



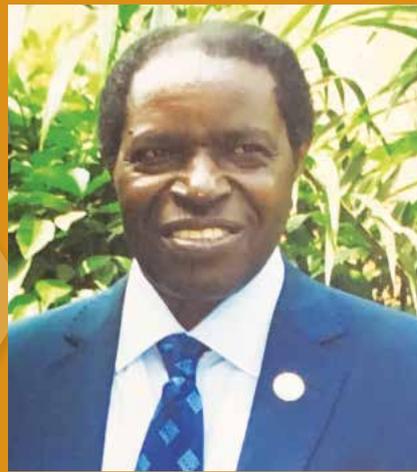
OHCEA *News*

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Editorial



SUPPORTIVE POLICY + LEARNING ENVIRONMENT

Mekelle University Conducts Curriculum Integration Workshop

Mekelle University has identified various courses for incorporation of One Health concepts to train the future work force in line with the country's One Health needs which requires multidisciplinary collaboration. Fourteen (14) faculty from the College of Health Sciences and Veterinary Medicine who are currently teaching the courses of Veterinary Epidemiology, Epidemiology, Emerging and Re-emerging disease, Wild life, Occupational health Risk analysis and Research Methods were identified to participate in the curriculum Integration workshop for 5 days. One Health modules that were integrated included



Dr. Hellen Amuguni of Tufts University facilitating a session during the training on curriculum integration



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Infectious Disease Management, Ecosystem Health, Risk Analysis, Outbreak Investigation, Gender and Emerging Pandemic Threats, Behavioral Change, One Health Principles and Concepts, and One Health Leadership. The workshop was facilitated by faculty from Tufts University and University of Minnesota; partners on the One Health Workforce project.



Participants and of the curriculum integration workshop posing for a group photo

Cameroon Conducts Training to Strengthen the Capacity of Health actors on Biosecurity, Biosafety, and Risk Management

The training was a five-day training was designed to provide an overview of biosecurity, biosafety and risk assessment as well as the practices, equipment, and facilities for the safe and secure handling of biological materials in veterinary and human health settings. It attracted 27 health actors (including researchers, Medical Doctors, Veterinarians, Laboratorians, Dentist, etc). The training concepts were reinforced through presentations, group discussions and visits to different facilities manipulating biological materials. The training was conducted 17th – 21st April 2017 in Douala, Cameroon

The training provided an overview of the critical aspects of biosecurity, biosafety and risk assessment. Participants learned how to assess risks for biohazards in the veterinary, human health and research settings and the strategies needed to appropriately manage these risks. By the end of the training, participants were expected to be familiar with standard best practices in bio-risk management.

The training provided knowledge to health actors in biosafety and bio-risk management according to the highest international standards in order to promote the knowledge and the dissemination of these standards in Cameroon in view of promoting the One Health concept.

Biological safety and biosecurity training is required for all personnel who work with potentially viable

biological materials including microorganisms (of any risk level), cells or cell lines, tissue cultures, recombinant DNA, organisms, or viruses, animal blood, body fluids, or tissues, or animals. This training is recommended to be proper and routine.

The major challenges included lack of awareness at the higher level of issues pertaining to biosafety policy, standards and regulations; inadequate human resources and infrastructure; lack of sufficient technical expertise and resources for risk assessment, biosafety practices, construction, operation and maintenance of facilities, and limited emphasis in routine training of personnel on the concepts of biosafety and biosecurity.

Consequently we recommend:

- Advocacy with the respective national authorities (stakeholders) to implement proper administrative controls in order to enhance biosafety and biosecurity best practices.
- National associations of professionals with interest in biosafety should be forged and encouraged to be affiliated to other international professional bodies.
- More specific biosafety training courses should be developed and conducted through leading public health laboratory or a university which may gradually lead to the development of a specialty of laboratory biosafety.

Zoonotic diseases, exposure to harmful microorganisms and their uncontrolled dissemination are major engines that ensure endemicity of ranges of infectious diseases and outbreaks in some cases.

