



Emerging Risks

Ana Afonso

Scientific Committee and Emerging Risks Unit
Parma Summer School 2018
15-17 May 18, Parma

- Expectations
 - Communication
 - Effectiveness
- EFSA, mission and tasks
 - Objectives
 - Emerging risks definition
 - Drivers
 - Examples
 - ERI procedure
 - What works
 - What is important



Experience has shown that it is necessary to adopt measures aimed at guaranteeing that unsafe food is not placed on the market

EFSA 2020 STRATEGY

- Prioritise public engagement in the process of scientific assessment
- Widen EFSA's evidence base and maximise access to its data
- Build the EU's scientific assessment capacity and knowledge community
- **Prepare for future risk assessment challenges**
- Create an environment and culture that reflects EFSA's values

EMERGING RISKS – WHY ARE WE INTERESTED?

- Anticipation of future risk assessment needs
 - Data / Knowledge
 - Risk assessment methods

- Help risk manager anticipate and even prevent future safety challenges

RISK

- A function of the **probability** of an adverse health effect and the **severity** of that effect, consequential to a hazard;

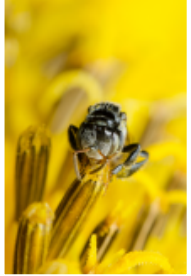


EMERGING RISK

an emerging risk to human, animal and/or plant health is understood as a risk resulting from a **newly identified hazard** to which significant exposure may occur or from an **unexpected new or increased significant exposure and/or susceptibility** to a known hazard” (EFSA 2007).



NEW CHALLENGES AND THREATS



Environmental risks e.g
multiple stressors and bees



Evaluation of the safety of
new products
•e.g. novel foods



Development of new
assessment methods:
•nanotechnology, active and
intelligent packaging
•'-omics', less animal testing



Chemical mixtures/ combined
toxicity of substances in food



Antimicrobial resistance



Hazards linked to
globalisation: plant pests,
animal diseases, vector-
borne diseases

WHY DO THINGS CHANGE?

