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NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES

Communicable Diseases Communiqué

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Influenza

Viral Watch: influenza-like illness (ILI) surveillance programme

The annual influenza season which started in week 18 (week starting 2 May) continues, and the number of specimens for influenza testing submitted by the Viral Watch influenza surveillance programme rose to 328 in week 23 (week starting 6 June), when the influenza detection rate reached 63% (Figure 1). During 2011 to date, a total of 586 influenza detections have been made in patients attending Viral Watch sites. Of the 557 influenza-positive samples that have been subtyped, 514/557 (92%) have been identified as influenza A (H1N1)2009, 21/557 (4%) as A(H3N2), and 22/557 (4%) as influenza B virus. Influenza has now been detected in patients from all nine provinces.

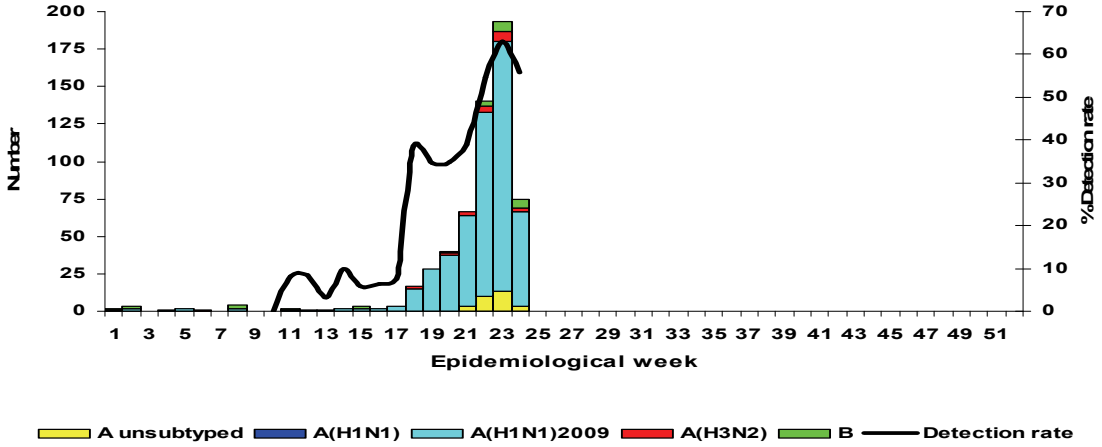


Figure 1: Number of positive samples by influenza types and subtypes and detection rate by week, Viral Watch surveillance programme 2011.

Severe Acute Respiratory Illness (SARI) surveillance programme

For the period 1 January to 12 June 2011, 2 296 patients were enrolled in the SARI programme. Of these, 99% (2 271/2 296) have been tested for influenza and 4% (94/2 771) were positive for influenza virus. Of patients with influenza, 84%(79/94) were A(H1N1) 2009, 12% (11/94) were influenza B and 4% (4/94) were A(H3N2) (Figure 2). Approximately half (1 077/2 294, 47%) the enrolled patients were under the age of 5 years. Of the patients who tested positive for influenza, data on outcome was available for 55% (52/94) and the case fatality rate in this group was 4% (2/52).

A diagnosis of influenza must be considered not only in patients presenting with typical ILI (usually a sudden onset of fever, cough, malaise, sore throat, headache, myalgia) but also in patients presenting with pneumonia and progressive ARDS. Influenza may cause severe illness, especially in patients belonging to risk groups such as infants and young children, pregnant women, and patients with chronic underlying disease. Treatment with oseltamivir should be started as early as possible for those persons in risk groups with ILI, but early treatment is especially important if severe disease is present. Laboratory testing for influenza should be considered in persons with severe illness, but treatment should be started immediately and not be delayed pending laboratory test results. Of concern is the late diagnosis/ misdiagnosis, and hence delayed treatment of severe influenza in pregnancy (particularly in the third trimester and immediate post-partum period). While severe influenza-related disease is more commonly reported in the risk groups mentioned above, rapidly progressive pneumonia and ARDS is well documented in persons without apparent risk factors (particularly with influenza A(H1N1)2009).

