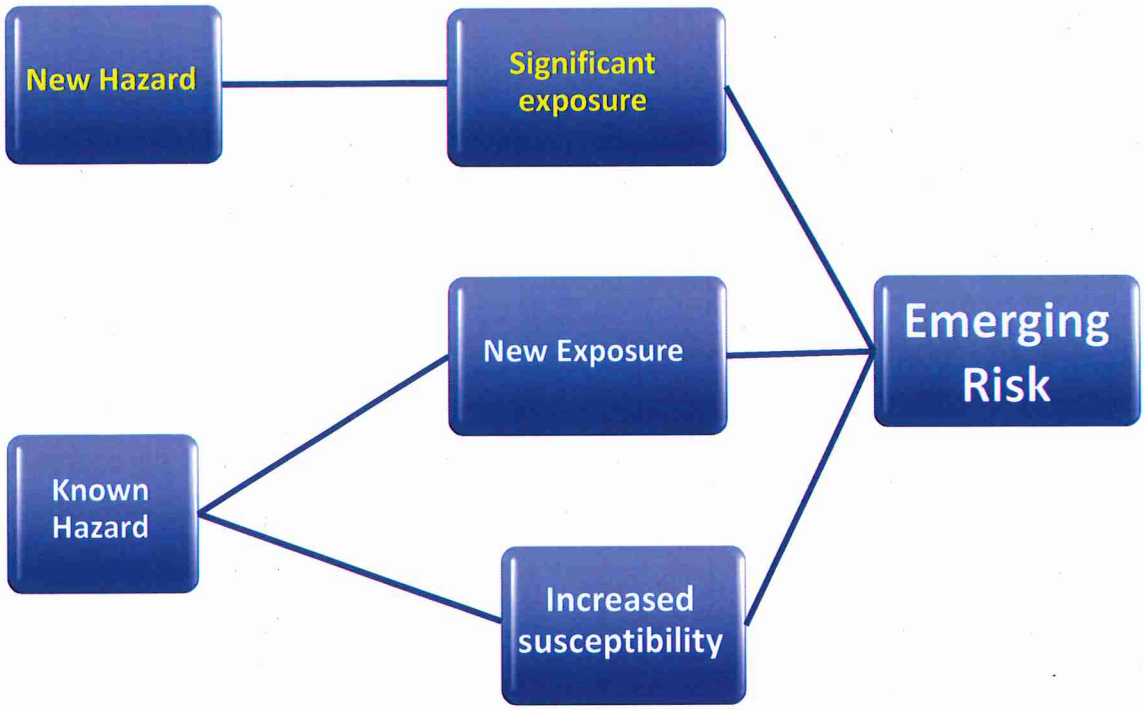
DEFINITION



ESFA, 2007. Definition and description of « emerging risks » within the EFSA's mandate. Statement of the Scientific Committee, 10 July 2007.

WHAT DO WE HOPE TO ACHIEVE ?

Emerging Risk !

