



# Food and health in Europe

Summary

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# Food and health in Europe: a new basis for action

Summary

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# Abbreviations

BMI	body mass index
BSE	bovine spongiform encephalopathy
CCEE	countries of central and eastern Europe
CHD	coronary heart disease
CVD	cardiovascular diseases
DALYs	disability-adjusted life-years
EFSA	European Food Safety Authority
FAO	Food and Agriculture Organization of the United Nations
GEMS/Food	WHO Global Environment Monitoring System – Food Contamination Monitoring and Assessment Programme
HDL cholesterol	high-density lipoprotein cholesterol
LDL cholesterol	low-density lipoprotein cholesterol
NIS	newly independent states
vCJD	variant Creutzfeldt-Jakob disease

# Foreword

*The WHO Regional Office for Europe encourages and supports countries in developing and implementing their food and nutrition action plans. Two major publications provide an important part of this support. Each covers the same information, but tailors it to meet the needs of very different audiences.*

*The first is a large forthcoming book that provides in-depth analysis of nutritional health, foodborne disease, and concerns about the supply and security of food in Europe. Written and reviewed by great numbers of experts from all over the European Region, the book provides the scientific evidence for national action plans and WHO's First Food and Nutrition Action Plan for the European Region. It provides information for the use of health professionals, in order to strengthen their capacity to improve public health. The second publication is this booklet, a brief summary of the much larger book that is aimed primarily at policy-makers.*

*This summary follows the structure of the book, but addresses the key actions that need to be implemented by decision- and policy-makers. Like the larger book, it presents the contribution of food and nutrition to the burden of ill health, threats to the quality and safety of food and the problems of ensuring optimum supplies of high-quality, nutritious food to all Europeans. Having summarized the evidence and shown the need for action, it focuses on the options for policy, describing the steps for decision-makers to take.*

*The challenge for policy-makers is that policies in many sectors – ranging from agriculture, food processing, manufacturing and retailing, to catering and advertising – shape the availability, accessibility and eventual consumption of food. This is why policies need to be coordinated so that public health is given due priority in the making of food policies by non-health sectors. Changes in eating patterns that harm public health are not inevitable, but policy-makers need information and data so that they can make informed decisions to prevent harm. Nationally collected data can be compared with international norms and standards to ensure that public health is at the centre of policy decisions. Issues such as ensuring Europe has a sustainable and healthy food supply, reducing levels of obesity and physical inactivity and protecting against foodborne diseases require urgent attention over the next few years. One of the most important steps is the coordination of policy-making to ensure that the food policies of all sectors give the proper priority to public health.*

*Both the larger book and this summary highlight the urgent need for integrated, multisectoral food and nutrition policies to encourage the sustainable production of food, its safety and the provision of food of high nutritional quality for all.*

Marc Danzon  
*WHO Regional Director for Europe*

# Introduction

The International Conference on Nutrition in 1992 and the world food summits in 1996 and 2002 stressed that access to a safe and healthy variety of food is a fundamental human right. An optimum supply of safe and nutritious food is a prerequisite for the protection and promotion of health.

Despite the commitments and efforts made at the national and international levels, policies are still needed to reduce the burden of food-related ill health and its cost to society and health services in the European Region. The First Action Plan for Food and Nutrition Policy, WHO European Region 2000–2005 (*1*) stresses the need for decision-makers to develop policies on food and nutrition that protect and promote health and reduce the burden of food-related disease, while contributing to socioeconomic development and a sustainable environment in the European Region.

This summary is based on a larger forthcoming publication that discusses different components of food and nutrition policies and the evidence to support them. It describes the rising health costs of failures in food supply, shows the need for action and describes the steps for decision-makers to take. The larger book and this summary highlight the urgent need for integrated, multisectoral food and nutrition policies to encourage the sustainable production of food, its safety and the provision of food of high nutritional quality for all.

## WHO's commitment to food security, food safety and nutrition

Recognizing the importance of food in the maintenance of health, WHO's governing body, the World Health Assembly, has adopted several resolutions supporting national and international action to strengthen food policies.

- Resolution WHA 53.15 (2000) urged Member States to develop policies on food safety that were integrated with those on public health and nutrition, and committed WHO to increasing its surveillance activities, to developing collaborative scientific action, to supporting the inclusion of health considerations in international food trading and to supporting capacity building. (In 2002, WHO issued a global strategy for food safety that outlines the action needed to reduce foodborne illness.)

- Resolutions WHA 54.2 (2001) and WHA 55.25 (2002) on infant and young child nutrition urged Member States to encourage breastfeeding through, for example, parent- and baby-friendly hospital environments, and to strengthen their controls on the marketing of breast-milk substitutes, with the support of WHO. (In 2002, WHO issued a global strategy for infant and young child feeding that outlines the action necessary to promote the youngest children's health.)
- Resolution WHA 55.11 on health and sustainable development (2002) requested WHO to help countries to frame policies and implement national plans that promote sustainable and health promoting patterns of consumption.
- Resolution WHA 55.23 (2002) urged Member States to develop national plans of action on nutrition and physical activity, with strategies on diet that involve all sectors, including civil society and the food industry, and committed WHO to developing a global strategy on diet, physical activity and health within its strategy for noncommunicable disease prevention and control.

In Europe, the fiftieth session of the WHO Regional Committee for Europe addressed food supplies, food safety and nutrition in 2000. Regional Committee resolution EUR/RC50/R8 endorsed the five-year Action Plan to develop integrated policies on food and nutrition. This book is part of the continuing programme in this field.

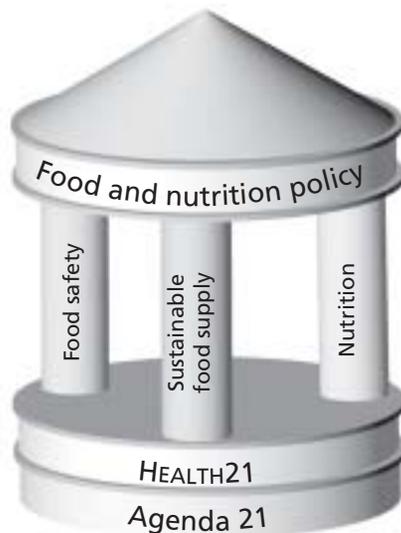
At its fifty-first session in 2001, the Regional Committee considered inequalities, including the issue of food poverty (document EUR/RC51/8). Regional Committee resolution EUR/RC51/R6 committed the WHO Regional Office for Europe to mobilizing resources for activities on poverty and health within a regional framework.

