NATIONAL HEALTH LABORATORY SERVICE
NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES

Communicable Diseases Communiqué

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Influenza

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

The number of specimens for influenza detection submitted by the Viral Watch influenza surveillance programme has started to decline. The highest number of specimens were taken during week 23 (week starting 6 June) and have been decreasing steadily since. For samples tested at NICD-NHLS, the influenza detection rate peaked at 62.7% (175/279 specimens) during week 23, and has come down to 26% in week 28.

To date, a total of 998 influenza detections have been made in patients attending Viral Watch sites throughout the country. Of these, 957 (96%) have been identified as influenza A, and 41 (4%) as influenza B. Of the 943 influenza A which have been further identified, 850 (90%) were influenza A(H1N1)2009 and 93 (10%) were influenza A(H3N2).

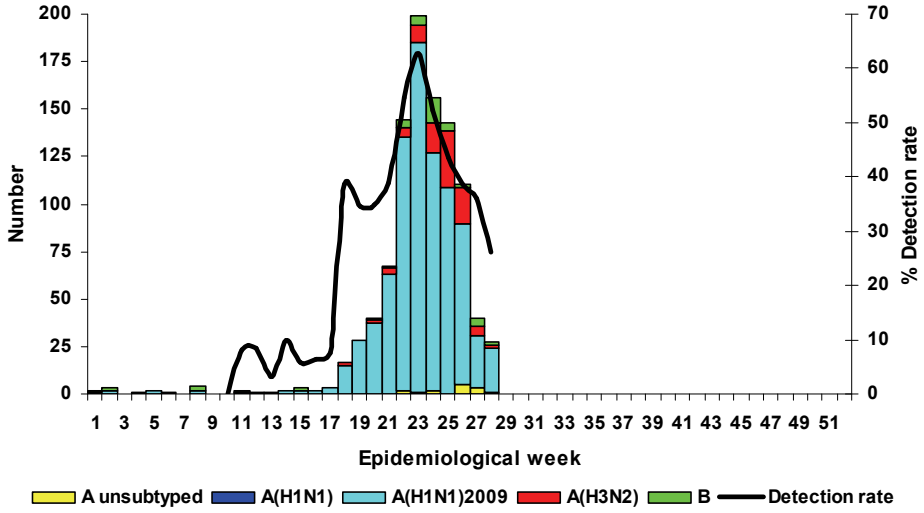

Figure 1: Number of positive samples by influenza types and subtypes and detection rate by week, Viral Watch surveillance programme 2011.

Severe Acute Respiratory Illness (SARI) surveillance programme

This surveillance programme monitors SARI at four sentinel hospitals in different provinces within South Africa. Clinical and epidemiological details are systematically collected from patients meeting a surveillance case definition, and upper respiratory tract samples obtained are subjected to real-time RT-PCR for the detection of influenza and other respiratory viruses. Please note that data presented here are preliminary and the influenza season is ongoing.

The influenza detection rate appears to be decreasing (Figure 2). For the period 1 January to 17 July 2011, 2 783 patients were enrolled into the SARI programme. Of these, 98% (n=2 723) have been tested and 182 (7%) were positive for influenza virus. Of the influenza positive cases:

- 79% (143/182) were influenza A(H1N1)2009,
- 17% (30/182) were influenza B, and
- 5% (9/182) were influenza A(H3N2).

Outcome information is currently available for 164 of the total influenza positive cases in 2011. Of these, five patients (four influenza A (H1N1)2009 and one influenza B) have died (CFR=3%). During 2010, when influenza B predominated among SARI patients, the mortality was higher with a CFR of 9% (2011 vs 2010, p=0.03). This finding may change going forward as information on patient outcome is unavailable for a large proportion of patients.

