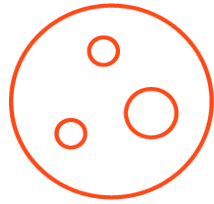


Report of the Meeting of the WOA Working Group on Antimicrobial Resistance



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Founded as OIE

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1. Welcome and opening of meeting

The Working Group on Antimicrobial Resistance (AMR) (hereafter referred to as 'the Group') met between 28-30 March 2023 at the World Organisation for Animal Health (WOAH, founded as OIE) Headquarters in Paris, France. The meeting was conducted in hybrid mode via Zoom.

Dr Javier Yugueros-Marcos, Head of the Antimicrobial Resistance and Veterinary Products (AMR&VP) Department, welcomed the Group members and the observers from the Quadripartite on AMR partner Organisations, thanking all of them for their participation and congratulated the Group for their hard work. Dr Yugueros-Marcos alerted the Group of the recent publication from the United Nations Environmental Programme (UNEP): "Bracing for Superbugs: Strengthening environmental action in the One Health response to antimicrobial resistance". An observer from UNEP was not able to join the meeting, but UNEP was approached to appoint a permanent observer to participate in future meetings, given the importance of this component of the One Health approach applied to curb AMR.

The Chair welcomed the Group and commented on the increase of the information on activities to address AMR in recent years as reflected in the agenda and asked the Group to consider how it can better support the work of WOAH with its Members.

The Chair welcomed Dr Holy Teneg Akwar, who has been appointed as Deputy Head of the Department of AMR & VP in January 2023, as well as Dr Junxia Song, stepping in as observer from the Food and Agriculture Organization of the United Nations (FAO), replacing Dr Jeffrey Lejeune. Dr Jorge Mattheu remains observer representing the World Health Organization (WHO).

Prof Moritz van Vuuren announced his departure from the Group at the end of 2023. The Group and WOAH thanked Prof van Vuuren for his continuous commitment and his significant and outstanding contributions to the Group and to the profession.

1.1. Adoption of the agenda

The adopted Agenda and List of Participants are presented in Annexes I and II of this report, respectively.

1.2. Appointment of rapporteur

Dr Tomoko Ishibashi chaired the Group and Prof Moritz van Vuuren acted as the rapporteur.

2. Landscape I and II

2.1. Quadripartite overview of work on AMR – Dr Holy Akwar

Dr Akwar updated the Group on the following activities coordinated by the Quadripartite Joint Secretariat (QJS):

2.1.1. [AMR Global Leaders Group \(GLG\)](#)

the 6th AMR GLG meeting took place in Barbados, Feb. 2023, to maintain the momentum advocating for prioritized political actions in the mitigation of AMR. [Notes for this meeting are available](#) at the GLG website. The GLG emphasized the urgent need for financing mechanisms to support the implementation of national action plans and to address the antibiotic pipeline and access crises through investment in research and development. The GLG has published a [Pocket guide for ministers on how to respond to AMR](#).

2.1.2. AMR Multi-Stakeholder Partnership Platform (PP)

The PP is a global collaborative and multi-stakeholder forum that engages and empowers stakeholders across the One Health spectrum against AMR. A call for membership has been launched; approx. 60 countries have expressed interest to join the PP at the date of this meeting. The 1st plenary meeting is scheduled for July 2023.

2.1.3. Quadripartite Technical Group Initiatives

Various technical groups are engaged in:

-
- a) global human and veterinary medicines regulatory summit aimed to build consensus amongst regulators for intersectoral collaboration and harmonized approaches to phase-out over-the-counter (OTC) sale of antimicrobials without compromising access. The first meeting is scheduled for May 4-5, 2023;
 - b) Economics of AMR, activities going on to estimate the AMR economic costs of inaction, identify and prioritize interventions, and estimate the return on investment of AMR actions across sectors. A technical group of 20 experts will be involved in this work; their first meeting will be on April 4, 2023;
 - c) the [Multi-Partnership Trust Fund \(MPTF\)](#), will be releasing its annual report very soon. During the 9th MPTF Steering Committee meeting held in Rome, Italy, Mar 16-17, 2023, findings of the strategic review were presented;
 - d) a technical group of 28 experts has been established to work on developing guidelines and recommendations for Integrated Surveillance. This group is addressing four main streams of activities, including definitions, review of systems and approaches, diagnostics and epidemiology, and indicators for monitoring and evaluation (M&E).

2.1.4. One Health Priority Research Agenda for AMR

A report will soon be published that identified 455 gaps and prioritized the top ten. Research gaps identified include; transmission, integrated surveillance, interventions, behavioral change, and economics and policy of AMR. These themes target low- and middle-income countries (LMIC), with gender and sustainability as cross-cutting themes.

2.1.5. United Nations General Assembly (UNGA) High Level Meeting (HLM) 2024

All the above initiatives aim to inform this HLM. The GLG has developed a roadmap for UNGA 2024 to advocate for concrete political commitments as well as to secure sustainable financing. 'Antimicrobial resistance' will be rebranded as 'AMR' so that media, politicians, and the general public can relate to it more easily. The [Muscat Ministerial Manifesto on AMR](#) has been signed by 47 countries.

2.1.6. [One Health Joint Plan of Action](#)

The [Global action plan \(GAP\)](#) will be updated by the four organisations and published as a Quadripartite document; this is a change from the 2015 GAP that was produced by WHO in consultations with other sectors. The updated plan should be ready for UNGA 2024.

The Group thanked Dr Akwar for his comprehensive update on the Quadripartite activities. The Group noted that all the work conducted under its roadmap feeds into the UNGA 2024's roadmap. The Chair proposed that a similar mapping exercise to that of the Quadripartite activities is also conducted for WOA activities on AMR for information of the Group in the near future.

