STRENGTHENING SURVEILLANCE SYSTEM FOR RABIES IN CAMEROON

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Dr Alain Michel Kouam Simo is a lecturer at the Veterinary School of Medicine of the University of Bangangte in Cameroon in the Department of Parasitology and Infectious Diseases. In his more than five years of practice, Michel trains and contributes to dialogue around the country's surveillance of zoonotic diseases including rabies.

"Surveillance remains the most critical onset of prevention, management and elimination of rabies. However, the conversation is largely at the national level and little or none at the local level. The data at the national level does not conclusively reflect the prevalence at the local level and so, rabies continue to remain a public health challenge," Michel says.

Rabies is a widespread viral zoonosis that is both neglected and severely under-reported. As soon as clinical symptoms appear, rabies is fatal in almost 100 percent of cases. Domestic dogs are responsible for transmitting the rabies virus to humans in almost 99 percent of cases. Rabies affects both domestic and wild animals. It is generally transmitted to humans and animals through saliva in the event of a bite or scratch. World Health Organization estimates that it kills more than 59,000 people worldwide every year, most of them children. In Cameroon, around 196 cases of human rabies were reported in the year 2017. Around 50 percent of samples in dogs obtained and sent to reference laboratories (LANAVET and CPC) tested positive in 2016.

Diagnosis is generally delayed, as it only occurs once rabies has been declared. This is why setting up an appropriate surveillance system could help to anticipate and protect the population. The current epidemiological surveillance system is based solely on mass vaccination of dogs and treatment of people bitten in certain regions of the country.

Dr Michel applied to AFROHUN to undertake a reseach in epidemiological surveillance system of rabies in Cameroon. His application was accepted and got placement in the Rabies control and elimination. The institution supports the implementation of the Integrated Strategic Plan for the Elimination of Human Rabies of Canine Origin. It aims to eliminate rabies in Cameroon by implementing the National Rabies Elimination Plan and achieve the objective of zero human deaths related to canine rabies by 2030.
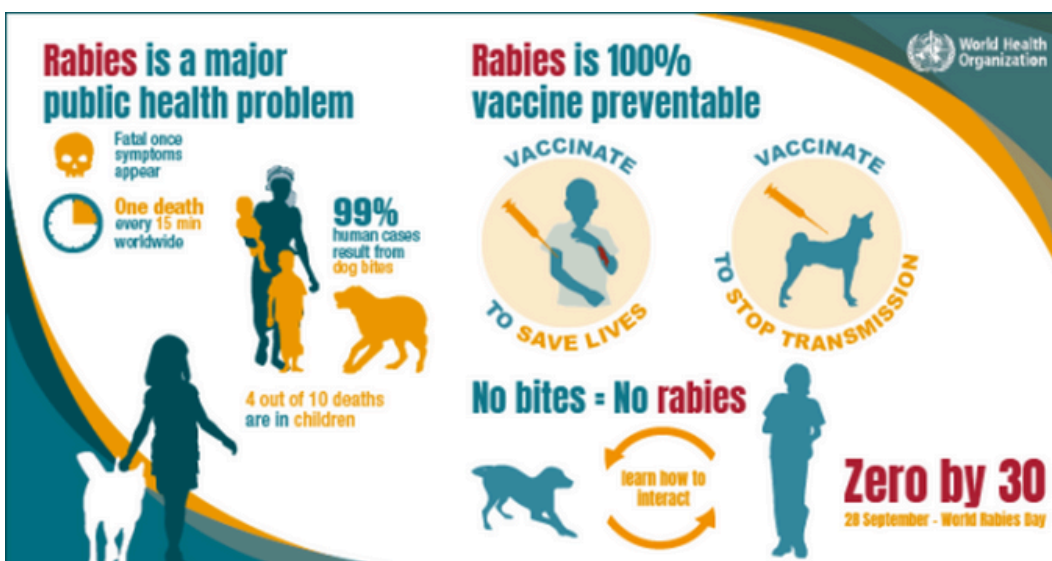

Illustration of strategies for eliminating rabies by 2030

To evaluate the survaillace system, Michel obtained data from the Cameroon, Epidemiosurveillance Network for Animal Disease (CENAD). These included the texts and laws that legitimize control and surveillance activities; documents on the standard operating procedure for surveillance; reports from the veterinary services on the results of surveillance activities over the previous 6 years; and, disease surveillance and control plans. The data was collected using the OASIS method, a semi-quantitative method that enables a standardized, in-depth analysis of the operation and quality of a monitoring system.

The data analysis considered optimal surveillance attributes of simplicity, flexibility, stability, representability, sensitivity, data quality, speed, specificity, acceptability, and usefulness. The attributes were used to evaluate the sections (scope of surveillance, national institution, local field institution, laboratory, monitoring tool and methods, evaluation, communication, organization, data management, and training) of the surveillance system.

RESULTS

The satisfaction rates observed show an average quality of the system's operation. Only 5 out of 10 sections presented a satisfaction rate greater than or equal to 50 percent (laboratory, monitoring tool, evaluation, communication, organization). However, only laboratory and monitoring scored above 60 percent. Still, staff training, monitoring methods and data management scored below 50 percent. It is therefore important to emphasise these monitoring elements in order to improve overall monitoring in cameroon.

From the findings, Dr Michel shares critical recommendations to the improvement of the national surveillance sytem. His study proposes a specific operational surveillance system protocol for rabies, training for all actors involved in surveillance network, and defining participatory and inclusive strategy at both the local and national levels.

Michel reflects on the personal involvement in the process. "This placement has revealed the need for multidisciplinary collaboration, and that managing stray dogs is the root of the problem in rabies epidemiological surveillance. We can act as relays in our community, showing the importance and impact of the disease on the population. It has created an opportunity to share what we've learned with colleagues and students to advance the science of rabies control."

Rabies vaccination campaign