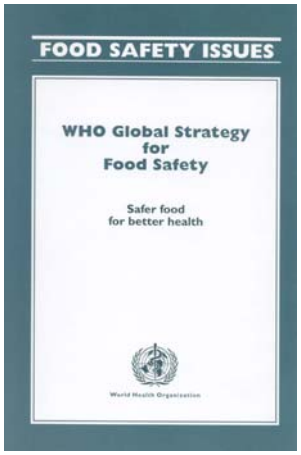

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Summary

The Fifty-third World Health Assembly, in resolution WHA53.15, requested the Director-General to put in place a global strategy for surveillance of foodborne diseases and to initiate a range of other activities on food safety and health. Since then WHO has organized a strategy planning meeting on food safety (Geneva, 20-22 February 2001). Following further consultation with Member States, WHO has drawn up a global food safety strategy, including surveillance, as outlined in this document.

Global food safety concerns

Microbiological hazards and the foodborne diseases they cause are an increasingly important public health problem. In many countries significant increases have been reported over the past few decades in the incidence of diseases caused by microorganisms transmitted mainly by food, such as *Salmonella* spp. and *Campylobacter* spp. New, serious hazards have emerged in the food chain, such as enterohaemorrhagic *Escherichia coli* and bovine spongiform encephalopathy.

Chemical hazards remain a significant source of foodborne illness. Chemical contaminants in food include natural toxicants, such as mycotoxins and marine toxins, environmental contaminants, such as mercury and lead, and naturally occurring substances in plants. Food additives, micronutrients, pesticides and veterinary drugs are deliberately used in the food chain; however, assurance must first be obtained that all such uses are safe.

Although traditional approaches have proved largely successful, risk assessment now needs also to take account of susceptible populations, combined low-level exposure to several chemicals, endocrine effects, and effects on development of the fetal neural system. More data on food intake and on the concentrations of contaminants in food are needed, in particular in developing countries, in order to permit assessment and management of these risks, including setting of national and international standards.

New technologies, such as genetic engineering, irradiation of food, and modified-atmosphere packaging, can improve food production and food safety. However, the potential risks associated with application should be objectively and rigorously assessed well before these technologies are widely introduced. The basis for risk assessment should be communicated effectively, so that the public can be involved at the early stages of the process. Assessment should be based on internationally agreed principles and should be integrated with consideration of other factors, such as health benefits, socioeconomic factors, ethical issues and environmental considerations.

Building capacity in food safety is essential in most countries, especially developing ones. Both positive and negative experiences from countries with well-developed food safety systems could be used as a means to improve systems globally. Foodborne disease has a significant impact not only on health but also on development. Moreover, globalization of the food trade and development of international food standards have raised awareness of the interaction between food safety and export potential for developing countries.

Putting food safety on the political agenda is the first step in reducing foodborne illness; however, even with this step in place, many developing countries lack the technical expertise and financial resources to implement food safety policies. Support from donors for capacity building in order both to protect health and to improve food trade, would help to build up a framework for sustainable development.

WHO Global Strategy for Food Safety

Goal
To reduce the health and social burden of foodborne disease.

Methods
The goal will be achieved through three principal lines of action:

- advocating and supporting the development of risk-based, sustainable, integrated food safety systems;

- devising science-based measures along the entire food production chain that will prevent exposure to unacceptable levels of microbiological agents and chemicals in food;

- assessing and managing foodborne risks and communicating information, in cooperation with other sectors and partners.

Approaches
Surveillance of foodborne diseases. Surveillance is the basis for the formulation of national strategies to reduce food-related risks. Detailed and accurate knowledge about the nature and level of foodborne diseases is a prerequisite for action to lower these levels. Therefore, the present paucity of reliable data on foodborne diseases in most countries is a major impediment for evidence-based interventions. A surveillance system employing sentinel sites and regional and international laboratory networks would be a major improvement in most regions. In addition, internationally agreed methods are needed for surveying foodborne diseases and linking them to food contamination on the basis of risk. This requires an interdisciplinary approach that includes all sectors dealing with foodborne diseases and food safety in both the health and agriculture sectors.

It is essential for Member States to be committed to strengthening systems for surveillance of foodborne diseases. WHO will facilitate the strengthening of systems based on laboratory and epidemiological findings and of their linkages to programmes for monitoring food contamination. WHO and its collaborating centres will promote key sentinel sites both in developing countries and globally for surveillance of foodborne diseases.

Better risk assessment. WHO, in collaboration with FAO, will develop tools for appropriate risk assessment. With the help of these tools, joint WHO/FAO expert groups will compile information on chemicals and microorganisms in food and their link to foodborne disease. Such assessments can serve as the basis for setting international standards and guidelines, and for national food regulations or other initiatives. The provision of tools and information will permit the effective transfer of risk-assessment technology and data between countries, including developing countries.

The developing discipline of microbiological risk assessment provides a tool to set priorities for future interventions. Effective management of microbiological hazards is enhanced through the use of preventive approaches, such as the Hazard Analysis and Critical Control Point (HACCP) system, which is a tool for process control of points critical for preventing hazards in food. Use of these new tools, suitably adapted for developing countries, should be advocated in order to improve public health through the reduction of microbiological hazards in food and their associated diseases.

Safety of new technologies. WHO will promote a holistic approach to the production and safe use of foods derived from new methods of production, including genetic engineering. This approach is supported by a framework for evaluation that includes safety considerations, health benefits, environmental effects, and socioeconomic consequences. The framework provides a basis for internationally agreed methods and guidelines for evaluating the safety of new technologies and guidance for Member States in framing policies on the use of foods and food ingredients derived by new technologies.

Public health in the Codex Alimentarius. WHO will work to ensure that consumer health concerns are reflected in the priorities of the Codex Alimentarius Commission. In this regard, WHO is promoting a thorough review and optimization of the work of the Commission. In general, WHO seeks greater involvement of the health sector in the development of Codex standards, guidelines and recommendations. WHO will support the effective participation of developing countries in the work of the Commission.

Risk communication. The results of risk analyses should be communicated in a readily understandable form. WHO will support the development of methods for fostering dialogue among, and participation of, stakeholders, including consumers, in the communication process. Methods for assessing the effects of risk communication should be evaluated. In line with the methodology so developed, WHO will produce food safety publications and other products for targeted audiences.

International cooperation. WHO will work for the establishment of an international coordination group on food safety to ensure a consistent, effective approach to food safety. This group should be geared to coordinating at country level activities on food safety undertaken by international bodies. WHO will support Member States in introducing health concerns into considerations on the globalization of food trade.

