

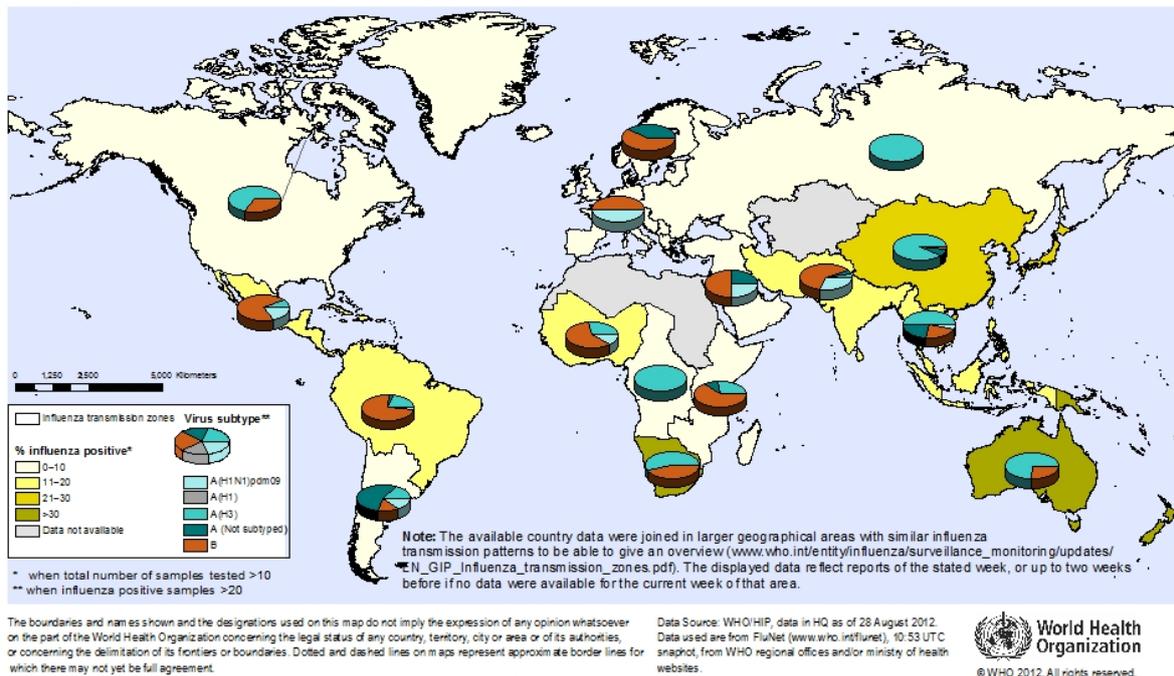
## Influenza Update N° 167

31 August 2012

### Summary

- *Most countries in the northern temperate zone have stopped weekly reporting or moved over to out of season surveillance schedules. The United States of America has discovered new cases of swine origin influenza A(H3N2)v in humans; no sustained human-to-human transmission has been identified so far.*
- *In the tropical zone, the countries reporting notable influenza activity are Brazil, Costa Rica, Cuba, Ecuador, El Salvador, Honduras, Nicaragua Panama, Peru, and the Plurinational State of Bolivia in the Americas (influenza A(H1N1)pdm09, A(H3N2) and type B); Ghana and Madagascar in sub-Saharan Africa (influenza A(H3N2) and type B); Bhutan, Cambodia, southern China, China Hong Kong Special Administrative Region, India, Lao People's Democratic Republic, Singapore, Sri Lanka and Viet Nam in Asia (influenza A(H3N2) and type B).*
- *Influenza activity decreased in temperate countries of the southern hemisphere. Australia, Chile, New Zealand, Paraguay and South Africa, continue to report declines in most transmission indicators. Argentina continues to report very low numbers of detections compared to previous seasons.*
- *Influenza A(H3N2) viruses are the most commonly reported type/sub-type in recent weeks in most countries of the southern hemisphere temperate region including Chile, South Africa, and Australia. However, in Central America the previously reported transmission of influenza A(H1N1)pdm09 has now largely transition to a predominance of influenza type B. In tropical Asia, southern China and Southeast Asia have been reporting mostly A(H3N2), whereas Bhutan, India and Sri Lanka have had both influenza A(H1N1) and type B circulating.*
- *Reports of neuraminidase resistance continue to be very uncommon. Notably, Australia reports that a large proportion of the influenza A(H3N2) viruses tested so far this season demonstrated reduced titers in haemagglutination inhibition assays using ferret antisera against the vaccine viruses contained in the current southern hemisphere vaccines.*

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.