2.2. Update on Monitoring & Evaluation (M&E) – Mr Ben Davies

As part of the Quadripartite activities update, Mr Ben Davies informed the Group about the Quadripartite led GAP Level M&E that is now in its 4th year of reporting. New guidance has been developed to support the establishment of National Action Plans (NAP) M&E. Data from the GAP M&E framework and [Tracking Antimicrobial Resistance Country Self-Assessment Survey \(TrACSS\)](#) contributed data to the GAP biennial progress report scheduled for publication during second quarter of 2023. TrACSS has been refined to provide disaggregated data for terrestrial and aquatic animals since 2021. TrACSS data suggests that only 20% of the 157 countries undertake M&E of NAP delivery.

The Quadripartite is piloting the provision of targeted NAP M&E Technical Assistance (TA) to five MPTF grant recipient countries (Cambodia, Ethiopia, Morocco, Peru, Zimbabwe) through the AMR MPTF global programme on M&E. Based on the success of this intervention, the Quadripartite anticipates scaling up TA support for NAP M&E targeting LMICs. There appears to be demand for the Quadripartite to work with Members to integrate M&E within 2nd generation NAPs. NAP design, implementation and M&E need to be seen as an evolutionary process to be strengthened over time.

The Group thanked Mr Davies for his update. The Group strongly supported that M&E findings should be used to inform the upcoming revision process of GAP. The Group also recommended that further consideration should be given to bridging between Performance of Veterinary Services (PVS) and M&E tools to support Members in the implementation of AMR NAPs.

2.3. WHO Medically Important Antimicrobial (MIA) List and other AMR activities – Dr Jorge Matheu

Dr Jorge Matheu explained the work of the Advisory Group on Critically Important Antimicrobials (AG-CIA) that was responsible for the revision of the WHO's List of Medically Important Antimicrobials (MIA, formerly known as Critically Important Antimicrobials or CIAs). The AG-CIA is composed of 17 members from the six WHO regions representing human, animal and aquaculture sectors and included for the first-time members from FAO and WOA. Three working groups were created to: 1) revise national and regional CIA lists, 2) revise classification of macrolides and 3) revise prioritisation factors. The AG-CIA developed a decision tree to classify antimicrobials according to importance for human medicine; and separated antimicrobials into three groups; 1) authorised for use in humans only, 2) Authorised in both humans and animals (for which criteria and prioritisation criteria apply) and, 3) Not authorised in humans. Prioritisation factors have been modified, with prioritisation 1 and 2 merging into one and linked with both the [Essential Medicines List \(EML\)](#) and the WHO's [Aware classification](#). The prioritisation factor 2 is now related to use of antimicrobials (AMU) for treatment of infections for which there is extensive evidence of transmission of AMR from non-human sources that may cause invasive and life-threatening infections. In the revised WHO MIA list, macrolides have been lowered in the level of importance whilst 3rd and 4th generation cephalosporins, fluoroquinolones, polymyxins, and phosphonic acid derivatives are classified as Highest Priority CIAs. The 7th edition of the WHO MIA list is expected to be published in May 2023.

The Group thanked and complimented Dr Matheu for the revision of the WHO MIA list and the improvement noted from the previous version. Dr Yugueros-Marcos thanked WHO for facilitating the participation of FAO and WOA; it was encouraging that both human and animal health were considered in the preparation of the MIA List. An action was identified for the Group to revise the recommendations of the WOA List of Antimicrobials of Veterinary Importance so that it is aligned with the WHO MIA List. Members will be informed after the publication of the WOA MIA List for their consideration and approval at WOA General Session in May 2024.

2.4. Update on the activities of the Therapeutic Guidelines Group of the World Small Animal Veterinary Association (WSAVA TGG) – Dr Stephen Page

Dr Stephen Page updated the Group on the work of the [Therapeutics Guidelines Group \(TGG\)](#) of the World Small Animal Veterinary Association (WSAVA). The TGG was created in 2019 and has currently 10 members and 2 co-chairs; WOA is represented in the TGG. The remit of the TGG is *"To advance the health and welfare of companion animals worldwide through an educated, committed and collaborative global community of veterinary peers."* Activities conducted by the TGG include:

- Organisation of a webinar on "how to optimize your antibiotic use" during World Antimicrobial Awareness Week 2022.
- Development of infographics and online training modules on responsible AMU in common infectious diseases in companion animals
- Revision of WSAVA's [Essentials Medicines List \(EML\)](#); this list is based on the WHO EML. Once completed the EML will be published in the [Journal of Small Animal Practice \(JSAP\)](#).
- Pilot project on Substandard and Falsified (SF) veterinary products (SFVP) focused on amoxicillin-clavulanic acid. The study has been submitted for publication in a peer-reviewed journal. The TGG is exploring a potential collaboration with WOA on SFVPs.
- [WSAVA conference](#) in September 2023 in Lisbon will include sessions on responsible AMU and accessibility to veterinary products.
- Expansion of [WSAVA library on responsible AMU and AMR](#) to include [ENOVAT guidelines](#).

The Group thanked Dr Page for his update on TGG activities and mentioned that the issue of AMR in companion animals was raised at the OIE 2nd Global Conference on AMR, as reflected in its recommendations. Dr Page mentioned that revision of existing literature on AMR in companion animals should be considered and could perhaps be conducted jointly by the TGG and WOA in the future

2.5. FAO update on activities on AMR – Dr Junxia Song

Dr Junxia Song informed the Group that the FAO mandate on AMR started in 2016 after the publication of the GAP; [FAO's action plan](#) (2021-2025) is now on its 2nd phase and it is implemented through different activities and tools:

- [FAO Reference Centres Network](#)
- [International FAO Antimicrobial Resistance Monitoring \(InFARM\) Data Platform](#) in animals and crops and AMU in crops. It is aligned with the Quadripartite's Global Integrated Surveillance System for AMR and AMU (GISSA). Piloting started in the second half of 2022; training of Members will start in 2023. Global call for data will start

this July. Countries will be able to decide to what level they want to share their data or not. It is expected that the first report will be published in 2024 with 2023 AMR animal and food data. AMU data will be collected for crops from 2025 onwards.

