



INFLUENZA WEEKLY UPDATE

2012/29: 16 – 22 July 2012

The national influenza surveillance system in New Zealand is an essential public health component for assessing and implementing strategies to control influenza. This report summarises the data collected on influenza-like illness (ILI) from sentinel general practice (GP) surveillance and non-sentinel surveillance for week 29 (16 – 22 July 2012).

Summary

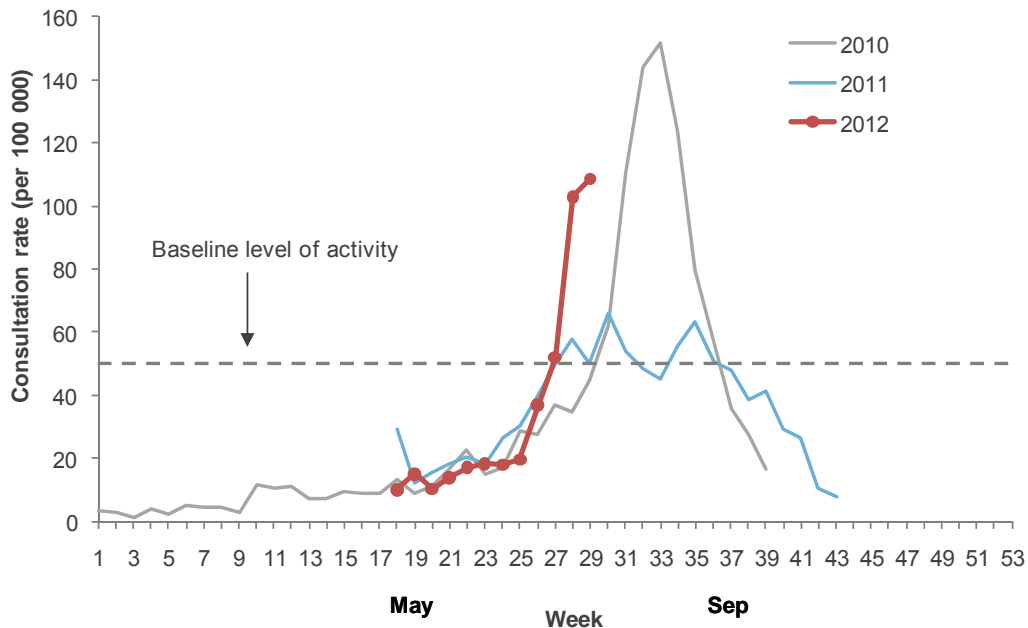
- ILI through sentinel surveillance was reported from 19 out of 20 District Health Boards (DHB) with a national consultation rate of 108.5 per 100 000 (404 ILI consultations).
- A total of 702 swabs were received from sentinel (96) and non-sentinel (606) surveillance.
- 241 viruses were identified: A(H3N2) (155) including one A/Perth/16/2009 (H3N2)-like virus, A (Not subtyped) (33), A(H1N1)pdm09 (31) including one A/California/7/2009 (H1N1)-like virus, B (Lineage not determined) (19), B/Wisconsin/1/2010-like viruses (belonging to the B/Yamagata lineage) (3).

Influenza activity continued to increase in week 29. Influenza A(H3N2) viruses remain the predominant virus in many regions particularly in Canterbury DHB. These viruses do not appear to demonstrate a major antigenic drift, nothing extraordinary.

INFLUENZA-LIKE ILLNESS SURVEILLANCE

In the past week, a total of 404 consultations for ILI were reported from 83 general practices in 19 out of 20 DHBs. This gives a weekly consultation rate of 108.5 per 100 000 patient population. Figure 1 shows the weekly national consultation rates for 2010, 2011 seasons, and 2012 to date. The ILI rate has increased slightly from 102.8 per 100 000 in week 28 to 108.5 per 100 000 in week 29.

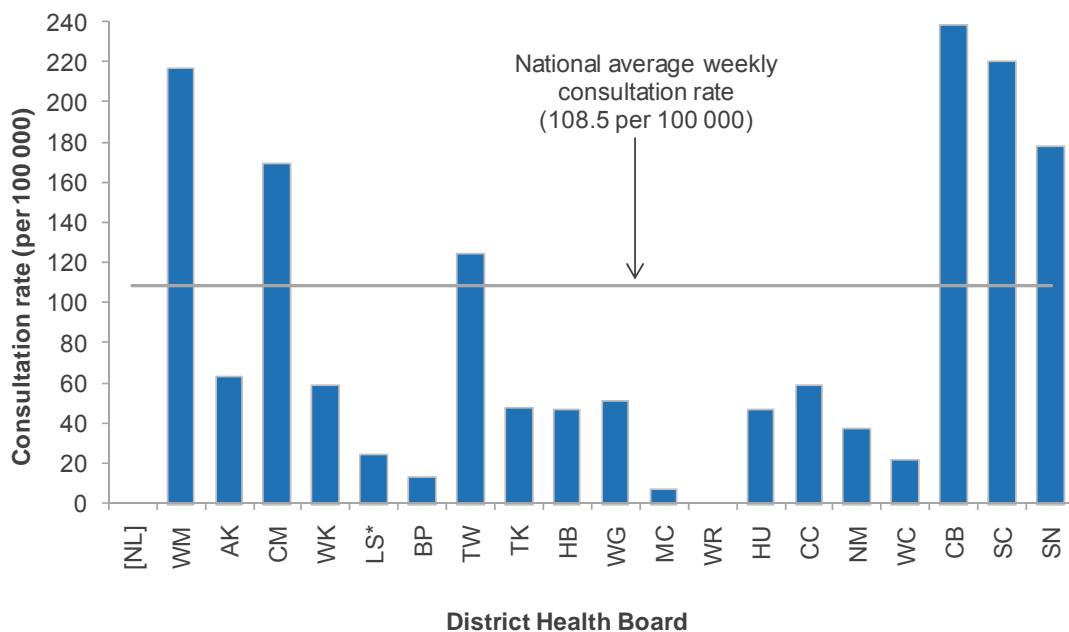
Figure 1. Weekly consultation rates for ILI in New Zealand, 2010, 2011 and 2012



