Scientific Network on Zoonoses Monitoring Data Minutes of the *ad-hoc* meeting on 2021 AMR data reporting

Held on 17 June 2021, WEB-conference,

Participants

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

Country	Name
Austria	Peter Much
Belgium	François Bricteux
Croatia	Dražen Knežević
Cyprus	Despoina Theodoridou
Czechia	Tomas Cerny
Czechia	Veronika Vlasakova
Czechia	Jana De Sousa Trepa Magalhaes
Czechia	Petr Hedbávný
Czechia	Eva Patrasová
Denmark	Channie Kahl Petersen
Estonia	Natalja Borel
Finland	Suvi Nykasenoja
Finland	Paula Hietanen
France	Eric Morignat
France	Isabelle Kempf
France	Francoise Gauchard
France	Agnes Perrin
Germany	Bernd-Alois Tenhagen
Germany	Katja Pamela Alt
Germany	Carolina Plaza Rodriguez
Greece	Eleni Valkanou
Hungary	Zita Zaborcki
Ireland	Monica Zamfirescu
Ireland	Ciara Kelly
Ireland	Martina Stack
Ireland	Lisa O'Connor
Italy	Antonio Battisti
Italy	Alessia Franco
Italy	Simona Iannetti

Italy	Antonino De Angelis
Latvia	Tatjana Ribakova
Lithuania	Asta Pereckiene
Luxembourg	Manon Bourg
Malta	Chris Inguanez
Netherlands	Linda Kox
Netherlands	Lodi Laméris
Poland	Eliza Olszewska
Poland	Dariusz Wasyl
Portugal	Sara Isabel Rodrigues Godinho
Portugal	Lurdes Clemente
Portugal	Célia Leão
Portugal	Ana Amaro
Romania	Angela Lacatus
Romania	Luminita Romascu
Slovakia	Andrea Brtkova Mojzisova
Slovakia	Marta Bedriová
Slovakia	Č. B. Ambrozevičienė
Spain	Isis Fajardo Delgado
Spain	Soledad Collado Cortes
Spain	Fernando Adam Fresno
Spain	Cristina de Frutos
Sweden	Oskar Nilsson
Sweden	Elina Lahti
Norway	Jannice Schau Slettemeås
Norway	Berit Tafjord Heier
Switzerland	Gudrun Overesch
Switzerland	Anaïs Léger

- **EFSA:**

Biological Hazards and Contaminants (BIOCONTAM) Unit: Beloeil Pierre-Alexandre (chair), Giusi Amore, Krisztina Nagy, Raquel García Fierro

Evidence Management (DATA) Unit: Anca-Violeta Stoicescu, Alexandra Papanikolaou.

- **EC:**

Iwona Decewicz, Sara Tavares

- **IPA countries:**

Albania (Aleksander Dani), North Macedonia (Marija Ratkova, Todor Karapanchev)

1. Welcome and apologies for absence

The Chair welcomed the participants to the short meeting on 2021 AMR data reporting.

Apologies were received from Bulgaria, Slovenia

2. Topics for discussion

2.1. General introduction

Pierre-Alexandre Belœil introduced the meeting and first, thanked all the AMR Network members, AMR experts, Zoonoses Network Members and reporting officers for their participation in the meeting. The objective of the meeting on 2021 AMR data reporting was **to inform** the Member States (MSs) and other Reporting Countries (RCs) **about the changes and updates in the reporting of 2021 AMR data[1]**. The aim of the meeting was also to inform the MSs/RCs **about the preparatory activities needed** in order to adapt their national reporting systems for the reporting of the 2021 AMR data, in accordance with the new requirements laid down in the New Implementing Decision 2020/1729/EU on AMR monitoring in food-producing animals and food.

2.2. New requirements from the AMR legislation addressed for the 2021 AMR reporting period

Pierre-Alexandre Belœil briefly introduced the preparatory activities carried out at EFSA and indicated that several tools have been adapted in order to be ready for the reporting of 2021 AMR data.

The monitoring for the year 2021 is to be performed in accordance with the new Implementing Decision 2020/1129/EU: the scope of the monitoring is notably enlarged to the monitoring of **AMR in bacteria from imported fresh meat.** There is several additional information and data to report, for instance the **codes of the Border Control Posts** (BCPs) and of the **Common Health Entry Document** (CHED), which is the code of the document accompanying the consignments of meat sampled and tested for bacteria and AMR.

Another new aspect which requires to adapt the reporting tools, the data models, the schema and the catalogues is the possibility to use WGS within the framework of the specific monitoring of ESBL and in consequence to report data related to genes. Where MSs/RCs decide to use WGS for AMR monitoring, there is a need to report additional data such as the **library preparation used**, the **date of sequencing**, **the sequencing technology** (to be reported through text forms), the **genes** conferring AMR (which should be in line with a catalogue) and the **version of the predictive tool** (should be reported in text forms).

2.3. Changes implemented in EFSA in the 2021 AMR data reporting

Anca-Violeta Stoicescu presented the different modifications which have been done or which are in the course of being implemented in the 2021 AMR data reporting system at EFSA. Specifically, changes/updates 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[2] .

The **reporting manual** and **reporting guidance** have been already sent for consultation with all changes for the new reporting requirements done in red, to be easily identified. Most comments received from the MSs/RCs/EURL on AR were

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[1] To be collected and analysed during the year 2021 and which will be reported to EFSA the following year, by the end of May 2022.
[2] How the data reported are going to be displayed in the national reports and analysed in the EUSR on AMR.

accounted for. The reporting manual[3] and the reporting guidance[4] 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[5] 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 later on in order to not interfere with the current 2020 data collection. As soon as the 2020 data collection will be closed, it is planned to release the schema for the ESBL-/Carba-negative results.

