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**WORLD VETERINARY ASSOCIATION
POLICY ON RESPONSIBLE USE OF ANTIMICROBIALS¹**

EXECUTIVE SUMMARY

- The use of antimicrobials in animals may contribute to development of antimicrobial resistance (AMR)
- Adherence to the basic principles of this policy should reduce the development and prevalence of AMR resulting from antimicrobial use in animals
- As a result, effectiveness of antimicrobials for use in animals and humans can be retained
- The WVA encourages each country to have an appropriate regulatory system for licensing or registration and control of veterinary drugs
- The Global Basic Principles of Antimicrobial Use include the following recommendations:
 - Decisions regarding limitation or control of antimicrobial use should be based on risk:benefit analysis
 - Antimicrobials that are important in human medicine should only be used in animals under veterinary care within a valid veterinarian-client-patient relationship
 - Antimicrobial susceptibility testing is an important element of responsible antimicrobial use. This includes testing of individual cases and also regional monitoring and reporting
 - Effective alternatives to antimicrobials are needed and innovation in this area is encouraged.

INTRODUCTION

The availability and use of antimicrobials for animals is essential to ensure good animal health and welfare. However, there is a risk that, as with their use in humans, the inappropriate use of antimicrobials in animals may contribute to the development of antimicrobial resistance (AMR), which can negatively affect human and animal health. Veterinarians are responsible for safeguarding animal and human health and this is an issue of global concern.

Decisions on how best to manage the development of AMR should be based on a risk: benefit analysis (including risk assessment, risk

¹ The word antimicrobials covers all antimicrobial products administered orally and parenterally to animals, i.e. antibiotics (produced by fermentation of live micro-organisms) but also chemically –synthesized compounds with antibiotic activity such as sulphonamides and quinolones; it does not include disinfectants and sanitizers. The guidance in this document applies to antibacterials, anti-virals and anti-protozoals.

communication, and risk management). Countries and regions have adopted different risk management strategies based on differential weighting of risks to benefits on public health outcomes. Some countries and regions have banned outright the use of antimicrobials for animal growth promotion and feed efficiency, while other countries have implemented greater veterinary oversight of medically important antimicrobials used by both humans and animals. The outcomes of risk management decisions need to be measurable and need to be periodically reviewed to determine if the outcome is favourably affected by the implemented action.

Risk analysis should not be generalised to evaluate broad categories such as the reason for use, including treatment, prevention or control of disease, or use for growth promotion/feed efficiency. Instead, the particulars of these agents, such as class of antimicrobial, propensity to result in resistance, frequency of use, method of administration, and importance for animal and human welfare, need to be considered.

Because of the interrelationships of antimicrobial resistance between human, animal and environmental sectors a multidisciplinary 'One Health' approach; with medical, veterinary, and environmental health professionals working together; is crucial in tackling the issue of AMR.

The Global Basic Principles concentrate on the need to ensure the future availability of antimicrobials for animal health and underpin the critical role of the veterinarian, and do not deal with governmental measures such as licensing, registration or other controls. However, the World Veterinary Association:

- supports that each country should have an appropriate regulatory system for the licensing or registration and control of veterinary drugs in general, and antimicrobials in particular;
- urges that antimicrobials be used only in compliance with the laws and regulations of each country;
- urges that antimicrobials that are important in human medicine should only be used in animals under veterinary oversight, such as for animals undergoing veterinary care with a valid veterinarian-client-patient relationship; and
- recommends that unregistered or unlicensed products, and counterfeit products, must not be used in animals and that such use be countered actively.

CONSIDERATIONS:

- An essential part of ensuring good animal welfare is protecting animal health by prevention or relief of conditions that cause animal suffering.
- Good animal welfare helps animals to maintain natural resistance against disease.
- Good animal health and welfare starts with good care and management, minimising adverse environmental exposures, ensuring availability of sufficient space, clean water, a proper diet, and minimal stress.
- Prevention, control, and treatment of animal diseases are necessary parts of successful animal husbandry and health care.
- Successful animal husbandry depends also upon policies of good veterinary governance, defined as "the provision of veterinary services that are sustainably

financed, universally available, and provided efficiently without waste or duplication, in a manner that is transparent and free of fraud or corruption.”²

- Preventative medicine, routine animal monitoring and surveillance, and regular open communication between veterinarians, animal caregivers, and veterinary paraprofessionals are essential to achieve optimal animal health and welfare.
- As part of preventative medicine, regular veterinary health checks are essential for maintaining animals in good health.
- Responsible use of antimicrobials by veterinarians can play an important role in protecting animal and human health, and minimise environmental impacts.
- Because veterinarians play a key role in applying judicious use principles, they need to be involved in the decisions regarding antimicrobial use as well as related policy and regulatory decisions.

THE GLOBAL BASIC PRINCIPLES OF ANTIMICROBIAL USE:

- **Sick or infected animals should be under the care of a veterinarian, who is responsible for assessing animal health, making a diagnosis, and recommending an effective care program.**

When antimicrobials are required for therapy, veterinarians should strive to optimise therapeutic effectiveness and minimise the development of resistance to protect human and animal health.

- **Therapeutic antimicrobials are licensed or registered for the purposes of disease treatment, control, and prevention**

Some countries may also license or register certain antimicrobials to be used in food-producing animals to enhance production through growth promotion and feed efficiency. In general, minimising or limiting exposure to antimicrobials should be encouraged. Like all uses of antimicrobials, growth promotion and feed efficiency uses should be subject to risk analysis, including animal and human health benefit assessments, to determine if risk management measures are needed.

