



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

Pre-Publication Copy

June 2012

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations or of the World Health Organization concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO or WHO in preference to others of a similar nature that are not mentioned.

All reasonable precautions have been taken by the World Health Organization and the Food and Agriculture Organization of the United Nations to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied.

The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization or the Food and Agriculture Organization of the United Nations be liable for damages arising from its use. This report contains the collective views of an international group of experts and does not necessarily represent the decisions or the stated policy of FAO or of WHO.

Recommended citation: FAO/WHO [Food and Agriculture Organization of the United Nations/World Health Organization]. 2009. FAO/WHO guide for developing and improving national food recall systems. Rome. xxpp.

All rights reserved. Reproduction and dissemination of material in this information product for educational or other non-commercial purposes are authorized without any prior written permission from the copyright holders provided the source is fully acknowledged. Reproduction of material in this information product for resale or other commercial purposes is prohibited without written permission of the copyright holders. Applications for such permission should be addressed to the Chief, Electronic Publishing Policy and Support Branch, Communication Division, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, 00153 Rome, Italy, or by e-mail to copyright@fao.org or to WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland. Requests for permission to reproduce or translate WHO publications - whether for sale or for noncommercial distribution - should be addressed to WHO Press through the WHO web site (http://www.who.int/about/licensing/copyright_form/en/index.html).

ISBN xxx xx x xxxxxx x (NLM classification: XX xxx) ISBN xxx xx x xxxxxx x (FAO)

© FAO and WHO 2011

For further information on the joint FAO/WHO activities, please contact:

Nutrition and Consumer Protection Division Food and Agriculture Organization of the United Nations Viale delle Terme di Caracalla, 00153 Rome, Italy

Fax: +39 06 57054593

E-mail: proscad@fao.org, Web site: http://www.fao.org/food/food-safety-quality/

Department of Food Safety and Zoonoses World Health Organization

20, Avenue Appia, 1211 Geneva 27, Switzerland

Fax: +41 22 7914807

E-mail: foodsafety@who.int, Web site: http://www.who.int/foodsafety

Pre-Publication Copy (June 2012)			
EAC/MHC Guide for developing and improving national			
FAO/WHO Guide for developing and improving national food recall systems			
food recall systems			

Table of Contents

	•	nent						
A	Acronyms							
1	Introducti	on	1					
	1.1 Back	ground	1					
	1.2 Purp	ose of the document	2					
	1.3 Targ	et audience	2					
	1.4 Scop	e of the document	2					
	1.5 How	to use the document	2					
2	Terminol	ogy relevant to food recall and traceability	3					
	2.1 Wor	king definitions using the Codex terminology	3					
	2.2 Purp	ose of a food recall	4					
	2.3 Vari	ous practical types of food recall	4					
3	Prelimina	ry steps for developing and/or improving national food recall systems	4					
	Step 1. Und	erstanding the importance of shared responsibilities	4					
	Step 2. Revi	ew of the current national food recall system	5					
	Step 3. Cons	sideration of general issues	5					
	Step 4. Cons	sideration of country-specific issues	6					
4	National 1	food recall systems	7					
	4.1 Elen	nents of national food recall systems	7					
	4.1.1	Legal framework	7					
	4.1.2	Powers of the competent authority	7					
		Clearly defined roles and responsibilities						
	4.1.3.1	Government/competent authority	8					
	4.1.3.2	Industry/food business operators	8					
	4.1.3.3	International network (INFOSAN)	9					
	4.1.4	Effective communication and notification	9					
	4.1.5	Accurate record-keeping	. 10					
	4.1.6	Guidance materials and training	. 10					
	4.1.7	Review of national food recall systems	. 11					
	4.2 Trac	eability	. 11					
	4.3 Data	collection/exchange system	. 13					
5		and operating a national food recall system						
	5.1 Action	ons prior to a food recall, and initiation of recall	. 13					
	5.2 Exar	nple of a recall action decision tree	. 15					
6		ıl management						
	6.1 Elen	nents of food recall management	. 16					
	6.1.1	Competent authority and multiagency approach	. 16					
	6.1.2	Interaction between the competent authority and the recalling food business operator	16					
	6.1.3	International dimension	. 17					
	6.1.4	Communication to the public	. 18					
	6.1.5	Documentation of recall events and related activities						
	6.2 Exar	nple of a food recall workflow	. 18					
	6.2.1	Initial communication with relevant partners (government and industry)						
	6.2.2	Initiation and implementation of food recall across the food chain	. 19					
	6.2.2.1	Trace-forward activities						
	6.2.2.2	Trace-back activities	. 20					
	6.2.3	Monitoring and documentation of the recall	. 20					
	6.2.4	Verification of retrieval, correction or disposal of affected food items						
	6.2.5	Providing consumer advice (industry and government actions)						
	6.2.6	Monitoring actions to prevent the recurrence of unsafe products						
	6.2.7	General evaluation of the recall						
		nple scenarios for different types of food recall						
	6.3.1	Scenario 1: A simple recall scenario triggered by a contaminated food						

Pre-Publication Copy (June 2012)

6.	.3.2	Scenario 2: Event triggered by a contaminated ingredient	25
6	.3.3	Scenario 3: Event triggered by an outbreak of food-borne disease	26
6	.3.4	Scenario 4: Event triggered by an international source	27
6.4	Exa	mples of useful tools	
6	.4.1	Examples of recall activity flows	
	6.4.1.1	Generic food recall activity flow for food business operators in collaborat	ion with
	compe	tent authority	29
	6.4.1.2	Activities of the competent authority during a food recall	30
6	.4.2	Example checklists, questions and forms	31
	6.4.2.1	Questions to be considered when drafting or reviewing food legislation	31
	6.4.2.2	Example of a trade notification form	32
	6.4.2.3	Example of an in-store notification or paid newspaper advertisement	33
	6.4.2.4		
	6.4.2.5	Food recall report	35
	6.4.2.6	Fax/letter template (distributors/wholesales/retailers/restaurants)	38
	6.4.2.7	Recall effectiveness check (letter, on-site visit)	39
	6.4.2.8	Phone call/personal visit template/worksheet	41
	6.4.2.9	Public warning template (Salmonella)	43
7 C	onclusi	ons	44
Resou	rces		44

Acknowledgement

FAO/WHO would like to express its appreciation to the many people who provided advice and guidance during the preparation of this document. This document was prepared for FAO and WHO and is the result of the joint effort of many contributors. The development of the document was coordinated by Jean-Michel Poirson (FAO), Masami Takeuchi (FAO), Peter Ben Embarek (WHO) and Carmen Savelli (WHO). FAO/WHO is grateful to the international experts who participated in the drafting workshop, namely Gabriela Catalani (Argentina), DongMi Choi (South Korea), Lauren Heins (Australia), Robert M. Kilonzo (Kenya), Eunjeong Kim (South Korea), Kim Leighton (Australia), Ken Marcynuk (Canada), Rosa M. Peran i Sala (the Netherlands), Alan Reilly (Ireland), Bob Reinherd (USA), Sudhanshu (India), Marianne Tegel (Australia), Rudolf Walter (Switzerland), Armando Zamora (USA) and Rima H. Zumot (Jordan). The document was also peer-reviewed by Thouraya Annabi Attia (Tunisia), Melanie Fisher (Australia), Steve Hathaway (New Zealand), Claus Heggum (Denmark), jan van Kooij (the Netherlands), Noraini bt. Dato' Mohd. Othman (Malaysia) and Steven Solomon (USA); the technical editing was provided by Sarah Binns. Technical contributions from Cornelia Boesch (FAO), Jeffrey Farber (FAO), Caroline Merten (FAO), John Ryder (FAO), Jenny Bishop (WPRO/WHO), Ashok Bhurtyal (SEARO/WHO), Barbara J. Butow (WHO) and several other FAO/WHO colleagues are also gratefully appreciated.

Acronyms

FAO Food and Agriculture Organization of the United Nations

HACCP Hazard analysis and critical control point

IHR International Health Regulations

INFOSAN International Food Safety Authorities Network

SLDB Small and less developed businesses

WHO World Health Organization
WTO World Trade Organization

1 Introduction

1.1 Background

FAO/WHO has identified capacity development in food safety emergency response preparedness and planning to be a key element in preventing food safety emergencies and in mitigating their public health and socio-economic impacts. A framework for food safety emergency planning was developed to assist countries in the formulation and implementation of national food safety emergency response plans. In doing so, it was recognized that further guidance was necessary to ensure that countries are prepared to address food safety emergencies. Consequently, FAO/WHO has developed a guide to the application of risk analysis principles and procedures during food safety emergencies. The present document is an additional and essential guide on food recall to assist countries in the establishment and implementation of an effective national food recall system which may also be used during food safety emergencies.

Food recall is a fundamental tool in the management of risks in response to food safety events and emergencies. Some countries are still in need of an effective recall system and the necessary infrastructure to support it. For example, a robust legal basis/regulatory framework, effective preestablished protocols and the necessary collaboration between competent authorities and food business

-

¹ **FAO/WHO.** 2010. *FAO/WHO framework for developing national food safety emergency response plans*. (http://www.fao.org/docrep/013/i1686e/i1686e00.pdf).

² **FAO/WHO.** 2011. *FAO/WHO guide for the application of risk analysis principles and procedures during food safety emergencies.* (http://www.fao.org/docrep/014/ba0092e/ba0092e00.pdf).

operators are required. In addition, foods and the ingredients in food products are increasingly grown, processed and consumed in different locations around the globe. This poses new challenges in the conduct of key activities associated with food recalls, such as the trace-forward and trace-back activities required for a food suspected or confirmed to be unsafe. Even countries that have established the most advanced science-based national food control systems may be challenged by the globalization of food markets.

1.2 Purpose of the document

The purpose of the document is to support countries in establishing and implementing an effective national food recall system to respond to food safety events or emergencies. By drawing on demonstrated best practices, the elements for an effective national food recall system, and the process for establishing, reviewing and/or improving the national food recall system, are described as essential components of a national food control system.⁴

1.3 Target audience

The primary target audience comprises the competent authorities and all other national authorities working in the area of food safety. While developed mainly for government agencies, this document may also be useful for other organizations that engage in activities within the area of food safety, including those in the private sector. In recognition of the importance of relying on effective national food control systems in the application of food safety risk analysis during emergencies, this document also addresses the specific needs of countries that are in the process of developing their national food control systems.

1.4 Scope of the document

The document outlines best practice on how to: 1) develop and/or improve, 2) review and 3) implement effective national food recall systems as a key management option in the response to food safety events or emergencies.

This document should not be regarded as an additional standard, nor as a model for food recall, but rather as guidance based on a collection of examples of demonstrated good practice provided by experts from various parts of the world.

