

Comments on the draft WHO/FAO report 'Diet, nutrition and the prevention of chronic diseases'

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These comments are mostly not technical in nature, while all have a reasoned basis capable of detailed justification and citation from scientific and other expert literature.

The WHO/FAO secretariat, the contributors of background papers, and the members of the expert consultation, are to be congratulated for their achievement so far in producing this draft Report on a complex and extremely important issue, under intense pressure of time.

If after consideration of this note, the WHO/FAO Secretariat wishes to make use of and reference to documents that provide more detail, these can be supplied immediately.

1 CONTEXT

The draft Report does not include sections on the context of chronic diseases. This is an unusual and serious omission. Context is needed in order to make the Report effective.

a History

Any report on chronic diseases that seeks a new readership and a new impact, should include a section on the historical context in which chronic diseases have become epidemic, beginning with the industrialisation of what are now high income countries around 200 years ago, and now occurring in middle and low income countries with great and accelerating speed.

Proposal

- The Secretariat to prepare text on the historical context of epidemic chronic diseases, which could begin part 1 of the main Report. This could make use of the proceedings of the 2001 Rockefeller Bellagio workshop of which WHO and FAO were observers.(1)

b Chronic diseases

The draft Report covers obesity, type 2 diabetes, cardiovascular diseases, cancer, dental disease and osteoporosis, but does not state why these diseases are covered, and why not others.

There is no apparent logic in the sequence used for these diseases, and so an impression is given that they are random phenomena. The evidence that chronic diseases emerge in a predictable sequence as a consequence of environmental and in particular demographic, nutritional and biological changes that can be mapped, (2) is not mentioned.

The draft Report states or asserts that these diseases are food-related, without explicit discussion or reference, and the reader is left to assume that other chronic diseases are not food-

related, which in some cases (various gut disorders and diseases, for instance) is certainly not so, and in other cases (some diseases of the nervous system, for instance) may not be so.

Proposals

- The Report to list relevant chronic diseases, with the reasons initially to believe they are food-related, including citation of previous expert reports. This could become the second section of part 1 of the main Report.
- The list of diseases to be in a rational order, the one recommended being evident sequence of epidemic occurrence.
- A further summary list to be given of chronic diseases that are not covered by the Report, with an indication of strength of evidence of food-relationship.

c Nutritional deficiencies and infectious diseases

This Report is designed to have special relevance in middle and low income regions and countries, where nutritional deficiencies and infectious diseases have been until recently the main causes of premature disability and death, remain endemic, and remain perceived by policy-makers as of paramount importance.

It is a great pity that WHO and FAO are not now producing a report with an integrated approach, first proposed in a Latin American context as long ago as the late 1980s. (3)

The continued segregation of three types of report, designed to prevent nutritional deficiency, infectious diseases, and chronic diseases, creates confusion. The competing demands on public health policy-makers, implicit in the recommendations of different reports on what is fundamentally the same issue, food, nutrition and public health, too often frustrate progress.

Segregation of different types of dietary recommendation is historically understandable, but is bad science and bad public health, and is indefensible in middle and low income countries, where nutritional deficiencies and infectious diseases remain endemic, but in which chronic diseases are now epidemic. These three types of disease now co-exist in the same communities and the same families, in middle and low income countries all over the world.

Policy-makers and health professionals in middle and low income countries need to know that policies and programmes designed to prevent chronic diseases, will also prevent nutritional deficiencies and will increase resistance to many infections of infancy and young childhood.

Short of an integrated approach, now no doubt impossible if only for reasons of time, the Report will be effective in middle and low income countries if and only if its recommendations are compared with those for nutritional deficiency and infectious diseases. Recommendations designed to prevent all types of food-related disease are broadly similar, (4) so such comparison will make the Report more useful and effective.

Proposals

- The Secretariat to commission a summary review of nutritional deficiency and infectious diseases, which could become the third section of part 1 of the main report.
- A summary list to be given of important nutritional deficiencies and of food-related infectious diseases, to be included after the list of food-related chronic diseases (above).

- A comparison of recommendations for chronic diseases and for nutritional deficiency and infectious diseases, designed to show similarity, to be made in part 4 of the main report.

d Demography

The previous WHO report on diet, nutrition and prevention of chronic diseases (technical report 797) included brief accounts of experiences in different regions and countries. These added to the perceived value and relevance of the report in middle and low income countries.

