

ANTIMICROBIAL RESISTANCE

AMR Bulletin



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Members of Arua District One Health Taskforce at the end of two-day training on antimicrobial resistance (AMR) surveillance 25-26 April 2021 - See p.7

WELCOME NOTE



Antimicrobial Resistance (AMR) is such a big challenge to the extent that it is now one of the top 10 global public health threats facing humanity, according to the World Health Organization (WHO).

It is true we cannot eliminate AMR but we can minimize it through collaboration from all stakeholders.

HEPS-Uganda is grateful to the Infectious Diseases Institute (IDI), support from Mott MacDonald, for funding our project to tackle AMR in nine districts, namely Lira, Arua, Mbale, Soroti, Jinja, Mbarara, Kabale, Gulu, and Masaka. We are grateful to the National One Health Platform (NOHP) for the technical support in training One Health Teams in these districts.

We thank Ministry of Water and Environment for steering the NOHP in the current challenging times of Covid-19 and congratulate Uganda Wildlife Authority for taking over the platform leadership.

We strongly believe that the One Health approach is the way to go in tackling complex public health threats like AMR.

We are stronger together.

Thank you all,

Dr. Denis Kibira
Executive Director
HEPS-Uganda

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MESSAGE FROM NOHP

National One Health Platform
Stronger With CSOs on Board



Antimicrobial resistance (AMR) is definitely one of the global public health threats today and is something that we must urgently address.

This calls for the strengthening of the multisectoral approach because AMR cuts across all sectors.

Under the National One Health Platform, different sectors have worked together to address public health challenges including AMR and it is time to sustain and strengthen this collaboration.

The coming on board of Civil Society Organisations (CSOs) is a big boost in the fight against AMR. They (CSOs) are key in resource mobilization, accountability, and public awareness creation.

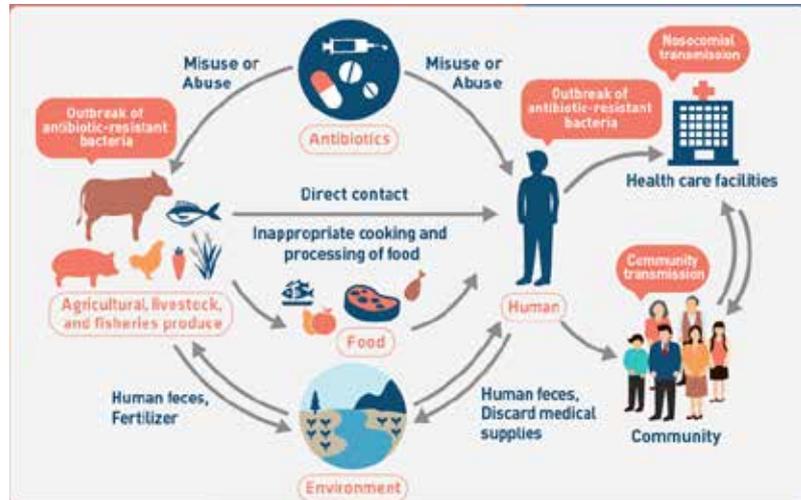
I am confident that CSOs will strengthen the NOHP, help us reach different areas, share experiences and expertise. A stronger and robust NOHP is key in addressing different health challenges in the country including AMR.

Despite the progress made in addressing the AMR challenge through the One Health approach, there is still a need for government to allocate funds to facilitate work on this health challenge. Research on AMR must be funded and strengthened to generate evidence to inform different activities including advocacy.

As a country, we must also scale up public awareness on the AMR burden and must be innovative in our approaches towards AMR.

Musa Sekamate Hamzah
Coordinator
National One Health Platform

WHAT IS ANTIMICROBIAL RESISTANCE?



Credit: Korea Centers for Disease Control and Prevention

Antimicrobials are medicines used to prevent and treat infections in humans, animals, and plants. They include antibiotics, antivirals, antifungals, and antiparasitics.

