OHCEA News
One Health News in the Region
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Dear Reader,

Thank you for being a part of the OHCEA family. Welcome to this edition of our newsletter; **OHCEA News**. We are always happy to be with you; sharing with you new developments within the network. In edition of **OHCEA News**, we share with you the exciting news of how our institutions are working hard to ensure that the work we do is infused within institutional systems, structures and processes. In Tanzania integration of One Health modules has been intensified to ensure the right One Health content is taught. Taking a similar route, institutions in Cameroon are establishing a pedagogy platform; ‘Centre for Action in Pedagogy [CAP-One Health], to promote tutoring and the emergency of innovative pedagogies and to improve the quality of university training in the One Health concept, by strengthening excellence in teaching and evaluation. This is another exiting development for us as a network and we see it as changing the teaching of One Health and related content.

In line with OHCEA’s desire for using applied training approaches and experiences, in Uganda, Makerere University provided students with opportunity to participate in Anthrax disease outbreak response and investigation in the West Nile region. The students had an enriching experience working alongside professionals from central and local governments, UN agencies and other partners, all of which provided mentorship opportunities to the students. In two related articles, read about the experiences students who participated in CCHF outbreak response in Kiruhura and Kiboga districts in Uganda. This training approach has obviously impacted the students greatly, as well as the participation of students of University of Rwanda in the Rift Valley Fever outbreak in Rwanda.

With Antimicrobial Resistance (AMR) in the region, there is no turning back; it has fact become a major area of public health concern and is top on the priority lists of global public health players and actors. In our region during this period, Cameroon and DRC talked AMR issues from different perspectives; building upstream capacity for management of AMR and creating knowledge and understanding of the dangers related to AMR at community level.

There are a lot more interesting reads for you. Dig in, explore and enjoy your reading!

Dr. William Bazeyo
Professor of Occupational Medicine and CEO-OHCEA
Recognizing the fact that about 70% of infectious diseases we are witnessing today in human population have animal origin, stakeholders from the Muhimbili University of Health and Allied Sciences (MUHAS) and the Sokoine University of Agriculture College of Veterinary Medicine and Biomedical Sciences (CVMBS), through the One Health Central and Eastern Africa (OHCEA) network, organized a two-day workshop in Bagamoyo Tanzania on April 20-21, 2018 to discuss strategies of integrating One Health (OH) modules in the university training curricula. The workshop brought together 29 participants from MUHAS and CVMBS. The workshop methodology involved introduction sessions, group work, presentations and discussion sessions. A book on One Health Modules was provided to participants to read through and understand the different modules and their contents. Curricula adopted for undergraduate programs at MUHAS and CVMBS were then studied to identify particular courses addressing One Health modules; and those courses in which the OH modules were not addressed but could be integrated. Participants from MUHAS and those from CVMBS worked in different groups; with regular interactions around common issues.

The outputs from mapping exercise conducted during the workshop highlighted the availability of potential One Health workforce including graduates from different universities in Tanzania. These include those from the veterinary, medical, environmental and other related fields. It was observed that curricula in most universities in the country are not adequately addressing One Health issues.

MUHAS and CVMBS are working to integrate One Health modules in the training curricula for undergraduate programmes.
The threat of antimicrobial resistance (AMR) is growing at an alarming rate and the situation is perhaps aggravated in developing countries due to gross abuse in the use of antimicrobials. Indeed, the use of antimicrobials however appropriate and justified, contributes to the development of resistance, but widespread unnecessary and excessive use makes the situation worse. Misuse of antimicrobials is facilitated in developing countries by their availability over the counter, without prescription and through unregulated supply chains. Non-compliance in the use of antimicrobials has many repercussions upon resistance, some patients miss doses either by mistake or deliberate, especially in cases where signs and symptoms begin to subside after an initial favourable therapeutic response, and self-medication is a common practice in developing countries where patients often get antimicrobials without prescription and through unregulated supply chains. These substances of unknown composition and potency may enhance pathogen fitness and contribute to the development of resistance.