Homeless

Cross-cutting

Elephants

New RA methods

Surveillance

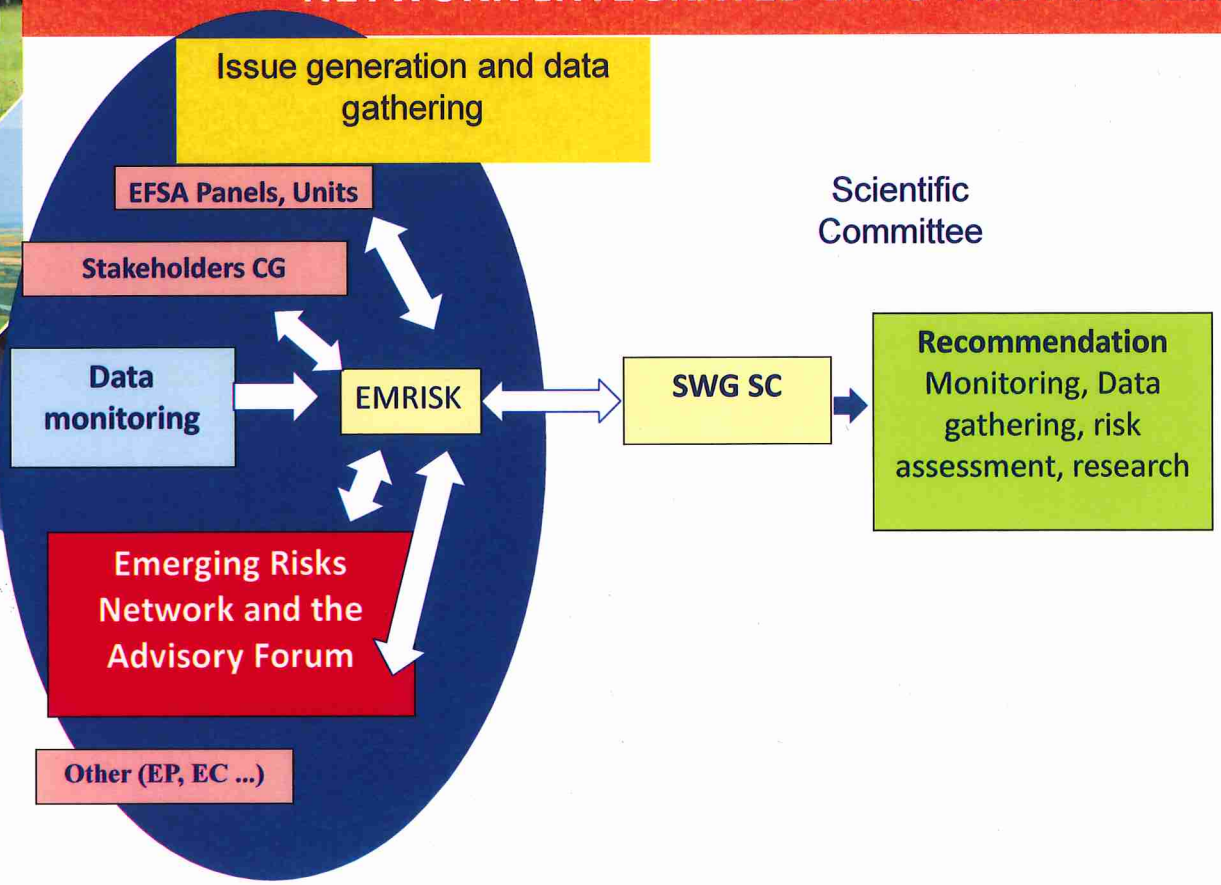
Difficult problems

WHAT DO WE HOPE TO ACHIEVE ?

Early identification of new problems (not neccessarily incidents or crises), to better anticipate risk assessment needs:

- Research
- Data generation (and methods for doing this)
- Risk assessment methodology development

NETWORK INTEGRATED INTO THE PROCESS



STRUCTURED INFORMATION : THE BRIEFING NOTE

- Description of the issue
- Additional supporting information
- Legal and Institutional aspects
- Evalutation
  - Novelty, soundness, imminence, scale, severity
- Conclusion
- Questions
- Comments
- Recommendations

EXAMPLES OF ISSUES DISCUSSED

Emerging viruses

Usutu virus;
Oncogenic viruses in food animals;
Foodborne norovirus and older adults;
Zoonotic viruses associated with illegally imported wildlife products;
Schmallenberg virus – could we have been more alert ?

Emerging parasites

Import of stray dogs

Emerging bacteria

Drivers and pathways of antimicrobial resistance:
Foodborne ESBL
Salmonella in paan leaves

EXAMPLES (CONT'D)

Fraud/illegal activities

Combined toxicity of melamine and cyanuric acid;
Gelatine from China / Indian milk adulteration;
Use of banned and counterfeit pesticides

Environmental contamination of the food chain

ECHA's candidate list of substances of very high concern;
Accumulation of personal care products and pharmaceuticals in crops irrigated by reclaimed water

EXAMPLES (CONT'D)

Consumer/consumption habits/trends

Energy drinks: first results from a vigilance system in Hungary;
Insects for food and feed uses;
Red meat and colorectal cancer

