Problems related to alcohol consumption

Report of a WHO Expert Committee

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WHO EXPERT COMMITTEE ON PROBLEMS RELATED TO ALCOHOL CONSUMPTION

Geneva, 20–26 November 1979

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PROBLEMS RELATED TO ALCOHOL CONSUMPTION

Report of a WHO Expert Committee

1. INTRODUCTION

A WHO Expert Committee on Problems related to Alcohol Consumption met in Geneva from 20 to 26 November 1979.

The meeting was opened on behalf of the Director-General by Dr N. Sartorius, Director, Division of Mental Health, who noted that a new phenomenon on the world scene is the rapid increase in the production of alcoholic beverages, their increasingly wide distribution and the more general availability of money to buy them. In many areas of the world these changes have come about while the populations are undergoing other profound sociocultural and economic upheavals. The impact of increased availability of alcohol in such situations has sometimes been disastrous. Indeed, in 1979, members of the Executive Board at its sixty-third session and delegates of numerous countries at the Thirty-second World Health Assembly confirmed that alcohol problems now rank among the world’s major public health concerns (resolution WHA32.40). On the basis of evidence brought forward, the conclusion was reached that in many parts of the world alcohol problems constitute a serious obstacle to socioeconomic development and threaten to overwhelm the health services.

In the past, most programmes concerning alcohol problems focused on the individual drinker, particularly the heavy drinker, including the person who had become dependent on alcohol. In recent years, however, attention has increasingly turned to the consequences of drinking for the community, for society in general. In some countries the foremost problem seems to be fatal road accidents associated with the drinking driver or pedestrian. The long-lasting disabilities resulting from nonfatal accidents may lay an even heavier burden on the community. The effects on the development of children of neglect or ill-treatment by alcoholic parents should not be forgotten. Other matters of concern which are often associated with heavy drinking are the lowering of working capacity, absenteeism, and crime.

The main purpose of the meeting was to consider what can be done about alcohol problems on a broad scale: firstly, how far they can be
prevented; and, where preventive measures have failed, how far alcohol problems can be managed so that they cause less damage to the individual and the community.

Dr Sartorius reminded the participants that WHO's main social target is the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life. Stress is laid on the need for formulating policies, strategies and plans of action for achieving this goal, which the Committee was expected to keep in mind when making its recommendations on the prevention and management of alcohol problems.

Background

Thirteen years have elapsed since a WHO expert committee paid major attention to alcohol problems. A WHO Expert Committee on Mental Health, convened in 1966, considered services for the prevention and treatment of dependence on alcohol and other drugs. Its report (1) was used to support several WHO efforts at stimulating countries to study the size and nature of alcohol and other drug problems and the way in which they were being met; for instance, two interregional seminars were held in 1971 and 1972, for which participants prepared surveys of these problems in their countries (2). More recently, the WHO Expert Committee on Drug Dependence (3), focusing its discussions particularly on prevention, considered alcohol problems among those associated with drug use.

Concern about alcohol problems began to spread and, in 1975, a resolution was adopted at the Twenty-eighth World Health Assembly requesting the Director-General "to direct special attention in the future programme of WHO to the extent and seriousness of the individual, public health and social problems associated with the current use of alcohol in many countries of the world and the trend toward higher levels of consumption", and "to study in depth, on the basis of such information, what measures could be taken in order to control the increase in alcohol consumption involving danger to public health" (resolution WHA28.81).

In the meantime, work had started on two important projects consonant with this resolution. One, carried out in collaboration between the Finnish Foundation for Alcohol Studies, the WHO Regional Office for Europe and the Addiction Research Foundation of Ontario, substantiated its conclusion that "changes in the overall consumption of alcoholic beverages have a bearing on the health of the people in any
society. Alcohol control measures can be used to limit consumption: thus, control of alcohol availability becomes a public health issue” (4). Attention was drawn to the need for improved data-gathering on alcohol matters. As a contribution to meeting this need, the first two of the above collaborating bodies collated available international statistics on the production, marketing and consumption of alcoholic beverages (5). It is expected that this work will be pursued, since it provides an essential basis for following trends in consumption, which can then be related to trends in problems.

For the latter purpose, a need was seen for clearer international understanding of what constitutes individual disabilities and broader social problems consequent on alcohol consumption, and how the extent of these problems can be studied. A WHO project on these topics was initiated in 1973. The working documents and the report of a group of investigators were brought together in a WHO publication (6).

Two further WHO international projects1 were launched in 1976. One, on the prevention of alcohol-related problems, was carried out as a collaborative project in which WHO played a coordinating role: assistance was provided by contributors from more than 80 countries in the 6 WHO Regions (7). The first phase of the second project, concerned with research on community response to alcohol-related problems, is scheduled for completion in 1980.

Over the years, a number of meetings and training courses have been organized in the WHO regions in connexion with the study of alcohol and other drug problems. Of particular relevance to the present Expert Committee was the report of a recent European conference on the public health aspects of alcohol and drug dependence (8).

Evidence of increasing damage resulting from alcohol abuse, not only in technologically developed countries but also in the developing world, was brought before the Executive Board at its sixty-third session and further discussed during the Thirty-second World Health Assembly in 1979. Resolution WHA32.40, whose adoption resulted from these discussions, called for a consideration of the ways of strengthening WHO’s capacity to cooperate with countries in their efforts to deal with problems associated with alcohol.

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1 These, and the project on alcohol-related disabilities, were carried out with the generous technical and financial assistance of the National Institute on Alcohol Abuse and Alcoholism of the United States Public Health Service.
Some of the above-mentioned studies—especially the international review of preventive measures (7)—have given considerable attention to the scientific evidence on which many of the conclusions in the present report are based.

2. THE CHANGING SITUATION

Man has been familiar with alcohol and its effects for thousands of years. It is more easily produced and more widely available than many other substances whose effects on mood, perception or behaviour have been used for recreational or ritualistic purposes.

Recently there has been greater appreciation of the full extent of the damage that can be done by alcohol. Its immediate effects on mood and behaviour, and the harmful social consequences of habitual drunkenness, have been known for centuries, and efforts have been made to proscribe alcohol—for example, by certain countries of Northern Europe and North America and, more successfully, by the Islamic countries of the Middle East. In the past, attempts to prohibit its use were based mainly on social and moral considerations; the disruptive effects of drunkenness on personal morality, family life, public decorum and daily work. The effects on health are now receiving increasing recognition, partly owing to the growth of knowledge. There is evidence that cirrhosis of the liver developing in heavy drinkers is mostly due to the alcohol itself and not to associated nutritional deficiencies, and that even moderate amounts of alcohol, if taken regularly for years on end, considerably increase the risk of cancers of the mouth, oesophagus, pharynx and larynx, as well as liver cirrhosis. In fact, in several countries providing reliable data, cirrhosis ranks among the five leading causes of death at ages 25–64 years. It has also become clear that alcohol dependence is not a condition to which only the psychologically vulnerable are prone, but that anyone who consistently drinks substantial quantities of alcohol is at risk. An examination of careful surveys in a large number of countries showed that in many cases 1–10% of the total population could be defined as “alcoholics” or as “heavy drinkers” with severe alcohol-related problems. Some estimates reached considerably higher levels for adult male populations and for persons with less severe alcohol problems. It has been known for many years that prolonged excessive drinking can give rise to a wide variety of serious and sometimes irreversible psychotic states—Wernicke’s encephalopathy, Korsakoff’s psychosis, delirium tremens and alcoholic
hallucinosis. More recently it has been confirmed through special testing techniques that heavy drinkers who are not overtly ill may show evidence of impaired cognitive functioning or some degree of brain atrophy. Evidence from several countries indicates that the mortality rate for heavy drinkers may be two to four times higher than for the general population.

To these direct effects on health must be added a wide variety of social ills. It is estimated that in industrialized countries between one-third and one half of fatal road accidents involve drivers who either have been drinking or have been taking drugs (9) and there are indications that the rates may be as high or higher in many rapidly developing areas. Surveys of violent crime in various countries indicate that a considerable percentage of those convicted of murder, rape and assault, and of their victims as well, had been drinking shortly beforehand, although it has not been possible to assess how far the drinking was causally involved. Industrial accidents, inefficiency and absenteeism resulting from alcohol consumption create further heavy problems.

One reason why the scale and variety of these ill effects have only recently received special attention is that they have only recently achieved their present proportions. The production and per capita consumption of alcoholic beverages in total populations have been increasing throughout most of the world in the last 20 years. Between 1960 and 1972, for example, recorded production increased by 19% for wine, by 68% for beer and by 61% for distilled spirits. Both industrialized and developing countries have contributed to this increase. A study of 26 countries in various regions of the world showed that the annual consumption of alcoholic beverages, in terms of 100% ethanol, was above 8 litres a head of the total population in only 2 countries in 1950, but by 1976 this level had been reached in 22. Only one of the countries concerned (France) showed a decline in average consumption over the total period and that was the country with the highest level in 1950. Eleven countries showed increases of more than 100%.

Increasing industrialization and wealth, increasing international trade and travel, leading to the addition of new imported drinking patterns to long-established indigenous ones, and a weakening of traditional cultural restraints have all played a part in this process, which shows little sign of coming to a halt. In certain countries in which the use of alcohol has been traditional, new segments of the population—notably women and young people—have become increasingly
involved in alcohol use and abuse. In some of these same countries, patterns of moderate alcohol use that were traditional have given way to new patterns that are generally more problem-prone, involving beverages of higher alcohol content, greater consumption, and contexts less subject to traditional control. In other countries, in which alcohol use was not a tradition, increased access to alcohol and increased resources have brought whole new populations into contact with alcohol and its associated problems.

Although total world consumption has never been so high, it is important to remember that several European and North American countries had a higher per capita consumption in the mid- to late nineteenth century, partly at least because they were then experiencing rapid social and economic changes similar to those now occurring in other parts of the world (see, for example, Table 2 of Annex 1, which gives consumption figures for the United Kingdom from 1885 to 1930). These previous episodes of conspicuously excessive consumption and their accompanying social ills eventually died down, having been curbed partly by a variety of legislative controls—the limitation of sales of alcoholic beverages to licensed premises with restricted opening hours, increased taxation, and the prohibition of sales to minors. Unfortunately, as the memory of the disorders and the human misery that these restrictions were imposed to control faded into the past, the controls themselves came to be regarded as oppressive and unnecessary. Eventually, many were repealed or weakened or not enforced, and the general diminution of legislative control since the Second World War appears to have played a significant part in the steady increase in consumption that has occurred since that time.

With these increases has come a corresponding or even a disproportionate rise in the frequency of the various undesirable sequelae described above. In several countries for which adequate statistics are available the growth in consumption tends to be matched by a rise in the rates of deaths from cirrhosis, convictions for public drunkenness and hospital admissions for the treatment of alcoholism and alcoholic psychoses (see, for example, Tables 1 and 3 of Annex 1, which give the relevant statistics for England and Wales and for Finland). Alcoholism and alcoholic psychoses accounted for a third of male first admissions to mental hospitals in the USA in 1972, for one-third of all patients in mental hospitals in a region of France in 1974, and for half the admissions to psychiatric services in Argentina in 1975. In some areas, general hospitals are also carrying a heavy burden: in Australia, for instance, the above categories accounted for 12% of admissions to
general hospitals in 1974, in addition to 40% of admissions to mental hospitals.

The economic costs of dealing with such problems must be counted as massive. In the USA the annual cost of alcohol-related problems, both biomedical and psychosocial, was recently estimated to have approached US$ 43 thousand million (10). To these relatively tangible costs must be added the heavy toll of human unhappiness represented by broken marriages, ruined careers and neglected children.

For the reasons set forth above, in 1979 the Thirty-second World Health Assembly declared, in resolution WHA32.40, that “problems related to alcohol, and particularly to its excessive consumption, rank among the world’s major public health problems” and “constitute serious hazards for human health, welfare and life”.

With problems of such magnitude, it is clear that even the most effective treatment programmes for alcohol dependence cannot possibly constitute an adequate response. Moreover, treatment approaches have had only limited success in this field, and there is much concern at present about their cost-effectiveness even when they are successful. In the light of all of these considerations it appears inescapable that the major focus of efforts to reduce alcohol-related problems must be on the area of primary prevention.

The recent situation was reviewed once before in WHO by the Expert Committee on Drug Dependence (3). Although this committee was concerned with the whole range of dependence-producing drugs, it felt bound to devote a substantial part of its attention to the growing problems associated with the use of alcohol and concluded that “in many parts of the world, problems associated with the use of beverage alcohol far exceed those associated with the nonmedical use of less socially accepted dependence-producing drugs, such as those of the amphetamine, cannabis, and morphine types”.

This assessment, which the present Expert Committee endorsed, draws attention to the striking disparity between public attitudes to alcohol and these other drugs, and the equally striking disparity between their respective standings in national and international law. If, in Europe, North and South America, Africa, and parts of Asia as well, the ill effects of alcoholic beverages “far exceed” those of cannabis and the opiates, why is it that these substances are regarded and treated so differently? Part of the answer is simply that alcohol is used by far more people than the other drugs. If opiates were used on anything like the same scale the resulting ill effects would almost certainly be even more serious. But another important part of the
answer lies in the historical role of alcohol, particularly in the European and North American countries that were instrumental in promulgating international legislation on narcotic drugs earlier this century. In many such countries alcohol has always had a special status, as a food and a pleasurable accompaniment to meals, as a sacred symbol, as an everyday all-purpose drink, as a means of enhancing enjoyment during festivals, holidays and celebrations of all kinds, and as an intoxicant. Although at times it has been reviled and spasmodic attempts have been made to curb or even to prohibit its use, it has remained the one culturally sanctioned intoxicant in most industrial countries. In the eyes of the populations of those countries cannabis, cocaine and opium were quite different: they were alien and dangerous and, moreover, could be banned quite safely without fear of offending established users or depriving farmers and traders of their legitimate livelihood.

