



INFOSAN

International Food Safety Authorities Network

Lessons learned from past crises

Department of Food Safety and Zoonoses (FOS)

<http://www.who.int/foodsafety/en/>



World Health
Organization

One Mechanism in WHO:

Global Event Management System



*Surveillance and
Risk Assessment*

Response

Analysis

- Identify events of potential international public health concern
- Verify with affected country
- Assess risk to international community
- Disseminate information to those who need to know
- Assist affected country



International Health Regulations (IHR)

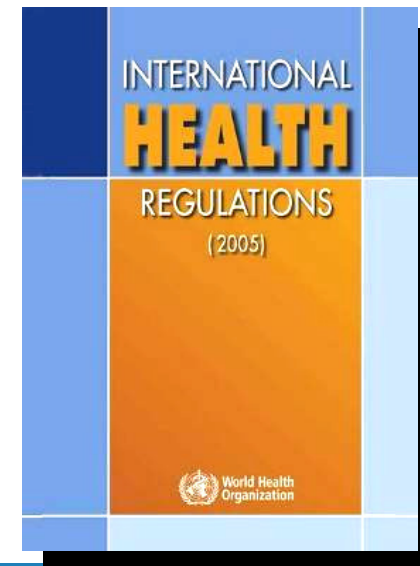
Old IHR (1969) only covered Yellow Fever, Cholera and Plague

New IHR (2005) include *all public health emergencies of international concern* - including those caused by food

Member States are obliged to declare all public health emergencies of international concern to WHO

Reports from sources other than Member States (media, private sector, NGOs, social networks, etc.)

WHO 24-hour monitoring, operations and response



What is unique about Food Safety Events?

- Requires collaboration of different partners in-country
- Requires different expertise than most infectious disease events
- Requires different types of questions to be asked
- Often multi-regional due to international distribution
- Sometimes treated with lower priority in the face of other infectious disease events
- Can have major economic and trade implications

Multi-disciplinary, Multi-sectoral, Integrated, Collaborative



Food Safety: act global to protect local

- The rapid globalization of food production and trade has increased the potential for food safety events to quickly become international
- Dealing with such events requires rapid exchange of food safety information at both the national and international levels
- By sharing information and experiences between countries, food safety issues can be managed more effectively and efficiently
- It is therefore important to have a mechanism in place to facilitate collaboration between countries

To provide such a mechanism, INFOSAN was launched in 2004 and has been growing ever since



What is INFOSAN and its Purpose?

- **A voluntary network of food safety authorities from around the world managed jointly by WHO and FAO**
- **Aims to prevent international spread of contaminated food and foodborne disease and strengthen food safety systems globally, by:**
 - **promoting the rapid exchange of information during food safety events**
 - **sharing information on important food safety issues of global interest**
 - **promoting partnership and collaboration between countries**
 - **helping countries strengthen their capacity to manage food safety risks**

International Food Safety Authorities Network (INFOSAN)