**Percentage of respiratory specimens that tested positive for influenza  
By influenza transmission zone**
**Status as of week 33  
12 – 18 August 2012**


## Countries in the temperate zone of the northern hemisphere

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

In the United States of America, the total number of confirmed human cases of swine origin influenza A(H3N2)v virus increased to 276 for the period from July through 23 August 2012. New cases have been discovered primarily as a result of active case finding around reported cases. Thirteen cases have been hospitalized as a result of their illness but all have recovered. The large majority of cases have been associated with swine exposure though three likely instances of limited, non-sustained human-to-human transmission have been identified. No sustained human-to-human transmission has been detected. More information can be found at: <http://www.cdc.gov/flu/swineflu/h3n2v-outbreak.htm>

## Countries in the tropical zone

### Tropical countries of the Americas

Transmission in Central America, the Caribbean, and tropical South America has now decreased to very low levels in reporting countries.

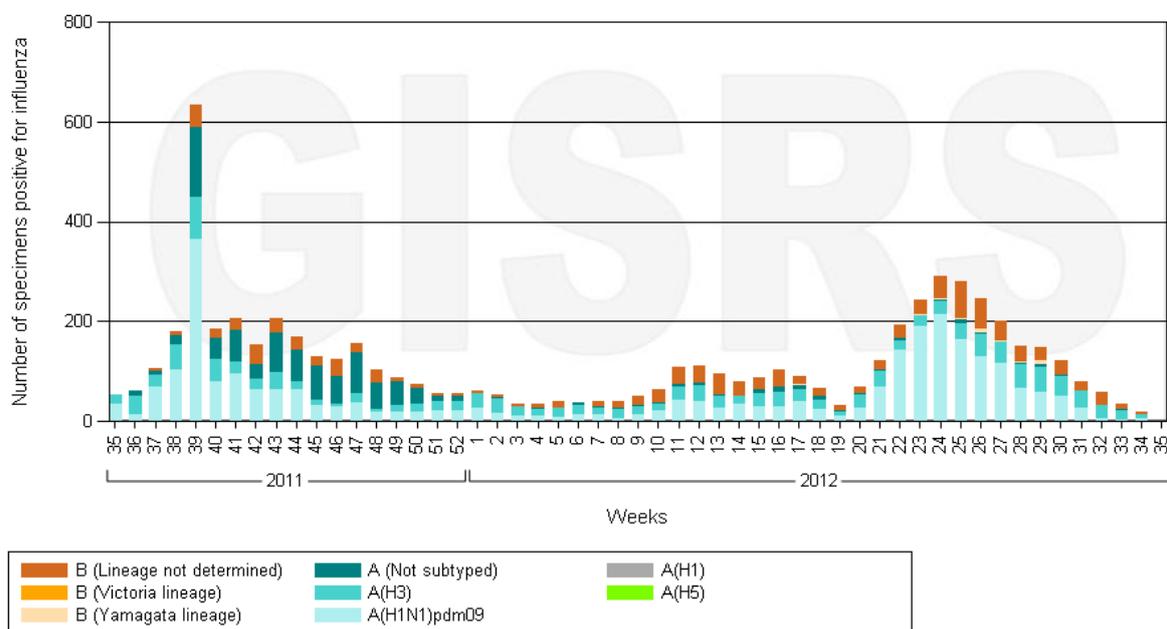
Across Central America, after detecting influenza A(H1N1)pdm09 during much of the northern hemisphere summer, influenza B has now become the most commonly detected virus, though numbers of detections have been decreasing for several weeks and are now very low. El Salvador, Costa Rica, Nicaragua and Panama have reported a predominance of influenza B detections for at least the past 6 reporting weeks, with A(H1N1)pdm09 at almost undetectable levels. Honduras has reported recent co-circulation of A(H1N1)pdm09 and influenza B and small numbers of influenza A(H3N2) have been reported in Nicaragua. In the Caribbean, Cuba has reported low levels of influenza virus activity since a peak in mid-June, with influenza B the most detected virus.

