1. How much should people drink?

To understand and accurately evaluate the current trends, it is crucial to know how much alcohol is considered to be safe in the long-run. The amount is usually expressed in units, as seen below:



One unit equals:

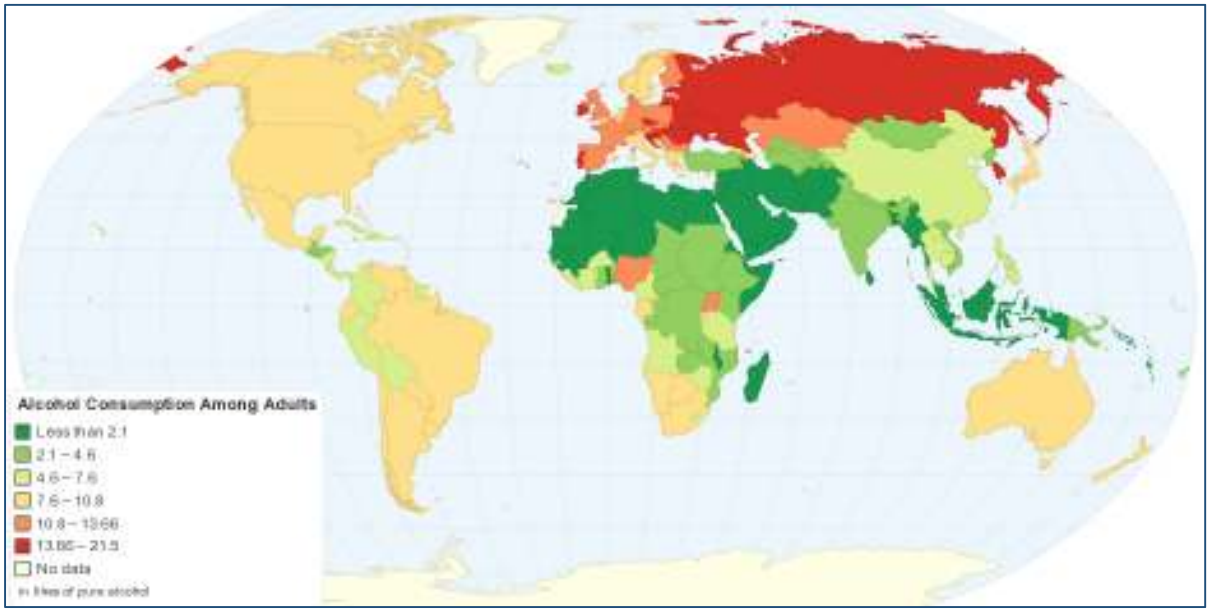
- 285 ml (one pot/middy/half-pint) of regular beer (3-4 per cent alcohol content)
- 75-100 ml (or one small glass) of table wine (approx. 13.5 per cent alcohol content)
- 25 ml of spirits (approx. 40 per cent alcohol content) plus mixer.

Men should not regularly drink more than 3-4 units of alcohol a day and women should not regularly drink more than 2-3 units a day, with 2-3 alcohol-free days per week. If you do drink more heavily than this on any day, allow 48 alcohol-free hours afterwards to let your body recover.
The safest choice for young people under 18 years of age is not to drink at all. Young people under 15 years of age are at the greatest risk of harm from drinking and are advised not to drink alcohol. If older teenagers (over 15 years) do drink, it should be under adult supervision and within the adult guideline for low-risk drinking (no more than two standard drinks in any one day).
For pregnant and breastfeeding women the safest choice is not to drink alcohol.

5.2.1.2. How much do people drink?

The true picture of alcohol consumption is often shrouded in myths and assumptions. A statistical presentation and mapping of the level and patterns of global, regional and country alcohol consumption by adults 15 years and older provides a sound basis for the analysis of problems related to alcohol.
Worldwide per capita consumption of alcoholic beverages in 2005 equaled 6.13 liters of pure alcohol consumed by every person aged 15 years or older. A large portion of this consumption – 28.6% or 1.76 liters per person – was homemade and illegally produced alcohol or, in other words, unrecorded alcohol.

