

Antimicrobial usage in farm animal veterinary practice in the UK: A mixed methods approach

Doaa Elkholly¹, Alec Fraser², Dan O'Neill¹, Richard Booth¹, Ana Mateus¹, David Brodbelt¹

- ¹ Royal Veterinary College, London (UK)
- ² Kings Business School, London (UK)



Doaa Elkholly delkholly@rvc.ac.uk

Background

- Antimicrobial resistance (AMR) is both an animal health and public health problem.
- Responsible use of antimicrobials (AMs) in animals is an important component of strategies to reduce the emergence and spread of AMR.
- Understanding the extent and patterns of AMs usage in farm animal practice is crucial for monitoring AMs Usage and policy making to tackle AMR.

Objectives

Quantitative

- 1. To estimate the prevalence of AM usage at farm level.
- 2. To describe:
- The clinical indications and demographic characteristics of farm animals receiving AMs.
- The risk factors associated with receiving overall AM treatment.

Qualitative

1. Mapping stakeholders to investigate their influence in reducing AMs usage and their perceptions about the extent of the problem. (Fig.1)

Vet Compass Your Knowledge Hub www.rvc.ac.uk/vetcompass

Mapping of stakeholders (Fig.1)



VetCompass data

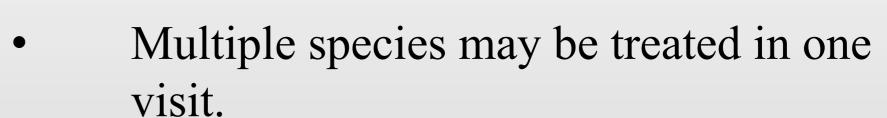
♦ Current status

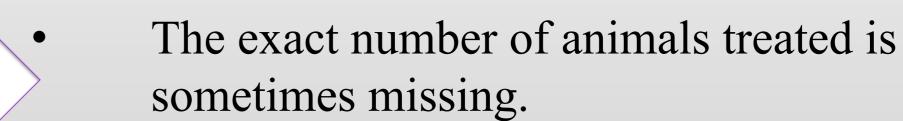
- Farm animal and mixed practices across UK participating in VetCompass¹ have been recruited for this study (25 clinics, 15,766 farm animals clinical records).
- More practices will be recruited over time based on their group participation in VetCompass.

◆ AM treatment events

- > Item name (active substance, formulation)
- >Amount prescribed / dispensed
- Clinic ID, farm ID and partial postcode.
- >Associated clinical notes.

Methods Challenges for the use of farm clinical records





• AMs in prescribed in the herd health plan are in separate records.

Quantitative study

Farm level prevalence of AMs usage will be evaluated for:

- Overall AMs usage.
- Critically important antimicrobials and (CIAs) and highest priority CIAs usage.

Main clinical indication for AM therapy for a random sample of AM events and the demographic characteristics of animals receiving AM will be described by exploring the clinical records in further detail.

- Risk factors associated with receiving AM treatment and CIAs in particular will be evaluated using hierarchical logistic regression models.
- Clustering within clinic, farm and postcode will be explored.

Qualitative study

Review of relevant national and local policies will be undertaken in a systematic manner.

Intrinsic factors related to previous experience as well as extrinsic factors related to workplace, pressure and expectations will be pre-defined based on a literature Review of existing evidence.

Semi-structured qualitative interviews with:

- Farm vets and veterinary support staff.
- Farmers and milk processors.
- Other stakeholders.

Themes in the dataset will be explored using thematic analysis.

References