In the tropical zone of South America, recently reported transmission of influenza has been noted primarily in Brazil, Ecuador, Peru and the Plurinational State of Bolivia has continued to decline to very low levels.

In Brazil, the levels of influenza activity continue to decrease after peaking in mid-August. In 2012, influenza viruses were detected in 22% (3406/15613) of Severe Acute Respiratory Infection (SARI) cases. Of these, 70% (2398/3406) were influenza A(H1N1)pdm09 and most of the remaining 30% were A(H3N2). In addition, influenza was responsible for 28% (363/1268) of all SARI deaths, of which 84% (307/363) were influenza A(H1N1)pdm09 virus. Of the total deaths from SARI, 50% (638/1.268) were male and the median age was 46 years (range 0-99 years); 60% had at least one comorbidity recorded.

Ecuador, Peru, and the Plurinational State of Bolivia, in contrast to Brazil, have primarily reported influenza type B detections in recent weeks.

### Number of specimens positive for influenza by subtype in the tropical South America transmission zone



Data source: FluNet ([www.who.int/fluNet](http://www.who.int/fluNet)). Global Influenza Surveillance and Response System (GISRS)  
Data generated on 30/08/2012 14:19:12 UTC

### Sub-Saharan Africa

Of countries in Sub-Saharan Africa that have reported influenza data, only Ghana has reported notable virus circulation, primarily type B. Detections in Madagascar have continued to decline after a peak of influenza A(H3N2) transmission in mid-June.

### Tropical Asia

A few areas of tropical Asia have experienced recent significant influenza virus circulation most notably southern China and Viet Nam.

India, Sri Lanka, Bhutan, and Thailand have continued to detect a persistent low numbers of influenza A(H1N1)pdm09 and influenza type B, in approximately equal numbers since a peak in transmission in early-July.

In southern China influenza activity has also continued to decrease. The percentage of outpatient visits that were due to ILI at sentinel sites was 2.9% during the most recent reporting week, slightly lower than that of the previous week (3.0%). Of ILI specimens tested, 22% (198/884) were positive for

influenza. In contrast to the Indian sub-continent, 97% (172/177) of the southern China subttyped influenza viruses were A(H3N2).

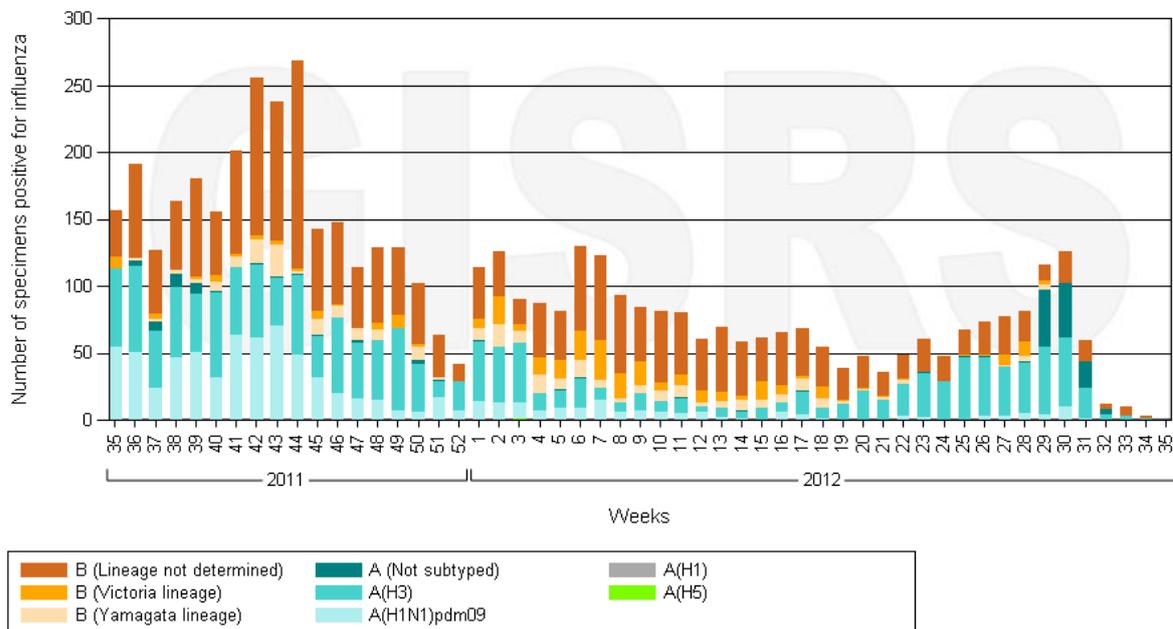
Virus transmission in Viet Nam, Cambodia, and Lao People's Democratic Republic has followed a pattern similar to southern China's in recent weeks. After reporting a peak of influenza A(H3N2) detections in mid-July, very few viruses are now being detected.