Antimicrobial Resistance (AMR) occurs when bacteria, viruses, fungi, and parasites change over time and no longer respond to medicines that previously worked well. When disease-causing organisms become drug resistant, medicines become ineffective and infections become increasingly difficult or impossible to treat, increasing the risk of severe disease, prolonged hospital stay, and death.

According to World Health Organization (WHO), especially alarming is the rapid global spread of multi- and pan-resistant bacteria (also known as “superbugs”) that cause infections that are not treatable with existing antimicrobials.

Antimicrobial-resistant organisms are found in people, animals, food, plants, water, and the environment. They can spread from person to person or between people and animals as well as from the environment.

The cost of AMR to national economies and their health systems is significant as it affects the productivity of patients or their caretakers through prolonged hospital stays and the need for more expensive and intensive care.

AMR occurs naturally over time, usually through genetic changes (mutation). However, the main drivers of increased AMR include;

- Misuse and overuse of antimicrobials.
- Limited access to clean water, sanitation, and hygiene (WASH) by humans and animals.
- Poor infection and disease prevention and control in healthcare facilities and farms.
- Poor access to quality, affordable medicines, vaccines, and diagnostics.
- Limited awareness and knowledge about AMR.
- Limited enforcement of laws.

THE ANTIMICROBIAL RESISTANCE BURDEN IN UGANDA

Resistance profiles from selected surveillance sites

- ***E. coli***
 - ciprofloxacin: **52%**, 95% CI (47.5-56.6)
 - ceftriaxone: **53%**, 95% CI (46.8-58.5)
 - imipenem: **19%**, 95% CI (14.9-23.4)
- ***Salmonella***
 - ciprofloxacin **24%**, 95% CI (17.3-32.7)
 - ceftriaxone **17%**, 95% CI (11.1-26.0)
 - imipenem **4%**, 95% CI (1.2-10.1)
- ***K. pneumoniae***
 - ciprofloxacin **54%**, 95% CI (43.0-63.7)
 - ceftriaxone **65%**, 95% CI (43.3-81.9)
 - imipenem **24%**, 95% CI (10.6-45.1)
- ***S. aureus***
 - cefoxitin: **43%**, 95% CI (28-59.1)
 - oxacillin **31%**, 95% CI (21.2-42.6)
 - TMP/SMX **77%**, 95% CI (69.0-83.2)
 - vancomycin **16%**, 95% (9.6-24.0).

Source: Ministry of Health

Micro-organisms that cause many common human diseases – including tuberculosis, HIV/AIDS and other sexually transmitted infections (STIs), malaria, urinary tract infections (UTIs), pneumonia, blood-stream infections, and food poisoning – have become resistant to a wide range of antimicrobial medicines.

Doctors are increasingly resorting to last-line medicines to manage patients. These “last-resort” medicines are more costly, may have more side effects, and are often unavailable or unaffordable to an average patient.

It is estimated that at least 10 million people will die due to AMR globally by

2050, if the current trend continues, with the developing world shouldering the greater burden.

In Uganda, the Annual Health Sector Performance Report for the Financial Year 2014/15 shows that microbial infections, including pneumonia, TB, and sepsis, accounted for 18.4% of hospital-based mortality.

Pneumonia was the biggest contributor at 9.7%, while microbial infections were responsible for up to 37% of all hospital admissions.

Ministry of Health data from selected surveillance sites for the period between October 2018 and December 2020 indicates that different commonly used antibiotics such as Ciprofloxacin and Cefoxitin are experiencing high degrees of resistance.

Antimicrobial resistance in the Covid-19 times

The rampant misuse of antibiotics during the COVID-19 pandemic could lead to the accelerated emergence and spread of antimicrobial resistance (AMR).

COVID-19 is caused by a virus, not by bacteria, and therefore antibiotics should not be used to prevent or treat viral infections unless a Covid-19 patient has bacterial co-infection. Even then, the prescription must be done by a qualified medical person.

However, reports indicated increased use of antibiotics in the prevention and management of Covid-19. In one study conducted by Washington University School of Medicine, researchers found that sales of antibiotics soared during the first surge of COVID-19, suggesting that the drugs were inappropriately used to treat mild and moderate COVID-19 infections.