Natural toxins

Indigenous ciguatera toxin from EU waters

Technology

Recycled paper (waste management)
Biofuels

Unknown

Animal illness linked to jerky pet treats

FOLLOW UP ACTIVITIES

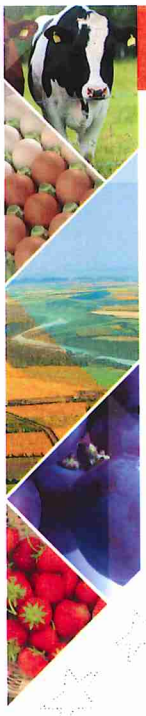
Finished

Climate change on mycotoxin production in European cereal crops
Food prices, and trends in food trade
Energy drinks – consumption data
Omics Technologies

Ongoing

Chemical mixtures
Non-monotonic dose response
Human biomonitoring
Bee Health

http://www.efsa.europa.eu/en/publications.htm



Preparation for Urgent Requests

ACTIVITIES

EFSA in-house procedures:

Mobilising resources
Organising information
Coordination – within EFSA
- with other partners

Annual training exercise:

Member states, EC, EU and international agencies

EXAMPLES

Melamine in food and feed (2007)

Mineral oil in sunflower oil (2008)

Melamine in infant milk (2008)

Dioxins in pork meat (2008)

4-methlybenzophenone in breakfast cereals (2009)

Nicotine in wild mushrooms (2009)

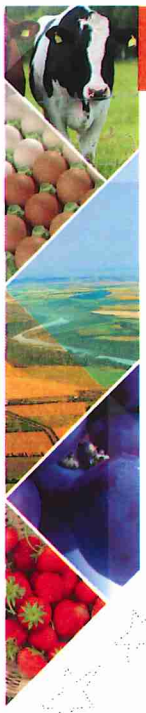
Chlormequat in table grapes (2010)

Volcanic ash (2010)

Escherichia coli in sprouted seeds (2011)

Schmallenberg Virus (2012)

Phenylbutazone in Horse meat (2013)



Questions ?

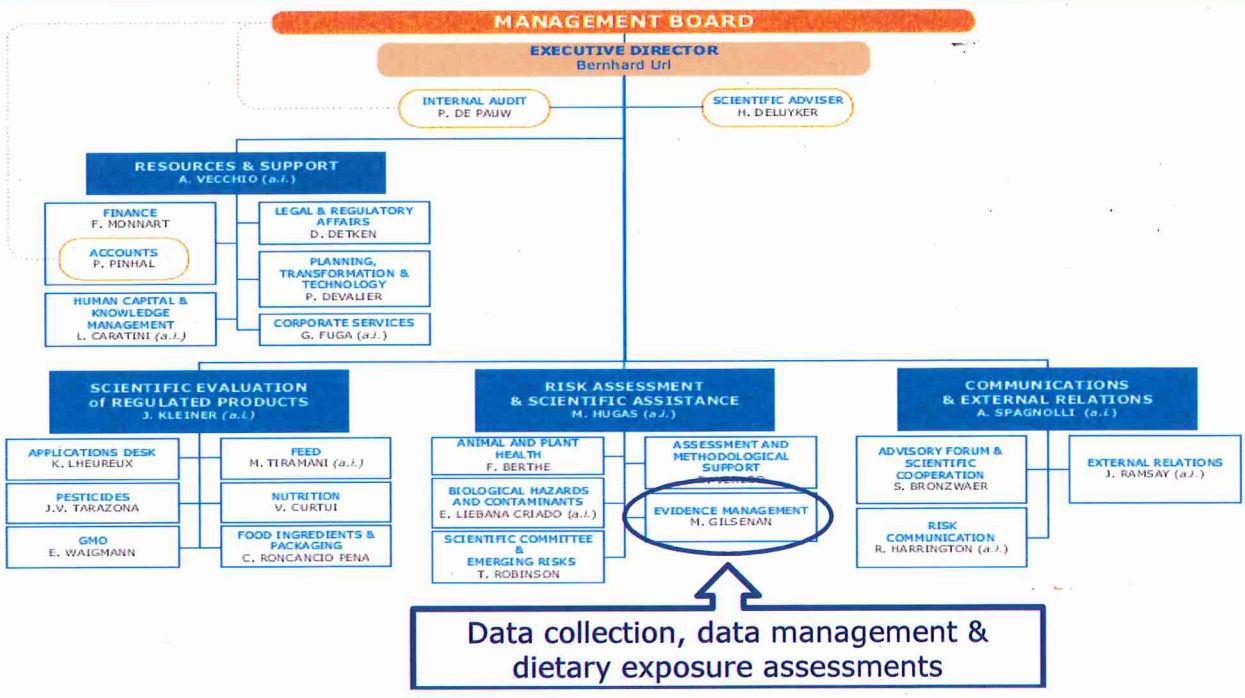
EFSA's cooperation with FAO/WHO in the area of food consumption and contaminants

