



# OHCEA News

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# Editorial



## Hello Reader,

Welcome to our newsletter; OHCEA News, once again! We thank you for the continued interest in our work. The OHCEA network and family has continued to grow which has strengthened our capacity to deliver on the One Health workforce development promise.

Our newest member of the network; Mbarara University of Science and Technology, recently launched a very vibrant Students' One Health Innovations Club (SOHIC). The launch ceremony was marked by a symposium on 'The Role of students in One Health: Flagship for a Multidisciplinary approach in African Universities'. We look forward to seeing the club grow and posting many great achievements.

Antimicrobial Resistance (AMR), has fast become a major public health challenge of global proportions. Our team in

Uganda, working with partners, organized a conference on the subject that drew hundreds of participants. We bring you a summary of the key discussions. The students' club (SOHIC) at University of Lubumbashi, Democratic Republic of Congo, engaged community members of Lumata on AMR issues to mark the One Health Day.

OHCEA is increasingly attracting the attention of regional bodies for building their capacity as they venture into One Health programming. We report on one of such key engagements that OHCEA has been invited to.

We hope you will enjoy reading about all that we are sharing with you.

Welcome!

## SUPPORTIVE POLICY + LEARNING ENVIRONMENT

### MBARARA UNIVERSITY OF SCIENCE AND TECHNOLOGY INUGANDALAUNCHES THE STUDENTS ONE HEALTH INNOVATIONS CLUB



The launch of the Mbarara University of Science and Technology (MUST) Students One Health Innovations Club (SOHIC) brings the total number of SOHICs to 14 now. The club is the latest to join

"social scientists; for instance, know how to engage communities and are key in entry. They key idea here is for us to learn to recognise the value of each other", he emphasised.

He noted that the rapid population



the OHCEA students' fraternity. Launching the club, the Vice Chancellor – Mbarara University of Science and Technology, Professor Celestino Obua

noted that involving the youth and pre-service professionals is one of the most strategic ways of ensuring that things are done differently since the old generation is already bent in a different direction. He emphasised the importance of multi-disciplinary training, noting that the different disciplines have different roles in One Health.

growth in Uganda is posing real challenges to the ecosystem and this needs to be addressed at policy making levels.

Professor Obua added that it is a happy feeling to be a part of One Health Central and Eastern Africa (OHCEA) family finally.

As part of the launch, students organised a symposium on the theme, 'The Role of students in One Health: Flagship for a multi-disciplinary approach in African universities'. The keynote speaker was Dr. Gladys Kaleme,

the founder of 'Conservation Through Public Health'. In her address, using her experience working with Gorillas, she laboured to demonstrate the inter-dependence between animals, humans and the environment. "Kanyoni; the Siverback, died after a fight when he fell off a tree and died. By the time he died, he had generated millions of dollars for the Uganda economy through tourism revenue. (A gorilla tracking permit in Uganda costs USD 600 in peak season). Kanyoni's father was respected by the community because of the tourism money he brought in. When he was old and sick, he was protected by the people. When he died, the community organised a ceremony to pay their last respects".

The award-winning Dr. Kalema pointed out that inter-sectoral collaboration is very helpful with community animal health workers working with the Village Health Teams at the community level to support national level taskforces for disease outbreak detection, management and prevention.

She noted that increased habituation of the gorillas has led to disease outbreaks in the animal as well as human populations. Examples of past outbreaks include scabies in the gorillas from humans.

In terms of future plans and

## MUST in Uganda launches the Students One Health Innovations Club



Malajilla speaks

opportunities, she shared information about grants available at National Geographic and research opportunities for students under the various projects at Conservation Through Public Health.

The Guest Speaker was Professor Samuel Malajilla, the Deputy Principal, Makerere University College of Veterinary Medicine, Animal Resources and Biosecurity (CoVAB). He said some of the global health challenges that make the One Health approach even more relevant than ever before, include: the human population explosion that threatens the habitat of wildlife, global transcontinental travel that makes infectious disease

transmission easier and faster than before, challenges with capacity to detect and diagnose diseases timely, food production capacity and ability to deliver quality food. He noted that while new diseases are emerging, old ones are re-emerging and some are changing sites (Rift Valley Fever used to be associated with Kenya but is now in several countries in the region), the professionals and policymakers in charge do not have the capacity to manage such challenges because they did not receive the necessary training. He therefore emphasised the need and importance of

innovating and providing more relevant training to the next generation of professionals. He therefore implored the universities and training institutions to take on

new training approaches that are multidisciplinary, urged national and sub-national governments and partners to take on new models of pandemic preparedness and move from national level dialogue to frontline management of issues as well as widening the spectrum of public health.

