

Rabies Elimination in KwaZulu-Natal, South Africa

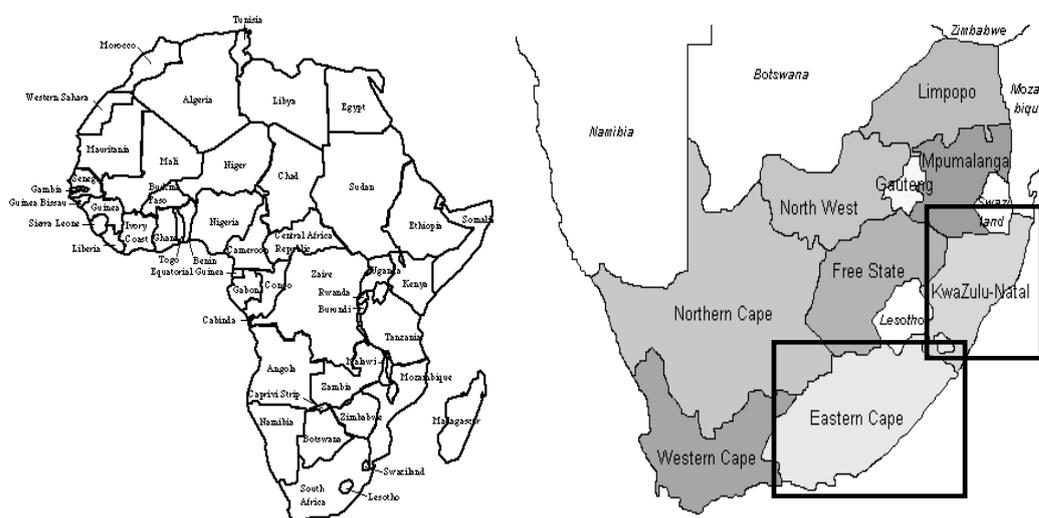
This project reduced human rabies cases in KwaZulu-Natal to zero, through strategic dog vaccination to prevent disease transmission between dogs, and from dogs to humans. Starting in a village and expanding to an entire province and beyond, the project demonstrates that rabies elimination is both feasible and successful in Southern Africa.

Background

Introduced in 1976, rabies was responsible for >9 deaths per year in KwaZulu-Natal (KZN), a small yet populous South African province. The KZN rabies project aimed to:

- Eliminate human rabies in an important, rabies endemic region
- Design a control programme that could be used in neighbouring regions and countries
- Include Southern Africa in comprehensive efforts to eliminate dog-mediated human rabies

Figure 1: Africa, South Africa, and KwaZulu-Natal



Unique Approach

(1) Canine vaccination: stopping dog-dog transmission to stop dog-human transmission.

Conducting mass canine vaccination campaigns in strategic areas significantly reduced the incidence of canine rabies, and therefore its transmission to humans. This required planning, and an understanding of disease epidemiology. Creation of a canine vaccine bank, and proper training, equipment and support for technical staff enabled campaign success.

(2) Human post-exposure prophylaxis: improving awareness and targeted delivery.

This focused on improving rabies awareness, i.e. when and how to seek treatment, and training of medical staff to recognise, prioritise, and appropriately treat suspected exposures. In the future, bite prevention education and a switch to intradermal post-exposure prophylaxis will be necessary to reduce both demand for and cost of human rabies treatments.

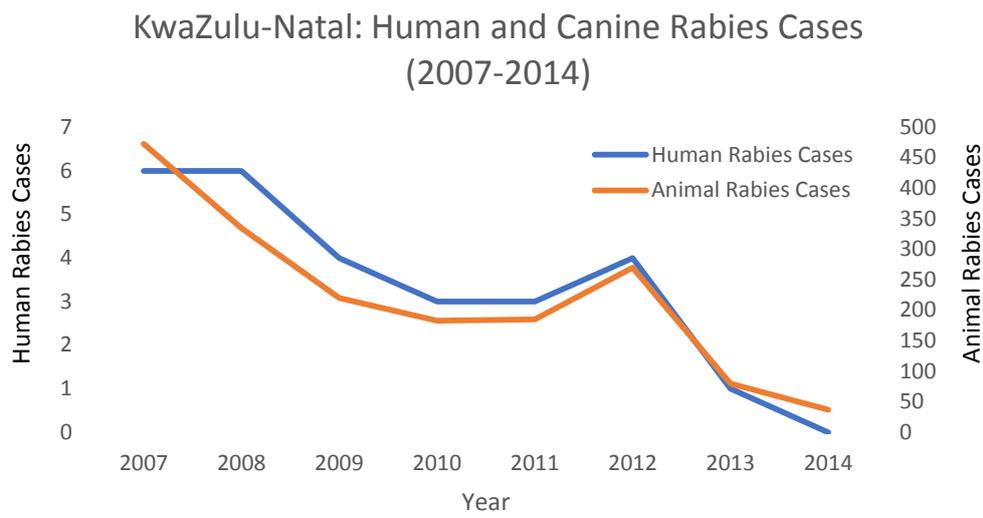
(3) Data collection: starting small allowed data to grow with the project.

Human census data, human and canine disease epidemiology was used to target canine vaccination campaigns to key areas of disease transmission. A database of confirmed rabies cases aided in surveillance of disease impact, with animal and human disease incidence used to indicate success of vaccination campaigns.

Achievements

Within 7 years of project implementation, canine rabies cases were reduced by 84%, and human rabies cases were reduced to zero.

Figure 2: Human and animal rabies cases in KwaZulu-Natal, South Africa (2007-2014)



The project expanded rapidly, from a village to the entire province of KwaZulu-Natal. It generated expertise and momentum for rabies control in neighbouring provinces and countries, such as Eastern Cape, Swaziland, and Lesotho.

Key outcomes of the project were:

- Creation of canine vaccine banks. These ensured stable vaccine supply, competitive pricing, and established a base from which the project could expand and assist others.
- Generation of locally developed awareness materials, training courses and standard operating procedures that can be adapted and used in other areas.
- Stimulus packages. These supported rabies control in neighbouring provinces and countries through providing technical and material support for control activities.

What Next?

The project's success encouraged local government investment and support for sustaining control activities. Rabies free zones have now been identified within KZN, allowing for allocation of resources to higher risk areas. Efforts are now focused on maintaining rabies free status in these areas, and expansion to create buffer zones and prevent disease re-introduction.