To Empower the Community in response to Alcohol Threats (ECAT)

Scientific evidence for the ECAT methodology

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Introduction

To most people, a large number of diverse situations – when we want to celebrate and when we need to condole; when we are pursuing a sexual interest and when we are getting over a romantic failure; when visiting with friends we like and when socialising with relatives we don't like, and so on – seem to lead naturally to drinking. And of course, by a drink an alcoholic drink is meant, with other liquids being regarded as soft drinks, as substitutes. Nevertheless, alcohol is not an unproblematic aspect of our lives: large numbers of people have come to regard themselves as having 'a drinking problem', and often other people's drinking behaviour is being examined for signs of potential addiction. Against the background of the growing awareness of alcohol as an important factor in public health, countries and also communities need to rethink their response to these problems. The issue comes down to how to develop an effective alcohol strategy at the national and local level that facilitates pleasurable low-risk use and minimises harms to health, social well-being, economic security, environment,... However, to put it in the words of Tim Stockwell:"it is easy to be lured into imagining a world in which wise, evidence-based and benevolent regulation of alcohol markets occurs so that price, outlet density, trading hours and serving practices are all arranged so that alcohol related harm is minimized. This, of course, happens only in dreamland." (p.681)[1] Indeed, while good science must continue in the field of alcohol prevention, it is also clear that little progress in the implementation of effective strategies will be achieved unless public awareness of the issues is high and, in turn, impacts on the making of local, regional and public policy

1. The ECAT project: a community-based alcohol prevention strategy

In order to increase public awareness on alcohol issues, the ECAT project ('to Empower the Community in response to Alcohol Threats') has been elaborated with the financial support of the Health and Consumer Protection Directorate-Generale of the European Commission as part of Public

1 STOCKWELL, T. (ed.) (2001a). Prevention of Alcohol Problems. In HEATHER, N., PETERS, T.J. & STOCKWELL, T. (eds.). *International Handbook of Alcohol Dependence and Problems* (pp. 679-846), Chichester: John Wiley & Sons.

Health Programme 2005. The general objective of this project is to raise the effectiveness of local alcohol prevention through the elaboration of tailored messages towards different target groups and through the embedding of the campaigns in a local alcohol policy and inclusive approach. To achieve this, the ECAT project outlines a solid structured work plan for implementing alcohol prevention campaigns on a local community level, applicable in a global European context. In line with the recommendations of the European Parliament (2007) on this matter, an important intervention in the ECAT project is a communication campaign to increase the earlier mentioned public awareness on alcohol issues. However, for the ECAT project to be successful in dealing with local alcohol issues, it is recommended to combine this communication campaign with other alcohol prevention interventions (found to be effective on an evidence base).

All this means that ECAT stands for an integral approach, using communication means in combination with both targeted and population strategies, ultimately leading to the creation of a supportive community environment to tackle alcohol problems (including the development of a local alcohol strategy). The fundamental idea around the prevention of alcohol related problems in the ECAT project is based on a systems model of the community rather than on an individual model. Within this model, the community is defined as a geographical area, with a limited number of people that is a district, a village, or a town, where relationships (social, cultural, and economic) among people and forms of active participation exist to a greater or lesser degree. Some of these relationships contribute to alcohol related problems, some have a protective or preventive contribution, and many have little or no contribution. According to the proposed model, it is simply not possible to isolate single parts of the community from other parts in seeking to reduce problems. Indeed, the total system must be considered. This emphasis on the community as a whole recognizes that alcohol problems are systems problems reflecting the awareness that alcohol consumption can be problematic for any drinker, depending upon the situation or environment. In short, alcohol problems are not unique to only a few deviant individuals, but rather are the shared responsibility of all community residents.

To enlarge the applicability of the ECAT project in a European context, six national partners were involved in the project: Diakonisches Werk Baden

(Germany), Istituto Superiore di Sanita (Italy), Zavod za zdravstveno varstvo Kranj (Slovenia), Ludwig-Boltzmann-Institut für Suchtforschug (Austria), Vereniging voor Alcohol- en andere Drugproblemen - VAD (Belgium) and Alcohol Concern (United Kingdom). VAD operated as the main partner, the other organisations were involved as associated partners.

2. Literature review and theoretical backgrounds

Part 1 of this literature review relies principally on formal meta-analysis wherever possible. Also selected systematic reviews, and other reviews about the effectiveness of interventions to prevent and reduce alcohol misuse are used wherever necessary. Reviews that involve only a descriptive commentary on research findings have been criticized for allowing the possibility of reviewer bias, for their restricted ability to handle large bodies of relevant data and for being limited to studies that have directly compared two or more actions. However, while qualitative reviews may introduce the biases of their authors, meta-analysis may not pick up subtle or insightful interpretations of differences in findings. Nutbeam indicates that, in order to make continued progress in health promotion, it is essential that lessons learned from research are more systematically applied to practice.[2] Decision making should be based on the best available evidence concerning effectiveness and its application in 'real life' circumstances. For this reason it was decided in the current review to complement the quantitative analysis with 'good practices', delivered from those working in the field. To the extent that (current) good practices and research evidence converge, we may feel more confident that the procedures recommended for dealing with excessive alcohol consumption are appropriate. In this way the current study will potentially allow the community to assess its own intervention methods against the methods for which there is evidence of efficacy.

Part 1 consists of two chapters. The first chapter describes relevant backgrounds on the use and misuse of alcoholic beverages. The second chapter describes reviews and good practices of alcohol prevention and alcohol policy in the community.

The first section of chapter one sketches some background information on

2 NUTBEAM, D. (1996). Achieving 'best practice' in health promotion: improving the fit between research and practice. Health Education Research: Theory & Practice, 11(3), 317-326.

the use and misuse of alcohol found to be necessary for a good comprehension of the actual review. This includes some preliminary remarks on alcohol and the drinking of alcohol, including an overview of the originating and risk factors of alcohol use, and a clarification of the distinction between problematic and non-problematic alcohol use. In the second section, epidemiological information (including drinking patterns) and an overview of the impact of alcohol on individuals and on the contemporary (European) society is given
Chapter two of this literature search opens with a short review of some vital components concerning alcohol prevention and policy. In section 2, the scope on alcohol prevention is broadened towards alcohol prevention on a community level. Section 3 deals with evidence based alcohol prevention. A short introduction is given on the contribution of the evidence base movement in the substance abuse field. This section also provides an overview of evidence based alcohol prevention and policy measures on which the actual guidelines will rely. In the fourth section, the focus changes to the only intervention every ECAT community was obliged to implement: the communication campaign. In four phases, a description of the most important aspects in the development of a communication campaign is given. Finally, to complement the evidence base on community alcohol prevention, section 5 gives an overview of good practices delivered from those working in the field.

In the ECAT project, a local quick scan analysis of the alcohol situation serves as a crucial element to implement guidelines of the literature review in a community-based prevention project. The results of this quick scan analysis allows to implement the guidelines in a tailored way, adapted to the local cultures and structures and endorsed by the stakeholders in the local community. The quick scan methodology ant the concept behind it are explained in chapter 2 of the publication 'Manual for alcohol prevention in local communities'.
In Part 2 of this publication you can read about the methodological framework on which the ECAT quick scan analysis is based. Empirical evidences and conceptual frames for quick scan methods, including some potential pitfalls, are described. Elementary backgrounds for data collection and methodological guidelines explain the choices that were made in the ECAT quick scan methodology. Some missing links between the methodological framework and the elaboration of the practical ECAT quick scan method were found in four useful practices that are also described in part 2.

Part 1

Alcohol prevention and the community. A literature review

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Chapter 1 Backgrounds on the use and misuse of alcoholic beverages

1. Some preliminary remarks on alcohol and the drinking of alcohol

It is very difficult to determine by whom or even when alcohol was first discovered. The most compelling evidence points to the Middle East, some 10,000 years ago – although archaeologists have discovered evidence of a basis form of fermentation from some 2000 years earlier in the Neolithic period. The first brew probably came about by accident when a farmer left some of his harvested fruit to rot in water (Brownlee, 2002; Patrick, 1952). When distilled alcohol was discovered, it was a precious commodity, regarded as a medicine for almost all ailments of the human body and called 'aqua vitae' (the water of life), giving us the names eau de vie, aquavit, vodka and whiskey (from 'uisge beatha', abbreviated to 'uisge') (Thom, 2001). As distilled liquors became more plentiful and the price lower, they increased in popularity and began to be used widely as beverages, while retaining their medicinal uses (Patrick, 1952).

1.1 Alcohol use and treatment: from a moral model to the disease concept

The benefits attributed to alcohol as a food, a safe drink (when water was often unclean), a medicine and an anaesthetic have always been widespread. Despite these benefits, people have always known that alcohol can be harmful as well. Hippocrates, the Greek physician, described symptoms such as nausea, insomnia, palpitations and delirium, which, centuries later, became a familiar part of the clinical picture of alcoholism. Plato suggested that wine should be forbidden to those under 18 years of age and that it could be used only in moderation by individuals between 18 and 30 (Thom, 2001). It were the Egyptians however, who first documented the social problems associated with drunkenness. They also instituted the first

formal beer taxes, reasoning that such was the cost of the monuments, pyramids and tombs that such taxes would fund public works and curb drunkenness (Brownlee, 2002). Nevertheless, it was not until the beginning of the eighteenth century that Western societies were beginning to express serious concern at levels of drunkenness. This rise in concern did not occur simultaneously in every country and did not manifest itself everywhere in the same way. Rather social anxieties directed especially towards drunkenness in the lower classes and the threat to social order formed the basis of this concern (Thom, 2001). One of the earliest writings in which we can find the first clearly developed modern conception of alcohol addiction dates from 1812 and is found in the work of Dr. Benjamin Rush. He noted that, although people begin drinking of their own free will, the habit of drinking eventually leads to the disappearance of the very willpower the drinker employed to seek the drink. Hereby, Dr. Rush argued that habitual drunkenness should not be regarded as a bad habit but as a disease, a 'palsy of the will' (Valverde, 1998).

Inspired by the writings of Dr. Rush, the Temperance Movement was founded in America and soon spread to Europe. Although the earliest Temperance Movement had been formed in upstate New York as early as 1808, it was not until 1826 that the American Temperance Society (ATS) was inaugurated in Boston. It immediately became a powerful force, and within nine years, the ATS had over 1.5 million members. The first European country to follow the American lead was Ireland, with the tiny village of Skibbereen being credited as the home of the first temperance society (Brownlee, 2002).

Treatment and rehabilitation, as an organized response to habitual drinking or alcoholism, did not exist prior to the nineteenth century, the century of the discovery of the disease concept of alcoholism and the progressive understanding of the disease. Indeed, conceptualization of the problem as a disease indicates that treatment now was seen as an appropriate form of response and, over the course of the century, in Europe and America, a variety of treatments were offered by private doctors, voluntary and philanthropic societies, and – in the shape of inebriate asylums or reformatories – as a state response to the problem. This new, medical paradigm constituted a radical break with traditional ideas about the problems in-

volved in drinking alcohol: it was an era of growing concern to change professional and public images of the habitual drunk or alcoholic from "a hopeless case", a "morally week person", to an unfortunate individual afflicted by a disease, which, like other diseases, was amenable to cure through medical and psychiatric care and appropriate lay support (Levine, 1978; Thom, 2001).

Since the 1970s, an accumulation of theoretical and practical forces tipped the balance towards prevention approaches and a much broader perspective on the nature of alcohol problems. The focus of concern now became alcohol misuse and problem drinking (rather than alcoholism) and the extent of alcohol related harm in communities and populations as a whole. Whereas the classic alcoholism concept had tended to regard all specific health and social problems as symptoms of a unitary alcoholism, the 'alcohol problems' approach disaggregated the field into a wide diversity of health, casualty, interactional and social problems related to alcohol consumption or drinking comportment. By the 1990s, then, addressing harmful drinking habits became the focus of policy, prevention and intervention measures in Australia, the US and most European countries. New groups of professionals, such as clinical psychologists, social workers and counsellors, were beginning to carve out a niche in the alcohol field. They brought with them theoretical perspectives and intervention options suited to the needs of increasingly large and diverse groups of people seen as problem drinkers of as affected by problem drinking. The precise nature and extent of service and treatment developments in different countries have, of course, varied according to the economic and political forces that determine priorities for resource allocation as well as the influence of different interest and pressure groups and public support for different policies (Thom, 2001; Room, 2001).

1.2 Originating and risk factors of alcohol use

Most Europeans regularly drink a glass of liquor. Some people sometimes use an illegal product. But why do they get involved in this, and what makes that some people have their use well under control and others don't? To answer these general questions we take a look at Norman Zinberg's model for drug use predictors. To understand how a certain drug affects the user

and what impels someone to use drugs, Zinberg (1984) states that three determinants must be considered:

- *Drug*: the pharmacologic action of the substance itself,
- *Set*: the attitude of the person at the time of use, including his personality structure,
- *Setting*: the influence of the physical and social setting within which the use occurs.

Derived from Zinberg's model and seen from a global stand of view, we can say that drinking behaviour is affected by:

- *Environmental or contextual factors:* laws and rules; availability of alcohol; socio-economical circumstances; cultural factors and media.
- *Interpersonal factors:* behaviour of role models; social interaction within the family or subculture, with friends or peers; social role.
- *Psycho-social factors:* attitudes; alienation; personality (self esteem, coping behaviour, character, …); engagement.
- *Biogenetical factors:* genetic determined vulnerability; psycho-physiological vulnerability for the effects of substances.

In short, we can see interplay between social norms, other social factors, personality factors and biological factors. In addition, drinking behaviour is affected by the physical availability of alcoholic beverages and by their prices (Ahlström, 2000).

1.3 Problematic versus non-problematic alcohol use

In contemporary society, alcohol use has become a normal behaviour, which is not limited to parties or festivals. Indeed, the use of liquor is impregnated to all activities as for, during or after sport activities, the workplace, etc. Moreover, it is naturalized in such a way that many people do not see the risks of liquor any more. In other words, one often does not sufficiently question the effects of alcohol (Schrooten, 2004). However, everyone has certain views about the problems alcohol causes both to individuals and communities. At a distance, people tend to regard alcohol as a potentially harmful substance, but less so in their own neighbourhood. Denial, whereby people minimise the seriousness of their drinking problems, operates here at both the personal and community level.

In order to give a consistent overview of the impact of alcohol, we have to consider the difference between 'problem-drinking' and 'drinking-related-problems'. The term *problem drinking* describes the behaviour of an individual, and the treatment and prevention of problem drinking address the personal costs of drinking to the individual drinker, such as jeopardizing health, work, and family life. Conversely, *drinking-related-problems* refer to consequences of alcohol consumption that affect many other people besides the individual drinker, including family, colleagues, neighbours, and other members of the community. Those consequences include the health, social, and economic costs of drinking to the larger community, such as alcohol related traffic crashes, alcohol-involved violence and school drop-out rates (Treno & Lee, 2002).

Because of its linkage with the (too narrow) concept of disease, the until recent frequently used term 'alcoholism' nowadays is more and more replaced by the term 'problem drinking'. Also the concept of 'addiction' is outworn and more and more replaced by the terminology used by the *Diagnostic and Statistical Manual of Mental Disorders* (4th edition) (DSM-IV), such as 'abuse' and 'dependence' of a substance. In this system, the drinker has to fulfil to a number of criteria in order to be behaviourally motivated (De Donder & Lambrechts, 2002). Modern conceptions of alcohol use disorders are rooted in a history traceable into the early nineteenth century, when 'alienists'– medical specialists in mental and addictive disorders – began to recognize such disorders as a public health problem in several different countries. It was Magnus Huss in Sweden who was the first one to use the term 'alcoholic' to describe people who suffered negative consequences of alcohol use (Epstein, 2001). As Babor & Lauerman (1986) note, 39 classifications of alcoholics were developed around the world between 1850 and 1941. In 1952, the DSM-I used the term 'alcoholism' which was considered a subcategory of Sociopathic Personality Disturbance and whereby little clinical detail was provided. In DSM-III (1980) the term alcoholism was replaced with two categories, 'alcohol abuse' and 'alcohol dependence', each with its own set of criteria and thus disaggregating the unitary disease concept of alcoholism into two separate disorders with varying clinical histories and prognoses. Alcohol abuse and dependence were subsumed under a new 'substance use disorders' section, rather than the personality disorders section (Ep-

stein, 2001). Currently, the DSM-IV criteria state that **substance abuse** is a maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:

- Recurrent substance use resulting in a failure to fulfil major role obligations at work, school, or home;
- Recurrent substance use in situations in which it is physically hazardous (e.g. driving an motorized vehicule or operating a machine when impaired by substance use);
- Recurrent substance-related legal problems;
- Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance.

What we see here is a fuzzily defined, non-medical, primarily social terrain of collateral damage, such as legal problems, disruptions in relationships and so on. Having to resort to such extra-medical criteria indicates that physicians have not succeeded in defining the boundary between the normal and the pathological in medical terms. Hereby, much emphasis is placed on the ways in which the drinker's occupational and family life is disrupted by alcohol use. This also makes clear that the renaming of alcoholism under the supposedly neutral banner of substance-related disorders has not sufficed to eliminate the morally and culturally specific values that have always been integral to the process of distinguishing excessive drinking (Valverde, 1998). Along with these social criteria, DSM-IV also lists a series of questions about the state of the drinker's soul. According to the DSM-IV (American Psychiatric Association, 1994), **substance dependence** is a maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at any time in the same 12-month period:

- Tolerance, as defined by either the following:
  - A need for markedly increased amounts of the substance to achieve intoxication or desired effect;
  - Markedly diminished effect with continued use of the same amount of the substance.
- Withdrawal, as manifested by either of the following:

  - The characteristic withdrawal syndrome for the substance;
  - The same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms.
- The substance is often taken in larger amounts or over a longer period than was intended;
- There is a persistent desire or unsuccessful efforts to cut down or control substance use;
- A great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects;
- Important social, occupational, or recreational activities are given up or reduced because of substance use;
- The substance use is continued despite knowledge of having a persistent or recurring problem that is likely to have been caused or exacerbated by the substance (e.g. continued drinking despite recognition that an ulcer was made worse by alcohol consumption).

An important remark to make on the content of this list is that the quantity of alcohol consumed nor drinking patterns are ever mentioned (Valverde, 1998).

Concerning **alcohol intoxication**, DSM-IV enlists the following criteria:

- Recent ingestion of alcohol
- Clinically significant maladaptive behavioural or psychological changes (e.g., inappropriate sexual or aggressive behaviour, mood lability, impaired judgement, impaired social or occupational functioning) that developed during, or shortly after alcohol ingestion.
- One (or more) of the following signs, developing during, or shortly after, alcohol use:
    a. Slurred speach
    b. In-coordination
    c. Unsteady gait
    d. Nystagmus
    e. Impairment in attention or memory
    f. Stupor or coma
- The symptoms are not due to a general medical condition and are not better accounted for by another mental disorder

2. Alcohol in Europe

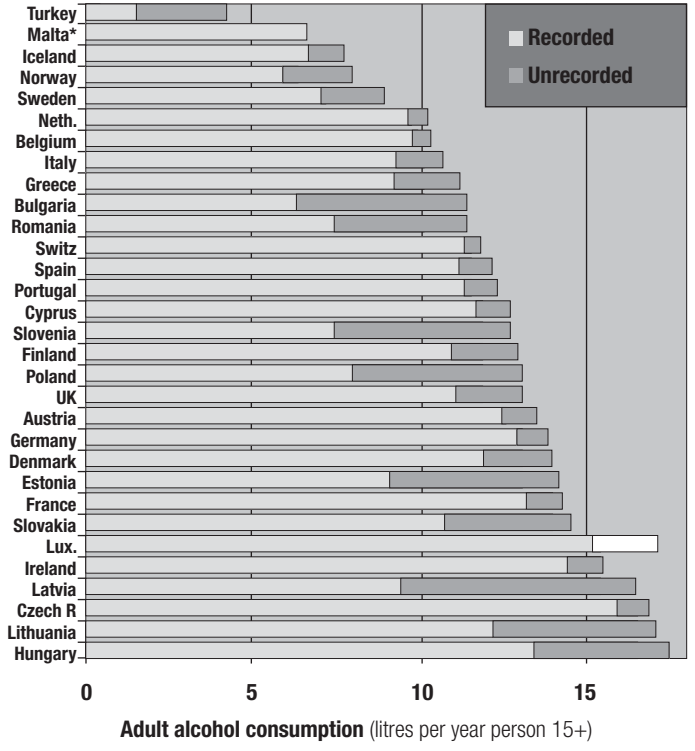
2.1. Epidemiological information

2.1.1 Alcohol consumption in Europe

With each adult drinking 11 litres of pure alcohol each year – a level over two-and-a-half times the rest of the world's average – the European Union is the heaviest drinking region of the world (WHO 2004). However, within the EU a considerable variation in levels of recorded consumption exists: recorded alcohol consumption is slightly higher in the EU15 (11½ litres) than the EU10 (10½ litres), and is noticeably lower in three of the Nordic countries (Iceland, Norway and Sweden) than the rest of the EU15. However, these figures miss out on unrecorded alcohol consumption[1] (Trolldall 2001; Leifman 2001). Research by Rehm et al. (2006) indicates that per capita adult consumption, including unrecorded consumption, varied 10-fold in European countries, from 2.9 litres in Uzbekistan to almost 30 litres of pure alcohol in the Republic of Moldavia. The population-weighted average value in the WHO European regions is 12.1 litres, more than twice the global adult per capita consumption of 5.8 litres.
Considering all forms of consumption then, the average EU adult drinks 13 litres of alcohol per year – with EU10 adults drinking two litres more than those in the EU15 (*Figure* 1).

1 In most countries, recorded and unrecorded alcohol consumption are clearly two different entities. In broad terms, unrecorded alcohol consumption can be divided into six groups:
- Alcoholic beverages produced privately at home;
- Alcohol imported by travellers;
- Smuggled alcoholic beverages;
- Surrogate alcohol;
- Alcoholic beverages consumed during visits to other countries;
- Beverages containing alcohol but not defined as alcoholic beverages (Leifman et al., 2002).

Figure 1: Alcohol consumption in Europe, 2002 (Anderson & Baumberg, 2006a)[2]



As well as comparing the average amount drunk per European adult, it also important to discount the people who abstain from alcohol[3] and consider how much the average drinker consumes. 48% of Europeans who reported having drunk alcoholic beverages in the preceding 30 days did so once a week (25%), or 2-3 times a week (23%). Moreover, 21 % reported that they drink alcoholic beverages more than 4 days a week.

A country analysis (*figure* 2) shows that in 14 out of the 25 Member States most citizens said they had drunk alcohol once a week in the preceding 30 days. In the Baltic States and in Poland, most respondents said they had drunk alcohol only once during the past month. Most Portuguese drink alcoholic

2 No estimate available for unrecorded consumption in Malta; APN update of WHO figures used for Slovakia; unrecorded consumption in Luxembourg is minus 2 litres due to tourist consumption.

3 The broad category of 'non-drinkers' includes a number of different drinking histories, including people who have never drunk alcohol in their life and people who were once heavy drinkers but who gave up alcohol for health reasons, as well as other more complex histories. A problem arises in defining people who only drink very occasionally (e.g. champagne on special events), who may say they do not drink in one culture (e.g. Spain) but will consider themselves occasional drinkers in another (e.g. Norway) (Eurobarometer, 2007).

beverages every day but normally only a few drinks in one sitting. Most Irish, in contrast, drink only once a week (41%) but as we will see later, this is due to the different drinking patterns in these countries (Eurobarometer, 2007).

Figure 2: Eurobarometer 2007 country analysis of drinking frequency within the EU 25.

QB11 In the last 30 days, on how many times did you drink any alcoholic beverage?						
	Daily	4-5 times a week	2-3 times a week	once a week	2-3 times a month	once
EU25	13%	8%	23%	25%	17%	13%
BE	14%	7%	26%	22%	19%	12%
CZ	4%	7%	20%	34%	20%	15%
DK	12%	7%	25%	25%	20%	11%
DE	9%	6%	25%	27%	19%	14%
EE	3%	3%	14%	25%	26%	29%
EL	10%	7%	21%	29%	17%	15%
ES	25%	8%	27%	23%	9%	7%
FR	18%	5%	17%	28%	19%	13%
IE	2%	8%	29%	41%	12%	7%
IT	26%	14%	26%	17%	10%	6%
CY	8%	5%	16%	31%	20%	20%
LV	1%	2%	6%	25%	29%	36%
LT	1%	3%	11%	23%	27%	35%
LU	15%	6%	24%	25%	16%	12%
HU	14%	11%	13%	21%	20%	21%
MT	14%	3%	22%	38%	13%	10%
NL	18%	10%	25%	22%	17%	8%
AT	7%	13%	27%	29%	15%	8%
PL	1%	4%	9%	28%	27%	28%
PT	47%	8%	13%	15%	7%	9%
SI	9%	7%	19%	29%	18%	17%
SK	5%	6%	14%	29%	26%	20%
FI	2%	7%	19%	31%	25%	16%
SE	1%	3%	19%	28%	31%	17%
UK	8%	9%	33%	26%	14%	9%
CY (tcc)	8%	10%	22%	24%	20%	14%
BG	12%	12%	21%	29%	15%	11%
RO	9%	9%	21%	31%	17%	11%
HR	18%	6%	18%	22%	19%	16%
Highest percentage within a country			Highest percentage in the EU 25			
Table refers to those claimed to have drunk alcohol in the last 30 days (base: 16450 respodents)						

2.1.2 Drinking patterns

In the last 15 years, scientific interest has increasingly focused on the association of alcohol consumption with a broad range of outcomes, both positive and negative. The volume of alcohol consumption has been the

usual measure linking alcohol to disease, working mainly through direct biochemical effects or through alcohol dependence to produce long-term consequences. However, the same overall average volume of alcohol can be consumed in large quantities on few occasions or in small quantities regularly, and both volume and patterns appear to work as independent risks for certain conditions. Indeed, the consequences individuals are likely to experience from their drinking are a direct result of their so-called drinking patterns. Patterns of alcohol use or non-use have been an important identity marker in much of human history, and remain so today. Often, differentiations stem initially from religion, and involve whether the adherent uses alcohol at all. Islam is the major example of a religion that absolutely forbids drinking to the believer, but in other major world religions, such as Christianity, Hinduism and Buddhism, there are denominations or subgroups that abstain or teach the virtue of abstinence. This makes that, in a multicultural environment, particularly one in which drinking is widely accepted, abstinention becomes also a marker of ethnic identity (Room, 2005). To put it in other words, citing Patrick (1952): "It is through the medium of tradition that the historical continuity of the use of alcoholic beverages has been preserved and that many societies have become, in a cultural sense, the heirs of an alcoholic culture."

Drinking patterns describe the many facets of how people drink. They include *who* the drinkers are (their age, gender, health status), *where* people drink (at home, in bars and restaurants, or in other public venues), *when* they drink (with meals, at gatherings, during time-outs). Drinking patterns also include when individuals drink (whether the drinking is concentrated in one sitting or spread out over an extended period of time), *what* they drink (commercially produced beverages of known quality standards or illicitly produced moonshine), and *how* they consume these drinks (sipping them with meals or drinking in binges). For these matters, there is growing recognition that drinking patterns are a more reliable predictor of outcomes than just quantity of alcohol consumed. The predominant focus on consumption level as the key determinant of drinking problems has severely limited the effectiveness of research in predicting drinking problems. There are many heavy drinkers who do not experience problems with their drinking, and there are many moderate and light drinkers who do incur drinking problems. In other words: how people drink is at least

as important as how much they drink (Rehm et al., 1996; Single & Leino, 1998; ICAP, 2004; Simpura & Karlsson, 2001; Anderson & Baumberg, 2006a). An important aspect of the study of drinking patterns is that they introduce the social element into alcohol epidemiology. Indeed, because of a lack of large-scale cohort studies with adequate measures of social variables, the social dimension has not been properly investigated. Following Rehm and his colleagues (1996), we can say that, in general, epidemiology and public health are moving toward a better inclusion and integration of social constructs. Since drinking is usually a social act, and drinking patterns are intrinsically linked to social variables, this is particularly important for alcohol consumption. Thus, drinking is linked much more to social interaction than much other health-relevant behaviour, such as taking an aspirin or even smoking.

Some health-related consequences of drinking (such as liver cirrhosis) are linked to long-term consumption levels, whereas others (including accidents, violence and alcohol poisonings) arise from drinking at single occasions. Similarly, some of the social consequences are related to long-term drinking (including disturbance and conflicts caused by the possibly a-social lifestyle of the drunkards) while others stem from specific drinking patterns such as binge drinking (Simpura & Karlsson, 2001).

Drinking patterns include the following dimensions:

- Temporal variations in drinking
- Settings and activities associated with drinking
- Personal characteristics of drinkers and drinking confederates
- Types of alcoholic beverages

Temporal variations in drinking

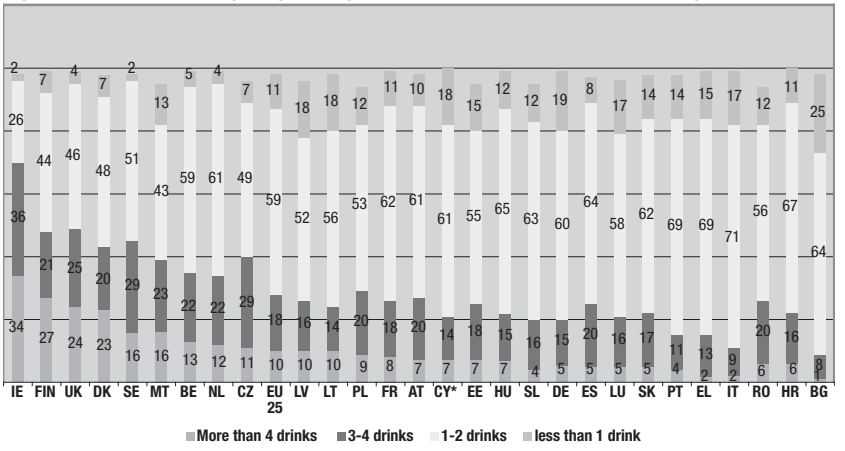
For many people, drinking is a leisure activity, usually associated with weekends, holidays and time away from working hours. Hereby, variations are closely related with potential outcomes, both positive and negative. The timing of drinking over the week has been influenced by the introduction of a five-day weekly working schedule. However, drinking seems to be more concentrated in the weekends in Central and Northern Europe than in the Mediterranean countries. Temporal variations also include the rhythm of drinking (whether it occurs in a single episode or is spread out over time) and the amount consumed at each occasion. In other words,

patterns involving drinking rapidly to intoxication are often important predictors of whether drinkers are likely to experience problems with their alcohol consumption (ICAP, 2005; Rehm et al., 1996; Simpura & Karlsson, 2001). For example, a person who drinks one drink a day for seven days is engaged in far less risky behaviour than a person who drinks four drinks a day on two days of the week. Hereby, it seems that a drinking occasion in the Nordic countries more often leads to intoxication as compared to the Southern European countries, with the central European countries somewhere in between (Norström et al., 2002). Furthermore, in Mediterranean and Latin American societies, in which wine is the predominant alcoholic beverage, drinking with meals and during the day is a common pattern while in Northern European cultures drinking during the day is less accepted and less common (Single & Leino, 1998). Overall, we can say that alcohol consumption in Europe is high in all regions, and is combined with a detrimental drinking pattern in all countries except for the wealthiest part of the West and the Mediterranean region. For some countries in this region, data suggests a more detrimental drinking pattern as well, especially in young.

It is often assumed that where the European countries may be very different from one another is high intake at one single drinking occasion leading to intoxication, or 'binge drinking' (Simpura & Karlsson, 2001). Binge drinking is often measured as single drinking occasions involving more than a certain number of drinks (usually 5-6). However, looking at individual differences, there can be a wide variation in how drunk people become from a given alcohol intake (Anderson & Baumberg, 2006a). With respect to binge drinking, the ECAS study found an overall north-south gradient with some exceptions. Binge-drinking as a proportion of all drinking occasions is highest in Ireland and the UK, but much lower in France and Italy. For the numbers of weekly binge drinkers, Sweden was an exception to the expected north-south gradient, with a lower frequency than every country except France. With regard to comparing figures on binge drinking, it is apparent that the particular measure used for the comparison is crucial given the very varied distribution of binge-drinkers in different countries and should be taken in account. Findings from the Eurobarometer (2007) indicate that Ireland heads the country scale by a considerable margin. Here 36% claimed to drink 3-4 drinks on one occasion, and further 34% 5 or

more. At the other end of the scale, 25% of Bulgarians and around a fifth of Germans (19%), Latvians (18%), Lithuanians (18%), Cypriots (18%), Italians (17%) and Luxembourgers (17%) reports that they drink less than one drink on a day when they drink alcoholic beverages (*figure* 3).

Figure 3: Eurobarometer (2007) findings on amount of drinks on one drinking occasion



The negative short-term consequences of binge drinking are widely acknowledged: an increased likelihood of acute alcohol intoxication, facial injuries, accidents, consequences of drunk driving and experiences of regret over a particular behaviour, such as unsafe sex, drink driving or drug use (Leppel, 2006; Coleman & Cater, 2005). In addition, the lack of full physiological development among young people may often result in less physical tolerance and a higher blood alcohol limit, which, in turn, may increase the likelihood of harm. Psychological disturbances such as depression, anxiety disorders and eating disorders have also been associated with binge drinking. Furthermore, social consequences include costs to the health and social services, and associations with crime and antisocial behaviour (Coleman & Cater, 2005). Coleman & Cater (2005) also declare that, considering that binge drinking is often perceived as a highly pleasurable experience, it would seem futile and unrealistic to encourage young people to abstain. In contrast, it seems sensible to provide young people with the skills to prepare for, and manage, the effects of drinking. In addition, given that underage drinkers are more likely to drink in unsupervised, outdoor and potentially more harmful environments, Coleman and Cater

support the case for providing safer environments for underage drinking. These environments could provide an area to empower young people with the skills to manage their drinking and learn how to deal with the effects of alcohol more safely.

Settings and activities associated with drinking

Drinking may occur within the home, in bars and restaurants, at sporting events or celebrations, and in a range of other venues. Some societies integrate drinking into everyday life, as part of meals and social gatherings, largely within the home. Others confine drinking to special occasions such as celebrations and festivities (often religious) in which alcohol is used to mark the event. The settings and venues within which drinking takes place have an impact on potential outcome. For example, drinking outside the home increases the likelihood that subsequent travel will be involved (ICAP, 2005). This public drinking occurs in an enormous variety of venues, ranging from large to small, from commercial establishments to open public areas, in conjunction with eating or religious functions, or simply for its own sake. According to the WHO project on public drinking, the most commonly identified types of public drinking locales are bars and restaurants, which are almost universal, but clubs, nightclubs, cafés, taverns, and cultural events are also frequently mentioned (Single, 1997).