During year III of the One Health Workforce project, OHCEA in Cameroon organized a training course based on AMR risk analysis and three micro-projects have been conducted with the aim to evaluate the level of knowledge, attitudes and practices of human and animal health professionals on AMR, same as the regulation about AMR in Cameroon.

In year IV, in Kribi, a three-day workshop was conducted in Kribi to present the findings from the Year III field AMR risk assessment, and to design the training goals, objectives, and outlines for the proposed curriculum.

The goal of this activity was to design the training goals, objectives, and outlines for the proposed curriculum manual for evaluation and surveillance in AMR.

The workshop brought together, 1) researchers and faculty from Université des Montagnes, University of Buea, Université de Ngaoundéré and Université de Yaoundé I, 2) AMR Cameroon Platform (Ministry of the Environment, the Nature Conservation and Sustainable Development, Ministry of Agriculture and the Rural Development, Ministry of Public Health, Ministry of Livestock, Fisheries and Animal Industries, Ministry of Scientific Research and Innovation.

Other participants came from Moi University in Kenya and GHSA, METABIOTA.

At the end of the workshop, six (6) faculty were selected to develop course materials for AMR surveillance and evaluation curriculum.
The Birth of Center for Action in Pedagogy and One Health [CAP – One Health]: Cameroon embarks on the Development of OH Pedagogic Platform at Université des Montagnes and University of Buea

This activity involved supporting the development of the pedagogic platform with expertise from Faculty of Education of the University of Buea and from the One Health Central and Eastern Africa (OHCEA)/One Health Workforce university network to mainstream One Health concepts into University curricula and to improve course delivery in other disciplines. In recent years, more attention has been paid to the quality of education in higher institutions of learning, which has led universities to set up pedagogic centres (distance learning platforms) to organize and supervise initiatives to support the professional development of teacher-researchers in all disciplines. It is within this framework that the One Health Workforce project is supporting the activities of these platforms at the University of Buea and Université des Montagnes. The lack of education experts to involve in the training programs requires access to experts from other countries that can support building the capacity of local staff. Hence, the necessity to equip the platform with distance learning equipment.

The University of Buea and Université des Montagnes have already assigned faculty from each university to these platforms. This includes a potential list of lecturers, among which a panel of experts in education will be available to support curricula improvements. Support of these activities will favour continuous capacity building to promote One Health diffusion to pre-service and in-service levels.

The goal is therefore to facilitate One Health content teaching for pre-service and strengthen in-service with strong One Health competencies. Moreover, the creation of these platforms will contribute to faculty mentoring to sustain the promotion of One Health approach in Cameroon.

A meeting was therefore held in April 2018 to finalise arrangements to set up the pedagogical platform. It was held at La Marelle Hotel, Kribi-South Region of Cameroon.

At the end of the meeting, the pedagogic platform with its structure, roles/responsibilities and activities of the different committees that were established, was created. Its structure is composed of:

- A steering committee with activity leads at Université des Montagne and University of Buea
- A technical committee with all faculty involved in the different focus areas

A technical committee with all faculty involved in the different focus areas

Its Vision is to be an innovative centre for faculty, students and the general public that promotes effective pedagogy and one health education.

The definition of themes for CAP-One Health was based on the fact that the pedagogic platform should improve teaching methods and integrate One Health content into courses and curricula. At the meeting, a brainstorming session was carried out to address this. Taking into account the concerns of participants about topics they wished to see addressed by the platform, these themes were retained:

- Preparation, Facilitation and Presentation & Information sharing/collaboration.
- One Health Knowledge and Core Competencies
- Grant writing and funding
- Interactive teaching methodology, Instructional Design, Evaluation, Class size and On-line / Elearning / Distance learning and ICT in teaching
- Academic leadership /mentorship and Management of faculty, time, resources, soft skills, self-improvement
- Research and publications; Teaching conferences.

The workshop participants also identified resources needed to run the platform, including financial, physical, institutional and human resource needs.

To facilitate easy information sharing about activities of CAP-One Health, a website is being constructed here: https://capunesante.wordpress.com/
Building outbreak investigation and rapid response skills through attachment of students to outbreak areas in collaboration with the Government of Uganda is a flagship program for OHCEA-Uganda. This training approach offers students practical learning opportunities.

