BIOLOGICAL HAZARDS AND CONTAMINANTS UNIT AND EVIDENCE MANAGEMENT UNIT

# Scientific Network for Zoonoses Monitoring Data Minutes of the 11th specific meeting of Antimicrobial Monitoring Data

**Held on 9-10 November 2021, Web-conference**
**(Agreed on 29 November 2021)**

## Participants

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

| Country | Name |
|---|---|
| Austria | Peter Much |
| Belgium | Cristina Garcia-Graells |
| Belgium | Katie Vermeersch |
| Bulgaria | Hristo Daskalov |
| Croatia | Gordan Kompes |
| Cyprus | Despoina Theodoridou |
| Czechia | Tomáš Černý |
| Czechia | Veronika Vlasáková |
| Denmark | Ana Sofia Ribeiro Duarte |
| Estonia | Natalja Borel |
| Estonia | Piret Aasmäe |
| Finland | Suvi Nykäsenoja |
| France | Agnès Perrin-Guyomard |
| Germany | Bernd-Alois Tenhagen |
| Greece | Eleni Valkanou |
| Greece | Maria Alexandraki |
| Hungary | Zita Záborcki |
| Ireland | Rosemary Slowey |
| Italy | Antonio Battisti |
| Italy | Alessia Franco |
| Latvia | Tatjana Ribakova |
| Lithuania | Asta Pereckiene |
| Luxembourg | Manon Bourg |
| Malta | Chris Inguanez |
| Netherlands | Kees Veldman |
| Netherlands | Lodi Laméris |
| Netherlands | Ben Wit |
| Poland | Kinga Wieczorek |
| Portugal | Sara Isabel Rodrigues Godinho |
| Portugal | Andrea Cara d'Anjo |
| Portugal | Maria Clemente de Lurdes |
| Portugal | Ana Amaro |

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|---|---|
| Romania | Ioana Neghirla |
| Slovakia | Andrea Brtkova Mojžišová |
| Slovenia | Majda Golob |
| Spain | Cristina Caballero |
| Spain | Isis Fajardo Delgado |
| Spain | Soledad Collado Cortes |
| Spain | Victoria Marcos Suarez |
| Sweden | Oskar Nilsson |
| Iceland | Vigdýs Tryggvadëttir |
| Norway | Jannice Schau Slettemeås |
| Switzerland | Gudrun Overesch |

- **European Commission:**

Martial Plantady* (DG-SANTE, Directorate General for Health and Food Safety European Commission)

- **Others:**

Renis Maçi and Jonida Boci, (Albania), Ahmed Smajlović (Bosnia and Herzegovina), Marija Ratkova (North Macedonia), Dragana Grbic Sekulovic (Montenegro), Tatjana Labus (Serbia) and Gonca Öztap (Turkey).

- **EFSA:**

Biological Hazards and Contaminants (BIOCONTAM) Unit: Beloeil Pierre-Alexandre (chair), Valentina Rizzi, Giusi Amore, Raquel Garcia Fierro, Mirko Rossi*, Beatriz Guerra, Ernesto Liebana Criado*.

Evidence Management (DATA) Unit: Anca Stoicescu*, Roxani Aminalragia*

- **European Reference Laboratory on AMR**

Susanne Karlsmose Pedersen*

- **European Medicines Agency**

Helen Jukes

(* attended for specific items)

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## 1. Welcome and apologies for absence

The Chair welcomed the participants to the 11th specific Network meeting of Antimicrobial Monitoring Data.

## 2. Adoption of agenda

The chair briefly presented the different items of the agenda that was adopted without changes.

## 3. Minutes of the 10th specific meeting of the Network held on 5-6 November 2020

The minutes had been previously agreed by written procedure on 23 October 2020 and subsequently published on the EFSA website in 23 November 2020. No comments were received on the minutes from the previous Network meeting.

## Day 1, 9 November 2021

# 4. Topics for discussion

## 4.1. General introduction

Pierre-Alexandre Belœil introduced the meeting and first, thanked all the AMR Network members for their efficient collaboration in the reporting and validation of the AMR 2020 data. The main objectives of the 11th specific meeting on AMR monitoring data of the Scientific Network for Zoonoses Monitoring were presented and discussed with the Network members. They notably related to the 2020 data reporting, the preliminary results of the 2020 AMR-EUSR and the up-coming activities related to AMR monitoring in the EU in 2021, in particular regarding the 2021 data collection/reporting to be transmitted to EFSA in spring 2022.

