



## The SARE tool for rabies control: Current experience in Ethiopia



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### ABSTRACT

The Stepwise Approach towards Rabies Elimination (SARE) tool was developed through a joint effort of the Food and Agriculture Organization (FAO) of the United Nations and the Global Alliance for Rabies Control (GARC), to provide a standard mechanism for countries to assess their rabies situation and measure progress in eliminating the disease. Because the African continent has the highest per capita death rate from rabies, and Ethiopia is estimated to have the second largest number of rabies deaths of all African countries, Ethiopia undertook a self-assessment by means of the Stepwise Approach towards Rabies Elimination (SARE) tool. In February 2016, the Ethiopian government hosted an intersectoral consultative meeting in an effort to assess the progress that has been made towards the control and elimination of canine rabies. The SARE assessment identified a number of critical gaps, including poor inter-sectoral collaboration and limited availability and access to dog vaccine, while the existence of a surveillance system for rabies and legislation for outbreak declaration and response were among the strengths identified. The SARE tool enabled key criteria to be prioritized, thereby accelerating the National Strategy and ensuring that Ethiopia will progress rapidly in line with the goals set by the global community for the elimination of human rabies deaths by 2030. Although the analysis showed that Ethiopia is still in the early stages of rabies control (Stage 0.5/5), the country shows great promise in terms of developing a SARE-guided National Rabies Prevention and Control Strategy.

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## 1. Reducing the burden of rabies in Ethiopia: application of the SARE tool

Even though rabies has been preventable by vaccination since the 19th century, it still causes more human deaths than any other zoonotic disease (Fooks et al., 2014; Pasteur, 1887). The main reservoir of rabies is the domestic dog (*Canis lupus familiaris*), which accounts for 99% of all human rabies fatalities globally. The largest annual per capita number of human rabies deaths occur in Africa, and Ethiopia ranks second among African countries with regards to total deaths (Hampson et al., 2015).

With the goal of implementing a One Health-based strategy for rabies control in Ethiopia, national and regional representatives from the Ethiopian Ministry of Livestock and Fisheries (MOLF) and the Ethiopian Public Health Institute (EPHI) held a collaborative meeting entitled: “Consultative meeting on rabies prevention and control in Ethiopia, The time is now” (16–19 February 2016, Addis Ababa, Ethiopia). At this meeting, the state of canine-mediated rabies in Ethiopia was reassessed under the guidance of international experts from the Global Alliance for Rabies Control (GARC) and the Centers for Disease Control and Prevention (CDC). The meeting was centred on the identification of the various achievements and shortcomings associated with rabies control in the country in an effort to devise short-, medium- and long-term goals towards canine-rabies control and elimination. Because the regions in Ethiopia are autonomous, and are thus responsible for the control and elimination of rabies within their political boundaries, the meeting included representatives of EPHI and MOLF from both the national and select regional levels (Addis Ababa, Amhara, Oromia and Tigray regions).

This report describes the use of the SARE tool at the consultative meeting to determine the status quo, gaps and future needs for rabies control in Ethiopia. We first describe the features of the SARE tool, then briefly review the rabies situation in Ethiopia in terms of past and current control measures. We then present findings obtained through the SARE assessment, performed at the national and regional levels, and conclude by discussing the next steps needed in the effort to eliminate rabies in Ethiopia.

## 2. The SARE tool for rabies control

The Stepwise Approach towards Rabies Elimination (SARE) tool was first developed by the Food and Agriculture Organization of the United Nations (FAO) and the GARC in 2012, with the support of the other tripartite members, to provide a guide for the formal evaluation of the current status of rabies control (FAO & GARC, 2012). The development of country-specific rabies control strategies is often a daunting task and guidance from international experts and other countries that have achieved successes towards canine rabies elimination is often required. The Rabies Blueprint Platform ([www.rabiesblueprint.org](http://www.rabiesblueprint.org)) provides a resource database with comprehensive information (that has been sourced from a global panel of experts) for countries endeavouring to develop and implement rabies control strategies. Due to the high volume and complexity of the document, the tool could be discouraging, resulting in governments not utilizing the resources to their fullest extent.

The SARE was developed to simplify and capture the vital information and demarcate the critical steps that need to be achieved in order to systematically progress the control and elimination of rabies. In this manner, governmental stakeholders and policy-makers are exposed to a simplified, yet comprehensive, tool that enables productive discussions and establishment of structured decisions that may facilitate any disease intervention programs. The Rabies Blueprint Platform still plays a critical role in addressing questions relating to country-specific needs identified through

SARE assessment, but should be used once governmental support has been achieved.

In summary, the SARE tool provides countries with measurable steps to progress from Stage 0 to Stage 5 in their efforts towards becoming canine-rabies free. These Stages can be broadly summarised as follows:

- Stage 0: No information on rabies available, but rabies is suspected to be present
- Stage 1: Assessment of the local rabies epidemiology, elaboration of a short term rabies action plan
- Stage 2: Development of a national rabies prevention and control strategy
- Stage 3: Full-scale implementation of the national rabies control strategy
- Stage 4: Maintenance of human rabies freedom, elimination of dog rabies
- Stage 5: Freedom from human and dog-transmitted rabies being monitored

A country typically begins at Stage 0 where little or no epidemiological understanding or control efforts for rabies are in place. The country can then progress to the next stages once certain critical and non-critical activities have been achieved, until they eventually reach Stage 5 – being canine-rabies free (Fig. 1).

The SARE tool is divided into seven relevant categories, viz: legislation, data collection and analysis, laboratory diagnosis, information, education and communication, prevention and control, dog population related matters, and cross cutting issues. The specific categories comprising the SARE tool are summarised as follows:

- Legislation: Focuses on the existing legislation pertaining to rabies control and elimination in the country/region being assessed
- Data collection and analysis: Focuses on assessing the existing surveillance network and capabilities to perform epidemiological analyses within the country/region being assessed
- Laboratory diagnosis: Focuses on the diagnostic capacity at both national and regional levels of the country/region being assessed
- Information, education and communication: Focuses on all of the advocacy initiatives being implemented in the country/region being assessed
- Prevention and control: Focuses on existing disease intervention strategies that are being implemented in the country/region being assessed
- Dog population related matters: Focuses on all dog population-related questions (population size/turnover) in the country/region being assessed.
- Cross cutting issues: Focuses on the collaboration between various stakeholders in the development of control strategies being planned or implemented in the country/region being assessed

The above method allows each category to be addressed in a focussed and goal-orientated manner. Although each category has detailed stage-specific activities that need to be addressed, specific critical activities determine whether a country progresses to the next Stage. As such, not all of the activities are mandatory for advancement, but still provide clear guidelines with regards to elements that need to be addressed in order to control and eventually eliminate rabies. These additional elements also allow countries to progress in half increments if more than 50% of the non-critical activities are addressed within a specific stage.

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