WHEN FOOD IS COOKING UP A STORM

PROVEN RECIPES FOR
RISK COMMUNICATIONS

efsa
European Food Safety Authority

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Preface by EFSA's Advisory Group on Risk Communications

The ultimate goal of risk communication is to assist stakeholders, consumers and the general public in understanding the rationale behind a risk-based decision, so that they may arrive at a balanced judgement that reflects the factual evidence about the matter at hand in relation to their own interests and values. Risk communication should not be seen as an attempt to convince or persuade people to adopt the judgement of the communicator about the tolerability or acceptability of risks. It is rather the attempt to help people to make more informed judgements and enable them to have agency over the risks that they face in their own lives. In addition, effective risk communication is a central prerogative for taking an active part in contemporary discourses about risks, and in particular food risks. Being well informed about and aware of food risks is also paramount to all involvement and participation programmes that are directed towards more direct co-determination for designing and shaping regulations and standards.

Effective risk communication can make a strong contribution to the success of a comprehensive and responsible risk management programme. Through effective risk communication one can: (1) ensure that consumers are aware of the risks associated with a product and thereby use or consume it safely; (2) build public confidence in appropriate risk assessment and management decisions and the associated risk/benefit considerations; (3) contribute to the public's understanding of the nature of risk in food and the standards that ensure food safety; and (4) provide fair, accurate, and appropriate information, so that consumers are able to choose among a variety of options that can meet their own "risk acceptance" criteria.

Risk communication needs to address the following issues of how to:

- provide information to the public on hazards and risks (emphasising the difference between hazards and risks);
- provide information to the public about the process for conducting risk assessments and making risk management decisions, including a description of the various actors and procedures involved in both tasks;
- organise effective two-way communication;
- enhance trust and credibility of all actors in the risk assessment and management process;
- involve stakeholders in the process and resolve conflicts.

To reach this goal, there are four general guidelines that apply to all risk areas, not only to food:

- Start with a critical review of your own risk assessment and management performance.
- Design an integrative risk communication programme that ensures a continuous effort to communicate with the most important stakeholders including consumers from the beginning of the assessment process.
- Tailor communication according to the needs of the targeted audience and not to the needs of the information source.
- Adjust and modify the communication programme in an organised effort to collect feedback and to sense changes in values and preferences.

This document here wants to assist all professional risk managers and communicators in the food sector to design a communication programme that will be responsive to these general requirements and attentive to the needs of the various audiences. Such a programme needs to ensure high quality scientific input as well as fair representation of public values and preferences. There exists a great variety of communication and stakeholder involvement manuals.

Preface by Anne-Laure Gassin, Chair of the Advisory Forum's Communications Working Group and EFSA's Director of Communications

Some are meant to tackle speci c risk issues, such as governance of radioactive waste, electromagnetic elds, and chemical facilities. Rather than issuing another generic guidebook on risk communication, this document provides speci c information for all interested parties with respect to food safety, risk assessment methods and the tasks of the European Food Safety Agency (EFSA).

I am convinced that these guidelines will be of great value to all risk communication professionals in the food sector and beyond. It provides advice based on substantive research or long-standing experience and is speci cally directed towards governmental agencies that regulate the food sector. It also addresses the needs of risk assesors and managers within and outside of EFSA to integrate risk communication demands in the risk assessment and management portfolio. It should be mandatory reading for all who deal with risks in the food sector.

Parma, 2 April 2012
Ortwin Renn

It gives me great pleasure to provide the preface for these practical Risk Communications Guidelines, intended to assist communication colleagues throughout Europe and beyond who are tasked with the challenging responsibility of communicating about risks that are underpinned by science.

Communicating on risks associated with the food chain is a key element of the European Food Safety Authority's (EFSA) mandate. By communicating on risks in an open and transparent way based on the independent scienti c advice of its scienti c expert panels, EFSA contributes to improving food safety in Europe and to building public con dence in the way risk is assessed.

In its Communication Strategy 2010-2013, EFSA highlighted the importance of communicating coherent messages as a means of re-enforcing consumer con dence in the food chain. In order to do this, EFSA works with the communications departments of the national food safety agencies, through the Authority's Advisory Forum Communications Working Group (AFCWG), to build a more collaborative and informed approach to communicating risks in the food chain and to promote coherence of messages across the European Union (EU).

However, EFSA appreciates that scienti c results cannot always be converted into simple advice that non-scientists can easily understand or follow. Recognising the need to share best practice, EFSA initiated this project together with the members of the AFCWG. The contribution of colleagues in Member States to this project has not only assured that this is a joint initiative but that the content is relevant across the EU. It is therefore hoped that these guidelines will prove useful to a great many communication colleagues.

We have chosen to produce this document electronically allowing for easy periodic updates and the addition of new case studies. EFSA's AFCWG will consider this on an annual basis.

In keeping with the spirit of this collaborative initiative, any feedback that practitioners may have about these guidelines will be gratefully received.

Anne-Laure Gassin

Introduction and objectives

The objective of these guidelines is to provide a framework to assist decision-making about appropriate communications approaches in a wide variety of situations that can occur when assessing and communicating on risks related to food safety in Europe. The aim is to provide a common framework applicable for developing communications approaches on risk across public health authorities in di erent countries.

Communicators from EFSA, Member States and the European Commission work together in EFSA's Advisory Forum Communications Working Group (AFCWG). A key aim of that group is to promote co-operation and coherence in risk communications, particularly between risk assessors in Member States and EFSA – one of the key priorities laid down in EFSA's Communications Strategy.

These guidelines are an initiative of that group, recognising two important points: 1) there is a need for more practical guidance with respect to principles laid down in scienti c literature and 2) the literature on risk communications guidance speci c to food safety is limited. As it is the group's desire to continue to learn from experience and strengthen risk communications within the European food safety system, this will be a living document which will be periodically revisited and updated with best practice case studies.

As de ned by Codex Alimentarius, risk communications is the: "exchange of information and opinions concerning risk and risk-related factors among risk assessors, risk managers, consumers and other interested parties".

Within the European food safety system, risk communications responsibilities rest with risk assessors at both EU and national level (EFSA and Member States respectively) and also with risk managers at EU and national level (the European Commission and Member States respectively). At the European level, risk assessment and risk management roles are separated institutionally; in some Member States they are within the same institution. These guidelines do not make speci c recommendations for either risk managers or risk assessors but provide support to communicators in making decisions about risk communications underpinned by science and allow readers to bene t from the learnings of practical case studies. In their creation, valuable input was received from scienti c risk assessment colleagues, re ecting the need for communicators, whether assessors or managers, to liaise and collaborate with their scienti c counterparts.

Given di erent structures and approaches across the European Union's 27 Member States, there is no one uniform approach that ts every situation. There is also a clear recognition that di erences exist between countries with respect to risk perception. This can be attributed to many di erent factors including cultural, historical, economic and societal in uences. Public opinion studies have shown that levels of concern about di erent risks vary widely between countries. In addition, risk communications guidelines related to food concerns need to take into account country di erences in the food supply, dietary habits and practices as well as speci c attitudes to food and its relation to health. Furthermore, communicators should consider the social and political environment into which messages are being communicated. Despite these di erences, guidelines can help develop approaches based on best practice and underlying principles applicable across di erent issues and scenarios.

