

Recent activities of WOAAH Working Group on AMR

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Chair, WOAAH Working Group on AMR
The University of Tokyo

**Approaches and research to reduce antimicrobial use
(seminar series 2023-24, session 3)**

23 January 2024

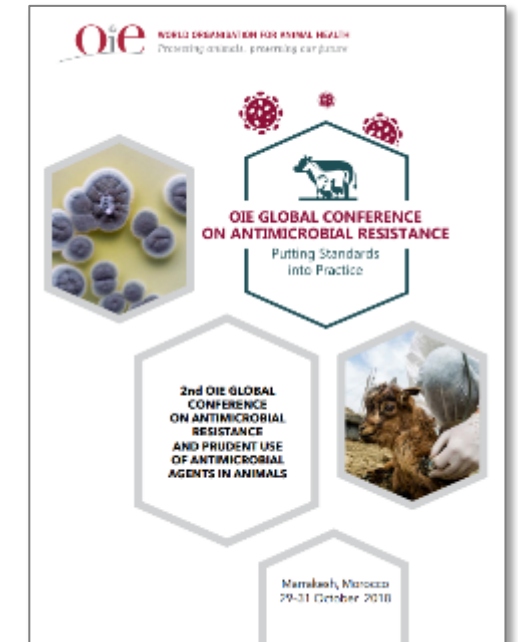
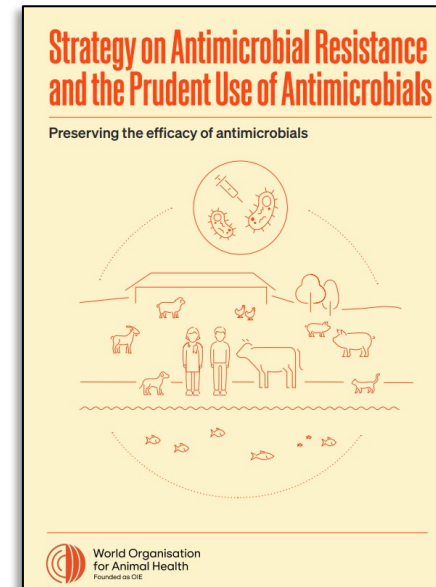


World
Organisation
for Animal
Health
Founded as OIE

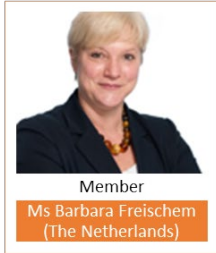
Organisation
mondiale
de la santé
animale
Fondée en tant qu'OIE

Organización
Mundial
de Sanidad
Animal
Fundada como OIE

- The Group was established by the Director General following the adoption of Resolution #14 at the 87th OIE General Session in 2019
- The Group assists in the implementation of
 - **WOAH Strategy on AMR** and the Prudent Use of Antimicrobials
 - **Recommendations of the 2nd OIE Global Conference on AMR** and Prudent Use of Antimicrobials



- Members: regional & gender balance



- New members will be informed in May 2024



- Biannual meetings

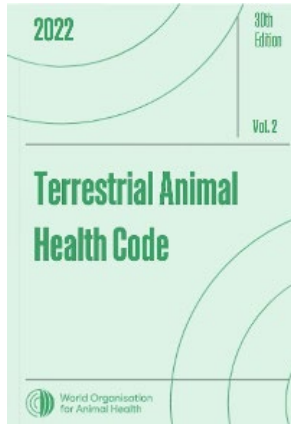
➔ Next meeting 27-29 Feb

The screenshot shows the official website for the Working Group on Antimicrobial Resistance. The page features a navigation menu with categories like 'Animal Diseases', 'Avian Influenza', and 'Antimicrobial resistance'. A breadcrumb trail indicates the current location: 'Home > What we do > Standards > Standard Setting Process > Working Groups > Working Group on Antimicrobial Resistance'. The main heading is 'Working Group on Antimicrobial Resistance'. Below this, there are links for 'Terms of Reference', 'Members', and 'Meeting reports'. A table lists the dates and titles of reports from 2019 to 2023, with links to the full documents.