- [First annual congress of FAO Reference centres for AMR](#) of its nine Reference Centres took place in the UK hosted by Veterinary Medicines Directorate, Centre for Environment, Fisheries and Aquaculture Science and Animal and Plant Health Agency. The next meeting will take place after UNGA 2024. FAO is now considering expanding their Reference Centre Network and putting out a call for interest.
- [RENOFARM](#) The GLG in 2021, FAO Members and its Agricultural Committee requested a reduction in the need for AMU in food systems. This initiative aims to support its Members to reduce the need for antimicrobials in their agrifood production and will focus on the whole food value chain. RENOFORM will be implemented at national, regional and global levels. Its target is to achieve a total reduction of 30-50% AMU by 2030, and to achieve zero use of medically important antimicrobials for non-veterinary medical purposes in agri-food systems and train 50% of veterinary paraprofessionals. It aims to enrol 100 countries. RENOFORM is being piloted in Indonesia; it will also be piloted in Uganda and Nigeria. The Quadripartite organisations will be invited to be part of its managerial and/or technical advisory groups.
- **The Farm Field Schools (FFS) initiative** for the reduction of AMU and AMR has been conducted in [Ghana](#), [Kenya](#), Zambia and Zimbabwe. These have had a positive impact in changing the behaviour of farmers, improving biosecurity, disease prevention and control practices and productivity.
- [Alternative and advanced feed practices to promote responsible AMU](#). A call for data, information and experts is ongoing; call for experts will end on April 10, 2023. Quadripartite organisations, in particular WOAHP due to its mandate on AMU will be invited to the expert meeting to discuss evidence in July 2023.
- **Initiative to reduce AMU through vaccination** with Ohio and Kansas universities involved as FAO Collaborating Centres. This project aims to identify and prioritise bacterial and non-bacterial diseases in chicken, swine and cattle for which AMU is high and vaccines that could prevent these and will be conducted as a survey targeting farmers, veterinarians, government officials, and diagnostic staff amongst others.
- [FAO Progressive Management Pathway for Antimicrobial Resistance \(FAO-PMP-AMR\)](#) is used to assess the implementation of NAPs focused on agrifood systems. More than 30 countries have applied this tool and five have used the outcomes of this tool to update their NAPs.
- Assessment Tool for Laboratories and AMR Surveillance Systems ([FAO-ATLASS](#)) to evaluate surveillance systems and to assess lab capacity and data generation and data management. Over 180 laboratories and 50 countries in Africa, Asia, Eastern Europe, Central and South America have undergone evaluations.
- FAO is developing the FAO AMR Laboratory Community of Practices.
- Food Loss and Waste (FLW) and AMR is a new FAO initiative; a mapping exercise and literature review are being conducted to explore interactions between FLW and AMR across different food value chains (milk, eggs, chicken and beef) in different countries and regional contexts.

In FAO, AMR internal and external activities are led by its Chief Veterinary Officer coordinated by FAO's Joint [Centre for Zoonotic Diseases and Zoonoses \(CJWZ\)](#). Each pillar of the FAO's action plan has a leader; AMR activities are implemented through seven divisions and 11 units.

The Group thanked Dr Song for the update on the FAO activities. WOAHP informed Dr Song that a [disease prioritization exercise for vaccine development](#) was conducted recently by WOAHP and that it could be used to inform its initiative to reduce AMU through vaccination. The Group requested that a similar mapping exercise of AMR activities conducted by WOAHP according to its various departments is conducted in the future to inform the Group.

3. AMR & Veterinary Products Department updates I & II

3.1. AMR Strategy- inclusion of companion animals and future work – Secretariat

The Secretariat informed the Group that WOAHP is currently developing a concept note on the expansion of WOAHP's AMR Strategy to companion animals across its four pillars. The final concept note will be provided to the Group for their consideration for their meeting in October 2023.

The Group thanked the Secretariat for the update provided and welcomed the consideration of companion animals in the WOAHP strategy and activities. Dr Page informed the Group that infection prevention and control guidelines for veterinary hospitals have recently been published and that there are now a series of guidelines for responsible AMU available for companion animals that only require regular updating. Dr Page suggested that WOAHP could develop high level policies to engage its Members to incorporate companion animals in their AMR activities and national action plan and that this could be further enhanced through WOAHP's collaboration with WSAVA.

3.2. Antimicrobial Use at Field Level – Projects Repository – Dr Idrissa Savadogo

Dr Idrissa Savadogo informed the Group that so far, 81 studies have been identified and added to the repository. Projects included in the repository were mostly conducted by universities, research institutes, veterinary services and professional organisations. Data providers included farmers, veterinarians, feed mills and pharmacists. The most represented sector is the poultry sector (approx. 40%). A wide variety of methodologies and different indicators were used to collect and measure field level AMU data, respectively. A lack of awareness of Focal Points for Veterinary Products (FPVPs) was noted towards projects that had not involved the veterinary services in their countries. This repository will be made available to FPVPs so that they can familiarise themselves with the studies ongoing in their regions and/or countries. [ANIMUSE](#) (ANimal antiMicrobial USE) training events with FPVPs are being used to identify projects in the regions that could be added to the repository. It is envisaged to continue to grow the repository through discussions with relevant stakeholders. WOAAH is also exploring how to better display and disseminate the project information.