At Université des Montagnes (UdM), a debate was organized for students with the objective of getting attendees actively engaged in topics related to infectious diseases in general, antimicrobial resistance, zoonotic diseases, biosecurity, bio-safety and disease surveillance. Upon completion of a similar debate in February 2017, the students got better understanding of government systems, policies and priorities in connection with management of epidemic prone diseases in Cameroon. For the June debate, three viral zoonotic conditions and related etiologies were used as support case-study documents. The debate attendees got better understanding of a few definitions related to infectious diseases (IDs), the relatedness with other microbial diseases, clinical manifestations, laboratory diagnosis as well as means of their transmission from one form of life to the other. They also realized that several life-threatening conditions are typically neglected because they go unnoticed in many parts of the world.

The students realized that they could play significant role in the management of epidemic prone diseases in Cameroon and that from one end to the other, many stakeholders were concerned (in



Université des Montagnes (UdM), Cameroon

Infectious Disease Threat

a multidisciplinary approach that is imposed by globalization), in line with the objectives of the GHSA for core competency needs to International Health Regulation (IHR), the World Health Organization for Animal Health (OIE), Performance of Veterinary Services (PVS) and One Health (OH).

The objectives of the debate were;

- Get attendees engaged in the struggle against the health threats that are associated with viral life-threatening conditions and likely antimicrobial resistance development
- Highlight importance of multidisciplinary approaches in preventing and controlling outbreaks
- Introduce aspects related to safe hand-washing in line with Biosafety and Biosecurity
- Understand constraints associated with accuracy in clinical and laboratory diagnosis

Students were organized in small groups to discuss the case-studies that were provided. Group discussions provided answers to the six questions that were include in the case studies.

Participant recognized the role of arthropods in disseminating infectious agents and the importance of avoiding conducive breeding grounds for these disease vectors which are the same and can breed in forests, urban and rural areas.

The debate closed with a movie



Cross section of students during the debate on arboviral infections

on hand washing techniques, in connection with the knowledge that most infectious diseases are transmitted by human hands.

For sustainability purposes, it is important to integrate such educative items (like the debate) in the formal academic schemes in future so that many more can benefit.

It was also strongly suggested that field engagements should follow the debate to sensitize the local populations on infectious diseases and zoonotic diseases.

Some of the key issues arising from the debate were;

- The need for capacity strengthening with special focus on the laboratory facilities and human resources, to be able to implement epidemiological surveillance and disease control, carry out accurate diagnosis (PCR, RT-PCR) and offer quality case management during outbreaks.
- The need to raise community awareness and to educate the public on measures that they can put in place to avoid mosquito bites and reduce mosquito breeding habitats (Aedes mosquito transmit other viruses).

Students at Université des Montagnes (UdM), Cameroon Debates on Infectious Disease Threat

- The role of global travel in the emergence and re-emergence of diseases cannot go unnoticed. This is already heightening the risk of transmission of Zika virus to sub-Saharan African countries in Cape Verde and other regions (attention is particularly needed in the main entry points such as the airports and seaports that are the main gateways from the infected areas).
 - ❖ Possible co-infections with dengue serotypes (DENV 1–4) and ZIKV virus
 - ❖ other prevalent infections in the continent, such as malaria and HIV,
- Africa is increasingly opening up to the rest of the world due to human migration associated with tourism and business.

The need for research on key issues;

- ✓ will be important to understand and evaluate the role of potential non-human primates in maintaining transmission and/or serving as ZIKV reservoirs

The re-emergence and spread of arboviral infections could lead to devastating consequences on the human population, the health-care system and economic progress on the continent.

TRAINING FINAL YEAR GRADUATING STUDENTS ON DISEASE DETECTION, PREVENTION AND RESPONSE

A needs assessment done by Kenya identified outbreak investigation and response as key training gaps in equipping students with skills important for infectious disease management. The establishment of the Zoonotic Disease Unit and partnership with multiple stakeholders signifies the emphasis the government is placing on equipping the workforce with these skills. With this in mind, curricular was

revised to include One Health competencies as part of the veterinary and public health curricular.

