



# ANTIMICROBIAL USE (AMU) ACTIVITIES WITH VETERINARIANS and FARMERS

BY

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UGANDA





# NATIONAL EFFORTS on AMU



GOVERNMENT OF UGANDA

## **Antimicrobial Resistance National Action Plan**

*“Prevent, slow down, and control the spread of resistant organisms”*

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**2018-2023**

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# NATIONAL EFFORTS on AMU Cont;



NAP endorsed by the Ministry of Health, Ministry of Agriculture Animal Industry and Fisheries, Ministry of Water and Environment, as well as Wildlife

**Dr. Henry G. Mwebesa**  
Director  
General Health Services  
Ministry of Health

**Dr. Juliet Sentumbwe**  
Director  
Animal Resources  
Ministry of Agriculture  
Animal Industry &  
Fisheries

**Mr. Collins Oloya**  
Ag. Director  
Environmental Affairs  
Ministry of Water &  
Environment

**Mr. Sam Mwandha**  
Executive Director  
Uganda Wildlife Authority  
Ministry of tourism,  
Wildlife &  
Antiquities





# NATIONAL EFFORTS on AMU cont;



AMU IS one of the key elements of the one health strategic plans

INTEGRATED SURVEILLANCE FRAMEWORK FOR ANTIMICROBIAL RESISTANCE IN ANIMAL HEALTH, 2018-2023



**USAID**  
FROM THE AMERICAN PEOPLE

Preparedness & Response  
ONE HEALTH IN ACTION



NATIONAL DRUG AUTHORITY-UGANDA



# MULTI STAKEHOLDER ENGAGEMENT ON AMU





# INCORPORATION OF AMU IN INSTITUTIONAL WORKPLANS



## National Drug Authority

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Doc. No.: QMS/FOM/097  
Revision No.: 1  
Effective Date: 26 Sep 2014



Management Paper No. \_\_\_\_\_

Agenda Item Number: \_\_\_\_\_

Agenda item: Integration of the AMR National Action Plan in the operations of the National Drug Authority

### Draft Resolution:

Management has considered and recommended the integration of the Antimicrobial Resistance National Action Plan into the operations of the National Drug Authority and hereby commits to its implementation and reporting.

### 1.0 Background





## Uganda Animal Health activities - Achieved

- Laboratory & Biosafety Biosecurity development
  - AMU data capture tools developed
  - Procurement of laboratory equipment, Reagents and supplies – ongoing in 3 Surveillance centers (NADDEC, Mbarara & CDLAMR)
- Training of MAAIF staff on data collection for AMR/AMU – is to be scheduled in this FY 2019 /2020.
- Piloted surveillance in poultry value chain – Mbarara and Wakiso Districts







## ❖ Pretest Mbale\* Wakiso – Piloting\* Poultry (Results)

### *Escherichia coli* (N=66)

A total of 66 isolates were tested with a panel of 12 drugs. (Table 1)

Table 1: AST results obtained by using different antibiotics

Antibiotic (disc potency)	%R	%I	%S
Amoxicillin (25µg/ml)	48.5	0	51.5
Amoxicillin/Clavulanic acid (20µg/ml)	19.7	24.2	56.1
Ampicillin/Sulbactam (10µg/ml)	0	13.8	86.2
Cefuroxime (30µg/ml)	12.1	31.8	56.1
Ceftriaxone (30µg/ml)	9.1	33.3	57.6
Imipenem (10µg/ml)	0	10.8	89.2
Meropenem (10µg/ml)	0	0	100
Gentamicin (10µg/ml)	13.6	33.3	53
Nalidixic acid (30µg/ml)	10.8	18.5	70.8
Trimethoprim/Sulfamethoxazole (25µg/ml)	64.6	0	35.4
Chloramphenicol (30µg/ml)	4.5	0	95.5
Tetracycline (30µg/ml)	68.2	1.5	30.3

R-resistant, I- intermediate, S- susceptible

The unique identification number could be understood but was inconsistent between the various hubs as each hub had its own format.

