SCIENTIFIC NETWORK FOR ZOONOSES MONITORING DATA - 41st meeting

09 - 11 October 2023
14:00-18:00 / 09:00-18:00 / 09:00-13:00
Minutes agreed on 24October 2023

Location: ANSES Headquarters, Maisons-Alfort, France (Copernic building, first floor, Room Mc Clintock)/Webconference

Attendees:

o Network Participants:

Country	Name
Austria	Peter Much Juliane Pcihler[a]
Belgium	Paul De Winter
Croatia	Dražen Knežević
Cyprus	Giorgos Krasias
Czechia	Jana De Sousa Trépa Magalhaes Veronika Vlasáková[a]
Denmark	Brian Lassen[a]
Estonia	Brita Smit[a]
Finland	Saara Raulo Pihlajasaari Annika[a] Paula Hietanen[a] Taru Lienemann[a]
France	Françoise Gauchard
Germany	Klaus Lorenz Carolina Plaza Rodríguez Frauke Setzer Katrin Boll[a] Thomas Schewe[a]
Greece	Maria Alexandraki Ilektra Fragkou[a]
Hungary	Fanni Szabo[a]
Ireland	Dennis Carroll[a] Monica Zamfirescu[a] Lisa O'Connor[a]
Iceland	Vigdís Tryggvadóttir[a] Brigitte Brugger[a]
Italy	Francesca Cito
Latvia	Tatjana Ribakova
Lithuania	Snieguole Sceponaviciene
Luxembourg	Manon Bourg[a]
Malta	Cristina Marino
Netherlands	Ingrid Keur Susanne Van der Grein Linda Verhoef[a]
Norway	Berit Heier Tafjord[a]
Poland	Madgalena Aftyka[a]
Portugal	Sara Isabel Rodrigues Godinho[a]
Romania	Ioana Neghirla[a]
Slovak Republic	Marta Bedriová
Slovenia	Maja Kokalj[a] Maja Bajt[a]
Spain	Isis Fajardo

	Jose Luis Saez Llorente Soledad Collado Cortes[a]
Sweden	Mia Holmberg
Switzerland	Fridez Françoise[a] Arlette Szelecsenyi[a]

- European Commission: Kris De Smet[**a]
- European Union Reference Laboratories (EURLs): Adrien Assere, Florence Cliquet[**a], Gaëlle Gonzalez[a], Jacques-Antoine Hennekinne, Marco Lalle, Kirsten Mooijman[**a], Claire Ponsart[**a], Emmanuelle Robardet, Beatriz Romero, Magnus Simonsson[a], Hanna Skarin[a], Stéphan Zientara.
- ECDC: Taina Niskanen[**a], Mohammed Afzal[**a]
- IPA country: Albania (Kujtim Mersini[a]), Bosnia and Hertzegovina (Emir Konjć), Republic of North Macedonia (Greta Nikolovska), Serbia (Tatjana Labus); Montenegro (Jelena Vracar[a]).
- Contractors:
  ZOE Consortium: Laura Amato[**a], Giorgia Angeloni[**a], Lisa Barco[**a], Radu Blaga[**], Americo Bonnani[**a], Paolo Calistri[**a], Adriano Casulli[**a], Annamaria Conte[a], Christophe Cordevant, Marta Cresci[**a], Michele Luca Derrico[**a], Andrea De Ruvo[**a], Marco Lalle[**a], Mauro Ferella[**a], Elena Lazzaro[**a], Gaia Scavia[a]
  Trasys: Roxani Aminalragia-Giamini[**a]
- Invited speakers: Pikka Jokelainen (Statens Serum Institut)[a]
- Focal Point: Julia Raeke (ANSES) [**a]
- EFSA:
  ED Team Chief Scientist Office: Carlos Das Neves[**]
  Biological Hazards & Animal Health and Welfare (BIOHAW) Unit: Frank Boelaert (co-chair), Giusi Amore, Pierre-Alexandre Beloeil[**a], Kateryna Chuzhakina[**a], Raquel Garcia Fierro[**a], Joana Lourenco[**a], Lina Mur[**a], Valentina Rizzi[a], Eleonora Sarno[**a], Eleonora Cattaneo[**a], Aniek van Houtum[**a], Sofia Fusco[**a], Mirko Rossi[**a]
  Integrated Data (IDATA) Unit: Anca Stoicescu (co-chair), Alexandra Papanikolaou (scientific secretary), Fabrizio Abbinante[**a], Luca Belmonte[**a], Valentina Bocca[**a], Catalin Iancu[a], Sofia Ioannidou[**a], Luca Pasinato[**a]

([a] online participant)
(** attended for specific items)

1. Welcome

Frank Boelaert (BIOHAW Unit, EFSA) opened the 41st meeting of the EFSA Zoonoses Monitoring Data Network and welcomed the participants. In her opening address, Marianne Chemaly (Scientific Director for Food Safety, ANSES and expert of EFSA's BIOHAZ Panel) praised the relevance of the EU One Health Zoonoses reports (EUOHZ) and underpinning Member States (MSs) data in the context of EU food safety risk assessments and of other EU One Health activities. The joint EFSA-ECDC EUOHZ give an important and comprehensive account of standings after each year of joint efforts to reduce human burden of food-borne disease in EU. She highlighted the importance of sharing WGS data at EU level (in the EFSA One Health WGS system) to support foodborne outbreak investigation.

