

# Challenges to Responsible and Prudent Use of Antimicrobial Agents in Animals in Uganda: The role of one health and one medicine

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## Abstract

This study examined the use of antimicrobial agents in animals using A Net-Map tool. The tool was used to map out the main actors in use antimicrobial agents and examine the challenges to responsible and prudent antimicrobial use. Results reveal that contrary to OIE guidelines on antimicrobial agents use, antimicrobials are used without prescription by veterinarian. Moreover, they are being sold under sunlight and those meant for humans like tetracycline are used in treating CBPP without proper dosage. This is attributed to weak legislation, inadequate trained staff and poor management of veterinary staff leading to increased level of self treatment. This paper contends that one health and one medicine approach is a key to ensuring prudent and responsible use of antimicrobials in Uganda.

## Methods

Net-Map tool was used to map out actors involved in the use of antimicrobials in animals, examine challenges and identify possible strategies to prudent and responsible use of antimicrobial agents. The study was conducted in both pastoral and intensive livestock productions systems in Uganda. Descriptive statistics from farmer survey were used to support results from the Net-Map tool.

## Introduction

Antimicrobial Resistance (AR) is increasingly becoming problem in both animal and human health in Uganda (Byarugaba et al, 2011). The increasing risks of AR is linked to imprudent use of antimicrobials in animals (Byarugaba, 2004). Although the use antimicrobial drugs in veterinary practice have been recognized to influence the prevalence of AR in both animals and humans, information about limiting factors to prudent use of antimicrobials in Uganda is not well understood and documented. Understanding the challenges to prudent use of antimicrobials is necessary in guiding design policies and strategies to ensure prudent use of antimicrobials agents in animals and minimize the likely negative impacts.



## Results

Paraprofessionals, livestock owners, and other household members are main users of antimicrobials. The main challenges to prudent and responsible use of antimicrobial agents are limited number of trained veterinary staff, dominance of paraprofessionals not trained in veterinary medicine, high propensity for self-treatment by farmers or households, and weak legislation to enforce standards and monitor the efficacy and safety of antimicrobials.