# 1. The burden of disease and the importance of food

Food plays a hugely important role in causing and preventing many diseases. Eating an inadequate range of foods can lead to deficiency diseases, and contaminated food can cause foodborne diseases. The economic consequences of poor nourishment include lower productivity, family distress and considerable costs to national health services.

Discordant agricultural, industrial and food policies can harm health, the environment and the economy, but harmful effects can be reduced and health promoted if all sectors are aware of the policy options. National policies on food and nutrition should address three overlapping areas: nutrition, food safety and a sustainable food supply (food security). The First Action Plan for Food and Nutrition Policy (1) calls for interrelated strategies on all three (Fig. 1).

Fig. 1. A comprehensive policy on food and nutrition



Source: *The First Action Plan for Food and Nutrition Policy, WHO European Region 2000–2005 (1)*.

A nutrition strategy aims to promote health and prevent nutrition deficiencies and chronic diseases, such as cardiovascular diseases and cancer. It works to ensure optimal health, especially in low-income groups and during critical periods throughout life, such as infancy, childhood, pregnancy and lactation, and older age.

A strategy on food safety highlights the need to prevent contamination, both chemical and biological, at all stages of the food chain. The potential impact of unsafe food on human health is of great concern, and new food safety systems that take a farm-to-fork perspective are being developed.

A food security strategy should ensure that enough food of good quality is available, while helping to stimulate rural economies and to promote the social and environmental aspects of sustainable development.

## Nutrition's effect on the burden of disease

Poor nutrition makes an important contribution to the burden of disease in Europe. A diet high in saturated fat and energy-dense foods (those with high fat and/or sugar content), and low in fruit and vegetables – along with a sedentary lifestyle and smoking – is the major cause of cardiovascular diseases (CVD), cancer and obesity. CVD and cancer are the top two causes of death in the WHO European Region.

CVD, for example, cause over 4 million deaths per year in Europe. Coronary heart disease (CHD) is the most common cause of premature death, accounting for nearly 90 000 deaths per year: 16% of all premature deaths in men and 12% in women. Moreover, in the countries of central and eastern Europe (CCEE) and the newly independent states (NIS), CHD mortality is almost double that in the European Union (EU) and is still rising in many countries. The picture for stroke is the same. In western Europe, deaths from CVD are declining, but prevalence appears to be increasing. The risk of CVD increases with age, and improved survival rates mean that, with an ageing population, a greater number of Europeans live with impaired cardiovascular health.

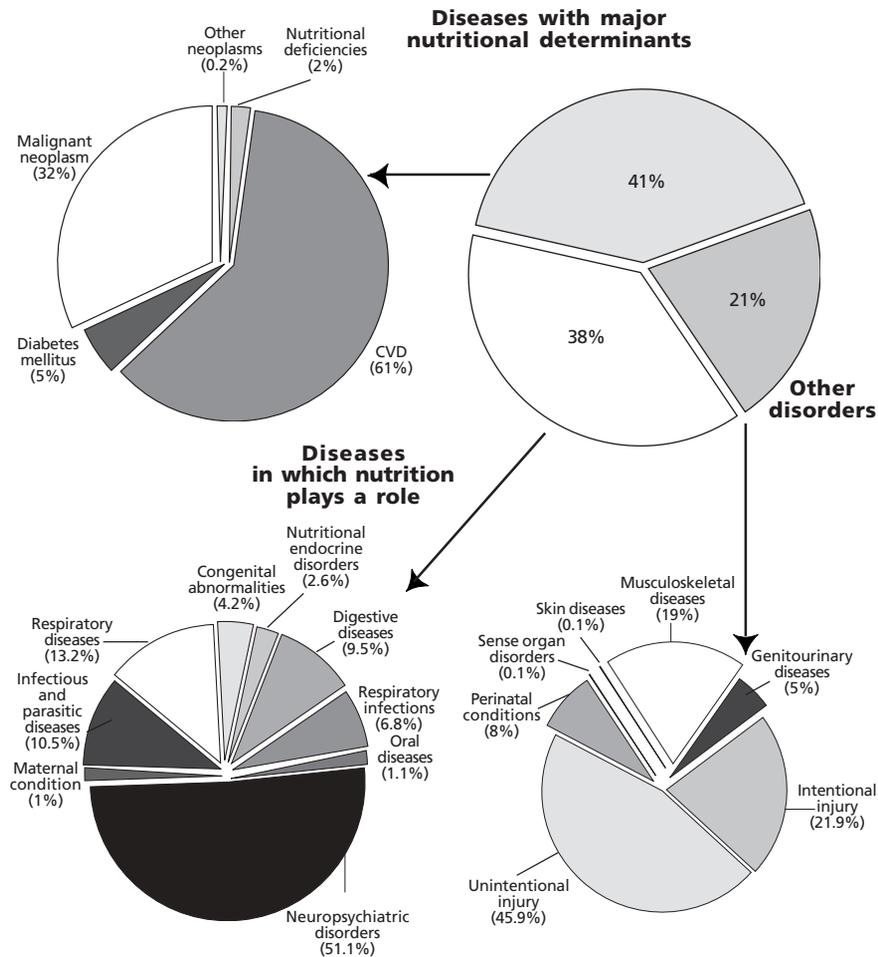
Around one third of CVD cases are related to eating a poor diet (2). Better diets could prevent around 30–40% of cancer cases (3). Up to 20–30% of adults are obese,<sup>1</sup> and obesity shows escalating rates in children, increasing their future risk of CVD (4). Further, preliminary analyses suggest that poor nutrition accounts for 4.6% of the total disability-adjusted life-years lost in the EU, with obesity and physical inactivity accounting for an additional 3.7% and 1.4%, respectively (5).

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<sup>1</sup> Obesity is defined as a body mass index (BMI) of 30 or more; BMI is determined by dividing one's weight in kg by one's height in m<sup>2</sup>.

