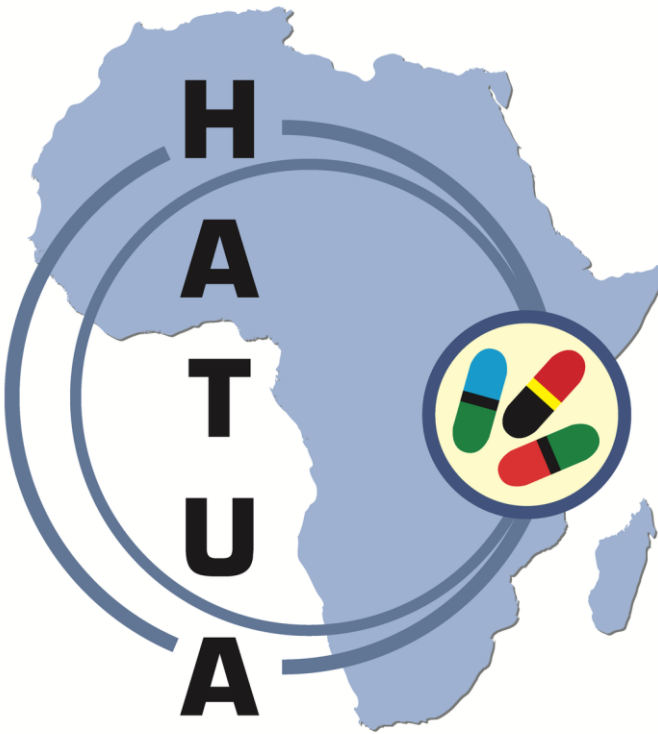


Perceptions and experiences of Antibiotic Resistance prevention: Examples from *Isingiro district, South Western Uganda*

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innovations towards combating AMR: A whole Society
Engagement***

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Holistic **A**pproach **T**o
Un unravel **A**ntibacterial
Resistance in East Africa



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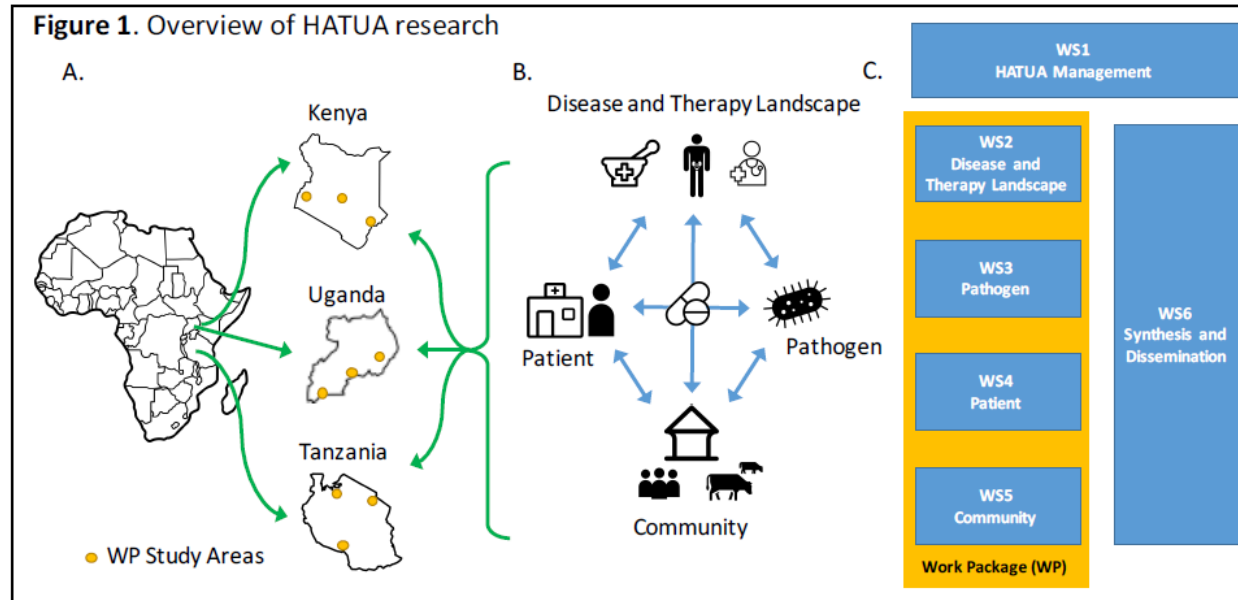