#### Sub-Activity 3: Sample storage

All samples were stored at the appropriate conditions.

#### Sub-Activity 4: Processing

The recovery rate of organisms from samples was highest with *E. coli* and *Enterococcus spp* were

#### Distribution of the target organisms from the samples

##### *Escherichia coli*

Total tested: 400 (positive: 337, negative: 63) (84.3% recovery)

##### *Salmonella spp*

Total tested: 400 (positive: 85, negative: 315) (21.25% recovery) -Presumptive

##### *Enterococcus spp*

Total tested: 400 (positive: 397, negative: 3) (99.3% recovery)

##### *Campylobacter spp*

Total tested: 160 (positive:1, negative: 159) (0.6%% recovery), recovery but non-conclusive as all samples were not analyzed. 240 samples not yet analyzed

##### ESBL *Enterobacteriaceae*

Total tested: 400 (positive: 68, negative: 332) (17% recovery)

See Appendix 8 for more detailed summary of the sample analysis

The isolates will be further be subjected to ASTs using the chosen panels of drugs



# EFFORTS AT DRUG OUTLETS on AMU



Drug Out let operators are expected to record their sales; Valuable source of AMU data



# INFORMATION DISSEMINATION ON BEST PRACTICES TO PREVENT AMR




**1** FFE BA WANSOLO, TUKWETAAGA

**2** FUBA OKUKOZESA EDDAGALA N'OBWEGENDEREZA

Lwanyisa okukona kw'endwadde, nga weewala ebyo ebivaako obuwuka okumanyiira eddagala

**3**

**4** Oyinza okubaako ky'okola! Weegendereze ng'okozesa eddagala mu bantu ne mu kulunda, lisobole okugasa ffe abaliwo n'abaliddawo

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Domestication of sensitization materials including Translation of OIE sensitization posters in **local languages**







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# INFORMATION DISSEMINATION ON BEST PRACTICES TO PREVENT AMR



2. Record the current refrigerator temperature and maximum and minimum refrigerator temperatures.
3. Record current room temperature. Record the time the reading was taken.
4. Record the temperatures on the form even

7. Record the time and refrigerator temperatures (current, minimum and maximum) when the power is restored.

## ANTIMICROBIAL RESISTANCE AND THE FOOD CHAIN

Antimicrobial Resistance (AMR) is the ability of microbes/microorganisms /germs (like bacteria, viruses, and some parasites) to stop an antimicrobial (such as antibiotics, antivirals and antimalarials) from working against them. This is a very serious health threat recognized globally. Heavy use of antimicrobials in animal production has been identified as a significant contributor to this challenge.

The animal health perspective

To a great extent, antimicrobials/antibiotics used for treatment of animals are similar to those used to treat people. Although the types of antibiotics in animal treatment are fewer, interestingly the amounts used in animal production far exceed those used in people. This is because in case of the former, these drugs are administered in feed and water as mass treatment for preventive and curative purposes. Science has

demonstrated that continuous use, overuse and misuse of antibiotics in food producing animals selects for resistant bacteria which are transferable to people through food and the environment.

The six session of the Intergovernmental taskforce on food borne AMR held in Busan, Korea 10th to 14th December 2018, resounded these concerns. The taskforce is mandated to revise the Code of Practice minimize development of food borne AMR, and to develop guidelines for integrated AMR surveillance along the food chain.

At the session, Uganda was represented by 3 delegates namely: Dr. Juliet Ssentumbwe (Ag. Director Animal Resources – head of delegation), Dr. Patrick Atimnedi (Veterinary Coordinator, Uganda Wildlife Authority) and Dr. Vincent Kayizzi Magembe (National Drug Authority).