The Committee emphasized that problems related to alcohol consumption can no longer be considered merely as medical or moral problems of the individual, with repercussions on the welfare of his family. These problems are now affecting the health, welfare and safety of total populations and, according to reports from some countries, even national development. Careful consideration has therefore to be given to the most appropriate local, national and international strategies for prevention and management that can be expected to reach the sizeable populations concerned, and to halt rising trends in alcohol problems. The Committee has attempted, in the following sections of this report, to assess the available evidence and to make recommendations on the use of such strategies, while indicating the constraints to be met in applying what might appear to be the most effective solutions.

3. ALCOHOL CONSUMPTION AND ALCOHOL PROBLEMS

3.1 Patterns and trends in consumption

3.1.1 Diversity of patterns of drinking

Considerable variation is found from one society to another in habits and patterns of drinking, which may differ in terms of frequency, beverage choice, amounts consumed, and the context of drinking, including the location, social setting and occasion.

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In some societies there is a general pattern of daily drinking of non-distilled alcoholic beverages with meals, mostly in a family setting, and a relatively low consumption of spirits after meals. Among other populations a distinctive pattern is seen of frequent heavy drinking of one or more types of preferred beverages, between meals, usually outside the home. Another pattern is infrequent communal drinking on special occasions when large quantities of beverages, locally brewed or specially bought and collected for the occasion, are consumed. On the other hand, habits of abstinence or near-abstinence may be widespread. Such drinking patterns, or variations of them, may be shared by the total community, or be more frequent among males, or be proscribed for persons below a given age.

Sometimes they are found only among small dispersed groups and may be distinctive of specific ethnic or religious affiliations.

In recent years, certain changes in drinking patterns have been noted, as discussed in the following sections. Individual variations in these patterns can, of course, be found in all populations but can be expected to be greater in areas that have lost or are fast losing a rather clear-cut cultural pattern with explicit norms of drinking behaviour.

The extent and types of damage associated with alcohol consumption are related to drinking patterns. It is therefore important that in establishing programmes a careful assessment should be made of such patterns and the changing trends among the populations concerned.

3.1.2 Trends in average levels of consumption in populations

Because of the diversity of drinking patterns, data on aggregate consumption (i.e., the consumption of the population as a whole) can only imperfectly reflect the nuances of cultural habits. Nevertheless, they provide valuable guidance for an assessment of basic trends. Careful analysis of available statistics shows that, with very few exceptions, the consumption of alcoholic beverages has expanded markedly all over the industrial world since the Second World War. In some countries, the overall per capita consumption level (in terms of 100% ethanol) has doubled or tripled within a couple of decades. The growth in consumption has been especially marked in countries with low starting levels, so that national differences in aggregate consumption have tended to become less marked. These observations are based mainly on data on officially recorded consumption. What is known about the development of unrecorded consumption in industrial
countries does not, however, lead to any revision of the conclusions to be drawn in regard to trends in aggregate consumption.

Lack of reliable statistics makes it difficult to provide detailed descriptions of consumption trends in many developing regions. Nevertheless, the available information and expert opinion relating to a considerable number of developing countries indicate that this is an era of a worldwide increase in alcohol consumption.

In the last few years, the trends in average consumption have levelled off in some countries. It is still too early to decide whether this is a temporary phenomenon related to economic stagnation or other factors, or an indication of a more permanent change in trends. On the other hand, the growth in consumption in many other countries has shown no signs of slowing down.

3.1.3 Changing patterns of consumption

For most countries, direct and technically comparable data on changes in patterns of drinking are practically nonexistent. Nevertheless, on a worldwide scale, a number of general trends can be established.

For areas with well-developed recording systems, a tendency towards a convergence among countries of the types and amounts of alcoholic beverages available is clearly visible. In traditionally wine-drinking countries, the rate of growth has been especially steep for beer and distilled beverages; in beer-drinking countries, wines and distilled beverages show the fastest increase; and in traditionally spirits-drinking countries an increase in the share of wine and beer within total consumption is evident. Many developing countries present similar shifts in beverage preferences, industrial products and imported brands being added to the traditional and locally produced beverages. It should be kept in mind, however, that in each type of drinking culture the bulk of the consumption increase in absolute terms is accounted for in most instances by the traditionally dominant beverage class.

The available evidence also lends support to the view that the international convergence of beverage preferences is a reflection of a more general homogenization of drinking habits. One important consequence of this international spread of cultural influences has been that whole cultures and populations having little former experience with alcohol are in the process of adopting drinking habits.

In parallel to an international homogenization of alcohol use, a diversification of drinking patterns within countries seems to have
taken place. Alcohol is consumed in new and more diverse situations, and nontraditional consumption in many instances has simply overlaid the traditional drinking patterns instead of replacing them. In some developing countries, however, the spread of international patterns has contributed to a breakdown of traditional drinking customs along with the decay of other traditional and culturally integrated habits.

Another important development has been the recruitment of new groups to the drinking population. Abstinence among women has decreased dramatically in many countries, and in a number of settings young people have also increased their drinking.

3.1.4 Effects of social change

The increasing consumption of alcohol should not be looked upon in isolation from its social context. Many parts of the world are undergoing rapid social changes. These changes include the expansion or contraction of economic opportunities, the breakdown or enhancement of traditional values and norms, urbanization and modernization. Another group of factors includes increased availability of alcohol through a drop in real cost, a weakening of restrictions, and the substitution of industrial technologies of production for traditional methods of brewing or distilling. Thus, in recent years, in many countries of the world, circumstances have been created which have been conducive to rapid increases in alcohol consumption and in alcohol-related problems.

3.2 Range and extent of alcohol problems

3.2.1 Diversity of alcohol problems

Until recently, there has been a widespread tendency to conceptualize the whole gamut of alcohol problems as manifestations of an underlying entity, alcoholism. Undoubtedly a wide variety of problems are related to the development of the “alcohol dependence syndrome” (see Annex 2). It should be pointed out, however, that there are many physical, mental and social problems that are not necessarily related to dependence. Alcohol dependence, while prevalent and itself a matter for serious concern, constitutes only a small part of the total of alcohol-related problems.
Alcohol problems may be classified according to whether they are primarily physical, mental or social in nature; according to whether they principally affect the individual drinker, the drinker's family or the general community; and according to whether they are consequences of acute episodes of drinking or consequences of prolonged drinking.

Thus, acute episodes of heavy drinking are likely to bring about short-term impairment of functioning and control in the individual drinker, possibly leading to violence, accidents, physical disorders as a consequence of exposure to climatic conditions, or arrest for drunkeness. Prolonged heavy drinking may result in liver cirrhosis, aggravation of other physical disorders and malnutrition, more prolonged impairment of functioning and control, leading again to accidents and impairment of working capacity, and perhaps finally the alcohol dependence syndrome or alcoholic psychosis. These problems may possibly be accompanied by loss of friends, family, self-esteem, occupation, means of support and even liberty. Whether or not they reach the level of the alcohol dependence syndrome, there may be a variety of repercussions on the family, including marital discord, family disruption, poverty, child neglect and child development difficulties. Both individual and family problems may have consequences for the wider community, such as public disorder and property damage, increased expenditure on health, welfare and law-enforcement services, as well as output losses, not only in industry and agriculture, but also with respect to administrative and professional responsibilities.

The relative importance of each type of alcohol-related problem varies greatly from one country to another, depending especially on the overall level of drinking, the dominant patterns of drinking, and the prevailing cultural climate. In some countries, morbidity and mortality related to prolonged heavy drinking may be the most alarming problem, whereas in others health damage and social conflicts related to episodes of drunkeness may be more important.

3.2.2 Magnitude of and trends in problems

Despite considerable diversity in the type and composition of alcohol-related problems in various countries, there is ample evidence to show that alcohol is a major public health issue in developing as well as industrial countries. In many countries, alcohol-related causes of death rank high in mortality statistics, patients with diagnoses related to alcohol either by definition or by known etiology occupy a high
proportion of hospital beds, and drinking is among the most prominent causal factors in road accidents as well as domestic injuries. Moreover, reports from a wide variety of countries indicate with remarkable consistency that health damage and social disruption due to drinking are greatly on the increase. This is especially visible in data pertaining to the burden on health facilities created by alcohol-related problems, but a fair amount of information also indicates that social problems connected with drinking are increasing in many parts of the world.

Although these circumstances apply also to developed countries, the evidence suggests that they have a particularly devastating impact on developing areas of the world. For instance, a recent unpublished review of the evidence, prepared by WHO, suggests that developing countries suffer particularly because of “the loss… of key professional and technical personnel; the unnecessary diversion of inevitably scant health care resources to deal with alcohol-related illness and accident; the impact on the stability and quality of life in expanding urban communities which, in the process of their growth, are in any case tackling all manner of difficulties; and most pervasively, the adverse impact of excessive drinking on the fundamental morale of a country where the strength and integrity of that intangible asset is vital to national progress”.

3.3 Relation of problems to aggregate consumption

The pattern of drinking may vary considerably from one society to another depending on whether alcohol is consumed on social occasions or as a part of the daily diet and whether the beverage consumed is beer, wine or spirits. In contrast, when the individual annual intake of alcohol (in terms of 100% ethanol) is studied, the shape of the frequency distribution remains remarkably stable from one society to another. This distribution probably cannot be described as having definite mathematical properties, but a large number of studies indicate that there is an empirical relationship between per capita consumption and prevalence of heavy use. Numerous studies have also found strong positive correlations between overall consumption level and various indices of health damage related to prolonged heavy use of alcohol (see, for example, the statistics for England and Wales and for Finland in Tables 1 and 3 of Annex 1). These relationships have been found in studies comparing different countries and regions as well as in studies of single countries over time. The impact of aggregate
consumption on the incidence of alcohol-related health damage has been most convincingly demonstrated in the case of cirrhosis of the liver, but similar evidence is accumulating for other diseases such as cancer of the oesophagus.

The picture is less clear with regard to health problems and social conflicts related to single drinking occasions. Accurate and comparable data on the consequences of episodes of drunkenness are more difficult to obtain than data on chronic health ailments, as social conflicts related to drinking are recorded rather unsystematically. Variations in recording practices from time to time and place to place therefore often blur any relationships that might exist. The consequences of single drinking occasions are probably determined more by prevailing patterns of drinking than by average consumption level. Significant cultural variations are found, therefore, in the incidence of social consequences of drinking that are unrelated to the average level of consumption. However, many studies of trends within countries show a clear association between per capita consumption and such alcohol problems as drunken violence, arrests for drunkenness and alcohol-related road accidents, even when due consideration is given to such confounding factors as rule enforcement and recording practices or traffic intensity. Even within a single country, the relationship between average consumption and the consequences of drinking is neither simple nor linear. For one thing, the seriousness of many alcohol problems depends to a large degree on factors not related merely to drinking. For example, improved health technology has diminished the number of fatal cases of delirium tremens irrespective of increased drinking. And societies may become more tolerant of certain forms of drunken behaviour so that arrests for drunkenness diminish simply because of a relaxation of legislation or of its enforcement. Many serious outcomes of drinking may not be related in any way to overall consumption. Thus the number of fatal alcohol poisonings may depend on the use of extremely potent surrogate alcohols rather than on the extent of overall consumption. Another point to be noted is that part of the increased drinking may be done in a more benign way so that harmful consequences increase less in proportion to consumption.

In spite of all these considerations, the available evidence suggests that, in a given cultural setting, an increase in consumption tends to be accompanied by an increase in potentially harmful drinking, whatever the specific consequences for each country and each drinking culture.
Furthermore, the evidence attesting to instances of a spontaneous reduction in the consumption of alcohol, both temporary and more permanent, as well as to those of a reduction caused by external circumstances or policy measures, indicates that the decrease has been accompanied by a diminished intake among heavy drinkers and by a reduced frequency of drinking occasions with undesirable consequences.

3.4 Problems and individual consumption rates

3.4.1 Dose response relationship and threshold

Several attempts have been made to determine a safe daily intake of alcohol below which no ill effects would be anticipated. The quantitative evaluation of the effect of alcohol intake by human beings is a fairly recent development in alcohol studies but there is substantial evidence that the risk of developing certain diseases is directly related to the quantity of alcohol consumed. Cirrhosis of the liver has been the most extensively studied in this respect, but the deleterious effect of high doses of alcoholic beverages has been demonstrated for other diseases as well, such as chronic calcifying pancreatitis and congenital defects in the fetus. A linear relationship has been shown to exist between the logarithmic risk of developing liver cirrhosis, cancer of the oesophagus and delirium tremens, and the daily intake of alcoholic beverages expressed in grams of ethanol. There is also some evidence that cardiomyopathy, coronary atherosclerosis, angina pectoris, and myocardial infarction increase with heavy alcohol consumption, although some recent epidemiological data suggest that the risk of ischaemic heart disease may be lower in light drinkers than in abstainers.

Convenient as it might be to determine a level of alcohol consumption below which one could freely drink without apprehension, discontinuities of this kind are rare in biological systems. Below a certain level of exposure, the increase in risk is so small that it does not reach significance. This artificial threshold, once considered to be about 80 g of 100% ethanol per day, was later lowered to 40 g; there is now evidence that above the level of 20 g an effect on rates of damage can be observed. Under such circumstances, an “acceptable level of risk” can be defined only arbitrarily.

The determination of the precise relationship between the risk of disease and the amount of alcohol consumed needs to be more exten-
sively investigated through adequate epidemiological studies comparing cases and appropriate population control groups, in which individuals are defined in terms of average daily consumption of alcohol.

There is some evidence that the total consumption over the total period of drinking may affect the level of risk, but this is not as clear as the effect of daily consumption.

3.4.2 Individual intake and social consequences of drinking

There is a positive relationship between overall intake and the social consequences of drinking. However, much of the variation in consequences remains unexplained even if we have full knowledge of both the frequency and the amount of intake. Drinking patterns and individual and cultural variations in behavioural concomitants of drinking are of the utmost importance as mediating factors between the amount consumed and the social consequences of drinking. In a given cultural setting, however, qualitatively distinct components of annual consumption tend to correlate closely, as though they were components of the same phenomenon—i.e., general involvement with alcohol.

