



JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX COMMITTEE ON RESIDUES OF VETERINARY DRUGS IN FOODS

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MATTERS OF INTEREST ARISING FROM WOH INCLUDING VICH

(Prepared by WOH)

1. Introduction

1. As an observer organisation, the World Organisation for Animal Health (WOAH) has a long-standing collaboration and regularly participates in meetings of the Codex Alimentarius Commission (CAC).
2. WOH addresses food safety-related issues in its standard-setting activities and works closely with CAC and its Committees, and with other international organisations in promoting safe international trade in animals and their products. Antimicrobial Resistance (AMR) is of highest interest to WOH and its 182 Members and is also part of the quadripartite (FAO, WOH, WHO, UNEP) collaboration.
3. The WOH Seventh Strategic Plan (2021-2025) has been successfully endorsed and adopted with the following five strategic objectives:
 - **WOAH Scientific expertise**, by reinforcing the scientific excellence of the Organisation, improving collaboration and broadening the Organisation's approach to animal health systems.
 - **Data governance**, by optimising data management frameworks, while improving accessibility and visibility of data for stakeholders.
 - **Responding to Member's needs**, by monitoring implementation of standards to ensure transparency and by improving insights provided through the Performance of Veterinary Service PVS Pathway.
 - **Collaboration with Partners**, by developing the voice of WOH in global policy dialogue, targeting collaboration for impact.
 - **Efficiency and agility**, by modernising WOH through robust processes & tools.
4. The WOH 7th Strategic Plan (SP) is undergoing implementation. WOH's Antimicrobial Resistance & Veterinary Products Department continues to contribute actively to the implementation of WOH work through the quality of veterinary products and the WOH data collection on antimicrobial agents intended for use in animals. In this regard, a significant development is the launch of the ANImal antiMicrobial USE (ANIMUSE) Global Database an interactive and automated database that allows Members to have ownership of their AMU data, to report, consult, analyse and communicate to national stakeholders on these data while having private and confidential access to their historically reported data. This initiative also answers to most, if not all, of the 7SP strategic objectives, thus highlighting how the Organisation strives to streamline its efforts into coordinated, impactful activities.

2. Antimicrobial resistance

- Standards and guidelines related to AMR
5. The primary mandate of WOH is to produce standards published in *Codes* and *Manuals* covering terrestrial and aquatic animals, which provide best practices to protect and promote animal health and welfare. Their development involves regular review and formal adoption at the annual General Session by the World Assembly, made up of Delegates designated by the governments of the 182 WOH Members.

