

The International Food Safety Authorities Network (INFOSAN)



Progress Report 2004 - 2010



**Food and Agriculture
Organization of
the United Nations**



**World Health
Organization**

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Executive summary

Ensuring food safety and preventing foodborne diseases is an international public health concern. Food safety authorities around the world are constantly challenged by changes in microorganisms and new chemicals associated with food, as well as changes in food production techniques and consumer behaviours, which lead to new risks to the public. To combat these challenges, it is critical that food safety authorities around the globe collaborate and share information and experiences. One country's problem today, could be another country's problem tomorrow and there is a need to learn from each others' successes. The International Food Safety Authorities Network (INFOSAN), is a joint programme between the Food and Agricultural Organization of the United Nations (FAO) and the World Health Organization (WHO), and has been providing a mechanism to facilitate such sharing of information since 2004. While its full potential remains to be realized, significant progress has been made in building the Network and establishing partnerships to make it function.

In May 2010, the World Health Assembly (WHA) adopted a resolution on Advancing Food Safety Initiatives re-enforcing the importance of INFOSAN. The resolution encourages participation of all Member States in INFOSAN and its related activities. It calls for further development of INFOSAN and encourages communication and technical exchange of risk assessments and best practices among Network members. It also supports the strengthening of the emergency functions of INFOSAN, recognizing the Network as a critical component of WHO's preventive and emergency operations related to food safety.

This progress report provides an overview of INFOSAN by describing why and how it was formed and its aims and objectives. In addition, the various roles and responsibilities of Network members are explained and a summary of both the emergency and non-emergency functions of INFOSAN is included. Finally, some of the key challenges faced by the Network are expressed, and future directions addressed.

The success of INFOSAN is highly dependent on the close collaboration of its members. The Secretariat wishes to acknowledge members' past support and contributions as well as their continued involvement as we look to the future and strengthen partnerships to contribute to food safety around the world.

List of acronyms

CAC	Codex Alimentarius Commission
EWRS	Early Warning and Response System
FAO	Food and Agriculture Organization of the United Nations
FOS	Department of Food Safety and Zoonoses
GFN	Global Foodborne Infections Network
GLEWS	Global Early Warning System for Major Animal Diseases, including Zoonoses
GOARN	Global Outbreak Alert and Response Network
IHR	International Health Regulations
INFOSAN	International Food Safety Authorities Network
OIE	World Organisation for Animal Health
RASFF	Rapid Alert System for Food and Feed
WHA	World Health Assembly
WHO	World Health Organization

1. Background

1.1 Why was INFOSAN formed?

The rapid globalization of food production and trade has increased the potential for international incidents involving contaminated food. As a result, food safety problems discovered in one country are often of interest or concern to others.

While implementing effective prevention strategies through the entire, so-called, farm-to-fork continuum is the most effective way to produce safe food, it is impossible to completely eliminate food contamination events. Dealing with these events requires the rapid access and exchange of food safety information at both national and international level. Clear, reliable and authoritative information about food safety has been recognized as an essential need, not only for prevention and response measures, but also for maintaining international food trade and consumer confidence in the food supply.

In 2000, the WHO World Health Assembly adopted a resolution calling for improved communication between WHO and Member States on matters of food safety (1). In 2002, serious concerns were expressed at the World Health Assembly about health emergencies posed by natural, accidental and intentional contamination of food (2). Recommendations for the establishment of an international food safety network resulted from a series of international conferences, including the FAO/WHO Global Forum for Food Safety Regulators in 2002 and the FAO/WHO Pan-European Conference on Food Safety and Quality, also in 2002. Subsequently, in 2003, WHO published a report on potential terrorist threats to food, which includes guidance for establishing and strengthening prevention and response systems (3). This report identifies a food safety emergency network as one of the basic measures of preparedness needed at international level. In 2004, the Codex Alimentarius Commission (CAC) revised their principles and guidelines on the exchange of information in food safety emergency situations (4). The guidelines request that Member States designate official contact points from their competent authorities to exchange information during food safety emergency situations. WHO is responsible for keeping the list of official contacts up to date.

Based on these mandates and recommendations, the International Food Safety Authorities Network (INFOSAN) was developed to facilitate the sharing of food safety information and experience, and to promote collaboration between food safety authorities at national and international levels. At the World Health Assembly in May 2010, a resolution on Advancing Food Safety Initiatives was adopted which re-emphasized the important role of INFOSAN and re-enforced its mandate (5).

1.2 How was INFOSAN formed?

In February 2004, funding was secured for the initial establishment of INFOSAN. As a result, in March 2004, WHO and its Regional Offices, in cooperation with the FAO, took first steps to establish the Network. This was achieved by requesting officially designated INFOSAN Emergency Contact Points and INFOSAN Focal Points from each Member State. In October 2004, INFOSAN was officially inaugurated at the FAO/WHO Second Global Forum for Food Safety Regulators with approximately 100 members.

1.3 Aims and objectives of INFOSAN

With the goal of preventing the international spread of contaminated food and foodborne disease and strengthening food safety systems globally, INFOSAN seeks to:

- I. promote the rapid exchange of information during food safety-related events;
- II. share information on important food safety-related issues of global interest;
- III. promote partnership and collaboration between countries;
- IV. help countries strengthen their capacity to manage food safety risks.

The work of INFOSAN has two distinct components:

1) Routine INFOSAN activities:

- a. INFOSAN Information Notes are developed by the INFOSAN Secretariat on a regular basis to provide key information about emergent or topical food safety issues.
- b. Food safety guidelines, questionnaires, newsletters and factsheets are shared with INFOSAN members for further dissemination within their organizations.
- c. INFOSAN members aid routine in-country sharing of information to strengthen the national food control system.