Date	Report	Document
October 2023	Report of the Working Group on Antimicrobial Resistance	Report_Oct_2023
July 2023	Report of the Working Group on Antimicrobial Resistance	Report_July_2023
June 2023	Report of the Subgroup on the revision of Chapter 6.10. 'Responsible and prudent use of antimicrobial agents in veterinary medicine'	Report_June_2023
March 2023	Report of the Working Group on Antimicrobial Resistance	Report_Mar_2023
October 2022	Report of the Working Group on Antimicrobial Resistance	Report_Oct_2022
August 2022	Report of the Working Group on Antimicrobial Resistance	Report_Aug_2022
July 2022	Report of the WOAHS Subgroup of the Working Group on Antimicrobial Resistance on the Revision of Chapter 6.10. 'RESPONSIBLE AND PRUDENT USE OF ANTIMICROBIAL AGENTS IN VETERINARY MEDICINE'	Report_July_2022
April 2022	Report of the Working Group on Antimicrobial Resistance	Report_Apr_2022
October 2021	Report of the Working Group on Antimicrobial Resistance	Report_Oct_2021
April 2021	Report of the Working Group on Antimicrobial Resistance	Report_Apr_2021
October 2020	Report of the Working Group on Antimicrobial Resistance	Report_Oct_2020
April 2020	Report of the Working Group on Antimicrobial Resistance	Report_Apr_2020
October 2019	Report of the Working Group on Antimicrobial Resistance	Report_Oct_2019



Terrestrial Animal Health Code



- Ch.6.7. **Introduction** to the recommendations for controlling antimicrobial resistance
- Ch.6.8. Harmonisation of national AMR **surveillance and monitoring** programmes (updated in May 2018)
- Ch.6.9. **Monitoring of the quantities and usage patterns** of antimicrobial agents used in food-producing animals (Agreement on definitions)
- Ch.6.10. **Responsible and prudent use** of antimicrobial agents in veterinary medicine
- Ch.6.11. **Risk analysis** for AMR arising from the use of antimicrobial agents in animals



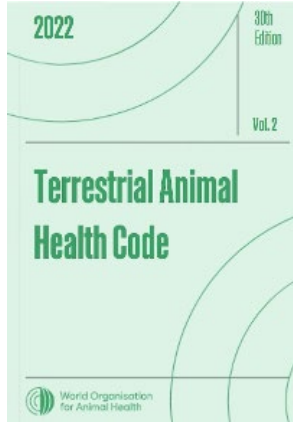
- **Extension** to non-food producing animals
- **Inclusion** of national action plans and need for One Health approach
- **Strengthening** environmental impact of antimicrobial use
- **Clarifying** and detailing responsibilities & actions for all concerned actors
 - Competent authorities
 - Pharmaceutical industry
 - Wholesale & retail distributors
 - Veterinarians
 - Animal feed manufacturers
 - Food animal producers
 - Owners of non-food producing animals

Rationales for suggested changes are available in reports of July 2022 and June 2023.





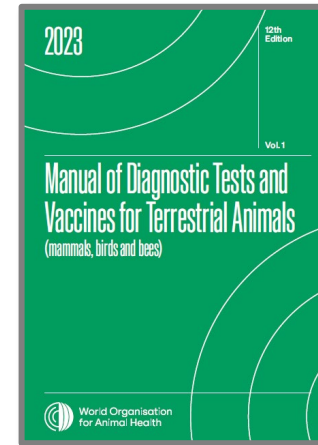
Terrestrial Animal Health Code



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Once Ch. 6.10. is adopted, work on other chapters may start

Manual of Diagnostic Tests and Vaccines for Terrestrial Animals



- Ch. 2.1.1 Laboratory methodologies for bacterial **antimicrobial susceptibility testing**

WOAH Collaborating Centers are reviewing Ch. 2.1.1. to see if /where to be revised.