Fig. 2 shows the role of poor nutrition in the major causes of disability and early death in the WHO European Region. In 2000, 136 million years of healthy life were lost; major nutritional risk factors caused the loss of over 56 million, and nutritional factors played a role in the loss of a further 52 million (6). Deficiencies in such nutrients as iodine and iron are still prevalent in the Region. Iodine deficiency affects around 16% of the European population and is a major cause of preventable mental retardation. Iron-deficiency anaemia affects millions of people. It impairs cognitive development in children and increases the risks of illness and death to pregnant women. As discussed below, low rates of breastfeeding and poor feeding practices

Fig. 2. Lost years of healthy life in the European Region, 2000



Source: adapted from *The world health report 2000. Health systems: improving performance* (6).

contribute to malnutrition in infants and children, manifested as failure to grow and suboptimal cognitive development (7).

In addition to the suffering of the people affected, diet-related diseases can account for some 30% of national health service costs (8). Obesity is estimated to cost some health services about 7% of their total health care budget (9). Outside the health sector, diet-related diseases impose other social and economic costs.

In contrast, improvements in nutrition will reduce the burden of disease in the population and therefore bring economic benefit. Improved public health is an important precursor of increased national wealth (8).

## Increasing concern about food safety

The incidence of foodborne diseases is underreported. Only a few countries in the Region have well established surveillance systems. Even in these, it has been estimated that only 1–10% of cases of infectious foodborne disease are reported. These cases are just the tip of the iceberg.

Overall, incidents of foodborne disease reported to the WHO Surveillance Programme for Control of Foodborne Infections and Intoxications in Europe have increased over the last 20 years. Illness caused by *Salmonella* and *Campylobacter* – the most common agents of foodborne infection – has increased dramatically in many European countries. Reports of infection with *Campylobacter* have risen continuously since 1985. They are now the most commonly reported cause of gastrointestinal infection in many European countries (10).

Variant Creutzfeldt-Jakob disease (vCJD) was first reported in 1996 in the United Kingdom. In contrast to the traditional forms of the disease, vCJD affects younger people, has a relatively longer duration and is strongly linked to exposure, probably through food, to bovine spongiform encephalopathy (BSE). From October 1996 to early June 2001, 95 cases of vCJD were reported in the United Kingdom, 3 in France and 1 in Ireland. The information available is insufficient to make any well founded prediction about the future possible number of cases.

The effect of foodborne disease on an individual depends on factors such as his or her age, health and nutritional status and on the virulence of the agent involved. For otherwise healthy adults, foodborne illness is mostly an unpleasant – but not life-threatening – condition restricted to a self-limiting gastroenteritis. Typically it is characterized by a combination of nausea, vomiting, stomach pains and diarrhoea.

Foodborne illnesses such as listeriosis, botulism and paralytic shellfish poisoning, however, can cause different, additional or more severe symptoms. Further, all types of foodborne illness can be more serious in vulnerable

groups, such as infants and children, and people who are elderly, sick, pregnant or immunocompromised.

Infection with *Listeria monocytogenes*, which mainly affects vulnerable groups, has a mortality rate of 20–30%. An estimated 10% of patients (mainly children) with haemorrhagic colitis caused by Verotoxin-producing *Escherichia coli* later develop the life-threatening complication haemolytic uraemic syndrome (11).

There is also growing evidence of the serious long-term health effects of foodborne hazards, including kidney failure, reactive arthritis and disorders of the brain and nervous system (12). The dietary exposure of vulnerable groups to hazardous chemicals is of particular concern. Different groups vary in their intake of chemicals, and adequate risk assessments are needed for the most susceptible. Infants and children are at special risk.

Rising numbers of people in the European population are elderly, chronically ill (for example, with diabetes) or immunocompromised. This means that susceptibility to foodborne illness is likely to increase and its consequences to become more severe.

Although unsafe food contributes to a relatively small proportion of the total disease burden in Europe – except perhaps in countries where diarrhoea is a major cause of infant mortality – politicians and the public are more responsive to outbreaks of foodborne diseases, such as BSE, than to diseases brought on by poor nutrition.

Food safety has been a major concern for the public and the mass media in many countries, and has led to the establishment of several government agencies in countries and of the European Food Safety Authority (EFSA). Nevertheless, foodborne diseases cause a much smaller proportion of the total burden of ill health than obesity, CVD, diabetes and certain types of cancer.

## Food and nutrition insecurity

In 1998, Hartwig de Haen, Assistant Director-General of the Food and Agriculture Organization of the United Nations (FAO), said (13):

Globally there is enough food to feed the world, but it is not equally distributed and many people do not have the means to buy it ... Even where food supplies are adequate at the national level, access to food is often a serious problem. Within countries, and even within households, food is not always equally distributed. To ensure nutritional well being, every individual must have access at all times to sufficient supplies of a variety of safe, good-quality foods.

Poverty reduces access to adequate food supplies. Under Agenda 21 (14), countries are committed to reducing poverty and social inequalities. Food

and health policies need to be formulated to ensure that food supplies are both adequate and equitably distributed, so that everyone can enjoy food and nutrition security.

In 2001, the WHO Regional Committee for Europe endorsed resolution EUR/RC51/R6 ([http://www.euro.who.int/AboutWHO/Governance/20011123\\_1](http://www.euro.who.int/AboutWHO/Governance/20011123_1), accessed 13 September 2002), which recognized the links between poverty and ill health and emphasized the responsibility of the health sector “to contribute to the reduction of poverty, as part of comprehensive multisectoral efforts”. A paper on poverty and health submitted to the Committee (<http://www.euro.who.int/Document/RC51/edoc8.pdf>, accessed 13 September 2002) pointed out the close links between lower social status and a higher risk of both malnutrition and of nutrition-related chronic conditions, including ischaemic heart disease, stroke, high blood pressure and obesity.

Some people in Europe enjoy access to shops overflowing with nutritious food from all over the globe and have the money in their pockets to buy it. Others lack these advantages, and endure days when they eat one meal or no meal at all. Such inequalities in food and nutrition security can be found in every country in the European Region.

