



Regional Workshop on Advancing WOAH AMR Standards in Veterinary Practice

8 – 10 April 2026, Nairobi, Kenya

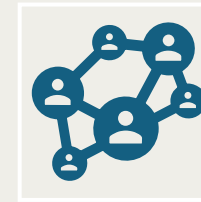
Content of the ppt.



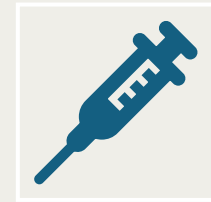
Antimicrobial stewardship (AMS)
in veterinary practice: a WOAAH
perspective.



Stewardship as a professional and
ethical responsibility



Integration of stewardship into
clinical decision-making and
herd/flock health management



Relationship between disease
prevention, biosecurity,
vaccination, and reduced
antimicrobial use



A way that preserves antimicrobial effectiveness while ensuring their ongoing availability for those who need them



It encompasses two different concepts.

Conservation: determining *when and when not* to use antimicrobials,

Optimisation: considerations of *how* to use antimicrobials appropriately.



Ensure that each patient receives the most appropriate treatment: the right drug, at the right time, at the right dose for the right duration by the right route of delivery (the 5 rights)



Optimise antimicrobial overuse and misuse

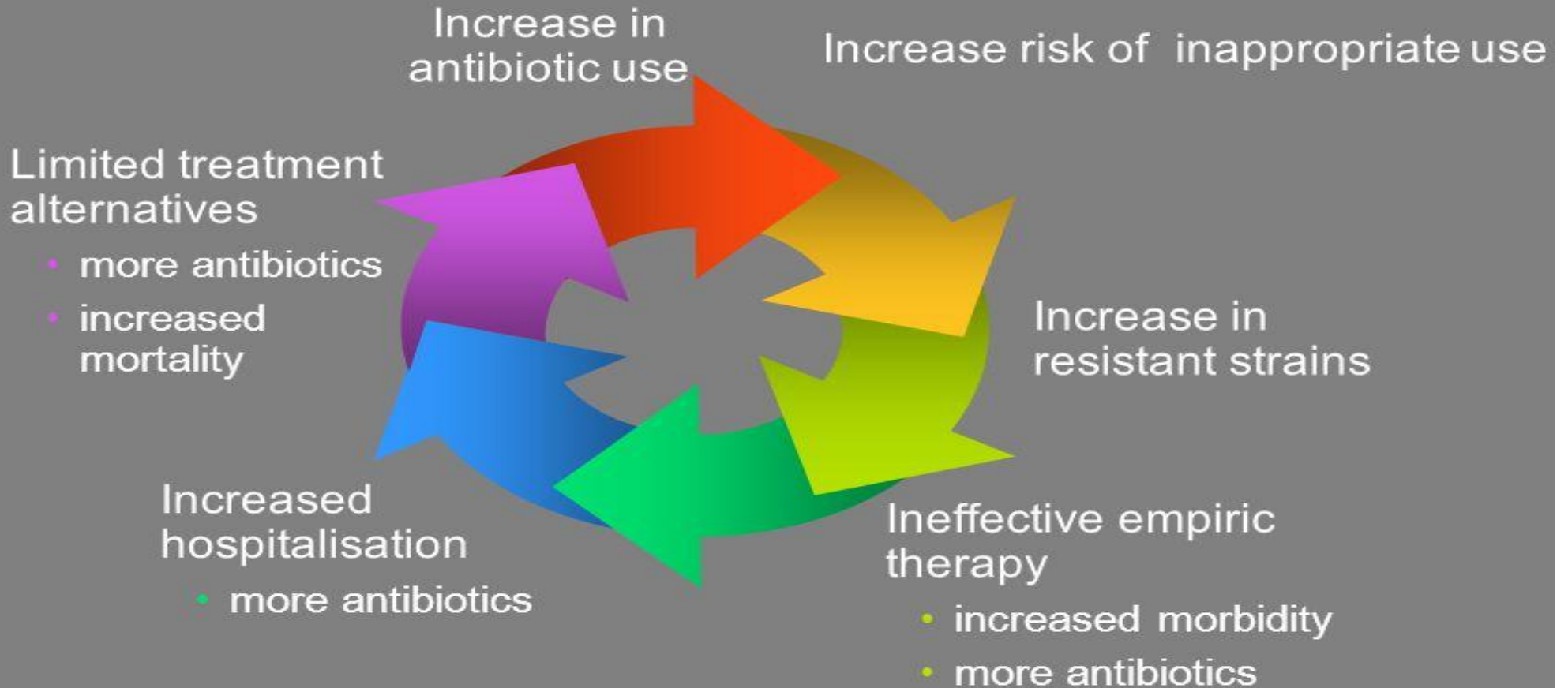


Minimize the selection, maintenance, and dissemination of antimicrobial resistance





