

Communicable Diseases Communiqué

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Rift Valley fever outbreak

Cases of Rift Valley fever (RVF) in livestock have been reported from the following provinces to date: Free State (FSP), Northern Cape (NCP), Eastern Cape (ECP), Gauteng, Mpumalanga (eastern area bordering on Gauteng) and North West. The NICD has confirmed a total of 60 human cases (51 in FSP, 5 in NCP, 4 in ECP) since 15 February 2010, two of which were fatal. RVF transmission by direct contact with infected animal tissue or fluids has been established for most cases; there is no evidence of mosquito-transmitted human infection to date.

Clinical Features: Most RVF infections in humans are asymptomatic. Severe disease occurs in <1% cases, including: ocular (retinal) disease (0.5-2% of patients), meningo-encephalitis (<1%) or haemorrhagic fever (<1%). Mild illness typically presents after an incubation period of 2-6 days as a fever with sudden onset of flu-like illness and/or muscle pain. Some patients develop neck stiffness, sensitivity to light (photophobia), pain behind the eyes, loss of appetite and vomiting.

Management: There is no specific treatment available for RVF. Management is aimed at general supportive therapy. Standard infection control precautions should be followed and patients do not require isolation or barrier nursing. Human-to-human transmission has not been demonstrated.

RVF must be included in the differential diagnosis of any patient meeting the following case definition:

Recent close contact with livestock in or from suspected RVF areas, presenting with:

- Flu-like illness (which may include fever, myalgia, arthralgia or headache), **OR**
- Fever and features of: encephalitis, haemorrhage, hepatitis and/or ocular pathology (retinitis)

Other possible causes for these symptoms must be excluded such as Crimean Congo haemorrhagic fever (CCHF), other arboviruses, tick-bite fever, malaria (where applicable) and bacterial infections (e.g. meningitis). There are areas currently reporting RVF where CCHF may also be present. Severely-ill patients presenting with a fever and bleeding diathesis should be managed as suspect CCHF infection until excluded; this includes appropriate infection control practice and administration of ribavirin.

All suspected cases, **meeting the case definition of RVF**, should have both a clotted blood (red/yellow top tube) and EDTA blood (purple top tube) specimens taken for viral detection and antibody testing. The NICD does **not** need to be contacted for each case prior to specimens being sent. **The NICD RVF specimen submission form must be completed and submitted with the specimens.** The specimens should be packaged in accordance with the guidelines for the transport of dangerous biological goods (triple packaging using absorbent material). Samples should be kept cold during transport and transported directly to:

The Special Pathogens Unit, National Institute for Communicable Diseases (NICD)
No. 1 Modderfontein Rd
Sandringham, 2131

- For clinical advice, contact the NICD doctor on call (**Hotline 082-883-9920, strictly for use by health professionals only**).
- Health Workers Guidelines on RVF and the RVF specimen submission form can be accessed on the NICD website (www.nicd.ac.za).

Source: SA-FELTP, Special Pathogens and Outbreak Response Units, NICD; Free State, Northern Cape and Eastern Cape Departments of Health; Department of Agriculture, Forestry and Fisheries

Measles outbreak

From January 2009 to 19 March 2010, a total of 9,583 laboratory-confirmed measles cases has been reported in South Africa. Cases have been reported from all nine provinces, with Gauteng (48%, 4 608/9 583), KwaZulu-Natal (13%, 1 251/9 583) and Western Cape (10%, 968/ 9 583) Provinces accounting for the highest proportions of the total (Figure). An increase in the number of new cases reported each week has been observed in some provinces, notably KwaZulu-Natal, Western Cape, Eastern Cape and Mpumalanga, while Gauteng experienced a decline in the number of new cases. Children under 1 year account for 34% (3 090/9 215)

of cases, with 8% (731/9 215) of cases occurring in infants less than 6 months of age.

Deaths due to measles are not routinely reported to the NICD, and have been inconsistently reported to the Department of Health; there are therefore no reliable figures on mortality. Healthcare practitioners are urged to report measles-associated deaths to the Department of Health.