Visit of Taiwan Delegation to EFSA
22nd July 2015

European Food Safety Authority

www.efsa.europa.eu

EVIDENCE MANAGEMENT (DATA) UNIT

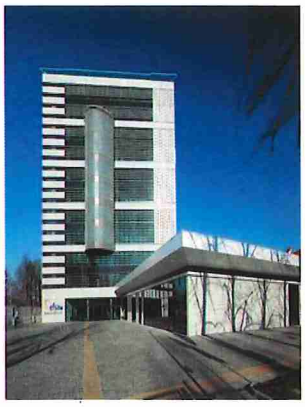


Data collection, data management & dietary exposure assessments

EUROPEAN DATA COLLECTIONS

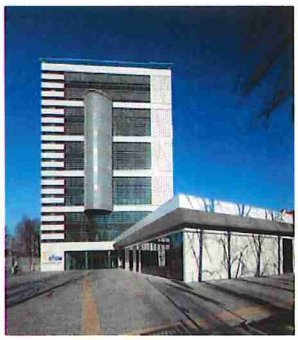
- Contaminant occurrence in food & feed
- Food consumption
- Pesticide residues
- Food additives
- Zoonoses & anti-microbial resistance
- Veterinary drug residues

EFSA



EFSA COOPERATION WITH THE WHO

Contaminant occurrence: sharing of data



GEMS/food database

World Health Organization

JECFA

JOINT FAO/WHO EXPERT COMMITTEE ON FOOD ADDITIVES

~1 million analytical records/ year

EFSA/WHO *exchange of data* cooperation

Data are used in JECFA risk assessments

http://www.efsa.europa.eu/it/supporting/pub/557e.htm

EFSA COOPERATION WITH THE FAO/WHO (1)

Food consumption: sharing of data and best practice

Food and Agriculture Organization of the United Nations

World Health Organization

- EFSA comprehensive food consumption database

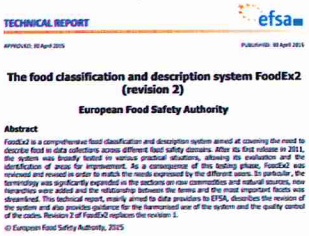
http://www.efsa.europa.eu/en/datex/datexfoodcdb.htm

- FAO/WHO CIFOCOss (*Chronic Individual Food Consumption – Summary Statistics*)
- FAO/WHO GIFT (*Global Individual Food Consumption Tool*)

EFSA COOPERATION WITH THE FAO/WHO (2)

FoodEx food classification & description system

Food and Agriculture Organization of the United Nations



TECHNICAL REPORT

The food classification and description system FoodEx2 (revision 2)

European Food Safety Authority

Abstract

EFSA developed system (with input from Member States)
FAO contributed to the latest update of the system
FAO will use FoodEx for food consumption activities expanding its use globally

http://www.efsa.europa.eu/en/datex/datexfoodclass.htm

EFSA COOPERATION WITH FAO/WHO: *AD HOC*

- FOSCOLLAB: WHO global platform for food safety data *(EFSA participated in FOSCOLLAB working group)*

  http://www.who.int/foodsafety/foscollab/en/

- FAO/WHO staff members can participate in EFSA data collection network meetings (annual/bi annual meetings with Member State data providers)

  http://www.efsa.europa.eu/en/datexegs/docs/dcmfoodconsumption.pdf

- Joint FAO/WHO JECFA meetings (e.g. exposure assessment): *(EFSA staff participate in their personal capacity)*

