



WHEN FOOD IS COOKING UP A STORM

**PROVEN RECIPES FOR
RISK COMMUNICATIONS**

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Preface by EFSA's Communication Experts Network

Welcome to this new, updated edition of *When food is cooking up a storm: proven recipes for risk communications*. I am sure you will find it useful to your everyday work as a risk communicator.

The aim of this publication is to help communicators in the food sector to design communication programmes supported by high-quality science and taking account of public values and preferences.

When food is cooking up a storm provides information on food safety, risk assessment methods and the tasks of the European Food Safety Authority (EFSA). It provides advice based on existing research and long-standing experience and is directed towards governmental agencies that regulate the food sector.

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The goal of risk communication is to assist stakeholders, consumers and the general public to understand the rationale behind risk-based decisions and, to help them make balanced judgements about the risks that they face in their own lives.

Effective risk communication can contribute to the success of a risk management programme by:

- Ensuring that consumers are aware of the risks associated with a product and thereby use or consume it safely.
- Building public confidence in risk assessment and management decisions and the associated risk/benefit considerations.
- Contributing to the public's understanding of the nature of a risk or risks.
- Providing 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.

There are four general guidelines that can help us to achieve these goals:

- Start with a critical review of your own risk assessment and management performance.
- Design a 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 programme to collect feedback and to sense changes in values and preferences.

Communication Experts Network



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 different countries.

Communicators from EFSA, Member States and the European Commission work together in EFSA's Communication Experts Network (CEN). 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 the CEN, recognising two important points: 1) there is a need for more practical guidance with respect to principles laid down in scientific literature and 2) the literature on risk communications guidance specific 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 defined 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 specific 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 benefit

from the learnings of practical case studies. In their creation, valuable input was received from scientific risk assessment colleagues, reflecting the need for communicators, whether assessors or managers, to liaise and collaborate with their scientific counterparts.

Given different structures and approaches across the European Union's 27 Member States, there is no one uniform approach that fits every situation. There is also a clear recognition that differences exist between countries with respect to risk perception. This can be attributed to many different factors including cultural, historical, economic and societal influences. Public opinion studies have shown that levels of concern about different risks vary widely between countries. In addition, risk communications guidelines related to food concerns need to take into account country differences in the food supply, dietary habits and practices as well as specific 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 differences, guidelines can help develop approaches based on best practice and underlying principles applicable across different 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>



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 confidence. 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 scientific advice and has put in place a comprehensive series of mechanisms and processes to safeguard the independence and integrity of its scientific work. These are laid down in its Policy on Independence and Scientific 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 scientific 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 find difficult 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 scientific 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 confidence.

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 significance, 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 scientific opinion. Predicting the types of questions that could be asked of a risk assessment will ensure that the terms of reference serve both scientific 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 effectiveness 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 offer reassurance that uncertainty is being addressed.

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

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

Uncertainty in science – how should we communicate it?

Why is uncertainty important?

We can never be completely certain about the future, either in science or in everyday life. Even when there is strong evidence that something will happen, there will almost always be uncertainty about the outcome. By taking account of the uncertainty, we can make better, more transparent decisions.

What are scientific uncertainties?

Since 2013, EFSA's Scientific Committee has been developing guidance on how to assess uncertainty in a structured and systematic way. A draft of the guidance defines uncertainty as "all types of limitations in the knowledge available to assessors at the time an assessment is conducted and within the time and resources available for the assessment". Examples include: limited data quality, non-standardised data, choice of modelling technique, use of default factors. The Committee's work will include considerations and recommendations for communicating the uncertainties of scientific assessments to wider audiences.

Don't scientists know everything?

Science is the pursuit of knowledge. Scientists are constantly striving to fill in the gaps in human knowledge about how the world works. They often

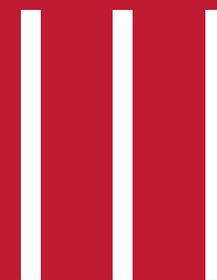
know a great deal about their specialist fields; they also know a lot about what is not known. Their confidence in their scientific decisions are a combination of:

- the quality of the available scientific evidence;
- their experience and expert judgment in interpreting the evidence;
- their assessment of the possible impact of what they do not know (i.e. the uncertainties).

Best practice for communicating uncertainty

Some international and national agencies in the environmental, air safety and other areas have issued recommendations. Many businesses have dedicated approaches. But overall, the literature is equivocal about the most effective strategies for communicating scientific uncertainties.

In 2016, EFSA conducted target audience research among stakeholders on communicating scientific uncertainty, and aims to integrate the results in the Scientific Committee's guidance when it is finalised. This research is helping to identify how changes could be made to the agency's current communications practices in relation to uncertainties, and to tailor key messages to specific target audience needs. Once this work is completed, it will be integrated into a future edition of this handbook.



Factors impacting on level and type of communications

These guidelines aim to identify the key factors that need to be taken into account when considering the type and level of communications activities needed. Decision-making on risk communications cannot be made into an exact science, and judgements need to be made, but a thorough and systematic consideration of all possible relevant factors can help to make that judgement more informed. Some elements impacting on the decision-making are purely based on scientific evidence – the actual hazard and risks of exposure to that hazard, for example. Risk perception should always be taken into account but even more so when a possible risk, however unlikely, could involve vulnerable groups such as children or babies. The wider environment of political and stakeholder views or sensitivities are also factored in, as well as risk management measures that may already be in place to reduce any potential risk.

This section summarises the factors that have been identified by both academics and practitioners as crucial to risk communication decision-making. All need to be considered, but each factor will not always be relevant for every scenario. Furthermore, the factors are not necessarily mutually exclusive and although categories have been defined for the purpose of simplifying a very complex task, communicators should not lose sight of the fact that some scenarios may need to address multiple factors.

At the end of each section, there are some questions that may assist practitioners in defining the appropriate communications approach.

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 stages¹: i) Hazard identification ii) Hazard characterisation iii) Exposure assessment and iv) Risk characterisation.

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 and feeds.
- 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.

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?

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 affected is also an important factor to consider when deciding on communications approaches. This is closely related to the level of risk, but speaks more specifically to the type of risk and the perceptions of and reactions to differing 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 difficult 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 identified.