## 4.2. Updates from the EU Commission

DG SANTE representative presented the latest information available as regards implementation of Commission Decision 2020/1729/EU on monitoring of AMR in food and food-producing animals. 2021 has been the first year of implementation of this new decision, including the new aspects of the AMR monitoring which address new scientific developments and data collection needs. In particular, the new rules lay down harmonised AMR monitoring requirements for certain fresh meat imported into the European Union. He also informed the network that the recently created Health and Digital Executive Agency (HaDEA) has taken over since April 2021 the tasks previously carried-out by DG SANTE regarding the daily management of the implementation of AMR monitoring programmes. Thus, HaDEA is now the main interlocutor of Member States for these programmes. DG SANTE will remain focus only on legislative and strategic tasks in policy making. More information on HaDEA is available at: *https://hadea.ec.europa.eu/about-hadea_en*.

## 4.3. Update from the EURL-AR

Susanne Karlsmose Pedersen updated on the activities of the European Union Reference Laboratory for Antimicrobial Resistance (EURL-AR). The objectives of the EURL-AR are to ensure the quality of antimicrobial susceptibility testing in the MSs; hence, to provide the most optimal phenotypic and genotypic detection methods for AMR. This includes implementing and harmonizing the procedures and methodologies used, providing monitoring of AMR, improving and boosting communication, strengthening education and training, and addressing knowledge gaps by reducing them and raising the level to that of the highest performing country.

In 2021, the EURL-AR has, among several activities, conducted a survey among the NRLs to provide more clarity if the pre-enrichment for the specific monitoring of ESBL-, AmpC- and carbapenemase-producing *E. coli* are being used also for the isolation of commensal *E. coli*, *Salmonella* and *Campylobacter* to assess if there is a need to change the structure of the protocol. The protocol for Whole Genome Sequencing to provide the alternative method carrying out the specific monitoring of ESBL- or AmpC- or CP-producing *E. coli* was updated to ensure compliance to the submission requirements by EFSA. The EURL-AR also updated ResFinder bioinformatics tool version 4.1 with a new layout to help novel users considering this being used to detect resistance determinants. In 2021, the EURL continued to engage with Thermo-Fisher to assist NRLs by facilitating pre-order of the new EU Sensititre MIC panels, facilitating an online seminar about the QC in addition

to obtaining a memo verifying that the Sensititre setup corresponds to the description of the AST method in the ISO 20776-1:2019. The EURL-AR continued providing both phenotypic and genomic EQA (External Quality Assurance) trials as well as the confirmatory testing on the isolates selected from the AMR 2020 monitoring. Due to Covid-19, the annual workshop and training were both held virtually. Lastly, in 2021 the EURL-AR has assisted the EC providing scientific and technical assistance as to the implementation of the new Decision.

### 4.4. The reporting of 2020 AMR data

Anca Stoicescu presented the results of the survey on the feedback received and comments from the feedback received from reporting countries in relation to the 2020 data reporting. Specific achievements of 2020 data reporting were shared with the participants. Based on the analysis of answers and suggestions obtained from a survey of EFSA Network representatives, the proposed solutions/improvements for the next reporting period were presented.

### 4.5. The 2020 EU Summary Report on AMR: Preliminary Main Findings/Next steps

Giusi Amore and Pierre-Alexandre Beloeil presented the preliminary main findings on AMR in *Campylobacter*, *Salmonella*, indicator *Escherichia coli* and Methicillin Resistant *Staphylococcus aureus* (MRSA) in food and food-producing animals from the draft 2020 EUSR on AMR. Preliminary key findings on the occurrence/prevalence of ESBL-/AmpC-/carbapenemase-producing *E. coli* from broilers and turkeys collected within the specific monitoring were presented. Main results regarding the presumptive carbapenemase-producing microorganisms specific monitoring were also described. In particular, the number of MSs exhibiting increasing trends in the Key Outcome Indicator of complete susceptibility in indicator *E. coli* has increased compared to last year. It was also indicated that an attempt will be done to account for the sampling design when assessing occurrence of resistance in indicator *E. coli* at the EU/reporting MS-group level.