In Singapore, acute respiratory infection (ARI) activity decreased and has been below the warning level for the last two reporting weeks. The proportion of cases with ILI among the polyclinic ARI cases was low at 1% but 41% (n=42/102) of ILI samples collected in the last four weeks were positive for an influenza virus. Of the positive samples tested in July 2012, influenza A(H3N2) constituted 51%, while influenza A(H1N1)pdm09 and influenza B constituted 35% and 14%, respectively.

During the period August 13 -19, 2012, the National Influenza Center of China has antigenically characterized 261 influenza viruses. Ninety-six per cent of (H3N2) viruses, (207/216) were related to A/Perth/16/2009(H3N2)-like and 4% (9/216) demonstrated reduced titers ( $\geq 8$  fold lower in HI titer) with anti-sera produced against A/Perth/16/2009(H3N2). Of the influenza B/Victoria viruses characterized, 62% (24/39) were B/Brisbane/60/2008-like and 39% (15/39) demonstrate reduced titers ( $\geq 8$  fold lower in HI titer) to anti-sera produced against B/Brisbane/60/2008. Six influenza B/Yamagata viruses were characterized and all were related to B/Wisconsin/01/2010-like virus.

Since October 1, 2011 to August 19, 2012, all influenza A(H1N1)pdm09 and A (H3N2) viruses were sensitive to neuraminidase inhibitors.

Number of specimens positive for influenza by subtype in the South East Asia transmission zone



Data source: FluNet ([www.who.int/fluNet](http://www.who.int/fluNet)). Global Influenza Surveillance and Response System (GISRS)  
Data generated on 30/08/2012 14:22:36 UTC

## Countries in the temperate zone of the southern hemisphere

Influenza activity has continued to decline in all temperate countries of the southern hemisphere.

### Temperate countries of South America

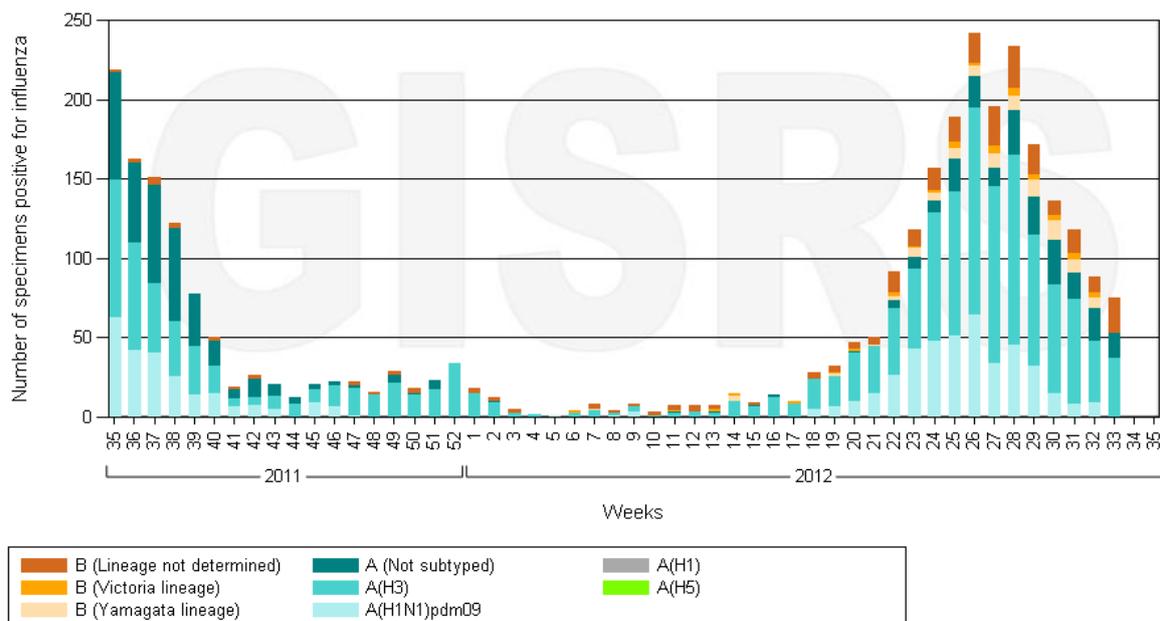
Influenza activity in the southern cone of South America appears to have peaked and is decreasing in Argentina, Chile and Paraguay.