2. Apologies for Absence

The newly appointed Network Members were welcomed to the group and shortly introduced themselves. Apologies were received from Bulgaria and Kosovo[1].

3. Adoption of the agenda

The agenda was adopted without changes.

4. Minutes of the 40th meeting of the Network held on 13-14 October 2022, hybrid

The minutes had been previously agreed by written procedure on 26 October 2022 and subsequently published on the EFSA website on the same date. There were no pending actions from the previous meeting. Comments received through the meeting feedback survey were presented.

5. Update on EU One Health Zoonoses report 2022

Paolo Calistri (leader of the ZOE consortium) presented the general organisation of the activities according to three work packages (WP): WP1 aims at preparing the EUOHZ report, WP2 involves the development of online interactive dashboards and story maps, whereas WP3 deals with project management and communication. Overall, around 75 experts in zoonoses, communication, data analysis and reporting are involved in the activities of the consortium. The improvements that were implemented in the process of the 2022 EUOHZ report preparation were presented. These improvements were based on preparatory work that started in January 2023 and involved a) the drafting of a detailed plan of analysis, b) the preparation of summary tables in the EFSA MicroStrategy business intelligence tool, and c) the training of experts on EFSA's data models, on the use of MicroStrategy and on collaborating in the EFSA Microsoft Teams environment. Gaia Scavia (leader of the WP1) described the preparation of the 2022 EUOHZ report, as well as the improvements done in the process of preparation this report.

6. Zoonoses and foodborne outbreaks key findings

Frank Boelaert (BIOHAW Unit, EFSA) presented an update on the 2022 EUOHZ report. The draft report was circulated to the reporting countries for consultation on 9 October 2023 and their feedback is expected by 24 October 2023 at the latest. The final report will be published on 12 December 2023. He presented some preliminary confidential key findings on zoonoses and zoonotic agents.

Giusi Amore (BIOHAW Unit, EFSA) presented preliminary and confidential results on the monitoring of foodborne outbreaks (FBOs) in 2022. Foodborne outbreaks were detailed further as breakdown figures based on the causative agent and place of exposure. Temporal trends of the number of outbreaks were shown as well.

The presented MSs' sampling results in the context of the *Campylobacter* process hygiene criterion were commented. Sampling by competent authorities and food business operators may take place during specific months or seasons only, as opposed to year-long sampling evenly distributed across all months. These differing sampling designs may result in different prevalence estimates as *Campylobacter* colonisation in broilers is known to be higher during the summer months. A second point raised was regarding the significant decrease for *Brucella* infections in humans during

[1] This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo* declaration of independence.

2018-2022 and whether the potential emerging *B. canis* pathogen would not be mirrored in this general trend. ECDC clarified that since countries can report on *Brucella* without specifying the species, any *Brucella* species is taken account of in the reporting.

The need of reporting the total number of samples tested was questioned since these are not used in the in the few maps presented (e.g. for rabies and *Trichinella*). EFSA clarified that only cases are presented when the prevalence is extremely low, but the total number of samples tested to be reported is a legislative requirement.

Frank Boelaert reminded that the draft 2022 EUOHZ report is underpinned by statistics displayed in the EFSA MicroStrategy tool, based on data validated by 21 July 2023. The reporting countries are consulted to verify whether those validated data are appropriately taken account of in the draft report.

7. Update on STEC, zoonotic tuberculosis and *Brucella* dashboards and story maps

Laura Amato and Mauro Ferella (ZOE consortium) presented the development of two sets of online interactive communication tools: Shiga toxin-producing *Escherichia coli* (STEC), zoonotic tuberculosis and *Brucella* data visualisation dashboards and STEC, zoonotic tuberculosis and *Brucella* story maps. The dashboards, developed in the EFSA MicroStrategy business intelligence tool using data from EFSA's scientific Data Warehouse (DWH), allow users to visualise and filter data through graphs and tables. The story maps were developed using ArcGIS StoryMaps and give an overview of the three pathogens, through images, videos, infographics and text. The structure and functionality of the dashboards and story maps were presented.

