Influenza Update N° 178
31 January 2013

Summary

- Influenza activity in North America remained high regionally, though nationally most indicators of transmission began to decrease. Influenza A(H3N2) was the most commonly detected virus subtype. The United States of America reported a sharp increase in the number of pneumonia and influenza-related deaths among adults aged 65+ years.
- Europe in general reported increasing influenza virus detections over the past weeks, though activity started to decrease in some countries in the northwest. The most commonly detected virus across the continent was A(H1N1)pdm09, while influenza B virus predominated in several countries of western Europe.
- In the temperate countries of Asia influenza virus detections increased in the last weeks, while it remained low in most of tropical Asia.
- Influenza activity in North Africa and the Middle East declined overall in the last several weeks, though a few countries reported increases. Influenza A(H1N1)pdm09 was the most commonly detected virus in the region.
- Low level activity was noted in most tropical countries, with slight increases observed in the Plurinational State of Bolivia and Paraguay.
- Influenza in countries of the southern hemisphere were currently at inter-seasonal levels.

Note: Global epidemiology and surveillance updates are periodically collected from data reported by National authorities or organizations responsible for reporting this data. For further information on specific influenza virus activity in the world and scientific literature for practitioners and other professionals in the field, please visit the links provided at the end of this document.
Countries in the temperate zone of the northern hemisphere

North America

Influenza activity in North America during week three (January 13-19) of the 2012-13 influenza season remained elevated regionally. While activity in some areas decreased, both Canada and the U.S. continued to report widespread transmission of influenza.

Laboratory-confirmed cases of influenza activity declined for the third week in a row in Canada nationally, though many regions continued to report widespread and localized activity. The national influenza-like illness (ILI) consultation rate decreased from 54.0/1000 patient visits in the second week of January to 43.8 during the third week of January, the fourth consecutive week of decline. The percentage of clinical specimens from ILI patients that tested positive for influenza also decreased slightly from 30.8% to 27.1% in the same period of time: a persistent trend since the end of 2012. For the past four weeks, the national rate of ILI consultation has remained slightly above the upper 90% confidence interval for the 15 year average rate. The number of outbreaks reported in hospitals, long-term care facilities, and schools peaked at 130 in the second week of January, more than twice as many as reported in the highest week of either of the previous two influenza seasons. In addition, the 2212 influenza-associated hospitalizations that have been reported through the Aggregate Surveillance System (a subset of all influenza admissions in Canada) has surpassed the total of 1777 reported for the entire previous season. More than half (57.6%) of the 2209 cases with available age were aged ≥65 years and 13.3% were children aged 0-4 years. Since the beginning of the season, 146 deaths have also been reported, 81.5% of which were aged ≥65 years. Among 461 influenza-associated pediatric admissions under the age of 16 years reported through the Immunization Monitoring Program Active (IMPACT) network since the beginning of the season, 45.1% were under the age of 24 months.

Of the 2840 influenza viruses detected in the third week of January, 97.9% were identified as influenza A and 2.1% were identified as influenza B. Of the influenza A viruses with subtype information, 90.6% were A(H3N2) and 9.4% A(H1N1)pdm09. The relative proportions of types and subtypes of influenza viruses has remained consistent throughout the season. Among 461 influenza-associated pediatric hospitalizations reported since the start of the season 96.3% (444/461) have been associated with influenza A and 3.7% (17/461) with influenza B. Most of influenza A viruses (84.7%) were not subtyped; of those with subtype information, 89.7% (61/68) were A(H3N2) and 9.3% (7/68) were A(H1N1)pdm09. The distribution of virus types and subtypes among hospitalized adults has been similar to that in paediatric cases.

Since the start of the season, the National Microbiology Laboratory has antigenically characterized 285 influenza viruses (201 A(H3N2), 37 A(H1N1)pdm09, and 47 influenza B). Of these, all influenza A(H3N2) and A(H1N1)pdm09 viruses were antigenically similar to the vaccine strains A/Victoria/361/2011 and A/California/07/09 respectively. Among the influenza B viruses, 37 were antigenically similar to the vaccine strain B/Wisconsin/01/2010 (Yamagata lineage) and 10 were similar to B/Brisbane/60/2008 (Victoria lineage; component of the 2011-2012 seasonal influenza vaccine). Thus far in the 2012-13 season, 274 influenza viruses have been tested for sensitivity to the neuraminidase-inhibitors, oseltamivir and zanamivir, none were resistant.