Thank you

Mary Gilsenan, PhD
Head of Unit: Evidence Management (DATA)
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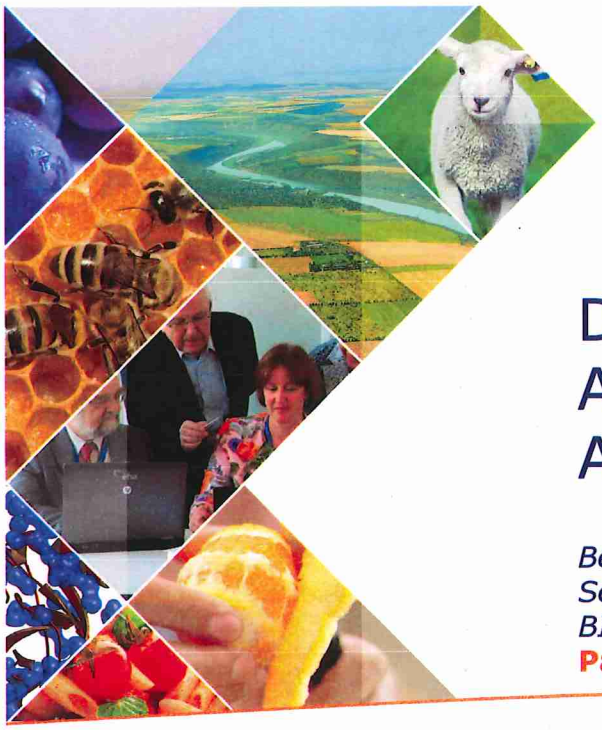

Data Collection and Risk Assessment Activities in the Area of Biological Hazards

Beatriz Guerra Román
Senior Scientific Officer
BIOCONTAM UNIT, RASA
Parma, 22/07/2015

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European Food Safety Authority

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OUTLINE

- BIOCONTAM Unit
- BIOHAZ Panel and Networks
- Data Collection and Analysis:
  - i.e. EU-wide Monitoring of Zoonoses, FBO and AMR
- Development of methodologies and tools for Risk assessment (RA) and surveillance:
  - i.e. Molecular Typing, Whole Genome Sequencing

BIOCONTAM UNIT: BIOGICAL HAZARDS

Biological Hazards

- **BIOHAZ PANEL** (Scientific experts)

+

- **NETWORKS** (MS experts)

+

- **EFSA STAFF:**
  - BIOHAZ Panel and Networks team
  - BIOHAZ Reports team

BIOHAZ PANEL: REMIT

- The BIOHAZ PANEL deals with questions on biological hazards relating to Food Safety and Food-borne Diseases
  - Food-borne Zoonoses
  - Food Hygiene
  - Microbiology
  - Transmissible Spongiform Encephalopathies-TSE
  - Associated Waste Management

BIOHAZ PANEL: WORK ACTIVITIES

- **Provision of Scientific Opinions**
  - General questions: guidance and advice
  - Investing in food safety science: development, promotion, application new/harmonized scientific approaches/methodologies for Risk Assessment
- **Evaluation of Products (or Processes)**
  - Decontamination treatments
  - Animal By-Products
  - TSE Tests

BIOHAZ NETWORKS AND OTHER ACTIVITIES

- **Data Collection**
  - Networking:
    collaboration with national authorities/bodies
    - **MRA Network**
    - **BSE-TSE Network**
  - Procurements
    - Literature review
    - Data collection or development of RA models

BIOHAZ PANEL: ON-GOING WORK

- **Food hygiene:**
  - Spoilage bacteria during storage and transport of meat
  - Heat treatments of live bivalve molluscs
  - Public health risks during storage and transport of meat
  - Zoonotic potential of ovine scrapie prions (self-task)
  - BSE monitoring programmes (self-task)
- **Foodborne zoonoses:**
  - Reduction of the need to use of antimicrobial agents
  - Entero-aggregative *Escherichia coli*
  - *Bacillus*
- **Microorganisms:** Qualified Presumption of Safety (QPS)
- **Animal by-products:** hatchery waste, animal fats

Data collection and analysis

EU-WIDE MONITORING OF ZOONOSES AND AMR

- **Collection and Analyses of Monitoring Data**
  - Zoonoses and Food-borne outbreaks in the EU
  - AMR in Food–Producing Animals and Food in the EU
- **Harmonisation of the monitoring and reporting**
  - Recommendations on harmonised monitoring
  - Technical specifications on harmonised sampling for AMR
  - Guidance documents for harmonised reporting (DATA Unit)
- **Close collaboration with sister EU-Agencies**
  - ECDC, EMA