6. Since 1997, in recognition of the growing importance of AMR at a global level, WOAAH has developed standards and guidelines aimed at supporting responsible and prudent use of antimicrobial agents in animals and monitoring of AMR and of antimicrobial use in animals. The WOAAH standard-setting process ensures that standards are updated, when relevant, in order to accommodate new findings and Member Country comments. This work was supported by the WOAAH *ad hoc* Group on AMR, which included representatives from WHO, FAO, and, when relevant, the Codex secretariat. The WOAAH *ad hoc* Group provided expertise by updating the chapters relevant to AMR in the WOAAH *Terrestrial Animal Health Code*, <https://www.woah.org/en/what-we-do/standards/codes-and-manuals/terrestrial-code-online-access/>,
Aquatic Animal Health Code <https://www.woah.org/en/what-we-do/standards/codes-and-manuals/aquatic-code-online-access/>.
Code chapters include:
 - Harmonisation of national AMR surveillance and monitoring programmes, ([Chapter 6.8](#))
 - Monitoring of the quantities and usage patterns of antimicrobial agents used in food-producing animals, ([Chapter 6.9](#))
 - Responsible and prudent use of antimicrobial agents in veterinary medicine, ([Chapter 6.10](#)) and
 - Risk analysis for AMR arising from the use of antimicrobial agents in animals, ([Chapter 6.11](#))
7. The *Manual of Diagnostic Test and Vaccines for Terrestrial Animals* provides technical specifications for Laboratory methodologies for bacterial antimicrobial susceptibility testing. <https://www.woah.org/en/what-we-do/standards/codes-and-manuals/terrestrial-manual-online-access/>
8. The 2nd edition of the booklet of WOAAH standards and guidelines related to AMR has been published and is also available in print and online at: <https://www.woah.org/app/uploads/2021/03/book-amr-ang-fnl-lr.pdf>
9. Specific recommendations on the use of antimicrobial agents in animals are published in the WOAAH List of Antimicrobial Agents of Veterinary Importance. The List has been updated several times since 2007 and was reviewed by the WOAAH *ad hoc* on AMR Group in January 2018, 2019 and 2021 to take into account the latest update of the WHO List of Critically Important Antimicrobials. The current List is available at: <https://www.woah.org/app/uploads/2021/06/a-oie-list-antimicrobials-june2021.pdf>
10. Following the adoption of Resolution No. 14 “WOAH’s engagement in the One Health Global Effort to control Antimicrobial Resistance” by the World Assembly of WOAAH Delegates in May 2019, a **Working Group on Antimicrobial Resistance** was established (replacing the *ad hoc* Group on AMR) which had its first meeting in October 2019 to support the implementation of the WOAAH Global Strategy on Antimicrobial Resistance and the Prudent Use of Antimicrobials and the Recommendations of the 2nd WOAAH Global Conference on AMR.
11. The Working Group has so far developed Technical Reference Documents on Antimicrobials of Veterinary Importance for poultry, swine, and aquatic animals. The Working Group has initiated work on Technical Reference Documents for bovine animals and cats and dogs that will be conducted during 2023 and the first trimester of 2024. After completion of these two Technical Reference Documents, the Working Group will revise and update WOAAH’s List of Antimicrobials of Veterinary Importance.
12. The Working Group has conducted the revision of Chapter 6.10 on Responsible and Prudent Use of Antimicrobials in Veterinary Medicine of the *Terrestrial Animal Health Code* taking into account the latest version of the Codex Alimentarius Code of Practice and the Global Action Plan. The revised chapter 6.10 includes the expansion of the environmental sector component and the inclusion of non-food producing animals (i.e., companion and leisure animals) as these should also be considered when addressing AMR. The role of relevant stakeholders (e.g., veterinarians, veterinary paraprofessionals, pharmaceutical industry, and National Competent Authorities) has been further consolidated and responsibilities of owners, keepers and breeders of non-food producing animals have also been defined in the revised document. The revised chapter has been submitted for consideration of the *Terrestrial Animal Health Standards Commission* in September 2022 and will be circulated to Members for comments before the end of the year to inform further revision of the chapter by the Working Group.
13. The Working Group has held six meetings since its inception; the meeting reports and documents produced by the Working Group are available at: <https://www.woah.org/en/what-we-do/standards/standard-setting-process/working-groups/working-group-on-antimicrobial-resistance/#ui-id-3>