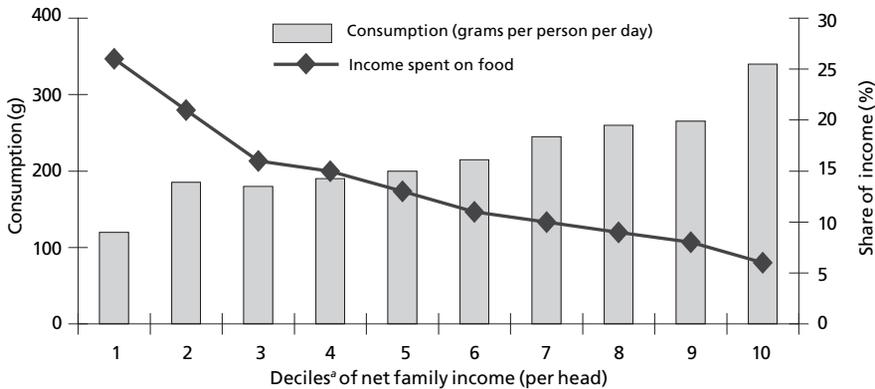
Although low-income householders are usually very efficient in obtaining sufficient food for the little money they have, they may spend less on foods that protect health, such as fruit and vegetables, and relatively more on energy-dense foods (15). Surveys in countries that have plentiful supplies of food show that the cheapest food energy takes the form of fats and oils, white bread, sugar and sugary foods, soft drinks and fatty meat products, and that lower-income groups buy these energy-dense foods more often (16,17). In contrast, higher-income families eat more fruit and vegetables, and spend a smaller share of their total income on food (18) (Fig. 3).

Some households may need more money for food than they can afford to pay. Food is a fairly elastic item, so some members of the family may deprive themselves of adequate nourishment so that others get enough to eat, or to afford other essential purchases. In particular, women tend to skip meals or go short of food to ensure that others in the household receive enough. Poor nourishment before and during pregnancy, however, may harm the health of a woman and her child.

The growth of younger children is a traditional indicator of nutritional wellbeing in a population. According to the WHO Global Database on Child Growth and Malnutrition (<http://www.who.int/nutgrowthdb/>, accessed 13 September 2002), low breastfeeding rates and poor feeding practices continue to result in growth retardation and poor cognitive development.

Surveys in the CCEE and NIS (19–22) show that these countries still have some of the worst rates of stunted growth in preschool children in the

Fig. 3. Relationship of income to consumption of fresh fruit and vegetables and the share of income spent on food



<sup>a</sup> 1 = lowest incomes; 10 = highest incomes.

Source: Department for Food, Environment and Rural Affairs (18).

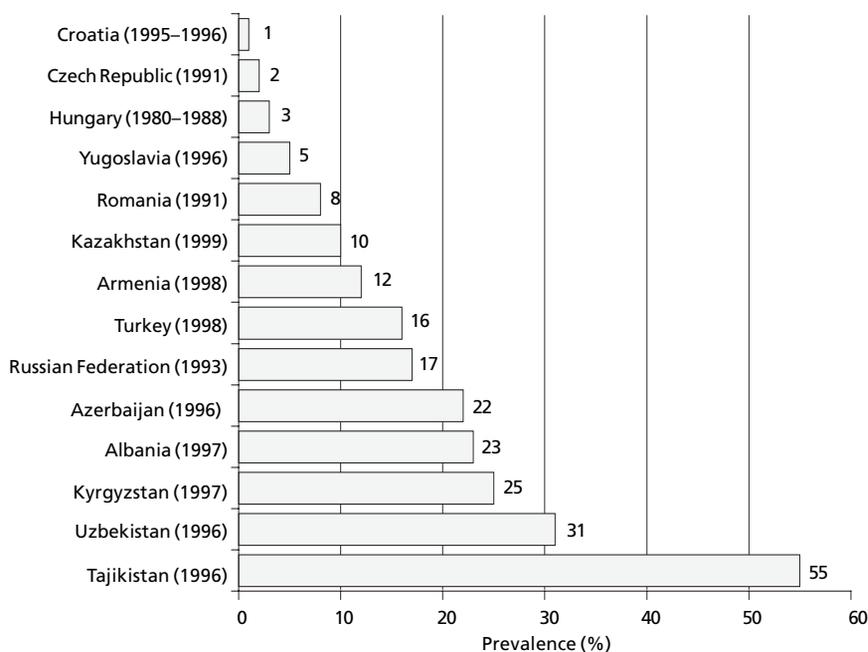
world (Fig. 4). These are due to a combination of malnutrition and diarrhoeal diseases that result from ingesting unsafe foods and contaminated water.

Inequalities in child growth are also found in western European countries. In the United Kingdom, for example, children in wealthier families are 10 cm taller on average than those in poorer families. Breastfeeding rates also show inequalities; women in wealthier families normally breastfeed for longer than those in poorer families.

In general, little is known about the unequal distribution of food safety risks across socioeconomic groups. In the absence of detailed research, evidence on the general awareness of health and hygiene suggests that people in higher socioeconomic groups show more health promoting behaviour. For example, a study of food handlers in Italy (23) found that, while most expressed positive attitudes towards hygiene, those with more education or with training in food handling tended to put their knowledge into practice.

Low-income families may not be able to afford certain hygiene aids such as refrigerators, freezers, insect- and rodent-proof storage containers, hot water or even freely available clean water. Figures from Tajikistan show that the poorest 20% of households are unlikely to own a refrigerator or electric or gas stove (24). Food of poor quality or handled by untrained staff is more likely to be offered at lower prices, attracting consumers with small budgets. The poorer nutritional status of poorer people may increase their risk of infection, including foodborne infection. In addition, the use of chemicals in agriculture is in general less tightly controlled in poorer countries; this may lead to a higher dietary exposure of the population to chemicals and contaminants.

Fig. 4. Prevalence of stunted growth in preschool children in selected CCEE and NIS, 1990s



Poorer people may also have problems arising from reduced access to information and services. Those lacking general information on hygiene and food handling may inadvertently take risks, increasing their exposure to infection and increasing the opportunity for infection to spread to other members of the household or community. People lacking easy access to health facilities may not get quick and effective treatment for food poisoning; this increases the risk that infection may spread to others.

