Scientific Network for Zoonoses Monitoring Data
Minutes of the 7th specific meeting on Antimicrobial Resistance data reporting

Held on 08-09 November 2017, Parma
(Agreed on 13 December 2017)

Participants

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

Country	Name
Austria	Peter Much
Belgium	Cristina Garcia-Graells and Pierre Wattiau
Bulgaria	Hristo Daskalov
Croatia	Gordan Kompes
Cyprus	Despina Theodoridou
Czech Republic	Tomas Cerny
Denmark	Helle Bisgaard Korsgaard
Estonia	Jelena Sõgel
Finland	Suvi Nykasenoja
France	Sophie Granier
Germany	Bernd-Alois Tenhagen
Greece	Myrsini Tzani
Hungary	Zita Záborczki
Ireland	Caroline Garvan
Italy	Antonio Battisti and Alessia Franco
Latvia	Tatjana Ribakova
Lithuania	Asta Pereckiene
Luxembourg	Manon Bourg
Malta	Jessica Gauci
Netherlands	Johan Bongers
Poland	Dariusz Wasyl and Anna Trepkowska
Portugal	Maria Helena Pinto
Romania	Ioana Neghirla
Slovakia	Andrea Moizisova
Slovenia	Maja Golob
Spain	Gema López Orozco and Pilar Vicente Escriche
Sweden	Oskar Nilsson
United Kingdom	Christopher Teale
Norway	Jannice Schau Slettemeås
Switzerland	Philipp Bless

- **Hearing Experts:**

Rene S. Hendriksen: European Reference Laboratory on antimicrobial resistance (EURL-AR)

- **European Commission:**

Angela Bolufer De Gea: Directorate-General for Health and Food Safety (DG SANTE), Directorate G, Unit G4

Daniel Menendez: DG SANTE, Directorate F, Unit F5

- **Others:**

Nihad Fejzic (Bosnia and Herzegovina), Zoran Antovski (Former Yugoslav Republic of Macedonia), Tatjana Labus (Serbia), Guzin Sahin (Turkey).

EFSA:

Biological Hazards and Contaminants (BIOCONTAM) Unit: Pierre-Alexandre Belœil (Chair), Beatriz Guerra, Ernesto Liebana Criado*, Krisztina Nagy, Raquel Garcia Fierro, Valentina Rizzi*, Francesca Latronico, Pietro Stella*.

Evidence Management (DATA) Unit: Anca-Violeta Stoicescu (Scientific secretary)

Risk Communication Unit (RISKCOM) Unit: Sharon Monti* and Francesca Matteucci*.

External Relation Unit(EXRel) Unit: Francesca Avanzini*.

(attended for specific items)*

1. Welcome and apologies for absence

The Chair welcomed the participants to the 7th Specific Meeting on Antimicrobial Resistance of the Scientific Network for Zoonoses Monitoring Data. Apologies were received from the Iceland representative.

2. Adoption of agenda

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

3. Agreement of the minutes of the 6th specific meeting on Antimicrobial Resistance data reporting of the Scientific Network for Zoonoses Monitoring Data held on 10-11 November 2016, Parma

The minutes were agreed by written procedure on 30 November 2016 and published on the EFSA website on 2 December 2016. The actions from the meeting were presented together with the status of their progress. The comments arising from the satisfaction survey on the 2016 Network meeting were also shortly presented.

4. Topics for discussion (first day)

4.1 General introduction

Pierre-Alexandre Belœil gave a general introduction to the meeting, notably underlining the importance and relevance of the antimicrobial resistance (AMR) monitoring activities at the European Union (EU) level. The main objectives of the 7th specific meeting on AMR data reporting of the Scientific Network for

Zoonoses Monitoring Data were to present and discuss with the Network members 2016 data reporting and up-coming activities related to AMR monitoring in the EU in 2018, in particular regarding the 2017 data collection and the review of the EFSA technical specifications for harmonized monitoring of AMR[1,2].