The Group thanked Dr Savadogo for the update and proposed that data from this project could be reported through the [WOAH Observatory](#). This will be followed up with colleagues from the Observatory.

The Group asked if this initiative will allow to incorporate quantitative data of field AMU data into ANIMUSE. Dr Yugueros-Marcos mentioned that WOAAH would like field AMU data from these studies to be collected by Members and that these incorporate the AMU field level data into their national monitoring systems themselves, and eventually, into ANIMUSE, in the future.

3.3. WOAAH Antimicrobial Use (AMU) Database

3.3.1. ANIMUSE – Mr Mduduzi Magongo

Mr Mduduzi Magongo updated the Group on the [ANIMUSE](#) activities, highlighting the system's access rate, regional ANIMUSE training workshops and the positive feedback received from participants. Mr Magongo also noted upcoming activities which included the ANIMUSE rebranding project, updates (evolutions) and the development and implementation of the ANIMUSE public portal and dashboards. Following the recent training workshops in Africa, additional ANIMUSE training workshops are planned for the Middle East, the Americas and Europe.

The Group thanked Mr Magongo for the update on the ANIMUSE and related training conducted by WOAAH to Members to capacitate them in the use of ANIMUSE and submit their AMU data to WOAAH.

3.3.2. Preliminary results for the 7th AMU annual report and the 8th round – Dr Delfy Góchez

Dr Delfy Góchez presented status of the 8th round of data collection to the Group. As of March 23rd, WOAAH received 98 submissions, of which 90% (88 out of 98) reported quantitative data.

The key figures of the 7th round of data collection were presented through its new interactive report available in the [public portal of ANIMUSE](#). A decrease on the trends over time was observed for 2017-2019, with a slight increase noted between 2018 and 2019. The 7th AMU Report is expected to be published in May 2023.

The Group thanked Dr Góchez for her presentation and commended WOAAH's work on AMU global data collection. Dr Góchez noted that there has been a decrease in the submission of AMU data. ANIMUSE training courses have helped to identify the fact that access to technology is still a challenge in many countries with limited resources available. The Group advised WOAAH to explore ways to help Members more and support them better to increase the number of Members submitting AMU data.

The Group asked what the process is for countries to decide to make the data public or keep it confidential. Mr Magongo is creating information videos for how data will be used by WOAAH to address Members' concerns regarding use of data submitted via ANIMUSE but also to show them the potential uses of their data.

3.4. Substandard and Falsified Veterinary Products project – Dr Andrés Garcia Campos

Dr Andrés Garcia Campos informed the Group that in December 2022, WOAAH finalised the first pilot experience (Pilot Phase 1) for the development of the global information and alert system of substandard and falsified veterinary products (SFVPs). Fourteen Members with a fair geographical representation of WOAAH regions participated and reported 37 incidents. Key findings are being evaluated for potential publication report, respecting data confidentiality of Members.

The feedback collected during Pilot Phase 1 informed the evolution of the project to Pilot Phase 2, targeting the enrolment of 40 Members. The main changes include the development of a SharePoint portal, accessible to participants, for the reporting of the in-country situation for the management of SFVPs through online forms, and for the notification of alerts to participants in line with Members' consent. Content of this portal will be changed according to participants' feedback. The creation of an electronic expert group (EEG) for the development of guidelines for post-market surveillance of SFVPs will be initiated during the third quarter of 2023.

The Group thanked Dr Garcia on the remarkable progress made on the SFVPs project. The Group remarked that it is important to continue to liaise with WHO to ensure harmonisation between human and animal health sector initiatives for SFVPs. The Group noted that the approach taken for SFVPs notification is very similar to existing pharmacovigilance systems and that this should be further explored. The Group asked for clarification on how Members will be notified of SFVPs; Dr Garcia responded that the reporting will be done at regional level without identifying the reporting country in question. The Group noted this could help to improve awareness of potential benefits and enhance participation by Members.

3.5. Workplan on AMR in Aquaculture activities – Dr Dante Matéo

Dr Dante Matéo informed the Group about the development of two guides, one for aquatic animal producers and other for aquatic animal health professionals on late 2022. The former guide focuses on good husbandry and biosecurity practices, and includes a decision-making tree on prevention, control and treatment of diseases. The latter guide advocates for preventive measures including vaccination and emphasizes the need for proper diagnosis and responsible prescription of antimicrobials.

Highlights of a survey on AMU and AMR on aquaculture completed towards the end of 2022 were also described. The results of this survey are being used to prepare a training plan for Focal Points on the subject. For the survey, 117 countries/territories participated through 157 focal points, mostly for Aquatic Animals but also for Veterinary Products. The survey revealed global and regional features, AMU and AMR in aquaculture, awareness and compliance levels to relevant WOAHS standards and tools, and their training needs.

The Group thanked Dr Matéo and asked him if there are any updates planned for the chapters related to AMR in the Aquatic Animal Health code. Dr Matéo noted that the Aquatic Health Commission will conduct similar updates to those of the Terrestrial Animal Health Code (TAHC) but that the timescale has not been decided yet.

3.6. Electronic expert group for antimicrobial use at field level data collection for aquaculture – Dr Dante Matéo

Dr Matéo informed the Group that the workplan on AMR in Aquaculture includes activities to support countries to address the lack of information on AMU monitoring at field level. A first step was the development of a literature review of the methodology available. A second step is the creation of an electronic expert group (EEG) to develop guidelines on AMU monitoring at field level for aquaculture. The EEG is represented by eight internationally recognized experts; two of them are from WOAHS Collaborating Centres, while most of the others are former collaborators. The EEG will develop the guidelines between April 2023 and July 2024. It is expected that these will later be piloted in selected countries to assess their functionality as an AMU monitoring tool at field level.