Introduction

- Antimicrobial resistance (AMR) has become an increasing concern worldwide
- SSA is particularly vulnerable to AMR
- *“The most effective actions to reduce and control AMR will involve **changes in social practices**, including how farmers, vets, and regulatory systems manage livestock production for human consumption; how regulatory and fiscal frameworks incentivize or deter antimicrobial development, production and use; and how public and healthcare professionals behave in relation to infection and use antimicrobials”*

Report of an ESRC Working Group: July 2014

Holistic Approach To Unravel Antibacterial resistance in East Africa (HATUA - Swahili for 'action').



- The international, Interdisciplinary MRC/DHSC funded HATUA consortium will focusing the burden and drivers of ABR in urinary tract infections (UTIs) across three countries in East Africa. Kenya, Uganda, Tanzania,
- EA Universities, St Andrews UK

Objectives of the pilot

- To examine and understand the drivers of ABR in Humans and livestock.
- Key themes that were investigated and include:
 - main health problems affecting humans and livestock in the community that necessitates use of antibiotics
 - antibiotics commonly used in Humans and livestock
 - information sources and services
 - experience with antibiotic resistance among Humans
 - suggestions for proper use of antibiotics and prevention of AMR

Pilot project data for HATUA – sample methods

- Urine samples
- Patient questionnaires
- Focus group
- Key informant interviews
- Interviews focused on UTI & AB drug use among community members
- **This presentation is based on the qualitative data.**

Location	Focus group composition
Nyamarungi	4 Male, pastoralists with age range 40-73 years
Mbaare	8 females, mainly crop farmers with few animal rearing, age range 20-55 years
Rugaaga	5 males mainly crop farmers with few animal rearing, age range 21-54 years 5 females mainly female crop farmers with few animal rearing, age range 22-41 years

Methods of the pilot

- **Study site**

- Isingiro district, SW Uganda bordering Tanzania
- In 3 subcounties
 - Nyamarungi (predominantly pastoralist communities)
 - Mbaare and Rugaaga (Predominantly crop farmers but with some few livestock)

Analysis:

- Thematic qualitative content analysis done to understand difference by gender and type of group based on livelihood
- Excerpts/quotes have been used in the report to further explain and provide evidence for the emergent themes



Focus group with farmers

CONTEXT OF ISINGIRO

Crop farming



Pastoral community



RESULTS

Key findings: *Main health problems affecting humans and animals in the communities*

- Fever, urinary tract infections, cough, allergy, syphilis, brucella, Candida, HIV/AIDS and other STIs the main ailments
- Among the two focus group discussion of women, most reported **UTI** as main ailment affecting women in the community
 - Referred to symptoms such as abdominal pains, frequent urge to urinate, pain or burning sensation when urinating, abdominal pain, smelly urine)
- **Main health problems affecting livestock**
 - Mumps, foot and mouth disease, bloody diarrhea

Common Antibiotics used

- **Antibiotics commonly used to treat human beings**
- ***double colour***, ampicillin, amoxicillin, Tetracycline, teramycin, , seprin, benzazine ,procaine, , teramycin and albendazole.
- **Sources:**
 - Health centres, drug shops, clinics, pharmacies
- **Antibiotics commonly used to treat livestock**
- Tetracycline, penicillin, Benero. Supona, B-plus, Diatical, protaid, Penicillin, tetracycline, tactic, bevitras, Nilzan, combatica Ngombiatic, combatrin
- **Sources:**
 - Shops in trading centers.
 - Veterinary doctors within their communities who stock these drugs



Drugs used in both humans and animals

- Practice of using livestock drugs in humans is **still prevalent but decreasing**
 - **Ngombiatic** reported to treat **stubborn STI** especially gonorrhea
- *There a person who came with a drug called Ngombiatic to me (VHT) and told me that he was having pain in the lower abdomen and wanted me to help him by injecting him with it. I told him I was not going to do it. I advised him to go to a health center for proper treatment. But also you hear people in the community saying **they were sick and were given Ngombiatic injection**. When you ask why they do that, they claim the **sickness they have is very strong**.*

FGD Female, Crop Farmers, Mbaare
- Ngombiatic used to treat **ears with purse,**
- Nilzan for cows to treat stomach **ulcers,worms and wounds.**
- Those who reported the reason why it is not very much done is that there are a variety of antibiotics on the market to treat such” stubborn” diseases.

