Dear Colleagues

In celebration of World Veterinary Day on 29th April, we requested Prof Moritz van Vuuren, Director Food Safety and Security to draft questions and answers which can be used in all media to promote and celebrate the work of the veterinarians and para-veterinarians amongst clients and consumers.

Please be prepared to go on air and discuss these important issues. It would be great if you could contact your local radio stations to do an interview, also send in the information about World Veterinary Day to your local newspapers, we need to promote and broadcast what Veterinarians can do; also highlighting their important role in Food Safety and Security.

Kind regards
Clive Marwick

World Veterinary Day 29 April 2017

Questions and answers
Compiled by Moritz van Vuuren, Director: Food Safety and Security Portfolio of the SAVC

1. Why has the World Veterinary Association in collaboration with the World Organization for Animal Health selected the topic “Antimicrobial resistance – from awareness to action” as the theme for World Veterinary Day on 29 April 2017?

Bacterial resistance against antibiotics received meaningful global attention during the past two decades, both from the perspective of creating awareness of the implications of the emergence of resistance for humans and animals, and to promote antibiotic stewardship to improve the outcomes...
for humans and animals suffering from bacterial infections and limit emergence of resistant pathogens. Despite all the warnings, action to tackle AMR has not yet matched the scale of the threat. There is now general consensus among the international and national organizations that drive these efforts that the awareness created during the past few decades must now translate into action.

2. Does that imply that bacterial resistance to antibiotics is a major global threat to animals and humans?

Today the world is not divided on the issue of resistance to antibiotics, and there is general agreement that that resistance is a major threat to human and animal health. All Member States of the WHO and OIE have committed their countries to develop National Action Plans for the control of resistance based on the WHO/FAO/OIE tripartite alliance’s Global Action Plan for AMR that was published in 2015. All major national and international organizations dealing with the welfare of humans, animals and the environment are in agreement that AMR is one of the biggest risks for mankind and is placed in the same risk category as climate change and overpopulation.

3. Why and how did this turn of events occur?

The overuse and inappropriate use of antimicrobial drugs in humans, animals and crops have dramatically accelerated the emergence of antimicrobial resistance. This includes inter alia, but is not limited to the prescribing behaviour of medical practitioners, the over-the-counter use of antibiotics worldwide, and the use of antibiotics in the feed and water of food-producing animals. These behaviours lead to the release of antibiotics into ecosystems that provides numerous routes through which resistant bacteria can spread, genes that code for resistance can spread, resistance genes can be exchanged, and bacteria can be exposed to antibiotics, thereby driving the emergence of resistance.

4. What are antimicrobials and antibiotics?

The term antimicrobial is used to broadly refer to any product that has activity against the whole spectrum of micro-organisms such as bacteria, viruses, fungi and parasites. Antibiotics are substances that specifically kill or inhibit bacteria that cause disease in humans and animals, and is the focus of this discussion.

5. Can all antibiotics be used mutually in humans and animals?
There are some shared class antibiotics that can be used in both animals and humans, but this category of antibiotics should be used only with veterinary oversight in animals that need it for therapeutic purposes and where a valid veterinarian-client-patient relationship exists. Human-only antibiotics are not approved for use in animals. Animal-only antibiotics are not used in human medicine.

6. Please explain briefly how antibiotic resistance develops

When antibiotics are used to treat infections, most of the harmful bacteria will be killed or inactivated. However, some will survive as a result of a natural or acquired resistance mechanism and will pass on their resistance genes to its offspring. The new population will be more resistant and continue to spread its resistance to other bacteria.

7. Is it high doses of the antibiotic that drives resistance or low or subtherapeutic doses?

It is rather a case of the length of time that the bacteria are exposed to the antibiotic. Resistance will not develop each time an antibiotic is used, but the more it is used and over longer periods of time, the more chances there are for resistance to develop. The basic principle of antibiotic use as endorsed by the World Veterinary Association is, that antibiotics used for treatment should be used for as long as needed but for the shortest duration necessary, and at the appropriate dose and dosage intervals.

8. What is the responsibility of the veterinary profession in the control of AMR?

The veterinary services of all countries that includes veterinarians and para-veterinary professionals have a key role to play in the ongoing fight against AMR, notably through their role in regulating and supervising the use of antimicrobials, offering professional advice to farmers and animal owners and collaborating with the human health sector. The interconnectedness of human health, animal health and the environment is unquestionable, and therefore requires an interdisciplinary approach to successfully control AMR.

9. Is the veterinary profession tackling the control of resistance in isolation?

No, because of the interrelationships of antibiotic resistance between human, animal and environmental sectors, a multidisciplinary or One Health approach where veterinary, medical and
environmental health professionals work together is crucial in tackling AMR. The South African Veterinary Council which is the veterinary statutory body for the veterinary profession, has embraced the One Health concept and supports and encourages a multidisciplinary approach to the control of AMR.

10. Why are the intensive animal industries and veterinarians working as consultants in those industries blamed by some for making a major contribution to the emergence of resistance?

Production animal veterinarians practice population medicine. Intensive production farms are dynamic, sensitive production units that require immediate action to safeguard the animals and prevent the spread of disease among large numbers of animals. Veterinarians have an obligation, ethically, to control diseases at the earliest possible stage, both in terms of animal welfare and food security for the country. There are particular circumstances that veterinarians can predict what's going to happen because of previous experience with flocks/ herds. If they are slow in medicating, they end up medicating more than they otherwise would have. Clearly antibiotic treatment will remain relevant on intensive production farms as animal welfare and food security are overriding factors. What is necessary is to diminish the need for antibiotics significantly, and so contribute to the global objective of reduced antibiotic use.

11. Does bacterial resistance against antibiotics also involve companion animals?

All animals and humans are affected and no one can escape the problem or claim to be unaffected by it. Multi-drug resistant bacteria are also found in our close companions such as dog, cats and horses and it therefore is important that owners of companion animals are aware of this possibility and must become knowledgeable about antibiotic stewardship.

12. What does antibiotic stewardship imply?

It is a collective set of strategies to optimize the appropriate use of all antibiotics to improve patient outcome and limit emergence of resistant bacteria whilst ensuring patient safe

13. Does that imply that proven countermeasures to diminish AMR are available for immediate action in animal husbandry?
Yes, in its broadest sense it can be explained as the promotion of good practices in food animal production systems and in companion animal facilities, including animal hospitals. It can briefly be summarised as:

a) Antibiotic use in agriculture must be reduced without compromising the food producer’s capacity to meet the increasing global demand

b) Antibiotic use in companion animals must be limited to situations where it is really needed and under veterinary oversight to ensure responsible use. It is documented that animal owners administer expired antibiotics to their pets prescribed for humans and other animals

c) Surveillance of the use of antibiotics and resistance levels in bacteria found in humans and animals is urgently needed to provide a clear picture of local situations and to assess the impact of interventions

d) Farming systems need to optimise antibiotic use through biosecurity, vaccination, on-farm hygiene and clean water. Poor sanitation and hygiene are major contributors to the emergence of resistance because it requires the use of more antibiotics and significantly increases the numbers of resistant bacterial organisms