One Health Antimicrobial Stewardship

Prof M van Vuuren   Director: Food Safety and Security (FSS)
The SAVC embraces the One Health concept

A firm decision was taken early in 2015 to position the concept of One Health within the bigger paradigm of veterinary services in South Africa.

Several global health issues have driven awareness of the concept, *inter alia* infectious diseases such as avian influenza, rabies and brucellosis, and in particular the emergence of bacterial resistance to antibiotics.

One of the deliverables that is part of the mandate of the SAVC is to promote and ensure food safety and food security.
What is One Health?

A one health approach recognizes the relationships between the human, animal, and environmental health, and applies interdisciplinary tools to solve complex public health problems.
Definition of One Health

One Health is the collaborative effort of multiple health science professions, together with their related disciplines and institutions – working locally, nationally, and globally – to attain optimal health for people, domestic animals, wildlife, plants, and our environment.
Why the SAVC concerns itself with the One Health concept/approach

The currently reality of human infectious diseases:

- The control of infectious diseases is central to One Health

- Traditional approaches and past requisite *skills and levels of knowledge* may not be commensurate with the rapid changes and new demands of food-animal industries and the shifting requirements needed for public health, biomedical research and the global food system (KPMG study, 1999)

- The OIE/FAO/WHO emphasize that Member States must enhance/support the integration of animal, human and environmental health for the mutual benefit of all
Tripartite collaboration

FAO-OIE-WHO Tripartite Agreement/Vision, Mexico October 2011

- Holistic and coordinated management of AMR across the animal, food and human sectors in different ecosystems and geographic locations
Antimicrobial resistance – the biggest One Health issue on the globe

Death from bacterial infections in pre-AB era was between 40-50% and in the antibiotic era <10% with an increased life expectancy of 20 years.

By 2050, AMR is estimated to lead to 10 million deaths per year, and lost outputs worth US $100 trillion across the world

No new class of antibiotics has been discovered since 1987
What has changed that today the bigger picture is seen and AMR is accepted as a global crisis?

The sheer magnitude of the problem

The world is not divided on this issue

There is political weight behind initiatives to control AMR
## Antimicrobial Resistance National Strategy Framework Commitments

The purpose of the Antimicrobial Resistance National Strategy framework is to provide a framework for managing Antimicrobial Resistance (AMR), to limit further increases in resistant microbial infections, and improve patient outcomes.

### Governance Structures

<table>
<thead>
<tr>
<th>Strategic Objectives</th>
<th>Infection Prevention &amp; Control</th>
<th>Antimicrobial Stewardship</th>
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</table>
| Strengthen, coordinate and institutionalise interdisciplinary efforts through national and health establishment level governance structures | Enhance infection prevention and control of the spread of resistant microbes to patients in healthcare settings, focusing on improvement in hand hygiene and the identification and isolation of patients with resistant organisms. Community measures include preventing infection through wide-reaching vaccination programmes and improvements in water and sanitation. | Promote appropriate use of antimicrobials in human and animal health through antimicrobial stewardship including:  
* Effective policies and protocols  
* Stewardship at point-of-care  
* National prescribing guidelines  
* Appropriate antibiotic choice |

### Strategic Enablers

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<th>Legislative and policy reform for health systems strengthening to support the quality of antimicrobials in the country and to enable control over prescribing of antimicrobials in the animal health sector.</th>
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<tbody>
<tr>
<td>Education of all levels of health providers in human health and agriculture in the critical concepts of antimicrobial stewardship, infection control, infectious diseases, microbiology and pharmacology.</td>
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<td>Communication to educate the public, create awareness of the dangers of inappropriate antimicrobial use and enhance patient advocacy to combat antimicrobial resistance.</td>
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<td>Research into novel diagnostics, such as point of care testing, new antimicrobials and implementation of treatment guidelines (treatment duration, antimicrobial consumption).</td>
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### Time Frames & Actions

<table>
<thead>
<tr>
<th>Number</th>
<th>Commitment</th>
<th>Time Frame</th>
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<tbody>
<tr>
<td>1</td>
<td>To establish an intersectoral, interdisciplinary organisations and departments to strengthen, co-ordinate and institutionalise efforts to address Antimicrobial Resistance</td>
<td>Short term – March 2015: Establishment and initial meeting of National Ministerial Advisory Committee</td>
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<td>2</td>
<td>To establish a national surveillance system to track and report resistant organisms and Antimicrobial use in agriculture and human health</td>
<td>Short term 2015 – Develop an Antimicrobial Resistance map for South Africa through data sharing between the private and public sector laboratory services</td>
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<td>3</td>
<td>To enhance the processes, structures, resources and supplies needed for effective Infection Prevention &amp; Control</td>
<td>Short term 2015 – Ensure the equipment and Infection Prevention &amp; Control resources required to practice effective hand hygiene are available at all times in all Health Establishments</td>
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<td>4</td>
<td>To promote the appropriate use of Antimicrobials in human and animal health through antimicrobial stewardship in facilities and suitable enabling legislation and regulations</td>
<td>Medium term 2016 – 2019 – Review of antimicrobials use in feed additives</td>
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<td>5</td>
<td>To build the expertise and strengthen the coordination of health and veterinary professionals and improve the staffing levels of the workforce in Antimicrobial Resistance and Infection Prevention &amp; Control</td>
<td>Medium term 2016 – 2019 – Development of strategy and operational plan for the integration and implementation of Antimicrobial Resistance and Infection Prevention &amp; Control training into the undergraduate and post graduate medical curricula of health care professionals in South Africa</td>
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<td>6</td>
<td>To increase the community awareness of Antimicrobial Resistance</td>
<td>Short term 2014 – 2015 – Design of an awareness campaign relating to Antimicrobial Resistance based on past successful campaigns</td>
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<td>7</td>
<td>To promote research into novel diagnostics and clinical trials in Infection Prevention &amp; Control and Antimicrobial Resistance</td>
<td>Long term 2019 – 2024 – Defined research opportunities</td>
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### National Department of Health of the Republic of South Africa

And Participating Stakeholders from Various Sectors, each Company represented herein as follows:

- **Government**
- **Laboratory Services**
- **Clinician Societies**
- **Civil Society**
- **Regulatory Societies**
NHC has approved the MAC and the approval of appointments was completed
Restriction on the use of colistin

Dear Member

It is recommended that Colistin not be used in food producing animals at all, unless the veterinarian can justify its use at the hand of a sensitivity test and as a very last resort to treat an animal. Any conduct to the contrary would be regarded by Council as unprofessional conduct.

Please read the message from the Registrar of Medicines addressed to all veterinarians:

Dear Veterinarian,
For Brazil, Russia, India, China and South Africa, antimicrobial consumption for animals is expected to grow by 99% by 2030 (13% for humans).

Intensification is a given, but the bad parts that lead to overuse /need for antibiotics must be unravelled