- **Codes of good veterinary practice, quality assurance programs, herd health control and surveillance programs, and education programs should promote the responsible and prudent use of antimicrobials.**

Veterinarians must be knowledgeable about antimicrobial availability, AMR, alternatives to antimicrobials, and susceptibility testing, because they are accountable for the safe and effective use of these medicines.

- **Antimicrobials that are important in human medicine should only be used in animals under veterinary care with a valid veterinarian-client-patient relationship.**

Regular, close veterinary involvement is essential to ensure the effective use of antimicrobials in animals. In the case of antimicrobial use in livestock and poultry, regular farm visits by

² Msellati L, Commault J, Dehove A. *Good veterinary governance: definition, measurement and challenges*. Rev Sci Tech. 2012 Aug; 31(2):413-30.

veterinarians are essential for ensuring appropriate use and storage of antimicrobials. Regardless of the distribution system available, the use of antimicrobials in animals should be subject to veterinary advice.

- **The availability of antimicrobials should be based on risk:benefit analysis that considers the importance of the antimicrobial to both veterinary and human medicine.**

The continued availability of all classes of safe, effective antimicrobials for veterinary medicine is a critical component of ensuring a safe food supply and optimising animal health and welfare. The large number of species to be treated and the wide range of diseases encountered require the wide availability of all classes of antimicrobials.

The OIE has adopted a [List of Antimicrobials of Veterinary Importance](#). Veterinary antimicrobials are classified according to their importance as critical, highly important or important. Risk analysis should consider this list as well as the list developed by the World Health Organisation that classifies the importance of human antimicrobials. Regulatory agencies within countries also may develop lists of important antimicrobials that need to be considered during national risk analysis processes.

- **Whenever possible, microbiologic diagnosis, including culture and antibacterial sensitivity testing, should be used to make treatment decisions.**

When prescribing antimicrobials, veterinarians should consider the potential for decreased antimicrobial susceptibility of zoonotic bacteria and target pathogens in animals, and for potential antimicrobial residues. Antibacterial susceptibility should ideally be ascertained before therapy is started. Use of historical antibacterial susceptibility and data specific to the facility where affected animals are housed may also be useful in guiding clinical judgement. Historical data may reveal poor correlation between *in vivo* and *in vitro* susceptibility. Therefore, the clinical judgement of the veterinarian regarding the need for testing is of paramount importance. In disease outbreaks involving high case mortality rates, or where there are signs of rapid transmission of disease among contact animals, treatment should be started on the basis of clinical diagnosis. Antibacterial susceptibility trends should be monitored over time, and such monitoring should be used to guide clinical judgment on antibacterial usage.

- **Therapeutic antimicrobials should be used for as long as needed but for the shortest duration necessary, and at the appropriate dosage.**

Dosage: It is essential to administer antimicrobials in accordance with recommended dosage regimens. This will minimise therapy failures, exploit fully the effective potential of the product, and ensure that specified withdrawal times are appropriate. Each class of antimicrobials has its own unique pharmacodynamic properties, which are expressed fully when the recommended dosage regimen is applied. Veterinarians and animal owners alike must endeavour to ensure that the correct dose is given and adhered to for the period of treatment recommended. The scientific basis of a dosage regimen should be periodically reviewed and updated, as needed.

Duration of use: Insufficient duration of administration can lead to recrudescence of the infection. This may lead to increased likelihood of selecting microorganisms with reduced antimicrobial susceptibility. Limiting the duration of use to only that required for therapeutic

effect will minimise the exposure of bacteria to the antimicrobial. The adverse effects on the surviving commensal microflora are minimised, and the medical impact of the remaining zoonotic organisms is minimised/reduced. Theoretically, antimicrobial use should be stopped as soon as the animal's own host defense system can control the infection. However, if doing so conflicts with regulations or labelling, the veterinarian and animal owner must comply with regulations.

- **Records should be kept when antimicrobials are administered.**

Record-keeping should occur according to applicable legislation and regulations. Appropriate meat or milk withdrawal times must be specified in writing when food animals are treated.

- **Regional updates of bacterial susceptibility and resistance in human and animal populations should be monitored and made available to practising veterinarians and public health professionals.**

Monitoring and surveillance should target microorganisms of both veterinary and public health importance. In addition to sampling from specimens submitted to diagnostic laboratories, data should be collected from samples obtained randomly from farms, slaughterhouses, and food products to investigate the prevalence and incidence of AMR. Data should be provided to veterinarians and other relevant parties to permit modification of antimicrobial use so as to balance benefits with the risks.

Historically, data have come exclusively from use of antimicrobials in humans and food animals and isolation of specific bacterial species. More direct evidence is needed, such as genetic sequencing of resistance plasmids, to correlate potential resistance resulting from use of specific antimicrobials. Data collection is also needed from all species, including companion animals, to more effectively identify risk factors associated with antimicrobial use in different animal populations.

- **Effective alternatives to antimicrobials are needed as an important part of good husbandry practices.**

Development of effective alternative management practices and treatments is needed to minimise antimicrobial use, while ensuring good animal health and welfare. This includes strategies such as vaccines, immunostimulants, probiotics, competitive exclusion principles and products, nutrition, etc. The WVA wants to maintain the effectiveness of antimicrobials for treating sick animals and humans and emphasises the need for innovation in these areas.