

Communicable Diseases Communiqué

Volume 9, No. 4

April 2010



Rift valley fever update

The Rift Valley fever (RVF) epizootic has affected seven provinces in South Africa, with Limpopo and KwaZulu-Natal the only provinces reporting no confirmed cases in animals to date. Domestic animals have borne the brunt of disease (sheep, cattle and goats) with few identified cases in wild animals (predominantly antelope and buffalo). The NICD has confirmed a total of 166 human cases since 15 February 2010, fifteen of which were fatal.

RVF transmission by direct contact with infected animal tissue/bodily fluids has been established for most cases to date. A detailed preliminary report will be available as a special communiqué and at www.nicd.ac.za.

Source: SA-FELTP, Special Pathogens and Outbreak Response Units, NICD; Departments of Health, Agriculture, Forestry and Fisheries

Influenza

The Viral Watch surveillance programme recently detected a single influenza B case. This is the first case of influenza identified through the programme for 2010 to date, apart from a few travel-associated pandemic H1N1 2009 strain infections reported in January. Sporadic influenza B cases are detected in South Africa outside of the influenza season. The season typically begins during epidemiological week 23 (7-13 June 2010). Transmission has, however, been detected as early as the second week of April (week 15) in the past. Nonetheless, the number of specimens from persons with respiratory illness received through the surveillance programmes has begun to increase. Clinicians are, therefore, encouraged to regularly check the NICD website (www.nicd.ac.za) for updates on influenza activity.

As of 29 April 2010, the WHO reported West and Central Africa, South East Asia and Central America to be the most active areas of pandemic influenza transmission, whereas activity remains low in much of the temperate zones of both northern and southern hemispheres. Influenza B virus has been increasingly detected across East Asia, Central Africa and Northern and Eastern Europe. Pandemic

H1N1 has notably dominated the past influenza season in the northern hemisphere; however, low levels of seasonal H3N2 and H1N1 circulated concurrently.

In South Africa, approximately 400,000 doses of trivalent influenza vaccine were made available to private sector health facilities and pharmacies this year, which is less than what was available in previous years. This is due in part to reduced yields of the influenza B and A H1N1 (2009) strains during production, as well as a number of manufacturers having switched production to monovalent H1N1 vaccine in response to the pandemic. No further supply of the trivalent vaccine can be expected for this season. A Department of Health national immunisation campaign is underway, targeting selected risk groups for receipt of either the trivalent vaccine or monovalent (pandemic H1N1 2009 strain) vaccine.

Source: Epidemiology and Surveillance, Respiratory Virus, Virus Diagnostic and Outbreak Response Units, NICD

2010 Respiratory syncytial virus season

Respiratory syncytial virus (RSV) is a common cause of morbidity and the most common viral cause of acute respiratory tract infection in children under the age of 5 years. Previous investigations in Gauteng Province, have shown that the RSV season occurs from March to August. The RSV season is currently under way. Data from the Severe Acute Respiratory Illness (SARI) surveillance programme at 3 sentinel sites (Edendale Hospital, Chris Hani Baragwanath Hospital and Agincourt: Matikwana and Mapulaneng Hospitals) indicates that RSV was isolated in 28% (330/1181) of all patients admitted with SARI from 04/01/2010 to 23/04/2010. The detection of RSV infection in SARI patients started increasing from week 6 (08/02/2010) and peaked thus far in week 15 (12/04/2010) when 59% (17/27) of all patients tested positive for RSV.

RSV has been identified in 44% (283/640) of children (≤ 5 years of age) enrolled at the SARI surveillance sites to date this year (weeks 1-15, 2010). Children under the age of 1 year were the most affected (58% of all cases; 187/323). In week 15 (12/04/2010), 90% (9/10) of children under the age of 1 year and 50% (3/6) aged between 1 to 5 years tested positive for RSV respectively. The increase in RSV circulation has been detected in all SARI sentinel sites.