The two sessions with the students from Veterinary, Medical and Nursing Schools held on the 22nd April and 13th May, 2017 aimed to impart knowledge on disease prevention, detection and response to disease outbreaks. These students who are currently in their final-year, did not have an opportunity to

undergo this training since this is normally provided to first year students as per the newly revised curricular. Therefore, this was purposively the only avenue for the finalists to acquire this knowledge. The goal of the sessions was to impart knowledge on disease prevention, detection and response to outbreak simulations, role plays, group discussions, use of case studies and taking students through practical's that impart hands-on skills in infectious disease prevention, detection and response. The specific objective of the activity was to equip final-year students with the requisite skills in disease prevention, detection and response to infectious disease outbreaks.

Seventy four (74) students from Veterinary School, Medical School and Nursing School participated in the training.



Dr. Ongore facilitates one of the sessions during the training

Mekelle University Conducts Certification of Final Year Students on Infectious Disease Management



Participants pose for a group photo with the facilitator

The training on certification of final students on Infectious disease prevention, detection and response aimed at equipping students with knowledge on the One Health approach, systems thinking, infectious disease transmission and management, one health leadership and management skills, and risk communication and the importance of beliefs, culture and gender in addressing infectious disease management. Using the OHCEA One Health module of Infectious Disease Management, the training was given to 100 multidisciplinary students from environmental health, public health and veterinary medicine. The training was practical using tools like role play which helped bring to life the new concepts they were learning.

Students acquired knowledge and skill in Infectious Disease Management using the one health approach. This training was facilitated by Dr. Berihun Afera, the Mekelle University College of Veterinary Medicine

OHCEA Focal Person jointly with the trainees of the IDM TOT that was held in Addis Ababa in Year II of the One Health Workforce project.

The training exposed students to knowledge on transmission and

control of various selected infectious diseases, such as Toxoplasmosis, Rabies, Brucellosis and zoonotic tuberculosis, among others. Various case scenarios were also presented and discussed by the students.



A section of the participants during group discussion on case scenarios

Enhance knowledge and skills on infectious disease prevention, field-based and interdisciplinary training for undergraduate non-degree students of training materials

This was a follow-up activity on Engagement meeting of OHCEA universities with relevant ministries and authorities responsible for training OHW at diploma and certificate levels in Tanzania which took place on 6 – 7 April, 2017 at the Giraffe Ocean View Hotel, Dar es Salaam

The follow-up workshop was convened between 12 – 13th May, 2017 at Giraffe Hotel in Dar es Salaam to refine presentations from the first workshop, and come up with one health domains and competencies (as an outline) to be embedded into existing Certificate and Diploma curricula. In addition, the workshop was to identify other relevant training occupations not represented in the first workshop to include them in the process.

The goal of the meeting was to enhance knowledge and skills on infectious disease prevention, detection and responses through problem-based learning, field-based and interdisciplinary training for undergraduate non-degree students (diploma-level students): Develop outline of training materials.

Objectives of the meeting were:

- To review the OH core competencies developed by OHCEA and come up with OH domains and competencies (including technical and soft skills) to be included/embedded in the diploma and certificate level curricula
- To identify other relevant training institutions not represented in this meeting to include them in the process

The workshop deliberated and agreed to use components of the proposed module for One-Health practice for integration in the existing curricula for different occupations at Certificate and Diploma levels. The decision was reached so as to make the competences proposed

for One-Health training sustainable, be relevant and without causing disruption (in time/credit hours and content) in existing curricula. Since training curricula for different occupations are many, the workshop used the Certificate and Diploma in Clinical Medicine; and Certificate and Diploma in Animal Health and Production, to embed the technical as well as the soft skills required for One-Health Practice.

The workshop was attended by curricula development experts from NACTE and trainers from SUA, MUHAS, Institute of Allied Health Sciences, Pasiansi and Mweka Wildlife Training Institutes and LITA Morogoro Campus colleges.