- .. 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 effect 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 differences with respect to the immediacy and severity of the risk as assessed by scientific 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 benefits

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 effect 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 influencing consumer choice. If we are widely exposed, a small risk can sometimes be significant, 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 affects particular groups
- .. Unknown exposure

At a glance:

- .. What are the levels of consumer exposure to the hazard?
- .. No exposure; limited; wide; unknown; different for different population groups?
- .. What is the impact or possible effect 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 different 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 scientifically 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 identified as commonly increasing the sensitivity of the communications challenge:

- .. The substance/product/technology/evidence is:
 - .. New/novel
 - .. Subject of diverging scientific 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 different scientific 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 definition of levels of communications has been identified, to provide a basic framework within which to place different communications approaches. The types of communications that best suit these different levels (and take account of the factors identified above) are addressed in the later section on tools and channels. The following levels of communication have been identified (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* O104:H4 outbreak in Germany and France)

This is a simple classification, but it broadly identifies different 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 scientifically 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 scientific 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 first be clear and the target audience known. With this understanding, appropriate umbrella messages can be tailored. Then the right tools can be identified 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 different tools. National differences should always be taken into account when tailoring messages and considering the appropriate tools and channels.

1

Media relations

There are many different 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.

GOOD FOR

- .. Urgent public health announcements, especially acute health risk (press releases, press briefings, targeting TV and radio news, interviews, etc.).
- .. Issues of high concern and public profile (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 effectiveness of proactive work.

SOMETIMES GOOD FOR

- .. 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.

INAPPROPRIATE FOR

- .. 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.

INAPPROPRIATE FOR

- “ 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).
- “ 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

- “ 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.

SOMETIMES GOOD FOR

- “ Special inserts, alerting readers to online content when relevant.

INAPPROPRIATE FOR

- “ 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 financial cost by webcasting.
- Short-term announcements due to logistical/organisational constraints.

6

Public consultations

GOOD FOR

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

SOMETIMES GOOD FOR

- “ Facilitating dialogue between different stakeholders.

INAPPROPRIATE FOR

- “ Requesting feedback when there is no intention to include it in the final 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, LinkedIn, 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

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 the 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.

10

Blogging

GOOD FOR

- “ Informing and engaging with interested parties about all types of risks.
- “ Sharing reflective, opinion pieces showing the human face of the organisation.
- “ Sending messages that remain pertinent over time (archives will be accessed unlike in micro-blogging sites).
- “ Building a community of people around a specific topic

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.



Learning from experience

In this section, communicators from EFSA and Member State representatives from its Communication Experts Network (CEN) share their experience and lessons learned, exemplifying how different tools and channels have been put to effective use for different purposes. The case histories provide an insight into how key organisations managed the communication aspects of significant issues that have affected the European food supply chain in recent years. These guidelines are a living document and the case studies will be regularly updated to reflect developments and capture best practices in the field.



Clear skies ahead

This section looks at proactive communication approaches that have anticipated audiences' needs and objectives in an attempt to satisfy information and communication requirements as early as possible.

Acrylamide in food

European Food Safety Authority (EFSA),
2015

Background information

Acrylamide is a chemical that naturally forms in many common starchy food products during every-day high temperature cooking (frying, baking, roasting and also industrial processing at +120°C and low moisture). Many potato and cereal-based foods contain acrylamide: potato crisps and snacks, French fries, croquettes, roasted potatoes, bread, biscuits, cake, pastry, crackers, rusks and crisp breads. It is also present in roasted coffee and various coffee substitutes.

Acrylamide in food mainly forms from sugars and amino acids (one in particular, called asparagine). They are naturally present in many foods. The chemical process that causes this is known as the Maillard reaction; it also 'browns' food and affects its taste. However, exposure to acrylamide and glycidamide – one of its metabolites – has been shown to cause cancer in animals over time.

Authorities have known about acrylamide in food since 2002 and monitored consumer exposure. EFSA was asked to consider new scientific findings on the possible carcinogenicity of acrylamide and completed its first full risk assessment of the substance in May 2015.



Factors to take into account	Conclusions	Comments
Level of risk	<ul style="list-style-type: none"> Potentially high 	<i>The presence of acrylamide in so many frequently consumed foods means the human health risks are widespread.</i>
Nature of hazard (e.g. substance)	<ul style="list-style-type: none"> A process contaminant, acrylamide and particularly its metabolite glycidamide are both genotoxic and carcinogenic in animals. They may also adversely affect the nervous system, pre- and post-natal development and male reproduction. 	<i>Significant data from animal experiments confirm the toxicity of acrylamide and glycidamide, but evidence from human studies is inconclusive. Testing on humans is difficult, given prevalence in so many foods.</i>
Who/what is affected	<ul style="list-style-type: none"> All ages are affected but children the most. 	<i>Children are most at risk on a body-weight basis.</i>
How people/animals are affected	<ul style="list-style-type: none"> Long term effects – since all high-temperature cooked starchy foods contain acrylamide, exposure is common. While toxicity is not extremely high, the prevalence of acrylamide increases the risk of cancer. 	<i>Results from tests on humans are so far inconclusive, i.e. carcinogenicity is proven in animals but not in humans (but likely given results from animal testing.)</i>
Exposure to hazard	<ul style="list-style-type: none"> Margin of exposure for cancer-related effects of acrylamide range from 425 for average adult consumers down to 50 for high consuming Toddlers. These ranges indicate a concern for public health. MOEs for neurological effects range from 1,075 for average adult consumers to 126 for high consuming toddlers, indicating they are not a concern for public health. 	<p><i>For substances that are genotoxic and carcinogenic, an MOE of 10,000 or higher is of low concern for public health.</i></p> <p><i>For non-genotoxic substances, an MOE of 100 or higher normally indicates no concern for public health.</i></p>
Ability to control the risk	<ul style="list-style-type: none"> Choice of ingredients, storage methods and cooking temperature influence the amount of acrylamide in food. 	<i>It is practically impossible to eliminate acrylamide from the diet. However, controls and/or information campaigns on industrial food production, restaurants, catering and home cooking can help reduce acrylamide levels in food.</i>
Other factors relating to risk perception	<ul style="list-style-type: none"> The Maillard reaction browns food and affects its taste, which enhances the eating experience for many consumers. Consumers may prefer to take a risk that is long-term rather than change cooking/eating habits, which would negatively impact their eating experience. 	<i>In Europe several large food operators have adopted a voluntary code of conduct, aimed at reducing acrylamide levels in food. Smaller commercial operators such as catering services and restaurants also have a role in acrylamide production in food.</i>
Level of communications required	<ul style="list-style-type: none"> Layered communication targeting EU and national risk managers, food operators, consumer organisations and consumers were needed to raise general awareness. 	<i>The potential public health risks of acrylamide in food were not unknown before EFSA's scientific opinion; however, this was the first EU-wide assessment and also took account of much new scientific information.</i>

Discussion

EFSA's communications were planned to achieve two main objectives: to help give risk managers a sound scientific basis for future acrylamide reduction measures, if deemed necessary; and to increase awareness among all stakeholders including the general public. Also, since home cooking and consumer eating habits directly affect acrylamide exposure, EFSA worked together with communication experts from EU Member State authorities to produce a joint tool (an infographic) for use by EFSA and its national partners. The infographic included scientific information about acrylamide in food but also provided an overview of selected eating and cooking tips provided by national authorities to their populations to reduce their exposure to acrylamide in the diet.

