



Project: Technical assistance to improve implementation of food safety standards and disease crisis preparedness

Activity 1.1.17: Training on topics relevant to food chain safety including processed food of non-animal origin and composite food

Module: Trainings on food safety risk assessment and contingency arrangements to respond to emergencies. Outbreak investigation;

- Emergencies and Outbreak preparedness

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Date:

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- Competent Authorities and crisis networks, organisation of inter sectoral preparedness exercises
- What is Emergency Preparedness?
- Roles of competent authorities
- Steps in establishing effective management systems
- Examples of best practice
- Contingency plans, development of outbreak management plan and risk communication plan
- Preparation of contingency plans for food and feed incidents
- Foodborne outbreak management plans
- Food Alert and Incident Management
- Communication during a food incident
- Surveillance and early detection



Major Drivers of food safety change

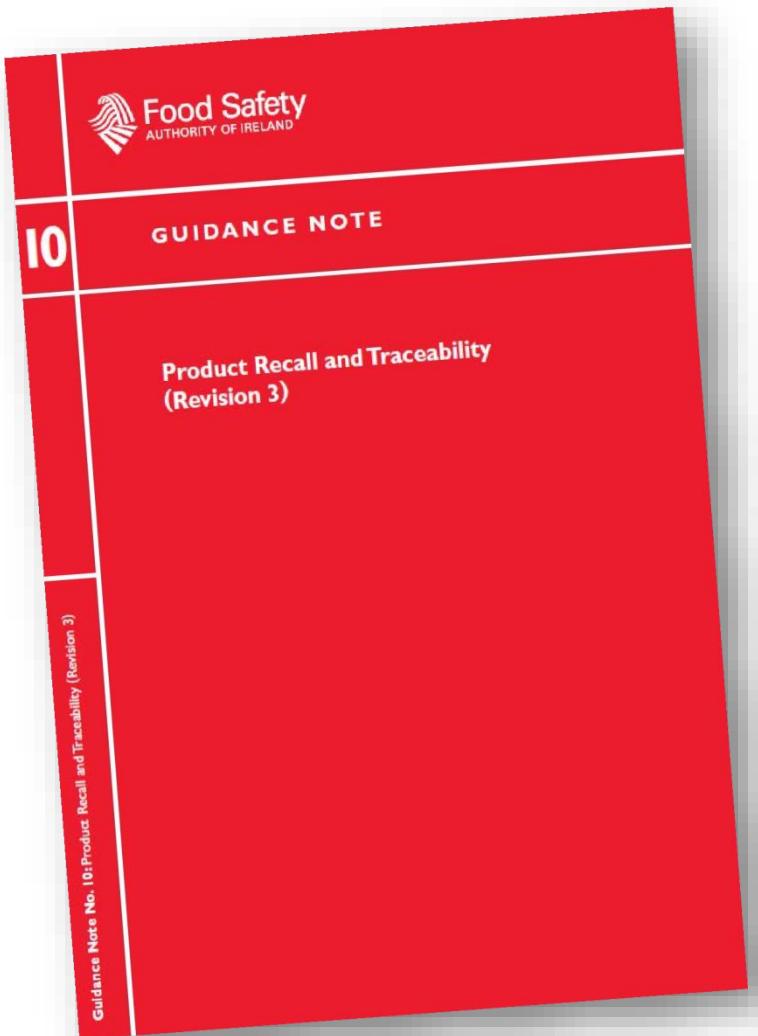
- 2011 E.coli VTEC (O104) outbreak in Germany – probably resulting in no change – should have driven DNA-sequencing!
- 2009 New food safety law in China - melamine scandals – pet animals in 2007, 300,000 infants (6 deaths) in 2008
- 2000 Total re-structuring of EU food safety system, creation of EFSA after BSE crisis (approx. 250 deaths globally) (1996)
- 1999 Update of Belgian food safety after dioxin crisis (which has most likely not resulted in human disease!) (1997)
- 1997 New US food safety (Clinton) plan after 'Jack-in-the-Box' scandal - death of four children and disease of hundreds (1993)

WHAT IS EMERGENCY PREPAREDNESS?