4.2 The new EC action plan against AMR

Angela Bolufer de Gea, European Commission (EC) presented an update on the new EC One Health action plan against AMR taking stock of the achievements of the previous action plan, the process to produce the new action plan and the concrete actions in its three pillars. These are to: (i) make the EU a best practice region on AMR; (ii) boost research, development and innovation and (iii) shape the global AMR agenda. The important messages to be taken home were the following: the first pillar is primarily addressed to the Member States (MSs) with actions to support them in their efforts to implement their national action plans so that better evidence is gathered, and improved implementation of the EU rules and better prevention and control of AMR are achieved. The EC calls on MSs to work on implementing the 'One-Health' perspective, as AMR is a challenge that can only be tackled with a global effort.

4.3 Directorate F: Audits on AMR monitoring

Daniel Menendez updated the Network members about the audits performed by the Directorate F of DG SANTE. After having audited eight MSs on the implementation of Commission Decision 2013/652/EU, Directorate F of DG SANTE published an interim overview report summarising the main findings and conclusions of these eight audits in July 2017. The reports highlight the main difficulties that MSs have faced when implementing Commission Decision 2013/652/EU. Daniel Menendez underlined the main issues related to obtaining *Salmonella* isolates, caecal sampling in slaughterhouses, meat sampling in retail outlets, transport of samples to the laboratory, susceptibility testing in the laboratories and assessment and reporting of results. He also touched upon the different types of good practices found in the MSs audited.

Following his presentation, there was a fruitful exchange of views between participants.

Belgium underlined that *Campylobacter jejuni* prevalence is decreasing; therefore, it is difficult to reach the number of isolates requested for susceptibility testing. While reviewing the technical specifications for harmonised monitoring of AMR at the request of the EC in 2018, EFSA will notably consider the switching between the *C. jejuni* and *C. coli* prevalence observed in certain MSs over the last years.

The Netherlands asked what would be the next steps to make the AMR monitoring more robust. The EC indicated that the intentions are to improve the laboratory protocols, to enhance the EU co-funding and to adapt the legislative

1 EFSA (European Food Safety Authority), 2012a. Technical specifications for the analysis and reporting of data on antimicrobial resistance (AMR) in the European Union Summary Report. EFSA Journal 2012;10(2):2587, 53 pp., doi:10.2903/j.efsa.2012.2587

2 EFSA (European Food Safety Authority), 2012b. Technical specifications for the harmonised monitoring and reporting of antimicrobial resistance in methicillin-resistent Staphylococcus aureus in food-producing animals and foods. EFSA Journal 2012;10(10):2897, 56 pp., doi:10.2903/j.efsa.2012.2897

requirements of the Commission Implementing Decision to be entered into force in 2021. The new legislation will be based on the technical specifications for harmonised monitoring of AMR in the EU to be proposed by EFSA in 2019.

Denmark asked whether Whole Genome Sequencing (WGS) will be considered as a possible alternative to Minimum Inhibitory Concentration (MIC) data in the new legislation. The EC underlined that the equivalence of phenotypic and the genotypic data should be checked first. The EC mandate to EFSA on the review of the technical specifications will address that point.

Sweden questioned if the requisite of the technical specifications requesting that sample collection shall be randomized equally over all five business days of the week is really important, considering the practical consequences. EFSA emphasised that, when proposing technical specifications, the scientific aspects related to representativeness and reliability of the data are the primary considerations, though the realities in the field are also well known by the experts. The EC pointed out that the ceiling costs of the sampling, transportation and tests have been revised and that they will be accounted for by the EU co-funding for the next years.

4.4 Feedback on the reporting of 2016 AMR data

The main aspects of the 2016 AMR data processing and reporting were presented by Anca Stoicescu, including the major issues encountered during the reporting process as well as specific achievements. The feedback of the MSs on the 2016 AMR data processing and reporting was collected after the official closer of the data collection through a questionnaire to assess satisfaction with EFSA's reporting tools and to identify needs for improvement. An overview of this survey results was presented and discussed with the Network. Based on survey feedback, solutions/improvements proposed for the next (2018) reporting period were presented. Additionally, two dashboards summarising the incoming 2016 data reported this year were also presented; they highlighted peaks in data reporting occurring after the legal reporting deadline due to corrections needed on the data.

Luxembourg requested EFSA to inform MSs about unavailability of the Data Collection Framework (DCF) and/or the Scientific Data Warehouse (DWH) as soon as it occurs. EFSA will inform the Reporting Officers, Network members and Alternates by circular email if these tools are unavailable during the reporting period. Reporting Officers are required to cascade information provided by EFSA to national experts, as needed.