In contrast, people living in richer countries may enjoy the benefits of greater investment in public health, faster control of disease outbreaks and more funding for laboratory and epidemiological surveillance. Affluence has its hazards, however. For example, richer countries with more widespread industrialized animal husbandry are likely to have a greater prevalence of pathogens such as *Salmonella* and *Campylobacter*.

## 2. Policy coordination

Policies in many sectors – ranging from agriculture and food processing, manufacturing and trade to retailing, catering and advertising – shape the availability and accessibility of food. That is why food and nutrition policies should be coordinated, so that public health is given due priority in the making of food policies by non-health sectors.

The last few decades have seen changes in European dietary patterns – not always positive ones. For example, the traditional diets eaten in the Mediterranean region – containing plenty of fruit, vegetables and fish, and low levels of processed meat and dairy foods – are giving way to diets with higher levels of milk and other dairy products, meat, more refined starches and sugars, and lower levels of fruit and vegetables.

Such changes are not inevitable. Several factors shape dietary change: policies on food supply, pricing and technology; product promotional activities; and public health messages. A combination of consumer demand and commercial investment in mass production and promotion largely determines the direction of change.

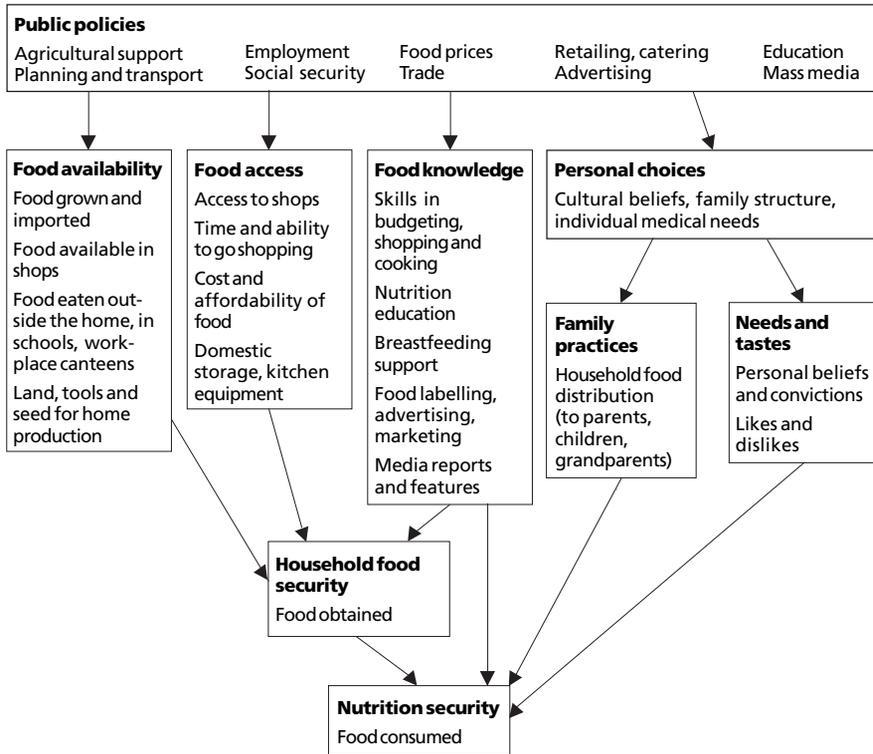
Patterns of change differ with circumstances. For example, figures for the food sector in the transition economies of eastern Europe during the 1990s showed that 60% of the direct foreign investment was in confectionery and soft-drink production, and less than 6% in fruit and vegetable production (25).

Food choices may depend less on individual choices and more on what is available and affordable. Factors that shape personal choices include consumers' education, food labelling and marketing, and the mass media. Fig. 5 identifies and shows the relationships of the wide range of influences on the choice of food.

### Multisectoral policies for nutrition and food security

Policies agreed across different sectors can create considerable benefits to health. In the case of nutrition and diet, health ministries need to collaborate with other stakeholders: bodies responsible for policies on food supply and pricing, local planning and trade bodies, food marketing and advertising agencies, schools and colleges, and voluntary organizations that provide health information.

Fig. 5. Influences on food choices

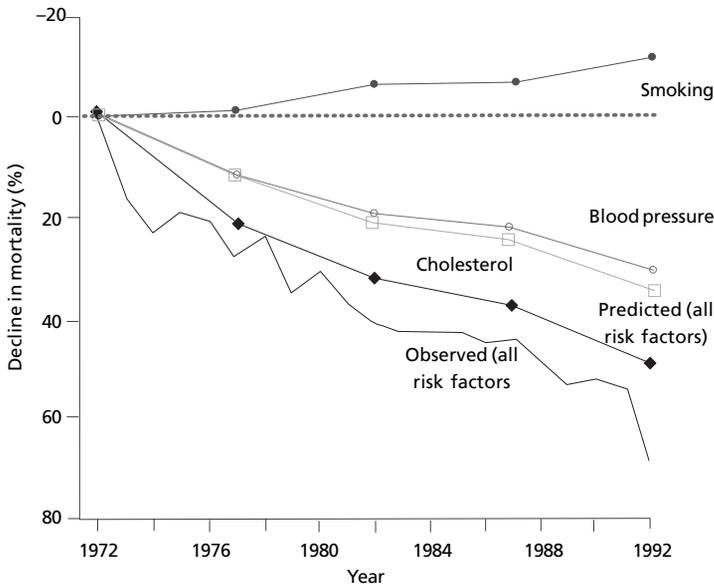


An excellent example is that of Finland in the last three decades. Integrated food policies were started in one region, North Karelia, and spread to the rest of the country as a result of their success. This success re-emphasized the fundamental importance of diet. For example, Finnish women showed a dramatic fall in blood cholesterol levels, blood pressure and death from CHD, even though their smoking rates increased (Fig. 6) (26).

The Finnish example shows that coherent, targeted policies, backed by local support, can reap huge benefits. The North Karelia project had several key elements:

- strategies aimed at whole populations and communities, rather than groups at high risk;
- cooperation of the health sector with the food industry and mass media;
- reforms throughout the food chain (for example, in growing and processing vegetable oils and fruit, especially berries);
- dietary changes that did not require a new cuisine;
- inclusion of evaluation and monitoring; and
- support from nongovernmental organizations.