It is also important to note from the outset that this document is not a crisis communications manual but rather serves as a means of sharing best practice in risk communications more generally. Readers interested in EFSA's work relating to crisis situations, should refer to the Authority's "Procedures for responding to urgent advice needs" that can be found at the following web link: **http://www.efsa.europa.eu/en/supporting/pub/102e.htm**

II

Principles guiding good risk communications

1 Openness

Openness is crucial to good risk communications and the reputation of an organisation. If advice and action in relation to food safety risks are to be trusted, it is important that risk assessments are published in a timely way and that information on which decisions are made can be scrutinised. Open dialogue with stakeholders and interested parties is also critical to building trust in the risk assessment process.

2 Transparency

Transparency is closely linked to openness and is equally important in building trust and con dence. Transparent decision-making and a transparent approach to explaining how an organisation works, its governance and how it makes its decisions, are also crucial. Communications must always convey clearly any areas of uncertainty in the risk assessment, whether and how these can be addressed by the risk assessor and/or risk manager, and the implications of these remaining uncertainties for public health.

3 Independence

Communicating on risks will always be perceived as more trustworthy if it is demonstrable that those undertaking the risk assessments, and communicating them, are independent from political decision makers, industry, NGOs or other vested interests.

EFSA places the utmost importance on ensuring the impartiality of its scienti c advice and has put in place a comprehensive series of mechanisms and processes to safeguard the independence and integrity of its scienti c work. These are laid down in its Policy on Independence and Scienti c Decision-Making Processes, adopted by the EFSA Management Board in December 2011 **(http://www.efsa.europa.eu/en/aboutefsa/keydocs.htm).** In March 2012, EFSA published implementing rules relating to Declarations of Interest, one of the cornerstones of the abovementioned Policy, which provide a clearer, more transparent and more robust set of general principles applicable to all those engaging in EFSA's work **(http://www.efsa.europa.eu/en/aboutefsa/keydocs.htm).**

4 Responsiveness/timeliness

Communicating in a timely and accurate manner, even when all the facts are not known will, in the long-run, contribute to ensuring the source of information is seen as credible and trustworthy. Early communications are often crucial.

II.1. Principles in practice

Principles on their own do not guarantee good risk communications. The quality of the original scienti c materials is of fundamental importance as this is the foundation on which the risk communications activities are based. In practice, publishing technical information on a website that its intended audience will nd di cult to understand, or not broadly informing relevant audiences, does not live up to the principles of sound risk communications. Nor do badly written press releases. The quality and appropriateness of the communication outputs is as critical as the underlying principles.

1 Publishing all key documents

Openness and transparency require a commitment to publishing risk assessments so that all key audiences have an opportunity to access scienti c outputs. Minutes of meetings, papers presented at key meetings and other material need to be made available on a website to build awareness, understanding, trust and con dence.

See the following case study for best practices in this area: *Irish dioxin crisis*

2 Understandable and usable communications

Translating science accurately into relatively simple language that non expert risk managers, stakeholders and wider audiences can understand is crucial. A risk can be misunderstood or misinterpreted if it cannot be explained in simple terms. Science needs to be made relevant to the audience in order to be useful and usable; this can often be achieved by providing the necessary context about why work has been undertaken.

See the following case studies for best practices in this area: *Salt campaign, Zoonoses*

3 Timely communications

Risk assessments and related communications need to be published as soon as practical after they have been concluded so that they can then inform decision-making and possible actions in an open way. If a risk assessment is communicated on an issue of signi cance, then the longer the gap between communication on risk assessment and risk management, the higher the possibility of inappropriately elevating concern or leaving a confusing information vacuum. Risk communicators need to understand this process and recognise possible time gaps. This is particularly true if there is a long time gap between the risk assessment process and risk management actions, highlighting the need for co-operation and co-ordination between the two parties.

See the following case study for best practices in this area: *Food supplements*

4 Dialogue between risk assessors and managers

Risk assessors need to have a good dialogue with risk managers; including terms of reference for risk assessments which are clear enough to ensure that usable and understandable conclusions are reached. By applying knowledge of audience needs, risk assessors and risk managers can consider the related areas of interest that may arise from a scienti c opinion. Predicting the types of questions that could be asked of a risk assessment will ensure that the terms of reference serve both scienti c and communications purposes as well as those of the risk manager.

When there is a possible risk, most people – whether risk managers, industry, NGOs or consumers – want to know what the risk is, what is going to be done about it and what they themselves can or should do. Communicating this information is the role of the risk manager and dialogue facilitates joined up communications.

See the following case study for best practices in this area: *Irish dioxin crisis*

5 Dialogue with stakeholders, understanding audiences

Two-way dialogue and engagement are essential good practice in communications. Understanding the needs and concerns of both stakeholders and other target audiences is essential to maximise the e ectiveness of communications.

See the following case studies for best practices in this area: *Animal cloning and Q-fever*

6 Acknowledging and communicating uncertainty

It is not always possible to be clear about a risk. But principles of openness and transparency still apply, backed up by good communications practice. Where there is uncertainty it should be acknowledged and described, such as outlining any data gaps or issues relating to methodology. What is being done to address the areas of uncertainty is also important so that the intended audience can understand what steps are being taken and o er reassurance that uncertainty is being addressed.

See the following case study for best practices in this area: *All case studies*

Institutions that re ect the above principles and ways of working in their day-to-day practices are well placed to gain con dence and trust. Importantly, e ective risk communications requires having good communicators (scientists and communications professionals) who can e ectively translate science into meaningful communications for a variety of audiences so that risk assessment is understandable and usable.

III.1. Level of risk from a communications perspective

In the first instance, the communicator needs to establish the type of information that is being communicated: urgent response for a risk assessment, literature review; hazard assessment; full risk assessment, etc. With this information in mind, the communicator can set the basic public health context that underpins communication decision-making.

At this stage it is important to note the difference between hazard and risk. Often incorrectly thought to be synonyms, a hazard stems from the ability of an organism or substance to cause an adverse effect. Risk, by comparison, is the likelihood that such adverse effects will occur taking into account possible exposure to the hazard in question. For example, a hazard could be cadmium, a heavy metal found in food; the risk would be the likelihood that someone could be harmed by being exposed to cadmium in their diet. Risk assessments typically comprise four stages[1]: i) Hazard identification ii) Hazard characterisation iii) Exposure assessment and iv) Risk characterisation.

There is a wide variety of terminology used in risk assessments to describe levels of risk, many of which are hard to distinguish for non-experts. This adds to the communications challenge. However, from a risk communications point of view and for the purposes of these guidelines, we have narrowed it down to five simple categories:

- None/negligible
- Low
- Medium
- High
- Unknown

It is important to note that these categories are not intended to be a scientific classification, but rather as a judgement the communicator must make – in collaboration with scientific colleagues – to determine the type and level of communications which is required.

It should be noted that levels of uncertainty may be associated with each of these categories and that when communicating about the uncertainties, it is important to state their source, for example insufficient data available, limitations of statistical modelling, etc.