Personal characteristics of drinkers and drinking confederates

In general, men are more likely to drink (and to drink more) than women. At the Individual level, age and health status, as well as experience with drinking are contributors to the likelihood of positive or negative effects. Young people and older individuals may be more susceptible to the effects of alcohol while genetic predisposition to alcohol dependence or the inability to metabolize ethanol play a role in regard to outcomes for certain groups of people. Similarly, women, due to their physiology and alcohol metabolism may experience the effects of alcohol differently than men (ICAP, 2005). Women achieve a substantial higher BAC for a given amount of alcohol than men do. A partial explanation of this given is that women have more subcutaneous fat and a smaller blood volume than men – fat is a poor absorber of alcohol because it has little blood supply. Women also have lower levels of alcohol dehydrogenises in the stomach what makes that more alcohol is absorbed. BAC also varies with the men-

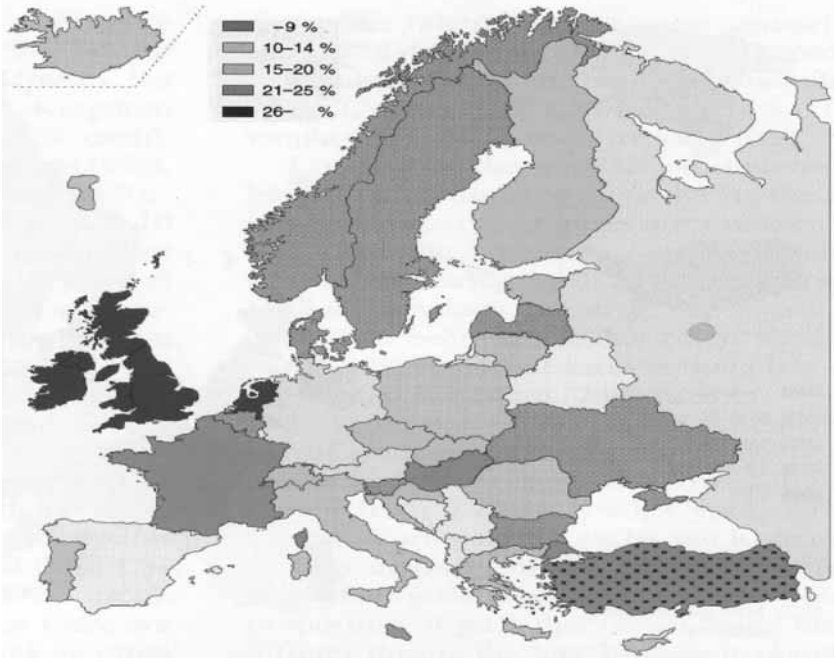
strual cycle in women, being highest in the premenstrual and ovulatory phases (Paton, 2000)

In all known societies were alcohol is consumed, gender differences in alcohol consumption are found to such an extent that they can be considered one of the few universal gender differences in human social behaviour. With regard to beverage types, there are pronounced gender differences for beer in particular and also for spirits, with men drinking these beverages more frequently, in larger quantities per drinking day, and in higher volumes. In contrast, women generally drink wine as often as men do, and also in equally large quantities. However, the sizes of these gender differences vary greatly from one society or social context to another (Holmila & Raitasalo, 2005; Mäkelä, 2006; Institute of Alcohol Studies, 2007). With respect to heavy drinking for example, Kuntsche et al. (2006) indicate that in countries with strong social welfare and high gender equity, men and women do not differ as regards to how social stratification or social role variables are associated with heavy drinking. In comparing Germany and Switzerland with Finland and Sweden, they found that gender differences were more pronounced in Germany and Switzerland, indicating different associations of heavy drinking and social roles or social stratification among men and women. They interpret the findings as following: only in countries with low gender equity, better educated women have to behave in a way to demonstrate being the 'better men' and thus to drink more in higher job positions. However, in countries where women's holding of leading positions is well accepted, they do benefit like men from lower heavy drinking rates in higher economic status position. This is due to the fact that the social welfare system doesn't pose as much stress on being a mother in addition to being employed, and household work might be better shared between partners in societies with higher gender equity. A UK study found that women with higher educational qualifications were more likely than less educated women to be binge drinkers in their twenties but that by their early forties the pattern was reversed. In contrast, less educated men were more likely to binge drink at both ages. The explanation of the different pattern in women was not obvious but it could relate to differences in domestic circumstances and employment (Institute of Alcohol Studies, 2007).

Concerning young people, alcohol misuse poses immediate health risks to them by increasing the likelihood that they will be involved in vehicle acci-

dents, contract sexually transmitted diseases, and engage in illicit drug use. Over time, problem drinking may contribute to difficulties navigating the transition out of adolescence and it may be the harbinger of behavioural, emotional and interpersonal problems during adulthood (Ellickson et al., 2001). Across the whole EU, 13% of 15-16 year old students have been drunk more than 20 times in their life, and 18% have binged (5+ drinks on a single occasion) three times or more in the last month. As shown in *Figure* 4, the highest levels of both binge-drinking and drunkenness in adolescents are found in the Nordic countries, UK, Ireland, Slovenia and Latvia. This contrasts with the low levels found in France, Italy, Lithuania, Poland and Romania. However, the differences between regions of Europe in *Figure* 4 are not visible at earlier ages, with the variation mainly occurring between the ages of 13 and 15 years (Hibell et al., 2004).

Figure 4: Proportion of students who reported binge drinking 3 times or more during the last 30 days (Hibell et al., 2004)

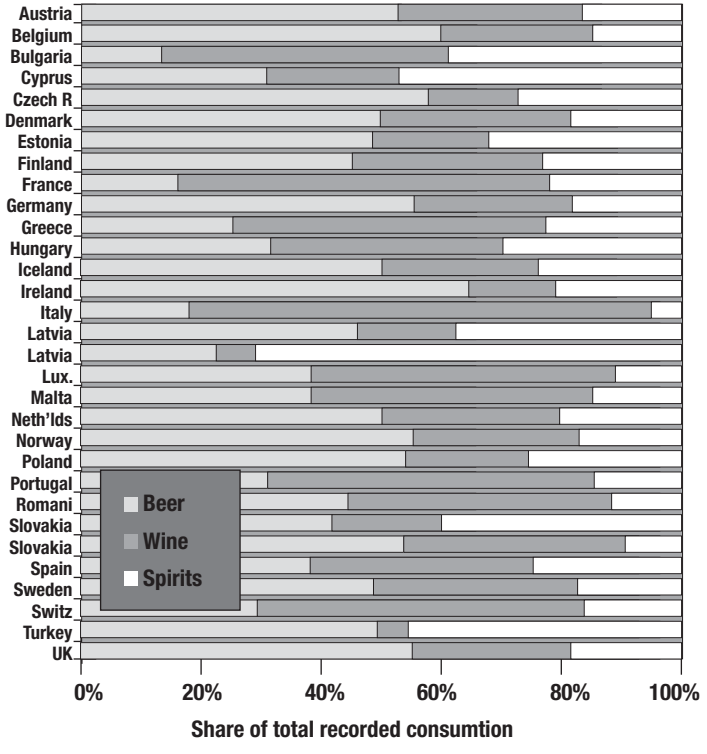


Types of alcoholic beverages

What people drink is another important component of drinking patterns. When clusters of particular aspects of drinking patterns occur in several counties, the term alcohol culture has been used to denote these similarities (Single & Leino, 1998).

At a general level across all 25 EU member states, around 45% of the alcohol comes from beer, with about a third from wine and a quarter from spirits. In over half the countries, beer is the preferred drink, with the bulk of the rest preferring wine (Anderson & Baumberg, 2006a). As indicated in *figure* 5, certain cultures have preferences for certain beverages. Spirits have been the beverage of choice in Nordic and some Eastern European countries (such as Georgia and Armenia) whereas beer is the beverage of choice in many parts of Europe (e.g. Austria, Belgium, Germany, the

Figure 5: Preferences for alcoholic drinks in Europe, 2002 (Anderson & Baumberg, 2006a)



Netherlands), the United Kingdom, North America, and Australia. Wine is the most common alcoholic beverage consumed in Mediterranean countries and some South American countries. Here, wine is an integral part of daily living and is vaunted in folk-tales, proverbs, and popular wisdom as a general tonic that strengthens the blood, purifies the body, helps nursing mothers, cures many ills, seals bonds of friendship, rounds out meals, and is otherwise indispensable. Although differences among societies with regard to beverage preference appear to be narrowing over time as drinking patterns become more international, it is possible to speak of beer, wine and spirits countries. In developing countries, the pattern of drinking often involves home-made or locally produced special types of alcoholic beverage (Single & Leino, 1998; Heath, 1998; Karlsson & Simpura; 2001).

These differences indicate that the three cultures have different drinking patterns and therefore different drinking outcomes. Wine cultures stereotypically have extremely low rates of most kinds of problems, presumably because drinking is so functionally integrated with the culture. Spirits cultures are often marked by all-male drinking bouts in which drinking is the focus rather than an accompaniment to other activities. These cultures commonly have less concern for moderation whereby drunkenness is often actively sought and used as an excuse for antisocial behaviour that is thought to result from disinhibition. Beer cultures often have high rates of accidents and gang violence but not the lasting psychological and social problems common in spirits cultures (Heath, 1998). In the European context, probably the most used and well known typology of the cultural position of drinking is the division between wet and dry societies. Traditionally, wet drinking cultures were characterized by a weak temperance tradition, a high volume of consumption, and a low proportion of abstainers, frequent fairly heavy drinking, a high level of problems related to chronic heavy drinking, and a low level of alcohol poisoning. Mediterranean countries have been presented as the main representatives of wet countries and the Nordic countries as representatives of dry countries. This makes clear that not only drinking patterns and problems but also the system of social controls on drinking are defined as part of the overall cultural positioning of drinking. Though, the wet-dry continuum as such is problematic in today's Europe, where differences in volume and abstention no longer differentiate the traditional wet and dry countries. Indeed, the labels dry and

wet make less sense as the per capita levels converge (Mäkelä et al., 2006; Room & Mäkelä, 2000).

The last two decades have been characterized by changes in what, especially young people, drink – namely designer lagers, ciders, wines, cocktails and of course alcopops. This change has largely been created by focussed market research, product development and imaginative marketing by the drinks manufacturers. This means that the product's today's youth drink are alcohol potent (approximately 5-9%), smooth-tasting and laden with product imagery and style. This is symptomatic for our contemporary society in which young people are making drink and drugs decisions. They insist on clear distinctions between each illicit drug and include alcohol in this process (Brain et al., 2000).

This relatively new way of looking at drinking evidently has consequences for the way in which the prevention of alcohol related problems is organised. Where a focus on alcohol consumption traditionally leads to prevention based on the reduction of alcohol intake, focussing on drinking patterns leads to influencing drinking habits. Probably, the truth is situated somewhere in between: as it is clear that some alcohol related problems can be prevented by targeted interventions on drinking behaviour in specific situations, it is also clear that there is no evidence that it is possible to reduce all alcohol related problems without bending average individual consumption levels (Goos, 2004).

2.1.3. Changes in living conditions and drinking habits

In the latter part of the 20th century, living conditions have affected the formation and dynamics of European drinking habits. In times that traditions lose their binding meanings and are transformed to options, modern societies create and offer more and more options, from goods and services to lifestyles and world-views. Karlsson & Simpura (2001) found that, amongst other influences such as changes in economic factors, urbanization and a diminishing agricultural sector have had an effect on the European drinking habits. Furthermore, this effect varies from one country to another, depending on the country's historical, economic and cultural background. This makes that a behavioural pattern that is considered traditional and de-

clining in one country (e.g. wine drinking at family meals in the Mediterranean countries) may be modern and increasing in other countries (e.g. wine drinking at family meals in the Nordic countries) (Simpura & Karlsson, 2001). Industrialization, urbanization and changes in the nature of working discipline has also secluded drinking from the work place. Together with the increase in leisure time – that has undoubtedly influenced the drinking habits and the level of drinking by increasing the amount of drinking occasions – drinking has become a leisure activity and a symbol of free time. However, this shift is more pronounced in the Nordic and English-speaking countries while in the wine countries – where wine has had an important role as a meal drink and source of nutrition – the effect has not been as pronounced. European drinking habits are also influenced by the increase of mass tourism and migrations. Indeed, the increased interaction of people coming from different cultural backgrounds has made it easier for them to discover and adopt new alcoholic beverages coming from traditions which have been foreign to their own culture (Karlsson & Simpura, 2001).

One of the most frequently used labels to denote the trends in alcohol consumption in the industrialized world is that of homogenisation. This refers to the fact that national differences in consumption levels are growing smaller and/or that the countries' traditionally dominant beverage type is losing ground. However, for the last 20 years the homogenisation process has been less distinct and can be explained mainly by a drastic reduction in wine consumption in the Mediterranean wine-drinking countries while in the beer and former spirits-drinking countries there has not been any quantitative convergence since the mid-1970s (Leifman, 2001). One mechanism that could explain the overall decrease in consumption in the countries of Southern Europe is public health policy. Awareness of the negative consequences of alcohol has grown in Southern Europe during the last 20 years, and as a result, new policies have been implemented which limit the availability of alcoholic beverages (Gual & Colom, 1997). This, however, does not mean that the decline in consumption is the direct result of an increasing number of alcohol measures, even though it is likely that they have contributed to the overall consumption decline (Leifman, 2001). However, as Simpura (2001) states, in some ways close contacts between cultures can re-emphasize the existing cultural differences, and may prompt new differentiations. Despite the indications of diffusion as the

gradual homogenization of preferences for alcohol beverages in Europe, some aspects of drinking customs seem to be lodged quite deeply in the culture, and are resistant to change. Therefore, as multicultural situations become increasingly common, ways of using alcohol (and other drugs) will remain markers of ethnic identity. Furthermore, it is worth keeping in mind that members of the immigrant generation bring with them the drinking customs of their native culture at the time of immigration, which can be quite different from the customs in that culture a couple of generations later. For example, patterns of abstinence or very light drinking seem often to be retained across generations, for instance, by people of Moslem heritage, even if they are not religiously observant (Room, 2005).

Following Karlsson & Simpura (2001), we can conclude that there are clear similarities in the modernization process in the EU member states and that modernization in fact emerges as a broad common denominator across Europe. However, the changes in living conditions have produced almost opposite results in the development of alcohol consumption in different countries and at different times. For example, overall alcohol consumption in the wine countries has been decreasing, while the consumption levels have been on the rise in the beer and former spirits countries.

ALCOHOL AND ALCOHOL USE IN EUROPE: DRINKING PATTERNS IN AN EVOLVING EUROPEAN SOCIETY

Alcohol use has a longstanding tradition with both positive and negative aspects attributed to it. In contemporary society, using alcohol is seen as normal behaviour impregnated in all kinds of activities and situations. However, differentiation should be made between problematic and non-problematic use of alcohol. Until the last 15 years, this used to be mere a matter of consumption. Afterwards, scientific interest has increasingly focused on the many facets of how people drink. These so-called drinking patterns include the following dimensions:

- temporal variations in drinking
- settings and activities associated with drinking
- personal characteristics of drinkers and drinking confederates
- types of alcoholic beverages

Following the evidences on the importance of these dimensions, there is growing recognition that drinking patterns are a more reliable predictor of outcomes than just quantity of alcohol consumed. Probably, the truth is situated somewhere in between: as it is clear that some alcohol related problems can be prevented by targeted interventions on drinking behaviour in specific situations, it is also clear that there is no evidence that it is possible to reduce all alcohol related problems without bending average individual consumption levels.

2.2 The impact of alcohol

Pharmacologically, alcohol is a basal narcotic, a central nervous system depressant which affects all brain areas, including those concerned with our most fundamental life functions such as breathing, staying awake or responding to the world around us. If the dose is ingested is very high, alcohol acts like a general anaesthetic: it renders the consumer unconscious (Cameron, 2000). However, most individuals who consume alcohol do so without harmful outcomes. They drink because it gives them pleasure and because of alcohol's effects as a social lubricant, and as a marker of celebration around important life events. Nevertheless, while most of those who drink do so responsibly and moderately, the misuse or irresponsible consumption of alcohol has the potential to impose harm on both individuals and society through a myriad of health and social problems (ICAP, 2005a).

2.2.1 The impact of alcohol on individuals

As Edwards (1994 & 2000) indicates, alcohol can bring both positive and negative consequences for the individual, and this as well in the long- as in the short-term. This indicates that the drinker faces a difficult calculus of individual decision making. In this, he can choose for immediate gratification through alcohol's effect as a mood modifier, an intoxicant, or as a facilitator of sociability. Conversely, the drinking occasion may bring with it conflict, injury or social opprobrium. The effects that alcohol has on an individual consumer thus depend upon many factors:

- the person doing the consumption,
- the mood they were in before they started consuming,
- the expectancies they bring with them into the drinking occasion,
- the intent,
- the site of consumption,
- the company or lack of it,
- the behaviour of those surrounding the drinker,
- the time of the day (Cameron, 2000).

2.2.1.1 Alcohol consumption and health risks

Apart from being a drug of dependence, alcohol is a cause of some 60 different types of diseases and conditions[4], such as mental and behavioural disorders, cancers, reproductive disorders and lung diseases. For most conditions, alcohol increases the risk in a dose dependent manner, with the higher the alcohol consumption, the greater the risk (Rehm et al., 2003). The following are major alcohol related conditions contributing to morbidity and mortality: cancers – head and neck cancers as well as cancers of the gastrointestinal tract, liver cancer, and female breast cancer; neuropsychiatric conditions – alcohol-dependence syndrome, alcohol abuse, depression, anxiety disorder, organic brain disease; cardiovascular conditions – ischaemic heart disease, cerebrovascular disease; gastrointestinal conditions – alcoholic liver cirrhosis, cholelithiasis, pancreatitis; maternal and perinatel conditions – low birth weight, intrauterine grown retardation; acute toxic effects – alcohol poisoning; accidents – road and other transport injuries, fall, drowning and burning injuries, occupational and machine injuries; self-inflicted injuries; violent deaths – assault injuries (Babor et al., 2003; Gutjahr et al., 2001). A more detailed overview of some of these alcohol related diseases can be found in the *annex* at the end of this literature review.

As this (incomplete) overview indicates, alcohol can affect most bodily organs so that heavy drinkers are liable to suffer from many types of ill health. It is important to recognise these for what they are because intervention can prevent progression to serious disease (Paton, 2000). To give a correct overview of the burden of disease attributable to alcohol related health consequences, it is necessary to take into account both its deleterious and beneficial effects. Deleterious effects stem from alcohol's contribution to many chronic disease conditions, while some specific drinking patterns have been found to have some beneficial effects (Babor et al. 2003). Research on drinking patterns and medical disorders also shows that, although being significantly younger, frequent heavy drinkers have a higher number of alcohol related medical disorders than episodic drinkers (Wetterling et al., 1999).

4 This figure is based on mortality and morbidity only and does not include many social and familial disruptions associated with alcohol and thus likely is an underestimate (Giesbrecht, 2007).

Alcohol consumption also has both immediate and long-term effects on the brain and neuropsychological functioning (Anderson & Baumberg, 2006). Although it is extremely difficult to estimate the scale and nature of the problem in the general population, close links have been found between heavy drinking and mental health problems in vulnerable groups such as offenders, young people and the homeless. Also an increased risk of dual diagnosis of mental health problems and alcohol/drug misuse among heavy or dependent drinkers has been found (Alcohol Concern, 2007).

To be complete, we also have to mention the link between alcohol and suicide. Evidence for an association of suicide with alcohol is largely based upon retrospective and prospective cohort studies and post-mortem 'psychological autopsy' studies (Wilcox et al., 2004). Reviews of these studies have demonstrated that alcohol and drug use disorders are strongly associated with suicide (Cavanagh et al., 2003; Harris & Barraclough, 1997). The link between problematic alcohol use and elevated suicide risks is found to be stronger with attempted suicide and suicide thoughts than is with completed suicide (Rossow et al., 1999; Rosiers, 2007). Nevertheless, clear relationships are found between suicide and alcohol use. Several studies, from the United States as well as from Europe, found a share between 15% and 41% of alcohol dependent persons or problem drinkers in the figures of deaths through suicide (Rosiers, 2007). Furthermore, alcohol misuse is seen to be the strongest factor of influence for suicidal acts, especially binge drinking (De Leo & Evans, 2004).

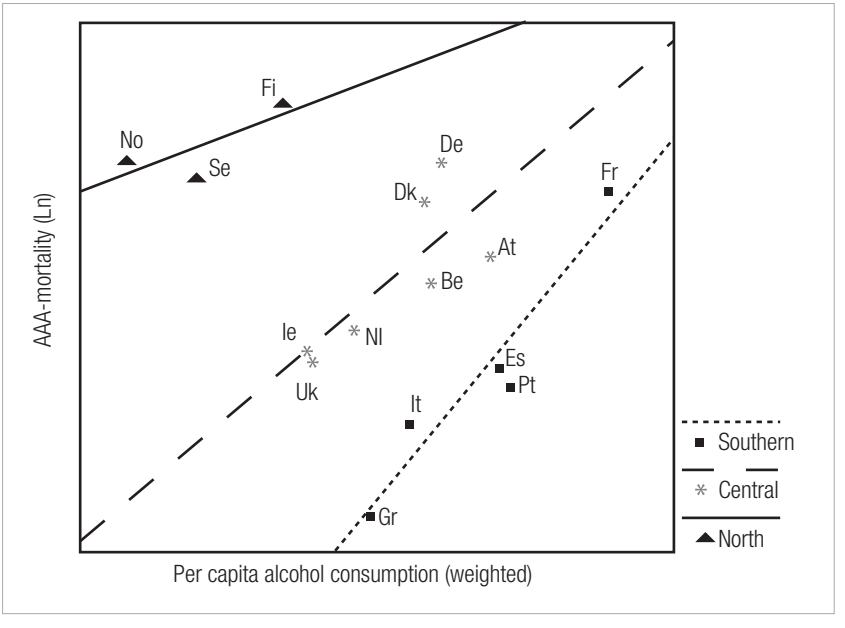
2.2.1.2 Mortality and morbidity as a consequence of alcohol use

Bearing foregoing risks in mind, it is difficult denying alcohol can be detrimental to health. Within the research community, this association is usually divided into several indicators. Like that, there is a relation between alcohol and mortality and between alcohol and morbidity. In most studies, the relationship between alcohol intake, mortality and morbidity has been found to be J-or U-shaped, with the lowest mortality in moderate consumers. Abstainers are often found to have a mortality rate that falls between those of moderate and high consumers while for high consumers the deleterious effects of alcohol predominate, with concomitant, increased rates of death from injuries and suicide, poisoning, cirrhosis and certain cancers (Theobald et al.,

2001; Rehm et al., 2001). The U-shape is interpreted as the amalgam of two risk curves: the risk for coronary heart disease mortality decreases as a function of intake, at least up to the level of moderate consumption, while the risk for accidents and certain chronic outcomes, such as liver cirrhosis, increases with increasing consumption (Norström et al., 2002).

The empirical evidence for a link between population drinking and alcohol related harm has been broadened and given more detail during the past 10 years. After having been restricted mainly to Nordic countries and North America, a wide range of studies have now demonstrated that increased per capita consumption augments the rate of alcohol related harm also in other parts of Europe (Norström & Ramstedt, 2005). However, a persistent geographical gradient exists in the alcohol effect, such that is stronger in Northern and weakest in Southern Europe. This suggests a modifying impact of drinking culture and related drinking patterns. Thus, as Leifman et al. (2002) declare: "although it is well known that excessive drinking is implicated in a wide range of causes of deaths, the effect of alcohol on different outcomes, or the fraction of cases attributed to alco-

Figure 6: cultural differences in alcohol recording practices across European countries (Leifman et al., 2002)



hol, differs across countries". One possible explanation for this are cultural differences in recording practices, such that some drinking cultures have a higher tendency to attribute a death to alcohol abuse. Bearing this in mind, it is reasonable to assume that this pattern to some extent reflects differences across countries with regard to the general tendency to see alcohol as problematic. Supporting evidence of this idea is the fact that the tendency to use explicitly alcohol related diagnoses is highest in drinking cultures with long traditions of alcohol control, such as in Northern Europe, and lowest in Southern Europe where alcohol has not been regarded as a serious problem. *Figure* 6 reveals the substantial cultural differences in alcohol recording practices across European countries (Leifman et al., 2002).

Intoxication from continued drinking produces physical and mental changes (*Table* 1) that can roughly be predicted from the amount drunk and breath or blood alcohol concentrations (BAC). Women and young drinkers become intoxicated at lower BACs than men become because they are more sensitive to equivalent doses of alcohol, while hardened drinkers may not show symptoms even at very high BACs through development of tolerance. Furthermore, the rate of alcohol-absorption is most rapid when the concentration of alcohol is between 20-30%. Thus, sherry of 30% raises the BAC more rapidly than beer of 8%, while neat spirits (40%) delay gastric emptying and have an inhibitory effect on alcohol absorption (Paton, 2000).

Table 1 Physical and mental effects at different BAC (Paton, 2000)

BAC mg/100ml	Effects
30	Disinhibition, mild euphoria
50	Impairment of skills and judgement
80	Motor impairment
	Accident risk doubled
100	Garrulous, elated, aggressive
160	Accident risk increased tenfold
200	Slurred speach, gross unsteadiness
400	Coma
	Death from respiratory failure or inhalation of vomit

Overall, it seems that the impact on alcohol related harm differs by beverage type, such that particularly spirits, but also beer consumption has

stronger effects on harm than does wine drinking. Assuming that drinking spirits and beer are associated more often with intoxication episodes, this given provides additional evidence that drinking patterns are an important factor in this context (Norström & Ramstedt, 2005).

2.2.1.3 The protective effect of alcohol

"Since the majority of Europeans choose to drink, it is only reasonable to assume that they believe they derive personal and social satisfaction from doing so." This quote by Marcus Grant (2006) indicates that any approach towards alcohol related issues needs to be dealt with carefully and not by simply imposing restrictions on the alcohol market: we cannot deny the social and personal benefits of drinking. Logically, this makes we have to take a closer look at some anthropological and cultural studies that may yield insights in these positive consequences.

As we have seen, much of the empirical research on alcohol use focuses on assessing levels of consumption in specified populations, investigating the relationship between consumption levels and morbidity and mortality, and analysing the multiple risk factors contributing to alcohol related problems. Research of this kind is vital but it provides only part of a holistic perspective on alcohol use. Such an approach pays little attention to the meanings of the drinking act for those who drink, meanings grounded in specific social and cultural contexts. From an anthropological stand, the idea was launched that the ideologies and practices associated with drinking were intimately linked to central aspects of culture and social relations. Because of the enormous cultural diversity in the world, drinking was similarly variable. Alcohol, in varying social and cultural contexts, was associated with religious practices, sociability, the maintenance of group boundaries, the relation of social identities and gender roles. Hereby, it was accepted that alcohol produced certain kinds of sensorimotor changes (e.g. changes in motor coordination) in the human body but that the meaning given to these physiological changes varied with culture. In the 1980s, anthropologists began increasingly to argue that cultural behaviour needed to be understood within broader, historically shaped political, economic and social systems. The proponents of this type of work argue that indigenous drinking associated with indisputably harmful outcomes – as measured by

the standard epidemiological and other indices of morbidity and mortality – can still be seen as meaningful behaviour in the context of ongoing powerlessness and oppression (Moore, 2001).
However, there is no unitary anthropological perspective on drinking alcohol, although there are common themes which receive different emphasis. Distinctive anthropological perspectives on drinking derive from the use of ethnographic methods and from the development of more general anthropological and social theory contributing much that is unique and original, as well as complementing, supplementing and, sometimes, subverting existing orthodoxies in alcohol studies (Moore, 2001).

Coronary Heart Disease (CHD)

Coronary heart disease (CHD) is one of the leading causes of death in established market economies and developing countries. At the same time, however, the most important health benefits of alcohol have been found in the area of CHD at low to moderate levels of consumption (Gutjahr et al., 2001). Alcohol, in low doses, reduces the risk of CHD, with 80% reduced risk at a consumption of two drinks a day (20g alcohol). Beyond two drinks a day, the risk of CHD increases, being more than the risk of an abstainer beyond a consumption level of 80g a day (Anderson & Baumberg, 2006a). The relationship between alcohol and CHD also appears to be associated with drinking patterns, such as an increase in risk with what constitutes binge-drinking and episodic alcohol drinking. The pattern of alcohol intake may also have particular relevance when advice is given to at-risk subject, such as people with pre-existing dyslipidaemia, hypertension, diabetes or atherosclerotic vascular disease (Puddey et al., 1999).

As said before, in numerous studies, the data on CHD-related death are remarkably consistent: the relationship between alcohol consumption and mortality follows a J-shaped or U-shaped curve, with one to four drinks daily significantly reducing risk and five or more drinks daily significantly increasing risk. This inverse association between light to moderate alcohol consumption has been demonstrated independent of age, sex, smoking habits and BMI (Gunzerath et al., 2004; Arria & Gossop, 1998).

Because of alcohol's protective effect against coronary heart disease and other atherosclerotic diseases, alcohol must be evaluated in conjunction

with its potential benefits. Hereby, we have to say that 'moderate' drinking is the only level of drinking that has been shown to have potential health benefits, and the levels of drinking that are classified as 'moderate' and 'heavy' have not been defined consistently across studies (Gunzerath et al., 2004)

2.2.2 The impact of alcohol on contemporary society

In general, drinking can be described as a social activity, taking part within the context of drinkers' relationships with each other and with the world more generally (Hunt & Barker, 2001). Evidently, many consequences of alcohol use – harmful as well as beneficial – can be characterized as 'social' and in no way medical, or at least only indirectly related to health. As Klingemann (2001) defines it: "the social consequences of alcohol are changes, subjectively or objectively attributed or attributable to alcohol, occurring in individual social behaviour, in social interaction or in the social environment."

2.2.2.1 Social costs to society

Alcohol consumption, and especially abusive consumption, can entail important costs to society. Compared with tobacco or illicit drugs, alcohol is clearly more expensive in terms of the resources expended in dealing with the adverse consequences of abusive drinking. As with health (individual) consequences of alcohol use, drinking pattern is more related to social consequences than volume of alcohol intake. Rhem & Gmel (1999) found that individuals who engage in patterns of heavy drinking (relatively independent of overall volume of alcohol consumed) are at increased risk for experiencing negative social effects (e.g. problems with partner or friendship relations). The costs of alcohol consumption can be broadly categorized in direct and indirect costs:

- Direct costs
  - *Health, judicial and social welfare systems* (about 20% of the total costs of alcohol consumption)
    Alcohol consumption has numerous health effects, both chronic (e.g. liver cirrhosis) and acute (e.g. traffic accidents), which result in expenditure on hospital and outpatient treatment, as well as on

pharmaceuticals. Costs also arise in the welfare and judicial systems, such as those for social assistance and counselling of alcoholics and their families, or police intervention, imprisonment and court work.
  - *Material damage* (about 10% of the total costs of alcohol consumption)
- Indirect costs (about 70% of the total costs of alcohol consumption)
  - *Premature death*
    Alcohol related costs arise from premature death, since people who die before the age of retirement represent a loss of national productivity.
  - *Excess morbidity and unemployment*
    Excess unemployment and absenteeism, as well as work accidents and reduced efficiency on the job due to alcohol misuse, contribute significantly to the total costs of alcohol consumption to society (Klingemann, 2001).

As Klingemann (2001) indicates, in national budgets in Europe, the social costs of alcohol consumption are comparable to, or even exceed, government expenditure on social security and welfare, amounting to approximately one fourth of its total health expenditure. Clearly, therefore, the adverse consequences of alcohol misuse are significant and call for adequate strategies to reduce them. The alcohol industry in contrast, will highlight its economic importance and the benefits it brings. Hereby it is suggested that any strategy to control the problems of alcohol would have a major economic impact (Godfrey, 2004).

2.2.2.2 The impact of alcohol on 'everyday life'

As said many times before, the use of alcohol beverages is impregnated in all kinds of everyday activities on which is evidently has an impact. In what follows, an overview is given of the impact of alcohol in the five 'settings' found to be most important from a community perspective. Following 'everyday life' situations will be described shortly:

- alcohol and traffic
- alcohol and the workfloor
- alcohol and the family

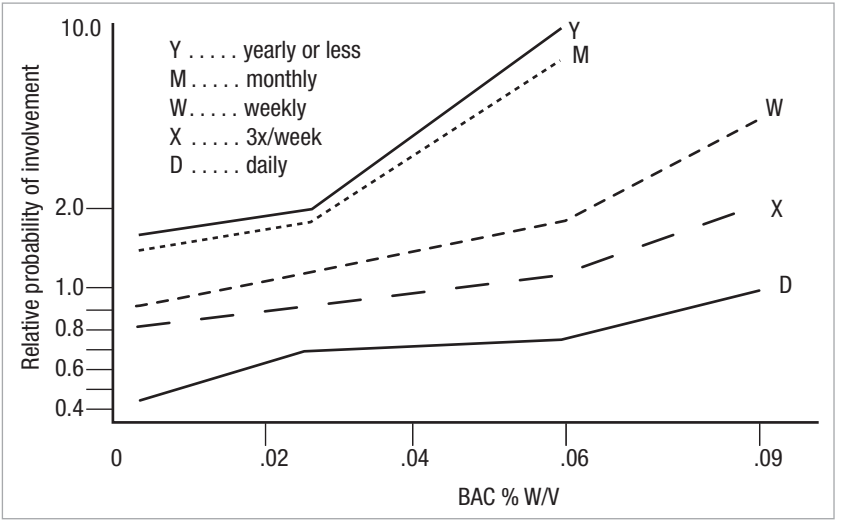
- alcohol and sports
- alcohol, crime and violence

Alcohol and traffic

The contribution of alcohol impairment to death and injury on the road has been well established through comparisons of blood alcohol levels among drivers in fatal crashes and non-crash-involved drivers using the roads at the same times and places (McKnight & Voas, 2001).

Alcohol affects the central nervous system, influencing various behavioural and cognitive capabilities. As a driver must maintain alertness and be able to react quickly to hazards, see clearly and possess the ability to judge distance and speed, it is clear that drivers who have been drinking are more likely to be involved in crashes than sober drivers are (ICAP, 2005). However, as *figure* 7 indicates, one needs to differentiate between people who seldom drink alcohol and people regularly drinking alcohol. The first category of people seems to have an accident risk that is four times higher when they are sober. In other words, regular drinkers are only as dangerous in traffic as abstainers when they have a BAC level of 0,8 promille (Uhl, 2004a).

Figure 7: Probability of involvement in traffic accidents when impaired in relation with frequency of drinking (Hurst (1973), cited in Uhl (2004a)).



An important first step for countries wanting to take action to address impaired driving has been the establishment of a maximum permissible blood alcohol level (BAC). The maximum permitted BAC hereby serves as the cornerstone for efforts to reduce and prevent alcohol-impaired driving by providing a baseline measurement for enforcement and prevention. These BAC limits are set by individual countries (*figure* 8) and span a range of values, reflecting historical evidence, perceived risk weighed against public convenience, and the cultural acceptability of restrictive BAC levels on an individual's behaviour (ICAP, 2005; Österberg & Karlsson, 2003).