14. In 2020 the Antimicrobial Resistance and Veterinary Products Department finished the development of a workplan on AMR in aquaculture. The aim of this workplan is to enhance WOAHA tools and activities for the control of AMR in aquatic animals. Ten activities were proposed to support Members' aquaculture by promoting prudent and responsible use of antimicrobials and developing competences for controlling AMR. The implementation of the workplan started the same year and continued in 2021 and 2022.
 15. One of the workplan outputs was the recent development of the Technical Reference Document Listing Antimicrobial Agents of Veterinary Importance, an Annex of the List of Antimicrobial Agents of Veterinary Importance. This technical document includes an updated list of antibiotics authorized for use in fish and crustacean aquaculture (6 newly considered and 13 not considered anymore), a list of 23 major bacterial pathogens/diseases of fish and five for crustaceans, and a table with 12 classes/sub-classes of antibiotics used to treat fish infections, and four for crustacean infections.
 16. The document was developed by the *ad hoc* Group on Technical Reference for Aquatic Animals during 2021-2022 and endorsed by the WOAHA Working Group for AMR in October 2022. It is expected that the delivered technical document will assist Members to develop their treatment guidelines in aquaculture.
- WOAHA Collection of data on antimicrobial agents intended for use in animals
17. WOAHA started with the annual data collection on the use of antimicrobial agents in animals in the last trimester of 2015. The first report was published in December 2016. Since then, WOAHA has published an annual report on the use of antimicrobial agents intended for use in animals following an annual round of data collection from WOAHA Members and non-Members; moreover, during its eighth round has launched ANIMUSE for the collection of AMU data. All WOAHA's AMU annual reports are available at:
<https://doc.woaha.org/dyn/portal/listalo.xhtml?page=listalo&req=162>
 18. The seventh WOAHA Annual Report will be published in early 2023 and will present the findings of the seventh round of data collection, providing both a global and a regional analysis. The number of Members reporting data has grown from 130 countries for the first report to 157 countries for the seventh report. The seventh report will also include evidence on the barriers that some countries experienced in reporting quantitative data on antimicrobial agents intended for use in animals. Additionally, this report will provide calculations of animal biomass for food-producing species for more than 100 Members reporting quantitative data for the year 2019, and an analysis of antimicrobial quantities reported adjusted by a denominator. Finally, this report will also analyse the trends on time for more than 80 countries providing data for the period of 2017 to 2019.
 19. The eighth data collection round of WOAHA AMU Global Database (now ANIMUSE Global Database) started in September 2022 and is currently taking place.

3. Capacity building

20. Capacity building activities, including good governance of national veterinary services and veterinary products, are key elements for animal and public health.
- National Focal Points
21. WOAHA encourages all Members to nominate National Focal Points, under the authority of WOAHA's Delegate, for eight strategic issues, including for veterinary products.
 22. The 6th cycle of training seminars for National Focal Points for Veterinary Products has been completed despite the covid pandemic in Africa, Asia and the Pacific, the Middle East and Europe. The main objectives of the 6th cycle were to increase availability of quality assured veterinary products, tackle AMR and raise awareness of antiparasitic resistance.
 23. After the completion of the 6th cycle training seminars, WOAHA prepared the 7th cycle during 2021, commencing in the first semester of 2022. The 7th cycle National Focal Points training seminar was initiated with a succession of two-day virtual sessions delivered in Anglophone Africa (February 2022) and Asia-Pacific (April 2022), addressed the following subjects:
 - WOAHA Registration of Diagnostic Kits - to seek feedback from the Focal Points of Veterinary Products and Aquatic Animal Health on WOAHA and national registration procedures / systems,
 - Substandard and falsified veterinary products – to provide updates and seek feedback on the proposed Global information and alert system for substandard and falsified veterinary products, including the outcome of the WOAHA pilot program initiated between October-December 2021. Focal Points were invited to share their national experiences in managing substandard and falsified veterinary products,

- Introducing the upgraded manual “How to set up a pharmacovigilance system for veterinary medicinal products” and exploring national and regional approach opportunities.
 - Regulatory harmonization/convergence, International Cooperation on Harmonization of technical requirements for registration of veterinary medicinal products (VICH-VICH Outreach Forum, VOF),
 - Presenting the WOAHA’s activities on antiparasitic resistance including the summary of two surveys conducted in Africa and the Asia Pacific, and
 - AMU (use) data collection (field level data and aquaculture AMU) and the -Global Antimicrobial Resistance and Use Surveillance System (GLASS) advocated by WHO.
24. Ahead of future training cycles (2023-2025), the WOAHA’s approach to National Focal Point Training is being reviewed and re-designed to better target the specific and differing needs of the five WOAHA regions. The primary target audience will remain the National Focal Points of Veterinary Products. The revised approach will establish a solid base for the preparation of general and tailored training materials, the provision of a lively platform for dialogue, updates, experience and knowledge exchanges via face-to-face seminars, webinars, workshop and e-learning opportunities.
25. A project has already been implemented to facilitate this transition, with key objectives comprising review of how Seminar Cycles (SCs) for Veterinary Product FPs are conceived, building more tailored and complementary programs in the search for developing sustainable actions in the field. The outcomes of this project will eventually lead to the development and implementation of WOAHA standard aligned policies, promoting access to quality assured, safe and efficient veterinary products: vaccines, pharmaceuticals (including antimicrobials) and diagnostic kits. In essence, a “Cycle” will be tailored within a time frame dedicated to the implementation of selected actions monitored and measured against specific objectives, for example revisions to or new WOAHA standards & guidelines.
26. A manual with practical guidance on how to set up a pharmacovigilance system for veterinary medicinal products has been prepared in collaboration with HealthforAnimals, in the framework of a public private partnership. The manual includes relevant references to the VICH guidelines and was finalised in January 2022 by incorporating the views of the Focal Points for Veterinary Products from all regions within the frame of the 6th cycle training seminars and presented in the 7th Cycle training seminars for English Speaking Africa and Asia and the Pacific. The aim is to produce a joint publication between WOAHA and HealthforAnimals in several language editions (English, French and Spanish) by end of 2022.