The creation of dashboards and story maps will enable the structure and volume of the EUOHZ report to evolve to a more dynamic report. The network members were invited to send their feedback on the dashboards and story maps by 24 October 2023 at the latest. EFSA informed that there are plans to translate the published story maps in four additional EU languages (French, German, Italian, Spanish) starting from next year. It was agreed that the infographics and icons used in the story maps should be carefully reviewed by EFSA and the ZOE consortium, to ensure that there is no confusion for the general public regarding the animal species that can be affected by the presented pathogens.

8. EFSA One Health Road map

Carlos Das Neves (Chief Scientist, EFSA) presented the EFSA activities related to the One Health approach. The recommendations of EFSA's 2022 One Conference focused on food safety matters from one health perspective. The conclusions of the conference led to the creation of the One Health cross-agency Task Force, which beyond EFSA involves the European Environment Agency (EEA), the European Centre for Disease Prevention and Control (ECDC), the European Chemicals Agency (ECHA), and the European Medicines Agency (EMA). The challenge of the One Health approach is the disconnect with respect to the risk analysis and more specifically related to the collaboration between political leadership, private sector, society and research professionals, due to specific reasons at each level.

The discussion triggered regarded the roadmap of the EFSA One Health Task Force, which should focus on defining the science gaps, on the collaboration with the EC and other EU agencies and on advising the establishment of a legal framework. Additionally, the potential implementation of a One Health system in EU legislation was discussed. Finally, the unbalanced representation of different scientific areas at the operational levels (e.g. veterinarians as compared to medical doctors) was addressed. Steps are already made at the EU level and ultimately, measures must be taken also at the MSs' level.

9. Achievements of the MEmE project

Adriano Casulli (ZOE Consortium) presented the achievements of the MEmE project, the Multi-centre study on *Echinococcus multilocularis* and *Echinococcus granulosus s.l.* in Europe: development and harmonization of diagnostic methods in the food chain. This is an international collaborative project funded by the EU under the Framework of One Health European Joint Programme. MEmE aims to fill research gaps highlighted by international agencies for the standardization of detection methods, production of new molecular tools and epidemiological data at large scale on the zoonotic parasites *Echinococcus multilocularis* (Em) and *Echinococcus granulosus sensu lato* (Eg), causing alveolar echinococcosis (AE) and cystic echinococcosis (CE), respectively. Achievements of the project are 1) the production of SOPs for the sampling of different matrices from naturally or experimentally infected definitive and intermediate animal hosts, 2) the validation of the parasitological (SSCT) and molecular diagnostic (multiplex- and MC-RT-PCRs) procedures to detect Em and Eg in different matrices along the food chain, 3) the development, validation and comparison of new molecular tools (comparison of DNA extraction and PCRs assays, novel probe-based qPCRs, PCR-RFLPs and multiplex PCR assays and NGS approach), 4) multicentre studies for the production of data relevant for epidemiological assessments: contamination of fresh vegetables for human consumption by Em/Eg; prevalence of Em/Eg in dog faeces, 5) quantitative assessment on the impact of human CE in Europe by means of systematic review approach and 6) molecular and clinical epidemiology studies in selected geographical areas.

10. Feedback on 2022 data reporting

Alexandra Papanikolaou (IDATA Unit, EFSA) presented the results of the feedback received from reporting countries through the electronic survey in relation to the 2022 data reporting. Comments were received from MSs on the reporting manuals, the EFSA MicroStrategy reports, the EFSA catalogues, the data validation business rules, the reporting tools and the EFSA Data Collection Framework (DCF). EFSA also presented the actions to be taken 2023 data collection to account the comments raised by the MSs and to improve the issues highlighted during the 2022 data collection.

11. Feedback on 2022 data validation

Giorgia Angeloni (ZOE consortium) presented the activities related to 2022 data validation. Details on questions/requests for clarifications and data correction sent by the ZOE consortium experts to the reporting countries were briefly presented. It was noted that compared to the previous year the data quality increased, also due to the implementation of additional business rules. The web tool used for managing communication and feedback to/from the countries allowed users to have a clear overview of the process and the duration needed for feedback. The network representatives informed that there might be delays with the reporting of samples taken but analysed at a later stage due to constraints related to laboratory resources. EFSA clarified that the only results reported by 31 May can be included in the EUOHZ report. As requested, EFSA will provide more ample clarifications on the aggregation rules for prevalence sample-based level data, to ensure that the validation of such data can be done properly.

12. Improvements of 2023 data reporting

Anca Stoicescu (IDATA Unit, EFSA) briefed the audience on the improvements to be implemented in view of the 2023 data reporting. No changes are planned in the Data Collection Framework (DCF), in the data models and in the Excel mapping tool except for update of catalogues for the aggregated prevalence data submission and for foodborne outbreaks. An overview of the three available reporting guidance documents was provided, together with the planned improvements/clarifications. Changes in business rules and catalogue terms (including deprecation or modification of existing ones and addition of new ones) were presented. If new analysis is needed, the MicroStrategy reports will be updated.

