PAHO Regional Plan of Action for Technical Cooperation in Food Safety

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1. CONTEXT

1.1 Importance of food safety and of foodborne diseases in the Americas

Inextricable links exist between food safety, nutrition and food security, and food safety plays an instrumental role in eradicating hunger and malnutrition, in particular in low-income and food-deficit countries\(^1\): Animal source foods such as meat, milk, and eggs are guaranteed sources of high-quality protein and essential structural fats. They are also a major source of highly bioavailable essential micronutrients, such as iron, zinc, vitamin A, and calcium. These nutrients are essential to maintain adequate growth and development\(^2\).

However, food contamination with microbial agents and chemicals (including antimicrobials) represent an important public health risk: the WHO estimates that 15.3% of deaths globally are caused by infectious or parasitic diseases, and of these, diarrheal diseases account for 4.3% (World Health Organization, health statistics, 2011). In low- and mid-income countries in Latin America and the Caribbean, 33,000 deaths were attributed to diarrheal diseases, which correspond to 1% of all deaths and to 5.9 deaths per 100,000 population. The WHO also estimates that, depending on the country, between 15 to 79 percent of all cases of diarrhea is due to contaminated food. In Latin American and Caribbean countries, the percentage is around 70 percent.

Foodborne Diseases (FBD) represent a public health problem of increasing importance in the region, both in developed and developing countries. In the Americas, data analysis reported to the Event Management System of the International Health Regulations shows that, from 2002 to the first quarter of 2012, of 969 reported events, 161 were either zoonotic or FBD, accounting for 16.1%, with a trend to increase in the past few years. To February 29, 2012, an accumulated total of 47 events of foodborne confirmed origin had been registered.

However, incomplete records regarding FBD cases constitute a major disadvantage when analysing and interpreting data, even in developed countries. During a period of 9 years, the Regional Information System on Foodborne Diseases Surveillance – SIRVETA, has received 6,511 reports of outbreaks in 22 countries. Around 250,000 people were affected during these outbreaks, and 317 people died. In Brazil, in the period 1999-2009, 6,349 outbreaks of FBD were reported, with 124,000 people affected and 70 deaths. A recent FAO study (2009) in Central America\(^3\) reported that in Costa Rica, there are approximately 150,000 annual cases of diarrhea, for an estimated cost of $11.25 million. In El Salvador, costs of FBD was estimated in over $23 million.

1.2 Mandates of PAHO/WHO in food safety and prevention of foodborne diseases

In this context, in 2000 the 53rd World Health Assembly, through resolution WHA53.15, requested the Director General of the WHO to give greater emphasis to food safety, in close collaboration with FAO and other international organizations. In 2001 WHO published the Global Food Safety Strategy – Safer Foods for a Better Health. In the Americas, the food safety group developed a regional technical cooperation plan, which was presented and approved during the XI Inter-American Meeting at Ministerial Level in Health and Agriculture (RIMSA XI) via resolutions RIMSA11.R5 and RIMSA11.R6, and by the 126th session of the Executive Committee in resolution CE126.R7 and by the 42nd Meeting of the Board of Directors in resolution CD42.R3. These resolutions were reinforced by the 44th Meeting of the Board of Directors in September 2003, via resolution CD44.R7.

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\(^1\) Resolution WHA 63.3 of the 63rd World Health Assembly, 2010
\(^2\) Understanding the links between agriculture and health, IFPRI, 2006 Hawkes C. & Ruel M. ed
\(^3\) Enfermedades transmitidas por alimentos y su impacto socioeconómico, Estudios de caso en Costa Rica, El Salvador, Guatemala, Honduras y Nicaragua. FAO 2009
In 2010, the 63rd, World Health Assembly adopted resolution WHA63.3, which recognizes, among others: the serious threat of FBDs to public health; the decisive role of food safety and the eradication of hunger and malnutrition; the possible impact of climate change in the increase in frequency of certain FBD; the increase of global food trade; the continuing need for closer collaboration between the health sector and other sectors, and increased action on food safety at the international and national levels, across the full length of the food-production chain; and the importance of international agreement on global management of food safety, the application of scientific principles in finding solutions, the efficient exchange of monitoring and surveillance data, and practical experience,

Considering these points, the Assembly urged Member States, among others:

- to further develop and implement the core capacities as defined in Annex 1 of the International Health Regulations (2005), as applicable, and those required for participation in the International Food Safety Authorities Network (INFOSAN), including the development of systems for: surveillance for FBD and food contamination; risk assessment, traceability, risk management, including the Hazard Analysis and Critical Control Points system, and risk communication; food safety emergency response; product tracing and recall; and strengthened laboratory capacity;

- to enhance the integration of food-safety considerations into food aid, food security and nutrition interventions;