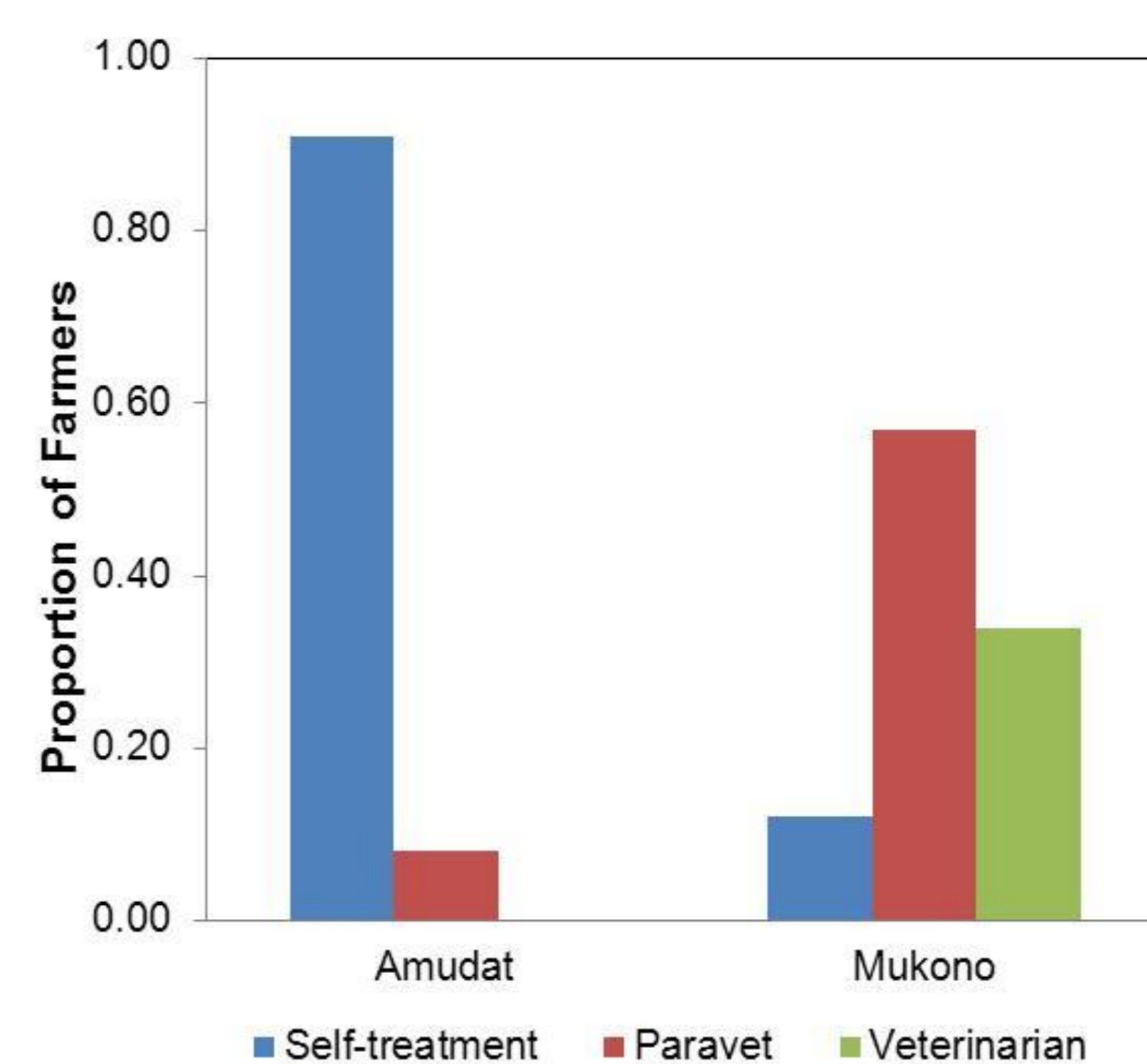
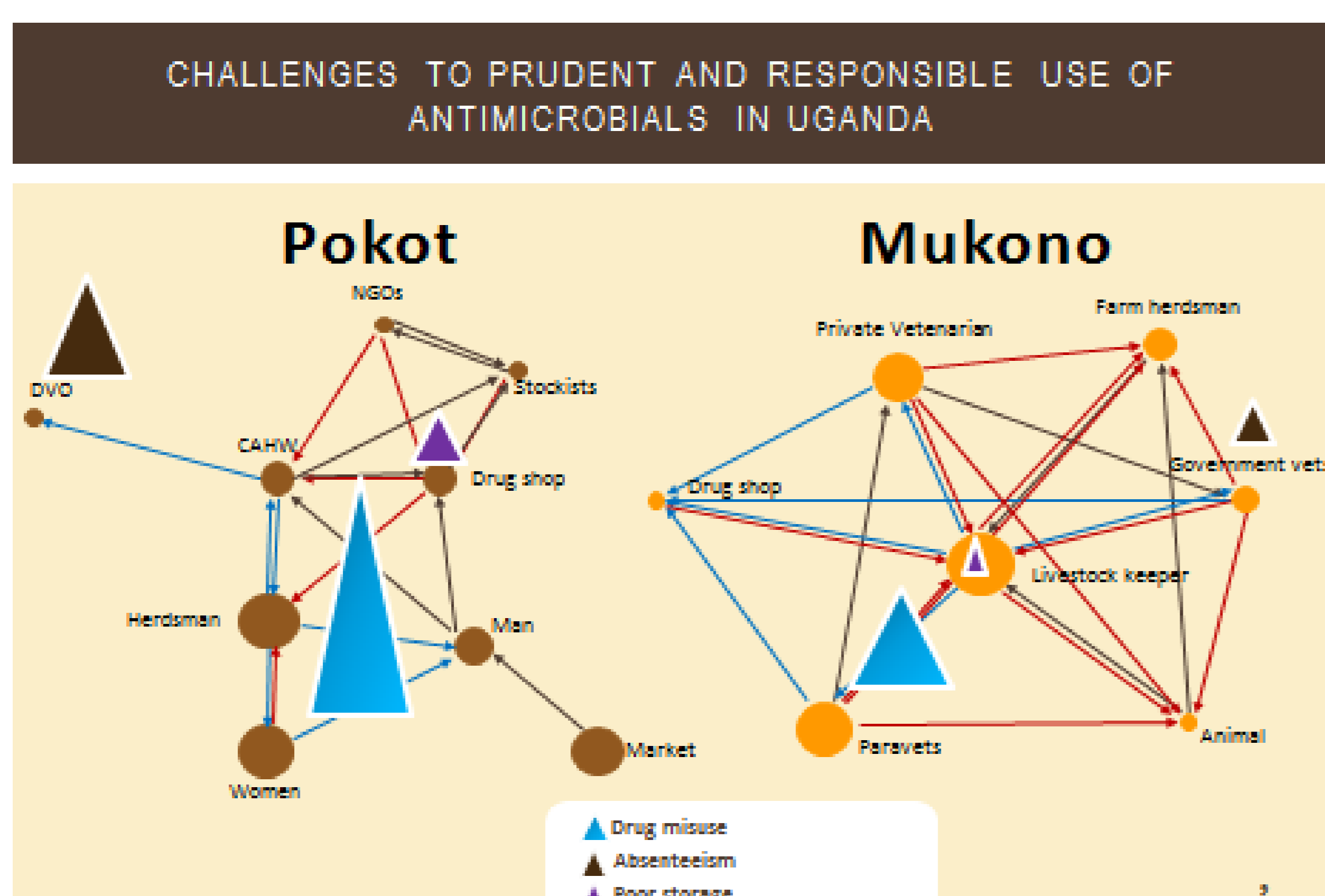