A discussion point raised was the reporting on multiple points of exposure in foodborne outbreaks. EFSA will provide additional clarification on how to report foodborne outbreaks with multiple serovars. A second comment was regarding the submission of brucellosis and bovine tuberculosis data, for which EFSA clarified that the same data should not be reported both in prevalence data model and in the disease status data model.

13. 2023 data reporting: timeline

Anca Stoicescu (IDATA Unit, EFSA) presented the 2023 data reporting timelines.

The milestones of the 2023 data reporting were agreed as follows:

- Proposals for new terms to be added in the catalogues: 30 November 2023;
- Publication of the supporting manuals: 31 January 2024;
- Requests for training: 31 January 2024;
- Revision of data providers list: 29 February 2024;
- Opening of the reporting period: 1 March 2024;
- Closure of the reporting period: 31 May 2024, submission of new datasets after the deadline will not be allowed;
- Text forms: 31 May 2024;
- Submitted data will be displayed in the EU Summary reports in MicroStrategy the day following submission; any change in data during the data reporting and correction periods will be reflected automatically in the EU Summary reports in MicroStrategy the day following a dataset submission;
- First validation period: 1 – 12 June 2024;
- Letters requesting scientific clarifications and/or corrections (if needed) sent to the MSs: 12 June 2024;
- First data correction by MSs: 12 - 27 June 2024;
- Final validation period: 28 June – 9 July 2024;
- Second letters requesting scientific clarifications and/or corrections (if needed) sent to the MSs: 9 July 2024;
- Final data correction: 9 – 17 July 2024;
- Acceptance of the data in DWH by 19 July 2024;
- After 19 July 2024, data cannot be changed, as data extracted on this date will be used to draft the 2023 EUOHZ report. Erroneous data (e.g., combination of matrix/pathogen) will not be included in the analysis;
- Amendments to 2023 data and historical data can be carried out between 1 and 30 November 2024. These data will be used in the National reports and in the DWH but will not be included in the 2023 EUOHZ report.

The Network agreed to the timelines proposed. Reporting officers were requested to clearly communicate to the national experts involved in data collection and data reporting the deadlines for 2023 data reporting and validation. Additionally, it is strongly recommended that all the new data providers and reporting officers are trained by EFSA prior to the data reporting period.

14. Updates on the zoonoses quality dashboards

Roxani Aminalragia-Giamini (Trasys) presented the data quality dashboard for the prevalence, antimicrobial resistance (AMR), FBO, disease status and TSE data. The data quality definition was presented and the importance of fit-for-purpose and reliable data to reach solid and concrete conclusions to support scientific assessments and opinions was underlined. The set of data quality objectives (timeliness, completeness, consistency and accuracy) and the related key performance indicators were introduced. A live demonstration of the EFSA MicroStrategy quality dashboards followed to show the functionalities and used filters. Each country can access the MicroStrategy platform and check its own data. The link to the data quality dashboards in MicroStrategy was provided and the network representatives were invited to explore the dashboards and the progress of the quality indicators for their country.

15. Update on *Toxoplasma* data reporting

Radu Blaga (ZOE consortium) presented the quality of the data reporting on *Toxoplasma gondii* by MSs to EFSA. *Toxoplasma gondii* is an intracellular protozoan parasite that infects a wide range of warm-blooded animals, including humans. It is one of the most common parasitic zoonoses worldwide, causing toxoplasmosis. He informed first on the parasite and its epidemiology, including information on where it can be found, how people and animals get infected, its occurrence in different sources, the disease it causes and how to prevent infection. Next the importance of reporting good quality data on *T. gondii* was emphasised, while taking account of the parasite's complex life cycle. Common mistakes in data reporting regarding animal species, sample type and diagnostic methods were exemplified. The reporting of data elements with the 'unspecified' value should be avoided whenever possible. All data should be carefully quality-checked before submission. Germany commented that there are no specific legal data reporting requirements for *Toxoplasma*. The meeting attendees acknowledged this lack of specific legal prescriptions, while on the other hand agreeing that data quality is key to meaningful analyses.

16. West Nile virus diagnostic process and animal surveillance data

Gaelle Gonzalez (EURL for Equine diseases other than African Horse Sickness) presented the quality of the data reporting on West Nile virus (WNV) by MSs to EFSA, the related WNV surveillance systems and diagnostic methods that enable to detect WNV circulation. For this year's data reporting MSs were able to choose between different ELISA methods (IgM capture or Competition IgG) done in parallel or serial to report an acute infection in equids or birds. The ELISA tests could have been confirmed by specific seroneutralisation tests. MSs used this new panel of techniques for reporting. However, some MSs requested to report acute infection based on seroconversion of domestic birds or horse sentinels. EFSA is requested to add to the panel of serological analytical methods "Competitive ELISA + seroneutralization test, serial", for reporting WNV data. This catalogue term should be available for active surveillance in poultry, zoo animals, horses and other mammals that tested negative for WNV early in the transmission season but that become positive later, based on serial sampling. WNV is closely related to Usutu virus (USUV) that is co-circulating in Europe, therefore a discrimination by seroneutralisation between the 2 viruses is mandatory.