Conclusions on level of communications and on appropriate communications, tools & channels

EFSA and many national competent authorities in EU/EEA countries have provided information on the potential health risks of acrylamide in food. EFSA's 2015 scientific opinion requested by the European Commission took account of new scientific findings so a communication campaign was considered necessary. EFSA's communication approach was multi-layered and started before the opinion was adopted.

A year before adoption EFSA published a press release and held a public consultation on the draft scientific opinion, which indicated the provisional conclusions. The consultation allowed EFSA to gather useful input from stakeholders – particularly from the various affected food sectors and consumer organisations. They were invited to a public meeting in Brussels to explain and discuss the work with EFSA's scientific experts. The feedback allowed EFSA to fine tune aspects of the opinion and build understanding with stakeholders and risk managers.

For publication of the opinion, EFSA published a press release and FAQs for media use. In addition, a four-page plain language summary explaining key parts of the risk assessment targeted EU and national risk managers and political decision-makers. The infographic developed with national communications partners was aimed at the general public and promoted extensively on Twitter and other platforms. Some national authorities used the tool in their own national campaigns to promote awareness.

Overall, the extensive and ongoing coverage since June 2015 at EU level and in several countries across Europe has contributed to raising awareness of this issue.

Conclusions and learning on communications

The press releases published in 2014 and 2015 registered high volumes of traffic. Tracking of media

coverage revealed interest in different aspects of the opinion in different countries; for example, toast and crisps were highlighted in some countries, coffee and fried potato products in others.

Engagement indicators for the EFSA website showed high interest, i.e. most users stayed to read the entire article and find additional information. Established sources of traffic – the EFSA Highlights newsletter and Google – continued to play a major role, underlining the importance of Indexing and Search Engine Optimisation.

Most interestingly for EFSA, the communications on acrylamide in food were promoted on social media more proactively than previous work. This led to important results: Twitter has become an important source of traffic to EFSA's content, but also other social networks like LinkedIn and Facebook. A structured plan for social media improved the visibility of EFSA's content. The amount of traffic from social media to EFSA's website for this content was double the average for EFSA content. The infographic and an existing EFSA video on process contaminants in food improved the visibility of the website content and social media posts. They were also useful resources for national authorities and for forward disseminators such as media, consumer organisations and Twitter influencers.

Safety of caffeine

European Food Safety Authority (EFSA),
2014



Background information

Caffeine is a naturally occurring chemical compound found in food and drinks such as coffee and cocoa beans, and tea leaves. It is also added to a variety of foods, such as baked pastries, ice creams, sweets, and cola drinks and is found in so-called energy drinks, alongside other ingredients such as taurine, and D-glucurono- γ -lactone. It is also present in combination with p-synephrine in a number of food supplements that are marketed for weight loss and sports performance. When consumed by humans, caffeine stimulates the central nervous system, and in moderate doses increases alertness and reduces sleepiness.

Some EU Member States raised concerns about the safety of caffeine consumption in the general population and in specific groups, such as adults performing physical activity, and individuals consuming caffeine together with alcohol or substances found in energy drinks. Up to this point, at EU level caffeine had been assessed only in the context of energy drinks; the safety of overall caffeine intake from all sources, and acceptable use levels, had not yet been assessed. The European Commission asked EFSA to help fill this gap.

Factors to take into account	Conclusions	Comments
Level of risk	“ Low/medium	<i>Low at the individual level. Medium/high at the population level for certain risk groups.</i>
Nature of hazard (e.g. substance)	“ Food constituent found in a range of widely consumed products.	
Who is affected	“ All population groups.	
How people are affected	“ Short-term adverse effects on adults and children can include issues related to the central nervous system such as interrupted sleep, anxiety and behavioural changes. In the longer term, excessive caffeine consumption has been linked to cardiovascular problems and, in pregnant women, stunted foetus development.	
Exposure to the hazard	“ Average daily intakes vary among Member States, partly due to different cultural habits. In most surveys covered by EFSA’s Food Consumption Database, coffee is the predominant source of caffeine for adults, contributing between 40% and 94% of total intake. In Ireland and the UK, tea is the main source, contributing 59% and 57% of total caffeine intake, respectively. Another reason for the differences in consumption levels – other than cultural habits – is the variable concentrations of caffeine found in some food products.	
Ability to control the risk	“ EFSA made recommendations on safe consumption levels for different population groups. For example, it concluded that intakes up to 400mg per day do not raise safety concerns for healthy adults in the general population, except pregnant women.	<i>The recommended daily intake for pregnant women is 200mg per day. The recommendations for adults can also be applied for children on a kg/body weight basis.</i>
Other factors relating to risk perception	“ Many people associate caffeine consumption solely with coffee, and are unaware of the contribution to total intake made by chocolate and tea, for example.	<i>Lack of evidence on effects of “energy drinks”, which contain caffeine, and combined effects of caffeine consumption and physical exercise.</i>
Level of communications required	“ Communication materials covering target audiences ranging from interested/concerned consumers to risk managers at national and EU level.	<i>Safety of caffeine is a high-profile public health issue. Any scientific study/assessment is guaranteed to generate high media interest.</i>

Discussion

EFSA's scientific opinion looked at the possible adverse health effects of caffeine consumption from all dietary sources, including food supplements: in the general healthy population and in sub-groups such as children, adolescents, adults, the elderly, pregnant and lactating women, and people performing physical exercise; in combination with other substances that are present in "energy drinks" (D-glucurono- γ -lactone and taurine), alcohol, or p-synephrine.