Alcohol consumption among adults:



5.2.1.3. Trends in adult per capita consumption

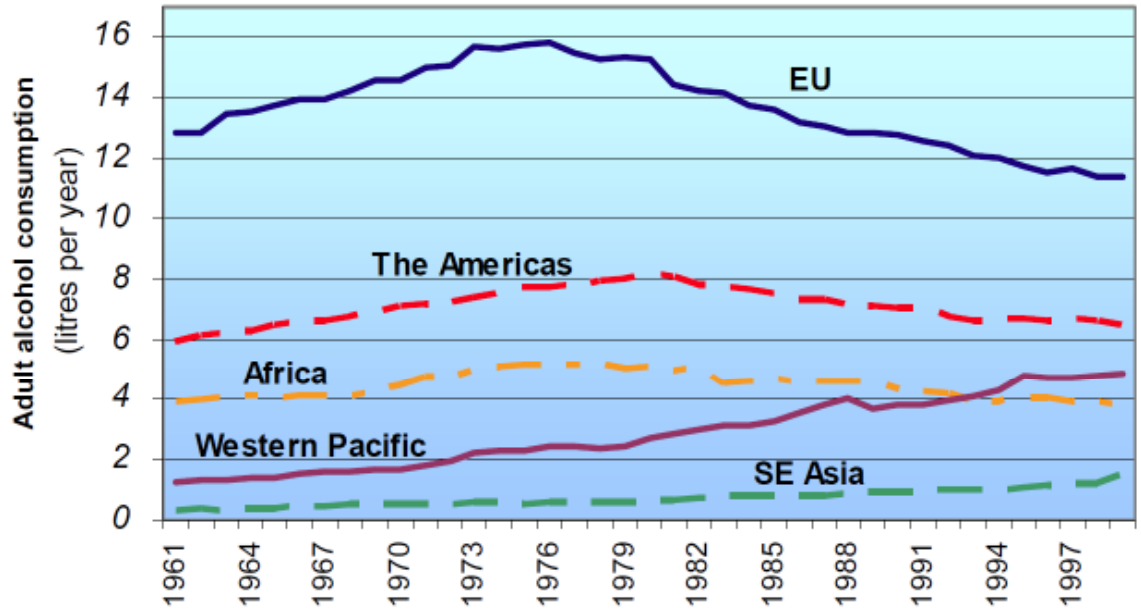


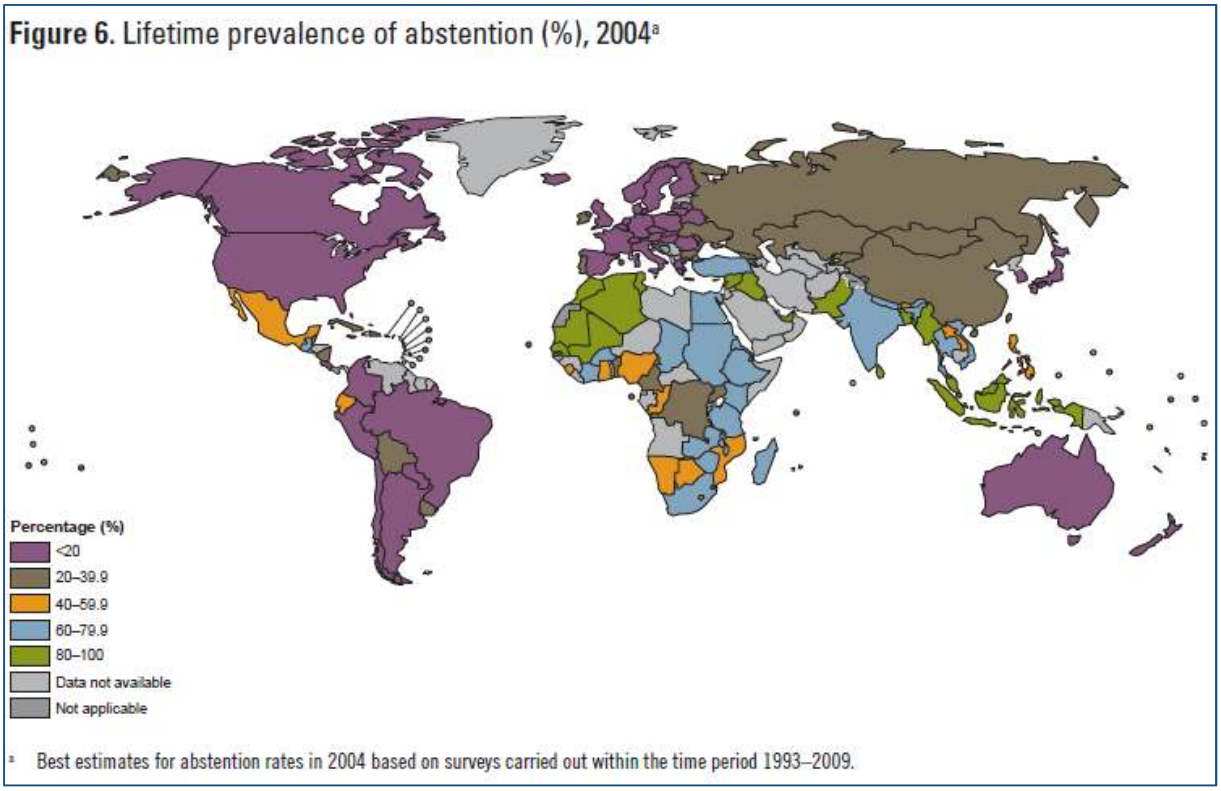
Figure 4.1 Europe and the world's drinking *Sources: Global Status Report on Alcohol (WHO 2004); EU figures are taken from WHO Health for All Database and WHO Global Alcohol Database (as below). Averages are population-weighted.*