2) INFOSAN Emergency activities:

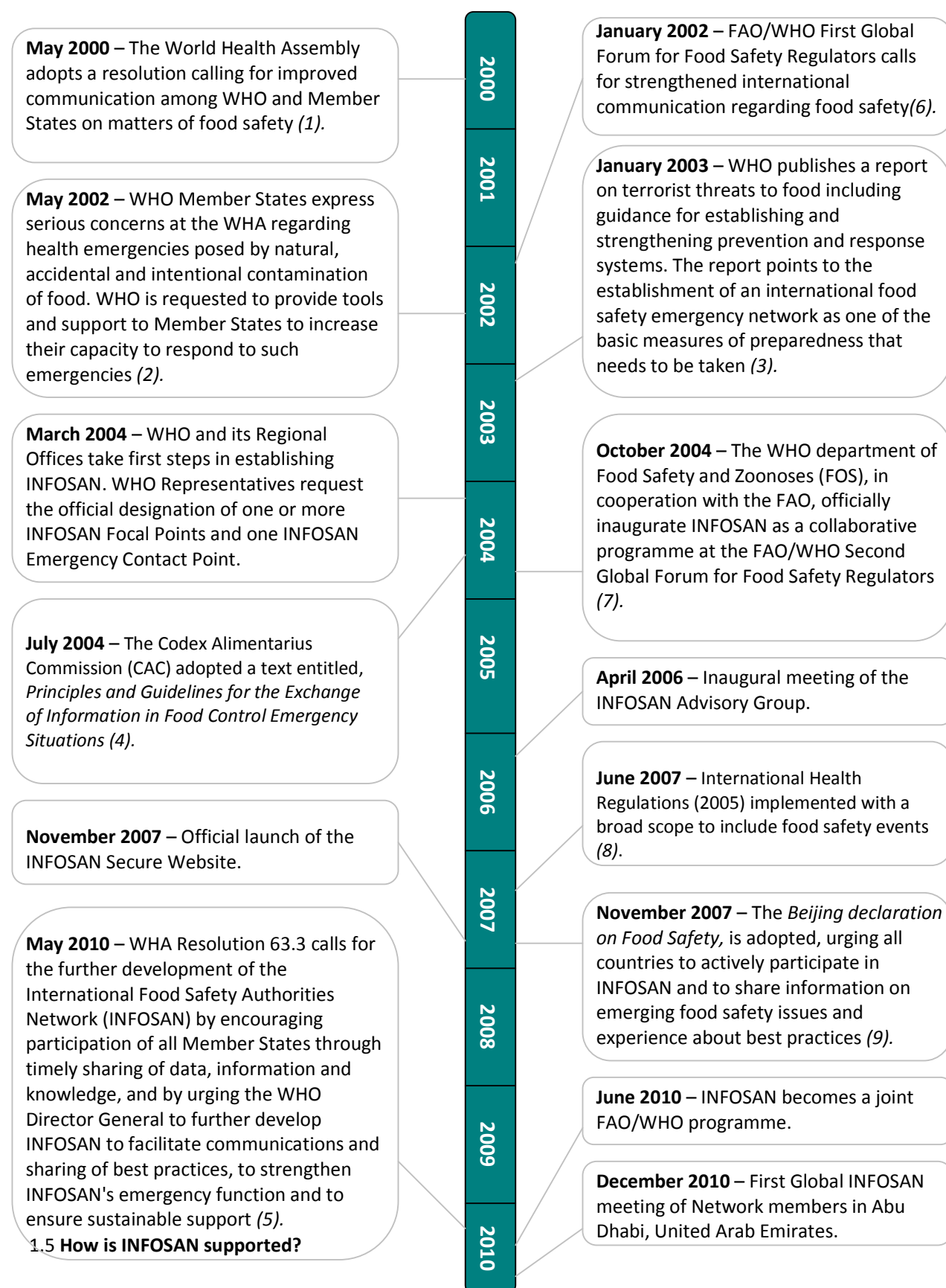
- a. INFOSAN identifies, verifies and shares information on food safety-related events which involve contaminated foods in international commerce, and foodborne illness outbreaks, not limited to one country.
- b. INFOSAN Secretariat provides technical assistance to national governments in managing food safety and food production-related events or emergencies.
- c. Emergency Contact Points are actively engaged to provide updated information on food safety events and to ensure timely information exchange with countries potentially importing or exporting the implicated product.

Box 1.

INFOSAN highlights

- INFOSAN provides rapid access to food safety contact points in 170 countries and to expertise in FAO and WHO. during food safety emergencies.
- INFOSAN has been active in hundreds of food safety events since its inception in 2004.
- INFOSAN provides a confidential mechanism for information sharing through the use of a secure web platform.
- INFOSAN facilitates the sharing of lessons learnt and the exchange of new knowledge related to food safety and foodborne illness.
- INFOSAN has published 35 Information Notes on a broad range of food safety topics, made publicly available on the WHO website.
- INFOSAN has partnered numerous international groups to strengthen the Network and enhance collaborative activities.
- INFOSAN continues to be cited in published literature and is recognized as an authoritative source of food safety information.

1.4 Milestones in the development of INFOSAN



1.5 How is INFOSAN supported?

At present, the INFOSAN secretariat is coordinated by 1 full-time staff member at WHO, with a focal point in FAO. There is occasional additional support from consultants and seconded staff from various national governments. INFOSAN activities are currently supported by extrabudgetary funds from Members States.