17. 2023 data reporting: key data to provide

Frank Boelaert (BIOHAW Unit, EFSA) presented key data from the scientific point of view to be provided for the 2023 reporting period. For testing official control samples taken in the context of the Commission Regulation (EC) No 2073/2005, CA cannot use validated alternative methods if there is an ISO method available; for *Salmonella*, *Campylobacter*, *Listeria*, STEC, *Cronobacter*, *Bacillus cereus* and histamine PHC and FSC. In the context of the PHC for *Campylobacter* on broiler carcases, it is mandatory to report total number of samples tested for *Campylobacter* and the number of samples with counts exceeding 1,000 cfu/g, differentiating between samples taken by competent authorities (CA) and food business operators (FBOp) sampling. Based on a proposal made by Austria, EFSA proposed to summarise *Campylobacter* prevalence in slaughter animals from EUOHZ 2023 onwards based on data provided by MSs in the AMR context. This was agreed by the MSs. PHC monitoring results for *Salmonella* on carcases of pigs, cattle, sheep, goats, horses, broilers and turkeys should include the total number of samples tested and the number of *Salmonella*-positive samples, differentiating between samples as indicated in Commission Implementing Regulation (EU) No 2019/627. For *Salmonella* National Control Programmes (NCPs) monitoring results, flocks positive to any *Salmonella* serovar ought to be reported and not only flocks positive to target serovars. For *Salmonella* NCPs in broilers, breeding turkeys and fattening turkeys, separate data need to be provided by sampler, including a) the merged results from the CA and the FBOp, b) separate results from CA and c) separate results from FBOp. In accordance with Commission Implementing Regulation (EU) 2019/1793 on the temporary increase of official controls and emergency measures governing the entry into the Union of certain goods from

certain third countries MSs are asked to report on *Salmonella* findings in presumed risky food matrices using the new EFSA catalogue term 'Surveillance - based on Regulation 1793'. In the context of the FSC for *Listeria monocytogenes* all samples having results above the limit of the detection of the method should be reported as positive samples. In the case of Shiga toxin-producing *Escherichia coli* (STEC) the identification of the *stx* genes is a prerequisite for identifying a STEC (strains of *E. coli* that are capable of producing Shiga toxin (STX) or possessing the *stx* genes). Therefore, it is mandatory to report on the characterization of the *stx* genes, notably *stx*1 and/or *stx*2 and the subtypes. For *Trichinella* it is important to make clear distinction between domestic pigs raised under controlled housing conditions, recognized by the CA, as opposed to 'other' domestic pigs. More details on this reporting will be in the reporting guidance (manuals).

18. Update on Rapid Outbreak Assessments and related activities

Eleonora Sarno (BIOHAW Unit, EFSA) presented the current activities on FBO assessment. EFSA is involved in the assessment of FBOs with a multi-country dimension in close collaboration with the ECDC and produces scientific assessments (Rapid Outbreak Assessments - ROA). These technical reports support risk managers and policymakers in the EU (EC and EU member states) in the investigation of events and in the implementation of interventions along the food chain aimed at the removal of the contaminated food and the prevention of new infection cases. The presentation focused on three ROAs published in 2023 regarding an outbreak of *Salmonella* Seftenberg ST14 infections linked to tomatoes, an outbreak of *Salmonella* Virchow ST16 infections linked to chicken meat, an outbreak of *Salmonella* Mbandaka ST413 infections linked to chicken meat, while EFSA and ECDC are currently working one two more ROAs. EFSA stressed the importance of reporting WGS data on a regular basis to support the outbreak investigation activities.

19. EFSA's rebuild project – status update and survey results

Valentina Bocca (IDATA Unit, EFSA) presented the rebuild project and its importance for the transition to a new data collection and analysis system in accordance with the EFSA Strategy 2027. The need for innovative data collection and data management approaches, interoperable tools and the improvement of the existing data analytics tools was emphasised. In order to identify further the challenges and requirements of the project, EFSA launched an online survey in June and communicated it to over 300 stakeholders. The major findings and the relevant scores of the survey analysis regarding the data preparation, transmission, validation and error management, user validation and acceptance, as well as terminology management were presented. The key conclusions were related to alternative solutions and approaches for the following aspects: the data scalability, the possibility of a common system/tool to support data preparation, the use of application programming interfaces (APIs) for data submission, the error management system and the data visualisation tools. The next steps of the Rebuild project were described in the final part of the presentation.

