

Putting animal health with less AMR in the focus

Bernd-Alois Tenhagen

Prerequisites

- Reduce the need for treatment through better animal husbandry
- Surveillance of AMU and AMR on farm level and national collection and analysis of data
- Establishing prudent use policies throughout the industry
- No use of antimicrobials for growth promotion and routine prophylaxis

Key fields for research and development

- How to roll out antibiotic stewardship in practice?
- How to make surveillance more cost effective?
- How to treat effectively with less collateral damage (e.g. AMR)?
 - Treatment choices
 - Targeting treatment
- Developing alternatives to antimicrobial treatments?

How to roll out antibiotic stewardship in practice?

- Setting up a legal framework
- Designing „Push and pull factors“ for decision takers / vets
 - For continuous education
 - For following treatment guidelines
 - For considering AMR aspects
 - For prioritizing antimicrobials of minor importance to human medicine

How to make surveillance more cost effective?

- Stop handwriting treatment records
(reduce bureaucratic burden)
- Provide feedback to data providers
 - Data in usable fashion
 - Benchmarking / comparing with colleagues
 - Exchange anonymised data with colleagues(Improve benefit to data providers)

How to treat effectively with less collateral damage (e.g. AMR)?

Treatment choices

Is antimicrobial treatment needed?

- Develop tools for decision support integrating information of different sources
- Providing / improving rapid & reliable pen side / point of care diagnostic tools

If needed, optimize cost/benefit ratio

- Providing regional AMR data in a systematic way
- Providing improved treatment schedules/guidelines
- Re-think treatment with respect to exposure of non-target bacteria

How to treat effectively with less collateral damage (e.g. AMR)?

Targeting treatment

- Avoiding/minimizing exposure of non-target bacteria
 - Bringing the drug to the infection site
 - Avoiding contamination of housing environment
 - Avoiding residues in faeces/dung
- Improving treatment protocols for specific diseases
- Targeting treatment to diseased animals

Developing alternatives to antimicrobial treatments

- Use of phages to control endemic pathogens
- Use of non-pathogenic strains to outcompete resistant strains
 - Competitive exclusion
 - Supporting the commensal flora
 - Stabilizing the microbiome
- Design vaccination schedules to reduce specific and secondary infections

Thank you for your attention

Bernd-Alois Tenhagen

Federal Institute for Risk Assessment

Max-Dohrn-Str. 8-10 • D-10589 Berlin

Tel. +49 30 - 184 12 - 2211 •

Bernd-Alois.Tenhagen@bfr.bund.de • www.bfr.bund.de