Capacity building. WHO will formulate regional food safety strategies on the basis of the WHO global food safety strategy and of specific regional needs such as technical support, educational tools and training. Donor support will be needed to prioritize food safety in public health in developing countries. A network of WHO collaborating centres will be established in order to further capacity building.

Foreword

Food safety: a public health priority

Foodborne disease takes a major toll on health. Thousands of millions of people fall ill and many die as a result of eating unsafe food. Deeply concerned by this, the Fifty-third World Health Assembly (May, 2000) adopted a resolution calling upon the World Health Organization (WHO) and its Member States to recognize food safety as an essential public health function. The resolution also called on WHO to develop a Global Strategy for reducing the burden of foodborne disease.

The availability of safe food improves the health of people and is a basic human right. Safe food contributes to health and productivity and provides an effective platform for development and poverty alleviation. People are becoming increasingly concerned about the health risks posed by microbial pathogens and potentially hazardous chemicals in food. Up to one-third of the populations of developed countries are affected by foodborne illness each year, and the problem is likely to be even more widespread in developing countries. The poor are the most susceptible to ill-health. Food and waterborne diarrhoeal diseases, for example, are leading causes of illness and death in less developed countries, killing an estimated 2.2 million people annually, most of whom are children. Diarrhoea is the most common symptom of foodborne illness, but other serious consequences include kidney and liver failure, brain and neural disorders, and death. The debilitating long-term complications of foodborne disease include reactive arthritis and paralysis.

Trends in global food production, processing, distribution and preparation present new challenges to food safety. Food grown in one country can now be transported and consumed halfway across the world. People demand a wider variety of foods than in the past; they want foods that are not in season and often eat away from home. Institutionalizing children in schools and childcare facilities and a growing number of elderly persons in hospitals and nursing homes means that food for many is prepared by a few and can therefore be the source of major foodborne disease outbreaks. Greater life expectancy and increasing numbers of immunocompromised people mean a larger vulnerable population for whom unsafe food is often an even more serious threat.

WHO and its Member States have responded to these new challenges by recognizing that protecting food safety is an essential public health function. Food safety must be addressed along the entire food chain by measures based on sound scientific information at both national and international levels. WHO's capacity to assess the risks posed by chemical and microbiological hazards and by new food-related technologies must be enhanced. New methods are needed for evaluating and reducing the burden of foodborne disease. Food safety strategies can be implemented only by countries that have an adequate capacity to do so, and WHO will continue to assist Member States in establishing and updating that capacity.

WHO is committed to achieving better health for all people and recognizes food safety as a global public health priority. The strategy outlined in this document defines a strengthened role for WHO in food safety, suggests the approaches to be taken to reduce the risks posed by microbial and chemical hazards in food, and provides a roadmap for making the world's food safer. As food safety affects the entire community, all stakeholders must be involved. Thus, effective implementation of this strategy will require strengthened partnerships between international organizations involved in food safety as well as between agencies at the national level.

Why is food safety an essential public health issue?

Serious outbreaks of foodborne disease have been documented on every continent in the past decade, illustrating both the public health and social significance of these diseases. Consumers everywhere view foodborne disease outbreaks with ever-increasing concern. Outbreaks are likely, however, to be only the most visible aspect of a much broader, more persistent problem. Foodborne diseases most seriously affect children, pregnant women, the elderly and people already affected by

other diseases. Foodborne diseases not only significantly affect people's health and well-being, but they also have economic consequences for individuals, families, communities, businesses and countries. These diseases impose a substantial burden on health-care systems and markedly reduce economic productivity. Poor people tend to live from day to day, and loss of income due to foodborne illness perpetuates the cycle of poverty.

New challenges to food safety

The integration and consolidation of agricultural and food industries and the globalization of the food trade are changing the patterns of food production and distribution. These conditions are creating an environment in which both known and new foodborne diseases can become prevalent. Food and feed are distributed over far greater distances than before, creating the conditions necessary for widespread outbreaks of foodborne illness. In a recent crisis, more than 1500 farms in Europe received dioxin-contaminated feed from a single source over a two-week period. Food produced from animals given this contaminated fodder found its way onto every continent within weeks. The effects of exposure to dioxin from this source on public health may become known only after years of investigation. The international spread of meat and bonemeal prepared from cattle affected by bovine spongiform encephalitis (BSE) needs no further description. The full economic consequences of such incidents and the anxiety raised among consumers are still being assessed.

Other factors account for the emergence of food safety as a public health issue. Increasing urbanization leads to greater requirements for transport, storage and preparation of food. Increasing wealth, an urban lifestyle and sometimes a lack of facilities mean that people eat much of their food away from home. In developing countries, food is often prepared by street vendors. In developed countries, up to 50% of the food budget may be spent on food prepared outside the home. All these changes lead to situations in which a single source of contamination can have widespread, even global consequences. Developing countries in particular are experiencing rapid changes in their health and social environments, and the strains on their limited resources are compounded by expanding urbanization, increasing dependence on stored foods and insufficient access to safe water and facilities for safe food preparation.

The globalization of the food trade offers many benefits to consumers, as it results in a wider variety of high-quality foods that are accessible, affordable and safe, meeting consumer demand. A diversity of foods in a balanced diet improves nutritional status and health. The global food trade provides opportunities for food-exporting countries to earn foreign exchange, which is indispensable for the economic development of many countries and for improving the standard of living of many people. However, these changes also present new challenges to safe food production and distribution and have been shown to have widespread repercussions on health.

Food safety programmes are increasingly focusing on a farm-to-table approach as an effective means of reducing foodborne hazards. This holistic approach to the control of food-related risks involves consideration of every step in the chain, from raw material to food consumption. Hazards can enter the food chain on the farm and can continue to be introduced or exacerbated at any point in the chain until the food reaches the consumer.

Although significant progress has been made in many countries in making food safer, thousands of millions of people become ill each year from eating contaminated food. The emergence of increased antimicrobial resistance in bacteria causing disease is aggravating this picture. The public is increasingly aware of the risks posed by pathogenic microorganisms and chemical substances in the food supply. The introduction of new technologies, including genetic engineering and irradiation, in this climate of concern about food safety is posing a special challenge. Some new technologies will increase agricultural production and make food safer, but their usefulness and safety must be demonstrated if they are to be accepted by consumers. Furthermore, the evaluation must be participatory, transparent and conducted using internationally agreed methods.

Until recently, most systems for regulating food safety were based on legal definitions of unsafe food, enforcement programmes for the removal of unsafe food from the market and sanctions for the responsible parties after the fact. These traditional systems cannot respond to existing and emerging

challenges to food safety because they do not provide or stimulate a *preventive* approach. During the past decade, there was a transition to risk analysis based on better scientific knowledge of foodborne illness and its causes. This provides a preventive basis for regulatory measures for food safety at both national and international levels. The risk-based approach must be backed by information on the most appropriate and effective means to control foodborne hazards.