WOAHA published a valuable article on “Responsible and prudent use of anthelmintic chemicals to help control anthelmintic resistance in grazing livestock species” in December 2021. The article can be found at: <https://www.woah.org/en/document/anthelmintics-grazing-livestock-2021>.

The article was also released in the WOAHA Officials on 28 June 2022 <https://bulletin.woah.org/?official=08-1-3-2022-1 anthelmintic> .

This publication was prepared by the WOAHA Electronic Expert Group on Antiparasitic Resistance (EEG-APR). The aim of this publication was to respond to Members’ needs identified during Training Seminars for the Focal Points of Veterinary Products during the 4th and 5th training cycle. During these worldwide seminars, the views of its 182 Members were sought on the potential need for WOAHA guidelines and standards focussed on responsible and prudent use of antiparasitic agents. Members from all regions of the world expressed strong support for the WOAHA developing these guidelines or standards to help to fight and decrease antiparasitic resistance.

➤ WOAHA and the VICH activities

27. WOAHA continues to be active in assisting 182 Members to build and implement effective legislation to assure the quality, safety and efficacy of veterinary medicinal products, particularly antimicrobial agents. **VICH (International Cooperation on Harmonisation of Technical Requirements for Registration of Veterinary Medicinal Products)** is a trilateral (EU-Japan-USA) programme aimed at harmonising technical requirements for veterinary product registration. WOAHA, as associate Member of VICH, provides support and encourages its Members Countries to take the VICH guidelines into consideration. WOAHA considers that the international harmonisation of technical requirements for the pre- and post-marketing authorisation of veterinary medicinal products is a necessity for animal health, public health, protection of the environment and the facilitation of international trade, and that VICH is one of the necessary tools to achieve these aims. The **VICH Outreach Forum (VOF)** is a VICH/WOAHA initiative with the main objective of providing a basis for wider international harmonization of technical requirements for the marketing authorisation of veterinary medicinal products.

WOAH co-chairs the VOF in collaboration with the chair of the VICH Steering Committee (SC). In order to provide WOAHA Members with information about efforts to harmonise requirements, WOAHA provides a brief summary after each VOF meeting via the Delegate and Focal Points for Veterinary Products. WOAHA also circulates VICH guidelines and other relevant VICH documents (i.e., adopted concept papers) to WOAHA Members. When relevant, the WOAHA Biological Standards Commission is consulted or informed about relevant subjects to achieve harmonisation and maintain transparency.

