OIE standards on
the use of antimicrobials
and antimicrobial resistance monitoring

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INTRODUCTION

• Veterinary Medicinal Products (VMPs):
  - Veterinary tools, contributing to the improvement of animal health
    - animal welfare impact
    - economic impact: food production
    - public health impact
  - Antimicrobials resistance: global concern for human and animal health
OIE’s activities related to Antimicrobials and Antimicrobial Resistance
**OIE's WORK ON ANTIMICROBIALS CHRONOLOGY**

- **1997**: request from the Regional Commission for Europe
- **1998**: debate at the international session
- **1999**: recommendations from the OIE Regional Commission for Europe, OIE Standards Commission, OIE International Committee to set up an “International Ad hoc Group”
  
  => To address: human and animal health risks related to antimicrobial resistance (AMR), and the contribution of antimicrobials usage in veterinary medicine.
- **1999**: First OIE European Scientific Conference
- **2001**: Second OIE International Conference on antimicrobial resistance
2003: OIE General Session: 4 guidelines accepted and published:
  - Surveillance and monitoring programmes of antimicrobial resistance
  - Monitoring the quantities of antimicrobials used in animal husbandry
  - Responsible and prudent use of antimicrobial agents in veterinary medicine
- *OIE Manual of Diagnostic Tests and Vaccines*
  - Laboratory methodologies for bacterial antimicrobial susceptibility testing

2003: International Meeting: Joint FAO-WHO-OIE experts consultation (Geneva 2003) on non human antimicrobial usage and antimicrobial resistance

2004: OIE General Session: 1 new guideline accepted and published:
  - Risk assessment for antimicrobial resistance arising from the use of antimicrobials in animals
• 2004: International Meeting: Joint FAO-WHO-OIE experts consultation (Oslo 2004) on non human antimicrobial usage and antimicrobial resistance

• 2005: OIE General Session: Chapter on ‘Responsible and prudent use of antimicrobial agents in veterinary medicine’ was revised taking into account the recommendations of the Codex Alimentarius in May 2005 (ALINORM 05/28/31)

• 2005: International Meeting: WHO Canberra expert meeting on Critically Important Antimicrobials (CIA)

• 2006: OIE General Session: Resolution n° XXXIII on Veterinary critical antimicrobials

OIE's WORK ON ANTIMICROBIALS

CHRONOLOGY

• 2007: OIE General Session: Resolution n° XXVII : adoption of the Veterinary Critically Important (VCIA) list

• 2007: International meetings:
  – Participation to the WHO Copenhagen meeting on CIA
  – Joint FAO/WHO/OIE expert consultation on CIA and VCIA in Rome

• 2007: Codex task force on AR in Seoul ; ongoing 1/year
Responsible and prudent use of antimicrobial agents in veterinary medicine
• Prevent or reduce the transfer of resistant bacteria from animals to humans and within animal populations

• Prevent the contamination of animal derived food with antimicrobial residues that exceed the established maximum residues level (MRL) => Protect consumer health

• Maintain the **efficacy** of antimicrobial agents used in human medicine and in food-producing animals and prolong their usefulness

Reference in the Code : chapter 6.7
RESPONSIBLE AND PRUDENT USE

RESPONSIBILITIES

• Of the regulatory authorities
  – Granting marketing authorisation => specify terms of authorisation (criteria of safety, quality, efficacy..) and provide information to the vets.
  – Combat manufacture, advertisement, trade, distribution and use of unlicensed/counterfeit products
  – Quality control of the products
  – Control over prescription, supply, administration
  – Organise training of all antimicrobial users

• Of distributors
  – For Veterinary Antimicrobials : only on the prescription of a veterinarian or authorised trained person
  – Detailed record
Of veterinarians
- Promotion of good farming practices + responsible and prudent use of antimicrobials
- Prescription only to animals under their care; when necessary; precise indications (including withdrawal period)
- Appropriate choice (=> target pathogens) of antimicrobials for efficacy of treatment
- Detailed records

Of food-animal producers
- Implement health & welfare programmes with assistance of a vet.
- Implement good farming practice guidelines
- Use antimicrobials only on prescription
- Comply with withdrawal periods so that residue levels do not present a risk for the consumer (=> traceability of treated animals)
Objectives