International food standards based on health considerations

In resolution WHA 16.42 (May 1963), the Sixteenth World Health Assembly approved the establishment of the Joint Food and Agriculture Organization of the United Nations (FAO)/WHO Food Standards Programme, with the Joint FAO/WHO Codex Alimentarius Commission (Codex) as its principal organ. The objective of Codex is to develop standards for food, protecting the health of the consumers and ensuring fair practices in the food trade.

Codex has elaborated many international standards on food safety, and often Member States have used these in national legislation. Recent international agreements managed by the World Trade Organization (WTO) have put even further emphasis on the importance of Codex standards. Under WTO, health and safety requirements must be justifiable on the grounds of protecting public health and must be based on a sound, scientific risk assessment. When available, standards from Codex for food safety issues, International Office of Epizootics (OIE) for issues of animal health, and International Plant Protection Convention (IPPC) for plant health should be used as references.

The elaboration of health-based international standards and their adoption by Member States will improve the safety of food in both the domestic market and at a global level. It can also facilitate safe trade in food and contribute economically to development and to improving living standards in food-exporting countries. Effective participation in the development of international standards to ensure that they meet the needs of all Member States is vital to this process.

Major issues in food safety

Foodborne illness can be caused by microbiological, chemical or physical hazards. The nature and extent of these risks are being elucidated by an increasing body of scientific data, although several areas of information gathering, such as the surveillance of foodborne illness, need to be strengthened. There is also mounting concern about new technologies and especially the introduction of genetically modified organisms into the food supply.

Microbiological hazards

Foodborne illness caused by microorganisms is a large and growing public health problem. Most countries with systems for reporting cases of foodborne illness have documented significant increases over the past few decades in the incidence of diseases caused by microorganisms in food, including pathogens such as *Salmonella*, *Campylobacter jejuni* and enterohaemorrhagic *Escherichia coli,* and parasites such as *cryptosporidium, cryptospora*, trematodes.

Approximately 1.8 million children in developing countries (excluding China) died from diarrhoeal disease in 1998, caused by microbiological agents, mostly originating from food and water. One person in three in industrialized countries may be affected by foodborne illness each year. In the USA, some 76 million cases of foodborne illness, resulting in 325 000 hospitalizations and 5000 deaths, are estimated to occur each year. There are only limited data on the economic consequences of food contamination and foodborne disease. In studies in the USA in 1995, it was estimated that the annual cost of the 3.3–12 million cases of foodborne illness caused by seven pathogens was US $6.5–35 billion. The medical costs and the value of the lives lost during just five foodborne outbreaks in England and Wales in 1996 were estimated at UK£ 300–700 million. The cost of the estimated 11 500 daily cases of food poisoning in Australia was calculated at AU$ 2.6 billion annually. The increased incidence of foodborne disease due to microbiological hazards is the result of a multiplicity of factors, all associated with our fast-changing world. Demographic profiles are being altered, with increasing proportions of people who are more susceptible to microorganisms in food.

Changes in farm practices, more extensive food distribution systems and the increasing preference for meat and poultry in developing countries all have the potential to increase the incidence of foodborne illness. Extensive food distribution systems raise the potential for rapid, widespread distribution of contaminated food products. Changes in food production result in new types of food that may harbour less common pathogens. Intensive animal husbandry technologies, introduced to minimize production costs, have led to the emergence of new zoonotic diseases, which affect humans. Safe disposal of manure from large-scale animal and poultry production facilities is a growing food safety problem in much of the world, as manure frequently contains pathogens.

Changes in eating patterns, such as a preference for fresh and minimally processed foods, the increasingly longer interval between processing and consumption of foods and the increasing prevalence of eating food prepared outside the home all contribute to the increased incidences of foodborne illness ascribed to microbiological organisms. The emergence of new pathogens and pathogens not previously associated with food is a major public health concern. *E. coli* O157:H7 was identified for the first time in 1979 and has subsequently caused illness and deaths (especially among children) owing to its presence in ground beef, unpasteurized apple cider, milk, lettuce, alfalfa and other sprouts, and drinking-water in several countries. *Salmonella typhimurium* DT104 has developed resistance to five commonly prescribed antibiotics and is a major concern in many countries because of its rapid spread during the 1990s.

These changes in microbiological hazards in foods have been recognized by the World Health Assembly and by Codex. The 22nd session of the Codex Alimentarius Commission and the 45th Codex Executive Committee requested FAO and WHO to convene an international expert advisory body similar to the Joint Expert Committee on Food Additives (JECFA) and the Joint Meeting on Pesticide Residues (JMPR) on the microbiological aspects of food safety to address in particular microbiological risk assessment. The results of these risk assessments will provide the scientific basis for measures to reduce illness from microbiological hazards in foods.

Effective management of microbiological hazards is enhanced through the use of tools such as Microbiological Risk Assessment (MRA) and Hazard Analysis and Critical Control Point (HACCP) systems. Sound microbiological risk assessment provides an understanding of the nature of the hazard, and is a tool to set priorities for interventions. HACCP is a tool for process control through the identification of critical control points. The ultimate goal is improvement of public health, and both MRA and HACCP are means to that end.

Chemical hazards

Chemicals are a significant source of foodborne illness, although effects are often difficult to link with a particular food. Chemical contaminants in food include natural toxicants such as mycotoxins and marine toxins, environmental contaminants such as mercury, lead, radionuclides and dioxins, and naturally occurring chemicals in plants, such as glycoalkaloids in potatoes. Food additives and nutrients such as vitamins and essential minerals, pesticide and veterinary drug residues are deliberately used to increase or improve the food supply, but assurance must first be obtained that all such uses are safe.

Chemical contamination of food can affect health after a single exposure or, more often, after long-term exposure; however, the health consequences of exposure to chemicals in food are often inadequately understood. While assessments of the risks associated with exposure to pesticides, veterinary drugs and food additives are usually supported by extensive information, fewer data are available on the toxicology of contaminants in food. New understanding of the potential for chemicals to affect the immune, endocrine and developing nervous systems should continue to be incorporated into hazard characterizations of chemicals in food.

Risk assessments must take into account the potential risks of sensitive population groups such as children, pregnant women and the elderly. They must also address concern about cumulative, low-level exposure to multiple chemicals. Testing procedures and other methods of assessment for adequate evaluation of these potential risks are being developed and validated. Estimates of the exposure of specific subpopulations are often hampered by inadequate data on dietary intake and on

levels of contamination of food. This lack of information is exacerbated in developing countries, where little reliable information is available on the exposure of their populations to chemicals in food.

