# HATUA DISSEMINATION IN KILIMANJARO
# UHURU LUTHERAN CENTRE 15th May 2021

## WORKSHOP AGENDA

| Time | Topic |
|---|---|
| 8:30_8:50 | Arrival and registration |
| 8:50_9:00 | Opening by Prayer and general introduction |
| 9:00_9:45 | General HATUA overview and laboratory results |
| 9:45_10:00 | Word from officials (RMO) |
| 10:00_10:30 | General discussion |
| **10:30_11:00** | **Tea Break** |
| 11:00_11:45 | Antibiotic dispensing landscape |
| 11:45_12:30 | Qualitative data preliminary findings |
| 12:30_13:00 | General discussion |
| **13:00_14:00** | **Lunch Break** |
| 14:00_15:00 | Introducing discussion questions and small group discussion |
| 15:00-16:00 | Feedback from small group discussion |
| 16:00-16:30 | Closing remarks |
| **16:30-17:00** | **Health break and departure** |

## 1.1 LIST OF ATTENDANCE

| SNO | NAME | LOCATION | TITLE |
|---|---|---|---|
| 1 | Prof Blandina Mmbaga | Moshi | Director of KCRI-Co-Investigator |
| 2 | Ms. Siana Mapunjo | Dodoma | National AMR Focal Person |
| 3 | Prof. Stephen E. Mshana | Mwanza | Country PI |
| 4 | Dr Joseph Mwanga | Mwanza | Country Social scientist |
| 5 | Dr Martha F. Mushi | Mwanza | Project data manager |
| 6 | Mr. Daniel B. Swai | Kilimanjaro | Epidemiologist |
| 7 | Ms.Anna Mery F. Shirima | Kilimanjaro | Lab tech |
| 8 | Ms.Perry C. Msoka | Kilimanjaro | Social scientist |
| 9 | Mr.Stanley B Munisi | Kilimanjaro | Council administrative secretary |
| 10 | Mr.Dismas J Kessy | Kilimanjaro | Pharmacists |
| 11 | Ms.Brenda Kitau | Kilimanjaro | Director of nursing services KCMC |
| 12 | Mr.Anold Ndaro | Kilimanjaro | Lab scientist |
| 13 | Mr.Helton Chuwa | Kilimanjaro | Journalist |
| 14 | Ms.Neema Mrutu | Kilimanjaro | Registered nurse |
| 15 | Mr.Lesho Nkya | Kilimanjaro | DLT Moshi |
| 16 | Sr Francis J Okido | Kilimanjaro | Hospital matron Kibosho |
| 17 | Mr.Evarist Kimaro | Kilimanjaro | Pharmacists |
| 18 | Mr.Allen A. Mlay | Kilimanjaro | PLTO |
| 19 | Mr.Fredrick P Temba | Kilimanjaro | Nursing officer |
| 20 | Mr.Hamidu Rajabu | Kilimanjaro | Pharmacist |
| 21 | Ms.Lydia Primer | Kilimanjaro | Pharmacist |
| 22 | Ms.Agness Mwaifuge | Kilimanjaro | MOI Majengo |
| 23 | Mr.Mwael N Aklunza | Kilimanjaro | PHech |
| 24 | Ms. Karen M Urasa | Kilimanjaro | LSC |
| 25 | Ms.Mary Shirima | Kilimanjaro | Nursing officer Majengo |
| 26 | Mr.Allen Senkoro | Kilimanjaro | IT |
| 27 | Mr.Fina Lyimo | Kilimanjaro | Journalist |
| 28 | Ms.Esther G Ngonyani | Kilimanjaro | Council administrative secretary |
| 29 | Prof Pendo Mlay | Kilimanjaro | HOD OB/GY |
| 30 | Mr.Patrick S Chuwa | Kilimanjaro | Village administrative secretary |
| 31 | Ms.Rose J Malisa | Kilimanjaro | Pharmaceutical technician |
| 32 | Ms.Alpha Boniface | Kilimanjaro | Project administrator |
| 33 | Ms.Tupokogwe Jana | Kilimanjaro | Administrator |
| 34 | Ms.Martha Mwalugaja | Kilimanjaro | Administrator |
| 35 | Dr Frank Bright | Kilimanjaro | Urologist |
| 36 | Mr.Nemes P Uiso | Kilimanjaro | Registered pharmacist |
| 37 | Ms.Sophia Kombe | Kilimanjaro | DLD |
| 38 | Mr.Genina F Mathias | Kilimanjaro | NEO Mudio |
| 39 | Mr.Raphael V Materu | Kilimanjaro | Village administrative secretary |
| 40 | Ms.Grace N Mumangi | Kilimanjaro | MOI Pasua |
| 41 | Mr.Zephania Renatus | Kilimanjaro | Journalist |
| 42 | Mr.Jonas Mcharo | Kilimanjaro | RHO |
| 43 | Mr. Robert D Kisanga | Kilimanjaro | Village administrative secretary |