Figure 8: Standard BAC limits in the European countries (source: www.icap.org)

STANDARD BAC LIMITS IN THE EUROPEAN COUNTRIES			
Country	Standard BAC (in mg/ml)	Country	Standard BAC (in mg/ml)
Austria	***0.5***	***Italy***	***0.5***
Azerbaijan	0	Lithuania	0.4
Belarus	0.5	Luxembourg	0.8
Belgium	***0.5***	Macedonia	0.5
Bosnia and Herzegovina	0.5	Malta	0.8
Bulgaria	0.5	Moldova	0.3
Croatia	0	The Netherlands	0.5
Czech Republic	0	Poland	0.2
Denmark	0.5	Portugal	0.5
Estonia	0.2	Romania	0
Finland	0.5	Russia	0.2-0.5
France	0.5	Slovak Republic	0
Georgia	0.3	***Slovenia***	***0.5***
Germany	***0.5***	Spain	0.5
Greece	0.5	Sweden	0.2
Hungary	0	Switzerland	0.5
Iceland	0.5	Turkey	0.5
Ireland	0.8	***United Kingdom***	***0.8***
Israel	0.5		

The causal role of alcohol in accidents probably varies a lot across drinking cultures and historical periods, depending on consumption levels and drinking patterns. In countries where high levels of intoxication are an integral part of the drinking culture, the etiological significance of alcohol ought to be larger (Norström et al., 2002). Indeed, a large body of

evidence suggests that the burden of alcohol related traffic fatalities has a different weight in different regions of Europe. Over the last 30 years, it has become much more apparent that overall traffic fatality rates are significantly higher in southern Europe than the rest of the EU15 and much of the EU10 (Anderson & Baumberg, 2006a). However, because of major differences in measurement and reporting methodology (e.g. different definitions of alcohol-involvement in crashes, percent of drivers in fatal crashes who are tested for alcohol, the availability and utilisation of autopsy results, ...), we have to be careful with comparisons between countries (Leifman et al., 2002).

Alcohol and the workfloor

Contributing factors relating alcohol use and the workfloor

Occupational risk factors for alcohol problems can best be presented as comprising three sets of factors:

- External or compositional factors: Personal, cultural, or other characteristics that individual employees bring with them to the job that are known to be associated with more or less drinking (such as gender, ethnicity and age).
- Job-specific factors: These factors include elements of the job itself that may be associated with drinking patterns (such as supervisory style, level and consistency of task demands, clarity of rules and consequences).
- Interactional factors: Social constructs such as group subcultures, drinking-related norms, formal and informal social control mechanisms and peer's drinking behaviour (Moore et al., 2001).

Consequences of alcohol use on the workfloor

Ramstedt & Hope (2003) found that nearly 5% of drinking men and 2% of drinking women across seven EU15 countries reported a negative impact of alcohol on their work or studies, with ranges from 3% or less for men in Sweden and France, to over 9% in the UK and Ireland.

Although the proportion of people with alcohol problems in the workplace is relatively small, the problems themselves are severe and result in substantial costs for employers. Indeed, the extra sickness absence of excessive drinkers compared with moderate drinkers can increase to very high amounts (Vasse et al., 1998). Despite the interest of employers in reducing

the burden of alcohol at the workplace, there is lack of information on the exact scale of work-related harm. However, alcohol has been shown to relate to unemployment: heavy drinking is associated with increasing the risk of being unemployed relative to lighter drinking at the same time as unemployment increases the risk of heavy drinking (Anderson & Baumberg, 2006a). Studies analysing absenteeism rates of people at all levels of alcohol consumption have yielded mixed results (Gmel and Rehm 2003), while some other studies have found no association between absenteeism and drinking at all (Ames et al. 1997).

On the other hand, Baumberg and Anderson (2006) summarise a number of consequences of harmful alcohol use and episodic heavy drinking in relation with one's working situation: it increases the risk of arriving to work late and leaving work early or disciplinary suspension, resulting in loss of productivity; turnover due to premature death; disciplinary problems or low productivity from the use of alcohol; inappropriate behaviour (such as behaviour resulting in disciplinary procedures); theft and other crime; and poor co-worker relations and low company morale. Furthermore, it should be noted that an employee's alcohol use can also become a source of stress for his or her colleagues following increased workloads, the stress of dealing with unreliable individuals, and an unhealthy work climate where colleagues enable drinking by avoiding confrontation or conflict (Bennett & Lehman, 1998).

Alcohol and the family

The partner relation

The partners of alcohol abusers often have to pay a heavy price. The female partners of men who drink heavily suffer from elevated rates of depression, anxiety and somatic complaints, report low levels of relation satisfaction and often are subjected to verbal and physical abuse (marital violence) (Halford et al., 2001). Apart from these risks, an alcohol related problem may affect the quality of life and the health of the drinker's partner in other ways: the family is liable to split or to break up. A contrary condition, referred to as 'co-dependence' and described principally in the clinical literature, takes the form of a contradictory involvement by the drinker's partner in maintaining the drinker's alcohol habit, through efforts to conceal and compensate for it. In either case, the condition of the drinker's spouse or

partner is liable to deteriorate, with consequent psychological or physical disorders (Klingemann, 2001).

However, although there is evidence that drinking patterns marked by very heavy consumption or by other alcohol problems are associated with domestic violence; these studies provide only suggestive evidence that intoxication, an sich, has any association with domestic violence. Indeed, a heavy drinker who has engaged in spouse abuse may have done so only when sober or both while sober and while intoxicated. Nevertheless, keeping this argument in mind and following the view of Leonard (2005), we have to say that heavy drinking is a contributing cause of violence. After all, there is no design that will definitively demonstrate causality in this instance. Causality here is a scientific attribution based on the convergence of evidence drawn from varied, but flawed sources. Therefore, the conclusion is that alcohol's influence on spouse abuse is not uniform but it is clear that alcohol contributes to violence in some people under some circumstances.

Relation with children

Children of parents with alcohol problems have a higher chance of being affected by some sorts of psychopathologies (fears, depression, ...) during childhood, adolescence and/or adulthood. This means they are more vulnerable but they won't, in any case, face alcohol related problems (Sher, 1991). However, they do are more sensitive for it since they can do little to protect themselves from the direct or indirect consequences of parental drinking. Some have already been severely and permanently scarred, even before they are exposed to parental behaviour. Parental drinking can severely harm a child's development but in particular, abuse, neglect, isolation and insecurity or inconsistent parental behaviour and demands are much more common in the families of alcohol abusers than in others. In short, we can say that alcohol consumption has a dual impact on education. First, parental heavy drinking increases the risk of poor school performance, truancy and school drop-out among their children. In some cases, a mother's heavy drinking during pregnancy leads to attention deficits and behavioural problems in the child[5]. But parental heavy drinking also seems

5 If a pregnant women of 70 kg. drinks one litre of beer with an alcohol percentage of 5 Vol.-%, the unborn baby has a BAC of maximal 0,8 promille. When the baby is already born and the mother breastfeeds the child, the mother milk also contains the same amount of alcohol (max. 0,1 Vol.-%) (Uhl, 2004a).

to affect their parenting skills, and thereby, again, the child's performance in school. The other kind of impact is the possible effect of heavy drinking episodes by students on their school performance and educational careers. The extent to which heavy drinking may be a cause of poor school performance is not clear, however (Klingemann, 2001).

Mayer et al. (1998) have found that, when drinking with their families, young people tend to drink smaller amounts, and larger amounts when they drink with their peers or strangers. These findings are closely related with a study from Wells and her colleagues (2005) in which they suggest that alcohol problems among late adolescents and young adults are more likely to occur in settings away from home where excessive drinking is more normative, where fewer proscriptive norms regarding socially appropriate behaviour are present or where social guardians are less likely to be present.

Alcohol and sports

Alcohol use in sports: a culture

In the late 1800s, alcohol was reportedly used to enhance sport performance. In athletic situations of extreme exertion or in events requiring brief maximal effort, alcohol has been given to athletes as a stimulant to release inhibitions and decrease sense of fatigue (Stainback, 1997). This long-standing association between alcohol and sports, frequently among spectators (who may or may not be athletes themselves) and through the beneficial relationship between sport organizations and alcohol companies, hotels or other suppliers. Several major sporting events, such as Formula One Grand Prix, national soccer leagues, tennis tournaments and so on, are sponsored by these suppliers. Therefore, it is not surprising that the notion of sports' participants consuming alcohol at detrimental levels is not new to health practitioners. (Duff et al. 2005; Gutgesell & Canterbury, 1999).

Alcohol use by sports athletes is generally for recreational reasons. However, in some instances athletes may use alcohol for performance-enhancing reasons (Stainback, 1997). For example, participants in target sports such as shooting or archery often think alcohol may provide anti-anxiety and anti-tremor effects, but actual performance when studied deteriorates at varying levels of alcohol (Gutgesell & Canterbury, 1999).

The harms associated with excessive alcohol consumption in sporting clubs

Although seen from historical point of view athletes have used alcohol to improve sport performance, more recent evidence indicates that alcohol rarely is an ergogenic aid and in most cases detracts from athletic performance (Stainback, 1997). Since 1983, there has been abundant evidence that acute and/or chronic alcohol consumption does not improve exercise or sport performance (Gutgesell & Canterbury, 1999).

Sports (exercise in general) is a complex human activity requiring learned movements dependent on a series of coordinated neuromuscular patterns, and utilizing many of the body's organ systems. Alcohol may exert an effect on many of these systems, including the central nervous system, muscle energy stores and the cardiovascular system. Moreover, acute alcohol ingestion can exert a deleterious effect on psychomotor skills, such as reaction time, eye-hand coordination, accuracy and balance (Gutgesell & Canterbury, 1999).

In addition to the range of health problems associated with the misuse of alcohol, a number of broader issues are of concern. For example, the problem of drink driving among club members is particularly relevant given the high levels of alcohol consumption common in many sporting clubs. Such behaviour not only poses risks for the driver, but also places other club members and the broader community at risk, as well as raising duty of care issues for the clubs (Duff et al., 2005). Research also suggests that the way in which alcohol is used in sporting clubs may significantly influence the way the club is perceived within the community. Many club members do acknowledge that the misuse of alcohol within the club can create a poor impression in the local community and in the long-term may affect recruitment of players and supporters and therefore the future of the club (Duff et al., 2005).

Alcohol, crime and violence

Without question, alcohol plays a major role in crime, especially in crimes of violence. The relationship between alcohol and crime varies with factors related to the drinker, including demographics (e.g. gender and age), the drinker's normative expectations, temperament, or personality predispositions, and general deviant attitudes (Martin, 2001). In international comparisons, the category of assaults and homicides is that with the highest level

of alcohol involvement, ranging between 35% (Canada) and 85% (Sweden) (Klingemann, 2001). In adolescents and young adults, a pattern of drinking large amounts per occasion and drinking to intoxication has been found to be associated with aggression, alcohol related aggression and other alcohol related harms. Furthermore, frequency of drinking has also been found to be associated with increased risk of aggression in adolescents (Wells et al., 2005). Consequently, alcohol abuse and dependence lay an enormous burden on the criminal justice system. That burden arises both from high rates of intoxication at the time of the offence and from high rates of alcohol dependence among criminal offenders. The burden of alcohol includes costs incurred by victims, by offenders and their families, and by the larger society, including the criminal justice expenses (Martin, 2001). However, it may well be argued that many of these violent crimes might have taken place even in the absence of alcohol because of a common factor behind excessive drinking and inclination to violent behaviour (Norström et al., 2002).

Efforts to understand the effects of alcohol on aggression have suggested that it intensifies violence or contributes to its escalation. More severe incidents such as kicking and punching for example are more likely to involve alcohol than less severe incidents (Martin, 2001). Furthermore, it is suggested that the relative lack of women's involvement in aggression and fighting in public places may be explained in terms of cultural norms surrounding femininity (Rolfe et al., 2006). However, women may be particularly likely to be the victims of another person's drinking. Alcohol is thought to be a risk factor in the victimization of women and it is known that women are the victims in a large proportion of violent crime. For example, alcohol has been linked to the incidence of sexual assault and rape. Equally, high proportions of victims of violence, including sexual assaults, are themselves under the influence of alcohol at the time of the offence (Institute of Alcohol Studies, 2007).

A general finding in the alcohol-violence research is that the more heavy the consumption, the higher the risk of being harmed by drunk people. Furthermore, the drinking behaviour of the typical victim of social harms from others' drinking very much resembles the drinking behaviour of those who experience various kinds of alcohol related social harms from their own drinking. Thus, the cost of drinking in terms of the social harms

seems, largely, to be paid for by the heavy drinkers themselves and particularly the young ones (Rossow & Hauge, 2004).

One explanation for these findings is alcohol's effects on physiological processes. For example, alcohol has been found to affect the GABA-benzodiazepine receptor complex in the brain that may result in reduced anxiety about the consequences of aggressive behaviour. Alcohol also affects the dopaminergic system, leading to an increase in psychomotor stimulation, which, in turn, may increase the intensity and level of aggression (Martin, 2001). Virkkunen & Linnoila (1993) found that drinking initially increases serotonin but then decreases it , thereby increasing the effects of dopamine. This then results in reduced impulse control, which increases the likelihood of aggression. Consuming alcohol also impairs cognitive functioning, which may reduce the drinker's ability to think of peaceful solutions when difficult situations arise in a social setting, as well as affect attention and emotions (Martin, 2001). In addition, the social context of drinking may also play a role in explaining alcohol related aggression. Drinking contexts may contribute directly to aggression in terms of the types of activities that occur (e.g. competitive games) and exposure to others who are intoxicated and are therefore more likely to be aggressive or trigger aggression in others. The context of drinking may also influence aggression indirectly through their impact in increasing the amount of alcohol consumed (Wells et al., 2005).

The impact of alcohol on individuals and on contemporary European society
For most people, drinking alcoholic beverages doesn't provoke any harmful outcomes. However, misuse or irresponsible consumption potentially imposes harm to individuals, especially through a large number of health problems. Furthermore, a relation can be found between alcohol and mortality and between alcohol and morbidity. However, one has to bear in mind that the effect of alcohol on different outcomes varies across countries which makes it only reasonable to assume that patterns of drinking reflect differences across countries with regard to the general tendency to see alcohol as problematic. For all that, these negative consequences provide only a part of a holistic perspective on alcohol use. Because of alcohol's protective effect against coronary heart disease and other atherosclerotic diseases, alcohol must be evaluated in conjunction with the potential benefits of 'moderate drinking'. Given that alcohol use often is a social activity, many consequences of problematic alcohol use can be characterized as being social. Differentiation is made between direct costs (about 30%) and indirect costs (about 70%) related to alcohol use. Alcohol is widely spread and thus also used in a variety of settings: traffic, workfloor, family, sports. Each setting of course is characterised by different patterns of use and different consequences related to problematic alcohol intake.

Chapter 2 Alcohol prevention, alcohol policy and the community

1. Alcohol prevention and policy: some vital components reviewed

1.1 What is (alcohol) prevention?

Prevention starts from the assumption that society is characterized by both disease and illness, and by the risk of being affected by it. Or to put in other words, there is an evil that can be avoided or eliminated (Allamani, 2007). The challenge here is how to achieve the ultimate goal in health education and health promotion – to improve people's health by increasing their knowledge and hence changing attitudes and above all behaviour.

Prevention thus is a broad concept that has frequently included a wide range of approaches. Traditionally, three types of prevention have been defined: primary prevention, secondary prevention, and tertiary prevention. *Primary prevention* are activities designed to prevent a disease, disorder or condition from ever developing by intervening before any manifestations of that disease, disorder, or condition are present. Targets in primary prevention may, however, be at high risk for the disorder. The objective of *secondary prevention* on the other hand is to treat the individual who has been identified as having some disorder or disease, and to return individuals to their previous level of functioning as quick as possible. Finally, the objective of *tertiary prevention* is to reduce the degree of impairment and suffering once a disorder or disease has developed, in order to minimize the long-term consequences (rehabilitation) (Botvin, 1995). However, as our understanding of the complicated etiology of disease and illness increased, this approach to characterizing prevention has given way to one that is based on the link between known causes and intervention. Gordon (1987) proposed a classification system that reflects the relation between risk for acquiring a disorder and the type of prevention initiative that is optimal. *Universal prevention* is desirable and relevant for almost everyone in a given population (e.g. using seat belts). *Selective preven-*

tion targets individuals thought to be at greater risk for developing a disorder relative to the general population (e.g. cancer training for breast cancer in women). Finally, *indicated prevention* seeks to reach individuals who have characteristics or conditions that make them highly likely to develop the condition or disease. (e.g. preventing alcohol use problems in conduct disorder youth). This classification makes an understanding of etiologic mechanisms possible that is essential to the efficient and effective design and implementation of prevention programmes (Ammerman et al., 1999).

Numerous researchers have pointed attention to the fact that prevention of alcohol problems faces the particular contradiction of the public health predicament. This contradiction is based on the fact that consumers in postmodern society on the one hand need protection against health risks, which are being increasingly recognized by experts, and that they, on the other hand, construct their basic identities as independent decision-makers. Consequently, preventive alcohol policy is a paradox: while contemporary societies have reached a high degree of manageability and technical competence in maintaining healthy life, new risks appear as life becomes more complex, rich in consumer experiences but increasingly dependent on technology (Holmila, 1997). These risks are so-called consumption risks, i.c. risks to the drinker's social environment and to society as a whole. The very fact that we know more about causes of troubles and ways of dealing with them is in itself important in arousing worry about threats to life, health, security and well-being. In this, evidence-based prevention is a reasonable societal response that will be grounded in scientific knowledge to insert high expectations of successful preventive actions in many public health areas. However, one needs to bear in mind that any attempts to regulate consumption publicly, on whatever grounds, will easily be interpreted as an infraction on the individual's independent decision-making and as unacceptable paternalism (Sulkunen & Simpura, 1997; Knibbe, 2006). Therefore, bearing in mind the dual nature of alcohol, it is important that measures try to differentiate between those whose drinking is associated with harmful outcomes and those whose drinking is not. (ICAP, 2005a).

Nowadays, health promotion professionals recognise that it takes more than information to change an individual's behaviour. Indeed, it is important to tackle factors such as health beliefs, readiness to change, and ways

of coping with challenges and stresses. As a result, programmes take a more holistic view, incorporating physical, mental, and social aspects. This holistic approach to prevention, combining both targeted and environmental approaches, has seen a move to community-centred programmes recognising the powerful social and cultural forces influencing individual behaviour (ALAC, 1999). Indeed, from this perspective the community is viewed largely as a collection of target groups with adverse behaviours and associated risks, and prevention operates largely through educational and treatment efforts to reduce alcohol related problems. This means that community prevention is not a strategy in itself, but rather is a mode of working that uses one or more prevention strategies. After all, alcohol problems are the outcomes of processes driven and sustained by the community at large. More extended information on (alcohol) prevention in the community can be found in section two of chapter 2 of this literature review.

1.2 Alcohol policy

"In the broadest terms, the purpose of alcohol policies in countries where alcohol beverages are permitted is to establish appropriate, realistic, and sustainable approaches that will help reduce alcohol related harms, promote safer drinking behaviours, and enhance the positive function of alcohol consumption for individuals and society" (Stimson et al., 2007: 73). Indeed, in addressing alcohol issues, policies need to balance a wide range of interests and considerations. In their *Framework for alcohol policy in the WHO European Region* (2006), the World Health Organisation acknowledges that the symbolism attached to alcohol and drinking often gets in the way of rational policy making. The policy challenge, therefore, is "both to accept the comfortable familiarity and the perceived positive aspects of alcohol consumption, and yet to take effective public health action to prevent or reduce alcohol related harm" (WHO, 2006: 10).

The Canadian Centre for Addiction and Mental Health (2004) has made an overview of generic characteristics of effective alcohol policies:

- The policy must create and sustain supportive social norms;
- there must be sufficient regulatory and enforcement infrastructure to achieve the desired effect;

- it must be targeted to system-wide change, and not just to individuals;
- it must be based on research and evaluation and include a match between the extent of the damage from alcohol and the potency of the intervention – more serious/extensive problems require more potent interventions;
- it must be developed in consultation with a broad range of stakeholders and affected local communities; and,
- the policy must be coordinated as part of an overall plan of action.

Alcohol policy across the European borders

The starting point for many alcohol policies is the population-level regulation of consumption through control of price and access to alcohol. Following Stimson and his colleagues (2007), we will argue that population-level measures alone a inadequate: they are unresponsive to the needs of different cultures and contexts, and may lack relevance to the requirements of at-risk individuals and groups. To overcome this, targeted interventions are a critical component. These may be aimed at particular populations, drinking behaviours, or drinking contexts. Therefore, we acknowledge that a successful design for alcohol policies – that is both realistic and sustainable – relies on balancing population-level measures with targeted interventions. Off course, as all policies, alcohol policies differ from country to country. Some countries have explicit alcohol-policies, in the sense of a guiding statement of how a given country wishes to promote wise consumption and reduce harms. In others, the concept 'policy' is less clearly formulated, and actions to influence consumption and drinking behaviour are often a mix of potentially conflicting aims of different government departments (Stimson et al., 2007).

Anderson & Baumberg (2006a) draw six categories which *alcohol policy comparisons* have to bear in mind:

a. Framework for policy
   - Definition of alcoholic drinks
   - National alcohol action plan
   - Workplace and drink-driving campaigns
   - School-based education

b. Risky environments
   - Drink-driving: blood alcohol limits and enforcement
   - Workplace restrictions

- Restrictions on drinking in parks and streets

c. Market restrictions
   - Monopolies and licences for production and retail
   - Off-license sales restrictions – days, hours, places, density

d. Young people
   - Minimum age to buy alcohol in law in bars and shops
   - Minimum age in shops

e. Marketing controls
   - Restrictions on TV, print or billboard adverts
   - Sports sponsorship restrictions

f. Tax and price
   - Alcohol tax rates for beer, wine and spirits
   - Taxes on alcopops
   - Link of tax to the price of alcohol

Differences in alcohol policy are seen for example in the coordination or overarching strategy that is better in one country in comparison with other countries. Areas where the European countries are relatively similar include blood alcohol limits for drivers, licences for alcohol sales, the existence of a minimum age at which alcohol can be purchased in bars, and some form of alcohol education in schools. In contrast, wide differences can be seen in the enforcement of drink-driving regulations (where large numbers in several countries believe they will never be breathalysed), the exact age at which young people can buy alcohol, limits on availability, and advertising restrictions. Most of all, the tax rates in different European countries show enormous variations, with the lowest rates found in southern and parts of central and eastern Europe (Anderson & Baumberg, 2006a).

To see the wider picture and go beyond the detail of these individual alcohol policies, the different policies have to be aggregated what inevitably will be selective. This also means that all elements where there is no good data available will have to be omitted. Bearing this in mind, the scale from a major Commission-funded project, the European Comparative Alcohol Study (ECAS) gives a good overview of alcohol policies in the EU. The overall purpose of ECAS was to evaluate the alcohol control policies in the EU member states (Luxembourg excluded) and Norway. One of the main research questions in the project was to analyse the similarities

and differences in alcohol control policies during the 1950-2000 period (Karlsson & Österberg, 2001). Based on this scale from 0 (no restrictions) to 20 (all restrictions), Anderson and Baumberg (2006a) found that countries in Europe varied from 5.5 (Greece) to 17.7 (Norway) giving an unweighted average of 10.5 (10.1 in the EU). All of the lowest values (below 8) lie in southern Europe (Portugal, Greece, Malta) and a cluster within central and eastern Europe (Austria, Czech Republic, Germany, Luxembourg). Although all values above 15 came from the northern European countries, the policy scores did not simply decrease from North to South, as shown by a high value in France compared to a relatively low value in the UK (Anderson & Baumberg, 2006a). Another finding of the ECAS analysis on alcohol related harm concerns the link between per capita alcohol consumption and the prevalence of alcohol related harm that is not disappearing, although it is much more nuanced and far less mechanical than suggested in the most simplistic interpretations (Simpura, 2001).

ALCOHOL PREVENTION AND POLICY: SOME ESSENTIAL ASPECTS

The concept *prevention* includes a wide variety of approaches. The traditional classification in primary, secondary and tertiary prevention has evolved and nowadays health promotion professionals recognise that it is important to tackle factors such as health beliefs, readiness to change, and ways of coping with challenges and stresses. As a result, prevention programmes take a more holistic view, incorporating physical, mental, and social aspects. This holistic approach to prevention, combining both targeted and environmental approaches, has seen a move to community-centred programmes recognising the powerful social and cultural forces influencing individual behaviour.

Alcohol prevention focuses on changing the behaviour of people experiencing problems with their drinking. In the alcohol field, good prevention consists of population-level measures combined with targeted interventions aimed at particular populations, drinking behaviours, or drinking contexts. This of course means that alcohol prevention cannot been seen apart from *alcohol policy* development. The purpose of alcohol policies is to establish appropriate, realistic, and sustainable approaches that will help reduce alcohol related harms, promote safer drinking behaviours, and enhance the positive function of alcohol consumption for individuals and society. However, the starting point for many alcohol policies is the population-level regulation of consumption through control of price and access to alcohol. Therefore, following the recommendations on good alcohol prevention, alcohol policy also needs to include balancing population-level measures combined with targeted interventions.

2. Alcohol prevention and the community

2.1 Alcohol prevention at community level: some conceptual issues

2.1.1 The challenge of the prevention paradox

As indicated in the objectives of the ECAT project, it is important to take the concept of the preventive paradox into account. It was Norman Kreitman (1986) who first drew attention to this phenomenon in relation to alcohol by stating that drinkers in the general population who exceed the safe limits advocated by various experts are undoubtedly at high risk of alcohol related harm, yet they contribute only a minority to the total numbers of alcohol casualties. Indeed, most problems still accrue to the lesser-drinking majority of the population simply because the latter group is much larger. The main implication of the preventive paradox is that it is not enough to control drinking among the heaviest drinkers, but efforts should also be targeted to the lesser-drinking majority in proportion to the harms present. Hence, where the prevention paradox applies, prevention investment targeted to high-risk groups are less likely to reduce population levels of drug-related harm than are those addressing the whole population regardless of risk level (Poikolainen et al., 2007; Rossow & Romelsjö, 2006; Stockwell et al., 2004). However, as a platform from which to advocate alcohol control policies, the preventive paradox has the disadvantage of implying that even moderate alcohol consumption is bad. Such an implication is unlikely to weaken public and political support for safe drinking campaigns and policies and, moreover, is probably not scientifically valid (Stockwell et al., 1996). As Lemmens (2001) summarizes it, the prevention paradox may be caused by a conceptual omission or model misspecification: by neglecting drinking pattern, one may overlook the real causal link between drinking and certain indicators of harm. In analysing the prevention paradox, Skog (2006) therefore suggests that a sensible prevention policy needs to apply both targeted and population strategies. Furthermore, he argues that measures ought to be aimed at both drinking pattern, consumption level, as well as drinking contexts. A sensible policy should be a mix of these elements, and the mix will have to vary across drinking

cultures, depending on drinking habits and the nature of the problem, as well as on political judgement of what is gained and what is lost.

2.1.2 Communities as the target for health interventions

There is a growing recognition that communities are instrumental in developing responses and interventions aimed at improving the safety and well-being of their citizens. The strength of communities lies, among other things, in greater awareness about the reality of problems facing them, direct knowledge of the particular needs of those who live within them, and awareness of matters in need of change. The likelihood of first-hand experience of community members with various problems and risks also ensures that a broader range of groups and sectors may become involved in comparison to when the responsibility for reducing problems is left to national-level government and law enforcement (Stimson et al., 2007). This indicates that within a community model, prevention is viewed as a process, not an event (Ryan & Reynolds, 1990). Shiner et al. (2004) (also in Conway et al., 2007) distinguish, in very simplistic terms, 3 'types of community intervention models':

- *Professional network*: made up of agencies which are responsible for coordinating efforts around the goals set by central government. These networks, based on expert knowledge and professionally defined codes and protocols, often leave little room for involvement of those outside of the professional group.
- *Community partnership*: where community members and professionals come together on a more or less equal footing, and a community partnership is formed;
- *Grass-roots community initiative*: this initiative may be created when members of a community come together over a particular issue which they consider important. The initiative unfolds as the group continues to meet and is not defined by professional interests although in time it may evolve into a community partnership.

The first programmes aimed at changing the behaviour of a community were the Stanford Heart Disease Prevention Programme (SHDPP) in the United States (1971), which was initiated in three communities, and the North Karelia programme in Finland (1972). Both were aimed at tackling

risk factors for coronary heart disease and included a variety of approaches such as:

- education through mass media;
- meetings and campaigns at work sites and schools;
- training of health professionals, teachers and volunteers;
- strengthening the role of existing health services by training personnel and setting up support services;
- improved patient data follow-up (ALAC, 1999).

Holder and Giesbrecht (1990) state that, in designing community prevention strategies, we need to bear in mind that communities are dynamic, complex, differ in important ways, interact with prevention programs and function in ways that may be counter-intuitive. This does not only mean that people acquire their most fundamental and substantial experiences of social life outside their family but more importantly that communities are in constant flux of what prevention programs should adjust. Therefore, community dynamics must be accommodated in the design of prevention initiatives in order to evaluate the effect of the intervention. Social factors as well (e.g. socio-economic factors affecting substance use, the cultural history of the community, levels and tradition of law enforcement, …) are important in developing community-based prevention. To understand the characteristics of a particular community, researchers, policy makers and prevention workers need to engage in dialogue with community representatives before and during prevention initiatives. A natural extension of the complex and dynamic nature of communities is feedback or interactions between prevention projects and the community in which it is undertaken. Another natural extension is the frequent tendency of community-based actions to run counter to our expectations or intuition. After all, like most complex, dynamic systems involving feed-back, simple models of the community, based on personal experiences of prevention planners, can lead into a counter-intuitive trap which may lead to design prevention initiatives that are ineffective and even harmful. Thus, the dynamics and complexity of a community makes it difficult to design and effectively implement ready-made prevention interventions. This is in close contrast with the expectations from community members and political leaders for short-term effects which makes them lose interest in prevention efforts that take time to implement and even longer to reduce problems or high-risk behaviour.

2.2 Community action on alcohol

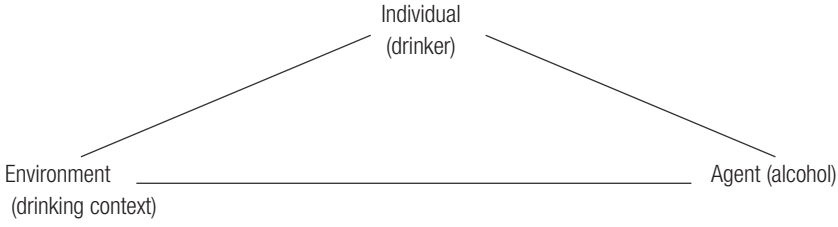
In recent years a number of community-based prevention trials have sought to reduce problems related to drinking by using a range of interventions and strategies. In these interventions, a combined set of activities is organized in a specific region or town, aimed at adolescents, as well as parents and other people and organizations. An important characteristic of such community interventions is that people living in the community play an important role in deciding which interventions are developed and for whom (Bracht & Gleason, 1990 in: Cuijpers, 2003b). Holder (1999) describes a community as a set or sets of persons engaged in shared socio-cultural-politico-economic processes, which interact to such an extent that prevention efforts, to be effective, must be directed towards system-wide structures and processes. The increasing popularity of community interventions results from a growing consensus between researchers and the work field on the idea that a combination of several interventions on different levels is more effective than single interventions. However, community-based prevention research endeavours are commonly overshadowed by broader secular changes pertaining to taxes on alcohol, media attention to particular problems or benefits, or dramatic changes in funding agendas (Giesbrecht, 2003; Cuijpers, 2003). Nevertheless, enacting policy at the community level has a number of advantages. First, local citizens are close to where alcohol problems are experienced personally. It is the community who has to deal with drinking drivers and injuries and deaths from crashes involving alcohol-impaired drivers. It must provide hospital services and emergency medical services, and work with personal rehabilitation and recovery. Alcohol problems are personal experiences for community members, and efforts to prevent or reduce future problems are also a personal matter. Furthermore, policy can create, in a local forum, debate between opposing community groups and individuals and thus draw news media attention to such issues (Holder, 2004). For this reason, Wandersman & Florin (2003) argue in favour of multi-component interventions combining individual and environmental change strategies across multiple settings to prevent dysfunction and promote well-being among population groups in a defined local community.

All of this indicates that community action is not a strategy in itself, but rather a working method using one or more prevention strategies. After

all, alcohol problems are the outcomes of processes driven and sustained by the community at large. These processes have the potential to affect all members of the community, but – because of individual and environmental factors[1] – produce adverse effects in certain groups more than in others. Consequently, it is important that we look at the use of alcohol from the environment of the drinker and the elements that play a role in that.
The three most important environmental factors are:

- The *physical* environment (proximity of alcohol outlets, places of public drinking, …)
- The *social* environment (family, peers and larger social networks, media, …)
- The *economic* environment (alcohol cost or difficulty to obtain)

Public Health Model of Alcohol Problem Prevention (Holder, 2006)



The community response on alcohol problems thus also includes action, which is preventive in a primary sense. This would include measures incorporated in public policy, such as the availability of alcohol-free beverages and leisure points and the influence of health promotion. Although many of these issues are inevitably outside community control, their implementation and priority are often local issues (Hannibal et al., 1995). Community actions on alcohol are a purposive effort to influence the way in which people drink or think about drinking, which takes place in a community context. These efforts are broader than interventions emanating from one source, such as carried out in an educational or health institution. Instead, community action involves alliances between

1 On the individual level, problem drinkers disproportionately contribute to drinking problems (i.e. each problem drinker generates more drinking-related problems than each non-problem drinker). Nevertheless, because more people who consume alcohol cannot be classified as problem-drinkers, the majority of drinking-related problems arise from non-problem drinkers. As a result, community-based prevention efforts should seek efforts to address these wider scale problems caused by non-problem drinkers (rather than those caused by problem drinkers) (Treno & Lee, 2002).

several sectors and often results in a multifaceted approach (Edwards et al., 1994: 175-176).

2.2.1 Communities and their subsystems

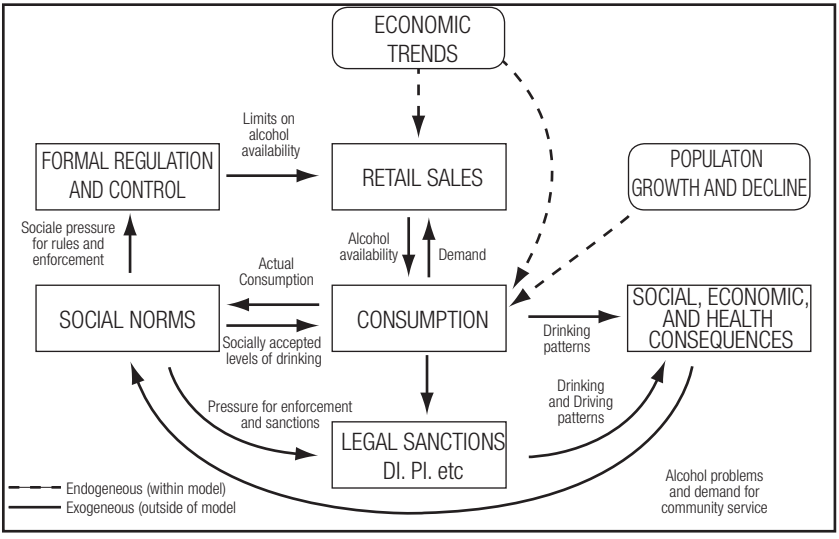
It is clear that communities do not form a single unity but are formed by several elements making that the totality of community life is a combination of various transient and partial communities. Some of them are more enduring (like family ties), others consist of seemingly superficial and passing social ties (like friendships in the local pub) (Holmila, 1997). Therefore, the intention is to reduce the collective risk through appropriate interventions affecting community processes. Rather than basing prevention strategies on single assumptions about deterministic behaviour, the community approach employs interventions that alter the social, cultural, economic and physical environment in such a way as to promote shifts away from the conditions that favour the occurrence of alcohol-involved problems. As Holder (1999) indicates, the community is a complex, open and adaptive system that will not be affected by prevention programs or efforts that make no changes in the system's structure or process. And this is exactly what happens in most contemporary prevention programs: they make no system changes and consequently, in the end, have little actual effect on alcohol problems. Even if such programs have the potential to affect a specific target group within the drinking population, self-adaptive community systems adjust – by their very nature – to prevention efforts and mitigate their long-term effects. Therefore, to bring about long-term reduction of alcohol-involved problems, one needs supporting scientific research necessary to a complex adaptive systems perspective.