Fig. 1 Fraction of HH who used a particular clinical services

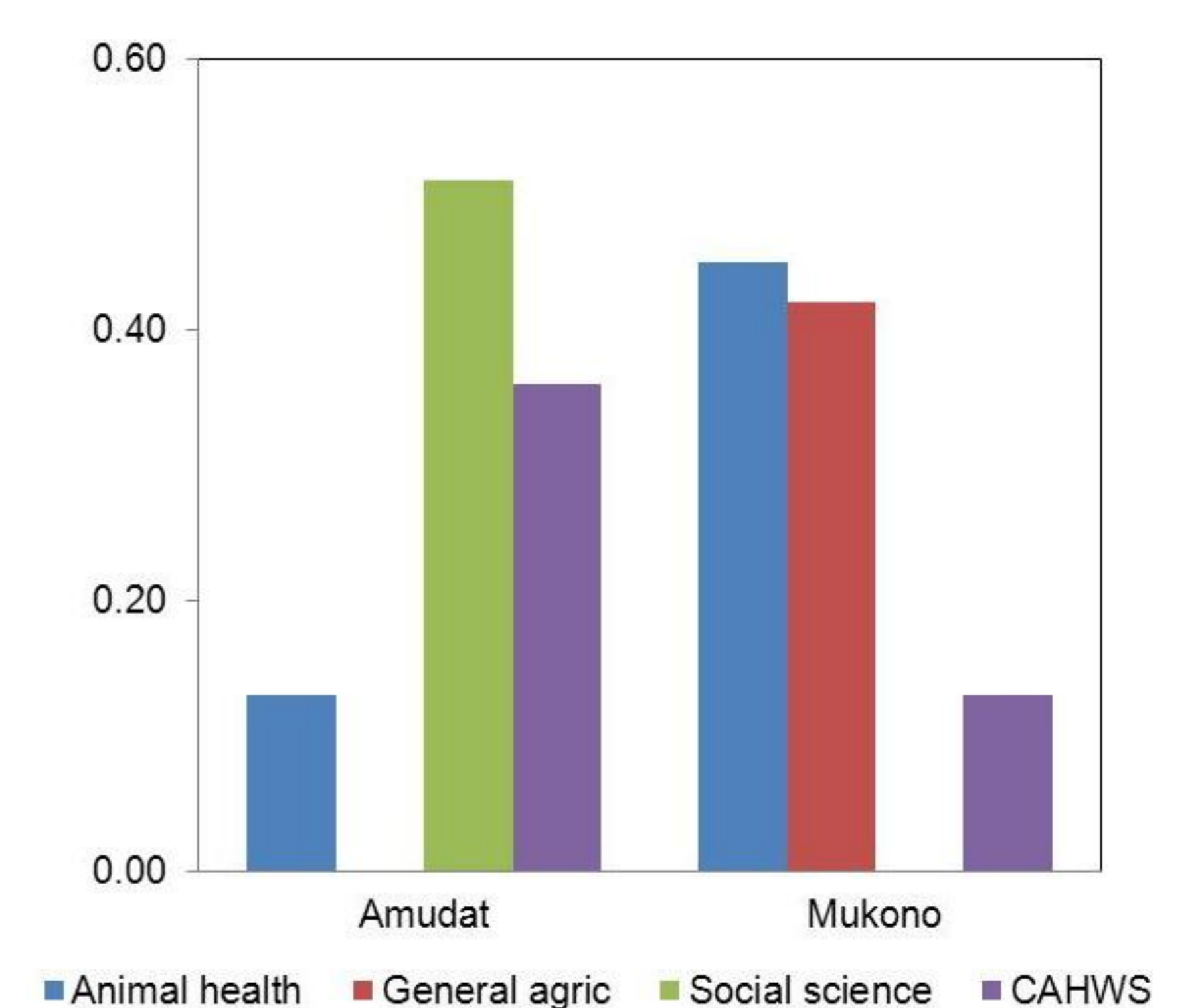


Fig. 2 Training of service providers and likelihood of being used by a farmer

## Conclusions

One health and one medicines approach that seeks greater coordination and cooperation between veterinary and human medicine and other stakeholders can play greater role in ensuring prudent and responsible use of antimicrobial agents. Cooperation between the veterinarian staff and medical staff would enhance communication of information regarding use of antimicrobials and generate pressure on the need for prudent use of antimicrobials from the consumer side. This pressure would play a greater role in influencing policy, advocating for strong veterinary legislation and ensuring judicious use of antimicrobial agents in animals.