Source: Divisions of Epidemiology and Virology, NICD-NHLS

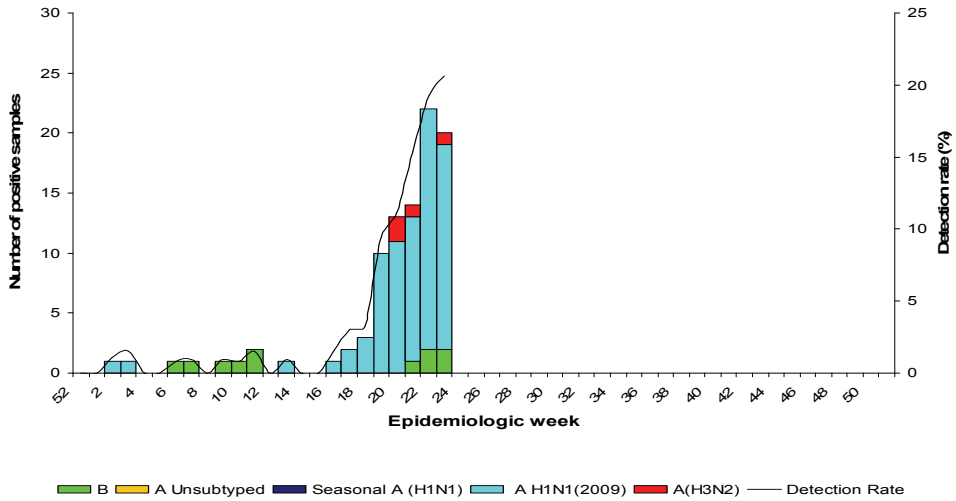


Figure 2: Number of positive samples by influenza types and subtypes and detection rate by week, SARI surveillance programme 2011.

Update on outbreak of highly pathogenic avian influenza (H5N2) in ostriches: Western Cape Province

As of 17 June 2011, the Department of Agriculture, Forestry and Fisheries (DAFF) reported a cumulative total of 20 ostrich farms within the avian influenza control area in Oudtshoorn that have tested positive on PCR/serology. The most recent positive farm was identified on 11 May. Controlled slaughter of flocks from all positive farms is scheduled to be completed by 22 June. A total of 22 369 ostriches and 236 eggs have been destroyed to date.

Surveillance for human HPAI (H5N2) cases in potentially exposed persons is ongoing. There have been no laboratory-confirmed HPAI (H5N2) cases to date. A HPAI (H5N2) serosurvey in exposed persons at the abattoir, positive farms and veterinary services staff is scheduled to take place in the coming weeks. The purpose of the survey is to establish if any asymptomatic/sub-clinical infections in humans have occurred, and to gain a better understanding of the transmission from infected ostriches to humans.

Source: Outbreak Response AND Respiratory Virus Units, NICD-NHLS; Department of Agriculture, Forestry and Fisheries; Department of Health

Measles

We are now in the post-epidemic period of the measles outbreak that began in March 2009. Three additional measles cases were laboratory confirmed since the last published Communiqué, bringing the total to 18 438 cases from January 2009 to 8 June 2011. Where age was reported (n=17 537), children <1 year accounted for 35% of cases, with 30% occurring in those aged <9 months. These infants are not targeted in our routine immunisation schedule, in which measles vaccine is offered at 9 months. Since January 2011 a total of 2 270 suspected measles cases were tested. Of these, 3% (79/2 270) were measles IgM positive. Cases were reported from all nine provinces, with Gauteng (41%, 32/79) and KwaZulu-Natal (28%, 22/79) provinces accounting for the highest proportions of the total.

Source: Divisions of Epidemiology and Virology, NICD-NHLS

Meningococcal disease

Sporadic cases of meningococcal disease continue to be reported across the country, but as yet there has been no noticeable seasonal increase of laboratory-confirmed cases. The incidence of meningococcal disease is expected to increase during June and July, and to peak during the months of August to October. Laboratory-based reporting has inherent delays, so although clinical cases may be increasing already, these may not yet be reflected.