Within the community, Holder (1999) identifies certain interacting subsystems that are natural groupings of factors that research has shown to be important in the understanding of alcohol use:

- *Consumption subsystem*: alcohol use as part of routine community life;
- *Retail sales subsystem*: alcohol availability and promotion;
- *Formal regulation and control subsystem*: rules, administration and enforcement;
- *Social norms subsystem*: community values and social influences that affect drinking;

- *Legal sanctions subsystem*: prohibitive uses of alcohol;
- *Social, economic and health consequences subsystem*: community identification of, and organized response to alcohol problems.

Figure 9: Interaction of community subsystems in the understanding of alcohol use (Source: Holder (1999)).



As *figure* 9 illustrates, the subsystems may interact in several ways. The consumption subsystem (1) both stimulates and receives input from other subsystems. The consumption of alcohol creates demand for alcohol as a retail product and thus stimulates the retail sales subsystem (2) which, in turn, creates the opportunity for marketing and purchase of alcohol, thus stimulating consumption. It also affects demand through sales promotion, setting of prices, and control over the convenience of alcohol's availability. Patterns of drinking influence patterns of drinking and driving, thus providing input to the legal sanctions subsystem (3) and related injuries and deaths, together with other alcohol-involved chronic and acute health and safety problems in the community provide input to the social, economic, and health consequences subsystem (4). Furthermore, the social norms subsystem (5) establishes the community's values or norms about drinking and influences the patterns of drinking in the community. In turn, the current actual level of drinking sets a standard for the future acceptable level of drinking. In other

words, the social norms subsystem reflects the concerns of a community about alcohol problems. An increase in drinking and driving problems, for example, can result in increased community concern which can, in turn, produce pressure (input to the legal sanctions subsystem) to increase police surveillance and attention to enforcement of the laws against driving under the influence of alcohol. Finally, the formal regulation and control subsystem (6) reflects the community's desires about the type and level of formal controls over alcohol sales. Depending upon social values, the forms of alcohol outlets can be controlled or restricted, e.g. via public monopolies on alcohol sales or restriction of the days and hours when retail sales are allowed. This subsystem regulates the retail sales subsystem, thus determining the overall level of alcohol availability. On his part, the form and extent of the retail sales subsystem is shaped by the regulations established in the formal regulation and control subsystem. These linkages illustrate how relationships among subsystems are established: the status and nature of a subsystem at any point in time is influenced by the other subsystems with which it interacts; but at the same time, this subsystem can influence the status and nature of the other subsystems (Holder, 1999).

2.2.2 Community prevention and policy: the need for a joined cooperation

Across the world, prevention of alcohol problems at the community level has typically utilized programs such as public media campaigns, alcoholism recovery efforts and school education. For the most part, local prevention strategies have been program-based, not policy or strategy based. Hereby, communities are typically seen as catchment areas of people. From this perspective, the community is viewed largely as a collection of target groups with adverse behaviours and associated risks, and prevention operates largely through educational and treatment efforts to reduce alcohol related problems. On the other hand, local public policy seeks to prevent alcohol problems through structural change. Thus, a local alcohol policy or strategy can best be described as "any established process, priority or structure that purposefully alters local social, economic or physical environment to reduce alcohol problems." More specifically, collective risk is being reduced through interventions affecting community processes influencing alcohol use (Holder, 2004).

This makes clear that there are challenges for an alcohol strategy at the local level. Local alcohol strategies rarely are highly visible, lacking lapel pins, balloons, posters, brochures, etc. Policies, by their very nature, do not usually naturally generate public spectacles or celebrations. However, local news coverage prompted by a local prevention effort can stimulate public attention to the need for and support of specific policies. Although public activities that bring attention to alcohol problems are almost certainly never sufficient, they have a valuable place in a spectrum of prevention strategies.

2.2.3 Community prevention: finding sensible solutions

As said before, the use of alcohol in a community needs to be understood in his historical context as well as from a socio-political point of view. The substance has acknowledged benefits as well as hazards what makes that the community response is often most evident in the balance between these competing attributes. According to Hannibal et al. (1995), some of these balancing influences on the character and prevalence of alcohol related problems in a community are:

- The availability of alcohol (including real price and restrictions on access),
- The economic significance of alcohol (including its fiscal benefits and importance as a source of employment),
- Laws governing the production and use of alcohol,
- Law enforcement policy
- Attitudes of drinking
- Attitudes to and conceptualisation of intoxication,
- Tradition of alcohol use,
- Alternative leisure pursuits and practises and their accessibility,
- Age structure of the population,
- Male-female ratio
- The availability of treatment services and their attitude to alcohol problems,
- The prominence of health promotion,
- The economic status of the community,
- Historical traditions,
- The role and status of the alcohol industry.

Some of these influences seem more clearly determined by national policy, while others have their roots in the community. However, the interplay of the strengths, traditions and preoccupations of the locality interpret and help to form national policy. Hereby, the state organizations may still take precedence over localities in decision-making over many issues, but in the end they need to implement their decisions on the local level (Hannibal et al., 1995; Holmila, 1997).

At the local level, policy makers can establish the priorities for community action to reduce risky drinking behaviour which, in turn, can reduce the number of problems in which alcohol is involved (Holder & Reynolds, 1997). There are several areas where local authorities typically have less influence than do regional or national domains. These include pricing of legal drugs, advertising, sponsorship and promotion, and minimum legal purchasing age, although commitment and related resources for enforcement tend to be local matter. In contrast, local authorities have considerable influence on other types of access to drugs, such as concentration of outlets, number of licenses issued, hours and days of sale, selling venues, selling and serving practices and on-site advertising. Both jurisdictions have influence with regard to norm related to consumption, comportment and policies related to high-risk behaviours (Giesbrecht & Haydon, 2006). American researchers state that communities are 'responsible' for the approach towards alcohol related problems. Responsible or not, alcohol problems are most visible at the local level anyway. A community is expected to react and rectify whenever the use of alcohol leads to serious problems. This counts concerning alcohol related street nuisance, violence, health damage and addiction problems. Thus, the concrete method of dealing with alcohol problems, in most cases, has to obtain his shape on community level (Dekker, 2006).

THE BASIC PROPONENTS OF ALCOHOL PREVENTION IN A COMMUNITY SETTING

There is growing recognition that communities are instrumental in developing adequate responses and interventions aimed at improving the safety and well-being of their citizens. Within this new framework, prevention is viewed as a process, not an event. This means that community dynamics must be accommodated in the design of prevention initiatives. Therefore, researchers, policy makers and prevention workers need to engage in dialogue with community representatives before and during prevention initiatives.

At best, community action is a mode of working that combines both targeted and population strategies are applied in order to create a sensible response to counter the prevention paradox. Therefore, it is important to take a look at the use of alcohol from the environment of the drinker (physical, social and economic environment), and at the different subsystems that determine alcohol use in the community. By altering these elements, the community approach promotes shifts away from the conditions that favour the occurrence of alcohol-involved problems. This also makes clear that there is a need for cooperation between policy makers and prevention developers. Indeed, one cannot make any system changes without policy makers backing up the planned prevention interventions. Even if the control or licensing of alcohol production and sale is at the state or national level, policies at the local level can be used to control various aspects of drinking likely to affect alcohol use and problems in the community (e.g. the number and site of retail outlets, the enforcement of laws regarding drinking driving and serving to intoxication).

3. Evidence based alcohol prevention

This section gives a description of the influence of the evidence based practice movement on alcohol prevention and policy. Furthermore, an overview of the community intervention options found to be effective on an evidence base is given. The following aspects will be discussed:

- Evidence based practice in the substance abuse field,
- Evidence based alcohol prevention,
- Evidence based alcohol prevention in the ECAT project.

3.1 Evidence based practice in the substance abuse field

The evidence based practice (EBP) movement has been gaining momentum for two decades, as medicine and then public health and the mental health professions seek explicitly to align health-care practices and policies with the best available scientific knowledge. Early conceptions of EBP emphasized the identification and restrictive use of treatments that were 'empirically validated' by randomised controlled clinical trials (RCTs), re-

garded as the 'gold standard' of evaluation research and as superior evidence compared to non-randomised observational studies of treatment effects and other forms of clinical research. These early views remain very much in force in some quarters. This perspective, however, is giving way to broader conceptions of evidence that incorporate variously other components of the health-care encounter, rely on meta-analyses of large bodies of clinical research and broaden the empirical foundation beyond RCTs as a basis for informing best practices and policies (Tucker & Roth, 2006). Garretsen & Van De Goor (2004) state that in many cases the most reliable and useful effect evaluations of policy measures can be obtained by combining quantitative effect research, such as RCT/CIT, with (more qualitative oriented) process evaluations. Besides evaluating for solid outcomes, or quantitative effects, it is necessary to obtain information on context and the entire progress of the process. After all, alcohol policy may benefit a lot from more and better insight into the effectiveness, or the outcomes, of different policy measures. This does not mean however, that it is always necessary to reach for the heavy and expensive means of RCTs/CITs. New activities, for example, may be accompanied, in certain cases, by only non-experimental, observational research first. Furthermore, the specificness of the substance abuse field cannot afford a view of evidence that is overly restrictive in focus or methodology, which is a real risk when following uncritically the research conventions of medicine and other health-care disciplines that value the RCT over all other forms of evidence for informing practice. RCTs are invaluable for addressing some research questions, especially for evaluating treatment efficacy. After all, health promotion is intrinsic a very complex action field and, secondly, RCTs are unrelated to the ideological and political objectives of health promotion. Indeed, like many applied research areas that are of social concern and have public health impact, the substance abuse field continues to be pushed towards the social, health, economic, political and humane imperative of finding the best available treatment or policy that reduces the harm and cost of substance abuse (VAD, 2006; Tucker & Roth, 2006).

In the substance abuse field, evidence based prevention therefore refers to prevention programs, strategies, and policies that have been rigorously tested under research conditions and found to be effective in preventing, delaying, or decreasing drug use behaviour and attitudes. There are two

noteworthy distinctions in this definition. Rigorous research conditions means that a program was tested with experimental or quasi-experimental controls, underwent peer review and showed longitudinal effects on measurable behavioural outcomes for a period of at least one year. Preventing, delaying, or decreasing drug use behaviour means that there were statistically significant changes in amount or prevalence rates of drug use in the program versus the control condition, not just changes in knowledge or attitudes (Pentz, 2003).

3.2 Evidence based alcohol prevention

Although it is gradually changing, the evidence base in alcohol research is still largely dominated by from Northern Europe and the Anglo-Saxon countries (ambivalence cultures). Since ambivalence cultures had perceived alcohol as a major problem for many decades, they invested much money in alcohol research, while the tolerance cultures did not. Therefore, a potential consequence of drawing on evidence from other countries is lack of relevance. Furthermore, the definitions used by the authors for the setting of the intervention may not correspond to what is traditionally used in Europe. All together, this makes that from the southern Europe and the Alpine countries point of view (where moderate alcohol consumption is seen as an integral aspect of their culture, and where only alcohol consumption in risky situations, excessive use and alcoholism are being problemised) several objections towards this approach can be made. For example, given the fact that most people like to drink an alcoholic beverage, the control and sanction approach proposed by Babor et al. (2003) can even be seen as undemocratic and as an expression of sympathy for a pseudo-democracy in which the elite manipulates the majority on a subtle manner in the most desirable direction (Uhl, 2004a, 2007). Therefore, for the results to have policy significance for Europe, there is a need to broaden the evidence base across countries and cultures. Bearing in mind the dual nature of alcohol, it is also important that measures try to differentiate between those whose drinking is associated with harmful outcomes and those whose drinking is not. (ICAP, 2005a).

3.3 Evidence based alcohol prevention in the ECAT project

As said before, prevention needs to be linked with policy. In consequence, in order to classify the several possible prevention strategies, we have chosen to give an overview of possible community interventions, which later on can be translated in an effective community prevention strategy. The classification used in this literature review is largely based upon the one used in the *Alcohol in Europe Report* by Peter Anderson and Ben Baumberg (2006a). However, because it is important for the ECAT project to focus on measures applicable in a community setting, effective interventions such as price and tax measures, warning labels on alcohol products, lowered BAC levels, ... are left out in this overview. Alfred Uhl (2004a) indicates that the conclusions drawn by Anderson & Baumberg (2006a) are based on a mere technic-functional analysis of intervention possibilities: they consequently opt for comprising control and sanction measures and, at the same time, the proposed strategies are based on the health promotion principle. Hereby, the basic assumption is that only population based measures, i.c. measures proposing a steady diminishing of alcohol consumption in the society as a whole, are effective. On the other hand, measures aimed at individuals with problematic alcohol use are seen to be ineffective. For this reason and, as said before, in order not to fall into the trap of the prevention paradox, the ECAT project chooses for an approach that applies both targeted and population strategies. Furthermore, measures ought to be aimed at both drinking pattern, consumption level, as well as drinking contexts. The ECAT prevention campaign will be a mix of these elements, and this mix will have to vary across the different ECAT communities, depending on drinking habits and the nature of the problem, as well as on political judgement of what is gained and what is lost. Indeed, it is important to introduce measures that are applicable in different community settings and contexts. Therefore, the summed up measures have to be nuanced and take into account the important role alcohol plays in societies around the world and the fact that it is tightly woven into the fabric of normal social life in many of them. Indeed, each region is characterized by its own idiosyncratic array of beliefs, attitudes and rituals around alcohol and its appropriate place within everyday life. As a result, a one-size-fits all approach cannot be applied in every setting and its effectiveness is likely to vary.

The alcohol prevention interventions – in their broadest sense – applicable in a community setting are grouped within five headings:

- Interventions that reduce drinking and driving,
- Interventions that support education, communication, training and public awareness,
- Interventions that regulate the alcohol market,
- Interventions that support the reduction of harm in drinking and surrounding environments,
- Interventions that support interventions for individuals.

3.3.1 Interventions that reduce drinking and driving

Countermeasures aimed at drinking and driving are intended to change the behaviour of people who might drive while intoxicated and also to sustain the behaviour of those who seldom or never drive if over the local BAC limit (ICAP, 2005).
Following interventions to reduce drinking and driving will be discussed shortly: Community programmes, Random Breath Testing (RBT), server training, designated driver and ride services, and school based education courses.

Community programmes
Alcohol impaired driving is a complex problem that includes various dimensions such as alcohol abuse, underage drinking, and other social concerns. Therefore, solutions need to be equally complex and wide-ranging, demanding a comprehensive, creative and flexible approach. As a result, solutions must take into account drinking patterns and groups particularly at risk. However, without government commitment, measures aiming to prevent impaired driving can have little long-term or sustainable positive effect. As demonstrated in 'The Saving Lives Program', drink-driving measures appear to have increased effectiveness when incorporated as part of community prevention programmes that include public information. Thus, prevention efforts to reduce the occurrence of impaired driving are most effective when stakeholders from various sectors and disciplines work together (ICAP, 2005; Hingson et al., 1996).

Publicity campaigns, backed up by enforcement, have been shown to reduce the incidence of crashes involving alcohol. Yet, without effective legislation, raising awareness through publicity campaigns and public information schemes remains a short-term action, of limited value in influencing people's driving behaviour. Experience from highly motorized countries demonstrates that awareness, enforcement, and sanctions through the legal system are needed to make clear that alcohol-impaired driving is unacceptable (Stimson et al., 2007).

Random Breath Testing (RBT)

Random or unrestricted breath testing means that motorists are stopped by police and required to take a breath test, even if they are not suspected of having committed an offence or been involved in an accident. The rationale for the use of such checkpoints is based on deterrence theory: the primary goal is to reduce driving after drinking by increasing the perceived risk of arrest. Shults et al. (2001) found twenty three studies of random breath testing, providing strong evidence that random breath testing sobriety checkpoints are effective in preventing alcohol-impaired driving, alcohol related crashes and associated fatal and nonfatal injuries.

Server training

In the recent decade, attempts to reduce alcohol related harm have targeted the settings in which drinking takes place. These training programs provide education and training to servers of alcoholic beverages with the goal of altering their serving practices to prevent patron intoxication and alcohol-impaired driving. Concerning alcohol-impaired driving, Lang et al. (1998) found no success coming from intervention training programs for servers of alcoholic beverages. However, when implemented as part of a more comprehensive community-based approach, responsible server programmes have been found to be effective, particularly for night-time crashes amongst young people (Wagenaar et al., 2000). There is review-level evidence to suggest that intensive, high quality, face-to-face server training, when accompanied by strong and active management support, is effective in reducing intoxication levels in customers (Mulvihill et al., 2005). Server training interventions thus are most effective when coupled with enforcement and formal or informal agreements or partnerships between police, licensed premises, and local communities.

Designated drivers and ride services

As Ditter et al. (2005) declare, there is no universal definition of what exactly is a designated driver. "The most common definition requires that the designated driver abstain from all alcohol, be assigned before alcohol consumption, and drive other group members to their homes". In practice, it appears that only a minority of designated drivers remain completely sober. Moreover, many people may apply the designated driver concept in ways that are unsafe (e.g. the designated driver may be chosen based on who in the group is the least intoxicated). These differences between the ideal of abstinence and the actual behaviour of designated drivers may result in smaller public health benefits than would be expected under the assumption of abstinence.

Good Practice: The EuroBOB Campaigns

EuroBOB is an awareness campaign, originally launched in Belgium, to educate the public regarding the dangers of alcohol-impaired driving and to promote the concept of choosing a designated driver ('BOB' – 'Bewust Onbeschonken Bestuurder' in Dutch) before a night out. Campaign elements include billboards and posters distributed to schools, police stations, public buildings, cafés, bars, and restaurants; TV and radio spots; the Internet (*http://www.bob.be*); and articles and advertisements in magazines of the Belgian Road Safety Institute intended for road safety professionals and the police. Today, variations of the EuroBOB are active in several other European countries, e.g. Greece ('Not Tonight'), the Netherlands ('Bob jij of Bob ik?'), Spain ('Programa un conductor cada noche'). The programs are run in partnership with a variety of transport, safety, hospitality, and sports associations, agencies, and government departments (Verenigde Verkeers Veiligheids Organisatie, 2002).

School based education courses

The onset of alcohol use begins for many adolescents well before they reach the legal drinking age. One of the consequences of this given is involvement in alcohol related motor vehicle crashes and the resulting deaths and injuries. A systematic review of the literature to assess the effectiveness of school-based programs for reducing drinking, driving and riding with drinking drivers by Elder et al. (2005) identified thirteen peer reviewed papers or technical reports. These papers evaluated three classes of interventions: school based instructional programs, peer organizations and social norming campaigns. The instructional programs nearly all had some interactive component, rather than being purely didactic in

their approach. There is sufficient evidence to recommend these programs as effective school-based instructional programs for reducing riding with drinking drivers. However, there is insufficient evidence to determine the effectiveness of these programs for reducing drinking and driving. Due to the small number of available studies, there is also insufficient evidence to determine the effectiveness of peer organisations and social norming campaigns.

3.3.2 Interventions that support education, communication, training and public awareness

This part of the overview is concerned with attempts which seeking health interest among the public to bring about changes in alcohol related attitudes and beliefs, and hence in drinking behaviour. The following interventions will be discussed: mass media and counter advertising, public service announcements, counter advertising, media advocacy and school based education (in combination with community interventions).

Mass media, counter-advertising, public service announcements and media advocacy

People, are exposed to multiple sources of alcohol advertising. Most people, including adolescents, go to the supermarket where they can see alcohol linked with the necessities of life. Others see alcohol promotions in liquor stores, when they participate in 'good time' outings such as sports events and music concerts, and when they read sports, news, music and other magazines. Helping people, in particular children, become aware of and able to counter these forms of advertising is the most important component of mass media and counter-advertising (Ellickson et al. 2005). Theory suggests that, as with other preventive health efforts, mass media campaigns are most likely to have effect if their messages are reinforced by other efforts (Elder et al., 2004).

Counter-advertising involves disseminating information about a product, its effects, and the industry that promotes it, in order to decrease its appeal and use. Counter-advertising can be included in community programs. Tactics of counter-advertising include media literacy efforts to raise public awareness of the advertising tactics of the alcohol industry, health-warning

labels on product packaging, as well as prevention messages in magazines and on television. However, there is nothing in the research literature to suggest that counter-advertising offers powerful outcomes within realistically available budgets and the findings on effectiveness are typically qualified by message, source, and audience factors (Babor et al., 2003; Agostinelli & Grube, 2002).

Media advocacy is the strategic use of mass media to advance a social or public policy initiative. In relation to alcohol, mass media health promotion campaigns are used to educate the public about alcohol issues with the aim of influencing individuals to change their drinking behaviour (Reynolds, 2006; Hill, 2004). It can be used to reinforce community awareness of the problems created by alcohol use and to prepare a specific ground for specific interventions. Indeed, public information and education have been cornerstones in most community prevention projects worldwide. However, the scientific evidence about mass media communications in alcohol-problem prevention have demonstrated that public information efforts can increase public awareness about drinking problems but produce little if any behavioural change (Holder & Treno, 1997). Nevertheless, media advocacy as the purposeful use of local news to support policy initiatives has become an increasingly popular tool in local efforts. This approach complements health and community-action campaigns and is based on the view that public health problems are the result of social, economic, and political conditions. Media advocacy is usually undertaken as a component of a multi-faceted, community-action initiative or in connection with regulatory changes, law enforcement, community mobilization, and monitoring of high-risk behaviour (Holder, 2004).

Public service announcement (PSAs) are "messages prepared by non-governmental organizations, health agencies or by media organizations for the purposes of providing important information for the benefit of a particular audience" (Babor et al., 2003). Applied to alcohol, PSAs usually deal with 'responsible drinking', the hazards of driving under the influence, and related topics. Despite the good intentions of PSAs, they are considered an ineffective antidote to the pro-drinking messages that appear much more frequently as paid advertisement in the mass media. Martin (1995) indicates that, in general, there is a need for more re-

search to find out what audiences perceive and understand from mass media campaigns.

School based education

A major reason for starting early with prevention towards youth can be found in recent research by Hingson and his colleagues (2006). They found that the younger the age at which people start to drink, the greater the likelihood of developing alcohol dependence within 10 years of drinking onset and before age of 25 years. Furthermore, the younger the age at drinking onset, the stronger the subsequent association with chronic relapsing dependence, characterized by multiple episodes, past-year dependence, and, among dependent persons, episodes of longer duration and a wider range of symptoms.

Informational approaches

The aim of alcohol education in school settings is to teach students about the dangers of alcohol and ultimately prevent underage drinking. School based interventions developed during the 1970's and 1980's relying solely on informational approaches and teaching students about the effects and the dangers of alcohol use have not been found to be effective. Although they can increase knowledge and change attitudes toward alcohol, the findings of numerous evaluation studies indicate that actual substance use remains largely unaffected (Botvin et al., 1995; Babor et al., 2003).

Good Practice: The School Health and Alcohol Harm Reduction Project (SHAHRP), which aimed to reduce alcohol related harm in secondary school students, forms a good example of a well-designed study (McBride et al., 2004). The study found that the students in the intervention group were significantly more likely to be non-drinkers or supervised drinkers than were comparison students (31% difference). But, differences were converging 17 months after programme delivery (the total amount of alcohol consumed by intervention and comparison had lessened to a 9% difference). Intervention students were also less likely to drink to risky levels after the first phase of the programme at 8-month follow-up (26% difference), but by 17 months the difference was only 4%. The study makes clear that a harm reduction programme which does not solely advocate non-use or delayed use can produce larger reductions in alcohol consumption than either classroom-based or comprehensive programmes that promote abstinence and delayed use. After all, young people are capable of processing complex messages that are relevant to their life experiences.

Resistance and normative education approaches

There is some evidence for effectiveness in regard to school and university based resistance and normative education interventions, but in general, scientific evaluations of such interventions have produced mixed results with regard to alcohol (Hansen, 1992; Marlatt, 2002), including educational programmes based on the social norm concept (Mattern & Neighbors, 2004). The social norms approach provides a theory of human behaviour that has important implications for health promotion and prevention. It states that our behaviour is influenced by incorrect perceptions of how other members of our social groups think and act. Social norms interventions focus on peer influences, which have a greater impact on individual behaviour than biological, personality, familial, religious, cultural and other influences (Perkins, 2002). Research suggests that these peer influences are based more on what we think others believe and do (the "*perceived norm*") than on their real beliefs and actions (the "*actual norm*.") This gap between "perceived" and "actual" is referred to as a "misperception" and its effect on behaviour provides the basis for the social norms approach. Thus, providing normative feedback to correct misperceptions of norms is the critical ingredient of the social norms approach (Berkowitz, 2004). LaBrie et al. (2007) investigated a group adapted Motivational Interviewing Based intervention[2] – based on social norms feedback and expectancy challenge – to reduce problematic drinking and alcohol related consequences in freshman male college students. The study provides evidence for such interventions with groups, in contrary to other studies investigating interventions with individual college students. The intervention appeared most effective with frequent binge-drinkers.

Media literacy

To teach young people to resist persuasive appeals of alcohol advertising, some school-based initiatives have used media literacy efforts. Some initiatives produced small positive effects on resistance to such advertising, and

2 Motivational interviewing is a specialist method developed in the addictions field for helping people with severe behaviour change difficulties (Miller & Rollnick, 1991). William R. Miller has found a way of training counsellors to encourage curiosity, question-asking and personal reflection among clients about the meaning of information provided to them, what can have a powerful effect on people's decision-making. During the process of motivational interviewing, the main goal is to encourage patients to produce arguments for change, and ways of achieving it, rather than have these presented to them by the practitioner (Rollnick et al., 1999).

reductions in drinking and in the number of times young people went to 'high-risk social environments' (Anderson & Baumberg, 2005).

Family and community interventions

The impact of alcohol misuse on the family, in the form of marital and family disruption, domestic violence, financial difficulty, and risks to children are generally acknowledged (Orford et al., 2007). Although well-designed evaluations of programmes including both individual-level education and family interventions suggest that these comprehensive programmes may not be sufficient to delay the initiation of drinking, or to sustain a small reduction in drinking (Anderson & Baumberg, 2006a), parents in particular have an important influence on the alcohol-use of their children. This influence goes partly through genetic factors, while there also exist protective characteristics of families reducing the risk of alcohol use by children (such as a good binding between parents and child, family-involvement with activities of the child outside the family and parental monitoring of the activities and relations of the child outside the family (Trimbos Instituut, 2006).

Engels (2006) gives some recommendations concerning the influence of parents on the drinking of their children: parents do have an influence and the parents who are aware of this influence are more effective in preventing drinking behaviour. Parents also have to make clear rules, which have an influence on the children's starting age of drinking. In their research on adolescents' alcohol-specific socialisation behaviour, Van der Vorst and colleagues (2005) found that this association is even more robust since the association was found for younger and older adolescents and on the basis of reports of different family members on alcohol-specific socialisation. This results make clear that family factors should also be taken into account in health promotion projects: parents' awareness of the relevance of alcohol-specific socialisation in reducing alcohol consumption can indeed be very important. In concrete, they recommend that parents get advised to be strict on young adolescents and to keep this strict attitude when their kids grow older.

Because of the high social acceptability of alcohol use, as well as the widespread experimentation with alcohol during adolescence, Ellickson and his colleagues (2001) suggest that curbing alcohol misuse may be a more attainable goal than preventing any use. They found that early

school-related problems, reflecting both poor psychosocial adjustment and limited academic achievement, are important markers for future problem drinking by late adolescence. Therefore, they suggest that prevention efforts should begin by early adolescence, address both familial and peer influences to drink and use other substances, and take into account problems that also predict alcohol misuse.

Despite many years of research, the effect sizes for most school-based programmes are small and program failures are common. Although reviews indicate that prevention programmes have large effects on the knowledge and attitudes of scholars, this doesn't necessarily results in a change in drinking behaviour. This suggests that, until there is more evidence for effectiveness, it is not a good use of scarce resources to invest heavily in school based education programmes (Anderson & Baumberg, 2006a; Trimbos Instituut, 2006). However, it must be stated that a lack of effectiveness does not always imply that a measure should not be implemented. Indeed, the fact that no studies have shown sustained effects of education does not prove that such effects do not exist. It is possible that these activities have long-term effects which are very hard to separate from other influences and documents in scientific studies. Consequently, it would be very risky to stop alcohol education in schools (Romanus, 2003). Furthermore, campaigns may play an important role in extending the knowledge/familiarity with the treatment sector (Garretsen & Van De Goor, 2004).

Based on the existent evidence of effective programmes, Anderson & Baumberg (2006a) suggest that evidence based implementation and practice research should enhance the school education program development and reinforce school alcohol education as an important strategy in a community approach for dealing with youth alcohol issues. Furthermore, they argue that *school based education programmes can be improved by*:

- adopting adequate research design,
- encouraging program planners to adopt a formative phase of development that involves talking to young people and testing the intervention with them and their teachers,
- providing the program at relevant periods in young people's development,
- ensuring programs are interactive and based on skill development,

- setting behaviour change goals that are relevant and inclusive of all young people,
- including booster sessions in later years,
- including information that is of immediate practical use to young people,
- including appropriate teacher training for interactive delivery of the program,
- making effective programmes widely available,
- adopting marketing strategies that increase the exposure of effective programmes.

3.3.3 Interventions that regulate the alcohol market

From a historical point of view, efforts to control alcohol's availability through the regulation of the alcohol market have been based on the view that 'less is best', i.e. the less that alcohol is available the better for public health and safety. However, from a modern perspective, this idea presents a deterministic view that runs counter to many experiences of alcohol researchers. In general, the research does not seem to support the notions that greater availability invariably leads to greater levels of drinking, and that changes in average drinking levels invariably lead to greater excessive drinking and problems (Stockwell & Gruenewald, 2001). Furthermore, it should be noted that implementing most measures to regulate the alcohol market is a matter on which decisions are made at the national level and thus are difficult to implement on a community level without having the back up of national legislation. Such interventions may be contemplated at the local level, and in some cases, carried out there. However, if enacted at higher levels of government their potential for impact is considerable, although at this level the commercial stakes are higher and therefore challenges to these agendas will be greater (Giesbrecht, 2003).

Nevertheless, in this section evidence will be outlined for the view that some restrictions on alcohol's availability do indeed usually reduce alcohol consumption and related harm but not without mentioning the limitations of these measures (including the idea that extreme forms of restriction sometimes produce adverse outcomes). The following measures will looked at: number of outlets and outlet density.

Number of outlets and outlet density

Outlet density refers to the number of outlets available for the retail purchase of alcohol. In most Western countries there has been an increase in the number and type of outlets at which alcohol can be sold. In many countries without a long tradition of public access to alcohol, availability has been introduced and expanded with little in the way of regulatory controls on the manner of its sale and promotion (Stockwell & Gruenewald, 2001). Several studies indicate that the smaller the number of outlets for alcoholic beverages, the greater the difficulty is in obtaining alcohol. This situation is likely to deter alcohol use and problems (Anderson & Baumberg, 2006a). Although this kind of associations between densities of licensed premises, alcohol consumption and harm are widely reported, it is a complex statistical task to establish causal relationships between changes in the density of licensed premises and these outcomes. The multifaceted determinants of drinking and problems in local settings are such that observed statistical associations may be due to a host of unmeasured characteristics relating human activities to drinking places and problems (Stockwell & Gruenewald, 2001).

The classical micro-economic theory of consumer demand suggests that, should the physical availability of alcohol fall to zero or the price of alcohol rise to infinity, all drinking would be eliminated and the costs of finding and then purchasing alcohol would far exceed the time-energy and economic budgets of consumers. However, the meanings of alcohol supply and demand take on new significance within the context of small community areas. When changes in the availability of alcohol are more local, there may be no effect. Indeed, in the local case it is possible to travel outside the local geographic area to obtain alcohol (Gruenewald, et al., 2000). Further, equivalent reductions in local areas can have different effects: a 10% reduction in the number of outlets in high density areas will have negligible effects on the distances between people and outlets, while a 10% reduction in the number of outlets in low density areas may result in the elimination of the only outlets easily accessible by drinkers (Anderson & Baumberg, 2006a). Weitzman et al. (2003) found associations between outlet density, heavy and frequent drinking and drinking-related problems among college students. In close relation to these findings, Dent et al. (2005) found associations between the number of commercial sources of alcohol and binge drinking and drinking in inappropriate places for students.

Two general conclusions emerge from the literature on alcohol outlet density. First, there is a positive association between density and certain drinking-related problems, including traffic crashes and assaultive offences. Second, this relation is complex, and actual alcohol volume sold is a stronger predictor than density per se (Giesbrecht, 1997).

3.3.4 Interventions that support the reduction of harm in drinking and surrounding environments

The central argument in this section is that creating safer licensed environments is primarily a regulatory problem, not just an alcohol problem, and that formal enforcement is a necessary but not sufficient tool for creating a culture of compliance. Subsequent intervention measures will be shortly described: Responsible beverage service (RBS), active enforcement, enforcement of on-premise regulations, safer bar environment/containers and community mobilisation approaches.

Responsible beverage service (RBS)

Like many social movements, Responsible Beverage Service (RBS) began in North America, predominantly focussing on the prevention of drinking and driving, mainly through training bar staff and their managers to limit levels of intoxication attained by their customers. These programs employ a variety of techniques to prevent intoxication, including observing patrons and being able to recognize intoxication, promoting non-alcoholic and low-alcohol drinks; serving well priced, attractive and well-marketed food low in salt content; and training staff in techniques for monitoring patrons and adjusting service as necessary (Homel et al., 2001; Stockwell, 2001b; Anderson & Baumberg, 2006a).

Influencing alcohol consumption in bars by offering educational programmes to servers has received some attention during the last decades (Johnsson & Berglund, 2003). Nearly all evaluations in training bar staff in responsible beverage service when backed up with enforcement have demonstrated improved knowledge and attitudes among participants, although this tends to wear off over time (Hauritz et al., 1998). While Johnsson and Berglund (2003) demonstrate that there are also some effects on serving practices, Donnelly and Briscoe (2003) didn't found these effects. In terms of effects

on customer intoxication, there are several indications that server training results in lower BAC levels of customers in general and fewer customers with high BAC levels. Moreover, there is evidence that training is associated with fewer visibly intoxicated customers and fewer single-vehicle night-time injury-producing crashes (Stockwell, 2001b; Anderson & Baumberg, 2006a). Walllin et al. (2003) found that responsible beverage service programs also show reductions in violence.