Source: Divisions of Epidemiology and Virology, NICD

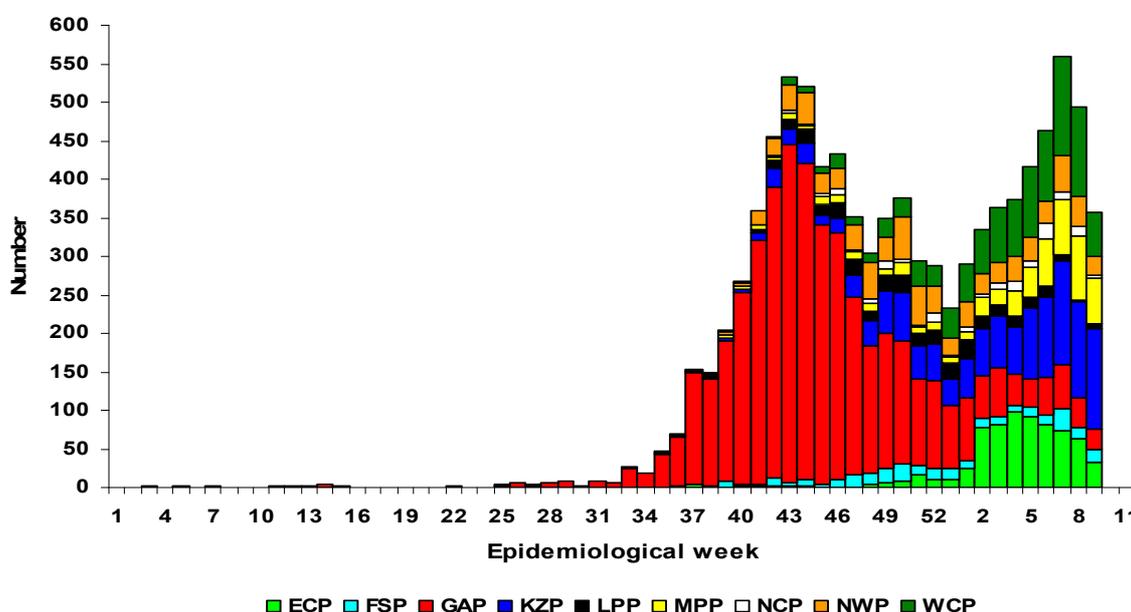


Figure: Measles IgM positive results per province: South Africa, January 2009 – 19 March 2010

Foodborne disease outbreak

On 19 March, the Northern Cape Department of Health Communicable Diseases Control was alerted to a foodborne disease outbreak in an impoverished community at Glenred, Kuruman. At least 72 of 115 people who had eaten cooked donkey meat on 15 and 16 March became ill with abdominal cramps, diarrhoea and vomiting; some cases also reported fever. A 4-year-old child was admitted to Vryburg hospital with severe dehydration following diarrhoea and vomiting, and later died. The Department of Health and Department of Agriculture, Forestry and Fisheries conducted an immediate investigation.

Donkey meat samples were submitted for testing, which unfortunately could not be performed as the specimens were unsuitable. No human specimens were available. The Departments engaged community leaders, who aided active health education within the community. No further cases have since been reported.

Source: SA-FELTP and Outbreak Response Units, NICD; Northern Cape Department of Health; Northern Cape Department of Agriculture, Forestry and Fisheries

Influenza

There have been no new laboratory-confirmed cases of pandemic influenza A(H1N1) 2009 virus infections reported to the NICD since the previous report. Likewise, there have been no cases of seasonal influenza detected in 2010 thus far. Nevertheless, we anticipate the South African influenza season will be starting soon, and encourage healthcare workers to remain vigilant. The onset of the influenza season in South Africa is typically within the second week of June (epidemiologic week 23); however, transmission has been detected as early as the second week of April (week 15) in the past.

A trivalent influenza vaccine is now available within the private sector. This vaccine offers protection against the three strains expected to predominate during the 2010 influenza season, namely:

- Pandemic influenza ("swine flu"), an A/California/7/2009 (H1H1)-like virus;

- Influenza A(H3N2), an A/Perth/16/2009 (H3N2)-like virus; and
- Influenza B, a B/Brisbane/60/2008-like virus

High-risk individuals are encouraged to access these vaccines well before the start of the influenza season. Recommendations pertaining to the use of viral vaccines: Influenza 2010, as published in the South African Medical Journal (SAMJ, Feb 10;100:2) can be accessed at: <http://www.samj.org.za/index.php/samj/article/viewFile/3882/2674>

The Department of Health is expected to begin mass vaccination of targeted risk groups in the public sector during April 2010.