OHCEA-Uganda deployed a multi-disciplinary team of 8 Masters students from the School of Public Health (MakSPH) and the College of Veterinary Medicine, Animal Resource and Biosecurity (COVAB) on 21st May 2018 to carry out active Anthrax case outbreak investigation as well as post-evaluation of the One Health approach in management of a previous Anthrax outbreak in affected areas of Arua district. The team also assessed knowledge, attitudes and practices associated with Anthrax among communities. Perceptions of key stakeholders about the anthrax outbreak and likely predisposing factors of the occurrence were also determined, taking into account the human cases and animal deaths due to the outbreak. This work was conducted in Pawor, Rigbo and Rhino Camp sub-counties using Participatory Epidemiology tools which included; observations, key informant interviews, in-depth interviews and focus group discussions.

Using the Epidemiology tools, students were able to gather information about the emergency of the outbreak in the selected areas; how humans get into contact with the disease and the ways through which it can be prevented. This was done through sampling small groups of the locals who clearly had valued information for the investigation.

Groups were selected based on the recent reports about the outbreak; participants sampled for the assessment included those exposed to sick or dead animals suspected to be infected. Generally, community members had limited knowledge about Anthrax especially the way it manifested and the modes of transmission both in humans and animals. This accounts for the identified cases of poor disposal of carcasses and luminal wastes, consumption of infected meat and contaminated water which to a greater extent are the cause of most detected outbreaks in communities. With this information, students engaged in community sensitization about the disease; how it manifests in both humans and animals while emphasizing its dangers to human health. Target audiences were cattle keepers, butcher men and the entire general population of affected communities. The engagements enabled the communities get knowledge on how to prevent the transmission of Anthrax.

Students made the following recommendations; 1) testing of human and animal samples of the suspected cases and carcasses especially in Pawor and Rhino Camp sub-counties to confirm the presence of the disease, 2) conduct mass vaccination; authorities to use their powers to mobilize the general population in groups to purchase the anthrax vaccine, 3) sensitization and health education; this was recommended after identifying knowledge gaps in the community therefore students requested that political leaders and concerned health workers continue to sensitize people about healthy living, 4) active surveillance, which would be implemented through setting up report systems from the community level via the sub-county up to district level to help in early detection of the disease and other health challenges.
The Deans of Makerere University School of Public Health (MakSPH) and the College of Veterinary Medicine, Animal Resource and Biosecurity (COVAB) chose a team of Masters students and undergraduate students in their final year to conduct a post-Crimean Congo Hemorrhagic Fever (CCHF) outbreak evaluation to assess the situation on ground in terms of risk factors, preparedness for future outbreaks and to devise means of dealing with outbreaks in Uganda.

The involvement of students in outbreak evaluations and investigations is mainly to enhance their skills with regards to application of the One Health approach in the control of conditions of public health interest. Students not only get to enhance their skills but also get hands-on experience which build on what they theoretically get in class. With the concept of working as multi-disciplinary teams, students are exposed to multiple interconnected activities which they must work on together; they also enrich their knowledge about several health challenges and how they are solved in different approaches using multi-disciplinary skills. The One Health approach of solving health challenges equips students with skills of preventing and responding to disease outbreaks and helps students learn the control of zoonotic diseases; ensuring a safe environment for humans and animals.

With regard to conducting a post-evaluation management of the CCHF, students got involved in several activities, including identifying the main stakeholders in the emergency and management of the outbreak. Among other activities; students engaged in study design, study site selection, sampling, interviews; both key informant and in-depth, community sensitization and active case follow up, to identify feasible solutions to the outbreak.

In their reports, students appreciated OHCEA and the OHI for giving them the opportunity of working with different disciplines which has molded them in to future active outbreak responders.

“it was a learning experience for me, I engaged in different activities and got several views and opinions which were different from what I practically knew. As we communicated with different people I got to know how health challenges are interlinked. I acquired much knowledge about diseases; how the environment influences disease outbreaks and am glad that I can use this knowledge even outside the field. As a mass communication student I get the privilege to inform society in order to avoid future community outbreaks”. Kawuki Joseph, Mass Comm.