Chile reported an ILI consultation rate of 11.4 per 100 000 which represents a slight decrease from the previous reporting week (11.7 per 100 000) and continues a declining trend from a peak in late-June. The percentage of hospital emergency care visits associated with influenza increased in the past two reporting weeks but remains lower than that recorded from early-July. Of all respiratory viruses detected in the most recent reporting week, 14% were influenza A, of which the majority were A(H3N2). Of SARI samples in the same period, 10% (n=5/48) were influenza A of which three were had subtype information and were A(H3N2).

Argentina continued to report only small numbers of influenza virus detections. ILI and SARI cases continued a decreasing trend since the first week of June, which is concurrent with the decrease of respiratory syncytial virus (RSV) detections. Of the small number of influenza viruses detected, both influenza A(H1N1)pdm09 and influenza B were found.

In Paraguay, the total number of influenza detections have steadily decreased since a peak in mid-July and ILI and SARI rates have continued to decrease for the past two reporting weeks, This also coincides with a decrease in both RSV detections. Of the SARI cases with confirmed influenza, influenza B and A(H1N1)pdm09 were each detected in three of the eight cases, while A(H3N2) was detected in one case. Of the 2012 SARI fatalities with laboratory confirmed respiratory viruses (n=24), sixteen (67%) were confirmed influenza A(H1N1)pdm09.

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



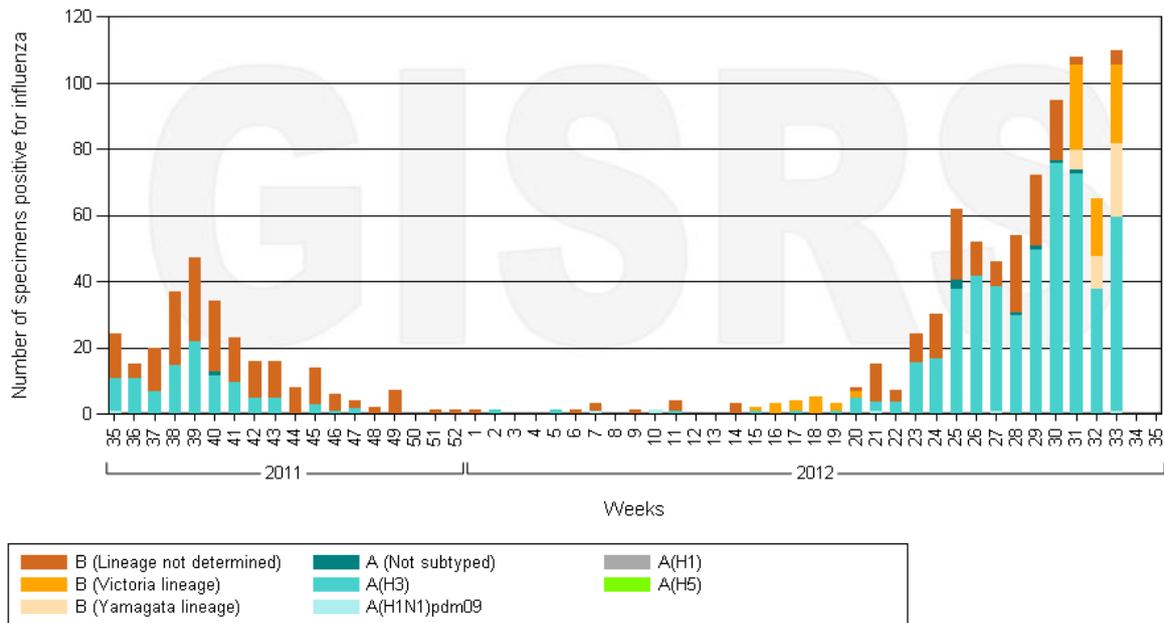
Data source: FluNet ([www.who.int/fluNet](http://www.who.int/fluNet)). Global Influenza Surveillance and Response System (GISRS)

Data generated on 30/08/2012 14:24:32 UTC

### Temperate countries of southern Africa

In South Africa, after an initial decrease in total number of influenza detections, a sustained increase in circulation of both influenza A(H3N2) and influenza B has been reported for the past three reporting weeks. In SARI samples positive for influenza, A(H3N2) makes up the majority of detections.

