Summary

- Most countries in the northern temperate zone have stopped weekly reporting or moved over to out of season surveillance schedules.

- In the tropical zone, the countries to report notable influenza activity are Brazil, Cuba, Ecuador, El Salvador and Panama in the Americas (influenza A(H1N1)pdm09 and type B); Ghana and Madagascar in sub-Saharan Africa (influenza A(H3N2); southern China, Singapore and Viet Nam in Asia (A(H3N2) in China and Viet Nam, A(H3N2), A(H1N1)pdm09, and B in Singapore).

- The influenza season has continued in most temperate countries of the southern hemisphere for which there is data and appears to have peaked in Chile and South Africa, where many indicators have recently begun to decline. In contrast, very low numbers of detections have been reported throughout the last several weeks in Argentina. Rates of disease have continued to increase across Australia and New Zealand.

- Influenza A(H3N2) viruses were the most commonly reported type/sub-type in recent weeks across the southern hemisphere temperate region in Chile, South Africa, Australia, and New Zealand. However, the distribution is not uniform across Australia where influenza type B accounts for a significant portion of viruses detected in the Western Australia, Northern Territory, and Queensland. Influenza A(H1N1)pdm09 is the most common influenza virus detected in Paraguay as well as neighboring areas of southern Brazil and the Plurinational State of Bolivia.

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.

- Virological Update
Countries in the temperate zone of the northern hemisphere

Influenza transmission in all reporting countries in the temperate regions of the northern hemisphere is at inter-seasonal levels.

A recent outbreak of influenza A(H3N2) variant of swine origin was reported in Indiana, the United States of America. There were five confirmed human cases of infection. All had recent contact with swine and have since fully recovered. A full summary of the event describing the first four cases is available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6129a5.htm?s_cid=mm6129a5_w. For more information, see also: http://www.cdc.gov/flu/weekly/

Countries in the tropical zone

Tropical countries of the Americas

Some active transmission of influenza has been reported in Central America, the Carribean, and tropical South America.

In Central America, El Salvador continued to report elevated levels of influenza A(H1N1)pdm09 detections, which have increased steadily over the past 10 weeks. Influenza type B has also been detected in very low numbers since mid-July. Of the remaining countries in Central America, only Panama has reported notable numbers of influenza virus detections beginning in early June, primarily influenza A(H1N1)pdm09, though numbers of viruses detected were low.

In the Caribbean, Cuba and Jamaika continued to report detections of influenza B, which have been increasing for the past six weeks.

In the tropical zone of South America, recent transmission of influenza has been noted primarily in Brazil, Ecuador, and the Plurinational State of Bolivia with some persistent low level transmission in Colombia and Peru. Brazil has been reporting increasing levels of influenza activity over the past several weeks, primarily affecting the southern and south-eastern regions of the country. However, since mid-July, there has been a reduction in the number of hospitalized severe acute respiratory infection (SARI) cases, deaths associated with influenza, and overall detections of influenza virus indicating that the season may have peaked. Brazil reported that influenza was detected in 21% (2347/11232) of SARI cases for the year, and of these, 75% (n=1762) were influenza A(H1N1)pdm09 virus. In addition, influenza was detected in 28% (244/860) of all SARI deaths, of which 86% (210/244) were influenza A(H1N1)pdm09 virus. Numbers of influenza B viruses in outpatient influenza-like illness (ILI) samples has been very small relative to the numbers of influenza A viruses. Influenza type B was reported primarily in the age groups 15-59 and was nearly absent in other age strata. Ecuador has reported a steady increase in influenza B detections over the last 6 to 8 weeks. In the third week of July, 36% (16/45) of the samples analyzed were positive for a respiratory virus and, in marked contrast to Brazil, most were Influenza B (13/16). Since the beginning of 2012, influenza has been found in 29% (330/1157) of hospitalized SARI cases in 2012 in Ecuador; in 44% (30/67) of SARI cases requiring intensive care; and 51% (20/39) of SARI deaths. In Santa Cruz, the Plurinational State of Bolivia, according to data from Cenetrop, viral circulation showed a decreasing trend since peaking in June with a positivity of 9.5% in the fourth week of July, with only 21 samples analyzed. Influenza A(H1N1)pdm09 has been the most common influenza virus detected during this period of transmission accounting for over 90% of influenza viruses identified. Colombia and Peru both continued to report very low numbers of influenza A(H1N1)pdm09 and influenza type B for the past 8 weeks or more.

