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## Using a One Health Approach to Address the Challenges Posed by Rabies to Animals and People in Rural Areas in Victoria Falls, Zimbabwe

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## Using a One Health approach to address the challenges posed by Rabies to animals and people in rural areas in Victoria Falls, Zimbabwe

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**Background:** Rabies is a viral disease widespread globally causing approximately 70,000 deaths every year, with 99% of these cases as the result of dog bites and with 40% of these victims being children under 15 years of age. The rabies virus affects the central nervous system leading to death in nearly 100% of cases after the onset of symptoms. While the Zimbabwe Department of Veterinary Services is tasked with the diagnosis and control of rabies, that organization lacks adequate resources to conduct dog vaccinations country wide. Thus, it often falls on Non-Governmental Organizations to supplement the government's effort. Victoria Falls (VF) is one such area where a collaboration between the Victoria Falls Wildlife Trust (VFWT) and Veterinarians for Animal Welfare Zimbabwe (VAWZ) have joined forces to carry out rabies vaccinations in rural communities adjacent to the tourist attraction of VF.

**Project goal and objectives:** The main goal of this project is to improve the prevention of rabies in dogs and people as well to improve the care and treatment of people bitten by rabid animals.

**Targeted community and emphasis:** Families owning dogs in the VF rural areas will be the focus of this project. Emphasis will be placed in gathering key information to better understand behaviours and interactions between dogs, people, and wild animals.

**Approach and activities:** In this project, we will apply a One Health approach working in close collaboration with our research partners in Zimbabwe VFWT & VAWZ. The main activities we aim to implement in the next two years include vaccinating 500 dogs against rabies, spaying and neutering dogs, and collecting blood samples from dogs to assess their rabies immune status (protective antibody levels). In addition, we aim to design, implement and analyze a Knowledge, Attitudes, and Practices (KAP) survey among dog owners. This survey will be used to gather information regarding dogs' demographic and their husbandry as well to design and implement a campaign to create rabies awareness among the community, including children at the center of this effort. All samples will be collected in the Victoria Falls area, blood samples will be sent and processed for rabies antibodies in the laboratory at the University of Pretoria in South Africa. All records will be compiled and send to Western University for statistical and epidemiological analysis.

**Impact and relevance:** Vaccination of dogs will have a direct impact in preventing rabies among dogs, and thus, preventing human cases. Evaluating the rabies antibody in the dog population in rural communities around Victoria Falls is important to guide the process to re-vaccinate these animals. The need to apply a One Health approach for rabies control stems from its ability to be transmitted across the animal-people-wildlife interface. We are confident this joint and

collaborative project will have a positive impact in reducing the risk of rabies both in the dogs and in the human population (especially children) in the VF area. Additionally, we expect our project will also serve to fostering future similar collaborative projects in other African regions.