Characteristics of influenza positive patients enrolled in the SARI programme are similar in 2011 as compared to 2010. The age distribu-

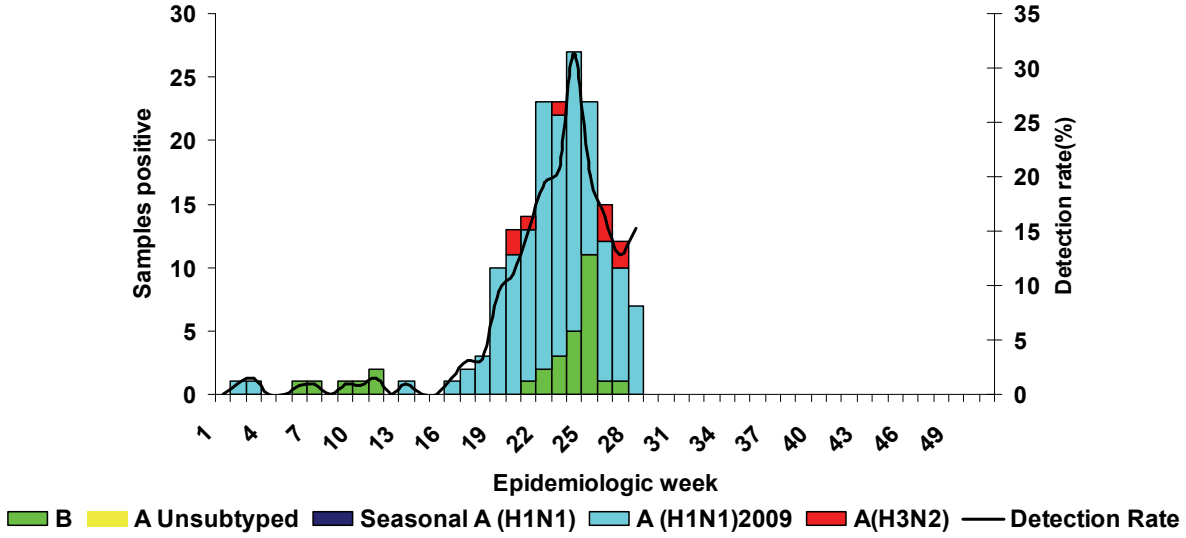

Figure 2: Number of positive samples by influenza types and subtypes and detection rate by week, SARI surveillance programme 2011.

tion of influenza positive patients in 2011 is similar to that observed in 2010 (0-4 years, 38% vs 37%; 5-14 years, 9% vs 4%; 15-24 years, 9% vs 6%; 25-44 years, 31% vs 35%; ≥45 years, 19% vs 19%; p=0.56).

The HIV prevalence amongst patients testing influenza positive was similar in 2011 (47%, 58/123) as compared to 2010 (57%, 145/255), p=0.07. Data on other underlying risk factors (excluding HIV-infection) is currently available for 180 (99%) of the total influenza positive cases in 2011. Of these, 15% (27/180) reported an underlying risk factor; including, asthma (6%, 11/180), prematurity (2%, 4/180), chronic obstructive lung disease (2%, 3/180) and heart disease (2%, 3/180).

Although the influenza detection rates are decreasing, we continue to encourage healthcare workers to include influenza in the differential diagnosis of patients presenting with lower respiratory tract infections. Antiviral treatment (oseltamivir) should be started as soon as possible in such cases, and should not be delayed pending laboratory test results.