As an outcome of the workshop;

- Curricula development experts agreed that in the Clinical Medicine curriculum, Concepts and practices on One-Health be captured at Certificate Level 5, in the Module named “**Health Promotion**”. The components that were embedded include: Emerging Pandemic Threats, Global Security Agenda, Anti-Microbial Resistance (AMR), Zoonoses, immunizations, Biosecurity and biosafety, One Health Workforce (OHW) and Health promotion
- Further agreed that in case of Health Hazards requiring One-Health Approach, its content be embedded into the Clinical Medicine Certificate level 4 curriculum, within the existing module on “**Environmental Health**”
- Experts also agreed to embed soft skills proposed for One-Health practice, such as Leadership skills, systems thinking in one-health, and risk assessment for decision making in one-Health practice into the Ordinary Diploma Curriculum in “**Leadership and Management module**”;
- With regard to Certificate and Diploma in Animal Health and Production curriculum, it was agreed that the content for Concepts and practice on One-Health be captured at Certificate Level 5, in the Module named “**Livestock Diseases**”
- It was also agreed to embed Health Hazards requiring One-Health Approach, into the module named “**Environmental health**”; and
- Finally, experts unanimously agreed that Soft skills required for One-Health practice such as Risk assessment, analysis and communication, Leadership



Experts who attended a follow-up workshop at Giraffe Ocean View Hotel, Dar es Salaam

detection and responses through problem-based learning, diploma-level students): Develop outline materials

skills, change management, and systems thinking, be captured at Ordinary Diploma in Animal Health and Production Curriculum (NTA level 6), into the modules named “**Medicine and Livestock Extension Methods and Techniques**” respectively

The experts agreed that identification of other relevant training institutions not represented in the first meeting for inclusion into the process was not necessary at this point in time but fully embed one health competencies/modules into curricula of NTA levels 4-6 for Clinical Medicine and Animal

Health and Production as a pilot exercise. The other institutions and their programs will eventually be brought on board after the piloted ones are proven to meet the desired goal.

Experts agreed that once ONE HEALTH issues are embedded into the two curricula (Animal Health and Production and Clinical Medicine) these should be sent to the respective ministries and subsequently to NACTE for approval. Once the embedded OH elements are approved by these bodies, then arrangements will be made to take on board all other curricula that qualify to embrace the OH agenda and practices.

The experts also recommended the following:

- a) That OHCEA consults the Prime Minister’s Office and OHCU to mobilize resources from various sources for advancing the OHW agenda in training Institutions at diploma and certificate levels
- b) OHCEA also consults NOHCU to harmonize the OHCEA initiated capacity building at Diploma and Certificate levels with NOHCU of establishing OH Coordination Committees at District and regional levels that will also function at ward and village levels.

One Health Day celebrated in Lubumbashi

The objective of this activity was to (1) learn modules on “Prevention, Detection and Response to Epidemics, Epizoonotics and Resistance to Antimicrobials and Pesticides”, (2) conduct a community field practice for action, (3) visit JACK Sanctuary (Confiscated Young Animals in Katanga) and the Lubumbashi Zoological Garden in order to internalize aspects related to the human-animal-ecosystem interface, and (4) the commemoration of One Health Day.

Students of Lubumbashi Nursing Higher School (ISTM), School of Public Health and Faculties of Pharmaceutical Sciences, Medicine and Veterinary Medicine presented an interaction around One Health Strategy during three sessions of Training. The activity was conducted from 19 to 23 April 2017.

The session on Infectious Diseases and Pesticides and Antimicrobial Resistance was held in Lubumbashi

and involved 49 students. The demo site organized in Kipushi, 25 km from Lubumbashi, brought together 40 students and the environment of the Lubumbashi Zoo allowed 31 students to participate in chimpanzee health check and Zoo visit.

The module “One Health Strategy” was given to all participants in the various training sessions for their One Health skills learning. Subsequently, training on Infectious

Diseases and Pesticides and Antimicrobial Resistance exposed learners to modules on Prevention, Response and Detection. A field visit brought learners into contact with a market and slaughterhouse, infectious disease laboratory, health zone and cattle farm to illustrate different aspects presented in the various modules.

The demo site modules covered Pesticides and Antimicrobial



Students participating in the rabies campaign at Kipushi



Students and faculty pose for a group photo

Resistance surveillance, the eco-health concept, community preparedness and community interventions.

The rabies vaccination campaign of dogs (n = 180) and cats (n = 20) in poor neighborhoods was one of the community interventions in Kipushi.

