Development of an evidence-based Decision Support Tool for Rift Valley fever surveillance and control

Bernard Bett, Frank Hansen, Ayele Gelan and Jeff Mariner
Improving Market Opportunities Theme

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Background

Rift Valley fever (RVF), a viral disease of animals and humans, occurs in irregular but explosive cycles that make it difficult for governments to develop clear intervention strategies in the face of an outbreak after a period of no visible RVF activity (Martin et al. 2008). Inter-epidemic periods are characterized by a decline in the levels of awareness; resources are therefore shifted to other disease problems or more pressing problems. Recent work in Kenya by ILRI, UN FAO and the Department of Veterinary Services led to the development of a risk-based RVF Decision Support Tool that balances the level of investment in RVF prevention and control against escalating risk of outbreak (ILRI/FAO 2008). The tool will be refined further based on epidemiological and economic studies. This poster shows how key activities that will be conducted (field studies, epidemiological and socio-economic modelling and stakeholder consultations) will be inter-linked. The expected outputs of each activity are also indicated.

RVF decision support tool refined by stakeholders

Stakeholders formulate guidelines for best management options in the timeline of a pending RVF outbreak

Ongoing communication between stakeholders and scientists to merge model results and criteria for decision making

Models are analyzed to identify management options that optimize decision criteria

Participatory identification of criteria for decision making

Stakeholders identify parameters on which they base their decisions

Epidemiological model

-Disease incidence and spatial distribution
-Vector population dynamics

Aedes spp

1. Impact of disease
2. Impact of control measures

1. Costs of disease
2. Costs and benefits analysis for control measures

Economic model

- Direct and indirect impacts of the disease ($)
- Estimation of costs and benefits associated with control measures ($)

Field studies and review of literature

The *good* news is …

The RVF decision support tool will allow for targeted surveillance and timely response to RVF epizootics; therefore, improved efficiency in the management of the disease.

And the *not so good* news is …

Cattle, sheep, goats and camels with RVF virus are important sources of infection for humans; this research will identify effective ways of preventing the transmission of the disease.

ILRI/FAO. 2008. *Decision-support tool for prevention and control of Rift Valley fever epizootics in the Greater Horn of Africa. Version 1*. ILRI Guide pp. 28.
Martin, V., Chevalier, V., Ceccato, P., Anyamba, A., De Simone, L., Lubroth, J., de La Rocque, S., Domenech, J . 2008. The impact of climate change on the epidemiology and control of Rift Valley fever. *Rev. sci. tech. Off. Int. Epiz.* 27(2): 413-426.

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