It did not consider the possible adverse effects of caffeine: in groups of the population affected by a disease or medical condition; in combination with medicines and/or drugs of abuse; in combination with

alcohol doses which, by themselves, pose a risk to health (e.g. during pregnancy, binge drinking).

This meant that although EFSA communicated clear messages on a number of important public health concerns, there were other questions of high interest that it could not address. For example, there is much media speculation about the effects of combined consumption of caffeine (through energy drinks) and alcohol, but very little evidence on which to base a scientific assessment.

Conclusions on level of communications and on appropriate communications, tools and channels

This was an example of a situation in which communicators have to convey clear messages whilst at the same time managing expectations and being honest about uncertainties. By taking a layered approach from news story up to technical output via a plain language summary and FAQ, all target audiences were addressed. The headline messages addressing the question "what is safe?" were maintained across all channels and tools, supported by contextualising material on food sources of caffeine and how much is consumed across countries and population groups.

OUTCOMES & LESSONS LEARNT

The European Commission will use the conclusions to inform decision-making on the marketing of certain products containing caffeine.

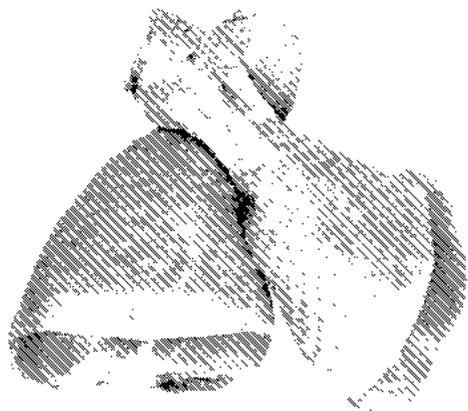
EFSA's scientific opinion received high levels of media pick-up, with most reports using the communication outputs as their point of reference with quotes from the contextualising materials.

The assessment emphasised the importance of gaining stakeholder input early on in the development of the document. EFSA carried out extensive consultation with Member States, consumer groups, industry and others.

A plain language summary is an invaluable tool when used appropriately, addressing the "basic" questions that are important to both the public and the media. It turns what could be a daunting technical report into something that is accessible and inclusive.

Communication on food-borne zoonotic diseases

European Food Safety Authority (EFSA),
2011-2012



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 to life-threatening. The risks of contamination are present from farm to fork and require prevention and control throughout the food chain.

Food-borne zoonoses are a significant and widespread public health threat. More than 320,000 human cases are confirmed 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 five years (2004-2009). EFSA helps to protect consumers from this public health threat by providing independent scientific support and advice on the human health and food safety-related aspects of these diseases, and by monitoring the situation in the EU.

Zoonotic diseases were selected as one of EFSA's areas for communication. A long-term communication plan identified key areas (salmonella and antimicrobial resistance), internal and external milestones, and relevant communication channels.

Activities undertaken based on the plan included a comprehensive information package on zoonotic diseases; fact sheets for distribution to stakeholders; media activities and short explanatory videos.

Factors to take into account	Conclusions	Comments
Level of risk	<ul style="list-style-type: none"> High level risk for humans dependent upon type of zoonose and population group 	<p><i>Annually, over 190,000 cases of campylobacteriosis and over 100,000 cases of salmonellosis in humans are reported, although the actual number is believed to be much higher. Some pathogens, although less frequently reported, can have serious health effects especially for vulnerable groups (e.g. Listeria has a higher mortality rate amongst older population groups).</i></p>
Level of communications required	<ul style="list-style-type: none"> High level public health impact/low public interest. With the exception of crisis situations (such as the 2011 <i>E. coli</i> crisis in Europe), generally consumers do not feel overly concerned by bacterial contamination of foods and there is relatively little/low stakeholder interest. 	
How people/animals are affected	<ul style="list-style-type: none"> People can be affected by consuming contaminated foodstuffs. 	<p><i>Safe handling of raw meat and other raw food ingredients, thorough cooking and good kitchen hygiene can prevent or reduce the risk posed by these micro-organisms.</i></p>
Exposure to the hazard	<ul style="list-style-type: none"> Relatively wide exposure through different foodstuffs 	<p><i>Different foodstuffs can be contaminated with pathogenic micro-organisms, such as eggs, raw meat and vegetables.</i></p>
Ability to control the risk	<ul style="list-style-type: none"> An integrated approach by risk managers and risk assessors required to control the risks and monitor progress. 	<p><i>Controlling the risk requires reducing the presence of pathogenic bacteria in food-producing animals and derived products, as well as educating consumers on the safe handling of food.</i></p>
Nature of hazard (e.g. substance)	<ul style="list-style-type: none"> Pathogenic bacteria, bacterial toxins, parasites 	<p><i>Many of the micro-organisms are commonly found in the intestines of healthy food-producing animals.</i></p>
Who is affected	<ul style="list-style-type: none"> EU consumers; animals 	
Other factors relating to risk perception	<ul style="list-style-type: none"> The impact of zoonotic diseases is not well known in EU and consumers are more concerned about chemical hazards than biological hazards. 	<p><i>With the exception of large food-borne outbreaks, zoonotic diseases and EU actions to combat them tend to receive less media coverage than many other food safety issues.</i></p>

Discussion

Achieving a comprehensive communication approach for zoonotic diseases required thorough long-term planning. Pro-active work was required to produce informative material suitable for all audiences. Media activities focused on key 2011 scientific outputs based on milestones identified 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 issues. The overall economic burden of zoonotic diseases in the EU is significant (e.g. as high as EUR 3 billion a year for human salmonellosis). For these reasons, media activities targeting specialised media were accompanied by communication materials targeted at the general public.

Conclusions on appropriate communications, tools & channels

A wide range of different communications tools and channels were used. Online communication activities including videos and fact sheets were selected as tools suitable for providing general information to all audiences. Media activities were considered for specific issues, particularly targeted at specialist audiences.

OUTCOMES & LESSONS LEARNT

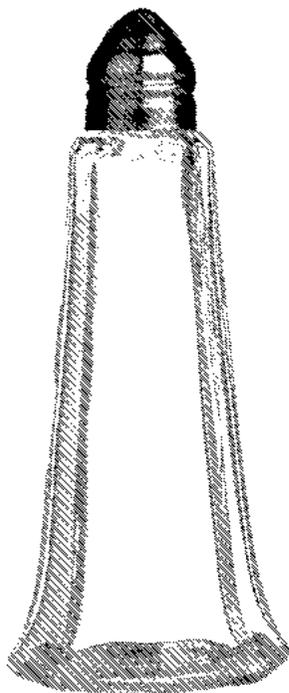
EFSA's thematic communication approach on food-borne zoonotic diseases is still being developed and the outcomes will be thoroughly assessed in the coming years. As a key player in Europe in helping to combat food-borne zoonotic diseases, the Authority is in an ideal position to provide Member States 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, 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).