Collect information to evaluate AM exposure in animal husbandry by:

- Animal species
- Antimicrobial class
- Potency
- Type of use

Essential for risk analysis,
- Interpretation of resistance surveillance data,
- Indication of changes in prescription practices

Reference in the Code : chapter 6.6
RESPONSIBLE AND PRUDENT USE
MONITORING OF QUANTITIES OF AM USED

Reference in the Code : chapter 6.6

• **Basic information to collect**
  – Annual weight (kg) of active ingredient of AM used in food animal production per AM family
  – Type of use (therapeutic, growth promotion) by animal species
  – Route of administration

• **Sources**
  – Customs, import/export data, manufacturing and sales data
  – Wholesalers, retailers, pharmacists, vets, feed store, organised industry associations..=> requirement of AM registration
  – Vets and food animal producers
Antimicrobial resistance surveillance and monitoring programmes
AMR SURVEILLANCE AND MONITORING

OBJECTIVES

Reference in the Code: chapter 6.5

- **Follow trends** in antimicrobial resistance (AMR) in bacteria
- Detect the **emergence of new AMR mechanisms**
- Provide **data necessary for risk analyses** with relevance for human and animal health
- Provide a basis for **policy recommendations for AH&PH**
- Provide information for **prescribing practices and prudent use recommendations**

=> Limiting the spread of AMR and optimising the choice of AM in therapy
Need to conduct active surveillance & monitoring +/- passive

- Scientifically-based surveys
- Routine sampling
  - On the farm
  - At markets
  - At slaughter
- Sentinel programme (animals, herds, flocks, vectors)
- Analysis of veterinary practice and diagnostic laboratory records
AMR SURVEILLANCE AND MONITORING

METHODS: WHAT?

• Animals
  – Sampling based on risk analysis
  – Categories: cattle/calves, slaughter pigs, broiler chicken, laying hens, farmed fish

• Food and animal feed
  – Route for the transfer of AMR from animals to humans
  – Sampling from carcasses in abattoirs; and at retail stage
• Categories of bacteria
  – Animal bacterial pathogens
    • Ex: Pasteurella spp., Strept. spp., Staph. aureus/suis, Vibrio spp.,…
  – Zoonotic bacteria
    • Sampling in abattoir preferably
    • Salmonella
      – Incl. S.Typhimurium + S.Enteritidis
      – Serotyping +/- phage-typing
  – Commensal bacteria
    • E.coli and enterococci from healthy animals

• Campylobacter
  – Including C.jejuni, C.coli
  – Identification of C. species
• Enterohemorrhagic E.coli (EHEC)
  – Including serotype 0157
AMR SURVEILLANCE AND MONITORING
METHODS: WHICH AM?

- Antimicrobials monitored
  - Monitoring of clinically important AM classes for H & Vet Medicine
  - Laboratory methods following the Terr. Manual
  - Database keeping
AMR SURVEILLANCE AND MONITORING
RISK ASSESSMENT

Reference in the Code : chapter 6.8

• Objectives

– Provide a transparent, objective and scientifically defensible method of assessing and managing the human and animal health risks associated with the development of resistance arising from the use of antimicrobials in animals.
• Chapter divided in 3 parts:

  – Guidelines for analysing the risks to animal and public health from antimicrobial resistant micro-organisms of animal origin

  – Analysis of risks to human health

  – Analysis of risks to animal health

    - Definition of the risk
    - Hasard identification
    - Release assessment
    - Exposure assessment
    - Consequence assessment
    - Risk estimation
    - Risk management
CONCLUSION

• Need for a rational use of antimicrobials and prevention of antimicrobial resistance

• Critical role of Veterinary Services as a whole
  – Legislation
  – Control
  – Monitoring/Surveillance

• All partners should be involved in their area of competence creating synergies and avoiding duplication

• A challenging issue to be dealt at international, regional and national levels in a global perspective

• Update of OIE chapters ongoing / role of Collaborating Centres
Thank you for your attention

World Organisation for Animal Health

12 rue de Prony
75017 Paris, France
Tel: 33 (0)1 44 15 18 88
Fax: 33 (0)1 42 67 09 87
Email: oie@oie.int
http://www.oie.int