The Group thanked Dr Matéo for the presentation and commended WOAHS for the creation of the EEG to develop guidelines for AMU data collection in aquaculture production systems.

4. Update from other WOAHS departments

4.1. STAR-IDAZ- update on vaccines development roadmaps – Prof Gary Entrican

Prof Gary Entrican, based at the Roslin Institute in Edinburgh, informed the Group of the activities conducted by the International Research Consortium on Animal Health ([Star-IDAZ](#)) on the methodology adopted for the development of [roadmaps for strategic coordination of global research into infectious diseases of animals and zoonoses](#) with a focus on [vaccine technology roadmaps](#) to accelerate the development of disease control strategies. These roadmaps help to create research pipelines and have nodes of essential criteria known as "lead areas" needed to progress to the desired endpoints. Each node has leading areas underneath it for example, the research question that researchers are trying to solve, what the scientific and technological challenges are that need to be overcome in order to achieve it and the approaches needed to overcome these as well as the existing knowledge on successes and failures ("what works" and "what has not worked and why") and gaps that need to be addressed. This has been conducted through gap analysis by working groups in Star-IDAZ. So far, four generic roadmaps have been developed: diagnostic tests, therapeutics, candidate vaccines and disease control measures (integrated solutions). Vaccine platform technologies utilise a common backbone or vector to deliver specific antigens for vaccines against different

diseases; these include protein-, nucleic acid-, replicon- and vector (e.g. viruses, bacteria, protozoa)-based technologies. [Scientific guidelines for data requirements for master files for vaccine platform technology](#) have been created for human and veterinary products by the European Medicines Agency (EMA) to facilitate regulatory approval by competent authorities and accelerate the process of registration. The [applications of platform technologies for veterinary vaccines](#) and its benefits for One Health have been explored. Prof Entrican provided examples of a [vaccine for Rift Valley fever](#) for sheep and goats which is entering phase 1 clinical trials in the UK and livestock field trials in Kenya.

The Group thanked Prof Entrican for his interesting presentation and the impressive work of Star-IDAZ. The Group enquired about gathering information on vaccine development in the private sector; Prof Entrican clarified that, though it is still difficult to access it, there is now more information coming from early stages of vaccine development as part of Public Private Partnerships (PPPs) than before.

4.2. Biosecurity (new chapter of the Terrestrial Animal Health Code) – Dr Yukitake Okamura

The Group was informed of the Terrestrial Animal Health Standards Commission's (hereafter, the 'Code Commission') ongoing work to develop a new chapter on biosecurity (Chapter 4.x) in the Terrestrial Animal Health Code (TAHC). The Code Commission Secretariat represented by Dr Yukitake Okamura, explained that this was a part of the Code Commission's work to revise Section 4 of the TAHC. The Code Commission Secretariat also drew the Group's attention to Chapter 4.18, Vaccination, which was adopted in 2018 and has a general sentence on contribution of vaccination to reduce AMU in animals.

The Group thanked the Code Commission Secretariat for the information and acknowledged the importance of this work as an essential component in the reduction of the need to use antimicrobials, as it contributes to cut down the development of AMR. The Group requested to be updated on the progress of the work, and the Group was provided with the [report of the ad hoc group](#) for their information.

5. WG AMR & ad hoc groups updates

5.1. Ad hoc groups for bovine and cats and dogs – Secretariat

The Secretariat informed the Group that the members for the *ad hoc* groups that will be developing the Technical Reference Documents (hereafter, the "technical documents") listing antimicrobials of veterinary importance for (1) bovine animals and (2) cats and dogs have now been recruited. Both *ad hoc* groups will have their kick-off meetings at the end of April 2023 at WOAH headquarters; Prof van Vuuren will chair the *ad hoc* group on bovine animals and Dr Page will chair the *ad hoc* group on cats and dogs. The two *ad hoc* groups will be working in parallel; it is expected that both technical documents will be finalised by September 2024 for endorsement by the Group in October 2024. After this, it is envisaged that the Group will revise and update the WOAH List of Antimicrobials of Veterinary Importance. To be noted that the Group mentioned the opportunity to explore through the *ad hoc* group on antimicrobials of veterinary importance for cats and dogs other antimicrobials than antibacterial agents (i.e., antivirals, antifungals and antiparasitic drugs), as a feasibility exercise of how antimicrobial lists could be expanded in the future for other animal species.

The Group thanked the Secretariat for the update and the Dr Page and Prof van Vuuren for agreeing to act as chairs of the *ad hoc* groups.

5.2. TAHC Chapter 6.10. – Feedback from Members and Code Commission for consideration of WG AMR-WG AMR Secretariat and Code Commission Secretariat

The Secretariat gave an overview of the comments provided by Members regarding Chapter 6.10. 'Responsible and prudent use of antimicrobial agents in veterinary medicine' and the strategy adopted by the Code Commission for addressing these. Dr Okamura requested that the Subgroup provides, in addition to the revised Chapter 6.10., a report with the rationale for the edits proposed and provision of the response to the comments made by the Members. The Group was reminded that the deadline for submission of the revised Chapter 6.10. is August 4, 2023. The Subgroup will have up to four online meetings to work on Chapter 6.10 until mid-July 2023.

The Group continued the discussion on revision of other relevant chapters of the TAHC, that had been initiated at its last meeting in October 2022. After Chapter 6.10 is finalised, the Group will revise Chapters 6.8. 'Harmonisation of national antimicrobial resistance surveillance and monitoring programmes' and 6.9. 'Monitoring of the quantities and usage patterns of antimicrobial agents used in food-producing animals'; the revision of Chapter 6.8 could be conducted by an *ad hoc* group with members of the Group and experts in surveillance and Chapter 6.9 could be revised by a Subgroup of the Group. After these chapters are revised, revision of Chapter 6.7 'Introduction to the

recommendations for controlling antimicrobial resistance' and Chapter 6.11 'Risk analysis for antimicrobial resistance arising from the use of antimicrobial agents in animals could be considered.