The 2020 EUSR on AMR is planned to be published by the end of February 2022. The consultation of Network about the draft report is planned in December 2021. Still, the evolving situation of COVID-19 in Europe may require ECDC to reallocate forces and alteration in the planned timelines may still occur. The EFSA Network will be kept informed.

### 4.6. EFSA WGS platform for supporting AMR data collection –Time window for the Resfinder analysis

Mirko Rossi presented the EFSA WGS platform for supporting AMR data collection. BIOCONTAM is implementing a service for supporting the extraction of the AMR genes to be reported to EFSA. During 2022, a user-friendly tool deployed in a secured environment with controlled access will be available to data providers of those MS interested in submitting WGS data. The platform, integrated with the EFSA cloud system, is foreseen to host a predictive analytical bioinformatic pipeline, based on the protocol designed by the EURL-AR. The pipeline will be able to generate the list of AMR genes already mapped against the EFSA PARAM catalogue. User of the system will be able to upload raw sequencing data, execute the analytical pipeline, monitor status, and download the results. Moreover, users will be able to manage resources allocated in their own organization environment in the EFSA cloud system, by storing or deleting information. The system will not allow a direct transmission of the result to the Data Collection Framework (DCF)

of EFSA. Instead, it will provide back to MSs the results of the analysis (i.e., the list of AMR genes) in a format suitable for the subsequent data submission from MSs to EFSA through DCF according to EFSA's reporting manual. Only genes coding for ESBL/AmpC and/or carbapenemase should be reported.

Pierre-Alexandre Beloeil presented a proposal for discussion in agreement with the EURL-AR about a freezing period of the Resfinder database for the WGS analysis. It was proposed that there would be two specific time-windows where the Resfinder database will be stable/frozen without updates regarding the ESBL, AmpC and CP genes, thus all the countries will use the same version of the database and the same version of the predictive tool. These two freezing periods ideally would take place first in Spring (in April or May) just before the submission period and the second freezing period will be in Autumn (in November), so that some corrections of data can be done, and the outcomes of the confirmatory testing can be taken into account. It was also indicated that the EURL-AR would perform an inventory of possible changes in β- lactam genes (additions, changes, or updates) that could have been implemented in the database between the two predefined time periods, so that the MSs be informed about differences in the databases between the two freezing periods. The intention is to always use the most up to date version of the database. Still, there is a risk that, during the same year, 2 (slightly different) versions of the database are used with the possibility that the same strain be tested twice with 2 different versions. Further to discussion with the Network, it has been considered as more functional to refer to a unique version of the Resfinder reference database for each year. This version should be used either using the WGS EFSA platform or the own pipelines of the MS. An agreement should be reached at the beginning of each year on the version of Resfinder to be used, for the sake of harmonisation. This approach needs further discussion with the EURL-AR. The EFSA Network will be further informed soon.

### 4.7. Publication of the AMR data-voting

Anca Stoicescu presented the past and current way of publishing raw data. In the past, the catalogue terms were used to publish these raw data, whereas, since 2018, only the codes of the terms have been published. The disadvantages of this latter way of publishing were discussed. A summary briefing note was provided in advance to the participants and the voting was announced in the agenda point. The Network Members were asked to vote on alternative ways to publish the reported data. The majority agreement was that future AMR data will be published in text and codes of the terms. For 2020 AMR data, a specific questionnaire survey will be sent to the MSs to agree whether data will be published as agreed at the beginning of the reporting period or as agreed for the future data publication.

### 4.8. Use of ServiceNow at EFSA

Anca Stoicescu presented the functionalities of ServiceNow and the best practices of using the ticketing system in ServiceNow. It was underlined that, although answers received for tickets are from Service Desk (efsa@service-now.com), it is the zoonoses support team which is responsible for all tasks related to zoonoses data collection. The ticketing system is the tool through which all the requests for data collection support are managed. For an efficient and productive use of ServiceNow, all experts are kindly asked to write relating to existing opened tickets in case of a needed answer. Experts were as well reminded not to answer to closed tickets because the tickets are not re-opened, and the request is lost.

## Day 2, 10 November 2021

## 5. Welcome and apologies for absence

Pierre-Alexandre Belœil welcomed the participants to the second day of the 11th specific meeting of Antimicrobial Monitoring Data and briefly summarised the points in the agenda of the second day.

