



INTERNATIONAL FOOD SAFETY AUTHORITIES NETWORK (INFOSAN)

INFOSAN ACTIVITY REPORT



2011

2012



World Health
Organization



Food and Agriculture
Organization of the
United Nations



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FOREWORD

The global nature and growing complexity of the food chain means that risks posed by unsafe foods have the potential to quickly evolve from a local problem to an international incident at an increasingly rapid pace. Ensuring food safety is therefore an important component to consider in the broader context of achieving public health security around the world.

While international trade of foods brings many benefits to consumers and contributes significantly to economic development, new challenges are constantly presented to food safety authorities around the world. Experience in the recent past demonstrates that with the increased volume of foods traded globally, comes an increased risk of the spread of foodborne pathogens and contaminants across national borders. This necessitates more efficient sharing of food safety information among national food safety authorities from different countries.

The need to build closer links among food safety authorities internationally is well recognized by FAO and WHO. Since 2004, the International Food Safety Authorities Network (INFOSAN) has provided an important platform for the rapid exchange of information in the case of food safety crises and for sharing data on both recurrent and emerging food safety issues.

It is therefore imperative that we continue to work towards strengthening INFOSAN through active participation and exchange of information during international food safety emergencies.

2011 and 2012 have seen several large-scale food safety events including the outbreak of Enterohemorrhagic E. coli (EHEC) in Germany linked to internationally-distributed sprouted seeds, as well as the food safety concerns that arose after an earthquake and tsunami damaged a nuclear facility in Japan. During these events and many others, we were all reminded of how interconnected our food supply is. At the same time, swift action among INFOSAN members facilitated sharing of information to inform risk management decisions around the globe, ensuring food safety and protecting public health.

When faced with an urgent issue, the ability to draw on the experiences of others is a major asset. With the launch of the new INFOSAN Community Website in 2012, communicating with food safety experts from around the world has never been easier.

Through our collaborative efforts and enhanced participation in INFOSAN we will be able to safeguard our global food supply. We can do it – but only if we continue to work together.



Ren Wang
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Nations



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Director
Department of Food Safety and
Zoonoses
World Health Organization

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Acronyms

AFRO	WHO Regional Office for Africa
AMRO	WHO Regional Office for the Americas
APEC	Asia-Pacific Economic Cooperation
CAC	Codex Alimentarius Commission
DRC	Democratic Republic of the Congo
ECDC	European Centre for Disease Prevention and Control
EFSA	European Food Safety Authority
EMPRES	Emergency Prevention System Food Safety
EMRO	WHO Regional Office for the Eastern Mediterranean
EURO	WHO Regional Office for Europe
EWRS	Early Warning and Response System
FAO	Food and Agriculture Organization of the United Nations
FOS	Department of Food Safety and Zoonoses
FSCF	Food Safety Cooperation Forum
GFN	Global Foodborne Infections Network
GLEWS	Global Early Warning System for Major Animal Diseases, including Zoonoses
GOARN	Global Outbreak Alert and Response Network
Hong Kong SAR	Hong Kong Special Administrative Region
HQ	Headquarters
IHR	International Health Regulations
INFOSAN	International Food Safety Authorities Network
Lao PDR	Lao People's Democratic Republic
OIE	World Organisation for Animal Health
RASFF	Rapid Alert System for Food and Feed
SEARO	WHO Regional Office for South-East Asia
UAE	United Arab Emirates
UK	United Kingdom (the)
USA	United States of America (the)
WHO	World Health Organization
WPRO	WHO Regional Office for the Western Pacific

Executive Summary

INFOSAN 2011 – 2012

To date, 181 Member States¹ (plus 10 Associate Member States, areas or territories) have joined INFOSAN since the launch of the Network in 2004. With 194 Member States belonging to WHO and FAO in total, the INFOSAN Secretariat will continue to encourage Member States to join INFOSAN until Emergency Contact Points and Focal Points have been designated in each. While the process to designate INFOSAN members at the national level is important, active participation of designated members through registration on the INFOSAN Community Website is vital.

The INFOSAN Community Website, launched in 2012, is the new online platform which provides a secure forum for exchanging important information related to food safety emergencies, routine surveillance data, lessons learned from outbreaks of foodborne illness, etc. It is also used by the INFOSAN Secretariat to disseminate INFOSAN Alerts during food safety emergencies of potential international concern. Those members who have not yet registered on the website will continue to be encouraged to do so.

Data from the online registration form has been used to compile summary statistics about which sectors are represented and in what proportions by INFOSAN members. To date, the majority (41% of INFOSAN Emergency Contact Points and 32% of INFOSAN Focal Points) report being based in an authority responsible for food safety, followed by health (32% of INFOSAN Emergency Contact Points and 27% of INFOSAN Focal Points). Many members also report being based in an authority with overlapping responsibilities covering food safety, human health, agriculture, etc. With the recent extension of invitations to the World Organisation for Animal Health (OIE) National Focal Points for Food Safety (from national veterinary authorities), it is expected that more members will join from the animal health sector in the future (19 OIE National Focal Points for Food Safety have joined INFOSAN to date).

During 2011 and 2012, efforts were made to increase collaborative partnerships with other international networks, initiatives and agencies including the European Commission's Rapid Alert System for Food and Feed (RASFF), for example. Strengthening collaboration at the national level between INFOSAN Emergency Contact Points and National Focal Points of the International Health Regulations was also focused on through targeted messages to network members.

Other non-emergency work conducted in 2011 and 2012 led to the dissemination of two new FAO/WHO guidance documents in the series produced to help national authorities prepare for and respond to food safety emergencies. These guides were on the topics of applying risk analysis principles during food safety emergencies and developing and improving national food recall systems. Other non-emergency work included holding the first regional INFOSAN meeting which took place in Asia in 2012.

¹ For the purpose of this report, the term Member State is used to refer to those countries that are members to either WHO or FAO; Not all WHO Member States are FAO members. WHO Member States are listed here: <http://www.who.int/countries/en/> and FAO members are listed here: <http://www.fao.org/legal/home/fao-members/en/>

EXECUTIVE SUMMARY

The outcome of this meeting is a regional strategy to enhance participation in INFOSAN among countries in Asia. The same model will be encouraged in additional regions in the future.

With respect to emergency activities, the INFOSAN Secretariat has facilitated international communication with INFOSAN members during 46 events in 2011 and 42 in 2012. Biological hazards were responsible for the largest number of INFOSAN events, and most commonly involved *Salmonella* spp. Events most commonly involved fruit & fruit products and meat & meat products and the average time that the INFOSAN Secretariat remained actively engaged with an event was 20 days. The majority of INFOSAN events in 2011 and 2012 involved Members States in Europe and the Americas, followed by the Western Pacific, South-East Asia, Eastern-Mediterranean, and Africa respectively.

INFOSAN is a member-driven network and requires active member participation in order to create and disseminate useful and timely output. Over the coming biennium, the INFOSAN Secretariat will continue moving forward to strengthen membership, improve communication during both routine and emergency activities, build strategic partnerships, publish timely technical information including INFOSAN Information Notes, and enhance the role of the INFOSAN Advisory Group.

By collaborating through INFOSAN, countries around the globe will continue to benefit from their combined efforts, improving food safety, protecting public health, and saving lives.

Introduction

The International Food Safety Authorities Network (INFOSAN) has been connecting national authorities from around the globe since 2004, with the goal of preventing the international spread of contaminated food and foodborne disease and strengthening food safety systems globally. This is done by:

- 1) Promoting the rapid exchange of information during food safety events;
- 2) Sharing information on important food safety issues of global interest;
- 3) Promoting partnership and collaboration between countries; and
- 4) Helping countries strengthen their capacity to manage food safety risks.

Since its inception, the INFOSAN Secretariat has facilitated international communication with members during hundreds of food safety events, including 46 in 2011 and 42 in 2012.

INFOSAN benefits its members in a number of ways by:

- providing alerts about food safety risks and hazards;
- identifying food contamination sources;
- linking members to knowledge and resources via the INFOSAN Community Website;
- enabling communication and access to food safety authorities in other countries;
- disseminating food recall information during food safety events;
- implementing and developing guidance based on best practice and protocols; and
- protecting consumer safety.

Members benefit INFOSAN in that:

- active participation creates a rich pool of resources for others to utilize;
- information and data sharing facilitates international response to food safety events;
- contributions to science are made by publishing, sharing and disseminating new knowledge;
- identification of emerging risks may be of international importance; and
- capacity building among members and within one's organization contributes to the overall strengthening of the Network.

This INFOSAN Activity Report provides an overview of the major events, activities, and information products relating to INFOSAN for the period between 2011 and 2012. The report highlights some of our great achievements from the past 2 years, as well as challenges to overcome and areas for improvement. INFOSAN is truly a member-driven network and in order to reach its full potential, a united and sustained effort on behalf of all INFOSAN members must be made.

Network Membership

OVERVIEW

Membership to INFOSAN is voluntary, but is restricted to representatives from national and regional government authorities and requires an official letter of designation. INFOSAN seeks to reflect the multidisciplinary nature of food safety and promote intersectoral collaboration by requesting the designation of Focal Points in each of the respective national authorities with a stake in food safety, and a single Emergency Contact Point in the national authority with the responsibility for coordinating national food safety emergencies; countries choosing to be members of INFOSAN are committed to

sharing information between their respective food safety authorities and other INFOSAN members.

Figure 1 above provides an example of INFOSAN structure at national level with designation of a single Emergency Contact Point in the national food safety authority, and several Focal Points in other national authorities with a stake in food safety.

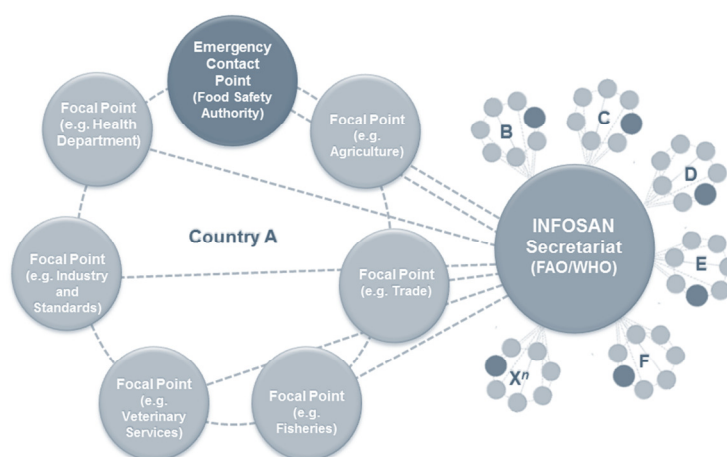
The operational definition of a food safety authority includes those authorities involved in: food policy; risk assessment; food control and management; food inspection services; foodborne disease surveillance and response; laboratory services for monitoring and surveillance of foods and foodborne diseases; and food safety information, education and communication across the farm-to-table continuum.

