Scientific Network for Zoonoses Monitoring Data Minutes of the 5th specific meeting on Antimicrobial Resistance data reporting

Held on 12-13 November 2015, Parma
(Agreed on 23 December 2015)

Participants

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

Country	Name
Austria	Peter Much
Belgium	Nadine Botteldoorn
Bulgaria	Hristo Daskalov
Cyprus	Despoina Theodoridou
Croatia	Gordan Kompes
Czech Republic	Tomas Cerny
Denmark	Birgitte Borck Hog
Estonia	Jelena Sõgel
Finland	Suvi Nykasenoja
France	Sophie Granier
Germany	Bernd-Alois Tenhagen
Greece	Tzani Myrsini
Hungary	Katalin Czeibert
Iceland	Birgitte Brugger
Ireland	Lisa O'Connor
Ireland	Caroline Garvan
Italy	Antonio Battisti
Latvia	Tatjana Ribakova
Lithuania	Asta Pereckiene
Malta	Jessica Gauci
Netherlands	Olaf Stenvers
Norway	Merete Hofshagen
Poland	Jacek Osek
Portugal	Patricia Ignatio
Romania	Ioana Neghirla
Slovakia	Andrea Brtkova
Slovenia	Maja Kokalj
Spain	José Luis Sáez Llorente
Spain	Carlos Valencia Gonzales
Sweden	Bjorn-Olof Bengtsson
Switzerland	Kay Torriani

United Kingdom	Christopher Teale
United Kingdom	Andrew Frost*

- **Hearing Experts:** Marc Aerts from **Hasselt University** who participated in agenda point 3.6.
- **European Commission - FVO**: Stefan Hoenig*,
- **EURL-AMR**: Rene S. Hendriksen
- **EFSA:**
  - Biological Hazards and Contaminants (BIOCONTAM) Unit: Pierre-Alexandre Belœil (Chair), Beatriz Guerra, Frank Boelaert*, Yves Van der Stede*, Krisztina Nagy
  - Evidence Management (DATA) Unit: Anca-Violeta Stoicescu (Scientific secretary), Doreen Dolores Russell
  - Assessment and Methodological Support (AMU) Unit: José Cortinas Abrahantes who participated in agenda point 5.2.

1. Welcome and apologies for absence

The Chair welcomed the participants to the Scientific Network for Zoonoses Monitoring Data 5th specific meeting on Antimicrobial Resistance data reporting. Apologies were received from the Luxembourg representative.

2. Adoption of agenda

The agenda was adopted without changes. No further items were added.

3. General introduction

Pierre-Alexandre Belœil gave a general introduction on antimicrobial resistance (AMR) monitoring activities at the European Union (EU) level. EFSA notably outlined the preparatory work in support of Member States' (MSs) implementation for the new monitoring and reporting of 2014 data - publication of technical specifications on randomised sampling for harmonised monitoring of AMR, adaptation of the AMR data model, training of MSs on isolate-based data reporting, etc. - with the intention of making the reporting process as smooth as possible.

The main objective of the 5th Network meeting on AMR data reporting was to present and discuss 2015 and 2015 activities related to AMR.

4. Topics for discussion (first day)

4.1. Information about implementation of Decision 2013/652/EU

Stefan Hoenig presented the steps which have been taken by the European Commission (EC) and specifically the activity of the EC's Food and Veterinary Office which has performed inspections on the monitoring and reporting of AMR. The objectives and scope of Decision 2013/652, which is to strengthen AMR monitoring system, were briefly recalled. The inspection methodology to be used was explained and the speaker also informed the meeting that Better Training for Safer Food trainings are planned. During the inspection, multiple aspects of

the monitoring process will be checked including representative sampling, laboratory testing and result reporting.

4.2. Feedback on the reporting of 2014 AMR data

The aspects of data processing and reporting were presented by Anca Stoicescu. Globally, isolate-based data reporting by the Data Collection Framework (DCF) worked well and no major problems were identified during the 2014 reporting season. The main issues encountered during the reporting process were presented together with how errors could have been avoided. EFSA's supporting activities (e.g. trainings on using the Excel mapping tool developed by EFSA) were also presented and positive feedback was provided by Network members on the support offered by EFSA during 2014 data reporting.