Fig. 6. Decline in heart disease mortality in women aged 35–64 in Finland, 1972–1992



Source: Vartiainen (26).

### Need for cooperation between the national, regional and local levels

A national food and nutrition policy needs to be integrated with the policies of regional authorities, especially in the areas of transport, planning and food control and food distribution (for example, retailing and catering).

There is a need to collect and evaluate data on dietary patterns and to assess the impact of agricultural policies on household food security and individual nutrition security. The surveillance of food availability, dietary intake and nutritional status should be improved. Too little attention has been paid to how people manage when their social and economic circumstances deteriorate (27). Prices and price differentials between foods should be studied and monitored. When appropriate, researchers can feed this information into the formulas needed for legislation on minimum income, standards for family budgets and levels of welfare benefit (28).

National policies can improve the provision of food eaten outside the home, particularly in institutions under government control, such as schools, hospitals, prisons and military bases. National and local policies can also improve mass catering in the workplace and in private and public institutions. In Finland, for example, mass catering provides an excellent means of influencing food intake, since on average a Finn eats about 125 meals per year

outside the home. Meals provided by Finnish local authorities always include vegetables, and the intake of fruit and vegetables in Finland has more than doubled in the last decade.

In addition to food and nutrition policies, local and national strategies need to be developed to improve levels of physical activity. Barriers to activity include the lack of facilities (such as safe walking and cycling routes), unpleasant or hazardous environments, lack of shelter from poor weather and prohibitive cost of leisure facilities.

### Need for national food-based dietary guidelines

Policy-makers can use dietary targets to monitor and evaluate the population's nutritional health. In addition to looking at surveys on dietary intake, health ministries may decide to compare dietary targets with national statistics on agriculture and food supply.

Table 1 summarizes the national population goals for nutrition made by governments throughout the European Region (29). The figures used reflect the range reported by different countries.

Table 2 spells out some of the levels of food supply needed to satisfy most of these recommendations, compares them with the actual food supplies in Ireland and Italy, and shows changes in both countries' supply patterns between 1965 and 1999. The population in Ireland was supplied with high levels of fat, and insufficient amounts of fruit and vegetables. Italy increased its fat supplies well beyond the maximum that might be recommended for

Table 1. Population goals for dietary recommendations in different countries of the European Region

Component	Goal
Proportion of total energy intake from:	
Total fat	Less than 30–35%
Saturated fat	Less than 10%
Sugar	Less than 10%
Fruit and vegetables	More than 400–600 g per day
Salt	Less than 5–8 g per day
Body weight	BMI of 18–27
Physical activity	30 min moderate exercise per day
Breastfeeding	4–6 months <sup>a</sup>

<sup>a</sup> Many countries are revising their breastfeeding recommendations to 6 months, in accordance with World Health Assembly resolution WHA54.2 ([http://www.who.int/gb/EB\\_WHA/PDF/WHA54/ea54r2.pdf](http://www.who.int/gb/EB_WHA/PDF/WHA54/ea54r2.pdf), accessed 15 September 2002).

Source: *Food-based dietary guidelines in WHO European Member States* (29).

health, but the amounts of fruit and vegetables were comfortably above the minimum.

To help people change their diets in accordance with recommendations, population goals must be translated into national food-based dietary guidelines. These translate the goals in terms of the foods that people buy and eat. Every country should design its own food-based dietary guidelines, in accordance with its culture and circumstances. National guidelines should include recommendations for breastfeeding and feeding practices for children and vulnerable adult groups such as older people.

## Multisectoral policies for food safety

If public health is to be given due priority in the making of food policies, health ministries will need to participate in and possibly lead the necessary cross-sector collaboration. In the case of food safety, ministries of health will need to work with agencies responsible for policies on food production, trade and transport (32).

Worries about food safety and health are increasing, and causing a loss of consumer confidence. For example, the use of antibiotics in animal husbandry is raising fears about antibiotic resistance. The use of biotechnology in genetically modified food could dramatically change the food supply. Multisectoral collaboration, along with transparent policy-making, is essential to restore and maintain consumer confidence.

Various government departments or agencies are concerned about the safety of food, including those for health, agriculture, fisheries, trade, tourism,

Table 2. Comparisons of dietary recommendations with food supplies to the populations of Ireland and Italy, 1965 and 1999

Component	Population goals (30)	Theoretical food supplies required (per person per day) (30)	Actual food supplies (per person per day) (31)			
			Ireland		Italy	
			1965	1999	1965	1999
Total fat	< 30% of total energy	< 80 g fat	119 g	136 g	90 g	152 g
Saturated fat	< 10% of total energy	< 60 g fat from animal products	100 g	89 g	38 g	70 g
Sugar	< 10% of total energy	< 65 g raw sugar equivalent	146 g	116 g	73 g	81 g
Fruit and vegetables	> 400 g/day	600 g fruit and vegetables (400 g edible)	245 g	390 g	720 g	858 g

education, environment, planning and finance. A comprehensive and integrated approach at the national and international levels is required to ensure an effective policy for food control. Created by FAO and WHO, the Codex Alimentarius Commission (<http://www.codexalimentarius.net/>, accessed 13 September 2002) has elaborated many international standards.

WHO assists in a range of food-related activities, including the setting of international standards for trade in food through Codex Alimentarius, assessment of health risks and the development of a risk analysis framework, surveillance of foodborne disease and the provision of technical assistance. Following World Health Assembly resolution WHA53.15 in 2000 ([http://www.who.int/gb/EB\\_WHA/PDF/WHA53/ResWHA53/15.pdf](http://www.who.int/gb/EB_WHA/PDF/WHA53/ResWHA53/15.pdf), accessed 13 September 2002), WHO has developed a global food safety strategy to reduce the health and social burden of foodborne disease (33). The strategy (33) identifies the major concerns and includes a number of approaches, such as strengthening surveillance systems for foodborne diseases; improving risk assessments; promoting safe new technology, including genetic engineering; ensuring that public health issues are considered in the Codex Alimentarius; improving risk communication; strengthening international cooperation; and building capacity to ensure food safety.