Public awareness about chemicals in food is relatively high, and consumers continue to express concern about the risks to health due to the deliberate addition of chemicals to food. Increasing concern is also being expressed about the introduction of contaminants into the food chain from industrial pollution of the environment. Recognition that some pesticide residues and other chemicals may affect the hormonal system has further heightened public concern about persistant organic pollutants (POPs).

The challenges for risk assessment of chemicals include consideration of susceptible populations such as children, pregnant women and the elderly, cumulative low-level exposure to multiple chemicals and effects on fetal neural development. Work is needed to develop and validate methods to evaluate these potential risks adequately. The Global Environment Monitoring System - Food Contamination Monitoring and Assessment Programme (GEMS/Food) database should be expanded to include more countries and more comprehensive data on the food intake of subpopulations and on the concentrations of contaminants in food commodities. Improved risk assessments with minimized uncertainty will provide a better, more acceptable basis for international and national standard setting and reduce concern about the safety of food.

Surveillance of foodborne disease

Outbreaks of foodborne disease attract media attention and raise consumer concern. However, cases of foodborne illness occur daily in all countries, from the most to the least developed. As most of these cases are not reported, the true dimension of the problem is unknown, and efforts to secure the resources and support necessary for the identification and implementation of effective solutions often fail.

Effective control of foodborne disease must be based on evaluated information about foodborne hazards and the incidence of foodborne disease. Development of a strategy to reduce food-related risks requires knowledge about the current levels of foodborne disease in Member States. It must also be based on an appreciation of the targets and time-frame for improving food safety. This should be an on-going process, in which new targets are set when old ones are achieved, and progress should be monitored continuously in targeted surveys.

The absence of reliable data on the burden of foodborne disease impedes understanding about its public health importance and prevents the development of risk-based solutions to its management. Innovative strategies and methods are needed for surveying foodborne disease and food contamination. A laboratory-based surveillance system should be based on sentinel sites and regional and/or international laboratory networks. A necessary prerequisite for risk-based strategies based on optimized surveys is an interdisciplinary approach involving strong collaboration among all sectors dealing with foodborne disease surveillance and food safety in the health sector.

New technologies

New technologies, such as genetic engineering, irradiation of food, ohmic heating and modified-atmosphere packaging, can be used to increase agricultural production, extend shelf life or make food safer. Their potential benefit for public health is great: for example, genetic engineering of plants has the potential to increase the nutrient content of foods, decrease their allergenicity and improve the efficiency of food production. However, the potential public health effects of these technologies have raised concern globally during the past decade.

Some new technologies benefit the health and economy of communities and contribute to sustainable development. However, countries should be provided with the results of objective, rigorous assessments of the potential risks associated with these technologies before being asked to accept them. Moreover, countries should be assisted in developing capacities to evaluate such results. The basis for the safety assessments should be easy to understand and well communicated, so that the public can be involved at the early stages of this process. The evaluation should be based on

internationally agreed principles that include factors other than considerations of safety and risk, such as (health) benefits, socioeconomic factors, ethical issues and environmental assessments. These considerations should be developed with other WHO partners such as FAO, the United Nations Environment Programme (UNEP), the Organisation for Economic Co-operation and Development (OECD) and the World Bank.

Capacity building

Most developed countries continue to expand the capacity to protect their populations from exposure to unacceptable levels of microorganisms and chemicals in food. Public awareness of the risks involved is relatively high in these countries, and many governments have made clear commitments to improve food safety.

Developing countries have many competing priorities in their health agendas, and food safety has not, in the past, been recognized as a vital public health issue. However, it is becoming clear that foodborne disease has a significant impact on health. The globalization of the food trade and the development of international food standards have also raised awareness of food safety in developing countries. Placing food safety on the political agenda is the first vital step in reducing foodborne illness.

The consumption of locally produced food is more common in developing countries. Fewer processed and packaged foods are available, large volumes of fresh food are traded in traditional markets, and food eaten outside the home is typically prepared by street vendors. Most of the concern for food safety is related to inappropriate use of agricultural chemicals, poor storage of food, an absence of food inspection, lack of infrastructure such as potable water and adequate refrigeration and lack of awareness about food safety and hygiene.

Many developing countries are poorly equipped to respond to existing and emerging food safety problems. They lack technical and financial resources, an effective institutional framework, trained manpower and sufficient information about the hazards and risks involved. The risks are especially great in countries where low national income coincides with rapid industrial and agricultural development.

A WHO survey in 1989 of national capacities for effective protection against adverse environmental factors, including a clean water supply, basic sanitation and food safety, showed that less than 10% of the 136 developing countries had adequate capacities. Few of these countries had adequate legislation, standards or regulations or the capacity to enforce and assess them. Most lacked adequately skilled staff, effective mechanisms for intersectoral action and adequate financing and strategies to overcome these limitations. Therefore, while the identification of hazards and risks in food is vital in strategic planning, the capacity to assess and manage those risks is fundamentally lacking in many developing countries. Future work will focus on identifying gaps in the infrastructure and capacity of Member States to address food safety, and tailored programmes will be designed to close those gaps. WHO will advocate food safety as a public health issue at the national level and as a priority for funding from donors. WHO will also provide appropriate technical assistance and education tools for food safety initiatives.

The role of WHO in food safety

WHO's mandate

WHO has a specific mandate for the protection of public health. Its mission is '*the attainment by all people of the highest possible level of health*'. WHO's role in food safety is to reduce the burden of foodborne illness by advising and assisting Member States to reduce exposure to unacceptable levels of chemicals or microorganisms in food.

The 1948 WHO Constitution includes specific charges relating to food safety:

- assist governments in strengthening health services relating to food safety;
- promote improved nutrition, sanitation and other aspects of environmental hygiene;
- develop international standards for food; and,
- assist in developing informed public opinion among all peoples on matters of food safety.

WHO's approach to achieving these changes is to cooperate with countries on technical issues and to stimulate cooperation so that people everywhere may achieve health for all, while maintaining a healthy environment and charting a course for sustainable development. A food supply that is adequate in quantity, quality, accessibility and safety is a prerequisite for achieving and maintaining the health of the world's population.

WHO food safety initiatives

WHO has been involved in food safety for over five decades. Many WHO activities in this area are carried out in close collaboration with FAO. In May 1963, the Sixteenth World Health Assembly approved the establishment of the Joint FAO/WHO Food Standards Programme, with the Codex Alimentarius Commission as its principal organ. The main objective of the Commission is to protect the health of consumers and to ensure fair practice in food trade through the elaboration of food standards contained in a food code (Codex Alimentarius). The participation of WHO was required because of its mandate for public health and food safety.

