Network on Microbiological Risk Assessment
Minutes of the 15th meeting

Held on 11/12 October 2016, Parma

(Agreed on 26 October 2016)

Participants

- **Network Representatives of Member States (including EFTA Countries):**

Country	Name
Austria	Monika Matt
Belgium	Claire Verraes
Bulgaria	Hristo Naydenski
Croatia	Brigita Hengl
Cyprus	Georgios Papageorgiou
Czech Republic	Barbora Macková
Denmark	Maarten Nauta
Estonia	Mati Roasto
Finland	Pirkko Tuominen
France	Pauline Kooh
Germany	Anja Buschulte
Greece	Vassilis Xanthopoulos
Hungary	László Mészáros
Ireland	Lisa O'Connor
Italy	Dario De Medici
Lithuania	Indre Stoskuviene
Netherlands	Aarieke de Jong
Poland	Elzbieta Mackiw
Portugal	Luisa Peixe
Romania	Ioana Neghirla
Slovakia	Lubomir Valík
Slovenia	Pavel Pollak
Spain	Antonio Valero
Sweden	Mia Egervärn
United Kingdom	Joanne Edge
Norway	Danica Grahek-Ogden
Switzerland	Renate Boss

- **Hearing Expert**

Walter Glawischnig (for item 6.3)

- **EFSA:**
  - BIOCONTAM Unit: Frank Boelaert, Teresa Da Silva Felicio, Michaela Hempen (secretariat), Ernesto Liebana Criado (chair), Winy Messens, Valentina Rizzi, Yves Van der Stede.

1. Welcome and apologies for absence

The Chair welcomed the participants and invited them to introduce themselves.

Apologies were received from Pirkko Tuominen (Finland) and Renate Boss (Switzerland).

2. Adoption of agenda

The agenda was adopted without changes.

3. Agreement of the minutes of the 14th meeting of the Network on Microbiological Risk Assessment held on 12/13 April 2016, Parma[1].

The minutes were agreed by written procedure and published on the EFSA website on 19 May 2016.

4. Topics for discussion

4.1. BIOHAZ Panel opinions on *Salmonella*

The BIOHAZ Panel opinions on setting targets in poultry were presented. In 2008, a mandate on "Quantitative estimations of the public health impact of setting new target for the reduction of *Salmonella* in certain poultry populations (*Gallus gallus*)" was received and resulted in three opinions: breeding hens (EFSA-Q-2008-291), published in 2009[2]; laying hens (EFSA-Q-2008-292), published in 2010[3] and broilers (EFSA-Q-2008-293), published in 2011[4]. In 2010, a second mandate was received asking for "an estimation of the public health impact of setting new targets for the reduction of *Salmonella* in turkeys and resulted in an opinion (EFSA-Q-2010-00899), published 2012[5]. Datasets used in these models were from 2005-2008[2,3,4] and from 2006-2010[5], which did not include some serovars (e.g. *S.* Stanley).

S. Enteritidis and *S.* Typhimurium had the greatest potential for vertical and pseudo-vertical transmission to their progeny in the broiler meat and egg layer chains. The marginal benefits of additional EU-wide control for other serovars in breeders (including the currently regulated serovars *S.* Hadar, *S.* Infantis and *S.* Virchow) were relatively small.

In eggs, *S.* Enteritidis was the serovar most frequently associated with human illness. The public health benefit of including additional serovars other than *S.* Enteritidis in EU-wide prevalence targets for laying hens was expected to be small.

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1 https://www.efsa.europa.eu/en/events/event/160412a

2 https://www.efsa.europa.eu/en/efsajournal/pub/1036

3 https://www.efsa.europa.eu/en/efsajournal/pub/1546

4 https://www.efsa.europa.eu/en/efsajournal/pub/2106

5 https://www.efsa.europa.eu/en/efsajournal/pub/2616

Around half of the broiler-associated human salmonellosis cases were caused by serovars other than the currently regulated serovars *S.* Enteritidis and *S.* Typhimurium. *S.* Enteritidis and *S.* Infantis constituted 42% and 23% of all broiler-associated cases, respectively. 63.2% of the turkey-associated human salmonellosis cases were caused by serovars other than *S*. Enteritidis and *S*. Typhimurium.

The BIOHAZ Panel recommended in the *Salmonella* in broilers opinion to repeat the subtyping modelling approach on a regular basis (i.e. every 3 to 5 years) in order to follow the progress of *Salmonella* control and the trends in the sources of human salmonellosis.

During the discussions some MS showed an interest in the EFSA *Salmonella* attribution model. The model can be made available on request.