## 6. Topics for discussion

### 6.1. Changes in the reporting of 2021 AMR data to EFSA database

Anca-Violeta Stoicescu presented varying alterations done in the 2021 AMR data reporting system at EFSA and the timelines for reporting 2021 data.

The specific changes/updates performed in the 2021 AMR data reporting system at EFSA are presented in detail in the Appendix A –.

The milestones of the 2021 data reporting were agreed as follows:

- Requests for proposals for new terms to be added in the catalogues: 28 November 2021;
- Official opening of the reporting period: 1 April 2022;
- Closure of the reporting period: 31 May 2022;
- 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 – 14 June 2022;
- Letters requesting scientific clarifications and/or amendments (if needed) sent to the MSs: 14 June 2022;
- First data correction by MSs: 15 June – 6 July 2022;
- Final validation period: 7 – 15 July 2022;
- Final data correction: 16 – 25 July 2022;
- 26 July 2022: EFSA validates the final submitted and corrected data (against several criteria). After 26 July 2022, data cannot be changed, as data extracted on this date will be used to draft the 2021 EUSR AMR. Erroneous data (e.g. combination of matrix/pathogen) will not be included in the analysis;
- Amendments to 2021 data and of historical data can be carried out between 1 and 30 November 2022. These data will be used in the National reports and in the scientific data warehouse (DWH) but will not be included in the analyses of 2021 EUSR AMR.

### 6.2. Applied ECOFFs for reporting of 2021 monitoring data to the EFSA database

Pierre-Alexandre Beloeil gave a presentation on the ECOFFs to be applied for the reporting 2021 AMR data. Criteria to interpret resistance were compared between Commission implementing Decision 2013/652/EU and Commission implementing

Decision 2020/1729/EU. A number of values in Decision 2020/1729/EU have changed compared with Decision 2013/652/EU. In addition, values proposed by the EURL-AR and EFSA in the case of non-available data from EUCAST were also considered. Still, EUCAST issued a limited number of altered ECOFFs after the adoption of the Decision 2020/1729/EU. The alterations proposed by EUCAST are minor (typically corresponding to 1 dilution) and presumably have limited effect on the outputs. This could be assessed by constructing MIC distributions with both values and comparing tails of distributions. Both main options corresponding to adopting the changes from Decision 2020/1729/EU forwards vs. adopting in addition to those the new EUCAST ECOFFs were discussed with the EFSA Network. It came out from the discussions that adopting the values from Decision 2020/1729/EU onwards - notably for functional reasons, as well as applying that change to historical data, are favoured.

### 6.3. Experience of AMR monitoring in bacteria from imported meat in the NL

Ben Wit gave a presentation on the experience of the first year of implementation of AMR monitoring in bacteria from imported fresh meat at Border Control Posts (BCPs) in The Netherlands. For a given year, sampling needs to be planned in advance, based on TRACES data of the previous years. For practicality purposes, the 2021 sampling on beef and pork was based on 2018-2019 available data, and proportionally allocated to the throughput of BCPs/country of origin/the number of consignments. Eventually, the numbers of consignments effectively sampled by origin matched the planned numbers well.

The experience showed that a sampling proportional to the throughputs of BCPs and evenly distributed over the year requests specific attention and follow-up by the competent authority throughout the year. The number of isolates gathered for AST was low for indicator *E. coli* and presumptive ESBL-producing *E. coli,* with 90 isolates and 1 isolate respectively, corresponding to 32,2% and 0,6% of the consignments tested positive.

For planning the sampling in 2022 on fresh poultry meat, TRACES data on 2020 and the first quarter of 2021 were used to specifically incorporate possible imports of poultry meat from the UK (as a third country). For a query from TRACES data, a list of specific CN[1] codes of 'fresh meat' was indispensable. The corresponding list of CN codes should be recirculated to the Network.

### 6.4. Experience of AMR monitoring in bacteria from imported meat in SE

Sweden talked about its experience, as a minor importing country, of sampling imported fresh meat at BCPs. The approximate number of samples to be taken was calculated based on the number of consignments in previous years. Then, an introducing teleconference meeting was arranged with personnel at all BCPs. At the beginning of the autumn, the number of consignments and samples taken at each BCP was controlled and the possible need for additional sampling at each BCP was calculated. So far, all samples tested negative for indicator *E. coli*, as well as for ESBL/AmpC/CP-producing *E. coli*.