Active enforcement

Active enforcement is a requirement for effective deterrence while effective deterrence requires the perception of

- Certainty
- Swiftness
- Severity (Reynolds, 2006)

As previously cited, the impact of responsible beverage service is greatly enhanced when there is active enforcement of laws prohibiting sale of alcohol to intoxicated customers. After all, creating safer licensed drinking environments is primarily a regulatory problem, not just an 'alcohol problem', and formal enforcement hereby is a necessary but not sufficient tool for creating a culture of compliance (Homel et al., 2001). However, a multi-community time trial indicates that most of the enforcement effects of enforcement checks to prevent alcohol sales to minors decayed within three months, suggesting that a regular schedule of enforcement activity is necessary to maintain deterrence (Wagenaar et al., 2005).

Enforcement of on-premise regulations

Bars can be risky places, due partly due to untrained or violent bar staff. Although the effects of alcohol and the personality of the drinker play a role in alcohol related aggression, the social context for drinking also plays a role. Therefore, bars and clubs are important targets for prevention interventions because they are high-risk settings and, moreover, because these are licensed public environments, impact can be maximized through policies and legislation (Graham et al., 2004).

Interventions designed to help bar management identify problems and make plans to change aspects of the bar environment (including physi-

cal environment, policies, and staff characteristics) have been identified as increasing the risks of aggression, violence and injury (Graham, 2000). A good example of such an interventions is the 'Safer Bars' program developed in Canada that includes a risk assessment and a training component for owners, managers and all staff. In general, the results of the Safer Bars intervention suggest that the programme had an impact on reducing physical aggression in bars whereby the effect was most apparent for severe aggression and for moderate aggression with definite intent. However, the effects were lessened when there was high turnover of managers and door and security staff (Graham et al., 2004).

The behaviour and practices of licensed venue operators and staff, police, liquor authorities, local government and local business all contribute to the incidence of alcohol related problems. All of these stakeholders are capable of operating in a way that can reduce the likelihood and severity of alcohol related harms. Success in reducing intoxication, offending and harms will most likely occur by simultaneously addressing many negative features of licensed drinking environments. Participation of appropriate agencies and service providers will enhance likelihood of success (Doherty & Roche, 2003).

Safer bar environment/containers

Attractive, nicely furnished, well-maintained premises give a message to the patron that the managers do not anticipate physical violence and associated damage to furnishing. Aggression in bars has also been found to be associated with poor ventilation and smoky air, inconvenient bar access and inadequate seating, high noise level and crowding (Homel et al., 2001). Furthermore, a RCT conducted by Warburton and Shephard (2000) comparing conventional glassware with tempered glassware found an increase in injuries to staff from accidental breakage of tempered glassware.

Community mobilisation approaches

Community 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 bar-related issues such as noise level and customer behaviour (Anderson & Baumberg, 2006a).

In order to explore the topic of community-based trials in a comparative frame, Giesbrecht (2003) examined and summarized 10 projects, of which six focused on alcohol. He found that strategies included education and information campaigns, media advocacy, counter-advertising and health promotion, controls on selling and consumption venues and other regulations reduced access to alcohol, enhanced law enforcement and surveillance, and community organizing and coalition development. Promising interventions were those paying particular attention to controls on access, included the environmental contexts and involved enforcement of public health policies. Another strategy that has been used when problems in bars are concentrated in a specific identifiable geographic area, is for bar owners to agree to a code of practice that limits some of the major risk factors for intoxication, violence, and related problems. Indeed, bar owners' association provides a useful starting point for raising awareness. However, voluntary policies may need to be combined with enforcement in order to ensure a level playing field in terms of risky practices that may give some bars a competitive advantage in attracting patrons (Graham, 2000).

3.3.5 Interventions that support interventions for hazardous and harmful alcohol consumption and alcohol dependence

A continuum of problems from minor to major, from single to multiple, from one-time events to sustained dependence or chronic illness, will require a continuum of responses. Within those responses, treatment and prevention are complementary and often merged activities within the total public health activity (Edwards et al., 1994). Therefore, in this section, social welfare based programmes, workplace based and brief interventions will be discussed.

Social welfare based programmes

CRA Treatment – Community Reinforcement Approach

In CRA treatment, principles for operant behaviour modification are combined with social system theory, where aspects of the local community are used to award behavioural change. Specific treatment is more effective than non-specific treatment. Specific treatment has a theoretical base, is conducted by therapists with specific training, and is manual guided and supported by systematic supervision. Examples of treatment methods,

which include all or most of these components, include motivation-enhancing treatment, cognitive behavioural therapy and structured interactional therapy. Non-specific treatment (or standard treatment) usually includes supportive counselling in combination with social work interventions. These treatments are generally less well defined, and their focus on drinking behaviour is not as clear as it is with the specific therapies, and they also yield poorer results. CRA treatment shows a better effect than standard treatment, but the same effect as other specific treatments. However, the scientific basis of the CRA treatment is limited by the fact that the same group of researchers in the United States has performed most of these CRA studies (Andréasson & Öjehagen, 2003).

Normative feedback interventions

Viewed from a public health perspective, normative feedback interventions have the potential for a significant pay-off because they can be provided at low cost and to problem drinkers who might ordinarily never access any treatment services (Cunningham et al., 2001). Normative feedback provides personalized summaries of an individual's drinking and compares it to the consumption of the average man or woman in the general population. It is theorized to promote changes in alcohol use due to the fact that many heavy drinkers overestimate the consumption of others. As a consequence, normative feedback acts as a powerful source of social comparison, motivating heavy drinkers to re-evaluate their consumption patterns (Agostinelli et al., 1995). A study conducted by Cunningham et al. (2001) evaluated the effectiveness of a self-test pamphlet within a sample of current drinkers. This resulted in a significant reduction in alcohol use among problem drinkers who perceived themselves at risk from their alcohol consumption. However, it appears that normative feedback interventions may act to polarize problem drinkers such that individuals who perceive no risk might react to the pamphlet by drinking more.

Interventions delivered by General Practitioners (GP's)

There is conflicting review-level evidence for the effectiveness of GP-based lifestyle advice interventions to reduce heavy drinking. There is review-level evidence to suggest that a cognitive behavioural intervention by GP is no more effective than a cognitive behavioural intervention by a nurse practitioner or brief advice. There is also review-level evidence to suggest that a

behavioural change programme is no more effective than brief advice, assessment of drinking behaviour only, or follow-up measurement only, on alcohol consumption or alcohol related problems. Furthermore, there is review-level evidence to suggest that the use of bibliotherapy is effective in decreasing at-risk and harmful drinking, particularly with those seeking help for their drinking and to a lesser extent with drinkers identified through screening as at-risk. Bibliotherapy hereby is defined as any therapeutic intervention that was presented in a written form, designed to be read and implemented by the client. The materials range from brochures a few pages long to self-help manuals and books several hundred pages in length (Mulhivill, 2005).

A recent study by Malet et al. (2006) confirms the crucial role of the GP in the management of alcohol dependence. Given the loyalty of patients towards their practitioners and the very low cost to follow-up rate in standard general practice, alcohol has to be a major concern for any GP. Hereby, frequent and regular visits give time for maturation and enforce the patient-practitioner alliance. However, having good access to a GP alone does not mean that the primary care setting is ideal. The setting must also provide an atmosphere that is conducive to health promoting, targeting patients, and selecting interventions that produce the desired result (Deehan et al., 1998). Furthermore, patients report that they rarely get asked about alcohol, even in case of excessive drinkers (Aalto et al., 2001). Therefore, it is a good idea that a systematic identification targeting high risk groups is implemented. The selection of a high risk group can be made on the basis of epidemiological evidence or on the basis of the health risks that alcohol consumption might pose for certain groups (e.g. young adults or pregnant women) (Anderson et al., 2005). There is a range of instruments that can be used to identify hazardous and harmful alcohol consumption which makes it difficult to choose one instrument over the other. Anderson et al. (2005) recommend the use of the first three questions of the Alcohol Use Disorders Identification Test (AUDIT-C). The full AUDIT questionnaire was developed by the World Health Organization to detect at-risk, harmful, or heavy drinking, specifically designed for use in primary care. The AUDIT-C includes only the three AUDIT alcohol consumption questions (How often do you have a drink containing alcohol?; How many drinks containing alcohol do you have on a typical day when you are drinking?; How often do you have six or more drinks on one occasion?). Each of

the questions has a set of responses to choose from, and each response has a score ranging from 0 to 4. Gual et al. (2002) found, in comparing the AUDIT-C with clinical diagnoses of risky drinking, that the AUDIT-C and the full AUDIT performed similarly and had equivalent sensitivities and specificities for detecting risky drinking among men and women attending primary health care centres. The administration of the questionnaire can be performed either as an oral interview or as a self-report questionnaire. In general, it is recommended that both nurses and general practitioners must be involved in the delivery of identification. Each primary health care team should decide different professional responsibilities taking into account the specificities of the health system, the health centre, and the population treated (Anderson et al., 2005).

Work based programmes

Since the majority of adults are employed and thus are spending a significant proportion of their time at work, the workplace provides several opportunities for implementing prevention strategies. The European Parliament (2007) recognises that tackling the problem of hazardous and harmful alcohol consumption at work is an effective approach, especially considering that the working environment is a place where information can be distributed widely. They recommend to encourage employers to act responsibly by establishing a dialogue and providing support for employees with alcohol problems. However, this should be done with respect to people's privacy.

Evaluation studies have indicated that workplace programs succeeded in returning substantial proportions of employees with alcohol problems to effective performance (McAllister 1993; Blum and Roman 1995). A workplace prevention training programme for stress management has been shown to reduce problem drinking from 20% to 11% and missing work because of a hangover from 16% to 6% (Bennett et al. 2004).

Brief interventions in primary health care

Individuals are becoming more conscious of their right to good health and their responsibility for maintaining it. As a result, they have come to expect advice and information about healthy lifestyles from primary health care workers, who often need to be trained to provide appropriate help in health promotion (Ritson, 1995).

When problem drinking is detected either in primary care or at a hospital, preventive methods used are referred to as brief interventions. Interest in brief interventions originated from trials of treatment for alcohol problems beginning in the 1970s, showing no differences in outcome between briefer and more intensive modalities (Heather, 2001). Brief intervention is based on knowledge about alcohol being a major social and health problem, which reinforces the need to develop new strategies for primary and secondary prevention. *Table 2* presents the framework of brief interventions (FRAMES – Feedback; Responsibility; Advice; Menu; Empathy; Self-efficacy) as described by Bien et al. (1993):

Table 2: the FRAMES-framework of brief interventions (Bien et al. (1993)).

Feedback of personal risk or impairment	Feedback and information about alcohol is given in relation to the patient's problems and symptoms.
Emphasis on personal **R**esponsibility for change	The patient's decision to reduce the drinking should be his/her own.
Clear **A**dvice to change	The decision to reduce or quit drinking should be supported.
A **M**enu of alternative change options	Alternative strategies to reduce drinking are created.
Therapeutic **E**mpathy as a counselling style	The interventions are carried out in a warm, reflective, empathic and understanding manner.
Enhancement of client **S**elf-efficacy or optimism	Self-trust and optimism concerning success is encouraged.

Although many of these ingredients are clearly congruent with a motivational interviewing style, some applications (e.g., of advice-giving) are not. Therefore motivational interviewing ought not be confused with brief interventions in general. It should also be useful to distinguish between explanations of the mechanisms by which brief interventions work (which might or might not involve motivational processes) and specific methods, derived from motivational interviewing, which are designed to encourage behaviour change (Rollnick & Miller, 1995).

The Mesa Grande study, an ongoing updated systematic review of the effectiveness of different treatments for hazardous and harmful alcohol consumption, ranks the effectiveness of 48 different treatment modalities and

summarizes the evidence after weighting the findings of studies by their methodological quality score (Miller & Wilbourne, 2002). Brief interventions head the list of evidence-based methods, favouring the effectiveness of brief interventions in reducing alcohol consumption to low-risk levels among hazardous and harmful drinkers. Behavioural skill training and pharmacotherapies dominate the remainder of the top 10 list of treatment methods supported by controlled trials. Methods with strong negative evidence for effect are twelve-step facilitation, group psychotherapy, educational lectures and films, mandatory attendance at A.A. meetings, and general alcoholism treatment (often of a confrontational manner). Concerning the longer-term effects of brief interventions there is mixed evidence but on the other hand there is some evidence that brief interventions reduce alcohol related mortality (Anderson & Baumberg, 2006a). Although, there has been considerable concern about the ability to engage health care providers in delivering brief intervention programs. A meta-analysis by Anderson et al. (2004) has found that is seems possible to increase the engagement of general practitioners in screening and giving advice for hazardous and harmful alcohol consumption. The more effective programs appear to be those that combine both education and continuing office-based support.

A systematic review of the evidence for the efficacy of brief behavioural counselling interventions in primary care settings conducted by Whithlock et al. (2004) found that there is review-level evidence to show that brief interventions (especially multi-contact interventions) can reduce net weekly drinking by 13% to 34%, resulting in 2.9 to 8.7 fewer mean drinks per week and a significant effect on recommended or safe alcohol use. Furthermore there is review-level evidence to suggest that heavy drinkers receiving brief interventions are twice as likely to moderate their drinking six to 12 months after an intervention when compared with drinkers receiving no intervention (Mulhivill, et al., 2005). However, brief advice and counselling without regular follow-up appear insufficient to sustain long-term reductions in drinking behaviour (Wutzke et al., 2002). Nilssen (2004) couldn't confirm that the effects from brief intervention in at-risk alcohol drinkers only represent short-term effects. On the contrary, at-risk drinkers seem to respond beneficially to brief interventions.

Brief interventions can be categorized in the following 8 groups:

- *Very brief and extended brief interventions*: There is currently a lack of review-level evidence for the effectiveness of very brief interventions (5-20 minute duration) compared to extended interventions (several visits) in decreasing alcohol intake in both man and women (Mulhivill, et al., 2005).
- *Very brief interventions*: There is currently a lack of review-level evidence for the effectiveness of very brief interventions in decreasing alcohol intake in both man and women (Mulhivill, et al., 2005).
- *Extended brief interventions*: There is review-level evidence for the effectiveness of extended brief interventions in primary healthcare settings for women. Extended brief interventions decreased alcohol intake in women by on average 51 grams per week. However, there is currently a lack of review-level evidence for the effectiveness of extended brief interventions in primary healthcare for men (Mulhivill, et al., 2005).
- *Comparing the effectiveness of brief interventions for hazardous drinking in men and women*: There is review-level evidence to suggest that there are no consistent differences between men and women in the effectiveness of brief interventions for hazardous alcohol consumption in primary care settings (Ballesteros et al., 2004b; Whitlock et al., 2004).
- *Controlled brief interventions with non-treatment seeking populations*: A meta-analytic review by Moyer et al. (2002) considered studies comparing brief interventions with either control or extended treatment condition in which they took into account the critical distinction between treatment-seeking and non-treatment-seeking samples. They found that there is review-level evidence to suggest that brief interventions are effective in opportunistic (non-treatment-seeking) samples, and as typically delivered by healthcare professionals. A prospective study by Freyer et al. (2007) tested treatment intention as a predictor for utilization of help among currently non-treatment seeking individuals with diverse alcohol problems. Of all factors tested, intention to seek help was the only one significant. Intention is something clinicians or family members can have a positive effect on. Therefore, early detection of individuals with alcohol problems using optimised screening procedures and early interventions are highly recommended. For these purposes, primary health care settings are particularly promising.

- *Interventions for hazardous drinkers in primary care: dose-effect relationship*: The results of a systematic review and meta-analysis by Ballesteros et al. (2004a) support the moderate efficacy of brief interventions for hazardous drinkers in the primary care setting and indicate that there is no clear evidence of a dose-effect relationship linking the intensity of brief interventions with outcome.
- *Brief interventions in accident and emergency departments*: Dinh-Zarr et al. (2004) found in their systematic review of 23 studies evidence for reduced motor-vehicle crashes and related injuries, falls, suicide attempts, domestic violence, assaults and child abuse, alcohol related injuries and injury emergence visits, hospitalisations and deaths, with reductions ranging from 27% to 65%.

The most important component in a more effective strategy involves attitudes among practitioners. If non-obtrusive and time-efficient screening methods can be deployed, counselling methods applied that reduce resistance from patients, brief treatment methods for dependent patients learned, and policy developed on the health care provider level that supports alcohol prevention, it seems reasonable that this would facilitate the adoption of secondary prevention among primary care practitioners (Babor et al., 2003).
Implementing successful identification methods for hazardous and harmful alcohol consumption in primary health care is not an easy task. Anderson et al. (2005) have made some recommendations for primary health care workers to optimise results:

- Questions about alcohol use could be incorporated into a general history of lifestyle questions or into a general health questionnaire (questions about exercise, nutrition, smoking and medications).
- Patients at high risk for illicit drug use could be asked about alcohol and other drug use in combination.
- The physician should adopt a non-confrontational, non-judgemental and empathetic approach when interviewing the patient and when discussing identification results.
- When recording identification results, the physician should indicate that a positive screen is not necessarily a diagnosis.
- The extent and limits of confidentially must be clearly explained to the patient if a positive score is detected. The charts of patients who screen positive should be flagged, but the reminders should remain neutral.

- Given the evidence that the impact of brief interventions for hazardous and harmful alcohol consumption diminishes after four years, identification could be repeated every four years, unless there was a clinical reason to undertake identification sooner.

Early findings from the Italian pilot project[3], subsequent to the World Health Organisation Collaborative Study (Anderson et al., 2003; Funk et al., 2005), indicate that patients are reluctant to talk about their alcohol consumption with their family doctor and in some cases found the data-gathering requirements associated with the study to be difficult and confrontational. Focussing the questionnaire on alcohol consumption, instead of including other issues of lifestyle (e.g. tobacco, eating habits, physical activity) probably increase patients' reluctance to answer. Also the length of the questionnaire seems to discourage completion by both the general practitioners and their patients (Mezzani et al., 2007).

3 This national pilot project intends testing the effectiveness of brief interventions and the package created for it. The project has been run as an experimental trial, aimed at identifiying the 'at-risk drinkers' among the population of the general medical practitioners patients and at testing the effectiveness of brief interventions in reducing alcohol consumption in at-risk drinkers.

3.4. Overview of effective community-based interventions

Subsequent overview, partially derived from Stimson et al. (2007), lists the interventions aimed at reducing the potential harm associated with drinking found to be effective on an evidence base and/or considered to be useful to implement – together with the communication campaign – in a community setting:

- **Server training and enforcement of on-premise regulations,**
- **Work based programmes,**
- **Brief interventions in primary care, accident and emergency departments.**

Clearly, every intervention has its strengths and weaknesses, and no single approach is a panacea. Therefore, this overview also includes several aspects one needs to bear in mind in order to implement these interventions properly:

- *Objectives*: Specific statements that describe what the intervention should accomplish.
- *Targets*: The population, behaviour, or context that is the object of the intervention; this should also include an indication of the required coverage of the intervention.
- *Outcomes*: Changes occurring as a result of the intervention. Positive outcomes are sought, but there may be unintended outcomes.
- Shortcomings: Negative outcomes and limitations of the intervention.
- *Obstacles to overcome*: Societal, community, and other factors that may inhibit the introduction of the intervention, impede its implementation, or hinder its success.
- *Procedural requirements*: The actions that need to be taken – and at which level – in order to introduce the intervention.
- *Resources for implementation*: Required human and organisational resources.

Intervention	Objectives	Target	Intended outcomes	Unintended outcomes	Shortcomings	Obstacles to overcome	Procedural requirements	Resources for implementation
Community programmes/ mobilization	Reduced social harm	Communities/ areas where harm indicators are high	Prevention of violence, crime, and disorder Efficient use of available resources Involvement of all segments of community; general support		Focus on immediate community concerns, not long-range goals May be motivated by political expediency	Lack of communication between sectors of community	Enforcement needed Repercussions for breach of accord	Community support and involvement Involved police, media, local government, retailers and servers, insurance providers, community and religious leaders, educators, and others Mechanisms for communication leadership

Intervention	Objectives	Target	Intended outcomes	Unintended outcomes	Shortcomings	Obstacles to overcome	Procedural requirements	Resources for implementation
Server training and enforcement of on-premise regulations	Reduced incidence of intoxication Reduced violence and public disorder Reduced potential for harm and injury Reduced liability for outlet owners and operators	Licensed premises and other public venues	Reduced harm Reduced violence Reduced public disorder Reduced alcohol-impaired driving Reduced intoxication Reduced liability for outlet owners and operators	Decreased sales Shifts heavy drinking to home or other venues	Ignores non-disruptive heavy drinkers Implementation best when combined with other measures (e.g. education and campaigns)	General support needed Cost for hospitality and retail sector operators	Possible linkage to licensing requirements Self-enforcement needed	Retail and service sector outlet owners, managers, and staff Producers of beverage alcohol Incentives or penalties needed Training of staff Broad coverage of outlets and trade supports Police presence National or regional government Community support

Intervention	Objectives	Target	Intended out-comes	Unintended outcomes	Shortcomings	Obstacles to overcome	Procedural requirements	Resources for implementa-tion
Work based programmes	Reduced risk for harm	workplace	Reduced accidents and injury to self and others Increased awareness/ deterrence	May neglect low-profile issues	Needs to be supplemented by employee support programmes	Cultural resistance	Legislation or voluntary codes and self-regulation by employers and professional groups	Employer support Resources for testing needed Implementation of penalties Employee training

Intervention	Objectives	Target	Intended outcomes	Unintended outcomes	Shortcomings	Obstacles to overcome	Procedural requirements	Resources for implementation
Brief interventions in primary care, accident and emergency departments	Early prevention of harm in those at risk	Non-dependent problem drinkers	Modify harmful drinking patterns Reduce risk for social and physical harm	Patients lie to medical practitioners		Reluctance to undergo screening Ensuring follow-up Social stigma of drinking problems	Integration into health care system Referral for treatment, where appropriate	Any health care setting (e.g. pharmacy, emergency room, clinic, or doctor's office) Availability of screening instruments Training of practitioners in screening Treatment resources available

4. The communication campaign on community alcohol prevention

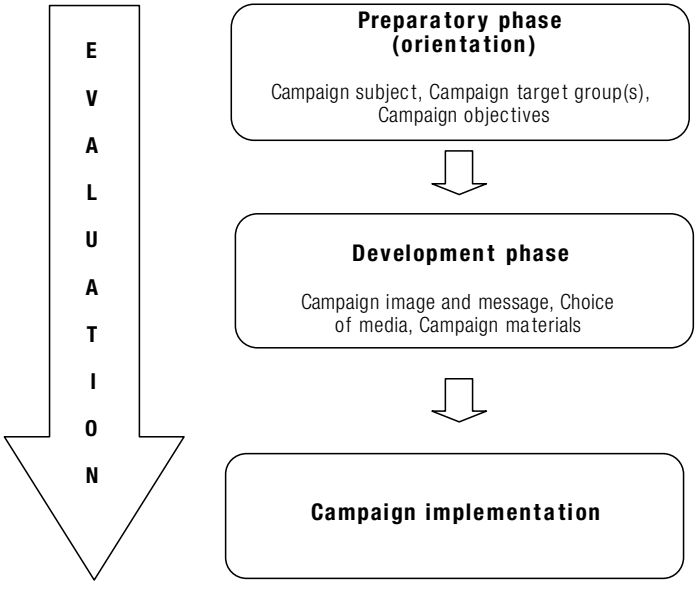
Communication can be broadly defined as any deliberate endeavour to influence all or particular sections of the public by using a range of media routes. In the case of drug and alcohol communications these sections might include groups 'at risk', particular or professional interest groups and opinion formers and, of course, the media itself. Drug and alcohol communications can be used to raise awareness and increase knowledge of related problems, as well as to complement and support drug and/or alcohol interventions at at governmental and community level. In certain circumstances, the communication can form an intervention in his own right which aims to change or, more frequently, reinforce attitudes and behaviour (Home Office, 2001). Indeed, a typical way of utilizing communication means for alcohol prevention has been to produce one-off information campaigns aimed at improving the public's awareness and knowledge about particular health risks (Montonen, 1996). By placing the issue of easy access to alcohol and the lack of effective coping with alcohol related problems on both the political and community level agendas, media advocacy will also be able to sustain momentum in both national and local areas (Huckle et al., 2005).

As indicated several times before, a communication campaign is seen as an essential and obligatory aspect of the ECAT initiative. However, words like campaign can be threatening. To clear away any possible misunderstandings, a couple of generally used definitions may be helpful. 'Campaign' can be seen as shorthand for public education campaign; and an 'alcohol education campaign' means a sustained and coordinated programme of activities aimed at encouraging people to choose safer drinking. However, an educational campaign is not traditional, classroom based education. Formal education plays his part, but a campaign seeks a wider audience. To get its message across, it may use public events, leaflets, publications, TV, newspapers, … (Alcohol Concern, 1987).

In ECAT, campaign stands for an integral approach, using communication means in combination with both targeted and population strategies, ultimately leading to the creation of a supportive community environment to tackle alcohol problems (including the development of a local alcohol

policy). In this part of the literature review, the focus is shifted towards the ECAT communication campaign used to inform and to sensitise the community. This is seen to be an important condition to involve people and to call attention to the alcohol theme. It is afterwards that other, rather small-cased approaches (interpersonal, face-to-face communication) and a supportive environment are necessary to obtain and maintain behaviour change (VAD, 2007). Also the European Parliament recommends its member states to promote communication campaigns designed to raise awareness about the risks of hazardous and harmful alcohol consumption. "First of all, accurate information should be provided through an awareness-raising campaign at all levels – family, school and media. [...] Action should be taken through education and information because hazardous and harmful alcohol consumption is essentially, like so many other behavioural problems, a question of attitude. To improve society, we need to change general attitudes" (European Parliament, 2007: 13-14). The advice on what elements go to making a more effective communication campaign must, however, be seen in the light of the fact that mass media interventions are

Figure 10: Schematic overview of the different phases in the ECAT communication campaign



generally held to be ineffective in changing behaviour, and that if they do have an impact, it is by raising awareness in the early stages of efforts to bring about healthier lifestyles (ALAC, 1999).

4.1. The development of a communication campaign

In general, the construction of a communication campaign consists of four major phases (figure 10): (1) Preparatory phase, (2) development phase, (3) campaign implementation, and (4) evaluation. When filling in these four phases, it is of course very important to take into account the findings of the quick scan analysis. After all, they are the basis for determining the content of the communication campaign.

4.1.1. Determining the subject of the communication campaign

For most people, drinking alcoholic beverages doesn't provoke any harmful outcomes. However, misuse or irresponsible consumption potentially imposes harm to individuals, especially through a large number of health problems: a relation can be found between alcohol and mortality and between alcohol and morbidity. Furthermore, given the fact that alcohol use often is a social activity, many consequences of problematic alcohol use can be characterised as being social. Alcohol is widely spread and thus also used in a variety of settings: traffic, workfloor, family, sports. Each setting of course is characterised by different patterns of use and different consequences related to problematic alcohol intake. To address these problems by means of a communication campaign, it is highly recommended that the ECAT-communication uses only one campaign subject. Otherwise, it will be very difficult for the audience to have a clear and unambiguous image of the communication campaign

4.1.2. Determining the communication campaign target group(s)

Target group refers to the population most likely to be affected by the communication campaign and corresponding interventions:

- the general population of drinkers,
- high risk drinkers or groups considered to be particularly vulnerable to the adverse effects of alcohol (e.g. adolescents),

- persons already manifesting harmful drinking and alcohol dependence (Babor et al., 2003).

Indeed, a single message or campaign cannot pretend to do everything for everyone. Therefore, a target audience is essential for the intervention. Defining this target audience is one of the most important aspects of campaign development. Rather than defining an audience purely in demographic terms (age, gender and ethnic grouping), defining the audience in terms of their psychographics (attitudes, values and beliefs) is considered to be a much more effective way (Tones, 1996; ALAC, 1999). To align the content and method of the communication activities, it is important that they possess the following two characteristics:

- the composition of the target group has to be fairly homogeneous,
- the target group has, to a certain degree, to be accessible separately (Goubin, 2002).

To be more effective, it is also suggested that messages are pitched at those who have a direct interpersonal influence on the target group, such as parents or general practitioners. Indeed, efforts towards the reduction of alcohol related harm must be meaningful to the intended audiences. As a result, often the most effective implementers of targeted interventions are those who are influential in shaping the lives of those around them (Stimson et al., 2007).

4.1.3. Determining the objectives of the communication campaign

Evidence suggests that change by means of a communication campaign is likely to be gradual at best, and will only influence a small proportion of the population. In order to be able to evaluate the local communication campaign despite the lack of influencing power, objectives need to be SMART. This simple acronym stands for:

- **S**pecific – Objectives should specify what they want to achieve,
- **M**easurable – You should be able to measure whether you are meeting the objectives or not,
- **A**cceptable – Are the objectives you set, achievable and attainable?,
- **R**ealistic – Can you realistically achieve the objectives with the resources you have?,
- **T**ime-specific – When do you want to achieve the set objectives?

The ECAT communication campaign counts three types of objectives:

- to raise awareness (of the problems associated with alcohol misuse, of a campaign or initiative),
- to provide information (about alcohol and its effects, about alcohol services),
- to change attitudes (e.g. to foster negative feelings about alcohol misuse or positive feelings about moderate use).

4.1.4. Thinking up and development of the communication campaign image and message

Messages should be appropriate to the objectives of the target group. Hereby it is important for message designers to use vocabulary which is relevant and familiar to the intended audience (Home Office, 2001). In other words, because individual behaviours are based on constructs that are developed in a social context, it is important that the communication campaign uses language that accurately reflects the interpretive schemes that the target group has developed. Indeed, by using language that is outside the interpretive schemes of the audience, researchers may be unwittingly contributing to a failure among the target group to identify their drinking as problematic, and even to report that behaviour accurately on surveys (Lederman & Stewart, 2005). It is also suggested that repetition of a single message during an communication campaign is held to have greater impact than the presentation of a variety of messages (ALAC, 1999; Tones, 1996).

Unlike superficial awareness messages or simple exhortations, a communication campaign like the one ECAT intends to implement needs to add a motivational element in the form of positive or negative reasons to perform the desired behaviour. Hereby, it usually is more effective to emphasize mild but likely consequences than remote or improbable consequences that are higher in valuation. In other words, threats of death, ilness, injury, or other serious physical harm should play a limited role in health campaigns. Alarming fear appeals can be quite influential if handled adeptly, but other incentives should be given greater emphasis. This diversified approach encompasses messages featuring threats of a less severe nature, negative incentives beyond the physical health domain, and positive incen-

tives (Atkin, 2002). As Tones (1996) recommends, communication campaigns should emphasize positive behaviour change rather than negative consequences and current rewards rather than avoidance of distant negative consequences. Furthermore, it is recommended that behaviour options promoted in a campaign are judged from the societal perspective in terms of political, legal, moral, and economic considerations. For example, 'moderate drinking' may be more palatable (and pragmatically functional) than abstinence to teenagers, but explicit advocacy of these behaviours is troublesome because of alcohol laws, religious values, and parental objections (Atkin, 2002).

Message design following the transtheoretical model of behaviour change

An interesting contribution to the development of messages can be delivered by the transtheoretical model of behaviour change (TM)[4] which has a number of important implications for health message design suggesting several important message design considerations. First, messages must be tailored to the specific cognitive and behavioural conditions of people at each given stage (e.g. a message designed for people in Precontemplation will be different than a message designed for people in the Action stage). This strategy is a distinct advancement over the all-too-common approach in health campaigns where it is assumed that all message recipients are ready and willing to change their behaviour immediately upon being persuaded. The second important consideration suggested by TM is that the order in which internal personal factors are addressed has important implications for the likelihood of promoting sustained behaviour change. The information in *table* 3, illustrating which internal personal factors are important at the various stages of change, can be used to guide

4 The transtheoretical model (TM) (Prochaska & DiClimente, 1983, 1985), also called stages of change theory, views behaviour change as a series of actions or events. The TM, derived from diverse theories of psychotherapy, proposes five stages: *Precontemplation* – not recognising the problem or the need to change; *Contemplation* – serious thinking about the problem and the possibility of change; *Preparation* – making a commitment to change and taking steps to prepare for that change; *Action* – successful modification of behaviour for a period of from 1 day to 6 months; and *Maintenance* – continuation of change from 6 months to an indefinite period. However, when individuals try to stop or change behaviour, often relapse and recycling through the stages of change takes place. Therefore, the original model of linear progression through the stages was modified to a spiral model. Hereby, the factors and processes that help individuals progress through the stages of behaviour change vary from stage to stage (Holtgrave et al., 1995). For the ECAT-campaign, it would be very useful to focus only on the first stages of the TM: the move from Precontemplation to Contemplation and the move from Contemplation to Preparation. After all, people in the later stages are already willing to change their behaviour and therefore need different incentives to actually change their behaviour.

message design and intervention tailoring (Maibach & Cotton, 1995). For the ECAT project, the appeal of this model thus probably does not lie in the precise definition of stages but in the provision of general guidance; for example, if someone is not ready to change, action talk will be counter-productive. Following the Transtheoretical model of behaviour change, enhancing Precontemplators' knowledge of – and outcome expectancies about – the risk behaviour, and personalizing the risk, are key strategies for encouraging movement to subsequent stages. Hereby, messages targeting Precontemplators should emphasize the positive attributes of the alternative behaviour and encourage a re-evaluation of outcome expectancies that includes the new positive information. People in Contemplation are aware of the need to practice a healthier behaviour but are not ready yet to take action. In order to help them move beyond this stage, Contemplators must be encouraged specifically to consider changing something about themselves. Moreover, they should be encouraged to gain behavioural experience with the change. Therefore, intervention messages at the Contemplation stage should continue to promote new positive outcome expectations and reinforce existing positive expectations. Self-efficacy enhancement is another key strategy for moving people out of Contemplation and toward the Preparaton stage. Hereby, messages should identify how to effectively overcome perceived barriers to change (Maibach & Cotton, 1995).

Table 3: Internal social cognitive factors that encourage change from one stage to the next (Maibach & Cotton, 1995; 52)

Precontemplation to Contemplation	Contemplation to Preparation
Knowledge about risk Outcome expectations: ○ Risk behaviours • Physical (-) ○ Alternative behaviours • Physical (+) • Social (+)	 Outcome expectations: ○ Alternative behaviours • Physical (+) • Social (+) • Self-evaluation (+) ○ Self-efficacy: • Reduce risk behaviour • Attempt an alternative behaviour

However, the question remains whether informational stimuli are equally reinforcing for all people (Beck, 1990). With regard to this question, Cacioppo and Petty (1982) did research to assess the need for cognition. They found that subjects with a high need for cognition did enjoy complex tasks more than simple ones while low-needs subject enjoyed simple tasks more. It thus appears that there are individual differences in the degree to which information processing activities are found pleasant and reinforcing. This is very important because it indicates that the motivational state of the consumer audience may determine the effectiveness of a message. Using a simple example, we can say that an add for a cold remedy is much less likely to influence your purchase if you do not have a cold. However, if one has a sniffly cold in the middle of the winter, a TV commercial with a well-known actor extolling the virtues of a cold medicine may be very attractive (Beck, 1990).