# PHYSICAL MEETINGS WITH FARMERS & VETERINARIANS on AMU



NATIONAL DRUG AUTHORITY-UGANDA





# AMU INFORMATION AT NATIONAL CELEBRATIONS



NATIONAL DRUG AUTHORITY-UGANDA



## NDA JOINS THE REST OF THE WORLD IN THE AMR AWARENESS CAMPAIGN

**World Antibiotic Awareness Week 12th to 18th November 2018**

This week (12th to 18th November 2018) is the World Antimicrobial Resistance week, during which the world focuses on creating awareness and promoting practices that aim at mitigating this global threat. As we join in this year's campaigns whose theme is; "Change can't wait, our time with antibiotics is running out", we recognize the contribution of antimicrobials / antibiotics to global health and wellbeing of both humans and animals. We further explore the threat of antimicrobial resistance against the regulatory mandate of NDA on quality, efficacy and safety of drugs.

According to the World Health Organization, Antimicrobial Resistance (AMR) is the ability of microbes/microorganisms /germs (like bacteria, viruses, and some parasites) to stop an antimicrobial (such as antibiotics, antivirals and antimalarials) from working against them. This is a very serious health threat recognized globally.

### The threat of antimicrobial resistance

In both humans and animals, harmful bacteria and other germs surviving treatments are becoming more prevalent, making available antibiotics less effective. This is a global problem that is affecting the developing countries more due to scarce resources and the challenges of access to affordable (human and animal) health care. For example, multidrug-resistant tuberculosis is on the increase globally according to the World Health Organization. This trend indicates that, the means to treat infectious diseases are set to become more limited. Of particular concern to Uganda and other

### Everyone can do something:

- i) Take antibiotics only when prescribed by a qualified medical worker and avoid self-medication as much as possible.
- ii) Always complete the dose as prescribed and encourage all to do the same.
- iii) Observe personal hygiene including washing hands to reduce the chances of acquiring infection and necessity of using antimicrobials /antibiotics
- iv) Avoid touching surfaces unnecessarily when visiting hospitals
- v) Follow all immunization programs to kick out immunizable diseases – prevention is better than cure.



absorbed after oral administration and thus do not present a risk of residues in foods of animal origin, may be considered.

- vi. Use vaccination where available to prevent disease instead of relying on treatment with antibiotics.



- vii. Improve feeding as poorly fed animals are easily attacked by diseases due to a weak immune system
- ix. Explore feed supplements that contain enzymes.