It should be possible to apply at least one of these categories to all possible risk scenarios and they are designed to provide a starting point for considering communications approaches, taking into account the other factors that follow. The level of risk (from a communications point of view) should be determined in concert with scientific colleagues.

At a glance:

- What is the hazard?
- What do we know about any related risk? Have scientists already performed a risk assessment?
- Who performed the risk assessment? Does the early scientific information come from a reputable source?
- Who, if anyone, has already communicated about the risk?
- Are there third parties (for example: NGOs, industry organisations, consumer organisations, health professional organisations etc.) which could be informed and contribute to risk communications?

[1] **The four stages of the Risk Assessment Process:**

i Hazard identification - the identification of biological, chemical, and physical agents capable of causing adverse health effects and which may be present in a particular food and feed or group of foods andfeeds.

ii Hazard characterisation - the qualitative and/or quantitative evaluation of the nature of the adverse health effects associated with biological, chemical and physical agents that may be present in food and feed.

iii Exposure assessment - the quantitative estimation of the likely exposure of humans and animals to the food and feed derived from the biological, chemical and physical agents that may be present in food and feed.

iv Risk characterisation - the qualitative and/or quantitative estimation, including attendant uncertainties, of the probability of occurrence and severity of known or potential adverse health effects in a given population based on hazard identification, hazard characterisation and exposure assessment.

III.2. The nature of the hazard

Hazards can take many different forms and, in relation to food safety, may include: substances, products, processes, technologies and conditions. The type of hazard will have an influence on what is needed in terms of communications, particularly as certain hazards/substances may elicit a subjective fear factor, for example when something is artificially added to food as opposed to occurring naturally. Some hazards will simply be well known and potentially have a higher profile as reflected by the quantity of media coverage, political attention, public health focus as well as consumer, industry and NGO-related activities. The following factors have been identified:

The nature of the hazard (for example, substance) is:

- Occurring naturally
- Added to food or created during processing

Where the hazard is used or found

- Used or found in a product/brand commonly used in the home or for food production purposes
- Used or found widely in a range of products
- Not widely used or found
- Illegal/regulated under EU law

At a glance:

- Is the substance natural or artificial?
- Does the hazard occur naturally or does it arise from technological intervention?
- Is the technology perceived as unacceptable due to the possible related risk?
- Is there an acceptable alternative to the technology associated with the risk?

At a glance:

- How many people are likely to be affected by the risk?
- Which sectors of society are likely to be affected by the risk? Do they include vulnerable groups such as children or the elderly?
- What is the impact on the environment?
- What is the impact on plants?
- What is the impact on animals?

III.3. Who/what is affected?

Who or what is affected by the hazard or risk can also have an impact on risk perception and this, in turn, affects the targeting of communications in relation to appropriate audiences and communications channels. For example, it is possible to be more focussed with communications targeting a particular at-risk group than with communications for an unknown audience. Also, when certain vulnerable groups are affected, such as children or babies, the media and stakeholder interest and concern are often heightened. The following categories have been identified as often relevant when considering likely levels of interest and possible targeting of communications approaches.

- General consumer
  - Men
  - Women
- Vulnerable groups
  - Babies
  - Children
  - Pregnant women
  - Elderly
  - Other
- Plants
- Animals
- Environment

Extent of the risk?

- Affecting many people/species/regions
- Unknown/“Lottery” effect
- Affecting few people/species/regions

III.4. How people/animals/plants/ the environment are affected

How people/animals/plants/the environment are a ected is also an important factor to consider when deciding on communications approaches. This is closely related to the level of risk, but speaks more speci cally to the type of risk and the perceptions of and reactions to di ering risks. This is important because, for example, acute risks need to be communicated with particular urgency and directness in contrast to the way in which risks associated with chronic illness in humans are communicated. For instance, it may be di cult to raise interest in a gradual increase in the risk of coronary heart disease linked to diet and lifestyle factors as the risk is not imminent and target audiences may consider that they are not concerned.

The following categories of risk types have been identi ed.

- Acute/immediate health risks that could be life threatening (e.g. food poisoning)
- Life threatening without immediate risk (e.g. carcinogenic)
- Chronic/long term health risks (e.g. allergies, obesity)
- Unknown
- Not believed to be a risk

At a glance:

- How immediate is the risk in terms of its e ect on human, animal health or the environment?
- How severe is the risk in terms of its impact on human, animal health or the environment?
- Are there di erences with respect to the immediacy and severity of the risk as assessed by scienti c experts compared to how it may be perceived by the public (non-experts)?

Different risk approaches

Experts

- Rely on risk assessment
- Objective and general
- Analytical argumentation
- Balance risk against bene ts

Public

- Rely more on perception of risks
- Ask: “What does it mean for me?”
- Want answers on concerns
- Balance risk against dread and outrage

III.5. Levels of exposure to the hazard/risk

This factor is important for decision-making on communications and the distinction between hazard and risk is often difficult to convey. A hazard is not necessarily a risk if we are not exposed to it, or not in large enough amounts for the hazard to become a real risk.

There is also the important element of choice: consumers, as a result of personal preference or awareness-raising campaigns, may choose to determine their own level of exposure to a potential hazard and the associated risk (e.g. the e ect of salt consumption on blood pressure). In times of economic austerity, it is also important to recognise that purchasing power may be an increasingly important factor in uencing consumer choice. If we are widely exposed, a small risk can sometimes be signi cant, in turn increasing the need for communications so that people can – if possible – avoid the risk and so allowing risk managers to take action. When communicating, it is also important that the issue of time is addressed, that is the length of exposure from particular source(s).

- No exposure
- Limited exposure
- Wide exposure
- Exposure a ects particular groups
- Unknown exposure

At a glance:

- What are the levels of consumer exposure to the hazard?
- No exposure; limited; wide; unknown; di erent for di erent population groups?
- What is the impact or possible e ect of exposure over time on human health, animal health and/or the environment?

At a glance:

- Can exposure of a population to the hazard/risk be avoided? Is exposure voluntary or involuntary?
- Are certain groups within the population likely to be exposed in di erent ways?
- Can individuals take action to protect themselves against possible exposure (e.g. reducing one's own dietary fat intake)?
- Can measures be taken by public authorities to avoid or reduce the risk?

III.6. Ability to control risk

This factor can have a considerable effect on attitudes to risk and possible risk management options including that of individual choice, all of which are relevant when deciding on appropriate communications. The following factors have been identified as crucial to decision-making:

The risk is:

- Avoidable by individual
- Unavoidable by individual
- Risk management action can address
- Risk management action cannot address or a clear approach is not immediately obvious/available
- Risk management action not applicable/ necessary (for example, a perceived risk that is not scienti cally proven)

III.7. Other factors relating to risk perception

A range of other factors can impact on how a risk is perceived and need to be taken into account when planning communications approaches. Here, coherent messages from communicators are key.

The following have been identi ed as commonly increasing the sensitivity of the communications challenge:

- The substance/product/technology/evidence is:
  - New/novel
  - Subject of diverging scienti c opinions
  - Subject of diverging political opinions
  - Subject of strong/diverging stakeholder opinion
  - Of public concern
  - Of low public concern yet risk is real

At a glance:

- Is the risk new?
- Is there a history of similar events?
- Has the risk or a similar risk been communicated in the past?
- If so, what is the perception of the risk now ?
- Are there any public health campaigns or information relating to the risk in question currently being reported?
- Are there any news stories relating to the risk (or similar risks) being communicated currently? How are these stories being perceived by the public?
- Are there di erent scienti c views about the risk?