Norway asked about the dates for sampling, testing and isolation which EFSA explained are required by the legislation. Sweden asked why it is necessary to report cut-off values to which EFSA replied that some reporting countries want this to be included but inclusion can be reviewed. Greece asked about the date of testing and EFSA advised that all dates are important to report. Germany asked about the text forms and EFSA recalled that the reporting of epidemiological information is mandatory and also scientifically important, and that more emphasis will be placed on this for 2015 reporting.

Beatriz Guerra presented the validation aspects of 2014 AMR data. The main reasons for contacting reporting countries were presented and can primarily be attributed to discrepancies in MIC values obtained from panel 1 and panel 2. France notably mentioned that colistin resistance can create a false high resistance and the fact that it may not be a true resistance mechanism can be problematic.

4.3. Reference testing and Whole Genome Sequencing (WGS)

Rene S. Hendriksen from EURL-AMR presented the criteria on which the selection of the isolates offered to WGS was based. He advised the participants that there are more than 29 reporting countries involved in the project and approximately 180 isolates. France raised a point about administrative issues relating to the sending of the isolates. Spain asked if the results of the re-testing and WGS will be used for any further purposes and insisted that before further use of the data MS need to be asked for permission. It was underlined by the speaker that the re-testing is just for confirmatory tests. It was further stated, that the WGS data would just be used for the stated purpose and no further use was intended without permission from the MS.

4.4. The 2014 EU Summary Report on AMR: Draft Main Findings

Pierre-Alexandre Belœil briefly presented the main findings on AMR in *Salmonella,* indicator *E. coli* and *Campylobacter* isolates from food and animals from the 2014 EU Summary Report (EUSR) on AMR. It was underlined that similar interpretative criteria (ECOFFs) were used by ECDC and EFSA to interpret microbiological resistance in humans, animals and food, enhancing data comparability.

The 2014 EUSR on AMR is the first EUSR on AMR to be based on AMR data collected and reported in accordance with Decision 2013/652/EU. It focuses on AMR data on bacteria from poultry. The main objectives for the drafting of the 2014 EUSR on AMR are to account for new legislative provisions and new data

collected. Compared with the plan of analysis of the 2013 EUSR on AMR, and although it is proposed that the general approach remains the same, complementary aspects should be covered to account for the new types of data collected in 2014. Descriptive analyses of the AMR occurrence are performed per combinations of bacteria-animal populations/food categories. AMR are interpreted according to ECOFFs presented in the legislation. Multi-drug resistance and co-resistance are also analysed, including analysis of ESBL-/AmpC-/carbapenemase-producing *E. coli*/*Salmonella*. Some slight amendments to the approach accounting for the new data collected - in particular, new substances and new dilution ranges- were presented.

Christopher Teale presented preliminary results of susceptibility testing of *Salmonella* and *E. coli* to azithromycin, colistin and tygecycline and Beatriz Guerra presented preliminary results on ESBLs/AmpC/CP including the criteria to interpret the presumptive enzyme producers.

4.5. Development and application of statistical methodology for analysis of the phenomenon of multi-drug resistance in the EU: demonstration of analytical approaches using antimicrobial resistance isolate-based data

Marc Aerts from Hasselt University updated the Network on the objectives and statistical methodologies proposed in the framework of an EFSA procurement project on 'Development and application of statistical methodology for analysis of the phenomenon of multi-drug resistance in the EU: demonstration of analytical approaches using antimicrobial resistance isolate-based data for the years 2010-2014'.

The overall objective is to provide an in-depth study of the phenomenon of multi-drug resistance (MDR) in *Salmonella* serovars, *Campylobacter* species, indicator *E. coli*, and enterococci species, focussing on the development of statistical models and models using isolate-based AMR data.

The web-based interface developed to perform the MDR was presented to the meeting including the outputs from the different statistical analyses in the form of visualisations such as graphics in the form of maps (including spatial analysis), tables and graphs. The timescale for the completion of the project and the production report was shared with the meeting.