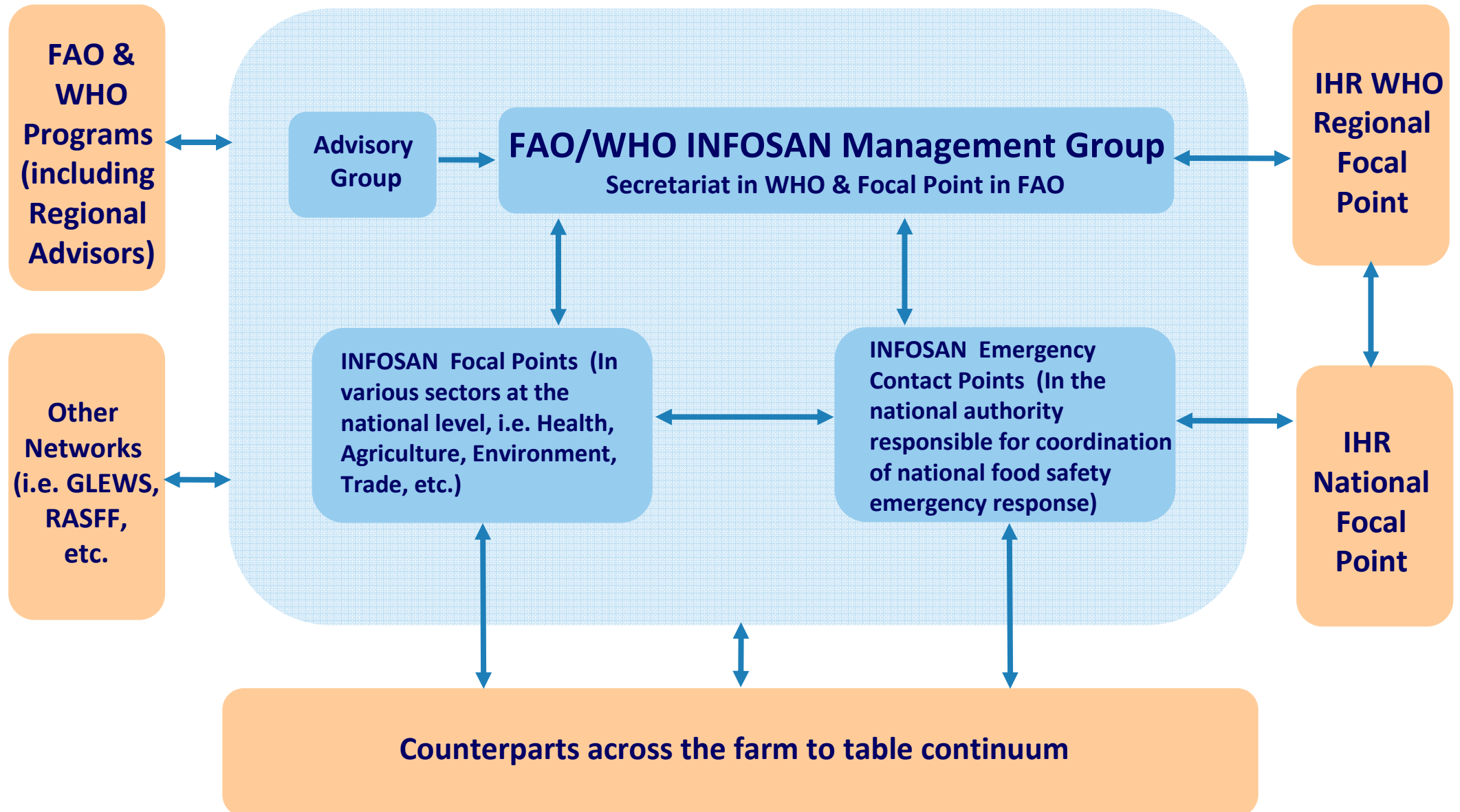


- 177 countries
- Multisectoral participation (human health, agriculture, food safety, animal health, trade, standards, etc.)
- Web-based platform to strengthen community practice & exchange information

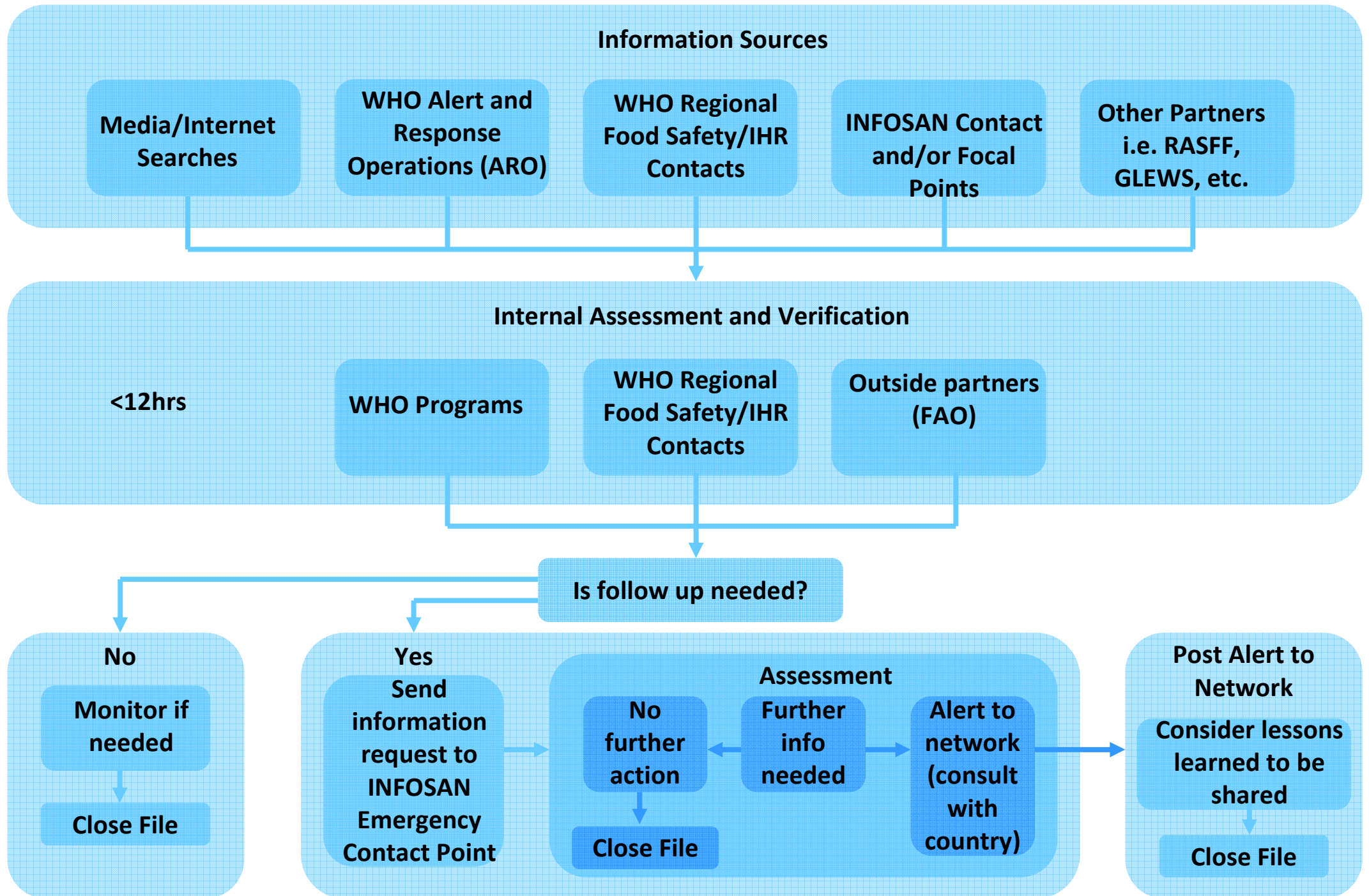
The screenshot shows the home page of the INFOSAN Community Website. At the top, there are logos for the World Health Organization and the Food and Agriculture Organization of the United Nations. Below the logos is a search bar and navigation tabs for Home, My Page, INFOSAN Secretariat, Find Members, Discussion Forum, Groups, and Document Library. The main content area is divided into two columns: 'Latest information from INFOSAN Secretariat' and 'Latest Discussion Forum Posts'. The left column lists several documents and alerts, including 'INFOSAN Document: Rapid risk assessment of 1,3-dimethylamylamine in supplementary sports foods' (July 13, 2012) and 'INFOSAN Alert: DMAA in Sports Supplements Associated with Adverse Reactions in Multiple Countries' (June 21, 2012). The right column lists forum posts, such as 'Discussion about DMAA in Sports Supplements Associated with Adverse Reactions in Multiple Countries' (July 16, 2012) and 'Additional Information from KFDA about 4-HE in caramel coloring' (July 12, 2012). At the bottom, there are links to 'See all information from INFOSAN Secretariat' and 'See all discussions'.