4.2. EUSR *Salmonella* data collection

The zoonoses data collection activities at EFSA for the EUSR were presented with special emphasis on *Salmonella*. Preliminary data for the ongoing data collection were highlighted with particular focus on the serovars *S.* Infantis and *S*. Stanley. New ways of presenting the data were suggested using spatiotemporal maps of Europe and discussions arouse on whether such maps are representative for non-target *Salmonella* serovars.

4.3. Salmonella in kebab - results from Austria autumn 2015

The representative from Austria reported on prevalence of *S.* Infantis and *S*. Stanley in human cases and in poultry and presented results from a study investigating *Salmonella* in kebab following an *S*. Stanley outbreak. 15 frozen kebab (with poultry meat) were sampled (5 samples each) and analysed. *S*. Enteritidis and *S*. Typhimurium were not found but from 26.7% of samples other *Salmonella* serovars were isolated, which indicates a high prevalence of *Salmonella* [CI95% of 11-52%].

4.4. Antimicrobial resistance in the food supply chain: UK activities

The representative from UK gave an overview of recently completed, on-going and future work in the UK on antimicrobial resistance (AMR) in the food chain. Work outlined in the Chief Scientific Adviser's Science Report on AMR in the food supply chain[6] was presented, with an emphasis on risk assessment-related activities. The Advisory Committee on the Microbiological Safety of Food (ACMSF) working group on AMR recently considered a risk assessment on livestock-associated Meticillin-Resistant *Staphylococcus aur*eus (LA-MRSA). The Food Standards Agency (FSA) commissioned a UK-wide survey to determine *Campylobacter* prevalence on fresh, whole, UK-produced chicken at retail[7,8] and a subset of Campylobacter isolates were tested for resistance to five classes of antibiotics. FSA has funded a systematic review on the occurrence of AMR bacteria in food at retail[9] which will be published this autumn. Further, FSA funded a research project on the 'identification and prioritisation of risks to food safety and quality associated with the use of recycled waste-derived materials in

[6] https://www.food.gov.uk/news-updates/news/2016/15523/challenges-of-antimicrobial-resistance

[7] www.food.gov.uk/news-updates/news/2015/14003/campylobacter-survey-results-12months

[8] www.food.gov.uk/science/microbiology/campylobacterevidenceprogramme/retail-survey-year-2

[9] www.food.gov.uk/science/research/foodborneillness/b14programme/b14projlist/fs102127

agriculture and other aspects of food production' which was published in August 2016.[10] In the framework of the EU-wide 7-year mandatory surveillance for specific pathogens in slaughterhouse environments, FSA is collecting data on several types of AMR in *E. coli* by analysing raw retail beef, pork and poultry in the UK.[11] The Department of Health has funded a three-year project with Public Health England, which aims to define the reservoirs of ESBL *E. coli* and the threat posed to animal and public health in the UK. In this context, FSA are quantifying ESBL–producing *E. coli* in raw meat and fresh produce samples. The report is expected by the end of 2016.[12]

4.5. Antimicrobial resistance in Slovakia

The representative from Slovakia presented an activity of the Ministry of Agriculture and Rural Development and five other national organizations on the evaluation of antimicrobial resistance in Slovakia.[13] The highest resistance in *E.coli* isolates from pigs were related to tetracycline and sulfamethoxazole; 30.8% of human *Salmonella* isolates were resistant to chloramphenicol; no isolate of *C. jejuni* and *C. coli* from slaughter broilers was resistant to gentamicin.

4.6. Irish risk assessment of undercooked burgers/minced beef

The representative from Ireland made a presentation on cooking of beef burgers. The current advice in Ireland is that caterers and consumers should ensure that minced meat and high-risk minced meat products are cooked to a core temperature of 75°C or equivalent, e.g. 70°C by 2 minutes. Specifically, Ireland was seeking network members' views on the most appropriate z-value to use to calculate time/temperature equivalents to 70°C by 2 minutes. The z-value of 7.5°C for *L. monocytogenes*, which is considered to be the most heat resistant vegetative pathogen, has been recommended in the past. However, the target organisms of concern in beef burgers are more likely VTEC/STEC and *Salmonella* which have different z-values. One suggestion was to use a combination, e.g. *E. coli* z-value for lower temperatures and *L. monocytogenes* z-value for higher temperatures, as a precautionary approach. Ireland presented a 2006 QMRA for E. coli O157 in beef burgers and based on that asked member states their views on alternative control measures to thorough cooking. The UK gave feedback on its approach.