ZOONOSES AND FOOD-BORNE DISEASES

Zoonoses
transmission *between* animals and humans

Food-borne zoonotic diseases
contaminated food, drinking water

- Widespread global public health threat: In EU over 320,000 human cases/year
- The risks: from farm to fork and require prevention and control throughout the food chain

EU SUMMARY REPORTS – ZOONOSES

Member States Reporting mandatory

Animal, food and feed monitoring | **Foodborne outbreaks** | **Communicable human diseases**

efsa European Food Safety Authority

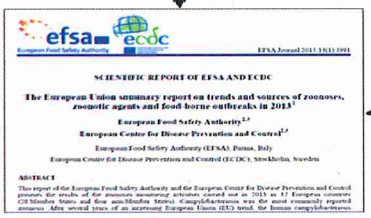
ecdc

Directive on the monitoring of zoonoses and zoonotic agents (2003/99/EC)

Joint EFSA-ECDC annual EU Summary Report (EUSR) on zoonoses and food-borne outbreaks

EUSR 2013: 16 zoonoses & food-borne outbreaks

Mandatory 8 zoonoses


SCIENTIFIC REPORT OF EFSA AND ECDC

The European Union summary report on trends and sources of zoonoses, zoonotic agents and food-borne outbreaks in 2013

ABSTRACT

Antimicrobial Resistance

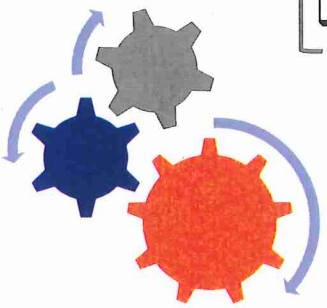
- Potential development of resistance in pathogens in animals
- Potential diffusion of resistant bacteria or their genes from animals to humans

- A global threat
- In relation to food safety:
  - Antimicrobial use in food production
  - Antimicrobial resistance as a food safety problem
- Need to tackle

DATA: EUSR-AMR

Monitoring

- To identify emerging resistance patterns
- To monitor and assess temporal trends
- To contribute assessing the impact of antimicrobial use on resistance



- To support risk assessment

Risk Management

- To plan targeted interventions
- To measure the effects of such interventions

Data collection and risk assessment activities in the area of biological hazards

JIACRA: ANTIMICROBIAL USE AND RESISTANCE

European Antimicrobial Resistance Surveillance Network (**EARS-Net**)
European Surveillance of Antimicrobial Consumption Network (**ESAC-Net**)

↔

Network on Zoonoses Data Collection
EU Summary Report on AMR
in zoonotic and indicator bacteria from humans, animals and food

↔

European Surveillance of Veterinary Antimicrobial Consumption (**ESVAC**)

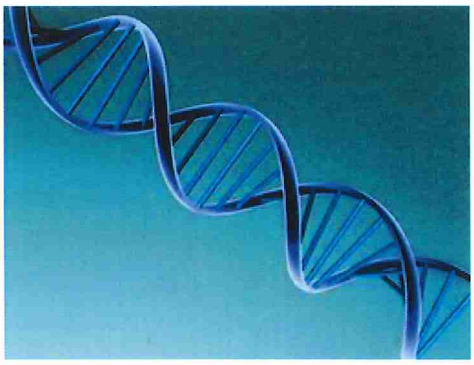
Joint Scientific Report: JIACRA (January 2015)

Analysis of the relationship between consumption of antimicrobials and the occurrence of resistance in humans, animals in the EU

ECDC/EFSA/EMA first joint report on the integrated analysis of the consumption of antimicrobial agents and occurrence of antimicrobial resistance in bacteria from humans and food-producing animals. EFSA Journal 2015;13(1):4006

Development of methodologies and tools for Risk assessment (RA) and surveillance:

Molecular typing and Whole Genome Sequencing (WGS)