Clinical Presentation of RSV

The presentation may vary from mild common cold symptoms to a life-threatening lower respiratory tract infection. Typically, an infant presents initially with a

febrile upper respiratory tract infection, with lower respiratory tract involvement manifesting over the next several days. The patient develops a worsening cough, and as the disease progresses, tachypnoea and dyspnoea. In bronchiolitis the respiratory rate may be elevated, with wheezing and hyperinflation. Cyanosis may be present in severe cases and most hospitalised patients are hypoxaemic. RSV in neonates may present atypically with lethargy and poor feeding. In young infants, apnoea usually precedes other symptoms. Infants six weeks and younger are at the greatest risk for developing apnoea. The course of the illness is variable, lasting from one to several weeks.

The radiological picture in infants with lower respiratory tract infection due to RSV may vary from a virtually normal chest x-ray to one which mimics bacterial pneumonia. The most characteristic radiological changes are hyperinflation and atelectasis. However, the severity of the infant's illness is often not mirrored by the radiological changes.

The following groups of patients are prone to developing complicated, severe or fatal RSV infection:

- Infants with congenital heart disease
- Infants with underlying pulmonary disease
- Immunocompromised patients

Source: Divisions of Epidemiology and Virology, NICD

Measles outbreak

There have been 2 694 additional laboratory confirmed measles cases since the last published Communiqué, bringing the total to 12 277 cases from the beginning of 2009 to 28 April 2010. Cases have been reported from all nine provinces, with Gauteng (n=4 711, 38%), KwaZulu-Natal (n=2 274, 18%), and Western Cape (n=1 300, 11%) Provinces accounting for the highest proportions of the total. An increase in the number of new cases reported each week has been observed in some provinces, notably KwaZulu-Natal, Western Cape and Mpumalanga, while Gauteng reported a decline in

the number of cases (Figure). Children under five years accounted for 51% (5 987/11 775) of cases, with 25% occurring in those aged 6 to 11 months. A mass campaign for polio and measles immunization planned by the National Department of Health started on 12 April 2010. The second round is scheduled for 24-28 May 2010 (polio second dose and vitamin A).

Source: Divisions of Epidemiology and Virology, NICD

(Continued on page 3)

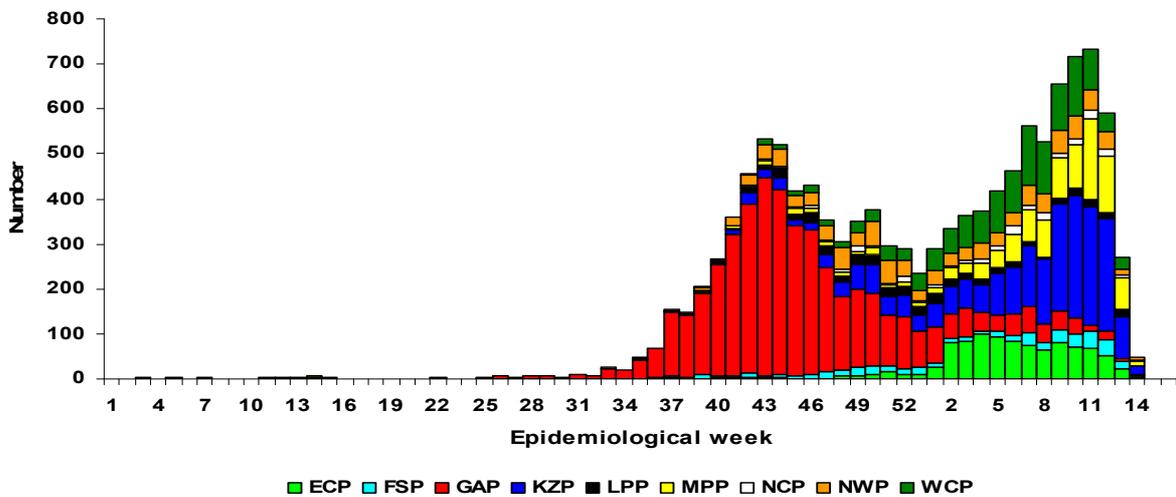


Figure: Measles IgM positive results per province; South Africa January 2009 to 28 April 2010

Rabies update

An additional case of human rabies has been confirmed from Limpopo Province. The patient was an eleven-year-old boy who travelled to Limpopo Province during December 2009 and no dog bite history was evident. The patient presented with acute confusion and encephalopathy at a Johannesburg hospital in March 2010. Saliva and nuchal biopsies were submitted ante-mortem for rabies testing, and both specimens were positive for rabies by RT-PCR.