In many cultures, the first signs of adverse social reaction start at relatively low levels of drinking. At the other extreme, some individuals seem to be able to drink heavily for long periods without apparently running into social difficulties. At a given level of consumption, young people tend to experience more severe consequences, presumably both because of their drinking behaviour and because of differential social control. There are also sex differences in the social consequences of drinking, probably reflecting differences between the sexes both in behaviour when drinking and in social control. Furthermore, it has been shown that variations in drinking among persons of certain social strata are affected by social controls.

3.4.3 Differential risks

The individual risk of experiencing adverse effects of drinking can be broken down into two elements, exposure and vulnerability. Exposure to alcohol can be said to exist on two levels, physiological and social. Physiological exposure refers to the individual intake of alcohol, and social exposure to the availability of alcohol as indicated by the extent of its presence, its use by other people and their attitudes towards it. Vulnerability may exist on the physiological, psychological or social level.

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Physiological vulnerability has been shown to be clearly related to sex, females having a considerably higher probability than males of suffering from various health ailments—e.g., liver cirrhosis—under similar physiological exposure. Undernourished persons may be more vulnerable than those with an adequate diet, and this may reinforce the deleterious effects of alcohol consumption in developing countries in which malnutrition may still be prevalent. There seems also to be a genetic component in vulnerability to alcohol.

Psychological vulnerability refers to the fact that under similar conditions of social exposure to alcohol certain individuals are especially prone to excessive drinking because of their personalities, beliefs, values or attitudes.

Social vulnerability is related to differential expectations of normal behaviour as well as different life experiences. Depending on the sex, age and social position of the individual, similar drinking behaviours are met with varying degrees of social disapproval and negative reactions. People who have experienced a series of traumatic life events may also be more vulnerable to alcohol problems than those who have not.

There is also an important situational element in the probability of adverse effects of drinking. For example, the consequences of drinking are more likely to be of a serious nature in work and traffic situations than in leisure situations.

It is important to bear in mind that exposure and vulnerability often work in opposite directions. Young people drink on average considerably less alcohol than adults but may be more vulnerable both because of physiological factors and because of differential social censure: the same is true for females compared with males. Because of the interplay between exposure and vulnerability, there is often an element of selection according to cultural values in the definition of certain population groups as high-risk groups.

3.4.4 High-risk groups

Countries may differ considerably in terms of which groups are at particularly high risk of developing alcohol-related problems. There may also be variation over time. Thus, each country needs to assess for itself which are the relevant groups. The discussion in this section should be taken only as a general guide.

Sex. The evidence suggests that, almost universally, males are at a higher risk of developing alcohol-related problems than females.
This is particularly true in some developing countries, in which there is very little drinking among females. However, recent reports from several countries suggest a steady increase in alcohol use and associated problems among females, particularly those in the professions. And, as stated earlier, it would appear that females are more vulnerable to alcohol-related cirrhosis than males. In addition, there is evidence from some developing countries that the proportion of young women who drink is coming close to the corresponding proportion of young men. Women may thus become a relatively high-risk group in those countries and should therefore not be left out of account in the design of prevention programmes. The fact that recent evidence suggests that the consumption of alcohol during pregnancy may affect the fetus is another reason for the identification of women as a high-risk group.

Age. Middle-aged men appear to be at higher risk than men in other age groups of experiencing chronic health problems associated with alcohol consumption. However, there is some evidence from North America that younger men are particularly prone to the development of other types of drinking problem associated with the acute affects of alcohol. Evidence is also accumulating from a number of countries that the proportion of young people who drink is increasing, that the amounts and frequency of consumption are rising and that the age of commencement of drinking is declining. This trend may imply an increased risk of the development of alcohol-related problems in later years. Furthermore, if heavy drinking starts early, associated problems may be expected to be earlier in onset, last longer, and possibly attain more serious proportions than is the case when drinking starts later.

In the developed countries there is some indication that impaired teenagers are at a particularly high risk of being fatally injured in traffic accidents. This may, of course, be due to the fact that they are inexperienced drivers as well as drinkers. Thus, there appears to be good presumptive evidence for defining young people as being at high risk of developing alcohol-related problems.

Occupational groups. Unfavourable psychosocial factors affecting conditions of work (such as isolation, monotony, low pay, pressure to increase output, and lack of career opportunities) may contribute to poor morale, stressful situations and psychological disturbance. These in turn may encourage alcohol use and lead to problems, as employers as well as employees attempt to compensate for tensions.

Physical conditions of work environments may also stimulate alcohol use and lead to problems. Thirst may be greatly increased in working
conditions that involve long hours of exposure to high temperatures and atmospheric pollution (dust, gaseous vapours, etc.). In many work-places alcoholic beverages are more easily available and cheaper than other, more effective, thirst-quenching beverages.

Many companies today are multinational in character, with operations in several different countries. They assign employees, accompanied by their families, to areas where the culture, climate, and drinking habits differ from those in the home environment. Many of these companies also employ nationals of the country in which they operate, and nationals of yet other countries. There may be increased vulnerability to the effects of alcohol use when the individual is in an alien culture lacking his habitual social and environmental contacts and controls. This is likely to be true of migrant workers in general, whether or not they are employed by multinational corporations.

There is evidence, especially from developed countries, that persons engaged in certain occupations are at particularly high risk of developing alcohol problems. These include business executives, members of the professions (especially physicians and lawyers), publicans and others concerned with the manufacture, distribution and sale of alcohol, and seamen. Evidence of this phenomenon is less clear in the developing countries but several reports refer to high rates of alcohol problems among those in executive positions, in the armed forces, and in hazardous occupations, such as oil-drilling and prospecting and the mining and metallurgical industries. The unemployed also appear to be at high risk of developing alcohol problems.

3.4.5 High-risk situations

Work. Alcohol consumption even in minimal amounts tends to increase the rate of accidents at work. It is estimated that about 10–30% of occupational accidents may have been preceded by alcohol intake. Even in modest amounts, alcohol affects the reflexes and judgement of people in situations where there is a risk of accidents (e.g., driving or operating machines, work at heights) or those in a position of executive responsibility.

In many work situations, workers are exposed to chemical or physical health hazards which affect the nervous system and the liver. There is a lack of precise epidemiological information regarding the resulting interactions of exposure to these agents and the consumption of alcohol, but it is accepted as a rule that they act in an additive or even synergistic way. For example, it is suspected that the combination of
exposure to hepatotoxic chemicals (e.g., carbon tetrachloride) and alcohol intake increases the risk of liver damage. Similarly, the risk of damage to the nervous system appears likely to be increased by exposure to neurotoxic chemicals (e.g., carbon disulfide, trichloroethylene) or physical hazards (noise, localized vibrations) in combination with alcohol consumption. Some industrial chemicals, such as calcium cyanamide or trichloroethylene, may cause additional acute adverse effects due to interactions between their metabolites and those of alcohol.

Traffic. The rapid and widespread development of motor transport, reflecting the desire of everyone to have a personal means of conveyance has considerably increased traffic risks for drivers, passengers and pedestrians. The statistics regarding the involvement of alcohol in traffic accidents are unfortunately not comparable from one country to another. However, laboratory and epidemiological studies reviewed in a recent report (9) suggest that alcohol plays an important role in road accidents. According to that report, "between one-third and half of the fatal road accidents among adults involved drivers with measurable alcohol and/or drug presence". The report also notes that: "A degree of impairment can be demonstrated in the average person at a level of 0.5 g ethanol per 1000 g blood; evidence suggests that above 0.8 g per 1000 g the risk of accident involvement increases appreciably for most drinking drivers and that beyond 1 g per 1000 g there is a definite increase for all drivers". Evidence also suggests that "the effect of other factors implicated in collisions (darkness, fatigue, speed) is heightened in the presence of alcohol."

Certain groups appear to be at particularly high risk of involvement in alcohol-related road accidents. Among them are persons inexperienced in driving and drinking, such as young people recently granted driving licences. A number of studies have concluded that a high percentage, or even the majority, of alcohol-related crashes are caused not by drinking drivers who once in a while exceed the blood-alcohol limit, but by those who drink very heavily. The evidence also suggests that motorcyclists and pedestrians, followed by drivers of private cars, are the categories of people most frequently responsible in both absolute and relative terms for road accidents related to alcohol. Although those in charge of mass transport vehicles, including trains, ships and aeroplanes, appear to have a lower risk of causing alcohol-related accidents, on the occasions when they do so, large numbers of people may be involved, and therefore these occupational groups should not be overlooked in prevention programmes. In addi-
tion, pilots of private aeroplanes may put others at high risk. The lack of control over the drinking practices of such pilots was noted by the Committee.

3.5 Relation to other problems

There is considerable evidence that alcohol use and alcohol problems are related to the use of other substances in a variety of ways. Many studies have shown that the variables that correlate with alcohol use and problems also correlate with other kinds of behaviour, such as smoking or drug-taking, and that these practices may affect alcohol use and problems. For instance, interactions often occur between alcohol and other drugs. Alcohol problems may coexist with behaviour related to other problems in the same individuals. There is, for example, evidence that heavy drinkers are more likely than lighter drinkers or nondrinkers to smoke, use other drugs, and have poor nutritional habits.

These relationships have important implications for intervention. They suggest the potential value of a combined approach to problems related to alcohol and those related to other drugs. Specifically, as noted by a WHO Expert Committee on Mental Health (I), "a combined approach will apply most usefully to research and will be less applicable to control measures, with treatment and education falling in between".

The relationships also imply that similar approaches might be used for different problems. The present Committee considered that much was to be learned from the example of smoking control programmes, which appear to have been successful in some parts of the world in reducing consumption and changing the climate of acceptance of smoking in public places. The particular approaches used to achieve this effect should be evaluated for their applicability to alcohol problems.

On the other hand, some expert groups have also pointed out that, for a number of reasons, combined or similar approaches to alcohol and other drug problems do not apply equally to all aspects of the problems. The use of beverage alcohol is so widespread in some parts of the world as to be commonplace; its consumption is legal and broadly accepted or tolerated in most parts of the world; there are large differences in the relative magnitude of the various types of problem; there are many instances in which individuals have primarily or solely an alcohol problem; furthermore, the production and distribu-
tion of alcoholic beverages involve the livelihood of millions of persons and provide governments with a very substantial source of revenue.

Thus, while common or similar approaches certainly are to be encouraged, unique approaches are needed as well.

4. PREVENTION OF ALCOHOL PROBLEMS

4.1 Approaches to prevention

4.1.1 General issues

Although it is conventional in public health approaches to speak of primary, secondary, and tertiary prevention, this section is concerned solely with primary prevention. In primary prevention the objective is to reduce the incidence of new alcohol problems—that is, to prevent their occurrence in the first place. What is required is: (1) identification of the factors responsible for the development of alcohol problems; and (2) intervention to reduce or eliminate them. Since such factors may be different in different societies or at different stages of historical development, primary prevention efforts, to be successful, must be designed to be sensitive to the specific cultural and historical contexts in which they are to be applied.

It is important in undertaking primary prevention strategies that the prevention target should be specifically defined, and that is not a simple issue in regard to alcohol problems. The objective may range from preventing any intake of alcohol at all, to preventing excessive consumption, or drunkenness or other loss-of-control behaviour, or consumption at particular times that may involve risk to safety and health—e.g., before driving—or preventing dependence itself, or the consequences of excessive consumption for other areas of life—e.g., unemployment—or for other persons in the subject's life—e.g., family violence. Different objectives warrant different kinds of prevention strategies. Leaving aside the objective of total abstinence—a prevention goal that would be unacceptable or not feasible in most parts of the world—the objectives that are the most basic among the various alternatives, and that would have an automatic effect on all the concomitant problems, are (a) reduction of the amount of alcohol consumed, and (b) change in the pattern of alcohol use in order to avoid inappropriate settings or inappropriate times.
Efforts to accomplish these objectives may be directed at any of the three components of the public health model for prevention—the agent (alcohol), the host (the drinker), and the environment (the immediate setting or the broader social context)—or, optimally, at all three simultaneously. A reduction in alcohol consumption might be achieved, for example, by lowering the alcohol content of beverages (agent), or by changing the habits of the drinker (host), or by changing the contexts in which drinking is expected or permitted (environment). The choice of which component to deal with will be influenced by considerations of feasibility, cultural acceptability, and the resources available, but it is apparent that the more comprehensive the approach the greater is the likelihood of success. The incorporation of all these efforts within a framework of the health promotion of individuals and of society at large permits prevention to be seen as oriented towards goals that are inherently positive and salutary.

4.1.2 Major approaches

Despite the enormous variety of activities that can be included under the heading of prevention, nearly all of them can be accommodated within two major approaches to alcohol-related problems—namely, limiting the availability of alcohol, and reducing the demand for alcohol. The former includes efforts that encompass the setting of limits on the production and marketing of alcoholic beverages, the introduction of mechanisms to regulate their cost, and the imposition of restrictions on where and when they can be purchased and used, and by whom. Reducing the demand for alcohol entails the provision of information about the health-compromising effects of alcohol, of education about norms and values that restrain socially irresponsible behaviour, and of leisure activities as alternatives to those that involve drinking, as well as a concern with ameliorating the more general social conditions that may instigate the abuse of alcohol. There is some evidence that prevention activities belonging to both major approaches have been effective in reducing alcohol consumption and inappropriate patterns of alcohol use under certain circumstances, in certain groups, and during particular historical periods. Since both kinds of effort reinforce each other, since there is no incompatibility between them, and since their simultaneous implementation could well have a synergistic outcome, it would seem prudent, wherever possible, to pursue both approaches in tandem.
4.2 Limiting the availability of alcohol

The fundamental premise of this approach to the prevention of alcohol-related problems is that restricting access to alcohol—limiting the quantity of alcohol at the disposal of populations or groups or individuals—will have a direct effect on the amount of alcohol consumed and, in turn, an indirect effect on the incidence and prevalence of alcohol-related problems. The impetus for this orientation lies most clearly in the evidence for co-variation at the aggregate level between the increase, in recent decades, of the average level of alcohol consumption in various parts of the world and increases in a variety of alcohol-related problems over the same period.