Membership to INFOSAN has grown steadily since the launch in 2004 and to date, 181 Member States have joined. With 194 Member States belonging to the WHO and FAO in total, the INFOSAN Secretariat will continue to encourage Member States to join INFOSAN until Emergency Contact Points and Focal Points have been identified in each. Some other associate Member States, areas, and territories (10) have also designated INFOSAN members and decisions to do so have been coordinated with the associated Member States (for example, an Emergency Contact Point and Focal Points have been designated in Anguilla, an overseas territory of the United Kingdom).

GEOGRAPHICAL DISTRIBUTION OF MEMBERSHIP AND REPRESENTATION BY SECTOR

Although the INFOSAN Secretariat maintains a list of all INFOSAN members, in order to fully engage as an active INFOSAN member, registration on the INFOSAN Community Website is required (the INFOSAN Community Website is described on page 19 of this report in the section titled, *Major New*

FIGURE 1 – EXAMPLE OF INFOSAN STRUCTURE AT NATIONAL LEVEL



NETWORK MEMBERSHIP

Initiatives). The following table (Table 1) shows the percentage of INFOSAN members by region² who have registered on the INFOSAN Community Website. Efforts will continue through the next biennium to ensure all INFOSAN members register as active members on the INFOSAN Community Website.

TABLE 1. INFOSAN MEMBERS REGISTERED ON THE INFOSAN COMMUNITY WEBSITE BY REGION

REGION	Number and Percentage of Member States/areas/territories with an INFOSAN Emergency Contact Point Registered on the INFOSAN Community Website	Number and Percentage of Member States/areas/territories with one or more INFOSAN Focal Points registered on the INFOSAN Community Website
Africa (AFRO)	8/46 (17%)	9/46 (20%)
The Americas (AMRO)	13/48 [†] (27%)	11/48 [†] (23%)
Eastern Mediterranean (EMRO)	7/23 [‡] (30%)	6/23 [‡] (26%)
Europe (EURO)	36/53 (68%)	21/53 (40%)
South-East Asia (SEARO)	6/11 (55%)	4/11 (36%)
Western Pacific (WPRO)	18/37 [§] (49%)	16/37 [§] (43%)
Global	88/218 (40%)	67/218 (31%)

[†] Including 35 Member States and 13 areas/territories

[‡] Including 22 Member States and the Occupied Palestinian Territory

[§] Including 27 Member States and 10 areas/territories

^{||} Including 194 Member States and 24 areas/territories

Using data submitted via the online registration form for the INFOSAN Community Website, information for 109 INFOSAN Emergency Contact Points (from 85 Member States and 3 areas/territories) and 106 INFOSAN Focal Points (from 64 Member States and 3 areas/territories) indicates the following:

Among INFOSAN Emergency Contact Points, 41% report being based in an authority responsible for food safety, 34% in an authority responsible for health, 1% in an authority responsible for agriculture, and 2% in “other” authorities³. Twenty-three percent report being based in an authority related to a combination of human health, food safety, and agriculture. Fourteen countries have designated more than one INFOSAN Emergency Contact Point for specific operational reasons.

Among INFOSAN Focal Points, 32% report being based in an authority responsible for food safety, 27% in an authority responsible for health, 10% in an authority responsible for agriculture, 2% in an authority responsible for commerce, and 6% in “other” authorities. Twenty-three percent report being based in an authority related to a combination of food safety, health, agriculture, trade & commerce, or

²For the purpose of this report, regional divisions of Member States/areas/territories are based on coverage provided by the 6 WHO regional offices. For more information: <http://www.who.int/about/regions/en/index.html>

³Those INFOSAN members reporting the “other” category are from authorities dealing with nutrition, regulatory affairs, economics & public policy, veterinary quarantine and inspection & certification.

NETWORK MEMBERSHIP

“other”. Forty-nine Member States have designated 1 INFOSAN Focal Point, 11 Member States have designated 2 INFOSAN Focal Points, and 7 Member States designated 3 or more to a maximum of 8.

EXPANSION OF INFOSAN MEMBERSHIP

In a major effort to further strengthen cross-sectoral coordination and cooperation at national and global levels, the INFOSAN Secretariat has worked with the World Organisation for Animal Health (OIE) over the past year by inviting OIE National Focal Points for Food Safety (from national veterinary authorities) to extend INFOSAN membership to cover the whole range of food safety issues from farm-to-table. Nineteen Member States have designated the respective OIE National Focal Point for Food Safety as an INFOSAN Focal Point. Remaining OIE National Focal Points for Food Safety are welcomed and encouraged to join the Network.

ROLES AND RESPONSIBILITIES OF NETWORK MEMBERS

INFOSAN EMERGENCY CONTACT POINTS

- Report urgent food safety events of potential international significance to the INFOSAN Secretariat
- Respond to the request for assistance by the INFOSAN Secretariat in the verification and assessment of events by providing all necessary information, and review INFOSAN Alert messages pertaining to an event in their country
- Request international assistance through the INFOSAN Secretariat to respond to a food safety event or emergency, as necessary
- Take action on INFOSAN Alerts and disseminate information accordingly
- Collaborate with their National IHR Focal Point on food safety events that fall under the International Health Regulations (IHR (2005))
- Carry out additional functions outlined for Focal Points within their agency

INFOSAN FOCAL POINTS

- Collaborate with and provide technical support to the INFOSAN Emergency Contact Point on food safety events and emergencies involving their respective agency
- Engage in sharing information with the INFOSAN Secretariat and other members on food safety issues that may be relevant at the international level and beneficial to all members, such as, but not limited to: risk assessments on emerging hazards, lessons learnt, identified good practices, etc.
- Disseminate INFOSAN Information Notes, FAO/WHO guidelines, and other important food safety information received from INFOSAN within their agency, as appropriate
- Provide comments to INFOSAN Secretariat on information products disseminated to the Network
- Collaborate with their National IHR Focal Points on food safety events that fall under the IHR

NETWORK MEMBERSHIP

WHO REGIONAL FOOD SAFETY ADVISORS

WHO Regional Food Safety Advisors work in one of the 6 WHO regional offices and have the responsibility of providing technical support and guidance regarding food safety to Member States/areas/territories within their respective region. Regional Food Safety Advisors can aid in INFOSAN activities by reporting food safety events to the INFOSAN Secretariat and obtaining information from INFOSAN members. They also liaise with WHO Country Office staff who may become involved during INFOSAN events when challenges in obtaining information arise due to circumstances such as language barriers, for example.

FAO REGIONAL FOOD SAFETY OFFICERS

FAO Food Safety Officers work in one of the 5 FAO regional offices and have the responsibility of providing technical support and guidance regarding food safety to Member States/areas/territories within their respective region. Regional Food Safety Officers can aid in INFOSAN activities by reporting food safety events to the INFOSAN Secretariat and obtaining information from INFOSAN members. They also liaise with FAO Country Office staff who may become involved during INFOSAN events when challenges in obtaining information arise.

INFOSAN ADVISORY GROUP MEMBERS

The INFOSAN Advisory Group consists 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: 1) Advise the Secretariat on effective ways to interact with Member States; 2) Review current operations and recommend ways of improving the functioning of the Network; 3) Provide input on the INFOSAN strategic plan and workplan; and 4) Engage in strengthening the Network through advocacy and fundraising.

INFOSAN MANAGEMENT

INFOSAN is 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 WHO Secretariat and FAO 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 Information Notes and other information products, and linking INFOSAN to other programmes within FAO and WHO. Coordination of INFOSAN emergency activities is conducted principally by WHO, in close communication with FAO. When response is required, both organizations work together to exercise their respective expertise in public health and food production systems.

INFOSAN Activities

ROUTINE ACTIVITIES

I. DISSEMINATION OF FAO/WHO TECHNICAL GUIDANCE ON FOOD SAFETY EMERGENCY IDENTIFICATION, ASSESSMENT AND MANAGEMENT

In 2011 and 2012, the second and third guidance documents in a series of materials being developed by FAO and WHO to assist Member States prepare for food safety emergency identification, assessment and management were published⁴. Further guidance on the topic of establishing early warning and rapid alert systems is being planned by FAO and WHO. To date, publications in the series include:



FAO/WHO framework for developing national food safety emergency response plans (2010)



FAO/WHO guide for application of risk analysis during food safety emergencies (2011)



FAO/WHO guide for developing and improving national food recall systems (2012)

II. 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 safety 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. In 2011 and 2012, there were 16 training courses held with a total of 543 participants in 15 countries. In addition, regional meetings of food safety officials in Chile (2011), Panama (2012), and Bangkok (2012), have been held by FAO and WHO in cooperation with regional and national partners to build capacity related to food safety emergency prevention and response. INFOSAN was discussed in dedicated sessions during each of these regional meetings to improve understanding of the network and enhance participation.

⁴ All guidance documents are available online in English, French and Spanish:
http://www.who.int/foodsafety/fs_management/infosan/en/
<http://www.fao.org/food/food-safety-quality/empres-food-safety/emergency-prevention/en/>

III. GATHER DATA ON EMERGENT OR ONGOING FOOD SAFETY ISSUES

INFOSAN has been utilized to gather information rapidly from national governments on emerging or ongoing food safety issues. For example, following the earthquake and tsunami in 2011 which damaged a nuclear power plant in Japan, INFOSAN members were asked to provide monitoring data on food contamination by radionuclides to an expert committee led by WHO. The committee used the data to provide a preliminary estimate of radiation exposure to the public due to the release of radioactive material from March 2011 onwards. Subsequently, the data was used to inform the health risk assessment which estimates the potential public health impact so that future health needs can be anticipated and public health actions can be taken. Reports of the preliminary dose estimation⁵ and the health risk assessment⁶ are available online.

IV. BUILDING COLLABORATIVE PARTNERSHIPS

To best meet the INFOSAN 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 established⁷. These partnerships enable the efficient exchange of information and support the establishment of one global system for information exchange during international food contamination and foodborne disease events of international concern. In 2012, at a European Commission (EC)-led training course, National RASFF Contact Points were encouraged by the INFOSAN Secretariat to ensure appropriate communication to the INFOSAN Secretariat when food safety events involve third countries (i.e. countries outside of the European Union). National RASFF Contact Points are also INFOSAN members, and are normally also designated as the INFOSAN Emergency Contact Point. The EC RASFF team will update their “roles and responsibilities of members” document which details the RASFF interaction with INFOSAN to ensure this kind of information exchange is encouraged. Also in 2012, the INFOSAN Secretariat was invited to participate in a meeting of National RASFF Contact Points and other food safety officials outside of the EU, all bordering the Mediterranean Sea. The goal of the meeting was to explore ways to further promote the rapid exchange of information related to food safety issues and to strengthen the collaboration between Mediterranean countries and enhance their capacity to manage cross-border food safety issues. Because this regional grouping of countries involves those both within and outside of RASFF, it was recognized that INFOSAN, and specifically the INFOSAN Community Website, can be used as a tool to

⁵ http://www.who.int/ionizing_radiation/pub_meet/fukushima_dose_assessment/en/index.html

⁶ http://www.who.int/ionizing_radiation/pub_meet/fukushima_risk_assessment_2013/en/

⁷ i.e. Global Early Warning System for Major Animal Diseases including Zoonoses (GLEWS), World Organisation for Animal Health (OIE), Global Foodborne Infections Network (GFN), Rapid Alert System for Food and Feed (RASFF), Emergency Preparedness System for Food Safety (EMPRES), Global Outbreak Alert and Response Network (GOARN), Asia-Pacific Economic Cooperation (APEC) Food Safety Cooperation Forum (FSCF), and PulseNet International.

facilitate regional collaboration. Further developments and follow-up actions are expected with respect to both the RASFF and Mediterranean collaborations in the next biennium.