Drivers

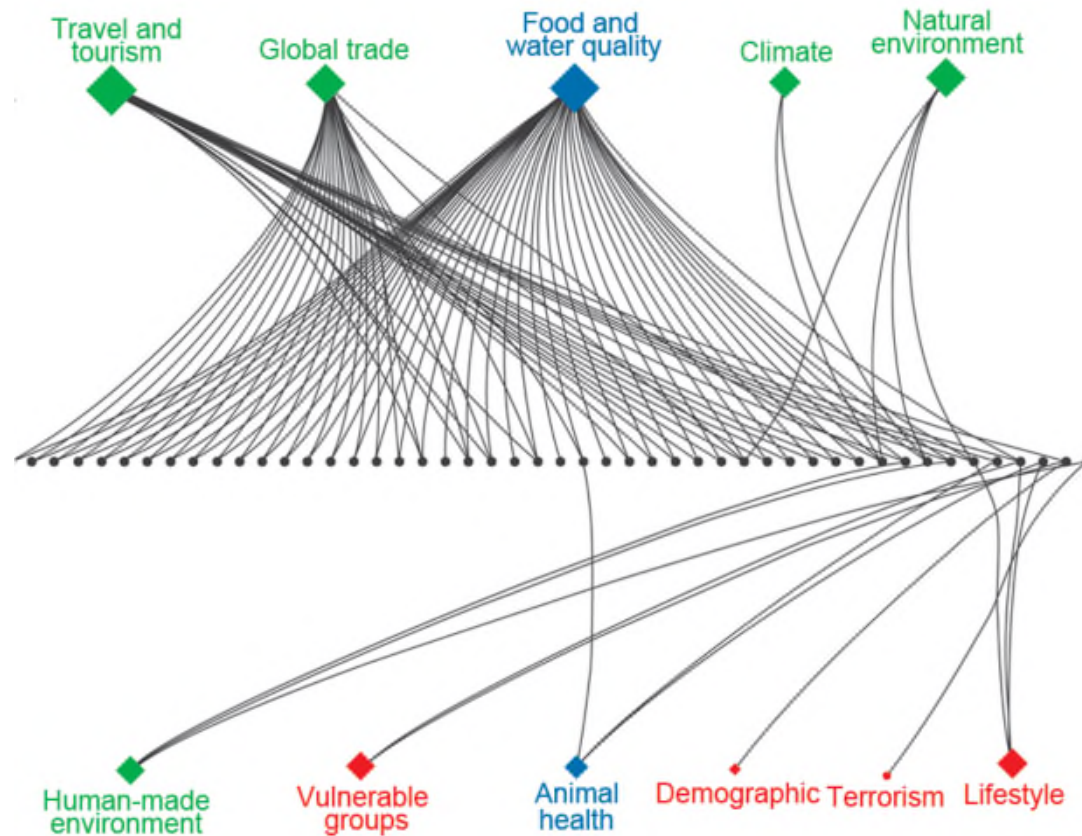
Pathways

Sources

Outcome

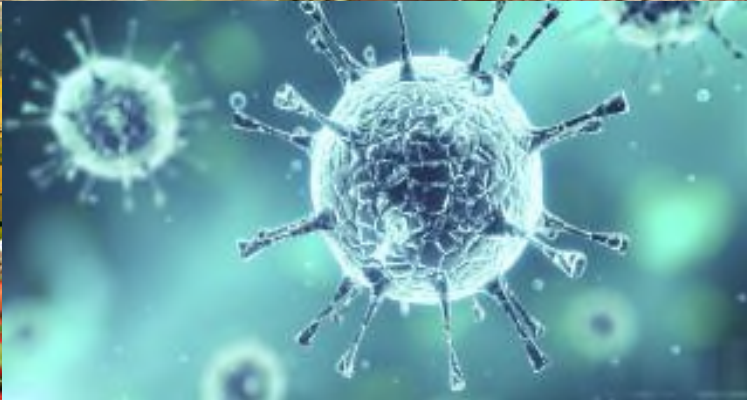
DRIVERS OF INFECTIOUS DISEASE THREAT EVENTS

Foodborne and waterborne IDTEs (Semenza et al 2016)



EMERGING RISK DRIVERS

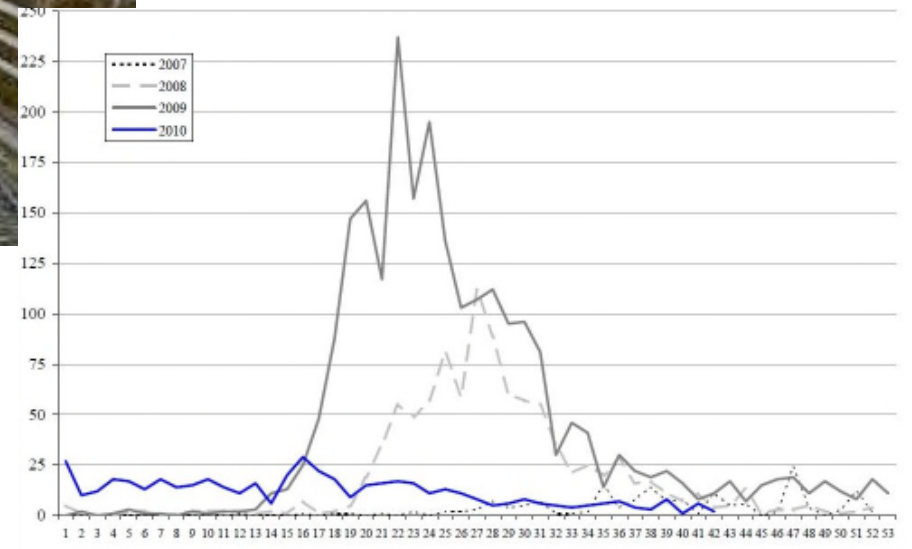
- How do we recognise changes?
- How can we anticipate changes? Is prediction possible?
- What are the implications of changes for managing risk?
- Can we learn from the past?



EMERGING BIOLOGICAL RISKS

- **Micro-organisms, pests, parasites** and **prions** having a direct or indirect impact on the safety of the food and feed supply chains, animal health and welfare, and plant health