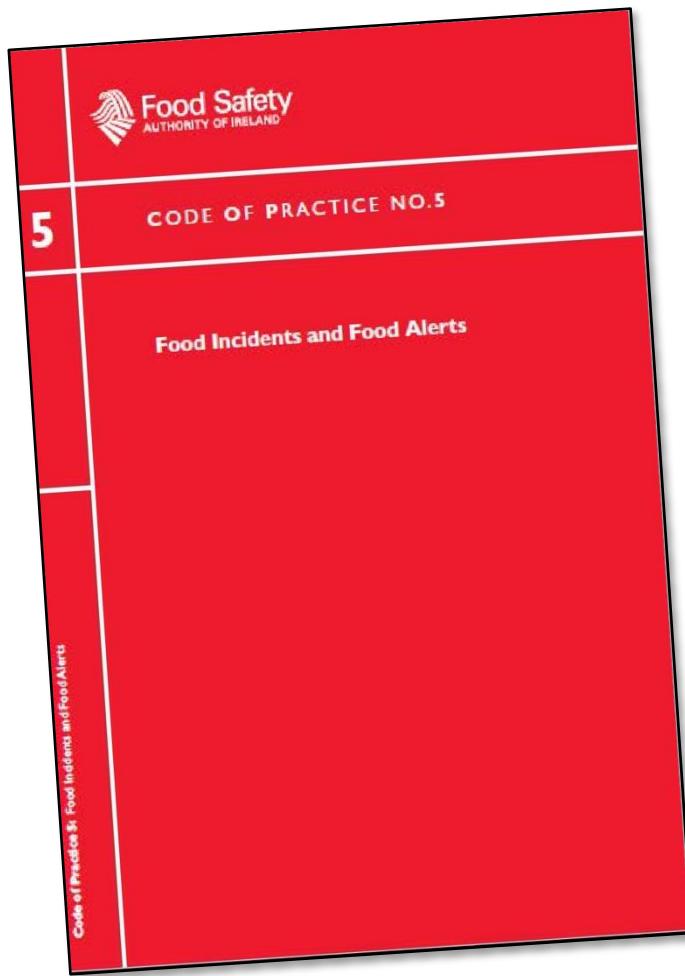


- Consists of established structures, procedures and coordination mechanisms between national agencies that routinely function and which can be scaled up during emergencies
- Examples:
 - ✓ Codes of Practice and Standard Operating Procedures developed and agreed by multi-agency, inter-disciplinary groups
 - ✓ Protocols for inter-agency cooperation during times of food crises
 - ✓ Foodborne disease outbreak management and control plans

EXAMPLES?



- **Developing food traceability systems**
- **Food Recall Plan**
- **Food Withdrawal**
- **Risk Assessment**
- **Examples of Best Practice**



- **Responsibility For Management Of Incidents**
- **Notifications**
- **Malicious Tampering Intentional Contamination Of Food**
- **Communications**
- **Incident Closure**

EXAMPLES?



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



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



REGULATORY POWERS FOR EMERGENCY PREPAREDNESS?



- *Directive 2003/99/EC (OJ L325, p31, 12/12/2003) of the European Parliament and of the Council of 17 November 2003 on the monitoring of zoonoses and zoonotic agents*
- **Sets out requirements for:**
 1. the monitoring of zoonoses and zoonotic agents
 2. the monitoring of related antimicrobial resistance
 3. the epidemiological investigation of food-borne outbreaks
 4. the exchange of information related to zoonoses and zoonotic agents



Article 8. Epidemiological investigation of food-borne outbreaks

- CA shall investigate food-borne outbreaks in cooperation with the authorities charged with collecting information relating to the epidemiological surveillance of communicable diseases
- CA shall transmit to the Commission (which shall send it to EFSA) a summary report of the results of the investigations.

REGULATORY POWERS FOR EMERGENCY PREPAREDNESS?



- **National legal powers:**

Notifiable Infectious Diseases: Who and What to notify



All medical practitioners, including clinical directors of diagnostic laboratories, are required to notify the Medical Officer of Health(MOH)/Director of Public Health (DPH) of certain **diseases**. This information is used to investigate cases thus preventing spread of infection and further cases. The information will also facilitate the early identification of outbreaks. It is also used to monitor the burden and changing levels of diseases, which can provide the evidence for public health interventions such as immunisation.

ROLES AND RESPONSIBILITIES OF NATIONAL AGENCIES



- The investigation and control of **foodborne illness outbreaks** are multi-disciplinary tasks requiring skills in the area of public health, environmental health, clinical microbiology, food and veterinary microbiology, food safety, food control, risk assessment and management.
- Need to define and agree roles and responsibilities of all central and local competent authorities
- Roles and responsibilities should be based on statutory legal powers
- Cooperation mechanisms between all agencies should be agreed