4.5 Update from the European Reference Laboratory on antimicrobial Resistance (EURL-AR)

Rene S. Hendriksen from the EURL-AR introduced the main activities of the EURL-AR. He highlighted the specific role in coordinating external quality assurance aspects regarding antimicrobial susceptibility testing in the EU and scientific assistance and support to NRLs-AR and to the EC. It was highlighted that the EURL protocol for isolation of ESBL, AmpC and carbapenemase-producing *E. coli* has been recently revised. The EURL-AR is taking part in the revision of Commission Decision 2013/652/EU.

The background to the confirmatory testing exercise was described with an outline of the 2016 selection criteria of the strains involved in reference testing

(for 2015 data). An overview of the strains provided as well as some of the major problems with strains (e.g. missing or contaminated) and the interpretation of the results was given.

Belgium requested a check list of criteria to validate data before reporting to EFSA. The list can be used to check the quality of data and to reinforce the need for the timely retesting of certain isolates

EFSA and EURL-AR reaffirmed that the investigation of possible discrepancies in the results obtained between the first and second plates have to be performed by retesting both plates at the same time and ideally before reporting results to EFSA: only the final results validated by the laboratory should be reported.

Germany supported the intention of implementing additional business rules in the DCF in order to prevent erroneous results entering in the EFSA database. Germany underlined that by publishing these rules early before the reporting period MS were enabled to check their data before upload thus preventing the need to change the data after the end of the reporting period. It was agreed that EFSA, in close liaison with EURL-AR, will produce and circulate a list of validation checks, at the beginning of each reporting year, derived from both the business rules and the selection criteria for the reference testing exercise.

4.6 EFSA scientific validation of data supported by EURL-AR reference testing

Beatriz Guerra presented the reasons for performing the reference testing exercise about 2016 AMR data: namely, to improve the quality of data, detecting emerging resistance mechanisms/clones, and to assess the suitability of WGS to support AMR surveillance. She also presented the criteria which have been used to select the isolates to be provided for reference testing in 2017 (primarily, confirmation of reported resistance to carbapenems and to linezolid, high-level resistance to tigecycline and colistin, discrepancies between panel 1 and panel 2 for those antimicrobials present in both panels, cephalosporin/carbapenem-resistant (R) isolate with absence of ampicillin-R, *S.* Enteritidis colistin-R).

The results of re-testing of the 2014 data (reported in 2015) and the preliminary results of the 2015 data (reported in 2016) were also presented. The significant discrepancies were accounted for while drafting the corresponding EU Summary Reports.

4.7 The 2016 EUSR on AMR: Preliminary Main Findings

Raquel Garcia Fierro briefly presented the preliminary main findings on AMR in *Salmonella,* while Pierre-Alexandre Belœil presented those on indicator *Escherichia coli*, *Campylobacter jejuni* and Methicillin Resistant *Staphylococcus aureus* (MRSA) in food and food-producing animals from the draft 2016 EU EUSR on AMR. The 2016 EUSR on AMR is the third EUSR based on AMR data collected and reported in accordance with the requirements of Commission Decision 2013/652/EU. The 2016 EUSR on AMR focuses on AMR in poultry. Analyses of AMR occurrence are performed per combinations of bacteria-animal populations/food categories. The occurrence of multi-drug resistance (MDR), combined resistance to critically important antimicrobials and rates of complete susceptibility are also analysed.

For *Salmonella*, preliminary results on the occurrence of resistance, geographical distribution of ciprofloxacin-R and cefotaxime-R, data on MDR to these antimicrobials, and information on the main resistant serotypes were presented.

Preliminary results on the prevalence and MDR in *E. coli* and *C. jejuni* were presented and discussed. The occurrence, genetic diversity and MDR-profile of MRSA from different categories of food and animals species reported voluntarily were presented.

Beatriz Guerra presented some key findings on the occurrence of ESBL-/AmpC-/carbapenemase-producing *E. coli*/*Salmonella* deriving from the routine monitoring and the occurrence/prevalence of ESBL-/AmpC-/carbapenemase-producing *E. coli* from broilers and fattening turkeys and meat derived thereof collected within the specific monitoring. Results regarding the presumptive carbapenemase-producing microorganisms specific monitoring were also described.