28. The VICH Outreach Forum (VOF) meets regularly alongside the VICH Steering Committee (SC) meeting. Recent meetings are listed below.
 - The 14th VICH Outreach Forum (16 November 2021) and 40th VICH Steering Committee meeting (15- 18 November 2021) were held electronically.
 29. The press releases are available on the website: <https://www.vichsec.org/en/library/press-releases.html> and <https://www.woah.org/en/what-we-offer/veterinary-products/vich-outreach-forum/>.
 - WOAHA will strengthen support to the WOAHA VOF Members more actively and keep WOAHA Focal Points of Veterinary Products informed on matters related to VICH activities.
 30. During the 40th SC meeting, the Committee:
 - Reviewed the VICH Guideline 18 (Impurities: Residual Solvent in New Veterinary Medicinal Products, Active Substances and Excipients (Revision 2) and released for consultation Step 4 for VICH Regions by 10 June 2022. Please find attached for your information the revised <https://www.vichsec.org/en/activities/concept-papers/active-draft-guidelines.html> along with the [public statement](#) reflecting the meeting outcomes,
 - Reviewed 18 Guidelines (GLs), in line with current VICH monitoring procedure, concluding no GLs need immediate revision, noting several GLs where future revision may be warranted when opportunity becomes available in the workplan,
 - Adopted a Concept Paper of International Council for Harmonisation of Technical Requirements for pharmaceuticals for Human Use (ICH) Q8 Pharmaceutical Development and mandated the Expert Group on Quality to begin the work on a new VICH guideline and
 - Decided in principle that VICH 7th Public Conference will take place in 2024, with the aim to attract more non-VICH countries
 31. The 15th VICH Outreach Forum and 41st Steering Committee Meeting is planned for 14-17 November 2022 in Washington DC, USA with participation of the new VOF Members: Botswana, Eastern African Community (EAC) Southern African Development Community (SADC) and Zambia (on 15th of November 2022).
 32. The VICH SC has developed training materials on VICH guidelines. These materials provide context and explanation of how the guidelines should be used. The primary audience for these training materials are VICH Outreach Forum Member Countries. The new VICH training presentations on Environmental Impact Assessment for Veterinary Medicinal Products, (VICH Guidelines 6 and 38) and their implementation in EU, Japan and USA are available on the VICH website with audio recording. (<https://vichsec.org/en/training.html>)
- The WOAHA PVS Pathway
33. The **WOAHA Performance of Veterinary Services PVS Pathway** is a global programme for the sustainable improvement of a Member's Veterinary Services in compliance with WOAHA's internationally agreed standards on the quality of Veterinary Services. As a flagship programme, it is central to WOAHA core mission of improving animal health and welfare around the world. At the specific request of a Member, WOAHA conducts an independent and staged process of assessments and planning on the quality of Veterinary Services and Aquatic Animal Health Services, using the WOAHA PVS Tool, which notably assesses veterinary medicines and biologicals. Subsequent steps in the PVS Pathway include PVS Gap Analyses, PVS Pathway Sustainable Laboratories missions, the Veterinary Legislation Support Programme (VLSP missions and one-year Agreements) and PVS Evaluation Follow-Up missions, to improve and monitor compliance of the veterinary infrastructure with WOAHA quality standards set out in the WOAHA *Terrestrial or Aquatic Animal Health Codes*. Further background on the PVS Pathway can be found at: [PVS Pathway - WOAHA - World Organisation for Animal Health](#)
 34. The programme has proven an unmitigated success over the last decade. To date (October 2022), 142 Members have been actively engaged by implementing initial WOAHA PVS Evaluation missions. Relevant information may be found at: [PVS Evaluation Missions Status - WOAHA - World Organisation for Animal Health](#).