6. WG AMR I & II – Chair / Secretariat

6.1. Roadmap 2023-2024

The Chair and the Secretariat presented the mapping of the roadmap against the recommendations of the OIE 2nd Global Conference on AMR to the Group. The new roadmap format renders more visibility to work of the Group (e.g., revision of existing WOH standards, documents) which is essential to monitor progress towards the recommendations. It also helps to identify recommendations that are covered outside of the Group (e.g., capacity building of Members through the Performance of Veterinary Services (PVS) Pathway, research prioritisation for alternatives to antimicrobials through Star-IDAZ). The roadmap of the Group is presented in Annex III of this report.

6.2. Revised ToRs

The Secretariat updated the Group on the revised [Terms of Reference \(ToRs\)](#) of the Group; these have been approved by the Deputy Director General of International Standards and Science (DDG). The revised ToRs clarify further the roles and responsibilities of the members of the Group, including the Chair, Rapporteur, and Secretariat.

The Group thanked the Secretariat and welcomed the new version of the ToRs.

6.3. Enrolment of new member(s)

Two new Group members should be identified, ideally before the end of 2023. The Secretariat informed the Group that eligibility criteria have been updated on the revised version of the ToRs. New members will be recruited mainly through WOH collaborating centres, WOH Reference Laboratories, regional and sub-regional representation offices, relevant organisations and stakeholders within WOH's network.

6.4. 90th General Session reporting

The Secretariat provided an overview of the [agenda](#) and "AMR kiosks" that will take place during the General Session; the presentation of the Group will take place Tuesday 23 May. The Group agreed that the Chair will update Members on the following activities; 1) revision of Chapter 6.10., 2) the latest technical documents for aquatic animals and swine, 3) the upcoming technical documents for antimicrobials for bovine animals and cats and dogs, 4) ANIMUSE and, 5) the SFVP project. These will be framed in the context of the 2nd OIE Global Conference on AMR and the Quadripartite work.

7. Any other business

7.1. Update antiparasitic resistance roadmap – Dr Mariá Szabó

Dr Mariá Szabó updated the Group on the WOH activities on antiparasitic drugs which are structured around three workstreams: 1) anthelmintic resistance, 2) finalization of the mapping exercise by the EEG on Antiparasitic Resistance (EEG-APR) and, 3) collaboration with partners.

Based on the recommendation of Terrestrial Animal Health Standards Commission and Scientific Commission for Animal Diseases (SCAD) the publication on anthelmintic resistance prepared by EEG-APR will be disseminated and promoted among Members through FPVP seminars, through communications, and relevant scientific meetings. Furthermore, some activities may be conducted regarding piloting practical methods and raising awareness for shared responsibilities. The EEG-APR has greatly accomplished its mission; its final meeting will be on 17th April.

A collaboration has started with FAO on "acaricide resistance management in livestock ticks", which includes a significant part of vector-borne diseases with the main goal to develop guidelines, to publish a Community of Practice (2025). WOH will contribute via their Collaborating Centers of Veterinary Products, as part of working group 3, on "acaricide life management, regulatory environment. It is envisioned that this could help to promote prudent and responsible use of drugs worldwide.

The Group thanked the update provided by Dr Szabó as the work is very relevant to address antiparasitic resistance. Dr Szabó thanked the Group for the support to these activities.

7.2. 3rd Ministerial Meeting on AMR in Oman- Muscat manifesto – Dr Fajer Al Saloom

Dr Fajer Al Saloom provided the Group with an overview of the recommendations of the Muscat Manifesto made during the 3rd Ministerial Meeting on AMR in Oman in November 24-25, 2022 and endorsed so far by 47 countries. The Manifesto includes two specific targets for the animal sector: a) reduction of AMU in animals to 30-50% by 2030, and b) zero use of MIAs for human medicine in animals for non-veterinary medical purposes.

The Group thanked Dr Al Saloom for her presentation of the Muscat Manifesto. Dr Yugueros-Marcos clarified to the Group that WOAHA's position is that the targets for the animal sector should be global and not country-specific. Furthermore, AMU data reported at its highest level (level 3) to ANIMUSE will allow assessment of the progress at regional and global level towards the proposed targets in the Oman Manifesto. The Group was informed by Dr Al Saloom that the 4th Ministerial meeting for AMR will be in Saudi Arabia in 2024 after UNGA 2024. This will help to send messages and get ministries involved in AMR in the Middle East region.

7.3. Critical analysis of “Mulchandani, R., Y. Wang, M. Gilbert and T. P. Van Boeckel (2023)” – Dr Stephen Page

Dr Stephen Page informed the Group that concerns regarding this publication have been raised about the data assumptions, results and interpretation of findings by epidemiologists at the Ministry of Agriculture of Australia. The publication estimates that Australia will be the country with the 5th highest AMU in animals worldwide by 2030.

The chair thanked Dr Page for his presentation and the thorough critical appraisal of the article. Dr Yugueros-Marcos reminded the Group that this should be an incentive to countries to contribute AMU data to ANIMUSE at level 3, as well as to make their data publicly available through national surveillance reports that can be produced via the ANIMUSE interface.

8. Date of next meeting

The next meeting of the Group will take place online via Zoom on 10-12 October 2023.

9. Closure of WG AMR meeting

The Chair thanked the Group, observers and WOAHA staff for their contribution to the meeting.