The researchers termed the increased misuse of antibiotics during the Covid-19 pandemic “another public health crisis (that) emerged along with COVID-19”. Conducted in collaboration with McGill University in Canada, the study was conducted in India, the world’s biggest consumer of antibiotics, was published July 1 in the journal, *PLOS Medicine*.

It examined the total sales volume of all antibiotics between January 2018 and December 2020, as well as the individual sales volume for azithromycin, a drug used for treatment of middle-ear infections, strep throat, pneumonia, traveler’s diarrhea, and certain other intestinal infections.



Source: BioMérieux, Inc.

There were also notable increases in the sales of doxycycline and faropenem, two antibiotics commonly used to treat respiratory infections.

NATIONAL ONE HEALTH PLATFORM AND ANTIMICROBIAL RESISTANCE

AMR cuts across different sectors – especially health, agriculture, and the environment – and is a global problem requiring a global response.

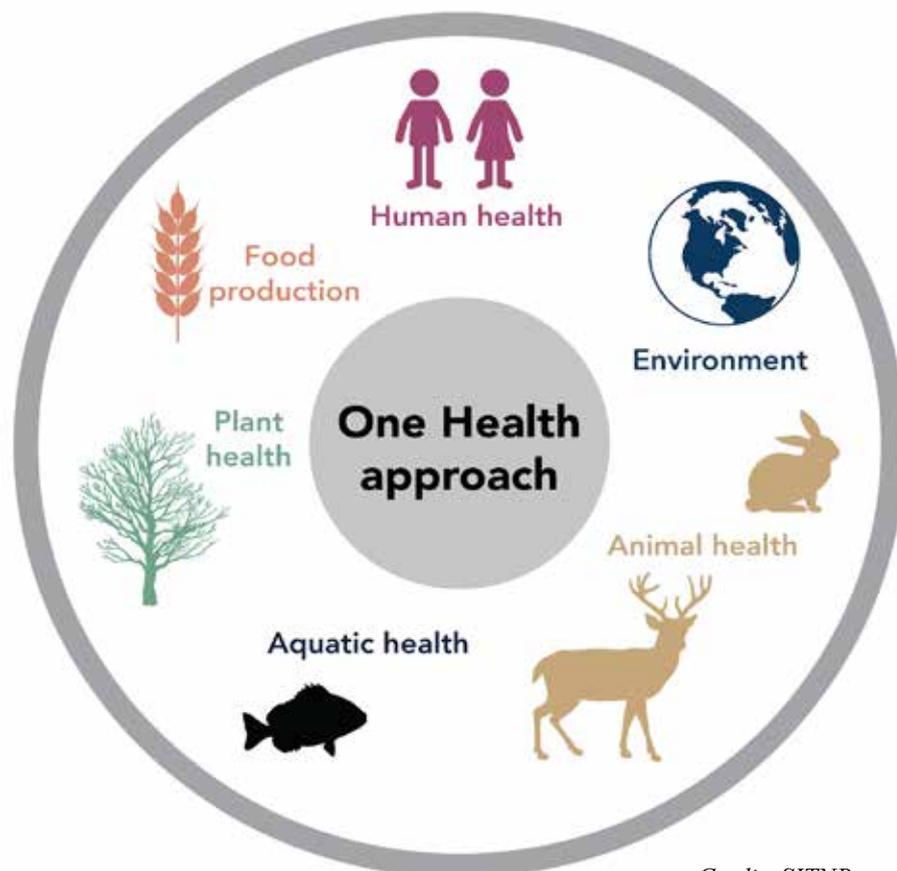
World Health Organization (WHO), the UN Food and Agriculture Organization (FAO) and the World Organization for Animal Health (OIE) and other global actors have advocated for the adoption of a holistic and multisectoral ('One Health') approach to address the rising threat of AMR.