The screenshot shows the 'INFOSAN Secretariat Contact Details' page. It features the INFOSAN logo and logos for the World Health Organization and the Food and Agriculture Organization of the United Nations. The page is divided into two main sections: 'Contact Details' and 'Meet the team'. The 'Contact Details' section includes an email address (info@infosan.int), business and mobile telephone numbers, a mailing address (Department of Food Safety and Zoonoses, World Health Organization, Avenue Appia, CH-1211 Geneva 27, Switzerland), a public website, and a community website for members only. The 'Meet the team' section features a photo and contact information for Dr. Peter S. Beecham, including his title, organization, telephone, mobile telephone, and email address. On the right side, there is a 'Navigate to' section with links to INFOSAN Events, Alerts, Notices, Information Notes, Document Library, and Recently Reported Food Safety Events. A yellow button at the bottom right says 'REPORT FOOD SAFETY EVENT TO INFOSAN SECRETARIAT'.

INFOSAN Structure and Links to Key Partners



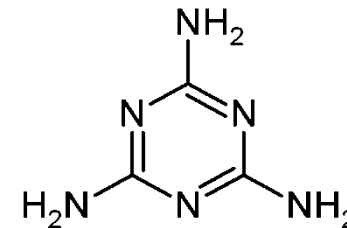
Event Detection and Action



Example of INFOSAN in Action



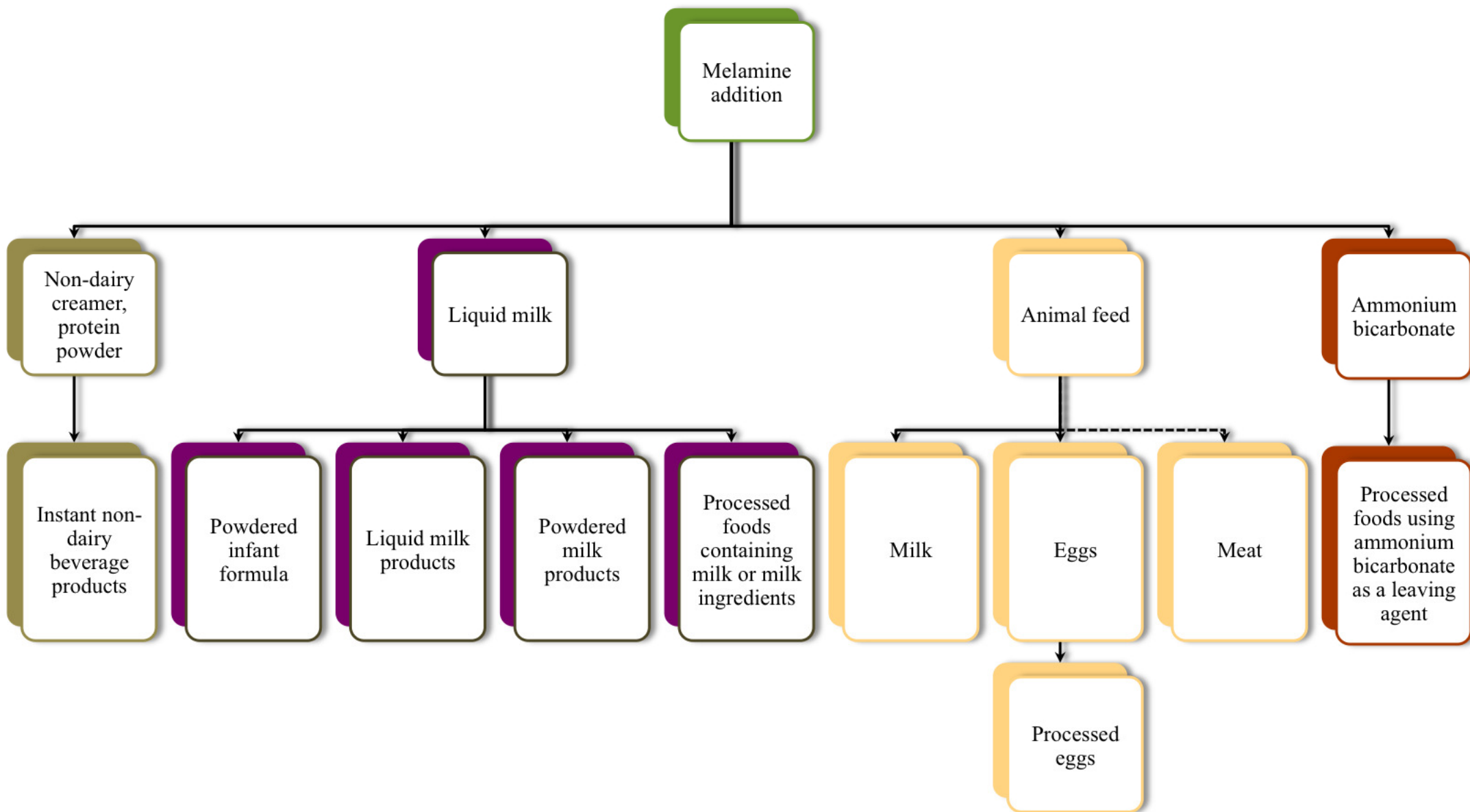
Melamine



- Rich in nitrogen, intentionally added to food to disguise a low protein content (e.g. in diluted milk)
- Initial focus on infant formula (Sep 2008 - infants affected)
- Knowledge from previous incidents in pet food (2004, 2007)
- High level of concern with immediate measures taken
 - WHO actions
 - National authorities
- Immediate global implications



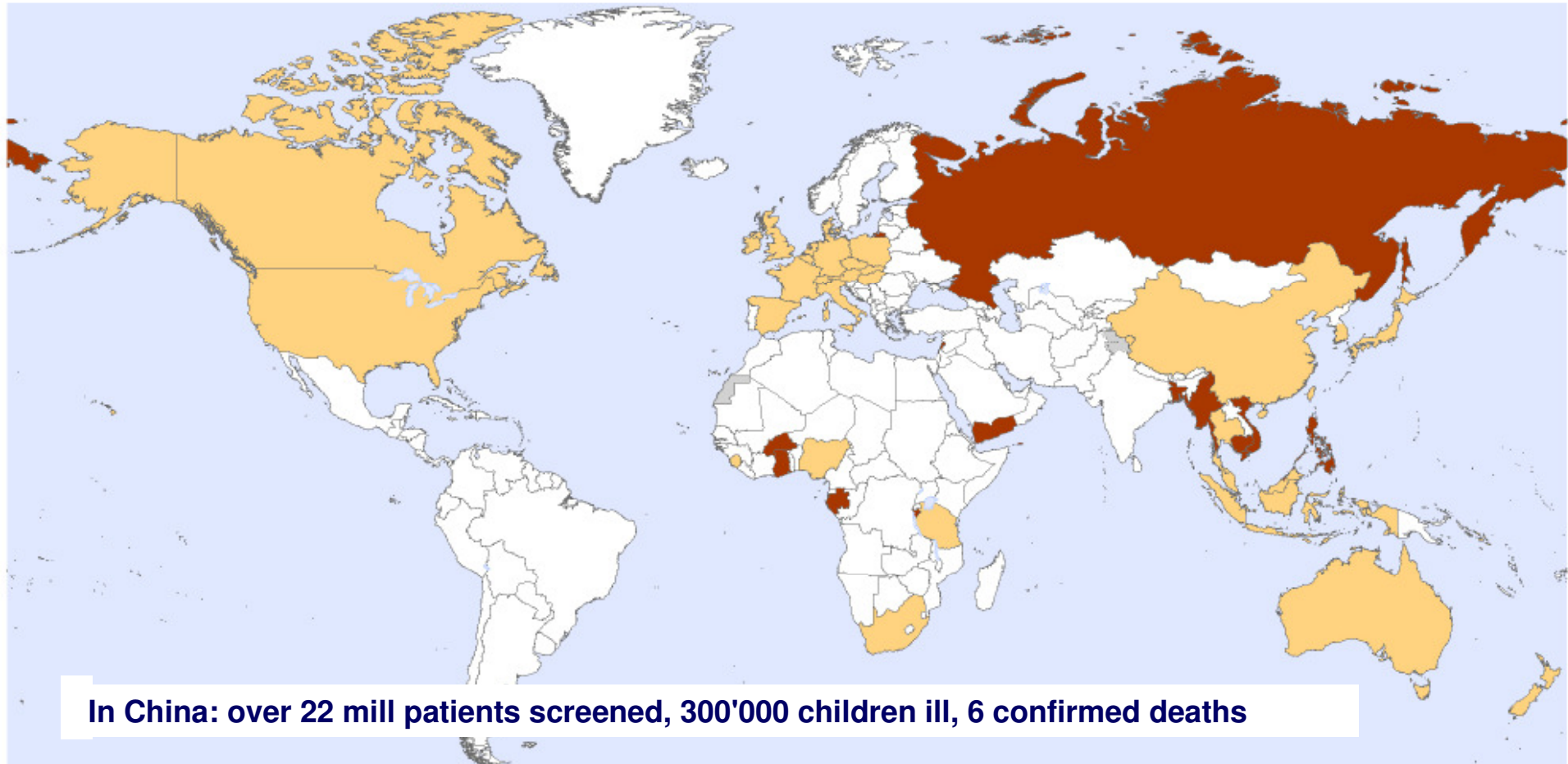
Contamination chain of events



47 countries with contaminated products

 Analysis reported

 Import of contaminated products reported



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

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



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Actions taken by INFOSAN

Within the first days

- Epidemiology and treatment (suggested surveillance and case definition)
- Preliminary risk assessment of melamine
- Analytical methods to test for melamine