By the end of week 23 (week starting 6 June), a total of 102 laboratory-confirmed cases were reported to the Respiratory and Meningeal Pathogens Reference Unit (RMPRU), NICD-NHLS (Table).

These cases showed diversity in serogroups, which is in keeping with sporadic endemic disease in the country. Serogroup data were available for 76/102 (75%) of cases. Serogroup B and W135 have been identified most commonly this year (21/76, 28% serogroup B and 34/76, 45% serogroup W135). Other serogroups detected included C (7%, 5/76) and Y (20%, 15/76).

The winter and spring seasons are typically when cases of meningococcal disease increase. As such, there should be a high index of suspicion for meningococcal disease which may present with nonspecific early signs and symptoms. Disease typically has a rapid progression and should be managed as a medical emergency in order to reduce morbidity and mortality. All cases of suspected meningococcal disease (meningitis/sepsis) should be notified telephonically to the Department of Health.

Source: Respiratory and Meningeal Pathogens Reference Unit, NICD-NHLS

Table: Number of laboratory-confirmed meningococcal disease cases reported by week 23, 2010 and 2011, by province

Province	2010	2011
Eastern Cape	11	12
Free State	11	5
Gauteng	51	51
KwaZulu-Natal	9	6
Limpopo	3	2
Mpumalanga	7	7
Northern Cape	11	3
North West	3	1
Western Cape	19	15
South Africa	**125**	**102**

Rabies

Another case of human rabies was confirmed from Limpopo Province in the past month. The patient was a 6-year-old boy from Tshirolwe, Vhembe district. No specific exposure history is known for the patient, but it was noted that he did frequently encounter and play with dogs. The patient presented to a local healthcare facility in mid-May with fever, anorexia, weakness, confusion, agitation, insomnia, delirium and aggressiveness. The patient died shortly after admission and no post-mortem was done. This is the third human case reported from Limpopo Province and South Africa for 2011 to date.

The importance of ruling out rabies in fatal encephalitis cases, especially where a history of dog or animal exposure is available, cannot be overstated. Rabies is a greatly neglected disease in South Africa, and in the absence of laboratory confirmed case data to support the estimated burden of the disease, this problem will persist. Substantial portions of provincial pharmaceutical budgets are committed to provide the rather costly rabies cell culture vaccines and rabies immunoglobulin for thousands

of animal bite victims that are treated annually. In addition, rabies still remains the infectious disease with the highest case fatality rate (100%). Laboratory testing for human disease is only offered at the Special Pathogens Unit, NICD-NHLS and includes comprehensive ante-mortem and post-mortem testing of suspected cases (consult the NICD-NHLS laboratory manual available at www.nicd.ac.za for more details).

Source: Special Pathogens and Outbreak Response Units, NICD-NHLS

Foodborne illness outbreak

A foodborne illness incident affecting the community of Mtombetsipa village in Eastern Cape Province was reported in the media on the 24 May. On 23 May, approximately 50 people were seen at a local clinic after they had consumed the meat of cow that had died of unknown causes. They presented with diarrhoea, abdominal cramps and vomiting. Twenty-two people were referred to the sub-district hospital, where two were admitted for observation. One death (a 15-year-old boy) was reported. The cow was found dead on 20 May and the meat was consumed on 21 May; cases developed symptoms later the same day (8–12 hours after consumption). The Departments of Health, and Agriculture, Forestry and Fisheries visited the scene, but no meat was available for analysis. Four stool specimens were collected from cases seen at the hospital and forwarded to the NHLS Infection Control Services Laboratory in Johannesburg for laboratory testing. A non-typhoidal *Salmonella* spp. was isolated on all four stool specimens, which was subsequently further characterised by the Enteric Diseases Reference Unit, NICD-NHLS as *S.* Typhimurium. Health education and awareness on the dangers of consuming meat of animals with unknown cause of death was emphasized to the community.