The rationale is that antimicrobials used to treat various infectious diseases in animals may be the same or be similar to those used in humans, and that resistant organisms arising either in humans, animals or the environment may spread from one to the other.

It is therefore important to implement a One Health approach to AMR to ensure that each of these sectors clearly understands and plays an appropriate role.

The One Health approach, therefore, brings together multiple sectors and stakeholders to communicate and work together in the design and implementation of programs, policies, laws, and research to attain better public health outcomes on AMR.

Following the development of the Uganda One Health Framework, the Uganda National One Health Platform (UNOHP) was launched on 3rd November 2016.



Credit: SITNBoston

On 15th February 2018, the National One Health Strategic Plan (NOHSP) was launched. This emphasizes focus on the seven priority zoonotic diseases (rabies, viral hemorrhagic fevers, anthrax, brucellosis, plague, zoonotic influenza viruses, and African trypano-

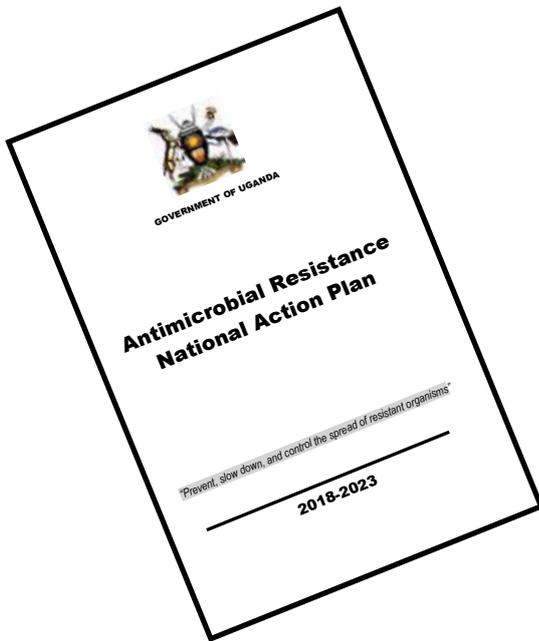
somiasis), AMR, public health threats, and bio-security.

The NOHP has over the years registered successes such as the development of the AMR National Action Plan (NAP); establishment of One Health Technical Working Groups; provision of leadership in response to anthrax outbreak in Arua; engagement of the private sector in NOHP activities; and development of a One Health Communication Strategy, among others.

Despite these gains, the platform still faces numerous challenges. These include; inadequate funding and over-reliance on donor funding; slow uptake of the One Health approach at the central and local government levels; and lack of coordination in planning, budgeting, resource mobilization and allocation, and implementation of activities among One Health Teams at lower local governments.



ANTIMICROBIAL RESISTANCE NATIONAL ACTION PLAN



When the AMR global action plan (GAP) was endorsed by the World Health Assembly (WHA) in 2015, setting out a 'One Health' strategy for the optimal use of antimicrobials and strengthening the evidence base through surveillance and research. Countries were accordingly encouraged to develop their own national action plans based on the GAP; and a remarkable 75% of countries, Uganda inclusive, have done so.

Uganda is currently implementing a five-year (2018-2023) National Action Plan (NAP) on AMR. The NAP is intended to guide Ugandan stakeholders contributing to efforts to confront and contain the AMR problem.

The goal of NAP is to prevent, slow down, and control the spread of resistant organisms while ensuring the continuous availability of safe, effective, efficacious, and quality-assured antimicrobials and their optimal use.

The NAP has objectives and proposes actions aimed at focusing government and partner efforts in five strategic areas, namely:

- 1) Raising awareness and understanding of the AMR problem and containment options.
- 2) Improving prevention, detection, and control of infectious agents.
- 3) Optimizing the use of antimicrobial medicines.
- 4) Generating knowledge and evidence through surveillance.
- 5) Research and innovation.

In Uganda, the implementation of the NAP uses the One Health Approach. The NAP defines the One Health Approach as the collaborative effort of multiple disciplines working locally, nationally, and globally to attain optimal health for people, animals, and our environment.