In 1978, the Health Assembly requested the Director-General to develop a food safety programme and address the control of foodborne diseases and food hygiene.

WHO's central role is a normative one and includes international standard setting and the facilitation of risk assessments. WHO has promoted the concept of risk analysis as a framework for the management of food safety. The main focus is the development of methods for quantitative microbiological and chemical risk assessment, foodborne disease surveillance and assessment of the safety of the products of genetic engineering.

WHO also provides technical assistance to governments, through its regional offices, to ensure a safe food supply for their populations. As a part of its mandate to support capacity building in Member States, WHO provides training in food sanitation in community-based programmes and the Healthy Market Initiatives. In collaboration with international, regional and national agencies, it provides training in risk analysis and other aspects of food safety. WHO assists national governments in developing and implementing food safety programmes and food legislation and provides support for setting up information systems for monitoring food contamination and surveying foodborne disease.

World Health Assembly resolution

The Fifty-third World Health Assembly in May 2000 gave unanimous support for resolution WHA53.15 on food safety. This resolution confirmed food safety as an essential public health priority and committed WHO and its Member States to a range of multisectoral and multidisciplinary actions to promote the safety of food at local, national and international levels. Specifically, it resolved to expand WHO's responsibilities in food safety, and to use limited resources efficiently to promote food safety as an essential public health function, and suggested appropriate interventions to improve global food safety.

Development of the Global Strategy

The WHO Global Strategy for Food Safety has been developed with the assistance of experts from Member States, regional advisers in food safety, international partners and related programmes at WHO. Its aim is to identify global needs in food safety and to provide a global approach to reducing the burden of foodborne illness. The Strategy was endorsed by the WHO Executive Board in January 2002.

The WHO Global Strategy for Food Safety outlines the broad lines of action needed to reduce foodborne illness. WHO is now elaborating a more detailed long-term workplan outlining specific activities and initiatives to ensure the Strategy's success. The Strategy is predicated on a long-term commitment to food safety as a means of improving public health, which will be reflected in medium- and long-term workplans.

The proposed Global Strategy takes into account strategies and resolutions on food safety that have been adopted by regional committees. Countries are urged to take guidance from the Strategy in improving food safety.

The WHO Global Strategy for Food Safety

Defining the challenge

Traditional food safety measures have not been efficient in preventing foodborne disease over the last decades. WHO's goal of reducing the public health burden of foodborne disease can best be achieved through systematic application of risk analysis. Structures and systems must therefore be developed at national, regional and international levels to survey foodborne disease, conduct risk assessments and implement risk management strategies. Capacity building and coordination of scientific effort are essential roles of WHO and are important elements of its Food Safety Strategy, but these must be combined with strong commitment and resources in order to ensure food safety through targeted, risk-based prevention initiatives.

WHO will take a prominent role in promoting food safety and act as the international broker and coordinator of food safety initiatives, primarily in cooperation with FAO. Effective participation of Member States, especially developing countries, is needed in setting international standards as well as guides for food safety initiatives.

While the existing activities in food safety have focused primarily on hazards in food, the proposed strategy will address the broader concept of risk along the entire food production chain. It will take into consideration the need for sustainable agricultural production systems in all regions of the world and will redirect some of the existing approaches to ensure that they meet the emerging challenges of global food safety.

Principal goal

To reduce the health and social burden of foodborne disease.

It will be achieved by :
- advocating and assisting in the development of risk-based, sustainable, integrated food safety systems ;
- developing science-based measures along the entire food production chain that will prevent exposure to unacceptable levels of microbiological agents and chemicals in food; and
- assessing, communicating and managing foodborne risks, in cooperation with other sectors and partners.

Approaches

The Strategy includes the following approaches:

I. Strengthening surveillance systems of foodborne diseases;

II. Improving risk assessments;

III. Developing methods for assessing the safety of the products of new technologies;

IV. Enhancing the scientific and public health role of WHO in Codex;

V. Enhancing risk communication and advocacy;

VI. Improving international and national cooperation;

VII. Strengthening capacity building in developing countries.

It should be recognized that important interlinkages exist between these approaches. General approaches, such as communication and capacity building, will therefore have to be considered not only in their own right but also as important, integrated parts of other, specific approaches.

Approach I

Strengthening surveillance systems of foodborne diseases

Surveillance of foodborne diseases is becoming an increasingly high priority in the public health agenda in many countries. It is instrumental for estimating the burden of foodborne diseases, assessing its relative impact on health and economics and evaluating disease prevention and control programmes. It allows rapid detection and response to outbreaks. In addition, it is a major source of information for conducting risk assessment, and more broadly for risk management and communication. Foodborne disease surveillance should be integrated with food monitoring data along the entire feed-food chain. Integrating such data would result in robust surveillance information and allow appropriate priority setting and public health interventions. Intersectoral and inter-institutional collaboration are of paramount importance.

The WHO strategy recognizes that surveillance of foodborne diseases should be given a high priority in the development of food safety infrastructure. Building capacity for public health laboratories to conduct laboratory-based surveillance and for conducting epidemiologically-based surveillance are important global public health objectives. The needs of developing countries should be particularly considered. WHO should be proactive in establishing one or more sentinel sites for foodborne disease in developing countries. There is a need to develop and coordinate a global approach to strengthen surveillance at national, regional and international levels. Foodborne disease reporting should be integrated into the revision of the International Health Regulations.

WHO will initiate a Global Strategy for the surveillance of foodborne diseases by urging Member States to set up laboratory-based systems covering both outbreaks, sporadic cases and for monitoring contamination of food by chemicals and microorganisms. When requested by Member States, WHO will support capacity building for data collection and surveillance systems. WHO will also establish common, internationally agreed formats for harmonized data collection and determine the minimal data requirements for future food safety initiatives in the regions. WHO will seek to develop a web-based system to collect, report and communicate data from surveys conducted in Member States. A surveillance system for *Salmonella* and antimicrobial resistance already exists.

Activities

- Encourage Member State's commitment to foodborne disease surveillance.
- Facilitate the strengthening of foodborne disease surveillance systems (laboratory- and epidemiologically-based systems) and food monitoring programmes.
- Promote sentinel sites in developing countries.
- Develop and coordinate global approaches for foodborne disease surveillance.