2. INFOSAN membership

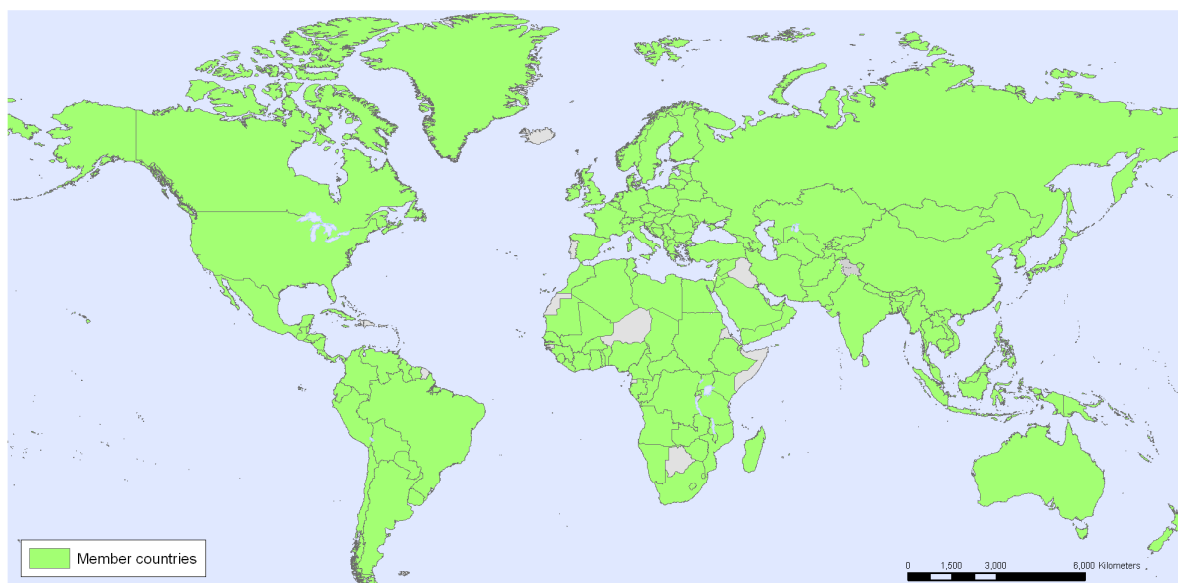
2.1 Geographical distribution of membership and representation by sector

Membership of INFOSAN is voluntary and restricted to representatives from national food safety authorities. One of the challenges in establishing a network of food safety authorities lies in the fact that food safety is seldom dealt with by a single agency in any given country. The structure of INFOSAN seeks to reflect this by promoting the designation of Focal Points in each of the respective involved national agencies. The Emergency Contact Point should come from the national authority responsible for national food safety emergency coordination. The operational definition of a food safety authority includes those authorities involved in: food legislation; risk assessment; food control and management; food inspection services; foodborne disease surveillance and response; laboratory services for monitoring and surveillance of foods and foodborne diseases; and food safety information, education and communication across the farm-to-fork continuum.

To date, 177 UN Member States have joined the Network, and membership has grown steadily since the launch of INFOSAN in 2004 (see Fig. 1). With 192 Member States belonging to the UN system, the INFOSAN Secretariat will continue to encourage Member States to join INFOSAN until Emergency Contact Points and Focal Points have been identified in each (see Fig. 2).

Fig. 1

Geographic distribution of INFOSAN members



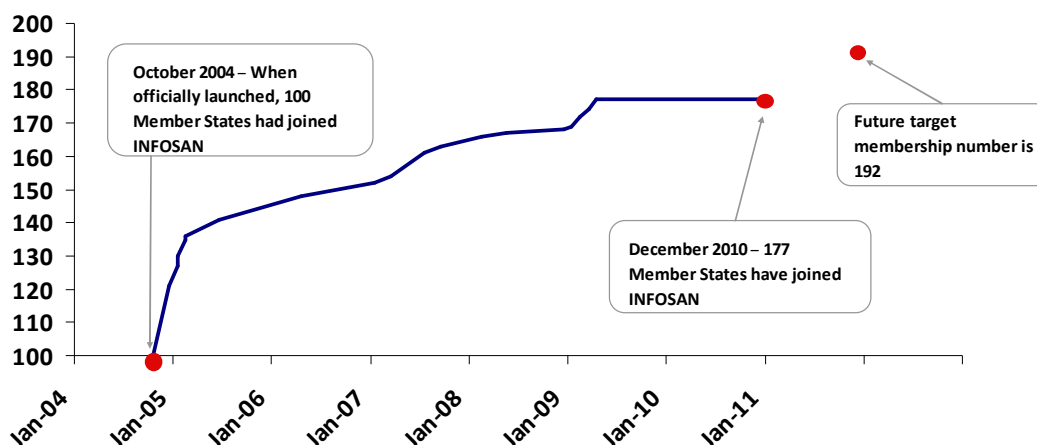
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Map Production: Public Health Information
and Geographic Information Systems (GIS)
World Health Organization



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Fig. 2
Growth of INFOSAN membership (2004–2010)



At present, 178 INFOSAN Emergency Contact Points are designated from various government sectors in 170 countries (certain countries have designated Focal Points, but have yet to designate Emergency Contact Points). Five countries have nominated more than one INFOSAN Emergency Contact Point, due, principally, to food safety responsibilities being held by more than one agency.

As shown in Fig. 3, 70% of INFOSAN Emergency Contact Points are based in agencies or ministries responsible for health, 17% in agencies or ministries responsible for food safety and 4% in agriculture. Four percent are from agencies or ministries that are related to a combination of food, veterinary, or agriculture. The remaining Focal Points are from an environmental health agency or ministry (1%) or another type of agency or ministry (4%).

Fig. 4 shows that, at present, 260 INFOSAN Focal Points have been nominated from various government sectors in 119 countries. The majority of Focal Points are based in agencies or ministries responsible for health (54%), food safety (11%), or agriculture (10%). Seven percent are from agencies or ministries related to a combination of food, veterinary, or agriculture. The remaining Focal Points are from trade and commerce (6%), standards (2%), fisheries and/or marine resources (2%), and environmental health (1%). Those Focal Points belonging to the category "Other" are from universities, research centres, laboratories, etc (7%). Sixty-five countries have one Focal Point, 22 countries have two, and 32 countries have three or more to a maximum of twelve. Fifty-eight countries have not yet nominated Focal Points.

