Influenza Update N° 175
21 December 2012

Summary

- Many countries in the temperate regions of the northern hemisphere are now reporting elevated detections of influenza, particularly in north America.
- Influenza activity was still low in Europe, with co-circulating of both influenza A and B viruses. However increased influenza-like illnesses were reported in more countries than previous weeks.
- There was low, but increasing influenza activity in northern Africa and the Eastern Mediterranean regions, and sporadic detections in eastern Asia.
- Influenza in central America, the Caribbean and tropical south America continued to decline, with low levels of circulation of mainly influenza A(H3N2) and some influenza B viruses, except for Cuba and Peru, where influenza A(H1N1)pdm09 was predominant.
- Influenza activity in Sub-Saharan Africa declined to low levels, with mainly influenza B, except in Ghana, where influenza A(H1N1)pdm09 was reported.
- Influenza in most South East Asian countries was declining, except in Sri Lanka and Viet Nam.
- Influenza activity in the temperate countries of the southern hemisphere continued at inter-seasonal levels.
Countries in the temperate zone of the northern hemisphere

Many countries in the temperate region of the northern hemisphere reported continued increases in detection of influenza virus with an increase in rates of influenza-like illness (ILI) and per cent positivity of specimens tested, especially in North America.

North America

Influenza activity in North America continued to increase sharply from previous weeks with both Canada and the United States reporting widespread transmission of influenza.

In Canada, the ILI consultation rate increased from 2.9% in the last reporting week to 4%. The highest consultation rate was seen in children aged 0-5 years. The proportion of samples testing positive for influenza also increased from the previous week, from 11.7% to 17.8%. Only one region, in Ontario, reported widespread activity. 22 new influenza outbreaks have been reported throughout Canada (12 in long-term care facilities, 5 in schools and 5 in other settings), compared to eight in the previous week. In the previous week, 112 laboratory confirmed influenza associated hospitalizations were reported (12 from AB, 100 from ON). Three were influenza B, and 109 were influenza A. Of the 109 influenza A associated hospitalizations, 46% (50/109) were A(H3) and the remainder were A(unsubtyped). Almost half of the cases (49.5% 55/111) were aged 65+ and 22.5% (25/111) were aged between 45-64 years. Nine deaths were reported in Ontario, all in influenza A cases: one A(not subtyped) aged 1-4 years; one A(not subtyped) aged 20-44 years; and 7 in persons aged ≥65 years (3 A(H3) and 4 A(not subtyped)).

In Canada, influenza A(H3N2) is by far the most commonly detected influenza virus, with few detections of influenza A(H1N1)pdm09 or type B. Of the 816 samples that were positive for influenza in the previous reporting week, 96% were influenza A, and 4% influenza B. Of the 378 influenza A viruses with subtype information, 96% were A(H3N2) and 4% were A(H1N1)pdm09. Since the start of the season, the National Microbiology Laboratory has antigenically characterized 71 influenza viruses; all 51 influenza A(H3N2) and 10 A(H1N1)pdm09 viruses characterized were antigenically similar to the vaccine virus A/Victoria/361/2011 and A/California/07/09, respectively, the viruses found in this season’s trivalent vaccine. Among the influenza B viruses, seven were antigenically similar to the vaccine virus B/Wisconsin/01/2010 (Yamagata lineage) and three were similar to B/Brisbane/60/2008 (Victoria lineage); the latter is a component of the 2011-2012 trivalent seasonal influenza vaccine. None of the viral samples tested against neuraminidase inhibitors oseltamivir (n=70) or zanamivir (n=69) were resistant.

Influenza activity in the US continued to increase sharply from previous weeks and is experiencing an early season compared to many previous years. ILI consultation rates increased from 2.2% in the previous update to 2.8% and the percent positivity for influenza had increased from 15.2% to 28.3%. Sub-nationally, the most active areas of influenza activity are in the eastern half of the country; seven of the ten regions have reported elevated ILI consultations, and one region in the mid-west reported that 47% of specimens tested were positive for influenza. The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold, while one influenza-associated pediatric death was recorded, associated with an influenza B virus.