Over the first three months

- Compile list of products affected and their possible distribution (continuously updated)
- List of laboratories to test for melamine
- Assistance to countries on limits for melamine for products
- International expert consultation to evaluate health risk and recommend risk management actions (Dec 2008)
- Q & A (continuously updated)



Lessons Learned



- INFOSAN played important role as information exchange platform
- Rapid reaction and response possible in close collaboration with members
- With support of Health Canada rapid organization of scientific expert consultation, and subsequent discussion of outcome at Codex level to set international limits for melamine in food
- **Codex standard for melamine in food and feed, and for infant formula established**
- Fastest Codex standard adopted in response to international event (possible with direct support and leadership of Health Canada)



- INFOSAN resources limited



- Delay in reporting and verifying (response to INFOSAN)
- Need for global inventory of laboratory capacity



Outbreak of *S. Oranienburg* in Russia linked to internationally distributed powdered infant formula from Belgium



- 16 cases of Salmonellosis reported in Usolie, Russia, including 13 infants, 1 child (age 4) and 2 adults
- Product sent to 24 regions in Russia

- **International distribution**
(Three WHO Regions: EURO; AFRO; & AMRO)
- **Shelf-stable product**
(+1 year)
- **Vulnerable population**
(infants)

- **Good Traceability System**
 - allowed producer to quickly identify the specific product and institute very targeted recall
(minimizing economic impact)
 - quickly eliminated further exposure
(protecting public health)

Outbreak of Salmonellosis in USA linked to pine nuts imported from Turkey

- 43 individuals infected, source identified in USA: pine nuts from Turkey
- On request of US FDA (an INFOSAN member) INFOSAN Secretariat contacted Turkey for further information (including distribution details, etc.)
- Same product potentially also exported to Australia and Italy; INFOSAN notified these countries (no illness identified)
- Turkey launched investigation into the implicated pine nuts to ensure safe production

US authorities identified source – requested INFOSAN assistance – investigation identified other countries potentially affected – corrective action in producing country



Outbreak of Botulism in Finland linked to olives stuffed with almonds from Italy

- 2 cases of Botulism identified in Finland: olives stuffed with almonds from Italy
- Reported to INFOSAN Secretariat: implicated product was also distributed to several countries around the world, incl. the USA
- INFOSAN Secretariat provided relevant information from Italy to US FDA for recall activities
- INFOSAN Secretariat sent a global alert out to all INFOSAN members to product removal from the international market to prevent further cases

Country informed INFOSAN – INFOSAN provided relevant information to USA for product recall (no cases identified) – global alert



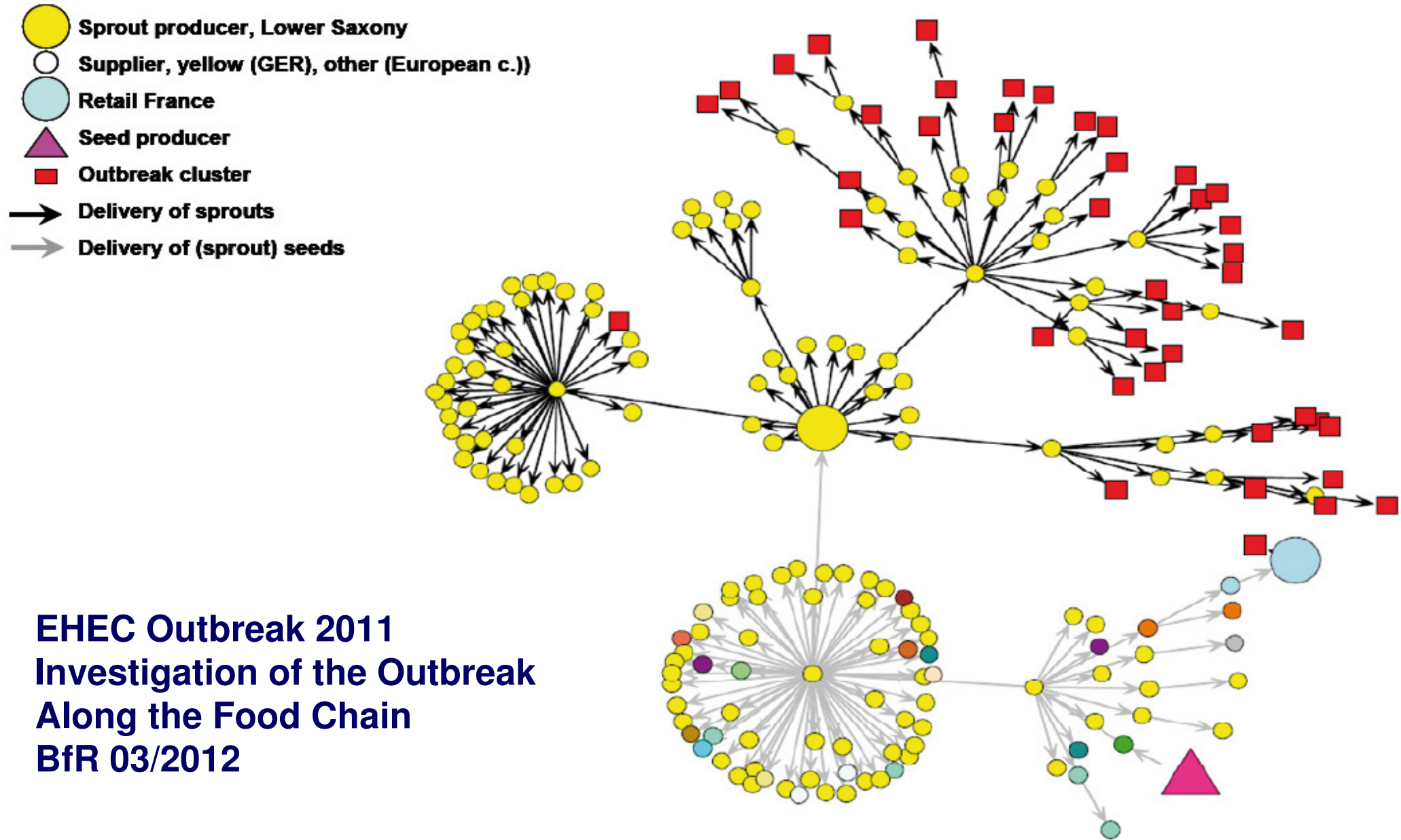
Outbreak of *E. coli* O104:H4 infections in Germany and France