1.5 How to use the document

There are seven chapters in this document. The first (current) chapter is the introduction, which describes the background, purpose, target audience and scope. The second chapter introduces terminology relevant to food recall and traceability, including working definitions for this document, as well as the various purposes and practical types of food recall. The third chapter, "Preliminary steps for developing and/or improving national food recall systems", outlines guidance for the preliminary activities performed when countries initiate the process to develop and/or improve national food recall systems. The fourth chapter, "National food recall systems", discusses the key elements of a national food recall system. The fifth chapter, "Setting up and operating a national food recall system", outlines practical actions that are useful to consider when implementing a national food recall system. The chapter also includes an example of a recall action decision tree. The sixth chapter, "Food recall management", summarizes the main factors that are critical in food recall management, using an example of a food recall workflow as well as several example scenarios for different types of food

³ Unsafe food is defined according to national legislation.

⁴ FAO 2006. Strengthening national food control systems: guidelines to assess capacity building needs. (ftp://ftp.fao.org/docrep/fao/009/a0601e/a0601e00.pdf)

recall, and example tools, checklists, questions and forms. The last chapter provides a conclusion and overall guidance for the development of effective national food recall systems.

Although this document can be used as a stand-alone resource, it is strongly recommended that it is read in conjunction with two FAO/WHO documents, entitled FAO/WHO framework for developing national food safety emergency response plans and the FAO/WHO guide for the application of risk analysis principles and procedures during food safety emergencies (see Resources).

2 Terminology relevant to food recall and traceability

2.1 Working definitions using the Codex terminology

In this document, some technical terms are applied that are based on the terms generally used in various Codex Alimentarius documents.⁵ However it has been recognized that various aspects of terminology and definitions are specific to food recalls. They differ among countries, and translations in various languages increase the confusion associated with the terminology. In order to avoid such confusion, the following working definitions have been adopted for the purpose of this publication. Readers should note that these are not official FAO/WHO definitions, but terms that have been used in this document in an attempt to minimize misunderstanding.

<u>Food recall:</u> "The action to remove food from the market at any stage of the food chain, including that possessed by consumers". In this document, food recalls are discussed in relation to food safety issues. Note on terminology: The term "withdrawal" is used widely in relation to food recall; however, the meaning of the term varies significantly among different countries and languages. For example, some countries use "withdrawal" to indicate the retrieval of a food item that did not reach consumers, while other countries use the same term to indicate the retrieval of a food item because of reasons unrelated to safety (e.g. quality). In addition, some other countries use "withdrawal" to indicate the retrieval of a food item by food business operators, in contrast to an action taken by the national authority. To avoid confusion, particular terms, such as "withdrawal", that are used in some cases to indicate particular types of food recall, are not used in this document.

<u>Food recall plan:</u> "The procedures and arrangements that a food business operator may have in place to retrieve food and food products from the food chain if a problem arises."

<u>National food recall system</u>: "The system/framework that national governments put in place for effective food recalls." The system/framework may include the legislative framework, guidance, training, communication mechanisms, record-keeping, evaluation, etc.

<u>Food business operator</u>: "The person/company who undertakes, whether for profit or not, any activities related to any stage of the food chain."

<u>Competent authority</u>: "The relevant government agency/ministry/authority/unit/group that is tasked with the responsibility for ensuring that recall systems are in place and operate according to requirements." For example, the competent authority may regulate, enforce, implement, inspect, audit and verify food recalls conducted by food business operators.

<u>Traceability</u>: In the food chain, traceability or product tracing is defined by the Codex Alimentarius Commission as "the ability to follow the movement of a food through specified stage(s) of production, processing and distribution".⁶

⁵ Codex Alimentarius Commission. http://www.codexalimentarius.org/

⁶ CODEX Alimentarius Commission. *Procedural Manual*. Twentieth edition.

2.2 Purpose of a food recall

For competent authorities, the major objective of a food recall is to protect public health, by ensuring that:

- there is rapid removal of unsafe food³ from all possible stages of the supply chain;
- the concerned consumers and customers are informed; and
- the food under recall has been retrieved, destroyed or reprocessed.

In order to determine whether or not a food recall is necessary, the FAO/WHO *Guide for the application of risk analysis principles and procedures during food safety emergencies*⁷ provides guidance on the application of risk analysis and various risk management options, including food recalls.

2.3 Various practical types of food recall

Several countries have categorized and classified types of food recall, depending on their operational, legislative and/or organizational situations. When developing a national food recall system, different categories and classifications of recall might be established, as necessary, to accommodate the situation in a particular country. However, this guide does not have the objective of differentiating, comparing or evaluating various types of food recall. It documents effective options and possible selection criteria to guide countries in making the most appropriate choices when building, or improving and implementing, their national food recall system.

3 Preliminary steps for developing and/or improving national food recall systems

Step 1. Understanding the importance of shared responsibilities

The first step in the development or improvement of a national food recall system is to understand and emphasize the importance of the shared responsibility between the government/competent authority and the food industry. This includes acting decisively and rapidly to remove unsafe food from the market and to inform consumers of the problem when the unsafe food has reached them, in the interest of protecting public health.

Effective national food recall systems rely on food business operators to take action to recall foods under the guidance and oversight of the competent authority. As such, the competent authority should consult with the food industry, preferably food industry representative bodies and retail and trade organizations, during the development of the national food recall system. The competent authority's responsibilities include: providing oversight; advising/monitoring/enforcing/coordinating actions among all food business operators and collaborating with other national authorities involved in the recall; assisting and guiding the food business operator performing the recall; and communicating with stakeholders, including consumer organizations, relevant international bodies and competent authorities in other countries.

Specifically, food business operators are primarily responsible for the removal of unsafe food from the market in cooperation with the competent authorities. The benefits of an effective national recall system with shared responsibilities are that public health is protected and the damage that has occurred to the reputation of the food business operator and the food sector is mitigated, while confidence is maintained in the food supply.

⁷ **FAO/WHO.** 2011. (http://www.fao.org/docrep/014/ba0092e/ba0092e00.pdf).

Step 2. Review of the current national food recall system

When developing a national food recall system, and in order to build on or improve the current situation where necessary, it is important to consider whether the following key elements are included in the current system:

- a legal framework enabling powers of the competent authority;
- clearly assigned roles and responsibilities of the implementing partners (food business operators and competent authorities);
- capability for effective and timely risk management decision-making
- provision/availability of guidance materials and training;
- an effective mechanism for information exchange among the implementing partners;
- procedures for effective communication with media and consumers;
- procedures for accurate documentation and record-keeping;
- effective mechanisms for verification and evaluation.

It is critical that the competent authority undertakes the review with partners from both the public and private sectors, who have knowledge and experience in the elements of a food recall.

Useful tip: Items to be reviewed for their availability and effectiveness when assessing the current national food recall system

These may include:

- a food safety policy addressing food recall;
- legal framework, including legislation, regulations, standards and codes of practice:
 - o legislation requiring food business operators to recall unsafe foods from the market;
 - o legislation/standards providing the means (e.g. metrics, maximum limits) to assess whether a food is unsafe;
 - o requirements (or exemptions) for food business operators to have traceability systems;
 - o legislation providing the power for the competent authorities to enforce a food recall;
 - o requirements for food business operators to have food recall plans in place;
 - o requirements for food business operators to notify the competent authority when they have reason to believe that the food they have supplied is unsafe;
- roles and responsibilities of various agencies at different levels of government;
- roles and responsibilities of food business operators;
- a contact point within the competent authority for food recalls;
- a mechanism that enables central coordination during food recalls;
- existing arrangements for the competent authority to work together with regional and international partners for information exchange during a recall;
- existing arrangements for notification of a recall to regional and international networks (e.g. INFOSAN);
- existing arrangements for risk communication (including media management and consumer advice);
- levels of knowledge and experience of the staff responsible for implementation of the national food recall system, including a continuous training plan;
- mechanism and requirements for documentation of food recalls;
- mechanism for review of the national food recall system on a regular basis.

Step 3. Consideration of general issues

It is beneficial for a national food recall system to be established as an important part of an effective national food control system. However, even the absence of a well-developed national food control system should not preclude the development of national food recall system.

Prior to developing or improving a national food recall system, the following general issues may be considered.

- The existence of a multi-sectorial and interagency coordination mechanism at a national level is a key element of an effective national food recall system.
- A tiered approach is useful when a given country has a government structure with more than two levels (i.e. federal, national, provincial, local, etc.) or where food safety responsibilities are divided among various agencies. Clearly defined roles and responsibilities for all partners in all the tiers are essential in such situations (e.g. are the food business operators aware of which competent authority must be notified in the case of a recall?).
- Recall terminology needs to be defined clearly at a national level to ensure consistency and unified understanding among stakeholders. It is also important to note that recall terminology and definitions vary among countries, even those with the same language.
- A food recall is one risk management option used by a competent authority, together with the food industry, and should be considered within the context of a risk-based national food control system.
- A national food recall system may be applied for unsafe food³ as well as for various other purposes and situations (e.g. food and feed safety, non-compliance, suitability, etc.)
- The wide variation in the complexity of the food chain (from a simple processing and marketing chain to a lengthy and intricate system) may have an impact on conducting some food recalls.
- Owing to globalization of the food supply, there is a strong need for international collaboration and exchange of information at the international level.

Step 4. Consideration of country-specific issues

The development or improvement of national food recall systems involves taking into consideration the government's structure, organization and capabilities, and the level of development of the sectors within the food chain. Therefore, the competent authority may need to consider a list of minimum requirements that are realistic to perform during the implementation of a food recall.

An effective national food recall system encompasses food intended for both the domestic and international markets. Therefore the competent authority may need to consider the country's import/export situation in order to identify requirements for detailing notification and recall of products from importing/exporting firms in their food recall plan.

Consideration may also be given to small and less developed businesses (SLDB), including street food vendors and market stalls. During a food recall, SLDBs may require more assistance from the competent authorities and some of the recall responsibilities may not be applicable. Recognizing that it would be difficult for the informal sector to conduct a food recall, competent authorities may consider a national policy to encourage the informal sector to move towards a more formalized structure.

Some countries may face specific challenges, including limited resources, which may have an impact on the implementation of a food recall. In order to facilitate resource allocation in the event of a recall, a competent authority may also consider defining different types of food recall. These determinations may be based on risk, for example a risk categorization system.

The competent authority may also identify its need for capacity development to build a national food recall system or a complete national food control system. International organizations such as FAO and WHO can provide support for capacity development during the establishment and improvement of such systems.

4 National food recall systems

4.1 Elements of national food recall systems

National food recall systems provide a framework, put in place by national governments, to support competent authorities and food business operators in protecting public health through the effective removal of unsafe food³ from the market.

The principles taken into account when developing an effective national food recall system include: 1) the legal framework, 2) the powers of the competent authority, 3) clearly defined roles and responsibilities, 4) effective communication and notification, 5) accurate record-keeping, 6) guidance materials and training and 7) review of the national food recall system.