.../Annexes

Annex 1. Agenda

MEETING OF THE WOAHP WORKING GROUP ON ANTIMICROBIAL RESISTANCE

Paris, 28 to 30 March 2023

Day 1 (Tuesday 28 March – 09:00-17:00 CET)

09:00-09:20	<ol style="list-style-type: none">1. Welcome and opening of meeting2. Adoption of the agenda3. Appointment of rapporteur
09:20-11:00	<ol style="list-style-type: none">4. Landscape I<ul style="list-style-type: none">• Quadripartite overview of work on AMR- WOAHP - Holy Akwar (20'+10') [for info]• Update on Monitoring & Evaluation (M&E)- Ben Davies (20'+10') [for info & guidance]
11:00-11:15	Coffee break
11:15-13:00	<p>Landscape II</p> <ul style="list-style-type: none">• WHO MIA List and other AMR activities- Jorge Matheu (20'+5') [for info]• Update on the activities of the Therapeutic Guidelines Group of the World Small Animal Veterinary Association (WSAVA TGG)- Stephen Page (10'+5') [for info] <p>AMR & VP Dept updates I</p> <ul style="list-style-type: none">• AMR Strategy- inclusion of companion animals and future work – Secretariat (10'+5') [for info]• AMU repository- Idrissa Savadogo (10'+5') [for guidance & info]
13:00-14:15	Lunch break
14:15-15:30	<p>AMR & VP Dept updates II</p> <p>WOAHP Antimicrobial Use (AMU) Database</p> <ul style="list-style-type: none">• ANIMUSE- Mduduzi Magongo (10'+5') [for info]• Preliminary results of the 7th AMU annual report and the 8th round- Delfy Gochez (15'+10') [for guidance & info]
15:30- 15:45	Coffee break
15:45-17:00	<ol style="list-style-type: none">5. Update from other WOAHP departments <ul style="list-style-type: none">• STAR-IDAZ- update on vaccines development roadmaps- Gary Entrican (20'+5') [for info]• Biosecurity (new chapter Terrestrial Animal Health Code)- Standards Dept- Yukitake Okamura (10'+5') [for info]

Day 2 (Wednesday 29 March – 09:00-17:00 CET)

09:00-10:30	<p>Landscape II</p> <ul style="list-style-type: none">• FAO update on activities on AMR- Junxia Song (20'+10') [for info] <p>AMR & VP Dept updates II</p> <ul style="list-style-type: none">• Substandard and Falsified Veterinary Products project- Andrés Garcia Campos (20'+5') [for info]• Workplan on AMR in Aquaculture activities- Dante Matéo (10'+5') [for info]
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	<ul style="list-style-type: none"> Electronic expert group for antimicrobial use at field level data collection for aquaculture - Dante Matéo (10'+10') [for guidance & info]
10:30-10:45	Coffee break
10:45-13:00	WG AMR & ad hoc groups updates <ul style="list-style-type: none"> <i>Ad hoc</i> groups for the development of the Technical Reference Documents listing Antimicrobials of Veterinary Importance for bovine animals and cats and dogs (10'+5')- Secretariat [for info] TAHC Chapter 6.10.- Feedback from Members and TAHSC to be considered by WG-Secretariat/ Standards (60'+60') [for info & discussion]
13:00-14:15	Lunch break
14.15-15.30	Subgroup only: TAHC Chapter 6.10.- Agreement on quick actions and distribution of work I [discussion & actions]
15:30-15:45	Coffee break
15:45-17:00	Subgroup only: <ul style="list-style-type: none"> TAHC Chapter 6.10.- Agreement on quick actions and distribution of work II [discussion & actions]
19:00-22:00	Dinner

Day 3 (Thursday 30 March – 09:00-13:00 CET)

09:00-10:30	WG AMR I- Chair/ Secretariat <ul style="list-style-type: none"> Roadmap 2023-2024 [for info & discussion]
10:30-10:45	Coffee break
10:45-13:00	WG AMR II- Chair/ Secretariat <ul style="list-style-type: none"> Revised ToRs (10'+5') [for info] Enrolment of new member(s) (5'+5') [for guidance & info] 90th General Session (SG) reporting (10'+5') [for info & discussion] Any other business <ul style="list-style-type: none"> Update antiparasitic resistance roadmap- Maria Szabo (5'+5') [for info] Short critique of “Mulchandani, R., Y. Wang, M. Gilbert and T. P. Van Boeckel (2023) Date of next meeting Closure of WG AMR meeting

Annex 2. List of Participants

MEETING OF THE WOAHP WORKING GROUP ON ANTIMICROBIAL RESISTANCE

Paris, 28 to 30 March 2023

MEMBERS

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Annex 3. Workplan of the AMR Working Group March 2023