“Working with a great team is a life time opportunity for a simple student, it not only opens your eyes to a paramount of health facts, but also enriches your understanding toward health issues, as a health student, I hardly had any idea about zoonosis but now am well versed about the interconnectedness of diseases in humans and animals thanks to the one health institute for instilling the one health approach in the matters of solving health challenges. i learnt how to carry out an outbreak investigation which I cannot only apply in the field but also in the communities where we stay so as to achieve community health goals with the one health approach”, Basemera Rhonah, BEHS.

“it was a great opportunity for me as a students to work with different disciplines in evaluating the CCHF outbreak in Kiboga and Kiruhura. It helped value the essence of other perceptions to disease cause and prevention and also using several ideas to overcome challenges in a community. I thank OHCEA for giving as students opportunities to work with government rapid responders who have much experience in the field and from whom we have learnt a lot, for example for example I learnt to interact more with community about sensitizations on health issues and challenges, also learnt how to carry out an investigation on how diseases emerge in communities, during this CCHF investigation, as a veterinary student I realized it's not only about the safety of the animals but also the people who live with them. This added on my knowledge about outbreaks and health challenges”. Wamimbi Isaac, BVM.
Focus on Biological Risk Management Awareness for Enviroment Day in Tanzania

Members of the Students One Health Innovations Club (SOHIC) of Muhimbili University of Health and Allied Sciences-Tanzania organized a one day sensitization meeting on Bio-risk Management on the 5th of June 2018. It was conducted in two primary schools (Mafiga B and Mindu Primary School) and Mafiga Health Center in Morogoro Municipality on World Environmental Day. The SOHIC members were divided into three groups of at least ten members each according to three working stations and each group was accompanied by faculty members, current health professionals and the OHCEA staff. They comprised of students from different disciplines and colleges.

Through meetings, the pupils, staff and general public were sensitized on the importance of keeping their bodies and environment clean to prevent the risk of acquiring microbial infections. They also emphasized the proper disposal of plastic bags. The students also demonstrated when and how to properly wash hands using tap water and soap, cleaning and waste disposal to keep both the body and the environment clean, attractive and safe. Participants were provided with leaflets with important messages about keeping the environment clean for healthy people and animals. At the end of the day, a total of 260 pupils were reached and sensitized about Bio-risk management and the importance of keeping the environment clean.

Such activities are carried out to instill and strengthen the One Health approach of achieving a common health goal at the community and global level. Without sensitizing the masses through a multi-disciplinary approach, communities are bound to face health challenges that they hardly know how to prevent, respond to or control.

The disease broke out on 18th May 2018 and affected the three districts of Ngoma, Kirehe and Kayonza. The outbreak happened when Rwanda was experiencing an abnormal increase in the incidence of tick borne diseases following heavy rains in the country. The Rwanda Agriculture Board (RAB) on 19th June 2018 confirmed an outbreak of Rift Valley Fever with a death toll of at least 99 head of cattle.

Rift Valley Fever (RVF) is caused by a virus transmitted by mosquitoes and blood feeding flies that usually affects animals (commonly cattle, sheep and sheep) but can also involve humans. In humans the disease ranges from a mild flu-like illness to severe hemorrhagic fever that can be lethal. When livestock are infected the disease can cause significant economic losses due to high mortality rate in young animals and waves of abortions in pregnant females. The virus was first identified in 1931 during an epidemic among sheep on a farm in the Rift Valley of Kenya. Since then, outbreaks have been reported in sub-Saharan Africa, North Africa, and in 2000 Saudi Arabia and Yemen.

According to the Director of Veterinary Services of the Government of Rwanda, in order to contain the spread of the disease, the following measures were put in place:
Samples were taken and confirmed in the laboratory that the suspected signs that had been observed were of Rift Valley Fever.

2. A quarantine banning the movement of all livestock and livestock products in Ngoma, Kirehe and Kayonza Districts was imposed to limit contact between affected and those not affected.

4. A systematic vaccination of all livestock in the three Districts was started in the affected zones, moving to cover the entire District.