In the WHO Global Survey on Alcohol and Health (2008), the five-year trend of under-age drinking was assessed: out of 73 responding countries, 71% indicated an increase, 4% a decrease, 8% were stable and 16% showed inconclusive trends. The five-year trend of drinking among 18–25 year olds indicated that, out of 82 responding countries, 80% showed an increase, 11% a decrease, 6% were stable and 12% showed inconclusive trends.

5.2.1.4. Unrecorded alcohol consumption

The consumption of unrecorded alcohol is a significant issue in all WHO regions, and poses a difficult dimension for measuring the true nature of global alcohol consumption. Data must be culled from many sources to accurately estimate this sector of consumption, which accounts for nearly 30% of total worldwide adult consumption.

5.2.1.5. Abstention rate



5.2.1.6. Acute effects of alcohol

Acute effects of alcohol appear shortly after consumption. Depending on the type of drink, blood alcohol content shows different dynamics. Blood alcohol content (BAC) is usually expressed as a percentage of alcohol in the blood: e.g. a BAC of 0.10 means that 0.10% of a person's blood, by volume, is alcohol. The most important acute effects can be seen below:

1. Euphoria (BAC = 0.03% to 0.12%)
2. Lethargy (BAC = 0.09% to 0.25%)
3. Confusion (BAC = 0.18% to 0.30%)
4. Stupor (BAC = 0.25% to 0.40%)
5. Coma (BAC = 0.35% to 0.50%)

Binge drinking

Binge drinking or heavy episodic drinking is an expression for drinking alcoholic beverages with the primary intention of becoming intoxicated by heavy consumption of alcohol over a short period of time. It is a kind of purposeful drinking style that is popular in several countries worldwide especially in adolescents, and overlaps somewhat with social drinking since it is often done in groups.

The high levels of binge drinking among young people and the adverse consequences which includes increased risk of alcoholism as an adult and liver disease make binge drinking a major public health issue. Recent research has found that young college binge drinkers who

drink 4/5+ drinks on more than 3 occasions in the past 2 weeks are statistically 19 times more likely to develop alcoholism than non-binge drinkers

The main cause of death among adolescents as a result of binge drinking is road traffic accidents. Earlier sexual activity, increased changing of sexual partners, higher rate of unwanted (teenage) pregnancy, higher rate of sexually transmitted diseases, infertility, and alcohol-related damage to the fetus during pregnancy is associated with binge drinking. Female binge drinkers are three times more likely to be victims of sexual assault; 50 percent of adolescent girls reporting sexual assault were under the influence of alcohol or another psychotropic substance at the time.