Risk of increase in Antibiotic Use





Antibiotic treatment
without culture and
sensitivity testing



Selling antimicrobials
without prescription &
SFVP on the market



Limited veterinary
service ,Self-
medication & lack of
stewardship
guideline



Growth promotion

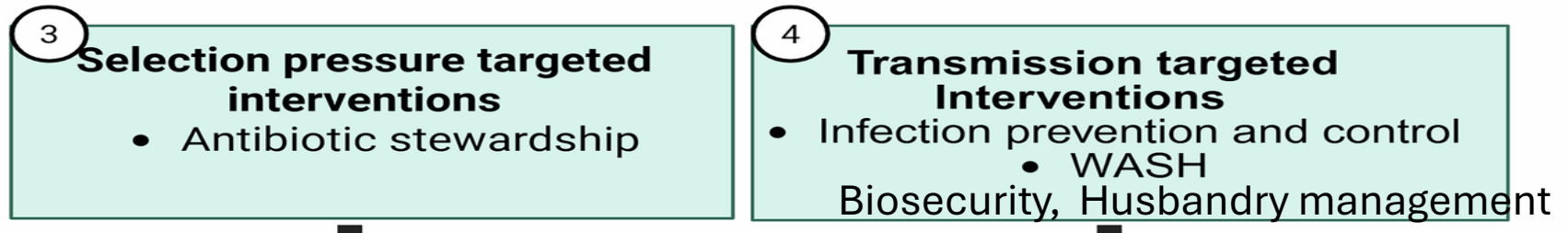


Whole flock treatment via feed and water



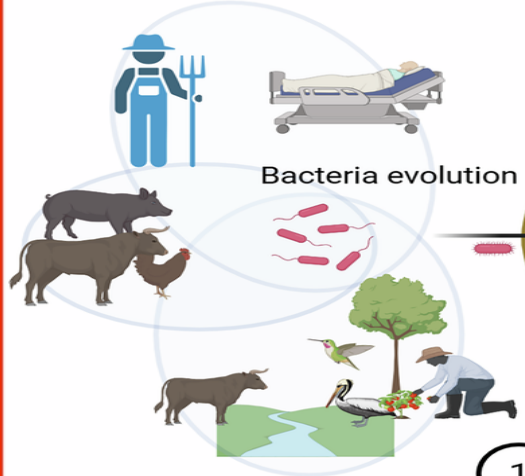
Target area of AMS

AMS aimed at limiting the antibiotic use-mediated selection pressure



AMR INTERVENTIONS

One health context

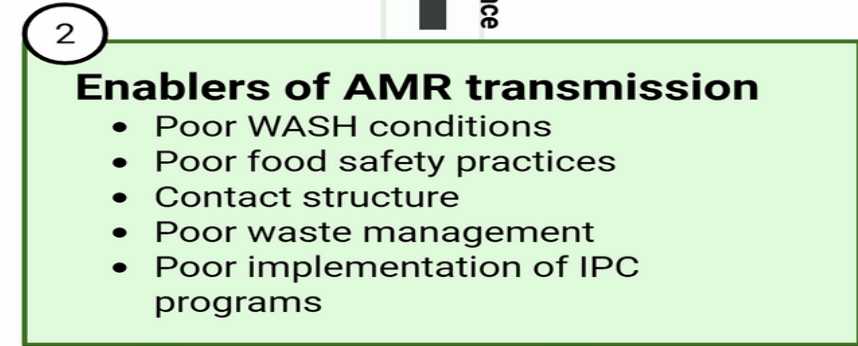
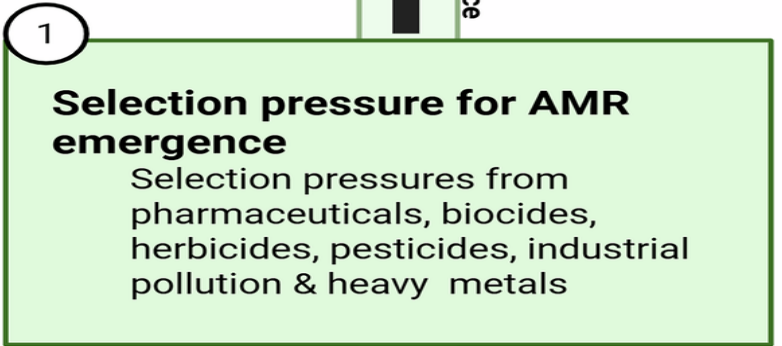