Sub-Saharan Africa

In western Africa, transmission of influenza A(H3N2) and influenza B was reported in Ghana since early June. Transmission of influenza A(H3N2) preceded the appearance of influenza type B by several weeks and now appears to have peaked. In Madagascar, the previously noted high level
influenza A(H3N2) transmission has begun to decrease in recent weeks. Unconfirmed media reports quoting a Ministry of Health official suggest that Zimbabwe has also experienced recent widespread transmission of influenza A(H3N2).

Tropical Asia

A few areas of tropical Asia have experienced recent significant influenza virus circulation most notably southern China, Singapore, and Viet Nam. India continues to detect persistent low numbers of A(H1N1)pdm09 and influenza type B, in roughly equal numbers, following the peak transmission that occurred there in March and April. Neighboring Sri Lanka has been detecting a similar distribution of viruses, though without the March-April peak. In southern China, the percentage of outpatient visits that were due to ILI at sentinel sites was 3.5% during the week 16 to 22 July, a persistent upward trend over the past four weeks. Generally, ILI reports in southern China have been slightly higher for the last 8 weeks compared to the same period of the previous year. 309 of 1,024 (29.9%) specimens tested were positive for influenza, an increasing trend that has also persisted for the past 6 to 8 weeks. Of the positive tests, 306 (99.0%) were influenza A and all of the influenza A viruses that were subtyped were A(H3N2). The previously reported high level, persistent influenza activity in China Hong Kong Special Administrative Region has continued to decrease in recent weeks. Admissions for influenza, deaths related to influenza, numbers of ILI cases presenting to emergency departments, and outbreaks of influenza have all decreased to low levels and the Centre for Health Protection has stopped the enhanced surveillance for severe influenza as of 26 July. The prolonged influenza season resulted in levels of admission and death that were notably higher compared to the last two years, primarily associated with influenza A(H3N2) virus. In Southeast Asia, transmission of A(H3N2) in Viet Nam has begun to decrease after peaking in late June. Cambodia and the Lao People's Democratic Republic have both reported low level transmission of A(H3N2) coinciding with the peak in Viet Nam. In Singapore, acute respiratory infection (ARI) activity increased during the week 15 to 21 July compared to the previous week and remained above the warning level. The proportion of cases with ILI among the polyclinic ARI cases was low at 1% but of 152 ILI samples collected in the last four weeks, 36% (preliminary) were positive for influenza virus. Influenza A(H3N2) accounted for 46% of all influenza isolates collected in June 2012, while influenza B and influenza A(H1N1)pdm09 accounted for 30% and 25%, respectively.

The National Influenza Center of China antigenically characterized 102 A(H3N2) viruses in the third week of July; all were related to A/Perth/16/2009-like. However, during the period of October 1, 2011 to July 22, 2012, 1764 of 2350 isolates characterized (75%) were related to A/Perth/16/2009(H3N2)-like; 586 (25%) demonstrate reduced titers (≥8 fold lower in Hemagglutinin Inhibition (HI) titre) with anti-sera produced against A/Perth/16/2009(H3N2). Of the 50 A(H1N1)pdm09 viruses antigenically characterized during the same period, 45 (90%) were related to A/California/7/2009-like and 5 (10%) demonstrate reduced titers (≥8 fold lower in HI titer) with anti-sera produced against A/California/7/2009. Two influenza A(H3N2) and 21 influenza B viruses tested for antiviral resistance in the same week of mid-July were sensitive to the neuraminidase inhibitors. All A(H1N1)pdm09 viruses tested since October 1, 2011 have been sensitive to neuraminidase inhibitors.
Countries in the temperate zone of the southern hemisphere

Influenza activity continued to be reported in most temperate countries of the southern hemisphere.

Temperate countries of South America

Influenza activity in the southern cone of South America appears to have peaked and began decreasing in Chile, remained low in Argentina, and continued to increase in Paraguay.

Chile reported a decrease of ILI activity for the first time since early July, with an ILI consultation rate of 14.5 per 100 000. SARI cases with confirmed influenza have also decreased from the previous reporting fortnight. Almost all of the influenza viruses detected in Chile were of subtype A(H3N2). Chile has also experienced a significant respiratory syncytial virus (RSV) season, accounting for a large portion of ILI and SARI cases. Argentina continued to report only small numbers of influenza virus detections. ILI and SARI cases remained elevated with detections of respiratory syncytial virus (RSV) appearing to have peaked and decreased since early-June. Among the small number of influenza viruses detected in northern Argentina, the majority of have been A(H1N1)pdm09. This area of Argentina borders Paraguay and southern Brazil where influenza A(H1N1)pdm09 has been widely circulating for several weeks. In Paraguay, ILI rates are significantly elevated and above that measured for the previous three years, much of it associated with RSV. Rates of SARI cases requiring intensive care admission were reported as showing a significant increase when compared to the previous week in early-July. Of total respiratory virus detections in SARI samples, influenza A(H1N1)pdm and influenza B represent 20% and 17% respectively. Of the 2012 SARI mortalities with confirmed respiratory viruses (n=12), nine (75%) were confirmed influenza A(H1N1)pdm09.
**Temperate countries of southern Africa**