| 44 | Mr.Jesper K Kimambo | Kilimanjaro | Lab scientist |
|---|---|---|---|
| 45 | Dr Alex Kazula | Kilimanjaro | DMO Moshi district |
| 46 | Dr Linda Sam | Kilimanjaro | DMO Moshi urban |
| 47 | Mr.David E Olemi | Kilimanjaro | Driver |
| 48 | Ms.Gandensia A Olomi | Kilimanjaro | R.R.GHCO |
| 49 | Ms.Zeddy S Ngumuo | Kilimanjaro | Nursing officer |
| 50 | Mr. Alex H Mushi | Kilimanjaro | Village administrative secretary |
| 51 | Ms.Diana Urassa | Kilimanjaro | Medical officer |

## 1.1 Opening

The meeting was opened by Prof. Blandina Mbagga introducing the aim of HATUA dissemination as to give the results of what was done and the way forward.

### 1.1.1 General introduction

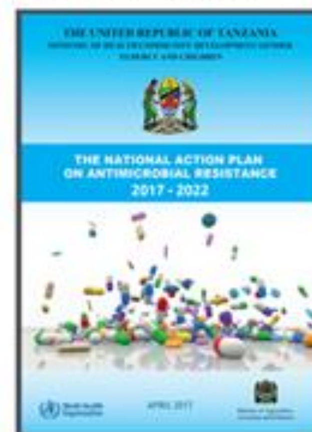
Members introduced themselves

## 1.2 General HATUA overview and laboratory results

The general overview of HATUA was presented. It was highlighted that HATUA aimed at unveiling the source of antimicrobial resistance in East Africa using holistic approach. The project was conducted in Kenya Tanzania and Uganda. In Tanzania, HATUA has managed to generate huge database which can be used in changing of policy and guidelines on antimicrobial provision in hospitals and community pharmacies. The data from this project supports the country in addressing AMR National Action plan strategic objective 1 and 2.

**Figure 1: TANZNIA AMR NAP STRATEGIC OBJECTIVES**

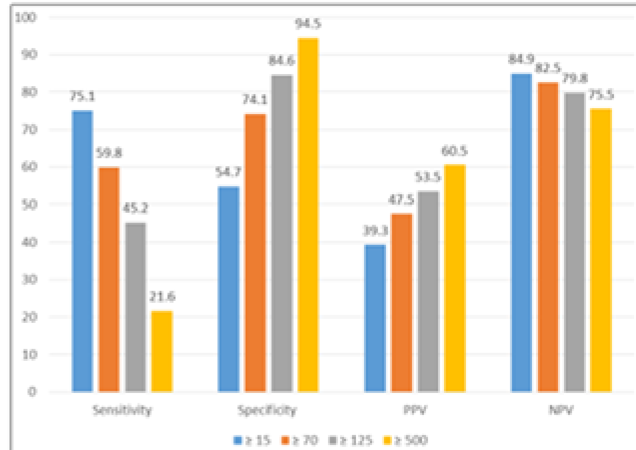
1. Create Awareness and Understanding of Antimicrobial Resistance through Effective Information, Education and Communication
2. Strengthen the Knowledge and Evidence Based through Surveillance and Research
3. Reduce the Incidence of Infection through Effective Sanitation, Hygiene and Infection Prevention Measures
4. Optimize the Use of Antimicrobial Agents in Human and Animal Health
5. Develop the Economic Case for Sustainable Investment that Takes Account of the Needs of all Countries and to Increase Investment in New Medicines, Diagnostic Tools, Vaccines and other Interventions




