

TECHNICAL UNIVERSITY OF DENMARK

Defining the Responsibilities of Stakeholders within a National Strategy for Food Safety and Control

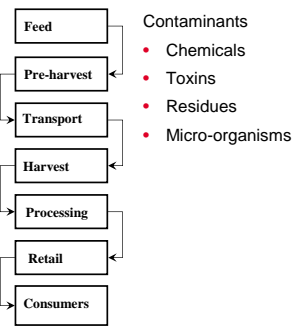

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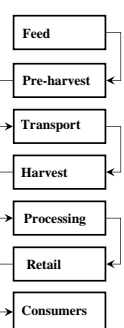
Food safety throughout the production chain

Contaminants

- Chemicals
- Toxins
- Residues
- Micro-organisms

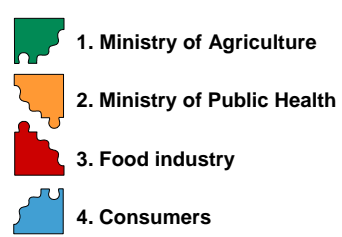
FPD Surveillance from feed-to-food



To form the basis for qualified feedback to stakeholders

- Numerous possible routes for introduction and transmission of foodborne pathogens
- Each link in the chain is responsible for the quality and safety of its products
- Coordination of control activities
- Communication between many stakeholders
 - Producers
 - Consumers
 - Government

Main pieces of the food safety puzzle




1. Ministry of Agriculture
2. Ministry of Public Health
3. Food industry
4. Consumers

Ministry of Agriculture



- Take care of the interests of the food producing industry
- Initiating, implementing and maintaining food safety programs
 - Legislative
 - Technical
 - Practical
- Information
 - Producers
 - Veterinarians
 - Food safety professionals

Ministry of Public Health



- Take care of the interests of the general public
- Initiating, implementing and maintaining public health programs
 - Legislative
 - Technical
 - Practical
- Information
 - Public
 - Medical doctors
 - Health care workers

Food industry



- Responsible for quality and safety of their products
- Monitoring programs at various levels of production
 - Certification programs
 - Process control
 - Final product control
 - HACCP-based control programs
- Contribution to national surveillance programs
- Collaboration with (local) government in case of outbreak investigation

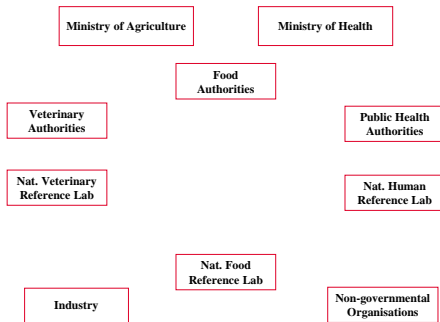
Consumers



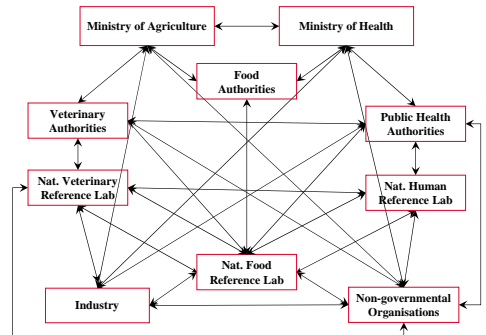
- Influence through demand and willingness-to-pay
- Consumer organisations
 - Consumer interests
 - Seldom involved in data generation
 - Driving force behind food safety initiatives
- Media plays an important role



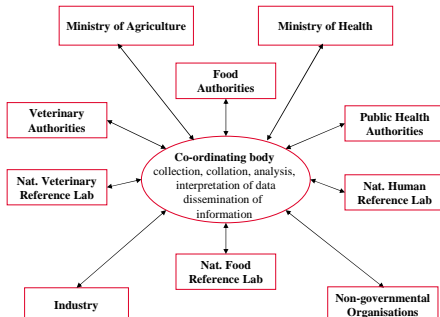
Major stakeholders in microbial food safety