5. A strong awareness campaign was initiated through radio announcements educating the public on how to avoid further spread of the disease, especially people to contact with mosquitoes by sleep under mosquito nets and clearing bushes that are breeding areas for mosquitoes.

5. Advising people to report signs of suspected cases to veterinarians.

6. Public awareness for people to avoid meat from livestock that show signs of the disease.

The University of Rwanda, College of Agriculture, Animal Sciences and Veterinary Medicine (CAVM) and the College of Medicine and Health Sciences (CMHS) jointly carry out a multidisciplinary One Health Demonstration Site Field Attachment in Akagera National Park and surrounding communities in Kayonza District. Students of the attachment are mentored and supervised jointly by UR-CVAM and CMHS faculty.

The goal of this training approach is to instill in the students/future One Health workforce a culture of multi-disciplinary collaboration using the Akagera National Park and surrounding communities as the demonstration site. For this year’s field attachment, a total of 46 students and 10 faculty from different disciplines of Veterinary Medicine, General Medicine, General Nursing, Clinical medicine and community health, Environmental health, Wildlife and Aquatic resources management, Botany and Conservation, Biology, dietetics and Nutrition were selected from the different campuses of the University of Rwanda.

This year’s field attachment coincided with the Rift Valley Fever outbreak in the same area. On arrival in Kayonza district, the team was informed by the community that indeed the disease was a problem already and that they had lost many of their cows and goats and that it was more severe in goats where it is characterized by massive abortions.

The team therefore held meetings with the local veterinarians to see how the University of Rwanda students and faculty could be involved in the management of the outbreak. The local Veterinarians agreed to work with the team to control the outbreak.

A selected team of multidisciplinary students went with the local veterinarians to the sites where the cattle were being vaccinated and they were able to vaccinate a total of 273 cattle. No goats were vaccinated. Approximately 400 head of cattle had been brought in by the farmers for vaccination, but unfortunately the local vet ran out of the vaccine. The farmers were told their cattle would be vaccinated the next day when the vaccine was available. Students were able to vaccinate more cattle in another sub county.

During the vaccination campaign, other students engaged in Public Health education campaigns.

The challenges the students encountered while engaged in this activity, rotated mainly around supplies and resources available to the local responsible office. Some of the specific ones include;

1. The local Veterinarians seemed to be overwhelmed by the numerous vaccination sites and animals brought for vaccination.

2. The Local veterinarians seemed to be poorly facilitated to do their job.

3. The local veterinarians did not have adequate transport to help them move from one vaccination site to another.

4. There was poor mobilization to the extent that some of the farmers with cattle and goats did not know about the vaccination campaign.

5. There seemed to be no education campaigns.

The presence of the students and the faculty in the district and their participation in the management of the outbreak was appreciated by the local leadership.
Field training exercises are proving a strong training approach and an asset in University strengthening. Students working on health issues, especially in poor communities strengthen the community service perspective of the university, while making initiatives like One Health Central and Eastern Africa/One Health Workforce project visible.

The University of Lubumbashi conducted such a program for the Lumata community in DRC. Participants came from the Nursing School of Lubumbashi (Institut Superieur des Techniques Medicale- ISTM Lubumbashi) and the University of Lubumbashi (UNILU); namely School of Public Health, Faculty of Medicine, Faculty of Veterinary Medicine and School of Pharmaceutical Sciences. During Easter holidays under the supervision of faculty of ISTM and UNILU, the 40 students were prepared for this activity in non-residential sessions including two days in Lubumbashi and 3 days in Lumata.

Before the activity, students received training on One Health concept and the development of One Health competencies.

The training involved a short presentation on epidemiological surveillance concept and steps, which students can use when working with the different levels of the surveillance system. This allowed trainees to better understand the surveillance of diseases and antimicrobial and pesticide resistance in Lubumbashi environment. The practical illustration consisted of site visits likely to improve the understanding of the epidemiological surveillance concept and steps. These sites included:

a. Mzee Laurent Desire Kabila Market in relation to conditions of sale of food products;
b. Slaughterhouse and makeshift slaughterhouse: basically goat slaughter;
c. The Zoological Garden of Lubumbashi for a good illustration of Man-Animal-Environment interface;
d. Kenya’s Health Area was selected because of the suboptimal socio-economic conditions in that commune. During these visits, further explanations of surveillance were given to trainees by heads of the four health centers and those of the Health Zone Office.