Fig. 3
Distribution of INFOSAN Emergency Contact Points in national agencies or ministries

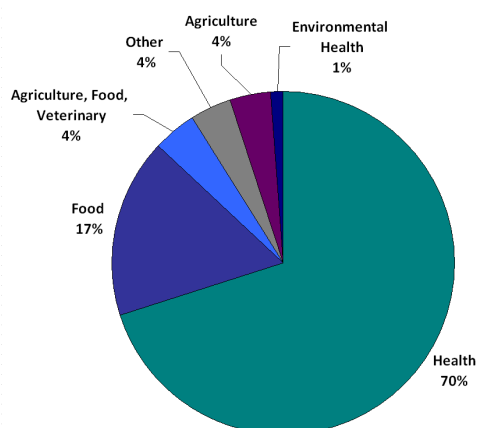
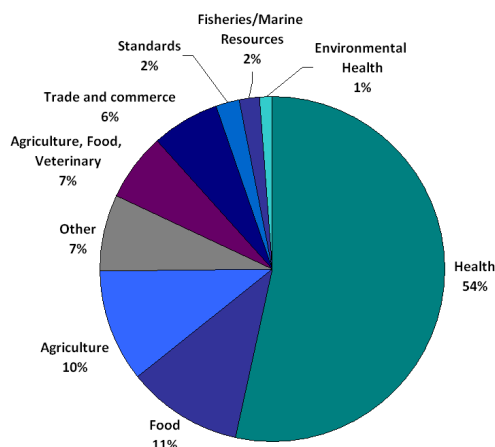


Fig. 4
Distribution of INFOSAN Focal Points in national agencies or ministries



2.2 Roles and responsibilities of Network members

Emergency Contact Points:

- Report urgent food safety events of potential international significance to the INFOSAN Secretariat.
- Collaborate with their International Health Regulation national Focal Point on food safety events that fall under the IHR.
- Assist the INFOSAN Secretariat in the verification and assessment of events by providing all necessary information, and review INFOSAN Emergency Alert messages pertaining to an event in their country.
- Request international assistance through INFOSAN Secretariat to respond to a food safety incident or emergency, as necessary.
- Take action on INFOSAN Emergency Alert messages and disseminate information accordingly.
- Liaise with Focal Points in their country on important food safety matters.
- Carry out, in addition, the responsibilities of Focal Points (as outlined below), within their own agency.

Focal Points:

- Disseminate INFOSAN notes, FAO/WHO guidelines, and other important food safety information from INFOSAN within their agency, as appropriate.
- Provide comments to INFOSAN on information products disseminated to the Network.
- Engage in sharing information with the INFOSAN Secretariat and other members on food safety issues that may be relevant at international level and beneficial to all members, such as, but not limited to: risk assessment on emerging hazards, lessons learnt, identified good practices.
- Collaborate with INFOSAN Emergency Contact Point on emergency events involving their respective agencies.

2.3 Management of the Network

In 2010, INFOSAN became a joint FAO/WHO programme, co-managed by FAO and WHO. The INFOSAN Secretariat is based in WHO with Focal Points based in FAO. As such, the Secretariat and Focal Points have joint responsibilities for various aspects of INFOSAN. These include strategic planning, implementing the workplan and associated budget, fundraising and advocacy, developing INFOSAN Notes and other information products, and linking INFOSAN to other programmes within WHO and FAO. Coordination of INFOSAN Emergency activities is conducted principally by WHO, in close communication with FAO. When response is required, both organizations work together to bring to bear their respective expertise in public health and food production systems.

2.4 INFOSAN Advisory Group

In 2006, an Advisory Group was established, consisting of experts from national food safety authorities across the globe. Members of the Advisory Group are selected to ensure there is geographical coverage and that various technical aspects of food safety are represented. The role of the Advisory Group is to:

- advise the Secretariat on effective ways to interact with Member States;
- review current operations and recommend ways of improving the functioning of the Network;
- provide input on the INFOSAN strategic plan and workplan;
- engage in strengthening the Network through advocacy and fundraising.

The INFOSAN Advisory Group communicates via annual meetings and periodic video or telephone conferences. Members of the Advisory Group are listed in Annex 1.