Such accounts are missing in the draft Report, and it is conspicuous that the annexes have been prepared mainly by experts from high income countries, with no representation whatever from Africa (other than South Africa) or from Latin America or the Middle East.

It is for example striking that annex 4 on cardiovascular diseases, prepared by a group led by an expert from a low income country (India) is outstanding in following the original WHO policy of paying special attention to epidemic chronic disease in middle and low income regions. Other annexes do not follow this policy, despite what is now a rich published literature. (1)(5)

The demographic imbalance within the contributors of background papers is however compensated for in the composition of participants in the expert consultation

Proposals

- The Secretariat to commission some summary reviews of the situation of and progress in a selection of middle and low income countries, to be included after section 2 of the main part of the draft Report. These could draw on existing published material.
- The entire text to be reviewed by selected members of the expert consultation from Asia, Africa, Latin America, and the Middle East, and relevant regional material added.

2 LANGUAGE

Ideology can be embedded in language, often unintentionally, but tendentiously. Some of the language in the draft Report needs revision.

For example, line 5 in the Preface refers to ‘... dietary and lifestyle changes in both developed and developing countries’, and the fourth paragraph on this page refers to ‘rapid changes in diets and lifestyles’. There are very many similar examples in the draft Report.

The alternative statements ‘changes in food systems and food supplies and thus in diets, in both high-income and middle and low-income countries’, and ‘changes in food supplies and thus diets, as well as in levels of physical activity’ are more appropriate, for reasons summarised below. These and similar points apply throughout the draft Report.

a ‘Diet’ and ‘nutrition’

The implication of the title of the draft Report, ‘Diet, nutrition and the prevention of chronic diseases’ is that the issues dealt with are only issues of consumption. They are not. Inasmuch as chronic diseases are food-related they are also and mostly, issues of food systems and food

supplies. This is stated and implied in the draft Report itself and is also implicit in the WHO collaboration with FAO.

The term 'diet' is problematic for three reasons. First, in some societies it is confused with diet regimes designed to lose weight. Second, the singular term suggests there is such a thing as an ideal diet. Third, the concept focuses on consumption.

Also, while the review of physical activity in the draft Report is rather cursory, it is apparent, and stated in WHO policy documents, that physical activity should be seen as of similar importance to food and nutrition in modification of chronic disease risk.

Proposals

- The title of the report to be 'Food, nutrition, physical activity and the prevention of chronic diseases'.
- Chronic diseases to be referred to as 'food and nutrition-related' or simply as 'food-related', and elsewhere the plural term 'diets' to be used.
- The concept of 'food system' to be used together with 'diets' where necessary;

b 'Developed/ developing country'

The draft Report constantly uses the terms 'developed' to apply to countries in north America and western Europe, and other high income countries such as Japan, Australia and New Zealand, and the term 'developing' to apply to most countries in Asia, Africa, Latin America and the Middle East. What these terms really mean, is economically developed or developing. They refer not to quality of life, but to money, which is not the same thing. (6)

The terms 'developed' and 'developing' are troublesome, as are 'rich' and 'poor', because they imply being and becoming in a good state, simply because of having and gaining money. But riches and poverty are not just a matter of money. Neutral terms are needed.

Proposal

- The terms 'developed' and 'developing' applied to countries or regions not to be used, nor other inappropriate terms such as 'rich' and 'poor' or 'Western'. The neutral terms 'high-income', 'middle-income' and 'low-income' to be used, following current standard UN agency criteria.

3 CONCEPTS

Concepts can also embody ideology, and as with terminology, some of the concepts used in the draft Report need revision.

a 'Lifestyle'

The draft Report and indeed other WHO and FAO reports and statements constantly describe chronic diseases as diseases of 'lifestyle'. The concept of 'lifestyle' was formulated in the late

1970s at Stanford Research Institute as a way to segment populations, so that products, and (later) political parties, could be marketed more effectively in the USA and (later) elsewhere. It is an extremely problematic concept applied to public health.

The implication of the term 'lifestyle' is that individuals are free to choose whether or not to decrease their risk of chronic disease, which in turn implies that prevention is primarily if not solely about education and information of individuals.

But the draft Report's recommendations for action, notably those to governments and industry, mostly and rightly address opportunities for systemic prevention. This approach is implicitly contradicted by the concept of 'lifestyle'.