A brief presentation on the Ecohealth concept was delivered to the trainees. This was followed by an introduction to semi-structured interviews and the development of data collection tools. Subsequently, under the guidance of community guides, visits were organized for identification of health issues at the Human-Animal-Environment interface in the neighborhoods of Lumata. These were Lumata, Mubote, Kasangula and Nyasaland.

Community interventions were planned for the health issues that were identified. In humans, malaria, proximity between humans and animals, cases of typhoid fever, anemia in children, and unsanitary conditions were the most common issues reported. In animals, there were cases of cough, diarrhea, scabies, tearing and stray animals. Malaria and proximity between humans and animals attracted attention of the participants.

The intervention consisted of (i) a Malaria Rapid Screening Test and (ii) a Brucellosis Serological Diagnostic Test. Trainees

People being forwarded for blood collection after registration
accompanied by community guides sensitized communities on the importance of change in behavior in regard to the identified health issues. The sensitization had a special emphasis on clean environment to avoid mosquitoes, unsanitary conditions and other aspects that lead to the infection of people at risk of malaria. Avoiding close contact between man and animal was also emphasised to avoid transmission of diseases from animals to humans and vice versa.

Trainees set up a patient reception system at the Lumata SNCC Health Center under guidance of the facilitators and the Head of the center.

A group of trainees with community guides intensified awareness that mobilised people who turned up at the center in large numbers.

After registration the people who turned up, including children and adults, were directed to where blood samples were collected. The Rapid Malaria Screening Test was conducted locally. Blood sample for Brucellosis serological diagnostic test was sent for analysis to the Laboratory Department of Lubumbashi University Clinics.

The results of the different tests were given to the Reception Center for delivery to the people from whom the blood samples were collected. Results of the Rapid Malaria Screening Test were positive (54.6%, n = 219), negative (40.9%, n = 164) and unclassified (4.5%, n = 18). The Brucellosis serological diagnostic test showed some positive cases (3.0%, n = 12).

The poverty levels among the residents of the areas (who appear to be living on less than 0.5 dollars USD), where the activity was conducted, may be key to consider in designing interventions.

Creation of and working in multidisciplinary groups allowed;
- For the use of One Health competencies to diagnose health issues
- For better design of awareness content for behaviour change
- For convincing the communities to go to the health center to have the tests

As a result;
- Communities of Lumata now understand that self-medication is a dangerous practice
- Heads of Health Centers in Lumata are now taking on the practice of treating malaria based on a confirmed diagnostic test result.

For sustainability, it is necessary to create a network that would allow all actors to exchange information on aspects that concern the Human-Animal-Environment interface.
In the period between 29th April and 4th May 2018, a total of fifty students (15 from Muhimbili University of Health and Allied Sciences (MUHAS) and 35 from Sokoin University of Agriculture (SUA)) with four faculty joined teams from FAO, Ministry of Livestock Development, TANAPA, Moshi DC, One Health Coordination Desk under the Prime Minister’s Office and the TVLA to conduct mass dog vaccination and rabies outbreak investigation. This was in response to reported cases of rabies in Moshi DC where a total of 7 humans were reported bitten by suspected rabid dogs of which 4 of the victims were children. All events were reported between June 2017 and March 2018. Of the affected humans, 2 were reported to have died and 3 are critically ill and under observation. There was not enough information whether other persons and animals were involved but not reported. During the same period, 5 cattle were exposed of which three had died. Health status regarding the remaining 2 cattle was not documented. In total, six dogs were involved but only one could be confirmed as owned. Some communities within the district live in close proximity with the wildlife areas and the District Veterinary Officer suspected the involvement of hyenas and wild dogs as a source of the disease.