One formulation of the position urging a reduction in the availability of alcohol is that a lowering of total aggregate consumption of alcohol is likely to be accompanied by a reduction in the prevalence of heavy users in a population. There is some controversy about whether the drinking of heavy users will in fact be affected by measures to lower consumption levels in the general population, and about whether, instead, availability restrictions ought to be aimed specifically at heavy-drinking groups. There is also controversy about whether lowering the amount consumed will be reflected in the lowering of only certain indicators of alcohol-related problems, more particularly those of a biomedical nature, such as cirrhosis, and not of problems that are more psychosocial in nature and more widespread, such as violent crime or family disruption. Despite the uncertainty in these respects, there seems to be sufficient evidence that a reduction in total consumption can have a salutary effect even if only in decreasing the numbers of new cases of heavy drinking, and efforts to reduce aggregate consumption are certainly not incompatible with efforts to reduce individual consumption or the consumption level of particular segments of the population. One advantage of a focus on aggregate level measures, of course, is the feasibility with which they can be carried out by governmental actions of a legal, administrative, or fiscal nature.

The various control measures that have been used historically and that have implications for limiting the availability of alcoholic beverages to a population fall into three major areas: control of production and trade, control of distribution, and control of price, purchase and the promotion of sales.

Although there have been attempts to assess the impact of such measures, the conclusions are uncertain because changes in control
measures usually take place gradually, several changes may be made at the same time and the effects of other influences are sometimes difficult to separate out. Nevertheless, the evidence to date strongly suggests that controls are the most effective tools governments have to affect the level of alcohol consumption in the population and to reduce many of the problems associated with such consumption.

The present situation poses considerable political difficulties for most countries in which alcoholic beverages are extensively used. There is little doubt that in many countries any serious attempt to reduce consumption would be politically unpopular unless it were preceded, or at least accompanied, by a major educational campaign explaining the rationale of the proposed course of action. Alcohol is enjoyed by so many people in such a wide diversity of situations, and has come to play a crucial role in so many everyday pleasures and celebrations, that the imposition of restrictive legislation would at best be resented and at worst lead to defiance of the legislation in question. Furthermore, most countries levy special and often heavy taxation on alcoholic beverages and any reduction in this source of revenue might have serious economic consequences, despite the fact that the sum total of such revenue is almost invariably less than the ensuing costs in health care and industrial inefficiency. In many countries, too, a significant proportion of the total workforce, in some cases up to 10%, is dependent for its livelihood on the production, transport or sale of alcoholic beverages, and any reduction in output or demand might lead to serious unemployment in areas without alternative industries. Finally, even if a government had the political will to take the steps it believed to be necessary it might find itself prevented from doing so by international agreements designed to stimulate trade and prevent the imposition of selective tariffs. At each planning level, such constraints have to be weighed against the expected advantages for health, welfare and economic development of alcohol control policies.

4.2.1 Control of production and trade

As previously mentioned, increases in production stimulated by expanding markets and international trade, the increasing industrialization of beverage manufacture, and the trend toward economic concentration of the beverage industry have been accompanied by increased consumption and the adding of new types of beverages to traditional patterns of alcohol use. Limitations on production and
trade would seem to be important measures for limiting alcohol availability, although the revenues derived from alcohol and the role played by the production of alcoholic beverages in the employment situation in a country serve as countervailing forces against the implementation of production and trade curbs. Reducing production and trade can be seen as more attractive prevention measures when alternative sources of revenue and employment can be developed, and when the ultimate costs to governments of the increases in alcohol-related problems come to be fully appreciated.

4.2.2 Control of distribution

Limiting the availability of alcohol by restricting the times of sale and the number, types, and location of premises permitted to sell alcoholic beverages has been widely practised. Knowledge of the specific effects of such measures is, however, incomplete owing to the difficulty of assessing their impact and the fact that most of the pertinent studies have been carried out in only a small number of countries. Nevertheless, the evidence suggests that changes in closing hours can have a significant impact on the pattern of consumption, though not necessarily on total consumption or the frequency of excessive consumption. There is also evidence of an increase in alcohol problems in situations of extremely low accessibility where there is a sudden increase in the number of outlets. Finally, there is some evidence that customers of self-service stores tend to purchase more alcohol and drink it more frequently, in greater amounts and more often on impulse than customers of stores employing sales clerks. Thus, there does appear to be evidence for the efficacy of controls on distribution, especially a series of such controls introduced together. The particular combination of means that would be most effective is likely to differ from country to country.

4.2.3 Control of price, purchase, and the promotion of sales

There is evidence that alcohol, as with other commodities, is sensitive to price and that control of price is therefore an important measure for limiting the availability of alcohol. Manipulation of prices by taxation policies that keep them from falling relative to the average price of other commodities has been the minimal recommendation to counter the current increase in consumption, but, clearly, raising the real
price of alcohol, rather than preventing it from falling, would be a more effective means of reducing consumption.

There has been a certain amount of controversy in this area. The question has been raised about a possible difference between heavy drinkers and others in regard to price elasticity,² about the fact that price increases fall more heavily on that part of the population least able to bear them, about large increases in price forcing a shift to the use of even less desirable commodities, and about instigation to illicit production and smuggling. In addition, experience with other commodities that have high use value has indicated an unanticipatedly low degree of elasticity despite substantial increases in price. On the other hand, the control of consumption by heavier taxation may be politically more feasible than many other control measures, as in most instances higher taxes would mean increased government revenue even if higher prices curbed the consumption. Price increase may well be an effective instrument in a policy to reduce availability, at least in some settings, and the burden it places on people who are not heavy drinkers may be borne more readily if there is popular understanding of its rationale.

Purchase limitations, particularly with respect to age, may also influence consumption, and the recent lowering in some countries of the age limit at which purchase is legal has been accompanied by an increase in consumption and in alcohol-related problems among youth. With respect to the influence on consumption of the promotion of sales through advertising, the present evidence is uncertain. Given the huge financial investment in advertising and the mass audience subjected to it on a worldwide basis, this seems an area of critical importance to any successful prevention effort. Advertising may well be inconsistent with a health-promotion orientation to alcohol prevention.

4.2.4 General conclusions

Historical experience with control efforts to limit the availability of alcohol has been remarkably diverse across different cultures and within countries over time. The range has been from total prohibition

² A commodity is said to have high price-elasticity if the demand reacts strongly to price changes, so that purchases go up steeply if prices go down, and purchases go down steeply if prices go up. Conversely, a product is said to be inelastic with respect to prices if purchases stay much the same when the price changes (e).
to few—if any—regulations. While no single type of control effort can be urged as likely to be effective in all circumstances or for all countries irrespective of their cultural and economic background, three important generalizations can be made.

1. The effectiveness of any specific type of control effort will depend in part on its integration into a clear governmental policy position that has been carefully defined and coherently expressed.

2. The effectiveness of any single control measure probably depends on its being embedded in a series of mutually supportive efforts that together constitute a comprehensive and coordinated programme of prevention.

3. Control measures are likely to be more effective if preparation has been made for their acceptance by the public through appropriate public education and information.

4.3 Reducing the demand for alcohol

Given that reduction of availability is one side of the prevention coin, then reduction of demand may be regarded as the other. It is focused on lowering the interest in, desire for, or reliance on alcoholic beverages by individuals, social groups, or larger segments of the population.

The demand for alcohol stems from the variety of satisfactions that have been associated with its use; these have to do with the physical pleasure that may be derived from drinking, the role that drinking plays in interpersonal relations and group life, its pivotal function in the organization of leisure time, and its institutionalization in eating practices and in cultural and religious tradition and ritual. The satisfactions also have to do with the personal significance and symbolic meaning that alcohol use can convey—for example, its significance as marking a transition in developmental status, or its meaning as a factor in cementing the solidarity of a group. Finally, satisfactions derive from reliance on alcohol as a way of coping with conditions of life that may be intolerable or stressful or desperate.

In view of such considerations, efforts to reduce demand have been conducted in three main directions. The first is the effort to change or at least enlarge understanding about the nature of alcohol as a drug of dependence, a toxic substance, and a beverage with potentially serious health-impairing consequences and potentially negative effects on behaviour and social relationships. This effort relies on the provision of information about alcohol so that the decision to use it can be
made on the basis of comprehensive knowledge and a balanced perspective on the implications of use and, particularly, of excessive use.

The second main direction is the effort to influence attitudes, values and norms about the appropriate way to use alcohol and about whether use itself is consistent with larger values that have a bearing on the promotion of a healthy life-style. The emphasis in this effort is on value education rather than on information, and the values and norms tend to stress moderation, the avoidance of excess, and the assumption of personal responsibility for one's behaviour, one's health and one's relationships to others.

The third major direction involves the effort to change the social and life circumstances that may give rise to the demand for alcohol. The assumption here is that harsh and deprived life situations may instigate reliance on alcohol, as may personal feelings of alienation, frustration, and limited opportunity. Amelioration of such personal and social circumstances might, as a consequence, reduce the demand for alcohol. It has been pointed out frequently that, in addition to conditions of deprivation, alcohol abuse has been associated with affluence and indolence, which implies that an expanded understanding is required of the influence of life circumstances on alcohol demand.

4.3.1 Education and information as approaches to reducing demand

Objectives and policy. In some countries information and education on alcohol and alcohol problems are seen as the most important means of reducing demand and thus of preventing alcohol problems. However, unless there is a clearly defined policy and a coordination of effort, such programmes are likely to produce conflicting results. In areas where there is widespread agreement on the policy and objectives (for example, prohibition and abstinence, or alternatively the lowering of consumption levels and "responsible drinking"), more cohesive programmes can be developed. Where there is considerable divergence of opinion (for instance, emphasis on health and welfare conflicting with trade and economic interests), programme planners will need to engage in much preliminary discussion with the various groups involved in an attempt to reach some measure of agreement on the policy to be pursued.

The short-term objectives of information programmes are often an increase in knowledge and possibly a change in public opinion. However, there is much evidence that, even where such effects are achieved,
they may have little or no influence on behaviour. Programmes providing only factual information about the dangers of a particular substance do not appear to be sufficient to prevent its use. In fact, they may have the opposite effect, by arousing increased interest in the substance, as has been seen in some drug education programmes. Several countries are developing and testing new programmes with the long-term objective of changing behaviour.

**Framework and methods.** Programmes focused only on modifying drinking habits may give very limited results. Experience is now accumulating on the value of incorporating information and education on alcohol problems into broader programmes for health and sociocultural development, involving community participation where possible. General health education is thus seen as a suitable framework within which to develop education programmes on alcohol problems. As pointed out by a WHO Scientific Group (11), an important underlying objective of health education is “the development in people of: (1) a sense of responsibility for their own health and for that of the community, and (2) the ability to participate in community life in a constructive and purposeful way”. The specialized techniques for improving communication effectiveness and information transfer as well as for promoting changes in attitude and behaviour need to be fully utilized.

Experience suggests that alcohol information and education programmes should be based on carefully collated information concerning the sociocultural and economic background of the target population, the availability of alcoholic beverages, current drinking habits and problems, attitudes to drinking and consequent problems, and possible constraints on changing drinking behaviour (such as pressure by peer groups or conflicting government interests). Programmes initiated at a pilot level, with limited objectives and directed at a specific population, can be assessed in stages and the findings used to modify efforts. Community involvement in the programmes is likely to prove essential to effectiveness.

**Evaluation.** Attempts to assess the effects of educational programmes are complicated by the variety of social and economic factors affecting alcohol consumption and problem rates at the same time. A lowering of consumption levels may be partly a result of an educational campaign, but in fact a contemporaneous increase in the cost of alcoholic beverages relative to income may be the determining factor. Both the time required to produce an effect and the decay in effect over time have to be taken into account. When attempts are made to
assess the effectiveness of a school education programme, for example, the long-term effects on drinking habits are much more important than an easily measurable immediate effect on knowledge about drinking problems. The impact of a forceful education campaign on the prevention of alcohol-related road accidents may be impressive in the short term, but the previous accident rate may be reached or surpassed within a few years. This indicates the need for frequently renewed efforts. From the evidence available it appears that to attempt a scientific evaluation of the effects of information and education programmes alone would be unrealistic in most countries. Continuing effort to weigh up the evidence on the impact of such programmes along with that of other preventive measures is nevertheless highly desirable if it leads to discussion between the various groups and interests concerned and results in action to assess, modify and then reassess preventive programmes.

Target groups. Health education, including that concerning alcohol problems, is likely to be more successful in inducing behaviour change if geared to selected target groups. In each case this will entail matching the programme content to specific objectives, and utilizing the techniques, setting and type of education best adapted to the background of the group in question.

(1) General public. In designing public education programmes, consideration should be given to the possible countereffects of commercial propaganda which may serve to increase or maintain demand. There is evidence that mass advertising of alcoholic beverages probably contributes to total sales, but there has been little assessment so far of the effects of banning advertising. Nevertheless, authorities in a number of countries have been sufficiently convinced of the potential dangers to prohibit advertising or to impose limitations. In some cases preliminary discussions involving the interested commercial bodies have led to agreement on restrictions through voluntary codes of conduct. These tend to discourage the promotion of drinking by young people, overindulgence in general, and the association of drinking with driving, masculinity and a healthy life-style.

Some consideration has been given to the value of attaching to alcoholic beverage containers a label warning of the hazards of alcohol consumption. Although this might not affect individual decisions to drink, it might contribute to a general recognition that alcohol is a potentially dangerous drug if used to excess.

(2) Schoolchildren. There is increasing interest in including attention to alcohol problems in school programmes (12). Experiments
are being carried out to determine the most suitable techniques for children of different ages. A recent trend is to steer away from "scare techniques" and concentrate on the presentation of factual material and on the stimulation of individual investigation and decision-making. Some of the more promising programmes aim to promote healthy living by helping young people to adopt a positive approach to the challenges, complexities, difficulties and anxieties of everyday life and to formulate decisions for action. The teacher may be trained to act as a counsellor and to provide information enabling pupils to seek solutions to problems. The task of developing and implementing such programmes should preferably involve not only those with expertise in educational techniques or alcohol problems, but also those concerned with child development and with sociocultural conditions and change.