Antimicrobial Resistance burden

AMR emergence

AMR transmission

EPIDEMIOLOGICAL CONTEXT



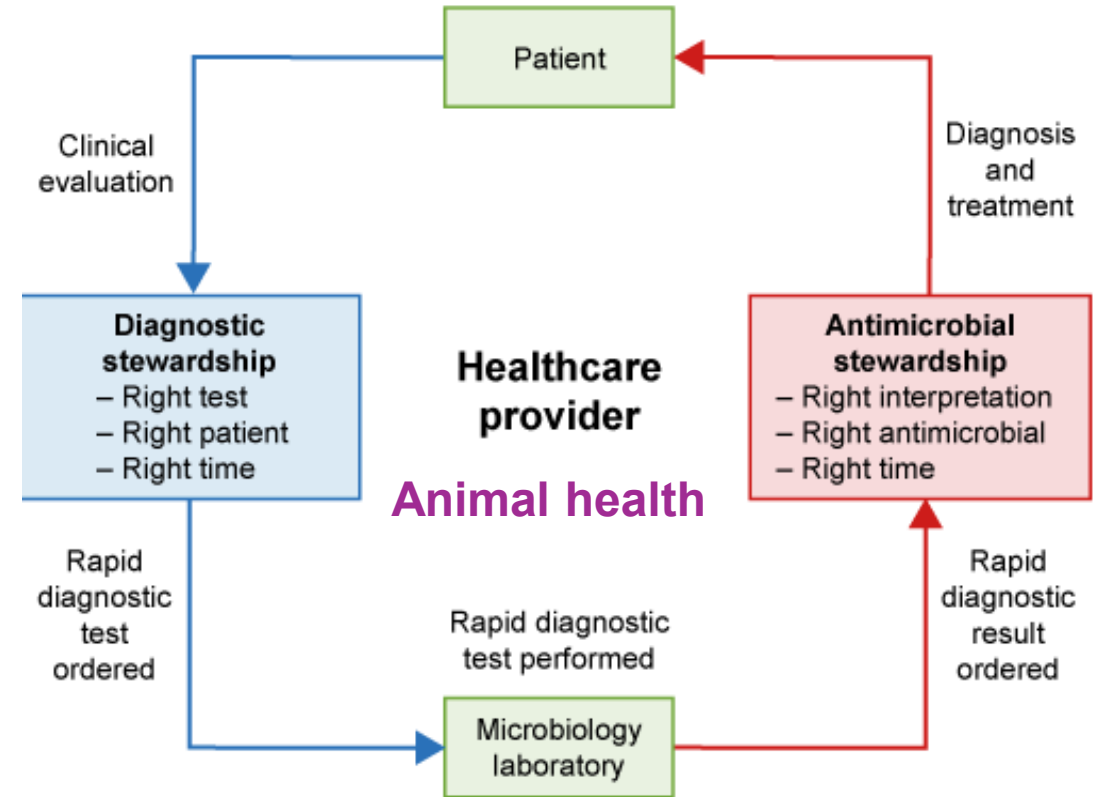
AMR DRIVERS

Chilanga et al.2025



The 5 Rs of Antimicrobial Stewardship

Roles of diagnostic and AMS in the implementation of rapid molecular infectious disease diagnostics in the clinical setting