Laboratory expert group may be convened for drafting



WOAH List of Antimicrobials of Veterinary Importance: history

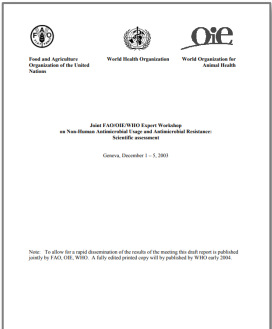
Conclusion 5

- Antimicrobials that are CIAs in vet med should be identified, to complement the id of such antimicrobials used in human med.
- Criteria for identification of CIAs in animals should be established by OIE.
- The overlap of critical lists for human and vet med can allow for the appropriate balance to be struck between AH and PH needs



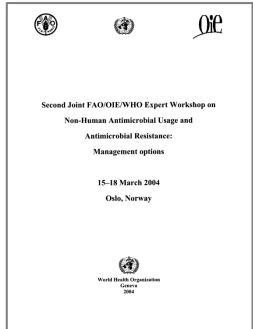
2003

FAO/OIE/WHO Expert Workshop on Non-Human AMU and AMR (Scientific Assessment)



2004

FAO/OIE/WHO Expert Workshop on Non-Human AMU and AMR (Management Options)



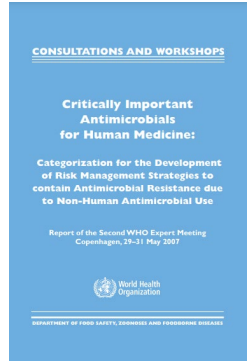
2005

OIE conducted a survey with its Members & relevant stakeholders to develop OIE list



2007

OIE List was adopted at OIE 75th General Session in May 2007



WHO List revised 6 times!

WHO MIA List with revised categorization criteria

Early 2024

WOAH List has only minor modifications

WOAH List of Antimicrobials of Veterinary Importance

- Only includes antimicrobials authorized for **veterinary medical use in food-producing animals**
- To help Members develop guidelines, considering
 - Availability of antimicrobials authorized for use
 - Legislation for veterinary products and AMU (e.g., off-label use)

Classification of antimicrobials according to importance

Criterion 1. If >50% Members identified **importance** of the antimicrobial class **for animal health**

Criterion 2. Compounds within the class identified as **essential** against specific infections and there is a **lack of sufficient** therapeutic alternatives

Veterinary Critically Important Antimicrobial Agents (VCIA): meet **BOTH** criteria 1 AND 2

Veterinary Highly Important Antimicrobial Agents (VHIA): meet **criteria 1 OR 2**

Veterinary Important Antimicrobial Agents (VIA): are those that meet **NEITHER** criteria 1 or 2

OIE WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

Criteria used for categorisation
List of antimicrobial agents

OIE LIST OF ANTIMICROBIAL AGENTS OF VET IMPORTANCE (June 2021)

The OIE International Committee unanimously adopted the List of Importance at its 75th General Session in May 2021. @oiepublic

Background

Antimicrobial agents are essential drugs for human and animal health in a global public and animal health context that is influenced by both usage. The human, animal and plant sectors have a shared antimicrobial resistance selection pressure on both human and non-human.

The FAO / OIE/WHO Expert Workshop on Non-Human Antimicrobial Resistance held in Geneva, Switzerland in December 2013 (closed in March 2014) (Management Options recommended that the OIE important antimicrobial agents in veterinary medicine and that WHO critically important antimicrobial agents in human medicine.

Conclusion No. 5 of the OIE Workshop is as follows:

5. The concept of "critically important" classes of antimicrobials for I The Workshop concluded that antimicrobials that are critically im be identified, to complement the identification of such antimicro for identification of these antimicrobials of critical importance is based by OIE. The overview of critical lists for human and vete information, allowing an appropriate balance to be struck bethe health considerations.

Responding to this recommendation, the OIE decided to address Group on antimicrobial resistance. The terms of reference, aim of the by the ad hoc Group since November 2014 and were subsequently Commission in its January 2020 meeting and adopted by the Intern the work was officially undertaken by the OIE.

Scope

The OIE List of Antimicrobial Agents of Veterinary Importance:

- Addresses antimicrobial agents authorized for use in food
- Does not include antimicrobial class/sub-class only use
- Does not include antimicrobial agents only used as growth
- Focuses currently on antibacterials and other important an medicine

1 OIE World Organisation for Animal Health
2 FAO Food and Agriculture Organization of the United Nations
3 WHO World Health Organization

OIE - 12, rue de Pissy - 75017 Paris 13
Tel.: 33 (0)1 48 18 58 88 Fax: 33 (0)1 42 42 90 87

