



# Zoonotic Disease Outbreaks South Africa 2010

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NHLS

‘AHEAD’ Mopani Kruger Park

15 November 1980

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## Rift Valley Fever in Humans in South Africa

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### SUMMARY

During an epizootic of Rift Valley fever in South Africa in 1974-1975, mainly affecting sheep and cattle, a large number of human cases occurred. The majority of the patients, mostly farmers, farm labourers and veterinary surgeons, acquired the infection while handling the carcasses of animals which had died of Rift Valley fever. Some gave no history of contact with infected animals and it is presumed that they were infected by mosquitoes.

Complications were common. Retinitis clinically associated with defective vision occurred in about 20% of patients investigated. In others, meningo-encephalitis developed; 1 patient died and the brain showed perivascular cuffing and round-cell infiltration.

In 110 cases the diagnosis was confirmed in the laboratory, in 17 by isolation of the virus and in 93 by the finding of an antibody response in serological tests. In 3 fatal cases the virus was isolated from the liver.

of Rift Valley fever swept through the country and was particularly severe in the sheep and cattle farming districts of the Orange Free State and the Cape Province, causing the loss of many thousands of animals.<sup>1</sup> Associated with this epizootic there were many cases in human beings, and for the first time in South Africa human deaths due to Rift Valley fever were recognized.<sup>2,3</sup>

In 1977, during an epizootic in domestic animals, Egypt experienced the largest and most serious recorded human epidemic of Rift Valley fever. It was estimated that 10 000-20 000 human cases occurred; a disturbing feature was the large number of deaths, estimated at 70-80.<sup>4</sup> The clinical spectrum of human disease ranged from a mild, uncomplicated febrile illness presenting as malaise, headache, myalgia, anorexia, nausea and vomiting to serious complications. These included retinal lesions with disturbed vision, hepatitis associated with a generalized haemorrhagic state, often fatal, and meningo-encephalitis, sometimes also fatal. In 1978, during a major epizootic in cattle and sheep in Rhodesia, Rift Valley

1974-1976

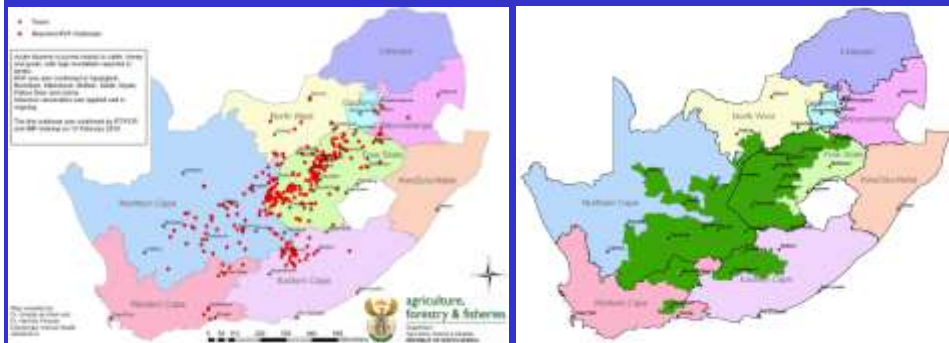
RVF outbreak

7 human deaths

## RVF Outbreak 2008: 18 human cases



## Rift Valley Fever Outbreak: South Africa 2010



**Animal outbreaks<sup>o</sup>**

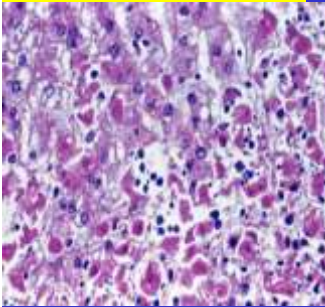
**Human cases : 237**




Source: Dept of Agriculture Forestry and Fisheries

**Majority of illness was mild, but significant morbidity and mortality in patients with complications - 26 deaths**


**Hepatic necrosis**



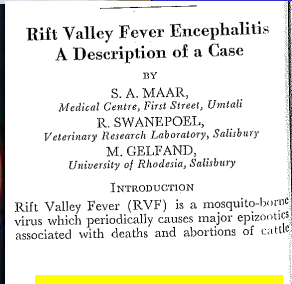
**Haemorrhagic disease**



**Macular retinitis**



**Encephalitis**



ProMED-mail Mon 3 May 2010  
**Rift Valley fever in a German tourist returning from South Africa, preliminary report**

Telegraph UK 5 May 2010 .  
**Rift Valley fever warning for World Cup fans**

Fans heading to the World Cup this summer  
 have been told to guard  
 against mosquito bites and avoid  
 contact with raw meat

due to an outbreak of Rift Valley fever, which has killed 15.



**RIFT VALLEY FEVER - SOUTH AFRICA  
 TOURIST, NOT**

Tick bite fever was confirmed  
 .....Promed 11th May 2010



## Occupation and exposure

Occupation available for 93% (214/229)

**81% (174/214) work within occupations where direct contact with animals frequently occurs**

• Occupation	No. (%)
• Farmer or farm worker	130 (61)
• Animal health worker†	16 (7)
• Abattoir worker, meat inspector or hunter	28 (13)
• Farm resident (non farm-worker)	3 (1)
• Non-animal related occupation	37 (17)
• <b>Total with known occupation</b>	<b>214 (100)</b>
• †Includes veterinarians, veterinary assistants/nurses, animal health technicians.	