V. STRENGTHENING THE COLLABORATION WITH PARTNERS TO IMPLEMENT THE INTERNATIONAL HEALTH REGULATIONS 2005

Since 2007, Member States have been implementing the IHR (2005). This legally-binding agreement contributes to global public health security by providing a framework for coordinating the management of events that may constitute a public health emergency of international concern, and will improve the capacity of all countries to detect, assess, notify and respond to public health threats, including those linked to food. Each Member State has a designated National IHR Focal Point who is responsible for reporting public health emergencies of international concern to the WHO. Because INFOSAN Emergency Contact Points are uniquely positioned to acquire the details of food safety events of potential international concern, they have been encouraged to identify and communicate with their National IHR Focal Point in advance of emergency situations to ensure coordination during management and response activities; this includes reporting to WHO. At the national level, some countries have already developed agreements and/or protocols among national authorities to facilitate this kind of coordination, and an example template has been included in the new INFOSAN Members' Guide⁸, published in 2012.

2012 was also a key milestone for Member States implementing the IHR because it was the deadline to assess and report on the implementation of their surveillance and response capacities (including those for food safety). INFOSAN members were informed of this requirement and once again encouraged to collaborate with their respective National IHR Focal Point in order to provide input on the progress of capacities linked to food safety. More information about IHR is available online⁹.



"Using INFOSAN is a great way to network and share information on food safety, both in peacetime and in times of emergencies. The new Community Website is a real improvement and is designed to allow regional or special interest groups to set up networks and discussion groups for communicating data. A lot has been achieved since the network was first established and it is surprising to think that we will already be celebrating INFOSAN's 10th Anniversary next year."

*- Professor Alan Reilly
INFOSAN Emergency Contact Point, Ireland*

⁸ Available on the INFOSAN Community Website

⁹ <http://www.who.int/ihr/en/>

EMERGENCY ACTIVITIES

During 2011 and 2012, INFOSAN has been operational during numerous food safety events.

Involvement in a food safety event by the INFOSAN Secretariat can be described as follows:

- 1) Verification request – Following the receipt of information about a food safety event of potential international concern, additional details are requested from an INFOSAN Emergency Contact by the INFOSAN Secretariat.
- 2) Consultation – An INFOSAN member requests technical advice or information from the INFOSAN Secretariat regarding a food safety event or issue.
- 3) Coordination – The INFOSAN Secretariat actively obtains and disseminates information from INFOSAN members regarding a food safety event of international concern; this may or may not result in an INFOSAN Alert/Notice being posted on the INFOSAN Community Website.

I. INFOSAN EMERGENCY INVOLVEMENT IN 2011 AND 2012

In 2011, a total of 46 food safety events involved INFOSAN (Appendix A), including 14 verification requests, 7 consultations, and 25 coordination events. INFOSAN Alerts/Notices have been posted on the INFOSAN Community Website by the Secretariat for 8 of these events (see Figure 2). The average time that the INFOSAN Secretariat remained actively engaged with an event was 18 days, with the minimum being 1 day and the maximum being 151 days.

In 2012, a total of 42 food safety events involved INFOSAN (Appendix B), including 19 verification requests, 1 consultation, and 22 coordination events. INFOSAN Alerts/Notices have been posted on the INFOSAN Community Website by the Secretariat for 7 of these events (see Figure 2). The average time that the INFOSAN Secretariat remained actively engaged with an event was 21 days, with the minimum being 1 day and the maximum being 152 days.

INFOSAN events involving *Salmonella* spp. were most common in both 2011 (10) and 2012 (13). In 2011, these were followed by *C. botulinum* (7), *E. coli* (6), *Brucella* spp./*L. monocytogenes* (2) and other biological hazards (3); in 2012, events involving *Salmonella* spp. were followed by *C. botulinum* (4), *E. coli* (4), *L. monocytogenes* (2) and other biological hazards (7). Events involving heavy metals occurred most often out of all events involving chemical hazards, with 3 events in 2011 and 1 in 2012. Methanol and aflatoxins were implicated in 2 events each; methanol in 1 in 2011 and 1 in 2012, and aflatoxins in 2 in 2012.

The majority of INFOSAN events in 2011 and 2012 involved Members States in Europe and the Americas respectively, followed by the Western Pacific, South-East Asia, Eastern-Mediterranean, and Africa. Over the two-year period, biological hazards were responsible for the largest number of INFOSAN events (61), with fruit & fruit products (10) and meat & meat products (10) being most

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commonly implicated. In 2011 and 2012, most notifications of events were reported to the INFOSAN Secretariat by regional WHO colleagues in Europe. This was followed by WHO colleagues at headquarters, including those from departments responsible for Public Health and the Environment and Alert & Response Operations within the Health Security and Environment Cluster. Tables 2 – 7 provide an overview of INFOSAN events by region, food category, hazard and source of notification in 2011 and 2012.

Table 2. INFOSAN INVOLVEMENT BY REGION

REGION	2011; NUMBER OF EVENTS, N = 46*	2012; NUMBER OF EVENTS, N = 42**
Africa (AFRO)	2	2
Americas (AMRO)	22	19
Eastern Mediterranean (EMRO)	6	3
Europe (EURO)	21	27
South-East Asia (SEARO)	3	6
Western Pacific (WPRO)	17	19

* 18 events involved more than one region in 2011

** 19 events involved more than one region in 2012

Table 3. INFOSAN INVOLVEMENT BY FOOD CATEGORY IN 2011 and 2012

FOOD CATEGORY	2011; NUMBER OF EVENTS, N = 46	2012; NUMBER OF EVENTS, N = 42
Alcoholic beverages	2	1
Animal Feed	1	1
Cereals and cereal-based products	0	2
Composite food	4	0
Fats & oils of animal and vegetable origin	1	0
Fish and other seafood	3	4
Foods for infants and small children	1	2
Fruit and fruit products	7	5
Herbs, spices and condiments	3	3
Legumes and pulses	1	0
Meat and meat products	5	5
Milk and dairy products	3	6
Nuts and oilseeds	5	2
Products for special nutritional use	3	3
Snacks, desserts and other foods	0	1
Sugar and confectionary	1	2
Unknown	2	2
Vegetables and vegetable products	4	3

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Table 4. INFOSAN INVOLVEMENT BY HAZARD CATEGORY IN 2011 AND 2012

HAZARD	2011; NUMBER OF EVENTS, N = 46	2012; NUMBER OF EVENTS, N = 42
Biological	31	30
Chemical	14	11
Unknown	1	1

Table 5. INFOSAN INVOLVEMENT BY EVENTS INVOLVING BIOLOGICAL HAZARDS IN 2011 AND 2012

BIOLOGICAL HAZARD	2011; NUMBER OF EVENTS, N = 31	2012; NUMBER OF EVENTS, N = 30
African Swine Fever Virus	1	0
<i>Bacillus cereus</i>	0	1
<i>Brucella</i> spp.	2	1
<i>Clostridium botulinum</i>	7	4
<i>Cronobacter sakazakii</i>	1	1
<i>Cryptosporidium</i> spp.	0	1
<i>Escherichia coli</i>	6	4
Hepatitis A Virus	1	0
<i>Listeria monocytogenes</i>	2	2
Norovirus	0	1
<i>Salmonella</i> spp.	10	13
<i>Staphylococcus</i> spp.	0	1
<i>Vibrio parahaemolyticus</i>	1	0
>1 Hazard	0	1



"As the INFOSAN Emergency Contact Point in Ghana, the INFOSAN Secretariat has worked assiduously to inform me of the food safety alerts around the globe and the INFOSAN Community Website has been very helpful."

- Ms Maria Lovelace-Johnson
INFOSAN Emergency Contact Point, Ghana

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Table 6. INFOSAN INVOLVEMENT BY EVENTS INVOLVING CHEMICAL HAZARDS IN 2011 AND 2012

CHEMICAL HAZARD	2011; NUMBER OF EVENTS, N = 14	2012; NUMBER OF EVENTS, N = 11
1,3-dimethylamylamine	0	1
Aflatoxin	0	2
Carbamate	1	0
DEHP/DINP/DBP	1	0
Dioxin	1	0
Heavy metals	3*	1
Hydrocyanic acid	1	0
Isopropyl alcohol	1	0
Melamine	1	0
Methanol	1	1
Nitrates	1*	0
Nitrites	1	0
Paralytic Shellfish Toxin	0	1
Phthalates/polycyclic aromatic hydrocarbons	0	1
Radionuclides	1	0
Salt (not for human consumption)	0	1
Sodium nitrite	0	1
Sulfites	1	0
Sulphuric chemical	0	1
Undeclared allergens	1	1

* One event involved both heavy metals and nitrates

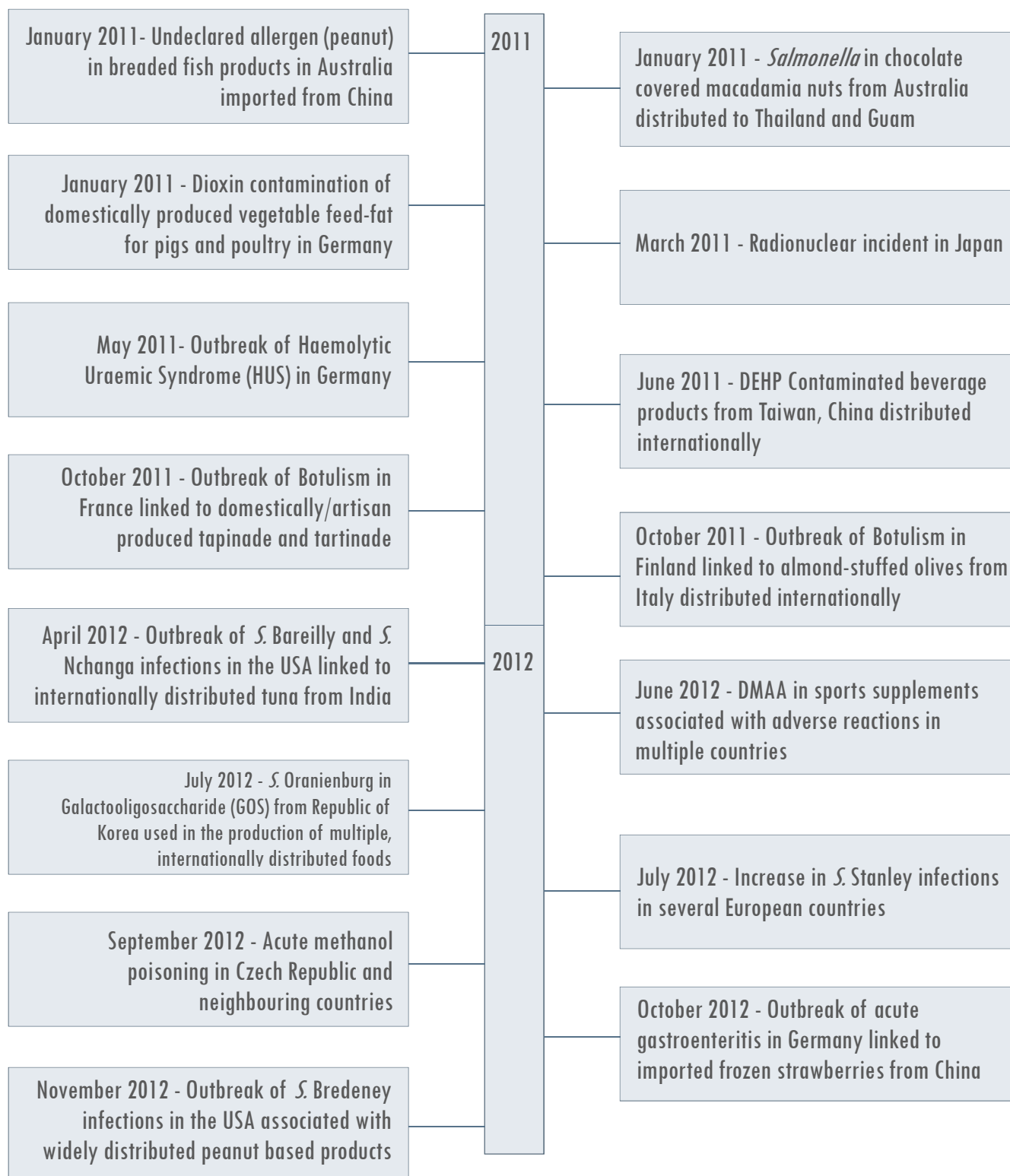
Table 7. SOURCE OF NOTIFICATION OF INFOSAN EVENTS IN 2011 and 2012