Introduction

Criteria used for categorisation

CATEGORISATION OF VETERINARY IMPORTANT ANTIMICROBIAL AGENTS FOR FOOD-PRODUCING ANIMALS

ANTIMICROBIAL AGENTS (IATC, SUB-CLASS, CHEMISTRY)	SPICES	Specific comments	VCI	VHI	VIA
AMINOGLYCOSIDES Neomycin	NOV CAP, DKA, PLS	Essential in used for the local treatment of mastitis and in mastitis in the			X
AMINOGLYCOSIDES Streptomycin	AO, EO, CAP, EO, LEP, DV, PLS, SU				
AMINOGLYCOSIDES Chloramphenicol	AO, EO, NOV, CAP, EO, LEP, DV, PLS, SU	The wide range of applications and the range of the species treated make this antimicrobial class of high importance for veterinary medicine.			
AMINOGLYCOSIDES B207 (B207-1)	AO, EO, LEP, PLS, SU				
AMINOGLYCOSIDES Kanamycin	AO, EO, LEP, PLS, SU	Antimicrobial use of importance in aquaculture, equine, veterinary and other diseases.		X	
AMINOGLYCOSIDES Netilmicin	AO, EO, LEP, PLS, SU				
AMINOGLYCOSIDES Paromomycin	AO, EO, CAP, DKA, LEP, PLS, SU	Generation is indicated by Food/Animal Management Practices with low alternatives.			
AMINOGLYCOSIDES Apramycin	AO, EO, LEP, DKA, SU				
AMINOGLYCOSIDES Fostriamycin	AO, EO, LEP, DKA, SU				
AMINOGLYCOSIDES Spectinomycin	AO, EO, CAP, CAP, EO, LEP, DV, PLS, SU	Antimicrobial and vaccines are essential in aquaculture. The antibiotic resistance is critical.			
AMINOGLYCOSIDES Tetracycline	EO				
AMINOGLYCOSIDES Aminocyclitol	EO				
AMINOGLYCOSIDES Phenacetyl	AO, EO, CAP, EO, LEP, DV, PLS, SU	The wide range of applications and the nature of the diseases treated make this class of high importance for veterinary medicine.			
AMINOGLYCOSIDES Thiostrepton	AO, EO, CAP, DKA, PLS, SU	This class is of significant importance in treating some fish diseases, in which there are currently no or very few therapeutic alternatives.		X	
AMINOGLYCOSIDES Streptogramin	AO, EO, LEP, DKA, SU	This class also represents a useful alternative in respiratory infections of cattle, swine and poultry.			
AMINOGLYCOSIDES Tetracycline	AO, EO, LEP, DKA, SU	This class is particularly important, as used to treat parasitosis in cattle and sheep.			
AMINOGLYCOSIDES Rifamycin	EO	The antimicrobial class is essential only in the countries with a very broad number of antibiotic resistance and the alternatives.			X
AMINOGLYCOSIDES Rifaximin	EO				
AMINOGLYCOSIDES Rifampin	NOV, CAP, EO, LEP, DV, SU	Essential to assist in the treatment of Brucellosis and other zoonotic diseases. Essential to assist in the treatment of TB only in a number of classification of VCI.			
AMINOGLYCOSIDES Rifabutin	AO, SU				X
AMINOGLYCOSIDES Rifapentine	AO, SU				X
BETA-LACTAM Benzathine	AO, NOV, PLS, SU	Essential in used for diagnostic and prophylaxis in cattle and sheep and in fish.			X



VCIA*s*

- Aminocyclitol
- Aminoglycosides
- Amphenicols
- **3rd & 4th gen cephalosporins**
- Macrolides
- Penicillins
- **Fluoroquinolones**
- Sulfonamides
- Tetracyclines

VHIA*s*

- Ansamycin-Rifamycins
- 1st & 2nd gen cephalosporins
- Ionophores
- Lincosamides
- Fosponic acid derivatives
- Polypeptides
- **Polymyxins**
- Quinolones 1st gen

Recommendations for antimicrobials critically important for both animals and humans

3rd/ 4th Generation cephalosporins, fluoroquinolones and colistin should not be used...

- as **preventive treatment applied by feed or water** in the absence of clinical signs in the animal(s) to be treated;
- as a **first line treatment unless justified**, when used as a second line treatment, it should ideally be based on the results of bacteriological tests; and
- outside of its indication (**extra-label/ off-label use***)
- as **growth promoters**

*VCIA-s- Veterinary Critically Important Antimicrobials

*VHIA-s- Veterinary Highly Important Antimicrobials

* Only to be used in this mode where no alternatives are available. Such use should be in agreement with the national legislation in force.