Influenza activity in the United States of America (USA) remained high during the third week of January, but decreased in some areas; nationally activity appears to have peaked in the last two weeks of December. Nationally, the proportion of outpatient consultations that were due to ILI decreased for the fourth consecutive week to 4.3% from a peak of 6.1% in the last week of 2012. The proportion of clinical ILI specimens testing positive for influenza also declined in the same period from 37.6% at the end of 2012 to 26.1% in the third week of January. As in the last report, 47 states reported widespread geographic influenza activity. The proportion of all deaths attributed to pneumonia and influenza (P&I) reported through the 122 Cities Mortality Reporting System increased sharply to 9.8% in the third week of January, well above the epidemic threshold of 7.3%. In the previous 10 years period, the highest reported peak of P&I mortality was 9.1% in the 2007-8 influenza season. In that year, the P&I mortality exceeded the epidemic threshold for 8 consecutive weeks. In contrast, 34 influenza-related paediatric deaths have been reported so far this season, compared to 37 for the entire season in 2011-12, 122 in 2010-11, and 282 during the winter season of the 2009-10
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A total of 6 191 laboratory-confirmed influenza-related hospitalizations have been reported since the beginning of the season (cumulative rate of 22.2/100 000 population). While this has not yet peaked, it is higher than the previous two seasons (8.6 and 21.4/100 000 population for the 2011-12 and 2010-11 seasons respectively) but not as high as the 2009-10 season (29.0/100 000). However, the rate for individuals over age 65 years has reached 97.7/100 000 compared to year-end cumulative totals of 25.3, 64.0, and 30.5/100 000 for the years 2009-10, 2010-11, and 2011-12 respectively.

In contrast to Canada, in the USA a higher proportion of detected influenza viruses are influenza B. Of 40 962 influenza viruses reported since the beginning of the season, 80.1% were influenza A and 19.9%, influenza B. However, as in Canada, 98% of the influenza A viruses with subtype information were A(H3N2). Since the beginning of the 2012-13 influenza season, the Centers for Disease Control and Prevention (CDC) has antigenically characterized 751 influenza viruses. All 54 A(H1N1)pdm09 viruses tested were characterized as A/California/7/2009-like and 99.6% (463/465) of the A(H3N2) influenza viruses tested were A/Victoria/361/2011-like, both of which are components of the 2012-13 Northern Hemisphere trivalent influenza vaccine. Of the 232 influenza B viruses tested, 69% (160/232) were characterized as B/Wisconsin/1/2010-like of the Yamagata lineage, a component of this season’s trivalent influenza vaccine, and 31% (72/232) were of the Victoria lineage.

None of the 762 influenza A(H3N2) and 274 influenza B viruses tested for sensitivity to the neuraminidase-inhibitors oseltamivir and zanamivir since the beginning of the season have been resistant. The first oseltamivir-resistant A(H1N1)pdm09 virus has been reported during the third week in January out of 119 tested.

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

![Graph showing the number of specimens positive for influenza by subtype in the Northern America transmission zone](image)

**Data source:** FluNet (www.who.int/flunet). Global Influenza Surveillance and Response System (GISRS) Data generated on 30/01/2013

**Europe**

Influenza activity in Europe in the third week of January increased in majority of countries of the region compared to the previous report, though some decreases have also been reported, particularly in the northwest. Increasing activity was reported in 17 countries, compared to 19 countries in the previous report, while decreasing trends were reported in five countries including Denmark, Ireland, the Netherlands, Norway, and the United Kingdom, compared to only two countries in the previous report. The proportion of ILL and Acute Respiratory Infection specimens testing positive for influenza was nearly the same for three consecutive weeks across the continent at about 40% but in the western part of the continent has declined slightly from a peak at the end of December 2012.

Among individual countries, numbers of reported ILL cases are similar in magnitude to recent previous seasons. In England, the number of registered respiratory deaths and all cause deaths have been similar to previous influenza seasons. Pooled numbers of all-cause deaths reported by 13 countries...
participating in the European Mortality Monitoring project have also been close to historical median values.

The most commonly detected viral subtype in the region was influenza A(H1N1)pdm09 but the distribution varied among individual countries and has changed since the beginning of the season. Since the start of the 2012-13 season, 69% of 16 457 influenza viruses reported from sentinel and non-sentinel sources have been type A and 31% B across the continent. However, influenza B was more common in a few countries of western Europe including Ireland, Italy, and the United Kingdom, while more eastern countries including the Czech Republic, Germany, Poland, and the Russian Federation reported much more influenza A. Influenza A(H1N1)pdm09 has increased in proportion over the course of the season and now accounts for 80% of influenza A viruses with subtype information in the third week of January. However, overall for the season, influenza A(H1N1)pdm09 accounted for only 68% of influenza viruses and A(H3N2) 32%. Notably, in the UK, while influenza B was the most commonly detected virus in outpatient clinics, influenza A(H1N1)pdm09 and A(H3N2) was found in a much larger proportion of hospitalized cases in all age groups. In data from European sentinel sites the proportions of viruses found in ILI and ARI specimens is similar to that found in hospitalized cases.

Since the start of the 2012-13 season, the majority of viruses characterized are antigenically similar to the viruses included in the current Northern Hemisphere seasonal influenza vaccine.

Since the start of the 2012-13 season, seven countries have screened 196 viruses for susceptibility to neuraminidase inhibitors (oseltamivir and zanamivir) and found all to be sensitive.