It was highlighted that the results presented, although they give a good overview of the epidemiological situation regarding AMR, are preliminary as some MSs are still correcting data. The complete view of the results will be presented in the draft version of the 2016 EUSR on AMR sent for consultation. Similarly, MSs were also kindly requested to double check the absence of data regarding the specific monitoring on carbapenemase-producers when results of the monitoring were performed and intended to be reported. It was underlined the need to answer the validation letters sent by EFSA to the MSs asking for clarification or re-testing of isolates on time, as the continuous correction of data out of the validation period generates many problems when drafting the final report. Some important resistances like the presence of carbapenemase-producing microorganisms shall be confirmed for publication in the report.

4.8 Production of the 2016 EUSR on AMR: next steps

The Chair re-iterated the steps for the consultation and publication of the 2016 EU Summary Report (EUSR) on AMR. The draft 2016 EURS on AMR will be sent for consultation at the beginning of December and owing to the strict deadlines with the publisher MSs were requested to send their comments by beginning of January 2018. DCF will be opened in December to allow the results from the reference testing to be updated in the EFSA database. The 2016 EURS on AMR will be published by mid-February 2018.

4.9 EFSA Communication activities on AMR

Sharon Monti, Francesca Matteucci from the Risk Communication Unit and Francesca Avanzini from the External Relations Unit gave an overview of the EFSA's communication activities in the area of antimicrobial resistance, in particular a specifically dedicated communication campaign. The objectives of the campaign started at beginning of 2017, target audiences and milestones were presented. The highlights of the campaign were detailed, as well as the multimedia products developed to present the main findings of scientific outputs on AMR and the media coverage triggered by some selected outputs. The next steps of the campaign as the update of the data visualisation and the participation to the European AMR Awareness Day were also included.

4.10 The joint EFSA and European Medicines Agency (EMA) RONAFA Opinion

Beatriz Guerra presented briefly the EMA and EFSA Joint Scientific Opinion on 'measures to reduce the need to use antimicrobial agents in animal husbandry in the European Union, and the resulting impacts on food safety (RONAFA)', published in January 2017. Experts from EFSA and EMA reviewed the measures taken in the EU to reduce the need for and use of antimicrobials in food-producing animals, and the resultant impacts on AMR. The experts stressed that there is no one-size-fits-all solution and that successful strategies follow an integrated, multifaceted approach which takes into account the local livestock production system and involves all relevant stakeholders — from governments to farmers. The way to approach the reduction of antimicrobial consumption is summarized under the 'Reduce-Replace and Rethink' strategy: reducing the use of antimicrobials in food-producing animals, replacing them, where possible, and re-thinking the livestock production system is essential for the future of animal and public health.

09 November 2017 (second day)

5. Welcome and apologies for absence

The Chair welcomed the participants to the second day of the 7th specific meeting on AMR data reporting of the Scientific Network for Zoonoses Monitoring Data. Apologies were received from Iceland.

6. Topics for discussion

6.1 Milestones for the production of the 2017 EU Summary Report on AMR

Krisztina Nagy presented the planned milestones for the 2017 EUSR on AMR data reporting and validation exercise. The Network discussed all timelines and agreed on the following milestones:

- Opening of the DCF for 2017 data reporting on 1 April 2018;
- Closure of the reporting period on 31 May 2018. Data sent in after 31 May (new data) will not be scientifically validated for the 2017 EUSR and will neither be included in the 2017 EUSR;
- First validation period for EFSA: 1–15 June 2018;
- 16 June 2018: letters requesting scientific clarifications and/or amendments (if needed) sent to the MSs by EFSA;
- First period for data correction for MSs: 16 June – 6 July 2018;
- Final validation period for EFSA: 7 – 14 July 2018;
- Final period for data correction for MSs: 14 – 24 July 2018;
- 25 July 2018: EFSA validates the final submitted and corrected data (against a number of criteria, the same used in the first and second validation period). After 25 July 2018, data cannot be changed, as the data extracted on this date will be used to draft the 2017 EUSR. Wrong data (combination of matrix/pathogen) will not be included in the analysis for the 2017 EUSR;
- Amendment of 2017 data and historical data can be carried out between 1 and 30 November 2018. These data will be used in the National reports

and in the EFSA DWH but will not be included in the analysis of EUSR 2017.