Rabies should be considered as a differential diagnosis for all encephalitis cases in South Africa. A dog-or animal-exposure history may not be reported in all cases. Accurate exposure histories are especially difficult to obtain in children. It is noteworthy that rabies virus may also be transmitted through superficial nicks and scratches. Rabies

confirmation can only be achieved through specific laboratory tests. These include RT-PCR on saliva, nuchal biopsy and cerebrospinal fluid specimens. Rabies serology is of limited value in acute cases. Post-mortem confirmation of cases may be achieved through fluorescent antibody test on brain specimens and RT-PCR of nuchal biopsies.

A total of 6 human rabies cases have been laboratory confirmed for South Africa for 2010 to date. These cases originate from Mpumalanga (n=1); KwaZulu-Natal (n=1), Eastern Cape (n=1) and Limpopo (n=3) Provinces.

Source: Special Pathogens and Outbreak Response Units, NICD

Viral haemorrhagic fevers

Two new cases of Crimean-Congo haemorrhagic fever (CCHF) were confirmed in the past month. The first case, a 58-year-old man from Namibia, had a history of tick bites. The patient presented with headache, back pain, nausea and vomiting. On admission the platelet count was low, at $12 \times 10^9/l$.

The second case was a 23-year-old man from Kimberley, Northern Cape. Neither tick bites or contact with animal tissue or blood products could be confirmed on history; however, tick bites may often go unnoticed. He presented with headache,

(Continued on page 4)

(Continued from page 3)

epistaxis and haematemesis. Routine blood screens revealed thrombocytopenia with a platelet count of $21 \times 10^9/\ell$ on admission. Liver transaminases were also raised with AST of 322 U/ ℓ , and ALT of 191 U/ ℓ on admission. Both patients are reportedly doing well and recovering.

A total of 3 CCHF cases has been confirmed for South Africa for 2010 to date. The cases originated from Free State (n=1) and the Northern Cape (n=2) Provinces.

Source: Special Pathogens and Outbreak Response Units, NICD

Communicable Diseases and 2010 FIFA World Cup, South Africa

The FIFA World Cup is to be held in South Africa from 11 June to 11 July 2010. In excess of 350,000 visitors and participants are expected for the event, which will take place in 8 cities around the country. This event poses specific challenges given its size, the diversity of attendees and the potential for transmission of imported and/or endemic communicable diseases. Endemic diseases include those circulating as a result of current outbreaks, as well as those occurring only in specific regions of the country. A number of opportunities arise to reduce the risk of acquiring communicable diseases during a mass gathering such as the World Cup, including the pre-travel consultation, enhanced epidemic intelligence to timeously detect incidents, the provision of standard operating procedures for epidemic response, and training and pre-accreditation of food suppliers to reduce food-borne disease outbreaks. Since 1984, all but one of South Africa's winter influenza epidemics has occurred during the period that the 2010 World Cup will be staged. Although transmission in open stadia should be low, influenza outbreaks have been reported at outdoor mass gatherings and we can expect that transmission in the general population will be high. Furthermore, it is likely that the influenza A (H1N1) 2009 pandemic strain will cause the majority of infections, which are usually mild, although severe cases may occur, predominantly in patients with underlying comorbidity. Some visitors will already be immunized against pandemic influenza, depending on their country of origin and health profile.

The 2010 southern hemisphere influenza vaccine includes pandemic influenza A (H1N1) as part of the triple formulation, but supplies of the vaccine were limited for various reasons. FIFA has issued strong recommendations for team participants to be immunized

timeously against preventable diseases including influenza. Other preventive measures should focus on strong educational messaging surrounding cough etiquette and hand hygiene, availability of tissues and facilities to cleanse hands in common areas, and voluntary isolation of mild cases at home until 24 hours after resolution of symptoms.

The increased risk of acquiring a sexually transmitted infection (STI) during mass gatherings should be noted. This is of particular relevance for South Africa, where the antenatal HIV prevalence rate in 15-49 year-old women stands at 29% (Dept of Health, 2009). South Africa needs a strong campaign to focus on safe sex messaging during the World Cup, and health care practitioners faced with a febrile returning traveler from South Africa need to bear in mind HIV seroconversion illness and STIs as a potential cause.