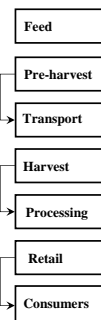
Integration = communication



Collaboration & coordination



Co-ordinating body



- Coordinate multi-disciplinary and multi-sectorial control and response
- Levels of collaboration/coordination:
 - microbiology – epidemiology – risk assessor
 - feed - veterinary – food - medical
 - government – industry – consumers
- Comparative analysis of data from different sources
 - animal – food - human

Main pieces of the food safety puzzle

1. Ministry of Agriculture
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3. Food industry
4. Consumers
5. Co-ordinating body



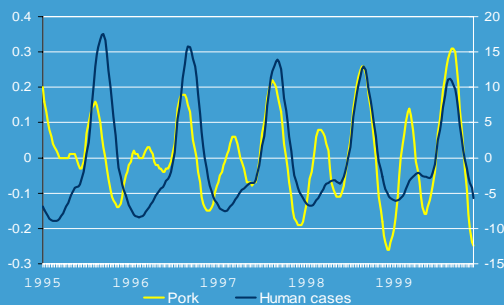
Tasks for a co-ordinating body

- Coordinate activities between institutions, authorities, industry and consumer organisations
- Perform timely and comprehensive analysis of surveillance data
- Disseminate information to all stakeholders
- Outbreak detection, investigation and response
- Evaluate effectiveness of control programs and intervention strategies
- Conduct epidemiological research and risk assessment

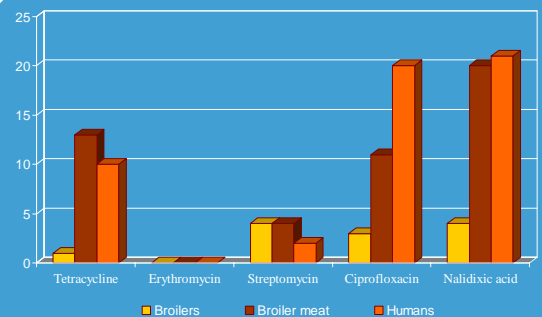
EXAMPLES OF INFORMATION OBTAINED THROUGH NATIONAL INTEGRATED FOOD SAFETY PROGRAMS