Misuse of antibiotics

- Misusing the antibiotics and other drugs was reported to be common by all groups
- ***Under doze/over doze:***
- The main reasons given for under or over dosing was **self medication** which was reported rampant in the area
- Low doses because **of lack of ,money while others just give under doze just by observing when the animal improves** they stop the drugs
 - *The farmer did not train in treating animals and when he has many animals, he wants to treat all them. so the one supposed to get 7 ccs is given 4 ccs. Then the one for 6 ccs is given 2.5 ccs because the other animals have to get. And remember the vet doctor is not on sight (FGD Female, Crop Farmers, Mbaare)*

Antibiotic misuse among Humans

- People take the drugs but the **moment they feel better they stop** without completing the doze
- Sharing of drugs in the family
 - *I may go to a health center and I get medicine for my sickness. Then the child at home falls sick and my husband tells me to give the child some. If I refuse he will ask me if I want my child to die when I have the medicine at home. So you give the child some yet you have not yet got alright. (FGD Female Group farmers, Mbaare)*
- That **full doze is usually given at the health centres** when drugs are available, other than that, some people just **buy drugs according to the money**.
 - *Sometimes you go to the clinic and they give you half dose according to the amount of money you have. You will go to the clinic and you want treatment. You tell them you have only 5,000/-. They tell you the full dose will cost 20,000/-.. so you ask her if she wants you to die. She tells you she can give you for 5000/-. You go home and take that medicine which cools you down and you feel better in your body but the disease is still there (FGD Female, crop farmers, Mbaare).*

Cont..

- **Self medication**
- *When you go to the doctor and he prescribes medicine for you and you get healed, next time you go there and find a line, **you may decide to go to the clinic and you buy the same medicine although it may not be the same sickness.** So you treat what you do not know and you land in problems(FGD Male Group farmers, Rugaaga)*
- **Alcoholism and food insecurity** as a factor that may affect adherence to antibiotics

Self-medication & the autonomous power of medicine

- People's search for care that works can lead them to access drugs on the basis of a **past experience** of success not on the basis of their current symptoms:

***R4:** It might be because of people's lack of knowledge because when he is sick & they give him amoxacyline* & he gets healed, they will always ask for that medicine . They can also go to the clinic & ask for what their money can buy without caring about dosage.**So next time he falls sick, he will not go to the health center. He will just buy this medicine & treat himself.** People end up using the antibiotics at the wrong time... That may be affecting the ability of antibiotics to heal diseases*

*.....**R3:** When you go to the doctor & he prescribes medicine for you & you get healed, next time you go there & find a line, you may decide to go to the clinic & you buy the same medicine although it may not be the same sickness. **So you treat what you do not know & you land in problems***

[FG with 5 male farmers in Rugaga village Uganda]

* Amoxicillin, also spelled amoxicillin: an antibiotic useful for the treatment of UTI among others. It is taken orally, or less commonly by injection. It is derived from ampicillin and both are part of the same family of penicillin [Wikipedia](#)

Public health & poverty

- Structural factors condition behaviour. Poverty & limited public sector provision (intersecting with other structures like gender) are likely key drivers of ABR

***R2:** I may go to a health center and I get medicine for my sickness. Then the child at home falls sick and my **husband tells me to give the child some**. If I refuse he will ask me if I want my child to die when I have the medicine at home. So you give the child some yet you have not yet got alright. Yet even if you are feeling a bit alright, before you complete the dose, the disease is still there in the body*

***R3:** I have come here many times. There are times you come here & they **prescribe for you & give you what they have. What they don't have they tell you to buy them**. [Rugaaga 5 female farmers FG]*