SOURCE OF NOTIFICATION	2011; NUMBER OF EVENTS, N = 46	2012; NUMBER OF EVENTS, N = 42
WHO European Regional Office (EURO)	17	11
WHO HQ Event-Based Surveillance*	9	11
Regional Food Safety Advisor (WPRO)	7	3
WHO Regional Office for the Americas (PAHO)	5	2
INFOSAN Emergency Contact Point	4	6
Regional Food Safety Advisor (PAHO)	2	1
European Commission (RASFF)	1	2
INFOSAN Focal Point	1	2
ECDC	0	2
Regional Food Safety Advisor (EURO)	0	2

*Includes surveillance activities conducted in different departments of the Health Security and Environment Cluster

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FIGURE 2 – INFOSAN ALERTS & NOTICES ON THE INFOSAN COMMUNITY WEBSITE IN 2011 & 2012



II. INFOSAN EVENT HIGHLIGHTS

Radionuclear Incident in Japan

In March 2011, a magnitude 9.0 earthquake struck the north-east coast of Japan. It was the most powerful earthquake in Japan's recorded history. The earthquake triggered a tsunami that devastated the coastal areas of Tohoku and southern Hokkaido and seriously damaged nuclear reactors in the earthquake area, particularly the Fukushima Daiichi complex, where there are six units. During the Japan nuclear crisis, WHO was working with independent experts and other UN agencies, including FAO and the International Atomic Energy Agency (IAEA). The work was supported by a global network comprising more than 40 specialized institutions in radiation emergency medicine. The network, called the Radiation Emergency Medical Preparedness and Assistance Network (REMPAN), provides technical assistance for radiation emergency preparedness and response. During the nuclear crisis, short-term actions included: daily monitoring of the situation via coordination with multiple partners in the WHO Western Pacific Regional Office, the WHO Country Office in Japan, etc; assessing the health risks (including those posed by radionuclide-contaminated food) through established mechanisms such as the IHR (2005) and consultation with other programs and relevant experts; articulation of health risk assessments and evidence-based recommendations; compilation of food monitoring results and dissemination of advice on public health measures through INFOSAN; and provision of technical support to national authorities for issues related to food, water, travel, transport, trade, mental health, etc. In addition to compiling and sharing all relevant information for INFOSAN members on the INFOSAN Community Website, the INFOSAN Secretariat published technical information and guidance for food safety authorities on the following topics:



Nuclear accidents and radioactive contamination of foods¹⁰



Impact on seafood safety of the nuclear accident in Japan¹¹

Outbreaks of *E. coli* O104:H4 in Germany and France linked to fenugreek sprouted seeds from Egypt

In May 2011, an unusually large foodborne disease outbreak caused by a novel strain of *E. coli* with characteristics resulting in more virulent behaviour than is normally observed was identified in Germany. The outbreak demonstrated high attack rate in female adults and a high rate of Hemolytic Uremic Syndrome (HUS) as a severe complication (~1 HUS case for 3-4 EHEC cases; typically only seen in 10% of cases of EHEC). Sixteen countries in Europe and North America reported more than 4000 cases and 51 deaths. The European Food Safety Authority (EFSA) led a traceback investigation which identified fenugreek seeds imported into Germany from Egypt as the most likely source. During the event, the

¹⁰ http://www.who.int/foodsafety/fs_management/radionuclides_and_food_300311.pdf

¹¹ http://www.who.int/foodsafety/impact_seafood_safety_nuclear_accident_japan_090511.pdf

INFOSAN Secretariat facilitated information exchange between the German authorities and INFOSAN members and aided in dispelling conflicting stories regarding the event which propagated in the media over the course of several weeks. The INFOSAN Secretariat also provided technical input to the traceback taskforce. In total, 4 INFOSAN Alerts were posted to the INFOSAN Community Website about this event, in addition to 2 INFOSAN Notices.

Outbreak of botulism in Finland linked to almond-stuffed olives from Italy with international distribution

In October 2011, the INFOSAN Secretariat was informed that certain olives stuffed with almonds from a manufacturer in Italy tested positive for botulinum toxin. The consumption of this product was linked to two cases of botulism in Finland. The Emergency Contact Point in Italy reported product distribution to 18 countries in 4 regions. The INFOSAN Secretariat obtained detailed product information from the INFOSAN Emergency Contact Point in Italy and ensured that each respective INFOSAN Emergency Contact in a recipient country obtained the information and had all necessary information to ensure the product was recalled from the market.

***S. Oranienburg* in galactooligosaccharide (GOS) from Republic of Korea used in the production of multiple, internationally distributed foods**

In July 2012, GOS (a type of sugar composed of galactose and glucose which has prebiotic characteristics) produced in the Republic of Korea tested positive for contamination with *S. Oranienburg* in the Netherlands and this information was communicated to the INFOSAN Secretariat. Upon further investigation, it was determined that the same product was used by a Belgian company to produce infant formula which was associated with an outbreak of *S. Oranienburg* infections among infants in Russia 6 months earlier. The Pulse Field Gel Electrophoresis (PFGE) profiles of the clinical isolates taken from cases in the Russian outbreak and the GOS sampled by the Dutch laboratory were determined to be indistinguishable. An INFOSAN Alert was posted to inform INFOSAN members that the implicated GOS and other products containing GOS were distributed internationally to 17 countries in 4 regions. GOS received in the USA also tested positive for *S. Oranienburg* and had the same PFGE profile as that identified in the Netherlands and Russia. The INFOSAN Secretariat worked closely with colleagues from the European Commission's RASFF as well as INFOSAN Emergency Contact Points from all affected countries to map out the complex distribution chain which involved numerous different products. By rapidly exchanging information through INFOSAN, national authorities were able to make informed risk management decisions, recall potentially contaminated products, and prevent additional cases of infection.

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Outbreak of acute gastroenteritis in Germany linked to imported frozen strawberries from China

In October 2012, German authorities reported more than 11,000 cases of acute gastroenteritis in children and adolescents since September 2012, and that Norovirus was detected in a significant proportion of cases. Epidemiologic studies by the Robert Koch Institute (serving the Federal Ministry of Health in Germany) were carried out in coordination with the competent authorities at the local and state levels, and suggested that frozen strawberries imported from China were the most likely cause of the outbreak. The INFOSAN Secretariat served as the liaison between the INFOSAN Emergency Contacts in Germany and China to facilitate information exchange regarding product distribution, laboratory findings and food safety investigations. The implicated product was reportedly also distributed to 8 countries in 3 regions and an INFOSAN Alert was posted to the INFOSAN Community Website due to the high number of cases and media attention garnered by this event.

MAJOR NEW INITIATIVES

I. THE NEW INFOSAN COMMUNITY WEBSITE

Developed in 2011 and launched in 2012, the new INFOSAN Community Website has been designed with the goal of allowing INFOSAN members to build and exchange knowledge related to food safety.

The website provides an interactive forum to strengthen the community of practice among INFOSAN members across sectors by sharing information, experiences and advice, and to ask questions to colleagues and provide mutual support. Through this process of sharing, INFOSAN members can learn from each other and develop professionally.



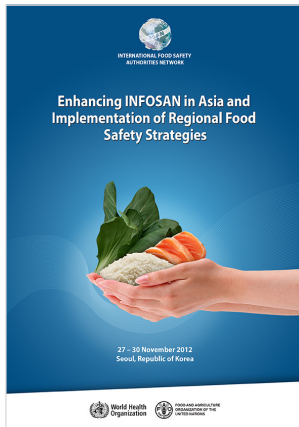
The website is a practical tool to facilitate rapid food safety information exchange around the globe and is used as the INFOSAN Secretariat's primary method for disseminating food safety information (i.e. INFOSAN Alerts and INFOSAN Notices) to INFOSAN members during emergencies. There are currently 259 users registered on the website. These users include INFOSAN Emergency Contact Points & Focal Points, in addition to WHO and FAO staff from the regional offices and headquarters. Various regional authorities, such as the ECDC, have also joined INFOSAN as Focal Points.



"INFOSAN Provides a fast and reliable source of information on food safety issues and updates from sources around the world as well as a great opportunity for direct contact between food safety authorities to discuss complex issues."

- Mr Abdo Tamish
INFOSAN Emergency Contact Point, Yemen

II. DEVELOPING REGIONALLY BASED STRATEGIES TO ENHANCE INFOSAN



One of the outcomes from the First Global Meeting of INFOSAN, held in 2010, was agreement among members to develop regionally based strategies to enhance participation in INFOSAN. Such regionally based strategies will address common issues faced by INFOSAN members within a particular region with the overall goal of strengthening the network globally.

In November 2012, the first regional INFOSAN meeting was hosted for Asian countries in Seoul, Republic of Korea. The main objective of the meeting was to draft a strategy for enhancing the participation of Asian countries in INFOSAN activities in order to: 1) Strengthen the network through unprompted and timely reporting of food safety events of international concern in Asia and increased sharing of information relating to managing such events; 2) Facilitate the identification of food safety events of international concern, through food safety information exchange in Asia; 3) Facilitate national food control system development in Asia through the sharing of information, experiences and best practices between countries; and 4) Improve the capacity of members to better fulfill their roles and responsibilities in the network.