4.6. Milestones for the production of the 2015 EUSR on AMR

Krisztina Nagy presented the milestones for 2015 AMR data validation and consultation. Austria asked for an earlier deadline for completion of the validation/consultation process which EFSA also was in favour

4.7. The 2016 reporting period: the technical and scientific reporting requirements regarding 2015 AMR data

Anca Stoicescu presented the AMR isolate-based data model for the submission of 2015 AMR data, including a summary of the new terms in catalogues of the model. Compared with the previous year, no alterations of the data model have been made. Particular emphasis was placed on the mandatory paragraphs to be reported. An updated version of the Excel mapping tool developed by EFSA for reporting text forms will be provided to all reporting countries. If the reporting

country had previously reported text forms, their mapping tool will contain the reported to text to assist 2015 text form reporting

Beatriz Guerra presented the scientific requirements laid down in the Decision 2013/652 which will be in place for 2015 data: new animal categories (fattening pigs and young calves) and the interpretative criteria to assess the mandatory ESBL/AmpC/CA. Pierre-Alexandre Belœil presented a new indicator of resistance in indicator *E. coli* at the EU level, accounting for the population size of each MS by using population correction unit (PCU) as weight.

It was agreed that EFSA will provide 'proxy' epidemiological cut-off values (ECOFFs), to be used only for data reporting purposes for the substances for which harmonised ECOFFs have not been presented in the legislation. Nonetheless, it is desirable if quantitative minimum inhibitory concentration (MIC) data reported by the MSs is used to construct the MIC distributions in order to assist in determining the values of the missing EUCAST ECOFFs.

5. Topics for discussion (second day)

5.1. Update on activities of the EURL on AMR

Rene Hendriksen presented the activities of the EURL on AMR. The main activities are related to scientific advice and support to the EC and other organisations. He highlighted collaboration, ring trials, External Quality Assurance Services (EQAS), evaluation and development of analytical methods, missions for specific assistance to individual laboratories, e-learning, trainings and workshops.

Austria made a point about ESBL sampling techniques being too strict which the speaker advised was not a EURL decision as the protocol created is based on the sampling regulation.

5.2. Representative sampling design: a tool to compute sample size and follow up sampling plan

José Cortinas Abrahantes described the general principles of sampling design and the web tool EFSA has developed for stratified sampling which is applicable to AMR. Many MSs expressed an interest having the opportunity to use the tool to assist with their sampling and EFSA advised that it can be made available.

5.3. How *S.* Kentucky in poultry has been regulated in France: when monitoring results lead to decision-making

Sophie Granier, the French representative, presented a case related to a notification of a *Salmonella* Kentucky, exhibiting high ciprofloxacin resistance, in a turkey flock in France, the subsequent investigations performed and the risk management measures specifically taken.

5.4. AMR Monitoring according to 2013/652/EU: methodologies and experiences from Italy

Antonio Battisti, the Italian representative, presented an overview of activities in relation to AMR. He explained how Italy has reduced the usage of veterinary antimicrobial agents over successive years and provided summary statistics on multi drug resistance (MDR). The laboratory work performed on samples and isolates was described including the protocols for sampling, transportation and

analysis steps for the different sample types. The analyses undertaken, which include molecular typing methods for selected phenotypes of resistance as well as summary results, were shared with the meeting participants.

5.5. Selective isolation vs. random testing of *E. coli* - experiences from Germany

Bernd-Alois Tenhagen, the German representative, presented some aspects from the German AMR labs related to the testing of *E. coli* resistance to cehphalosporins, selective isolation of cefotaxim-resistant *E. coli* and a comparison of isolates obtained from different media. He also gave some background as to how Germany monitors AMR in the food chain.

A summary of the results and overall conclusions were presented to the participants. There are significant changes in selective isolation of ESBL-/AmpC-*E. coli* and more epidemiological units are positive for ESBL-/AmpC-producing *E. coli.* Additionally, selected isolates show higher AMR-rates to other antimicrobials than non-selectively isolated *E. coli* from the same sample. Selective isolation requires additional work, but cannot replace testing of representative indicator *E. coli*.

5.6. Report on current BIOHAZ EC Mandates on AMR

Beatriz Guerra presented the current mandates on AMR received from the EC. The terms of references for the mandates were shared with the participants.

6. Any Other Business

6.1. Dates for next meetings

The dates for the 2016 Network meeting for Zoonoses Monitoring Data and as well as the 6th specific meeting on AMR data reporting: 24th-26th October 2016 were shared with the participants.

7. Conclusions

An overview of the main discussions and agreements reached during the meeting was presented. The importance of reporting validated AMR data to EFSA was notably underlined. The Chair requested the Network members to complete the meeting evaluation form and to submit ideas for discussion at future Network meetings.

8. Closure of the meeting

The Chair thanked the Network members for their engagement and their constructive contributions to the discussions. The meeting was duly closed.