Number of specimens positive for influenza by subtype in the temperate southern Africa transmission zone



Data source: FluNet ([www.who.int/flu-net](http://www.who.int/flu-net)). Global Influenza Surveillance and Response System (GISRS)  
Data generated on 30/08/2012 14:27:06 UTC

### Oceania, Melanesia and Polynesia

Australia continued to report a decrease in most influenza indicators in the recent reporting period, New Zealand reported the first decrease in ILI consultations since June.

Although almost all jurisdictions of Australia have reported influenza activity above baseline levels, most surveillance systems continued to report a decrease in activity compared to the previous reporting period, which represents a two week period of sustained decrease in influenza activity. In the week ending 19 August 2012, sentinel general practitioner ILI consultation rates continued to decrease to 14.0 per 1000 consultations, following a peak in the previous weeks of 22.1 per 1000 consultations. Nationally, there was 6614 laboratory confirmed notifications of influenza in the past reporting fortnight, a slight decrease, with almost 56% coming from Queensland. Queensland is the only jurisdiction that continues to detect increasing numbers of influenza viruses; detections in all other jurisdictions have plateaued or decreased. In 2012 with the predominance of influenza A(H3N2), the age distribution of influenza notifications represented a bimodal trend with peaks in the age strata 0 – 4 years and 70 years and above. A small peak is also noted in the 30-44 years strata.

The number of hospital admissions for influenza continued to decrease after peaking in mid-July. Seventy-five per cent of all hospitalized cases have known medical co-morbidities. A bimodal age distribution trend in hospitalizations was reported with peaks among those aged 0-9 years and those aged over 70 years. Since 7 April 2012, 9% of hospitalised influenza patients have required admission to intensive care units. Of all intensive care admissions, 16% of were due to influenza B, however 40% of these presentations were in the Northern Territory where influenza B has been

detected in a larger proportion of cases, compared to other states and territories. Around 45% of the cases are aged 65 years and over (median age 60 years) and 75% of all cases have known medical co-morbidities

In the period 1 July – 17 August 2012, there were 17 pediatric hospitalizations associated with severe complications of influenza, including five ICU admissions. More than 60% of these hospitalizations were associated with influenza A(not subtyped) with the remainder attributed to influenza B. Almost half had an underlying chronic condition.

So far in 2012, 33 influenza associated deaths have been notified to the National Notifiable Diseases Surveillance System (NNDSS), with a median age of 75 years. Almost all cases were reported as having influenza A(not subtyped), which are thought to be A(H3N2) infections as very little A(H1N1)pdm09 virus is being detected in the country.

Nationally, influenza A(H3N2) continues to be the predominant circulating virus with some co-circulation of influenza B. The distribution of types and subtypes is not uniform across all areas of the country, however. Influenza A(H3N2) is predominant across most states and territories, however influenza B represents approximately a third of notifications in Western Australia. Of the 6614 influenza notifications reported to the NNDSS this reporting period, 5400 were influenza A (4568 were influenza A (not subtyped), of the type A viruses with subtype information, 816 were A(H3N2) and 16 were influenza A(H1N1)pdm09, 1202 were influenza B and 12 notifications were reported as A&B co-infections, influenza C or untyped.

Of the influenza A(H3N2) viruses analyzed by The WHO Collaborating Centre for Reference & Research on Influenza (WHO CC), almost all were 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 two influenza B lineages, with the majority being of the B/Victoria lineage, similar to the strain in the current vaccine. Some cross-protection against influenza viruses of the B/Yamagata lineage is expected in adults, though less so for children.