WOAH List of Antimicrobials of Veterinary Importance: on-going works



2018

2nd OIE Conference on AMR

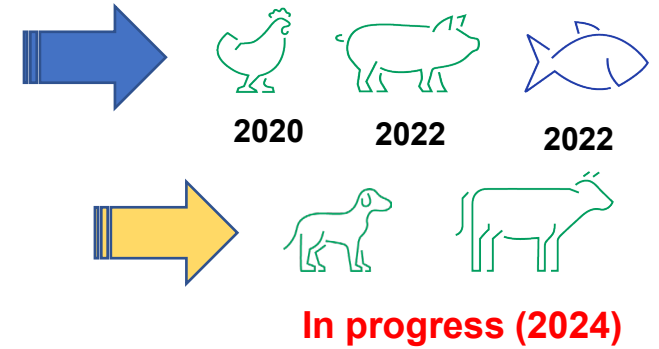
Update WOAH List considering

- sub-division of the List into different **animal species**
- antimicrobials only used in **companion animals**

ANTIMICROBIAL AGENTS (CLASS, SUB-CLASS)	Categorisation			Molecules	Species	Used/not used in poultry
	V CIA	V HA	V IA			
AMINOCOUMARIN			x	Novobiocin	AVI, BOV, CAP, OVI, PIS	Used
AMINOCYCLITOL	x			Spectinomycin	AVI, BOV, CAP, EQU, LEP, OVI, PIS, SUI	Used
AMINOGLYCOSIDES	x			Dihydrostreptomycin	AVI, BOV, CAP, EQU, LEP, OVI, SUI	Used
				Streptomycin	API, AVI, BOV, CAP, EQU, LEP, OVI, PIS, SUI	Used
AMINOGLYCOSIDES + 2 DEOXYSTREPTAMINE	x			Amikacin	EQU	Not used
				Apramycin	AVI, BOV, LEP, OVI, SUI	Used
				Forlimycin	BOV, LEP, OVI, SUI	Not used
				Trimycetin	BOV, CAP, OVI	Not used
				Gentamicin	AVI, BOV, CAM, CAP, EQU, LEP, OVI, SUI	Used
				Kanamycin	AVI, BOV, LEP, OVI, SUI	Used
				Neomycin	API, AVI, BOV, CAP, EQU, LEP, OVI, SUI	Used
				Paramomycin	AVI, BOV, CAP, OVI, LEP, SUI	Used

Pathogens	Examples of diseases
Bacteria	
<i>Avibacterium (Haemophilus) paragallinarum</i>	Infectious coryza
<i>Bordetella avium</i>	Bordetellosis (Turkey coryza)
<i>Brachyspira pilosicoli</i>	Avian intestinal spirochaetosis
<i>Chlamydia psittaci</i>	Avian chlamydiosis
<i>Clostridium</i> spp.	Botulism (intoxication and / or infection) Gangrenous dermatitis Necrotic enteritis (NE) Ulcerative enteritis (UE)
<i>E. coli</i>	Airsacculitis
Arthr	
Colib	
Omp	
<i>Enterococcus</i> spp.	Enter
<i>Erysipelothrix rhusiopathiae</i>	Erysi
<i>Gallibacterium anatis</i> (formerly <i>P. haemolytica</i>)	Respi
<i>Riemerella anatipestifer</i>	Acute in du