Voices from district stakeholders on antimicrobial resistance

Dr. Edmond Aceka, District Health Officer, Lira District

“It’s good that we are talking about the challenge of AMR. It is a time bomb that should have been handled yesterday. AMR is here with us and it’s time to act together to scale up surveillance but most importantly sensitize the public. This issue has been exacerbated by human practices like self-medication, poor use of antibiotics, buying human and veterinary drugs from unlicensed outlets; all which can be minimized if the public is more aware.”



Dr. Willy Nguma, District Veterinary Officer, Arua District

“When there is a disease outbreak, all stakeholders from human health, water, and environment, education, security, wildlife, veterinary, customs section come together to respond and combat the outbreak. We need to have this approach sustained for purposes of continued information sharing, disease surveillance, resource mobilization, and public awareness on diseases and challenges like AMR.”



Dr. John Balidawa, HIV Focal Person, Jinja district

“As a country, we must through agencies like National Drug Authority strengthen surveillance and regulation to ensure that the drugs that come into the country are of the right quality. Fake drugs have greatly contributed to the growing problem of AMR in Uganda.”



Voices from district stakeholders on antimicrobial resistance

Dr. Peter Sebutinde, District Health Officer, Mbarara



“We must work together to increase community awareness about AMR drivers especially the misuse of antimicrobials. AMR is becoming a big public health threat.”

Alfred Besigensi, District Health Officer, Kabale

“AMR is becoming a huge challenge. We need to operationalize the one health platform, support it and fight AMR together.”



THE JOURNEY OF MWE STEERING THE NATIONAL ONE HEALTH PLATFORM

By Betty Mbolanye

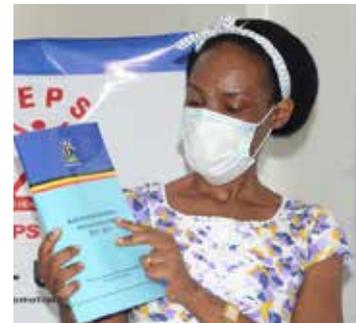
The National One Health Platform (NOHP) is confronting major public health challenges associated with zoonotic diseases, antimicrobial resistance (AMR), and biosecurity, among others.

The growing population is increasing demand for critical natural resources and services, while unsustainable consumption patterns are resulting in poor agriculture and land-use practices, deforestation, and air and water pollution. These health and environmental challenges are interrelated and interconnected and require multi-sectoral, multi-disciplinary solutions.

The NOHP embraced the ‘One Health’ approach to tackle these interrelated concerns in an integrated manner by strengthening multisectoral coordination, collaboration and communication.

From October 2020 to September 2021, the platform was under the leadership of the Director Environment Affairs, Ministry of Water and Environment (MWE).

His leadership has seen and shaped many reforms including: mapping and training of civil society organizations (CSOs) providing services related to public health; completion of the regulatory impact assessment for One Health; engaging CSOs in One Health-related activities; celebrating World One Health Day



on 3rd November 2020; unveiling the first One Health Epidemiological Bulletin, which is a quarterly publication; undertaking a mid-term review of the National One Health Strategic Plan; responding to the outbreaks of Anthrax and Rift Valley Fever; and setting the pace for water and environment sector to track AMR surveillance, among others.

The multisectoral coordination and collaboration guaranteed that silent and ‘complex’ issues such as AMR are addressed in a collective and positive manner. This has been achieved by building synergies across sectors and efficient use of scarce resources.

Furthermore, to strengthen coordination, collaboration and communication, each Technical Director in the four coordinating sectors (health, agriculture, environment and wildlife) is given a chance to steer the NOHP for one year. Ministry of Water and Environment assumed leadership from the Director General Health Services, Ministry of Health, before passing it over at the end of its term to the Executive Director, Uganda Wildlife Authority (UWA).

The NOHP has made great strides in tackling One Health-related challenges, prioritizing major public health zoonotic diseases, AMR and biosecurity. However, challenges remain, in particular the lack of resources to operationalize the One Health coordination office. Nevertheless, through the One Health approach, the country has managed to add value to its preparedness and response capacities to handle complex public health threats which cannot be handled by a single sector.