Approach II

Improving risk assessments

The development by Codex of an internationally agreed framework for risk analysis that serves as a basis for setting food standards at national and international levels has focused attention on the adequacy of risk assessments. WHO has a long history of providing assessments of especially chemical risk in food to Codex and to Member States. The Joint FAO/WHO Expert Committee on Food Additives (JECFA) and the Joint FAO/WHO Meeting on Pesticide Residues (JMPR) are recognized as being at the forefront of scientific knowledge in assessing the risks of chemicals in food. The pressure on these advisory bodies to meet the needs of the Commission is increasing. In addition to the more traditional tasks, JECFA and JMPR must also deal with issues such as cumulative exposure to low concentrations of chemicals, fetal neurotoxicity and the special risks of vulnerable subpopulations. To meet the needs in this area, the work of WHO in risk assessment will be strengthened, and the reports of the assessments will be more detailed and be made available to

Member States more promptly. WHO will also review the procedures used by the expert bodies to ensure consistency and transparency, and to avoid conflict of interests.

Through the GEMS/Food programme, WHO plays a leading role in promoting the collection, collation and evaluation of data on chemicals in foods and the total diet at regional and international levels. The programme databases must be strengthened to meet the demand for information on differences in exposure to chemicals in different regions and for different subgroups within populations, such as children. These challenges are being taken up by WHO and are being incorporated into the work of JECFA and JMPR. It is recognized that one of the major problems of the current international risk assessment is the lack of exposure data from developing countries.

WHO and FAO have been in the forefront of the development of risk-based approaches for the management of public health hazards in food. Risk analysis is well established for chemical hazards. Now WHO and FAO are extending the experience and expertise developed in risk analysis for chemical hazards to microbiological hazards. WHO and FAO have embarked on a new programme of activities with the objective of conducting risk assessments that can serve as a basis for the reduction of microbiological risk along the entire food chain, from the primary producer to the consumer.

The risk assessments are developed through the Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA). The results of these risk assessments will be published in a new series of documents on microbiological risk assessment. The methodology used in these assessments should be made available to Member States in readily accessible format, and capacity building efforts should be made in this area, especially in developing countries.

Activities

- Development of internationally agreed tools for national and international standard setting and for setting national priorities and food safety initiatives.
- Development of timely, appropriate risk assessments to serve as a basis for international standards and guidelines and national food regulations.
- Development of accurate, comprehensive information on the global status of foodborne disease and on chemicals and microorganisms in food.
- Development of timely, readily available risk assessments from JECFA, JMPR and JEMRA to Member States.
- Effective transfer of technologies and data for microbiological risk assessments between countries.

Approach III

Developing methods for sssessing the safety of the products of new technologies

The application of biotechnology to food production presents consumers with new challenges and questions. Resolution WHA 53.15 recognized genetic engineering of food as an important public health issue and resolved that WHO should strengthen its capacity to provide a scientific basis for decisions on the effects on human health of genetically modified foods.

WHO and FAO have worked since 1990 to achieve consistent standards and criteria for assessing the safety of foods and food ingredients derived from genetic engineering. The Joint FAO/WHO Expert Consultation on Foods derived from Biotechnology, held in June 2000, established the substantial equivalence approach as an initiating step in assessing safety and risks associated with genetically modified food. The safety assessment itself requires an integrated, consistent, case-by-case approach to the evaluation of such foods. A subsequent Expert Consultation focused mainly on the allergenic potential of genetically modified foods, which remains the most widely discussed issue in this area. Reliable methods are needed for assessing the allergenic potential of foods produced by

recombinant DNA technologies. These consultations represent the initiation of a series of expert meetings looking into biotechnology assessment, most recently including an expert consultation on foods derived from genetically modified microorganisms. The outcome of these consultations are used by Member States and by the Codex Alimentarius Commission, which has established a time-limited Task Force on Foods derived from Biotechnology.

WHO continues to take part in discussions on this subject by providing expert advice on the health risks of these new technologies and by contributing to a better understanding of new developments in order to address the concerns of consumers. Future work will be coordinated with the activities of other international organizations. WHO will continue to provide a scientific framework for the safety and nutritional assessment of foods derived from biotechnology, as well as for the inclusion of other scientific aspects of the introduction of such foods. WHO will support broadening the scope of evaluation, so that environmental, cost-benefit, socioeconomic and other considerations can be integrated in a more coherent system.

Activities

- Promotion of a holistic approach to the production and safe use of foods and food ingredients derived by both traditional and new methods of production, including genetic engineering.
- Development of improved, internationally agreed methods and guidelines for evaluating the safety of new technologies.
- Formulation of policy and guidance on the use of foods and food ingredients derived from genetic engineering.
- Development of a framework for evaluation that includes not only considerations of safety but also factors such as health benefits, environmental effects and socioeconomic consequences.

Approach IV

Enhancing the scientific and public health role of WHO in Codex

The global distribution of food increases the possibility that contaminated food produced in one country could pose a risk in other or all parts of the world. The establishment of global food safety standards will help to protect people everywhere from the risks of foodborne disease. While considerable resources are allocated to food safety in most developed countries, the greatest challenges remain in building systems and infrastructures for reducing foodborne illness in developing countries.

Resolution WHA53.15 recognized the importance of standards, guidelines and other recommendations of Codex in protecting the health of consumers and ensuring fair practices in food trade. WHO plays a major role in the scientific and public health work of Codex, by providing scientifically based risk assessments of short-term and long-term risks to health related to food. It also plays a significant role by advocating that the standards set by the Commission are based on considerations of public health and safety.

WHO will improve the methods for risk assessment for chemicals and microbiological hazards in food in order to provide accurate, globally representative bases for standard setting by Codex. The risk assessments will also provide adequate information to risk managers on issues such as the risks associated with exposure of children, pregnant women, the elderly and malnourished populations to foodborne hazards.

The adoption and enforcement of national standards consistent with Codex standards will help to ensure a safe food supply and will also facilitate entry into the global marketplace. It is essential that developing countries and regions participate effectively in the development of Codex standards. To do so, they must develop and/or improve their surveillance and monitoring methods for food contamination and intake and use these data to establish achievable international limits and

recommendations for hazards in food. WHO will assist countries with local technical and scientific training and, when possible, assist them in obtaining the necessary data for risk assessments.

WHO will work to ensure that the priorities of consumer health concerns will be reflected in the priorities of the Codex Alimentarius Commission. As part of this work WHO is promoting a thorough review and optimization of the work of the Codex system.

Activities

- Encourage and support greater involvement of the health sector in the development of Codex standards, guidelines and recommendations.
- Work to ensure that the decisions of Codex are based on the premise that the health of consumers must be protected.
- Encourage and assist in the effective participation of developing countries in the work of Codex.
- Promote a thorough review and optimization of the work of Codex.