(3) Pregnant women. Evidence is accumulating on the effects of alcohol consumption on the pregnant woman and her offspring. Some authorities consider that available indications of possible fetal damage are a sufficient basis for warning pregnant women to keep their alcohol consumption very low. In programme planning, a difficulty to be faced will be how to reach the women most likely to drink heavily.

(4) Drivers. A review by the Organisation for Economic Co-operation and Development (9) concludes that little scientific information is available on the effectiveness of public information programmes in modifying drinking and driving behaviour. Some educational programmes have been developed specifically for drivers arrested as a result of alcohol-related road accidents. Information on the effects of alcohol and other drugs on driving behaviour has recently been introduced into the curricula of driving schools in a few countries, and in the USA such information is beginning to be included in driver education curricula in secondary schools. So far, there has been little appraisal of the effectiveness of such programmes but it is important to consider the careful development and testing of similar efforts within a total programme on alcohol problems. Special attention should be paid to such education for mass transport drivers.

(5) Alcoholics and their families. In many countries an important contribution to the education and training of these groups is made by self-help bodies such as Alcoholics Anonymous as well as temperance groups and voluntary organizations such as the Blue Cross. In group discussion alcoholics learn from each other how to deal with their overriding urge to drink. Much of the Alcoholics Anonymous literature is designed to explain the alcoholic to spouses, children, employers, friends, and members of the professions involved in dealing with the
problems. Educational work is also carried out by Al-Anon for family groups and by Alateen for the teenage children of alcoholics.

In some programmes, alcoholics under treatment are obliged to follow a course on the subjects of alcohol and alcoholism and pass a test at the end. Training may continue through special clubs for alcoholics and their families. Such endeavours may well have made an important contribution to reducing demand and lowering the level of problems among families, but there has been little assessment of their impact.

(6) Supervisory and management personnel. Where considerable numbers of employees are grouped under specific industrial or other occupational administrations, it may be found advisable to provide special education to supervisors and management personnel on alcohol-related problems. This would include information on the dangers of alcohol consumption, even at relatively low levels, in some occupations. Consideration would be given to the role of alcohol in absenteeism and reduced work performance and the possibilities within the community of providing early assistance to persons with problems that may be caused by inappropriate drinking. Experience in some occupational programmes suggests that such training should not be geared to the identification of employees with problems related solely to drinking, but rather to the identification of those with general problems in work performance, and to the offer of suitable referral for advice and further help.

(7) Students undergoing professional training. The inclusion of information and education on alcohol problems in the curricula for professional training might have two main objectives. One would focus on affecting the drinking patterns of the student himself, at a period of life when heavy drinking habits may start to become firmly established. The other objective would be geared to increasing the student's capacity to assist in general preventive and management efforts. In some countries courses on alcohol problems are included in the curricula for a wide variety of professions, such as health, welfare, education, law and law enforcement, although little attention has been given to their preparation for educating others on these matters. There is a need for local and national reviews of such curricula and of efforts to ensure the inclusion of suitable theoretical and practical training in the field of alcohol problems and also in pedagogic techniques. This should enable such professional personnel to contribute to the health education objectives outlined above.

(8) Service providers. This group merges with the previous one,
but a number of schemes have sought to provide training for groups of people already working in health, welfare, educational and other services. In Canada, for example, a national training system is being developed for those working in the addictions field (alcohol and other drugs). It has produced a manual providing "core knowledge" on these matters for instructors, and a project for the training of instructors.

In countries where the general practitioner is the accepted counselor of the family, he is in a good position to advise the alcoholic and his family and to cooperate with specialized welfare workers in this field, but additional training may be required for this work.

(9) Religious groups. Information and education programmes on alcohol problems need to be geared to the religious beliefs and practices of the population and of subgroups within the population. In some areas religious leaders are expected to play a role in teaching about the need for abstinence, but their own training may be limited to the study of religious injunctions. For other groups, among whom prohibition is not considered desirable, religious leaders may serve as counsellors within the community, for which they may receive special training. Consideration should be given to the inclusion of training in alcohol problems and the possibilities of collaboration with other services in educational and management programmes.

4.3.2 Education about norms, values, and attitudes as an approach to reduction of demand

In order to consider this topic and the one dealt with in section 4.3.3, it is necessary to elaborate the knowledge that has been acquired about the way in which alcohol is embedded in a sociocultural and historical matrix and constitutes a social and historical fact as well as a chemical entity. The meaning and significance of alcohol use have demonstrated remarkable variation in relation to social status, sexual status, age status, culture, ethnic membership, national citizenship, occupation, and other sociocultural aspects. Variation in alcohol use and abuse can be subsumed under three major theoretical concepts: social controls, both formal and informal; consensus about norms; and access to opportunity.

Social controls. Social controls include the sanctions and regulations brought to bear, both legally and informally, to maintain conformity to the prevailing traditions and norms. Various factors con-
tribute to or are associated with a breakdown of controls, but of special importance is rapid social change, including economic change and changes in role definitions and role relations. Changes that are rapid, whether beneficial or not, may undermine the traditional sanctioning structures and relationships and attenuate their control over excessive alcohol use in contexts in which moderation of use may have been traditional. Rapid change not only affects the sanctioning aspects of control systems but may also involve exposure to patterns of excessive use because of contact with other groups through urbanization, television, cinema, and tourism. Finally, there may be greater opportunity to drink excessively owing to the increased availability of alcohol and access to stronger beverages that were not obtainable before.

Consensus on norms and values. In addition to sanctions and controls, behaviour such as alcohol use is regulated by the norms and values that characterize the social context. There is evidence that drinking behaviour has been successfully regulated by traditions that have affirmed moderate use of alcohol and not only deplored excessive use but punished its occurrence. These ethnic, cultural or national norms have traditionally safeguarded against alcohol abuse in various contexts. When there is a breakdown in consensus about norms applicable to drinking, regulation through accepted norms is no longer operative and this obstacle to excessive alcohol use disappears. Again, rapid social change is a major influence on the breakdown of traditional norms: assimilation may occur with new norms, or there may be a period in which no regulatory norms are shared with regard to drinking behaviour or in connexion with more general sex-role and age-role behaviour. Under such circumstances, alcohol abuse is more likely to flourish.

Access to socioeconomic opportunity. In many areas of the world the use of alcohol (and other drugs as well) has been learned and institutionalized as a way of coping with deprivation, frustration, and the harsh conditions of life. Limited access to opportunity for education, employment, status, and social acceptance has been associated with alcohol abuse in various circumstances, and heavy alcohol use may not only be a response to severe working conditions, frustration, and deprivation but may also be the only leisure activity available under those circumstances.

Excessive alcohol use has also been apparent under conditions of rapid positive socioeconomic change. In this context of increased resources, alcohol may serve as a symbol of status change, the drinking patterns adopted emulating those of higher status groups, but
basically the phenomenon would seem to follow from the increase of disposable income under circumstances where previously effective social controls and regulatory norms are no longer operative.

It is useful, then, to consider prevention in the light of the socio-cultural factors with which alcohol use and abuse have been shown to vary.

The norm of moderate alcohol use. In recognition of the regulatory role of norms in relation to alcohol use, a strategy to reduce demand should emphasize the moderate use of alcohol as the safer and more responsible course. Although it is not yet clear what (if any) levels of alcohol use can be considered safe under what circumstances and for what kinds of people, a norm of moderation can be specified in relation to certain circumstances (e.g., none before driving) or certain behaviours (e.g., intoxication). It can simultaneously be made clear that excessive drinking is unacceptable and socially inappropriate. The aim of this strategy is to change the climate of acceptance of excessive drinking and to bring to bear informal controls against its occurrence. Widespread public disapproval of intoxication could well reduce alcohol consumption. Certainly, the growing disapproval of public smoking in certain countries has had a measure of success in regulating that behaviour.

4.3.3 Social change as an approach to reduction of demand

So far as alcohol use and abuse may reflect, even partly, limited access to opportunities for self-development, in work, in leisure, and in social relations, it would seem important to consider what can be done to ameliorate such circumstances as an indirect approach to reduction of demand. Obviously, the provision of opportunities for recreational and leisure activities as alternatives to those that rely on alcohol would be germane. More fundamental, of course, are access to employment, an adequate income, and educational opportunity—in short, to a life-situation less likely to provoke the heavy use of alcohol as a way of coping with dissatisfaction, deprivation and despair. A sense of access to opportunity can also constitute a stake in society and underwrite a commitment to its norms and values; such a stake and commitment can serve, in turn, as a barrier to transgression of accepted norms in the area of alcohol abuse and alcohol-related problems.
4.3.4 Compatibility of limitation of availability and reduction of demand as prevention approaches

The reduction of demand and the reduction of availability need to be seen as interrelated rather than independent approaches. For example, the fact that reducing availability may lower consumption levels, especially heavy consumption levels, serves to change the social environment in ways that are ultimately significant for reduction of demand: there will be fewer exemplars of heavy drinking and the norms that determine appropriate drinking may shift in the direction of less heavy use. Conversely, a significant reduction in demand could have an influence on purchases and production and, ultimately, on availability. It is clear that the limitation of availability and the reduction of demand are mutually reinforcing prevention strategies warranting simultaneous deployment.

4.4 Other preventive measures

There are some preventive efforts that cannot be subsumed under either the reduction of consumption or the reduction of demand, but that aim at preventing specific aspects of alcohol problems.

Some of these are discussed in section 5, where consideration is given not only to interventions directed at the drinker himself but to possibilities of preventing or reducing the repercussions of heavy drinking on the spouse, the children and the working environment.

Various strategies can be used to prevent people from driving in a state of intoxication. One is the use of ignition interlock devices that cannot easily be operated in a state of low mental alertness. Another is the arrangement of alternative transport in situations in which heavy drinking can be expected, such as at New Year celebrations and other festivities, when additional public transport or even free taxi services might be made available. Heavy penalties for drunken driving have sometimes led to private arrangements whereby one member of a drinking group remains sober in order to drive the others home. Provision of overnight accommodation after celebrations or drinking bouts may also help to reduce alcohol-related accidents. Stringent enforcement of regulations concerning drinking by mass transport drivers, and frequent testing of their blood-alcohol levels, may help to prevent crashes involving numerous passengers.

The possibility has been considered of removing, or at least reducing the levels of, specific harmful components of alcoholic beverages. Al-
though higher alcohols and ketones may contribute to some of the toxic effects, most of the harmful effects on both the central nervous system (and hence on behaviour) and on the liver are due to ethanol itself. However, it is well established that Wernicke’s encephalopathy and Korsakov’s psychosis are due to thiamine deficiency and that lack of this vitamin plays an important role in the genesis of cardiac beriberi and alcoholic peripheral neuritis as well. Although these conditions are relatively uncommon, they are potentially fatal, and people with the Korsakov syndrome often remain in hospital for many years and so constitute an important burden on health services. The existing evidence suggests that the addition of thiamine to alcoholic beverages would eliminate these conditions and that the cost of doing so would be slight. The Committee suggested, therefore, that health ministries and the alcoholic beverage industries should both explore the technical feasibility of adding thiamine or synthetic derivatives such as allithiamine to widely used alcoholic beverages.

5. MANAGEMENT OF ALCOHOL PROBLEMS

5.1 General considerations

The range of psychiatric, neurological, gastrointestinal, cardiac, hepatic and haematological disorders to which the consumption of alcoholic beverages may give rise is so wide that it would be impossible to consider them all without writing a textbook of medicine. The range of social ills directly or indirectly attributable to alcohol consumption is equally broad. Partly for this reason no attempt will be made here to consider more than a few major issues: the treatment of heavy drinkers, including those who have become dependent on alcohol; the management of the repercussions on the family; and the management of alcohol problems in the work situation.

There are, however, two further reasons for this restricted focus. The first is that the detailed management of many of the consequences of excessive drinking depends very much on the human and material resources available and there are few general principles of universal applicability. The second and, in the view of the Expert Committee, more important reason is that for most of the more serious problems management has much less to offer than prevention. For all the major harmful consequences of alcohol consumption—alcohol dependence, hepatic cirrhosis, road traffic accidents, public drunkenness, industrial

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inefficiency and violent crime—management is both expensive and of limited efficacy, even in countries which have the resources to provide the appropriate facilities. This does not, of course, imply that it is unnecessary to provide facilities for the treatment of alcohol dependence or the management of any of the other varieties of damage summarized above. Indeed, in many areas it may well be necessary to provide increased facilities, at least in the short term. In the Committee’s view, though, treatment alone, on however lavish a scale, can never provide an adequate solution to the problem.

5.2 Management of the individual drinker

In recent years the treatment of people identified as “alcoholics” has been the main focus of attempts to combat alcohol problems. Although the term “alcoholic” has never been satisfactorily defined, and is being abandoned in scientific discourse for that reason, there is abundant evidence that the majority of those traditionally subsumed under this rubric manifest some or all of the components of what is now becoming known as the alcohol dependence syndrome (see Annex 2). A wide variety of treatments has been offered by different organizations in different cultural settings, ranging from compulsory hospitalization and subsequent “work therapy” to spiritual guidance. Even medical regimes have shown great diversity, some being based on psychotherapy, individual or group, others on the use of sedative and antidepressant drugs to relieve the anxiety or depression assumed to underlie the excessive drinking, or on drugs such as disulfiram which produce highly unpleasant symptoms if alcohol is consumed. On a global scale the most widely available facility of all has probably been the support and guidance provided by the self-help organization Alcoholics Anonymous, which now extends to 92 countries with several branches in most big cities.