It was pointed out that simple but important antimicrobial agents like penicillin which used to save life is no longer useful in the current era of antimicrobial resistance. This is threat to human kind and if no prompt action taken on time antimicrobial resistance can end up kill more than any other diseases worldwide by the year 2050. Furthermore, it was pointed out that treatment for infections caused by resistant pathogens cost more than sensitive counterpart which impact on economy of the country and the world at large.

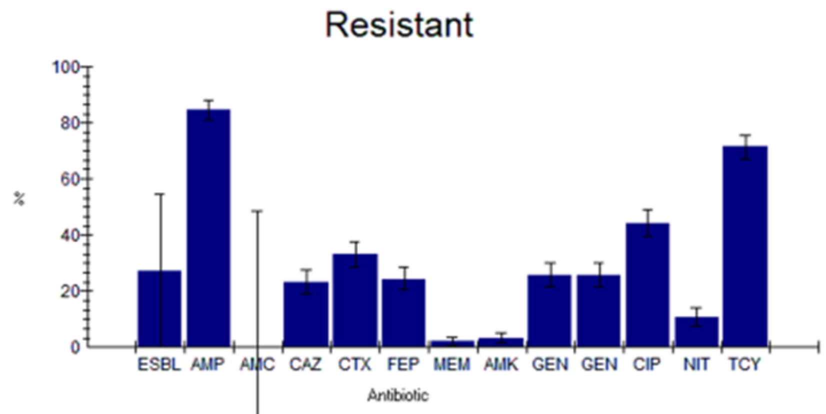
HATUA used interdisciplinary approach to explore the source of antimicrobial resistance in local settings using urinary tract infection as the proxy. A quantitative questionnaire was administered to around 4000 patients with signs and symptoms of UTI. Midstream urine and stool samples were collected for microbiological analysis to determine the magnitude of AMR pathogen.

**Figure 2: Utility of levels of urine leucocytes in the diagnosis of UTI**




It was found out that the use of dipstick has variable sensitivity and specificity in the diagnosis of UTI. Members had concern because this complicates the diagnosis of UTI in the country as majority of hospital from level 3 (district hospitals) do not have capacity of doing culture and sensitivity and management of UTI mainly rely on the results of urine dipstick. It was advised that the results of urine dipstick to be interpreted with care bearing in mind the variable utility observed.

***Escherichia coli*: N= 432**




From 4000 patients, it was reported that approximately 30% had UTI. *Escherichia coli* was the commonest detected pathogen. The majority of *E. coli* were resistant to commonly used antibiotics such as ampicillin/amoxicillin, trimethoprim/sulphamethaxazole, and tetracycline. Of great importance to the community, it was found out that, Nitrofurantoin was sensitive in about 90% of *E. coli* isolates tested.

### 1.3 Antibiotic dispensing landscape in Tanzania

The mystery client design was used to assess the availability and accessibility of antibiotics in the community pharmacies and accredited drug dispensing outlets. The survey was conducted in two phases with different form of UTI scenarios. It

was reported that pharmacies are very few in rural areas in all three regions making ADDO shops the source of antibiotics for the majority of the people in the community.

**Phase 1**

Phase one was for the simple UTI and the mystery client requested for amoxicillin. It was presented that seller in both community pharmacies and ADDO dispensed amoxicillin without prescription. It was reported that the seller dispensed antibiotic to client according to the affordability of the client and did not instruct client on how to use antibiotic neither insist on the importance of finishing full course. The situation was reported to be worse in rural areas than in urban area and is much poorer in ADDO than in community pharmacies.