These findings are based upon the Elaboration Likelihood Model (ELM) which features two routes of persuasive influence: central and peripheral. *Peripheral* processing occurs when individuals spend very little time thinking about a message and is a relatively mindless endeavour. This type of processing most likely occurs as the result of simple cue in the message that induces a reaction without necessitating any scrutiny of the message. Changes that occur via peripheral processing are often short-lived effects, although systematic changes in attitudes do occur in response to such processing (Monahan, 1995). Involvement on the other hand, promotes active information processing via a *central* route. This has also been referred to as top-down information processing, which occurs when an individual's goal or conscious awareness leads to active processing. For example, an audience who is involved with the topic of cancer prevention will actively seek, attend, and process messages about cancer production (Parrott, 1995)

Thus, an important predictor of the amount of cognitive effort an audience exerts to attend messages is the audience's level of involvement with the topic of the message (i.e. the extent to which an individual is willing and able to 'think' about the position advocated and its supporting materials). When people are motivated and able to think about the content of the message, elaboration is high. In this case, the central persuasive route is likely

to occur; conversely, the peripheral route is the likely result of low elaboration. This means that message designers should reckon how, when, and why people exposed to health messages might be motivated to switch to more active rather than automatic message processing, as well as when and how to motivate more active versus positive thought (Parrott, 1995). Furthermore, research indicates that there is another important dimension of thinking and the direction of thinking that should be added to the ELM model and thus needs to be considered by campaign and message designers: *thought confidence*. That is, under high elaboration conditions, source variables might influence attitudes by affecting people's confidence in their thoughts. For example, positive thought generated to a message only to learn that the message was from an untrustworthy source, confidence in those thought might be reduced, attenuating persuasion. This indicates that if confidence is induced after extensive message processing, it appears to affect confidence in the thoughts that have been generated (enhancing persuasion if the thoughts were favourable, but reducing persuasion if the thoughts were unfavourable). If confidence, on the other hand, is induced prior to a message and elaboration is constrained to be low, then confidence might encourage using one's own attitude as a peripheral cue (Petty et al., 2002).

4.1.5. The choice of the appropriate media for the communication campaign

Apart from the content of the message, the audience's response to communication will be influenced by the perceived source of the message. Four key characteristics of a source can be considered:

- *Visibility*: the ease with which an audience can attribute a message to a source,
- *Credibility*: the degree to which a source is perceived to be expert, trustworthy, objective and believable. As McDermott et al. (1992) indicate, if a drug prevention message is not perceived to be accurate, it will conflict with the user's own experience and be undermined, and if the source does not appear honest it will not be trusted,
- *Attractiveness*: a source is attractive if the audience perceive it to be similar to themselves, familiar and likeable,
- *Power*: influence over an audience can influence them to comply with the message. It is likely, however, that any change will be only short

term if the source is perceived as too authoritarian (Home Office, 2001).

Media-based activity can be one component of a multi-faceted approach, or can play an indirect supporting role. Media communication can tell people about services and support which might help them to change their behaviour, such as helplines or counselling services. The use of unpaid publicity and media advocacy can help create a climate in which alcohol related issues can be discussed and tackled. Unpaid publicity can also be used to confer status influencing and recruiting policy makers and key community and opinion leaders. Hereby, media activity can both prepare the ground for, and complement, more intensive interventions (such as a community development project or an intervention in local schools) (Home Office, 2001). Mass media communications also appear to be very complementary with interpersonal communications in helping spread messages about healthy lifestyles. A message may initially be transmitted to the general population via the mass media, but after that, interpersonal channels with their low reach, high specificity and high potential rate of influence, become a crucial link contributing to the overall effectiveness in health campaigns (ALAC, 1999).

In addition to the electronic and print media which routinely spring to mind, communication campaigns may well employ a range of more unusual devices such as carrier bags, postage stamps, pens, drinks mats and greeting cards. For policy makers, there is a tendency to think of mass media only in terms of persuasive advertising campaigns whereas those involved in health promotion must also consider a number of different media modes – such as documentaries and various so called incidental effects such as the 'norm sending' role of soap opera (Tones, 1996). The development of new media (including websites, newsgroups, mobile phones, …) also offers considerable potential for targeting specific groups in a more meaningful and relevant way (Home Office, 2001).

Overview of potential communication means

There are different forms of communications available to use. They can best be described in terms of the extent to which their use can be influenced (*table* 4).

Table 4: Communication means and their level of usability (Home Office (2001)).

Media we can purchase	Media we can't purchase but we can influence	Media that gets out of control
– Publications (leaflets, core publications, …) – New media (websites, newsgroups, …) – Venues (public buildings, schools, night-clubs, …) – Products (information packs, CD-ROMs, events and activities) – Shared media (other organisations and partners, other brands) – Key personnel (TV personalities, sports people, politicians, …) – Paid for media (TV, cinema, radio, print, posters, direct marketing)	– Opinion formers – Partner organisations' publications – Radio – Print – TV – Commercial sector information – Health professionals	– Health scares – Myth and superstition

Looking at the different communication options with their opportunities, *table* 5, borrowed from Goubin (2002), will give a good overview. Hereby, each medium will be set off against the following elements:

- *The ability to attract attention*: to which degree is the concerning medium successful in attracting attention on a campaign theme?
- *The ability to inform*: is the declared medium able to carry sufficient information?
- *Convincing ability*: is the medium able to persuade the audience to take action or to change behaviour or attitudes?
- *Supporting ability*: is the medium capable of giving support with respect to the content or as a mnemonic device in a later phase of the campaign (or even afterwards)?

Table 5: Communication ability of communication media (Source: Goubin (2002; 151))

	Ability to attract attention	Ability to inform	Convincing ability	Supporting ability
Mass-Media				
Newspaper & magazines/editorial	++	+/-	+/-	-
Newspaper & magazines/adds	+	+/-	-	-
Television adds	++	+/-	+/-	-
Radio adds	++	+/-	-	-
TV – editorial	++	+/-	+	-
Radio – editorial	+	+/-	+/-	-
Printed Media				
Flyers	+	+/-	-	+/-
Leaflets	+/-	+	+/-	+
Brochures	-	++	+/-	++
Direct mail	+	+	+/-	+/-
Posters/placards	+	+/-	-	+/-
Oral Media				
Personal conversation	+	++	++	+
Lecture	+	++	+	+
Info-line (citizen to authorities)	--	+	+/-	+
Telephone conversation (authorities to citizen)	+	+	+/-	+/-
Stand	+/-	+/-	+/-	+/-
Audiovisual Media				
Video	-	+	+/-	+/-
Videotext	--	+/-	--	+
Digital Media				
Website	--	+	--	++
E-mail	+	+/-	-	+/-
E-zine	+/-	+	--	+/-
CD-ROM/DVD	+/-	+/-	-	+
SMS-messages	+	+/-	--	+/-

++ almost always applicable+ usually applicable

+/- sometimes applicable, sometimes not- seldom applicable

-- never or almost never applicable

THE DEVELOPMENT OF A COMMUNICATION CAMPAIGN ON COMMUNITY ALCOHOL PREVENTION

The development and implementation of a communication campaign is an essential aspect of the ECAT project: the communication campaign is used to inform and to sensitise the community, what is an important condition to involve people and raise community-awareness on the alcohol theme. However, a communication campaign is not a panacea in itself. It is an important action that needs to be taken but in order to obtain and maintain an actual change in behaviour, it is recommended that the communication campaign is complemented with other interventions (see section 3 of chapter 2).

To overcome the cultural differences and different consequences related to problematic alcohol intake in each ECAT-community, it is highly recommended that the ECAT-communication uses only one campaign subject. Otherwise, it will be very difficult for the audience to have a clear and unambiguous image of the communication campaign (more information on this matter can be found in the practical guidelines (ECAT manual) going with this literature review).

Thus, an essential component of the multi-faceted community approach ECAT stands for is media involvement. This plays an indirect supporting role by placing the issue of alcohol related problems and the lack of effective coping with these problems on both the political and community agenda. Therefore, campaign messages should be appropriate to the objectives of the target group, using familiar vocabulary to the intended audience. Hereby, it is also recommended to emphasize positive behaviour change rather than negative consequences. Regarding message design, combining the views of the Trantheoretical Model of behaviour change and the Elaboration Likelihood Model, an effective message for community-based communication campaigns can be worked out. Apart from the message content and design, the audience's response to the campaign will be influenced by the perceived source of the message. Therefore, the ECAT-campaign should consider the visibility, credibility, attractiveness and power of the used source(s). These sources thus need to be selected with care from a large variety of different communication forms – each with its own benefits and weaknesses. Following the evidence on communication options, following communication media are recommended to use for the ECAT-communication campaign:

- Posters, flyers and leaflets
- Newspaper and magazines (editorials): Press release/article
- Press conference and press map
- Radio stations/ local and regional television
- Lectures and public events

5. Overview of good practices

As said before, decision making should be based on the best available evidence concerning effectiveness and its application in 'real life' circumstances. For this reason it was decided to complement the quantitative analysis with 'good practices', delivered from those working in the field. To the extent that (current) good practices and research evidence converge, we may feel more confident that the procedures recommended for dealing with excessive alcohol consumption are appropriate. In this way the current study will potentially allow the community to assess its own intervention methods against the methods for which there is evidence of efficacy. The prevention projects included in this overview were selected using criteria that represents the following scientifically minimal conditions for determining program efficiency:

- The studies include a careful collection of baseline data during the period preceding to the intervention.
- They target well-defined community-level alcohol related problems (e.g. trauma, alcohol related violence, and initiation of drinking).
- They have a long-term implementation and monitoring period.
- They are followed by a final evaluation of changes in target problems.
- They involve empirically documented, successful or at least promising results in the target problem that are attributable to the intervention.

The good practices included in subsequent overview are selected from the EDDRA database. Furthermore, each partner in the ECAT project was asked to fill in a good practices form.

Title: "No nips for nippers and Fool's dance" – a campaign to counteract excessive juvenile drinking **Country: Germany**

Short Description	Target Group	Target	Running Time	Developer	Materials
Every year, November 11 marks the beginning of the Cologne Carnival. On this day, thousands of people from Cologne and the surrounding area meet on a prominent public place in Cologne. The campaign's overarching aim is to counteract alcohol abuse among young persons during the days of Carnival. The campaign comprises three intertwining approaches: "No nips for nippers" is a placard campaign and is directed towards adults, the retail industry and pubs and restaurants. "Fool's dance" is an open-air-party inviting young people and young adults to celebrate their own street carnival for free, from 1 PM to 10 PM. Furthermore, schools and youth facilities offer accompanying projects in their districts.	General population	To offer alternatives to young persons Compliance with regulations for the protection of the youth by the points-of-sale selling alcohol To raise the awareness of schools and youth facilities regarding prevention To raise public awareness for the compliance with the law for the protection of the youth Drug counselling	On-going programme, since June 1999	City of Cologne, Department for Children, Youth and the Family in co-operation with the Festive Committee of the Cologne Carnival, the Paritätische Wohlfahrtsverband and the City's staff unit "Events".	TV features, adventure, alternatives to drug use, brochure/leaflet, campaign, care, conference, counselling, crisis intervention, environmental intervention, events (cultural, social, etc.), give-aways, information, lobbying, music, parents' meetings, parties, peer-group counselling, pins/badges, posters, press advertising, press features, publications, radio features short-term treatment, stickers

Research	Results	Executive organisation(s)	Reach & Visibility	Remarks
Evaluation of the programme planning, process evaluation, outcome and impact evaluation: Data and personal statements issued by the participants of the round table meeting are put down in meeting minutes. Data provided by the police, the City Department of Public Order and Emergency Medical Services for the use in drug counselling centres	In the course of six years, the number of highly inebriated young persons was reduced by 50 per cent. Since 2000, no highly inebriated children have been registered in the statistics of the police and the Emergency Medical Services According to police estimations, the party “Fool’s dance” is also important for strategic reasons as a large number of young people can be “bound” to one place. City authorities are convinced that the campaign led to an improved awareness of sales regulations as stipulated by the law for the protection of the youth. In particular, this holds true to the field of sales and distribution and also to the general public.	internal evaluator	- The campaign is well-established and well-known in the city.	
Publications:				

Title: Think before you buy under-18s drink **Country: New Zealand**

Short Description	Target Group	Target	Running Time	Developer	Materials
The 'Think before you buy under-18s drink' campaign is a community-based intervention in two communities in the South Island of New Zealand.	teenagers (13-17 years old) parents	To increase the knowledge of adults in the Ashburton and Waitaki districts of the risks of supplying alcohol to teenagers To encourage a change of attitude such that a teenager's parent is considered the only appropriate supplier of alcohol, and that teenage drinking should occur only under adult supervision To effect a reduction in the percentage of adults who supply alcohol to teenagers for unsupervised consumption	mid-September to the end of October 2001	Alcohol Advisory Council of New Zealand (ALAC)	Local newspaper and radio advertisements, local radio and print media interviews, media events, billboard advertisements, the distribution of printed material and the presentation of campaign information at point of sale.

Research	Results	Executive organisation(s)	Reach & visibility	Remarks
Quasi experiment with three comparison groups and a mixed design.	Primary outcome measures were changes in the prevalence of parent supply to their teenagers for unsupervised drinking (SUD), and changes in the prevalence of binge drinking among teenagers. At bas eline, 49% of teenagers reported a recent episode of binge drinking. SUD in the past month was reported by 36% of the teenagers. Levels of binge drinking decreased in all three districts. Analysis of data from 474 teenagers who completed questionnaires, at baseline and follow-up, showed decreased SUD, although this was not significant.	Both internal and external evaluators: ALAC and Department of Psychological Medicine, Wellington School of Medicine and Health Sciences	Newspaper advertisements depicting youth drunkenness were the most widely seen campaign components.	The 'Think before you buy under-18s drink' campaign is part of a general programme to raise community awareness of the inappropriate supply of alcohol to teenagers.
Publications: KYPRI, K., DEAN, J., KIRBY, S., HARRIS, J. & KAKE, T. (2005). 'Think before you buy under 18s drink': evaluation of a community alcohol intervention. *Drug and Alcohol Review*, 24, 13-20.				

Title: Alternatives in Cadiz **Country:Spain**

Short Description	Target Group	Target	Running Time	Developer	Potential Health Benefits	Materials
The project, which began in 1994 with 5 weekends and 3 municipal facilities, by 2004 has evolved to 32 weekends with activities in more months of the year, 5 municipal facilities and events held in public places, schools and beaches.	Children/youth - Age: 14-25	To sensitize young people to the adverse effects of alcohol and other drug use, offering alternative leisure to reduce the initiation in and frequency of drinking among Cadiz' teen-age and young adult population.	On-going programme, since march 1999	Municipal Govern-ment of Cadiz		Conferences, Work-shops, brochures, newsletters, posters, videos, T-shirts, press advertising, press features, radio advertising, stickers

Research	Results	Executive organisation(s)	Reach & Visibility	Remarks
Evaluation of the programme planning and process evaluation: – Evaluation surveys. – Meetings with associations/evaluation meetings. – Studies on turnout. – Population and leisure time studies. – Population and drug use studies. – Activity monitor surveys and meetings. – Human resources: technicians and monitors.	– Increase in number of youngsters and associations participating. – Enlargement of programme space, time and ages (reaching larger numbers of youngsters). – New activities and active participation.	internal evaluator	– No. of activities and workshops: 52. – No. of participating associations: 8. – No. of volunteers: 36. – No. of part icipants: 21295. – No. of workshops: 6 in secondary schools (preventive). – No. of youngsters involved: 400. – No. of preventive activities: 6 – No. of workshops on sexuality and prevention: 8. – No. of preservatives distributed: 2000.	The programme has had to adapt its scheduling to the characteristics of the city: – Climate (year-round festive environment), – Hours (days of the week, times of day that youngsters go out and other fads), – City geography, – Social considerations (high unemployment, declining population of youngsters, low juvenile delinquency rates and so forth)
Publications: – DGPNSD (2003). *Adess. Catálogo de Programas de Ocio Saludable. Ministerio del Interior.* – INJUVE (2001). *La evaluación de programas de ocio alternativo de fin de semana. Domingo Comas. INJUVE.*				

Title: Guat beinand'! – Addiction prevention in communities and city districts **Country: Austria & Germany**

Short Description	Target Group	Target	Running Time	Developer	Materials
In the cross-border regions of Austria and Germany (Salzburg, Bad Reichenhall und Traunstein), a model project for community-based addiction prevention and health promotion has been implemented. Within this project community oriented, health promoting and target group specific activities and measures in all areas of life should be combined.	• Children/youth (Age : 9-21) • Adults • Family	The aim of the project was, to change the behaviour of young people in the context of legal and illegal substances, by providing an adequate framework for health promotion, discussing the topic consumption respectively addiction in the community and implementing relevant preventive measures.	2002-2005	The planning and implementing of the model project "Guat beinand'!" was based on experiences of Akzente Salzburg with projects, networking and prevention work in general.	alternatives to drug use, community work, conference education (skills, abilities, etc.), events (cultural, social, etc.), parents' meetings, teaching/ training workshops

Research	Results	Executive organisation(s)	Reach & Visibility	Remarks
Process evaluation: Measurement of the quality and intensity of the programme implementation and the acceptance of the programme among the participants. Survey among participants, selected key persons in the communities and the involved persons of the prevention units	It turned out that the following factors are especially important for implementation and sustainability of the project: • the willingness of the representatives of the communities to support the project; • an optimal composition of the responsible bodies; • the professional monitoring by addiction prevention experts especially during the beginning as well as • the public relations (which means the information about the project, the work of the responsible bodies and the implemented measures).	external evaluator : FOGS (Gesellschaft für Forschung und Beratung im Gesundheits- und Sozialbereich)	47% of the members of the responsible bodies considered at the end of the pilot phase, that the project is known among the inhabitants of the communities very respectively rather well, while 53% considered the project rather less known respectively widely unknown. Two third of the interviewees have been reading or hearing something about the project during the last months, the sources having been different (school 48%, press 32%, friends 28%).	The exchange of the experiences in the pilot communities, improved networking of the communities as well as intensified examination of the subject community-based addiction prevention have been the target of the conference "Guat beinand'!" in Mattsee (Salzburg) during June 2006.
Publications: FOGS (2005). *Abschlussbericht der wissenschaftlichen Begleitung. Guat beinand'! – Suchtvorbeugung in Gemeinden und Stadtteilen.* Köln: FOGS.				

Title: Looking away is no solution (Wegschauen ist keine Lösung): A community oriented multilevel approach towards controlling teenage drinking behaviour **Country: Germany**

Short Description	Target Group	Target	Running Time	Developer	Materials
A systematic, multilevel approach reducing teenage alcohol abuse, binge drinking and drug consumption. Initially the central problems in the administrative district were identified by a survey. An individual agenda for each community (prevention and control) was developed and implemented, consisting of: • education programs for parents • prevention programmes for schools • certification for sports clubs and other societies concerning alcohol control as a precondition for public benefits • consented rules concerning alcohol for public events in which teenagers are involved • task force for youth protection visiting public events and enforcing youth protection • establishing an ombudsman in all communities responsible for the local communication between all involved groups •	• all groups and persons responsible for the education of children: parents, teachers, • sports clubs and other societies with teenage members • community services • shop owners and staff • police	• developing a culture of youth protection • reducing teenage alcohol abuse and binge drinking • reducing teenage drug consumption • reducing availability of alcohol for teenagers • reducing teenage vandalism • enforcing youth protection laws	since 2000	Administration of the district Landkreis Karlsruhe	e.g. advertising campaign on all trams and tram stations in the district Videos printed handouts other materials (e.g. mouse pads)

Research	Results	Executive organisation(s)	Reach & visibility	Remarks
	– less problems with teenage alcoholism and binge drinking – teenage vandalism has been reduced – less police intervention is necessary at public events	district administration, community administrations, counselling stations, schools, parents association, police, emergency services	– Prevention programmes have been established at all communities and schools in the district – Certification of sports clubs as a precondition for public benefits is implemented in 20 of 30 communities in the district, consented rules for public events have been implemented in 11 of 30 communities	A systematic approach unifies the strength of all participating groups. The main aim is creating a culture of care for children. This includes individually tailored programs for all communities in the district, combining prevention and control of alcohol and other drugs.
Publications: KRAUS (2004). *Befragung von Schlüsselpersonen zur Verbesserung der kommunalen Suchtprophylaxe*. München: IFT.				

Title: Trelleborg Project **Country: Sweden**

Short Description	Target Group	Target	Running Time	Developer	Materials
The intervention strategy consisted in the design and implementation of a sustainable policy and programme of action that targeted alcohol and illicit drugs in the municipality of Trelleborg (pop. 39000).	General population	– Focusing the alcohol and drug preventive strategies on children and adolescents – Decreasing heavy episodic drinking in Trelleborg – Delaying the onset age of alcohol consumption – Achieving changes in attitude toward alcohol and drinking behaviour in the adult population	1999-2001 (36 months)	The Swedish Institute of Public Health (SIPH)	The project resulted in the implementation of 7 intervention components: – a community policy and action plan on alcohol and drug management – a school policy and action plan – inspections of grocery and convenience stores where black market alcohol could possibly be sold – a comprehensive, evidence-based curriculum on alcohol and drugs was introduced in all primary and secondary schools, including a textbook – a curriculum for the parents of 7th-9th graders – leaflets containing basic information on what parents can do to promote an alcohol- and drug free adolescence for their children – a survey of adolescent alcohol and drug use in the community was publicized in the local mass media

Research	Results	Executive organisation(s)	Reach & visibility	Remarks
– Cross-sectional, non-repeated data were collected from a questionnaire distributed in classrooms (n= 1376, 724 boys and 652 girls; response rate= 92,3%): 4 different surveys: a baseline survey in 1999, one each in 2000 and 2001, and one at the conclusion of the project in 2003. – Effect analysis of socio-economic factors, daily habits and school-related elements – Comparison of the outcome variables with corresponding data at the national and regional level.	When baseline and post-intervention results were compared, the analysis indicated a decrease in harmful alcohol consumption in Trelleborg. The comparison with other studies shows that changes in these indicators took place more rapidly and consistently as a result of the intervention. Finally, multivariate logistic regression analyses demonstrated that the variations found over time were not likely to be attributable to changes in factors outside the scope of the intervention.	External evaluator: Lund University, Sweden		
Publication: Stafström, M., Östergren, P-O., Larsson, S., Lindgren, B. & Lundborg, P. (2006). A community action programme for reducing harmful drinking behaviour among adolescents: the Trelleborg Project. *Addiction*, 101, 813-823.				

Title: Addiction Prevention in Trofaiach (Pilot project) **Country: Austria**

Short Description	Target Group	Target	Running Time	Developer	Materials
Between 1996 and 2004 a community-orientated prevention-project has been carried out in Trofaiach (Styria). The theoretical background of the project were system theoretic considerations out of systemic family therapy as well as the "Theory of Diffusion" according to Everett M. Rogers.	Children/youth - Age: 10-18	The general aim was to change the behaviour of young people concerning legal and illegal drugs, especially alcohol and heroin. In the case of alcohol activities were aimed on personally reasonable behaviour, depending of the age. The regularly consumption of large quantities of alcohol (getting drunk) should be reduced by 2- 3% per year within the first 5 years of the project.	March 1996 – may 2004	b.a.s. (concerns alcohol and addiction) (NGO/ Voluntary organisation)	Adventure, brochure/leaflet, care, community drug team, community work, counselling, crisis intervention, education (skills, abilities, etc.), environmental intervention, events (cultural, social, etc.), family therapy, information, legal representation, lobbying, low level intervention, medical treatment, newsletter, parents' groups, parents' meetings, parties, peer-group counselling, posters, press advertising, psychotherapy, radio features, referral point, reinsertion/ social insertion, shelter, short-term treatment, sports, street work, teaching/ training, theme days/weeks

Research	Results	Executive organisation(s)	Reach & visibility	Remarks
Evaluation of the programme planning, process and impact evaluation: key informant approach; community informant approach; observations and estimations of key persons.	– During the first five years of the project the former taboo topic of alcohol and illegal drugs has been transformed into an openly and publicly discussed topic. – The statistics on violent crimes in context with alcohol and illegal drugs showed no significant results until now. – Concerning the general aims of the project it can be stated, that the public dealing with alcohol of the adults is changing and a consciousness towards the problem is spreading. More and more public events are organized without alcohol or at least no alcohol is given to drunk people and youth. Regular and excessive consumption of alcohol among young people is still happening but on a lower level than before.	both internal and external evaluator: Institut für Erziehungswissenschaften Universität Graz	– Through the strategic group, the working groups and including the peer educators, around 60 persons per year have participated on an average of 14 units per year. In addition around 150 persons, mainly parents, have participated in seminars and lectures. – Kids are reached at least at two times (around the age 9 and 13). Around 250 kids have been reached in an intensive kind of way: each of these kids has participated in an average of 4 units. But in addition it is estimated that between 95 and 100 % of the youth of Trofaiach have been in contact with the project throughout the first 5 years of it.	
Publications: Fazekas, C. (2002). Zur Methode gemeindenaher Suchtprävention am Modell Trofaiach. *Wiener Zeitschrift für Suchtforschung*, 25(4), S55-60.				

Title: Municipal Programme on the Prevention of Youth Alcoholism. Supply Reduction Subprogramme **Country: Spain**

Short Description	Target Group	Target	Running Time	Developer	Materials
The Offer Reduction Sub-programme intends to reduce offer and availability of alcohol for youngsters, and at the same time, to attenuate other problems related to alcohol abuse, such as road accidents. It is based in the assumption that amongst other social factors conditioning youngsters' alcohol consumption we must consider easy access to alcohol and lack of observance of regulations concerning alcohol dispensing to individuals under legal age. The method used to reduce alcohol offer to youngsters is basically centred on informative and influential and control measures, such as posters, brochures, etc distributed by police agents and alcohol-dispensing businesses intending to influence behaviour patterns by young citizens. Control measures are basically breathalyser tests and the enforcement of sanctions by local authorities on alcohol dispensing business.	Children/ youth - Age: 12-25	To reduce offer and availability of alcohol for youngsters, and at the same time, to attenuate other problems related to alcohol abuse, such as traffic accidents.	On-going programme, since may 1994	Madrid City Council (Municipal Plan on Drugs).	TV advertising, brochure/ leaflet, campaign, cinema advertising, disco, environmental intervention, give-aways, information, pins/badges, posters, press features, radio advertising, teaching/training, video

Research	Results	Executive organisation(s)	Reach & Visibility	Remarks
Evaluation of the programme planning, process and outcome evaluation: – Survey to police agents performing the breathalyser tests. – Survey to alcohol distributors and dispensers. – Survey to youngsters (at alcohol consumption places)	– An increment in the level of observance of the regulation on alcohol distribution to under age individuals has been noticed. – The number of under aged individuals consuming alcohol detected, during inspections at distribution and dispensing business, has been considerably reduced in the four years of intervention (the average number of under aged individuals detected has gone down from 10.5 to 2.4 per inspection). – Positive breathalyser tests carried out after a traffic accident by local police agents have dropped to nearly 50%. The percentage of positive breathalyser tests has gone down from 14% in 1994 to 8&% in 1997.	internal evaluator	Size of the final target group and strategic target group (number of persons, families, etc.) reached by the programme annually: 218848	This programme is part of the Madrid Local Programme for the Prevention of Alcoholism amongst Youngsters which is structured in three sub-programmes (Information and Awareness Sub-programme, Educational Sub-programme and Offer Reduction Sub-programme) aiming at common objective, but focusing on specific goals and strategies according to each target group and implementation environment.
Publication: Ayuntamiento de Madrid (1997). *Programas Municipal de Prevención del Alcoholismo Juvenil. Beber no es Vivir. Un programa Integral.* Madrid: Ayuntamiento de Madrid.				

Title: Responsible Host in Bergen **Country: Norway**

Short Description	Target Group	Target	Running Time	Developer	Materials
Responsible Host aims at preventing and reducing drink-induced violence at and near licensed premises, and discourage alcohol sales to inebriated and underage customers	Adults: managers and staff of businesses licensed to sell and serve alcohol along with customers and the general public.	Promote awareness among licensees, managers and staff of their responsibility relating to drink and violence. Train managers and staff to recognise and manage situations likely to become violent. Sale of alcohol must comply with laws and by laws Organize public information drives about the Responsible Host scheme, focusing on customers. Encourage participation in the scheme of businesses in well-known high-risk areas of the city Promote a sense of ownership among businesses to the scheme. Take steps to improve collaboration between police authorities and the industry	On-going programme, since February 2000	Directorate for Health and Social Affairs: Government organisation	brochure/leaflet, campaign, counselling, education (skills, abilities, etc.), posters, press features, teaching packages, teaching/training

Research	Results	Executive organisation(s)	Reach & Visibility	Remarks
The evaluation uses current statistics, surveys, interviews, course evaluations, and observation studies with actors playing the part of "inebriated customer".	The post-course surveys found an immediate improvement in participants' knowledge of the law (wrong answers being more than halved). The principles of Responsible Host seemed to be better known as well, in that significantly more respondents agreed partly or wholly that violent behaviour frequently occurs at or near licensed premises, and that alcohol increases the risk of violence. Interviews with managers of member businesses revealed all-round satisfaction with the scheme, and nine out of the eleven interviewees said they were able to shape the scheme significantly or very significantly.	external evaluator : The Norwegian Instiut for drug research- SIRUS	7–800 workers in the hospitality trade in Bergen have completed the course, and received a course certificate.	The Responsible Host scheme is now a permanent feature of Bergen's alcohol policy. The licensing authorities in Bergen refuse applications for extended opening hours unless the staffs have comple ted the course. The course fee is paid by the industry.
Publications: Holth, P. & Bye, E. (2004). E*valuering av Ansvarlig vertskap i Bergen 2000-2003. SIRUS-rapport nr1/2004.* Virtanen, M. (2000). *Hvordan motvirke alkohol- , narkotika- og vold-problemer i forbindelse med alkoholservering,* Rusmiddeldirektoratet. Voll, K. & Øverland, E. (2003). *Sluttrapport Ansvarlig vertskap.* Bergen.				

Title: Alcohol, Everything Under Control? A Campaign to Prevent Alcohol Abuse in Adults in Thuringia **Country: Germany**

Short Description	Target Group	Target	Running Time	Developer	Materials
A mass media campaign tackling alcohol use in the general population. The campaign understands itself as a part of national, but also international efforts towards more conscious handling of alcohol.	The "completely normal and inconspicuous consumer of alcohol"	The sensitisation of the Thueringer population to conscious handling of alcohol and also a better knowledge of the topic as well as less drinking.	On-going programme, since January 1996	SiT- prevention assistance in Thuringia GmbH "office impulse"	– T-shirts – TV features – brochure/leaflet – campaign – events (cultural, social, etc.) – parents' meetings – posters – press features – publications – stickers – teaching/training – workshops

Research	Results	Executive organisation(s)	Reach & Visibility	Remarks
Evaluation of the programme planning, process evaluation and summative evaluation (outcomes and impact)	Principal purpose of the campaign is the prevention of abuse as well as the sensitisation to problematic drinking, which could not be measured in this campaign.	external evaluator : Gesellschaft für sowzialwissenschaftliche Forschung in der Medizin m.b.H. - GESOMED	– From 23 drug prevention specialists in the Thueringer regions, 15 specialists in 13 cities took part in the program. In reaction to the campaign many institutions, enterprises and administrations participated. – Approximately 20,000 Erfurter citizens have seen the campaign. 16% of the respondents which have seen the campaign were asked to tell the medium they kept in memory. From these, 78% have indicate the medium they had seen: 51% remembered to have seen the tomcat on city light Posters, 12% remembered the tram advertisement, 6% the interior posters and 12% the remaining media. Only 12% did remember the medium. 70% remembered the correct campaign contents.	
Publications:				

Annex 1: Alcohol and the global burden of disease

So many diseases have been ascribed to alcohol that only the most important can be discussed here.

Cancers

Intensive alcohol use has consistently been related to the risk of cancer of the mouth (lip, tongue), pharynx, larynx, hypopharynx, oesophagus and liver. Evidence for these cancers has accumulated from case-control and cohort studies (Gutjahr et al., 2001; U.S. Secretary of Health and Human Services, 2000).

Cancers of the head and neck

Alcohol is clearly established as a cause of cancer of various tissues in the airway and digestive system, including the mouth, pharynx, larynx, and oesophagus. Furthermore, alcohol acts synergistically with tobacco to dramatically increase the risks of this kind of cancers (Gutjahr et al., 2001; U.S. Secretary of Health and Human Services, 2000).

Female breast cancer

Overall evidence from epidemiological data seems to indicate that alcohol increases the risk of female breast cancer. Hereby the risk by age 80 increases from 88 per 1000 non-drinking women to 133 per 1000 women who drink an amount of 60 g. Of alcohol (6 drinks) a day (Anderson & Baumberg, 2006a; Gunzerath et al., 2004). Recent studies have indicated that not only hazardous or harmful but even moderate alcohol consumption can cause female breast cancer (Gutjahr et al., 2001). The increase in risk is most clearly for women with a family history of breast cancer and for those who use oestrogen replacement therapy (ERT) (Gunzerath et al, 2004).

Stomach, pancreas, colon, rectum and prostate cancers

The balance of the evidence suggests that alcoholic beverages do not cause cancers of the stomach or pancreas, but it does not rule out the possibility altogether. Alcohol may contribute specifically to the production of cancer of the gastric and, indirectly through the production of chronic (calcifying)

pancreatitis, to cancer of the pancreas (Doll et al., 1993). Furthermore, many recent research projects have investigated whether cancers of the colon, rectum and prostate are alcohol related. Overall, evidence for a causal relationship between alcohol and cancers of these sites, if any, is weak and so far inconclusive (Gutjahr et al., 2001).

Liver problems

Alcohol is largely metabolised (broken down) by enzymes in the liver; only 20-% is excreted unchanged in the urine, sweat and breathe. Thus, the liver can be seen as the main pathway for oxidation, which is called alcohol dehydrogenase activity (ADH). By the action of ADH, ethanol is transformed to acetaldehyde, which in turn is rapidly oxidized in the liver to acetate by the action of aldehyde dehydrogenase. Acetaldehyde is a very potent and reactive compound, and it has been suggested that it is one of the major factors in the pathogenesis of alcoholic liver disease (Rodés et al., 1993; Paton, 2000). It is also well known that women are at higher risk of developing alcoholic liver disease at a lower alcohol intake and over a shorter time interval (Seitz & Homann, 2001). The three most important alcohol related liver diseases are:

Alcoholic fatty liver

Fatty liver can be produced by either acute or chronic administration of alcohol and is potentiated by increased fat content of the diet (Rodés et al., 1993). Mostly alcoholic fatty liver doesn't provoke many problems. However in more serious cases, the liver puffs up and one gets the urge to vomit, tummy ache, less appetite, and a sick sentiment. In case one stops the excessive drinking, the symptoms mostly disappear within a month. More than half of the problematic users have to contend with fatty liver (Schrooten, 2004).