## Regular press releases to create awareness especially during the AMR week





# SENSITISATION WALKS ON AMU



# INFORMATION DISSEMINATION ON BEST PRACTICES TO PREVENT AMR



Periodic publications with where AMU messages are communicated

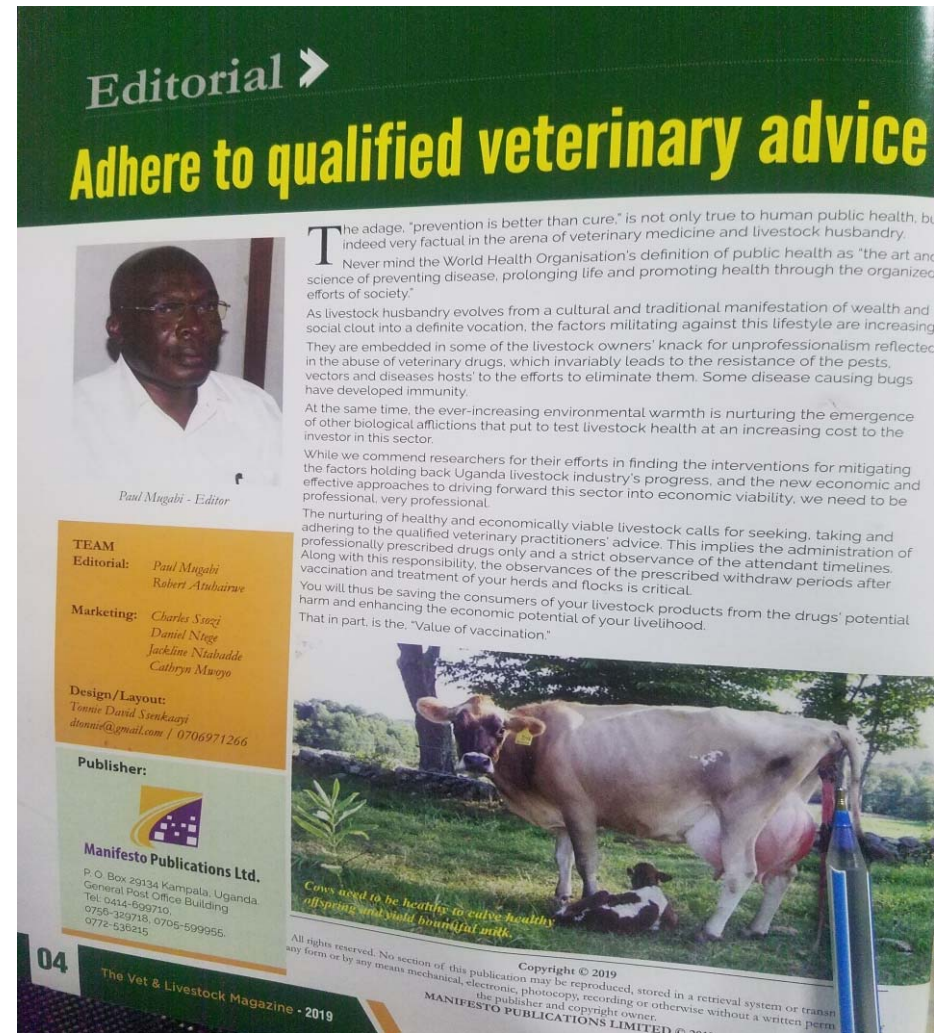






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# ARTICLES on AMU ARE PLACED IN MAGAZINES AND NEWS PAPERS







Safe Drugs Save Lives

# ARTICLES ON AMU ARE PLACED IN MAGAZINES



**Antibiotic resistance**  
**Innovative livestock care is the answer**

**EXPERT ADVICE**

There are five leading factors to good animal husbandry, according to Dr. Daniel Kasibule, a veterinary doctor and the chief executive officer of Melo Pharmaceuticals.

Profitable productivity hinges on rearing a good breed, proper feeding in a profitable manner, emphasis on disease control, good routine management practices and marketing. Dr. Kasibule however says Melo Pharmaceuticals emphasises proper feeding, short of which the farmer will incur losses, rather than the profits for which they aspire.

Noting that 70 per cent of inputs are in feeding, he says a farmer needs assistance involving some innovative technology to control the expenditure, and hence the provision of comprehensive but profitable inputs.

Headquartered at Martin Road on plot 31, Marina's Plaza, the Company imports various materials to assist farmers in their vocation, including feed ingredients from Vietnam.

When used on livestock, inclusive of pigs, chicken and cows, Boostpro helps the farmer to make a saving on ingredients, because of its probiotic stabilised. When unstable because the bad germs it naturally hosts are dominant, the animal will frequently suffer from diarrhoea.

With the use of the probiotics, the good micro organisms outnumber the bad ones and hence gastric intestinal stability is manifested by stable stool. Boostpro also has enzymes that complement the animals' enzymes, which are naturally weak in the arrangement of the enzymes in animals' stomachs.

For this reason, chicken droppings fatten pigs because much of the chicken feed is excreted whole, whereas some farmers think it is the nature of broiler chicken to diarrhoeate, the condition is caused by an imbalance, which the probiotics powder can correct.

The company stocks protease which works on proteins, and lipase which works on lipids, and an enzyme, cellulose which works on cellulose. Much of the chicken feed is in the form of cellulose, which helps the chicken to extract most of the nutrients from the feed they eat. This booster also has amino acids and multivitamins. This translates into more profitability and benefits without much input.