Source: Outbreak Response Unit, and Enteric Diseases Reference Unit, NICD-NHLS; NHLS Infection Control Services Laboratory, Johannesburg; Eastern Cape Department of Health

Yellow fever vaccination changes - African countries

A recent collaboration between the WHO, the US CDC and travel medicine experts has resulted in a new country-specific yellow fever vaccine recommendation based upon available area-specific data on the risk of yellow fever virus transmission.[1] Among the changes made, the countries of Eritrea and Zambia (western areas) have been newly classified as low potential for exposure to yellow fever virus (Figure). The South African Department of Health (DoH) has indicated yellow fever vaccination (and proof thereof) will soon be required for these countries, pending official changes to the policy which is expected within the coming months. An official communication will be made on the DoH website (www.doh.gov.za) once the changes come into effect. Furthermore, the countries of São Tomé and Príncipe, Somalia and Tanzania, southern areas of the Democratic Republic of Congo and eastern areas of Ethiopia and Kenya (Figure), have been downgraded to low risk; however, yellow fever vaccination will continue to be required for all persons travelling from these countries to South Africa.

In the interim, we would like to encourage travellers between these countries and South Africa to obtain a yellow fever vaccination in consultation with their local travel-health clinic, to avoid possible problems once the change in policy comes into effect. Vaccination certificates are routinely checked at the South African port of entry, and before departure for returning travellers. Passengers in transit within the regulated countries, irrespective of whether they have left the airport or the time spent in that country, will still require a yellow fever vaccination certificate, as the South African authorities are unable to guarantee that the traveller has not been placed at risk whilst in that country/airport. Travellers should also take note of the following points:

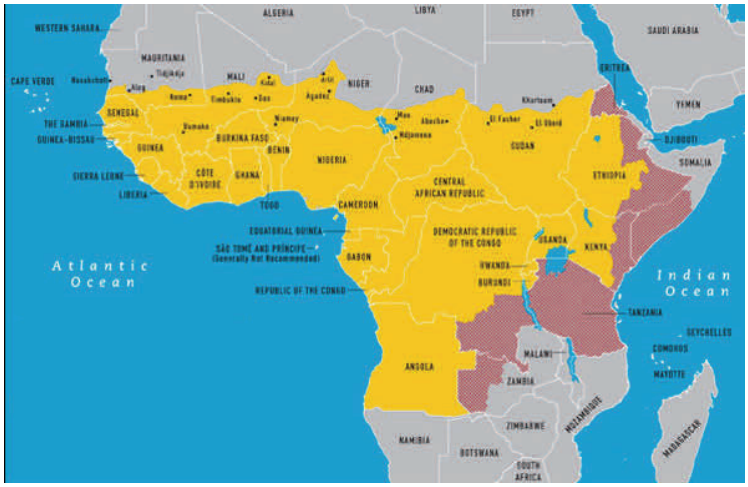
- Yellow fever vaccine should be administered at least 10 days prior to departure.
- Yellow fever vaccination certificates are valid for 10 years.
- Vaccine is contraindicated in pregnant

women, infants <9 months, individuals with egg allergies, and certain immuno-suppressed individuals (including HIV-infected persons with CD4<200/mm^3). These individuals still require a health certificate indicating the reason for non-receipt of vaccine.
- Vaccinated travellers should still take precautionary measures to avoid being bitten by mosquitoes due to the many other communicable disease risks transmitted by these vectors (e.g. malaria, dengue).
- Countries outside of South Africa, including the traveller's own home country, may have implemented the policy changes already and this may not yet be reflected on the WHO website. Therefore, travellers are encouraged to review the latest policies of all their destinations prior to departure.

Reference:

1. CDC. 2011. Announcement: New Country-Specific Yellow Fever Vaccine Recommendations. Available online: http://wwwnc.cdc.gov/travel/news-announcements/yellow-fever-vaccine-recommendations.htm (accessed 20 June 2011).

Source: Outbreak Response and Travel Health units, NICD-NHLS; and National Department of Health



(Yellow) high-risk, (Red) low-risk, (Grey) no identified risk of yellow fever transmission

Figure: Map of Africa showing risk areas for yellow fever transmission, May 2011[1]

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. In this issue, we examine an outbreak of Ebola, the widespread occurrence of dengue fever, as well as the STEC O104:H4 outbreak in Germany.