4.1.1 Legal framework

Under the national legal framework, food business operators should only be allowed to market safe food. This usually includes a provision that requires food business operators to recall unsafe food from the market.

The optimal key components of a legal framework include:

- provisions for food business operators to have food recall plans in place and to test the plans periodically;
- provisions to empower the competent authority to enforce recalls, when required;
- provisions for food business operators to have traceability systems in place that, at a minimum, enable them to record from whom supplies are purchased and to whom final products are sold (the "one-step-back and one-step-forward" principle);
- provisions to exempt food business operators who sell food directly to consumers from the requirement to maintain trace-forward records;
- provisions for food business operators to notify the competent authority when they have reason to believe that the food they have supplied is unsafe;
- provisions for food business operators or the competent authorities to inform consumers adequately about the health hazards of the specific unsafe food.

Reminder: Recall of imported and exported food may affect international trade. Consequently, countries developing or upgrading their legal framework supporting food recall should ascertain its compatibility with their international obligations, for example the sanitary and phytosanitary agreement (SPS) or the agreement on technical barriers to trade (TBT), and should notify relevant regional or international organizations (e.g. WTO).

4.1.2 Powers of the competent authority

Under the legal framework, the competent authority should be empowered to compel a food business operator to undertake a recall. The competent authority should be able to supervise food business operators while undertaking the activities associated with a food recall when they find or have reason to believe that the food they have supplied is unsafe. The legal framework should empower the competent authority to enforce the provisions associated with food recall and traceability, and to exercise legal action against food business operators who are in violation of these provisions. In such instances, the competent authority should be given legal authority immediately to detain and seize unsafe food regardless of its location and in accordance with the national legal system. The competent authority should have authority to investigate the origin and destination of the incriminated food, as well as to communicate with any business operators or the general public about unsafe food, as appropriate, to ensure protection of public health and to initiate necessary legal procedures. To undertake this function, the competent authority should be granted the powers to inspect food business

operators and routinely to conduct inspection/audit to verify documentation associated with the recall plan and traceability system.

4.1.3 Clearly defined roles and responsibilities

4.1.3.1 Government/competent authority

The main responsibility of the competent authority is to protect consumers against health risks. Under a national food recall system, the responsibility for monitoring/coordinating and enforcing a recall may be spread across different agencies. Hence, it is important to have national agreement on clearly defined roles and responsibilities to ensure efficient coordination among these agencies.

Key responsibilities of the competent authorities involved in the coordination and enforcement of food recalls may include some of the following actions, depending on the nature of the recall:

- establish an effective national food recall system;
- initiate a recall of unsafe food³ as a result of an outbreak of food-borne disease or monitoring and surveillance programmes that indicate an unacceptable level of risk, and require food business operators to remove unsafe food from the market;
- engage with food business operators to develop guidance on the establishment, implementation and maintenance of food recall plans and traceability;
- provide advice to food business operators on the assessment of risk and appropriate risk management actions;
- provide a system/mechanism to allow food business operators to notify the competent authority when they have reason to believe that the food they have supplied is unsafe;
- assist the recalling food business operator in undertaking activities associated with the recall;
- verify the effectiveness of the recall activities;
- provide a system/mechanism to allow food business operators to report on the progress of recall activities;
- cooperate with relevant government agencies at national and international levels;
- conduct an ongoing food safety investigation, where necessary, to identify additional possibly implicated foods;
- order and enforce a recall if a food business operator has failed to comply with their legal obligations;
- ensure that consumers and customers are informed and their questions and concerns are managed appropriately;
- seize or order the destruction, re-processing/re-conditioning or alternative use of recalled food where necessary;
- work with food businesses to ensure that appropriate actions are put in place to prevent a recurrence of the hazard that caused the production or sale of unsafe food;
- notify the relevant authorities if the unsafe food has been exported.

4.1.3.2 Industry/food business operators

Food business operators have the primary responsibility, once they have identified or been notified that they have supplied unsafe food³ to the market, to recall such food in the interest of protecting public health. Key responsibilities of food business operators involved in the food recall may include the following actions:

- establish and maintain a food recall plan using the appropriate documented operational procedures;
- maintain records of whom they have sourced food from (including ingredients and raw materials) and sold food to, as part of the food traceability system;

⁸ **FAO/WHO.** 2010. (http://www.fao.org/docrep/013/i1686e/i1686e00.pdf).

- establish procedures for verification of traceability and recall (e.g. conduct regular recall simulation exercises to ensure that contact lists are up to date and staff are trained appropriately);
- train their staff to execute the food recall plan;
- remove unsafe food rapidly from the market;
- inform the consumers concerned, if the food under recall has reached them;
- notify and cooperate with the competent authority when undertaking recall activities;
- notify other relevant food business operators within the food chain;
- communicate recall details and information to relevant parties and respond to media and consumer queries;
- manage the recalled product appropriately (safe disposal or reprocessing);
- undertake a regular evaluation of their food recall plan, taking into consideration lessons learned from previous recalls. As a result of this analysis it may be necessary to revise the recall plan.

4.1.3.3 International network (INFOSAN)

The International Food Safety Authorities Network (INFOSAN) is the global network managed by FAO/WHO that is used to share information rapidly with competent authorities. INFOSAN helps both government and industry to recall contaminated food that has been distributed internationally. It provides an important platform for the rapid exchange of information in the case of international food safety events and for emerging food safety issues.

If a food subjected to a recall has entered international trade, the competent authority needs to establish early contact with $INFOSAN^9$ in order to facilitate the sharing of information with international counterparts.

4.1.4 Effective communication and notification

Competent authorities should provide a mechanism for food business operators to notify them when they have reason to believe that the food they have supplied is unsafe. A single designated point of contact is beneficial for the provision of consistent information and for coordinating the activities of competent authorities and the food industry during a recall. The notification system should be robust and functional under the specific scenarios within the country or region. The mechanism for notification may be an Internet-based reporting system, or simply an established single contact point that may be reached using a phone number or email address. Once a mechanism has been established, it is important for the competent authority to inform all food business operators of the process, so that they can notify the competent authority of a recall in a uniform and timely manner. During a food recall, the competent authorities need to communicate with other agencies to optimize resources and ensure that effective recall activities are in place.

In a food recall situation, effective communication by the recalling food business operator is critical to ensure accurate, detailed and timely exchange of information about the food subjected to the recall. The exchange of information needs to occur with all stakeholders, including competent authorities, other key government agencies, the media, consumers and other relevant food business operators.

Risk communication to explain the nature of the problem and its impact on consumer health is often required by competent authorities during a food recall and is part of the broader plan for risk communication during food safety events. The FAO/WHO *Guide for the application of risk analysis principles and procedures during food safety emergencies* ¹⁰ provides additional principles for communication that may be applied during recalls.

9

⁹ Contact details for the INFOSAN Secretary: <u>infosan@who.int</u> (primary) and <u>infosan@fao.org</u>.

¹⁰ **FAO/WHO.** 2011. (http://www.fao.org/docrep/014/ba0092e/ba0092e00.pdf).

4.1.5 Accurate record-keeping

Recall activities and correspondence should be documented accurately and maintained by both the food business operators and the competent authority. The competent authority may conduct an inspection or audit to verify the documentation and records associated with the removal, tracing and disposal of the recalled food. Such records may be requested in associated legal proceedings and insurance investigations.

4.1.6 Guidance materials and training

Competent authorities are strongly recommended to provide guidance materials and training for food business operators to assist them in establishing a robust and applicable food recall plan and in conducting effective food recall activities. It may also be useful to include the details of the contact point for the competent authority in the guide.

Example: Guidance on recall for food business operators

Guidance material on the process of conducting food recalls, developed by the competent authority, could recommend that food business operators:

- develop clear definitions of essential terms;
- describe the process of a food recall;
- clearly define roles and responsibilities during a recall, and train staff in their roles and responsibilities;
- implement a documented one-step-forward/one-step-back traceability system;
- be aware of legal requirements;
- have in place a communication process to inform the competent authority;
- have in place a communication process to inform other food business operators within an affected supply chain, and consumers;
- clearly define the obligations for notification and its process;
- have in place a verification process for recall effectiveness and the appropriate management of products being recalled;
- implement a review process.

Example: Guidance on risk communication for food business operators

During a food recall, to ensure that communication reaches all target audiences, a range of vehicles may be considered, including the use of appropriate channels such as telecommunications, in-store notices, newspapers, social media, TV and radio. If stakeholders are contacted by telephone, it is recommended that the time and date is recorded or that the phone call is followed up with a written notification.

The communication vehicle and the way in which information is presented should be tailored to the needs of the audience, including targeting those at greatest risk, and should consider literacy and the languages spoken. If possible, the effectiveness of the communication should be monitored so that the approach can be changed if necessary.

Food recalls occur in a time-pressured environment, and experience has shown that the use of templates can improve accuracy and consistency when communicating with stakeholders during these events. It may be useful for competent authorities and food business operators to apply decision trees (to determine when to recall a food) and pre-made notification forms, letters to other food business

operators, paid advertisements, press releases and post-recall reporting forms that are adapted to foreseeable needs. To assist, it may be useful to provide such templates/examples in guidance materials.

4.1.7 Review of national food recall systems

A national food recall system should be reviewed on a regular basis (e.g. every few years). Contracting an independent party could facilitate this review process and provide an impartial judgement on the effectiveness of the national system. Alternatively, the competent authority could develop a questionnaire for stakeholders, requesting feedback on the efficacy of the recall system. Based on the results of the review and the lessons learned, it may be necessary to revise the national food recall system.

In addition, an immediate joint review of the recall plan, conducted in collaboration with the food business operator, could be performed after an emergency in order to take stock and eventually to remove pitfalls noticed during the emergency phase. As a result of this analysis, it may be necessary for the food business operator to revise the recall plan, or to take into consideration lessons learned from previous recalls to ensure that suitable corrective and/or preventive measures have been implemented.

Useful tip: Possible questions to assist in reviewing and assessing the effectiveness of the national food recall system

- Is there a documented national food recall system in place?
- Is there a legislative basis for this system?
- Are the roles of the competent authority(-ies) sufficiently well defined?
- Have relevant staff been trained to carry out their role in a recall?
- Is there a system to verify that food business operators have an effective food recall plan in place?
- How could the cooperation and communication among the different stakeholders still be improved?
- What are the lessons learned during previous emergencies (see Section 6.2.7)?

4.2 Traceability

A traceability system is an effective tool with which food business operators can trace food throughout the food chain. The most common legal requirement is for food business operators to have, as a minimum, a documented one-step-back/one-step-forward traceability approach. Small food business operators with limited distribution may not be required to have a fully documented traceability system in place and may rely solely on their purchasing and sale records to act as their traceability records.