It was reported that 95% of pharmacies in Kilimanjaro dispensed antibiotic without prescriptions. It was discussed that the unavailability of community pharmacies in rural areas cemented the bad practice observed and insisted the need of regulations enforcement especially in Moshi rural. In HATUA project only 10% or less of drug seller has good practice as defined in the study.

**Phase 2**

In phase two the mystery client presented with sign of complicated UTI and requested for broad spectrum antibiotic. The mystery client was supposed to report that has been using amoxicillin for some time without improvement when asked and was supposed to request for something strong.

It was reported that some pharmacies went ahead and gave them amoxicillin even after reporting the use. Most of ADDO stocked and dispensed antibiotics which they are not allowed to be stocked in ADDO. About 79% of drugs were given which were not allowed to be stocked by ADDO and Ciprofloxacin was the commonest drug.

Some drug shops dispensed antibiotics which were not recommended for UTI in Tanzania UTI treatment guidelines. Doxycycline and Azithromycin were the most common given antibiotics and these are not recommended for treatment of UTI.

**The discussion focused on the following comments**

- Revised STG with the use nitrofurantoin as first line. The need to include nitrofurantoin in essential drug list
- ADDO shops sell everything since those drugs which they are allowed to sell are not working at all. It causes them to sell other drugs illegally.
- It was also emphasized that ADDO shops were started because to serve rural areas and complement few available health facilities in the provision of drugs not available in these health facilities.
- The emphasis to follow the guidelines. It was reported that most of the primary health facilities are like ADDO shops because in rural areas the same nurse is doing all the activities. So, it was suggested to stakeholders to participate in preparing policies to know what can be done to solve this problem.
- The analysis should try to segregate between ADDO and Pharmacies because these are two different groups
    - ADDO seller has a qualification of 5 weeks training which is not enough to appropriately behave with good dispensing practices, the reality should be informed to the society.
    - It was further emphasized by participants that, the analysis showed Pharmacies do practice badly too, therefore there are other issues beyond education
- Member commented that: ADDO shops premises do not allow storage of some medicines, hence there is a possibility of them selling spoiled drugs there is a need of taking it seriously. It was concluded that the poverty drives both buyer and seller towards bad pharmaceutical practices.
- ADDO shops might have contributed to resistance but also is the service which is near to citizens. Feasible policy and proper regulations are needed.

### 1.4 Qualitative data (IDIs with drug sellers)

It was presented that in-depth interviews with doctors, drug sellers, and linked patients were done with aim of knowing why certain behaviors regarding antimicrobial accessibility, provision and utilization. Furthermore, it was reported that FGD was conducted with community members with aim of understanding how they access and utilize antibiotics, and how they access health services.

**Preliminary findings**

It was reported that more than two thirds of pharmacies and ADDO shops dispensers were female.

- More than half of the drug sellers agreed that they dispensed antibiotic without prescription when a person with pneumonia or other infections attempt to buy.
- Many of drug sellers concluded that it normal to give antibiotics for example amoxicillin capsules without prescription and in small doses. Furthermore they added that, others asked for tetracycline to put in wounds.
- Most of sellers reported that the economy can contribute a person to take quarter of the course of antibiotics.
- Sellers reported that, some of antibiotics are not given half dose such as ciprofloxacin tablets, so they sell for five days.

**Drivers of antimicrobial resistance (preliminary findings with patients and doctors in depth interviews)**

Doctors from different cadres and specialization at different levels of health facilities were interviewed.