Source: Divisions of Epidemiology and Virology, NICD-NHLS

Measles

Since January 2011, a total of 2 764 suspected measles cases were tested. Of these, 3% (82/2 764) were measles IgM positive. At present South Africa is reporting very low numbers of laboratory-confirmed measles cases with sporadic cases occurring in some provinces and within some districts. Three additional measles cases were laboratory confirmed since the last published Communiqué, bringing the total to 18 441 cases from January 2009 to 15 July 2011. In light of this, it is very important to perform molecular testing to establish the genotype of the current cases. Molecular characterisation is useful in tracking transmission and importation of measles virus. As per standard protocol, in addition to the blood sample to confirm for measles, another specimen for molecular characterization of the virus is also required. The preferred specimen(s) for this test is a throat/nasopharyngeal swab in transport medium (preferably viral transport medium). However, in the absence of a swab, urine can be submitted. Healthcare workers are encouraged to collect these specimens from all suspected measles cases (rash and fever with at least one of: cough, coryza or conjunctivitis), to complete a measles case investigation form, and to notify the Department of Health. Blood and throat/nasopharyngeal swab or urine specimens must be sent on ice to the National Institute for Communicable Diseases (NICD) of the National Health Laboratory Service (NHLS) for laboratory confirmation.

Source: Divisions of Epidemiology and Virology, NICD-NHLS

Meningococcal disease

Sporadic cases of meningococcal disease continued to be reported across the country, with a small seasonal increase of laboratory-confirmed cases. Cases may be expected to increase further, and to peak during the months of August to October. Laboratory-based reporting has inherent delays, so although clinical cases may be increasing, these cases may not be reflected in this report.

By the end of epidemiological week 28 (week starting 11 July), a total of 134 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 109/134 (81%) cases. Serogroup B and W135 have been identified most commonly this year (27/109, 25% serogroup B and 53/109, 49% serogroup W135). Less common serogroups included C (7/109, 6%) and Y (21/109, 19%).

The winter and spring seasons are when cases of meningococcal disease typically increase. As such, there should be a high index of suspicion for meningococcal disease which may present with nonspecific early signs and symptoms. Meningococcal disease has a characteristically rapid progression and should be managed as a medical emergency in order to reduce morbidity and mortality. All cases of suspected meningococcal disease (meningitis or sepsis) should be notified telephonically to the Department of Health in order to effect a timely public health response, most importantly the provision of post-exposure prophylaxis to appropriate contacts.

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

Table: Number of laboratory-confirmed meningococcal disease cases reported by week 28, 2010 and 2011, by province

Province	2010	2011
Eastern Cape	12	16
Free State	14	7
Gauteng	81	66
KwaZulu-Natal	15	8
Limpopo	4	2
Mpumalanga	10	8
Northern Cape	14	4
North West	7	2
Western Cape	28	21
South Africa	**185**	**134**

Rabies

No additional cases of human rabies were confirmed in the past month. A probable case[1] of rabies in a 38-year-old male from the Mondlo area near Vryheid in KwaZulu-Natal Province was reported. The patient suffered an unprovoked bite from a stray dog in the first week of June 2011; subsequently the dog was not traceable for rabies testing. The patient apparently did not seek any medical attention after the incident due to the seemingly benign nature of the injury. Five weeks later he presented with typical signs of rabies including drooling, shortness of breath, dizziness, blurred vision and restlessness. The patient died, but unfortunately no specimens were collected for laboratory confirmation of rabies.

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 confirmed laboratory 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 annually. To this day, rabies remains the infectious disease with the highest case fatality rate, i.e. 100%. Specialised laboratory testing is only offered at the Special Pathogens Unit (SPU), NICD-NHLS and includes comprehensive ante-mortem and post-mortem testing of suspected cases. Appropriate specimens for ante-mortem diagnosis include: saliva, CSF and nuchal biopsies. Given that the progression of rabies disease is rapid and many patients die soon after admission, healthcare workers are advised to take specimens as a matter of urgency. Specimens can be taken after hours or over weekends, and kept at the laboratory for referral to SPU (NICD-NHLS). Please phone the NICD-NHLS Hotline (082-883-9920) for any queries.

A total of three human cases have been confirmed for South Africa for 2011 to date, all from Limpopo Province.