3. INFOSAN in action

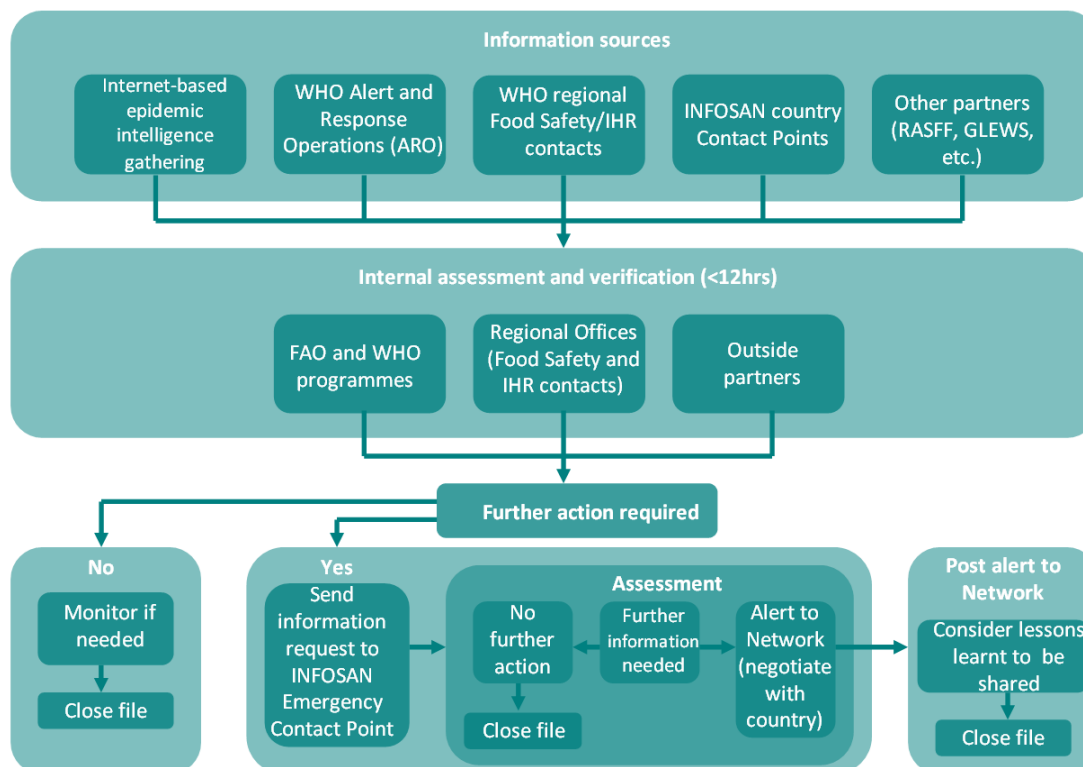
3.1 Emergency–Event monitoring

The INFOSAN Secretariat monitors potential international food-related events in addition to receiving information through INFOSAN Emergency Contact Points, Regional Offices, and other partners. When an event with possible international implications is identified, an internal assessment is made to determine whether more information should be sought from the INFOSAN Emergency Contact Point in the country involved. Events of concern include those where international trade of a contaminated product is possible or where a foodborne illness outbreak appears to be affecting more than one country. Once additional information is received, the event is further assessed to determine whether or not an alert may need to be disseminated to all or part of the Network. For events requiring more in-depth investigations and where information sharing between countries is necessary, the INFOSAN Secretariat helps coordinate further management of the event in collaboration with other partners in regional and country offices of FAO and WHO. With the new International Health Regulations (IHR) in effect since June 2007, the INFOSAN Secretariat works closely with the regional IHR contact points. Food related events assessed to be public health risks of international concern are also shared with national IHR Focal Points, in addition to INFOSAN Emergency Contact Points*

A detailed schematic of the event detection activities carried out by the INFOSAN Secretariat and the consequent actions that may follow are shown in Fig. 5 below.

Fig. 5

Event identification and management



* Further information on IHR (2005) can be found on the WHO website: <http://www.who.int/ihr/en/>

3.2 Response to food safety events and emergencies

Since 2004, the Network has been operational in numerous food safety events, many of which received international media attention (see Fig. 6). While some events have required the INFOSAN Secretariat to undertake only assessment activities by requesting further information, many have resulted in major coordination efforts. INFOSAN Alerts have been disseminated by the Secretariat in more than 40 of these events. Since the IHR became effective in June 2007, the Secretariat has been actively involved in 11 events considered Public Health Risks under IHR (2005).

Fig. 6

Food safety events in the media



Box 2.

Responsiveness tests of the INFOSAN Emergency Network

Since the functioning of the INFOSAN Emergency activities is reliant on timely responses from members during verification and follow-up activities, tests of the INFOSAN Emergency Network responsiveness have been conducted.

In 2007, each Emergency Contact Point was sent an email asking them to respond to INFOSAN within 72 hours. Within the 72 hours, 56 countries (47%) had responded. Approximately two weeks later, a second test message was sent to all Emergency Contact Points who had not responded to the first. A further 25 countries responded making the overall response rate to the test 81 countries out of a potential 118 (i.e. 69%). The response rate was greatest for high-income countries (92%). Low-income countries had a greater number of incorrect email addresses resulting in a corresponding lower response rate.

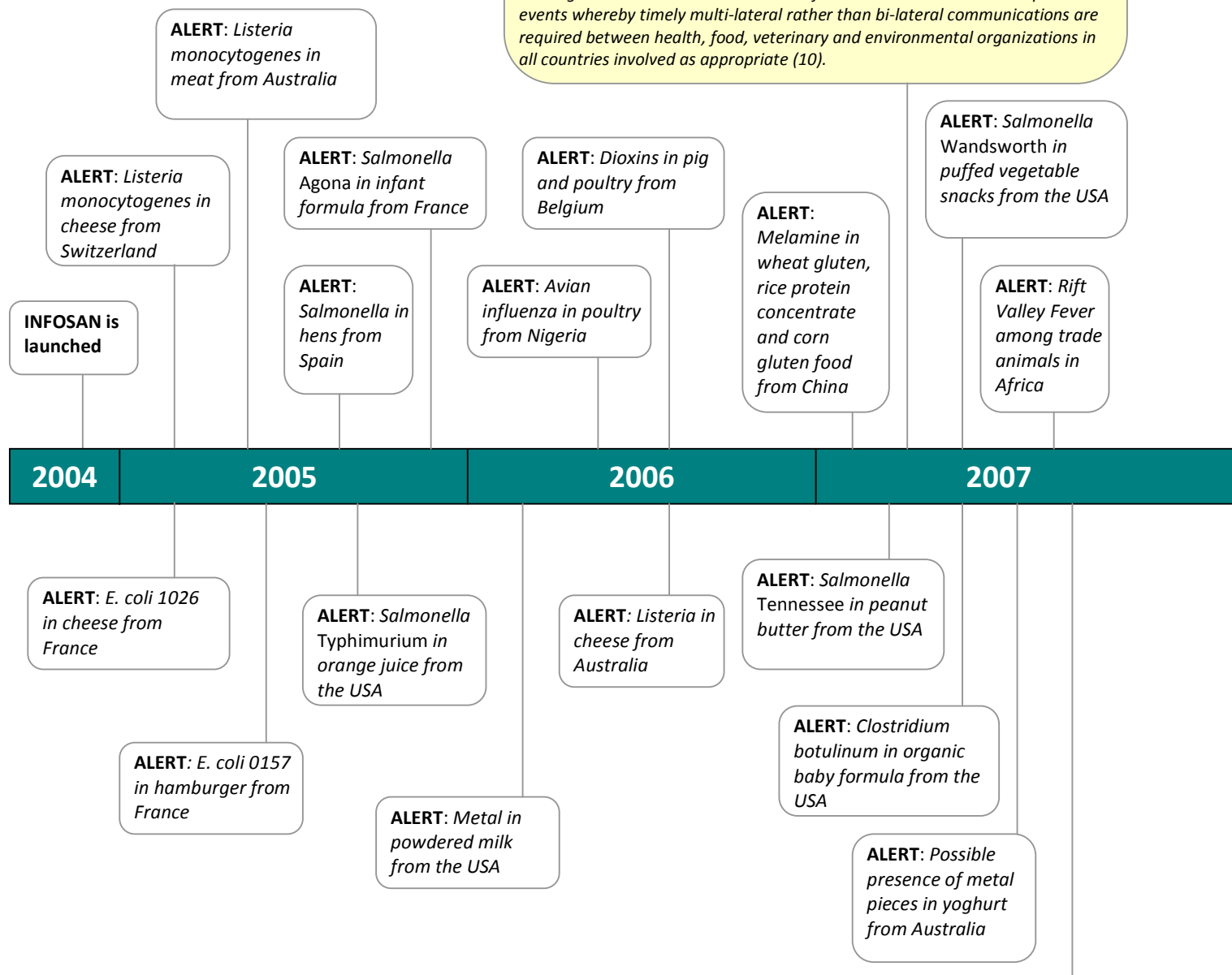
In 2008, after the introduction of the INFOSAN Secure Website, a similar responsiveness test was administered, resulting in approximately 20% of INFOSAN Emergency Contact Points replying, as requested, within 72 hours. An additional 13% responded to a subsequent follow-up message. The recent implementation of the INFOSAN Secure Website may have contributed to a lower response rate.