### 6.5. A short story on *S.* Infantis in broiler chicken industry in Italy, with a EU perspective

[1] 'Customs Nomenclature' codes

Antonio Battisti gave a presentation on molecular epidemiology of *Salmonella* Infantis, one of the five serovars most frequently causing human salmonellosis in Europe, mainly associated with poultry. A clone harboring a conjugative plasmid of emerging *S*. Infantis (pESI)-like megaplasmid, carrying multidrug resistant (MDR) and extended-spectrum beta-lactamases (ESBL) genes, also causing human illness, appeared to be widespread in the Italian broiler chicken industry (Franco et al., 2015; Alba et al., 2020). The molecular epidemiology of *S.* Infantis and pESI-like plasmids in Europe and the genetic relatedness of *S*. Infantis clones and plasmids across different European countries and across animal production sectors, human and food sources was investigated using WGS and phylogenetic analysis. The results indicated notably that there are at least two variants of pESI-like megaplasmids that may be encountered in the EU. One variant associated with European isolates from domestic primary productions, sometimes carrying $bla_{\text{CTX-M-1}}$ (already found in 10 European countries) and a variant associated with American isolates, sometimes carrying $bla_{\text{CTX-M-65.}}$ It has been also found that the studied European *S.* Infantis population is composed of different clones showing no clear correlation of clustering with the sources or geographical locations of the isolates, with a few exceptions. While pESI-like plasmids from European populations are genetically homogeneous. And at least, in ten European countries the megaplasmid has spread in different *S*. Infantis clonal lineages. On the other hand, all isolates containing $bla_{\text{CTX-M-65}}$ were located in a well-defined cluster, containing isolates from the USA and from Italian and Dutch patients with known travel history to America. This *S*. Infantis sub-population seems not to be related to the European population spreading from food-producing animals along the food chain, neither at the chromosomal nor at plasmid level.

Italy was the first EU Country reporting the emergence of the pESI-like plasmids+ve *S*. Infantis in animal productions. However, this plasmid has now proved to be widespread in several *S*. Infantis lineages in the EU. In this regard, proper intervention strategies are needed to prevent further dissemination/transmission of MDR *S*. Infantis and pESI-like along the food chain in Europe. Risk mitigation measures have been taken in chicken breeding flocks in Italy based on those genomic epidemiology results.

### 6.6. Outputs of the specific questionnaire survey on harmonised Baseline Surveys on AMR — August – September 2021

Raquel García Fierro presented the main outcomes of the electronic questionnaire survey on the proposed Baseline Surveys on AMR carried out earlier this year. The survey targeted the EFSA Network on AMR monitoring. The survey was designed in accordance with the agreement reached during the decision-making process on Commission Implementing Decision 2020/1729/EU between the MSs and the Commission on complementing the routine monitoring of AMR with specific cross-sectional baseline surveys on AMR. The online survey was performed to collect and better assess the views of the MSs regarding the scope and the timing of baseline surveys on AMR and to gauge the potential for further harmonisation of procedures and the degree of support from MSs for further AMR monitoring.

The outcomes of the survey suggest the following order of implementation: BS-AMR on MRSA, BS-AMR on Seafood-Environment and BS-AMR on Enterococci. Ideally, the timing of these surveys should be harmonised between MSs to optimise comparability of results. The intention is therefore that a detailed harmonised protocol of a baseline survey on MRSA is drafted considering the most recent data in 2022 for an implementation in 2023.

### 6.7. Updates of EMA on the implementation of Regulation 2019/6

Helen Jukes presented the new Veterinary Medicinal Products Regulation (EU) 2019/6, that will come into application on 28 January 2022, together with the new Regulation (EU) 2019/4 on medicated feed. Key amongst the objectives of the new legislation is to strengthen EU action to fight AMR. Hence the VMP Regulation includes a series of measures to tackle AMR, reflecting the priorities in the EU One Health Action Plan against AMR. These measures include: a reinforced ban on use of antimicrobials for promoting growth; a ban on preventive use of antibiotics in groups of animals; restrictions on metaphylactic use of antimicrobials; the possibility to reserve certain antimicrobials for use in humans only; conditions on cascade use of antimicrobials; and an obligation for Member States to collect and report data on the sales and use of antimicrobials in animals. Also acknowledging that AMR is a global public health concern, the ban on the use of antimicrobials for growth promotion and on the use of antimicrobials reserved for human use is extended to animals and animal products to be imported from outside the EU. The European Medicines Agency is providing recommendations to support the Commission in the preparation of the Delegated and Implementing acts needed to implement Regulation (EU) 2019/6. The published recommendations are available on the EMA's website at Veterinary Medicines Regulation | European Medicines Agency (europa.eu).