The writer is a Senior Environment Officer and One Health Focal Person for Ministry Water and Environment

Recommendations from the district One Health taskforces

- 1) The implementation of the One Health Approach to AMR should involve political leaders in interventions since leaders are make decisions and have strength in mobilization and public awareness creation.
- 2) There is need for robust and sustained public sensitization campaign by One Health Platform through different national and subnational media platforms to sensitize stakeholders and the general public on AMR and its drivers.
- 3) Government should implement all laws, policies, and regulations on drug use and access both in the human and veterinary sectors and strengthen regulatory institutions to carry out their respective mandates.
- 4) The National One Health Platform should strengthen coordination and regular data sharing among the One Health sectors at the national and district levels; and facilitate joint planning, and implementation of activities to strengthen the One Health approach at all levels.

HEPS AND ANTIMICROBIAL RESISTANCE WORK

HEPS-Uganda, with support from the Fleming Fund availed through Mott MacDonald and the Infectious Diseases Institute, Makerere University, is implementing a one-year project to tackle antimicrobial resistance (AMR) in Uganda.

Under the project, HEPS-Uganda is training One Health taskforces in nine districts on antimicrobial resistance (AMR) surveillance activities. The trainings are being conducted in Arua, Gulu, Lira, Soroti, Mbale, Jinja, Masaka, Mbarara, and Kabale.

So far, HEPS has trained district One Health taskforces of Lira, Arua, Kabale, Jinja, and Mbarara districts; the rest of the project districts will to be covered in the coming months.

HEPS-Uganda is also working with the AMR Subcommittee of the National One Health Platform to develop AMR policy briefs and bulletins for line ministries.

These materials, of which this *Bulletin* is one, will be disseminated and shared with the line ministries to increase awareness and visibility of AMR issues.



Arua training



Lira training

HEPS-Uganda at a glance

Coalition for Health Promotion and Social Development (HEPS-Uganda) is a Non-Governmental Organization (NGO) that promotes the rights of poor and vulnerable people with a special focus on health and socioeconomic rights. We were registered as an NGO in November 2000.

OUR BRAND



OUR VISION

A just and fair society in which all Ugandans realize their socioeconomic rights and exercise their responsibilities.



OUR MISSION

To promote equitable access to health services and economic empowerment programs for all the people of Uganda.

OUR VALUES / PRINCIPLES

- 1 Mutual respect
- 2 Accountable
- 3 Pro-people
- 4 Integrity
- 5 Transparency
- 6 Innovation
- 7 Partnership and collaboration

UPCOMING EVENTS

Africa CDC Inaugural One Health Conference

To celebrate and share the various *One Health* work taking place on the continent, the Africa Centres for Disease Control and Prevention (Africa CDC) is hosting a 3-day virtual One Health Conference from 1-3 November 2021.

The conference aims to:

- Share best practices and experiences from the Member States and partners,
- Showcase continental *One Health* research,
- Highlight operational tools and guidance documents developed by African Union organs and technical partners,
- Exhibit opportunities for collaboration,
- Strengthen *One Health* advocacy and capacity across the AU Member States and Regional networks.

Details: <https://sbs.co.za/africacdc2021/>

The World AMR Awareness Week (18-24 November 2021)

The World Antimicrobial Resistance Awareness Week (WAAW) aims at increasing awareness of global antimicrobial resistance. During WAAW, the general public, health workers and policy-makers are encouraged to apply best practices that avoid the further emergence and spread of drug-resistant infections.

One Health Day (3 November 2021)

HEPS-Uganda and other One Health stakeholders will take part in this year's One Health Day celebrations. November 3, 2021, marks the fifth annual One Health Day, a global campaign that celebrates and brings attention to the need for a One Health approach to address shared health threats at the human-animal-environment interface.

Training of District One Health Teams

HEPS-Uganda will continue training the district One Health teams on AMR. Soroti, Gulu and Masaka districts are the next areas of training.



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