The Dean Faculty of Medicine at Mbarara University of Science and Technology, Professor Gladys Kwaruka, thanked OHCEA for welcoming MUST on board. She noted that the university will not drag the network behind since MUST had already anchored its training in community engagement and has a faculty of interdisciplinary studies.

"The Faculty of Medicine started off on a community-based education model. It distinguished itself as a medical school to train a medical doctor to serve the community. In terms of One Health, MUST is strategically located, surrounded by farms and bushes. So it can spearhead the mission, vision and objectives of OHCEA", she emphasised.

Although Mbarara University of Science and Technology does not have a unit for Veterinary



Mbarara University of Science and Technology SCHIC Committee members

## EAC region prepares to test its preparedness and response capacity for outbreaks of infectious diseases

The East African Community (EAC) region is prone to outbreaks of infectious diseases which can significantly affect public health, the lives and livelihoods of the people in the region and economic stability.

The EAC Secretariat has an advisory and coordinating role for the EAC partner states in relation

to pandemic preparedness. In the region, both the EAC Secretariat and the partner states recognize the need for preparedness.

Simulation exercises play a key role in identifying the strengths and gaps in capacities and can lay out practical corrective actions needed to develop and implement preparedness and response

capacities at all levels.

The East African Community (EAC) Secretariat is therefore intensifying preparedness efforts against outbreaks of infectious diseases in the region. "The world continues to be challenged by public health threats like the current Ebola virus disease outbreak in the

Medicine, she pointed out that while on the wards, students interface with patients who live their daily lives in close contact with their animals (mainly cattle), so ailments observed include zoonotic diseases.

The Club President Babirye Ruth Grace Kakoba, who is also a fellow on Global Health Africa said there is much the students can do as young people to help manage the global health challenges. She noted that the students' role in global health – which One Health is part of – can include conducting small research studies on issues within their study environment. "How best can we have affordable technology for health? How can we innovate in this area? We can engage in partnerships and multi-disciplinary collaborations", she pointed out.



A medical student contributes to the discussion



Participants during the stakeholder meeting held at icpce offices in Nairobi

## EAC region prepares to test its preparedness and response capacity for outbreaks of infectious diseases

Democratic Republic of Congo which are prone to crossing borders and threatening lives and livelihoods and the economy as a whole", said Frederik Copper of the World Health Organization (WHO) Headquarters in Geneva at an EAC stakeholder meeting in Nairobi, Kenya. It was therefore important to exercise, practice and plan to build capacity for better outbreak preparedness and response. The stakeholder meeting took place at the International Center for Insect Ecology and Physiology (*Icipe*) on 1-12 October 2018. One Health Central and Eastern Africa (OHCEA) was invited to the meeting as one of the key partners in One Health. Ms. Agnes Yawe Nalugooti – Head, Grants and Resource Mobilization represented the network.

It kicked off the preparation for a cross-border field simulation exercise in Namanga in June

2019. "The EAC Secretariat will convene the exercise under the directive of the Sectoral Council of Ministers of Health", says Andrew Charles, EAC Health Department.

The simulation will take place around the One Stop Border Post between Kenya and Tanzania and involve the EAC Partner States of Burundi, Rwanda, South Sudan and Uganda. It will be facilitated by WHO as the lead agency and stage a One Health scenario that involves different sectors of society. The approach includes all stakeholders which are affected by an outbreak or can contribute to preparedness, response and mitigation. It reflects the fact that most outbreaks are of a zoonotic nature meaning that they can be transmitted between humans and animals.

The exercise is being planned at a time where the region is under threat of the current Ebola virus disease outbreak close to the border

with Uganda. By 9 October 2018 the number of cases was at 188 and 119 people had died of the disease.