Source: Epidemiology and Virology Divisions, NICD

Rabies update

A case of human rabies has been confirmed from Mpumalanga Province. The patient was a five-year old boy bitten by a dog three months prior to onset of illness, and apparently did not receive any rabies post-exposure prophylaxis (PEP). He presented to a local hospital with pyrexia, encephalitis, vomiting, aggressive behaviour and hydrophobia. Rabies was confirmed by RT-PCR on saliva specimens.

Rabies is invariably fatal, but can be effectively prevented when PEP is administered appropriately. PEP should include thorough wound washing and

vaccination (5 doses of rabies vaccine given on days 0, 3, 7, 14 and 28). In more severe exposures (with wounds that draw blood, exposure of the mucosa or broken skin) rabies immunoglobulin is also required. There have been 5 laboratory-confirmed human rabies cases in South Africa for 2010 to date. These cases originate from Mpumalanga (n=1); KwaZulu-Natal (n=1), Eastern Cape (n=1) and Limpopo (n=2) Provinces.

Source: Special Pathogens and Outbreak Response Units, NICD

Viral haemorrhagic fevers

Two cases of Crimean-Congo haemorrhagic fever (CCHF) were confirmed in the last week. The first case was a 58-year-old man from Free State Province. The patient, who lives on a farm near Brandfort, developed fever, myalgia, rigors, lower back pain, headache and an erythematous macular rash. He did not report any tick bites. Two days later, he developed melaena. Severe thrombocytopenia with platelet counts decreasing to $6 \times 10^6/L$, and moderately raised transaminase levels were noted.

The second case, a 60-year-old man from Northern Cape Province, reported a tick bite two days before onset of illness. He had been slaughtering sheep, which may also be a possible source of exposure. He developed severe thrombocytopenia (manifested by epistaxis) and raised transaminase levels. Renal failure ensued, and the patient later died.

These are the first confirmed cases of CCHF for South Africa for 2010. CCHF has been recognized

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in South Africa since 1981 and has been reported from all provinces except Limpopo. Since its original description in South Africa, up to 20 cases are laboratory-confirmed annually with an average of 6.1 cases per year. Prompt isolation with barrier

nursing, timely administration of ribavirin, and intensive supportive management are required for patients with CCHF.

Source: Special Pathogens and Outbreak Response Units, NICD

Falciparum malaria in Somali migrants

Infectious Diseases units at Tygerberg (TBH) and Groote Schuur (GSH) Hospitals, Western Cape Province, have noted a marked increase in falciparum malaria in young male Somali migrants over the last three months. Falciparum malaria has been identified in 12 patients admitted to GSH (4 severe, 8 uncomplicated) and 31 from TBH (6 severe, 25 uncomplicated). 15 patients had mixed infection with *P. vivax*, *P. malariae* or *P. ovale*. Most patients reported overland travel from Somalia, with routes through Kenya, Tanzania, Malawi and Mozambique before entering South Africa; this favours travel-associated malaria in these cases.

This highlights the need for vigilance in considering malaria in the differential diagnosis of illness in travellers presenting to healthcare facilities in a non-malaria-endemic province. An intravenous artesunate access programme supporting use of this

section 21 drug to treat severe falciparum malaria in South Africa is currently active at a number of sites countrywide, including TBH and GSH. Where possible, patients meeting WHO criteria for severe falciparum malaria should be referred to an institution participating in the access programme. The addition of primaquine (which is also a section 21 drug, obtainable from Sanofi-Aventis) is required for full treatment of cases of *P. vivax* and *P. ovale* malaria.

For information on the artesunate access programme, contact University of Cape Town Medicines Information Centre, tel. 086 110 0531 or (021) 406 6785.

Source: Infectious Diseases Units: Tygerberg and Groote Schuur Hospitals, Western Cape Province; Outbreak Response Unit, NICD

Sindbis and West Nile viruses

Amongst cases tested for RVF infection during the current outbreak, serological evidence (positive IgM) of West Nile virus (WNV) and Sindbis (SIN) virus infections has been detected. Fifteen cases of SIN virus and 21 cases of WNV infection have been identified thus far. This is not surprising, given that these viruses are known to co-circulate, share the same mosquito vector (*Culex* spp.), and are widespread in South Africa, being most active on the inland plateau. Both WNV and SIN virus are transmitted between wild birds by *Culex* mosquitoes, with incidental infection in mammals and humans. A large seroprevalence survey demonstrated positive WNV antibodies in 17% of Karoo, 8% of Highveld and 2% of KwaZulu-Natal residents sampled. Sporadic human cases of WNV and SIN occur annually each summer on the inland plateau. Increased numbers of human cases have been

