

## **Food safety**

### **Report by the Secretariat**

1. In 2000 the Fifty-third World Health Assembly in resolution WHA53.15 on food safety requested the Director-General, inter alia, to give greater emphasis to food safety and collaborate with FAO and other international organizations. The Director-General was also urged to put in place a global strategy for the surveillance of foodborne diseases and for the efficient gathering and exchange of information in and between countries and regions. As a result, WHO organized a meeting on the strategic planning of food safety (Geneva, February 2001) and, following further consultation with Member States, published its global strategy for food safety in 2002.<sup>1</sup> Subsequently, WHO, in collaboration with FAO, set up the International Food Safety Authority Network and launched several other key initiatives. In January 2009, the Executive Board, at its 124th session, agreed to include food safety on the provisional agenda of the Sixty-second World Health Assembly.<sup>2</sup> In May 2009 the Sixty-second World Health Assembly decided to postpone discussion of the item to the Executive Board at its 126th session.<sup>3</sup> This report updates the document originally submitted to the Health Assembly, and provides an overview of food safety, describes the opportunities for action, and outlines the tools and methods available.

### **SITUATION OVERVIEW**

2. Foodborne diseases and threats to food safety constitute a growing public health problem. WHO estimates that foodborne and waterborne diarrhoeal diseases taken together kill about 2.2 million people annually, 1.9 million of them children. Many communicable diseases, including emerging zoonoses, are transmitted through food, and many other diseases, including cancers, are associated with chemicals and toxins in the food supply. This existing burden will be compounded by the effects of climate change, which is likely to increase the incidence of foodborne diseases because of the faster growth rates of microorganisms in food and water at higher temperatures, potentially resulting in higher levels of toxins or pathogens in food. Recent evidence shows that such concerns could particularly affect newly emerging zoonoses whose incidence has been steadily rising over the past six decades. The full extent of the associated burden of disease and the related cost of unsafe food, however, is not known. Reliable estimates are needed in order to guide food safety management at

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<sup>1</sup> World Health Organization. *WHO global strategy for food safety: safer food for better health*. Geneva, World Health Organization, 2002.

<sup>2</sup> Document EB124/2009/REC/2, summary records of the eleventh meeting, section 3, and the twelfth meeting, section 1.

<sup>3</sup> See document WHA62/2009/REC/2, verbatim record of the second plenary meeting, section 2.

national and international levels. WHO's Initiative to estimate the Global Burden of Foodborne Diseases from all major causes (microbiological, parasitic and chemical) is designed to provide those estimates.

3. Greater availability of food will only benefit those suffering from malnutrition and hunger if it is accompanied by improvements in the safety and quality of food. In situations of food insecurity and famine, malnourished people, in particular infants and children, are more vulnerable to foodborne pathogens and toxins because of their weak immune systems. In such situations foodborne diseases, especially diarrhoea, exacerbate malnutrition and lead to a vicious circle of vulnerability.

4. Outbreaks of foodborne disease have had devastating health and economic consequences in both developed and developing countries and could hamper achievement of Millennium Development Goals 1 (Eradicate extreme poverty and hunger) and 4 (Reduce child mortality). In addition, economic development in countries that rely on exporting food as a major economic driver could be seriously affected if the safety of those exports is in question.

5. The spread of pathogens and contaminants across national borders means that foodborne diseases now threaten global public health security. Recent events related to both chemical contamination (e.g. melamine and dioxin) and microbiological contamination of food products with traditional (e.g. *Salmonella* spp.) or recently recognized (e.g. Nipah virus) pathogens highlight the global aspect of the problem.

6. Many or most new human infectious diseases in recent decades have originated from animals and transmission has often been through food and food preparation. Examples include severe acute respiratory syndrome, bovine spongiform encephalopathy and variant Creutzfeldt-Jakob disease, highly pathogenic avian influenza, and haemorrhagic fevers such as Rift Valley fever.

7. The application of new methods, such as genetic characterization of pathogens and biomarker technology for detecting exposure to chemicals from food, opens the way to linking related cases and identifying the specific causes of disease. At the same time, more national and international food standards are being based on a systematic and increasingly statistical approach to microbiological and chemical risk assessment that uses new methods developed through WHO/FAO expert consultations.