Alcohol poisoning

The signs and symptoms of acute alcohol poisoning include:

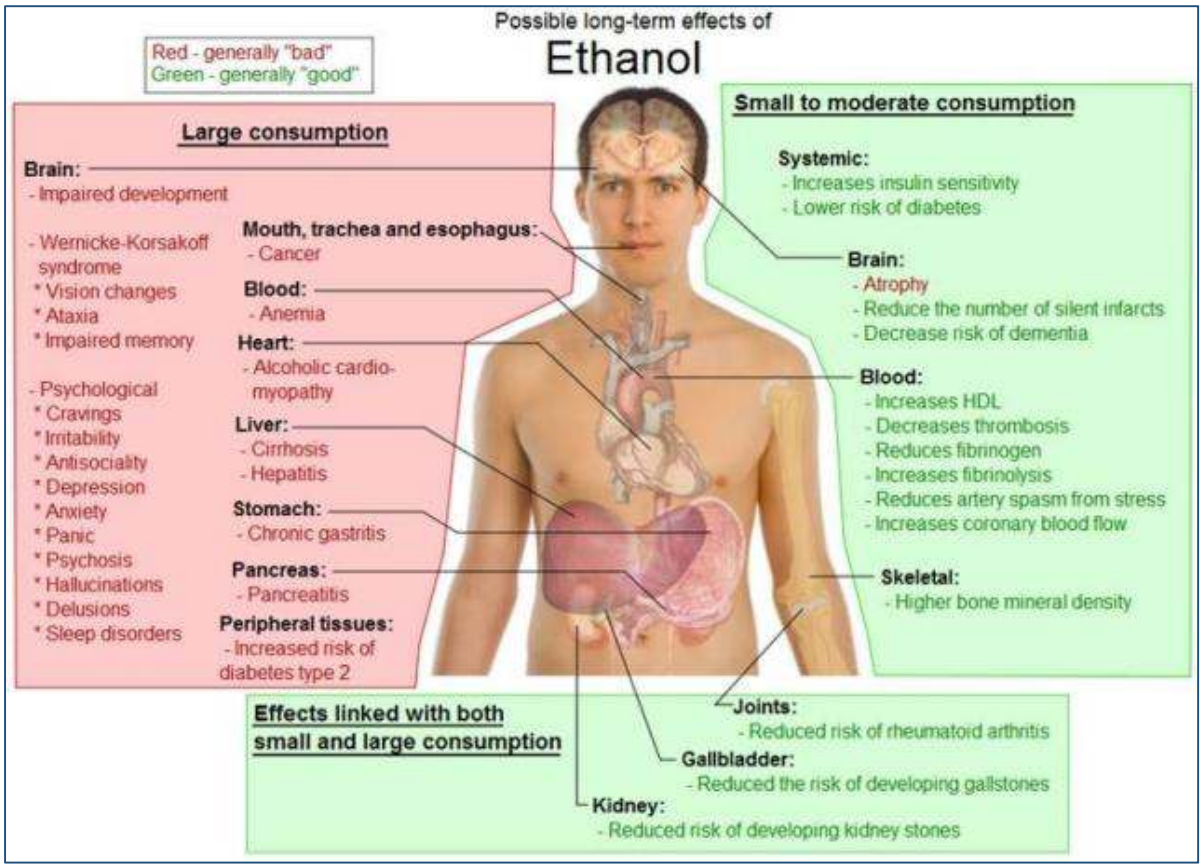
- severe confusion, unpredictable behavior and stupor
- sudden lapses into and out of unconsciousness or semi-consciousness (with later alcoholic amnesia)
- vomiting while unconscious or semi-conscious
- seizures
- respiratory depression (fewer than eight breaths a minute)
- pale, bluish, cold and clammy skin due to insufficient oxygen

Acute alcohol poisoning is a medical emergency due to the risk of death from respiratory depression and/or inhalation of vomit if emesis occurs while the patient is unconscious and unresponsive. Emergency treatment for acute alcohol poisoning strives to stabilize the patient and maintain a patent airway and respiration, while waiting for the alcohol to metabolize.

Treat hypoglycaemia (low blood sugar) with 50ml of 50% dextrose solution and saline flush, as ethanol induced hypoglycaemia is unresponsive to glucagon. Administer the vitamin thiamine to prevent Wernicke-Korsakoff syndrome, which can cause a seizure (more usually a treatment for chronic alcoholism, but in the acute context usually co-administered to ensure maximal benefit). Apply haemodialysis if the blood concentration is dangerously high (>400 mg%), and especially if there is metabolic acidosis. Provide oxygen therapy as needed via nasal cannula or non-rebreather mask. Additional medication may be indicated for treatment of nausea, tremor, and anxiety.

A normal liver detoxifies the blood of alcohol over a period of time that depends on the initial level and the patient's overall physical condition. An abnormal liver will take longer but still succeed, provided the alcohol does not cause liver failure. People who have been drinking heavily for several days or weeks may have withdrawal symptoms after the acute intoxication has subsided.