The concept of 'lifestyle' is not generally appropriate even for high-income adult populations. The obvious example is chronic diseases the risk of which is increased by regular or heavy drinking of alcohol, which - like smoking - is and can be addictive.

Also, food-related factors that modify risk of some chronic diseases have their effect early in life, dental caries and obesity being obvious examples. Further, as stated in the draft Report, there is strong evidence that more serious chronic diseases may well originate early in life and even before birth. It is fanciful to use the word 'lifestyle' to apply to a young child or a foetus.

And while high income groups in all countries can have lifestyles and may make choices, most communities have little choice but to purchase and consume the food made available to them, and have little scope for style. What most people habitually consume is primarily a function of supply, not demand, and the way they live is in general a matter of necessity, not of 'lifestyle'.

Proposal

- The term 'lifestyle' applied to chronic diseases not to be used. 'Ways of life' is a more neutral term. Also, terms such as 'environment-related' or 'food-related' to be used.

b Causation

What does 'diet-related' (or 'food-related') mean? And what does 'cause' mean?

Section 4 and annex 2 of the draft Report, on obesity, make use of a concept of causation not used elsewhere. This concept is outlined, referenced but not explained, in terms of 'host', 'vector' and 'environmental' causal factors.

The final Report will have to be consistent in addressing what are causal factors. Either the concepts used in the sections on obesity will have to be dropped, or else these concepts will be used throughout the Report, including the more technical annexes. The view taken here, is that the concepts used in the obesity sections should be used throughout the Report.

Proposals

- The concept of host, vector and environmental causes of chronic disease to be used, as such or adapted, throughout the Report. Annexes 3-7 and the corresponding text of the main report to be revised in the light of this policy.
- Two new sections of the Report be written, to explain the concept of causation, and of host, vector and environmental factors. These could go after section 3.3 of the current draft. (A draft of a possible section on causation is included as an annex to this note)

- The matrices used to summarise strength of evidence to use an appropriate device (like bold, roman and italic typefaces) to distinguish different types of causal factor.

4 EVIDENCE

Judgments, recommendations and policy proposals should of course be evidence-based. But what is evidence, what evidence is admissible, and what evidence is most reliable?

a Reviews of single disease entities

There are problems with basing recommendations solely on reviews of single disease entities. A further summary review of dietary patterns, food, nutrition and food processing, while theoretically no more than the obverse side of a review of single diseases (or cancers of specific sites) is likely to provide insights not otherwise apparent. An account of general chronic disease syndromes, notably ‘syndrome X’, also known as the ‘metabolic syndrome’ is needed.

Proposals

- The Secretariat to commission a summary review of the evidence on foods and drinks, dietary constituents, food processing, physical activity and chronic disease risk. This could go between annexes 1 and 2 of the draft Report.
- The Secretariat also to commission a summary review of general food-related chronic disease syndromes. This could go after annex 7 of the draft Report.
- All the judgements and recommendations made in the Report to be revisited in the light of patterns of evidence that can be discerned from these reviews.

b Randomised controlled trials

Section 4 of the main text of the draft Report, on criteria used to assess strength of evidence, gives over-riding weight to randomised controlled trials (RCTs), proposing that the judgement of ‘convincing’ should be used only after consistent results from several RCTs.

This position is asserted, but not supported with any discussion or any citation, and is contradicted explicitly and implicitly elsewhere in the draft Report. It is the most serious scientific mistake made in the draft Report.

Annex 5 of the draft Report, on cancer, while also strongly favouring RCTs, explicitly acknowledges their drawbacks, and also points out that in a dietary context RCTs are most suitable in assessing individual micronutrients, not whole diets or foods. Annex 3 of the draft Report, on cardiovascular diseases, explicitly and implicitly does not accept the supremacy of RCTs either in its analysis or its judgements.

Special reliance on RCTs in the context of food, nutrition and chronic diseases, is an error. The view of this note and of recent reviews, (7) is there is no ‘gold standard’ type of study design. RCTs, originally designed to test drugs, cannot easily test complex relationships, are better at testing for reversibility than causation, and are often conducted with unrepresentative

populations and unusual exposures. In the case of cancer, RCTs may often be conducted relatively late in an occult stage of the disease process and therefore be useless. (This is a problem notably with cancer, with other types of study conducted in mid or late life).