Overview:

- Unusually large foodborne disease outbreak caused by a novel strain of *E. coli* with characteristics resulting in more virulent behaviour than is normally observed
- 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).
- 16 countries in Europe and North America reported 4045 cases and 51 deaths; onset dates range from 1 May to 4 July 2011
- 3052 EHEC infections resulting in 17 deaths, and 852 HUS cases resulting in 32 deaths were reported in Germany alone
- European Food Safety Authority led a trace back investigation which identified fenugreek seeds imported into Germany from Egypt as the most likely source

Trace back investigation



EHEC outbreak: lessons learned

- Systemic Delays Hinder Outbreak Response

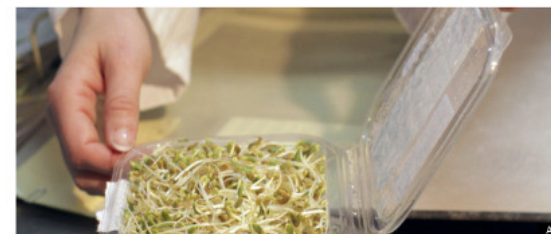
- Reporting procedures: Data flow should be accelerated, e.g. by use of an electronic notification system by physicians and laboratories, and a common central data base.
- Surveillance systems: routine surveillance needs to be enhanced

- Risk communication is critical

- To avoid 'blame and shame'
- To avoid undue economic consequences
- To remain credible and reach consumer

- Further investigations and studies are needed to better understand the origin of this pathogen and its ecology

Mixed Messages Over E. Coli Outbreak Could Make Crisis Worse



First Posted: 8/8/11 05:01 PM ET | Updated: 8/8/11 05:12 AM ET

React > Inspiring Enlightening Infuriating Scary Helpful Amazing Innovative Adorable

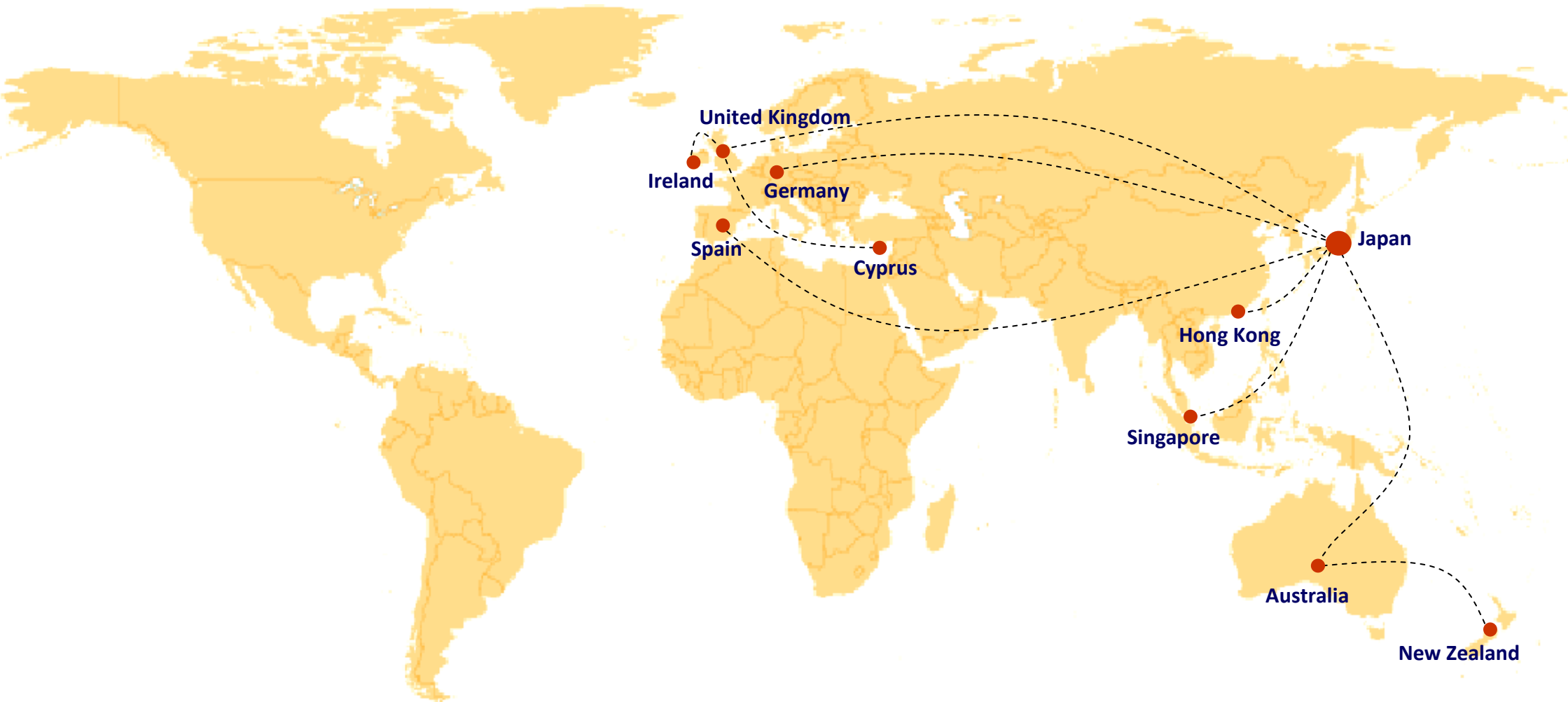
Read more > Bean Sprouts , E.Coli Outbreak , Germany Outbreak , Spain Outbreak , E.Coli , E.Coli Germany , E.Coli Spain , Ecoli , Green News

