

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

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### Background

Antimicrobial resistance (AMR) is both an animal health and public health problem.

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- Understanding the extent and patterns of AMs usage in farm animal practice is crucial for monitoring antimicrobials (AMs) usage and policy making to tackle AMR.
- Few studies in the UK have used the prescribing records from the farmers' veterinary practices to estimate the AM usage at farm level. 1,2

What are the patterns for AM usage in farm and mixed

practices and what are the drivers behind AM usage by

### Objectives

#### Quantitative study

- To quantify and describe AM usage in farm animal veterinary practices.
- To estimate the risk factors for high AM usage
- and high usage of the highest priority critically important antimicrobials (HP-CIA) in farm animals.



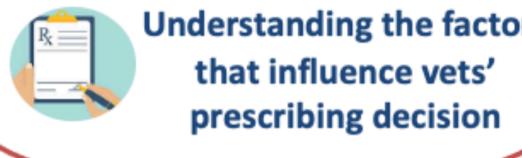
Understanding the role

of other stakeholders

e.g. milk processors and

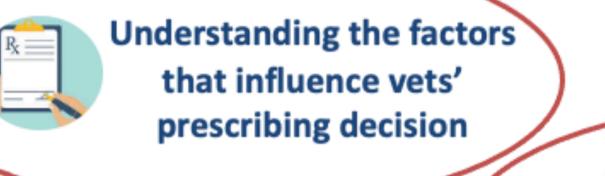
supermarkets

Qualitative study





**Understanding Farmers'** (E) behavior and attitudes



Methods

# **VetCompass study**

**Research Question** 

vets and farmers?

Farm animal and mixed practices across UK participating in VetCompass<sup>1</sup> were recruited for this study (28 clinics).

Search terms were created to extract the farm AM events in 2019.

#### **AM** treatment events

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

#### **Future work**

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

#### Qualitative study

Semi-structured Interview guides were created based on a literature Review of existing evidence of the factors influencing Vets and farmers behaviour when using AMs.

Interviews were piloted with three vets and two farmers.

The interview guides were modified after piloting the interviews

#### **Future work**

- Fieldwork sites will be recruited according to the preliminary results of the quantitative study.
- Thematic analysis will be conducted to explore themes within the dataset.

## Quantitative study

- 117,432 farm AM events were extracted from the treatment records of the 28 clinics. AM usage in farm practices ranged from 21,987 to 172 AM events with a mean of 4194 AM events.
- 21,372/117,432 (18.2%) events were HP-CIA. The usage of HP-CIA in farm practices ranged from (24.3%) to (4.8%) with a mean of (14.8%), of the total AM events per clinic.
- Injection was the most common route of administration 93,837 (79.7%), followed by intramammary 14,026 (11.9%).

# Qualitative study

- The findings of the piloted interviews are as follows:
- Farmers' pressure, and cost of AM treatment were mentioned by vets to be influencing their prescribing decision.
- The seven point plan<sup>4</sup> set by the British Veterinary association was the veterinarians' source of information for responsible use of AMs.
- Farmers and vets were aware of the UK reduction targets set by RUMA.
- Farmers emphasised that the discussion between farmers and their vets would help to promote responsible use of AMs.

#### References

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