III.8. Levels of communication required

An assessment of the factors impacting on possible communications approaches should inform decision-making about both levels and types of communications. A simple de nition of levels of communications has been identi ed, to provide a basic framework within which to place di erent communications approaches. The types of communications that best suit these di erent levels (and take account of the factors identi ed above) are addressed in the later section on tools and channels. The following levels of communication have been identi ed (accompanying examples are indicative only and may vary depending on the target audience(s) in question):

- Low-level public health impact/low public interest (e.g. additives used in animal feed)
- Low-level public health impact/high public interest (e.g. substances such as GMOs or food colours only authorised for market following risk assessment)
- Medium-level public health impact/medium public interest (e.g. salt consumption)
- High-level public health impact/low public interest (e.g. contamination of foods with *Salmonella* or *Campylobacter*)
- High-level public health impact/high public interest (e.g. the 2011 *E.coli* 0104:H4 outbreak in Germany and France)

This is a simple classi cation, but it broadly identi es di erent approaches in most cases. When there is low impact or interest, a basic commitment to transparency and openness should still apply, for example with a risk assessment being published.

When the impact or interest is likely to be high, wide ranging pro-active communications initiatives would need to be undertaken. For something between the two, some targeted pro-active activity may be appropriate.

The most appropriate use of resources is of particular importance to organisations receiving public funding. Therefore the categories “Low-level impact/high interest” and “High-level impact/low interest” may be areas of concern as a disproportionate amount of resources are invested in responses to scienti cally unproven popular media topics rather than public awareness-raising initiatives on real public health issues.

Regardless of the level of public health impact and third-party interest, it is important that the communicator is familiar with the scienti c facts. Context needs to be provided and the risk communicator should be in a position to respond to layman questions in a way that is proportionate to the level of risk e.g. “Yes this is possible but unlikely because...”

At a glance:

- What impact is the risk likely to have on the audience you want to communicate with?
- What level of interest is this audience likely to have in the risk?
- Is the impact of the risk proportionate to the level of interest expressed by the intended audience?
- Is the audience likely to be interested in the causes of the risk and/or take an active role in managing the risk (e.g. diet-related risks)?
- Are they likely to want to take action themselves to avoid exposure to the risk?

IV

Tools and channels

The tools that we select and the channels that we use need to be the right ones for the task at hand. Communications objectives must rst be clear and the target audience known. With this understanding, appropriate umbrella messages can be tailored. Then the right tools can be identi ed and channels can be selected from a menu of options. A press release does not work for every issue or every audience.

This section is not intended to be prescriptive, rather illustrative, providing an overview of possible uses for di erent tools. National di erences should always be taken into account when tailoring messages and considering the appropriate tools and channels.

1 Media relations

There are many di erent types of media and risk communicators should aim to gauge interest and send press releases only to those which are particularly interested in a given area. However, regardless of the quality of the relationship, media relations will not succeed in isolation and needs to be accompanied by a good website with access to quality background information.

GOODFOR

- Urgent public health announcements, especially acute health risk (press releases, press brie ngs, targeting TV and radio news, interviews, etc.).
- Issues of high concern and public pro le (press releases, interviews, features, etc. targeting media relevant to the issue).
- Caveat – The necessary resources need to be invested in media relations during “peace times” in order to ensure e ectiveness of proactive work.

SOMETIMESGOODFOR

- Other types and levels of risks including changes in the level of risk. Take care of the possibility that media focus on cancer and other fear factors even if the risk is minimal. Use media pro-actively when there is genuine news, especially in these scenarios.

INAPPROPRIATEFOR

- Low risk, no action or advice needed; low interest – not news!
- Institutional and process stories of interest to other stakeholders but not the media (except in certain cases to specialised media).

2 Websites

GOOD FOR

- Communications to a broad audience where feedback is not a priority – an indispensable part of the communications mix.
- Appropriate for all levels of risk and ensures free access to different types of information for all interested parties (e.g. from Frequently Asked Questions to full scientific opinions).
- Particularly useful for the publication of time-sensitive content that may need to be edited/modified on a regular basis.
- Allows for the easy addition of supplementary information.
- Allows for links to other relevant players.
- Puts information in the right context.
- Further outreach through digital feeds.
- Publication of electronic documents such as pdf, Word, etc. (as long as they are accompanied by explanatory web texts).

INAPPROPRIATE FOR

- Engaging with the audience and receiving feedback unless accompanied by special applications that allow users to provide specific feedback to very specific questions (e.g. online public consultations).

3 Printed publications

GOOD FOR	SOMETIMES GOOD FOR	INAPPROPRIATE FOR
▪ Reaching specific target audiences with tailored messages (newsletters, periodicals, leaflets), through managed mailing lists, distribution at conferences etc. ▪ Important key documents, reflecting the financial resources associated with the print, production and distribution (strategies, annual reports, compendia of scientific data). ▪ Content that is not time-bound or likely to require significant changes over time. ▪ Useful in countries/for stakeholder groups who may have limited internet access.	▪ Special inserts, alerting readers to online content when relevant.	▪ High risk, urgent public health announcements due to the time associated with printing and production.

4 Digital publications

GOOD FOR

- Reaching specific target audiences with tailored messages (newsletters, periodicals, leaflets) via managed mailing lists, distribution at conferences, etc.
- Content that is time-bound as the costs of updates are lower than print publications.

SOMETIMES GOOD FOR

- Attracting attention using eye-catching layout to increase readership of important messages.

INAPPROPRIATE FOR

- Important key documents taking into account the financial resources associated with the print, production and distribution (strategies, annual reports, compendia of scientific data).

5 Meetings and workshops

GOOD FOR

- Engaging with key target audiences on sensitive issues where debate and informed decisions are required.

SOMETIMES GOOD FOR

- Information sharing/explaining why certain decisions have been made.

INAPPROPRIATE FOR

- Reaching large numbers of people across a wide geographical area, though this can be overcome at a nancial cost by webcasting.
- Short-term announcements due to logistical/ organisational constraints.

6 Public consultations

GOOD FOR

- Receiving di erent perspectives on potentially controversial or complex issues where feedback will be considered and used to shape the nal output.
- Testing messages with di erent audiences.

SOMETIMES GOOD FOR

- Facilitating dialogue between di erent stakeholders.

INAPPROPRIATE FOR

- Requesting feedback when there is no intention to include it in the nal output.

7 Partner/stakeholder networks

GOOD FOR

- Listening to different perspectives.
- Getting a better understanding of the environment in which the organisation operates.
- Relationship building and engaging in dialogue with key organisations interested in the European food safety supply chain.
- Gaining input to help shape an organisation's direction/priorities/work programme.

SOMETIMES GOOD FOR

- Informing stakeholders of current activities.
- Forward dissemination of key messages through stakeholders' own communication tools and channels.