Stakeholders from various sectors in Kenya and Tanzania as well as from regional and international organizations participated in the meeting including agriculture and livestock, trade, tourism, environment, the border post and airports, immigration, business, military and police forces. Furthermore, there were representatives from the Namanga community, farmers, traders and religious leaders.

The EAC Secretariat urged participants to prepare for the field simulation exercise through sensitization on existing contingency plans and training of staff on the ground and to contribute to mobilizing the necessary resources for pandemic preparedness.

over the malaria test kits to the health officials of the beneficiary health centres. The chief cautioned the locals against self-medication as it is one of the dangers that lead to antimicrobial resistance, in humans and animals. He called upon the community members to keep their environment clean and free of stagnant water and bushes to eliminate breeding places for mosquitoes.

The Students One Health Innovations Club (SOHIC) at University of Lubumbashi is one of the 13 clubs in the 8 countries where OHCEA is present. The student clubs raise awareness about emerging pandemic disease threats and appreciation for interdisciplinary and multi-sectoral approaches to disease prevention, detection, and response.

## University of Lubumbashi Students Educate the public



Some of the community members who attended the sensitization meeting by the students

## University of Lubumbashi Students Educate the public on the dangers of improper use of Antimicrobials

University of Lubumbashi students under the umbrella of their One Health club (SOHIC), conducted a sensitization campaign on Antimicrobial Resistance (AMR) in

Lumata. Lumata is a rural village in the south of the Democratic Republic of Congo (DRC). The students provided malaria rapid diagnostic test kits to health centres in the

area. They are provided public information on One Health through community presentations.

One of the local chiefs who attended the meeting handed

## Uganda One Health Didactic Training to prepare students for the Field Attachment

The One Health Institute (OHI) was opened on 10th December 2018, with an open day where participants were taken through the components of the training. The institute ran for 8 days, from the 8th to the 19th of December 2018. This cohort comprised of 34 students from Makerere University. The participants were from varying disciplines that included: Veterinary Medicine, Public health, Social sciences, Bio-medical laboratory technology, Animal production technology and Management, Agriculture, Environmental sciences, Wildlife management, Economics, among others. They all went through a 8 day training in the modules of

health systems in Uganda, Leadership, Gender, Outbreak investigation, Bio-risk management, Anti-microbial resistance and Health policy analysis and community engagement.



## Uganda One Health Didactic Training

The eight theoretical modules were delivered by faculty from the Ministry of Health (MOH), College of Veterinary Medicine, Animal resources and Biosecurity (COVAB), Makerere University School of Public Health (MAKSPH) and the Infectious Diseases Institute (IDI). The modules were delivered in a participatory manner, in which students were presented with case scenarios for discussion after which they presented them to the rest of the class. The participants were highly engaged in the learning sessions and learned a significant amount as was indicated in the post evaluation surveys that they filled in.

The training took place in the Media Hall, at the College of Veterinary Medicine, Animal resources and Biosecurity, in Makerere University. The OHI is a component of the One Health Workforce (OHWF) project which aims at building capacity among individuals to work in multidisciplinary groups while sharing knowledge and abilities to solve health problems.

Under leadership in infectious diseases epidemic and emergencies, students were taken through pillars of health systems in Uganda. The facilitators exposed students to knowledge on health system building blocks and their interconnections, the different categories of health care providers, leadership styles, effective communication, team building among other key information.

Under infectious disease management, the students were exposed to knowledge on emerging infectious diseases and their associated challenges. The need for multidisciplinary training and education approaches that build the necessary workforce was also emphasized to the students. Through a plenary discussion, students demonstrated appreciation for the strategies for prevention and control of infectious diseases, especially the training of future workforce. Students were also taken through population health and environment.

The session on health policy analysis exposed the students to key concepts in policy analysis, the actors in policy making process and the key aspects of policymaking processes. The importance of research and other evidence for policymaking was also emphasized to the students.

For disease outbreak investigation, students were taken through steps executed in infection prevention and control in epidemic outbreaks, disease surveillance and outbreak investigation response structures in Uganda, risk communication and donning and doffing.