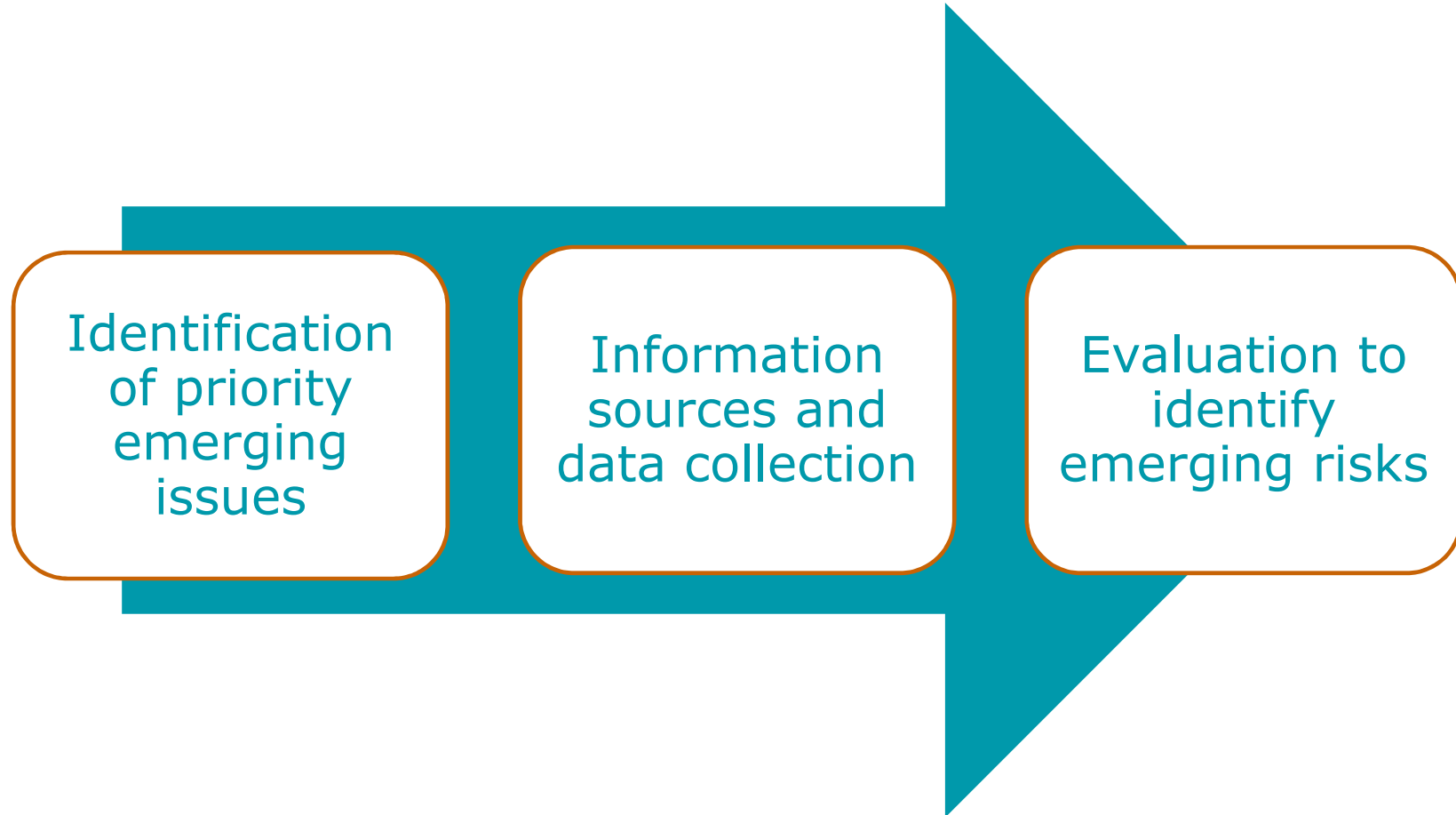
Q FEVER



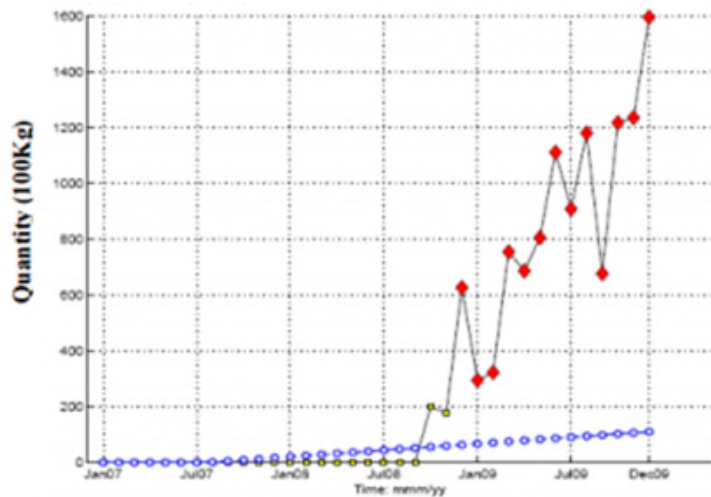
CULTURAL AND METHODOLOGICAL CHALLENGES

- Emerging disease risk is a local issue with a global dimension.
- The emergence of a pathogen involves a combination of changes in key drivers.
- Most drivers for emerging issues are common to human, veterinary, plant and ecosystem health
- Pathogen discovery - Pathway discovery

