4 SEASONAL DISEASES

a Influenza

Influenza A(H1N1) cluster

A cluster of three cases of severe respiratory illness was reported from Uitenhage in Eastern Cape Province on 26 September 2014. The first patient, a 48-year-old man, became ill on 11 September 2014 with shortness of breath. He had no fever or flu-like symptoms. He had multiple comorbid conditions including diabetes mellitus, hypertension, ischaemic heart disease and coronary artery disease. He was overweight (135 kg), a heavy smoker and drank large amounts of alcohol. He was admitted on Friday 12 September 2014 to the intensive care unit (ICU) of a private health facility. Soon after admission to ICU, he developed acute respiratory distress syndrome, hypotension and a fever. He subsequently developed cardiac failure and renal failure and demised on Sunday 14 September 2014. He was not tested for influenza and did not receive specific influenza antiviral treatment.

The second patient (aged 38 years) was the first patient's nephew. He became ill on 11 September 2014 with a cough and a sore throat. He had no fever on initial presentation and was admitted for treatment of pneumonia on 15 September 2014. He was previously well, but also a heavy smoker and drank large amounts of alcohol. He weighed 120kg. On 18 September 2014, he developed a fever, with difficulty breathing and was transferred to the ICU. A tracheal aspirate taken on 26 September 2014 tested positive for influenza A (H1N1). He received treatment with oseltamivir on 27 September 2014. He remained in the ICU receiving ventilatory support until his death on 5 October 2014.

The third patient was a 14-year-old known asthmatic on treatment. His grandfather was a close friend of the second patient. He became ill on 23 September 2014, when he presented to the general practitioner with a cough. He was treated symptomatically and discharged. A day later he presented to the general practitioner again with a temperature of 39°C, headache, and a worsening cough. He was admitted into isolation to a private health facility because of worsening symptoms. An investigation into the cluster of severe respiratory illness was undertaken. Pharyngeal swabs taken on 26 September 2014 tested positive for influenza A (H1N1). He received oseltamivir on 25 September 2014 and recovered. His grandfather also reported a mild respiratory illness on 12 September 2014 but was not tested for influenza. The chain of transmission is therefore only speculative.

Active contact tracing was performed aiming to identify any ill contacts of the cases. A further 14 cases of mild respiratory illness were identified, one of whom was confirmed to have influenza A (H1N1) infection. No further cases of severe respiratory illness were identified. It appears that all severe cases had risk factors associated with developing severe influenza such as obesity, diabetes, cardiovascular disease and asthma.

Influenza is a viral disease that affects primarily the respiratory tract. An increase in cases of influenza is generally seen annually during the winter months in South Africa. The commonest influenza subtype identified this year was influenza A (H3N2)[1] but occasional cases of influenza A(H1N1) have been identified. Clusters of severe influenza are uncommonly identified. It is important to investigate clusters of severe respiratory disease in order to identify the emergence of new and mutated strains of known respiratory viruses or new severe pathogens like MERS-CoV. Patients that have underlying chronic conditions are at increased risk for contracting severe respiratory illness or death due to influenza. Common underlying chronic conditions which serve as a risk factor for developing severe and fatal illness are: asthma, cardiac disease, diabetes and obesity.[2] In this cluster of cases, all of the severe cases had underlying illnesses which predispose to more severe influenza. Specific influenza antiviral treatment in the form of oseltamivir was not given to the first patient and was started late in the second patient. It is recommended that all patients with underlying illness presenting to hospital with pneumonia during the influenza season should be started on empiric oseltamivir to reduce the risk of progression to severe illness and death.[3] Oseltamivir is most effective when started within 48 hours of onset of symptoms.

Influenza Surveillance

The number of specimens submitted for respiratory viruses by Viral Watch centres, which conduct surveillance for influenza-like illness (ILI) has continued to decline, dropping from 60 to 90 per week during June and July, to fewer than 10 per week in the last week of September and first week of October. The season started in week 21 (ending 25 May) when the influenza detection rate rose above 10% and peaked in week 27 (ending 6 July) with a detection rate of 80.4%. The season ended

in week 37 (week ending 14 September). The dominant influenza strain in 2014 was A(H3N2) accounting for 352/513 (69%) detections. Since week 34 (ending 24 August) the majority of the detections, 45/60 (75%), have been influenza B.