In the context of a food recall, the objectives of traceability are to:

- 1. identify uniquely a lot/batch/consignment of food in a way that allows tracing of the physical flow of the food forwards through the food chain to the immediate customer and tracing of the physical flow of raw materials backwards to the immediate supplier;
- 2. create and maintain accurate traceability records that can be provided within a short time period when needed for recall or at the request of the competent authorities.

Important! Key steps involved in establishing a traceability system:

- **Step 1.** Decide on the scope of the traceability system.
- **Step 2.** Decide on the size of the optimal production unit for tracing purposes (e.g. lot, batch, consignment). **Tip**: selecting larger production units can simplify tracing activities; however, it could mean that more food would have to be recalled should a food-related event occur.
- **Step 3.** Identify the traceability information needed, including information on food ingredients, internal processes, packaging material and food products.
- **Step 4.** Establish a system of record-keeping and retrieval.
- **Step 5.** Establish procedures for review and testing of the traceability system.
- **Step 6.** Document the traceability system.

If there is no traceability system required within the country's regulatory model, it is necessary to develop such a system. The system does not have to involve sophisticated information technology (IT)-orientated tools, but it needs to ensure effective record-keeping processes that follow the one-step-back and one-step-forward principle. In the initial stages of developing the system for a food chain, the competent authority may consider implementing traceability in a staged approach. The approach could be based on the activities that are most relevant in terms of the food safety risk categorization of the country, taking into consideration various risk factors (e.g. inherent food risk, distribution, complexity of handling, consumers at risk, level of compliance, data acquired from food-borne disease registers). It may be helpful to refer to the FAO/WHO publication entitled *Food safety risk analysis: A guide for national food safety authorities* for more information about risk categorization and risk factors.¹¹

_

¹¹ http://www.fao.org/docrep/012/a0822e/a0822e00.htm.

Example: Various types of traceability system in the fisheries sector



Basic traceability example 1: A sticky note memo on the products showing a batch/lot/consignment number is helpful.



Basic traceability example 2: A unique number is written on each fish.



Advanced traceability example 1: Information on the product can be displayed by scanning the barcode.



Advanced traceability example 2: Each box has a different barcode.

4.3 Data collection/exchange system

The competent authority should establish a mechanism to collect food recall information. This information can be analysed and exchanged with relevant parties. This mechanism can provide a platform for information sharing with other national and regional organizations and international networks (e.g. INFOSAN).

5 Setting up and operating a national food recall system

5.1 Actions prior to a food recall, and initiation of recall

A decision to recall a food can be triggered by a number of situations. A recall is often initiated by a food business operator on the basis of their knowledge, or because they have reason to believe that a food is unsafe.³ A recall may also be requested or ordered by the competent authority on the basis of an assessment of information they have received from different sources, including their own government departments, other governments, (including international government sources) inspection activities and laboratory findings, or the consumer. In any situation, the way in which the competent authority enforces a specific recall may vary according to the assessment of risk. For example, the competent authority may determine the level of resources required to manage a recall on the basis of the severity of risk and/or the distribution of the product being recalled.

Prior to a food recall that is not initiated by a food business operator, the competent authority often needs to conduct some of the following activities. These activities may occur in different orders and combinations.

- Identify food safety events through the different sources and channels (e.g. hospitalization cases, consumer complaints, food business reports, chemical hazard monitoring programmes).
- Initiate investigations of food safety events or food-borne disease outbreaks, including epidemiological investigations and laboratory analyses.
- Conduct a rapid risk assessment.
- Attribute the food safety event or food-borne disease outbreak to a food.
- Decide on the appropriate risk management options to undertake in order to mitigate the risk, and decide subsequently whether a recall has to be conducted as one of the options.

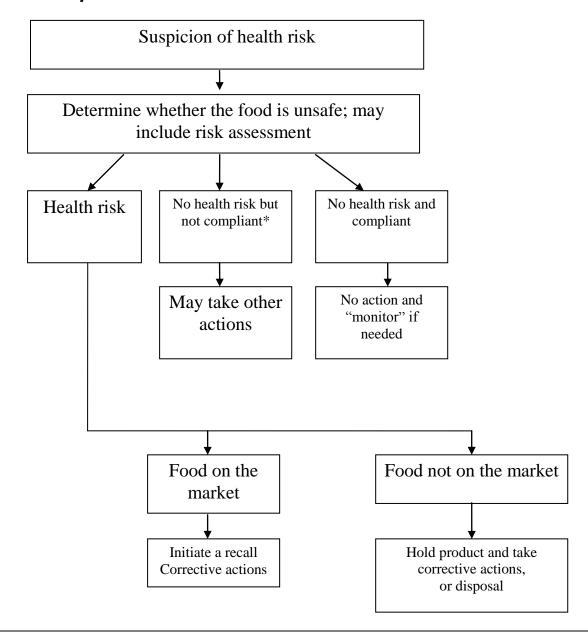
As a prerequisite to all of the above activities, and during the events that occur throughout a food recall, it is imperative that the competent authority has knowledge and understanding of the principles and procedures of risk analysis and is capable of applying these principles in decision-making. For further information, refer to the *FAO/WHO guide for the application of risk analysis principles and procedures during food safety emergencies.*¹²

Useful tip: Resource allocation

In order to facilitate resource allocation in the event of a recall, it may be useful for the competent authority to establish pre-set risk categories. An example may be a classification system based on risk that includes categories such as high, medium and low.

¹² **FAO/WHO.** 2011. (http://www.fao.org/docrep/014/ba0092e/ba0092e00.pdf).

5.2 Example of a recall action decision tree¹³



Note: This is a general illustration to show how a food recall process may occur. The actions shown in this diagram may be conducted by the competent authority, the food business operators or both.

*Example: In a given country, a product is found to be marketed domestically with a label stating "lactose". The country's legislation requires food products that contain lactose to have an allergen food label: "milk or products thereof". In this case the competent authority does not order a recall because consumers with milk allergies would be aware of lactose, but the food business operator will be ordered to re-label newly marketed products.

 $^{^{13}}$ In the decision tree, "compliant" refers to compliance with national food safety legislation.

6 Food recall management

6.1 Elements of food recall management

6.1.1 Competent authority and multiagency approach

In the management of a food recall, it is important that the competent authority leads the coordination activities between the different agencies and it takes a multiagency approach throughout the event. An important aspect of the management of a food recall is an assessment of the distribution of the food subjected to the recall to determine whether notification of other agencies is necessary. Notification of such agencies is essential and serves as an alert to the recall.

Useful tip: Preparedness for a multiagency approach for notification

Procedures that outline the notification process may be established to facilitate multiagency preparedness. Such procedures include, but are not limited to:

- identification of roles and responsibilities for communication and information sharing within the competent authority;
- identification of contact points to be notified. For example:
 - o partners within the national government;
 - o local government agencies (state, province, tribe, as applicable);
 - o foreign government agencies;
 - o international partners (e.g. national contact points for INFOSAN, WTO, IHR and their international counterparts).

6.1.2 Interaction between the competent authority and the recalling food business operator

For a successful food recall, it is essential to ensure timely, regular and effective communication between the competent authority and the recalling food business operator. Established procedures should include the necessary communication steps, so that appropriate monitoring can be conducted and appropriate measures taken to ensure the satisfactory progress and effectiveness of the recall.

Communication between the competent authority and the food business operators during a food recall is most effective when prior arrangements have been made that enable efficient communication in the case of an emergency. It is beneficial to establish contacts and reach agreement on the arrangements during the non-emergency period. Refer to the *FAO/WHO guide to the application of risk analysis principles and procedures during food safety emergencies*¹⁴ (page 36) for more information.

Example: Effective communication by the recalling food business operator

The competent authority needs to receive detailed information from the recalling food business operator(s). The information may include:

- a list of the recalled products;
- physical description of the products, including brand name, packaging description, date marking/batch sizes;
- distribution details;
- the nature of the health risk and description of possible symptoms;

¹⁴ **FAO/WHO.** 2011. (http://www.fao.org/docrep/014/ba0092e/ba0092e00.pdf).

- advice to consumers, including what to do if the recalled food has been consumed, action taken in response to the recall (disposal or return of recalled food), whom to contact with enquiries about the recalled food and information regarding possible health concerns;
- a list of premises where the recalled food has been available for sale;
- amount of time the recalled food has been on the market;
- actions taken/to be taken by the recalling food business operator;
- actions required by other food business operators;
- contact details for the recall coordinator of the recalling food business operator.

6.1.3 International dimension

The global distribution of food and the increasing complexity of the food chain require an efficient management system and effective communication among competent authorities at the international level, including communication of information related to recalls. This communication assists in the prevention and control of global food safety events and emergencies. Procedures for communicating recall-related information and distribution of the information to all foreign countries known to be affected and those that are potentially affected should be established. This procedure should include identification and contact information for contact points for the competent authorities in relevant foreign countries.

Example: Specific information possibly required by competent authorities in other countries

When notifying the competent authorities in other countries, the information may include, but is not limited to:

- the product;
- codes (lot/batch/consignment code or number);
- name of recalling food business operator;
- reason for recall;
- volume of product on the market, quantity, amount recovered, and disposal;
- distribution (e.g. name of foreign consignee);
- details of public notification, if applicable (e.g. press release);
- if applicable, and in the case of import/export situations:
 - o exporter name and contact information;
 - o importer name and contact information;
 - o container and shipping details (including country of origin, port of entry and destination);
 - o details of food business operators receiving the product and of their distributer(s), and relevant contact information.

It should be recognized that the recall process is dynamic, and information may change throughout the event because the initial recall information may be incomplete. The competent authority will need to communicate promptly any new, additional or updated information, as it becomes available, to all relevant foreign countries.

Important! Codex guideline on information exchange

As outlined in the relevant Codex guideline,¹⁵ each country should designate a primary official contact point for food safety emergency situations, which can act as a national contact point for information

_

¹⁵ CAC/GL 19-1995, REV-1 2004

exchange during international food safety events. The INFOSAN Secretariat maintains a list of these national contacts. "INFOSAN Emergency Contact Points" are the national contacts who are designated by the national agency responsible for coordination of national food safety emergencies. However, because food safety is a multidisciplinary endeavour, it is seldom dealt with by a single agency in any given country. INFOSAN also includes other members called "INFOSAN Focal Points" who act as contacts for other national agencies involved in food safety across the food chain. The INFOSAN Secretariat can play a coordinating role during international food safety events which involve a recalled food that has been shipped internationally, by helping to facilitate information exchange among INFOSAN Emergency Contact Points and Focal Points from different countries.

6.1.4 Communication to the public

Communication to the public is critical in the case of food that poses serious and dangerous health risks and has reached the consumer. More information on consumer advice is outlined in Section 6.2.5, and risk communication to the general public in the larger context is outlined in the *FAO/WHO guide* for the application of risk analysis principles and procedures during food safety emergencies¹⁶ (page 37).