In the period between May and August 2017, community in Moshi DC had vaccinated dogs using 2080 doses of rabies vaccine with an overall total canine vaccination for the whole district in 2017 being 4,781. This vaccination coverage is approximately 18% for dogs only. The World Health Organization (WHO) recommends mass dog vaccination campaign with coverage >70% of the “at risk population” as the main control measure for rabies infection in animals and subsequently reducing risk of transmission of the disease to humans. Students from SUA pursuing Veterinary Medicine joined efforts with medical students and BSc. Environmental Health students from MUHAS to carry out mass dog vaccination and rabies investigation under guidance of faculty and other facilitators. Local veterinary officers and other administrative officers such as ward executive officers were among the team members showing the stations for conducting the exercise.

Official launch of the event was done by Regional Commissioner for Kilimanjaro Hon.Anna Mgwira at Kindi village.

The exercise was conducted following sensitization and announcements that was done by local government to members of the communities. Vaccine administration was done at convenient locations which were selected to serve nearby communities. People welcomed the event and brought dogs and cats to stations where the vaccine were administered.

Community members including male, female and teenagers lined up with their dogs and cats to get services.

A total of 7,758 animals (6,701 dogs and 1,057 cats) were vaccinated from 30th April to 4th May 2018. In addition, 322 sera and 322 saliva swabs were collected simultaneously from 322 dogs. The sera and saliva

Cars and motocycles were used to transport dogs and cats to vaccination centre
sample were being processed for serological and molecular testing to check for presence of anti-rabies antibodies and rabies antigen in dogs.

In a discussion with dog owners, they reported that the major challenges they face include; 1) lack of awareness among dog owners on how to handle their dogs, 2) inability to afford vaccination costs from livestock officials. When they were asked to propose solutions for increased uptake of dog vaccination services, participants recommended the following: 1) increased awareness campaigns to livestock keepers on issues of rabies, 2) implementation of vaccination schedules as proposed by local veterinary officers while ensuring availability of vaccines at all times in veterinary offices, 3) killing of stray dogs, and 4) enforcement of by-laws requiring all dogs to be vaccinated.

On the other hand, it was reported by key players that there is general negligence among some dog owners with regards to dog vaccination while the high cost of vaccines per dose makes dog owners lie to extension officers that they have vaccinated while it may not be the case. The big population of stray dogs is a major challenge too. Some dog owners live far from veterinary offices, creating delays for them to vaccinate their dogs. Another issue mentioned was the interactions between stray dogs and wild animals which may be reservoir of rabies virus.

As a way forward, Moshi DC has a plan to continue with vaccination activities since there are more vaccines available in stock.
The Infectious Disease Management course is a comprehensive holistic strategy to equip the final year students from different programs of the University of Rwanda with knowledge and skills on detection, prevention and response to infectious disease outbreaks. Disciplines are not only limited to medical courses like Human Medicine, Veterinary Medicine and Nursing but also other non-medical courses like Business, Agriculture, Engineering, Mechanization, Botany, Modern language, zoology, food science and technology, among others.

This training is building on 2 previous years’ successes where we pioneered this course and trained 300 final year students from the University of Rwanda. This time round, 100 final year students from the different disciplines were invited for the same training for one week at the University of Rwanda, Nyagatare Campus. The ultimate goal is to create a critical mass of professionals who have capacity to work in a multi-disciplinary manner with the one health concept in mind and able to effectively respond to infectious Disease outbreaks in the Country and globally.

Therefore, since 2016, over 400 final year students have been equipped with knowledge and skills in infectious disease detection, prevention and response and ready to respond to outbreaks.

The overall objective of the training was to equip final year students, the basic principles of prevention, detection, and response to infectious disease outbreaks in the context of One Health.

Specifically, the training was designed to;

1. Explain the relationship between humans, animals and the environment in infectious disease transmission
2. Enable students understand the role of surveillance in infectious disease management
3. Provide knowledge to students to apply multi-disciplinary approaches to infectious disease investigation and response

The modules undertaken during the training included;

1. Risk communication
2. Disease Surveillance in Rwanda
3. Fundamentals and preparedness

Trainees taking final test at the end of training.

A demonstration on how to put on PPE.