### 6.8. Scientific report on antimicrobial consumption and resistance in bacteria from humans and animals – JIACRA III

Pierre-Alexandre Beloeil shortly presented the third JIACRA report published in June 2021, which addressed data from the agencies' monitoring networks from 2016-18. The overall use of antibiotics (expressed in mg per kg of biomass) has decreased and has been lower in food-producing animals than in humans since 2017. Major differences remain across the EU in the use of antibiotics by country and by antibiotic class. The results presented in this report suggest that measures taken at country level to reduce the use of antibiotics are proving to be effective. Critically Important Antimicrobials for human medicine, such as third- and fourth generation cephalosporins and quinolones (including fluoroquinolones and other quinolones) were used more in humans than in food-producing animals, as previously reported in JIACRA I and II reports. Polymyxins (colistin) and tetracyclines were used more in food-producing animals than in humans. It is of note that the use of polymyxins, which are increasingly used in hospitals to treat multidrug-resistant infections, nearly halved in food-producing animals over the study period. The use of 3$^{rd}$- and 4$^{th}$-generation cephalosporins and quinolones (fluoroquinolones and other quinolones) in food-producing animals is associated with resistance to these antibiotics in indicator *E. coli* from food-producing animals. Similar associations were found regarding carbapenems, 3$^{rd}$/4$^{th}$ generation cephalosporins and quinolones in humans. There are links between antimicrobial consumption in animals and antimicrobial resistance in food-borne zoonotic bacteria from food-producing animals, which in turn is associated with AMR in bacteria from humans. For example, such associations were notably found between resistance to *Campylobacter* spp. bacteria in food-producing animals and in humans. Continued efforts to tackle AMR at national, EU and global level are needed across the healthcare sectors.

### 6.9. BIOCONTAM Scientific Opinions on AMR

Beatriz Guerra presented an update on the last AMR scientific opinions produced by the EFSA BIOHAZ Panel: "**The role played by the environment in the emergence and spread of antimicrobial resistance through the food chain**" (self-task of the BIOHAZ Panel, closely followed by ECDC, EMA EEA and EC as observers; published in April 2021, **link**), "**Maximum levels of cross-contamination for 24 antimicrobial active substances in non-target feed**" (EU Mandate, performed by EFSA BIOHAZ, AHAW and FEEDAP Panels in collaboration with EMA; 13 opinions published in October 2021, **Virtual issue link**), and the new Mandate received from the European Parliament on the "**Transmission of AMR and zoonotic agents during animal transport"** (deadline 30 September 2022).

### 6.10. AHAW Scientific Opinion on AMR

Francesca Baldini presented the scientific opinion for the listing and categorisation of transmissible animal diseases caused by bacteria resistant to antimicrobials, in the framework of the Animal Health Law produced by the EFSA AHAW Panel. The mandate and the three terms of reference (ToR) as received from the Commission were presented to the AMR network. The approach elaborated and the state of the art of the activities by ToR were presented. The AMR network was informed on the outcome of the assessment performed for ToR 2 in relation to the most relevant antimicrobial resistant bacteria identified in the different animal species of interest in the mandate.

## 7. Any Other Business

No AOB was raised.

## 8. Date for next meeting

The 12th Specific Meeting on AMR (November 2022) is planned to be organised in Autumn 2022, possibly in connection with the annual workshop of the EURL-AR. The planned dates will be communicated by e-mail to the AMR Network.

## 9. Conclusions

Pierre-Alexandre Beloeil summarised the main discussions and agreements reached during the meeting.

## Closure of the meeting

The Chair thanked the Network Representatives for an intensive and productive meeting and closed the meeting at 13:30.

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## Appendix A – Modifications in the 2021 AMR data reporting system

The changes/updates in the 2021 AMR data reporting system have been done in several aspects regarding: i) the reporting manuals, ii) the reporting mapping tools, iii) the data model/schema, iv) the catalogues, v) the Business rules (BRs), vi) the text forms and vii) the MicroStrategy reports.