6.1.5 Documentation of recall events and related activities

Documentation of recall events and the activities related to the monitoring of these events is essential. A system such as a dedicated recall database for recording recall information and activities should be considered for keeping track of all activities throughout the progression of the recall. This system could include:

- the recall plan;
- the outcome of the determination of the health or food safety risk;
- details of the recall initiation;
- the recall status updates or reports;
- notifications and public warnings;
- records of the disposal or reprocessing of the recalled products;
- records of the basis for the decision, monitoring and verification.

6.2 Example of a food recall workflow

6.2.1 Initial communication with relevant partners (government and industry)

The purpose of the initial communication is to define the food that has to be recalled and the reason for the recall, in a simple and well-structured format. The competent authority should put in place procedures that allow food business operators to share information without delay when conducting a recall. These procedures should also include instructions to ensure that the competent authority receives all relevant information related to the recall.

Example: Relevant information for the initial communication

The competent authority would expect to receive notification of the following.

- 1. **Identity of the food business operator** and person responsible for the recall (and/or contact point).
- 2. Identification of the reason for the recall:
 - 2.1. nature of problem/hazard (physical, chemical or biological hazard, undeclared allergen);

¹⁶ **FAO/WHO.** 2011. (http://www.fao.org/docrep/014/ba0092e/ba0092e00.pdf).

2.2. date and time at which the food business operator identified the problem (and the probable date of occurrence of the problem).

3. **Identification of the product**:

- 3.1. product name;
- 3.2. product description;
- 3.3. batch/lot/consignment codes involved (and evidence clarifying basis of limiting recall to those batches/lots);
- 3.4. quantity of product implicated;
- 3.5. country of origin/certificate for imported products;
- 3.6. production date;
- 3.7. shelf-life/expiration date.

4. Distribution details (if available):

- 4.1. how the product was distributed (e.g. wholesalers, distributors, retailers) and whether they know if the product has reached consumers;
- 4.2. quantity and batch/lot/consignment code of affected product sent to each food business operator;
- 4.3. the name and address of all food business operators receiving the recalled product.

5. Other information (if available):

- 5.1. results of tests performed (samples and analyses performed);
- 5.2. assessment of the problem and measures taken (or to be taken).

The competent authority may also define their preferred mode in which to receive this information. It may be appropriate to request the initial information by telephone, followed by written confirmation via e-mail, letter, or Internet application. See Section 6.4 for a model template for provision by the recalling food business operator to the competent authority.

6.2.2 Initiation and implementation of food recall across the food chain

When a food recall is initiated, the first priority is to identify where the food has been distributed (trace-forward activities). This ensures rapid cessation of the use, distribution and sale of the food to be recalled. Following the initiation of trace-forward activities, trace-back activities should occur in conjunction with the recall, to identify any other implicated food.

6.2.2.1 Trace-forward activities

The purpose of a trace-forward activity is to identify the physical location of the affected product in the food chain. The objective of the trace-forward process is to obtain the most complete list possible of all customers or entities that received the affected product, and to inform them about the recall and the actions that are expected of them in order to remove the product from the market. The distribution list containing details of the customers that have received the food should be provided to the competent authority.

Important! Trace-forward activity determines the strategy for communication to consumers

A trace-forward activity should be used to determine whether the affected product may have reached the consumer, and the recall strategy must be adapted accordingly.

The trace-forward activity should be performed by the food business operator who is responsible for the recall action. If no responsible food business operator can be identified, or the food business operator does not have the capacity to perform this task, the competent authority should be responsible for taking appropriate action. In the case of subsequent distribution by other food business operators, they also will have to complete trace-forward activities.

Useful tip: The key activities of a competent authority during the trace-forward stage

- Monitor the distribution list of the recalling food business operator (i.e. the list of customers who have received the hazardous product).
- Analyse distribution to the consumer and determine the follow-up actions required.

6.2.2.2 Trace-back activities

The purpose of trace-back activities is to determine whether there are other products on the market or in the food supply chain that may have been affected by the same hazard as the food subjected to the recall. The competent authority should work together with the food business operator to ensure that a trace-back investigation is performed to ascertain that there is no other affected food on the market.

Useful tip: Importance of information exchange during trace-back activities

When the original supplier of a contaminated food or an ingredient has been identified, the food business operator should provide the competent authority with the complete details of the supplier and/or the product. This may lead to a new food recall conducted by other food business operators and/or the inclusion of other products. Consequently it may be necessary to inform other stakeholders or competent authorities in other countries. For this exchange of information, international networks such as INFOSAN should be used.

6.2.3 Monitoring and documentation of the recall

The competent authority needs to monitor, verify and document that the recall actions executed by the food business operators are completed, and this is also important in situations where the competent authority needs to seize or destroy the food. This involves the following procedures.

- Monitoring and verification of trace-forward activities: this may include documentation that all the food business operators who have received the affected product have been informed and have acted as required. For example, the competent authority could select a percentage of the affected food business operators from the distribution list for verification. The percentage should be determined on the basis of risk, level of concern and the record of prior compliance with regulations by the affected food business operators.
- Monitoring and verification that the affected product has been located and managed properly, including being removed from the point of sale to the public, may be completed by the competent authority through site inspections or by telephone.

The competent authority should keep all relevant records of the recall process and require that food business operators do the same. Most countries state in their legislation a specific time period for maintaining such records and documents (retention period). Record-keeping is required mainly for legal purposes, therefore the retention period is usually determined with respect to the local and national laws/legislation, with consideration of practical aspects (e.g. the addition of a certain number of years to the expiry date of food products). Some countries have kept all records since electronic filing systems have become available, while other countries keep paper copies in their archives for a certain number of years (e.g. 5 years or 10 years). The period for retention of records depends on the situation in the country, and the competent authority should clearly inform food business operators of the requirements.

6.2.4 Verification of retrieval, correction or disposal of affected food items

The competent authority should verify that the affected food has been actually and completely removed from distribution and from the market. Verification processes for the effectiveness of the recall actions may include:

- reality checks at food businesses through distribution channels, including point-of-sale;
- audits or inspections of the food businesses involved;
- telephone interviews, written questionnaires or e-mail communication;
- statistical sampling of the market;
- comparison of the audit conducted by the competent authority with the food business operator's documentation.

Verification of effective retrieval may include comparison of product distributed and returned. Retrieved product should be managed in a hygienic manner, and may include:

- control of product disposal;
- approval and/or monitoring of re-labelling;
- approval and/or monitoring of reprocessing or alternate use;
- confirmation of re-export to the producing country after acceptance by the competent authority of that country.

6.2.5 Providing consumer advice (industry and government actions)

The primary purpose of risk communication to consumers by the competent authority is to protect public health and to warn the public not to consume the affected product. Advice to the public should be clear, concise and directed at the appropriate target group(s).

Useful tip: Consumer advice

The communication to the public should be simple and factual, and may include the following:

- why the recall is taking place;
- what has to be recalled, including a written description and/or photographs of the product;
- what consumers should do if the food has been consumed;
- what consumers should do with the affected food in their possession;
- contact details for further information;
- brief information on the hazard involved, the incubation period, typical symptoms, etc.

Useful tip: Methods for providing consumer advice

Communication to the public can involve:

- general press releases to the media;
- Internet announcements on the Web site of the competent authority:
- the Internet site or other social media used by the food business operator;
- public warnings on television, radio, and in print newspapers;
- consumer advocacy organizations (e.g. allergen networks/associations);
- in-store or point-of-sale notification.

6.2.6 Monitoring actions to prevent the recurrence of unsafe products

The competent authority may verify the actions taken by the food business from which the hazard was introduced into the food chain either through increased routine inspections and/or special audits. Food business operators implicated in a recall should take adequate measures to prevent the food safety problems that led to a recall from arising again. This includes the identification of the source of the hazard and improving/correcting their food safety management accordingly. Improvements to food safety management may include:

- improved controls of and/or stricter requirements for supplies/suppliers;
- improved general hygiene practices (e.g. improving facilities, hygiene of personnel, pest control, sanitation);
- improved monitoring procedures and/or control of food hazards through the use of systems such as HACCP;¹⁷
- raised hygiene standards for final products;
- careful review and, if necessary, adaptation of the whole production process.

The competent authority may also improve surveillance/survey programmes and the monitoring scheme for consumer complaints through:

- risk-based audits;
- risk-based inspections;
- sampling programmes that focus on high-risk foods;
- reassessing existing food safety programmes;
- improving surveillance programmes;
- monitoring consumer complaints.

6.2.7 General evaluation of the recall

The competent authority may evaluate the recall process after completion in order to improve the national food recall system and procedures.

Example: Lessons learned exercise

For high-profile recalls, it may be useful to conduct a "lessons learned" exercise, including:

- review of the issue:
- what worked well;
- what did not go well:
- what could/should be improved;
- recommendations;
- assignment of responsibilities to carry out follow-up recommendations;
- timeliness of notification of food safety problem and removal of product.

6.3 Example scenarios for different types of food recall

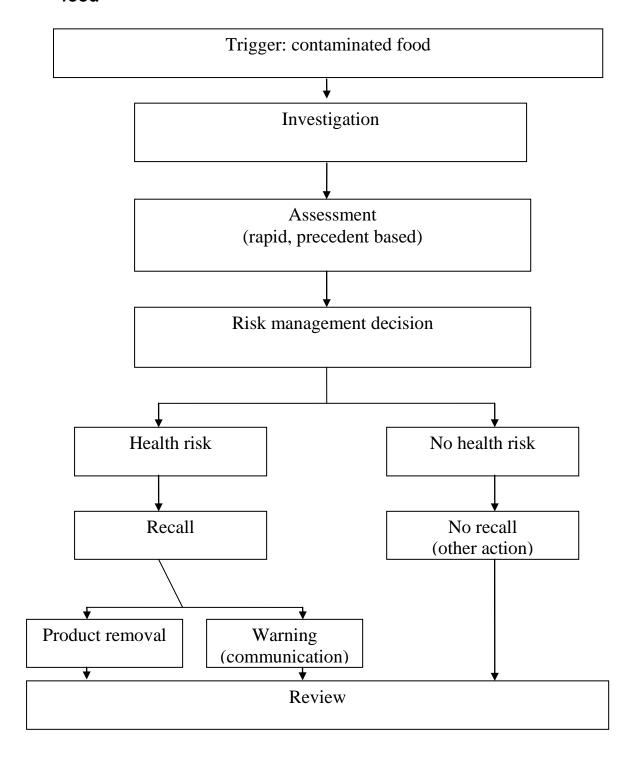
In this section, four example scenarios are presented. It is important to note that these four examples do not cover all types of food recall, but they provide an overall understanding that different food recall situations require different risk management resources, processes and actions.