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), 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 consuming 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 to maintain progress towards a lower daily intake.

Factors to take into account	Conclusions	Comments
Level of risk	“ High for those who habitually consume high levels of salt.	<i>Following a comprehensive risk assessment on salt and associated health outcomes the independent Scientific Advisory Committee on Nutrition (2003) confirmed that the population as a whole would benefit from reducing their intake to a maximum of 6g per day. A lower recommended maximum level was set for children under 11 years old.</i>
Level of communications required	“ Medium level public health impact/medium public interest	
How people/animals are affected	“ Chronic risk	<i>Eating too much salt can raise your blood pressure, which triples your risk of developing heart disease or stroke. Reducing the daily UK salt intake to 6g could prevent an average of 20,200 premature deaths a year.</i>
Exposure to the hazard	“ Wide exposure – Approximately 75% of salt consumed is from processed food, 10-15% is added by consumers and 10-15% is naturally present in food.	<i>When the campaign began, adults were consuming on average 9.5 grams of salt per day.</i>
Ability to control the risk	“ Requires consistent effort to control risk.	
Nature of hazard (e.g. substance)	“ Salt is naturally present at low levels in most food. It is also present in processed foods and is added to food by consumers themselves.	<i>Salt is a very familiar product and many people may not be aware of the level of risk associated with high consumption.</i>
Who is affected	“ Due to the presence of salt in most foods everyone is exposed to salt on a daily basis.	<i>The whole population could potentially be at risk from a high salt intake.</i>
Other factors relating to risk perception	“ Salt is of low public concern and yet the risk is real. This low level of concern partly stems from salt’s familiarity.	<i>Salt is important for taste of foods – obstacle to behavioural change.</i>

Discussion

A high-level of proactive work was required. To build support for the campaign, it was necessary to engage with a wide range of stakeholders including 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.

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 communicating 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.

OUTCOMES & LESSONS LEARNT

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.



Overcast

This section looks at reactive communication approaches to issues where choices have been limited due to the nature and sensitivity of the subject.

Risk assessment on animal cloning

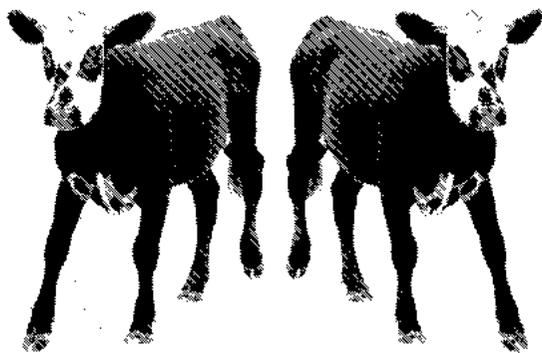
European Food Safety Authority (EFSA), 2008

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 scientific advice on this issue.

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



Factors to take into account	Conclusions	Comments
Level of risk	<ul style="list-style-type: none"> • High for animals • Food safety concerns considered unlikely • Uncertainties remain 	<i>High risk at the moment for animals although could decrease as technology improves.</i>
Level of communications required	<ul style="list-style-type: none"> • Low level public health impact/high public interest 	
How people/animals are affected	<ul style="list-style-type: none"> • Animals – acute and life-threatening effects on mothers and offspring • People – food safety concerns unlikely 	<i>Big risk of animal health and welfare issues possible, e.g. birth of large offspring.</i>
Exposure to the hazard	<ul style="list-style-type: none"> • Limited or no exposure 	<i>The technology is not yet widely in use in Europe so limited impact on animals, and has not entered the food chain; no effect on humans yet.</i>
Ability to control the risk	<ul style="list-style-type: none"> • Can be addressed by risk management action 	<i>Uncertainty in some areas for risk management around identifying and tracing offspring from cloned animals (2nd generation) in food chain.</i>
Nature of hazard (e.g. substance)	<ul style="list-style-type: none"> • Artificially created although not yet widely used 	
Who is affected	<ul style="list-style-type: none"> • Animals • None/few people currently 	
Other factors relating to risk perception	<ul style="list-style-type: none"> • Subject of diverging/strong political & stakeholder opinion; of public concern • Traceability issues 	<i>Big public and stakeholder debates on ethics.</i>

Discussion

A high level of pro-active work was required. Issue with high profile, strong stakeholder opinion, emotive issues, significant 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.

Conclusions on level of communications

High level of proactive communications required targeting a broad audience of specialists and laypersons.

Conclusions on appropriate communications, tools & channels

High level of media engagement including a media briefing on the EFSA opinion; wide stakeholder dialogue as part of a major public consultation initiative.

OUTCOMES & LESSONS LEARNT

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.

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

Food Standards Agency (FSA), United Kingdom, 2007-2008

Background information

In 2006 the FSA funded a study, undertaken by the University of Southampton, investigating the effects of artificial food colour additives on child behaviour. The results of the study published in 2007 found evidence for a link between six artificial 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).



Factors to take into account	Conclusions	Comments
Level of risk	“ Low	<i>The level of risk was considered to be low as only a small number of the children tested experienced the hyperactivity linked to the artificial colours concerned. Uncertainty regarding a cause and effect relationship.</i>
Level of communications required	“ High level impact/high interest	
How people/animals are affected	“ Possible acute risk. According to the study, consumption of mixes of certain artificial food colours and the preservative sodium benzoate have been linked to increased hyperactivity in some children.	
Exposure to the hazard	“ Wide exposure	<i>At the time these particular artificial colours were used in a wide range of foods that tend to be brightly coloured, including some soft drinks, sweets, cakes and ice cream, therefore children were ubiquitously exposed to this hazard.</i>
Ability to control the risk	“ By law, food additives must be listed on the ingredients label so people can make the choice to avoid the product if they want to. However, it is unlikely that both children and parents can, and would, scan the label of every item bought in order to control this risk. Furthermore, it is suggested that people do not see the label on about half of the food and drink they consume.	<i>Without the steps taken by industry to reduce levels in processed foods, individuals would not be able to completely avoid the potential risk posed by these additives.</i>
Nature of hazard (e.g. substance)	“ Food colourings are intentionally added to a wide range of products to make them more attractive and sodium benzoate is used as a preservative.	
Who is affected	“ Children, more specifically a subpopulation of individuals who are sensitive to food additives in general or to food colours in particular.	<i>Children showing signs of hyperactivity or those with attention deficit hyperactivity disorder may be most at risk.</i>
Other factors relating to risk perception	“ Artificial colours are perceived by some to be unnecessary and potentially damaging to health. In the days following the publication of the Southampton study in September 2007 the Daily Mail launched a campaign to have these colourings banned in Britain.	<i>A false comparison was later made between the colourings and leaded petrol with newspaper headlines such as “Artificial colourings as harmful as leaded petrol for children”. These additional factors heightened the public’s perception of the risk posed by these additives.</i>

Discussion

A high level of planning was required before publication of the study 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.