[1] Case definition as described in: Cohen et al., 2007. Emerging Infectious Diseases 13(12), 1880-1886

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

Rift Valley fever (RVF) update

The last laboratory-confirmed case of RVF infection experienced illness onset on 23 May 2011 – approximately 2 months ago. Decreased RVF virus activity throughout winter is expected; however, it is not clear whether the virus will re-emerge in the coming summer. From 2008 to the current year, seasonal RVF outbreaks were observed throughout South Africa, with the incidence of human infections peaking in the months of March and April each year. During 2010, a total of 242 laboratory-confirmed human cases, including 26 deaths, were detected. From 1 January to 21 July 2011, 37 human cases (with no fatalities) have been confirmed. Healthcare workers are encouraged to remain vigilant for suspected RVF infections and collect appropriate specimens where indicated. See the Healthcare Workers Guidelines on RVF for details (available online: www.nicd.ac.za).

Source: Special Pathogens and Outbreak Response Units, NICD-NHLS; Department of Health; 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.

Yellow fever vaccinations: Zambia

Alert: Please be advised that yellow fever vaccinations/certificates are not currently required for travel to and from Zambia. Although there is a low risk of yellow fever transmission in west and northwest Zambia, the situation has been stable and there are currently no known yellow fever outbreaks in these areas. Should a policy change occur, all parties concerned will be made aware in advance of its implementation. The demand for yellow fever vaccine is currently exceeding supply in South Africa; therefore, vaccines should only be administered to travellers visiting countries listed in the current guidelines (available online: www.doh.gov.za/docs/yellowfever-f.html).

Advice to travellers: The main vector of yellow fever virus (*Aedes aegypti*) feeds during the daytime. Travellers should take precautions to protect against mosquito bites, including the use of effective insect repellent (containing ≥30% DEET) and wearing protective clothing (long sleeves, pants and socks when weather permits) when outdoors.

Travellers to endemic countries (as listed in the current guidelines) must receive yellow fever vaccine at least 10 days prior to departure. Certificates are valid for 10 years. The vaccine is contraindicated in pregnant women, infants <9 months, individuals with egg allergies, and certain immunosuppressed individuals (HIV-infected with CD4<200/mm^3); however, these individuals still require a health certificate indicating the reason for non-compliance when travelling.

Shiga-toxin producing *E. coli* (STEC) O104:H4: Europe

Alert: We previously reported on a large outbreak of STEC O104:H4 and resultant cases of haemolytic uraemic syndrome (HUS) affecting numerous countries within Europe and beyond. The incidence of new cases detected has declined. As of 20 July 2011, the cumulative total of probable/confirmed cases includes 768 HUS STEC and 3 151 non-HUS STEC cases, of which 43 were fatal. The current epidemiological picture suggests a transition from main outbreak events in Germany and France related to consumption of infected seeds used for sprouting, towards a future risk of continued incidents of sporadic cases/clusters. While this correlates with a decrease in risk of infection for travellers, there remains some risk of secondary transmission following widespread symptomatic and asymptomatic infections.

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

Cholera: (1) Haiti and Dominican Republic. (2) Africa and Asia.

Alert: (1) Increased seasonal rainfall and dwindling access to clean water and sanitation services in both Haiti and the Dominican Republic, has resulted in a resurgence of cholera cases. Both countries experienced a massive cholera epidemic in the latter half of 2010 (over 370 000 cases and 5 500 deaths reported in Haiti alone).

(2) Numerous African and Asian countries where cholera is endemic are reporting increasing activity.

Advice to travellers: Travellers are urged to drink water that is bottled (preferably carbonated) or bring it to a rolling boil for 1 minute. Avoid ice and food products (e.g. ice cream) that are potentially made with contaminated water. Eat foods that have been thoroughly cooked and that are hot and steaming. Peel the fruit and vegetables yourself (do not eat the peelings), and avoid those that cannot be peeled. Avoid foods and beverages from street vendors. Frequently wash hands with soap and water, or use an alcohol based sanitiser if clean water is not available. Vaccine is not routinely recommended for travellers.

References and additional reading: ProMED-Mail (www.promedmail.org), World Health Organization (www.who.int), Centers for Disease Control and Prevention (www.cdc.gov). Last accessed: 2011/07/21.

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