Approach V

Enhancing risk communication and advocacy

WHO recognizes the importance of open, intelligible risk communication between all parties subject to foodborne risks and will take a prominent role in both global and regional initiatives. Good communication will result in useful dialogue between the stakeholders (consumers, industry, producers) in risk analysis and will enable their participation in the process. It will also increase information sharing and consumer education aimed at improving food safety practices at home.

The high level of trust that Member States have in WHO places it in a responsible position with regard to risk communication on matters of food safety. Risk communication must address the specific needs of the target audience — Member States, consumers, producers, the food industry and regulators — by gauging which mechanisms and technologies are best for delivering the messages. Countries may need special assistance in risk communication strategies. Special consideration should be given to WHO communication efforts in the case of international crisis situations.

The WHO risk communication strategy must encompass information derived from risk assessments, crisis response and rapid alert systems and perceptions of risk. Communication of uncertainties and greater transparency in risk assessment and risk management are both important and WHO should explore ways to improve effective interaction between risk assessors and risk managers. WHO risk assessments must thus be clear and concise and be made available promptly.

One of the major impediments to improving food safety at a global level is the relatively low priority given to this issue in the public health agendas of many developing countries. WHO will advocate food safety as a priority. It will sensitize policy-makers in Member States by emphasizing the many public health and economic gains to be achieved by increased activity in this area. Examples of such gains are the alleviation of human suffering and prevention of loss of life, the reduction of poverty, reduction of the costs of medical treatment and those associated with sick leave, and improvement of the marketability of food with all the attendant benefits for economic development, including promotion of tourism.

WHO will continue to exercise a leadership role in food safety by developing a risk communication strategy and a range of products designed to promote food safety in Member States.

Activities

- Advocacy to ensure that food safety is considered a public health priority.
- Advocacy to ensure that the results of risk assessments and analyses are communicated in a readily understandable form to permit dialogue between stakeholders, including consumers.
- Development and delivery of food safety products and publications for and to targeted audiences.
- Development of dialogues and methods for fostering participation, including focusing and evaluating the effects of risk communication.

Approach VI

Improving international and national cooperation

Wide-ranging cooperative activity is needed to ensure safe food at both national and international levels. WHO must work in collaboration with other international organizations to include food safety as an essential public health function. The goal of such collaboration is sustainable, integrated food safety systems to ensure a reduction in health risks along the entire food chain, from primary production to the consumer. WHO has established a network of collaborating centres for various aspects of food safety which have contributed significantly to the work of the Organization.

WHO's scientific and public health role in the work of Codex, undertaken jointly with FAO within the Joint FAO/WHO Food Standards Programme, will expand to meet the challenges of food safety and to ensure that standards are set on the basis of the protection of public health. WHO will also continue its work with WTO to ensure that Member States take health considerations into account in the globalization of trade. WHO collaborates on food safety with the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP), the International Labour Office (ILO), the Organization for Economic Cooperation and Development (OECD), and many other nongovernmental organizations, including Consumers International (CI), International Association of Consumer Food Organizations, the Industry Council for Development (ICD), the International Life Sciences Institute (ILSI), development banks and academia. This collaboration should be based upon the comparative expertise of each organization.

At the country level, WHO will improve the coordination of food safety activities in order to raise awareness about the public health issues and to reduce duplications of effort and confusion about the roles of the various sectors involved in food safety. The *Guidelines for strengthening food control Systems* drafted by WHO and FAO and the preparation of guidelines for national food legislation are examples of the type of assistance provided to Member States.

Activities

- Support Member States in taking health considerations into account in the globalization of food trade, in cooperation with WTO.
- Establish an international coordination group on food safety to ensure a consistent, effective approach to food safety.
- Coordinate and support activities on food safety undertaken by international bodies at the country level.
- Develop effective links and coordination among agencies involved in food safety in Member States.

Approach VII

Strengthening capacity building in developing countries

WHO attempts to improve food safety in Member States predominantly through its regional and country offices. While much progress has been made by the provision of technical cooperation for the development of national food safety programmes and capacity building, much remains to be done.

Resolution WHA53.15 requested the Director-General to support capacity building in Member States, and especially in less developed countries, and to facilitate their full participation in the work of Codex and its various committees, including risk analysis.

Inadequate capacities in developing countries continue to be a major obstacle in achieving WHO's food safety objectives. Underdevelopment poses difficulties for producing safe food, for domestic consumption and export. Countries that gain these capacities can improve health at both national and international levels. Improved capacity for surveying and monitoring is essential in enabling individual countries to assess the risks associated with food hazards and to set priorities and manage those risks more effectively.

Many developing Member States are considering the adoption of new food laws and food regulatory systems. In establishing systems for delivering safer food, they can draw lessons from the experience of more developed Member States and build food safety programmes that are based on the public health principle of prevention, rather than on the concept of sanctions. Their programmes should include laws that give them a clear mandate and the authority to include prevention and to take a holistic view in reducing foodborne disease.

Capacity building activities range from advocacy to technical collaboration with ministries of health (and other partners) in Member States and include human resource development. The building of national capacity for food safety involves many players, such as the health, agriculture, trade and commerce sectors as well as provincial and municipal governments, and NGOs. It is essential that capacity building be based on collaboration and coordination among these actors. The health portfolio is often, but not always, the most appropriate lead agency at the national level.

Capacity building must start with an assessment of gaps and needs to ensure that the activities are appropriate and will address deficiencies, including the absence of national food safety plans, outdated laws and regulations, the absence of surveys for foodborne disease, poorly resourced and structured food inspectorates and a lack of educational and training materials for food safety. The key steps include strengthening local technical and scientific capacity and developing effective educational tools and programmes.

The WHO regional offices have developed or are in the process of developing regional strategies for food safety. The Global Strategy has taken these draft regional strategies into consideration. Success in capacity building depends on strong involvement of the regional offices in identifying food safety capacity needs and priorities. Training remains an important component of capacity building. WHO collaborating centres should be better used for training staff in fields such as surveillance of foodborne disease and laboratory techniques. These centres could also be used in coordinating regional food safety activities and to achieve food safety goals through innovative solutions.

Activities

- Encourage donor support for food safety as a priority in public health in developing countries.
- Development of regional food safety strategies based on both the common elements outlined in the WHO food safety strategy and specific regional needs.
- Establishment of a network of WHO collaborating centres engaged in capacity building.
- Provision of technical assistance and educational tools for food safety initiatives.