OUTCOMES & LESSONS LEARNT

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.

Food supplements in Sweden

Swedish National Food Agency (SLV), 2009



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 five 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, fibre, fatty acids or amino acids, which are missing or are not consumed in sufficient quantity in a person's diet.

The Directive 2002/46/EC of the European Parliament and Council and its modifications 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 specific 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 notifications on food supplements have been listed in the database of the Rapid Alert System on Food and Feed of the European Union since 1996.

Factors to take into account	Conclusions	Comments
Level of risk	“ Unknown – not able to quantify as consumption data are not available	<i>The global distribution via the e-market is difficult to control, products are hard to trace and to withdraw at national level. Another challenge was the distribution of the product under different brand names.</i>
Level of communications required	“ Medium level impact/medium interest	
How people/animals are affected	“ Liver damage, symptoms e.g. poor appetite, nausea, vomiting, abdominal pain, dark urine, yellow skin, one death	
Exposure to the hazard	“ Unknown – no consumption data available	
Ability to control the risk	“ Limited – public advised not to purchase or use this food supplement	<i>General messages: Consumers should be careful when buying food/food supplements online.</i>
Nature of hazard (e.g. substance)	“ Unauthorised substance. Analyses of the product (that had been processed in Mexico, with raw material likely coming from India, packaged in the USA), revealed that two of nine analysed batches contained the drug substance nimesulide (not listed among the ingredients) which is suspected to have caused the severe public health repercussions.	<i>The mentioned case illustrates that some preparations distributed on the market may contain substances that have adverse health effects. The risk from such products is hard to assess, since no consumption data are available.</i>
Who is affected	“ People consuming the food supplement Fortodol, which has been on sale on the internet and in health food shops and is claimed to relieve arthritis and muscle pains as well as headaches.	
Other factors relating to risk perception	“ This food supplement was available in health food shops and therefore was associated with well-being.	

Discussion

The case illustrates that some preparations distributed on the market may contain substances that have adverse health effects. 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 affect many consumers. The global distribution via the internet is difficult to control, making it difficult to trace back products or to withdraw them at national level. Another challenge was the distribution of the product sold under different 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 affected.

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 suffer 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.

OUTCOMES & LESSONS LEARNT

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

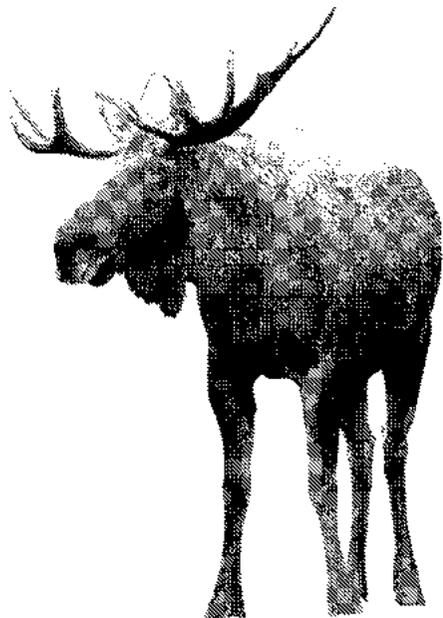
Weaknesses: Slow reaction between notification and product withdrawal.

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.

Lead exposure from cervid meat in Norwegian consumers and hunting dogs

Norwegian Scientific Committee for
Food Safety (VKM), 2013



Background information

Norway has a strong hunting tradition, and approximately 3% of the Norwegian population participate in hunting activities.

For cervid hunting, the use of rifle ammunition with expanding bullets of specific weight and impact energy is mandatory. More than 95% of Norwegian cervid hunters use lead based ammunition.

Expanding lead-containing bullets produce a cloud of lead particles in the meat around the wound channel. Exposure reducing measurements include removal of meat around the wound channel, as well as use lead-based ammunition with low fragmentation or ammunition without lead.

Due to findings of high lead levels in minced meat from moose hunted by use of expanding lead-based ammunition, the Norwegian Food Safety Authority (risk manager) requested a risk assessment from the Norwegian Scientific Committee for Food Safety (risk assessor).

Sweden and Germany had previously issued advice regarding consumption of meat from animals shot with lead-based ammunition.

Cervid animals include moose, red deer, fallow deer, roe deer, and wild reindeer

Factors to take into account	Conclusions	Comments
Level of risk	<ul style="list-style-type: none"> At the individual level, the risk for adverse effect is likely to be small 	
Level of communications required	<ul style="list-style-type: none"> Medium 	<i>High interest from the hunting community</i>
How people/animals are affected	<ul style="list-style-type: none"> Humans: Increased blood pressure, chronic kidney disease, lower IQ among children Dogs: A daily dose around 1 mg lead acetate/kg bw is shown to increase the blood pressure in dogs after a few days of exposure 	
Exposure to the hazard	<ul style="list-style-type: none"> Through consumption of cervid meat from animals shot with lead ammunition 	<i>Blood samples from Norwegian hunters and their families show that those who eat cervid meat from animals shot with lead-based ammunition once a month or more often had about 30 % higher average levels of lead in blood than those with less frequent consumption</i>
Ability to control the risk	<ul style="list-style-type: none"> Good 	<i>Possible to remove meat with lead particles around the wound channel. Possible to use lead-based ammunition with low fragmentation or ammunition without lead.</i>
Who is affected	<ul style="list-style-type: none"> People who consume cervid meat from animals shot with lead ammunition 	<p><i>At the individual level, the risk for adverse effect is likely to be small. At present lead levels, adults with, for example, normal blood pressure will most likely not experience any clinical symptoms by a small increase, although it may add to the burden of those individuals who are at risk of experiencing cardiovascular disease.</i></p> <p><i>A small reduction in the intelligence of children will not be notable at the individual level, but at the population level it can, for instance, increase the proportion not able to graduate from school.</i></p> <p><i>The implications of having a concurrent blood lead concentration above the reference value cannot fully be interpreted, since it is not known when and at which level of lead exposure the kidney disease was initiated.</i></p> <p><i>However, an eventual increased risk of chronic kidney disease would be higher among those who consume cervid meat regularly or often than those who rarely consume such meat.</i></p> <p><i>In dogs, metallic lead fragments most often pass through the gastrointestinal tract unretained.</i></p> <p><i>If larger lead fragments or particles are retained in the gastrointestinal tract for prolonged periods of time, this can result in a continual exposure and toxicity.</i></p>
Other factors related to risk perception		