35. The **PVS Tool** assesses Critical Competency II-8 'Veterinary medicines and biologicals': the results of the PVS Evaluations reveal that nearly three-quarters of assessed Members cannot regulate VMPs (24% of assessed Members) or have only some capability to exercise regulatory control over VMPs (47% of assessed Members).
36. Following the 2017 PVS Pathway Think Tank Forum (which aimed at reviewing, consulting and planning for the evolution of the PVS Pathway), the 2019 Edition of the PVS Tool included a Critical Competency dedicated to AMU/AMR (Critical Competency II-9 'Antimicrobial Resistance (AMR) and Antimicrobial Use (AMU)'. This new edition is available at: <https://www.woah.org/app/uploads/2021/03/2019-pvs-tool-final.pdf>.
37. The standard methodology of the WOAHP VPS Veterinary Legislation Support Programme (VLSP) has always addressed AMR-relevant legislation, systematically assessing e.g. legislation on regulation of veterinary medicinal products and food safety. A cross-analysis conducted over the VLSP reports showed that most recurrent weaknesses of AMR-relevant legislation were gaps in the legislation governing: i) veterinary medicinal products, ii) clear identification, as well as appropriate expertise, responsibilities and powers of the Competent Authority for these products, iii) withdrawal period maximum residue limits, and iv) the veterinary profession.
38. From 2019, the VLSP undertook additional efforts to strengthen the focus on legislation relevant for AMR, notably i) providing inputs to the FAO *Methodology to analyse AMR-relevant legislation in the food and agriculture sector*; ii) developing a new questionnaire aiming to assess, in depth, a Member's AMR-relevant legislation in the veterinary domain, and iii) conducting a first pilot joint FAO-WOAH VLSP mission in Philippines.

In 2021, through a project funded by the Multi-Partner Trust Fund (MPTF), the FAO, WHO and WOAHP VLSP developed a *Tripartite One Health Assessment Tool for AMR-relevant Legislation*, which is intended to identify national AMR-relevant legal gaps and options for legal reform across all One Health sectors. This Tool was built on the abovementioned FAO Methodology, and it developed the animal health component further from the WOAHP VLSP AMR Questionnaire and incorporated the human health aspects. The first country where it has been piloted is Morocco (with a Report presented in a national workshop in early November 2022). The two other pilot countries will be Cambodia and Zimbabwe, and the UN Environment Programme (UNEP) will join the project. Because of its One Health approach, and because legislation provides the powers and authorities necessary to support good governance, such a Tool can help stem the AMR phenomenon worldwide.

➤ Veterinary Education

39. WOAHP Recommendations on the competencies of graduating veterinarians ('Day 1 graduates', 2012) prepare the Day 1 veterinary graduate to promote global veterinary public health and provide a basis for advanced training and education for veterinarians in all WOAHP Members. The WOAHP Guidelines on Veterinary Education Core Curriculum (2013) are a companion to the previous document and are to assure the quality of education required for the public and private components of National Veterinary Services. Further information is available at the following link: [Veterinary and Veterinary Paraprofessional Education - WOAHP - World Organisation for Animal Health](#).
40. WOAHP has also produced WOAHP Competency Guidelines for Veterinary Paraprofessionals (2018) and WOAHP Curricula Guidelines for Veterinary Paraprofessionals (2019): [Veterinary and Veterinary Paraprofessional Education - WOAHP - World Organisation for Animal Health](#) The documents for veterinary paraprofessionals include references to antimicrobial resistance and recognise the need to train veterinary paraprofessionals on the proper use of antibiotics.
41. WOAHP has piloted a new type of targeted support activity focused on enhancing Members' ability to use the above-mentioned guidelines for VPPs to design or upgrade national VPP training curricula in order to be harmonised with WOAHP guidelines. So far, three pilot curricula missions have been initiated (Senegal, Togo, Georgia) and the methodology is still being refined. Information about the pilot mission in Georgia can be found on this web article: [Pilot VPP Curriculum support mission in Georgia - WOAHP – Europe](#)

4. International Collaboration

➤ Global Action Plan on AMR

42. WOAHP has continued its close collaboration with WHO and FAO and more recently with the UNEP on the delivery of the Global Action Plan on AMR as part of the Quadripartite. WOAHP Members are encouraged to follow the guidance of the Global Action Plan and develop National Action Plans to address AMR at national level. Together with FAO and WHO as part of the Tripartite, WOAHP has developed a comprehensive Monitoring and Evaluation Framework for the Global Action Plan, which was published in June 2019 and is currently being piloted in ten countries. A component of the Global Action Plan Monitoring and Evaluation Framework includes the existing Tripartite Annual Survey on the implementation of National Action Plans. This annual survey, known as the Tripartite Country Self-Assessment Survey (TrACSS) and already into its 6th cycle, is facilitated by WOAHP for the participation of its Members in this process where necessary.