This broad strategy will contribute to ensuring that all food safety events of international importance are identified and acted upon. It will also demonstrate the improved use of the network through a substantial increase in the exchange of information on relevant food safety events and assist members to cooperate and collaborate in addressing food safety incidents. The strategy will also help members gain a full understanding of their roles and responsibilities under the IHR (2005) and INFOSAN. In addition, it will enable regional exchange of experience and collaborative solutions to respond to national outbreaks as well as support for the prevention of sporadic foodborne diseases.

The INFOSAN Secretariat plans to engage other regions in the future and encourage them to develop similar regionally based strategies to enhance participation in INFOSAN.



"INFOSAN provides clear directions how to share information in easier ways between members of the global food safety community while successfully maintaining the active network of real people by keeping the list of emergency contact points/focal points up-to-date and reliable. This global network has greatly contributed to regional/global food safety taking various approaches, including strong support for regional activities such as a meeting titled 'Enhancing INFOSAN in Asia and Implementation of Regional Food Safety Strategies' held in Seoul last year. The newly upgraded community website will serve as a good web-based tool for timely and accurate information sharing between member countries."

- Dr Hyo-Min Lee
INFOSAN Emergency Contact Point, Republic of Korea

Raising the Profile of INFOSAN

INFOSAN IN THE SCHOLARLY LITERATURE

The INFOSAN Secretariat carried out a review of literature published in 2011 and 2012 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, such as Science Direct, PubMed and Entrez, the term "INFOSAN" was searched and the articles reviewed. Articles sourced included those written in English. The outcome of the literature review is as follows:

- A total of 36 peer-reviewed articles published between 2011 and 2012 were identified through the aforementioned methods.
- 13/36 (36%) of the articles described the function of INFOSAN in some way (some very briefly), while the remaining 23/36 (64%) used an INFOSAN information product only as a reference to provide support for their paper.
- 14/36 (39%) of the articles referenced 1 of 8 different INFOSAN Information Notes; 1/36 (3%) referenced an INFOSAN Alert; 1/36 (3%) referenced an information document posted on the INFOSAN community website; 8/36 (22%) referenced a page from the WHO Department of Food Safety website; and 12/36 (33%) of the articles did not provide a reference for their INFOSAN discussion.
- An individual affiliated with WHO was listed as an author for 4/36 (11%) of the articles.

These results suggest that information produced and shared through INFOSAN continues to provide the international community with valuable food safety information.

INFOSAN AT INTERNATIONAL CONFERENCES AND UNIVERSITY TRAINING COURSES

- 1) International Training Program in Food Safety, Quality Assurance and Risk Analysis (2011 and 2012), Ghent University, Belgium
 - Presentations were delivered to participants on the following topics: *international perspectives on food safety and the important role of INFOSAN; lessons learnt from large foodborne outbreak investigations; and risk analysis during food safety emergencies.*
- 2) Engaging Intergovernmental Organizations for Food Safety, Animal Health and Public Health (University of Minnesota) (2011 and 2012), World Health Organization, Geneva, Switzerland.
 - Presentations were delivered to participants on the topic of: *Cross-sectoral solutions for global food safety and the International Food Safety Authorities Network.*
- 3) International Association for Food Protection Conference (2012), Peter Gerner-Smidt, Centers for Disease Control and Prevention, Atlanta, GA.
 - Presentation was delivered to participants on the topic of: *How International Surveillance of Foodborne Infections is Performed: The Role of the WHO Global Foodborne Infections Network, PulseNet International, INFOSAN and IHR.*

CONCLUSION AND FUTURE DIRECTIONS

Conclusion and Future Directions

During 2011 and 2012, INFOSAN has demonstrated its utility through efforts to facilitate the sharing of food safety information and promote cross-sectoral collaboration to reduce foodborne illness. In addition, the Network is continuously growing and evolving, facing new challenges which require creative solutions and collaborative efforts. INFOSAN is a member-driven network and requires active member participation in order to create and disseminate meaningful and timely output to ensure safer food and protect public health.

Over the coming biennium, the INFOSAN Secretariat will continue moving forward with a focus on the following prioritized activities:

- Continue to strengthen the membership to ensure that the full range of INFOSAN Focal Points in addition to the Emergency Contact Point are designated and registered on the INFOSAN Community Website
 - Special efforts will be made in certain regions currently lagging behind to ensure designation of new members across all sectors and registration on the INFOSAN Community Website
- Improve communication among INFOSAN members
 - During both routine activities (i.e. sharing best practices and lessons learnt) and during emergencies (i.e. increased reporting of food safety events by INFOSAN members to the INFOSAN Secretariat); at both the national level and international levels
- Building strategic partnerships with other regional and international networks and partners
 - Follow-up on the action items from the regional meeting to enhance participation in Asia and extend the idea to develop similar strategies for other regions
 - Utilize existing surveillance tools and early warning systems to better identify potential threats to international food safety
- Publication of timely technical information (i.e. INFOSAN Information Notes, guidance documents to aid members in preparedness and response to food safety emergencies, etc.)
- Engage with partners for planning the second global meeting of INFOSAN (tentatively to be held in 2014, pending acquisition of funding and commitment from partners)
- Strengthen the role of the INFOSAN Advisory Group and recruit additional members to provide expert input and contribute to INFOSAN advocacy and fundraising initiatives



"INFOSAN has really proven itself these past few years by connecting food safety regulators from all parts of the world. The community website has grown into a useful and essential communication tool and Australia commends the INFOSAN Secretariat for being so responsive and helpful."

- Dr Barbara Butow
INFOSAN Emergency Contact Point, Australia

APPENDICES

Appendices

APPENDIX A – INFOSAN EVENTS 2011

	EVENT	DATE	INVOLVEMENT TYPE	REGION(S) INVOLVED	COUNTRY(IES) INVOLVED	HAZARD TYPE	SPECIFIC HAZARD	FOOD TYPE	SPECIFIC FOOD
1.	Dioxin contamination of vegetable feed-fat in Germany exported internationally	4/1/2011	Co-ordination	EURO	Germany, Netherlands, United Kingdom, Denmark, France	Chemical	Dioxin	Fats & oils of animal and vegetable origin	Poultry, pig, turkey, rabbit, duck, cow feed-fat
2.	African Swine Fever Virus in Russian pig products exported to Ukraine	5/1/2011	Verification request	EURO	Russia, Ukraine	Biological	African Swine Fever Virus	Meat and meat products	Pig products
3.	Lead contamination of “Toxic Waste Nuclear Sludge” candies from Pakistan exported internationally	14/1/2011	Co-ordination	AMRO, EMRO	Pakistan, USA, Canada	Chemical	Lead	Sugar and confectionary	“Toxic Waste Nuclear Sludge” chew bars
4.	Undeclared peanut allergen in breaded/battered fish from China exported internationally	27/1/2011	Co-ordination	AMRO, WPRO	Australia, China, USA, Canada	Chemical	Peanut (undeclared allergen)	Fish and other seafood	Breaded/battered frozen fish
5.	Outbreak of Salmonellosis in Japan linked to domestically-produced broccoli salad	17/2/2011	Verification request	WPRO	Japan	Biological	<i>Salmonella</i> Enteritidis	Vegetables and vegetable products	Broccoli salad
6.	Outbreak of <i>E. coli</i> O157:H7 infections in Canada (and USA) linked to imported hazelnuts from the USA	10/3/2011	Verification request	AMRO	Canada, USA	Biological	<i>Escherichia coli</i> O157:H7	Nuts and oilseeds	In-shell hazelnuts
7.	Radionuclear event in Japan following the earthquake and tsunami	15/3/2011	Co-ordination	WPRO	Japan	Chemical	Radionuclides	Composite food	Multiple meats, fish, dairy products, vegetables
8.	Outbreak of Salmonellosis in the USA linked to imported cantaloupes from Guatemala	25/3/2011	Verification request	AMRO	Guatemala, USA	Biological	<i>Salmonella</i> panama	Fruit and fruit products	Cantaloupe

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9.	Nitrite contamination of bulk milk produced in China identified in northwest China	8/4/2011	Verification request	WPRO	China	Chemical	Nitrite	Milk and dairy products	Milk
10.	Unknown contamination of Vitamin C supplement in Lao PDR resulting in two deaths	20/4/2011	Co-ordination	WPRO	Lao PDR	Unknown		Products for special nutritional use	Vitamin C supplements
11.	Outbreak of Brucellosis in Malaysia among travels from Singapore linked to unpasteurized goat's milk	26/4/2011	Consultation	WPRO	Malaysia, Singapore	Biological	<i>Brucella melitensis</i>	Milk and dairy products	Unpasteurized goat's milk
12.	Outbreak of <i>E. coli</i> O111 infections in Japan linked to domestic raw beef	6/5/2011	Consultation	WPRO	Japan	Biological	<i>Escherichia coli</i> O111	Meat and meat products	Yukhoe (raw beef)
13.	<i>Brucella</i> detected in Kazakhstan cattle	13/5/2011	Verification request	EURO	Kazakhstan	Biological	<i>Brucella</i> spp.	Meat and meat products	Cow products
14.	Outbreak of <i>E. coli</i> O104:H4 infections in Germany and France linked to fenugreek sprouts/seeds exported internationally	24/5/2011	Co-ordination	AMRO, EMRO, EURO	Austria, Canada, Czech Republic, Denmark, Egypt, France, Germany, Greece, Luxembourg, Netherlands, Norway, Poland, Spain, Sweden, Switzerland, United Kingdom, USA	Biological	<i>Escherichia coli</i> O104:H4	Legumes and pulses	Fenugreek sprouts
15.	DEHP, DINP, DBP- contaminated drinks and food additives produced in Taiwan, China exported internationally	26/5/2011	Co-ordination	AFRO, AMRO, EMRO, WPRO	China, Vietnam, Philippines, USA, Canada, UK, Germany, Argentina, Malaysia, New Zealand, Australia, Egypt, South Africa	Chemical	DEHP, DINP, DBP	Products for special nutritional use	Sport drinks, fruit juice, yogourt, probiotic powder
16.	Concern for levels of mercury, cadmium, and nitrate in seafood manufactured in Chile	1/7/2011	Consultation	AMRO	Chile	Chemical	Mercury, cadmium, nitrates	Fish and other seafood	Various fish and other seafood
17.	Outbreak of Salmonellosis on a cruise ship traveling from Amsterdam to various ports in Europe	6/7/2011	Consultation	EURO	Estonia, Finland, Denmark, Germany,	Biological	<i>Salmonella</i> Enteritidis	Unknown	
18.	<i>E. coli</i> contaminated avocados from the EU exported internationally	15/7/2011	Consultation	SEARO, EURO	Myanmar, Thailand	Biological	<i>Escherichia coli</i>	Fruit and fruit products	Avocados