The reporting officers were requested to clearly communicate to the national experts the deadlines for the 2017 data reporting and validation.

6.2 The 2018 reporting period: the technical and scientific reporting requirements regarding 2017 AMR data

Anca Stoicescu presented the changes in the reporting process of 2017 AMR data to be implemented for the 2018 reporting period. Most of the improvements regarding the 2017 data collection were previously described while presenting the feedback of 2016 data reporting when solutions to solve the identified issues were proposed. Improvements will be implemented in the Microstrategy reports, business rules, catalogues and reporting manuals. New business rules will be added for improved validation at the point data enter the DCF.

The catalogue updates will be sent to MSs for consultation on 10 January 2018 and the final version will be ready by 31 January 2018. MSs were requested to send to EFSA any additional *Salmonella* serovars newly isolated and not currently listed in the catalogue by 15 November 2017.

The text forms will be transmitted to the MSs in Microsoft Word format.

The importance of respecting the timelines for proposing new terms and the consultation period was emphasised as the reporting guidelines containing catalogues and business rules will be published on 31 January 2018**.**

Beatriz Guerra stated that there are no changes regarding the scientific criteria for the validation of 2017 AMR data but she advised that any outliers in the data should be carefully checked/validated before submission. At the request of some MSs, it was agreed that EFSA will circulate checking rules so that MSs can perform scientific validation of their own data before reporting.

6.3 *Salmonella* Infantis clones and emerging ESC-R in Italy: differences and similarities of strains and plasmids in Europe and USA

Antonio Battisti, the Italian representative, presented the *Salmonella* Infantis clones and emerging ESC-R in Italy. *S*. Infantis is the dominant serovar in broilers in Italy. An emerging clone carrying a megaplasmid, called pESI, was reported in an increasing proportion of isolates recovered during the 2014-2016 monitoring. The megaplasmid harboured by *S*. Infantis was found also in other EU countries in broilers and broiler meat and in broilers, broiler meat and dairy cattle in the USA. A wide collection of isolates have been submitted to WGS and are currently under analysis to help elucidate the phylogenetic relationships among the *S*. Infantis clone(s) circulating in Europe. This WGS approach will also help in detecting and comparing plasmid(s), AMR and virulence genes for a deeper insight into similarities and differences of these isolates, for the purposes of molecular epidemiology of this major *Salmonella* serovar in Europe.

6.4 LA-MRSA in the Netherlands: an update

The Dutch delegate, Johan Bongers, presented an update about LA (livestock-associated)-MRSA in animal populations in the Netherlands. LA-MRSA is widespread in the Dutch livestock population. The highest prevalence at

slaughter is found in swine (batch prevalence of 100%), followed by veal calves (79%) and broilers (8%). The prevalence in the human population is surprising low (10% of clinical isolates of MRSA are LA-MRSA), most probably due to the stringent 'Search and Destroy Policy' implemented in the Dutch healthcare system. Recently new genes coding for immune evasion have been described, as well as more frequent cytotoxic strains based on the presence of Panton-Valentine Leukocidine (PVL). In order to assess the situation in Europe, the Dutch experts suggested to carry out regular baseline studies on MRSA, including systematic sequenced based typing method testing, so that the constantly evolving situation can be reassessed periodically.

6.5 LA-MRSA in Finland: an update

Suvi Nykäsenoja, the Finnish delegate, presented an update on LA-MRSA in the human population in Finland[3]. The number of CC398 MRSA cases has regularly increased among humans in Finland in the last years, although the proportion of CC398 from all MRSA cases in humans still remains low. The most common MRSA CC398 found in humans is *spa*-type t034. Both PVL-negative and PVL-positive t034 MRSA isolates have been detected.

6.6 Carbapenemase producing Enterobacteriaceae in German livestock and the food chain - current situation and encountered challenges

Bernd-Alois Tenhagen, the German delegate reported on carbapenem-resistant enterobacteriaceae in animals and food in Germany. During a retrospective analysis of isolates collected by the RESET consortium in Germany in 2011 and 2012, isolates of *Salmonella* enterica and *E. coli* were identified that were resistant to carbapenems. Resistance was conferred by the gene bla(VIM-1). This finding triggered an EFSA opinion and the inclusion of a specific monitoring for carbapenem-resistant *E. coli* in Commission Decision 2013/652/EU. During this monitoring CPE were only found very sporadically. One isolate in Germany was detected in a caecum sample from a slaughter pig, another one in Belgian pork. During other investigations in the food chain, further isolates were identified in seafood from Italy, and minced meat in Germany. A follow-up of the caecum sample in 2015 revealed that further pigs on the farm of origin were also positive for *E. coli* harbouring the bla(VIM-1) gene. However, identifying these bacteria from faecal and environmental samples proved challenging and triggered further investigations to improve the methodology.