5.2.1.7. Chronic effects of alcohol consumption



Alcoholism

The DSM-IV diagnosis of alcohol dependence represents one approach to the definition of alcoholism. According to the DSM-IV, an alcohol dependence diagnosis is:

> ... maladaptive alcohol use with clinically significant impairment as manifested by at least three of the following within any one-year period: tolerance; withdrawal; taken in greater amounts or over longer time course than intended; desire or unsuccessful attempts to cut down or control use; great deal of time spent obtaining, using, or recovering from use; social, occupational, or recreational activities given up or reduced; continued use despite knowledge of physical or psychologic consequences.

The most common substance of abuse/dependence in patients presenting for treatment is alcohol. The World Health Organization estimates that about 140 million people throughout the world suffer from alcohol dependence. In the United States and Western Europe, 10 to 20 percent of men and 5 to 10 percent of women at some point in their lives will meet criteria for alcoholism.

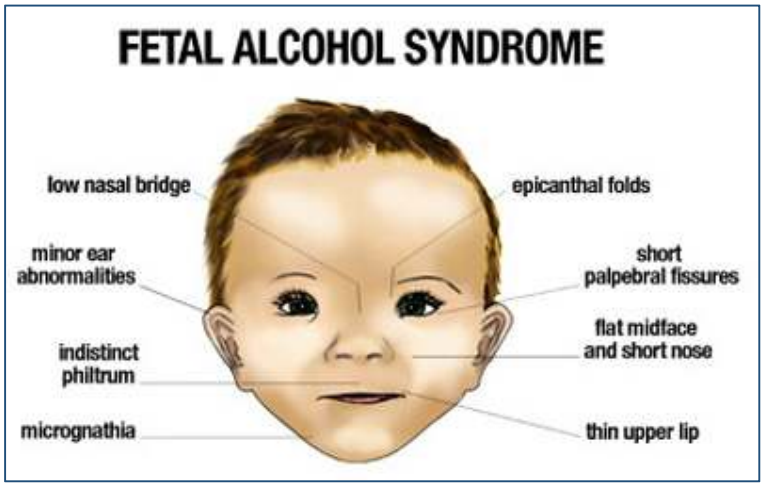
Alcoholism has a higher prevalence among men, though in recent decades, the proportion of female alcoholics has increased. Most alcoholics develop alcoholism during adolescence or young adulthood.

The most common cause of death in alcoholics is from cardiovascular complications. There is a high rate of suicide in chronic alcoholics, which increases the longer a person drinks. This is believed to be due to alcohol causing physiological distortion of brain chemistry, as well as

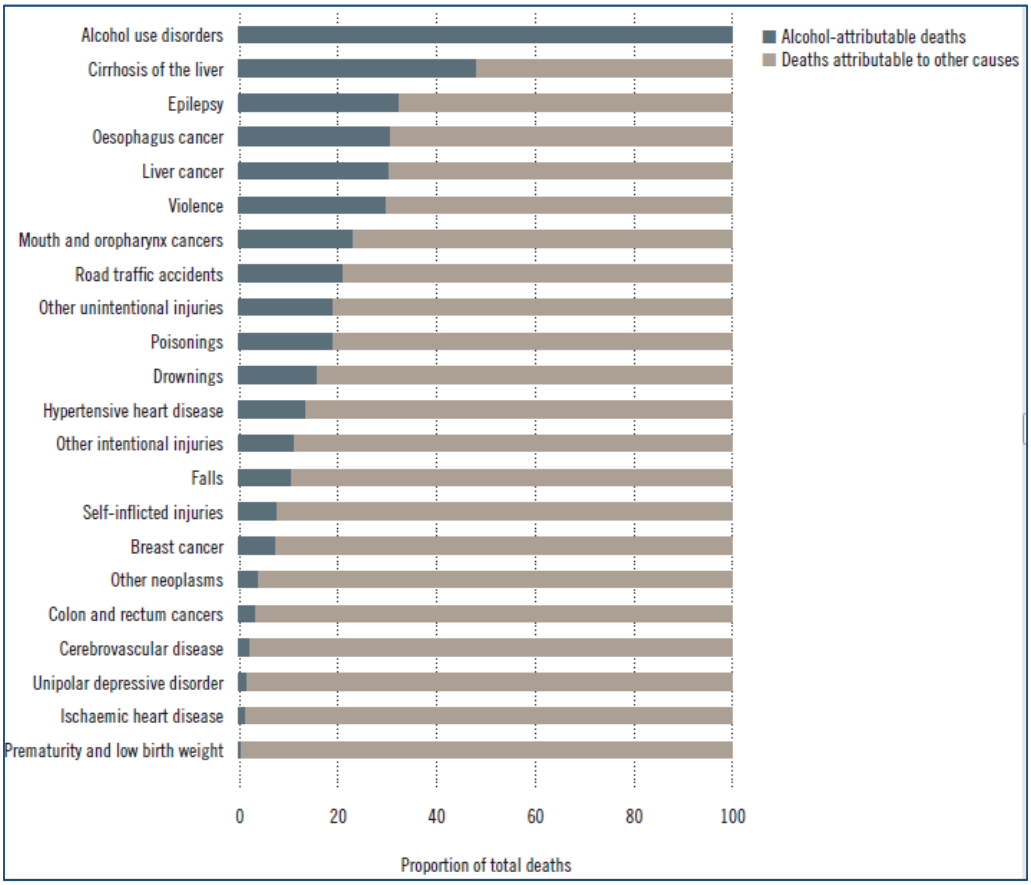
social isolation. Suicide is also very common in adolescent alcohol abusers, with 25 percent of suicides in adolescents being related to alcohol abuse