To deal with chemical hazards in food, countries must develop their capabilities in risk assessment and management. In some countries, existing infrastructures need to be streamlined and strengthened to achieve a higher level of protection. All countries in Europe should therefore participate in the activities of international organizations, such as the WHO Global Environment Monitoring System – Food Contamination Monitoring and Assessment Programme (GEMS/Food – <http://www.who.int/fsf/gems.htm> and [http://www.euro.who.int/foodsafety/MainActs/20020112\\_1](http://www.euro.who.int/foodsafety/MainActs/20020112_1), accessed 15 September 2002) and the WHO Surveillance Programme for Control of Foodborne Infections and Intoxications in Europe ([http://www.euro.who.int/foodsafety/MainActs/20010910\\_2](http://www.euro.who.int/foodsafety/MainActs/20010910_2), accessed 15 September 2002).

To strengthen the safety and quality of food in the European Region, an FAO/WHO pan-European conference (34) recommended:

- improving the comparability and supporting the harmonization of policies, establishing and improving national and regional networks to collect and share information on food safety, contamination risks and foodborne diseases;
- working together to strengthen and harmonize integrated and transparent systems for surveillance, outbreak investigation and reporting, and diagnostic methods on food safety;
- increasing cooperation between the health, agriculture, fisheries and food production sectors to improve the surveillance and monitoring of food safety;

- establishing risk-based food safety strategies, giving priority to the biggest problems for health and to measures likely to result in the greatest reductions in food-related diseases;
- developing prevention-oriented regulation and control systems to reduce foodborne disease and food safety risks and to protect the environment;
- establishing independent, transparent food safety authorities for risk assessment and communication;
- improving the quantity, quality and timeliness of data collection and reporting at the national level and to the WHO Surveillance Programme;
- promoting the collection of data for risk assessment to assist the joint FAO/WHO expert consultations on risk assessment of microbiological hazards in food, and countries' use of their outcomes and methodology;
- improving the ability to perform risk assessments of chemicals in the food supply, and particularly studies to determine levels of and trends in food contamination;
- harmonizing data-reporting formats for chemical contaminants in food across Europe, as the first step in developing consistent and comparable assessments for both health and standard-setting purposes;
- strengthening capacities to conduct health-oriented, population-based monitoring programmes to assess exposure of the overall population and vulnerable groups to chemicals in food; and
- accelerating the implementation of food and nutrition action plans in Europe.

## 3. Policies for the 21<sup>st</sup> century

The coming decades will see new challenges, only some of which can be predicted now. Various influences will threaten secure and sustainable food supplies, and the methods of producing and distributing food may give rise to new problems. All such challenges will have implications for health, and health ministries should have a place at the negotiating table when these emerging policy areas are discussed.

Several issues can already be marked out as requiring action: sustainability and a range of action to protect health.

### Sustainable and healthy food production

Agricultural policies have successfully increased the yields and quantities of food produced and thus the Region's food supplies. The carrying capacity of the planet, however, is likely to become a central issue in global development in this century. The ecological footprint of an industrialized population – the area of land and water required to support that population – is typically several times larger than the area it occupies (35). For example, the ecological footprint of Italy is estimated to be about eight times larger than the country.

Consumption patterns need to change to reduce this environmental burden. At present, three quarters of the EU's agricultural land is used for animal production, including animal feed and grazing land. In terms of sustainable food production, this may not be the most sustainable use of the European countryside.

Sustainable agricultural production implies greater use of plant-based foods in human diets. For example, a study by the Swedish Environmental Protection Agency compared the dietary changes needed to comply with policies for sustainable food production (including land, water, energy, packaging and transport) with the changes needed to comply with policies for optimum health. Table 3 shows that the health and environment policies have a high degree of agreement, and that reducing the environmental impact of the diet can help to meet health goals (36).

Table 3. Agreement between goals for a healthy diet and for sustainable food production in Sweden

Food	Consumption (g/day)	
	Actual level	Recommended level for reduced ecological impact
Margarine, butter, oil	50	50
Milk products	400	300
Cheese	45	20
Meat, poultry, sausage	145	35
Fish	30	30
Egg	25	10
Bread	100	200
Cereal	15	45
Potatoes	140	270
Vegetables	150	190
Root vegetables	25	100
Fruit	150	175
Dried legumes	5	50
Snacks/Sweets	200	140
Soft drinks	150	80

Source: adapted from *A sustainable food supply chain* (36).

## Action to protect health

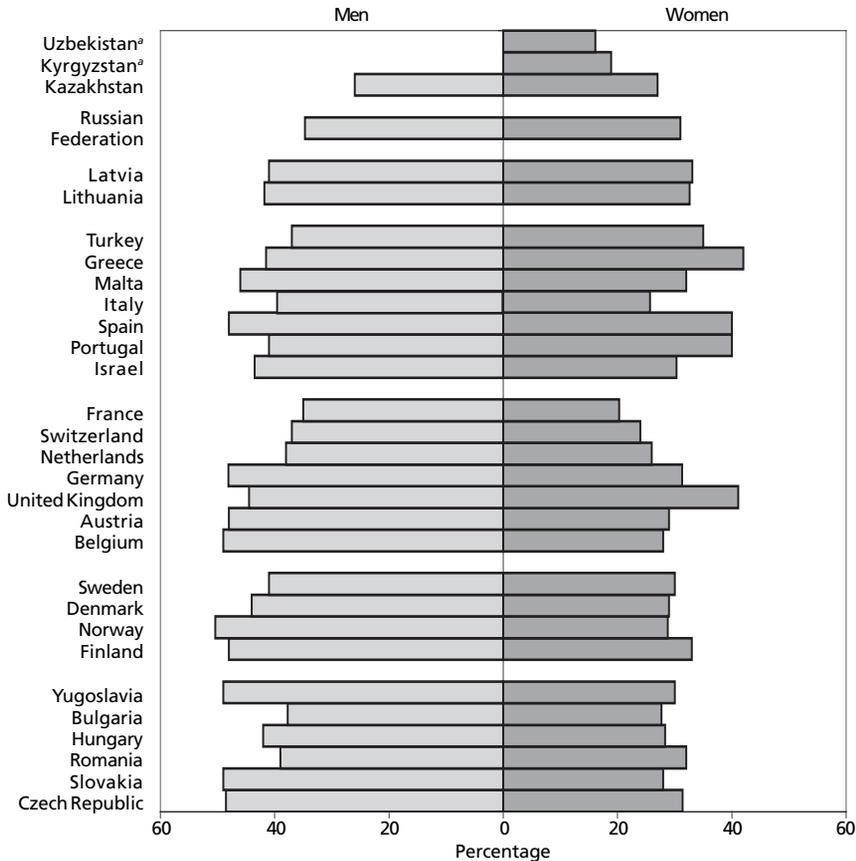
### Reducing obesity and increasing physical activity

As mentioned, excess weight is showing an unprecedented rise in the European Region, not only among adults, as shown by Fig. 7 (19–22,37–53), but increasingly among children. Excess weight is calculated to be responsible for nearly 300 000 deaths annually in the EU – nearly 1 in 12 of all deaths recorded – through its contribution to CVD and cancer (37).