6.7 A longitudinal study into the occurrence of *E. coli* with resistance to colistin on a UK pig farm

Colistin resistance in *E. coli* related to the presence of *mcr*-1 was investigated in a longitudinal study of pigs on a United Kingdom (UK) farm. The results of this study were presented by Christopher Teale, the UK delegate. The occurrence of resistance was determined using both selective and non-selective cultures at 3 time points subsequent to initial detection of *mcr*-1 positive *E. coli*. Additionally, the proportion of total *E. coli* carrying *mcr*-1 in positive faecal samples was estimated. Results showed a high prevalence of pigs carrying colistin resistant *E. coli* with *mcr*-1 at time points shortly after cessation of use of colistin, but at 20 months after stopping use, resistance was no longer detected. The observed

[3] Personal communication, Laura Lindholm, National Institute for Health and Welfare.

decline in resistance may have been facilitated by limited effects of co-selection, since the plasmids carrying *mcr*-1 in some cases carried no other resistance genes. In faecal samples which tested positive for *E. coli* harbouring *mcr*-1, the proportion of total *E. coli* carrying *mcr*-1 was lower than the proportion of total *E. coli* found to have been carrying ESBL *E. coli* in previous studies of farms on which ESBL *E. coli* occurred. There is currently no standardised methodology for selective isolation of colistin-resistant *E. coli*.

6.8 Scientific Opinion on AMR: Mandate (EFSA-Q-2016-00638): Joint ECDC-EFSA-EMA opinion on outcome indicators on surveillance of AMR and use of antimicrobials

Pietro Stella presented the recently published 'ECDC-EFSA-EMA Joint Scientific Opinion on a list of outcome indicators as regards surveillance of antimicrobial resistance and antimicrobial consumption in humans and food-producing animals'. The proposed indicators address the human and animal sectors and reflect antimicrobial consumption and antimicrobial resistance in the community, hospitals and food-producing animals. They follow up objectives of the recent EU One Health Action Plan against antimicrobial resistance. The selected indicators and the rationale behind their selection were briefly explained. The added value of the indicators was discussed, such as: they are based on data gathered through existing monitoring networks; they summarise in a few indicators the overall situation of antimicrobial consumption and antimicrobial resistance in humans and food-producing animals; they offer to MSs a tool to assess their progress in reducing the use of antimicrobials and antimicrobial resistance. Limitations were also highlighted, such as the loss of detail when summarising larger datasets into a few indicators. The opinion recommends additional data that should be collected to obtain information on resistance to macrolides in bacteria from livestock species, such as data on resistance to this class of antimicrobials in *Campylobacter* spp. and indicator species such as enterococci.

6.9 Scientific Report on AMR: The JIACRA II Report

Pierre-Alexandre Belœil briefly presented the objectives and the main findings of the 2nd JIACRA (Joint Interagency Antimicrobial Consumption and Resistance Analysis) report and the main improvements between the first project and the current one. European Centre for Disease Prevention and Control (ECDC), EFSA, EMA worked closely together to analyse the potential relationship between the consumption of antimicrobials by humans and animals and the occurrence of antimicrobial resistance. The agencies published the second JIACRA report in July 2017. It analyses antimicrobial consumption and resistance data from humans and food-producing animals from the Agencies' five EU-wide monitoring networks from 2013–15 and primarily reflects improved surveillance across Europe. Overall, antibiotic use in food-producing animals is higher than that in humans, although the consumption of critically important antimicrobials in human medicine, such as 3rd-generation cephalosporins and fluoroquinolones, is generally lower in food-producing animals than in humans. Important differences remain across the EU in the use of antimicrobials in humans and animals. This indicates that there is an obvious potential for reduction in certain countries, particularly among the highest users. The assessment of the potential relationships between antimicrobial consumption and resistance, performed in addressing a number of relevant bacteria/substance combinations and using univariate and multivariate statistical approaches, showed that higher

antimicrobial consumption results in higher risk of antimicrobial resistance. The report emphasises the need to promote responsible use of all antimicrobials, in order to account for the phenomena of combined resistance and co-selection, in both humans and animals. The three Agencies also recommend further research to understand better how use of antimicrobials and resistance affect one another.