In the US, the majority of influenza samples are A(H3N2), however influenza B accounts for a larger proportion of cases than in Canada. Of the 2172 samples that were positive for influenza in the previous week, 76% were influenza and 24% were influenza B (vs. 96% and 4% respectively in Canada). Of the influenza A viruses with sub-type information, 98% were A(H3N2). Since October 2012, the CDC has antigenically characterized 287 influenza viruses. All 10 A(H1N1)pdm09 viruses tested were characterized as A/California/07/2009-like and 99% of the 182 A(H3N2) influenza viruses tested were A/Victoria/361/2011-like. Of the 95 influenza B viruses characterized 66% (63/95) were B/Wisconsin/1/2010-like of the Yamagata lineage, a component of this seasons trivalent seasonal influenza vaccine, and 34% (32/95) were Victoria lineage. Since 1 October, none of the 257 A(H3N2), 118 A(H1N1)pdm09, or 17 B viruses have been resistant to neuraminidase inhibitors.
One infection with the swine variant influenza A(H3N2)v virus was reported in late November in Minnesota. The patient was reported to have had recent swine exposure. A total of 312 infections with variant influenza viruses have been reported from 11 states since July 2012. More information about H3N2v infections can be found at http://www.cdc.gov/flu/swineflu/h3n2v-outbreak.htm

In Mexico, the percentage positivity of samples analysed (n=140) for influenza remained high (25%) and similar to the previous weeks. The most common viruses detected in the last reporting weeks were influenza B, followed by influenza A(H3N2).

Number of specimens positive for influenza by subtype in the Northern America transmission zone

![Bar chart showing number of specimens positive for influenza by subtype in the Northern America transmission zone]

Data source: FluNet (www.who.int/influenza), Global Influenza Surveillance and Response System (GISRS)
Data generated on 19/12/2012

**Europe**

In week 49 (2-8 December), influenza activity in Europe remains at a low level but with growing numbers of countries in different parts of the region reporting increasing detections of influenza viruses.

Of 954 specimens from influenza-like illness (ILI) sentinel sources, 8.5% (81/954) were positive for influenza, an increase from 2% in the previous week and the third consecutive weekly rise. In contrast to North America, influenza B was slightly more commonly detected than influenza A (48% influenza A (39/81) vs. 52% B (42/81)), though numbers are still small. Influenza A(H1N1)pdm09 accounted for 32% (11/34) of A virus sub-typed and A(H3N2) for 68% (23/34).

In countries of the European Union and European Economic Area (EU/EEA), 13.3% of clinical samples were positive for influenza virus, the second consecutive week of increase, and the majority of countries reported local or sporadic spread during the last week. Generally, however, the intensity remained low.

Sentinel SARI hospitalization rates were low and unchanged, with only three reports from the Russian Federation that were positive for influenza (all A(H3N2)) in the 0-4 years age group.

In week 49, one hospitalized laboratory-confirmed influenza case due to influenza B virus infection was reported in the EU/EEA countries. Since week 40/2012, eight hospitalized laboratory-confirmed influenza cases have been reported by France, Ireland, Slovakia, Spain and Sweden. Two cases
involved an influenza B virus, and of six type A viruses detected in the other patients, two were A(H1)pdm09, two A(H3) and two not subtyped.

Since the end of September, five countries (Denmark, England, Germany, Portugal, Romania) have antigenically characterized 43 influenza viruses; one was A(H1N1)pdm09 A/California/7/2009 (H1N1)-like (contained in the current trivalent seasonal vaccine), 28 A(H3N2) A/Victoria/361/2011-like (vaccine virus), one B/Estonia/55669/2011-like (Yamagata lineage), seven B/Wisconsin/1/2010-like (Yamagata lineage, vaccine virus) and six B/Brisbane/60/2008-like (Victoria lineage). None of the 25 A(H1N1)pdm09, 22 A(H3N2) and seven B viruses tested in that period were resistant to neuraminidase inhibitors, oseltamivir or zanamivir.

**Number of specimens positive for influenza by subtype in the northern European transmission zone**

![Graph showing number of specimens positive for influenza by subtype in the northern European transmission zone.](Data source: FluNet (www.who.int/flunet). Global Influenza Surveillance and Response System (GISRS) Data generated on 19/12/2012)

**Northern Africa and the eastern Mediterranean region**

Some increasing influenza activity has been noted in northern Africa and the Middle East, though overall activity remained at low levels. Algeria and Jordan have reported some transmission of influenza B viruses. Bahrain has continued to report influenza A(H1N1)pdm09 with some A(H3N2), and Oman and Qatar have detected all three virus sub-types. Iran reported influenza A(H1N1)pdm09 with influenza B, and there were low levels of A(H3N2) in Pakistan.