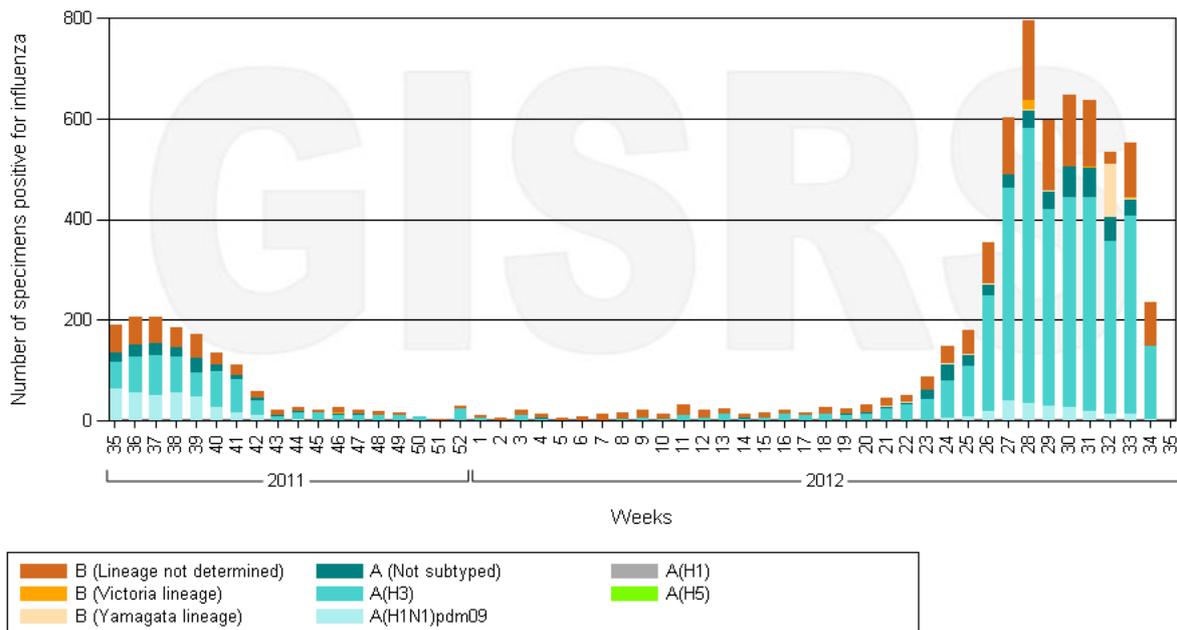
From the 1 January to 21 August 2012, the WHO CC reported one virus of the 762 tested showed resistance to the neuraminidase inhibitor oseltamivir. This virus was a pandemic (H1N1) 2009 virus with H275Y mutation in the neuraminidase gene, which is known to confer resistance to oseltamivir.

In New Zealand, ILI consultation rates decreased for the first time in the past two months. Although ILI consultation rates have decreased significantly, rates still remained above baseline for the seventh consecutive week. A weekly ILI consultation rate of 85.5 per 100 000 was reported. This decrease has been sustained for the past two reporting weeks. Although ILI has decreased, the proportion of positive influenza samples showed a marginal increase.

Nationally, of the 538 ILI samples received, 36% (n=196) were positive for an influenza virus. Of these, influenza A(H3N2) accounted for 67% (n=131), influenza A not subtyped for 17% (n=34), influenza B for 9% (n=17) and influenza A(H1N1)pdm09 for 7% (n=14).

The number of SARI cases and incidence per 100 000 population has slightly increased in New Zealand. Nationally, of the 72 SARI specimens tested between 29 July to 5 August 2012 by The Southern Hemisphere Influenza and Vaccine Effectiveness Research and Surveillance (SHIVERS) Project, 18 (25%) were positive for influenza viruses with influenza A(not subtyped) accounting for 44% (n=8), influenza A(H3N2) for 22% (n=4); influenza B for 22% (n=4); and influenza A(H1N1)pdm09 for 11% (n=2). Of the 971 SARI specimens collected since 30 April 2012, 21% (207) were positive for influenza viruses.

## Number of specimens positive for influenza by subtype in Oceania, Melanesia and Polynesia



Data source: FluNet ([www.who.int/fluNet](http://www.who.int/fluNet)). Global Influenza Surveillance and Response System (GISRS)  
Data generated on 30/08/2012 14:29:54 UTC

### 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](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](http://www.who.int/influenza/surveillance_monitoring/updates/GIP_surveillance_2012_archives)

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 :

[http://www.who.int/influenza/gisrs\\_laboratory/updates/en/index.html](http://www.who.int/influenza/gisrs_laboratory/updates/en/index.html)

### Contact

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