7. Date for next meetings

The proposed date of the 8th Specific Meeting on AMR (8-9 November 2018) was shared with the participants.

8. Conclusions

An overview of the main discussions and agreements reached during the meeting was presented. It can be retained that the audits already performed by DG SANTE, Directorate F and the available results of the second on-going Reference testing exercise demonstrated that the AMR data produced and used to produce the 2014-2016 EUSRs on AMR were reliable, though there is still room for improvement. The Network discussed a number of points in that sense. The years 2014, 2015 and 2016 were the first years of implementation of the new legislation; they allowed the establishment of appropriate procedures in the MSs, in particular for collecting representative samples and testing for ESBL/AmpC. For the second time, prevalence of resistance and prevalence of ESBL/AmpC-producing *E. coli* from poultry and meat derived thereof will be published in the 2016 EUSR on AMR. As these results are expected to be the subject of particular scrutiny, they should be based on robust data. The analyses of the 2016 AMR data, the production of the 2016 EUSR on AMR and the phenotypic reference testing exercise have been conducted in parallel for mutual advantage.

The meeting also shared a number of specific aspects of AMR in the EU, such as ESC-R *S*. Infantis, PVL+ LA-MRSA isolated in human cases and carbapenemase-producing Enterobacteriaceae. The meeting was an opportunity to exchange about those three important outcomes of AMR monitoring and also to clarify the timelines for the next steps regarding the further enhancement of the harmonised AMR monitoring in food-producing animals and food in the EU. In 2018, the EFSA will review the technical specifications[1,2] underpinning the EU legislation on harmonised monitoring of AMR in the light of the constantly evolving epidemiological situation and feedback from practical implementation experience so that new legislation, updated and adapted where necessary, can be proposed by the EC in 2019 and discussed with the MSs in 2019-2020.

The suggestions for improvement of the reporting tools and procedures will be addressed by EFSA when preparing the 2018 reporting season (of 2017 data).

It is planned to implement more stringent business rules while receiving 2017 data. Business rules and selection criteria for reference testing will be circulated to the MSs at the beginning of 2018, so that they can be used by the MSs to validate AMR data before reporting to EFSA. The importance of reporting representative and fully validated AMR data to EFSA was emphasised.

Finally, the Chair requested the Network members to complete the meeting evaluation form and to submit to EFSA ideas for discussion at future Network meetings.

9. Closure of the meeting

The Chair thanked the Network members for their invaluable contribution to the AMR monitoring in food-producing animals and food as well as for their engagement and their constructive contributions to the discussions. The meeting was duly closed at 13.20.

Appendix: List of Action Points

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List of the action points agreed at the meeting

Agenda Point	What	Agreement/Comment	Deadline
4.4	To account for the issues encountered during the 2016 reporting exercise.	EFSA will implement the solutions presented during the meeting.	31 January 2018
4.4	To communicate via email any unavailability of the reporting system (DCF and or DWH).	EFSA will communicate to the Reporting Officers, Network members and Alternates. Reporting Officers will cascade information provided by EFSA to the National Experts, as relevant.	Constant action during the reporting period
6.2	To keep the *Salmonella* serovars catalogue of the EFSA database updated.	MSs are kindly requested to send to EFSA any additional *Salmonella* serovars newly isolated and not currently listed in the catalogue.	15 November 2017
6.2	To provide the documentation for the 2017 data collection exercise on time.	Reporting Manuals and Catalogues will be sent for consultation on 10th of January and published on 31st of January 2018.	31 January 2018
6.2	To provide a list of scientific validation points together with the Reporting Manual.	EFSA together with EURL-AR will produce and distribute this.	31 January 2018
8	To perform the evaluation survey: Evaluation of 7th specific meeting on Antimicrobial Resistance data reporting	MSs are kindly requested to answer the survey on line.	24 November 2017