EFSA Reporting of parasitic zoonoses in the European Union

11th Workshop of National Reference Laboratories for Parasites
Rome, Italy, 23-24 May 2016

Activities currently focused on:

- Annual data collection and reporting on zoonoses, antimicrobial resistance data and food-borne outbreaks in EU
- Harmonisation of data reporting
- Molecular typing data collection on food-borne pathogens from food, feed and animal isolates
Annual data collection based on Directive 2003/99/EC

Member States are obliged to submit data on:

- **8 zoonoses** (Annex I – Part A):
  - Salmonella and Campylobacter (+ antimicrobial resistance)
  - Listeria monocytogenes, Brucella, tuberculosis due to *Mycobacterium bovis*, verotoxigenic *Escherichia coli*.
  - *Trichinella*, *Echinococcus*

- **Data on other zoonoses** based on the epidemiological situation in the Member State (Annex I – Part B)
  - e.g. rabies, toxoplasmosis, Q fever

- Food-borne outbreaks

- Susceptible animal population

MS are obliged to submit data on:


- In addition, MS are requested to submit data on **3 microbiological contaminants** for which microbiological criteria have been set up by EU Regulations:
  - Histamine
  - Cronobacter spp. (*E. sakazakii*)
  - Staphylococcal enterotoxins

EFSA is assigned the task of analysing the data and publishing the two EU Summary Reports in collaboration with the European Centre for Disease Prevention and Control (ECDC), that provides for and analyses the data on human zoonoses cases.

- The only reports on integrated analyses of data on food safety at a supra-national level in the world
- Cover feed-animals-food-humans

Currently (2015) EUSR are produced every year:
- EUSR on zoonoses and food-borne outbreaks in EU
- EUSR on antimicrobial resistance in EU
- EUSR on BSE/TSE (new)

Trichinella in domestic pigs

"Overall"
- 26 MSs and 3 non-MSs reported data
- Total tested: ±191 MM pigs
- 1 in 1 MM was positive (± 0.0001%)
- 204 found positive

"Indoor" pigs: 4+
- 1 MS reported positive findings in breeding pigs (RO)
- LV: 1 positive pigs (Unspec)

"Outdoor" pigs: 200+
- 6 MS reported positive findings (IT, RO, HR, PL, SP, BU)

T. Spiralis >>> T. unspecified >> T. britovi

One country accounted for 70.1 % of all the Trichinella-positive findings (almost all positive findings from pigs were from non-controlled housing conditions = "outdoor")
**TRICHINELLA IN ANIMALS: WILD BOARD**

**Trichinella in farmed wild boar**
- 10 MSs reported data
- Total tested: ±41K
- 96 positive (RO, BU, AT)

**Trichinella in hunted wild boar**
- 19 MSs and 2 non-MSs reported data.
- Total tested: ±884 K
- 1084 positive
- 12 MSs reported positive findings
- Trich. Spp > T. spiralis > T. britovi
- EE and SE: T. nativa and pseudospiralis

Overall EU prevalence: 0.12%

**TRICHINELLA IN ANIMALS: WILD LIFE AND SOLIPEDS**

**Trichinella in wildlife other than wild boar**
- 18 MSs reported data; 15 reported positive findings

Overall EU prevalence:
- foxes: 1.16% (±10K tested)
- bears: 7.1% (394 tested)
- raccoon dogs: 31.8% (443 tested)
- other: 6% (2045 tested)

**Trichinella in horses/solipeds**
- 23 MSs and 2 non-MSs reported data on horses
- No positive animals (±199K tested)

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**ECHINOCOCCUS IN ANIMALS (1)**

**Echinococcus multilocularis Status EU**

- 13 MS and 2 MS non-MS reported data on EM
- Total tested: ±7.3K
- 438 positive (8 MS and 1 non-MS)

**EM**
- 5 countries reported positive foxes for species type.
**Echinococcus Finding in Foxes (EM)**

- 17 MS and 2 non-MS
- Total tested: ±92.4 MM (slaughterhouse data)
- 0.2% is positive
  - Mainly Small ruminants
  - Mainly 2 MS (ES and EL)

**Echinococcus Granulosus**

**Toxoplasma in Animals: 2014**

**Toxoplasma in animals**

14 MSs and 2 non-MSs reported data for 2014.

- **PIGS (4 MS)**
  - Total samples tested: ±2.5 K
  - Positive: 9.7%

- **CATTLE (9 MS and 1 non-MS)**
  - Total samples tested: ±3.4 K
  - Positive: 4%

- **SMALL Ruminants (12 MS and 2 non-MS)**
  - Total samples tested: ±7.2 K
  - Positive: 26.2%

- **COMPANION ANIMALS (10 MS and 2 non MS)**
  - Total samples tested: ±3 K
  - Positive: Cats (±17%, 1804 tested); Dogs (±13%, 1767 tested)

**Toxoplasma in Other Animals: 2014**

Positive samples were also reported from deer, donkeys, foxes, hares, horses, lynx, mouflons, rabbits, water buffalo, wild rats and wolves.
OTHER ZOOONES FROM PARASITES IN 2014

**ANISAKIS**
One MS provided information on Anisakis parasites in food (fish). Anisakis was not found in any of the samples tested.