INAPPROPRIATE FOR

- Engagement when views/contributions will not be considered in relation to a final output.

8 Social networking (Facebook, MySpace, etc.)

GOOD FOR

- Rapidly informing and engaging with interested parties.
- Simple, narrow messages that need to reach a broad range of consumers.
- Can be very effective due to online community discussions to use as a catalyst for behavioural change.
- Can support outreach to new audiences.

SOMETIMES GOOD FOR

- Informal engagement with consumers.

INAPPROPRIATE FOR

- Duplicating organisation's website content.
- Sensitive subjects if resources cannot be found to manage community discussions and needs.

9 Blogging

GOOD FOR

- Informing and engaging with interested parties about all types of risks.
- Sharing reactive, opinion pieces that provide situational overviews.
- Sending messages that remain pertinent over time (archives will be accessed unlike in Micro-blogging sites).

SOMETIMES GOOD FOR

- Rapid dissemination of news.

INAPPROPRIATE FOR

- One-way communications - communicators must be prepared and have the resources to engage, explain and answer questions that may arise.
- Duplicating organisation's website content.

10 Microblogging (Twitter)

GOOD FOR

- Sending fast, topic-related alerts (maximum 140 characters) to interested subscribers.
- Driving subscribers to online content where there is more information and greater context.
- Enabling dissemination of the original message as accurately as possible, given the ease of forwarding function.

SOMETIMES GOOD FOR

- Informing subscribers about latest news, updates, publications, etc.
- Engaging with interested parties to a limited extent.
- Testing concepts with loyal followers.

INAPPROPRIATE FOR

- Obtaining in-depth user feedback. Characters are limited and these online fora do not focus on dialogue.
- Duplicating organisation's website content.

EFSA's Risk Assessment on Animal Cloning

July 2008

Background information

Animal cloning refers to the production of an animal that is essentially a copy of the original. This most commonly involves a technique known as somatic cell nucleus transfer (SCNT). A genetic copy of an animal is produced by replacing the nucleus of an unfertilised ovum (egg cell) with the nucleus of a body (somatic) cell from the animal to form an embryo. The embryo is then transferred to a surrogate female animal where it develops until birth. Plants have been produced for many years using these cloning techniques. They have also been practiced on a larger commercial scale for some time in the production of some fruit and vegetables, for example bananas.

Animal cloning techniques are being used in a number of non-EU countries and several food safety authorities have issued scienti c advice on this issue.

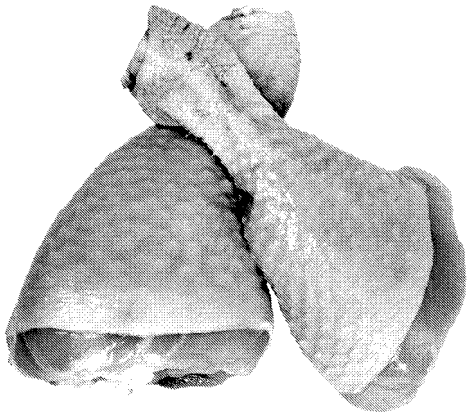
Following public consultation, in July 2008, EFSA adopted a scienti c opinion on the implications of animal cloning on food safety, animal health and welfare and the environment. Subsequently, in 2009, 2010 and 2012, EFSA has adopted statements that con rmed the conclusions and recommendations in the 2008 opinion. The opinion and both statements followed requests from the European Commission for advice on this issue.

Discussion	Conclusions on level of communications	Conclusions on appropriate communications, tools & channels
A high level of pro-active work was required. Issue with high pro le, strong stakeholder opinion, emotive issues, signi cant uncertainties. Also linked to issues outside EFSA's remit that could lead to confusion without proactive communications to explain roles and process; not just a content issue.	High level of proactive communications required targeting a broad audience of specialists and laypersons.	High level of media engagement including a media brie ng on the EFSA opinion; wide stakeholder dialogue as part of a major public consultation initiative.

This approach was positively perceived. Importantly for EFSA, there was a broad understanding of its role and the fact that the Authority was not responsible for ethical or societal issues or risk management decisions.

In support of communicating the parameters of its remit, it was particularly helpful that in addition to seeking scientific advice from EFSA, the European Commission simultaneously sought advice from the European Group on Ethics. Consultation genuinely helped shape thinking and small but important differences made between the draft and final opinion (e.g. around uncertainties) were very well received. Being upfront and visible (defining EFSA's role, consultation, stakeholder engagement) on such a high profile and sensitive issue like this paid dividends.

EFSA's thematic communication approach to food-borne zoonotic diseases



Background information

Zoonoses are infections or diseases that can be transmitted directly or indirectly between animals and humans. Food-borne zoonotic diseases are caused by consuming food or drinking water contaminated by pathogenic micro-organisms such as bacteria, bacterial toxins and parasites. The severity of these diseases in humans varies from mild symptoms to life-threatening conditions. The risks of contamination are present from farm to fork and require prevention and control throughout the food chain.

Food-borne zoonoses are a signi cant and widespread public health threat. More than 320,000 human cases are con rmed in the European Union each year, but the real number is likely to be much higher. A coordinated approach by all EU actors on zoonotic diseases has helped reduce human cases of *Salmonella* by almost one-half in the EU over ve years (2004-2009). EFSA helps to protect consumers from this public health threat by providing independent scienti c support and advice on the human health and food safety-related aspects of these diseases, and by monitoring progress in the EU.

In line with EFSA's communications strategy, zoonotic diseases were selected as one of the key thematic areas for communication. A long-term communication plan was developed for coming years identifying key focus areas in oder to raise awareness (*Salmonella* and antimicrobial resistance), identifying key internal and external milestones and relevant communication channels for target audiences. Based on the plan, several activities were undertaken: a comprehensive package of zoonoses-related information was developed for the EFSA website providing general information of the diseases and bringing together all key outputs, fact sheets were produced for selected areas to be used at key events and distributed to stakeholders, and media activities were focused on key outputs. Short online videos explaining these diseases will also be produced at a later stage and additional communications activities are being considered.

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Discussion

Achieving a comprehensive communication approach for zoonotic diseases required thorough long-term planning, including identifying key external issues and events in the eld. A high level of pro-active work was required to produce general information providing further context suitable for all audiences. Media activities were focused on key 2011 scienti c outputs based on key milestones identi ed during the planning phase.

Conclusions on level of communications

The risk of food-borne zoonotic diseases is an important public health threat but public interest is quite low compared to other more high-pro le issues. The overall economic burden of zoonotic diseases in the EU is signi cant (e.g. as high as EUR 3 billion a year for human salmonellosis). For these reasons, proactive production of communication materials targeted at laypersons was considered appropriate in addition to continued media activities on selected scienti c outputs mainly targeted at specialist journalists.