The results emphasized on the following issues:

- Nearly all doctors reported that UTI is a big problem to many patients' mostly pregnant mothers. It was shown that UTI is a big problem to women and old people.
- It was shown from the names which they use, some patients say "*This is my UTI it disturbed me a lot"* It has been shown that when a person is having UTI symptoms they don't stigmatize him/her. Other people reported UTI as the symptoms of sexual transmitted diseases which cause them to loose trust to their spouse. This is the perception for some of the people while basically, UTI is not sexual transmitted diseases.
- It was shown that people will start to cure themselves before running to the health facility.
- Other people reported that when they are sick they start with traditional treatment but later will end up to the health center. Others reported to start from the pharmacy.
- It was reported that use of toilets can be the cause of UTI since most of the time they use water to wash themselves. Type of latrines has been reported to be the cause of UTI.
- It was reported that people do wash themselves from backward to forward which is a problem. Use of one toilet together/many people see as a problem.

- Patient were asked if they heard the antibiotic stewardship advice. More than three quarter said they had never heard the advice. More than half of the doctors said they had not heard about antibiotic stewardship program.

**Preliminary discussion and conclusion**

UTI is a significant problem and is not stigmatized but is associated with STI like symptoms. The risk perception of UTI is not translated into preventive practices. It was seen that it's easy to get antibiotics provided that you have money.

A good number heard about drug resistance but doesn't know the source. Some of doctors and patient didn't know about Antibiotic Stewardship.

## Qualitative data (FGD WITH COMMUNITY)

Focus groups discussion of males and females were done in the community. Two third had primary education. Many of them were self-employed, others were farmers and keep cattle.

**Preliminary findings emphasized on the following:**

- All 24 focus group discussions said they know the symptoms of UTI and also are familiar with them. Others mentioned several disease conditions including urinary schistosomiasis and others. They also said the symptoms are normal and are available in the community. Not only that they also mentioned sharing of toilet with a person who is already sick can increase transmission.
- It was observed that they didn't have another name of UTI.
- Some mentioned that the cause of UTI is poor sanitation and environment hygiene. Others said bacteria has entered in human body through the use of dirty toilet
- They said there is no stigma unless you tell another person.
- They reported to move haphazardly in search for relief. Others reported if they are sick will go and find traditional treatment. Others reported when they go hospital, they are hidden services. You can come early but you will not be given quick treatment. They reported also for poor service at the hospital which make them to move to health center were they do not have all services.
- They reported that doctors prescribe amoxicillin claiming to be a broader spectrum antibiotics
- They said antibiotic is available in public, private, community pharmacies and drug shops. They said it's easy to get them. Many of the participant said drugs are available even if you don't have doctor's prescription

- Many participants said they cannot continue with antibiotics when they feel relief so as they can share with another person. Others said they give antibiotics to chicken. Others said sometimes people do not have money to buy the full course.
- Others said people jump taking antibiotics and is because of alcohol

**Conclusion**

Drug resistance has shown to be a problem. We need to understand the drivers of Antibiotic use and misuse in the community

**General discussion**

- Antimicrobial Resistance is the calm bomb which has not yet get the solution. The results should be used to update the guidelines, hence preventing the spread of AMR
- It was proposed that a slogan that "*Not all drugs cure UTI*" should be disseminated in the media.
- No antimicrobial stewardship is available in many health facilities. The members insisted to start with pharmacists and doctors before going to the community.
- Doctors are not working well they are not following the guidelines of taking laboratory test.
- The findings of this study are good it will be good to prepare the report for the National level. Everyone should take part to control this problem since the situation is worsening.
- Member raised concerns of traditional healers because they attract patients with chronic diseases including those with chronic UTI. It was also discussed that if patients is not getting right treatment by the normal drugs will opt to get traditional remedies
- The government needs to ensure availability of health centers with quality services in rural areas to ensure appropriate patients management

- There is a need to come up with the National strategy involving politicians regarding AMR problem
- There is no enough education in the community
- There is need of improving capacity of laboratories so that they can provide results that will appropriately guide antibiotic treatment
- Member discussed regarding regional strategies (East Africa) to address this problem. It was further informed that the East Africa commission of health is involved in this project.

**Experts issue warning over arbitrary use of antibiotics**

From HECKTON CHUWA in Moshi

SOME health experts have warned over increased Antimicrobial Resistance (AMR), saying the situation may lead to deaths in Tanzania and East African region.