The Biorisk management module focused, among other things, on the biosafety and biosecurity measures which are the key components of laboratory management for prevention, detection and control of unintended and intended exposure to biological agents. They were also taken through laboratory biosafety containment principles, technologies, and practices implemented to prevent unintentional exposure to pathogens and toxins or their unintentional release; laboratory biosafety, protection, control and accountability for laboratory equipment. Other areas considered were biorisk assessment and biorisk communication.

Another key module the students were taken through is Antimicrobial Resistance (AMR) which provided students with knowledge on what AMR is, its causes, how it is spread and other issues related to this phenomenon with challenges of global significance before linking this to One Health.

The training also featured gender (gender and socio-cultural issues in the management of infectious disease, gender analysis) and community engagement (community entry, stay, exit and return; community assessment and intervention).

## Antimicrobial Resistance in Uganda examines key issues of One Health significance

**Makerere University College of Health Sciences in collaboration with OHCEA –Uganda, organized the 3<sup>rd</sup> National Antimicrobial Resistance and One Health dissemination conference from the 21<sup>st</sup> to 22<sup>nd</sup> November 2018. The conference theme was ‘Understanding Drivers and Collective Action Against Antimicrobial Resistance’.**

The two-day conference attracted 380 local and international participants; 48 competitively selected oral presentations; 28 posters; 3 panel discussions (AMR policy environment, Lived Experiences of AMR, and One Health) and one pre-conference workshop.

The national conference was a platform where participants networked, shared experiences, identified funding opportunities and the national action plan against AMR was commissioned. This report details the themes and key actions from the deliberations around drivers and collective action against Antimicrobial Resistance.

Antimicrobial resistance is a Global Health Security threat, which requires a multi-sectoral approach. In 2014, the Ministry of Health undertook a multi-sectoral initiative to address the burden of AMR through collaborating with other key government Ministries, Departments and Agencies (MDAs), the Academia and Research Institutions and Research Institutions embraced under the One Health Platform. The National Action Plan for Antimicrobial Resistance

providing a policy framework for stakeholders in the control of this global health security threat has been developed.

Antimicrobial Resistance (AMR) is a threat to global health and it poses a challenge to the control of infectious diseases. AMR undermines treatments and makes them ineffective, increases human mortality and ultimately this threatens achievement of the Sustainable Development Goals. Although the exact estimates are unknown due to lack of surveillance data, the burden of AMR is thought to be growing. This lack of clarity hampers plans to formulate necessary interventions to address the challenges of AMR as well as monitoring of any progress achieved.

Discussions showed that the increasing burden of AMR is because of population growth and increased use of antibiotics. And the usage of these drugs is indiscriminate, for example 93.5% of drug shops prescribe antibiotics; 29.4% of providers reported that antibiotics were the first-line treatment for children with diarrhoea and only 8.2% had training on antibiotics whereas 10.6% had training on pneumonia case management.

The presenters highlighted indicators for risk of AMR that are prevalent in Uganda's setting. These included but were not limited to fragmented health services, lack of access to quality-assured medicines at an affordable price which often leads patients to take incomplete courses of treatment or to resort to sub-standard medicines, misuse of antimicrobials, living or working in unsanitary conditions, uncontrolled use of antimicrobials and self-medications. The growing concern is that the treatment of the condition will be unachievable especially in low income settings

of poor health systems like Uganda.

AMR is therefore a multifaceted problem that calls for a multi-sector approach (involving health, agriculture and environment sectors). Uganda in 2014 initiated a multi-sector AMR policy and national taskforce on AMR with the objective of promoting understanding by different sectors of their role in addressing the threat of AMR. Uganda has instituted a National One Health Strategic Plan (2018-2022) driven by a national one health platform. One of its major objectives is to enable institutionalization of the national one health approach. The plan is a guide for Ugandan stakeholders on how to manage the problem of AMR.

A national task force (NTF) was set up arising from the need for multi-sectoral collaboration. It combines 4 government sectors including: Ministry of Health, Ministry of Agriculture (MAAIF), Ministry of Water, and Environment, and Uganda Wildlife Authority. The National Task Force is a multi-disciplinary committee that gives the strategic direction of preparedness and response to a public health event.