In the last two decades the recognition by health ministries and other medical bodies of the growing scale of alcohol problems, and the general acceptance of alcoholics as sick people, has led to the development of specialized units for their treatment. The more lavishly endowed of these have had a multidisciplinary staff of psychiatrists, clinical psychologists, nurses, social workers, occupational therapists, and sometimes former alcoholics as well, and have used some form of group or individual psychotherapy as a main therapeutic tool. Although the treatment provided in these units has generally been voluntary, and occasionally restricted to cases likely to have a relatively favour-
able outcome, most have tried to persuade their patients to remain in hospital for a substantial period of time, ranging from a few weeks to several months. Recently, however, there has been a progressive disenchantment with this approach. Partly this has been due to an increasing recognition of the fact that alcohol dependence is only one component in a broad range of disorders, but the primary reason is the disturbing lack of evidence of the efficacy of elaborate and expensive therapeutic regimes of this type. Although many of these treatment units have been able to show that about a third of their patients either remained abstinent, or at least drank substantially less, in the year or two after treatment, a series of clinical trials comparing regimes of different kinds has thrown doubt on the significance of this apparently comforting finding. A few well-designed random allocation trials have shown, for example, that the success rate in terms of abstinence and reduced drinking may be as good after a few weeks of hospitalization as after several months, and that outpatient treatment may be just as effective as inpatient treatment. One recent trial has even indicated that simply providing unequivocal advice to stop drinking may, in suitable circumstances, give as good results as an elaborate and expensive therapeutic battery (13).

At the same time as these clinical trials were being reported, evidence was accumulating that men and women who, at one time in their lives, undoubtedly fulfilled the criteria of the alcohol dependence syndrome may subsequently either stop drinking completely or return to apparently normal social drinking after little or no formal treatment, either medical or lay.

For these various reasons a change in attitudes is currently taking place in many parts of the world and it seems likely that in future there will be an increasing emphasis on quite simple forms of treatment, perhaps amounting to little more than firm advice to stop drinking or to drink less, coupled with the provision of information about the consequences of continued heavy drinking, the adoption of simple strategies for reducing consumption and the monitoring of progress.

There is also a widespread assumption, though formal evidence to substantiate it is slender, that simple measures of this kind are likely to be most effective relatively early in a drinking career. For this reason there is increasing interest in screening techniques to detect excessive drinkers in patients in general medical wards and other high-risk populations (14). Some of these techniques are in the form of brief questionnaires (e.g., the Michigan Alcohol Screening Test and
the CAGE set of 4 questions); others are based on the analysis of blood samples (e.g., serum gamma glutamyl transpeptidase and red cell volume determination).

The unspoken corollary to this change in emphasis, of course, is that the unemployed, socially isolated, recidivist drinker is likely to get even less attention than he has in the past, though it has to be admitted that even heroic efforts to change the life-style of such people have rarely met with much success.

In many countries public drunkenness is a serious social nuisance and it is well established that the majority of those implicated are dependent on alcohol and not merely casual roisterers. Traditionally the problem has been dealt with by the police. The drunkard was arrested, often kept in police cells overnight, and then taken to court the next day to be fined or given a brief prison sentence. Recognition of the alcoholic as a sick person rather than a criminal, coupled with the widespread realization that treating alcoholism as a problem for the police and the courts is quite simply inefficient, has led to the setting up of specialized detoxification centres to which persons drunk in public could be taken for care with a minimum of formality. Such centres were developed many years ago in Eastern European countries and have subsequently spread further afield, for the need they meet is a widespread one. Some are attached to hospitals but the majority are not. Most centres merely keep their clients for a few hours until they are sober, or two or three days in the case of those with severe withdrawal symptoms, but some have links with rehabilitation hostels or traditional treatment facilities as well.

It remains to be seen whether or not detoxification centres can alter the long-term prognosis of their clients, though clearly the opportunity is there to provide simple forms of counselling, either at the time of admission or a few days later. At present their main justification is that they deal with a serious social nuisance more efficiently and perhaps more humanely than courts and prisons were able to do and may meet an important need in providing emergency shelter and some physical care.

5.3 The drinker's family: possibilities of intervention

Although a significant proportion of excessive drinkers are isolated from their families, the majority are not and the drinking habits of these men and women almost always have profoundly deleterious
consequences for other family members. The catalogue is all too familiar: loss of income or unemployment, leading to social decline, financial hardship and sometimes outright poverty; progressive breakdown of affectionate, trustful relationships, leading to separation or divorce with their consequences for the emotional security and maturation of the children; and sometimes recurrent episodes of unpredictable violence. Occasionally these tragic events occur in previously normal families and can be directly attributed to the drinking habits of one or the other parent—usually, but not always, the father. Sometimes, however, excessive drinking is itself the consequence of economic hardship or pre-existing pathology in the family—abnormal personality traits leading to unstable and unhappy relationships within the family, and sometimes overt mental illness. More often there is an interacting network of different stresses. Economic hardship, personality disorder and alcoholism interact with and exacerbate one another without any clear sequence of cause and effect.

Because alcohol dependence usually has such far-reaching consequences for the family, most forms of treatment for the individual drinker aspire to involve at least the spouse in the treatment process, and sometimes other family members as well. Alcoholism treatment units run on psychotherapeutic lines often involve both husband and wife in some form of marital therapy, and the Alcoholics Anonymous organization has long provided separate Al-Anon groups for alcoholics' wives and in some areas Alateen groups for their teenage children as well. Sometimes the network of interacting social and economic problems is so tangled that the practical and psychotherapeutic assistance of a social worker or other trained community worker is more useful than any treatment for alcohol dependence by itself. In some countries such workers also have special responsibilities if violence is involved, particularly if there is reason to suspect that children are at risk. Another resource of relatively recent origin is self-help organizations for "battered wives".

In several clinical studies of alcoholics, up to 50% of the subjects themselves have been the offspring of alcoholic parents. Although genetic factors may play some part in this sequence, it is generally assumed that social and other environmental influences are primarily responsible. In theory this ought to provide possibilities for intervening in such a way as to break the cycle, but in practice there has so far been little attempt to assess whether this can be done on any major scale, either by economic or by psychotherapeutic interventions at a family level.
5.4 Occupational settings: development of programmes

The work-place is a convenient setting in which to achieve many of the objectives referred to earlier in this report, such as early identification and the development of low-cost approaches to the management of alcohol problems. Not only are most people with alcohol problems employed, but the work situation often provides good motivation for seeking alleviation of those problems. Industrial organizations are understandably concerned about the extent of alcohol problems at all levels, from the unskilled worker to the director. The consequences include absenteeism, illness, decreased production and quality of work, difficulties in work relationships, accidents and loss of trained personnel. In individual industrial concerns, the annual costs attributable to alcohol problems may run into millions of dollars. The social impact of such problems on employed individuals and their families is not easily estimated but is certainly of great magnitude.

For these reasons, programmes within an occupational setting have been developed in several countries and have demonstrated some success in reducing alcohol-related problems. These programmes usually employ some of the following measures: procedures for the identification of employees with alcohol problems; techniques for the confrontation of the employee about the problems and the need to seek help or face the consequences of continued poor performance, including loss of job; mechanisms for providing medical, psychological and social assistance in dealing with the problems; methods of adapting the employee's work situation to reduce stress and exposure to alcohol; and means for follow-up assistance to provide the necessary support to the individual during the crucial period of transition from alcohol dependence.

Some countries have reported that labour organizations are opposed to the implementation of such programmes because of suspicions, at times well founded, that those operated solely by management may be used against workers, or that they may be used to avoid identifying and improving work conditions that may contribute to alcohol problems. In other areas, trade unions have set up centralized programmes and referral services for their members. Elsewhere, acceptable results have been achieved through shared responsibility between labour and management for programme operations. Some trade unions have taken the initiative in promoting joint programmes of assistance in a broader context of general behavioural problems that impair job performance. The advantage of such programmes is that they tend to encourage
voluntary requests for help and increase the participation of female employees and younger workers.

While the potential of the work-place for the management and prevention of alcohol problems appears to be considerable, a note of caution is required. There has been a tendency for these programmes to become unduly concerned with the "rush to treatment", particularly where participation in the programme is compulsory. The permanent labelling of someone with a temporary problem may contribute to his difficulties rather than diminish them.

Alcohol programmes in an occupational setting have mainly been carried out in developed countries and may not be equally applicable in developing areas, where they would make additional demands on already overburdened health services. Furthermore, because of socio-cultural variations between countries, some approaches and techniques employed in current programmes may not be universally appropriate or effective.

6. DEVELOPMENT OF POLICIES AND PROGRAMMES CONCERNING ALCOHOL PROBLEMS

6.1 Alternative policies

An examination of local and national policies concerning alcohol availability and alcohol problems reveals considerable variations between countries and over time. At one end of the scale is found overt promotion of alcohol production and alcohol use, sometimes with the objective of increasing state revenues or of providing employment, or sometimes merely to encourage private enterprise. The possible deleterious health, welfare and social consequences of increased drinking are likely to receive little consideration under such circumstances; or there may be a conflict of interests and efforts when the promotion of consumption is accompanied by increasing expenditure on health, welfare, social security and law-enforcement services for dealing with alcohol problems. At the other end of the scale is found a policy of strict prohibition through legislation or religious injunctions. Most policies, however, lie in between these two extremes, or there is no recognized need for any policy.

In several parts of the world and at different times, prohibition has undoubtedly been successful in reducing alcohol problems to a low level, especially where there has been widespread support for
such a policy. Decision-makers, however, will need to note that in most areas attempts to enforce total prohibition have tended to break down after a period. This has sometimes been due to an increase in lawlessness seen to be associated with illegal trade, but more often to changing values, pressure for recognition of the individual’s right to make decisions about drinking, and also pressure from local industry and international trade.

Where there is a long history of disapproval of alcohol consumption, as in parts of India and in Moslem societies, it may be feasible to continue a policy of prohibition. India is one of the few countries in which a policy has been clearly enunciated at high level—in fact within the Constitution of India, which enjoins that “The State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties and, in particular, the State shall endeavour to bring about prohibition of the consumption except for medical purposes of intoxicating drinks and of drugs which are injurious to health”.

The current policy in a number of countries, though not necessarily clearly formulated, seems to be that alcoholic beverages should be made available to meet the “legitimate” demands of populations, but that restrictions should be introduced to limit any possible harmful effects of consumption. In some areas such a policy is combined with education and training programmes aiming to equip individuals to make rational decisions about their drinking habits, and to promote a responsible attitude towards control measures among administrators and decision-makers.

In view of the worldwide increase in alcohol consumption, the Committee considered that governments should ensure the formulation of an explicit statement of policy concerning alcohol availability and the prevention and management of alcohol problems. Where a coordinating body is established as part of programme development, the first task might well be policy formulation, or review and, if necessary, adjustment of existing policies. In fact this has been done in a number of countries in recent years, using a variety of methods.

6.2 Review of alcohol use, alcohol problems and relevant responses

Policies are likely to be introduced on the basis of incomplete information and evidence but there is an increasing emphasis on the need to prepare an initial review of the situation relating to alcohol use and alcohol problems in the population concerned as a basis for
the development and assessment of policies and programmes. The kinds of information likely to be easily available to countries will inevitably vary, but where possible such information would usefully include:

1. national and local statistics concerning the production, exportation, importation and distribution of alcoholic beverages; the economic significance of the alcoholic beverage industry and trade; the level of alcohol-related problems and their economic and social effects;

2. results of surveys and other special studies to provide more detailed descriptions of individual attitude and behaviour patterns, as well as the nature and prevalence of problems, and to promote understanding of sociocultural factors that may be important in determining or changing attitudes and behaviour and the incidence of problems;

3. details of the current policies and resources for dealing with such problems, projections concerning their future prevalence and the options and feasibilities for future responses.

A considerable amount of work along these lines has already been carried out in certain countries. Some have found the “WHO Outline for Profile of Policy and Programmes for Prevention of Alcohol-related Problems” (7, Part II) helpful as a structure for collecting the type of information required. More extensive collection of information, at both the community and the national level, has been promoted through the WHO Project on Community Response to Alcohol-related Problems, for which special schedules were developed. A project entitled “International Study of Alcohol Control Experiences”, carried out with the collaboration of the WHO Regional Office for Europe, has led to the collection and detailed analysis of extensive information on alcohol consumption, problems and policies in 7 countries. The guidelines for data collection are particularly pertinent to countries with developed systems of statistical and other information.

Countries undertaking these activities for the first time need to decide how the review process should proceed—whether on the initiative of parliament, or through the action of a particular government department, or as an interdepartmental exercise. The process may be instigated by the medical profession or by other professional interests, or it may originate from voluntary action. Whatever the formal location and origins of the review, wider representation is needed than the traditional health interests, or any other interest in isolation. The value of such a review consists not only in the objective product in terms of its final report, but also, as a result of the joint
experience of those engaging in the task, in the establishment of a basis of shared understanding and concern and new awareness. The status of the review group ought to be such that its report will immediately reach the right government desks and perhaps the many other places where practical decisions will have to be made, so that its recommendations will be assured of proper attention.

6.3 Comprehensive approach to alcohol problems

It is argued elsewhere in this report that “alcoholism” (or the alcohol dependence syndrome), while prevalent and a matter for serious concern, constitutes only a small part of the whole gamut of alcohol-related problems. The Committee emphasized the need for comprehensive programmes dealing with the multiplicity of these problems in their various contexts—in relation to crime, traffic accidents, malnutrition, cirrhosis and cardiovascular disease, to name just a few.

Such programmes will need to be comprehensive, too, in the sense that they tackle the problems at all relevant levels. Policies directed to the problems at a local level which do not at the same time acknowledge the national and international implications are likely to be less than totally effective. The Committee heard evidence of the undermining of actions taken in one or another country by the absence of similar action in neighbouring areas. This is particularly likely to be the case in countries whose borders can be crossed with relatively little control in this era of increasing international travel.

In order to effect a significant reduction in the problems associated with alcohol, a shift in the climate of acceptance of excessive drinking is likely to be required, but for this to occur action may be needed at several levels. Unpopular legislation is often difficult to enforce, and the attitude of local groups, including consumer organizations and voluntary bodies, may be crucial in creating a climate of acceptance.

6.4 Consistent and coordinated policies for programme development

To be effective, policies will need to be consistent. For example, a policy that aims at a reduction in average consumption of alcohol but allows the real price of alcohol to decline is unlikely to succeed, given the present evidence of the price elasticity of alcoholic beverages. Similarly, programmes of health education advocating responsible
drinking, if addressed only to schoolchildren, are unlikely to be credible if at the same time a pervasive, commercially financed inducement to drink is tolerated in the form of widespread advertising.