**CYSTICERCUS**
4 MS reported information on Cysticercus in slaughter animals.
- T. Saginata cysts in cattle
  0.14% (BE) and 0.0002% (SE)
- T. Solium cysts in pigs
  No positive findings in both 2011 and 2012

**SARCOCYSTIS**
1 MS reported 0.010% positive bovine carcases in.

FOODBORN OUTBREAKS: PARASITES

**Trichinella outbreaks: 17 in total (6 MS)**
- Strong-evidence outbreaks: 15 out of 17
- Food vehicle: 13 were linked to consumption of pig meat & products thereof
  1 with wild boar meat and
  1 with meat from bear
- Human cases: 187 people were affected, of whom 84 were hospitalised

**Cryptosporidium outbreaks**
- Strong-evidence outbreaks: 7 + 1 waterborne (C. parvum)
- Food vehicle: Parsley (SE) - Public surface water

**Anisakis outbreak**
- Weak-evidence outbreaks: 1

**Giardia outbreaks**
- Weak-evidence outbreaks: 6 by one MS (decrease compared to 2013).

WATERBORNE OUTBREAKS 2014: PARASITES

Parasites include primarily Trichinella, but also Cryptosporidium, Giardia and Anisakis.

Total outbreaks due to parasites: 33 (0.63% of total outbreaks)
- by 10 MS
- Strong-evidence outbreaks: 17 (1 waterborne)
- Weak-evidence outbreaks: 16
DISCUSSION: EFSA’S EFFORTS FOR HARMONISATION OF DATA COLLECTION

Harmonisation of monitoring and reporting to improve the data comparability and analyses by EFSA:

- Reporting of food-borne outbreaks
- Antimicrobial resistance in Salmonella, Campylobacter, commensal E. coli and Enterococci in animals
- VTEC in animals and food
- Yersinia in animals
- **Parasites in food/animals** (external report submitted to EFSA on Cysticercus, Echinococcus, Sarcocystis, Trichinella)
- Rabies and Q fever in animals
- Survey methods for food-borne pathogens in foods
- Vector-borne zoonoses

CONCLUSION: ANALYSES OF THE MONITORING DATA

- **Data is not fully comparable between Member States**, but comparable between years within a country → analyses of trends over the years (in MS/EU)
- The trends can provide information
  - on developments in EU and in MSs
  - impact of control measures/programmes
- Identification of sources of human infections
  - Comparison of proportion positives in different food/animals and stages along the food chain
  - Analyses of food-borne outbreak data
  - Serovar/species comparison (source attribution)
- **Spatial (geographical) distributions** (maps)

CONCLUSIONS GENERAL:

- The annual Zoonoses Summary Reports provide an important overview of the situation and developments in the EU – needed by risk managers (European Commission, MSs) and risk assessors (EFSA) at the EU level.
- **Further harmonisation (!!) & providing characteristics** of monitoring will facilitate better interpretation and analyses of the data → **Parasites (Trichinella, Echinococcus)**
  - TRICHINELLA: PIGS (BREEDING OR FATTENING), OUTDOOR; INDOOR !
  - ECHINOCOCCUS: SPECIES (!!) → EG OR EM
  - REGIONAL REPORTING, ANALYTICAL METHODS; AGE CLASSES; AIM OF MONITORING AND SURVEILLANCE SYSTEM
- Analyses of data at EU level remains a challenge: appropriate statistical methods can be applied to analyse these not fully comparable datasets for temporal and spatial trends.

ACTIVITIES OF AHAW UNIT (1)

**Echinococcus Multilocularis**

- Regular follow-up of the literature regarding EM infection in animals in the European Union and adjacent countries, including its geographical distribution and prevalence;
- Analysis and critical assessment, in the context of Regulation (EU) No 1152/2011, of (i) the sampling strategy considered for the programmes of the Member States concerned; (ii) the data collected in the framework of these programmes; (iii) the detection methods used.
- Foresee a special developed workflow for MS via DCF
  - Comprehensive information package
  - Possibility of training by web meeting
  - Functional email box to send requests for assistance throughout reporting period
  - Convince other (then free MS) MS to use this workflow
ACTIVITIES OF AHAW UNIT (2) : SPECIFIC WORKFLOW FOR EM

1. Member State
   - Surveys reports (Part I)
   - Surveys reports (Part II)
   - Survey data

2. Data Collection Framework
   - European Commission

BIOCONTAM-UNIT

ALPHA-UNIT
- Scientific Opinion on canine leishmaniosis. EFSA Journal 2015;13(4):4075
- Echinococcus multilocularis infection in animals Panel Animal Health and Welfare

THANKS FOR YOUR ATTENTION!

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All our reports are on
www.efsa.europa.eu