



AFROHUN has enhanced One Health competencies among Cameroon veterinary workforce to respond to veterinary public health emergencies

Background

Over 75% diseases are zoonotic in nature, highly contagious with potential of becoming pandemic. Over the last two decades, the planet has faced disease outbreaks of both an epidemic (Ebola Virus Disease (EVD), Zika virus, Monkeypox) and pandemic (H1N1, H5N1, SARS, MERS and the ongoing COVID-19) nature, all of which are of animal origin. This serves as a reminder that the health of humans, animals, and the environment are interconnected and demonstrates how prepared the world must be to respond to and control the rapidly changing disease dynamics.

Despite its critical role until 2019, there was no postgraduate training in Veterinary Public Health in Cameroon.

The 2017 WHO Joint External Evaluation (JEE) highlighted the need for quality and quantity of specialists in veterinary public health and epidemiology. This constituted an opportunity to develop a postgraduate training in veterinary public health with a One Health focus in Cameroon. Today, with the occurrence of many rapidly evolving diseases with complex transmission mechanisms, there is an urgent need for specialists who have a mastery of the holistic approach in solving public health problems. This requires an understanding of disease dynamics in wildlife, livestock and human interfaces. The specialized postgraduate training in Veterinary Public Health (VPH) is very relevant to ensure rapid detection, efficient prevention, and effective response to emerging and re-emerging diseases, zoonotic diseases and complex public health problems. It will create a pool of specialists in solving holistic public health problems.



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The approach to developing the program

In 2018, Africa One Health University Network (AFROHUN) Cameroon, funded by USAID and in collaboration with the Ministry of Livestock, Fisheries and Animal Industries, and the National Program for the Prevention and Fight against Emerging and Re-emerging Zoonoses supported the development of the curriculum for the Master of Science degree in Veterinary Public Health. The School of Veterinary Medicine and Sciences of the University of Ngaoundere then institutionalized the training in 2019 after university board validation and approval and officially launched in March 2020 to train the future One Health workforce.

The one-year master's in veterinary public health program provides government agencies, academic and research institutions, and nongovernmental organizations with Veterinary Public Health specialist capable of conducting effective surveillance and response activities to existing, emerging and re-emerging transboundary animal diseases using the "One Health" approach, as well as finding solutions to complex public health problems. The program will boost research, innovation and sustainable workforce development in veterinary public health-related space. It is a blended learning approach using eLearning and conventional classroom mode, thus giving trainees more flexibility to customize their learning experiences. The program, now funded by the government of Cameroon, also integrates a 6-months internship and enrolls between 10-15 trainees annually.

Results

The program has admitted two cohorts within the 2020 and 2022 academic years, graduating 19 specialists from veterinary sciences and one from biomedical sciences. This training provides mentorship opportunities for trainees to acquire further skills and experience in veterinary public health policies, public health emergency management, One Health approaches, risk analysis, disease surveillance and response, environmental health, food safety and antimicrobial resistance. The program provides an opportunity for young Cameroonians and foreigners to acquire and master advanced skills in research, policy, clinical care, field veterinary diagnostics and strengthen their capacities in public health emergency management. Capacity strengthening includes learning from specialists on analysis of surveillance data, risk mapping, and developing a disease control response plan with multi-sectoral partners.

These graduates are now supporting different projects and programs at the national level in Cameroon. With the immediate integration of the first cohort of graduates into key national programs and projects, they are evidently filling a gap of the much-needed expertise. Skills and experience gained through this training and experience sharing between different experts will support Cameroon's efforts to respond to unknown public health emergencies and specifically to zoonotic diseases and antimicrobial resistance. Below are testimonies from some of the graduates.



Dr. Cha-ah Crystella Ngong, DVM, MVPH

M&E Specialist at National Program for the Prevention and Fight against Emerging and Re-emerging Zoonoses, Cameroon One Health Platform and Assistant Project Coordinator for the AFROHUN COVID-19 ARPA project

“Obtaining the Master’s in Veterinary Public Health at the University of Ngaoundere was a benchmark for my career in public health. The practical skills gained in the One Health approach, epidemiology, disease control, food safety, and health economics permitted me to easily adapt in the professional milieu by applying qualitative and quantitative approach to epidemiological surveillance studies and data analysis, contributing to policy designing regarding zoonotic diseases, and bridging the veterinary gap in multidisciplinary teams.”



Dr. Foutse Chouppoh, DVM, MVPH

National One Health Technical Adviser in the Global Programme of Pandemic Prevention and Response – GIZ Cameroon

“Through this Master’s in Veterinary Public Health, I was able to refine my skills in One Health with an epidemiological approach thereby strengthening my technical understanding in disease surveillance and preparedness.”



Dr. Ikoum Dalida, DVM, MVPH

Staff support at the National Programme for the Prevention and Fight against Emerging and Re-emerging Zoonotic Diseases

“As a veterinary doctor, my training in Veterinary Public Health was the gateway to a broader view of health in a global way. The knowledge acquired during this very enriching training allowed me to adapt to my place of service through the different activities that are implemented there, in particular the development of procedural plans, analysis of epidemiological data, and the use of computer tools.”



Dr. Amawota Foudjin Alvine Aurelle, DVM, MVPH

Cameroon Epidemiological Network for Animal Diseases (CENAD)

“I developed skills in animal and zoonotic diseases management, the “One Health” approach, data analysis, network analysis, and mapping and modeling of zoonotic disease risk. The skills I acquired during the training have been put to use within CENAD where I am working on various aspects of animal disease emergence, including participation in the network’s surveillance activities, management of disease outbreaks (rabies, Highly Pathogenic Avian Influenza, MonkeyPox, African Swine Fever) among others, and development of guidelines and tools for community-based surveillance of priority zoonoses in Cameroon.”

Recommendations

More veterinarians should be trained to increase the national workforce capacity with technical and financial support by partners. The University of Ngaoundéré is also designing a 2-year Veterinary field epidemiological training option to reinforce skills and competence in this domain. The program intends to recruit candidates from Cameroon and neighboring countries as a reference regional training program.

ABOUT AFROHUN

Africa One Health University Network (AFROHUN) is an international network, currently in 28 higher education institutions of public health, veterinary medicine, pathobiology, environmental sciences, medicine and global health, in 10 countries in Africa. The countries are *Cameroon, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Kenya, Liberia, Rwanda, Senegal, Tanzania and Uganda*. AROHUN is formerly OHCEA.

AFROHUN is working to transform the training environment and approaches in universities and allied institutions in Africa, to develop a One Health workforce: a workforce with no disciplinary boundaries. AFROHUN is building a workforce with competency to predict, detect and respond to the kind of complex health challenges we are witnessing today. To achieve this transformation, we are reviewing curricula, designing new and exciting experiential learning multidisciplinary training programs, re-tooling teachers and trainers, educating communities on existence and transmission of zoonotic and infectious diseases, while engaging national and sub-national governments to integrate One Health into national policy and strategic planning.

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