The first example (6.3.1) is a simple recall scenario triggered by an event involving contaminated food produced domestically. This case requires intensive trace-forward activities to locate and recall

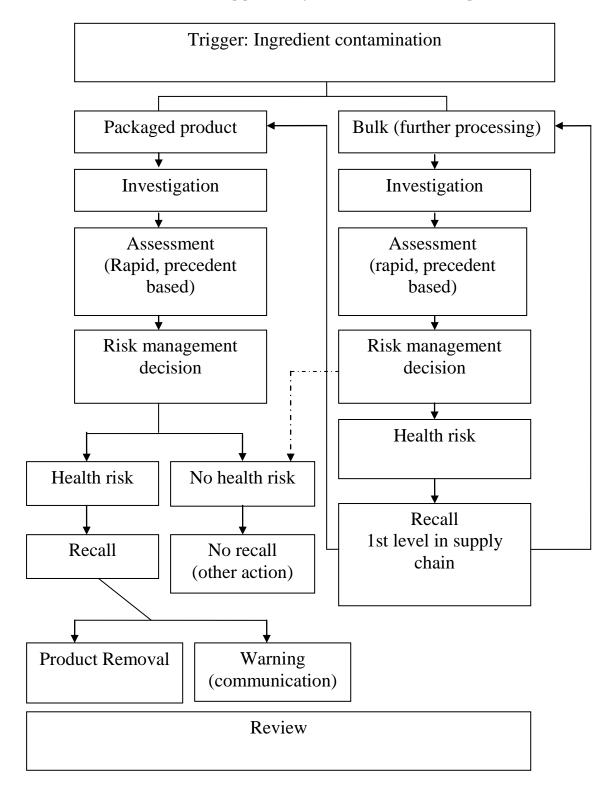
¹⁷ Recommended International Code of Practice General Principles of Food Hygiene, CAC/RCP 1-1969, REV 2003

products. The second scenario (6.3.2) is triggered by an event involving a contaminated ingredient in domestically produced food. This case requires intensive trace-back activities in addition to trace-forward activities, because bulk products have to be investigated to identify other possibly affected products. The third scenario (6.3.3) demonstrates a scenario in which the trigger is an outbreak of food-borne disease, which requires initial in-depth epidemiological and food safety investigations to identify the food source so that a recall process can be initiated. The final example (6.3.4) shows a case in which the event is triggered by an international event/source. In this case in particular, accurate information exchange and timely communication at international level are critical.

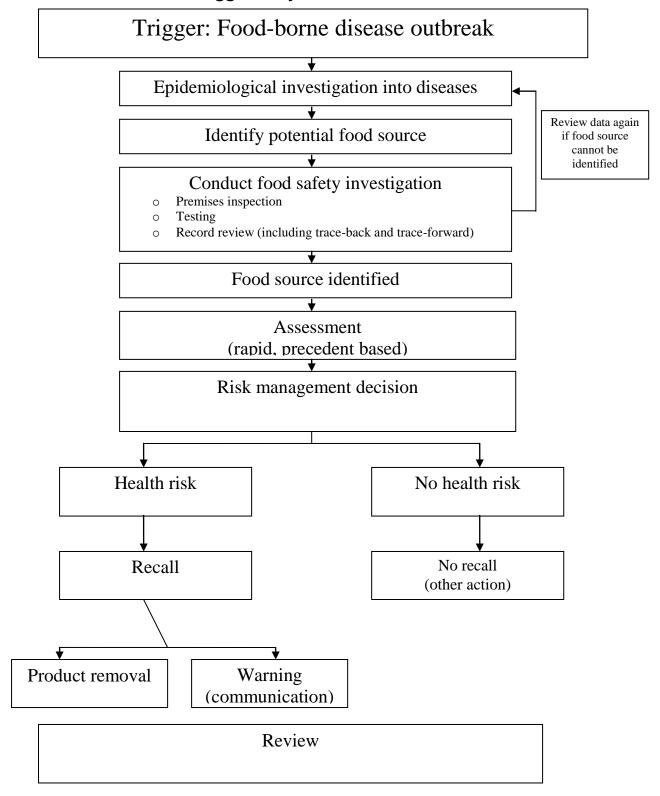
6.3.1 Scenario 1: A simple recall scenario triggered by a contaminated food



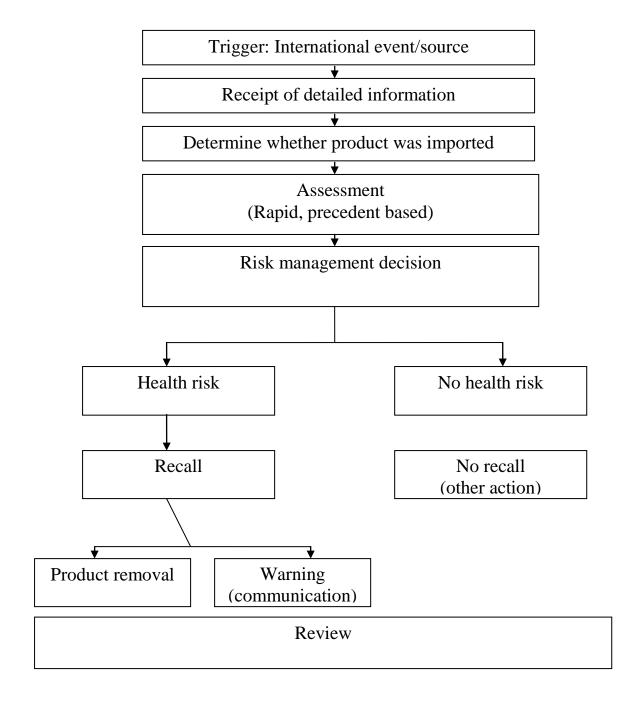
6.3.2 Scenario 2: Event triggered by a contaminated ingredient



6.3.3 Scenario 3: Event triggered by an outbreak of food-borne disease



6.3.4 Scenario 4: Event triggered by an international source

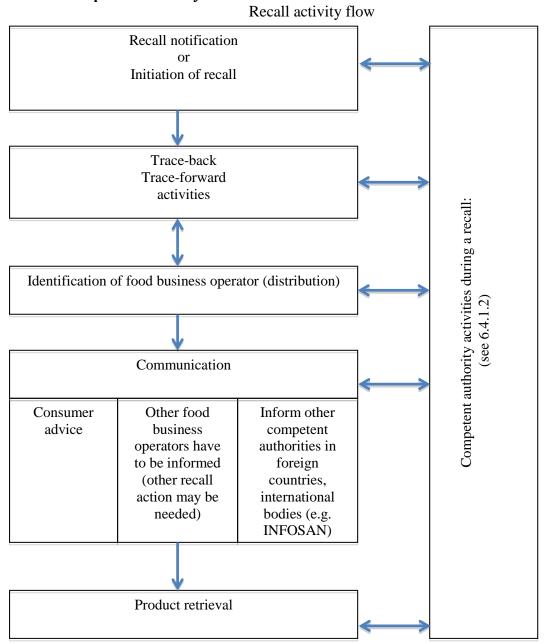


6.4 Examples of useful tools

In Section 6.4.1, two examples of recall activity flow are presented. The first, a generic food recall activity flow (6.4.1.1), illustrates activities usually undertaken by food business operators (in close collaboration with competent authority). The second activity flow (6.4.1.2) illustrates the actions usually undertaken by the competent authority during a food recall. In Section 6.4.2, checklists, questions and forms (6.4.2.1 to 6.4.2.9) are presented as examples of good practices to facilitate workflow and communication, as presented in Section 6.4.1. Various national authorities from many parts of the world have compiled their collective experience in these forms. They can be used as examples to be modified and tailored to the needs of each country that is engaged in the development and/or improvement of its national food recall system.

6.4.1 Examples of recall activity flows

6.4.1.1 Generic food recall activity flow for food business operators in collaboration with competent authority



6.4.1.2 Activities of the competent authority during a food recall

Competent authority activities during a recall				
Initiation	Form recall team Notification of partners Develop recall strategy			
Recall process	Trace-back Trace-forward Identification of affected product Ongoing investigation Conduct health risk assessment Communication Documentation and monitoring Verification			
Recall closure	Formal closure Notification of partners			

Post recall evaluation – lessons learned and follow-up actions, if deemed necessary

6.4.2 Example checklists, questions and forms

6.4.2.1 Questions to be considered when drafting or reviewing food legislation

1) Responsibilities

Are roles and responsibilities of competent authorities and food business operators in relation to recall clearly defined?

2) Power to recall food

Does the power exist for competent authorities to recall food?

3) Requirement of food recalls

Does the legislation recognize food recalls which are carried out to meet the requirements of the competent authority?

4) Scope

Does the legislation facilitate the recall of food from all parts of the food chain?

5) Speed of action

Does the legislation provide for timely action when it is needed?

6) Inspectors' powers

Does the legislation provide inspectors with required/necessary powers to carry out their functions? This can be considered in terms of powers of entry, examining products and labels, examining records and documentation requirements, obtaining samples and taking photographic images.

7) Public statements

Does the legislation provide the relevant authority with the power to publish statements about food and its labelling, to protect the public? Are such statements provided with the protection of privilege, provided they are not made in bad faith or without reasonable care?

8) Recalled food

Does the legislation enable the relevant authority to take control of recalled food and its disposal?

