

Notes from the Field

Assessment of Health Facilities for Control of Canine Rabies — Gondar City, Amhara Region, Ethiopia, 2015

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Rabies is an encephalitic disease that is nearly always fatal after onset of illness. Worldwide, rabies kills an estimated 59,000 humans each year (95% confidence interval [CI] = 25,000–159,000); the majority of the deaths are caused by the rabies virus variant that circulates in dogs (1,2). Canine rabies is endemic in Ethiopia, with an estimated 2,771 human deaths annually (CI = 1,116–12,660) (1–3). Annual rabies-associated livestock losses are estimated at >\$50 million (USD), making rabies important to both human and animal health (1).

Human health care delivery in Ethiopia occurs through hospitals, health centers, and health posts. The Ethiopian government runs veterinary clinics, and some private veterinarians operate in large cities; however, human and animal health providers do not routinely collaborate to control zoonotic diseases. The World Organisation for Animal Health's *Tool for the Evaluation of Performance of Veterinary Services* identified a need to improve animal disease surveillance as well as collaboration on zoonotic diseases between the Ministry of Health and veterinary services in Ethiopia (4).

Dog bites are nationally notifiable in Ethiopia and bite victims are referred to health centers for rabies postexposure prophylaxis (PEP). No additional public health interventions occur at the community level. In an integrated bite-case management (IBCM) program, animal health workers would investigate biting dogs to provide the health sector with information for rabies risk assessments. Studies have shown that IBCM can increase bite detection rates by up to 30% and decrease unnecessary PEP by 60% (5). Because IBCM represents integration of both human and animal health, it offers an opportunity to prevent human rabies deaths as well as decrease the high costs of unnecessary PEP.

In January 2015, CDC, in collaboration with Ohio State University, the University of Gondar (Amhara Region, Ethiopia), and the Ethiopian Public Health Institute developed an IBCM pilot program in the city of Gondar. Bite events are reported from human health sectors to animal health workers, who conduct animal rabies assessments to guide management decisions for exposed persons. Program goals include recording dog bites, testing suspected rabid dogs, and reducing community rabies exposures.

In September 2015, a CDC team evaluated the IBCM pilot program and assessed the feasibility of program expansion. The evaluation included informal interviews with animal health workers, laboratorians, and program supervisors, and field observation of animal health workers. The feasibility assessment included semi-structured interviews with key stakeholders at human and animal health facilities and evaluation of infrastructural requirements necessary for IBCM program expansion (i.e., cold-chain capacity, sample transportation, and access to rabies vaccines).

Delays in the distribution of funds and shortages of PEP slowed program implementation during the first 9 months. In addition, the preference of community members to seek bite-wound treatment from traditional healers rather than health professionals resulted in a low dog-bite reporting rate. Rabies diagnostic testing capacity was lacking, related to delays in construction of a regional animal disease diagnostic center. Quarantine facilities for suspected rabid dogs did not adhere to international animal welfare regulations; therefore, most suspected rabid animals were quarantined within owners' homes. Inconsistencies in animal health workers' handling of animals, including euthanasia practices and sample collection, also hampered implementation. Resource gaps included inadequate access to PEP and canine vaccines and a lack of cold-chain capacity.

Despite the implementation challenges, efforts were undertaken to enhance IBCM capacity in Gondar through training of additional animal health workers, laboratorians, and program supervisors. Ethiopia has regional and national plans to increase access to PEP and canine rabies vaccine during the next year. A national animal rabies surveillance system, based on IBCM, is being jointly developed by human and animal health agencies with CDC support, and will be implemented in the Amhara Region during 2016. Construction of the rabies laboratory is under way, and temporary diagnostic laboratory space has been identified. Construction of regional quarantine facilities is expected to begin in 2016. During the feasibility assessments, the IBCM program was introduced to clinicians unaware of this activity.

Further work is needed to increase community reporting of suspected rabid dogs through improved awareness of the IBCM program. Expanded access to WHO-approved PEP is needed, but distribution of vaccine should be limited to facilities with stable cold-chain capacity. Traditional healers should be encouraged to refer dog-bite victims for PEP, and health clinics and veterinary facilities should coordinate IBCM investigations. Enhancement of the IBCM program is anticipated to continue as the program is introduced in new areas.

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