Policies need to be not only functionally consistent, in the sense that on the basis of the best evidence available they serve the same objective, but also symbolically consistent. Thus the labelling of alcoholic beverages to point out the hazards of excessive drinking may not be a preventive measure of proved efficacy, but it may increase the credibility of other health-oriented messages.

The Committee reiterated that alcohol problems can hardly be solved if they are looked on as isolated phenomena. Because of the complexity of their causes and consequences, there is a need to consider the health, welfare, educational, social and economic aspects of preventive and management programmes as well as the total implications for the socioeconomic development of the community or country. In 1966, a WHO Expert Committee (1) emphasized the importance of establishing specific instruments for the coordination of such efforts. Over the last 25 years, in fact, there has been a general trend in that direction (7, tables 1 and 13).

Where an initial review has been prepared, as suggested in section 6.2, the membership of the group originally responsible for the task might well be strengthened in the light of experience to ensure that the review is a continuous process and its findings are translated into action.

6.5 Priority concern with prevention

Policies will need to reflect a consideration of priorities. As pointed out earlier, although the treatment of individuals with alcohol dependence or other alcohol-related disorders must continue to be one aspect of coping with these problems, it cannot, even in wealthy countries with well-equipped health services, be the main response. Indeed it could be argued that countries which have as yet invested little in the treatment of alcohol-related problems have a valuable opportunity to respond in more appropriate ways than countries whose massive investment in treatment makes any shift in priorities extremely contentious. The treatment of alcohol-related problems makes sense only in the context of a deliberate campaign to reduce their occurrence in the first place. For many countries, this will require a reversal of current thinking and a reallocation of resources.
6.6 Monitoring, assessment and adjustment of policies and programmes

Despite the multiplicity of programmes and policies aimed at the prevention of alcohol problems, adequate evidence of their efficacy in the various contexts in which they have been applied is still lacking. The Committee noted the paucity of policy-oriented research in this area. The neglect of such research is due partly to the complexity of the issues faced, but in part it reflects an overinvestment in research on treatment. The Committee considered, therefore, that in introducing the measures recommended in earlier sections of this report, the need to monitor their implementation and effect should be recognized from the outset. This will entail the collection of information on individual drinking patterns, the consequences of alcohol use, and the changes observed at various stages in the implementation of interventions.

The assessment of the outcome of specific policies and programmes is, however, complicated by the effects of other variables, the time required to produce an effect and the possible decay of that effect over time, noted earlier in this report in connexion with educational programmes and campaigns against drunken driving. Discerning the individual effect of particular interventions is likely to be especially difficult when these are made at a variety of levels, with the object of bringing about comprehensive and complementary changes in a population's use of alcohol. However, in an area where the changes recommended are likely to be the subject of dispute and viewed as an infringement of the liberty of individuals, policies must be monitored if they are to command the public support required.

6.7 Research priorities

The Committee considered that countries recognizing the ravages of increasing alcohol problems should promote the relevant operational research aimed at improving policy determination as well as programme planning and implementation.

What is required as a basis for decision-making and concrete action in many areas is a type of multistage research within defined populations, comprising: (1) a review of the existing situation with respect to alcohol use and problems in the light of available information and against the prevailing demographic and sociocultural background; (2) epidemiological studies to provide information on the nature,
extent and distribution of alcohol-related problems and to throw light on possible causes; (3) examination both of the available resources for responding to these problems and of the use made of them; (4) examination of all the information thus collected in discussions between the research group and a group of concerned persons in the community whose collaboration has been sought from the outset, in order to plan more appropriate responses to the problems found; and (5) consideration of such plans with national authorities to define the support required to put them into effect and the relevance of the proposals at a national level.

This is precisely the type of research that has been carried out within the WHO Project on Community Response to Alcohol-related Problems. In order that the results, and more particularly the research schedules and methods developed and tested in collaboration with the local research teams, should be applicable to a wide variety of countries, the project was initiated in 3 countries with very different sociocultural situations (Mexico, Scotland and Zambia). It was found possible in all 3 countries to carry out the research at a high level and by late 1979, after 3 years of work, the stage of planning the improved response had been reached and preparations were under way for follow-up discussions at the national level.

The Committee appreciated that there remains a great need for a variety of additional types of research on alcohol problems, including biomedical and sociological investigations, research on the treatment of both acute and long-term alcohol-related disabilities, studies to investigate and improve preventive measures, and research on evaluation techniques. Much of this work is already under way in a number of different countries and there is need for periodic reviews and assessment of the state of knowledge. Such reviews could be of considerable value to policy and programme planners even in countries which are not in a position to collaborate in this type of research.

6.8 Implementing health-oriented policies: needs and constraints

The consumption of alcohol has been a firmly established practice throughout man's history. It has played a variety of roles, including a ritualistic one. If only because of the widespread availability of alcohol, its consumption is likely to continue. As traditional methods of brewing and distilling have been progressively replaced by commercial processes, which have increasingly become the monopoly of a few very large firms, the supply of alcohol and the demand for it
have grown enormously. Those who wish to introduce policies designed
to change the population's use of alcohol will need to recognize the
forces arrayed against them—namely, the widespread acceptance of
drinking and commercial interests of a massive and influential kind.

It is important that people who are expected to comply with policy
measures should be able to recognize whether these are reasonable.
This is likely to be a particularly crucial requirement when proposals
are made to reduce the alcohol consumption not only of persons suf-
fering from the adverse consequences of their drinking, but also of
those whose drinking does not give rise to problems. Such a rec-
ommendation is likely to be considered unreasonable and to be resisted
by those who see it as impinging on their individual right of choice,
particularly if they do not conceive of any relationship existing be-
tween their own moderate drinking and the excesses of the few.

Policies designed to decrease consumption may be resisted also on
the grounds that they will reduce revenue from taxation and sales.
The financial benefits of such policies will be difficult to demonstrate
in countries which have derived significant revenue from the sale and
export of alcohol, and in which the complementary cost of alcohol-
related problems is either inadequately documented or not recognized,
unless it can be demonstrated that losses in both revenue and employ-
ment will be more than offset by gains in sales tax (resulting from
the diversion of income previously spent on alcohol) and productivity.

The Committee was aware that the policies it has recommended
will be effective only if they have the support of the general population
as well as that of the appropriate authorities. The experiment in
prohibition in the USA failed not because it lacked a certain logic—
people who could not drink alcohol could hardly experience problems
related to its use—but because it lacked adequate support in the
population.

Two elements are likely to be particularly critical in ensuring the
implementation of policy in this area—the determination of govern-
ments and the willingness of populations to accept restrictions on their
personal liberty. It has already been observed that policies related to
the use of alcohol will require collaboration between many sectors
of government and that powerful economic arguments are likely to
be expressed against any attempt to reduce consumption. For argu-
ments couched in health terms to prevail in these circumstances political
determination of a high order will be required. Similarly, for the
majority of the population—most of whom are not experiencing any
adverse consequences of their drinking—to accept further restrictions
on their access to alcohol, whether through increase in price, reduction in hours of sale, or raising the age at which it can be legally bought, will require an educational programme vastly greater in its scope and credibility than the campaigns usually directed at schoolchildren. While ministers of health cannot alone be responsible for such programmes, it is likely that, initially at least, they will have to bear the primary responsibility of informing both their ministerial colleagues and the public at large of the adverse consequences associated with the excessive use of alcohol.

7. IMPLICATIONS FOR INTERNATIONAL ACTION

7.1 International aspects of alcohol control

Although there has never been any worldwide policy on alcohol control, there have been some attempts at regional arrangements for this purpose. For example, towards the end of the last century, several European powers agreed to a principle of limiting the importation of spirits into Africa (International Brussels Treaty of 1889). Largely owing to opposing political and financial interests, this objective was not achieved despite an agreement (Convention of Saint-Germain-en-Laye) relating to liquor traffic in Africa signed in 1919, and the smuggling of spirits across frontiers continues today. At conferences on the situation in the 1920s and 1930s, detailed proposals were made for practical preventive measures, for the establishment of committees in all territories to collect information on alcohol problems and for a coordinating organization, but none of these suggestions was followed up.

More recently, within the European Economic Community (EEC) consideration has been given to regional control of the production of alcoholic beverages and the relevant trade, but not with the objective of preventing alcohol-related problems. It has been pointed out that economic demands, the desire to obtain hard currency and tax revenue and the need to consider the interests of population groups making a living out of alcoholic beverages have led to an expansionist policy which takes no account of the risks to health and welfare. The EEC free-trade policy has contributed to an increased trade in alcoholic
beverages. Moreover, pressure has been put on members of the Community to harmonize indirect taxes levied on alcohol. This again is likely to lead to increased consumption.

In some regions of the world brewing and distilling, as mentioned earlier, are increasingly becoming the monopoly of a few very large firms, whose financial resources permit them to risk capital in establishing new markets. Reports from many developing countries refer to the recent establishment of breweries and distilleries which, in some instances, are owned largely by multinational companies. Such innovations may be welcomed as providing increased employment and revenue. New roads and other means of communication may be developed to distribute the products more widely. Only later does the realization come that rapid increases in the availability of alcoholic beverages may have serious consequences for the health and development of the population.

Another danger, besetting countries that have rather suddenly increased their wealth through the discovery of new resources such as oil, is that buyers may exert pressure on the countries concerned to accept quotas of exchange goods which include alcoholic beverages. In at least one large developing country this has resulted in a massive increase in the importation of alcohol in recent years.

All these observations point to a pressing need for careful studies related to alcoholic beverages, concerning: (1) international trends in production and consumption; (2) marketing activities and trade agreements; and (3) the consequences of such activities for the health and development of the population concerned. In some regions there is already sufficient evidence to suggest that strong international measures should be taken to counteract trade activities and policies that are a threat to the health of populations. The role of WHO and other international organizations in this work is discussed in the following sections.

7.2 Role of WHO

7.2.1 Recent World Health Assembly resolutions

Resolutions WHA28.81 and WHA32.40, adopted by the World Health Assembly in 1975 and 1979 respectively, point to an international will to face the obligations implicit in the observations made in section 7.1.
Under the terms of the former resolution, the Director-General of WHO was requested:

“(1) to direct special attention in the future programme of WHO to the extent and seriousness of the individual, public health and social problems associated with the current use of alcohol in many countries of the world and the trend toward higher levels of consumption;

(2) to take steps, in cooperation with competent international and national organizations and bodies, to develop comparable information systems on alcohol consumption and other relevant data needed for a public-health-oriented alcohol policy;

(3) to study in depth, on the basis of such information, what measures could be taken in order to control the increase in alcohol consumption involving danger to public health.”

Resolution WHA32.40 included a request to the Director-General “to strengthen WHO's capacity to respond to requests from governments to provide support for their efforts in dealing with the problems associated with alcohol”, and “to encourage greater intercountry collaboration with respect to the prevention and treatment of alcohol-related problems by developing joint training programmes, reviewing existing trade practices and agreements relating to alcohol, establishing international criteria for reporting alcohol-related problems and levels of alcohol production, and ensuring the exchange of experience regarding particular preventive measures”.

7.2.2 Support for concern with alcohol-related problems in country health programmes

A number of steps have already been taken in line with the above-mentioned resolutions which would provide a firm basis for the further expansion of WHO activities designed to respond to the expressed requirements. One was the preparation, with the help of contributors from more than 80 countries, of the international review of activities connected with the prevention of alcohol-related problems (7). This collaborative undertaking, together with some earlier work (see section 1, Introduction), has promoted widespread critical scrutiny of preventive measures, policies and programmes. It has also stimulated a number of countries to make a detailed review of the situation with regard to alcohol problems and of the means of dealing with them among their own populations. In some cases this has already led to the establishment of a mechanism for the improved collection, analysis and monitoring of relevant information and for policy and programme planning. This work could well be extended to other countries. En-
encouragement should be given to the updating of such reviews at intervals to promote the monitoring of programmes.

WHO could further assist such work by collaborating in the organization of additional meetings—at national, regional and international levels—for the exchange of experience in organizing programmes and their components and for the consideration of improved methods of collecting, analysing and utilizing the information required. Efforts should also be made to include consideration of alcohol problems within a more general context of planning and information collection for health programmes.

Another project, described in section 6.7, on the community response to alcohol-related problems, has gone much farther, in 3 collaborating countries, towards stimulating detailed research into alcohol problems and the development of plans for an improved response. The next phase of this work envisages the preparation of guidelines and procedures for applying the methods of community analysis and planning, developed in the first phase of the project, to other interested countries.

In some WHO regions, consultant collaboration has already been instituted with a number of countries, at the request of governments, in the reviewing of alcohol problems and the development of programmes. Such work has proved valuable. It is suggested that in future such consultants might be given the opportunity to become acquainted with the research and experience of selected centres and investigators already collaborating in the above WHO project.

7.2.3 Network of centres and collaborators for research and training in alcohol-related problems

A number of countries have already expressed their wish to carry out the type of epidemiological and operational research outlined above, designed to improve programme planning. This would be furthered by WHO’s collaboration in establishing research and training centres, starting with the research teams and centres in the community response project. It is envisaged that subsequently an expanded network of such centres should be developed and that collaborators from neighbouring countries should be included.

A network of this kind would provide a basis also for international collaboration in the types of education and training activities outlined in section 4.3.1, the research proposed in section 6 and the preparation of the reviews suggested below.
7.2.4 International reviews, recommendations and guidelines on specific aspects of alcohol-related problems

The Committee pointed to the value of the international review of prevention (7) as a basis for national and international action. Further international reviews could usefully be prepared on a series of related topics, with the same objective of stimulating action. Again widespread involvement, including the collaboration of international governmental and nongovernmental organizations, could be sought in gathering the necessary information and in reviewing drafts. Consideration of the findings at national, regional or broader international meetings could assist in the formulation of relevant recommendations and guidelines and could help to stimulate action. In the case of some of the topics, an important intermediate step would be the development of collaborative research. The following topics are suggested for such activities:

(1) determinants, organization and consequences of international trade in alcoholic beverages;

(2) influence of licensing controls and pricing on alcohol consumption and alcohol-related problems;

(3) influence of rapid socioeconomic change on alcohol consumption and alcohol-related problems;

(4) alcohol problems among specific segments of the population—e.g., young persons and women;

(5) health education and training techniques and experience related to alcohol problems;

(6) assessment of treatment and management of the alcohol dependence syndrome;

(7) experience of prevention and management of alcohol problems in industrial and other occupational settings.