Fetal Alcohol Syndrome

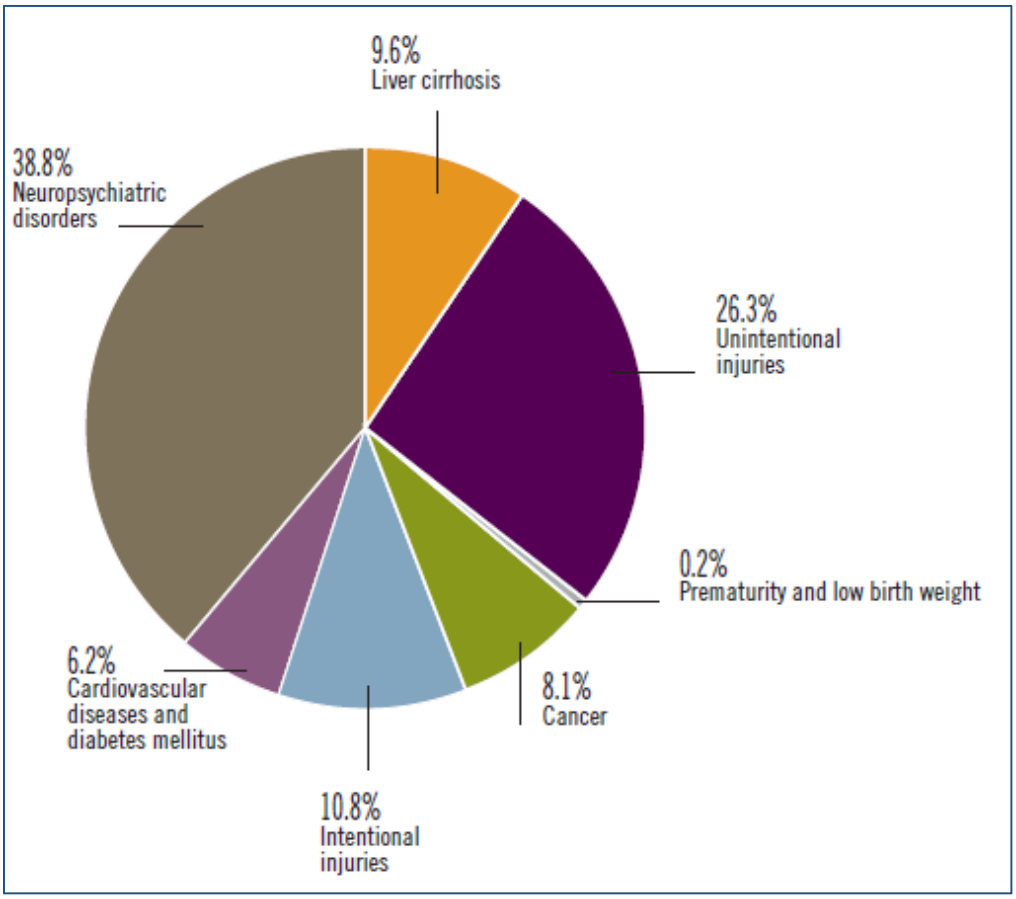
Fetal alcohol syndrome is a pattern of mental and physical defects that can develop in a fetus in association with high levels of alcohol consumption during pregnancy. Alcohol crosses the placental barrier and can stunt fetal growth or weight, create distinctive facial stigmata, damage neurons and brain structures, which can result in psychological or behavioral problems, and cause other physical damage.