A balanced approach to different types of well-designed study, epidemiological and otherwise, is likely to generate changes in the assessments and recommendations made in the Report.

For example, since publication of the World Cancer Research Fund report (8) in 1997, evidence on vegetables and fruits (as such, as distinct from some of their constituents) and cancer, has not greatly changed. What is different in the draft Report, is that the judgement of 'probable' is an artifact of a controversial and undefended policy on the pre-eminence of a type of study unlikely ever to produce clear results with foods as distinct from dietary constituents.

For anybody concerned with improvement of public health, giving pre-eminence to RCTs is a kamikaze policy. Such a policy will downgrade evidence on any and all types of food, simply because by their nature, RCTs are bound to produce equivocal results on foods as distinct from individual dietary constituents. Moreover, while some eminent scientists are vehement champions of RCTs, there is no current 'eminence-based' consensus within the international scientific community to support this approach.

Proposals

- Assessment of the scientific evidence to be carefully argued and referenced, and the general conclusion to be that the best judgements and recommendations come from assessment of all types of well-designed epidemiological and other studies.
- The criteria for the judgement 'convincing' not to give any special priority to RCTs.
- All the judgements and recommendations made in the Report to be revised in the light of a balanced approach to the scientific evidence

c The life course

The draft Report proposes that events and exposures in early life are likely to be crucial in determining later health outcomes. This has profound implications for research, the interpretation of evidence, and on dietary and policy recommendations.

As stated in the draft Report, patterns of growth in foetal life and infancy are likely to affect risk of chronic diseases, including obesity and type 2 diabetes. Also, nutrition in infancy and childhood is a determining factor in age of sexual maturation. This has profound implications; for example, age at menarche is an established risk factor for breast cancer.

Proposal

- All the judgements and recommendations made in the Report to be reviewed in the light of the need to consider different stages in the life course, especially early life.

d Infancy

Nutrition in infancy and young childhood, almost invariably excluded from discussion of chronic diseases, is a special and vital case.

It is now known that breastfeeding protects the health of the child beyond the age of 2. Human milk is ideal for babies and young children, not only as food for that stage of life, but also for the growth, strength and integrity of their bones and muscles and also of their cardiovascular and gastrointestinal systems and of their nervous systems including the brain and therefore mental function.

Human milk contains factors that strengthen the immune function of the child against a range of infectious diseases, including poliomyelitis, tetanus, diphtheria and gastrointestinal and respiratory infections. It also reduces the risk of chronic childhood diseases, including diabetes, inflammatory bowel disease, allergies and asthma, and also childhood cancers. (9)

In addition, breastfeeding protects the health of the mother at the time of breastfeeding and also later in her life. As well as helping complete recovery from birth, and quicker return to pre-pregnancy weight, breastfeeding has important physical and psychosocial benefits; and also hormonal benefits which include the possibility of reduced risk of cancer of the ovary and (after menopause) of the breast. (9)

Proposals

- The Report to include a recommendation on breast-feeding. The text to follow current WHO policy.
- The implications of this recommendation, notably on risk of chronic diseases of early life, chronic diseases of the nervous system, and acute diseases, to be considered.

5 THE RECOMMENDATIONS

Following are proposals for the recommendations and supporting text of the Report, in addition to those already made above - such as the proposal to include a recommendation on breast-feeding. The points made are highly compressed for the sake of brevity.

a Terminology and approach

The draft Report sometimes uses shorthand terms to refer to dietary risk factors and chronic diseases, such as 'fat' or 'vegetables' and at other times uses fuller terms such as 'high alcohol intake' or 'physical inactivity'. Other terms are sometimes used, some of which are counter-intuitive, such as diets 'rich' in fat.

Foods are neither elixirs nor poisons. It should be made clear that what is meant is diets high or low in certain foods and drinks, and foods and drinks relatively high or low in certain dietary constituents, or else commonly or uncommonly processed in certain ways.

A further inconsistency is between using both 'positive' associations and also 'negative' associations, such as 'regular physical activity decreases risk of...' (positive) and 'physical inactivity increases risk of....' (negative).

The policy and practice of the World Cancer Research Fund report (8) is commended. This report specifies what is meant by 'high' or 'low' intakes, and all visual material is referred back to these definitions. Given that visual material such as matrices are often presented in isolation it is probably advisable that all include such definitions, as footnotes.