20. Outcomes of One Health EJP TOXOSOURCES

Pikka Jokelainen (Statens Serum Institute, Denmark) presented a selection of outcomes from a large, multidisciplinary One Health EJP TOXOSOURCES-project (2020-2022) that investigated the relative contributions of different sources of Toxoplasma gondii infections in Europe. The project addressed the knowledge gap regarding relative importance of the main transmission pathways, via the environment (oocyst-borne) or via meat (tissue-cyst-borne), using different approaches. TOXOSOURCES conducted literature reviews and gathered data for improved quantitative microbiological risk assessment approaches. The project validated a molecular detection method for detecting *T. gondii* in ready-to-eat-salads and applied it in a large multi-country study. Moreover, the project explored serology to discriminate *T. gondii* infections via oocysts vs. tissue cysts, conducted a ring-trial to harmonise genotyping based on microsatellite markers, and

developed a new genotyping approach for European needs. The TOXOSOURCES consortium is actively continuing collaborations beyond the funding period, and all outputs and results are made available https://zenodo.org/search?page=1&size=20&q=keywords:%22TOXOSOURCES%22.

The presentation was followed by active and constructive discussion on the topic as well as on making use of research data for surveillance purposes.

21. Update on rabies data reporting in terrestrial animals

Florence Cliquet (EURL rabies, ZOE consortium) presented the quality of the 2022 data reporting on rabies in terrestrial animals by MSs to EFSA. In Europe, control measures and surveillance of rabies are assessed by testing domestic and wild mammals. The passive surveillance aims to detect the presence and the geographic distribution of the virus over time, on suspect wild and domestic animals. To report on related activities to EFSA, 'Clinical investigations' and 'Monitoring – passive' should be used, for 'indicator animals'. The active rabies surveillance (classically called monitoring) is diagnosis performed in the context of monitoring the efficacy of the oral rabies vaccination (ORV) campaigns, on hunted and apparently healthy animals of the wild species targeted by oral vaccination, which are foxes, raccoon dogs and eventually jackals. To report on these activities to EFSA, which are traditionally designated as 'ORV monitoring' or 'monitoring' the term 'Monitoring – active' is used. In the latter context, the number of tested foxes decreased considerably, about five-fold, in 2022 compared with 2021, while the number of tested raccoon dogs and golden jackals remained stable. The main reason for the reported decrease is that several countries did not report data from ORV monitoring, as rabies diagnosis in apparently healthy hunted wild animals is no longer included in EU co-funded eradication programmes.

ORV campaigns are taking place in infected countries and also in rabies-free countries. Several rabies-free countries that are however not implementing ORV campaigns, are conducting national programmes analysing carcasses of wildlife, particularly foxes, once hunted (shot). They report the diagnostic results as passive surveillance since these animals are not considered 'indicator animals'. During the meeting, an enlargement of the definition of the active surveillance was proposed, to not only target wild animals for checking ORV efficacy, but also wild animals sampled for other activities requiring rabies testing for a differential diagnosis: 'Active rabies surveillance is diagnosis performed in the context of a) monitoring the efficacy of the ORV campaigns on hunted and apparently healthy animals of the wild species targeted by oral vaccination (foxes, raccoon dogs and jackals) and b) global surveillance of pathogens in hunted and apparently healthy wild animal species'. The members discussed the different categories of the reporting for rabies activities, particularly regarding the "clinical investigation" which is sometimes unclear as the clinical signs are not always known. Animals found dead are considered suspect animals and in many rabies free countries these are not tested for rabies, in accordance with national legislation. It was agreed that EFSA and the EURL rabies (ZOE consortium) will improve the definitions of active and passive rabies surveillance in the reporting manuals, and work out concrete reporting examples for the next reporting, the objective being to harmonize as much as possible the reporting among the countries.

22. Update on baseline surveys on antimicrobial resistance

Pierre-Alexandre Beloeil (BIOHAW Unit, EFSA) presented updates on two baseline surveys that will take place in the next years. An overview of the technical specifications for the EU-wide baseline survey on MRSA in pigs that have been already published was provided. The samples for this baseline survey should be collected and analysed during 2025 and reported to EFSA in 2026. The implementing regulation has been already published and adopted by the European Commission (link). A second mandate was received from the EC regarding defining technical specifications for a baseline survey on antimicrobial resistance in aquaculture. A Working Group has been set up with the aim of proposing priority combinations of aquaculture animals / target bacteria, a complete sampling framework and related protocols and for providing guidance for technical reporting. EFSA will organise a dedicated info-session on reporting of MRSA baseline survey data, as soon as all technical aspects are defined. The potential requirement to provide the MIC values

or the WGS data and the comparison of the data from the survey with the data from human MRSA isolates were addressed as well.