The results of these tests have helped identify areas for improvement in the Network so that protection is provided against foodborne illness and the safety of food in international commerce for all countries is ensured.

INFOSAN in Action*

SPOTLIGHT: Outbreaks of *Shigella sonnei* infections in Denmark and Australia linked to consumption of imported raw baby corn.

This investigation highlights the importance of timely communication in helping to identify when contaminated food enters international trade. The two outbreaks became linked after rapid publication of the Danish outbreak, emphasizing the importance of informal public communications, in addition to formal European and worldwide communication channels (e.g. EWRS, RASFF, PulseNet International, INFOSAN and other WHO processes). In addition, this investigation served as a reminder that foodborne outbreaks are complicated events whereby timely multi-lateral rather than bi-lateral communications are required between health, food, veterinary and environmental organizations in all countries involved as appropriate (10).



SPOTLIGHT: Provision of technical support to Angola during a bromide intoxication event.

Between October and December 2007, 467 cases of bromide intoxication were reported in Cacuaco municipality, Luanda Province, Angola. The health effects observed included drowsiness, tiredness, blurred vision, walking difficulties (ataxia) and difficulties in muscular control. It was highly likely that the principal cause of the intoxication was consumption of sodium bromide sold as table or cooking salt (sodium chloride) or salt mixed with sodium bromide. The management of this outbreak from a food safety perspective included supporting the national government in investigating the possible point of contamination and removing the possibly contaminated salt from affected areas. Given the low socio-economic situation in the affected areas, a salt replacement programme was also put in place. Additional support was provided to the government of Angola to assist with other aspects of the investigation.

* This timeline provides highlights of INFOSAN activities over the past 6 years. Some events required multiple INFOSAN Alerts which are not represented here.

SPOTLIGHT: Melamine in milk, milk powder and related products from China.

During September and October 2008, the deliberate illegal addition of melamine to raw milk to inflate its apparent protein content was identified. The raw milk was subsequently used in infant formula and related dairy products. This resulted in the hospitalization of more than 51 900 infants and young children with urinary problems, possible renal tube blockages, and possible kidney stones. Six deaths among infants were confirmed in mainland China. INFOSAN undertook surveillance, risk assessment, verification and information dissemination activities (including INFOSAN Emergency Alerts) for this event. This event reminded the world of the global nature of our food supply and the critical importance of INFOSAN's role as a global food safety system.

ALERT: Dioxin in pigs slaughtered in Ireland

ALERT: Rift Valley Fever among trade animals in Africa

ALERT: *Listeria monocytogenes* in soft cheeses from France

ALERT: Foodborne outbreaks of *Salmonella* Litchfield in Canada and the USA

ALERT: Plastic pieces in confectionary bars from Australia

ALERT: Ebola Reston in pigs from the Philippines

ALERT: Listeriosis linked to chicken wraps served on commercial airline

ALERT: Thyrotoxicosis associated with excess levels of iodine in soy milk from Japan

ALERT: Outbreak of *Salmonella* Montevideo in the USA linked to internationally distributed salami

2008

2009

20010

ALERT: Progressive Inflammatory Neuropathy (PIN) in pig slaughterhouse workers in the USA

ALERT: Dietetic food products with incorrect composition and labelling

ALERT: Foodborne outbreak of *Salmonella* Saintpaul in USA

ALERT: Excessive levels of copper, iron and zinc in infant formula from South Africa

ALERT: Defective packaging of canned green beans from France

ALERT: *Salmonella* Typhimurium in peanut butter from the USA

ALERT: *E. coli* O157:H7 infections linked to cookie dough from the USA

ALERT: Outbreak of Hepatitis A linked to semi-dried tomatoes in Australia

ALERT: Typhoid fever in the USA linked to frozen mamey pulp from Guatemala

SPOTLIGHT: Hepatitis A infections in Australia, France and the Netherlands linked to semi-dried tomatoes.

This was the first documented outbreak of hepatitis A infections linked to semi-dried tomatoes. The challenges associated with isolating viruses from food and the need for other types of evidence, including solid descriptive and analytical epidemiology and rigorous trace-back investigations, were highlighted during this investigation. The investigation also served as a reminder of the need for global approaches to surveillance of foodborne illnesses and monitoring of food contamination and sharing of surveillance data and alerts between sectors and countries. It can be anticipated that similar international outbreaks will continue to occur in the future, thus necessitating strong international and intersectoral collaboration in the rapid identification, effective management and prevention of such risks.