Liver cirrhosis

Ascites (fluid retention in the abdominal cavity) is the most common complication of cirrhosis and is associated with a poor quality of life, increased risk of infection, and a poor-long term outcome. Other potentially life-threatening complications are hepatic encephalopathy (confusion and coma) and bleeding from esophageal varices. Cirrhosis is generally irreversible once it occurs, and treatment generally focuses on prevent-

ing progression and complications. In advanced stages of cirrhosis, the only option is a liver transplant (Schrooten, 2004). In established market economies, alcohol is regarded as the leading cause of cirrhosis. Whereas the association with alcoholic liver cirrhosis (or scarring of the liver) is clear with all cases being attributable to alcohol, debate remains whether this equally applies to unspecified liver cirrhosis (Gutjahr et al. 2001). Although no threshold level with respect to risk assessment for alcoholic liver cirrhosis exists, most epidemiological data show an increased risk of developing alcoholic cirrhosis with intake of 60g/day in men and 20g/day in women. Strong correlation exists between the risk of cirrhosis, the product of daily-consumed alcohol in grams and the time of alcohol consumption. However, only 20% of problematic drinkers develop liver cirrhosis (Seitz & Homann, 2001).

Alcoholic hepatitis

Alcoholic hepatitis usually develops when chronic alcoholics increases their alcohol intake. The most common clinical picture of this lesion initiates with fatigue, anorexia, nausea, and vomiting. A few days later, abdominal pain localized in the upper right abdominal quadrant, jaundice, and fever appear. Very few patients may develop acute hepatic failure with deep jaundice, encephalopathy, very low prothrombin time, and progressive renal failure. The prognosis of these patients is very poor, and death occurs within a short period of time (Rodés et al., 1993).

Cardiovascular diseases

The influence of alcohol use on cardiovascular diseases takes places on different levels. First, there is the influence on the blood-pressure. Besides this, there are the effects concerning cerebrovascular disease and coronary heart disease. Finally, also the influence of alcohol on the heart muscle, cardiac arrhythmias and cardiomyopathy has been thoroughly established (Klatsky, 2001). Because of the proportionally massive importance of the first three diseases, this review will only focus on these.

Hypertension (HTN)

Since the mid-1970s, dozens of cross-sectional and prospective epidemiologic studies have solidly established an empiric alcohol-HTN link, and clinical experiments have confirmed this (Klatsky, 2001; Edwards et al.,

1994). The weight of evidence suggests that hazardous and harmful levels of consumption cause hypertension in both men and women. Low-level intake, however, was not associated with HTN in men, while it conferred a small protective effect in women (Gutjahr et al., 2001).

Cerebrovascular disease (stroke)

There are two main types of stroke: ischaemic stroke, which follows a blockage of an artery supplying blood to the brain; and haemorrhagic stroke, which follows bleeding from a blood vessel within the brain. Age and HTN are major risk factors for all stroke types, and most cardiovascular conditions have differing relations to various types of strokes. There appears to be an approximately straight-line relationship between amount of drinking and haemorrhagic stroke at least within a certain sector of the risk curve. On the other hand, there is some evidence of a J-shaped relationship with ischaemic stroke, so that lighter drinking (consumption levels up to 24g/day) reduces the risk but heavier drinking (consumption levels of 60 or more grams per day) increases it (Anderson & Baumberg, 2006a; Klatsky, 2001; Edwards et al., 1994).

Coronary heart disease (CHD)

Although incidence is decreasing in developed countries, CHD remains the leading cause of death in men and women. Since it causes a majority of all cardiovascular deaths, CHD dominates statistics for cardiovascular mortality and has substantial impact upon total mortality (Klatsky, 2001). The data on CHD-related deaths are remarkly consistent: the relationship between alcohol consumption and mortality follows a J-shaped or U-shaped curve, with one to four drinks daily significantly reducing risk (see infra) and five or more drinks daily significantly increases risk. This inverse association between light to moderate alcohol consumption and CHD morbidity and mortality had been demonstrated independent of age, sex, smoking habits, and BMI (Gunzerath et al. 2004).

Foetal and postnatal problems

Available evidence supports the conclusion that alcohol-dependent women who drink heavily during pregnancy may produce offspring exhibiting features of foetal alcohol syndrome (FAS). FAS, also known as alcohol embropathy, is characterized as a continuum, with minor physical mal-

formations at one end and serious neurobiological dysfunctions including mental retardation on the other end. The skeletal and organ abnormalities of FAS may result from damage in the first trimester, whereas brain development and growth may be affected by later exposure to alcohol. The prenatal teratogenic effects of alcohol also include lethal consequences such as spontaneous abortion, low birth weight, fetal damage and premature/intrauterine growth-retardation (Plant et al., 1993; Gutjahr et al., 2001; Knight, 2001).

Overweight

There is a common perception among the general public that alcohol consumption leads to overweight and even obesity, and this is exemplified by the so-called 'beer-belly' (MacDonald et al., 1993). Indeed, alcoholic beverages contribute significantly to the overall calories in the diet of most Western countries. Based on epidemiological consumption data, the estimated contribution of alcohol to the diet of the general population varies between 4.5% and 5.7% of the total calories, but the figure is higher in most persons who consume ethanol regularly, with alcohol accounting for up to 18% of total energy. In heavy drinkers, ethanol may supply more than 50% of dietary energy (Estruch, 2001). From an epidemiological standpoint however, a relationship between moderate alcohol intake and body weight is difficult to establish, and the results of surveys are conflicting. Therefore, the only plausible explanation is that alcohol can be considered being a risk factor for the development of a positive energy balance and weight gain, with the fat being preferentially deposited in the abdominal area. Alcohol seems to be particularly important as a risk factor for overweight in drinkers with a high-fat diet and in those who are already overweight (MacDonald et al., 1993; Anderson & Baumberg, 2006a).

Neurological effects

The brain is a major target for the actions of alcohol, and heavy alcohol consumption has long been associated with brain damage. Studies clearly indicate that alcohol is neurotoxic, what makes that ingestion of alcohol has short-term effects on the central nervous system. The data available to date support a preliminary conclusion that a daily consumption in excess of around five standard drinks increases the risk of cognitive deficits. Furthermore, the consequences of alcohol use are not confined to the drinker.

Epidemiological research has shown that prenatal exposure to alcohol is a risk factor for a variety of developmental abnormalities, including learning disorders, hyperactivity and reduced intellectual functioning (Knight, 2001; U.S. Secretary of Health and Human Services, 2000). The three most occuring alcohol related neurological disorders are:

Polyneuropathy

Polyneuropathy is a neurological disorder that occurs when many peripheral nerves throughout the body malfunction simultaneously. It probably involves the classic admixture of toxicity and vitamin deficiencies, although even short periods of extremely heavy drinking can result in nerve damage (Greenfield, 2001). Symptoms are an irritating sentiment in feet and fingers followed by a possible numbness, a burning sentiment, muscle spasms and even paralysis. This disease is determined in more than 50% of the clients with chronic liquor use. Mostly, symptoms are not too heavy but in 5 to 10% of the cases, the disease is more serious (Schrooten, 2004).

Wernicke-Korsakoff syndrome

This syndrome includes Wernicke's encephalopathy and Korsakoff's psychosis, also called Korsakoff's amnesic syndrome. Wernicke's encephalopathy is associated with thiamine deficiency resulting from malnutrition. Symptoms of this disorder include confusion, ataxia (disordered gait), and visual abnormalities. Korsakoff's psychosis is characterized by anterogade amnesia, where the individual is unable to retain new information. Although these two conditions usually occur in sequence, they may exist independently; not all patients with Wernicke's encephalopathy progress to Korsakoff's psychosis, and Korsakoff's psychosis may occur without a preceding episode of Wernicke's encephalopathy (U.S. Secretary of Health and Human Services, 2000).

Delirium tremens

Delirium tremens is a clinical syndrome that may appear with severe alcohol dependence in the phase of abstinence. Persons with delirium tremens experience vivid hallucinations, tremor, agitation and insomnia, together with signs of automatic hyperactivity, including tachycardia, sweating and fever. The symptoms usually progress in severity until the patient falls into a prolonged sleep. The episode typically resolves in about 3 days and has

mortality rate of 5% due to cardiac complications, self injury, infection and hyperthermia. In a small percentage of cases, as the delirium subsides, the typical features of Wernicke-Korsakoff syndrome may emerge (Knight, 2001).

Overall, it seems that the impact on alcohol related harm differs by beverage type, such that particularly spirits, but also beer consumption has stronger effects on harm than does wine drinking. Assuming that drinking spirits and beer are associated more often with intoxication episodes, this given provides additional evidence that drinking patterns are an important factor in this context (Norström & Ramstedt, 2005).

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Part 2

Methodological backgrounds to the ECAT quick scan analysis

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1. Introduction

This part serves as a methodological background for conducting the quick scan analysis in the ECAT project. Quick scan is a term that is quite commonly used in Dutch speaking regions (Netherlands, Flemish part of Belgium). Quick scan is quite similar to the notion of rapid assessment, yet with some different or additional characteristics. It is typically undertaken in situations where results are expected within such a limited time range that conventional research approaches (surveys, in-depth qualitative studies, …) are ruled out. Quick scan is based on the analysis of existing data and on the results of short term research. In ECAT, the term "quick scan" will be used as generic term for the analysis method built on the fundaments of "quick scan", "rapid assessment" and "rapid appraisal".

Quick scans may be focused on issues in specific geographic regions such as municipalities or neighbourhoods. It combines new or existing quantitative and qualitative data to develop, within reasonable limits of time and resources, a composite picture of a problem. Quick scans contribute information that can be used to develop or improve policies, programs and other initiatives to reduce harms associated with particular issues such as substance use (Ogborne, 2006).

The conduct of a quick scan analysis in a local community is one of the pillars of the ECAT project. Conjointly with the elaboration of guidelines for the development and the implementation of alcohol prevention campaigns, a quick scan method for community analysis was developed. The main objective of the quick scan is to define prior target groups and topics and to develop a strategic concept to translate the results of the community analysis into a local alcohol prevention strategy and - as an element of it – into a local alcohol prevention campaign. This is to be achieved after:

- setting up a "representative" network of local stake holders who can provide essential information of the alcohol situation;
- constructing a structural collaboration with the stakeholders in order to translate the findings into strategic measures and into a first concrete action: a local alcohol prevention campaign.

The results of this quick scan method should provide a reliable base to elaborate local interventions to counter alcohol problems, which, amongst other possible actions, consists of an alcohol prevention campaign in the local community. In the context of the ECAT project, an alcohol prevention campaign is considered as part of a broader alcohol policy approach. The campaign should be endorsed by all actors. From this point of view, an alcohol prevention campaign can be seen as a goal-orientated action within a larger strategy.

To implement relevant actions in the field of alcohol prevention, it is essential to have a good view on the prevalent situation and the influencing factors of (problematic) alcohol use. At this moment, there still is a lack of quick scan methods for assessment of alcohol needs in local communities. Some instructive local initiatives for quick scan analysis of the alcohol situation have been deployed, but a solid, generally applicable tool is still missing. By developing, implementing and evaluating a quick scan method for local community analysis, the ECAT project intends to narrow this gap.

To build a solid methodological base to the ECAT concept of quick scan, I first took a dive into the existing practice-oriented literature with a scientific base. References were found in the VAD library, on the internet and in the PubMed database. The terms "quick scan", "rapid assessment" and "rapid appraisal" were among the included methodological search criteria. Alcohol and other drugs were the search topics. This resulted in more than 30 relevant and reliable references. The list of references is to be found at the end of this document.

2. Evidences for a community-based quick scan analysis

The conduct of an analysis at a local level reveals clear advantages. Above all, because local authorities, citizens, project workers and other profes-

sionals feel more involved. Consequently, interventions may be more successful than in a top-down dropped approach (Garretsen & Van De Goor, 2006). Community-based analysis methods allow a quick reflection to findings and developments and give possibilities to describe the effects of policy implementation (van de Mheen et al., 2006).

The study of Österberg and Karlsson (2003) points out the globalisation of both alcohol drinking patterns and alcohol prevention policies within the EU. Differences between the member states are vanishing, although cultural differences in drinking and in the approach of problematic alcohol consumption still exist, particularly between northern and southern Europe (Leifman et al., 2002). Seen from a public health point of view, this "convergence" of drinking cultures may be interpreted as a facilitating development. But this may also provoke a tendency of alcohol prevention actions and strategies becoming more and more elaborated on a national or even international level. There is nothing wrong with this evolution in itself. But since alcohol prevention needs a multi-level approach, additional attention should be paid to regional and local initiatives, including alcohol prevention research. Local or regional implementation of interventions make local or regional research desirable (Garretsen & Van De Goor, 2006).

For that purpose, an integrated community-based approach is appropriate, aimed at:

- reducing the supply and the availability of alcohol (e.g. increasing age limits, raising taxes and prices),
- reducing the demand for alcohol (e.g. school education programs, media campaigns),
- preventing or reducing alcohol related harm (e.g. bar-staff interventions, measures concerning drinking and driving).

In their support of the argument that local research may be of use for local policy makers and health actors, Garretsen and Van De Goor (2006) set five prior measures in local alcohol research:

1. Prevalence measurements:
    - What is the prevalence of (problem) drinking and/or related factors amongst different population subgroups?
    - How many people get what kind of treatment?
    - What are the groups at risk?

These data are useful to decide whether and what preventive (or treatment) activities are desirable.

2. Detecting developments over time
   - Are (sudden) developments going on?
   - Is alcohol use increasing?
   - Amongst what population subgroups and in what neighbourhoods?
   - Do treatment figures change?

On the basis of this type of information it can be decided to undertake further (analytical) research in order to detect reasons for change and it can be decided whether a prevention (and treatment) policy has to be adjusted.

3. Analytical research
   - Are there significant relationships? For example, are there relationships between alcohol (drinking) variables and neighbourhood characteristics?

     Clues for preventive activities at a local/neighbourhood level may be detected.

4. Community consultation
   - Opinions of citizens about (the lack of) facilities and services can be measured.
   - It is also possible to ask citizens about their intention to cooperate - do they like to take part in courses or other (preventive) activities?

5. Evaluation of activities

   It is recommended to measure the effects when preventive interventions have been undertaken. In a **process evaluation** the input in a program/project may be described as well as the dissemination procedures, the acceptance in the target population, etc. If the necessary conditions are met (i.e. solid investments in expertise, personnel and time), the conduct of an **outcome evaluation** makes it possible to establish effects, perhaps also the costs, and positive or negative side-effects of the program/project. Next to that one should think of a so-called **pre-evaluation**, to make good preparation of an evaluation study possible. In a pre-evaluation important questions are:
   - what intervention options are available?
   - which conditions have to be met?
   - what context is required?

Two factors contribute to the value of quick scan analysis for local communities (Ogborne, 2006):

- Involvement of multiple stakeholders: the initial impetus for a quick scan analysis may come from a variety of sources, including local agencies, existing or new coalitions in the public health, enforcement, social service or other sectors. However, the value and impact of quick scan analysis will be enhanced if stakeholders from a variety of sectors are consulted, especially when the implications of results are being discussed.
- Presentation of key findings: interim and draft reports would preferably be more widely distributed for discussion and comments before the final report is written. This will identify issues that may need to be addressed in the final report and provide feedback on draft recommendations. The final report should be widely circulated and presented at planning workshops involving key policy makers, planners and practitioners, and opinion leaders and those who are targeted by any proposed interventions. The implementation of recommendations will require skills in the development of research-based policies and programs. This process can be facilitated with a broad consultative approach and the elaboration of realistic recommendations that are clearly linked to evidence.

To determine the usefulness of a quick scan for appraising the feasibility of local intersectoral health policies as a basis for priority setting, Van Herten et al. (2001) looked at two examples in the policy sectors of education and safety. In literature relating to intersectoral health policy, two factors are usually identified as crucial for success: the availability of evidence and the degree of support. However, when developing new intersectoral policy, one has also to look at the availability of tools for implementation. Combining these three factors, Van Herten et al. developed a quick scan method which gave a first indication of feasibility based on facts in a relatively short period of about one week. The mainlines of this method are described in § 5.2.

3. Conceptual frame for quick scan methods

3.1. Characteristics of quick scan methods

Rapidity

The main characteristic of quick scan methods is that they can achieve rapidity of response. The ability to quickly collect, analyse and act on information is a key principle (Fitch et al., 2004). According to several studies and reviews the analysis phase takes from one week to six months. Although there is no specific time range defined for the quick scan analysis in the ECAT project plan, the realistic runtime of the analysis is estimated to be six months.

The "lack" of a universal approach

There is no universal approach to quick scan analysis. While most assessments will adhere to a core set of principles, in a community-based quick scan these will be interpreted according to local contexts and needs. The participative and iterative principles of quick scan methods imply a predominance of a flexible, custom-made proceeding rather than to follow concreted legalities. Quick scan methodologies are still in full development. Besides the advantages of this approach, some evident needs occur to improve existing methodological guidelines in terms of logistics and planning, data analysis, and intervention development (Fitch & Stimson, 2003).

Community orientation

Community participation and support is a key factor in quick scan. Quick scan initiatives are characterised by a extensive involvement of the community, either interpreted as "community participation" or as "community consummation". Community participation is of great value, both in the process of quick scan analysis as in the more global approach to respond accurately to local alcohol threats. Having experiences with various alcohol related problems makes local community members a valuable contributor: national or regional approaches are extended with complementary, tailor-made responses from within (Stimson et al., 2007). Fitch et al. (2004) draw special attention to the risk of stigmatising: quick scan methods should

lead to outcomes which will not inadvertently cause harm to already marginalized non-elite groups or communities.

Intervention orientation
Quick scan approaches should result in interventions. They should be seen as providing a starting point for intervention, rather than as a tool for delivering a detailed, concrete, long-term strategy. Quick scan is the trigger for profiling local problems, identifying intervention targets and bringing together key actors and resources (Fitch et al., 2004). The main strength lies in the parallel process of distinguishing the problem and dealing with this problem via the "revelation" of necessary resources to tackle them (Fitch & Stimson, 2003). The produced results give meaningful information for the development of interventions. Via quick scan results, key persons and organisations acquire information to develop, monitor or evaluate intervention programs (Fitch et al., 2004).

Multi-method approach
Quick scan uses multiple methods and data sources. Most quick scan projects apply the combined use of quantitative and qualitative research methods, often in combination with the implication of existing local data (Fitch et al., 2004).

3.2. Problem-avoiding considerations in quick scan methods

In preparing and conducting a quick scan analysis, enough attention should be paid to the avoiding of potential problems and pitfalls. In their review, Fitch and Stimpson (2003) point out the most common potential problems and pitfalls in quick scan methods:

Poor planning
Although planning is one of the most essential element in quick scan methods, it is often overlooked. "Quick" reflects to a relatively short time range, but in this limited time quite some action should take place. A perceived lack of time is seen as the most common reason for poor planning. A disequilibrium between time to collect data and time to do data analyses and make reflections on the results is a prevalent problem. But poor planning

is more than ineffective timetabling. It may also appear when more time is invested in the development of the study design than in the preparation of practical aspects and basic logistic (e.g. lack of resources for the implication of field workers, adequate budget for translation costs in international projects, …).

Unrealistic expectations

Besides the potentials of quick scan methods, caution should be exercised on the enthusiasm for the methodology. If this perspective is lost, rapid methodologies within the drug and alcohol field could be too over-sold, too rapidly adopted, badly done, and then discredited, to suffer an undeserved, premature burial as has occurred with other innovative research approaches (Chambers, 1992). Two more common causes for unrealistic expectations are:

- the inexperienced level in social science of the coordinator, leading to poor decision-making, inappropriate application, and unrealistic recommendations,
- most guidelines are still in draft format and do not clearly communicate what is realistic in terms of data collection and intervention development.

Scientific valuation

Although quick scan methods provide a systematic methodology, applicable and effective under certain conditions, which can gather and present data using a number of recognised social science research techniques, some authors identify quick scan methods as an intervention tool, as a process to instigate change, but not as a scientific method. Criticism commonly focuses on:

- poor study design and application, e.g. when appropriate methods, representative sampling, clear source referencing, or data-supported recommendations are not undertaken,
- analytically difficult concepts, required techniques can be conceptually sophisticated (e.g. induction and triangulation). A combination of misinterpretation and a lack of guidance in existing resources can lead to misapplication.

Inordinate information gathering

A good balance between perfection and pragmatism is recommendable for quick scan methods. There is a risk for imposing inappropriate methodological standards, resulting in studies that either collect too much data, too detailed data, or take too long to complete in an attempt to be thorough. There is little point in overkill in the gathering of information that which will not be used.

Inadequate training

Quick scan analysis cannot be conducted successfully without the required basic skills. Simple training courses are often not enough to introduce the concepts underpinning quick scan methods, or to build capacity among participants. All training programmes should be evaluated. A standard training package for conducting quick scan should be made available.

Lack of access to relevant information

If the responsible(s) of the quick scan analysis is not able to make contact with key populations, or it is not possible to gain key community, institutional or governmental support, then a quick scan is arguably more likely to either produce incomplete findings, or relatively ineffective outcomes. Three access-related factors are identified:

- unrepresentative team composition,
- absence of community-based consultation,
- lack of political and community support.

Poorly written reports

Many reports are written for an audience who is already familiar with the situation under investigation, and aware of the conditions under which the study was conducted. The consequences of this, however, are three-fold:

- the 'in-house' nature of such reports often implies that important contextual information is not provided,
- such reports are sometimes written in the style of a memo, where an emphasis is not placed upon the clear presentation and referencing of data, but upon communicating information as directly as possible,
- both these factors mean it is unlikely that such reports could be published and appreciated by a wider audience.

4. Methodological issues in quick scan data collection

4.1. Selection of indicators

Ideally, a local analysis would take into account multiple indicators. But the time limits of a quick scan analysis forces to make a selection of relevant indicators. As presented in the ECAT manual, the ECAT quick scan analysis is based on four main dimensions: alcohol consumption and drinking patterns, alcohol related harm, social and contextual backgrounds of alcohol consumption and potential strengths to counter alcohol related problems in the local community. In this section, we highlight some methodological frames that can be used to collect data for these four main dimensions. Which indicators are taken into account depends on opportunities and constraints in the local situation.

From 1998 to 2002, the EC co-funded research project European Comparative Alcohol Study (ECAS) was undertaken. In the first part of the project (ECAS I) the aim was to study alcohol policies, alcohol consumption and alcohol related harm within an international-comparative and longitudinal approach. ECAS I was structured into four interrelated but yet distinct domains:

- analyses of alcohol policies,
- analyses of trends in overall alcohol consumption,
- analyses of drinking patterns,
- analyses of alcohol related harm.

In the second part of the study (ECAS II) the aims were to estimate the prevalence of unrecorded alcohol consumption in a cross-sectional study, to estimate trends in unrecorded alcohol consumption in the member states and to assess the reliability and validity of alcohol related harm indicators (Leifman et al., 2002).

Besides placing the emphasis on the need of collecting data of alcohol consumption, the ECAS projects pointed out the need for collecting drinking patterns related indicators. One of the main findings of both projects was that total alcohol consumption counts as an overall indicator of alcohol related problems, whereas its structure with regard to beverage categories and mode of sales is more related to drinking patterns. Or, as the authors put it:

"Recorded per capita alcohol consumption does not permit any detailed analyses of consumption and drinking patterns, nor is it possible to break down these consumption data into sub-populations defined, for example, by gender and age."
(Leifman et al., 2002, p. 37)

Indicators of total alcohol consumption should be complemented by indicators of drinking patterns. According to the ECAS findings, the most important indicators in this regard seem to be:

- the share of abstainers in the total population, among males and females, and among adolescents, both boys and girls,
- the share of heavy drinkers in the total population, and among males and females,
- the share of the total alcohol consumption consumed as an intoxicant, among males and females, and among adolescents, both boys and girls,
- the frequency of heavy drinking occasions (binge drinking) among men and women,
- the share of total alcohol consumption consumed with meals, among males and females.

Heavy consumption, as well as binge drinking, is directly linked to alcohol related health problems. In this regard measuring these two aspects adds an essential benefit to the use of data on total alcohol consumption as an indicator of alcohol related problems. Data on the share of heavy consumers and binge drinking, as well as the share of abstainers and alcohol consumed with meals, are important indicators when trying to understand the role of alcohol in the society and the possibilities to influence alcohol consumption and related problems.

Concerning alcohol related harm, Leifman et al. (2002) propose to take indicators of alcohol related mortality and morbidity into account. For morbidity, they use the following alcoholic liver diseases (according to ICD-10) as indicators:

- alcoholic fatty liver,
- alcoholic hepatitis,
- alcoholic fibrosis and sclerosis of liver,
- alcoholic cirrhosis of liver,
- alcoholic hepatic failure.

Mentioning alcohol related harm, Rehm et al. (2003) indicate more than 60 disease conditions that are linked to overall consumption or average

volume of alcohol consumption. It is demonstrated that average volume of alcohol consumption is correlated with measures of acute consequences such as injury and injury-related death. Besides volume, the ability to predict these injury measures is improved by taking patterns of drinking into account. The impact of average volume of consumption on mortality or morbidity is partly moderated by the way alcohol is consumed by the individual, which in turn is influenced by the cultural context.
The international guide for monitoring alcohol consumption and related harm (WHO, 2000) specifies two relevant aspects for data gathering on alcohol consumption: volume of alcohol consumption and high risk alcohol consumption. According to the level of allocated resources, WHO specifies indicators for measuring both aspects. Besides guidance in collecting data on alcohol consumption, the WHO guide extends the focus on alcohol related harms. Alcohol related harms are differentiated in "chronic harms" (problems caused by long term heavy use) and "acute harms" (problems caused by occasions of intoxication). The summary of the WHO recommendations is presented in annex A.

In another publication, the WHO states that the conceptualisation of alcohol related problems has practical relevance for the perception of indicators of harm that can be observed in a community. Such indicators are important to describe the role that alcohol plays in a community, for educational purposes and as a means of determining a baseline of harm from which trends may be monitored (Hannibal et al., 1995). The relationship between alcohol consumption and the resulting harm needs more clarification on a community level. To do so, the WHO suggests that answers should be provided to six key questions:

- which segments of the population consume the most?
- which segments of the community develop problems?
- who seeks help and in what circumstances?
- how are the foregoing related to help-seeking behaviour for other problems?
- how is alcohol availability linked to the foregoing?
- what are the communities' norms and values of alcohol consumption and problems?

To facilitate the answering of these questions, the following list of relevant indicators of harm was worked out:

Type	Indicators
Health	Mortality from liver cirrhosis, pancreatitis, violent death (accidents, suicide, homicide), … Morbidity from liver damage, parasuicide, hypertension and head injury. Alcohol related problems among the clients of primary health care workers, general hospital wards, psychiatric clinics, …
Social factors	Alcohol problems among social service clients, family disharmony/ violence, marital break-up, social welfare allowances, …
Employment	Work impairment, working accidents, absenteeism, sickness, …
Crime	Offences related to drunkenness, traffic accidents, underage drinking, police time devoted to dealing with alcohol problems, …
Attitudes and beliefs	Significance of alcohol in lifestyle, community concepts of alcohol related problems, presentation in the media of alcohol, …
Consumption patterns	Measures of patterns of alcohol consumption (quality and frequency), beverage choice in the community, time and location of drinking, …

Based on scientific (validity and reliability of indicators) and practical criteria (appropriateness, relevance and availability of data), the Center for Applied Research Solutions lists a number of selected indicators in a framework of alcohol and drug abuse risk and protective factors (CARS, 2004). The four groups of factors are:

- community factors, such as the availability of substances, community laws and norms favourable to use, extreme economic deprivation, high rates of transition and mobility and social disorganization;
- family factors, such as family history of substance abuse, poor family management practices, parental use and favourable attitudes towards substance use and family conflict;
- school factors, such as academic failure, low commitment to school, school related problem behaviours;
- individual and peer factors, such as peer rejection, early and persistent problem behaviour, alienation and rebelliousness, substance using friends, favourable attitudes toward substance use and early initiation of substance use.

Sherman et al. (1996) conducted multivariate data analyses on a large number of potential indicators in the assessment of alcohol and drug dependence in urban local communities. Although drinking patterns were not included in this study, it is of particular interest in the selection of relevant non-alcohol related indicators.

One factor clearly had the most impact on the rate of people seeking help for their alcohol problems. This factor was called the "primary environmental deficit scale"[1]. It was composed of 45 significant indicators. Socioeconomic variables and public health variables were the most important contributors, both in numbers as in strength (highest factor loadings). Socioeconomic variables consisted of percentages of the populations living in poverty, receiving public aid, being unemployed, having low household income and living in deprived housing situations. Public health variables consisted of the population rate of mortality, mortality related to substance use (alcohol as well as tobacco and illicit drugs), specific diseases and infections (e.g. syphilis, tuberculosis, AIDS, hepatitis B), juvenile health indicators (teen birth rate, infant mortality rate, low birth weight rate) and homicide rates.
Other variables in this factor are criminal variables (rates of vehicle thefts, alcohol or drug related arrests, homicide arrests, sexual assault arrest, robbery arrest), educational variables (school enrolment rates, school attendance rates, reading score, education level of the adult population), treatment admission variables (proportion of area admissions for alcohol use, cocaine use and opiate use) and alcohol availability rates (estimated packaged goods licences).

4.2 Data collection

The local quick scan analysis demands the inventory of sources that can deliver relevant data and information. In general, five main sources are available:

- existing literature and documents,
- general statistical data,
- information from services and institutions,
- information from local groups and individuals,
- information from the substance users.

(Hartnoll et al., 1998).

In this section, we give a brief account of possible approaches in collecting data.

1 This factor contributes 49,1% of the variance, whereas the other significant factors add from 1.6% to 8.8%. In multiple regression analysis, this factor clearly is the strongest predictor, with β-values between .63 (R^2= .60) and .82 (R^2= .79).

4.2.1. Archival data

Archival data include figures of people seeking treatment, figures of deaths resulting from drug abuse, arrest figures, changes in specific types of crime associated with alcohol abuse, figures of callers to anonymous help lines, etc. By definition data collection and analysis in quick scan methods are expected to be complete within a relatively short period of time. The time span depends on the issues of concern and the resources available (Ogborne, 2006).

The collection and review of archival data should be the first step in quick scan analysis. But the person responsible for conducting the quick scan should be aware of the fact that the value of archival data is likely to be quite variable. The following sources of information could be considered (Ogborne, 2006):

- existing statistics: these statistics should always be interpreted with caution, because they may be incomplete, out of date or not optimised for specific purposes,
- research reports: the quality of the reported research also needs careful consideration, especially if it has not been peer reviewed prior to publication. The relevance of particular reports to a specific situation also needs careful consideration. It may be inappropriate to assume that the results for one setting or population can be generalized to others,
- reports by non-governmental organizations (NGO): local stakeholders can identify these reports. Reports from various treatment centres and from community agencies and coalitions may include descriptions of the various activities and programs of these organizations and may indicate their concerns about, and responses to, specific issues such as alcohol use. These reports may also include information on the effectiveness of current interventions,
- policy documents relating to drug abuse prevention and treatment.

In their publication "Developing a local alcohol misuse plan: a framework for planning and commissioning local alcohol services", Alcohol Concern (1995) lists a range of possible opportunities to collect archival data on a local level:

- data from existing services,

- mortality data (deaths directly attributable to alcohol, such as liver cirrhosis),
- morbidity data,
- analysis of social work case-loads: recording the number of cases in which alcohol problems are present,
- analysis of community psychiatric nurse case-loads: recording the number of cases in which alcohol problems are present,
- analysis of data from general practitioners: analysis of social work case-loads: recording the number of cases in which alcohol problems are present, recording the amount of alcohol that patients claim to drink on average each week,
- analysis of data from accident and emergency admissions due to a positive blood alcohol concentration,
- analysis of police and judicial data: alcohol related crime, prevalence of domestic violence, rate of offenders on probation with alcohol related offences, …

Another useful reference, even though it is aimed for analysis of the drug situation, is the EMCDDA-publication "Methodological guidelines to estimate the prevalence of problem drug use on the local level" (EMCDDA, 1999). Some of the mentioned data sources might be relevant for a quick scan of the local alcohol situation as well: data from treatment agencies, general practitioners, emergency services, hospitals and police. Comparability of definitions between sources is required: time period, age range, geographical area, drugs used, nature of drug use, etc.

Besides mentioning the usefulness of archival data, some more critical reflections about these data seem to be appropriate. A first consideration concerns the investments that are necessary to collect relevant data. In most countries a range of local, regional and national data are available, but are local stakeholders prepared and willing to struggle through the jungle of data bases to collect relevant data? A second consideration concerns the reliability of accessible data. It is not always possible to have a clear view on the process of research methodology and data analysis, nor on the criteria for the composition of accessible data. It is absolutely recommendable to have this information in order to judge whether the data are reliable enough for using in the quick scan analysis or not.

4.2.2. Data from additional quantitative research methods

As already mentioned, per capita consumption data are a key element in estimating alcohol exposure. Per capita data are a useful measure for cross-country comparisons. They are relatively easy to obtain and are available for the majority of the countries. But in the context of alcohol consumption on a local level, we encounter some obstacles. Quantitative research, such as population studies on drinking patterns and alcohol consumption, is labour-intensive and thus not appropriate for quick scan methods. However, some quantitative techniques may be interesting for applications in quick scans. One of the possible applications are estimates of local alcohol consumption levels made by extrapolation of national or regional data (Alcohol Concern, 1995).

There are a range of methods that can be used to estimate the prevalence of drug misuse. Two approved methods are multipliers-benchmark and capture-recapture methods. But since these methods demand an important amount of time, means and skills, the opportunities for ECAT should be weighed cautiously.

Capture-recapture methods

Capture-recapture methods can be useful in describing the known using population. Information on the nature and extent of the unknown population of substance users is also required to give the complete picture of substance use, and in particular the size of the unknown population of substance users is needed to obtain the required prevalence estimate. Capture-recapture methods have been increasingly used to obtain estimates of the number of 'hidden' substance users and the prevalence of substance use in an area (EMCDDA, 1997).

In a study of Hartnoll et al. (1985), data concerning opiate users who had attended a drug clinic and those that had been admitted to a hospital for infectious diseases were collected. By comparing these sources of data, they found that approximately a fifth of the hospital sample had also attended the drug clinic. Thus the total number of opiate users could be estimated to be five times the number who attended the drug clinic. In this case, the size of the hidden population of drug users was estimated by employing two existing sources of data.

This example masks some of the problems of the methodology. Care must be taken in making direct comparisons between the known population, the estimated population and the number of people contacting treatment services. There may be many valid reasons why only a proportion of the total population of drug users are in contact with services. Some of the opiate users may not wish to seek treatment for their drug problems, indeed they may not even perceive themselves to have a problem. Others may feel that their problems may not be catered for by existing services (EMCDDA, 1999). The estimated figure would be an underestimate if those who were attending in the clinic were more likely to have been admitted to the hospital. Thus the estimate is biased if there is some kind of relationship between the data sources. Unfortunately it is often unclear if such relationships, or interactions are present, so the validity of these estimates are often questionable.

The capture-recapture methodology can compensate for some of these problems by employing three sources. The extra information present in a third sample can then be used to examine whether or not dependencies are present between data sources and, if they are, the estimate of the total population size can be adjusted accordingly (EMCDDA, 1997).