SHARE THIS STORY

NEW YORK -- The conflicting claims over the source of the deadliest E. coli outbreak in living memory have not only confused consumers around the globe, but also exacerbated the crisis, say food safety experts.

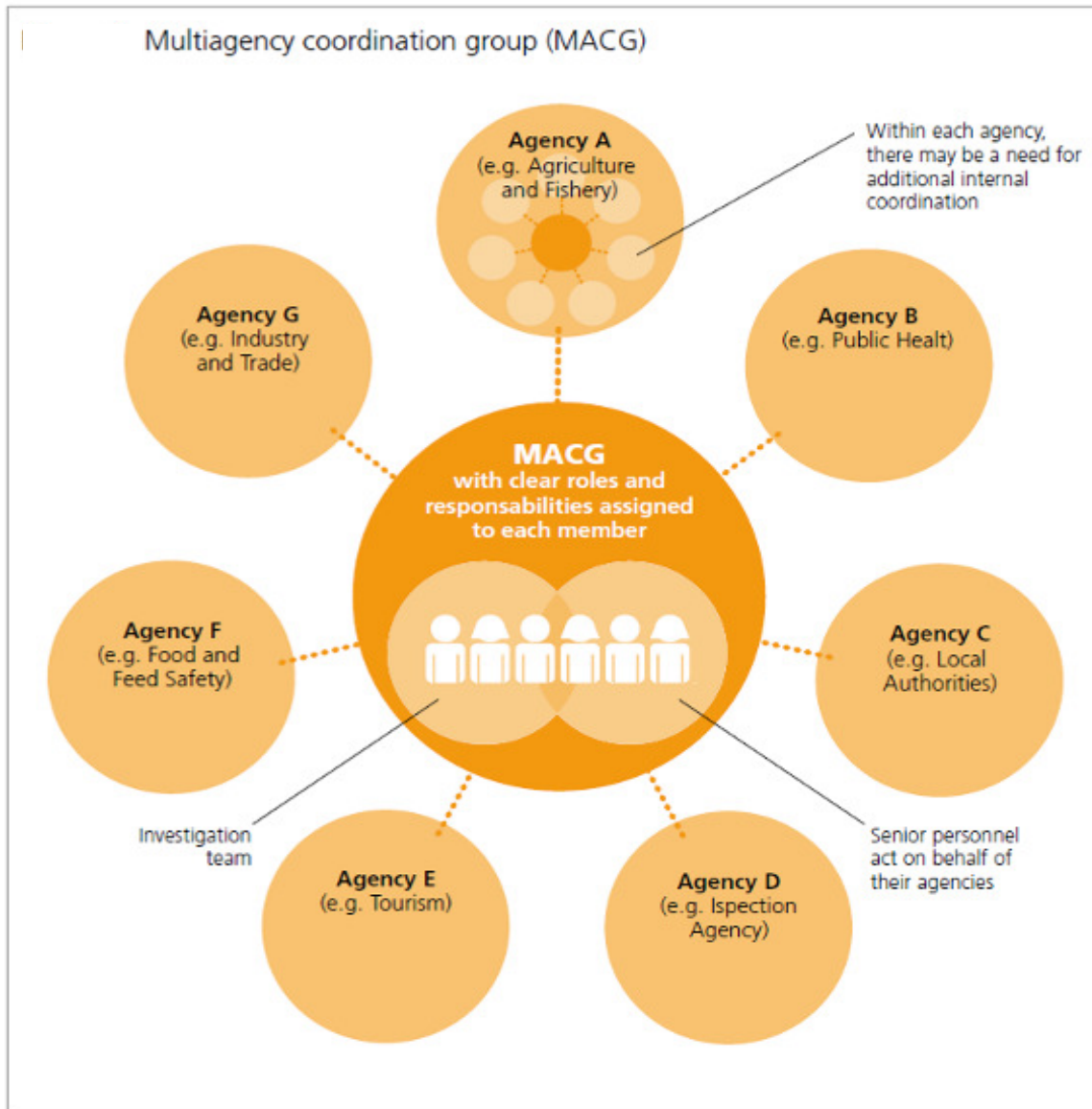
Some key lessons learned

A local event can quickly become global



World Health Organization

Need for national food safety emergency response plans



No single agency has the responsibility for all aspects of foodborne disease outbreak response.