Conclusions on appropriate communications, tools & channels

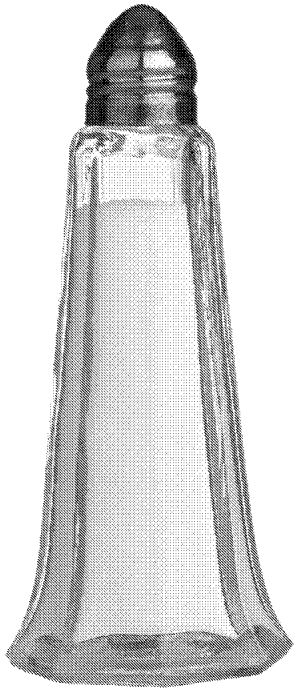
A wide range of di erent communications tools and channels were needed for a comprehensive thematic approach. Online communication activities and fact sheets were selected as tools suitable for providing general information to all audiences. Media activities were considered for speci c issues, particularly targeted at specialist audiences. New communications tools will also support the approach, such as online videos.

EFSA's thematic communication approach on food-borne zoonotic diseases is still being developed and the outcomes will be thoroughly assessed in the coming years. As a key player in Europe in helping to combat food-borne zoonotic diseases, the Authority is in an ideal position to provide Member States and other stakeholders and interested parties with valuable public health information about the risk posed by zoonotic diseases. In particular, the comprehensive package of general information published on EFSA's website and the fact sheets and videos have been positively received. Furthermore, within the organisation, the information provides comprehensive reference materials to be used by different units for different purposes (e.g. in responding to external queries, at events).

In the near future, the aim of this comprehensive approach is to build awareness among all EFSA's target audiences of this public health threat, of EFSA's role in combating it along with other EU actors and of the progress achieved to date.

Salt Campaign

Food Standards Agency (FSA), the United Kingdom 2004 - 2009



Background information

The whole UK population could potentially be at risk from a high salt intake. In order to have a real impact on consumers' intakes the FSA worked in partnership with the UK food industry and health organisations to encourage product reformulation and to raise consumer awareness of the health risks associated with eating too much salt. A consumer awareness campaign was developed in conjunction with an initiative aimed at reducing the salt content in the food purchased. In 2006 the original voluntary salt reduction targets were published as guidance to the food industry. These targets are reviewed and revised regularly in order to maintain progress towards a lower daily intake.

Discussion

A high-level of proactive work was required. In order to build support for the campaign, it was necessary to engage with a wide range of stakeholders including key industry organisations, charities and other non-governmental organisations. All sectors of the food industry – retailers, manufacturers, trade associations, caterers and suppliers to the catering industry – supported the salt awareness message, responding positively to calls to reduce salt in foods and continue to be engaged in this programme.

Conclusions on level of communications

The risk posed by salt could have a high level impact on people's lives and yet interest is quite low. It poses a significant risk to the whole population but it is a risk that only has effects over a long timescale. For these reasons a wide-ranging, proactive communications initiative, executed in a number of stages and involving a wide range of stakeholders seemed appropriate.

Specific urinary analysis conducted after the third phase of the campaign, showed that adults consumed on average 8.6g of salt in comparison with 9.5g before the campaign began. In addition evaluation of the campaign, through monitoring changes in consumers' claimed behaviour, suggested that before the start of Phase 4:

- **the number of consumers cutting down on salt had increased by around one-third**
- **there had been a 10-fold increase in awareness of the 6g a day message**
- **the number of consumers trying to cut down on salt by checking labels had doubled.**

Conclusions on appropriate communications, tools & channels

The communications initiative focused on women aged 35-65. Although men are more likely to suffer from heart disease and stroke, women continue to be the 'gatekeepers' with regard to buying and preparing food in family households in the UK. A range of media were used to deliver the messages, including TV advertising, posters, articles in the women's press and national newspapers as well as news coverage.

In addition to online consumer-focused information, all phases of the campaign produced material for consumers such as leaflets and credit-card-sized prompts to help increase awareness of the issues and the actions that can be taken to reduce salt intake.

Work was also undertaken by a range of stakeholders – both in the food industry and non-governmental organisations – to get the campaign messages across to hard-to-reach groups. For example, in addition to routinely communicating Agency salt reduction messages to local authorities, public health and food partners through targeted e-bulletins and publications, the teams worked with a number of regional partners on specific local projects to increase awareness of the effect of salt on health and to reduce salt consumption.

University of Southampton research looking at the effect on children of certain artificial colours

Food Standards Agency (FSA), the United Kingdom (September 2007 to April 2008)

Background information

In 2006 the FSA funded a study, undertaken by the University of Southampton, investigating the e ects of arti cial food colour additives on child behaviour. The results of the study, published on 6 September 2007, found evidence for a link between six arti cial food colours and the preservative sodium benzoate and increased hyperactivity in 3-year-old and 8/9-year-old children in the general population. The six colours in question were Sunset Yellow (E110), Tartrazine (E102), Carmoisine (E122), Ponceau 4R (E124), Quinoline Yellow (E104) and Allura Red (E129).

Discussion

A high level of planning was required before publication of the study in order to be prepared for the reactions of NGOs, industry and other stakeholders. Initial Agency response was cautious as no causal link between consuming products containing these colours and hyperactivity had been established. Agency advice concentrated on what practical help could be given to parents to avoid foods containing these colours if they wished to do so.

Subsequent discussion by the Board and a review of the study by EFSA led the FSA to advise UK Ministers that there should be a voluntary ban on these particular colours, to be implemented by the end of 2009. Dame Deirdre Hutton, FSA Chair at the time, said: “It is the Agency’s duty to put consumers first. These additives give colour to foods but nothing else. It would therefore be sensible, in the light of the findings of the Southampton study, to remove them from food and drink products. UK industry has already taken great strides to remove these colours from food; this decision builds on the work already done and will encourage industry to continue down this path.”

Conclusions on level of communications

Meetings and Q&As with stakeholders and other interested parties were scheduled for the days following the publication of the study. Because not all children may show an increase in hyperactive behaviour from certain sets of additives the Agency decided, in the first instance, to target advice at parents of children showing signs of hyperactivity. This was later broadened to include a wider range of consumers who, although not immediately concerned about these colours and children’s hyperactivity, might be reassured by the steps being taken by the Agency and the food industry to remove them.

Conclusions on appropriate communications, tools & channels

The Agency set up a dedicated page on its website to provide information about what action industry was taking, together with details of company websites and consumer care-line numbers. Information was also provided on the Agency’s “Eat well” website to help consumers better understand E numbers.

The Agency continues to publish on its website updated lists of caterers, restaurants, manufacturers, retailers and product lines that were free from the six colours identified in the Southampton study.

Immediately after publication of the Southampton study the Agency could have talked more about how it was encouraging the food industry to give parents more information sooner to help them make choices.

In addition the Agency may not have been clear enough about why an immediate ban wasn’t the answer, primarily because there was no overriding public health risk.

According to Regulation (EC) No 1333/2008, which came into effect in July 2010, the use in food products of one or more of the six colours cited in the Southampton study requires the inclusion of a mandatory health warning on the label indicating the possible link to hyperactivity in some children.

Q-fever in the Netherlands: Openness and transparency

2009

Background information

Q-fever was one of the main topics in the Dutch media at the end of 2009. There was public concern over the increasing number of infected people. The Ministry of Agriculture, Nature and Food Quality (LNV) was responsible for the Q-fever policy (in cooperation with the Dutch Ministry of Health, Welfare and Sport). It was a very emotive subject from an animal welfare point of view as thousands of pregnant goats had to be culled. The culling had to be implemented by the Dutch Food and Consumer Product Safety Authority (VWA).