Speaking from personal experience, Dr. Kasibule says when he administered the ingredients to broiler chicken, they gained slaughter weight in four weeks rather than six, which benefits can be replicated in cows and pigs.

This modified feeding is also advantageous in addressing the issue of the growing antibiotic resistance in this age when much of what we eat could lead us to bad health. Often times, when animals are treated with antibiotics, the observation of a withdrawal period is minimal.

However, the animals on Boostpro will not have antibiotics in their system and hence those animals' products will be safe for human consumption. Melo products are, therefore, assistive in quick nutrients' absorption, increased metabolism of the vitamins and amino acids absorption.

The company has experts on its staff assisting the farmers to make high-performance feed formulae at a low cost, using appropriate computer software on its premises.

Farmers from the country's different regions are also assisted to profit from animal husbandry through appropriate sensitisation/teaching to use profit-making feeding.

Besides feeding,

Melo's other priority emphasis is on disease control. To address the high prevalence of acaricide and ticks in western Uganda, Melo zeroed in on an effective intervention.

Ivermectin Injection kills the ticks which have a resistance to the conventional antibiotics and when administered twice, it also deworms the animals, after which the farmer can revert to conventional spraying.

Melo's other pharmaceutical brands lines include the anti-chicken flu and cough therapy, and the protection of cows against mastitis.

All the aforementioned products, most of the drugs are imported from Vietnam and duly registered through National Drug Authority per the law, and considering that drugs' stability is climate-related, some of the drugs on the market are not efficacious.

This is on account of the difference in climatic condition between where they are manufactured and where they are applied.

Vietnam was chosen because of the fact that piggery is the fastest growing industry in the country. Vietnamese Technology, say the Boostpro and the milk replacer, are critical inputs that assist in the weaning.

avoiding stunting in young pigs and enabling a pig to be ready for slaughter at six months.

Melo is also making arrangements for importing poultry vaccines in the near future. "The team of five vet doctors and five livestock husbandry officers is always on standby to work with the farmers as a team, besides the WhatsApp and Facebook platforms through which farmers get advice. Together we shall build the nation," Dr. Kasibule says.

As of now, before importing any medicine, you will be inspected by a team of experts constituted by NDA. After the inspection, they give you a certificate of good manufacturing practices (GMP) certificate which Melo has. Uganda has a law prohibiting the use of growth promoters that end up in residues and are dangerous; they can cause imbalance in humans, cause infertility and other undesirable effects in the human body.

Aspect the inspectors look out for include: what do the manufactures do in their production processes, what are their values, are they compliant with the health regulations, the check list is quite long and all the queries have to be OK. They are inspected every two years.

I have just received mail from the manufacturers alerting me of the expiry of the GMP certificate in 2020 and the need to apply for renewal. Human safety is a prerequisite.

I appeal to livestock keepers to use probiotics as a way of limiting the use of antibiotics; one of our values is to ensure livestock production whilst ensuring the health safety of the consumers of livestock products.

The theme for the last veterinary day at which UVA won the World Award for hosting the most successful World Veterinary Day, the theme said, the role of the veterinary professionals in sustainable development and improved livelihood, food security and food safety. As we develop the livestock industry, how are we ensuring that we are offering food safety and food security?

Any potential medicine is a poison and for the vets, medicine is like a firearm handle it properly and it will yield good results; use it badly and it will be destructive.

We need to help the common man to reduce the use of antibiotics, it is for this reason that Melo brings the products we are importing.

**FURTHER**

Livestock keepers need to know that Melo is farm-based; our preference is to deal with the farmer at the grassroots. When he earns, we shall also earn.