Chikungunya: Republic of Congo, Brazzaville

Alert: An outbreak of chikungunya was reported in the southern districts of Brazzaville. Of 480 identified cases there were no fatalities.

The disease: Chikungunya is a mosquito-borne viral disease which mainly occurs in areas of West Africa and Asia. The incubation period is typically 3-7 days. The infection generally presents with fever, maculopapular rash of the trunk and occasionally the limbs, arthralgia and arthritis affecting multiple joints. It may be asymptomatic in approximately 3-25% of the infected individuals.

Advice to travellers and healthcare workers: No medications or vaccines are available for specific prevention; however, travellers are reminded to protect against mosquito bites. Use insect repellents (containing 30-50% DEET), wear light-coloured clothing and use insecticide-treated bed nets. Healthcare workers should consider chikungunya in the differential diagnosis of returning travellers presenting with fever. Caution should also be used when advising individuals with significant co-morbidities and pregnant women about travel to areas with ongoing outbreaks of the disease, as they, or their infants, may suffer from more severe disease.

Wild polio virus: Chad

Alert: The World Health Organization recently issued an alert on the ongoing outbreak of wild poliovirus type 1 (WPV1) and type 3 (WPV3) in Chad. So far, 65 cases of WPV1 and 3 cases of WPV3 have been confirmed. The WPV3 outbreak has been ongoing since November 2007, and Chad is therefore considered to have re-established WPV3 transmission.

The disease: Poliovirus is faecal–oral or orally transmitted and acute infection involves the gastrointestinal tract and occasionally the central nervous system. The diagnosis is made by the identification of poliovirus in clinical specimens (usually stool) obtained from an acutely ill patient. Poliovirus may be detected from stool specimens for up to 4 weeks after onset of illness.

Advice to travellers and healthcare workers: Travellers to and from Chad should be fully immunised. Travellers who have in the past received three or more doses of OPV should be offered another booster dose of polio vaccine before departure. Non-immunised persons require a complete course of vaccine (three doses of IPV or OPV, or four doses of any combination of IPV and OPV). It is also important to note that vaccination does not guarantee the traveller's safety. Travellers are additionally advised to follow safe food and water practices, and practice good hand hygiene to prevent infection.

Update on Shiga-toxin producing *E. coli* (STEC) O104:H4 outbreak: Germany

Alert: A large outbreak of STEC O104:H4 and resultant cases of haemolytic uraemic syndrome (HUS) has been ongoing in Germany since 22 May 2011. To date, a total of 849 HUS cases, including 28 deaths, and 2 744 non-HUS cases, including 12 deaths, have been reported by the European Centre for Disease Prevention and Control (ECDC). Initial epidemiological studies showed that the patients affected by the outbreak had consumed raw tomatoes, cucumbers and lettuce significantly more often compared to the healthy controls. However, subsequent investigations indicate that bean sprouts originating from a local producer in Northern Germany is the most likely source of the outbreak. Numbers of new cases have decreased and the outbreak appears to be waning.

This STEC outbreak has had a number of unusual features: the STEC strain is very rare, cases occurred predominantly in adults with a preponderance of females, and a high rate of HUS occurred in symptomatic cases (25%).

Advice to travellers: Travellers to Germany should adhere to good hygiene practices and abstain from eating raw bean and seed sprouts.

References and additional reading: ProMED-Mail (www.promedmail.org), World Health Organization (www.who.int), *Centers for Diseases Control and Prevention (*Yellow book 2010, Ch. 5, Chikungunya)*,(http://wwwnc.cdc.gov/travel/yellowbook/2010/chapter-5/chikungunya.htm), European Centre for Disease Prevention and Control (www.ecdc.europa.eu). Last accessed: 2011/06/20.

Source: Outbreak Response and Travel Health Units, NICD-NHLS

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This communiqué is published by the National Institute for Communicable Diseases (NICD), a division of the National Health Laboratory Service (NHLS), 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. Questions and comments may be addressed to: The Outbreak Response Unit: outbreak@nicd.ac.za; Private Bag X4, Sandringham, 2131, South Africa