5.2.1.8. Alcohol-attributable deaths



5.2.1.9. Global distribution of all alcohol-attributable DALYs



5.2.1.10. Social harm

Social harm from drinking can be classified in terms of how they affect important roles and responsibilities of everyday life: work, family, friendship and public character. Intoxication interferes to a greater or lesser extent with most productive labor. The drinker's own productivity is reduced, and there may be adverse social consequences for the drinker, including loss of their job. The productivity of others around the drinker may be diminished if they have to take time out of their work to cover for the drinker's mistakes, absences or lateness.

Drinking and intoxication can also adversely affect intimate and family relations, and friendships. There may be serious adverse immediate and long-term effects for the children because of neglect or abuse by the drinker. Besides the adverse social impact on family members, relatives, friends and co-workers, people's drinking can also impact on strangers, who can be victims of road traffic accidents caused by a drunk driver or be assaulted by an intoxicated person.

The studies typically do not try to disentangle who within society is paying the costs, although some separate out costs that are paid by various levels of government. In a recent analysis pulling together cost studies from four high-income countries and two middle-income countries, the total costs attributable to alcohol ranged from 1.3% to 3.3% of GDP (Rehm et al., 2009).

Researchers found the costs largely resulted from losses in workplace productivity (72% of the total cost), health care expenses for problems caused by excessive drinking (11% of the total cost), law enforcement and other criminal justice expenses related to excessive alcohol consumption (9% of the total cost), and motor vehicle crash costs from impaired driving (6% of the total cost). The study did not consider a number of other costs such as those due to pain and suffering by the excessive drinker or others who were affected by the drinking, and thus may be an underestimate. Researchers estimated that excessive drinking cost $746 per person in the United States in 2006.

5.2.2. Preventive policies and interventions

The six most important preventive policies and intervention areas are the following:

1. Leadership: The implications of the legal definition of an alcoholic beverage are that they set the limit for when alcohol-related restrictions on production, distribution, sales and advertising laws apply. Hence, the definition of an alcoholic beverage is an integral part of the legislation on alcohol.
The minimum alcohol content necessary to be considered an alcoholic beverage varies from 0.0% in the Eastern Mediterranean Region, 0.7% in the South-East Asia Region, 1.1% in the Region of the Americas, 1.4% in the Western Pacific Region and the European Region to 1.6% in the African Region.

2. Availability of alcohol

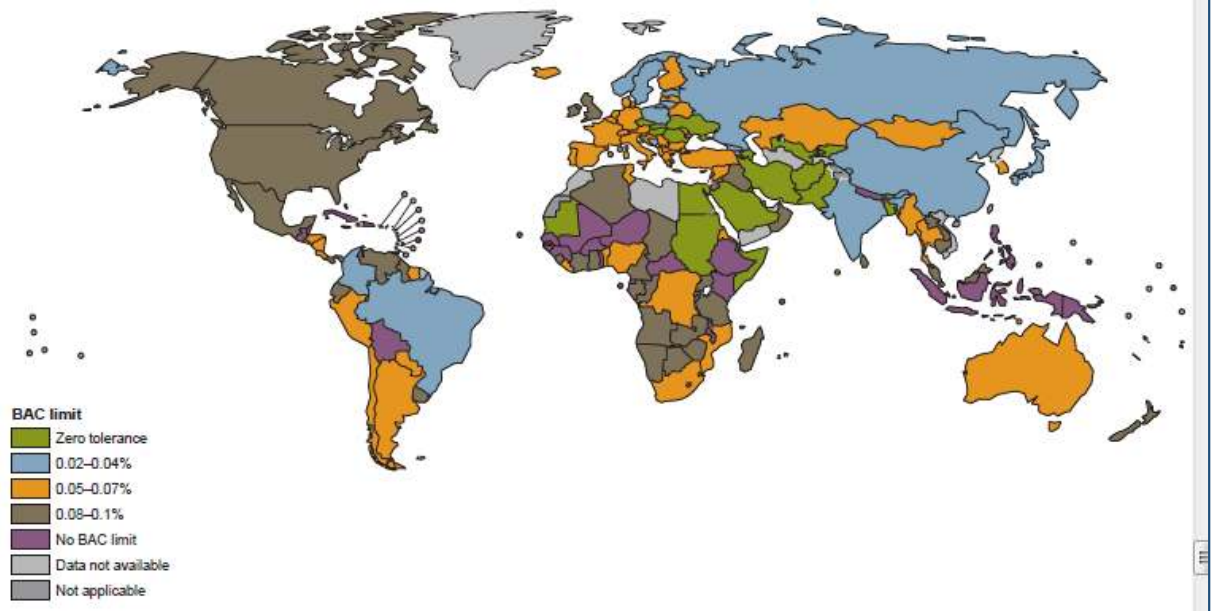
- Age limits for serving or selling alcohol by major classes of alcoholic beverages (16-21 y.o.).
- Territorial restriction (e.g. Sweden)
- Time restriction (e.g. after 10 pm)