Source: NICD Interim Report August 2010

- **Transmission** (information available for 87% of cases):
  - **94% reported direct contact with RVF-infected animals**
  - 3.5% reported no direct animal contact, but reported exposure to mosquitoes
  - 2.5% reported no animal contact, but drank unpasteurized milk

Source: NICD Interim Report August 2010



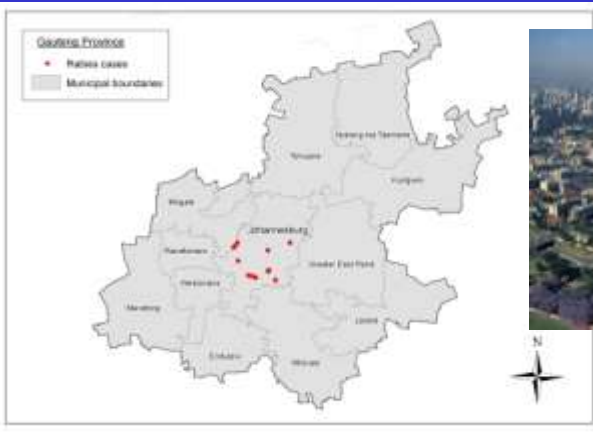
Source: FELTP 2010

## Dept of Agriculture/Veterinary Health and Human Health: Directive

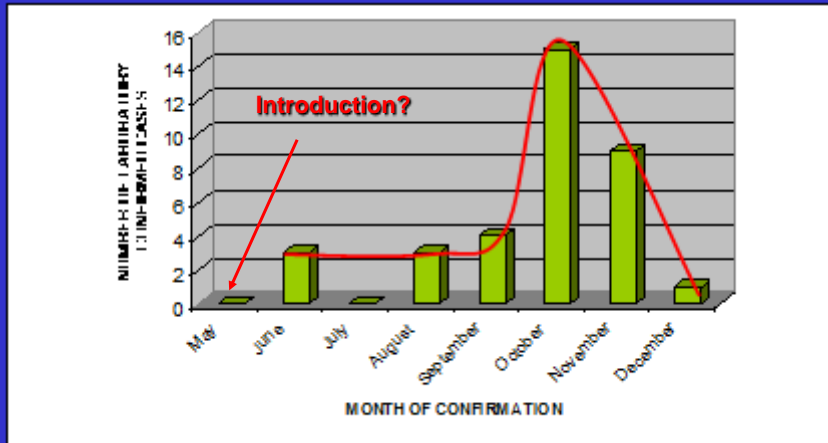
- .....All infected farms are under quarantine and the situation is under control.....
- **‘We urge the public not to handle any sick animals or cut up any dead animals or aborted foetuses and to contact their nearest veterinarian should abortions in a herd be observed. Anyone handling the carcasses should be wearing protective clothes and goggles’**
- **Avoid unpasteurized milk**
- **Use insect repellents**

**RVF 2011?**

# Rabies Outbreak Johannesburg Metropolitan 2010



## Rabies Outbreak, Johannesburg Metro, 2010



Source of data: Rabies Unit, ARC-OVI

Total: 36 cases

Last case: 6 December 2010

**Summary of outbreak vaccinations in south western Johannesburg**

Witpoortjie

**Total Jun outbreak vaccinations 4 001**

Sophiatown

Eldoradopark, Bushkoppies and Joe Slovo

Kibler park

Meredale ringblock: 27 and 29 Sept 10

Dobsonville (including Dlamini ringblock 93)

**Total Sept outbreak vaccination 9 470**

**Total annual outbreak vaccinations 13 471**



Source : Gauteng  
Dept of Vet Services

**RABIES - SOUTH AFRICA (03): (GAUTENG), CANINE, HUMAN**

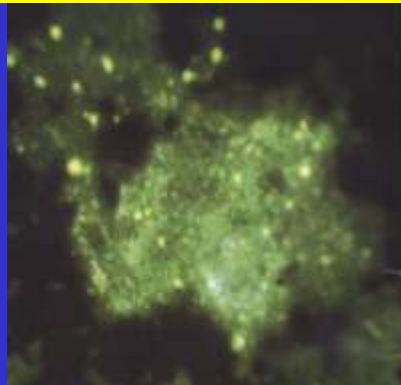
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A ProMED-mail post

Date: Mon 4 Oct 2010

From: Lucille Blumberg <lucilleb@nicd.ac.za>

Rabies was confirmed as the cause of death in the 2-year-old child who died in a Johannesburg hospital recently, one month after being scratched by an unvaccinated, domestic puppy in Soweto.



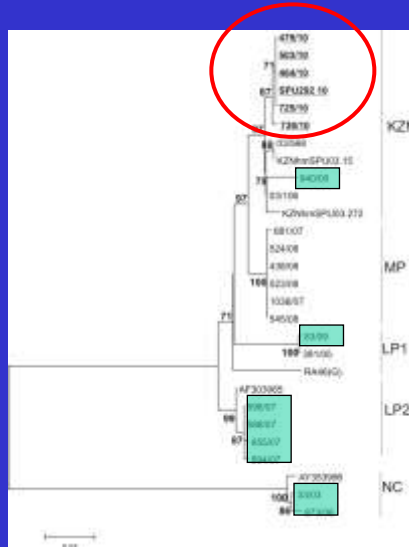


Neighbour joining tree showing genetic relationships amongst rabies viruses associated with dogs and a human case in Gauteng Province

Based on G-L intergenic region



OVI Sabeta et al



## Outbreak Response

- Health worker education
- Provision of vaccine and rabies immunoglobulin
- Community alerts



# ONE HEALTH APPROACH KEY

Multi-sectoral teams: health and agriculture/veterinary health



Field Epidemiology Teams



Outbreak Unit NICD



Laboratory  
NICD