observed in some years when unusually good rains have favoured increased transmission of virus by the mosquitoes. SIN virus infection is indistinguishable clinically from WNV; both present as an invariably mild febrile illness with myalgia, arthralgia and a maculopapular rash. It is likely that the vast majority of annual cases of both WNV and SIN infections are undiagnosed, owing to the mildness of disease and low index of suspicion for these infections. The WNV endemic to southern Africa is distinct from the lineage/genotypes responsible for the 1999 epizootic and human WNV outbreak in the United States. Severe South African WNV disease is exceedingly rare, with only one fatality ever reported.

Source: Special Pathogens and Outbreak Response Units, NICD; Department of Agriculture, Forestry and Fisheries

Beyond Our Borders: infectious disease risks for travellers

The "Beyond Our Borders" column focuses on selected and current international diseases that may affect South Africans travelling abroad.

Disease & Countries	Comments	Advice to travellers
<p>Cholera: <u>Africa:</u> Angola, Benin, Kenya, Mozambique, Nigeria, Tanzania, Zambia, Zimbabwe</p> <p><u>Asia:</u> Cambodia, Papua New Guinea, Thailand, Viet Nam</p>	<p>There are ongoing outbreaks of cholera in certain African and Asian countries. Reports from Kenya (663 cases, 15 deaths), Mozambique (over 2,600 cases, 42 deaths) and Zambia (564 cases, 11 deaths) demonstrate the impact that cholera continues to have within the Sub-Saharan region, in addition to highlighting the importance of preventing infection among travellers.</p>	<p>†Cholera is transmitted by the faecal-oral route, and primarily through contaminated water. Travellers are urged to take precautions when consuming food and water: utilise water purification tablets where needed, and practice good hand hygiene. Vaccine is not routinely recommended for travellers.</p>
<p>Typhoid Fever Fiji</p>	<p>As of 9 March 2010, a total of 112 cases of typhoid fever has been confirmed during the current outbreak in Fiji. The source of the outbreak is unknown at this stage. There is concern that typhoid cases may increase in the wake of devastation following Cyclone Tomas.</p> <p>Typhoid is an important consideration for travellers returning with a febrile illness.</p>	<p>†Human infection occurs via faecal-oral transmission. Travellers should take precautions when consuming food and drink to prevent infection. Vaccination may be considered; however, effectiveness is limited and precautionary measures must still be reinforced.</p>
<p>Chikungunya Madagascar, Myanmar, Indonesia</p>	<p>A large outbreak of Chikungunya has been reported in Mananjary (Madagascar), where over 2,000 suspected cases were reported as at 18 March 2010. An increase in Chikungunya virus infections has also been noted in Indonesia, with numerous reports of infected travellers.</p>	<p>‡Chikungunya fever is caused by a virus, which is transmitted through infected mosquitoes. Symptoms can include sudden fever, chills, headache, nausea, vomiting, joint pain with or without swelling, lower back pain, and rash. Chikungunya mainly occurs in areas of West Africa and Asia. No medications or vaccines are available for prevention; however, travellers are reminded to protect against mosquito bites.</p>

†Prevention of food and waterborne diseases. Drink water that is bottled or bring it to a rolling boil for 1 minute. Bottled carbonated water is safer than uncarbonated water. Avoid ice and food products (e.g. ice cream) that is made with contaminated water. Eat foods that have been thoroughly cooked and that are hot and steaming. Avoid raw vegetables and fruits that cannot be peeled. Peel the fruit and vegetables yourself after washing your hands with soap. Do not eat the peelings. Avoid foods and beverages from street vendors.

‡Prevention of vector-borne transmission by mosquitoes: Avoid bites, use insect repellents (containing 30-50% DEET), wear

light-coloured clothing, and use insecticide-treated bed nets.

References: ProMED-Mail (www.promedmail.org), World Health Organization (www.who.int), Centers for Disease Control and Prevention (www.cdc.gov), Europe Media Monitor (<http://medusa.jrc.it/medisys/helsinkiedition/en/home.html>); last accessed 2010/03/24.

Source: Travel Health and Outbreak Response Units, NICD

This communiqué is published by the National Institute for Communicable Diseases (NICD) on a monthly basis for the purpose of providing up-to-date information on communicable diseases in South Africa. Much of the information is therefore preliminary and should not be cited or utilised for publication.