Excess weight and lack of physical activity are major contributors to type II (non-insulin-dependent) diabetes. Type II diabetes is expected to reach a prevalence of over 10% of the adult population in several European countries in the next two decades (4) and, even more worrying, is being detected among older children. The risk of diabetes increases even with modest weight gain within the normal range, and increases further with age and with persistent overweight. Estimates suggest that modest changes in diet and physical activity could prevent up to 60% of cases of diabetes (4).

Increasing evidence indicates that regular physical activity has considerable health benefits (54). People with low levels of physical activity have higher body fat and abdominal fat and are more likely to gain body fat than those with high levels of physical activity (55). Physical activity contributes to maintaining lower blood pressure throughout life and to lowering the ratio

Fig. 7. Overweight adults (25–29.9 BMI) in the European Region (%)



<sup>a</sup> No data are available on overweight in men.

of low-density lipoprotein (LDL) cholesterol to the more protective high-density lipoprotein (HDL) cholesterol in the blood.

The benefits of physical activity explain its substantial importance in limiting cardiovascular mortality and morbidity. In comparison with sedentary people, physically active people (54):

- run 50% less risk of dying from CHD and stroke;
- are at lower risk of hip fracture (30–50%), hypertension (30%), colorectal cancer (40–50%) and non-insulin-dependent diabetes (20–60%);
- are 50% less likely to become obese;
- have a 25–50% lower risk of developing functional limitations in later life; and
- show a 50% slower decrease of aerobic capacity (which occurs with age), thereby gaining 10–20 years of independent living.

### Life-course approach to promoting health

Increasing evidence indicates that risks of chronic disease begin in fetal life and continue into old age. Chronic disease in adults thus reflects accumulated lifetime exposure to damaging physical and social environments, starting with the environment provided before birth.

For these reasons a life-course approach can play an important role in preventing chronic disease in later life. This approach would start with optimum maternal nutrition and proceed to optimum infant feeding patterns, such as breastfeeding exclusively for 6 months and timely introduction of appropriate foods. There is evidence that low breastfeeding rates are associated with increased risks of CVD (56).

The value of action both to prevent and to treat disease continues into old age. Nutrition is one of several areas addressed in the WHO report *Active ageing: a policy framework* (57). The report identifies disability and poor health, rather than increased age, as the cause of the rising costs of the care and treatment of older people. Another WHO report (58) specifically addresses the nutritional needs of older people.

### Protection against foodborne risks

The methods for assessing the risks of microbiological and chemical contamination of food need improvement, so that accurate, globally representative information can be provided for Codex Alimentarius (<http://www.codexalimentarius.net/>, accessed 23 September 2002) to use in setting standards. All countries in the European Region should take part in developing Codex standards. To do so, they must develop and/or improve their methods for surveying and monitoring food intake and contamination, and use these data to establish achievable international limits and recommendations for hazards in food.

With the incorporation of risk analysis principles into the development of international standards, foodborne risks must be characterized more precisely and transparently than before. This includes strengthening the scientific knowledge base to evaluate toxic effects caused by both long- and short-term exposures.

### WHO's commitment

WHO understands the need to identify and address health-related issues in international trade and development, including advertising and mass communication, world trade agreements, food labelling, novel foods, urban planning and transport. Thus, WHO:

- is committed to supporting Member States in developing national policies and programmes;

- has developed global strategies for both food safety and nutrition; and
- will seek interaction with industry to stress the responsibility of the commercial sector to help improve health in the 21<sup>st</sup> century.

## 4. The way forward

All countries should develop mechanisms to reduce the levels of disease from both unsafe food and unbalanced nutrition. The appropriate policies need to be developed in response to the prevalence and incidence of food-related disorders in each country. Above all, these policies need to be implemented. This requires human and other resources, and good administrative and communications systems. Health professionals need to be appropriately trained, so that the necessary expertise exists. Again, health ministries cannot work in isolation; cooperation with different sectors is essential.

The challenge is to implement integrated agricultural, environmental, food, nutrition and economic policies that put health at the fore. In countries with political commitment to such policies, good evidence suggests that public health can be improved.

The fiftieth session of the WHO Regional Committee for Europe adopted the historic First Action Plan for Food and Nutrition Policy (1) in 2000. The Action Plan can guide European countries in developing policies to reduce the burden of food-related ill health. WHO will continue to help Member States develop national food and nutrition action plans with comprehensive, multisectoral approaches to food and nutrition issues.

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## The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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Poor nutrition, foodborne disease and lack of secure access to good food make an important contribution to the burden of disease and death in the WHO European Region. Better diets, food safety and food security will not only reduce or prevent suffering to individuals and societies but also help cut costs to health care systems and bring social and economic benefits to countries.

People's chances for a healthy diet depend less on individual choices than on what food is available and whether it is affordable. Policies to benefit health through good food and nutrition must extend beyond the health sector to include sectors ranging from agriculture and food processing, manufacturing and trade to transport, retailing, catering and advertising. Food and nutrition policies should be coordinated so that public health is given due priority in the making of food policies by non-health sectors.

This booklet summarizes a larger forthcoming publication that discusses the components of food and nutrition policies and the evidence supporting them. It describes food- and nutrition-related ill health and its costs, shows the need for action and describes the steps for decision-makers to take. The larger book and this summary highlight the urgent need for integrated, multisectoral food and nutrition policies to encourage the sustainable production of food, its safety and the provision of food of high nutritional quality for all.

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