3. Prices and taxes

One of the most effective strategies for reducing consumption of alcohol at the population level is through increasing alcohol prices, usually accomplished by raising alcohol taxes. A recent review of 112 studies of the effects of alcohol tax affirmed that when alcohol taxes go up, drinking goes down – including among problem drinkers and youth (Wagenaar et al., 2009). However, such steps can only be effective if the illegal alcohol market is under control (Room et al., 2002).

4. Drinking and driving

Figure 25. Blood alcohol concentration (BAC) limits for drivers, by countries, 2008



5. Advertising and marketing

Countries use a wide range of policies to control alcohol advertising and marketing. The most common is self-regulation or co-regulation, in which the primary responsibility for regulating alcohol marketing lies with the alcoholic beverage industry itself.

Other areas in which countries have moved to restrict alcohol marketing include bans on product placement, either on public or private television; complete or partial restrictions on industry sponsorship of sporting events; and restrictions on sales promotion in the form of sales below cost.

6. Raising awareness

The focus of these campaigns is most frequently on drink–driving, youth drinking, alcohol and health, and social harm related to alcohol use. The "other" category most commonly included in campaigns focuses on domestic or family violence, and alcohol use.

5.2.2.1. Advices for anyone who wants to stop drinking.

At the beginning stages of alcoholism the process is reversible and you as a physician can help. At later stages this type of informal counseling will fail, professional psychological a psychiatric help must be sought by the patient. The most important advices that can be given can be seen below:

Commit to stop drinking

- Most people with alcohol problems do not decide to make a big change overnight. Recovery is usually a more gradual process. In the early stages of change, denial is a

huge obstacle. Even after admitting you have a drinking problem, you may make excuses.
- Make a list of pros and cons

Set goals and prepare for change

- Do you want to stop drinking altogether or just cut back? When do you want to stop drinking or start drinking less?
- Announce your goal. Let friends, family members, and co-workers know that you're trying to stop drinking. If they drink, ask them to support your recovery by not doing so in front of you.
- Get rid of temptations. Remove all alcohol, barware, and other drinking reminders from your home and office.

Find new meaning in life

- Take care of yourself. To prevent mood swings and combat cravings, concentrate on eating right and getting plenty of sleep. Exercise is also key.
- Build your support network. Surround yourself with positive influences and people who make you feel good about yourself.
- Develop new activities and interests. Find new hobbies, volunteer activities, or work that gives you a sense of meaning and purpose.
- Continue treatment. Your chances of staying sober improve if you are participating in a support group like Alcoholics Anonymous, have a sponsor, or are involved in therapy or an outpatient treatment program.

Handle triggers and cravings

- Avoid the things that trigger your urge to drink.
- Practice saying "no" to alcohol in social situations.
- When you're struggling with alcohol cravings, try these strategies:
  → Talk to someone you trust
  → Distract yourself until the urge passes
  → Remind yourself of your reasons for not drinking

Get support

- Support can come from family members, friends, counselors, other recovering alcoholics, your healthcare providers, and people from your faith community.

References: WHO'S Global Status Report on Alcohol and Health 2011

Topics suggested for students' oral presentations:

1. Describe your home country's present alcohol consumption habits and trends. How did alcohol consumption change in the past years/decades?
2. Summarize the major rules and regulation concerning alcohol in your home country.
3. Plan a comprehensive prevention strategy to decrease alcohol consumption in your country.