- to establish or improve the evidence base for food safety through systematic efforts on disease-burden estimation and surveillance, and through comprehensive risk and risk-benefit assessment, and to provide support for international activities in these areas, in particular, WHO's initiative to estimate the global burden of foodborne diseases from all major causes;

- to continue to develop and maintain sustainable preventive measures, including food safety-education programmes, aimed at reducing the burden of foodborne diseases through a systems approach encompassing the complete food-production chain from farm to consumption;

- to promote dialogue and collaboration among human health, veterinary and food-related disciplines, within and among Member States, focused on an integrated effort of foodborne risk reduction along the whole food-production chain, including consideration of zoonotic risks;

- to participate actively in the Codex Alimentarius Commission's standard-setting process and to adopt Codex standards whenever appropriate;

1.3 Justification for updating the regional strategy in food safety and prevention of foodborne diseases

The bases of Resolution WHA63.3 apply to the Region of the Americas, and it is necessary to integrate them in future food safety activities.

Globalization of food production and trade keeps increasing – for example, the United States of America estimates that in the last five years, the number of imported food entries has doubled, originating from over 240,000 foreign establishments in 200 countries and territories4, increasing the risk of international incidents involving food contamination. Food safety problems, therefore, must be approached at the international and regional levels.

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4 FDA Strategic Priorities 2011-2015
Similarly, international tourism has an important role in the Americas, and countries within the region are hosts to mass events such as the World Youth Days, the FIFA World cup, and the Olympic Games, which will take place in Rio de Janeiro, Brazil, in 2013, 2014, and 2016, respectively.

The region is also exposed to frequent extreme climate events and natural disasters such as hurricanes, earthquakes, and volcanic eruptions, which affect food safety, quality, and security.

Numerous national and international organizations offer cooperation in the Region in these diverse aspects. It is essential to improve coordination between technical cooperation and standard-setting organizations operating in the region, including FAO, IICA, OIRSA, OIE, CDC and FDA, among others.

2. OBJECTIVE

To reduce health, social and economic impacts associated with the occurrence of foodborne diseases, including zoonoses.

3. COMPONENTS IN THE REGIONAL FOOD SAFETY STRATEGY

Food safety's lines of action are developed under the following three thematic axes:

1. Advocate and support the development of sustainable, integrated, risk-based food safety systems.
2. Provide evidence-based scientific options for risk analysis, policy development and decision-making to protect health and manage food safety risks;
3. Risk communication and management, in cooperation with other sectors and partners

3.1 Advocate and Support the Development of Sustainable, Integrated, Risk-Based Food Safety Systems

A risk-analysis framework allows regulators to identify, evaluate, and communicate food-related health risks (including FBD, micronutrient deficiencies, and non-transmissible diseases) in all stages of the food chain continuum. Risk analysis can be used throughout a wide range of circumstances and can lead to efficient management strategies, even in cases of limited data availability. Risk communication is an essential means of sharing information on hazards and risks among all stakeholders.
3.1.1 Development of risk-based regulatory and institutional frameworks

Legislation must be based on transparent and independent scientific considerations, after risk evaluation, management, and communication. It includes provisional measures for cases in which important health risks exist and when complete risk evaluations cannot be carried out. It includes norms that define the rules that regulate production, processing, storage, distribution, marketing, import/export, and distribution of food; and the practice codes that help food businesses to implement said norms and regulations.

In the Americas, the PAHO food safety area developed a project to cooperate with countries in the establishment of an information system with the objective of facilitating the compilation, analysis, and update of food-related norms. This system is public access, and all those interested can query the database through the use of key words.

Strategic actions:

- Ensure that current legislations are based on risk and consistent with internationally developed standards, such as those described by the Codex Alimentarius and the OIE.
- Develop guidelines and training material on legislation (laws, regulations, and standards) for distribution to all stakeholders.
- Update and bring to wider use of the Regional Food Legislation Information System and facilitate the exchange of experiences between countries in the development of risk-based legal frameworks.
- Ensure country participation in Codex Alimentarius meetings, particularly in the Codex Commission for Latin American and the Caribbean (CCLAC).
- Whenever possible, use the same risk-based frameworks when tackling problems such as micronutrient deficiencies and non-transmissible diseases.

3.1.2 Development of mitigation strategies to prevent, control and contain risks at the national, regional, and international levels

Food safety systems are complex by nature. They feature a great quantity of interconnections throughout the food production chain. Each link in the food chain acts according to its specific knowledge, and with a great deal of uncertainty about the actions of other participants. Modern laws and regulations must cover the food chain as a whole, and be based on science and risk analysis principles. National legislation must also consider measures to ensure financial provisions for its implementation, including the financing of food surveillance and analysis laboratories.