In South Africa, co-circulation of influenza A(H3N2) and influenza B was reported. Virus detections in total have decreased since mid-June. In SARI samples positive for influenza, A(H3N2) makes up the majority of detections. Zambia detected very low numbers of influenza B and influenza A(unsubtyped).
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Oceania, Melanesia and Polynesia

Australia and New Zealand are now well into their influenza seasons. Increased influenza activity has continued to be reflected across all surveillance systems in Australia since the last reporting period with almost all jurisdictions having reported widespread activity above baseline levels. Nationally, there was 4174 laboratory confirmed notifications of influenza in the past reporting fortnight, which is almost double the number of notifications from the previous reporting fortnight. Compared with previous years (excluding 2009), there has been an earlier increase in seasonal ILI consultation rates and rates are currently higher than the seasonal peaks reported in 2010 and 2011.

Two surveillance systems have reported data on hospitalized cases. The Influenza Complications Alert Network (FluCAN) reported that since 7 April 2012, 9% of laboratory confirmed influenza-associated hospitalized patients have been admitted to intensive care units. Overall, 20% of cases have been due to influenza B, however most of these presentations are from the Northern Territory and Queensland where influenza B is the most commonly detected influenza virus in the community; amongst other jurisdictional sites, influenza A is more common. Around 40% of the cases are aged 65 years and over (median age 55 years) and almost 70% of all cases have known medical co-morbidities. A bimodal age distribution trend in hospitalisations was reported with peaks among those aged 0-9 years and over 70 years.

So far in 2012, 8 influenza associated deaths have been notified to the National Notifiable Diseases Surveillance System (NNDSS), with a median age of 76 years (range 51 to 90 years). All cases were reported as having influenza A(unsubtyped) and are likely to be attributable to A(H3N2) infections. In the state of New South Wales (NSW), death registration data for the week ending 15 June 2012 showed that there was 1.63 pneumonia or influenza associated deaths per 100,000 population in NSW, which is just below the epidemic threshold of 1.65 per 100,000 NSW population, for this period.

Nationally, influenza A(H3N2) continues to be the predominant circulating strain with some co-circulation of influenza B. Of the 4,174 influenza notifications reported to the NNDSS this reporting period, 3,610 (86%) were influenza A, 519 (12%) were influenza B, and 45 (2%) were reported as influenza A and B or untyped. Of the influenza A viruses with subtype information, 797 (97%) were A(H3N2) and 25 (3%) were A(H1N1)pdm09 (2,788 were influenza A unsubtyped); The distribution of types and subtypes is not uniform across all areas of the country, however. Influenza B represents 64% and 41% of notifications in the Northern Territory and Western Australia, respectively, while in Tasmania influenza A accounted for 94% (162/172) of positive influenza detections.

From 1 January to 9 July 2012, there were 441 Australian influenza viruses subtyped by the WHO Collaborating Centre. Almost all of the influenza A(H3N2) viruses are of a more recent strain that differs from the A(H3N2) strain in the 2012 southern hemisphere seasonal influenza vaccine, however, it is expected that the vaccine will still offer significant protection. Additionally there is some co-circulation of the two influenza B lineages. The majority of influenza B viruses are of the B/Victoria lineage and are similar to the strain in the current vaccine. Some cross-protection against influenza B viruses of the other (B/Yamagata) lineage is expected in adults, though less so for children.

In New Zealand, ILI consultation rates remained above baseline for the third consecutive week with a weekly consultation rate of 108.5 per 100000. Nationally, of the 702 ILI samples received, 34% (n=241) were positive for influenza viruses. Of these, A(H3N2) accounted for 64% (n=155). In contrast to this, of the 49 SARI specimens tested between 15 to 22 July 2012 by The Southern Hemisphere Influenza and Vaccine Effectiveness Research and Surveillance (SHIVERS) Project, 13 (27%) were positive for influenza viruses with influenza A(H1N1)pdm09 accounting for 62% (n=8) and influenza A(H3N2) detected once. The currently circulating influenza A(H3N2) viruses in New Zealand do not appear to demonstrate a major antigenic drift. The antigenic typing results to date characterizes them as the A/Perth/16/2009-like strain that is included in the current southern hemisphere vaccine.
Number of specimens positive for influenza by subtype in Oceania, Melanesia and Polynesia

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:

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