As at 10 October 2014, 1513 patients hospitalised with severe acute respiratory illness were tested for respiratory viruses at five sentinel sites. Of these, 69 (5%) patients tested positive for influenza. The majority, 42 (61%), of the influenza detections were influenza A(H3N2) followed by influenza B (19/69,27%) and influenza A(H1N1)pdm09 (3/69, 4%). In addition, 25% (384/1513), 13% (204/1513) and 9% (137/1513) were positive for rhinovirus, RSV and adenovirus, respectively.

Summary of the 2014 influenza season

During the 2014 influenza season influenza A(H3N2) predominated throughout the season. Influenza A (H1N1)pdm09 and influenza B co-circulated, with increasing circulation of influenza B towards the end of the season.

Recommended composition of influenza virus vaccine for use in the 2015 southern hemisphere Influenza season

The WHO has recommended that trivalent vaccines for use in the 2015 southern hemisphere influenza season contain the following:
an A/California/7/2009 (H1N1)pdm09-like virus;
an A/Switzerland/9715293/2013 (H3N2)-like virus[a]
a B/Phuket/3073/2013-like virus.

[a] A/South Australia/55/2014, A/Norway/466/2014 and A/Stockholm/6/2014 are A/Switzerland/9715293/2013-like viruses.

The full report of the recommendations for the southern hemisphere influenza vaccine can be accessed at:
http://www.who.int/influenza/vaccines/virus/recommendations/201409_recommendation.pdf.

References

1. http://nicd.ac.za/assets/files/NICDNHLS%20Communicable%20Disease%20Communiqu%C3%A9_SEPTEMBER%20_final.pdf
2. www.who.int/influenza/surveillance.../Risk_factors_H1N1.pdf

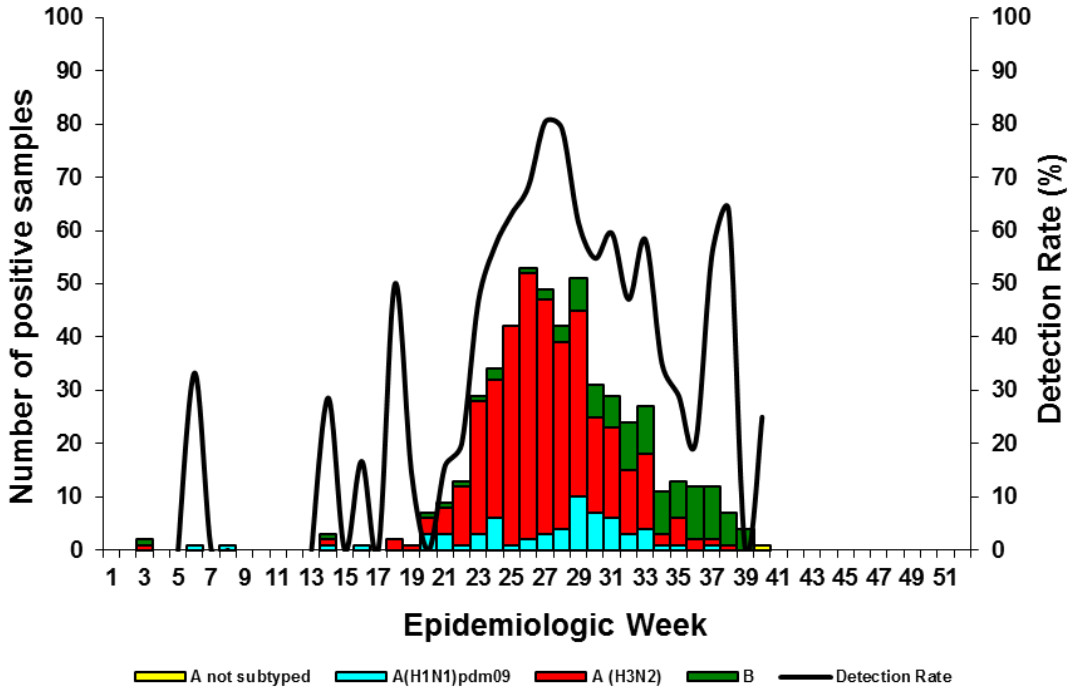

Figure 2. Number of positive samples by influenza types and subtypes, and detection rate by week. Viral watch surveillance programme 2012