The experts attributed the situation to the random use of antibiotics by majority of people.

The caution was made by different health experts in their presentations during the workshop on Holistic Approach To Unravel Antibacterial Resistance in East Africa (HATUA Data Dissemination) held in Moshi, Kilimanjaro region, recently.

"Antibiotics have changed treatment programs worldwide. For example, the introduction of penicillin in the 1950s increased the chances of survival for pneumonia patients from 25 percent to 80 percent", said Prof Stephen Mshana in his presentation.

"However, random use of these antibiotic drugs and other antibacterial drugs by people without even consulting experts has led to drugs resistance, meaning they cannot be cured by the medical drugs anymore", he cautioned.

He added: "The biggest challenge at the moment lies in the use of antibiotics in treating Urinary Tract Infection (UTI) and this is due to the fact that various bacteria are resistant to treatment nowadays". Prof Mshana, a Professor of Clinical Microbiology explained that drugs resistance in UTI treatment now stands at 80 percent, saying that was a major challenge that requires joint efforts to address.

"This is not just a challenge for Tanzania and East Africa alone but a global issue and if urgent efforts are not made more than 10 million people will die come year 2050 as a results of AMR challenge", he warned.

For her part, a Microbiologist Dr Martha Mushi, said that the indiscriminate supply of antibiotics by dispensers from pharmacies and other medicinal drugs sellers has also contributed significantly to the rise in AMR challenge.

"During this program it was found out that the arbitrary use of drugs by patients without prescription from doctors was very high. Research has shown that a large percentage of people buy antibiotic drugs without being instructed on how to use them," she said.

She added: "This contributes significantly to the intensification of AMR challenge because patients continue to buy these drugs whenever they feel unwell and that is where the AMR occurs".

Dr Mushi urged respective drugs regulatory bodies to intensify their supervision in the management and supply of essential medicines, especially antibiotics due to the fact that there were laws and regulations governing the provision of antibiotics in the country.

On her part, Director of Kilimanjaro Clinical Research Institute (KCRI), Prof Blandina Mmbaga said that the HATUA Data dissemination meeting was aimed at sharing research findings as well as mapping out appropriate dispensation of drugs with the intention of curbing the AMR situation.

"The HATUA project examined the inappropriate provision of antibiotics, ineffective treatment due to wrong choices of antibiotics and the incomplete knowledge of proper use of antibiotics, among other things", she said.

She urged patients to create the habits of checking their health status before embarking on purchasing medicines so that they can be subjected to appropriate treatment drugs.

"Excessive use of antibiotics just like when one consumes foods, without getting consultations from a reliable health experts lowers the immunity of the body and eventually leads to AMR", she said.

**OPINION FROM GROUP DICUSSION AND PRESENTATIONS**

- Amoxicillin, ceftriaxone and tetracycline are no longer working from community perspective
- It has been shown that, the time to take drug is a problem. There is a need of general instructions to the community regarding timing. The drug dispensers must explain the use of drug so as it can bring better results and not using antibiotics without test.

- It was observed that in the community, when chicken have eye inflammation, they were given amoxicillin when dog has flu penicillin is given and when chicken have diarrhea doxycycline or septrine are given.
- It was also reported that some drugs are used for both humans and animals such as penicillin and oxytetracycline
- It was stated that people don't consider the restricted days (selling animal products) because they need money. They have not been given enough education. Another thing is that thinking, it is human drug therefore will have no effect. It was reported that, there is low understanding of drug resistance.
- It was reported that it is a good idea to control the use of antibiotic since will decrease the resistance.
- The enforcement of prescription only regulation may be good but its practicability is questionable.
- The time also contributes to the problem because patients want to spend shorter time when attending health facilities.
- Also, it was observed when you are in the village and fall sick during the weekend, it is difficult to get services.
- There is a need to give education to all levels in the society regarding prescriptions laws. Enough health staff at the dispensaries and health centers is key. These should be the main agenda of policy makers