Discussion

Knowing that consumption of cervid meat from animals shot with lead-based ammunition poses no acute risk and that there is a strong hunting tradition in Norway, it was expected that there would be many questions regarding this scientific opinion. Thus, it was necessary to explain the conclusions clearly.

Conclusions at level of communications and on appropriate communications, tools & channels

It was known beforehand that many within the hunting community were prepared to dig into the scientific report itself. Thus, the report contains an extensive executive summary. In addition to a web news story, a Q & A was developed. Hunters were asked to send in questions before the scientific opinion was published, but without knowing the conclusions.

Hunting associations both in Norway and Sweden had been following the work closely. In collaboration with the risk manager, the Norwegian Food Safety Authority, the Norwegian Scientific Committee for Food Safety arranged an open presentation meeting. As part of the presentation, an infographic showing a bell curve was included in order to explain that a small reduction in the intelligence of children caused by lead exposure from cervid meat will not be notable at the individual level, but at the population level a decrease

in IQ may increase the proportion of children with very low IQ and decrease the proportion of children with a very high IQ.

All scientific outputs from the Norwegian Scientific Committee for Food Safety are published on the Norwegian and English websites. In addition, the Committee uses Twitter and LinkedIn. The Norwegian Scientific Committee for Food Safety answered questions on the Facebook site of one of the hunters' associations. The answers given were either from the Q & A or developed together with the panel member who had been leading the work.

The scientific opinion was mainly covered by the newswire, daily newspapers and by the specialized media on hunting.

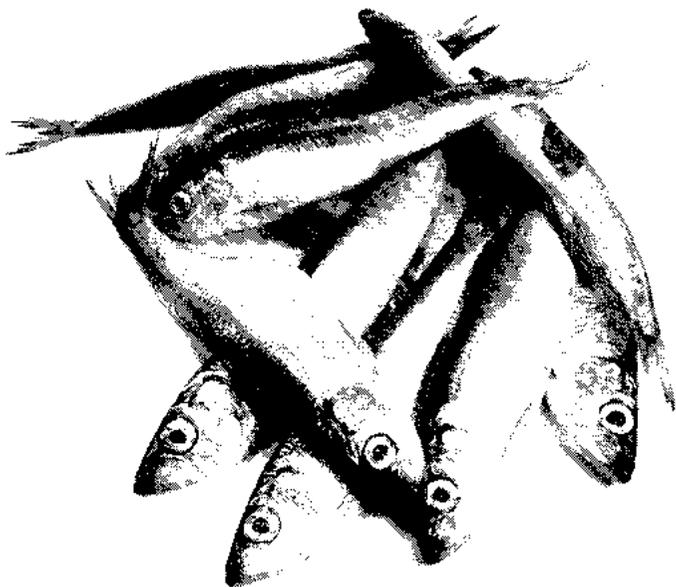
OUTCOMES & LESSONS LEARNT

The open presentation meeting was held in Oslo, but most hunters are situated in other parts of the country. Thus, it would have been valuable to stream the meeting. The Q & A was perceived as valuable. This was due to the fact that it was developed in close collaboration with

the stakeholders (although the conclusions were not known before the opinion was published). The dialogue on the hunters' Facebook site worked well, but would probably have been even better if the Norwegian Scientific Committee for Food Safety had had its own platform for two-way communication.

Dioxin in fatty fish from the Baltic sea

Swedish National Food Agency (SLV),
2012-2013



Background information

The Swedish National Food Agency has long been aware of the problem of dioxins in foodstuffs, especially in fatty fish from the Baltic Sea. As early as the mid-1970s, dietary advice was introduced concerning fish with elevated levels of organochlorine environmental pollutants, such as DDT and PCB.

The latest revision of Sweden's dietary advice in 2008 concluded that children and women of childbearing age (including pregnant and nursing women) should limit their consumption of contaminated fish, such as Baltic Sea herring. Commercial and recreational fishermen and their families have been identified as possible risk groups with a high consumption of dioxin-contaminated fish.

Since 2002 Sweden has had a temporary derogation from the maximum level for dioxins and PCBs in fatty fish from the Baltic Sea area. This derogation was made permanent in 2012. The derogation makes it possible to sell fish on the domestic market with a content of dioxin above the maximum level, to Swedish consumers. The derogation is conditional, i.e. the National Food Agency has a responsibility to inform consumers about the dietary advice concerning contaminated fish.

Factors to take into account	Conclusions	Comments
Level of risk	“ Low/medium	<i>Low at the individual level. Medium–high at the population level for certain risk groups</i>
The nature of the hazard	“ Environmental contaminant found in food of animal origin, especially fatty fish from the Baltic sea.	<i>Bioaccumulating and biomagnifying substances, which means that the contaminant accumulates in the body and becomes more concentrated higher up in the food chain.</i>
Who/what is affected	“ Mainly fetuses and children.	
How people/animals are affected	“ Long term effects – High intake during a long period of time can affect hormone levels, brain development, reproduction systems, immune systems and can cause cancer.	
Levels of exposure to the hazard/risk	“ Median levels of exposure for adults in Sweden is 25 percent of the tolerable daily intake set by JECFA/WHO and SCF.	<i>In Sweden 2-7 percent of the risk groups (children and women in childbearing age) exceed the tolerable daily intake.</i>
Ability to control the risk	“ There are maximum levels for dioxins and PCB in fish, but Sweden has a derogation from the maximum level.	<i>It is possible to reduce the risk by avoiding eating fatty fish from the Baltic sea. If so – the exposure is within safe limits.</i>
Other factors relating to risk perception	“ People don't want to believe that the fatty fish from the Baltic sea is harmful. Fish has always been considered to be healthy. In certain regions it is also a matter of protecting the small scale fishing industry.	<i>There is a Swedish tradition of eating fermented herring. The tradition is especially strong in regions close to the Baltic sea.</i>
Level of communication required	“ High level communication activities were required if our goal of ensuring that women of childbearing age and children should limit fatty fish consumption.	<i>To make the target audience groups aware of the risks was a significant challenge. To make persons in the risk groups who consume more fish than recommended to change their behaviour required even greater efforts.</i>