The Organization for animal health (OIE) strategy on antimicrobial resistance and prudent use of antimicrobials in 2015 developed a Global Action Plan on AMR. OIE has also developed standards and guidelines related to AMR. It has also developed a database on antimicrobial use, annually they publish a report on the use of anti-microbial agents intended for use in animals.

Antimicrobial resistance affects everyone, whether one is a frequent consumer of antibiotics, parent, guardian, child, health provider or health worker. Therefore, it is important to respond to the campaign's call to action – be antibiotics aware for smart use and best care.

Anti-biotic use is driven by peoples' demand. This demand comes from the community, health workers and farmers. Farmers and communities may not be aware of AMR. Sensitization is needed starting with drug shops not to prescribe anti-biotic for upper respiratory tract infections for instance. The community and health workers should as well be sensitized to control anti-biotic usage.

The use of antibiotics in the feeds of livestock is a heightening phenomenon driven by the belief that the provision of antibiotics in feeds prevents disease and death of livestock. This has led to increased importation of antibiotics into the country, use by feed mixers and increased human consumption. In addition, antibiotics are being used as a quick fix by farmers to care for animals and make up for limited infrastructure, limited veterinary services, and poor hygiene.

The push for commercialization of farming from household levels has led to adoption of new farming systems which may lead to confinement of animals and higher disease spread hence need for antibiotics. In urban informal settings of Kampala, the commonly used antibiotics are metronidazole, ampicillin and amoxicillin with majority of antibiotic users frequently using metronidazole to treat diarrhea.

AMR cuts across different sectors particularly health, agriculture and environment making it a global problem requiring a global approach to ensure that each of the sectors clearly understands the role they play so that we can collectively combat the AMR threat. There is a lot of interdependence among people, animals and the environment; this relationship is complex and needs to be dealt

## Antimicrobial Resistance in Uganda examines key issues of One Health significance

with systematically so as to reach the sustainable development goals. Farmers for instance, are likely to be the source of animal generated resistance for the general population; therefore, occupational health experts need to focus on identifying critical control for transmissions arising from animal husbandry.

Farm animals play a big role in propagating AMR; Majority of farmers use tetracycline, penicillin and sulphur combinations and the microbes have become resistant to these drugs. Research has shown that livestock are potential reservoirs of drug resistance genes (such as carbapenem, cephalosporin and colistin) that have been demonstrated in humans since they exist in the guts.

A panel of expert patients, relatives and care-takers, shared several lived experiences to put a human face to the importance of AMR. These experiences revealed a knowledge gap among victims and health workers which is exacerbated by the lack of laboratory capacity to quickly identify AMR strains.

In addition to the morbidity associated with AMR, the social

and economic impact of AMR is enormous. This is shown by the high costs of drugs to which resistant strains are susceptible, adverse side effects associated with these drugs, extended periods of hospitalization and increased DALYs.

Antimicrobial resistance (AMR) has become an increasing concern worldwide and Sub Saharan Africa has the highest morbidity and mortality arising from infectious diseases and the greatest need for life-saving antibiotic therapies. Consequently, the continent is particularly vulnerable to AMR.

A qualitative study that explored use and misuse of antibiotics by communities found that there was misuse in both humans and animals. Lack of awareness and poverty were among the drivers for misuse of antibiotics and there was also evidence of cross-species medication with animals and human beings.

The drivers of antimicrobial resistance are interlinked, and so are the solutions, a single- isolated intervention will have little impact. Strong leadership and political will are required to bring about changes in policies, organize health systems and legislative

structures as required and translate knowledge and recommendations into practice.

Presenters re-echoed the urgent need for policies regarding AMR including calls to scale down access of especially antibiotics, review of existing guidelines, education and sensitization of communities and health workers. The need for collaborative efforts of various ministries and institutions to manage AMR was also emphasized.

Other policy recommendations included the government commitment to the national plan against AMR, the need to guarantee an uninterrupted supply of essential medicines and establishment of a parliamentary sub-committee on AMR.

The existing gap of lack of surveillance data on antimicrobial resistance was noted as evidenced by lack of knowledge on the exact estimates of drug resistance. There is need to gain more understanding about microbial drivers outside what is currently known.

Presenters highlighted the urgent need for future studies to understand lived experiences of people faced with AMR within the context in which they are living, path ways of care and other structural drivers.