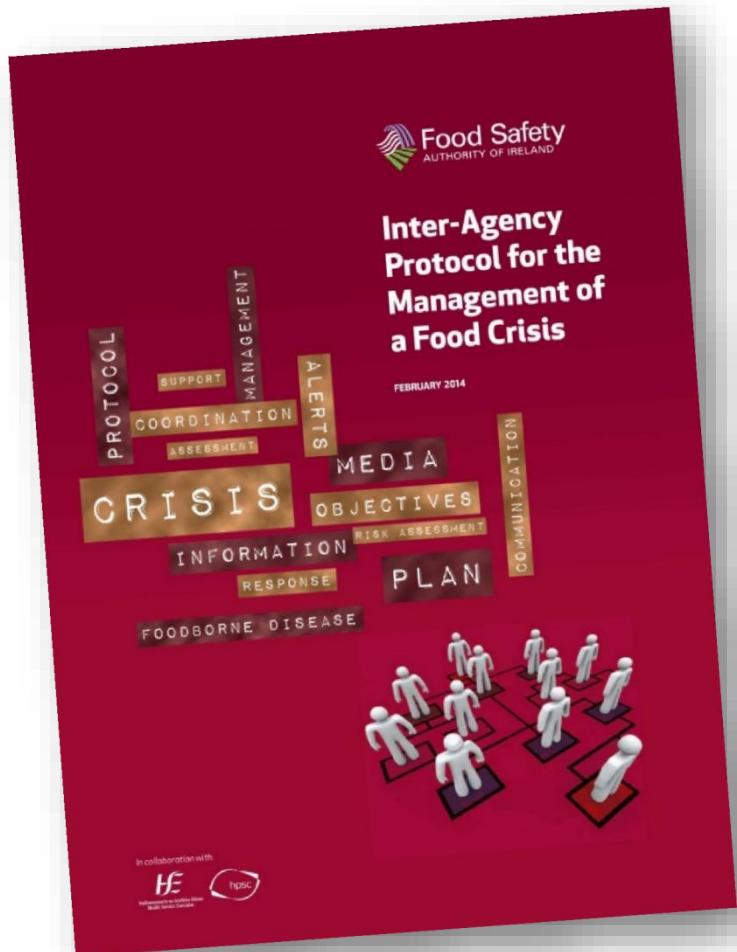
ROLES AND RESPONSIBILITIES OF NATIONAL AGENCIES



- The roles and responsibilities of different national agencies involved in Emergency Preparedness should include the following:
- health sector
- agriculture and fisheries
- food/feed safety sectors
- local authorities
- national reference laboratories
- sectors that liaise with industry, trade and academia.

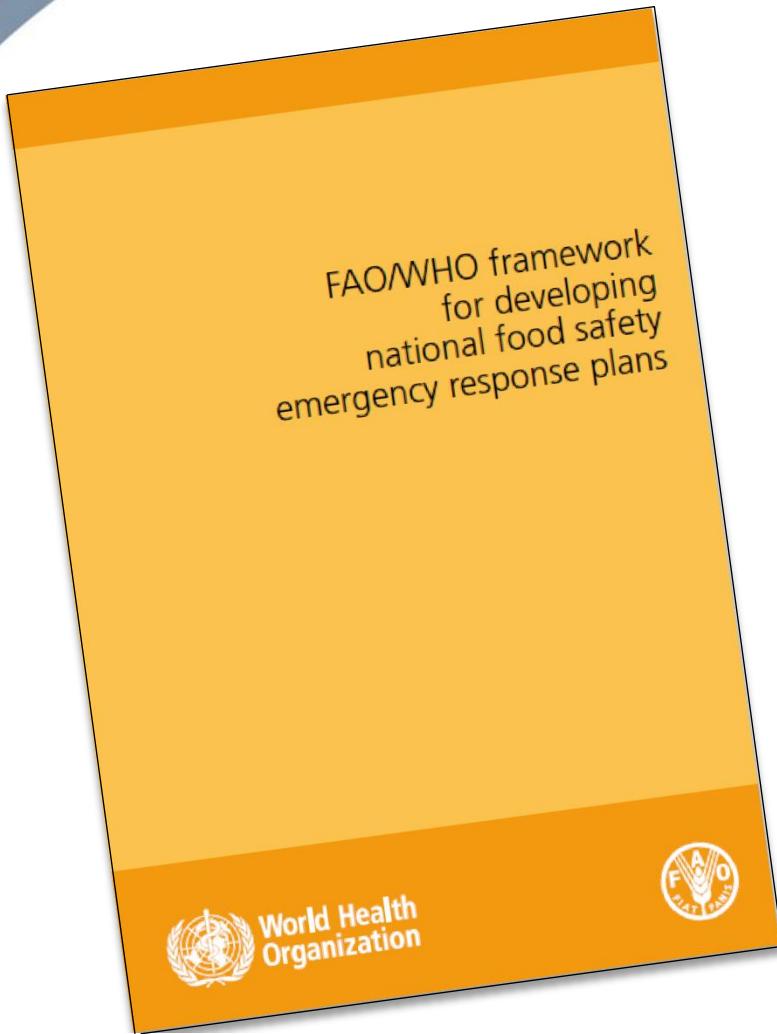


NATIONAL CRISIS NETWORKS – BEST PRACTICE?