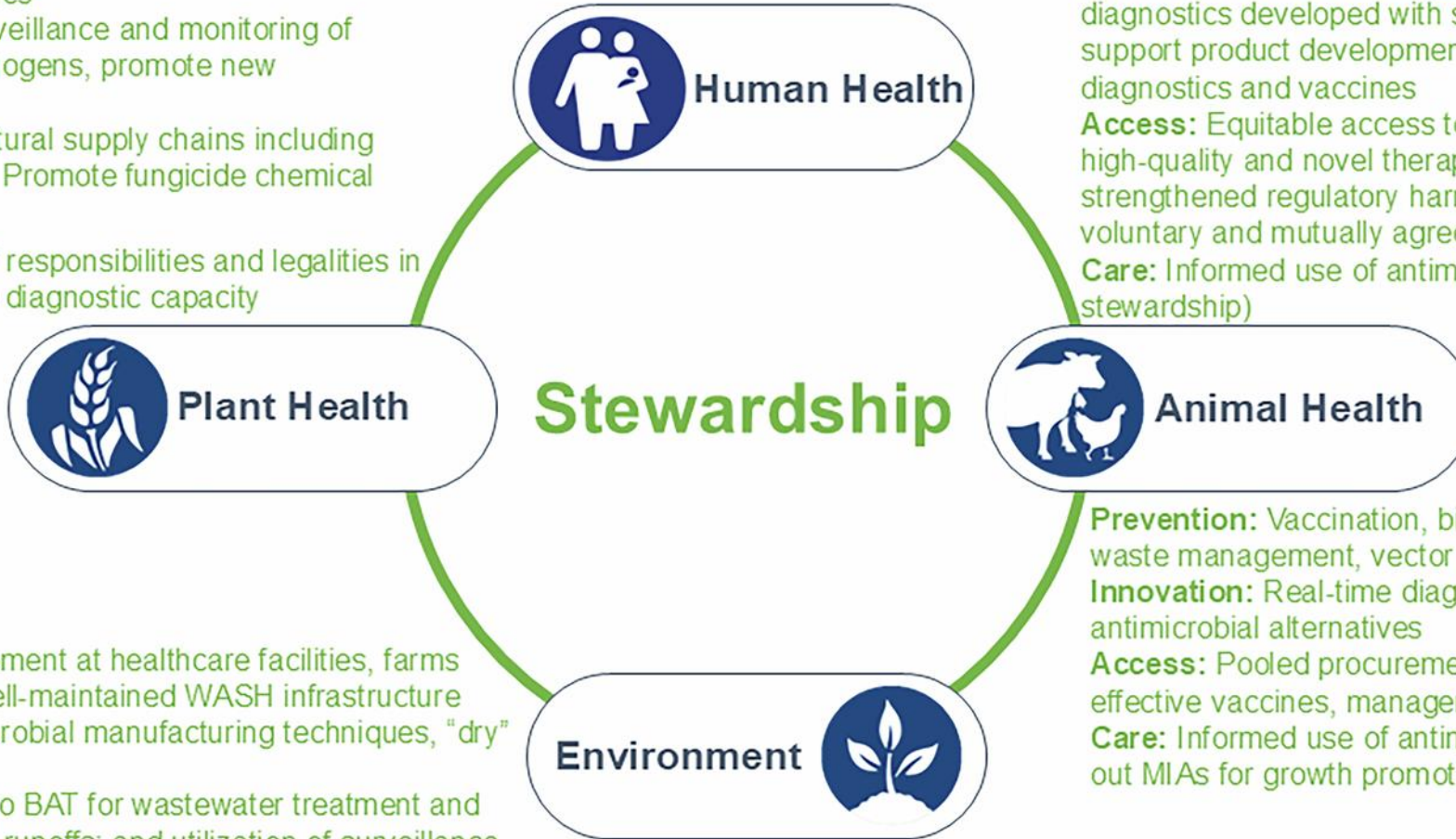


David & Stephen 2018

Messacar et al., 2017



Prevention: Phytosanitation, pretreat irrigation water, increase use of resistant crop varieties, restrict the use of medically important antibiotics
Innovation: Implement surveillance and monitoring of AMR and AMU in plant pathogens, promote new antimicrobial technologies.
Access: Strengthen agricultural supply chains including biological control products. Promote fungicide chemical blends.
Care: Ensure awareness of responsibilities and legalities in agrochemical use, increase diagnostic capacity



Prevention: Vaccination and access to WASH in communities and IPC in healthcare settings
Innovation: Novel therapeutics, vaccines, and associated diagnostics developed with stewardship principles. Incentives to support product development and improve real world evidence of diagnostics and vaccines
Access: Equitable access to and uninterrupted supply of existing high-quality and novel therapeutics, vaccines, and diagnostics, strengthened regulatory harmonization, technology transfer through voluntary and mutually agreed terms
Care: Informed use of antimicrobials through diagnostics (diagnostic stewardship)

Prevention: waste management at healthcare facilities, farms and manufacturing sites; well-maintained WASH infrastructure
Innovation: "green" antimicrobial manufacturing techniques, "dry" waste management
Access: Equitable access to BAT for wastewater treatment and management of agricultural runoffs; and utilization of surveillance
Care: environmental monitoring, One Health integrated surveillance platforms

Prevention: Vaccination, biosecurity, good husbandry practices, waste management, vector control, PPE and WASH for workers.
Innovation: Real-time diagnostics, therapeutics, vaccines and antimicrobial alternatives
Access: Pooled procurement, high-quality affordable therapeutics, effective vaccines, management and distribution
Care: Informed use of antimicrobials through diagnostics. Phase-out MIAs for growth promotion, waste management

MIA: Medically Important Antimicrobial

Altevogt et al 2025



Antimicrobial Stewardship (AMS) in Veterinary Practice: WOAH Perspective



Article.6.10.2



Preserve the effectiveness
of *antimicrobial agent*



Comply with the ethical
obligation and economic need
to keep *animals* in good health;



Prevent or reduce transfer of
resistant microorganisms or
resistance determinants
within OH Interface