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19.	Melamine contamination of dog treats produced in China exported internationally	18/7/2011	Verification request	WPRO, AMRO	China, Canada, USA	Chemical	Melamine	Animal Feed	Dog treats - chicken jerky
20.	Outbreak of Botulism in Denmark linked to tofu imported from the Netherlands	20/7/2011	Co-ordination	EURO	Netherlands, Denmark	Biological	<i>Clostridium botulinum</i>	Nuts and oilseeds	Tofu
21.	Outbreak of Salmonellosis in Canada & USA linked to papayas imported from Mexico	24/7/2011	Co-ordination	AMRO	Canada, USA, Mexico	Biological	<i>Salmonella Agona</i>	Fruit and fruit products	Papayas
22.	Outbreak of methanol poisoning from bootleg whiskey on a yacht in the Mediterranean	25/7/2011	Co-ordination	EURO	Turkey, Cyprus	Chemical	Methanol	Alcoholic beverages	Whiskey
23.	Outbreak of Salmonellosis among passengers on a flight from Tanzania to Ireland, linked to airline meal	28/7/2011	Co-ordination	EURO, AFRO	Ireland, Norway, UK, Netherlands, Tanzania	Biological	<i>Salmonella Heidelberg</i>	Composite food	Milk tart or egg (unknown)
24.	Outbreak of Botulism linked to domestic sausages or corn in Brazil	24/8/2011	Verification request	AMRO	Brazil	Biological	<i>Clostridium botulinum</i>	Composite food	Sausages or pickled corn (unknown)
25.	<i>E. coli</i> O157:H7 contamination of walnuts and snacks produced in the USA and exported to Canada	2/9/2011	Co-ordination	AMRO	Canada, USA	Biological	<i>Escherichia coli</i> O157:H7	Nuts and oilseeds	Walnuts & snacks
26.	Outbreak of Botulism in France linked to domestically produced tapenade	6/9/2011	Co-ordination	EURO	France	Biological	<i>Clostridium botulinum</i>	Herbs, spices and condiments	Olive & almond tapenade
27.	Mercury contamination of Bi Yan Pian supplement produced in China exported to Canada	9/9/2011	Consultation	AMRO, WPRO	Canada, China	Chemical	Mercury	Products for special nutritional use	Bi Yan Pian
28.	Outbreak of Listeriosis in the USA linked to cantaloupes and avocados imported from Peru	14/9/2011	Co-ordination	AMRO	USA, Peru	Biological	<i>Listeria monocytogenes</i>	Fruit and fruit products	Cantaloupes, avocados
29.	<i>Salmonella</i> contamination of Tahina produced in Lebanon exported internationally	26/9/2011	Co-ordination	AMRO, EMRO	Canada, USA, Lebanon	Biological	<i>Salmonella</i> spp.	Herbs, spices and condiments	Tahina

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30.	Outbreak of Botulism in Spain (among travels from Chile) linked to domestic artisanal olives	27/9/2011	Co-ordination	AMRO, EURO	Chile, Spain	Biological	<i>Clostridium botulinum</i>	Fruit and fruit products	Olives
31.	Outbreak of <i>Vibrio parahaemolyticus</i> infections linked to oysters harvested in the USA and exported internationally	28/9/2011	Verification request	AMRO, SEARO, WPRO	USA, China, Indonesia, Thailand, Taiwan (China)	Biological	<i>Vibrio parahaemolyticus</i>	Fish and other seafood	Oysters
32.	Outbreak of Salmonellosis in Europe linked to tomatoes imported from Italy	5/10/2011	Co-ordination	EURO	Austria, Denmark, Germany, Italy	Biological	<i>Salmonella</i> Strathcona	Vegetables and vegetable products	Tomatoes
33.	<i>Salmonella</i> contamination of chocolate macadamia nuts produced in Australia exported internationally	12/10/2011	Co-ordination	SEARO, WPRO	Australia, Guam, Thailand	Biological	<i>Salmonella</i> spp.	Nuts and oilseeds	Macadamia nuts
34.	Outbreak of <i>E. coli</i> O157 infections among international delegates who attended conference in Morocco	18/10/2011	Verification request	EMRO, EURO	Belgium, Germany, Finland, France, Greece, Italy, Ireland, Morocco, Netherlands, Norway, Poland, Portugal, Russia, Spain, Switzerland, UK	Biological	<i>Escherichia coli</i> O157	Unknown	
35.	Outbreak of Botulism in Finland linked to olives produced in Italy and exported internationally	21/10/2011	Co-ordination	AMRO, EMRO, EURO, WPRO	Italy, USA, UK, Finland, Armenia, Barbados, Brazil, China, Czech Republic, Denmark, France, Ireland, Japan, Netherlands, Russia, Saudi Arabia, Spain, Switzerland	Biological	<i>Clostridium botulinum</i>	Composite food	Almond-stuffed olives
36.	<i>Listeria</i> contamination of ham produced in Spain and exported to Colombia	21/10/2011	Verification request	AMRO, EURO	Colombia, Spain	Biological	<i>Listeria monocytogenes</i>	Meat and meat products	Ham
37.	Outbreak of Salmonellosis in the USA linked to pine nuts imported from Turkey	24/10/2011	Co-ordination	AMRO, EURO, WPRO	Australia, Italy, Turkey, USA	Biological	<i>Salmonella</i> Enteritidis	Nuts and oilseeds	Pine nuts
38.	Undeclared sulfites in dried dates produced in China exported to the USA	24/20/2011	Co-ordination	AMRO, WPRO	China, USA	Chemical	Sulfites	Fruit and fruit products	Dried dates

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39.	Outbreak of Botulism in Russia linked to homemade canned pickles	2/11/2011	Co-ordination	EURO	Russia	Biological	<i>Clostridium botulinum</i>	Vegetables and vegetable products	Homemade canned pickles
40.	Hydrocyanic acid poisoning in Australia linked to domestically produced raw apricot kernels	7/11/2011	Consultation	WPRO	Australia	Chemical	Hydrocyanic acid	Fruit and fruit products	Raw apricot kernels
41.	Outbreak of Botulism in the UK linked to domestically produced korma sauce in the UK and exported internationally	12/11/2011	Co-ordination	AMRO, EURO	Ireland, UK, USA	Biological	<i>Clostridium botulinum</i>	Herbs, spices and condiments	Korma Sauce
42.	Outbreak of Hepatitis A infections in the Netherlands and UK linked to sundried tomatoes	16/11/2011	Co-ordination	EURO	Netherlands, UK	Biological	Hepatitis A virus	Vegetables and vegetable products	Sundried tomatoes
43.	Isopropyl alcohol contamination of counterfeit vodka in the UK	21/11/2011	Verification request	EURO	UK	Chemical	Isopropyl alcohol	Alcoholic beverages	Vodka
44.	Outbreak of carbamate poisoning in China linked to domestically-produced milk beverage	1/12/2011	Verification request	WPRO	China	Chemical	Carbamate	Milk and dairy products	Pulpy Super Milky beverage
45.	Outbreak of Salmonellosis linked to dried sausages produced in France exported internationally	19/12/2011	Co-ordination	EURO	France, Poland, Slovenia, Portugal	Biological	<i>Salmonella enterica</i>	Meat and meat products	Dried pork sausages
46.	Outbreak of <i>Cronobacter sakazakii</i> infections in the USA linked to domestically produced powdered infant formula	24/12/2011	Verification request	AMRO	USA	Biological	<i>Cronobacter sakazakii</i>	Foods for infants and small children	Powdered baby formula

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APPENDIX B – INFOSAN EVENTS 2012

EVENT	DATE	INVOLVEMENT TYPE	REGION(S) INVOLVED	COUNTRY(IES) INVOLVED	HAZARD TYPE	SPECIFIC HAZARD	FOOD TYPE	SPECIFIC FOOD
1. Outbreak of Salmonellosis in Russia linked to infant formula produced in Belgium exported to Russia	16/1/2012	Co-ordination	EURO	Russia, Belgium	Biological	<i>Salmonella</i> Oranienburg	Foods for infants and small children	Dry milk infant formula
2. Outbreak of Salmonellosis in Europe linked to watermelons produced in Brazil and exported internationally	3/2/2012	Verification request	AMRO, EURO	Brazil, Germany, Ireland, UK	Biological	<i>Salmonella</i> Newport	Fruit and fruit products	Watermelon
3. Outbreak of Botulism in Brazil from domestically-produced sausages	28/2/2012	Verification request	AMRO	Brazil	Biological	<i>Clostridium botulinum</i>	Meat and meat products	Sausages
4. Aflatoxin contamination of ground nutmeg produced in Spain and exported internationally	2/3/2012	Verification request	AMRO, EURO, SEARO	Ecuador, Spain, Indonesia, Costa Rica, Netherlands	Chemical	Aflatoxin	Herbs, spices and condiments	Ground nutmeg
5. The sale of industrial salt as table salt in Poland	6/3/2012	Verification request	EURO	Poland	Chemical	Salt	Herbs, spices and condiments	Industrial-grade salt
6. Two deaths from sodium nitrite poisoning in Italy linked to domestically-produced mislabeled sorbitol sold over the internet	6/3/2012	Co-ordination	EURO	Italy, UK, Switzerland, Germany, France, Latvia, Belgium	Chemical	Sodium nitrite	Products for special nutritional use	Sorbitol
7. Polycyclic aromatic hydrocarbon, phthalate contamination of lollipops produced in Vietnam exported internationally	14/3/2012	Consultation	AFRO, WPRO	Vietnam, Malaysia, South Africa	Chemical	Phthalates, polycyclic aromatic hydrocarbons	Sugar and confectionary	Lollipops

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8.	<i>E. coli</i> contamination of ground beef produced in Canada and exported to the USA	18/3/2012	Verification request	AMRO	Canada, USA	Biological	<i>Escherichia coli</i> O157:H7	Meat and meat products	Ground beef
9.	Aflatoxin contamination of dried figs produced in Turkey and exported to Slovenia	21/3/2012	Verification request	EURO	Slovenia, Turkey	Chemical	Aflatoxin	Fruit and fruit products	Dried figs
10.	Outbreak of Salmonellosis in the USA linked to yellowfin tuna produced in India and exported internationally	22/3/2012	Co-ordination	AMRO, EURO, SEARO, WPRO	USA, India, Taiwan (China), Israel, France, Greece, Belgium	Biological	<i>Salmonella</i> Bareilly, <i>S. Nchanga</i>	Fish and other seafood	Yellowfin tuna
11.	<i>Cronobacter sakazakii</i> contamination of rice cereal produced in Israel and exported internationally	28/3/2012	Co-ordination	EURO	Cyprus, Israel, Russia	Biological	<i>Cronobacter sakazakii</i>	Cereals and cereal-based products	Rice cereal
12.	Undeclared almond, hazelnut and gluten in chocolate Easter eggs produced in Australia with raw materials from Spain	5/4/2012	Verification request	EURO, WPRO	Australia, Spain	Chemical	Almond, hazelnut, gluten (undeclared allergens)	Sugar and confectionary	Chocolate Easter eggs
13.	<i>Staphylococcus</i> contamination of gluten-free spaghetti produced in Italy and exported internationally	23/4/2012	Co-ordination	EURO	Austria, Italy, Slovenia	Biological	<i>Staphylococcus</i> spp.	Cereals and cereal-based products	Gluten-free spaghetti
14.	Outbreak of Botulism in Canada linked to domestically-produced Fesikh mullet fish	24/4/2012	Verification request	AMRO	Canada	Biological	<i>Clostridium botulinum</i>	Fish and other seafood	Fesikh mullet fish
15.	Outbreak of gastroenteritis in Turkey linked to domestically-produced milk	3/5/2012	Co-ordination	EURO	Turkey	Biological	Various saprophytic organisms	Milk and dairy products	Milk
16.	<i>Salmonella</i> contamination of spices produced in India and exported to Australia	3/5/2012	Verification request	SEARO, WPRO	Australia, India	Biological	<i>Salmonella</i> Anatum	Herbs, spices and condiments	Various; "Euro Spices"
17.	Outbreak of Salmonellosis in North America linked to contaminated dog food produced in China exported internationally	3/5/2012	Co-ordination	AMRO, WPRO	Canada, USA, Taiwan (China), Puerto Rico (USA)	Biological	<i>Salmonella</i> Infantis	Animal Feed	Dog food