- Role of each agency
- Contact persons
- Agreed areas for collaboration
- When and how to share information
- Annual meetings to review and evaluate

INTERNATIONAL BEST PRACTICE



- Guidelines for the formulation and implementation of integrated national food safety emergency response plans
- Responsibility for food safety is usually spread across a number of government agencies, all of which need to be involved in order to develop and implement an effective food safety emergency plan successfully.



Steps to establish a national crisis network:

- Establish inter-agency Working Group
- Agree terms of reference and *modus operandi*
- Define agency statutory responsibilities
- Agree structures and arrangements for ensuring that coordination and cooperation
- Agree lead agency coordinating the inter-agency response.

CONCLUSIONS



- Emergency planning is an essential component of the work of Competent Authorities
- A documented control plan for the management of foodborne disease outbreaks, specifying roles and responsibilities of all relevant agencies is essential for protection of public health
- When developing an Emergency Preparedness Plan, all relevant agencies and professional disciplines must be involved and take ownership and agree Plans of Action.

Contingency Plans



- A **Contingency Plan** is a course of action designed to help an organisation respond effectively to a significant future event or situation that may or may not happen.
- In the context of EU Food Law, a Contingency Plan sets out measures to be implemented without delay when feed or food is found to pose a serious risk to humans or animals either directly or through the environment.



- **When a Contingency Plan becomes a Food Safety Emergency Response Plan?**
- A contingency plan designed to effectively respond to a food safety emergency or food safety crisis, may be called an Emergency Response Plan or a Food Safety Crisis Management Plan.



Regulation (EU) 2017/625

- Article 5, 1(i): Competent Authorities shall have contingency plans in place, and be prepared to operate such plans in the event of an emergency.
- Article 110: The MANCP shall contain information on the organisation of official controls, specifically information on the general organisation and operation of contingency plans.
- The preparation of the National Contingency Plan is an obligation for each Member State.



Regulation (EU) 2017/625

Contingency plans for food and feed

- (1) Member States shall draw up contingency plans for food and feed setting out measures to be applied without delay when food or feed is found to pose a serious risk to human or animal health either directly or through the environment.
- (2) The contingency plans for food and feed shall specify:
 - (a) the competent authorities to be involved
 - (b) the powers and responsibilities of the authorities
 - (c) channels and procedures for sharing information between competent authorities and other parties concerned.

FOOD AND FEED CONTINGENCY PLANS - PRINCIPLES

- National food and feed contingency plans differ between countries – “**no one size fits all**”
- When developing contingency plans a multiagency and multidisciplinary approach needs to be taken
- An effective response can be achieved only through coordination and cooperation of the various national agencies that have responsibilities for food and feed control.



Contingency Plans

FOOD OR FEED CRISIS: DEFINITION

“Food or feed incidents which have high risk characteristics and likely involve wide scale food distribution or are of such circumstances as making it necessary to consider them in the same way. The capacity to control the incident is beyond the normal capabilities of the official food control agencies and there is the potential for significant disruption to routine work activities. There is the likelihood that the incident will take some time to control and will need extra resource allocated to deal with it”

“Food safety emergency: A situation, whether accidental or intentional, that is identified by a competent authority as constituting a serious and as yet uncontrolled foodborne risk to public health that requires urgent action”

Principles and guidelines for the exchange of information in food safety emergency situations. CAC/GL 19–1995, Rev. 1–2004

PREPARING NATIONAL CONTINGENCY PLANS

- In some countries the mandate for preparing and implementing contingency plans may be stipulated in legislation
- Task of initiating a process to develop food/feed contingency plan usually falls to a specific government agency
- *Essential* - Multiagency collaboration will be required to develop this plan.
- **What is the situation in your country?**



Categorisation of Incidents Activating the Plan

- Scope
- Out of Hours Contacts

Establishing the Crisis Team

- Crisis Team
- Risk Assessment
- Crisis Control Centre

External Interactions

- Stakeholder Information and Operational Teams

Communications - Reporting and Closure

Food Incident means the circumstances surrounding the identification of a hazard which poses a risk to health and can be considered as (but not exclusively):

- An event which has potentially harmful implications to the public resulting from the consumption of food
- The identification of contaminated foodstuff, that if consumed may lead to illness
- The identification of serious human illness that may be linked to contaminated food
- The identification of unhygienic practices in a food business of such a degree as to present an immediate danger to consumers' health
- The identification of irregular or illegal practices in any food business or in the distribution network that could pose a threat to consumers' health
- Biological or chemical contamination resulting from deliberate tampering or a terrorist event.



