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SCHOOL OF VETERINARY MEDICINE AND ANIMAL RESOURCES
DEPARTMENT OF WILDLIFE AND AQUATIC ANIMAL RESOURCES

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VAMS Project Summary

Title:

Developing a Monitoring System for Quantifying and Mapping Antimicrobials used in Livestock Farming Systems in Uganda (VAMS)

Principal Investigator:

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Background to the Study

Antimicrobial Resistance (AMR) is one of the top three challenges faced by mankind today after Climate change and terrorism. Globally, it is estimated that today 700,000 people die of resistant infections every year, and without aggressive action to combat AMR, the number will rise to 10 million lives a year by 2050. The consumption of antimicrobials is a leading cause of antimicrobial resistance (AMR). Understanding what antimicrobials are consumed, in what quantities and by what livestock production system is critical to interventions to curb the spread of AMR. At global level, an increase in antimicrobial consumption has been reported with predictions of a 200%

increase by 2030. Any use of antimicrobials encourages the selection of resistant bacteria which then spreads to humans through food consumption, environmental contamination and through direct contact of humans with animals.

In Uganda, the data on the quantities of each of the antimicrobials imported into the country is not systematically accessible, particularly for those used in livestock production. To monitor and regulate antimicrobial consumption and usage in livestock production require development of national standardized data capture tools and a monitoring system to track importation, distribution, and usage at farm level. Therefore, we conducted a study establish the national consumption data of antimicrobials used in livestock productions systems and to develop an information technology (IT) monitoring system for reporting antimicrobial quantities imported, distributed and consumed.

Overall Objective

To develop an Information Technology (IT) System for reporting antimicrobial quantities imported, distributed and used in livestock production systems in Uganda to inform surveillance and management of Antimicrobial Resistance (AMR)

Specific Objectives

1. To determine volumes of antimicrobial medicines imported into Uganda for use in livestock production systems.
2. To classify different types of antimicrobials imported into Uganda for use in livestock productions systems
3. To develop an information Technology (IT) monitoring system for monitoring importation, distribution and consumption of antimicrobials used in livestock production systems.

Preliminary Results/Outputs

1. We accessed import data of antimicrobials for livestock from 2017 to 2020 from National Drug Authority Management Information System (NDAMIS) and analysed it to **show the volumes of each antimicrobial drug imported in kilograms per month per yea**r. We have further categorized the drugs by **therapeutic/pharmacological category (classes/ sub classes), by species, and route of administration**. In the next phase, we will map out the distribution chain to the end user and establish usage patterns using sales and purchase data.

2. We have developed **a web-based Information Technology System** in collaboration with National Drug Authority (NDA) and Ministry of Agriculture, Animal Industry & Fisheries (MAAIF) that will be capturing the **importation data**, sales data and purchase data in real time and display it on **IT dashboard** in different usage formats accessible to regulators, policy makers, researchers, Veterinary drug importers and distributors and end users (farmers). The system has in-built access levels for data protection and controlled access. The system is further designed to allow interactions at different levels. Currently there is no organized and collected sales and purchase data, and our project will be designing the system to enable Veterinary Drug sellers and distributors to submit sales data and for farmers to submit purchase data through an App system under development.

3. Our data will be used to inform the choice and implementation of antimicrobial stewardship interventions at national level with the aim of conserving and sustaining effectiveness of existing and new antimicrobial agents.

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Thank You

Sincerely

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