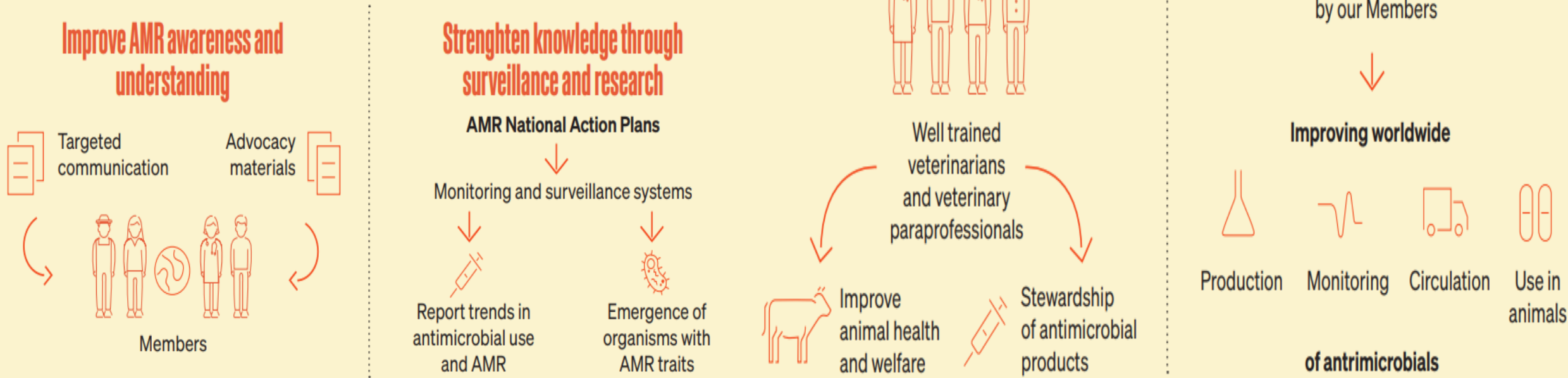


Protect human health by
ensuring the safety of food
of *animal* origin with respect to
residues of *antimicrobial
agents*.

WOAH Strategy on Antimicrobial Resistance (AMR) and the Prudent Use of Antimicrobials

Protecting animal health and welfare by supporting global efforts to combat antimicrobial resistance

WOAH Strategy



1 Improve awareness and understanding

- Development of **targeted communications and advocacy materials**
- Awareness of AMR to **encourage a professional culture** that supports the responsible and ethical use
- Professional development goals by **conducting workshops, conferences and symposia**
- Expand the portfolio of **guidance, education and scientific reference materials**
- **Collaborate with WHO and FAO and UNEP**

2 Strengthen knowledge through surveillance & research

- Developing and implementing **monitoring and surveillance systems**
- Collecting **data on the use of antimicrobial agents** in food-producing and companion animals
- Developing **use and functionality of WAHIS**
- **Guide and support research into alternatives**
- Identify and pursue **public-private partnerships** in AMR research and risk management

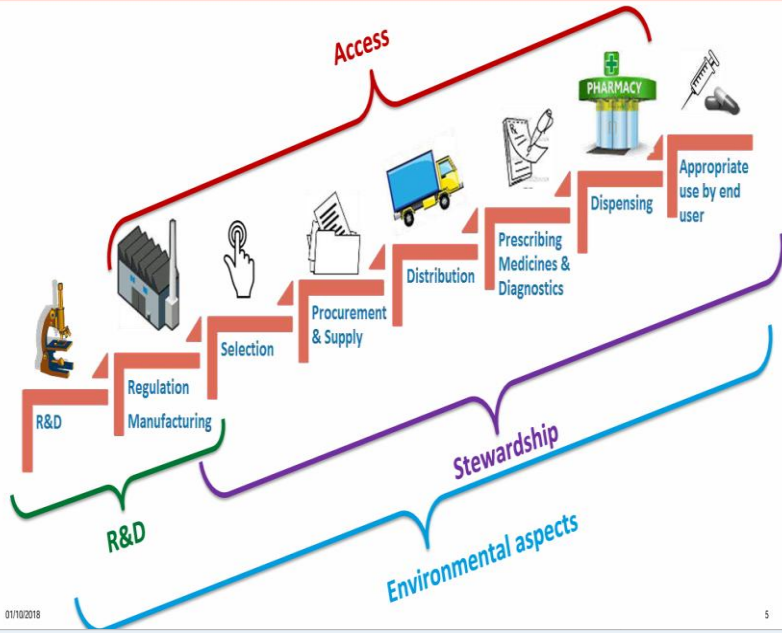
3 Support good governance and capacity building

- Assist in implementing **National Action Plans**, promoting a “One Health” approach
- Provide **tools and guidance**
- Ensure **Veterinary Services capacity** through PVS Pathway
- Develop and modernise **legislation**
- Provide training of **Focal Points**
- Ensure that well-trained **veterinarians and veterinary para-professionals** are at the forefront



4 Encourage implementation of WOAH standards

- Support Member Countries in their efforts to **implement WOAH standards**
- Encourage adoption of recommendations in the **List of Antimicrobials of Veterinary Importance**
- **Strengthen multilateral support** among policy makers
- Continue our **framework of quality, science-based standards**
- **Collaborate with WHO and FAO and UNEP** to develop an aligned framework of standards and guidelines



Article. 6.10.3

Responsibilities of competent Authorities.