ERI PROCEDURE



ACCESSIBLE DATA



Signal FS-1. Product: 01112; Meat of bovine animals, fresh or chilled, boneless. Origin: Paraguay



**BIG
DATA**



**CROWD
SOURCING**

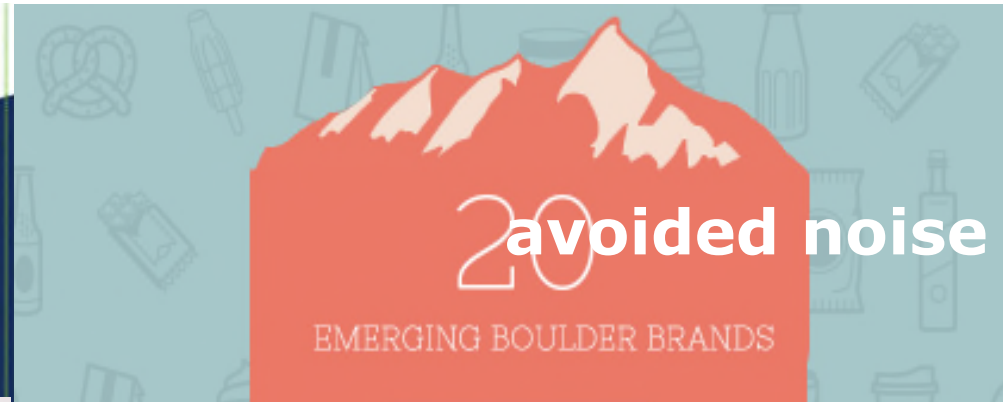
TEXT MINING: "EMERGING RISK FOOD"

Flagged

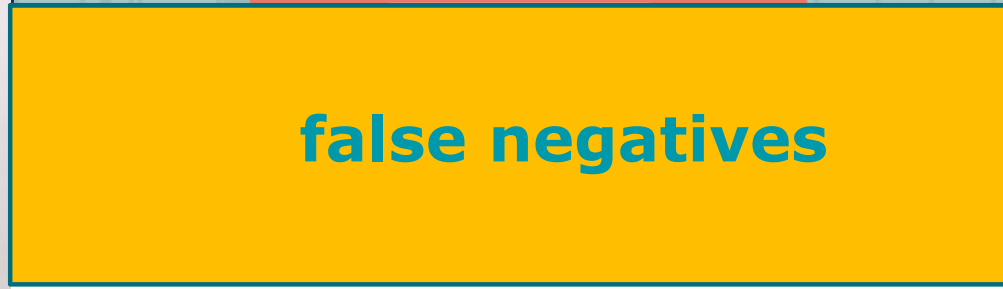


spot on

Overlooked



avoided noise



PRIORITIZATION

- Novelty
- Soundness
- Severity
- Imminence
- Scale

UNCERTAINTY

AMBIGUITY

**RISK
PERCEPTION**

Where is the life we have lost in living?