6.4.2.2 Example of a trade notification form

URGENT	
Food Recall (or Withdrawal)	
Company Name	
Food Name	
Food Details	
Batch/lot/unit Identification	
"use-by" or "best-before" date	
Reasons for the Recall	
	_
	_
	_
Actions Required	
	_
	_
	_
Contact Details	
Alternative Contact Details	

6.4.2.3 Example of an in-store notification or paid newspaper advertisement

WARNING Food Recall Company Name Food Name/description Pack Size Batch/lot/unit identification	Food photograph or illustration
Details of wha	t is wrong with the product
Actions the	e consumer should take
We apologiz	ze for any inconvenience
Company ad	ddress and contact details

6.4.2.4 Food recall information sheet

Competent Authority Recall #:	
Date: Reason for Recall	
Reason for Recall:	Description of the reason for recall
Action Proposed:	Recall
Method of Disposal:	1.7.111
Recall detection:	Insert method of product disposal The recall is the result of xx
Recan detection.	How was the problem detected?
Illness/injury:	Insert whether there were illness/injury reports.
imess/injury.	If yes, insert how many.
Company Information	1) yes, insert now muny.
Company Name:	
Company Address:	
Company Recall Coordinator:	Name
Company Recan Coordinator.	Contact number
Public Contact Phone Numbers:	Hotline or Customer Service number
Product Information	110titue of Customer Service number
Food Type:	Category
Product Name(s):	Brand name and product name as it appears on the
1 Toduct (Vallie(s).	packaging
Package Details:	Package description:
Tackage Details.	Package size:
Date Marking:	Best before date, use by date, etc.
Batch/lot/unit Identification:	Batch/lot/unit code:
Country of Origin:	Butch to with court.
Manufacturing State/Territory:	
Distribution Channels	<u> </u>
Product Units	
Imported/Manufactured:	
Product Units Remaining at	
Warehouse:	
Point of Sale Description:	Type of retail outlets in which state/territory
Time Product has been on	Approximate time (including date if available)
Market:	inproximate time (including date if divalidate)
Distribution to which	
States/Territories:	
Overseas Distribution:	Country:
C. CISCUS DISTITUTION.	Units:
Communication Plan	ı
Recall Information	Press advertisement, point-of-sale notification, company
Communicated to Consumers	website, etc., in which State/Territory
via:	į į
Other	
Other Information:	Any other information – detail supply chain information, and specific recall information not covered in document

6.4.2.5 Food recall report

Company Information	
Contact:	
Company Name:	
Address:	
Mail Address:	
Business After Hours Phone Number:	
Fax:	
E-mail:	Contact e-mail address
Head Office Location:	
Manufacturing State:	Has the food been manufactured in the home
	state?
Contacted Health Department?	Have you contacted your
	state/territory/provincial health department?
Information Dissemination:	The information discussed in this report will be used by the competent authority officially to notify state/territory/provincial health departments of the recall, who in turn may forward the information on to relevant
	agencies, such as local councils, in their
	jurisdictions for further follow-up action.
	jurisaictions for further follow-up action:
	Other government agencies, international
	agencies and industry organizations will also
	receive official notification of the recall.
	receive official horification of the recail.
	It is the company's responsibility to notify all direct customers of the recall and provide information on the affected product.
Commence Decall Committee Commence	
Company Recall Coordination Contact	
Contact Name:	
Contact Phone Number:	
Consumer Enquiry Contact	
Contact name:	
Contact Phone Number:	
Brand Owner Information	
Is your Company the BRAND Owner of the product?	
Brand Owner Name:	Brand owner's business name
Brand Owner Phone Number:	Brand owner's business phone number
Brand Owner Check:	Has the recall been discussed with the brand
	owner?
Primary Responsibility	If you are not the brand owner, is your business taking primary responsibility for the product recall in the country?
Product(s)	
Total Number of Products being Recalled:	
Product Information	
Name:	Name of the product including brand name
Food Type:	Category
100d 1 ypc.	Curcgory

Type of Date Marking:	
Appearance of Packaging:	
Batch/lot/unit/code No:	
Dimensions:	
Weight:	
Packaging Description:	Description of the product packaging:
Product Image:	Please provide the competent authority with a copy of the product image. Please note, the images provided may be disseminated via the Internet or other electronic means.
Importation Information:	
Imported:	Has the product been imported?
Country of Origin:	What country was the product imported from?
Date of Import:	Date the product was imported.
Customs Entry Number:	Entry number of the product obtained from customs during import.
Importer Information	
Importer Name:	
Importer Address:	
Manufacturer Information	
Manufacturer Name	If you are not the manufacturer, what is the
	name of the product's manufacturer?
Manufacturer Address:	Product manufacturer's address:
Supplier Information	I v
Supplier Name:	If you did not purchase the imported product from the manufacturer, what is the business name of the company you purchased the product from? If the product was purchased directly from the manufacturer, please leave this field blank.
Supplier Address:	Address of the product's supplier.
	Tracticus of the product is supplier.
Product Distribution	T
Distribution Method	How has the product been distributed?
Outlets/retailers	At what outlets are these products available for sale to the public (e.g. chain supermarkets, health food stores, corner stores, etc.)
Retailer/distributor Notification	Have the distributors been notified?
Manufactured Stock	How many units of the affected stock were
	manufactured/imported?
Warehoused Affected Stock	How many units of the affected stock remain in
	the warehouse i.e. were not distributed?
Time in Marketplace	How long has the affected product been in the marketplace?
In which States/Provinces/Territories, etc., has	•
the Affected Product been Distributed and in what Quantity?	
the Affected Product been Distributed and in what Quantity?	Is the product exported outside this country?
the Affected Product been Distributed and in	Is the product exported outside this country? Please enter the countries followed by the quantity:

Export Notification	
Recall Reason	
Recall Description	Description of the reason for recall
Food Safety Hazard	What is the food safety hazard?
Advice to Consumers	What is the advice to consumers?
Problem Detection	How was the problem detected?
Tests	Have any analytical tests been performed?
Test Results	What are the results, e.g. levels of
	contamination?
Results File:	Please provide a copy of the results, if
	available.
Pathogen Serotyped? Genotyped?	Has the pathogen been serotyped? genotyped?
Serotype Details:	Please provide further information on the
	pathogen identified.
Illness Reports?	Have there been any reported cases of
W D D W	illness/injury associated with the recall?
Illness Report Details	Describe the incident of illness/injury
Recall Decision Responsible Party	Whose decision was it to recall the affected product?
Product Disposal	How will the product be disposed of?
•	Please insert an acceptable method of product
	disposal or rectification of safety issue (re-
	labelling) for each of the stakeholders.
	Food that is subject to a recall must be
	separated from other food and clearly
	identified.
	Options for recalled food include:
	- Destruction or other use so that the
	food cannot be used for human
	consumption
	- Further processing to ensure the safety
	and suitability of the food product.
	To meet post-recall reporting requirements,
	you will need to provide evidence of the
	destruction or rectification of the unsafe
	product. If the product was not disposed of,
	please describe the manner in which the safety
	issue will be rectified and provide confirmation
	of the manner in which rectification occurred.

$6.4.2.6\ Fax/letter\ template\ (distributors/wholesales/retailers/restaurants)$

(Insert company letterhead)
URGENT!
Food Recall Notification
Date:
Our firm is recalling < <pre>product name>> due to <<reason for="" recall="">>. It may not meet company quality standards, and/or may represent a <<small moderate="" serious="">> (CHOOSE one word) health or safety threat to people who use it.</small></reason></pre>
Please follow these instructions to ensure a successful recall:
 Immediately discontinue selling or distributing your existing stock of < brand, name, code of product, package size, etc.>>. Inform us of the quantity of product you have on hand by completing the bottom portion of this form. Sign the form and return it by FAX to <<fax number="">> as soon as possible.</fax> DO NOT dispose of the product! Instead: (Choose one of the two options below) Wait for further instructions from <<vous representative="" sales="">> OR</vous> Return the recalled product to <<name contact="" firm's="" of="" person="">> as soon as possible.</name> If you have distributed any of the recalled products, please immediately: Contact your consignees by telephone and in writing to advise them about the recall Instruct them to return their unused, non-destroyed stock to (recalling firm or supplier). Instruct them also to notify any of their consignees that may have received the recalled product.
Thank you for your cooperation. If you have any questions regarding this recall, please feel free to contact < <firm's contact="" person="">> at <<p>hone number>>.</p></firm's>
Sincerely,
< <recalling firm="" representative="">></recalling>
Customer Name: Quantity on Hand:cases/cans/packages (circle one)
Owner's Name – Please Print Owner's Signature

6.4.2.7 Recall effectiveness check (letter, on-site visit)

			(In	Letter Template nsert company letterhead)
			R	ecall Effectiveness Check
	Consignee		and	address:
				eall product name, product code, date code, competent authority
				nt to you as part of a recall effectiveness check required by ase complete this checklist, sign and date it, and post or fax to:
-	< <recalling< td=""><td></td><td></td><td>fax number>></td></recalling<>			fax number>>
I		company reas being re		otification from < <recalling company="">> that the above-listed</recalling>
	_ YES	NO		
If	YES, when?			_
2	2) Did your return.)	firm receiv	e shipme	ents of the recalled product? (If NO, please sign this letter and
	_ YES	NO		
3	3) Do you ha	ave any of	the recal	led product in your current inventory?
	_YES	NO		
2		wer to ques		YES, do you plan to return the recalled product as requested,
	_Yes	Please	e list the	quantities and expected return delivery date:
	_NO	Please	explain	your intentions:
	5) Have you	received i	llness or	injury reports related to the recalled product?

YES	Please provide details:
NO	
	ship the recalled product to other distributors, retailers or consignees?
YES	NO
7) If the ans	wer to question 6 is YES, did you send a recall notice to the consignee?
YES	NO
8) If the ans	wer to question 7 is YES, did the consignee have any product on hand?
YES	NO Did not enquire
Thank you for your Signature	your cooperation. Please sign and date your signature below. Title
Date	Company
Sincerely,	
Signature and the	itle Date
< <reealling con<="" td=""><td>npany name>></td></reealling>	npany name>>

6.4.2.8 Phone call/personal visit template/worksheet

For each telephone or personal contact related to a recall, first ensure that you are in contact with the correct person, i.e. someone who can personally deal with or address the recall, or has the authority to designate someone else to deal with or address it. Log that person's name and contact information on this sheet. It is critical to keep good records.

Date:_			
Compa	ny Contact:	For num	
Frone E-mail	Number: Address:	Fax num Web site	ber: address:
	norning/afternoon:	Web site	
		rom < <recalling company="">>. I am </recalling>	
		a brief recall effectiveness check with to meet government regulations. I will r	
1)	Did your company product was being	receive notification from << recalling c recalled?	ompany>> that the above-listed
	YESNO		
2)	Did your firm rece return.)	ive shipments of the recalled product?	If NO, please sign this form and
	YESNO		
3)	Do you have any o	f the recalled product in your current in	ventory?
	YESNO		
4)	If the answer to qu < <recalling compa<="" td=""><th>estion 3 is YES, do you plan to return t ny >>?</th><th>he recalled product as requested, to</th></recalling>	estion 3 is YES, do you plan to return t ny >>?	he recalled product as requested, to
returne	YES Pled to the company.	ease tell me the quantities and the date	on which we can expect them to be
	_ NO Plo	ease explain your intentions:	
5)	Have you received	illness or injury reports related to the r	ecalled product?
	_YES Plo	ease provide details:	

NO	
6) Did you ship the recalled prod	luct to other distributors, retailers, or consignees?
YES NO	
7) If the Answer to question 6 is	YES, did you send the consignee a recall notice?
YESNO	
8) If the answer to question 7 is 3	YES, did the consignee have any product on hand?
	Did not enquire (If interviewed in person, ask the consignee to sign and date t
	Did not enquire (If interviewed in person, ask the consignee to sign and date to the consignee to the consistency to the consignee to the
Thank you for your cooperation. (questionnaire.)	(If interviewed in person, ask the consignee to sign and date t
Thank you for your cooperation. (questionnaire.)	(If interviewed in person, ask the consignee to sign and date t
Thank you for your cooperation. (questionnaire.) Signature	(If interviewed in person, ask the consignee to sign and date to sign and
Thank you for your cooperation. (questionnaire.) Signature Date	(If interviewed in person, ask the consignee to sign and date to sign and

6.4.2.9 Public warning template (Salmonella)

For immediate release

HEALTH HAZARD ALERT - << PRODUCT>> MAY CONTAIN SALMONELLA BACTERIA

Audio clips available at << Web site link>>

<<City>>, <<DATE>> The <<Competent Authority>> and <<Company Name>> are warning the public not to consume <<pre>consume because the product may be contaminated with Salmonella.