23. Feedback on the Science meets policy conference of 5-6 September 2023 and WGS subgroup of the Zoonoses network 20 September 2023

Mirko Rossi (BIOHAW Unit, EFSA) presented the objectives and the agenda of the "Science Meets Policy conference: Using Next Generation Sequencing to tackle foodborne threats", which took place on of 5-6 September 2023 at EFSA premises and online. Stakeholders discussed the state of play regarding the development of an EU system for collecting and analysing genomic data from foodborne pathogens to support decision-making by the competent authorities. The event focused mainly on the challenges resulting from the absence of a legal framework. The main conclusions of the conference were that to move NGS data sharing forward within the current legislative framework capacity needs to be built within all EU countries and trust, also a common understanding with guidelines, processes and procedures needs be created, and a governance needs to be put in place that empowers stakeholders to prioritize. Details are available on the EFSA website https://www.efsa.europa.eu/en/events/science-meets-policy-conference-using-next-generation-sequencing-tackle-foodborne-threats. Mirko Rossi provided also an overview of the activities of the WGS subgroup of the Zoonoses network, presenting its composition and the two meetings held in February and September 2023. The scope of the subgroup is to provide scientific and technical assistance to EFSA in the collection of WGS data for outbreak detection and investigation at EU level. Minutes of the meetings are available on the EFSA website.

24. Feedback on the 4th Joint Meeting of the EFSA's Zoonoses Monitoring Data Network (FBO and WGS subgroups) and the ECDC's Food- and Waterborne Diseases and Zoonoses Network on 19 September 2023

Valentina Rizzi (BIOHAW Unit, EFSA) provided the feedback on the 4th Joint Meeting of the EFSA's Zoonoses Monitoring Data Network (Foodborne Outbreaks and WGS sub-groups) and the ECDC's Food- and Waterborne Diseases and Zoonoses Network that took place on 19 September 2023 in Helsinki as a hybrid meeting. The meeting was co-chaired by ECDC and EFSA. The objective of the meeting was to bring together national epidemiologists and microbiologists from public health and food safety sectors (represented by ECDC's and EFSA's networks, respectively) to stimulate a cross-sectorial discussion about the best approaches to produce and share data in support to the investigation of multi-country foodborne outbreaks. The agenda, therefore, covered aspects related to the cross-sectoral sharing process and use of the WGS data both during response of foodborne outbreaks and as preparedness activity for improving outbreak detection.

25. EFSA Prioritisation of zoonotic diseases for coordinated surveillance systems under the One Health approach for cross-border pathogens that threaten the Union

Lina Mur from Animal Health team (BIOHAW Unit, EFSA) presented the updates of the One Health surveillance mandate started in 2022. Since then, work of EFSA was focused on identifying the priority pathogens in collaboration with the Member States and agreeing on the surveillance strategies for those pathogens. This work led to two EFSA publications. Current efforts are focused on implementing the data collection and visualizations systems at EFSA level to allow MS to report this newly collected data.

26. EFSA Call for tender 'Burden of zoonoses'

Frank Boelaert (BIOHAW Unit, EFSA) presented the launched EFSA framework contract call "Burden of Zoonoses in European Union and EEA/EFTA Countries". The submission of tenders was on 14 September 2023, which has been postponed till 14 February 2024, due to a revision of the EFSA budget. This project will build on the European Centre for Disease Prevention and Control (ECDC)'s 'Burden of Communicable Disease in Europe' study and on the World Organisation for Animal Health (WOAH)'s 'Global Burden of Animal Diseases (GBADs) programme'. The objectives of the 4-year contract are:

- Estimate the dual burden (zDALYs) of nine foodborne zoonoses in the EU Member States and EEA/EFTA countries (campylobacteriosis, salmonellosis, listeriosis, infection with Shiga toxin-producing *Escherichia coli* (STEC), zoonotic tuberculosis, brucellosis, trichinellosis, echinococcosis, and yersiniosis),

- estimate the possible tangible (direct and indirect costs) and intangible costs of human and animal disease, which are not considered in zDALYs, for the nine specified foodborne zoonoses,

- develop, a methodological framework to combine the zDALYs and costs estimators into an overall estimator, for the specified nine foodborne zoonoses

It is important that the developed methodology will be readily understandable and of clear benefit to both public health and animal health sectors (win-win). Results should be clearly explained and indicate the added value of the outcomes for both sectors and all stakeholders. This is a pilot project, as no 'dual burden' studies have been carried out for any zoonosis in the EU, let alone foodborne zoonoses. It is expected that the project delivers new insights into this dual burden of zoonotic diseases in the EU, enabling improved priority setting in European policy for control of zoonotic diseases, in a OH framework. Burden estimates are complementing the clinical and indicator-driven surveillance, in public health and in animal health.

27. Any Other Business

Gaia Scavia (ZOE Consortium) proposed that other ZOE Consortium members to participate in the next Zoonoses Network meeting to familiarised with topics discussed and agreements taken during the meeting.

28. Date for next meeting

Next meeting dates proposed: Tuesday-Thursday 15-17 October 2024 (lunch to lunch) at EFSA premises in Parma and online. EFSA will inform the Network Representatives if any changes occur.