The One Health Club brought together students to visit Lubumbashi JACK Sanctuary and Zoological Garden. At the end of these sessions, all the participants gathered for a panel discussion and consequently celebrated One Health Day. Panelists exchanged experiences on various issues relating to the human-animal-environment interface. In particular, there were discussions on the seriousness of zoonoses; pesticides and Antimicrobial Resistance. There was also strong focus on rabies, Ebola and avian flu. Participants discussed how zoonoses can be avoided at JACK and the zoological garden and how to maintain a healthy balance in this environment. It was observed that strict observation of biosafety and biosecurity procedures and protocols had proved effective in

controlling zoonotic infections. From the panel discussion, it was clear that pesticide use and Antimicrobial Resistance are now on the agenda as major public health challenges.

The One Health Day discussions illustrated the need to train future One Health professionals.



A student displays her a certificate she received after participating in the demo site

One Health Training Level

The course conducted 29th May – 5th June 2017, aimed to introduce the basic principles of preventing, detecting, and responding to infectious disease outbreaks in the context of One Health. The course was intended to orient students using a One Health approach to examine various infectious diseases of humans, and those transmissible from animals to humans; and their relationships with the environment. This helped their understanding of the fundamentals of infectious diseases ecology and their impacts on humans, animals and the environment.

A total of 254 students attended the course; 46 from Environmental Health Sciences and 208 from Medicine.

The key outcomes of the training course included;

1. The ability to explain the relationship between humans, animals, and the environment in infectious disease transmission.
2. The ability to describe the role of surveillance in infectious disease management.
3. The ability to apply multi-disciplinary approaches to infectious disease investigation and response.

The course was intensive and students participated actively. It was interesting for medical and Environmental health students to learn from the counterpart facilitators from Sokoine University of Agriculture (SUA) as they had a lot of questions regarding animal health. For example, having been learning about human anatomy and health, students were eager to know if what they knew corresponds to what happens in the area of animal health i.e.

Training of Future One Health Workforce at Undergraduate Level Using One Health Modules at MUHAS

if the animals equally get health care as human beings do.

The training approach included classroom lectures and exercises as well as a site visit.

For the classroom component, the topics were divided into sessions that focused on conceptual and practical issues in the context of One Health (OH) approach for the prevention, detection and control of communicable disease outbreaks. A total of four topics were covered and delivered in 17 sessions as follows:-

T.1: Introduction to communicable disease control in the context of One Health (3 sessions)

T.2: Communicable Disease Transmission Dynamics (3 sessions)

T.3: Methods of Prevention and Control of Communicable Diseases (3 sessions)

T.4: One Health Approaches to Communicable Disease Control (8 sessions)

To link the classroom theory to practice, students visited Waste Water Stabilization Ponds (WSPs). The aim was to orient students on practical approaches of One Health concepts in communicable diseases control through using Waste Water



Prof Killewo introducing OH

Stabilization Ponds. Students learned the science behind the operation and process flow of WSPs functions, basic requirements for WSP site protection and management, possible routes of diseases transmission through WSPs considering human-animal-environmental interactions, roles of various stakeholders (general community, human health professionals, animal health professionals, environmental health professionals etc) in WSP management and related diseases and they explored functional and managerial challenges of specific WSP visited.

Following participation in the course, students were expected to prepare research proposals and collect data in the field based on OH topics. This was meant to enable them practice what they learnt in class.

When asked whether the training was relevant to their future career, majority of participants (81.7%) strongly agreed that the training was relevant to their career.

When asked about the action that they intended to take as a result of the training, participants responded that they would share information and raise awareness about OH as well as OH students' club at MUHAS. As a learning process, participants would also use knowledge gained from the training in writing CDC proposals.

Other pertinent comments from participants were that Environmental Health students should be considered to participate in CDC field work so as to practice what they learnt. Currently EHS do not get funds for fieldwork from the University. There was also a



Dr Nonga (SUA) illustrating a point on food safety



Course participants (staff and students) pose for a group photo

notion that other students such as those in nursing program be included in the training so as to scale-up One Health to more health providers.