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18.	Outbreak of gastroenteritis in Malaysia linked to domestically-produced milk	21/5/2012	Verification request	WPRO	Malaysia	Unknown		Milk and dairy products	(UHT) milk
19.	Outbreak of Salmonellosis linked to tempeh manufactured in Indonesia and exported internationally	21/5/2012	Co-ordination	AMRO, EURO, SEARO, WPRO	USA, Australia, Canada, New Zealand, Poland, Indonesia, Ireland, Slovenia, Croatia, Brunei Darussalam	Biological	<i>Salmonella</i> Paratyphi B	Nuts and oilseeds	Tempeh
20.	Outbreak of DMAA poisonings linked to sport supplements available internationally	19/6/2012	Co-ordination	AMRO, EURO WPRO	Australia, Canada, New Zealand, USA, Sweden	Chemical	1,3-dimethylamylamine	Products for special nutritional use	Sport drinks and powders
21.	Mercury contamination of infant formula milk produced in China	20/6/2012	Verification request	WPRO	China, Philippines	Chemical	Mercury	Foods for infants and small children	Baby formula milk
22.	Outbreak of Brucellosis in China linked to domestic infected cows	25/6/2012	Co-ordination	WPRO	China	Biological	<i>Brucella</i> spp.	Meat and meat products	Cows
23.	Outbreak of Salmonellosis in various countries linked to galactoligosaccharide powder produced in South Korea and distributed internationally*	12/7/2012	Co-ordination	AFRO, AMRO, EURO, WPRO	Republic of Korea, Netherlands, USA, New Zealand, Belgium, UK, Norway, France, China, Peru, Russia, Haiti, Burundi, Congo, DRC, Mozambique	Biological	<i>Salmonella</i> Oranienburg	Products for special nutritional use	Galactoligosaccharide powder
24.	Outbreak of Salmonellosis in the EU linked to turkey products produced in Austria	13/7/2012	Co-ordination	EURO	Austria, Belgium, Germany, Hungary, Poland, Slovakia, Italy, Greece, Sweden, UK, Czech Republic	Biological	<i>Salmonella</i> Stanley	Meat and meat products	Turkey products
25.	Outbreak of Botulism in the UK linked to olives imported from Italy	25/7/2012	Co-ordination	EURO	Italy, UK	Biological	<i>Clostridium botulinum</i>	Fruit and fruit products	Green olives
26.	Outbreak of Listeriosis in the USA linked to cheese imported from France	9/8/2012	Verification request	AMRO, EURO	France, USA	Biological	<i>Listeria monocytogenes</i>	Milk and dairy products	Cheese

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27.	Outbreak of Salmonellosis in Canada and the USA linked to mangoes produced in Mexico exported internationally	28/8/2012	Co-ordination	AMRO	Canada, Mexico, USA	Biological	<i>Salmonella</i> Braenderup	Fruit and fruit products	Mangoes
28.	Sulphuric chemical contamination of bamboo shoots manufactured in Vietnam	4/9/2012	Verification request	WPRO	Viet Nam	Chemical	Sulphuric chemical	Vegetables and vegetable products	Bamboo shoots
29.	Outbreak of methanol poisoning in the Czech Republic linked to domestically-produced bootleg alcohol	10/9/2012	Co-ordination	EURO	Czech Republic, Poland, Slovakia	Chemical	Methanol	Alcoholic beverages	Bootleg alcohol
30.	Outbreak of Salmonellosis in France linked to domestically-produced Saint Nectaire cheese	10/9/2012	Verification request	EURO	France	Biological	<i>Salmonella</i> Dublin	Milk and dairy products	Cheese
31.	Outbreak of Listeriosis in the USA linked to ricotta cheese produced in Italy exported internationally	12/9/2012	Co-ordination	AMRO, EMRO, EURO, WPRO	USA, Italy, Canada, Belgium, Australia, Mexico, Japan, Germany, Romania, France, Egypt, Netherlands	Biological	<i>Listeria monocytogenes</i>	Milk and dairy products	Ricotta cheese
32.	Outbreak of <i>E. coli</i> /O157:H7 infections in Canada linked to domestically-produced meats exported internationally	19/9/2012	Co-ordination	AMRO, EMRO, EURO, SEARO, WPRO	Canada, USA, Japan, China, Thailand, Egypt, Philippines, Russia, Suriname, Republic of Korea, Mexico	Biological	<i>Escherichia coli</i> O157:H7	Meat and meat products	Various meats
33.	Outbreak of Salmonellosis in the USA linked to domestically-produced peanut butter exported internationally	26/9/2012	Co-ordination	AMRO, EURO, WPRO	USA, Canada, Australia, France, Hong Kong SAR, (China), Ireland, Italy, Mexico, New Zealand, Norway, UK	Biological	<i>Salmonella</i> Bredeney	Snacks, desserts and other foods	Peanut butter
34.	Outbreak of Norovirus infections in Germany linked to frozen strawberries imported from China exported internationally	27/9/2012	Co-ordination	AMRO, EURO, WPRO	Germany, China, France, Poland, Denmark, Iceland, Russia, Canada, UK, Netherlands	Biological	<i>Norovirus</i>	Fruit and fruit products	Strawberries

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35. Outbreak of Salmonellosis in Canada and the USA linked to unknown source	28/9/2012	Co-ordination	AMRO, EURO	Canada, USA, Mexico, Netherlands, France, Belgium, Greece, Norway, Switzerland, UK, Luxembourg	Biological	<i>Salmonella</i> Thompson	Unknown	
36. Outbreak of Salmonellosis in Europe linked to smoked salmon distributed by the Netherlands	28/9/2012	Co-ordination	AMRO, EURO	Canada, USA, Mexico, Netherlands, France, Belgium, Greece, Norway, Switzerland, UK, Luxembourg, Curacao (UK)	Biological	<i>Salmonella</i> Thompson	Fish and other seafood	Smoked salmon
37. <i>E. coli</i> contamination of apricot yogurt manufactured in Australia exported internationally	30/10/2012	Verification request	EMRO, WPRO	Australia, Hong Kong SAR (China), Singapore, UAE	Biological	<i>Escherichia coli</i>	Milk and dairy products	Apricot yoghurt
38. Paralytic Shellfish Toxin contamination of mussels produced in Australia exported internationally	2/11/2012	Verification request	SEARO, WPRO	Australia, Japan, New Caledonia, Maldives, China, Hong Kong SAR (China), Thailand, Singapore	Chemical	Paralytic Shellfish Toxin	Fish and other seafood	Mussels
39. Outbreak of <i>Cryptosporidium</i> in the EU linked to unknown source	14/11/2012	Co-ordination	EURO	Germany, Netherlands, UK, Finland	Biological	<i>Cryptosporidium parvum</i> , <i>C. hominis</i>	Unknown	
40. Outbreak of <i>E. coli</i> infections in the USA linked to domestically produced spinach	22/11/2012	Verification request	AMRO	USA	Biological	<i>Escherichia coli</i> O157	Vegetables and vegetable products	Spinach
41. <i>Bacillus cereus</i> contamination of preserved bean curd manufactured in China and distributed to Australia	30/11/2012	Verification request	WPRO	Australia, China	Biological	<i>Bacillus cereus</i>	Nuts and oilseeds	Bean curd
42. Outbreak of acute food poisoning in Azerbaijan linked to domestically produced canned marinated tomatoes	13/12/2012	Verification request	EURO	Azerbaijan	Biological	<i>Clostridium botulinum</i>	Vegetables and vegetable products	Marinated tomatoes

*Investigations determined this event was linked to event number 1: Outbreak of Salmonellosis in Russia linked to infant formula produced in Belgium exported to Russia.

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APPENDIX C – LENGTH OF INFOSAN EVENTS 2011

EVENT	INVOLVEMENT TYPE	EVENT START DATE	EVENT END DATE	TOTAL LENGTH OF INVOLVEMENT
1. Dioxin contamination of vegetable feed-fat in Germany exported internationally	Co-ordination	4/1/2011	21/1/2011	18 days
2. African Swine Fever Virus in Russian pig products exported to Ukraine	Verification request	5/1/2011	5/1/2011	1 days
3. Lead contamination of “Toxic Waste Nuclear Sludge” candies from Pakistan exported internationally	Co-ordination	14/1/2011	3/2/2011	21 days
4. Undeclared peanut allergen in breaded/battered fish from China exported internationally	Co-ordination	27/1/2011	7/2/2011	12 days
5. Outbreak of Salmonellosis in Japan linked to domestically-produced broccoli salad	Verification request	17/2/2011	24/2/2011	8 days
6. Outbreak of <i>E. coli</i> /O157:H7 infections in Canada (and USA) linked to imported hazelnuts from the USA	Verification request	10/3/2011	11/3/2011	2 days
7. Radionuclear event in Japan following the earthquake and tsunami	Co-ordination	15/3/2011	26/5/2012	73 days
8. Outbreak of Salmonellosis in the USA linked to imported cantaloupes from Guatemala	Verification request	25/3/2011	28/3/2011	4 days
9. Nitrite contamination of bulk milk produced in China identified in northwest China	Verification request	8/4/2011	11/4/2011	4 days
10. Unknown contamination of Vitamin C supplement in Lao PDR resulting in two deaths	Co-ordination	20/4/2011	7/5/2011	18 days
11. Outbreak of Brucellosis in Malaysia among travels from Singapore linked to unpasteurized goat's milk	Consultation	26/4/2011	5/5/2011	10 days
12. Outbreak of <i>E. coli</i> /O111 infections in Japan linked to domestic raw beef	Consultation	6/5/2011	20/5/2011	15 days
13. <i>Brucella</i> detected in Kazakhstan cattle	Verification request	13/5/2011	17/5/2011	5 days
14. Outbreak of <i>E. coli</i> /O104:H4 infections in Germany and France linked to fenugreek sprouts/seeds exported internationally	Co-ordination	24/5/2011	21/10/2011	151 days
15. DEHP, DINP, DBP- contaminated drinks and food additives produced in Taiwan, China exported internationally	Co-ordination	26/5/2011	1/6/2011	7 days
16. Concern for levels of mercury, cadmium, and nitrate in seafood manufactured in Chile	Consultation	1/7/2011	6/7/2011	6 days