MEETING OF THE WOAHP WORKING GROUP ON ANTIMICROBIAL RESISTANCE

Paris, 28 to 30 March 2023

1. To continue updating WOAHP standards in the WOAHP Terrestrial and Aquatic Codes relevant to AMR and needed capacities of Members and to complete standards in the WOAHP Terrestrial and Aquatic Manuals			
Subject	Action	Status	Next milestone
Terrestrial Animal Health Code (TAHC)	Update of Chapter 6.10. Responsible and prudent use of antimicrobials in veterinary medicine	Ongoing	Submission to TAHSC – Aug. 2023
	Recommend update of other TAHC chapters 6.8 and 6.9	Preselection and prioritization done; revision to be conducted after Chapter 6.10	Proposal to TAHSC – Sep. 2023
2. To provide WOAHP Members, through activities undertaken under the PVS Pathway, with tools and capacity-building activities, with a greater focus on AMR including update of policy and legislation			
Subject	Action	Status	Next milestone
No active action for WG	No active action for WG		
3. To continue to develop the WOAHP List of Antimicrobial Agents of Veterinary Importance, considering a) the inclusion of antimicrobials only used in companion animals, b) the sub-division of the List in the different animal species, and c) the expansion of the List, to include over time antiparasitic agents of veterinary importance such as anthelmintics, insecticides and acaricides			
Subject	Action	Status	Next milestone
WOAHP List of Antimicrobial Agents of Veterinary Importance, subdivision by species	Poultry subdivision pilot exercise, including development of pilot methodology	Completed	April 2021
	Adapt/apply poultry of the methodology to swine	Completed	October 2022
	Consider other species: completed an initial discussion on prioritisation	Completed	April 2022
	Oversight technical reference document for aquatic animals	Completed	October 2022
	Discuss other animal species [small ruminants, camels, companion animals...]	Completed	October 2022
	Discuss the addition of companion animals	Completed	April 2021
	Approve technical reference document for bovine animals	Ongoing. <i>Ad hoc</i> group starting in April 2023	Advancement report – Oct. 2023 Final deliverable – Sep. 2024 (tentative)
	Approve technical reference document Cats and dogs	Ongoing. <i>Ad hoc</i> group starting in April 2023	Advancement report – Oct. 2023 Final deliverable – Sep. 2024 (tentative)
	Review main WOAHP List	Planned after completion of ongoing lists	Launch TBD

WOAH List of Antimicrobial Agents of Veterinary Importance	Revise recommendations of the WOAHA List of Antimicrobials of Veterinary Importance so that it is aligned with the WHO MIA List	Planned after publication of WHO's MIA list (May 2023)	Set action plan – Oct.2023
<p>4. To further develop the WOAHA data collection on Antimicrobial Agents Intended for Use in Animals, converting the current spreadsheet format to a database system, able to accommodate data submissions by animal species, and its connection to the World Animal Health Information System (WAHIS) and also allowing addition of data from field studies</p>			
Subject	Issue/Action	Status	Next milestone
WOAH Global AMU Database (ANIMUSE)	Guide and oversight transition of data collection from spreadsheet to a database system, expert advice	Completed	October 2022
	Guide on the refinement of the numerator, denominator (biomass), and reporting	On stand by	Rediscuss – Oct. 2023
	Guide on having a quantitative reporting option on species level	On stand by	Rediscuss – Oct. 2023
Field level data	Oversight of repository of studies and methodologies for data collection	Ongoing	Advancement report – Oct. 2023
	Oversight of guidelines in collaboration with FAO for development of guidelines for Asia and Pacific region	Close to completion	Present final deliverable – Oct. 2023
	Oversight of guidelines for data collection of aquatic species at field level	Starting in May 2023	Advancement report – Oct. 2023 Final deliverable – Jul. 2024
<p>5. To work with Animal Food Production sectors and institutions such as the World Veterinary Association and related professional bodies for supporting the development of species-specific treatment guidelines to be used at sub-regional and national level and the establishment of a global repository of existing clinical treatment guidelines and tools</p>			
Subject	Issue/Action	Status	Next milestone
Essential Medicines Lists for livestock species (Brooke-WVA)	Be informed and comment Brooke and WVA EML lists for bovine, caprine, swine and equine.	Lists under development at Brooke/WVA	Advancement report – Oct. 2023
<p>6. To explore the possibility of building an information system of falsified or substandard drugs in the animal sectors illegally circulating within and between countries and building on the experience of the monitoring systems set up by WHO for drugs designated for human use taking a “One Health” approach;</p>			
Subject	Issue/Action	Status	Next milestone
Substandard and falsified products	Guide WOAHA's work on substandard and falsified veterinary products app project	Ongoing. Updated presented in Mar.2023	Advancement report – Oct. 2023

7. To encourage research based on robust methodologies, aiming at comparison of results, that focuses on a better understanding of the dynamics and epidemiology of AMR, from an integrated “One Health” perspective, on the development of priority vaccines and other alternatives to antimicrobials, of proven safety, efficacy and quality and on rapid diagnostic and sensitivity tests specific for veterinary medicine, building on public-private partnerships			
Subject	Issue/Action	Status	Next milestone
Alternatives to antimicrobials (ATA)	Inform on categorisation of products	On stand by	Rediscuss – Oct. 2023
8. To explore the opportunity to develop standards or guidelines related to autogenous vaccines and other alternatives to antimicrobials, including guidance for quality, safety and efficacy, as tools to reduce the need to use antimicrobials			
Subject	Issue/Action	Status	Next milestone
Alternatives to antimicrobials (ATA)	Review of related existing information in the WOAAH Manual	On stand by	Rediscuss – Oct.2023
9. To develop a Monitoring and Evaluation (M&E) framework to monitor the progress of the implementation of the WOAAH Strategy on AMR and the Prudent Use of Antimicrobials, adopted by Resolution No. 36 by the WOAAH World Assembly of Delegates at the 84th General Session of WOAAH in 2016			
Subject	Issue/Action	Status	Next milestone
Monitoring and Evaluation framework for the WOAAH Strategy on AMR	Oversight framework development	Completed	October 2021
	Oversight progress and implementation	Ongoing	Advancement report – Oct.2023
10. To continue to support WOAAH Members in the development of their communication activities and national action plans involving all animal health stakeholders, specifically supporting capacity building activities for behavioural change initiatives tackling antimicrobial resistance			
Subject	Issue/Action	Status	Next milestone
No active action for WG	No active action for WG		
Others			
Subject	Issue/Action	Status	Next milestone
WOAH work on antiparasitics	Oversight WOAAH's antiparasitic resistance work	Ongoing	Advancement report – Oct.2023
Biosecurity chapter	Be informed about development of new biosecurity chapter within TAHSC	Action coming from Mar.2023 meeting	Advancement report – Oct.2023
AMR&VP work on AMR	Be informed of actions and mapping of activities/actors	Action coming from Mar.2023 meeting	Presentation – Oct.2023

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