## OPPORTUNITIES FOR ACTION

8. As food safety issues are international, so must be the solutions. All sectors must be engaged, given that risks to food safety may originate in any link of the food production chain, including the environment, animal feed, the farm, production and retailing, preparation practices, and the consumer's kitchen. A prerequisite for food safety will be efficient multisectoral collaboration between all relevant partners at the international and national levels, with systematic mainstreaming of food safety into food systems and nutrition policies and interventions.

9. International agreement on global management of food safety, based on general scientific principles, cross-sectoral collaboration and action at international and national levels, offers many new solutions that rely on efficient exchange of data, good science and practical experience. New integrated approaches link monitoring and surveillance systems for animal and human health and for food contamination, they also offer the opportunity for prevention or early detection of human disease. The application of new frameworks and management options to mitigate existing food-related risks could significantly reduce the incidence of foodborne disease over the medium- to long-term.

## TOOLS AND METHODS

10. The International Food Safety Authorities Network provides a new forum to link and support national authorities in order to enable the sharing of data, knowledge, competence and experience as well as emergency information. It is managed by WHO in collaboration with FAO, and presently consists of 177 national food safety authorities. The FAO/OIE/WHO Global Early Warning and Response System for Major Animal Diseases, including Zoonoses, launched in 2006, shares emergency information between the animal and human health sectors at the international level.

11. WHO's Foodborne Disease Burden Epidemiology Reference Group, established in 2006, is working to assemble estimates on the burden of foodborne disease using summary measures of population health. By 2012, it will submit a global report, based on representative country studies performed using new protocols developed by the group.

12. WHO's new strategic directions in human health aspects of zoonoses focus on strengthening zoonosis surveillance; forecasting and alert and response mechanisms; providing tools for the assessment, management and communication of zoonotic risks; strengthening capacity building; and improving national and international networking and cross-sectoral cooperation. Surveillance requirements for systems to manage antimicrobial resistance in animal, food and human reservoirs are currently being defined. Those requirements reflect WHO's revised list of critically important antimicrobials for human health (developed in collaboration with FAO and OIE).<sup>1</sup> New methods offer the promise of integrated, laboratory-based surveillance and action focused on areas with the highest risk. This goal can only be realized through intersectoral collaboration and communication between human health, veterinary and food-related disciplines. The Global Foodborne Infections Network, set up in 2000 for detecting, controlling and preventing foodborne and other enteric infections and hosted by WHO, operates to enable such collaboration and communication in 158 WHO Member States.

13. Working with FAO, the WHO Secretariat is devising new initiatives to provide scientific advice on both risks and benefits of food. Education materials for consumers on safe food handling and preparation, with clear and simple messages including advice on nutrition and life-style, are being created. Also, the WHO training programme on Five Keys to Safer Food<sup>2</sup> is being applied to different target groups in most regions.

14. In the future, data characterizing chemical contamination in food can be combined with national data on food consumption, thus enabling a clear mapping of the exposure of populations to chemical contaminants and chemicals in food. The Global Environment Monitoring System – Food Contamination Monitoring and Assessment Programme<sup>3</sup> provides information on levels, trends and significance of chemical contaminants in food, based on data from all regions of the world. It could be used to present similar data on foodborne pathogens.

15. Sound scientific risk assessment is the basis for policy development to protect consumers' health and managing food safety. The need for, and complexity of, such scientific advice have grown

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<sup>1</sup> *Critically important antimicrobials for human medicine: categorization for the development of risk management strategies to contain antimicrobial resistance due to non-human antimicrobial use. Report of the second WHO Expert Meeting, Copenhagen, 29–31 May 2007.* Geneva, World Health Organization, 2007.

<sup>2</sup> See [www.who.int/foodsafety/consumer/](http://www.who.int/foodsafety/consumer/).

<sup>3</sup> See [www.who.int/foodsafety/chem/gems/](http://www.who.int/foodsafety/chem/gems/).

dramatically in recent years. WHO is investigating new ways of ensuring international provision of scientific advice, avoiding the waste of resources caused by repetitive assessments in countries or regions.

#### **ACTION BY THE EXECUTIVE BOARD**

16. The Executive Board is invited to note the report.

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