Q-fever is an infectious disease which can be transmitted from animals to humans. In the Netherlands, infected dairy goats and dairy sheep are the main source of the illness among humans. Most people become ill by breathing in air contaminated with the bacterium known to cause Q-fever. This bacterium is most commonly found in the air during the lambing season (sheep)/kidding season (goats). It can also be present in raw milk, manure and urine. However, the bacterium is not found in goat or sheep meat. Other animals (e.g. cows and household pets) can be infected and can transmit the infection to humans. This has rarely happened in the Netherlands. In an open environment, the bacterium can still pose a contamination threat for a period of months to years.

The disease is very rarely transmitted from human to human. More than half of people with Q-fever develop virtually no symptoms. Those who do have symptoms generally experience fever and severe headaches. Other symptoms include coughing, painful muscles, painful joints, chills, night sweats, listlessness and fatigue.

Serious cases can involve pneumonia accompanied by a dry cough and chest pain. Some people infected with Q-fever develop hepatitis. Men develop Q-fever more frequently than women and smokers more often than non-smokers. Many people who have had Q-fever experience fatigue for an extended period after their recovery.

Discussion

There was increasing concern about animal welfare in the Netherlands and the government was aware of this. As the amniotic uid and placenta of infected pregnant animals in particular can contain large quantities of the bacterium, the decision was taken to kill the pregnant goats on infected farms. However, this had to be done in a respectful and ethical way to re ect the concerns about animal welfare. The animals therefore rst received a sedative injection, followed by a lethal injection while they were sleeping. The veterinarians were briefed and care was taken to devote attention to the feelings of a ected farmers. One such event was lmed by one camera crew and the footage was shared with all of the television stations and key media.

The aim was to show the government's concern for animal welfare and distress su ered by goat farmers.

The key communication message was: *"It is very sad but to protect human health it is necessary."*

Conclusions on level of communications

Due to the enormous media attention on Q-fever and concern about animal welfare the decision was taken to show the rst cull openly and transparently on 21 December 2009. Prior to this date the addresses of the infected goat farms were published and residents in the vicinity of an infected farm were informed.

Conclusions on appropriate communications, tools & channels

The media coverage was huge: all the main radio and TV news channels reported the story on the same day. The next day all national and local newspapers did the same. The Dutch Agency, was pleased with the tone, images, pictures and content of the news. The communications had a high impact and was very emotive but also respectful and honest. It represented the original intention of openness and transparency. The communication strategy and the implementation generated a positive result both internally and externally. The more open approach was a stimulus for the veterinarians and all others involved in this emotive operation. It also showed understanding for the farmers with infected goats.

A newspaper article (Dagblad Pers) stated that the Ministry of Agriculture, Nature and Food Quality has learned from negative exposure of the former swine fever and Foot and Mouth disease crisis.

http://nos.nl/artikel/124250-eerste-geiten-geruimd-op-brabantse-qkoortsbedrijven.html

News of the Dutch national broadcast organization: NOS (21 December 2009)

The good cooperation between VWA and the Dutch Ministry of Agriculture, Nature and Food Quality was paramount to accomplish this outcome in such a short timeframe. There were just a few days between the announcement of the measures and the start of this operation.

It takes courage to implement openness.

The media understand that they cannot have exclusive rights when there are good reasons. They will cooperate.

You can only implement such an orchestrated and restricted press approach for very rare and special occasions. Otherwise it will be perceived as limitation of press freedom. (Some criticism of Dutch association of chief editors and a political party.)

Openness and transparency stimulate the interest of journalists.

Case history on food supplements in Sweden

Background information

On 25 February 2009, the Medical Products Agency of Sweden issued a warning against the herb-based dietary supplement Fortodol. Following information about four cases of liver damage among Swedish patients who had taken Fortodol, the Agency posted information on the homepage of its website. In one of the cases, the patient developed acute liver failure and died. The Norwegian Medical Products Agency also had information about ve cases of liver damage, and one death, with possible association relating to Fortodol intake.

Food supplements are preparations intended to provide nutrients, such as vitamins, minerals, ber, fatty acids or amino acids, which are missing or are not consumed in su cient quantity in a person's diet.

The Directive 2002/46/EC of the European Parliament and Council and its modi cations on the approximation of the laws of EU Member States relating to food supplements establishes harmonised rules for the labelling of food supplements and introduces speci c rules on vitamins and minerals in food supplements. The aim is to harmonise the legislation and to ensure that these products are safe and appropriately labelled so that consumers can make informed choices.

Despite this aim, more than 250 noti cations on food supplements have been listed in the database of the Rapid Alert System on Food and Feed of the European Union since 1996.

Discussion

The case illustrates that some preparations distributed on the market may contain substances that have adverse health e ects. The risk of such products is hard to assess, since no consumption data are available. Food supplements which may be contaminated, illegally marketed or contain unauthorised substances or novel food ingredients can a ect many consumers. The global distribution via the internet is di cult to control, making it di cult to trace back products or to withdraw them at national level. Another challenge was the distribution of the product sold under di erent brand names. Despite this, there was little media interest in the topic.

Conclusions on level of communications

Many EU countries (Sweden, Norway, Denmark, Finland, UK, Republic of Ireland, Portugal, Spain) took action to withdraw the product sold under other brand names containing the substance also as Donsbach Miradin, Lepicol Miradin, Leppin Miradin and Miradin from their markets.

As the product was sold via the internet, many other countries were also a ected.

Conclusions on appropriate communications, tools & channels

No information about panic among consumers. Media inquiries were low.

The key messages communicated were as follows:

- Not to purchase or use this food supplement;
- Not to purchase it over the internet;
- This is a product which has been launched as a food supplement not as a medicinal product, which implies a risk that people use it for longer periods of time;
- Those who su er from symptoms such as poor appetite, nausea, vomiting, abdominal pain, dark urine, yellow skin, etc. should seek a liver check-up.

General messages: Consumers should be careful when buying food/food supplements online.

These communications were shared via online communication channels and the media.

Strengths: Co-operation between Member States via RASFF and e-mail.

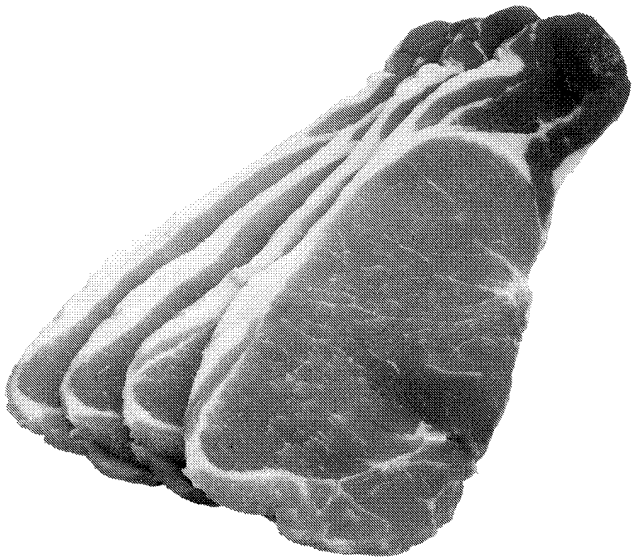
Weaknesses: Slow reaction between notification and product withdrawal.