***Where is the wisdom we have lost in
knowledge?***

***Where is the knowledge we have lost
in information?***

T. S. Eliot

EFSA SCIENTIFIC PANELS

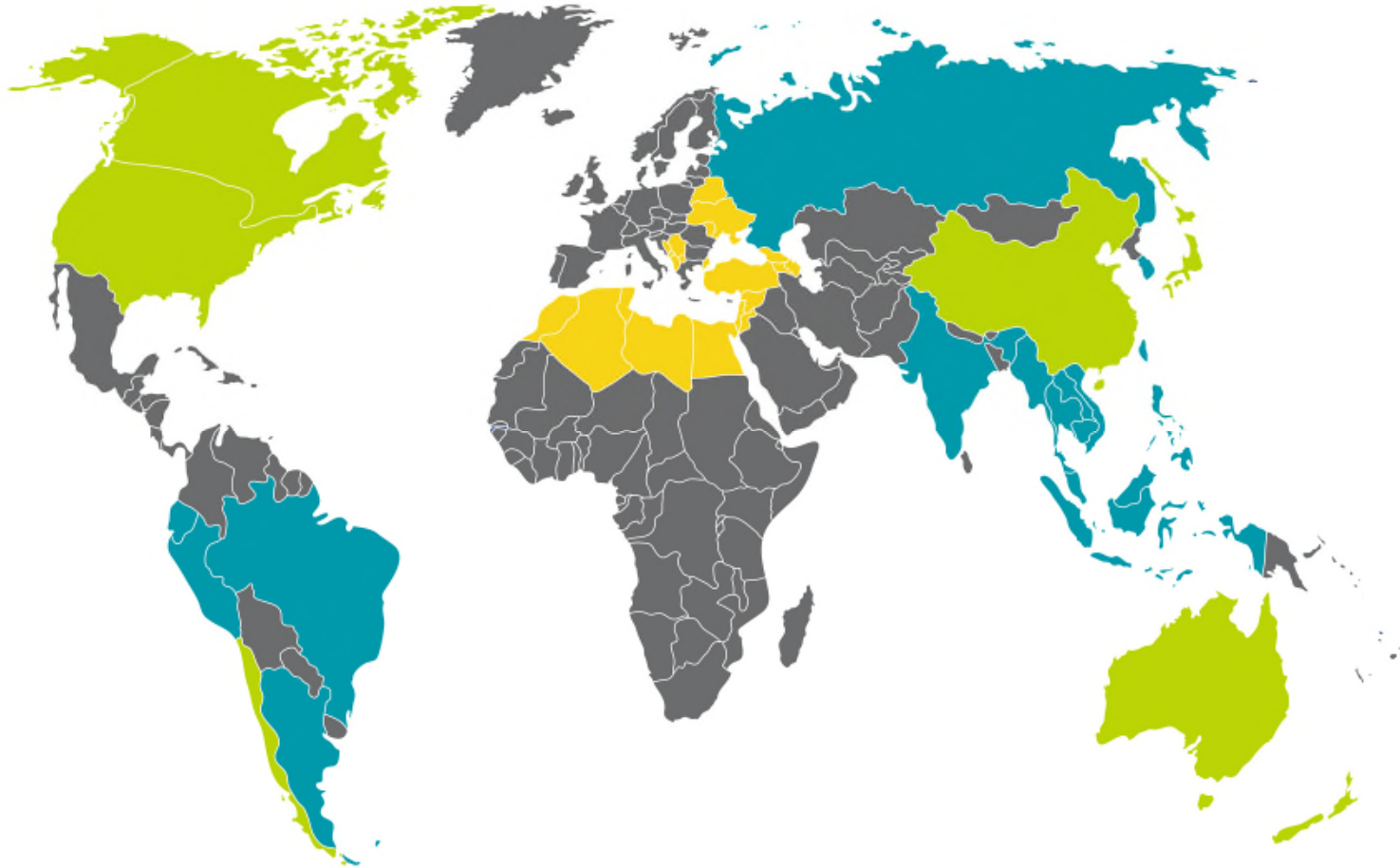


WITHIN EUROPE...

- National food safety agencies from 28 EU Member States
- 400 research institutes
- EU Agencies



OUTSIDE EUROPE...