3.3 Non-Emergency activities

The INFOSAN Secretariat at WHO and the INFOSAN Focal Points at FAO seek to ensure integration of the Network with other programmes in FAO and WHO, so that opportunities can be promoted for collaborative partnerships, information sharing and the strengthening of food safety systems.

I. INFOSAN Information Notes

Since 2004, INFOSAN has published 35 INFOSAN Information Notes on a broad range of food safety topics (i.e. approximately 5–7 Notes published each year). All INFOSAN Information Notes are published in Arabic, Chinese, English, French, Spanish and Russian and made publicly available online on the WHO Food Safety Website*. INFOSAN Information Notes are designed to provide concise information in a standardized format that is easy to read and which assimilates the science on new issues, reports on events of interest, or informs members of initiatives that may be of relevance. In addition, INFOSAN Information Notes have been utilized by Network members to share more broadly their collective experiences, including lessons learnt and best practices adopted.

II. Dissemination of FAO/WHO technical guidance on food safety emergency identification, assessment and management

FAO/WHO guidance is produced on a variety of topics of interest and use to INFOSAN members. Thus the secretariat disseminates technical guidance to members via the INFOSAN list serves. For example, a document, *Framework for the Development of National Food Safety Emergency Response Plans (11)* has recently been produced by FAO and WHO. This outlines what needs to be documented to ensure a multidisciplinary/multi-agency approach to food safety emergency response. It also includes a description of how events should be reported to INFOSAN when required. Further guidance on the topics of rapid risk analysis, food recall systems and traceability are planned.

III. Contributing to FAO/WHO capacity building activities

Training on the function and purpose of INFOSAN has been included in training courses conducted through the Global Foodborne Infections Network (GFN). In these courses, national microbiologists and epidemiologists from the public health, veterinary and food sectors are trained in laboratory methods for isolating and identifying foodborne pathogens, as well as for foodborne disease surveillance and outbreak response. INFOSAN is introduced in these courses as a mechanism through which findings of investigations and strategies for improving food safety may be shared.

IV. Gathering data on emergent food safety issues








INFOSAN has been used to gather information rapidly from national governments on emerging food safety and related issues. For example, in April 2008 a survey on the impact of the sharp price increase of basic food commodities around the world, known as the “food-price crisis,” was undertaken by the INFOSAN Secretariat. As part of this survey, INFOSAN members were asked to liaise with nutrition counterparts to provide a coordinated national response. Information requested included an assessment of national nutrition systems and data on the nutritional status of children aged under five years, micronutrient deficiencies, and food poisoning with a possible link to the food crisis. Information collected from such data-gathering activities can be used to direct further support from WHO/FAO as well as other partners and agencies.

*The INFOSAN Information Note archive is available at: http://www.who.int/foodsafety/fs_management/infosan_archives/en/index.html

V. **Building collaborative partnerships**

To best meet INFOSAN's goals of disseminating food safety information to various stakeholders in the food chain continuum and improving national and international collaboration, partnerships with other networks, initiatives and agencies have been established (Table 1). These partnerships enable the efficient exchange of incident and emergency information and support the establishment of one global system for the exchange of information during international food contamination and foodborne disease events of international concern.

Table 1.
INFOSAN collaborative partnerships

<p>Global Early Warning System for Major Animal Diseases, including Zoonoses (GLEWS)</p> <p>To promote seamless action through the food chain continuum, INFOSAN and the Global Early Warning System for Major Animal Diseases, including Zoonoses (GLEWS) work together closely. GLEWS is a confidential early warning network of WHO, FAO, and the World Organisation for Animal Health (OIE) to track, verify, and analyse transboundary zoonotic diseases. This network brings together the expertise of three different organizations to maximize the prevention and control of zoonotic diseases.</p>	
<p>World Organisation for Animal Health (OIE)</p> <p>OIE assists in the peer review of INFOSAN Information Notes and disseminates relevant INFOSAN Information Notes to their national delegates to help ensure such information is made available to all sectors involved in food production. Currently, INFOSAN Emergency shares relevant information with OIE via GLEWS, leaving further dissemination the responsibility of national OIE delegates.</p>	
<p>Global Foodborne Infections Network (GFN)</p> <p>GFN, previously called Global Salm-Surv (GSS), is a capacity-building programme that promotes integrated, laboratory-based surveillance and intersectoral collaboration among human health, veterinary, and food-related disciplines. INFOSAN has been integrated into GFN training activities in order to provide participants with training on the operation of INFOSAN and its function. In addition, relevant INFOSAN Information Notes are disseminated through the GFN network.</p>	
<p>European Union – Rapid Alert System for Food and Feed (RASFF)</p> <p>RASFF provides information on food and feed contamination detected by EU Member States. Information is shared with INFOSAN when countries outside the EU may be involved as an importer or exporter.</p>	
<p>EMPRES Food Safety</p> <p>The principal aim of EMPRES Food Safety is to prevent and control food safety risk. Central to this is the early detection, early warning and rapid response to food safety emergencies at global, regional and local levels. INFOSAN provides a key component of the early warning function for EMPRES Food Safety.</p>	
<p>WHO's Global Outbreak Alert and Response Network</p> <p>INFOSAN Emergency works with WHO's Global Outbreak Alert and Response Network (GOARN) when a coordinated response is needed to contain a foodborne disease outbreak. GOARN ensures that appropriate technical assistance, including field teams of experts, reaches the affected Member States rapidly.</p>	
<p>PulseNet International</p> <p>PulseNet International is a network which builds capacity for the molecular surveillance of foodborne disease, outbreak detection, and response. Information generated by PulseNet can be critical in linking international outbreaks of concern to INFOSAN members.</p>	

Box 3.