Discussion

The conclusion of the risk analysis made by the National Food Agency in 2011 was that the public health in Sweden would benefit if Sweden did not apply for a permanent derogation from the maximum levels. The government, which also takes other interests into account, for example economic consequences for the fishing industry, however applied for a permanent derogation. The government also instructed the National Food Agency to intensify communication activities in order to make the risks known to the specific risk groups.

From a public health point of view, the consumption of fish is generally beneficial. The National Food Agency wants the fish consumption in Sweden to increase, and therefore communication usually focuses on encouraging people to eat more fish. Communicating that not all fish is healthy could have a contrary effect, resulting in decreased consumption. Formulating the messages about fish was therefore a challenge.

Conclusions at level of communications and on appropriate communications, tools & channels

The Swedish National Food Agency introduced its first dietary advice concerning contaminated fish in the mid-1970s. The advice has primarily been communicated through leaflets, dialogues between nurses and pregnant women and, from the 1990s, via the website of the National Food Agency.

Given the instruction from the government to intensify the communication activities, the National Food Agency ran a campaign in 2012 and 2013.

The Agency knew from previous research that there was a lack of knowledge that not only pregnant and breastfeeding women but all women of childbearing age, and children, both boys and girls, should avoid eating fatty fish from the Baltic Sea more than 2-3 times a year. Central to the campaign was a website containing information providing people with the possibility to ask questions. The Agency also produced a video that was mainly distributed via digital media such as YouTube but also shown in cinemas. Advertisements were used with the aim of guiding target audience groups towards the campaign website, these mainly appeared on social media, including Google Adwords as well as targeted advertisements on Facebook. The advertisements were also placed in printed local media and publications targeting young women and parents.

The campaign resulted in a lot of local media attention. The news and advertisements about contaminated fish were planned to time with traditional feasts when fatty fish from the Baltic sea is frequently consumed. The campaign was questioned and criticized by fishermen in some areas, but their activity actually had the opposite effect. A possible conflict is of great media interest and the Agency had the opportunity to spread its important key messages. The Agency also took the opportunity to listen to the fishermen and explain its standpoint.

The evaluation undertaken by the Swedish National Food Agency showed that the knowledge about contaminated fish and the recommended dietary advice had increased. The most remarkable result was that the knowledge among parents about the dietary advice for children had increased by 30 percent. Unfortunately there was less success in making young women aware of the issues and the associated dietary advice. The Agency continues its endeavours to reach this important target group.



Storm brewing

When an emergency occurs, there is an immediate need to communicate. This section looks at the approaches taken and lessons learned in crisis situations.

Q-fever in the Netherlands: openness and transparency

Dutch Food and Consumer Product Safety Authority (VWA), 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.

Factors to take into account	Conclusions	Comments
Level of risk	“ Low with increased risk for those who are regularly in contact with sheep and goats	<i>Human to human transmission is very rare.</i>
Level of communications required	“ High level impact/high interest in affected regions	
How people/animals are affected	“ Most people catch Q-fever 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.	<i>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 who are in contact with these animals.</i>
Exposure to the hazard	“ Moderate. Only people who have contact with animals on a regular basis.	<i>In the Netherlands, infected dairy goats and dairy sheep are the main source of illness among humans.</i>
Ability to control the risk	“ Low	<i>Several risk management measures were taken in 2008 and additional measures were introduced in 2009 including compulsory vaccination for “high-risk” goat and sheep farms and culling of pregnant goats.</i>
Nature of hazard (e.g. substance)	“ Bacterium known to cause Q-fever	
Who is affected	“ People working or having direct contact with animals	<i>More than half of people with Q-fever develop virtually no symptoms. Those who do have symptoms generally experience fever (persistent 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 still experience fatigue for an extended period after they recover.</i>
Other factors relating to risk perception	“ The risk management measure was to cull 35,000 pregnant goats.	<i>This decision was taken by competent authorities in the Netherlands and supported by open and transparent communications.</i>

Discussion

There was increasing concern about animal welfare in the Netherlands and the government was aware of this. As the amniotic fluid 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 reflect the concerns about animal welfare. The animals therefore first 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 affected farmers. One such event was filmed 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 suffered 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 first 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)

OUTCOMES & LESSONS LEARNT

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.

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 foodstuffs of animal origin with a high fat content, since these contaminants accumulate in fatty tissues. Foodstuffs in which dioxins can occur include meat, fish, 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 confirmed on 6 December 2008 that dioxins were present in the samples. It was estimated that approximately 10% of pig meat from the Republic of Ireland was affected 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.

Factors to take into account	Conclusions	Comments
Level of risk	“ Low – consumers	<i>The risk to public health was low, due to the recall and because of the limited exposure over a three month period that did not contribute significantly to the body burden of consumers.</i>
Level of communications required	“ High level impact/high interest	
How people/animals are affected	“ Dioxins are toxic chemicals that can affect the skin, immune system and are known to be carcinogenic.	<i>No immediate health effect, but can contribute to the body burden.</i>
Exposure to the hazard	“ Very limited exposure	<i>Level of exposure limited to between 1 September and 6 December 2008.</i>
Ability to control the risk	“ Risk management decision to recall all Irish pork and pork products addressed this	<i>Implicated products removed from trade and uncontaminated pork products back on the market within six days.</i>
Nature of hazard (e.g. substance)	“ All Irish pork and pork products	
Who is affected	“ All consumers of Irish pork and pork products	
Other factors relating to risk perception	“ Consumers advised not to be unduly concerned about the health risks. This led some consumers to question why the recall took place.	

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 specific 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 defined 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 defined, 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 affected 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 briefings coupled with wide stakeholder engagement

OUTCOMES & LESSONS LEARNT

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.

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Examples of other guideline initiatives

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