7.2.5 Collaboration within WHO and with national and regional bodies

The Committee noted with approval that, in carrying out the above tasks, and in planning further projects, possibilities existed within WHO for collaborative work. Examples were considered of joint activities concerning the mental health and psychosocial aspects of alcohol problems within the mental health programme, and similar cooperation was seen to be feasible in connexion with the programmes concerning, for example, family health, occupational health, cardio-
vascular diseases and smoking control, health education, health manpower development, health legislation, health statistics, and the strengthening of health services. Much valuable assistance in WHO's national and regional work on alcohol-related problems has been received from established national bodies willing to share their experience with other countries in the same region or more broadly.

7.3 Collaboration between international bodies

Resolution WHA32.40, to which reference has already been made, requests the Director-General of WHO “to promote joint consideration by the organizations of the United Nations system and nongovernmental organizations of the problems associated with alcohol and their alleviation, and specifically to invite the United Nations Statistical Office, the International Labour Organisation, the Food and Agriculture Organization of the United Nations and the United Nations Educational, Scientific and Cultural Organization to collaborate with WHO in this work”. The meeting of the present Expert Committee gave an opportunity for such collaboration with several international organizations, as can be seen from the list of participants. Other organizations, which had been invited to send a representative but had been unable to do so, received the background documentation and in several cases provided important additional material for the Committee’s deliberations.

An example of such collaboration that has already been initiated concerns the compilation of international statistics on alcoholic beverages—production, trade and consumption—as mentioned in the Introduction. Negotiations to enable this work to be continued through a WHO collaborating centre are currently taking place, WHO acting as the focal point for ensuring continued collaboration with other international and national bodies.

As regards methods and application of controls on trade in alcohol, there is an urgent need for WHO to bring to the attention of other international agencies the underlying health considerations. Among other bodies to be approached might be the UNCTAD/GATT International Trade Centre and the Economic and Social Council of the United Nations. The bodies concerned with technical cooperation and development also need to be involved.

In the important area of education and training in the subject of alcohol-related problems, collaboration between WHO and UNESCO is seen as essential. Several international nongovernmental organi-
zations have also given particular attention to these matters. Other international bodies that might provide assistance are those concerned with education and training for the medical and allied professions, such as, for example, the World Federation for Mental Health, the World Psychiatric Association, and the International Sociological Association.

The International Labour Organisation (ILO) works with representatives of governments, management and labour and is therefore ideally placed to cooperate with other bodies in matters concerning the development of programmes in industry and other occupations. The ILO's long experience in collaboration with developing countries would be valuable in such endeavours and also in matters concerning the rehabilitation of the disabled, where attention has already been given to problems of drug dependence.

Certain hazards related to alcohol consumption are already being competently considered by other agencies, and although continuing collaboration with WHO is desirable this does not necessarily imply WHO leadership. A case in point is the widespread investigation and action initiated by the Organisation for Economic Co-operation and Development with regard to the role of alcohol in traffic accidents. WHO's Regional Office for Europe is a focal point for collaboration with a wide variety of organizations on questions of traffic safety in general, including the International Association for Accident and Traffic Medicine. The WHO Regional Office for the Americas acts as a clearing-house for the exchange of information and experience in that region. Here again, certain nongovernmental organizations have been involved.

In developing research programmes on alcohol problems, fruitful collaboration is to be expected not only with the above bodies, in dealing with particular topics, but also with organizations such as the International Epidemiological Association.

Many of the international, governmental and nongovernmental organizations have regional branches, and collaboration with other regional organizations might be promoted in connexion with alcohol problems. Examples are the Economic Commission for Africa, the Economic Commission for Latin America, and the Economic and Social Commission for Asia and the Pacific.

The Committee considered the value of developing an international coordinating body on alcohol problems. As noted above, there is need for collaboration in several fields of action and the Committee urged that a suitable mechanism should be developed to ensure the joint
consideration of urgent international problems involving alcohol and the devising of appropriate countermeasures. In view of the important health implications, the Committee considered that WHO should take the lead in promoting this endeavour. Mechanisms already exist for international collaboration, but there is need for a focal point and for the means of exerting pressure in relation to alcohol problems.

At the moment, the resources available for carrying out the international tasks outlined above are far from adequate. If WHO is to play the leading role proposed for it in the development of a well-coordinated international programme for the prevention and management of alcohol-related problems, adequate support, commensurate with the scope of the activities envisaged, must be made available.

8. RECOMMENDATIONS

1. In view of the wide diversity of the medical and social ills and human suffering resulting from the consumption of alcoholic beverages, the limited efficacy and high cost of the existing treatment or management of most of these problems, and their high prevalence in many parts of the world, the Committee recommends that
   (a) prevention should be given clear priority;
   (b) further investment in treatment should be concentrated on developing inexpensive and cost-effective services.

2. There is ample scientific evidence that the damage caused by the consumption of alcoholic beverages is closely related to the level of consumption both of individuals and of the population as a whole. Indices of alcohol-related damage, biomedical as well as psychosocial, tend to rise when per capita consumption rises. For these reasons the Committee recommends that governments
   (a) should take immediate steps to prevent any further increases in consumption;
   (b) should begin to reduce per capita consumption by reducing the availability of alcoholic beverages and by taking educational and other measures to reduce demand.

3. In view of the potential contribution of well-designed educational and information measures in reducing the demand for alcohol and its untoward consequences, and in preparing for the introduction of control legislation, the Committee recommends that
   (a) governments should develop effective programmes of educa-
tion and information about alcohol: such programmes should be specifically designed for particular segments of the general population and concerned professional groups; they should emphasize the promotion of health, and should promote public understanding and support of the policy measures necessary for the prevention of alcohol problems;

(b) governments should simultaneously undertake a review of their policies with respect to the advertising of alcoholic beverages in order to make them consistent with educational efforts to reduce demand;

(c) WHO, in cooperation with the United Nations Educational, Scientific and Cultural Organization and nongovernmental organizations, should promote the development and use of effective programmes of information and health education in the interests of public health and social wellbeing.

4. Recognizing the extent of alcohol-related problems in many countries and their emergence in others, the Committee recommends that governments should

(a) review the nature and extent of these problems in their population, the resources already available for reducing their prevalence and impact, and the possible constraints to be met in establishing new policies;

(b) initiate the procedures necessary for the elaboration of a comprehensive national alcohol policy;

(c) establish coordinating mechanisms to implement preventive and management policies and programmes and to ensure a continuing review of the situation;

(d) implement these programmes within the framework of general health and national development, utilizing existing structures where feasible.

5. In view of the need to assess the scope and magnitude of alcohol-related problems so as to provide a rational basis for the formulation of appropriate policies, the Committee recommends that

(a) governments should develop and collect statistical and other information on the production, trade in, and consumption of alcoholic beverages and on consequent problems;

(b) WHO should take further initiatives in establishing international criteria for such information and in arranging for its collation.

6. In view of the heavy costs to industry of problems, both human and economic, attributable to alcohol consumption, and the potential of programmes within the occupational milieu to prevent and manage these problems, the Committee recommends that WHO, the Inter-

66
national Labour Organisation and other relevant bodies should consider what initiatives could be taken in this connexion.

7. Evidence suggests that, in some areas undergoing rapid social and economic change, there is a particular danger of massive increases in the availability of alcohol and consequently in the magnitude of alcohol problems. The Committee therefore recommends that special efforts should urgently be made to promote consideration of these matters by the national authorities concerned. For this purpose it may be necessary to provide information on the nature and extent of alcohol problems in general and also to promote the collection and analysis of such information locally with a view to establishing appropriate policies.

8. In view of both the serious public health consequences and the high social and economic costs to the community resulting from the rising consumption of alcoholic beverages, the Committee recommends that

(a) national health authorities should bring these considerations to the attention of various national, regional and international authorities when policies and trade agreements involving alcoholic beverages are being developed;

(b) WHO, in collaboration with other international organizations, should give close attention to existing and future trade policies and agreements potentially affecting the availability of alcoholic beverages, including tax-free sales.

9. In view of the international implications of alcohol-related problems and the potential contribution of a variety of international governmental and nongovernmental organizations to their solution, the Committee recommends the establishment of a mechanism to ensure collaboration between these bodies in the implementation of the above recommendations. The Committee considers that WHO is the most suitable organization to initiate the development of such a mechanism.
REFERENCES

12. Vuylstee, K. Health education: smoking, alcoholism, drugs, Copenhagen, WHO Regional Office for Europe, 1979 (EURO Reports and Studies, 10).
Annex 1

RELATIONSHIP BETWEEN ALCOHOL CONSUMPTION AND VARIOUS INDICES OF HARM

Table 1. Alcohol consumption, convictions for public drunkenness, cirrhosis deaths and alcohol-related hospital admissions: England and Wales, 1950–1976

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual per capita consumption of persons aged 15 and over in litres of 100% ethanol*</th>
<th>Convictions for public drunkenness per 10,000 population aged 15 years and over†</th>
<th>Cirrhosis deaths with and without mention of alcohol per million population</th>
<th>Hospital admissions with primary diagnosis of alcoholism or alcoholic psychosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>5.2</td>
<td>14.0</td>
<td>23</td>
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<tr>
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<td>5.3</td>
<td>15.8</td>
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<td>512</td>
</tr>
<tr>
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<td>5.3</td>
<td>15.8</td>
<td>26</td>
<td>668</td>
</tr>
<tr>
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<td>26</td>
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<td>5.3</td>
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</table>

*Data for the whole of the United Kingdom.
†For the years 1956–1976, the data pertain to persons aged 14 years and over.
* = Not available.
Table 2. Average annual alcohol consumption per capita and average annual alcohol-related mortality per million population:
United Kingdom, 1885–1934, by quinquennium

<table>
<thead>
<tr>
<th>Quinquennium</th>
<th>Consumption in UK gallons (litres) of proof spirit</th>
<th>Deaths certified as due to cirrhosis, delirium tremens, or chronic alcoholism</th>
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<tbody>
<tr>
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<td>3.8 (17.3)</td>
<td>154</td>
</tr>
<tr>
<td>1890–4</td>
<td>4.0 (18.2)</td>
<td>168</td>
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<td>1905–9</td>
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<td>1915–19</td>
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<td>1920–4</td>
<td>2.3 (10.5)</td>
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</tr>
<tr>
<td>1925–9</td>
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<td>55</td>
</tr>
<tr>
<td>1930–4</td>
<td>1.6 (7.3)</td>
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</table>

Table 3. Alcohol consumption per capita, arrests for drunkenness, crimes of assault and battery, cases of drunken driving, alcohol-related traffic accidents, deaths from liver cirrhosis, and deaths from alcohol poisonings, per 100,000 population: Finland, 1950-1975

<table>
<thead>
<tr>
<th>Year</th>
<th>Consumption in litres of 100% alcohol</th>
<th>Arrests for drunkenness</th>
<th>Crimes of assault and battery</th>
<th>Cases of drunken driving</th>
<th>Alcohol-related road traffic accidents</th>
<th>Deaths from liver cirrhosis</th>
<th>Deaths from alcohol poisonings</th>
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</thead>
<tbody>
<tr>
<td>1950</td>
<td>1.73</td>
<td>3.665</td>
<td>148</td>
<td>...</td>
<td>20</td>
<td>...</td>
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<tr>
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<td>3.349</td>
<td>148</td>
<td>37</td>
<td>21</td>
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<td>2.2</td>
</tr>
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<td>3.387</td>
<td>145</td>
<td>50</td>
<td>25</td>
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<td>2.5</td>
</tr>
<tr>
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<td>1.85</td>
<td>3.222</td>
<td>139</td>
<td>50</td>
<td>24</td>
<td>2.4</td>
<td>2.5</td>
</tr>
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<td>142</td>
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<td>25</td>
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</tr>
<tr>
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<td>121</td>
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<tr>
<td>1961</td>
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<td>126</td>
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<tr>
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<tr>
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<td>155</td>
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<td>45</td>
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</tr>
<tr>
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<td>76</td>
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<tr>
<td>1974</td>
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<td>77</td>
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<td>1975</td>
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<td>379</td>
<td>75</td>
<td>6.3</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Sources: Österberg, E. Recorded consumption of alcohol in Finland, 1950-1975, Helsinki, 1979 (Reports from the Social Research Institute of Alcohol Studies, No. 125); Österberg, E. Indicators of damage and the development of alcohol conditions in Finland during the years 1950-1975. (Paper prepared for an international study of alcohol control experiences, January 1979.)

.. = Not available.
Annex 2

ALCOHOL DEPENDENCE SYNDROME

The term "alcohol dependence syndrome", which is described in some detail in the report of a WHO Group of Investigators,\(^1\) has replaced the rubric "alcoholism" in the ninth revision of the International Classification of Diseases\(^2\) and is increasingly coming into use for scientific purposes. According to the aforementioned report,\(^3\) one criterion for diagnosis of the alcohol dependence syndrome is a changed behavioural state in an individual that includes, in addition to an alteration in overt drinking behaviour, a continuation of drinking in a way not approved of in his culture, despite painful direct consequences, such as physical illness, rejection by his family, economic embarrassment and penal sanctions. The report refers also to an altered subjective state, in which the dependent person's control over his drinking is impaired, there is a craving for drink, and an element of "drink centredness" is manifested, whereby the planning of his drinking may take precedence over that of other activities. In addition to the above changes, an altered psychobiological state is noted, with experience of signs and symptoms of withdrawal, drinking for relief of withdrawal, and increased tolerance.