MOLECULAR TYPING: SCIENTIFIC OPINIONS

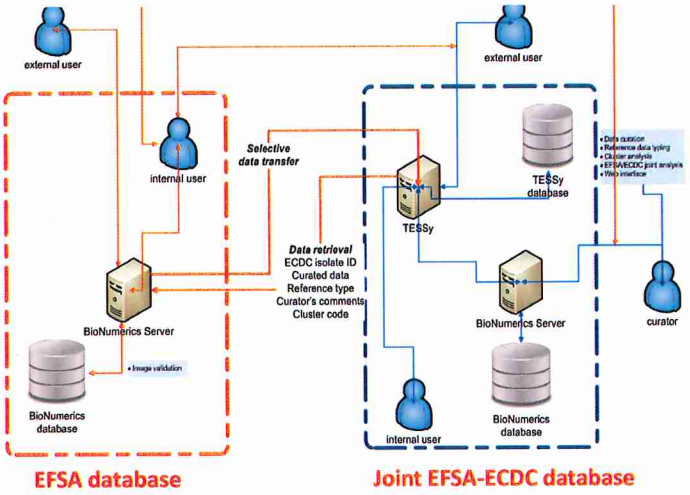
Evaluation of molecular typing methods for major food-borne microbiological hazards and their use for attribution modelling, outbreak investigation and scanning surveillance (self-task mandate, BIOHAZ PANEL, 2013-2015)

- EFSA-Q-2013-00032: Part 1: evaluation of methods and applications
- EFSA-Q-2013-00906: Part 2: surveillance and data management activities

MOLECULAR TYPING: DEVELOPING JOINT DATABASE

- **EC (2012):** Vision paper on the development of databases for molecular testing of food-borne pathogens in view of outbreak preparedness

Structure of the system during the pilot phase



Salmonella, VTEC and *L. monocytogenes*

PFGE
MLVA (*S.* Typhimurium)

WGS: SCIENTIFIC COLLOQUIUM

EFSA's Scientific Colloquium on the Use of Whole Genome Sequencing (WGS) of food-borne pathogens for public health protection (Parma, June 2014)

- Discussion group 1: WGS of foodborne pathogens in action
- Discussion group 2: Curation and analysis of WGS data: bioinformatics solutions
- Discussion group 3: Cross-sectorial coordination and international cooperation

WGS: OTHER ACTIVITIES

Procurement: Closing data gaps for performing RA on *L. monocytogenes* in "Ready to Eat Foods" (RTE).
Act. 3: Molecular characterisation employing WGS of strains from different compartments along the food chain and from humans (2014–2016: SSI/ANSES/PHE/ UA)

Thematic Grants:
Molecular approaches for identifying and characterising microbial foodborne pathogens, specifically using Whole Genome Sequence (WGS) analysis
(launched in April 2015, evaluation running)

- Molecular analyses *Lm isolates:* RTE foods, food chain compartments, humans
- Data analyses: genetic diversity, epidemiological relationships, markers for survival/multiplication/cause disease
- Retrospective analysis of outbreak strains: suitability of WGS as a tool in outbreak investigations?

INFORMATION

Scientific Reports available at www.efsa.europa.eu

EUSR-Zoonoses: http://www.efsa.europa.eu/it/efsajournal/pub/3547.htm
EUSR-AMR: http://www.efsa.europa.eu/it/efsajournal/pub/4036.htm

WGS Scientific Colloquium:
http://www.efsa.europa.eu/en/press/news/150216.htm

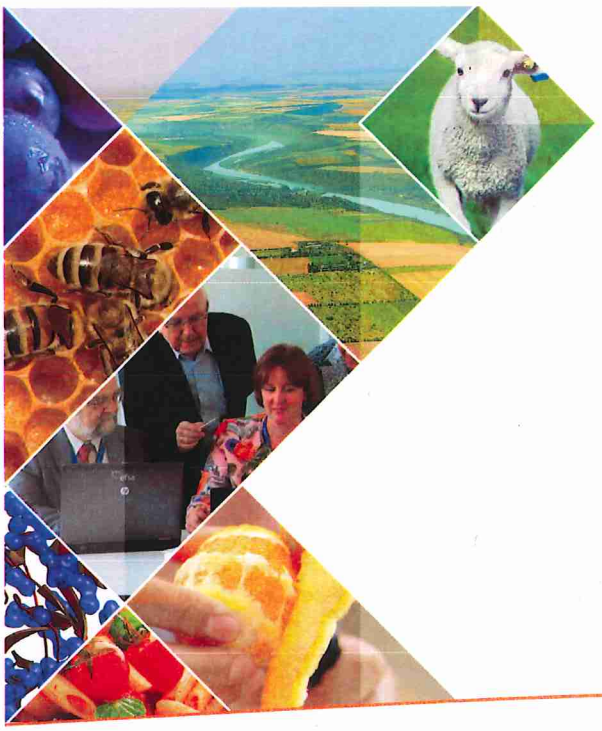
Technical specifications on molecular typing data collection:
http://www.efsa.europa.eu/it/supporting/pub/712e.htm