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 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.

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[3] Available: https://efsa.onlinelibrary.wiley.com/doi/pdf/10.2903/sp.efsa.2021.EN-6652
[4] Available: https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/sp.efsa.2021.EN-6653
[5] Excel mapping tools for 2021 AMR data reporting | Zenodo

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[6]. 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.

The last adaptations planned, regarding the **reports created in MicroStrategy**, are still to be implemented. They concern the national reports, which need to be modified since new antimicrobial substances are addressed. Then, the analyses to be performed for the EUSR on AMR will be also adapted to consider the new substances in the occurrence of resistance tables and MDR tables. The possibility

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

of creating new tables regarding the genes reported has been also considered, as well as the plan of new analysis.

2.4. Timelines for the 2021 AMR data reporting period

Anca-Violeta Stoicescu briefly showed the timelines for 2021 data reporting. The data collection will officially start on 1st of April 2022 and the milestones for the 2021 data reporting will be discussed during the next Network meeting. It was highlighted that there are several preparatory tasks for the 2021 data reporting period to be implemented at MSs/RCs side and the MSs/RCs were highly encouraged to request trainings for the new experts regarding the reporting tools and for the data managers which are responsible for preparing the data to be reported, when they consider that training is needed.

After the presentation, EFSA encouraged MSs/RCs to start preparing the data reporting for the 2021 AMR data, with EFSA support, over the coming months. EFSA is also planning to set up trainings in the coming months.

During the discussion, a specific issue has been raised **by Germany** concerning the statement that the **Resfinder will be kept constant for a while** and how is that supposed to work. As Resfinder is an online tool, they would like to know if the EURL-AR will just keep the database constant for everybody or there will be a second version that will be only use for EFSA reporting purposes. Besides, Germany wanted also to know if the second statement is the case, when the change between versions will take place because some of the isolates collected in 2021 will be sequenced at the beginning of 2022. Germany suggested that it is needed to find a way on how the Resfinder can be fixed to make sure that those who wants to analyse the isolates early the next year are able to do so.

EFSA clarified that the intention is to try to harmonise, in the guidance for reporting there is already some information about this, EFSA has liaised with the EURL-AR and the intention is to set up a system where MSs/RCs will use the same version of the Resfinder, optimally. This is the procedure proposed. Another possibility is to collect the dates of the Resfinder analysis which will indicate the version of the Resfinder which have been used for a given isolate but this does not guaranty comparability between results. The specific paragraph where this procedure is explained in the guidance was showed during the meeting. The idea is to recommend the MSs/RCs to perform the analysis in a time-window during which the Resfinder will be stable without updates. It is still something that need to be implemented and EFSA will further liaise with the EURL-AR to provide more information about the procedure. Germany wants to make sure that there **is enough time** for the MSs/RCs to do the analysis, and not to be restricted to a very short time-framework to do all the analysis.

Italy also mentioned in the chat that there is the possibility to use Resfinder offline. EFSA has accounted that the stable version of the Resfinder tool is an important point to guarantee full comparability of the results. It is something that needs to be implemented and enhanced further at the light of experience, if needed.

Sweden also commented that the sequencing date and the Resfinder analysis date not necessary would be the same, so to guarantee the comparability of results it is necessary to know the date of analysis but not the date of sequencing. Sweden also asked if it is already known when the time-window for the Resfinder analysis will take place, as it will be interesting to know in advance in order to organise their activities and use the same analysing output for their national

reports and for the data to be provided to EFSA. EFSA has clarified that the time-window should be defined better liaising with the EURL-AR and as soon as further information is available it will be provided to the MSs/RCs.

Italy also indicated that bioinformatic activities are almost continuous in many laboratories and a compromise should be found between getting information about the releases of the new versions of the databases behind the Resfinder tool, to quickly update the tools because in many labs the tool is not use online because it is embedded in their own pipeline. They suggested that the labs should also record the date of the Resfinder analysis and not only the date of Sequencing.

Norway had a question regarding the files to be used for the Resfinder analysis whether the assemblies or the reads should be used, because that can make a difference. Norway suggested that this should be indicated in the tools specifying what type of files should be uploaded in Resfinder. EFSA indicated that this information is in the protocol for the EURL-AR. Information concerning the trainings for data reporting was also provided.

Netherlands also asked if there are additional tasks that can be done in order to be prepared for the reporting 2021 AMR data. EFSA indicated that an important point will be to share internally the information received with all people involved in data reporting, from data managers to data provider to IT technicians and laboratory technicians.

Finally, reporting officers were kindly requested to clearly communicate to the national experts involved in data collection and data reporting the changes made for 2021 data reporting.

3. Any other Business

No AOB was raised.

4. Conclusions

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

Closure of the meeting

The Chairs thanked the Network Representatives for an intensive and productive meeting and closed the meeting at 15:02.

Appendix: List of Action Points

No	What	Action points	Deadline
1	Establishment of a time-window during which the Resfinder will be stable without updates.	EFSA will liaise with the EURL-AR the establishment of the time-window for the analysis to be performed in Resfinder	As soon as possible
2	2021 AMR data reporting	Network members to share the information regarding the changes to be implemented about the 2021 AMR data reporting to all relevant actors participating in the AMR data reporting in their countries.	As soon as possible
3	Preparatory activities for 2021 AMR data reporting	Network members to start preparing/adapting their national data reporting systems in accordance with the new requirements laid down in the new legislation on AMR monitoring	Before April 2022
4	Training on AMR data reporting	Reporting Officers to request training in advance if needed	On request

Colour legend

	Action points for EFSA
	Action points for Network Representatives