The **reporting manual** and **reporting guidance** have been already published Most comments received from the MSs/RCs/EURL on AR were accounted for. The reporting manual[2]and the reporting guidance[3] have been already published.

The **mapping tools** provided by EFSA are used by many countries to perform data reporting and in some cases data collection. Both the dynamic mapping tools and the manual mapping tools exist; it is up to the MSs/RCs to decide which one will be used. The updated tools must be used to obtain a valid xml file for 2021 AMR data submission. The excel mapping tools for 2021 AMR data reporting have not changed substantially, since only a few **data elements** have been **added** and the **catalogues** have been **updated**. **For 2021 data reporting**, **it is not possible to use anymore the previous reporting mapping tools**. The updated reporting mapping tools are available in Zenodo and also in the TEAMs channel for the Scientific Network on Zoonoses Monitoring Data.

The **data models** for AMR isolates and for the negative results for ESBL and Carba have been also updated and the schema for AMR is already available in Data Collection Framework (DCF). It was clearly communicated that those changes in the data model should be implemented in the national system for data reporting.

The **schema** is the template used to create the xml file to have a valid xml file. A **new schema** is **available** to be able to implement it in system in the case of countries, which are able to export the data from their system. For the remaining countries, the schema is already embedded in the excel mapping tools (see above). The schema for the ESBL- and carba-negative results will be available by end of November.

The **2021 AMR data collection** have been already set up in DCF so that the reporting tools can be tested in house at EFSA before they are released. **The MSs/RCs have also the possibility to test in advance the data collection and the new xml file produced with the new schema.**

For the antimicrobial resistance data model, the major changes performed are:

1. Several **data elements** have been **removed**, as they have fallen into disuse:

1) The data element **Languages** (lang AMR.04).

2) **Total number of isolates in the laboratory** (labTotIsol AMR.18).

3) **Disc concentration** (microg) (diskConc AMR.34), Disc diameter (mm) (diskDiam AMR.35) and **inhibition zone diameter value** (mm) (IZD AMR.36), which relate to the disc diffusion method.

2. Several **data elements** have been **added**:

1) **Trade control and Expert System** (tracesCode AMR.52) (traceCode ESBL.17). This data element refers to the codes of the BCPs. It is requested that

[2] Available: https://efsa.onlinelibrary.wiley.com/doi/pdf/10.2903/sp.efsa.2021.EN-6652

[3] Available: https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/sp.efsa.2021.EN-6653

the terms included in the Catalogue linked with this data element are checked by the MSs/RCs in order to ensure that all BCPs involved in food control of animal origin are included.

2) **Common Health Entry Document** (chedCode AMR.53) (chedCOde ESBL.18). This data element allows to report the alphanumeric code of the CHED and also refers to the control of meat at the border inspection.

3) **Sequencing year/month/day** (seqY/seqM/SedD AMR.56/AMR.57/AMR.58). This data element refers to the date when the sequencing is performed, and becomes mandatory when reporting WGS data.

4) **Sequencing technology used** (seqTech AMR.55). This data element becomes mandatory when reporting WGS data, and it refers to the instrument used for sequencing.

For the **catalogues**, some changes have been also implemented. Specifically**, new catalogues have been added** for the **BCPs** and for the **instruments** used for sequencing[4]. Several **existing catalogues have been updated**.

The PARAM catalogues for reporting bacterial agents has been reduced and currently they include only Salmonella serovars, E. coli, Campylobacter, MRSA, Enterococcus, and as requested by one MS, Yersinia has been also included.

Other three hierarchies of the PARAM (ESBL, AmpC and CARBA) have been also updated.

The AMRPROG has been also updated to allow the reporting of WGS data and to specify, when MIC values and WGS data is reported, which one should be used for the analysis.

The last catalogue in which changes have been implemented is ZOO_CAT_FIXMEAS, the fix measure, it was requested by a couple of MSs that should be harmonised and now only three decimals are allowed in this catalogue (e.g. 0.06, 0.12 were deprecated).

Due to the possibility of reporting WGS data for the ESBL monitoring, **new BRs** have been created and **existing BRs** have been also **updated,** where needed. Both the new BRs and the updated ones have been already implemented in DCF and can be also tested by the MSs/RCs. It is also planned to review the error messages (sent when a file is rejected) to make them clearer from a scientific point of view, adapting the language to make them more easily understandable, in particular regarding what it is needed to be changed when an error is raised.