Article. 6.10.4

Veterinary pharmaceutical industry with regards to veterinary medicinal products containing antimicrobial agents.

Article. 6.10.5

Responsibilities of wholesale and retail distributors.

Article. 6.10.6

Responsibilities of veterinarians.

Article. 6.10.7

Responsibilities of animal feed manufacturers.

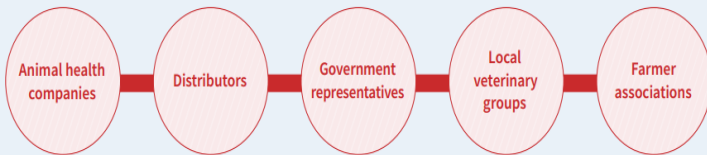
Article. 6.10.8

Responsibilities of breeders, owners and keepers of food-producing animals.

Article. 6.10.9

Responsibilities of breeders, owners and keepers of non-food producing animals.

Actors necessary for successful public-private partnership



Reducing the need for antibiotics is more successful when all work together towards the same goal.

Terrestrial Animal Health Code

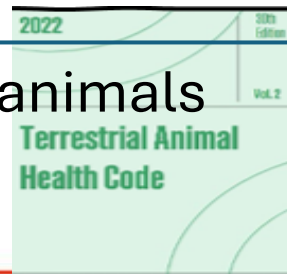
Ch.6.7. Recommendations for controlling antimicrobial resistance

Ch.6.8. Harmonisation of national AMR **surveillance and monitoring** programmes

Ch.6.9. **Monitoring of the quantities and usage patterns** of antimicrobial agents used in food-producing animals

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



Aquatic Animal Health Code

Ch.6.2. Principles for **responsible and prudent use** of antimicrobial agents in aquatic animals

Ch.6.3. **Monitoring of the quantities and usage patterns** of antimicrobial agents used in aquatic animals

Ch.6.4. Development and harmonisation of national AMR **surveillance and monitoring programmes** for aquatic animals

Ch.6.5. **Risk analysis** for AMR arising from the use of antimicrobial agents in aquatic animals



Guiding Principles of WOAHA List of Antimicrobial agents of veterinary importance

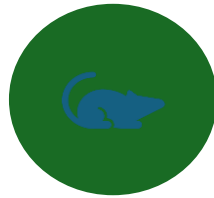
Use of fluoroquinolones, 3rd and 4th generation cephalosporins, and colistin should be guided by the following considerations:

- Do not use as preventive treatment applied by feed or water.
- Do not use as first-line treatment unless justified.
- Use as second-line treatment should ideally be based on bacteriological tests.
- Extra-label or off-label use should be reserved to instances where no alternatives are available

Principal elements in the establishment of an effective veterinary AMS framework



Generate enthusiasm, commitment, and support among senior management



Identify resistance patterns and antimicrobial use in treated animals



Select priority areas and devise intervention plans



Determine how progress and success will be measured



Implement at least one readily achievable policy or practice of improved antimicrobial use to allow the group to experience early success



Implement quantitative and qualitative measurement of prescribing practice, including self-audit, if appropriate



Customize the AMS plan to serve the special needs of each practice or other operation



Provide educational resources and access to expertise on optimizing antimicrobial prescribing

David & Stephen 2018

Key strategies for effective veterinary AMS framework

Implement	Implement clinical guidelines that take into account local microbiology and susceptibility patterns
Establish	Establish formulary restriction and approval systems that restrict later generation and critically important antimicrobials to patients where clinical need is justified
Review	Review antimicrobial prescribing with intervention and direct feedback to the prescriber
Ensure	Ensure that the clinical microbiology laboratory uses selective reporting of susceptibility results that is consistent with clinical guidelines



Success factors for effective veterinary AMS framework



Presence of a motivated team leader

Motivated team sharing responsibility for GSP

AMS program tailored to local context

Credibility established by demonstrating early success





PILLAR 1: Establish and develop national coordination mechanisms for antimicrobial stewardship and develop guidelines.