**Temperate Asia**

Influenza activity remained at low levels throughout the temperate region of Asia. In northern China, the proportion of outpatient visits at sentinel surveillance sites that were due to ILI remained relatively constant at 3.2% compared to 3.1% the week before. In the same period of time, the proportion of respiratory specimens testing positive for influenza was 10.3% compared to 10.5% in the previous week but this figure has generally increased over the last 4 weeks associated with an increase in numbers of virus detections. Influenza A accounted for 94% (91/97) of influenza viruses detected; 6% were influenza B. Of the influenza A that were sub-typed, 83% were A(H3N2) and 17% were A(H1N1)pdm09. In Mongolia, the ILI rate in the population has continued to increase however influenza detections, primarily A(H3N2), have declined for three consecutive weeks. Most ILI in recent
weeks was associated with other respiratory viruses such as respiratory syncytial virus, rhinovirus and human coronaviruses. Influenza activity remained low in both Republic of Korea and Japan, and were at baseline levels.

**Countries in the tropical zone**

*Tropical countries of the Americas*

In the Caribbean, detections of influenza declined to low levels from their peaks in late summer. Influenza A(H3N2) and influenza B were the most widely detected viruses, with the exception of Cuba, which reported large numbers of A(H1N1)pdm09.

Influenza activity declined in central America over the past weeks, although Nicaragua, with mainly influenza B, and Honduras, with mainly A(H3N2), was still detecting virus circulation.

Influenza activity in the tropical zone of south America continued to decline with low numbers of virus detections being reported in most countries. However, in the tropical regions of Bolivia, the percentage of influenza positivity, predominantly due to A(H3N2), continued to increase from 3% in early October to 60% in the past weeks. Influenza A(H3N2) and influenza B were the most widely reported sub-types in the region, with the exception of Peru, which also reported A(H1N1)pdm09.

**Number of specimens positive for influenza by subtype in the tropical south America transmission zone**

*Data source: FluNet (www.who.int/flunet), Global Influenza Surveillance and Response System (GISRS) Data generated on 19/12/2012*
**Sub-Saharan Africa**

Most countries in Sub-Saharan Africa experienced decreasing detections of influenza. Ghana continued to report relatively high transmission, nearly all of which was influenza A(H1N1)pdm09, while in Cameroon, transmission has declined from its early October peak. Transmission in Cameroon was nearly all influenza A(H3N2) during the height of the seasons but in the last three weeks of November, influenza B was more commonly detected. In eastern Africa, Zambia and Madagascar reported primarily influenza B.

**Number of specimens positive for influenza by subtype in the western Africa transmission zone**

![Graph showing influenza activity by subtype in western Africa](image)

*Data source: FluNet (www.who.int/flunet). Global Influenza Surveillance and Response System (GISRS) Data generated on 20/12/2012*

**Tropical Asia**

Influenza circulation in most countries of South East Asia continued to decrease and was at very low levels, with the exception of Sri Lanka and Viet Nam.

India continues to report declining influenza positive samples from its peak in mid-September of mainly A(H1N1)pdm09. Sri Lanka reported persistent circulation of all three influenza sub-types, while low numbers of A(H3N2) and influenza B were detected in Cambodia and Thailand. Similar to previous weeks but in marked contrast to neighboring countries, transmission in Viet Nam has been influenza B with only very small numbers of A(H3N2) and only now appears to be peaking.

Influenza activity in Singapore and southern China, including Hong Kong SAR, remained below seasonal thresholds.
Countries in the temperate zone of the southern hemisphere

Influenza activity in all temperate countries of the southern hemisphere is now at inter-seasonal levels.

Data source: FluNet (www.who.int/flunet), Global Influenza Surveillance and Response System (GISRS)
Data generated on 20/12/2012
**Source of data**
The Global Influenza Programme monitors influenza activity worldwide and publishes an update every two weeks. The updates are based on available epidemiological and virological data sources, including FluNet (reported by the Global Influenza Surveillance and Response System) and influenza reports from WHO Regional Offices and Member States. Completeness can vary among updates due to availability and quality of data available at the time when the update is developed.

**Link to web pages**

Epidemiological Influenza updates:  

Epidemiological Influenza updates archives 2012:  

Virological surveillance updates:  
[http://www.who.int/influenza/gisrs_laboratory/updates/summaryreport](http://www.who.int/influenza/gisrs_laboratory/updates/summaryreport)

Virological surveillance updates archives:  

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