Participants being given certificates of completion.
4. Social, Cultural and Gender perspectives in disease outbreaks
5. Systems thinking
6. Introduction to One Health
7. Leadership in One Health

The team of 10 trainers comprised of faculty from the College of Agriculture and Animal Sciences and the College of Medicine and Health Sciences. They were from Veterinary Medicine, Nursing, Environmental Health and Agriculture.

It was a worthwhile opportunity provided to 100 prospective University graduates from 20 disciplines. The training was organized by OHCEA under the One Health Workforce project. “Advancing innovative one health approaches in prevention and control of infectious disease” was the main theme. It was officially opened by Dr. Martin Ntawubizi, the Head of University of Rwanda Nyagatare campus. He urged trainees to wholeheartedly focus on each and every activity.

The training approach included; use of PowerPoint presentations, role-plays by both facilitators and trainees, group discussions to boost teamwork, helpful demonstrations on how to use personal protective equipment while controlling infectious diseases. In addition, trainees and facilitators had a field visit which helped the trainees to internalize what was taught during the didactic sessions.

Serieux Rukundo, a student of Crop Production who was among the trainees said “the training was so helpful, I gained a lot of knowledge from different training activities and it will help me to effectively fulfil my future career duties.”
Senegal students organise community awareness on Tuberculosis in Kaolack Region

As part of their community outreach mandate, the Students One Health Innovations Club (SOHIC) in Senegal conducted an outreach visit in Ndiaffate (Kaolack region) in April 2018. The sensitization focused on Tuberculosis and how it can be prevented using community-based interventions. It was conducted by 34 students from EISMV, ISED, ISE and ENDSS. The students were supervised by 3 veterinary teachers, environmentalists, doctors with the support of the local technical agents in the region (livestock services, environment services).

Tuberculosis is one of the 6 priority zoonoses identified in Senegal. The detection rate of TB in Kaolack region is among the highest, behind Dakar, Thiès, Diourbel and Ziguinchor, justifying the choice of this area for this activity. Ndiaffate is about 15 kilometers from the city of Kaolack. It is in this same town that previously a case of bovine tuberculosis in a dairy farm, was confirmed.

Thirty four (34) students participated in the event, coming from the SOHIC at School Interstate Science and Medicine Veterinarians (EISMV) of Dakar, Faculty of Medicine, Pharmacy and Dentistry (OPCF), of the Institute Sciences of the Environment (ISE) and the National School of Health and Social (ENDSS) Development. The field activities were structured around two phases: The first phase involved discussions with the three main sectors concerned with One Health concept at the local level (veterinary services, medical services and the Regional Directorate for environment). During this session, students presented the objectives of the outreach mission, shared the awareness materials and demonstrated integration of the One Health approach in the management of health issues.

In the second phase of this mission, the people most at risk (herders, employees of slaughterhouses, consumers of dairy products), were engaged on Tuberculosis, including on best practices for its prevention. Information, Education and Communication materials (posters, flyers) were produced and used to raise awareness on Tuberculosis for other segments of the population.

Information that was shared by the communities flowed from overview of TB all the way through the key aspects of the disease to the socio-economic impact of TB. Students contributed to the development of the materials depending on their disciplines and the knowledge they have.

After the presentations, community members and the students had a dialogue around the issues raised in the presentations. This session was also supported and facilitated by the faculty and regional services staff present.

The main goal of the outreach activity was to strengthen the students’ knowledge of and local communities on the zoonotic character of tuberculosis to allow better prevention, detection and treatment of the disease.

The activity was a good one in that it:

- Allowed students to better understand the zoonotic character of Tuberculosis
- Allowed students to acquire practical skills in the One Health approach at community level
- Provided a platform for educating those at risk of Tuberculosis and its modes of transmission
- Raised awareness about risk prevention measures and best practices in case of suspicion or actual occurrence of the disease
- Promoted the One Health approach in the management of public health issues by local technical staff

In order to ensure that the messages by the students were well-understood, influential people (village chiefs) were used to clarify issues and ensure optimal participation of the community members. In addition, a combination of two community education approaches (the door-to-door and group sessions) were used.