43. WOH has continued the strengthening of its collaboration with FAO , UNEP and WHO in AMR, since the establishment of the Quadripartite Joint Secretariat (QJS) on AMR, and the Multi-Partner Trust Fund (MPTF) on AMR in 2019. The QJS has also served as the secretariat for the AMR-MPTF. Work took off in 2021 with four global projects and eight country programmes under implementation (Morocco, Kenya, Cambodia, Indonesia, Ghana, Zimbabwe, Ethiopia and Tajikistan). This has led to enhanced multisectoral country coordination, increased awareness and expanded capacity of official services. WOH leads the Kenya Country and GAP level M&E Global MPTF grants.
44. Deeply engaged also with the Global Leaders Group, WOH participates in technical groups for the delivery of advocacy documents: a workplan with agreed key performance indicators, and publications in the form of info notes and statements on issues related to AMR, helping to raise political awareness on the graveness of AMR.
45. WOH has strongly contributed to drafting a two-year strategic framework for the joint work, to which United Nations Environment Programme (UNEP) has joined. Underpinned by the Global Action Plan on AMR, and launched early 2022, the overall goal is to preserve antimicrobial efficacy and ensure sustainable and equitable access to antimicrobials for responsible and prudent use in humans, animals and plants to reduce the development and spread of AMR.
46. Quadripartite partners have agreed on Terms of Reference for a Multistakeholder Partnership Platform, thanks to the involvement of various stakeholders across the globe and a global survey carried out which received close to 700 responses. Noteworthy the launch of the Multi-Stakeholder Partnership Platform in November 2022.
- AMR in connection to the United Nations General Assembly
47. WOH has actively participated in the drafting of the Guidance document for United Nations country teams on Antimicrobial Resistance and the United Nations Sustainable Development Cooperation Framework, published at the end of 2021
- WOAH Reference Centres
48. WOH's scientific work is supported by its worldwide network. In 2022, WOH had a global network of 266 Reference Laboratories covering 108 diseases or topics in 38 countries, and 58 Collaborating Centres covering 45 topics in 31 countries. The complete lists of Collaborating Centres and Reference Laboratories are available at the following links:
<https://www.woah.org/en/what-we-offer/expertise-network/reference-laboratories/#ui-id-3>
<https://www.woah.org/en/what-we-offer/expertise-network/collaborating-centres/#ui-id-3>
49. Collaborating Centres or Reference Laboratories with a particular focus on VMPs or AMR include:
- Veterinary Medicinal Products**
- ANSES Fougères - Agence nationale du médicament vétérinaire (ANMV), B.P. 203
 35302 Fougères Cedex
 FRANCE
- Veterinary Drug Regulatory Programmes**
- Center for Veterinary Medicine, Food and Drug Administration (FDA), Department of Health and Human Services, 7519 Standish Place, HFV-1, Room 177, Rockville, Maryland 20855,
 UNITED STATES OF AMERICA
- Antimicrobial resistance (Reference Laboratory)**
- Animal and Plant Health Agency
 New Haw, Addlestone,
 Surrey KT15 3NB
 UNITED KINGDOM
- Diagnosis and Control of Animal Diseases and Related Veterinary Product Assessment in Asia**
- National Institute of Animal Health (NIAH)
 3-1-5, Kannondai, Tsukuba, Ibaraki, 305-0856
- National Veterinary Assay Laboratory (NVAL)
 1-15-1, Tokura, Kokubunji, Tokyo, 185-8511
 JAPAN

Control of Veterinary Drugs in West and Central Africa

École Inter-États des Sciences et Médecine Vétérinaires, BP 5077 Dakar
SENEGAL

Antimicrobial Stewardship in Aquaculture

Laboratory of Veterinary Pharmacology (FARMAVET) and Laboratory of Food Safety (LIA) and Center for Research and Innovation in Aquaculture (CRIIA), University of Chile, Faculty of Veterinary and Animal Sciences, Santa Rosa 1735, La Pintana, Region Metropolitana
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