- Partners
- Established cooperation
- IPA/ENP countries

NETWORKS OF KNOWLEDGE



Emerging Risks Exchange Network (EREN) Member states



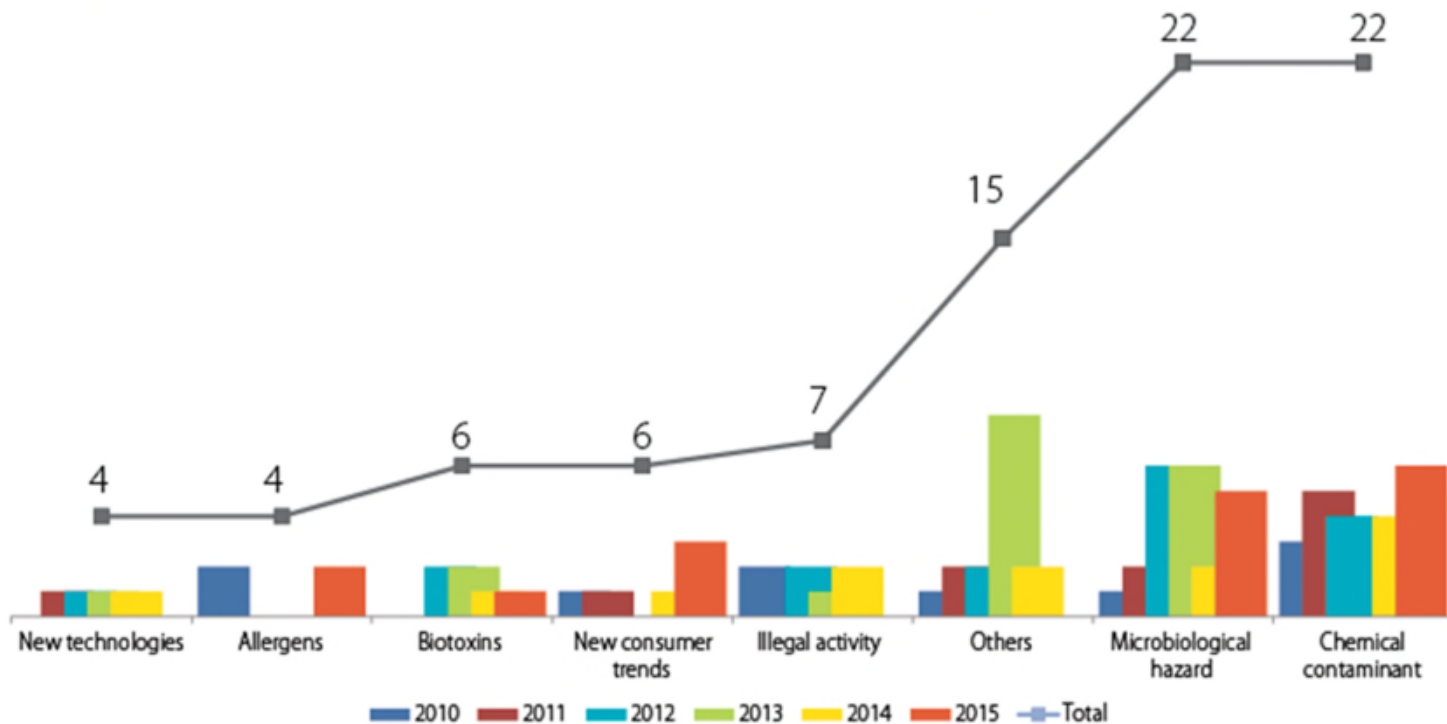
Stakeholder Consultative Group on Emerging Risk (StaCG-ER) - Civil society & Private sector



WHAT HAS WORKED

- Identification of relevant **issues**
- **Expertise and networking** are a vital part of the process, particularly for filtering signals
- **Sharing information** without creating unnecessary scares
- **Focused monitoring** and **follow-up activities**

IDENTIFICATION OF EMERGING ISSUES



EVALUATION

- Evaluation of the collected information and identification of emerging risks
- Avoided risks are often “invisible”

IMPORTANT

- Aim (and defining success)
- How to handle uncertainty
- It is not only risk assessment



Subject area



Emerging risks

The successful identification of emerging risks is at the heart of protecting public health and the environment. By identifying emerging risks in the food chain early, EFSA supports risk managers in anticipating risks and taking effective and timely prevention measures to protect consumers. Identifying emerging risks also helps to improve EFSA’s ability to meet future risk assessment challenges. EFSA defines an emerging risk as: “A risk resulting from a newly identified hazard to which a significant exposure may occur, or from an unexpected new or increased significant exposure and/or susceptibility to a known hazard.”

- Networks
- Activity reports
- Methodologies
- Completed work

Emerging risk identification is a complex process requiring broad expertise and close cooperation with Member States, stakeholders, and EU and international agencies. Dedicated networks provide the structures needed to exchange experience, methods and data and to assess emerging issues.

- [Emerging Risks Exchange Network](#)
- [Discussion Group on Emerging Risks](#)

Related News

[The impact of global change on the emergence of plant diseases and pests in Europe](#)

News
Plant health
published: 19 Apr 2018

[Emerging food safety issues: what do consumers want to know?](#)

News
Cross-cutting science
published: 18 Apr 2018

[Climate change and food safety – complete the EFSA survey](#)

News
Cross-cutting science
published: 21 Feb 2018

ACKNOWLEDGEMENTS

SCER- ER Team

Caroline Merten, Raquel Garcia Mata, Angelo Maggiore, Agnes Rortais, Tilemachos Goumperi, Tobin Robinson

EFSA Staff

EFSA experts

- Emerging Risks Exchange Network
- Stakeholders discussion group
- JRC
- DG SANTE
- ECDC
- FAO.....



THANK YOU