We have distributors in different Uganda's regions where the livestock keepers find our products: Pata Dawa in Jinja, Bamu at Iganga, Miki in Mpigi, Gold Man in Soroti, His Grace in Masak, FBK Vet Drug Shop in Mbarara, MK Vet Centre in Mayuge and also in Gulu, Kyotera Vet Drug Shop, Super Vet Drug Shop in Rukungiri, KMS Vet Drug Shop in Kamuli, Odoronyo Vet Drug Shop in Gulu, Busia Farmers Choice in Busia. They have our products and products information at all times.

We have communication channels through Facebook, Melo Pharmaceuticals, we also have Melo farmers' WhatsApp group that one can join. You can also inquire from 0772 587 752.

Dr. Daniel Kasibule  
 Chief Executive Officer  
 Melo Pharmaceuticals

18 The Vet & Livestock Magazine - 2019



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# USES ELECTRONIC MEDIA(RADIO & TV TALK SHOWS) AND PRESS TO DESSIMINATE INFORMATION ON AMU





# Strengthening Collaborations -







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# Sensitization on other AMR contributory factors



**ANTHELMINTIC (DEWORMER)  
RESISTANCE IN CATTLE AND  
SMALL RUMINANTS**

WHAT TO DO  
ABOUT IT.  
HELPFUL  
INFORMATION FOR  
VETERINARIANS

Wider look at conditions that bring about increased use of antimicrobials

- Anthelmintic resistance
- Tick acaricide resistance





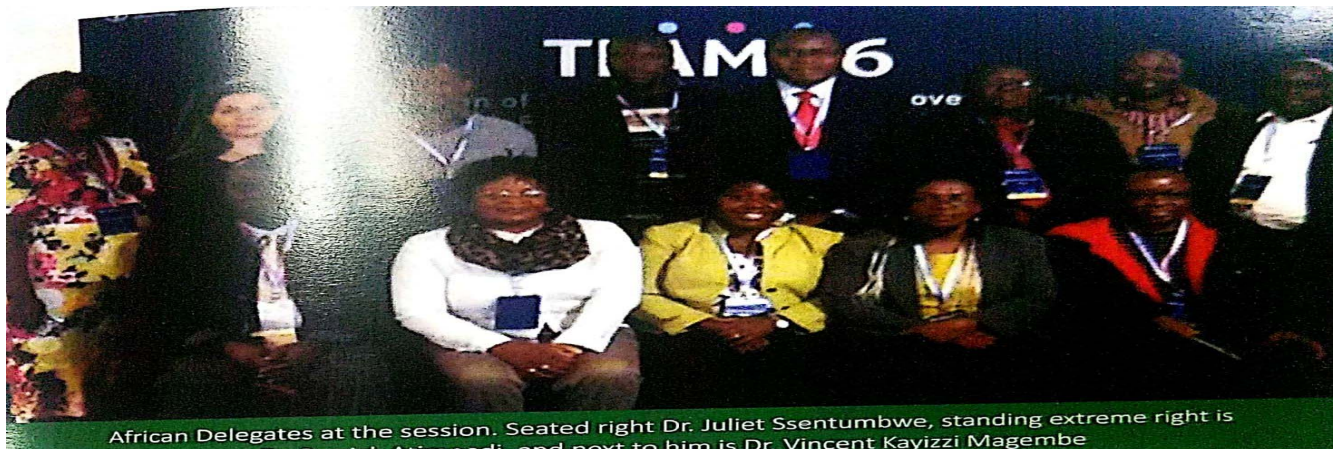
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# ENGAGEMENT OF PRE-PROFESSIONALS ON AMU



NATIONAL DRUG AUTHORITY-UGANDA





African Delegates at the session. Seated right Dr. Juliet Ssentumbwe, standing extreme right is Dr. Patrick Atimnedi, and next to him is Dr. Vincent Kayizzi Magembe

The International Organization for Animal Health (OIE), the World Health Organization (WHO) and the Food and Agricultural Organization of the United Nations (FAO) have issued recommendations which included the following:

1. Antimicrobial use for growth promotion in food animals should be kicked out (20 countries have so far stopped this and more are promising). Non veterinary medical use of antimicrobials was also strongly discouraged.
2. Restrict use of medically important antimicrobials in food producing animals (Information was given that the United States of America eliminated the use of critically important antibiotics in animal production in 2017)
3. Use of Antimicrobials for disease prevention should be stopped.
4. The code of practice and the guidelines for surveillance of food borne AMR be implemented
5. Every sector should participate as AMR is increasing and no longer a mere scientific issue; but also acquiring political, social and economic dimensions with threat of catastrophic outbreaks - the time within to act appears to be short.
6. Multiple sources of contamination: water, soil, wildlife, humans and equipment increase incidence and likelihood of AMR disease outbreaks; thus the need to adopt Good Agricultural Practices and Integrated Pest Management.



## International engagement on AMR

- Physical meetings
- Electronic working groups





## UGANDA NATIONAL BUREAU OF STANDARDS

### NATIONAL CODEX COMMITTEE

#### UGANDA'S PARTICIPATION IN CODEX AND FOOD SAFETY RELATED

7.	6 <sup>th</sup> Session of the Ad hoc Codex Intergovernmental Task Force on Antimicrobial Resistance: Busan, Republic of Korea 10 <sup>th</sup> – 14 <sup>th</sup> December, 2018	3 delegates – MAAIF (1), NDA (1) and Uganda Wildlife Authority (UWA) (1)	Government of Uganda – MAAIF, NDA & UWA
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# VETERINARY PHARMACOVIGILANCE FOR ISSUES ON AMU



## UGANDA VETERINARY PHARMACOVIGILANCE STRATEGY,

SEPTEMBER 2019

**National Drug Authority**  
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## VETERINARY ADVERSE DRUG EVENT REPORTING FORM

National Drug Authority  
 Plot 19 Lumumba Avenue Kampala  
 Toll free: 0800101999 Whatsapp: 0791-415 555  
[druginfo@nda.or.ug](mailto:druginfo@nda.or.ug), [www.nda.or.ug](http://www.nda.or.ug)



SAFETY ISSUE		NAME AND ADDRESS OF REPORTER		DETAILS OF OWNER (affected)			
In animals <input type="checkbox"/> In humans <input type="checkbox"/> Environmental problems <input type="checkbox"/> Lack of expected efficacy <input type="checkbox"/> Withdrawal period issues <input type="checkbox"/>		Veterinarian <input type="checkbox"/> Pharmacist <input type="checkbox"/> AHO <input type="checkbox"/> Other ..... Name: District: Telephone : Email:		Name: Village: Parish: Sub county: District: Telephone			
PATIENT(S) Animal(s) <input type="checkbox"/> Humans (for humans fill only age and sex below) <input type="checkbox"/>		New case <input type="checkbox"/> Follow up case <input type="checkbox"/>					
Species	Breed	Sex	Status	Age	Weight	Reason for treatment	
		Female <input type="checkbox"/> Male <input type="checkbox"/>	Neutered Yes <input type="checkbox"/> No <input type="checkbox"/> Pregnant Yes <input type="checkbox"/> No <input type="checkbox"/>				
SUSPECTED VETERINARY MEDICINAL PRODUCT ADMINISTERED BEFORE THE ADVERSE DRUG EVENT							
<i>(if more products are administered concurrently than the number of boxes available, please duplicate this form )</i>							
Name of the veterinary medicinal product (VMP) administered							
Pharmaceutical form & strength (ex: 100 mg tablets)							
Manufacturer							
Batch number			Expiry date				
Route/site of administration			Dose / Frequency				
Duration of treatment / Exposure:		Start Date		End Date		Duration:	
Who administered the VMP? (veterinarian, owner, other)							
Has the Marketing Authorisation Holder (MAH) been informed? Yes <input type="checkbox"/> No <input type="checkbox"/>							





Thank you