Multiplier-benchmark calculations

In multiplier-benchmark studies, pre-existing data, usually on a national level, are being used. Data are based on behaviour or events that are common in the target population of problematic substance-using. Possible data sources are:

- registers/records from treatment centres,
- registers/records from general hospitals,
- registers/records from psychiatric hospitals,
- registers/records from doctors and medical professionals generally,
- registers/records from emergency wards,
- drug-related deaths registers,
- police and judicial records,
- …

Such pre-existing information, which can be an anonymous count of the key behaviour over a fixed time period, is called the benchmark information. Along with that national data set, an estimate of the proportion of the target population who have experienced the event is required (e.g. who

have been arrested, who have died, etc.). The inverse of that proportion is called the multiplier (UNODC, 2003).
The definition of the benchmark subgroup is selected primarily for the convenience of the researcher, and it is simply a stepping stone to calculating the answer. Substance user deaths, treatment attendance and police arrest records have each been illustrated as used in multiplier analyses. Any clear and precise definition will do, but it must be the same definition that is used in both the enumeration of the benchmark and in the sample data collection to determine the multiplier. From the point of view of robustness of the prevalence estimation, that is a strong advantage (UNODC, 2003).
The assumptions on which the method is based should be carefully considered. First, it must be assumed that the benchmark data are accurate. Unfortunately, routine data sources can be notoriously inaccurate, because of underreporting or incomplete data collection. When using a benchmark like treatment numbers, it may be necessary to specify a list of clinics that are being used in order to ensure the precise equivalence of benchmark and multiplier definitions. That would be especially true in studies that used geographical stratification, where drug users in one region may be treated in another (UNODC, 2003).
Multiplier techniques are more often used to estimate illegal drug abusers, especially opiate users. The reason is that more benchmarks and multipliers are available to estimate these populations: treatment records, crime or police statistics and mortality rates. Similar data are less available or less accurate to estimate problematic alcohol users. A search in Medline's addiction journals shows no abstracts mentioning multiplier techniques to estimate populations with problematic alcohol use.

4.2.3. Data from additional qualitative research methods

Qualitative methods are used to get a better insight in phenomena and in relations between factors. Although the number of respondents is limited compared to quantitative research, time investments mostly are as high. In fulfilling the condition of limited time investment, only a few qualitative research methods are applicable.

Qualitative rapid assessment

Although we classify the ECAT analysis under the term "quick scan" it incorporates most of the strengths of the rapid assessment methodology. For this reason, the methodological base of rapid assessment is highlighted in this section.

In general, qualitative research also demands an extensive investment of time. But some techniques have been developed to conduct an analysis in a shorter range of time. The most common example is rapid assessment or rapid appraisal. This is a rapidly evolving approach to analysing situations in order to develop interventions. The methodological antecedents of rapid assessment may be found in anthropology and sociology. In the last decades there has been a proliferation of rapid assessment studies in the drugs field. They mostly have focused on local and regional communities. The majority of rapid assessments undertaken in recent years have focused on drug use and drug injecting and the risk of HIV infection.

Rapid assessment techniques are conducted quickly, it generally takes a period of three months. Rapid assessments are generally judged by their adequacy for intervention rather than by scientific perfection. They focus directly on practical outcomes. Rapid assessments use research strategies that have a high output of information in relation to input of research effort. They are concerned with making assessments in order to develop responses, and not as a means of generating research knowledge for its own ends. There is a creative interplay between the collection and interpretation of data and the development of interventions. This may permit responses to be developed and implemented during the course of the assessment (Stimson et al., 1999).

The objective of rapid assessment is to construct a model of the local situation consistent with the way local people understand it. Rapid assessment is an iterative process: every cycle of data collection and data analysis produces additional results. It is important that the researchers interact substantially, in order to avoid that crucial issues and information will be missed (Beebe, 2001).

As part of the iterative approach, cross-checking is essential to the process of reporting and drawing conclusions. The choice of local stakeholders should be determined in the beginning of the process. They should be informed on the used methods and they should be included in the collection procedure of the advance materials. The results of each phase of

the analysis should be repeatedly shared with the local insiders and should be tested to the knowledge and experiences of these insiders before final conclusions are drawn. They have to add corrections and interpretations to the results. Checking back with insiders is a key aspect in the iterative process of data analysis. It is of great scientific value that the informant agrees with the analysis of the researcher (Beebe, 2001). One of the typical pitfalls is that the iterative cycle is "sacrificed", due to pressure of time at the end of the process. As a consequence, the data cannot be fully backed by the local stakeholders. This marks the need to foresee enough time for iterative cycles in the planning of the analysis process.

Rapid assessment is defined by the basic concepts of triangulation and additional data collection. For Beebe (2001), a fervent qualitative thinker, triangulation does not describe the combination or mixing of qualitative and quantitative research. For him, the principles of triangulation include:

- an intensive interaction and collaboration in a multidisciplinary team, in order to collect data through semi-structured interviews, through observations and from information collected in advance of the rapid assessment,
- successful triangulation for rapid assessment depends upon conscious selection of researchers (techniques, disciplines, theoretical backgrounds). Researchers should represent different disciplines that are relevant to the topic.

Methodologically, Beebe is in favour of a combination of information from semi-structured interviews and information from observations, collected in advance. Semi-structured interviews provide opportunities for triangulation, as team members representing different disciplines initiate varied lines of inquiry and raise issues that otherwise would be overlooked.

It is essential that existing basic data (annual reports, survey reports, research papers, official statistics, …) are collected in advance. The availability of this information increases the opportunity for triangulation resulting from the information collected in advance and the information collected during the fieldwork.

An important notice for the ECAT project is that interventions developed in one location may need to be modified to be used elsewhere, and it is clearly inappropriate to assume that interventions proved effective in one setting will necessarily be translatable to another (Stimson et al., 1999).

(Group) interviews

Ogborne (2006) proposes other qualitative techniques that can be conducted in a rather short period of time. Besides interviews with (former) users, which seems too diverging for for ECAT purposes, the following methods are based on interview techniques.

- Interviews with key informants

  Key informants are those known to have special knowledge due to their role or community position. This includes professionals working in various agencies and sectors (policy, enforcement, treatment, education, etc.), community leaders and elders, as well as current and former users and others with close links to a particular alcohol scene (e.g., bar keepers, club owners, street/outreach workers). These could all provide useful information and perspectives on issues of concern and some might become "indigenous field workers" and make observations for the research team and locate, recruit and interview cases of interest.

- Focus groups

  Focus groups have been used extensively in rapid assessments. Groups that involve substance users and those with intimate knowledge of local scenes can potentially generate useful information on a variety of issues, including the nature and perceived significance of specific substance use issues, group norms and practices, and factors that influence substance use. Groups of other community stakeholders can potentially generate ideas about policy and intervention options. Focus groups can also be created to review and evaluate the information gathered in a rapid assessment.

  Focus group interviews can be very useful in collecting data and insights that would be less accessible without group interaction. On the other hand, group interviews may reveal general beliefs about preferred patterns instead of what actually exists. That is why Beebe (2001) suggests that the same interview topics of the group interview should be covered with individuals ("what do local people do…?" $\rightleftarrows$ "what do you do…?").

- Network analysis

  This technique attempts to estimate the prevalence of a hidden substance using population through direct contact with a small sample of users who in turn provide information on their peers. Network analysis often involves a process called 'snowballing', which creates

a referral chain to allow the researcher to contact drug users. Those initially interviewed are asked to introduce researchers to others in their networks. These are then interviewed and asked to make further introductions. An alternative process to snowballing is 'nominee peer groups' where users are asked for the number of their friends who use drugs or are in treatment. It is usually used to estimate the ratio of known to unknown users (Stationery Office, 2003).

A disadvantage of network analysis is that the representativeness of the final sample is unknown and there is a risk that the sample will be more homogeneous than the population. Another disadvantage of this method is that researchers must rely on interviewees to explain the aims of the study and to motivate new subjects to come for an interview (Ogborne, 2006).

Besides these general disadvantages network analysis is time consuming and therefore may not be appropriate for quick scan methods.

- Nominal group techniques

  Nominal group technique (NGT) is a consensus technique whose purpose is to define levels of agreement on discussible topics. Nominal groups are thought to generate higher quality ideas than interacting groups typical of brainstorming. Contribution from all participants is encouraged and every individual's idea is given equal standing. Participants of NGT must have insight into the main issue or problem, in order to articulate considered views on this issue or problem. During a NGT meeting, group members initially spend time reading and considering six key findings or problems, to ensure that they were all approaching the issue from a similar conceptual basis. NGT is generally used to actively split domain identification into separate creative and evaluative phases which generate and rank ideas in response to the research question. Group members silently write down their ideas, without discussion with other group members. Discussion may only take place for the purpose of clarification (Tully & Cantrill, 2002). The expression of individual ideas in front of the group and the evaluation in terms of relative importance may increase participant commitment (De Ruyter, 1996).

  De Ruyter (1996) uses a five stage model for NGT. First, the session moderator presents the isue under discussion and makes sure the participants fully understand the (written) problem statement. The par-

ticipants are invited to reflect and record their responses on a sheet of paper which contains the problem statement. Second, the moderator asks each participants to mention one of the items that they have written down and writes each item on flipcharts or on large sheets of paper displayed on a wall, visible to all participants. This is repeated until all items of each group member have been recorded. New upcoming ideas and views during the process may be expressed as well, but without verbal interaction between participants. Third, the complete set of items is reviewed and duplications are eliminated by the moderator. After this revision, a code (e.g. a number or a letter of the alphabet) is assigned to each item of the set of ideas. Fourth, the relative importance or priority of each item is established by a voting procedure. This may be done by asking each participant to select a fixed number of items that (s)he considers to be the most important and subsequently rank them by priority. Finally, the results are compiled and the items are assigned an aggregate score on the basis of the individual scores.

De Ruyter's study, comparing the value of focus groups versus nominal groups, revealed that nominal grouping is useful for the purpose of new idea generation and the identification of priorities in a list of ideas and/or attributes. In this study experiment, nominal group members produced a significantly larger amount of service enhancements than respondents who participated in the focus groups (De Ruyter, 1996).

Another benefit of NGT is that it does not demand high levels of expertise from the participants. Every participant writes the ideas on the issue down in his of her own way. In their study on the usefullness of NGT in physiotherapy research, Potter et al. (2004) demonstrated that NGT is cost effective, time efficient and equally well utilised with both health professional and consumer groups.

4.2.4. Triangulation

Each method of data collection has strengths and weaknesses. For instance, one of the most quoted weaknesses of qualitative research is the limited ability to generalize the findings to a larger group. Although qualitative methods can contribute a lot in a quick scan analysis, the limits of generalisability should also be considered in qualitative analysis in local communities. The principles of methodological triangulation, the use of

a number of different methods in research, try to reduce the weakness in one method by using another method that is strong in the area that the first is weak. It demands a targeted combination of quantitative methods, including the measurement of standardised core indicators, and qualitative methods on questions dictated by the empirical social reality at the current time and place. Nutbeam (1999) defines triangulation as the combination of different sources leading to better knowledge: *"it gathers evidence from different sources: the more consistent the evidence from different sources, the more the validity of the results can be presumed."* In other words: triangulation is a method applying more than one approach to answer the same question (Van de Mheen et al., 2006).
Linking qualitative methods (e.g. collecting behavioural data through qualitative methods and describing the context) and epidemiological survey results (e.g. use of survey methodology to profile drug users behaviour) may have a complementary benefit. Qualitative research can also be used to question and to explore the findings of quantitative research and to "unpack" the social and cultural factors underpinning statistical trends in substance use (Fitch et al., 2004).

Harvey and MacDonald (1993) describe three basic types of methodological triangulation:

1. one researcher using two or more research techniques,
2. two or more researchers using the same research technique,
3. two or more researchers using two or more research techniques.

Methodological triangulation can be used for a number of purposes:

- to collect different types of information (qualitative and quantitative, primary and secondary, …),
- with two or more researchers using the same method their results can be compared to see if they agree that they have seen the same things in the same ways,
- to check that data collected in one form is both reliable and valid. For example, observational methods could be used to check results obtained via structured interviews,
- to verify/confirm that any data collected is accurate.

Bryman (1992) indicates nine motives for integrating quantitative and qualitative research:

1. the check for examples of quantitative against qualitative results as basic logic of triangulation,
2. and vice versa,
3. quantitative and qualitative results are combined to provide a more general picture of the issue,
4. structural features are analysed with quantitative methods and process aspects with qualitative methods,
5. the perspective of the researcher drives lead to a quantitative approach while the viewpoint of the subjective is better off with a qualitative approach,
6. the problem of generality for qualitative research can be solved by adding quantitative findings,
7. qualitative findings may facilitate the interpretation of relationships between variables in a quantitative data set,
8. the combination of quantitative and qualitative results clarifies the relationships between aspects on a macro level and aspects on a micro level,
9. some hybrid forms use qualitative research in a quasi-experimental design.

Garretsen and Van De Goor (2006) state that data on alcohol should be included within a broader data collection. This is cost-effective and offers the advantage that data about (problematic) drinking can be linked with other variables like health (problems), neighbourhood characteristics, data on possible target groups, other lifestyle characteristics, etc. Health and health related problems are more and more monitored at municipality level or even neighbourhood level. This may be done by using all kinds of (health) surveys or by means of local information systems in which survey data and other data are kept. Other data may include all kinds of statistical information (mortality rates, data on housing, employment, education, treatment figures, etc.), documentary information and views of key informants and key members of the community. Such a combination of mixed quantitative and qualitative data has proved to be advantageous (Greene et al., 2001).

A more critical note to end: some methodological experts warn for a too optimistic interpretation of the benefits of triangulation. Golafshani (2003)

comments that triangulation, including multiple methods of data collection and data analysis, does not suggest a fix method for all the researches. The methods chosen in triangulation to test the validity and reliability of a study depend on the criterion of the research. If they are to be relevant research concepts, reliability, validity and triangulation have to be redefined in order to reflect the multiple ways of establishing truth.

5. Quick scan analysis: four useful practices in health promotion

In order to have a good frame to develop the quick scan analysis method of ECAT, four useful practices serve as a reference. The first is the Belgian monitoring instrument MILD. MILD is developed to monitor local substance use phenomena. The focus is on illicit drug use, but alcohol use is also part of the analysis. Although it is not specifically aimed at alcohol use, the MILD methodology is useful for the ECAT method. A second practice is based on the article "Rationalising chances of success in intersectoral health policy making" (Van Herten et al., 2001). In this article, the authors indicate some core questions to measure success factors for a successful intersectoral health policy. The third useful practice is the SEARCH project about drug prevention for refugees and asylum seekers. This project documented the situation of drug problems among refugees in a number of EU Member States, in order to identify good practices and to develop new approaches. Two Australian community research projects on alcohol issues are the fourth useful practice for ECAT.

5.1. MILD

Researchers from the Belgian universities of Ghent and Liège developed a local drug monitoring system, abbreviated as MILD. The research project was financed by the Belgian Federal Science Policy Office. The aim of MILD is to collect data and signals for local government to adjust the policy or to develop a project in restricting the problems and civil nuisance caused by drug phenomena. Methodologically, MILD is mainly based on rapid situation assessment methods. The instrument was constructed on the fundaments of existing Belgian and Dutch monitoring systems. This

allows the local actors/researchers to gain insight into the nature, size and trends of a social or public health problem (such as drug abuse), and the solutions to these problems that are formulated from existing structures and services. Although the MILD instrument is developed for a larger spectrum of substances, mostly illicit drugs, it can be modified to an instrument for information and data on alcohol use. Some questions on alcohol use are already integrated in MILD.

MILD is composed of three parts: a stakeholders' survey, phenomenon indicators and structural indicators (fig. 1) (De Ruyver et al., 2006a).

Steps / *Monitoring*	*Target group ('towards Who?')*	*Information source ("with whom?")*	*Method ("how?")*	*Goals ("what?")*	*Finality ("why?")*
1. Stakeholders survey	*Policy makers*	Local stakeholders and key informants	Questionnaire	Qualitative survey of subjective impressions	Collecting data and information that are not registered
2. Phenomenon indicators		Administrators of registration systems	Figure analysis	Collecting quantitative data	To gain insight on evolutions and trends
3. Structural indicators		Local alcohol and drug coordinator (or equivalent)	Interview	To gain insight on the structural context of the local drug policy	To outline the preconditions of an integral policy

The first step in the process of analysis is to make a list of relevant stakeholders. Since representatives from different sectors as well as substance users participate in the first part of the process, both should be included as stakeholders. Among the included sectors are social welfare services, health professionals and services, alcohol and drug prevention actors, categorical counselling institutions, police and judiciary services, public servants, community centre work and local resident associations, local commercial associations, youth services, youth clubs and all other relevant actors or institutions that are to be identified via "social mapping".
Since the substance user is a very valuable source of (inside) information, it is recommended to make them part of the analysis process as well. To

obtain the confidence and willingness of drug users, which is needed for an enduring collaboration, contacts can be made via professionals (e.g. general practitioners) or services who have a confidential and strong relationship with users (De Ruyver, 2006b).

The **first part** of the MILD procedure includes the gathering of qualitative data concerning drug phenomena, in order to acquire a periodical view of tendencies in the development of the drug (nuisance) phenomena. The data are collected using a questionnaire that is submitted to stakeholders or key informants who have good current knowledge about drug phenomena because of their work, social position or personal experience. In order to achieve complementarity with existing registration systems, the questions imply the collecting of data that cannot be collected from existing sources.
To facilitate the processing of the questionnaires, the number of questions is limited and mainly closed questions are used. On the first page, some personal information is asked (name, function, experiences in the domain, …). On the second page, the objectives of the initiative and some practical information (structure of the questionnaire, estimated time investment, …) are given. The questions in the questionnaire are divided into four subjects:

- substance use
- the profile of substance users
- consequences of the substance use phenomenon
- actions related to the substance use phenomenon.

The preceding six months are used as the reference period for these questions.
The questionnaires are completed via auto-administration. The questionnaire is send to the respondents by mail. The respondents get a limited period to send back the completed questionnaire (e.g. 2 weeks).

The statistical processing can be done in a relatively simple way, by using the software programs Excel or, in case of more complex processing, SPSS or similar programs. MILD contains an intelligible way of translating the answers in a score to assess the label of priority an item should be given. The average score for each question or group of questions ("item") can be put on a scale of watchfulness. According to this scale results, policy priorities can be discussed more accurately .

In the **second part** of MILD, statistical data and figures are gathered from other sources. The phenomenon indicators put the data collected from the first part in context and can give insights into developments and changes in the nature and size of the drug phenomenon. An inventory of data sources from different levels (national, regional, local) should be made. The phenomenon indicators are divided in four modules:

- general welfare and health work
- prevention
- counselling and assistance
- security.

In each of the modules, data from all other sources and statistical data within the module are collected. To this in a structured way, a template was developed. This template includes the following variables:

- name of the data source
- type of data (survey, client registration, judiciary statistics, …)
- geographical level (national, regional, local)
- accuracy (reliability, validity)
- availability and accessibility of data
- missing data
- history of data
- contact person
- synopsis of the data

The variables to be filled in are open-ended. Obviously, the last variable is the most important.

The **third part** of MILD ("structural indicators") concerns the local policy level. The term "structural indicators" refers to the conditions necessary for an integrated drug policy. The information is obtained by interviewing a stakeholder in a key position (e.g. local alcohol and drug prevention coordinator). The interview focuses on four main subjects:

- coordination of the local policy
- existing professional consultation on local level
- existing collaboration on the field
- evaluation of the local drug policy (e.g. strengths and weaknesses).
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5.2. Quick scan of success factors in intersectoral health policy

This useful practice from Van Herten et al. (2001) is of special interest to ECAT for its contribution to add contextual elements into the analysis. The authors developed a quick scan for success factors in intersectoral health policy. They focus on three crucial factors for success: evidence, support and tools. Their quick scan consists of nine questions about these factors.

Evidence	What is the extent of the problem? Which health effects (positive and negative) can occur due to action in this policy sector? Are there causal relations between health effect and policy sector or are relations plausible?
Support	Is the subject on the political agenda? Which actors are involved? Will actors support or oppose?
Tools	Which instruments are already in use? Which instruments are proven useful? Which instruments are applicable on demand

Available **evidences** should allow to determine the extent of the problem and the relation between the proposed intersectoral health policy and its effects on health status. Epidemiological analysis of morbidity, mortality, health determinants and an understanding of the effects of interventions (efficacy, effectiveness and cost effectiveness) constitute a scientific basis for this evidence and for the identification of possible side effects.

The degree of **support** is the extent to which there is a social and political consensus relating to both the causal link and the proposed intervention. This covers all those involved, both advocates and opponents, in politics and in society as a whole.

The availability of **tools** for the implementation of intersectoral health policy is defined as the extent in which a government has tools required to achieve the proposed goals and the extent to which these instruments have proved useful and applicable.

Evidence, support and tools are not related hierarchically and interact with each other. When causal relations are evident, bargaining power is greater and support is often broader.

This quick scan method was tested in two policy fields in the Netherlands: education and security. The authors conclude that their quick scan made it possible to review these two policy sectors systematically in a relatively short time and to obtain sufficient information for priority setting in intersectoral health policy. However, the authors acknowledge that additional information and more time and information are required for a more precise assessment of feasibility. For instance, for a detailed picture of levels of support for a intersectoral health policy, more information is required about the actors involved and their influence.

To obtain a more detailed picture, the authors outline a larger frame for a quick scan. The three core success factors stay the same, but their design consists of more questions, as shown in the following figure.

Evidence	What kind of effects and side effects will occur (somatic, psychological, social?) In what time span can effects and side effects occur? How long wil effects and side effects be present? Are effects and side effects reversible? Are effects and side effects direct or indirect? In which population grous will effects and side effects be the most radical? What is the size of these target groups? In which settings will effects and side effects occur (home, school, work)?
Support	Which actors will give support? What influence do these supporters have on the content of political discussion? Which actors put up opposition? What influences do these opponents have on the content of political discussion? Which actors are neutral towards the proposed policy? Can supporters and opponents influence these actors?
Tools	Which combination of instruments is most suitable? Are the effects of the instruments plausible? Are the instruments cost effective? Are radical changes necessary? How soon should the instruments be deployed?

After prioritisation and a more detailed analysis of the feasibility of relevant policy domains, the sectors responsible for these policies should be

drawn into the process. The specification of consensus goals with measurable targets can provide the necessary benchmarks for such an intersectoral health policy.
But the authors warn of too high expectations in the progress of the easy process: different sectors have different, sometimes even conflicting, priorities. From this perspective on, it is important that the health sector takes the lead where appropriate, to negotiate and to adapt to existing agendas and priorities. To do so in an appropriate way, the health sector should understand the evidence, support and tools for implementation. But even then some obstacles could still be persistent.
The quick scan of Van Herten et al. (2001) was developed for the national level. But hey argue that the methodology may also be applicable to the local level because the evidence does not differ from the evidence on the national level. However, there may be substantial differences between the various levels in terms of support and available tools.

5.3. SEARCH: rapid assessment and response on problematic substance use among refugees, asylum seekers and illegal immigrants

SEARCH was a European project about drug prevention for refugees and asylum seekers. This project was also funded by the Public Health programme of the European Commission. It was coordinated by the German organisation Landschaftsverband Westfalen-Lippe. The project's aim was to contribute to the development of instruments in the field of drug prevention that can be used in other regions and Member States. The objectives were to obtain a picture of the drug problem among refugees in a number of EU Member States (including the needs of refugees concerning information on drugs), to identify good practice already developed and to initiate and support both the development of new approaches / information materials and the exchange of expertise.
In the first phase of the SEARCH project the focus lay on developing and piloting a method for the quick collection of valid information on drug problems among the target population, that can be used directly for drug prevention activities. To collect this information they used the Rapid Assessment and Response (RAR) method, as developed by Stimson et al. (1998). This includes the following elements in the process of analysis:

- Examining existing information: the first step in a RAR process is consulting existing information, such as research reports or reports prepared by health and drug services. First sort out what information is already available, this helps to identify possible gaps in this information. Viewing existing information can help in monitoring changes over time.
- Access and sampling: key informants with knowledge that exceeds their personal experience, play an important role because they can tell more about the whereabouts of the target group in order to facilitate access. Based on the information from these key informants networking can start by visiting places where a particular target group meets. As it is usually not possible in a RAR to study all cases in a given population, a systematic sampling of cases from the study population will be needed. Purposive samples (selection of a limited number of cases which will quickly maximise the understanding of social processes and activities) and network samples or 'snowball samples' (getting introduced by individuals closely connected with members of the population of interest; these individuals introduce the researcher to other members of the population, etc. until either no further sample members can be contacted or the point of saturation is reached) are methodological options.
- Interviews: unstructured or semi-structured interviews (using mainly open-ended questions) are used to obtain more information that helps to understand a phenomenon. Structured interviews are used to target specific topics and to check whether assumptions or the information gathered in earlier stages of a RAR are confirmed. Interviews can be conducted with individuals (more suited to collect in-depth information about sensitive issues) or with groups (useful for gathering context information).
- Focus groups: The aim of focus groups is to generate group discussion about certain topics, whereas in a group interview individuals are requested to limit themselves to answering specific questions. Participants are selected for their specific expertise or knowledge. Focus groups are good for producing a lot of information quickly and identifying and exploring beliefs, attitudes and behaviours. They are a useful instrument to formulate hypotheses, check information and find explanations for diverging information. But be attentive to the risk that the group may be dominated by one or two participants who can influence the views of others.

- Observation: The aim of unstructured observation, i.c. collecting background data on the local places where target groups get together, in the early stages of a RAR is to explore. Once decided what type of data is most relevant for the RAR, structured observation is used. It is usually carried out using observational guides and record sheets to record the presence of a particular behaviour or the number of times it occurs.
- Estimation techniques: useful instruments to assess the size of a population or scale of a problem. Multiplier technique and capture-recapture technique are two more common examples (cf. supra).

In the SEARCH project, observation and estimation techniques were omitted because of the limited time scale. The project responsible choose to design a basic RAR approach for use by people without thorough research experience, who can only spend a limited amount of time on extra work. Five methods to collect relevant information were included: collecting existing information, access and sampling, semi-structured interviews, structured interviews and focus group(s).

In the SEARCH project eight key questions are used to guide the collection of information during all phases of the rapid assessment. These key questions form the basis for the RAR process as a whole. Four key questions focus on substance use:

- Who is using substances problematically?
- What substances are used problematically?
- What is problematic substance use?
- What factors are influential in the development of problematic substance use?

Another four key questions concern possible preventive measures:

- What does the target group know about the risks of substance use?
- What are existing effective preventive interventions/preventive conditions?
- What preventive interventions/preventive conditions are needed by the community?
- What are the priorities in prevention?

The SEARCH project emphasises the need for a supportive network of stakeholders, consisting of health care workers and organisations, welfare workers and organisations, residential accommodation services, law en-

forcement, community members and groups and local and regional policy makers.

5.4. Australian community surveys on alcohol related issues

Professor Richard Midford, coordinator of the community prevention research program in the National Drug Research Institute (NDRI) at Curtin University, was involved in two relevant and useful Australian community research projects on alcohol. The four opinion-oriented questions of the ECAT brief stakeholders' questionnaire are based on research instruments used in these community projects, conducted among key informants and community members.

One project, the Kalgoorlie Alcohol Action Project, was a community initiative to prevent problematic alcohol use and to remediate associated harm in Kalgoorlie, a community of 30,000 inhabitants in the Southwest of Australia (Schineanu et al., 2007). Information from community members was gathered in the form of a community survey.
The purpose of this community survey, a quantitative instrument, was to gather information regarding consumption levels, local drinking patterns and alcohol related problems in the community, and to collect information on the awareness of respondents about local initiatives to reduce alcohol related problems and on their opinions as to what constituted beneficial interventions. This information is considered important in determining the target of interventions and the level of community support particular approaches are likely to receive in the local context. The questionnaire contained 19 items, comprising multiple choices, Likert scaling and open-ended questions on alcohol use and problems in the Kalgoorlie community. 11 respondents' opinion questions on local alcohol related issues were used for ECAT purposes:

- there are too many drinking establishments in this town,
- alcohol is a bigger problem in Kalgoorlie than elsewhere,
- the community is involved in preventing alcohol problems,
- how much a person drinks is a private matter,
- people in Kalgoorlie are drinking less now than 12 months ago,
- alcohol plays a central role in the social life of our community,
- alcohol is less of a problem now than 12 months ago,

- it's safe to walk home from the pub in the evening,
- information on alcohol and alcohol related harm is readily available in our community,
- there is a lot being done locally about alcohol problems,
- young people should be taught about alcohol.

All these questions were to be answered by a 3 point-likert scale: "strongly agree or agree", "unsure" and "disagree or strongly disagree". For the ECAT questionnaire these categories were reformulated in "agree", "not sure" and "disagree".

In the other project Midford and colleagues conducted research into the community impact of liquor licensing restrictions on the advertising and sale of alcoholic products in Port Hedland, a community of 13,000 inhabitants in the Northwest of Australia (Midford et al., 2005).
An experimental design was employed with pre and post measurement of dependent variables in Port Hedland and a control community. Data were gathered from three sources to evaluate the impact of licensing restrictions: a community survey, serial measures of alcohol consumption and harm and key informant interviews. For the latter, the researchers interviewed a number of key community informants who are knowledgeable about local alcohol issues. The interview consisted of eight questions.
Two of these questions formed the base for two open-ended questions in the ECAT brief stakeholders' questionnaire. The question "apart from restricting the advertising and sale of certain types of high strength alcohol, are there any other things you think should be done locally to reduce alcohol problems in Hedland?" was reformulated to "in your opinion, what should be done locally to reduce alcohol problems in [COMMUNITY]?"
The question "is there anything else you want to say about alcohol problems in Hedland?" was also reformulated for the ECAT stakeholders' questionnaire: "is there anything else you want to mention about alcohol problems in [COMMUNITY]?"

A fourth question for the ECAT stakeholders' questionnaire was reassembled from two Australian questions, one from the community survey in Kalgoorlie and one from the community survey in Port Hedland. This resulted in the following ECAT question: "what do you consider to be main alcohol problem(s) in [COMMUNITY]? (Indicate maximum 3

problems)". Possible answering categories are 'alcohol related violence and other crime', 'public anti-social behaviour', 'drink driving', 'underage drinking', 'family dysfunction', 'intoxicated people at work', 'excessive drinking in sporting clubs', 'alcohol consumption seen as normative', 'alcohol abuse', 'alcohol related injuries', 'easy access to alcohol', 'health', 'emotional and psychological problems due to alcohol consumption', 'social consequences and other (open-ended category)'.

6. Integrating the methodological support in the ECAT project

The methodological backgrounds integrated in this section served as a frame for developing the ECAT quick scan method, as it is presented in the ECAT manual. Some evidences and methodological good practices were put together for the purpose of designing the ECAT quick scan analysis. The ECAT quick scan started from a set of principles that are commonly mentioned in the references we went through: the community-based orientation, the estimated "quickness" of the method, the iterative cycle of analysis and the methodological funding through a multi-method approach and triangulation.

A minimal set of relevant data and indicators, based on the Australian community research projects, is integrated in the brief stakeholders' questionnaire. In doing so, opinion-oriented and qualitative information enters the data collection. The qualitative group methods of focus groups and the nominal group technique brainwriting complete the cycle of the ECAT quick scan analysis.

Linking the methodological backgrounds to the quick scan procedure in the ECAT manual should result in a better understanding of the methodology.

Annex A: WHO-recommendations for national monitoring

Table 1: Summary of recommendations for national monitoring systems with a LOW level of allocated resources

CHRONIC HARMS: Problems caused by long term heavy use	ACUTE HARMS: Problems caused by occasions of intoxication	VOLUME OF ALCOHOL CONSUMPTION	HIGH RISK ALCOHOL CONSUMPTION
1. Rates of death from liver disease, if rates of hepatitis B and C low.	1. Rates of fatal road crashes (including pedestrians and cyclists), suicide, alcoholic poisoning and assault.	1. Per capita adult alcohol consumption from international sources e.g. FAO.	
2. Rates of death from alcoholic liver disease, alcohol dependence and alcoholic psychosis.	2. Composite measure of above plus other less frequent medium level conditions		
3. Optional extra indicator if national data on smoking prevalence known: composite measure of deaths from cancer of medium alcohol causation.			

Table 2: Summary of additional recommendations for national monitoring systems with a MEDIUM level of allocated resources

CHRONIC HARMS: Problems caused by long term heavy use	ACUTE HARMS: Problems caused by occasions of intoxication	VOLUME OF ALCOHOL CONSUMPTION	HIGH RISK ALCOHOL CONSUMPTION
1. Rates of all alcohol specific hospital episodes	1. Rates of hospital episodes for road crashes, alcoholic poisoning and assault.	1. Per capita alcohol consumption estimated from national sources (production, sales and/or taxation).	1. Per capita alcohol consumption of higher risk drinks e.g. very cheap and/or high strength categories, proportion of beer sold >3.5% alcohol/volume, or other local High Risk drink.
	2. Composite measure of above plus other less frequent medium level conditions	2. Quantity X Frequency (QF) from survey to derive population rates of consumption at Medium and High Risk volume levels.	2. Quantity X Frequency (QF) from survey to derive population rates of consumption at Medium and High Risk levels on a typical drinking day.
	3. Trend data to be adjusted by annual per capita consumption level.		3. Frequencies and %'s of all alcohol drunk on >40g days (men) and >20g days (women) - by QF; frequencies and %'s of all alcohol drunk on >40g days (men) and >20g days (women) - by QF.
	4. Rates of serious and fatal night-time crashes.		

Table 3: Summary of additional recommendations for national monitoring systems with a HIGH level of allocated resources

CHRONIC HARMS: Problems caused by long term heavy use	ACUTE HARMS: Problems caused by occasions of intoxication	VOLUME OF ALCOHOL CONSUMPTION	HIGH RISK ALCOHOL CONSUMPTION
1. Rates of all conditions adjusted by Aetiological Fraction, reported separately and combined for both morbidity and mortality – Relative Risk to be locally derived for liver disease and cancers relating to smoking. Drinking prevalence derived from national survey data.	1. Rates of all conditions adjusted by Aetiological Fraction, reported separately and combined for both morbidity and mortality – and for which applicable case series data are available for nationally specific estimates of AFs.	1. Per capita alcohol consumption also adjusted for imports, visitor consumption and home production applying the Graduated Quantity-Frequency method to estimate latter. Typical alcohol % alcohol content of drinks formally derived.	1. Proportion of total alcohol consumed in the form of High Risk drinks of any kind e.g. cheap fortified wine, cask wine, strong cider etc.
	2. Night-time rates of single vehicle crashes, serious assaults and other emergency room injuries.	2. Graduated Quantity X Frequency estimate with alcohol content of drinks derived informally from local data. To derive population rates for men and women drinking at Medium and High Risk volume levels.	2. Frequencies and %'s of all alcohol drunk on each of >40g, 60g and 100g days (men) and >20g/40g/60g days (women) – by Graduated F.
	3. Trend data to be adjusted by annual per capita consumption level.		3. %'s of all alcohol drunk above each of the daily thresholds of 40g, 60g and 100g for men and 20g/40g/60g days for women - by Graduated QF.

	4. Rates of serious and fatal night-time crashes.		4. Graduated Quantity X Frequency estimate with alcohol content of drinks derived informally from local data. To derive population rates for men and women drinking at Medium and High daily risk levels on a weekly basis.

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