**The text forms** have been also modified. New text forms have been created in relation to the **library preparation used,** where single end or paired end are expected, and the **version of the predictive tool used**.

A specific time-window will be established, in which the Resfinder database will be stable (without updates) at least regarding the ESBL, AmpC and CP genes, thus all the countries will use the same version of the predictive tool and the same database. The MSs/RCs will be informed in time and it will be posted in TEAMS, the specific place has been already indicated in the reporting guidelines.

[4] The latter has been created with the assistance of the EURL-AR.

**Appendix B – List of Action Points**

# Scientific Network for Zoonoses Monitoring Data

11th specific meeting on AMR monitoring data, held on 9-10 November 2021, web-conference

**List of the action points agreed at the meeting**

**Colour legend:**

Action points for EFSA

Action points for Network Representatives

Action points for both EFSA and Network Representatives

| # | Agenda point | What | Action points | Deadline |
|---|---|---|---|---|
| 1 | 4.4 | Update on MicroStrategy reports | Reporting officers to request training on MicroStrategy if needed. | By 31 January 2022 |
| 2 | 4.5 | Further checking of the 2020 reported data included in the draft 2020 EUSR on AMR | Network members who have questions on the data visualised during the presentation on the preliminary findings of the 2020 AMR report to inform EFSA staff who will provide the specific tables for further data validation. | asap |
| **3** | 4.5 | Planned date of publication of the 2020 EUSR on AMR | The EFSA Network to be informed about any alteration in the planned date of publication of the 2020 EUSR on AMR, further to liaison with ECDC. | asap |
| **4** | 4.6 | Resfinder version for the analyses in 2022 | The EFSA Network to be informed about the version of the Resfinder to be used to analyse 2021 data. | asap |
| **5** | 4.7 | Data publication: raw data converted from codes to text and codes | EFSA to inform the reporting countries at the start of the 2021 data collection on the new way of data publication | 1 March 2022 |

| # | Agenda point | What | Action points | Deadline |
|---|---|---|---|---|
| **6** | 4.7 | Data publication: raw data converted from codes to text and codes | EFSA to organise a survey for 2020 AMR data, MSs to agree whether data will be published as agreed at the beginning of the 2020 reporting period or as agreed for the future data publication. | 15 December 2021 |
| **7** | 6.1 | AMR data reporting | Reporting Officers to request training in advance if needed. | By 28 February 2022 |
| **8** | 6.1 | The deadlines of 2021 data reporting and validation | Reporting Officers to clearly communicate to the national experts the deadlines (in calendar year 2022) for 2021 data reporting and validation. | By 30 November 2021 |
| **9** | 6.1 | ESBL prevalence MicroStrategy reports | Network Members and Reporting officers to consult the updated reports in MicroStrategy and give feedback. | As soon as possible |
| **10** | 6.1 | Annual update of catalogues before major release | Reporting Officers to propose to EFSA new catalogue terms. | By 28 November 2021 |
| **11** | 6.1 | Annual update of catalogues before major release | Reporting Officers to check the existing Border Control Posts in the ZOO_CAT_TRACES catalogue and to send feedback to EFSA if changes are requested. | By 28 November 2021 |
| **12** | 6.1 | Zoonoses data reporting | MSs and other reporting countries to consider testing 2021 AMR data collection | As soon as possible |
| **13** | 6.1 | Updated list of data providers | Reporting Officers to provide the updated list of experts to have access in the DCF, in MicroStrategy. | By 28 February 2022 |
| **14** | 6.1 | Zoonoses data reporting | All the new data providers and reporting officers are strongly recommended to be trained by EFSA prior to the data collection. | Before the opening of the 2021 data collection |
| **15** | 6.2 | Adoption of ECOFFs to report 2021 data | Impact of the recent minor alterations proposed is to be assessed by constructing MIC distributions with both interpreting values and comparing tails of distributions. | By 15 December 2021 |
| **16** | 6.3 | AMR monitoring in bacteria from imported meat: preparation of sampling plan | To circulate to the EFSA Network the corresponding CN codes of fresh meat targeted by the monitoring. | By 30 November 2021 |