The Region of the Americas has established a multi-sector mechanism in food safety, the Pan-American Commission on Food Safety – COPAIA, composed of representatives of all five sub-regions of the Americas, representing health and agriculture ministries, producer associations, and consumer associations. COPAIA’s main purpose is to help improve food safety throughout the food chain continuum by sustaining the political will of the countries of the Region for adopting food safety programs and promoting coordination and integration with producers and consumers. To this end, this high-level commission, integrated by Ministers of Health and Agriculture and producers’ and consumers’ representatives from the countries of the Americas, works along the following lines of action: promotion of intersectoral coordination; strengthening of food safety systems; development of policies aimed at the modernization of food inspection; promotion of integrated systems for surveillance of foodborne diseases; development of strategic alliances in education and social communication in food safety; and promotion of the participation from Region’s countries in the Codex Alimentarius work.
Strategic Actions:

- Revise the nature, reach, and substance of policies, laws, regulations, and norms that relate to food, throughout the food production chain.
- Strengthening of the COPAIA through the improvement of its operational design and its participation in subregional mechanisms.

3.1.3 Support capacity building for the detection, assessment and management food safety incidents and emergencies

In order to mitigate the impact of FBDs in public health, as well as its economic impact, governments must have the capacity to detect, assess, and manage emergencies and incidents related to food safety. These are core capacities, as defined by the IHR (2005)

Approaching food safety emergencies is by nature a multisectoral and multidisciplinary task. The application of risk analysis principles ensures consistent and effective approach in the management of food safety emergencies. Traceability and withdrawal are an integral part of the preparation of food inspection services in emergency preparedness.

Globalization of food trade and the increase of international travel require an international approach, featuring information exchange between food control authorities. The International Food Safety Authorities Network – INFOSAN facilitates such information exchanges.

Strategic Actions:

- Strengthening of core capacities defined in in Appendix I of the International Health Regulations (2005), specifically for events pertaining to food safety, including the development of FBD and food contamination surveillance systems; risk evaluation, management, communication systems; response to food safety emergencies, including natural disaster events; and detection, traceback, and withdrawal of products from the market.
- Develop guidelines on food safety components in emergencies.
- Support country participation in INFOSAN and its activities, including supporting timely data and knowledge transmission on food safety emergencies through the network.
- Support the establishment of agreements between the IHR and INFOSAN Emergency focal points regarding their roles and responsibilities.
- Perform simulations of food safety emergencies, involving multidisciplinary and multisectoral teams

3.2 Provide evidence-based scientific options for risk analysis, policy development and decision-making to protect health and manage food safety risks

3.2.1 Support data and information generation and access for policy development and risk analysis

Access to reliable information about FBD incidence is fundamental. Therefore, it is essential to establish efficient links between food control agencies and the public health system, in order to establish relationships between food contamination information with data on foodborne diseases. This allows early
warning and the application of control measures based on risk in all stages of the food production chain. Data analysis also allows measuring the impact of control measures.

In this context, an essential component of control systems is the access to laboratories which can detect, identify and quantify food contaminants. PAHO has developed a strategy of international networking, as opposed to individual national surveillance systems. This has allowed a more efficient response to the trend of increasing incidence of FBD. Three networks operate in the Ameritas:

1) The Inter-American Network of Food Analysis Laboratories (INFAL), whose objective is to achieve methodological equivalency among food analysis laboratories; promote the implementation of equivalent quality control systems among the network's laboratories; and strengthen technical-scientific cooperation between participating countries.
2) The countries participate very actively with the WHO GFN (Global Food Infections Network), which promotes collaboration between microbiologists and epidemiologists belonging to national institutions related to human, veterinary, and food health, and work with diseases transmitted through food. Also, the goal is to strengthen the capability of institutions at the national level, particularly reference laboratories, involved in disease and pathogen surveillance, including testing for antimicrobial resistance, so that the information can be of use in decision making based on evidence.
3) The Region also participates in PulseNet, a network for the application of epidemiological techniques based on Pulsing Field Gel Electrophoresis (PFGE), in order to support surveillance of food transmitted pathogens, based in a series of priorities defined in the Region.

Strategic Actions:

- Strengthen the interrelation between the public health and the food inspection agencies to improve the availability of FBD related data through surveillance based on events and indicators
- Develop capabilities in performing studies on the burden of FBD and share the data as risk analysis elements and food safety advocacy.
- Strengthen study capabilities in the field of food consumption and monitoring of risks important to public health, through contaminant and residue monitoring programs, including studies on total diet.
- Strengthen food analysis laboratory networks, particularly INFAL, GFN, and PulseNet, in order to improve and or reinforce countries' ability to monitor foodborne diseases, promoting knowledge exchange with regards to the collection, verification, analysis, and systematic interpretation of data pertaining to food contaminants and foodborne diseases.
- Improve the evidence-based food safety database through the evaluation of burden of disease and systematic surveillance efforts, as well as risk and risk-benefit evaluation. Support international activities in these areas, in particular WHO's initiative of the global burden of foodborne diseases (microbiological, parasitary, and chemical), and promote data supply to the Regional Information System on Foodborne Diseases Surveillance (SIRVETA)

3.2.2 Strengthening of food inspection systems for the development of policies and decision making aimed at the protection of health and food safety risk management

Modern inspection systems are based on risk, resulting in focusing in the areas identified as being at greater risk of providing unsafe food, and in uncontrolled hazards of greater preoccupation to public health.