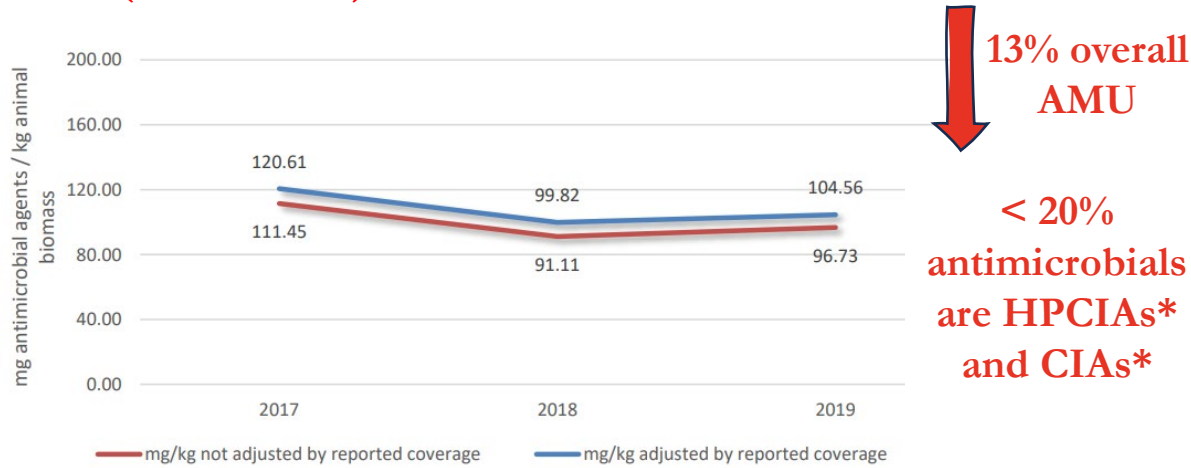
	<i>Avibacterium paragallinarum</i> infection	<i>Bordetella</i> spp. infection	<i>Brachyspira</i> spp. infection	<i>Chlamydia psittaci</i> infection	<i>Clostridium</i> spp. infection	<i>E. coli</i> infection	<i>Emeria</i> spp. infection	<i>Enterococcus</i> spp. infection	<i>Erysipelothrix rhusiopathiae</i> infection	<i>Gallibacterium</i> spp. infection	<i>Histomonas</i> spp. infection	<i>Mycobacterium</i> spp. infection
AMINOCOUMARIN						x						
AMINOCYCLITOL						x						
AMINOGLYCOSIDES	x					x						
AMINOGLYCOSIDES + 2 DEOXYSTREPTAMINE	x				x	x					x	
AMPHENICOLS	x					x						x
CEPHALOSPORINS						x						
IONOPHORES							x					
IONOPHORES + ANTICOCIDIAL							x					
LINCOSAMIDES					x	x		x	x			x
LINCOSAMIDES + AMINOCYCLITOL					x	x						x
MACROLIDES	x		x		x	x						x
MACROLIDES + TETRACYCLINES												x
ORTHOSOMYCINS					x							
PENICILLINS	x				x	x		x	x	x		
PENICILLINS + MACROLIDES					x	x						
PHOSPHONIC ACID DERIVATIVES						x					x	
PLEUROMUTILINS			x		x	x						x
POLYMYXINS					x	x						
POLYPEPTIDES					x							
QUINOLONES	x	x				x				x		x
STREPTOGRAMINS					x							
SULFONAMIDES	x					x	x					
SULFONAMIDES + DIAMINOPYRIMIDINES	x					x	x		x			
TETRACYCLINES	x	x	x	x	x	x	x	x	x			x



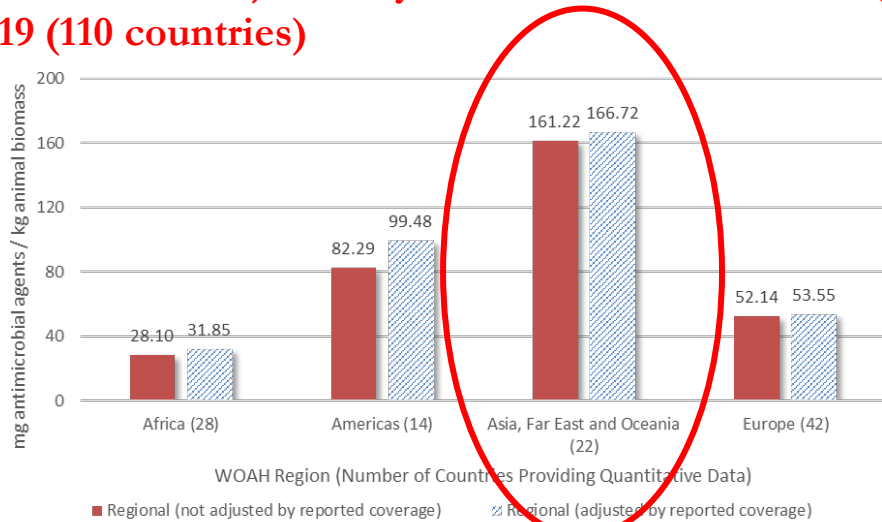
- Inform development of **guidelines for responsible AMU**
- Promote **best practice management**
- Inform **risk management & risk prioritization** to mitigate AMR