South Africa is not a yellow fever-affected country and there is NO risk of contracting yellow fever. HOWEVER: persons coming from or travelling through yellow fever affected countries as per the WHO/IHR MUST show proof of yellow fever vaccination on arrival.

The malaria risks for visitors to South Africa should be low considering the low transmission season from May to September, the successes of the National Malaria Control Programme, and that all the stadia are outside recognised malaria transmission areas. Visitors who take the opportunity to visit game parks, such as the Kruger National Park, should take precautions against mosquito bites and there should always be a high index of suspicion of malaria for those who develop febrile illness. Che-

(Continued on page 5)

(Continued from page 4)

moprophylaxis is recommended in addition for visitors who take the opportunity to visit neighbouring countries like Mozambique.

Preventive measures should be taken against tick bites for those who visit the bush and tick bite fever should be part of the differential diagnosis of persons with febrile illness. The finding of a classical eschar and if present a maculopapular rash must prompt early treatment with doxycycline. The risks of African haemorrhagic fever viruses, notably Crimean-Congo fever, would be expected to be low given the season and unlikely exposure risk. There is currently a large outbreak of Rift Valley fever in a number of provinces. While the majority of human cases have been as a result of direct contact with infected animal tissue in occupationally at-risk persons, mosquito transmission may occur and tourists visiting farms or game parks should take appropriate preventive measures.

A measles outbreak that started in early 2009 in Gauteng Province has spread to all provinces. A mass measles campaign is currently under way and

this will likely reduce the number of new cases. However, measles vaccination should be strongly considered for those visitors to South Africa who may not be immune through prior immunization or disease.

While no cases of wild-type polio have been confirmed in South Africa since 1989, the country remains vulnerable to reintroduction of the virus given suboptimal vaccine coverage. Polio boosters are advised for persons travelling to South Africa from polio-endemic countries, notably Nigeria, Pakistan, India and Bangladesh, as well as any other country where polio has been reported recently.

Reference:

1. Journal of Travel Medicine Vol 17 issue 3, p150-152 published on-line at <http://www3.interscience.wiley.com/journal/118489668/home>

Source: Travel Health and Outbreak Response Units, NICD

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
Meningococcal meningitis: Burkina Faso, meningitis belt	A comparative increase in morbidity and mortality due to meningitis has been reported by the Burkina Faso Ministry of Health this year, with 5118 suspected cases and 718 detected between 1 January—18 April 2010. A large proportion of these cases have been identified to be due to <i>Neisseria meningitidis</i> serogroup X.	Disease is characterised by a sudden onset of fever, intense headache, nausea/vomiting and a petechial rash. Transmission occurs by direct contact respiratory droplets from the nose and throat of infected people. Vaccination is recommended for individuals (excl. children <2 years) travelling to areas currently experiencing epidemics, and should be targeted towards serogroups in circulation. Re-immunisation is warranted after 3-5 years. The current quadrivalent vaccine protects offers protection for serogroups A, C, W135 and Y.
Rabies Indonesia (Bali)	In November 2008, an outbreak of rabies was detected on the island of Bali. The number of human fatal cases varies from 15 to 42 in official and media reports. Nonetheless, the majority of cases have occurred near the popular tourist destinations on the southern tip of the island.	Travellers should avoid animal bites - avoid contact with all wild animals, and domestic animals with unknown rabies exposure or vaccination history. Health workers should inform travellers of post-exposure measures if bitten or scratched, including to thoroughly wash the wound with soap and water, and seek immediate medical treatment to receive vaccine and/or rabies immunoglobulin (depending on the exposure). Pre-travel rabies vaccination may be considered if activities in Bali will bring close contact with potentially rabid animals.

Source: Travel Health and Outbreak Response Units, NICD.

References: ProMED-Mail (www.promedmail.org), World Health Organization (www.who.int), Centers for Disease Prevention and Control (www.cdc.gov), Europe Media Monitor (<http://medusa.jrc.it/medisys/helsinkiedition/en/home.html>); last accessed 2010/04/30.

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.