The adequate training of food inspectors is a prerequisite for an efficient food inspection system.
Strategic Actions:

• Carry out, in conjunction with other international cooperation agencies, evaluations of national food safety inspection systems, identify breaches, and propose corrective measures.

• Ensure the strengthening of food control services, through courses, when required, in:
  − emergent problem management, and new concepts in food safety;
  − food business, inspection needs and priority problems;
  − standard operative procedures in order to carry out inspections;
  − frequency of inspections based on risk;
  − audit of inspection activities;
  − handling of prior inspection records and follow-up actions;
  − legal support;
  − efficient use of laboratory services.

3.3 Risk Communication and Management, in Cooperation with other Sectors and Partners

3.3.1 Ensure risk communication and the promotion of health in order to support the prevention of Foodborne diseases

Education contributes in an important way to raise consumer awareness about the food safety issues, and improve food manipulation aspects, as well as selecting healthy food. However, in order to achieve significant impact, food safety education must include the particular idiosyncrasy of food handlers, and aim for a change in behavior.

Efforts in education should be directed at populations which present specific risks, such as pregnant women, or women who take care of very young or school children, the elderly, and those suffering from chronic illness. For children, the teaching of safe food handling should be part of the school curriculum, and be strictly applied in school cafeterias. Likewise, those who manipulate food for vulnerable populations must understand their responsibilities, in order to ensure the safety of the food they prepare.

The WHO has developed education tools for all age groups, promoting food safety, healthy diet and physical activity (the “Three Fives”).

Education programs should also include a method of evaluation, in order to measure their impact.

Also, traveler’s health will be given special attention, as the Americas will host several mass events, particularly in Rio de Janeiro, which will be the host of the World Youth Day in 2013, the FIFA World cup in 2014, and the Summer Olympic Games in 2016.

Strategic Actions:

• Develop sustainable preventive measures, including education programs on food safety through the adaptation, validation, and adoption of the manual for the application of the Five Keys to Food Safety in schools, markets, and communities, particularly in priority countries and in the most vulnerable communities.

• Revise existing programs and evaluate their capacity to provide adequate and effective food safety education, emphasizing priority groups, and based on an evaluation risk behaviors.
• Revise policies in elementary schools, in order to include specific programs about the Five Keys to Safer Food in the curriculum.
• Prepare trainers that will transmit these skills to priority groups.
• Train all food handlers, including street vendors, within the framework of programs such as Healthy Municipalities, Healthy Schools and Healthy Markets.
• Strengthen consumer communication, giving them information in a quick and timely manner regarding disease outbreaks, incidents with contaminated food, or food recall notices, using adapted means of communication.

4. STRATEGY

Priorities are based in:

1) improving the legal framework of countries with respect to food safety, with an emphasis in public health;
2) strengthening FBD surveillance and monitoring of contaminants along the food chain;
3) improving risk assessment capabilities;
4) improving the capacity for effective risk management,
5) improving the capacity to effectively communicate risks; and
6) promote consumer education in food safety aspects.

To achieve these objectives, the strategy will be based on:

• In order to achieve the implementation of sustainable food safety policies create/strengthen effective alliances and interactions with agricultural and environmental technical cooperation organizations of the United Nation Systems, of the Organization of American States, with national public health and agriculture organizations, and with the private sector and consumers.
• Mobilize and optimize the use of resources from the Organization, the countries and donor organizations, as well as strategic collaboration with Member States and other international agencies.
• Support the strengthening and sustainability of national capacities in the framework of the International Health Regulation regarding to event detection, risk analysis, traceability and withdrawal.
• Promote networking to improve/strengthen countries capability in the surveillance and monitoring of FBD
• Promote the active participation of countries in regional and global initiatives such as INFOSAN, SIRVETA, INFAL, PulseNet and WHO GFN, among others.
• Develop guidelines based on successful experiences and cooperation among countries for the production of reagents and the implementation of laboratory quality assurance programs.
• Promote interdisciplinary collaboration and participation in food and nutrition initiatives, with special attention to population groups at greater risk.
• Maintain and strengthen existing communication mechanisms between food safety stakeholder, such as COPAIA.