INFOSAN in literature

In March 2010, the INFOSAN Secretariat carried out a literature review in order to: 1) determine how INFOSAN was being discussed and referenced in scholarly literature; and 2) quantify the proportion of different INFOSAN information products being referenced. Using several online databases, the term "INFOSAN" was searched and the articles reviewed. Articles sourced included those written in English that were either publicly available or accessible via a WHO subscription. The outcome of the literature review is as follows:

- A total of 48 peer-reviewed articles published between 2005 and 2010 were identified through the aforementioned methods.
- 21/48 (44%) of the articles described the function of INFOSAN in some way (some very briefly), while the remaining 27/48 (56%) used an INFOSAN information product only as a reference to provide support for their paper.
- 22/48 (46%) of the articles referenced 1 of 10 different INFOSAN Information Notes; 5/48 (10%) referenced an unspecified page from the INFOSAN website; 6/48 (13%) referenced the *Melamine-contamination event, China, 2008* page from the INFOSAN website; 4/48 (8%) referenced the WHO Report of the *Expert meeting to review toxicological aspects of melamine and cyanuric acid*; 3/48 (6%) referenced a conference room document from the *Second FAO/WHO Global Forum for Food Safety Regulators*; 1/48 (2%) referenced an INFOSAN Information Request; and 7/48 (15%) of the articles did not provide a reference for their INFOSAN discussion.
- An individual affiliated with WHO was listed as an author for 6/48 (13%) of the articles.

These results suggest that INFOSAN, and INFOSAN Information Notes in particular, provide the international community with valuable food safety information.

4. Challenges

INFOSAN has successfully demonstrated its use through efforts to facilitate the sharing of food safety information and promote cross-sectoral collaboration to reduce foodborne illness. At the same time, the Network continues to grow and evolve, and as such continues to face challenges such as those outlined below:

I. Keeping contact information for INFOSAN members up to date

When a Focal Point or Emergency Contact Point for a given country is no longer the appropriate contact person within their respective food safety authority — for example due to retirement, job change, etc. — the INFOSAN Secretariat needs to be informed immediately so that new members can be designated. When such notification does not occur, gaps are created in information sharing during food safety events.

II. Enhancing response times to INFOSAN information requests

Communication exchange between the INFOSAN Secretariat and Network members needs to occur rapidly during verification steps and follow-up activities related to food safety events. Delayed responses can result in delayed interventions, thus potentially prolonging the time a contaminated food remains on the market. If a designated Emergency Contact Point cannot be reached and alternative contact details have not been provided, further delays can result.

III. Providing clarification to members on the reporting of food safety incidents

Many factors may determine whether or not countries choose to report food safety events, including trade implications and issues pertaining to confidentiality. There is a need to build capacity for assessing food safety events and to ensure a consistent understanding of how information will be used as well as emphasizing the benefits of early sharing with the international community through a closed network.

IV. Supporting communication within the Network

In many instances, in-country INFOSAN networks (i.e. between Emergency Contact Points and Focal Points) have not yet been developed. Encouraging frequent communication between agencies involved in food safety at the national level would help foster stronger links within the INFOSAN community.

V. Utilization of the INFOSAN Secure Website

In addition to providing a secure online repository for Emergency Alerts, the INFOSAN Secure Website is meant to be used as a forum for facilitating collaboration between members of INFOSAN and allowing sharing of experiences relating to food safety issues. At present, the current user-interface has not proved conducive to online collaboration among members.

VI. Human resources

In order to better conduct some of the key functions of INFOSAN, such as the identification and verification of events and the maintenance of an up-to-date list of members, additional human resources are needed within the Secretariat. Currently there is only one full-time staff member working on INFOSAN at WHO. At FAO, two staff members contribute approximately 25% of their time to INFOSAN activities. Secondees, consultants and interns often assist, but sustainable staffing is required to ensure consistent support.

5. Future directions

Continual strengthening of response activities

- Timely reporting of potential food safety events will be encouraged, even when not all aspects are fully understood. This is to enhance the earlier identification of possibly-related food safety events and assist in the understanding, assessment and management of such events.

Fostering effective communication between Network members

- Strengthening of direct communication between INFOSAN Member countries will be emphasized.
- Stronger links between INFOSAN contacts and focal points for other key networks — for example IHR Focal Points — will be encouraged within countries.

Building strategic partnerships

- Further opportunities for the development of interfaces between INFOSAN and other networks and systems involved in the detection of food contamination and the surveillance of foodborne disease will be identified.
- Event-based surveillance for food safety events of international importance will be improved through enhanced methods of information-scanning and strategic partnerships with other networks.
- The international profile of INFOSAN will be enhanced through active participation in regional workshops.

Capacity and community building

- Training modules will be developed to improve the response capacity of INFOSAN Emergency Contact Points and the ability to undertake rapid risk assessments. A database of risk assessments could serve as a future resource.
- Guidance and training materials on national food safety emergency response planning will be disseminated to the Network, and national and regional training workshops conducted in collaboration with other WHO and FAO programmes.
- Tools and approaches for improved foodborne illness outbreak investigation will be shared among Network members.

Improved secure information-sharing platform

- A new secure website with user-friendly navigation will be launched to share INFOSAN Emergency Alerts and other information with the Network, and improve online collaboration among members.



For more information, please visit our website, or send an email to INFOSAN@who.int

http://www.who.int/foodsafety/fs_management/infosan/en/

Conclusion

In overview, since its inception in 2004, it is evident that INFOSAN has progressed significantly, thanks to the contribution of its many active members and donors. To continue this forward momentum and overcome the identified challenges, it is essential that established partnerships remain strong, and that future collaborations flourish. Mitigating the global burden of foodborne illness resulting from food contamination events is a task that cannot be carried out in isolation. By actively participating in INFOSAN, members can continue to contribute to the timely response to food safety events and strengthen collective global food safety systems to ensure safer food for everyone.

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