The practice of WCRF in always giving first emphasis to positive associations is also commended, as sound science and better public health.

Proposals

- Shorthand terms such as those mentioned above to be avoided or at least always explained and wherever possible quantified.
- The recommendations to use a positive approach, or else a consistent positive and also negative approach.

b Whole diets and foods

Dietary recommendations are now usually whole diet and food-based, not nutrient-based. But the draft Report recommendations are with the exception of that for vegetables and fruits, for population dietary constituent goals, one of which (for protein) has no explanation. Yet annex 2 on obesity, in table 4, lists food-based guidelines.

Proposals

- The recommendations to be quantified, and be whole diet and food-based, alternatively, the Report to publish both whole diet and food-based and dietary constituent-based recommendations.
- As proposed above, all the recommendations made in the Report to be revisited in the light of a summary review of foods and drinks, dietary constituents, and food processing.

c Food processing

The draft recommendations make no reference to food processing, except implicitly in the cases of fatty acid fractions, free sugars and and salt (sodium), and there is little discussion of food processing in the main text of the draft Report, its annexes, or its recommendations to industry.

In the light of current knowledge this is an astounding and indefensible omission. For example, the effect of degrees and types of refining on the quality of starchy foods and the quantity of sugar produced and consumed, of hydrogenation on the volume of saturated fats and trans fatty acids in food supplies, of refrigeration on year-round availability of vegetables and fruits and on production and consumption of salt, of the effects of fermentation on gut microbial ecology, of the relative benefits of bottling and canning in water and natural juices, and of the creation of carcinogenic compounds by storage in warm ambient temperatures and by burning of animal foods, are well known. These are just some examples that come immediately to mind.

The relevance of these and other types of food processing, and the importance of partnerships with industry to encourage benign forms of processing, is also well understood, but is hardly mentioned in the draft Report. As a not entirely jocular aside, critical readers of the draft Report might gain the impression that the expert contributors and members of the expert consultation responsible for the draft Report, do not know about food processing, do not shop or cook, and usually eat in restaurants.

A summary account of different types of food processing is given in introductions in chapter 7 of the WCRF report. (8) These are written so as to be relevant not only to cancer.

Proposals

- The Secretariat to commission a summary review of food processing and its relevance to the risk of chronic diseases. This could be placed after section 2 of the main report in the current draft, in addition to the general summary review proposed above.
- Explicit consideration of different types of food processing to be made in all annexes of the Report, and thus in its main text and recommendations
- The entire text of the Report to be reviewed by an expert with a good general knowledge of food processing.

c Energy density, and fatty foods

There is an inconsistency in the draft Report. Annex 2 on obesity argues (correctly) for a convincing effect of energy-dense diets on weight gain and risk of obesity. In contrast annex 5 on cancer, is ambivalent on the relation of dietary fat and weight gain. The terminology in these two sections is also inconsistent.

Energy-dense foods, and fatty foods, are different issues. It is an error to relegate fatty foods to a footnote, as is done in the recommendations on obesity. Diets high in fat as such increase the risk of obesity and thus also of diseases the risk of which is increased by obesity, including type 2 diabetes, coronary heart disease, and some cancers. This issue should not be fudged in an attempt to mollify contributors to the draft Report with very strong views.

Correspondingly, a separate case for identifying diets high in energy-dense foods as such as distinct from fatty foods as risk factors, needs to be made. Such diets may be energy dense because of being high in free sugars and low in fibre and water.

Proposals

- The Report to conclude that energy-dense diets and also diets and foods high in fat convincingly increase the risk of obesity, and so of cancers the risk of which is increased by obesity, and also to conclude that these risks are further increased by sedentarism.
- A recommendation on consumption of water to be included, following a summary of the evidence of its health benefits and its effect on satiety and dilution of energy density.
- Energy density to be treated separately from diets and foods high in fat (and types of fat)
- As appropriate, recommendations to specify diets and foods high in fat (and types of fat).

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QUALIFICATIONS

My qualifications to contribute these comments include the following.