Annex

Resolution WHA53.15 on food safety adopted by the Fifty-third World Health Assembly (May 2000)

The Fifty-third World Health Assembly,

Deeply concerned that foodborne illnesses associated with microbial pathogens, biotoxins and chemical contaminants in food represent a serious threat to the health of millions of people in the world;

Recognizing that foodborne diseases significantly affect people's health and well-being and have economic consequences for individuals, families, communities, businesses, and countries;

Acknowledging the importance of all services – including public health services – responsible for food safety, in ensuring the safety of food and in harmonizing the efforts of all stakeholders throughout the food chain;

Aware of the increased concern of consumers about the safety of food, particularly after recent foodborne-disease outbreaks of international and global scope and the emergence of new food products derived from biotechnology;

Recognizing the importance of the standards, guidelines and other recommendations of the Codex Alimentarius Commission for protecting the health of consumers and assuring fair trading practices;

Noting the need for surveillance systems for assessment of the burden of foodborne disease and development of evidence-based national and international control strategies;

Mindful that food-safety systems must take account of the trend towards integration of agriculture and the food industry and of ensuing changes in farming, production and marketing practices and consumer habits in both developed and developing countries;

Mindful of the growing importance of microbiological agents in foodborne-disease outbreaks at international level and of the increasing resistance of some foodborne bacteria to common therapies, particularly because of the widespread use of antimicrobials in agriculture and in clinical practice;

Aware of the improvements in public health protection and in development of sustainable food and agricultural sectors that could result from enhancement of WHO's food-safety activities;

Recognizing that developing countries rely for their food supply primarily on traditional agriculture and small- and medium-sized food industry, and that in most developing countries, the food-safety systems remain weak,

1. URGES Member States:

(1) to integrate food safety as one of their essential public health and public nutrition functions, and to provide adequate resources to establish and strengthen their food safety programmes in close collaboration with their applied nutrition and epidemiological surveillance programmes;

(2) to design and implement systematic and sustainable preventive measures aimed at reducing significantly the occurrence of foodborne illnesses;

(3) to develop and maintain national and, where appropriate, regional, means for surveillance of foodborne diseases and for monitoring and control of relevant microorganisms and chemicals in food; to reinforce the principal responsibility of producers, manufacturers and traders for food safety; and to increase the capacity of laboratories, especially in developing countries;

(4) to integrate measures into their food safety policies aimed at preventing development of microbial agents that are resistant to antibiotics;

(5) to support the development of science in the assessment of risks related to food, including analysis of risk factors relevant to foodborne disease;

(6) to integrate food safety matters into health and nutrition education and information programmes for consumers, particularly within primary and secondary school curricula, and to initiate culture-specific health and nutrition education programmes for food handlers, consumers, farmers, producers and agro-food industry personnel;

(7) to develop outreach programmes for the private sector that can improve food safety at consumer level, with emphasis on hazard prevention and orientation for good manufacturing practices, especially in urban food markets, taking into account the specific needs and characteristics of micro- and small-food industries, and to explore opportunities for cooperation with the food industry and consumer associations in order to raise awareness of the use of good and ecologically safe farming practices and of good hygienic and manufacturing practices;

(8) to coordinate the food safety activities of all relevant national sectors concerned with food safety matters, particularly those related to risk assessment of foodborne hazards, including the influence of packaging, storage and handling;

(9) to participate actively in the work of the Codex Alimentarius Commission and its committees, including activities in the emerging area of food-safety risk analysis;

(10) to ensure appropriate, full and accurate disclosure in labelling of food products, including warnings and "best before" dates where relevant;

(11) to legislate for control of the reuse of containers for food products and for the prohibition of false claims;

2. REQUESTS the Director-General:

(1) to give greater emphasis to food safety, in view of WHO's global leadership in public health and in collaboration and coordination with other international organizations, notably the Food and Agriculture Organization of the United Nations (FAO), and within the Codex Alimentarius Commission, and to work towards integrating food safety as one of WHO's essential public health functions, with the goal of developing sustainable, integrated food-safety systems for the reduction of health risk along the entire food chain, from the primary producer to the consumer;

(2) to provide support to Member States in identification of food-related diseases, assessment of foodborne hazards, and storage, packaging and handling issues;

(3) to provide support to developing countries for the training of their staff, taking into account the technological context of production in these countries;

(4) to focus on emerging problems related to development of antimicrobial-resistant microorganisms stemming from the use of antimicrobials in food production and clinical practice;

(5) to put in place a global strategy for surveillance of foodborne diseases and for efficient gathering and exchange of information in and between countries and regions, taking into account the current revision of the International Health Regulations;

(6) to convene, as soon as practicable, an initial strategic-planning meeting of food safety experts from Member States, international organizations, and nongovernmental organizations with an interest in food safety issues;

(7) to provide, in close collaboration with other international organizations active in this area, particularly FAO and the International Office of Epizootics (OIE), technical support to developing countries in assessing the burden on health of foodborne diseases, in prioritizing disease-control strategies through the development of laboratory-based surveillance systems for major foodborne pathogens including antimicrobial-resistant bacteria, and in monitoring contaminants in food;

(8) in collaboration with FAO and other bodies as appropriate, to strengthen the application of science in assessment of acute and long-term health risks related to food and, specifically, to support the establishment of an expert advisory body on microbiological risk assessment, to strengthen the expert advisory bodies that provide scientific guidance on food safety issues related to chemicals, and to maintain an updated databank of this scientific evidence to support Member States in making health-related decisions in these matters;

(9) to ensure that the procedures for designating experts and preparing scientific opinions are such that they guarantee the transparency, excellence and independence of the opinions delivered;

(10) to encourage research to support evidence-based strategies for the control of foodborne diseases, particularly research on risk factors related to the emergence and increase of foodborne diseases and on simple methods for management and control of health risks related to food;

(11) to examine the current working relationship between WHO and FAO, with a view to increasing the involvement and support of WHO in work of the Codex Alimentarius Commission and its committees;

(12) to provide support to Member States by assuring the scientific basis for health-related decisions on genetically modified foods;

(13) to support the inclusion of health considerations in international trade in food and food donations;

(14) to make the largest possible use of information from developing countries in risk assessment for international standard-setting, and to strengthen technical training in developing countries by providing them with a comprehensive document in WHO working languages, to the extent possible;

(15) proactively to pursue action on behalf of developing countries, so that the level of technological development in developing countries is taken into account in the adoption and application of international standards for food safety;

(16) to respond immediately to international and national food-safety emergencies and to cooperate with countries in crisis management;

(17) to call upon all stakeholders – especially the private sector – to take their responsibility for the quality and safety of food production, including awareness of environmental protection throughout the food chain;

(18) to provide support for capacity building in Member States, especially those from the developing world, and to facilitate their full participation in the work of the Codex Alimentarius Commission and its different committees, including activities in food-safety risk-analysis processes.

(Eighth plenary meeting, 20 May 2000 –
Committee A, second report)