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17. Outbreak of Salmonellosis on a cruise ship traveling from Amsterdam to various ports in Europe	Consultation	6/7/2011	6/7/2011	1 day
18. <i>E. coli</i> contaminated avocados from the EU exported internationally	Verification request	15/7/2011	15/7/2011	1 day
19. Melamine contamination of dog treats produced in China exported internationally	Verification request	18/7/2011	18/7/2011	1 day
20. Outbreak of Botulism in Denmark linked to tofu imported from the Netherlands	Co-ordination	20/7/2011	20/7/2011	1 day
21. Outbreak of Salmonellosis in Canada & USA linked to papayas imported from Mexico	Co-ordination	24/7/2011	28/7/2011	5 days
22. Outbreak of methanol poisoning from bootleg whiskey on a yacht in the Mediterranean	Co-ordination	25/7/2011	29/7/2011	5 days
23. Outbreak of Salmonellosis among passengers on a flight from Tanzania to Ireland, linked to airline meal	Co-ordination	28/7/2011	17/10/2011	82 days
24. Outbreak of Botulism linked to domestic sausages or corn in Brazil	Verification request	24/8/2011	29/8/2011	6 days
25. <i>E. coli</i> O157:H7 contamination of walnuts and snacks produced in the USA and exported to Canada	Co-ordination	2/9/2011	16/9/2011	15 days
26. Outbreak of Botulism in France linked to domestically produced tapenade	Co-ordination	6/9/2011	8/10/2011	33 days
27. Mercury contamination of Bi Yan Pian supplement produced in China exported to Canada	Consultation	9/9/2011	12/9/2011	4 days
28. Outbreak of Listeriosis in the USA linked to cantaloupes and avocados imported from Peru	Co-ordination	14/9/2011	28/9/2011	15 days
29. <i>Salmonella</i> contamination of Tahina produced in Lebanon exported internationally	Co-ordination	26/9/2011	27/9/2011	2 days
30. Outbreak of Botulism in Spain (among travels from Chile) linked to domestic artisanal olives	Co-ordination	27/9/2011	30/9/2011	4 days
31. Outbreak of <i>Vibrio parahaemolyticus</i> infections linked to oysters harvested in the USA and exported internationally	Verification request	28/9/2011	28/9/2011	1 day
32. Outbreak of Salmonellosis in Europe linked to tomatoes imported from Italy	Co-ordination	5/10/2011	28/11/2011	55 days
33. <i>Salmonella</i> contamination of chocolate macadamia nuts produced in Australia exported internationally	Co-ordination	12/10/2011	14/10/2011	3 days
34. Outbreak of <i>E. coli</i> O157 infections among international delegates who attended conference in Morocco	Verification request	18/10/2011	31/10/2011	14 days
35. Outbreak of Botulism in Finland linked to olives produced in Italy and exported internationally	Co-ordination	21/10/2011	1/11/2011	12 days
36. <i>Listeria</i> contamination of ham produced in Spain and exported to Colombia	Verification request	21/10/2011	3/2/2012	106 days
37. Outbreak of Salmonellosis in the USA linked to pine nuts imported from Turkey	Co-ordination	24/10/2011	28/11/2011	36 days
38. Undeclared sulfites in dried dates produced in China exported to the USA	Co-ordination	24/10/2011	25/10/2011	2 days

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39. Outbreak of Botulism in Russia linked to homemade canned pickles	Co-ordination	2/11/2011	7/11/2011	6 days
40. Hydrocyanic acid poisoning in Australia linked to domestically produced raw apricot kernels	Consultation	7/11/2011	10/11/2011	4 days
41. Outbreak of Botulism in the UK linked to domestically produced korma sauce in the UK and exported internationally	Co-ordination	12/11/2011	21/11/2012	10 days
42. Outbreak of Hepatitis A infections in the Netherlands and UK linked to sundried tomatoes	Co-ordination	16/11/2011	25/11/2012	10 days
43. Isopropyl alcohol contamination of counterfeit vodka in the UK	Verification request	21/11/2011	24/11/2011	4 days
44. Outbreak of carbamate poisoning in China linked to domestically-produced milk beverage	Verification request	1/12/2011	4/1/2012	35 days
45. Outbreak of Salmonellosis linked to dried sausages produced in France exported internationally	Co-ordination	19/12/2011	21/12/2012	3 days
46. Outbreak of <i>Cronobacter sakazakii</i> infections in the USA linked to domestically produced powdered infant formula	Verification request	24/12/2011	2/1/2012	10 days

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APPENDIX D – LENGTH OF INFOSAN EVENTS 2012

EVENT	INVOLVEMENT TYPE	EVENT START DATE	EVENT END DATE	TOTAL LENGTH OF INVOLVEMENT
1. Outbreak of Salmonellosis in Russia linked to infant formula produced in Belgium exported to Russia	Co-ordination	16/1/2012	3/2/2012	19 days
2. Outbreak of Salmonellosis in Europe linked to watermelons produced in Brazil and exported internationally	Verification request	3/2/2012	8/3/2012	35 days
3. Outbreak of Botulism in Brazil from domestically-produced sausages	Verification request	28/2/2012	2/3/2012	4 days
4. Aflatoxin contamination of ground nutmeg produced in Spain and exported internationally	Verification request	2/3/2012	8/3/2012	7 days
5. The sale of industrial salt as table salt in Poland	Verification request	6/3/2012	10/3/2012	5 days
6. Two deaths from sodium nitrite poisoning in Italy linked to domestically-produced mislabeled sorbitol sold over the internet	Co-ordination	6/3/2012	13/4/2012	39 days
7. Polycyclic aromatic hydrocarbon, phthalate contamination of lollipops produced in Vietnam exported internationally	Consultation	14/3/2012	20/3/2012	7 days
8. <i>E. coli</i> contamination of ground beef produced in Canada and exported to the USA	Verification request	18/3/2012	19/3/2012	2 days
9. Aflatoxin contamination of dried figs produced in Turkey and exported to Slovenia	Verification request	21/3/2012	25/4/2012	36 days
10. Outbreak of Salmonellosis in the USA linked to yellowfin tuna produced in India and exported internationally	Co-ordination	22/3/2012	29/5/2012	69 days
11. <i>Cronobacter sakazakii</i> contamination of rice cereal produced in Israel and exported internationally	Co-ordination	28/3/2012	30/3/2012	3 days
12. Undeclared almond, hazelnut and gluten in chocolate Easter eggs produced in Australia with raw materials from Spain	Verification request	5/4/2012	12/4/2012	8 days
13. <i>Staphylococcus</i> contamination of gluten-free spaghetti produced in Italy and exported internationally	Co-ordination	23/4/2012	23/4/2012	1 day
14. Outbreak of Botulism in Canada linked to domestically-produced Fesikh mullet fish	Verification request	24/4/2012	24/4/2012	1 day
15. Outbreak of gastroenteritis in Turkey linked to domestically-produced milk	Co-ordination	3/5/2012	9/5/2012	7 days
16. <i>Salmonella</i> contamination of spices produced in India and exported to Australia	Verification request	3/5/2012	5/7/2012	64 days

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17. Outbreak of Salmonellosis in North America linked to contaminated dog food produced in China exported internationally	Co-ordination	3/5/2012	12/5/2012	10 days
18. Outbreak of gastroenteritis in Malaysia linked to domestically-produced milk	Verification request	21/5/2012	25/5/2012	5 days
19. Outbreak of Salmonellosis linked to tempeh manufactured in Indonesia and exported internationally	Co-ordination	21/5/2012	31/5/2012	11 days
20. Outbreak of DMAA poisonings linked to sport supplements available internationally	Co-ordination	19/6/2012	6/7/2012	18 days
21. Mercury contamination of infant formula milk produced in China	Verification request	20/6/2012	11/7/2012	22 days
22. Outbreak of Brucellosis in China linked to domestic infected cows	Co-ordination	25/6/2012	1/8/2012	38 days
23. Outbreak of Salmonellosis in various countries linked to galactoligosaccharide powder produced in South Korea and distributed internationally*	Co-ordination	12/7/2012	14/8/2012	34 days
24. Outbreak of Salmonellosis in the EU linked to turkey products produced in Austria	Co-ordination	13/7/2012	11/12/2012	152 days
25. Outbreak of Botulism in the UK linked to olives imported from Italy	Co-ordination	25/7/2012	30/7/2012	6 days
26. Outbreak of Listeriosis in the USA linked to cheese imported from France	Verification request	9/8/2012	9/8/2012	1 day
27. Outbreak of Salmonellosis in Canada and the USA linked to mangoes produced in Mexico exported internationally	Co-ordination	28/8/2012	5/9/2012	9 days
28. Sulphuric chemical contamination of bamboo shoots manufactured in Vietnam	Verification request	4/9/2012	2/10/2012	29 days
29. Outbreak of methanol poisoning in the Czech Republic linked to domestically-produced bootleg alcohol	Co-ordination	10/9/2012	19/10/2012	40 days
30. Outbreak of Salmonellosis in France linked to domestically-produced Saint Nectaire cheese	Verification request	10/9/2012	11/9/2012	2 days
31. Outbreak of Listeriosis in the USA linked to ricotta cheese produced in Italy exported internationally	Co-ordination	12/9/2012	5/10/2012	24 days
32. Outbreak of <i>E. coli</i> /O157:H7 infections in Canada linked to domestically-produced meats exported internationally	Co-ordination	19/9/2012	22/10/2012	34 days
33. Outbreak of Salmonellosis in the USA linked to domestically-produced peanut butter exported internationally	Co-ordination	26/9/2012	26/11/2012	62 days
34. Outbreak of <i>Norovirus</i> infections in Germany linked to frozen strawberries imported from China exported internationally	Co-ordination	27/9/2012	26/10/2012	30 days
35. Outbreak of Salmonellosis in Canada and the USA linked to unknown source	Co-ordination	28/9/2012	17/10/2012	20 days
36. Outbreak of Salmonellosis in Europe linked to smoked salmon distributed by the Netherlands	Co-ordination	28/9/2012	8/10/2012	11 days
37. <i>E. coli</i> contamination of apricot yogurt manufactured in Australia exported internationally	Verification request	30/10/2012	1/11/2012	3 days

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38.	Paralytic Shellfish Toxin contamination of mussels produced in Australia exported internationally	Verification request	2/11/2012	2/11/2012	1 day
39.	Outbreak of <i>Cryptosporidium</i> in the EU from unknown source	Co-ordination	14/11/2012	19/11/2012	6 days
40.	Outbreak of <i>E. coli</i> infections in the USA linked to domestically produced spinach	Verification request	22/11/2012	23/11/2012	2 days
41.	<i>Bacillus cereus</i> contamination of preserved bean curd manufactured in China and distributed to Australia	Verification request	30/11/2012	1/12/2012	2 days
42.	Outbreak of acute food poisoning in Azerbaijan linked to domestically produced canned marinated tomatoes	Verification request	13/12/2012	14/12/2012	2 days

* Investigations determined the event was linked to event number 1: Outbreak of Salmonellosis in Russia linked to infant formula produced in Belgium exported to Russia

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