Scientific Opinions Molecular Typing:
http://www.efsa.europa.eu/it/efsajournal/pub/3502.htm
http://www.efsa.europa.eu/it/efsajournal/pub/3784.htm

Scientific Opinions AMR:
http://www.efsa.europa.eu/it/efsajournal/pub/2322.htm
http://www.efsa.europa.eu/it/efsajournal/pub/3501.htm

JIACRA report:
http://www.efsa.europa.eu/en/efsajournal/doc/4006.pdf

Technical specifications on randomised sampling for monitoring of AMR:
http://www.efsa.europa.eu/en/efsajournal/pub/3686.htm



Thank you for your attention!

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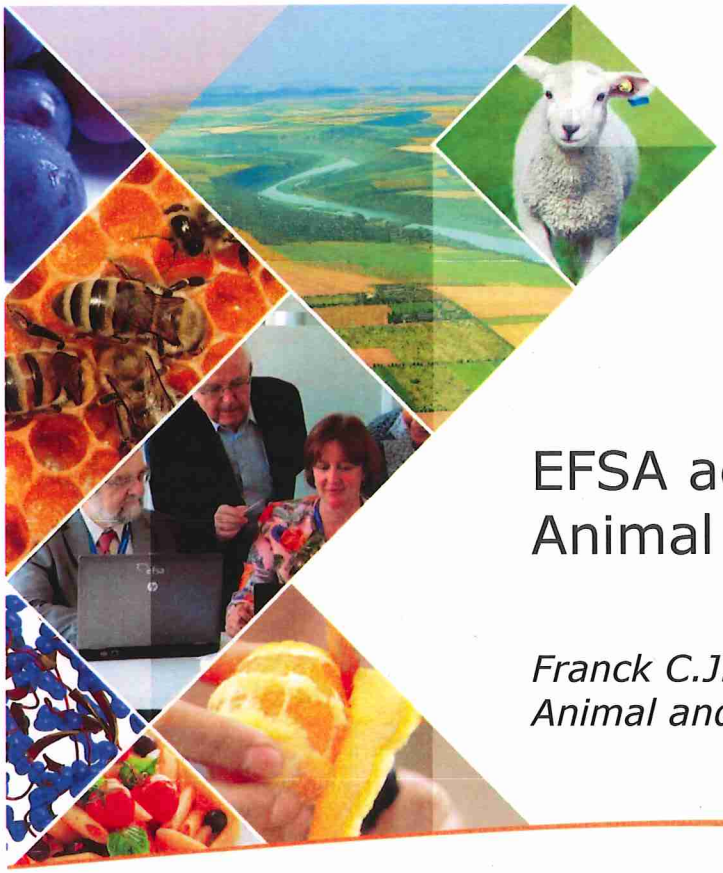

EFSA activities in the field of Animal Health and Welfare

Franck C.J. Berthe
Animal and Plant Health Unit (Alpha)

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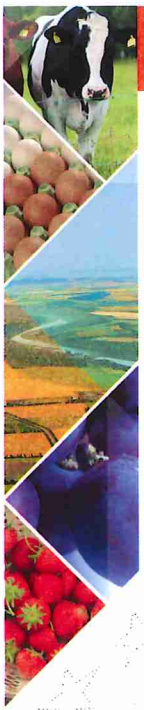

Outline of the presentation

Animal health and welfare in a food safety agency

Examples of risk assessment to support to policy making

Risk assessment applied to animal welfare

Concept of animal based measures

Role of EFSA in emerging risk in animal health

Animal health is a public good that benefits all segments of the society. Animal welfare is another dimension of this public good

The Animal Health and Welfare Panel deals with questions on all aspects of animal health and animal welfare, primarily relating to food producing animals, at the human-animal ecosystems interfaces

Ethical, socio-economic, cultural and religious aspects are outside of the Panel's remit