4.7. Relevant zoonotic pathogens in Austrian wild boar

Guest speaker from Austria, Walter Glawischnig, presented results from a study on zoonotic pathogens in wild boar. The pathogens discussed were *Salmonella* spp., *Corynebacterium ulcerans*, *Brucella suis*, *Alaria alata* and *Trichinella*. Interestingly, many of the Salmonella isolates from wild boar were *S.* Cholerasuis which are not present in the Austrian domestic swine population. Foxes are the definite host for *Alaria* and *Trichinella* and wild boar may get infected by scavenging on dead foxes. The habitat of both foxes and wild boar change and overlap more than before, which could result in wild boar infections with these parasites.

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[10] www.food.gov.uk/science/research/supportingresearch/strategicevidenceprogramme-0/fs301020

[11] www.food.gov.uk/science/research/foodborneillness/b14programme/fs102109

[12] www.food.gov.uk/science/research/foodborneillness/b14programme/b14projlist/fs101071

[13] www.mpsr.sk/download.php?fID=10582

4.8. Multidisciplinary approach in the investigation of a Hepatitis A outbreak and in the management of HAV contaminated shellfish production areas Campania Region, Italy, 2015

The representative from Italy presented the results of an investigation on Hepatitis A cases in Campania Region in 2015. The presentation focused on the multidisciplinary approach applied during the investigation, and the close collaboration between risk assessors and risk managers, that resulted in a limited number of cases of HAV. The conclusions of this experience were that there is a great benefit in using a multidisciplinary approach in the investigation of foodborne virus outbreaks, preparedness is vital, i.e. networks/task forces need to be created for rapid response to outbreak scenarios, and the importance of science-based evidence to support risk management decisions.

4.9. EFSA Molecular typing activities

An update on the joint EFSA-ECDC molecular database was provided. ECDC collects molecular typing data from food-borne pathogens isolated from human cases (TESSy). EFSA collects similar data from food, feed and animal isolates, in close collaboration with relevant EURLs (EFSA database). Regular joint data analyses of the data in the joint EFSA-ECDC database (hosted at ECDC) will be carried out. Initially, data collection will cover *Salmonella*, VTEC and *Listeria monocytogenes* with PFGE and MLVA (*S*. Typhimurium) methods. Other methods and pathogens will be added at a later stage.

The countries willing to participate in the data collection have to officially nominate their representatives for submitting molecular typing data to EFSA and communicate them to Commission. The nominated users (or representative of their Institute) have to sign the Appendix 1 of the Collaboration Agreement. Currently, eleven Member States nominated their representatives.

4.10. New and recent activities of the BIOHAZ Panel

The BIOHAZ secretariat informed the MRA network on recently adopted and current mandates of the BIOHAZ Panel. Recently adopted were: Evaluation of the safety and efficacy of Listex™ P100 for reduction of pathogens on different ready-to-eat (RTE) food products (EFSA-Q-2015-00428)[14]; Risks for public health related to the presence of *Bacillus cereus* and other *Bacillus* spp. including *Bacillus thuringiensis* in foodstuffs (EFSA-Q-2015-00254)[15] and Growth of spoilage bacteria during storage and transport of meat (EFSA-Q-2015-00163)[16].

The BIOHAZ Panel received two self-task mandates on: Request for a scientific opinion on public health risks associated with Hepatitis E Virus (HEV) as a food-borne pathogen (EFSA-Q-2016-00315)[17] and Scientific Opinion on the requirements for the development of microbiological criteria (EFSA-Q-2016-00227)[18].

[14] https://www.efsa.europa.eu/de/efsajournal/pub/4565
[15] https://www.efsa.europa.eu/de/efsajournal/pub/4524
[16] https://www.efsa.europa.eu/de/efsajournal/pub/4523
[17] http://registerofquestions.efsa.europa.eu/roqFrontend/questionLoader?question=EFSA-Q-2016-00315
[18] http://registerofquestions.efsa.europa.eu/roqFrontend/questionLoader?question=EFSA-Q-2016-00227

5. Any Other Business

The chair invited the MRA network members to the joint session with the EFSA Scientific Network on Zoonoses Data Monitoring which was held in the afternoon.

The presentations of the meeting are made available on DMS.

The chair informed the network members on the upcoming renewal of the terms of reference (TORs) of the MRA network and invited comments. No changes to the TORs were suggested.

6. Date for next meeting

The next meetings of the MRA network will be held on 4/5 April 2017 in Parma.

7. Closure of the meeting

The chair thanked the participants and closed the meeting.