Drug culture around animal care - Lay veterinary care

- In the pilot we collected data about AB use in animals - to help contextualise people's broader relationship with ABs
- **Hands-on use of chemicals & drugs** in agriculture is common & even when in accordance with manufacturers' instructions can involve mixtures (e.g. insecticides with engine oil before application to cattle).
- **Lay veterinary** care is common – driven largely by the structural absence of an adequate veterinary infrastructure;

***R4:** Most of the time these **vets are not available**. You can look around & you fail to get one... In the whole subcounty we have only one vet doctor.*

'Misuse' & lay drug experimentation in animals

- Respondents reported 'misuse' was common e.g. failing to observe quarantine periods or dosages:

*R4: Like when it is on a course of treatment, they will tell you how much to give it every day. But then you find you do not **have enough money** to buy the antibiotic. So after **giving two doses and you see it recovering, you stop** at that.*

[Nyabirungi 4 male pastoralists FG]

- Also, experimentation with different drug combinations to **combat a real or perceived increasing ineffectiveness**. Some reported mixtures e.g. chemicals for ticks mixed with Diazon* for bedbugs did not involve ABs but others did:

e.g. Supona (solvent of organophosphorus compound & liquid hydrocarbons) mixed with Meditraz (an injected AB Certriaxone & Tazobactam that is added to AB to impeded ABR in bacteria); **[Nyamarungi 4 male pastoralists FG]**

- All evidence of a broader culture of veterinary lay-drug experimentation

Experience with antibiotic resistance among Humans

- Infections previously treated by antibiotics are **becoming more difficult to treat with the same antibiotics common at the health facilities and drug shops**
- Some diseases are now **harder to treat** and people **take long to cure**.
- If people take the prescribed antibiotics according to the doze, they do not get better regardless of the dosage
- ***M: Did you take them properly (antibiotics)?***
 - *R1: Very well, just as they had instructed me, to take two in the morning, two in the afternoon and two in the evening. After the dose was over, there was no relief. I went back and they examined me afresh and gave me the exact drugs as for the first dose. I took these drugs but there was no cure. So I decided to use herbal treatment (FGD Female, Crop farmers)*

Experience with antibiotic resistance among animals

- Antibiotic resistance among their animals is now common
 - Self-medication of the animals
 - Some antibiotics seem not to work
- *I think the problem comes about because we **treat the animals ourselves**. You may not even know what the cow is suffering from but you go ahead and treat it by guess work. You use this and it does not get healed. Then you use another one and another and in the process the cow may get healed or it may not and it dies. FGD male, pastoralists, Nyamarungi*
- They noted that **drugs** like Supona and Pro-tight that **used to be effective can no longer kill ticks**.
 - *It is there but it no longer kills ticks. Also Pro-tight used to kill ticks but now it is no longer effective. Actually all drugs for spraying on animals or dipping are no longer killing ticks.*

Experience with antibiotic resistance among animals

- Having realized that some drugs are no longer effective in curing the diseases some farmers have started to **mix different combinations** of drugs to make them **more effective**.
- Sometimes Supona and Meditraz are mixed; mix drugs for bedbugs (Diazon) with those used for ticks.
- This needs to be explored further as such combination may increase the antibiotic resistance

Need for prevention

- Aware of AMR and so recommended for sensitization on preventions
- *R4: We need **sensitization**... **vet doctors are few** and rarely mobilize farmers for sensitization. They only come when there is an outbreak. They tell people to collect their animals in certain centers and go there and inject them. People should be taught properly about the outbreak and how to prevent them..... How to use antibiotics properly*

Conclusion

- Exploring both the material & discursive dimensions of illness – looking both for the social in pathogenic and bacterial in the social – we hope to better unpack the assemblage that is AMR in UTI and identify its drivers
- A fuller appreciation of these experience requires the ability to link patient accounts with physical laboratory tests of patient samples to determine the burden of a given disease (or AMR) in the population and its presence or absence in a given patient (**HATUA main study**)
- We hope HATUA will facilitate both better stewardship of anti-biotics and better care for patients in resource limited settings.

Innovations important and crucial

- Community/end user engagement and human centered approaches are important for acceptability and use of innovations

Below an abandoned roadside market