I am international and policy advisor in the Nutrition and Food Policy division of the Ministério da Saúde, Brazil, and was a member of the Brazilian delegation to the WHO World Health Assembly in 2001. I am Vice-President and former Chair of Sustain (formerly the National Food Alliance) the leading civil society organisation in the field of food and agriculture policy, based in the UK. I was rapporteur of the workshop on 'The Nutrition Transition and its Implications for Health in the Developing World' held at the Rockefeller Center in Bellagio in 2001. I am a member of the International Union of Nutritional Sciences Task Force on Eco-nutrition. I am a founder and member of the Executive Committee of the World Health Policy Forum, whose first meeting was held in Camogli, Italy, in 2000.

I am Science and Health Policy Advisor to the World Cancer Research Fund, former WCRF Director of Science, and as such originator, head of the secretariat for and chief editor of the WCRF report 'Food, Nutrition and the Prevention of Cancer: a global perspective' published in 1997. I am author of a review and analysis of 100 expert reports on diet and chronic diseases, 'Food and Health: the Experts Agree', published in 1993. I was a member of the UK delegation to the FAO/WHO International Conference on Nutrition in 1992. I worked with the chair of the expert committee responsible for WHO Technical Report 797 in order to promulgate this report in the UK and elsewhere, in 1990 and 1991.

My comments are written in a personal capacity.

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ANNEX

Causation

[This could be inserted as a new section after section 3.3 of the draft main Report]

What are the causes of disease? Concepts like causation are commonly used in disciplines that are necessarily philosophical as well as practical, such as law. Physicians tend to talk about cause in a mechanical manner, and thus may say that an individual death was caused by say, a cerebrovascular event, meaning a stroke. They may go further and refer to underlying pathology, saying perhaps that the precipitating cause of death was a brain haemorrhage, but that the underlying cause was hypertension. This is the sort of language commonly used on death certificates and therefore on records of population mortality. It is one answer to a question ‘how?’, but does not address ‘why?’

Nutrition scientists typically take one step further and ask what was the cause of the disease itself, and will tend to look for nutritional causes. Thus they may say that high incidence of high blood pressure and death from stroke is itself caused among other factors by salt - meaning, food supplies and thus diets and foods high in salt. Usually it is not possible to be certain about such factors individually, although autopsies can clearly show the damage done to the airways and lungs by regular smoking of tobacco.

However, in a social context, to say that a death is caused by a cerebrovascular event, is rather like saying that a death is caused by a bullet penetrating a brain. In a sense this may be true, but is not useful outside the autopsy room, where relevant questions include: who bought the gun, who fired it, and why?

Those concerned with the prevention of disease and also with the development of public policies, as in this report, go further. They think not in terms of consumption but of production, not of individual diets but of food systems, and ask a hierarchy of ‘why?’ questions, rather like as in a court of law. Such questions should include judgement of what type of proposed intervention may be most effective.

Attempts have been made to identify different types of hierarchy of causation. Thus, causes can be described as precipitating, immediate, and fundamental, or else personal, political, and historical, or else contributory, effective, and sufficient (and synonymous terms). For instance, it can be said that in a given society, high rates of death from liver cirrhosis are caused immediately by heavy consumption of alcohol, and that low taxation of alcoholic drinks is a contributory political cause. Much discussion on the causes of disease is vitiated by confusion over the typology of causation.

As a further example, it could be said that high rates of death in infancy in low-income countries, say in Africa, are caused by malnutrition, or infection, or inadequate breast-feeding, or lack of medical care, or famine, or fragile food systems, or poverty, or inequity, or expropriation, or dislocation, or the policies of transnational food companies, or warlords, or the effects of colonialism. These are a combination of host, vector and environmental factors, the concept used in this report, as explained in the following section.

The question ‘so what?’ then needs to be asked, in order to move towards meaningful policies designed to protect population health, like the actions recommended in section 5, below, designed to identify the most relevant interventions believed most likely to produce the best result in the case of chronic diseases. These can be gauged in different ways, including cost, time, and scale.

Thus, with tobacco, a fiscal, legal and regulatory approach, including high taxes on cigarettes, prosecution of smugglers, and regulation or prohibition of advertising and promotion, is known to be effective, and in practical terms suggests that - in the terminology used in this report - environmental causes of high rates of death from tobacco-related diseases include absence of these policies. Such approaches are commonly taken in respect to alcohol production and consumption and can also be used with other aspects of food supplies, such as specified highly advertised energy-dense foods and drinks.