PILLAR 2: Ensure access to and regulation of antimicrobials



PILLAR 3: Improve awareness, education and training



PILLAR 4: Strengthen water, sanitation and hygiene and infection prevention and control



PILLAR 5: Surveillance, monitoring and evaluation





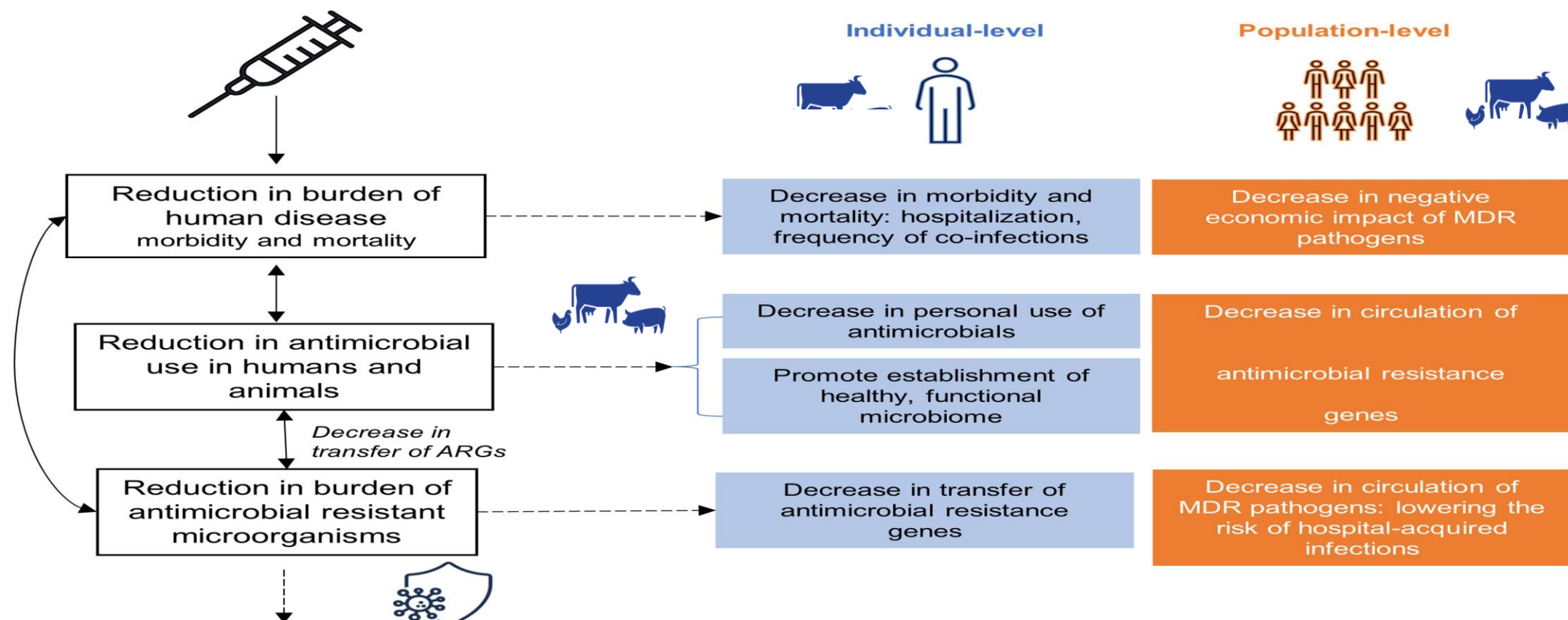
Relationship between disease prevention, biosecurity, vaccination, and reduced antimicrobial use



Impact of vaccination

Individual-level

Population-level



As monitored through:

- **Assessment of the 'resistome' and quantification of ARGs using biological samples through exploratory metagenomic sequencing or targeted qRT-PCR**
- **Surveillance** and estimation of AMU through evaluation of clinical records, surveys and qualitative studies
- **Modelling and cost-effectiveness projections using economic, clinical and genomic data**

Tadesse et al 2023



Biosecurity measures

A physical barrier against the spread of diseases on/between farms

- ❖ It ranges from simple procedures such as
 - Boot washing
 - Isolation of infected animals,
 - Air filtration systems for indoor animals.
 - Movement control between, and out of farms
- ✓ Biosecurity represents a vital tool in reducing the use of antimicrobials in agriculture