<Affected product(s) description (brand name, product name, size, UPC, lot number, other)>>.

This/these product(s) have been distributed in <<area of distribution>>.

There have been no/<<number>> reported illnesses associated with the consumption of (this/these) product(s).

Food contaminated with *Salmonella* may not look or smell spoiled. Consumption of food contaminated with these bacteria may cause salmonellosis, a food-borne illness. In young children, the elderly and people with weakened immune systems, salmonellosis may cause serious and sometimes deadly infections. In otherwise healthy people, salmonellosis may cause short-term symptoms such as high fever, severe headache, vomiting, nausea, abdominal pain and diarrhoea. Long-term complications may include severe arthritis.

The <<Manufacturer/Importer/ Other>> is recalling the affected product(s) from the marketplace. The <<Competent Authority>> is monitoring the effectiveness of the recall.

For more information, consumers and industry can call the <<Competent Authority>> at <<Phone Number>> from 8:00 a.m. to 8:00 p.m., Monday to Friday.

OR:

For more information, consumers and industry can call one of the following numbers: <<Company name and phone number>>;

<<Competent Authority and phone number>> <<during specific times/days of the week>>.

For information on Salmonella, visit the following Web page at: << Web site link>>

For information on receiving recalls by e-mail, or for other food safety facts, visit our Web site at << Web site link>>.

Media enquiries:

<<Competent Authority Contact Detail Information>>

7 Conclusions

Food recall is an important risk management option during food safety emergencies/events. Recalls may also prevent the escalation of a food safety event into an emergency. Effective national food recall systems require a specific legal framework and coordination among relevant government agencies together with the competent authority, as well as effective cooperation with food sectors along the food chain (e.g. industry, retail, trade and food services). National food recall systems are most effective when key activities relating to preparedness are conducted routinely as part of a national food control system.

Food recalls can be resource intensive, both for government agencies and for the food industry. They often require long-term vision, effort and investment. When assessing the need for such investment, it is important to consider the benefits of: 1) protecting public health; 2) maintaining confidence in the product; 3) maintaining the good reputation of the country's food products; and 4) future market access.

Traceability is a very important tool in achieving an effective food recall, as demonstrated in many countries. A traceability system may start with a very simple system using the one-step-back and one-step-forward principle. Food recalls will be very difficult if there is no system of traceability in place.

During a food safety emergency, the presence of an effective food recall system is extremely helpful in minimizing the impact of the event. If the event has an international dimension, INFOSAN can be contacted to facilitate communication among the competent authorities involved.

Resources

- 1. **Abu Dhabi.** 2000. *Code of Practice No. 1/2010: Food traceability and recall.* 8 August 2010. Abu Dhabi Food Control Authority (ADFCA).
- 2. **Abu Dhabi.** 2008. Regulation Number (3) of 2008: On the traceability and recall of food. Abu Dhabi Food Control Authority (ADFCA).
- 3. **Argentina.** Manual de Procedimientos para el Retiro de Alimentos del Mercado [Manual for Government and Industry]. Administración Nacional de Medicamentos Alimentos y Tecnología Médica (ANMAT), Buenos Aires.
- 4. **Australia.** 2009. Crisis Management: a guide for the food industry in managing crisis events that impact on products. Australian Food and Groceries Council.
- 5. **NSW Australia.** 2011. *Section 12 Food Recall Protocol.* 20 October 2011. New South Wales Food Authority.
- 6. **NSW Australia.** 2011. Protocol for Enforcement Agencies: Urgent food safety response protocol for emergencies. New South Wales Food Authority.
- 7. **NSW Australia.** 2011. *Recalls 14 January 2011*. Web guideline. New South Wales Food Authority.
- 8. Canada. 2011. Canada Consumer Product Safety Act. Ministry of Health, Canada.
- 9. **Canada.** 2011. *Food Investigation Response Manual*. Canadian Food Inspection Agency (CFIA-AECI).
- 10. **Canada.** 2007. Food Recalls: make a plan and action it! 19 April 2007. Canadian Food Inspection Agency (CFIA-AECI).
- 11. Canada. 1990. Meat Inspection Regulations. Ministry of Agriculture and Agri-Food.
- 12. **Canada.** Canadian Food Inspection Agency Act. Canadian Food Inspection Agency (CFIA-AECI).
- 13. **Codex.** 2011. Report of the Nineteenth Session of the FAO/WHO Coordinating Committee for Africa. 1–4 February 2011. Accra, Ghana.

- 14. **Codex.** 2011. *Procedural Manual Codex Alimentarius Commission*. 20th edn, ISSN 1020-8070. Joint FAO/WHO Food Standards Programme, Rome.
- 15. **Codex.** 2004. Report of the Fifth Session of the Ad Hoc Intergovernmental Codex Task Force on Animal Feeding. 17–19 May 2004. Copenhagen.
- 16. **Codex.** 2008. Discussion Paper on Development of Guidelines for Traceability/Product Tracing in the Context of Food Import and Export Inspection and Certification Systems. 24–28 November 2008, CX/FICS 08/17/7. Cebu, Philippines.
- 17. **Codex.** 2003. Recommended International Code of Practice: General principles of food hygiene. Rev. 4-2003 CAC/RCP 1-1969 Rev.4- 2003.
- 18. **Codex.** 2010. *Code of Hygienic Practice for Fresh Fruits and Vegetables*. Adopted 2003, Revision 2010 CAC/RCP 53-2003.
- 19. **Codex.** 2005. *Report of the Eleventh Session of the Codex Committee on Meat Hygiene*. 14–17 February 2005, ALINORM 05/28/16. Christchurch, New Zealand.
- 20. **Codex.** 2006. Principles for Traceability/Product Tracing as a Tool within a Food Inspection and Certification System. CAC/GL 60-2006.
- 21. **European Commission**. 2007. Fact Sheet Food Traceability. Health and Consumers Directorate-General, June 2007.
- 22. **European Commission**. 2002. Regulation (EC) No 178/2002 of the European Parliament and of the Council, laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (OJ L 31, 1.2.2002, p. 1).
- 23. **European Commission**. 2004. Regulation (EC) No 882/2004 of the European Parliament and of the Council, on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules (OJ L 191 28.5.2004, p. 1).
- 24. European Commission. 2000. White Paper on Food Safety. COM (1999) 719, 12 January 2000.
- 25. **European Commission**. 2010. Guidance on the Implementation of Articles 11, 12, 14, 17, 18, 19 and 20 of Regulation (EC) No 178/2002 on General Food Law. Conclusions of the Standing Committee on the Food Chain and Animal Health. 26 January 2010.
- 26. **European Commission**. The Key Obligations of Food and Feed Business Operators. Health and Consumers Directorate General.
- 27. **European Commission**. 2000. Communication from the Commission to inform on the precautionary principle. COM(2000) 1. Final. 2 February 2000.
- 28. **European Commission**. 2006. Guidance Document on Official Controls, under Regulation (EC) No 882/2004, concerning microbiological sampling and testing of foodstuffs. Health and Consumers Directorate General. 13 November 2006.
- 29. **The Netherlands.** 2008. *Notification: unsafe food/feed decision tree*. 1 April 2008. Food and Consumer Product Safety Authority.
- 30. **The Netherlands.** 2011. *Report Form: Animal Feed Animal Byproducts*. 28 September 2011. Food and Consumer Product Safety Authority, Ministry of Economics and Agricultural Innovation.
- 31. **FAO/WHO.** 2010. *FAO/WHO Framework for Developing National Food Safety Emergency Response Plans* (available at http://www.fao.org/docrep/013/i1686e/i1686e00.pdf).
- 32. **FAO/WHO.** 2011. *FAO/WHO Guide for the Application of Risk Analysis Principles and Procedures During Food Safety Emergencies* (available at http://www.fao.org/docrep/014/ba0092e/ba0092e00.pdf).
- 33. **FSANZ.** (Australia only) *Food Safety Standards: Food recall systems for unsafe food.* Food Standards Australia New Zealand, Canberra.
- 34. **FSANZ.** 2008. Food Industry Recall Protocol: Manual for government and industry. Food Standards Australia New Zealand, Canberra/Wellington.
- 35. **FSANZ.** 2011. *Recall Press Advertisement Template*. Food Standards Australia New Zealand, Canberra/Wellington.
- 36. **FSANZ.** 2011. *Food Recall Information Sheet*. Food Standards Australia New Zealand, Canberra/Wellington.
- 37. **FSANZ.** 2011. *Food Recall Report.* Food Standards Australia New Zealand, Canberra/Wellington.

- 38. **Ireland.** 2010. *Guidance Note: Product recall and traceability.* (Revision 2). Food Safety Authority of Ireland, Dublin.
- 39. **Mexico.** *Evaluación y Administración del Riesgo*. Comision Federal para la Proteccion contra riesgos sanitarios (COFEPRIS).
- 40. New Zealand. 2011. Recall Guidance Material. Ministry of Agriculture and Forestry (MAF).
- 41. **USA.** 2009. Recall Procedures: Guidance to health hazard evaluation committees. In: CFR Regulatory Procedures Manual, March 2009, Chapter 7. Food and Drug Administration.
- 42. **USA.** 2009. Recall Procedures: Health hazard evaluation worksheet. In: CFR Regulatory Procedures Manual, March 2009, Chapter 7. Food and Drug Administration.
- 43. **USA.** 2011. Title 21 Food and Drugs. Chapter I Food and Drug Administration Department of Health and Human Services Subchapter A General. Part 7 Enforcement Policy. Revised 1 April 2011. Food and Drug Administration.
- 44. **USA.** 2003. Guidance for Industry: Product recalls, including removals and corrections. Food and Drug Administration, Rockville, MD.
- 45. **USA.** 2011. *Investigations Operations Manual*, Chapter 7 *Recall activities*, Subchapter 7.1 *Recalls.* Food and Drug Administration.
- 46. **USA.** 2011. Public Law 111–353—JAN. 4, 2011. To amend the Federal Food, Drug, and Cosmetic Act with respect to the safety of the food supply. Food and Drug Administration.
- 47. USA. 2011. Recall procedures. In: CFR Regulatory Procedures Manual, Chapter 7. Food and Drug Administration.
- 48. **USA.** 2004. *The Food Recall Manual*. Food Science and Human Nutrition Department, University of Florida, Gainsville, FL.