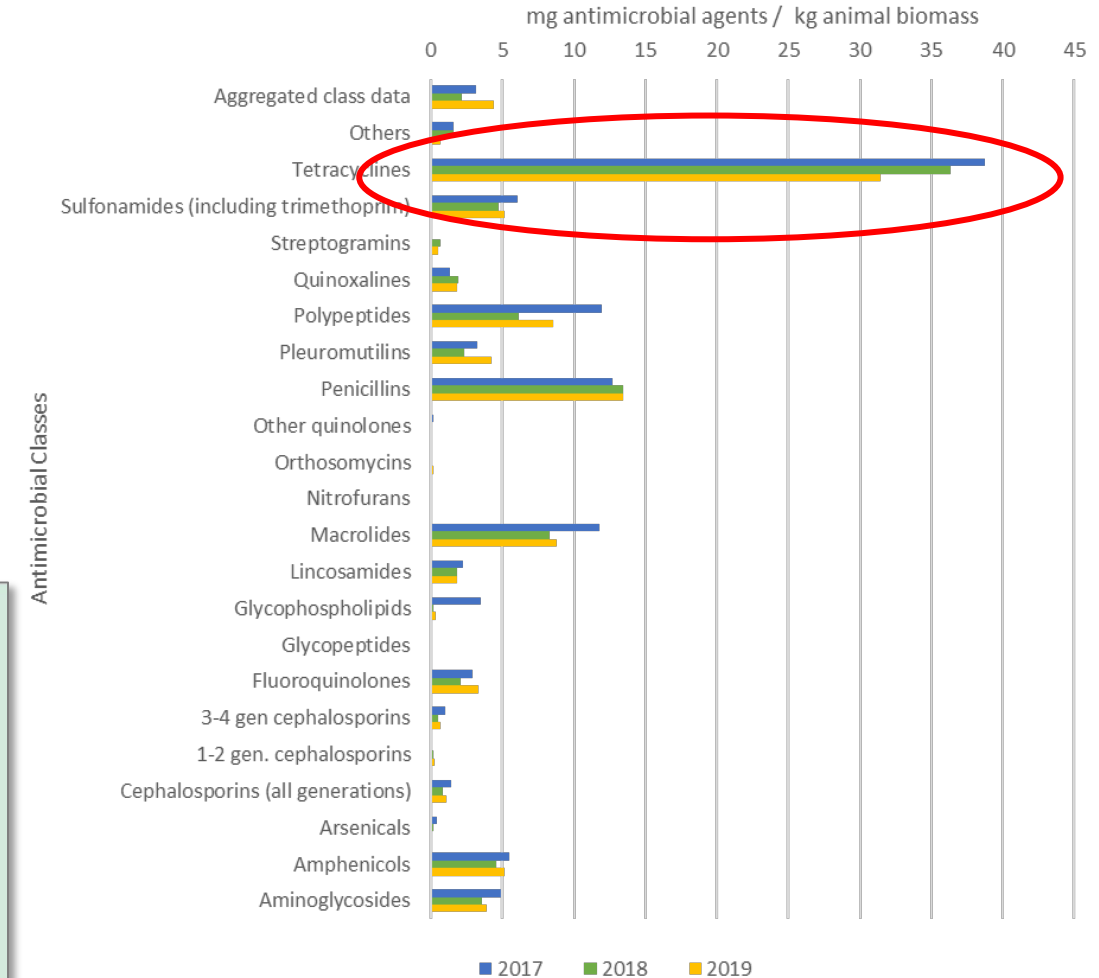
Trends of AMU in animals adjusted by animal biomass 2017-2019 (80 countries)



Overall AMU adjusted by animal biomass across regions in 2019 (110 countries)



AMU reported by 72 Countries 2016 to 2018, Adjusted by Animal Biomass (mg/kg)*



*HPCIA- Highest Priority Critically Important Antimicrobials
*CIA- Critically Important Antimicrobial

