Risk communication within the risk analysis framework

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The Risk Analysis Framework

Risk Assessment
- Which hazards?
- When are they assessed and with which method?
- What consequences are judged important, and with what level of uncertainty?
- Who is affected?

Risk Management
How do values influence the selection and implementation of policy alternatives?

Risk Communication and Stakeholder Involvement
Interactive exchange of information and opinions

Increased transparency results in the need for additional communication and stakeholder involvement
SAFE FOODS Risk Analysis Framework

- Should stakeholders be involved?
- Which stakeholders?
- Involvement in what way?

- Transform risk communication, to focus on needs and wishes of the public and thereby improve transparency?

- Include health impacts of both risks and benefits?
- Assess economic, social, environmental, ethical impacts?

Risk Management
- Decision-making
  - Assessment of management options
  - Choice of action
- Implementation & Monitoring
  - Control of implementation
  - Enforcement

Risk/Benefit Assessment
- Health Assessment

Who does what?
- Risk Assessors
- Risk Managers

Evaluation
- Conclusions of the assessment
- Acceptability of distributions of risks, costs and benefits
The key questions that need to be asked about risk communication and food safety

- What is driving consumer perceptions of risk and benefit?
- Who trusts whom to inform and regulate?
- Are there cross-cultural, and intra-individual differences in perceptions and information needs?
- How do other consumer attitudes (ethics, wider value systems) relate to perceptions of risk? How do these relate to trust?
- How do the public react to information about risk (benefit) uncertainty?
- Does institutional denial of uncertainty impact on public trust in institutions where this exists?
- How do we communicate risk variability across different population groups
Back to the last century

BSE: An “international tragedy” with profound long term effects
Potential Link between BSE and vCJD in humans announced in the UK in 1996
John Gummer, UK Minister of Agriculture, demonstrating the alleged safety of British beef (a famous image from 1990)
Media reporting about BSE in 1996

Risk ↔ Trust and blame

number of articles

Quality papers
Tabloids

MAD COW CAN KILL YOU!

Europe bans British beef

Victims face insanity and certain death

I cannot rule out 500,000 deaths

Mad cows and British science!

McDonalds stops selling British beef

Fear of huge death toll

Nature bites back
UK: Cases of vCJD by year

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BSE and public risk perceptions

• Public risk perception driven by the failure to provide information relevant to the actual concerns of consumers

• BSE information based on technical risk assessments, ignoring key issues of concern to the public
  • Animal welfare issues
  • Uncertainty and unintended effects
  • Animal feed and veterinary practices

• Restructuring of food-related regulatory agencies
• Rethinking of governance and communication practices
• Implementation of, and communication about, traceability systems,
• Communication about risk management activities designed to protect the public
Risk (benefit) communication

- Risks and benefits of
  - Emerging food technologies
    - GM (plants, animals for food use)
    - Nutrigenomics and personalised nutrition
    - Nanotechnologies
    - Synthetic biology?
  - Foods associated with risks and benefits
    - E.g. Fish (contaminants and Omega 3 fatty acids)
    - Same theoretical approaches apply to approaches apply to unhealthy/healthy dietary choices
    - Target vulnerable groups (immuno-compromised individuals)
  - Risks and risk management
    - Contaminants e.g. dioxin in the food chain presented as a “crisis”
    - Deliberate fraud (melamine in milk powder)
    - Bioterrorism
Today's session

15:35 – 16:00  Risk Perception and Food Safety  
*Dr. David Cox, CSIRO, Australia*

16:00 – 16:25  Consumer Relevant Risk Communication for Food Safety  
*Dr. Mary Brennan, Newcastle University, UK*

16:25 – 16:50  Communicating Food Safety Risks – The Hong Kong Experience  
*Dr. Yuk-Yin Ho, Hong Kong Centre for Food Safety, China*

16:50 – 17:15  Risk Communication for Complex Food Safety Issues  
*Ms. Lorraine Belanger, FSANZ, Australia*

17:15 – 17:30  Q & A
Thank you!

Let's start our session on risk communication and food safety
Geographical Distribution of Countries that Reported at least one BSE Confirmed Case from 1989 to 10 June 2006

Countries having reported BSE in indigenous animals
Countries/territories having reported BSE in imported animal(s) only
The risk analysis framework – improving trust through increased transparency

Risk Assessment

Risk Management

Risk Communication and Stakeholder Involvement

(after WHO, 1998)
Risk-benefit Analysis Framework

Risk-benefit Assessment
- Health
- Environment
- Social effects
- Economic effects
- Ethical issues

Risk-Benefit Management
- How to reach consensus opinions in stakeholder groups
- What is acceptable in terms of decision-making?

Risk-benefit Communication
- An iterative process?
- Communicating in a crisis
- Communicating chronic risks
Chronology of events - BSE

• The BSE epidemic peaked in 1992/93
• Economic impact - European Commission first banned overseas sales in 1996
• Between 1996 and 2000 about 4.5 million cattle slaughtered in the UK to prevent the spread of the disease. This cost more than £1.4bn in compensation to farmers.
• UK government expended £575m to dispose of the carcasses
• Profound international consequences in terms of economic costs
Principles of risk communication about food risks

To whom?
- All interested consumers
- Consumers at particular risk
- All consumers when risk is ubiquitous

Adapted from Cope, Frewer, Houghton, Rowe, Fischer, de Jonge 2010, J of Food Policy
Principles of risk communication

When?

Proactively
- For all potentially contentious issues (e.g. food additives, Controversial Food technologies)
- For all issues where (groups of) people are at risk
- When new identification, mitigation, or prevention measures are being put into place

Crisis communication
- Rapid communication as soon as a problem is identified
- Risk management measures
- Uncertainty reduction
The impact of the BSE crisis was more than economic....

- Trust in Regulators and Scientists diminished
- Why did the UK government deny the uncertainties regarding the potential link between BSE and vCJD in the early 1990s, while simultaneously funding research into the potential link?
- Public perception that the government was acting to optimising industry interests and the economy not consumer protection
- Institutional perception that the public could not understand scientific uncertainty
- Lack of transparency in decision-making practices

- **Public concern focused on trust and culpability**
Principles of risk communication
What should be communicated?

- **Targeted information** *(dependent on needs of consumers, not communicators)*
- **Coordinated information on**
  - Risk/benefit variability and uncertainty
  - Risk management activities
  - Regulatory priorities
  - Preventative measures being taken
  - Enforcement actions
  - Expertise of risk managers
  - Actions to improve future preparedness
Theories of risk perception – Three theoretical approaches

- How information about risks and benefits is processed by individuals, and typically utilise “dual processing” theories in developing effective risk communication interventions.
  - Information must be relevant to an individual to be processed using a “systematic” or “rational” as opposed to “heuristic” route
  - Trust may act as a cue regarding whether information is processed
- Determinants of behaviour may be influenced by risk-benefit communication. e.g. The Theory of Planned Behaviour
  - Behavioural intention leads to actual behaviours
  - Behavioural intention is influenced by subjective norms or perceived moral obligation
- Social Amplification of Risk Framework, (SARF) - how risk information is communicated through a particular society.
  - Risks are amplified or attenuated according to how (e.g.) the media or other information sources present information
  - In practice, more useful to explain risk communication in a crisis

Theoretical frameworks have been infrequently and inconsistently applied in the risk communication literature

Ilsi expert group on risk communication, in preparation