Representatives from each agency involved must be part of a coordinated response.

Response plans should reflect the need to adapt the response either up or down to meet the needs of the event.

Foodborne outbreaks can have major economic/trade impacts



Risk Communication is critical

A Romanian farm worker throws another case of cucumbers onto a huge pile waiting to be taken away as waste at an agriculture facility in Popesti Leordeni, near Bucharest, Romania.

Fresh produce continue to be a high risk food item, e.g. sprouts

- Worldwide, at least 40 outbreaks of foodborne illnesses have been linked to sprouts since 1973
- Scientists believe that the most likely source of contamination is the seeds that are used to grow the sprouts; seeds may become contaminated by animal manure in the field or during storage, and the conditions required to grow sprouts (like warmth and humidity) are ideal for the rapid growth of bacteria
- Poor hygienic practices during production of sprouts have also caused some sprout-related outbreaks of foodborne illness in the past
- Difficult to 'pin-point' since consumed as mix e.g. salad



WHO provides guidance

- FAO/WHO framework for developing national food safety emergency response plans

http://www.who.int/entity/foodsafety/publications/fs_management/emergency_response/en/index.html

- FAO/WHO guide for application of risk analysis principles and procedures during food safety emergencies

http://www.who.int/entity/foodsafety/publications/fs_management/risk_analysis/en/index.html

- FAO/WHO guide for developing and improving national food recall systems
In preparation

- Five keys to growing safer fruits and vegetables:
promoting health by decreasing microbial contamination

http://www.who.int/iris/bitstream/10665/75196/1/9789241504003_eng.pdf

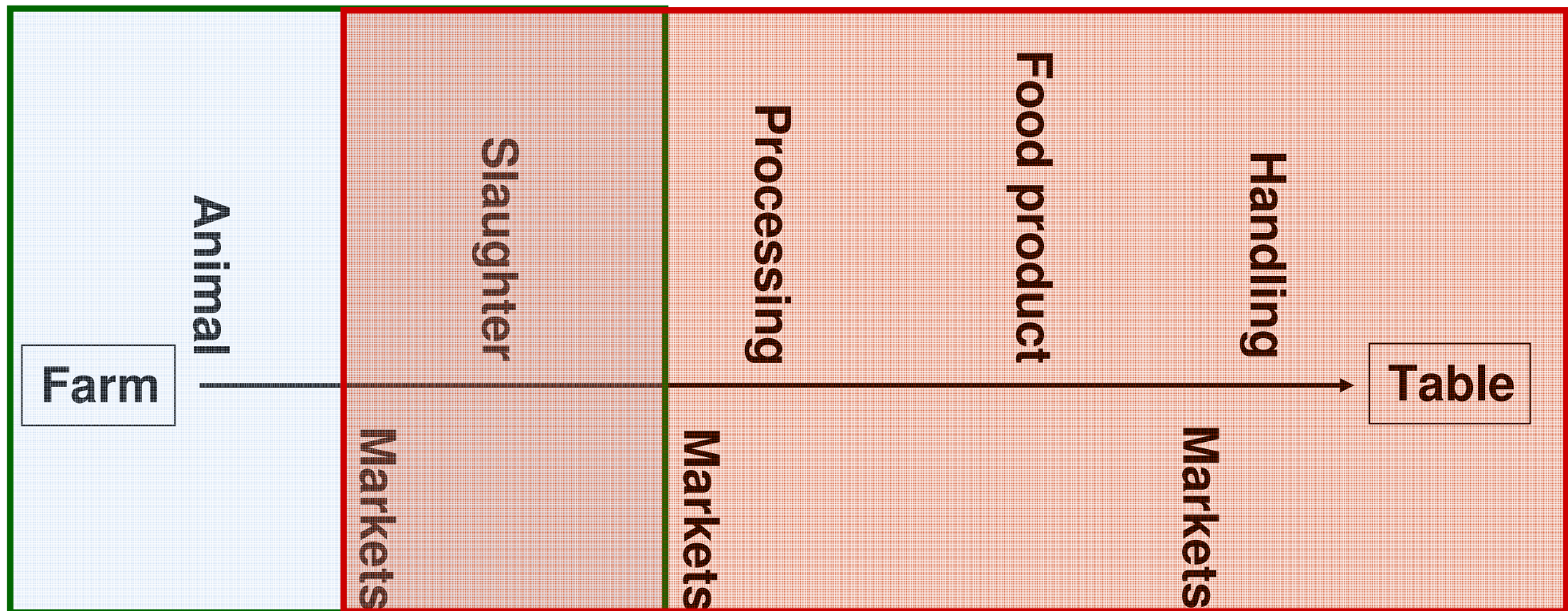


Move from reaction to prevention

- Integrated surveillance: farm to table information sharing

Global Early Warning System for Major Animal Diseases, including Zoonoses (GLEWS)

International Food Safety Authorities Network (INFOSAN)



"Only if we act together, can we respond effectively to international food safety problems and ensure safer food for everyone"

Dr Margaret Chan – Director-General



infosan@who.int for more information



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



**World Health
Organization**