The decision to activate the Crisis Management Plan will depend on the following criteria:

- nature of the hazards
- risks associated with these hazards
- complexity and magnitude of the emergency
- distribution and quantity of food implicated
- severity of the health effect
- population at risk
- resources available to deal with the emergency

Food Alert means a notification issued by the central competent authority to official agencies and food businesses relating to an identified hazard.

A Food Alert may result from, but not be limited to:

- information received through a RASFF notification
- a problem identified by a food producer
- a problem identified by an enforcement agency through food testing or investigative work.

PURPOSE OF OUTBREAK INVESTIGATION(1)



- Determine that an outbreak actually exists
- Identify cases and population at risk
- Agree the types of investigations that need to take place and which agency is responsible
- Coordinate case finding and interviews
- Identify the aetiological agent and the implicated food(s)
- Identify the source of the contamination

PURPOSE OF OUTBREAK INVESTIGATION (2)



- Implement necessary control measures
- Act as a central point of contact for collating and issuing information
- Inform and update official agencies
- Provide necessary briefing to official agencies, Governments departments, other professionals, media etc. as necessary
- Produce interim and final outbreak reports, incorporating lessons learned.



WHO global burden of foodborne disease

Foodborne illnesses: norovirus, *Campylobacter* spp.

Foodborne deaths: non-typhoidal *Salmonella enterica*, *Salmonella Typhi*, *Taenia solium*, hepatitis A virus, aflatoxin

Foodborne DALYs: non-typhoidal *S. enterica*, enteropathogenic and enterotoxigenic *Escherichia coli*; *Taenia solium*, norovirus, *Campylobacter* spp.

SURVEILLANCE IN THE PUBLIC HEALTH SECTOR



- Indicator-based surveillance: a number of Food and Water- borne Diseases (FWD) are notifiable as per Commission Implementing Decision (EU) 2018/945
- Event-based surveillance: the Epidemic Intelligence Information System (EPIS) is a web-based communication platform that allows nominated public health experts to exchange technical information to assess whether current and emerging public health threats have a potential impact in the EU. The platform connects the EU Member States, EEA countries and other non-EU countries



RAPID RISK ASSESSMENT OF PUBLIC HEALTH EVENTS

- Rapid risk assessment includes three components
 - ✓ **hazard assessment**
 - ✓ **exposure assessment**
 - ✓ **context assessment**
- Leads to characterisation of the risk
- A level of confidence is assigned to the rapid risk assessment

MULTI-SECTORAL COLLABORATION



What does a communication mechanism look like?

What will be communicated?	Who will receive the information?	Purpose of the information	Frequency of communication	Method of communication	Notes
Acute events					
<i>Report of suspected foodborne outbreak</i>	<i>Food safety manager</i>	<i>To inform the manager that an investigation has started</i>	<i>Within 24 hours of receipt of report</i>	<i>Email</i>	
Routine communications					
<i>Annual report on foodborne diseases</i>	<i>Food safety team</i>	<i>To inform the food safety team about the notifications of foodborne diseases and provide a summary of key foodborne outbreaks investigated</i>	<i>Each year on completion of the report</i>	<i>Email and presentation</i>	



FOOD SAFETY NEW DIRECTIONS:

FOCUSED INTERVENTION

Food Safety Action or intervention does not only relate to outbreaks, but as much to sporadic cases (the real risk/burden of foodborne disease)

- Survey foodborne disease and food contamination
- Assess the risk and the main factors affecting it
- Define efficient intervention(s) and monitor effect

CONCLUSION



- Foodborne Disease Burden relates to much more than foodborne disease outbreaks
- Foodborne disease surveillance must cover outbreaks as well as sporadic cases
- EPIS is a platform for the exchange of risk assessment information between Member States and the EU and is hosted by ECDC
- EPIS allows nominated public health experts to exchange technical information to assess whether current and emerging public health threats.



- **Absence of multisectoral collaboration has resulted in**
- a significant number of poorly managed emergencies
- EU surveillance work should be coordinated with WHO/FAO global networks
- Source Attribution will be possible for all important foodborne diseases in the near-future.



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THANK YOU FOR YOUR ATTENTION



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