29. Conclusions

Anca Stoicescu and Frank Boelaert summarised the main discussions and agreements reached during the meeting. The Chairs informed that the minutes and the list of main actions will be sent by email to the Network Representatives after the meeting.

30. Closure of the Network meeting

The Chairs thanked the Network Representatives for an intensive and productive meeting and closed the meeting at 12:30.

Appendix: List of Action Points agreed at the meeting

No	Agenda point	What	Action points	Deadline
1	6	Zoonoses and foodborne outbreak major key findings	Zoonoses Monitoring Data (ZMD) network representatives to provide their review of the draft EUOHZ 2022 report (instructions given by email on 9 October 2023).	By 24 October 2023
2	6	Zoonoses and foodborne outbreak major key findings	ZMD network representatives to clarify how the sampling for detection of *Campylobacter* is performed by competent authorities and food-business operators along the year and inform EFSA of any seasonality. Answers to be provided in the context of the review of the EUOHZ 2022 report.	By 24 October 2023
3	7	Update on STEC, zoonotic tuberculosis and *Brucella* dashboards and story maps	ZMD network representatives to provide their review of the draft EUOHZ 2022 dashboards and story maps on STEC, zoonotic tuberculosis and *Brucella* via the dedicated electronic surveys (instructions given by email on 9 October 2023).	By 24 October 2023
4	7	Update on STEC, zoonotic tuberculosis and *Brucella* dashboards and story maps	EFSA and ZOE consortium to review icons used for animal species in infographics in story maps to ensure they are appropriate for the described pathogen.	By 12 December 2023
5	11	Feedback on 2022 data validation	EFSA to provide clear rules regarding data aggregation of prevalence sample-based data to support the validation process	By 31 January 2024
6	12	Improvements of 2023 data reporting	EFSA to circulate the reporting manuals to ZMD network representatives for consultation on 5 January 2024 and publish them on 31 January 2024.	By 31 January 2024
7	12	Improvements of 2023 data reporting	ZMD network representatives, upon request, to provide to EFSA and the ZOE consortium a clear list of reporting officers/alternates that can be contacted during the validation period.	By 31 January 2024

No	Agenda point	What	Action points	Deadline
8	12	Improvements of 2023 data reporting	ZMD network representatives to express their training needs to EFSA, keeping their national Focal Point in copy	By 31 January 2024
9	12	Improvements of 2023 data reporting	ZMD network representatives to perform quality and consistency checks to prevent that discrepant statistics are submitted to ADIS (notification of outbreaks), HaDEA (co-funded veterinary programmes) and EFSA-AMR (monitoring/surveillance)	Before submission to EFSA
10	14	Update on zoonoses quality dashboards	ZMD network representatives to explore the progress of data quality indicators for their country in the dashboard created by EFSA	During the year
11	15	Update on *Toxoplasma* data reporting	EFSA and ZOE consortium expert to improve the reporting manuals regarding *Toxoplasma* data reporting	By 5 January 2024
12	16	West Nile virus diagnostic process and animal surveillance data	EFSA and ZOE consortium expert to improve the reporting manuals regarding West Nile virus data reporting	By 5 January 2024
13	17	2023 data reporting: key data to provide	EFSA and ZOE consortium to summarise in EUOHZ 2023 the prevalence of *Campylobacter*-positive caecal samples of animal at slaughter reported at the AMR data model, as published in the annexes of the AMR EU Summary Report.	By launch of consultation of EUOHZ 2023
14	18	Update on Rapid Outbreak Assessments and related activities	ZMD Network representatives to consider submitting WGS results on a regular basis to support EFSA's activities on outbreak investigations	During the year
15	21	Update on rabies data reporting in terrestrial animals	EFSA and ZOE consortium expert to improve the definitions of active and passive rabies surveillance in the reporting manuals	By 6 January 2024
16	22	Update on baseline surveys on antimicrobial resistance	EFSA to organise dedicated info-session on reporting of MRSA baseline survey data as soon as all technical aspects are finalised	By December 2024

No	Agenda point	What	Action points	Deadline
17	25	EFSA Prioritisation of zoonotic diseases for coordinated surveillance systems under the One Health approach for cross-border pathogens that threaten the Union	EFSA to investigate if network representatives can be invited to meetings of other network subgroups with which they have synergies	
18	28	Dates for next meeting	Next meeting to be organised 15-17 October 2024 in Parma and online.	By June 2024
19	30	Evaluation survey of the network meeting https://ec.europa.eu/eusurvey/runner/Scientific_Network_for_Zoonoses_Monitoring_Data_evaluation_of_41st_meeting	ZMD Network members to fill in the survey.	By 21 October 2023

Colour legend	
	Action points for EFSA
	Action points for Network Representatives
	Action points for both EFSA and Network Representatives