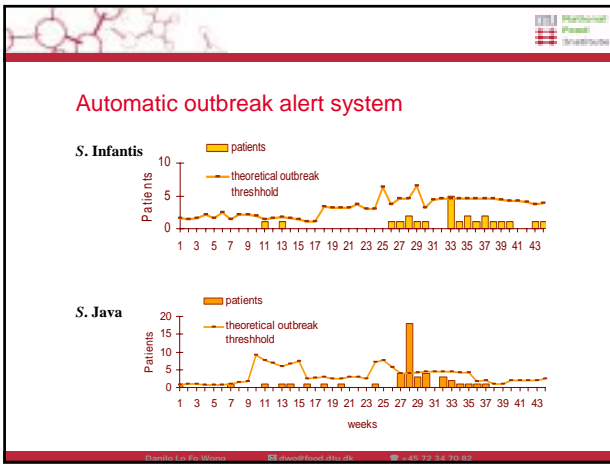


Temporal patterns - *Salmonella* prevalence in pork and humans



AMR resistance in *Campylobacter jejuni* from farm-to-fork



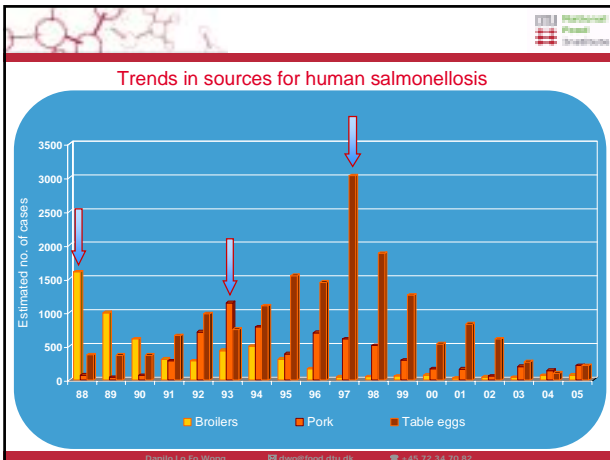
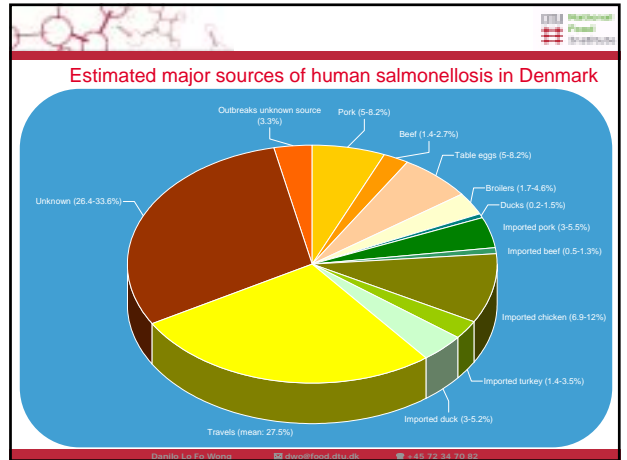
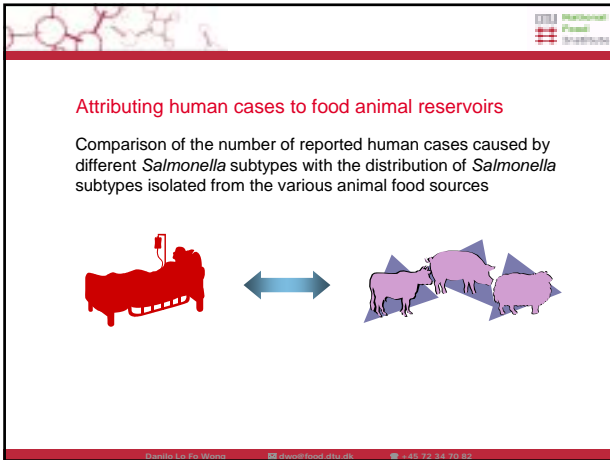


Tracing sources of infection

- Integrated outbreak investigation and response
- multi-disciplinary
 - microbiology – epidemiology
 - veterinary – human
- multi-sector
 - government - industry
- Strain bank
 - routine surveillance
 - previous outbreaks
 - epidemiological data

Outbreak
Beef
Eggs
Eggs
Eggs
Poultry
Pork
Pork
Imported eggs

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Conclusion

The attribution method allows us to:

- evaluate the trends and dynamics of sources to human salmonellosis
- support risk managers in their decision of allocating resources
- document a need for or effect of surveillance programs

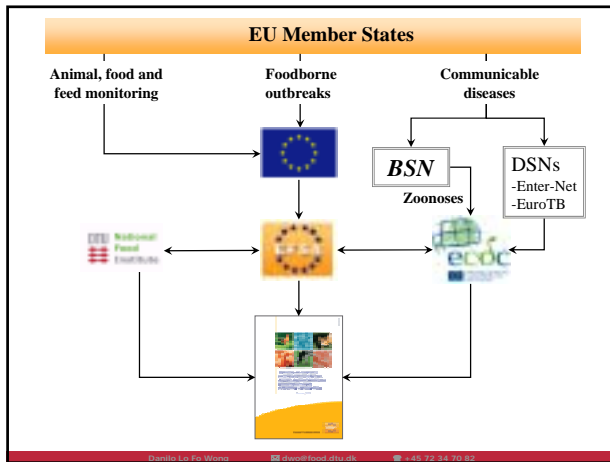
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4 C's of Integrated Food Safety Programs

- **C**ommunication
 - regular meetings
 - direct and informal contact
- **C**oordination
 - control activities
- **C**ollaboration
 - data exchange
 - during outbreaks
- **C**entral database
 - monitoring trends
 - outbreak detection
 - comprehensive analysis
 - program evaluation

Optimal use of data that already is being generated

INITIATIVES TOWARDS INTERNATIONAL INTEGRATED FOOD SAFETY PROGRAMS



WHO Global Salm-Surv Steering Committee 2006



WHO Global Salm-Surv

Goals:

- Strengthen foodborne disease surveillance systems;
- Improve collaboration among microbiologists and epidemiologists;
- Foster collaboration across sectors.



Currently: ~ 900 members from 142 countries

WHO Global Salm-Surv

- Regional Training Courses
- External Quality Assurance System (EQAS)
- Reference Services
- Country data bank
- Electronic Discussion Group
- Web Site: www.who.int/salmsurv/