Opportunities: History of low media interest in subject area gave space for broader explanation through online media channels.

Threats: Influence of the global e-market at national level coupled with the pro-food-supplement lifestyle trends.

Case Study – Irish Dioxin Crisis

Food Safety Authority of Ireland (FSAI), 2008



Background information

Dioxins are a group of persistent toxic chemicals which are by-products of industrial combustion and chemical processes. They are highly resistant to breakdown and therefore persist in the environment. Up to 90% of human exposure to dioxins results from the consumption of food containing dioxins, mainly foodstu s of animal origin with a high fat content, since these contaminants accumulate in fatty tissues. Foodstu s in which dioxins can occur include meat, sh, eggs and milk.

The crisis began with the discovery, during routine monitoring, of the presence of marker PCBs (indicative of possible dioxin contamination) in pork fat. Further analysis con rmed on 6 December 2008 that dioxins were present in the samples. It was estimated that approximately 10% of pigmeat from the Republic of Ireland was a ected by the contamination. However, general traceability issues in the food chain augmented by the fact that all Irish pigs are slaughtered and processed in a small number of processing plants made it impossible to distinguish between potentially contaminated and non-contaminated products. Consequently, as a precautionary measure and in the interest of protecting public health, all pork products manufactured from pigs slaughtered in Ireland between 1 September and 6 December were recalled.

Discussion

During the crisis, the story moved from one about consumer protection, through to one about consumer rights, to the damage to the industry and desire for compensation, to the return of Irish pork products back to the market. As with many stories of this scale, numerous voices, with a corresponding level of opinions, entered the media debate. Within this heated and cluttered space, the FSAI continued to keep its message clear. Consumers were advised that they should not be unduly concerned about health risks, but that dioxins cannot be permitted in the food chain.

Conclusions on level of communications

The speci c communications objective was to inform consumers of the risks as appropriate. In addition, the recommendations to government were that dioxins should not enter the food chain and that whilst there was little or no immediate health risk to people who might have consumed contaminated pork over the de ned 1 September to 6 December period, it was nonetheless not tolerable to continue to allow people to be exposed to dioxins in food. This was the underlying message at all times from the FSAI. In addition, sub-messages were de ned, including:

- The FSAI is instructing retailers and manufacturers to remove implicated products from the shelves immediately. It is also reminding industry of its legal obligation to do so;
- Consumers are advised to check if they have these products in their home. If they have them they should not eat them. They should be thrown out or taken back to the retailer;
- The FSAI will continue to act swiftly to have a ected products removed from the food chain in the interest of protecting consumer health and consumer interests;
- Information is available from the FSAI website and through its Advice Line.

Conclusions on appropriate communications, tools & channels

High-level media relations throughout including daily media brie ngs coupled with wide stakeholder engagement

The enormous amount of media coverage, in many cases providing conflicting and/or sensationalist news, resulted in consumers being bombarded with information and left unsure about the actual risk the crisis posed to them. Amidst this storm of information dissemination, authorities faced considerable obstacles in getting the correct message to the consumer. Despite the amount of information consumers were faced with, their confidence in Irish food was rapidly restored. This in part was due to the role EFSA and the EU risk managers played in supporting the Irish authorities. The increase in consumer confidence was reflected in sales of pork meat swiftly returning to levels prior to the food scare and certain sectors even noting an increase in sales.

Further reading

Fife Schaw, C. and Rowe, G. 1996. **Public perceptions of everyday food hazards: A psychometric study.** Risk Analysis, 16(4): 487–500.

Flynn, J., Slovic, P. and Kunreuther, H., eds. 2001. **Risk, media and stigma: Understanding public challenges to modern science and technology,** London: Earthscan.

Frewer, L.J., Howard, C., Hedderley, D. and Shepherd, R. 1996. **What determines trust in information about food related risks? Underlying psychological constructs.** Risk Analysis, 16(4): 473–86.

Gregory, J. and Miller, S. 1998. **Science in public: Communication, culture and credibility,** Cambridge: Plenum Press.

Hansen, J., Holm, L., Frewer, L., Robinson, P. and Sandøe, P. 2003. **Beyond the knowledge deficit: Recent research into lay and expert attitudes to food risks.** Appetite, 41: 111–21. 18.

Harrabin, R. 2004. **Risky business.** British Journalism Review, 15: 28–33.

Kasperson, R.E., Renn, O., Slovic, P., Brown, H.S., Emel, J., Goble, R., Kasperson, J.X. and Ratick, S. 1988. **The social amplification of risk: A conceptual framework.** Risk Analysis, 8(2): 178–87.

Krystallis, A., Frewer, L.J., Rowe, G., Houghton, J.R., Kehagia, O. and Perrea, T. 2008. **A perceptual divide? Consumer and expert attitudes to food risk management in Europe.** Health, Risk & Society, 9(4): 407–24.

Lofstedt, R.E. 2006. **How we can make food risk communication better: Where are we and where are we going?.** Journal of Risk Research, 9: 869–90.

Renn, O. 1991. **"Risk communication and the social amplification of risk".** In Communicating risks to the public: International perspectives, Edited by: Kasperson, R.E. & Stallen, P.J.M. 457–81. Dordrecht: Kluwer Academic.

Rosati, S. and Saba, A. 2004. **The perception of risks associated with food-related hazards and the perceived reliability of sources of information.** International Journal of Food Science and Technology, 39: 491–500.

Slovic, P. 1986. **Informing and educating the public about risk.** Risk Analysis, 6(4): 403–15.

Slovic, P. 1987. **Perception of risk.** Science, 236: 280–5.

Slovic, P. 1993. **Perceived risk, trust, and democracy.** Risk Analysis, 13(6): 675–82. 44.

Slovic, P. 2000. **The perception of risk,** London: Earthscan.

Examples of other guideline initiatives

Christensen, L.L. 2007. **The hands on guide for science communicators,** Dordrecht: Springer.

European Commission. 2006. **Communicating science: A scientist's survival kit**, Brussels: European Commission. ***http://ec.europa.eu/research/science-society/pdf/communicating-science_en.pdf***

Food and Agriculture Organisation of the United Nations, and World Health Organisation (FAO/WHO). 1998. **The application of risk communication to food standards and safety matters**, Rome: FAO/WHO. ***http://www.fao.org/docrep/005/x1271e/X1271E00.htm***

Science Media Centre. 2002. **Communicating risk in a soundbite: A guide for scientists**, London: The Royal Institution of Great Britain. ***http://www.sciencemediacentre.org***

Social Issues Research Centre (SIRC). 2001. **Guidelines on science and health communication**, Oxford: SIRC. ***http://www.sirc.org***

Social Issues Research Centre (SIRC). 2006. **MESSENGER: Media, science and society; engagement and governance in Europe**, Oxford: SIRC. ***http://www.sirc.org***

The Royal Society. 2000. **Scientists and the media: Guidelines for scientists working with the media and comments on a press code of practice**, London: The Royal Society. ***http://www.royalsoc.ac.uk***

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