Interventions that reduce disease and need for antibiotics

On the Farm



Digital monitoring



Biosecurity protocols



Veterinarian visits

Animal Health



Vaccination



Precision feed



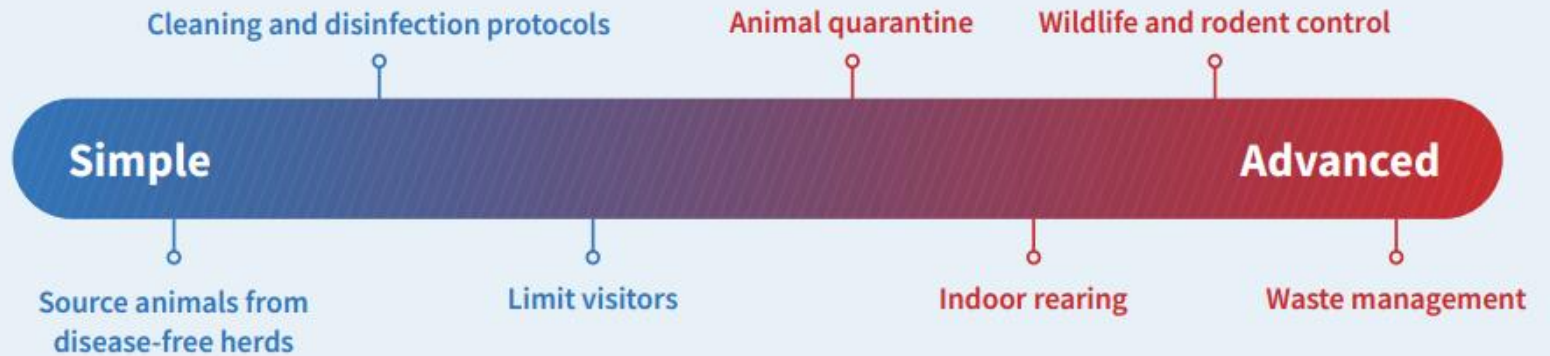
Genetics



Diagnostics

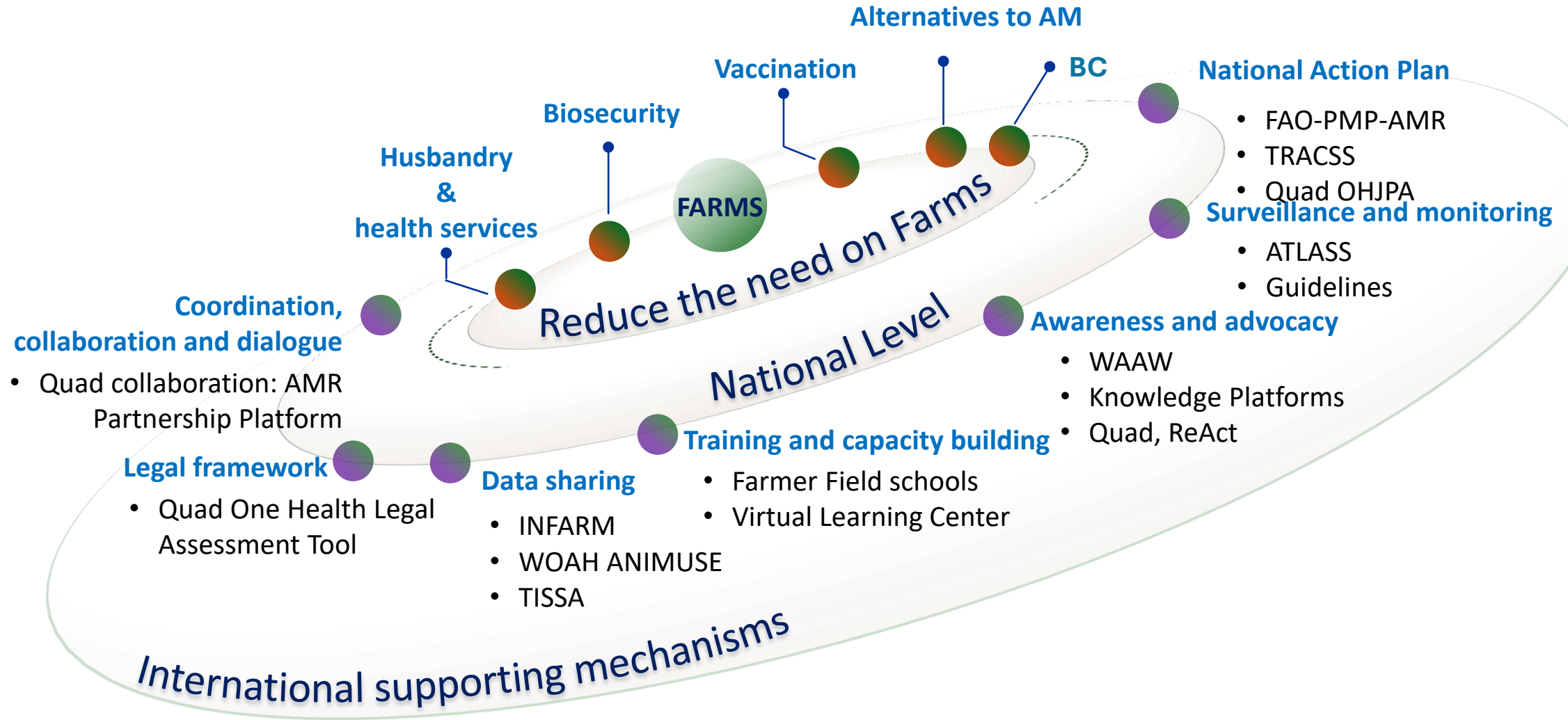
Spectrum of biosecurity measures

Simple measures are those that require less equipment or training for implementation, while advanced measures may require more skills or financial investment.





From farm to global systems: reducing the need for antimicrobial use.



Thank you

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