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

![Graph showing number of specimens positive for influenza by subtype in the Eastern European transmission zone]

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

Data generated on 30/01/2013

**Northern Africa and the eastern Mediterranean region**

Across the North Africa and the Middle East region, the number of positive specimens reported has been decreasing over the past five weeks, although increases were reported in individual countries. Of the countries currently reporting, Algeria, Israel, the Islamic Republic of Iran and Pakistan have noted increases in influenza activity. In the Northern Africa region, Tunisia also reported transmission increases. The Islamic Republic of Iran and Qatar noted decreases in influenza activity. The most commonly reported virus also varied between countries. Pakistan and Qatar reported more influenza B, while Algeria, The Islamic Republic of Iran, and Iraq reported more influenza A(H1N1)pdm09. Israel reported a nearly equal numbers of influenza A(H3N2) and A(H1N1)pdm09.
Number of specimens positive for influenza by subtype in the Northern Africa transmission zone

![Graph showing influenza activity by subtype in the Northern Africa transmission zone]

**Data source:** FluNet ([www.who.int/flunet](http://www.who.int/flunet)). Global Influenza Surveillance and Response System (GISRS)

**Temperate Asia**

Influenza activity continued to increase throughout most of the temperate region of Asia during the third week of January, including northern China, Mongolia and the Republic of Korea. The proportion of outpatient visits at sentinel surveillance sites that were due to ILI in northern China was 5.1%, which was similar to that of the previous report (4.2%). The proportion of influenza A(H1N1)pdm09 has continued to increase in the area, approaching equal proportions with influenza A(H3N2). Influenza A accounted for 99.2% (387/390) of influenza viruses detected. Of the influenza A that were sub-typed, 54.3% were A(H3N2) and 45.6% were A(H1N1)pdm09.

Among influenza viruses antigenically characterized by the Chinese National Influenza Center since October, 2012, 99% (n=101) influenza A(H1N1)pdm09 viruses are related to A/California/7/2009-like, 100% (n=397) of influenza A(H3N2) viruses are related to A/Victoria/361/2011(H3N2)-like; 96% (n=121) of influenza B/Victoria viruses are related to B/Brisbane/60/2008-like; and 100% (n=19) influenza B/Yamagata viruses are related to B/Wisconsin/01/2010-like. None of the influenza samples tested were resistant to the neuraminidase inhibitors, oseltamivir and zanamivir.

In Mongolia, ILI activity based on the proportion of outpatients has increased slightly. Much of ILI in recent weeks has been associated with other respiratory viruses, such as respiratory syncytial virus, rhinovirus and human coronaviruses.

Influenza activity continued to increase in the Republic of Korea, with detections of A(H3N2) and A(H1N1)pdm09. Influenza activity remained low in Japan, with influenza A(H3N2) the dominant subtype.
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Countries in the tropical zone

Tropical countries of the Americas

In both Central America and the Caribbean, influenza activity in the third week of January was similar or declined compared to previous weeks and continued to decrease from their peaks in late summer. The most commonly detected viruses were influenza A(H3N2) and B, with Cuba being the only exception and where influenza A(H1N1)pdm09 was observed. In French Territories, Martinique and Guadeloupe are experiencing higher number of ILI consultations than the expected levels for previous years but no influenza virus was reported.

Throughout South America, influenza activity was at undetectable or low level with the exception of slight increases in activity seen in Paraguay and the Plurinational State of Bolivia. Paraguay reported circulation of both influenza A(H3N2) and B, while the Plurinational State of Bolivia, reported a moderate increase in circulation of A(H3N2) alone.

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 17/01/2013

Central African Belt

Most countries in the Central African Belt experienced decreasing detections of influenza. Influenza A(H1N1)pdm09 that had been circulating previously in the Democratic Republic of the Congo and Ghana has decreased to inter-seasonal levels. Cameroon and Madagascar continued to report low levels of influenza B.
Tropical Asia

Influenza activity in most countries of south East Asia has remained similar to previous weeks, with continuing low-level circulation in Cambodia, Sri Lanka, Thailand and Viet Nam.

Influenza activity in India remained at inter-seasonal levels, with low detections of mainly influenza A(H1N1)pdm09 and some influenza B. Sri Lanka reported consistent circulation of all three influenza sub-types, while influenza A(H3N2) and influenza B were detected in Thailand. Cambodia and Viet Nam reported transmission of predominantly influenza B virus.

Influenza activity in Singapore and southern China, including Hong Kong SAR, remained below seasonal thresholds. In southern China, the proportion of influenza A(H1N1)pdm09 has increased and exceeded the proportion of influenza A(H3N2). Influenza A accounted for 97.5% (157/161) of influenza viruses detected. Of the influenza A that were sub-typed, 47.2% were A(H3N2) and 52.7% were A(H1N1)pdm09.
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.

Number of specimens positive for influenza by subtype in the Southern Hemisphere

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

Data source: FluNet (www.who.int/flunet), Global Influenza Surveillance and Response System (GISRS)
Data generated on 30/01/2013

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:
http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance

Epidemiological Influenza updates archives 2012:
http://www.who.int/influenza/surveillance_monitoring/updates/GIP_surveillance_2012_archives

Virological surveillance updates:
http://www.who.int/influenza/gisrs_laboratory/updates/summaryreport

Virological surveillance updates archives:

Contact
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