* A weekly rate <50 ILI consultations per 100 000 patient population is considered baseline activity. A rate of 50–249 is considered indicative of normal seasonal influenza activity, and a rate of 250–399 indicative of higher than expected influenza activity. A rate >400 ILI consultations per 100 000 patient population indicates an epidemic level of influenza activity.

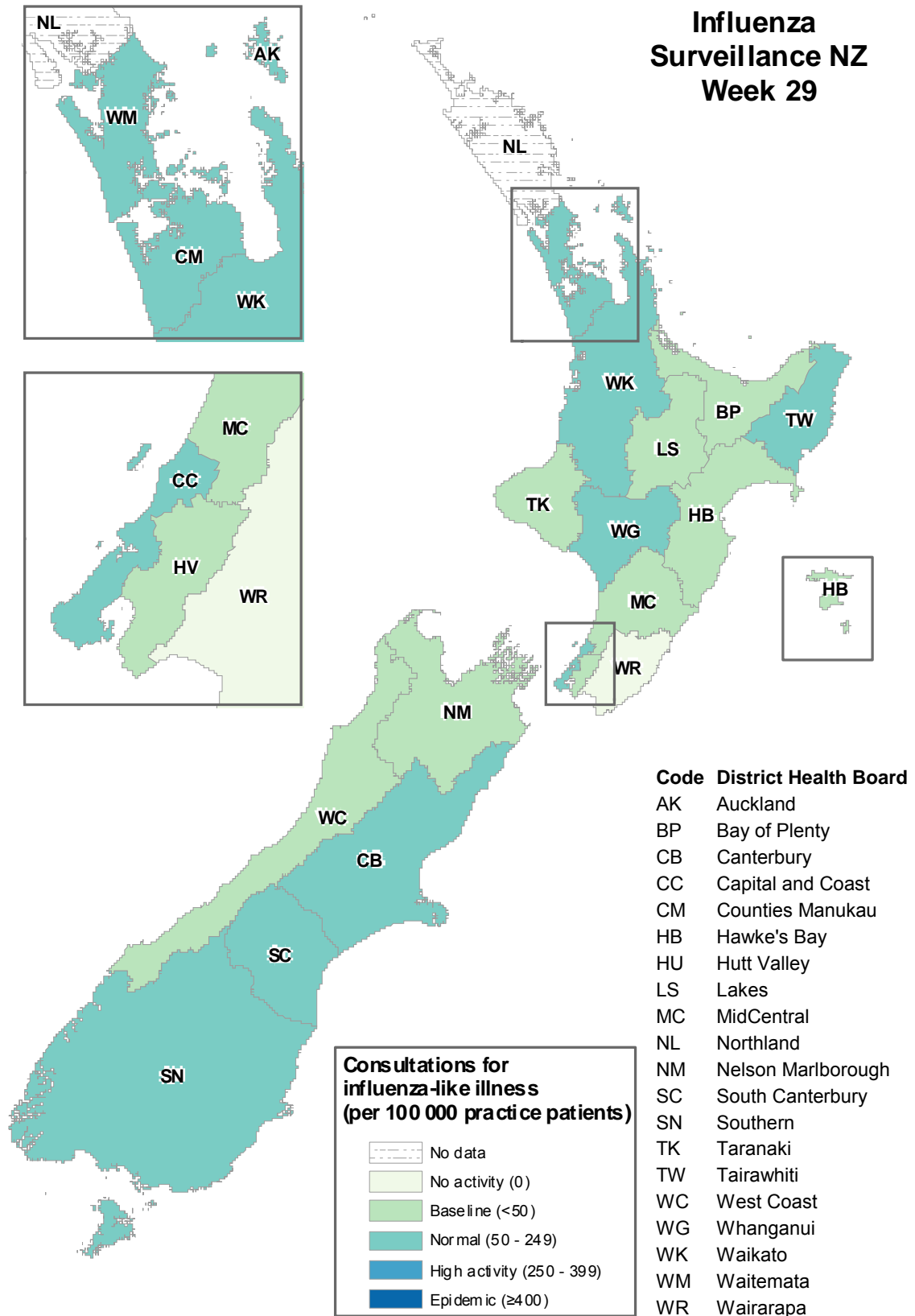
Figure 2 compares the consultation rates for ILI for each DHB over the past week. Canterbury DHB had the highest consultation rate (238.3 per 100 000, 169 cases), followed by South Canterbury (220.4 per 100 000, 17 cases), Waitemata (216.7 per 100 000, 21 cases), Southern (177.9 per 100 000, 102 cases), Counties Manukau (169.6 per 100 000, 2 cases), and Tairāwhiti (124.5 per 100 000, 4 cases).

Figure 2. Weekly consultation rates for ILI by DHB week ending 22 July 2012



[] Not participating in sentinel influenza surveillance.

Figure 3. Consultation rates for ILI mapped by DHB for week 29, 2012



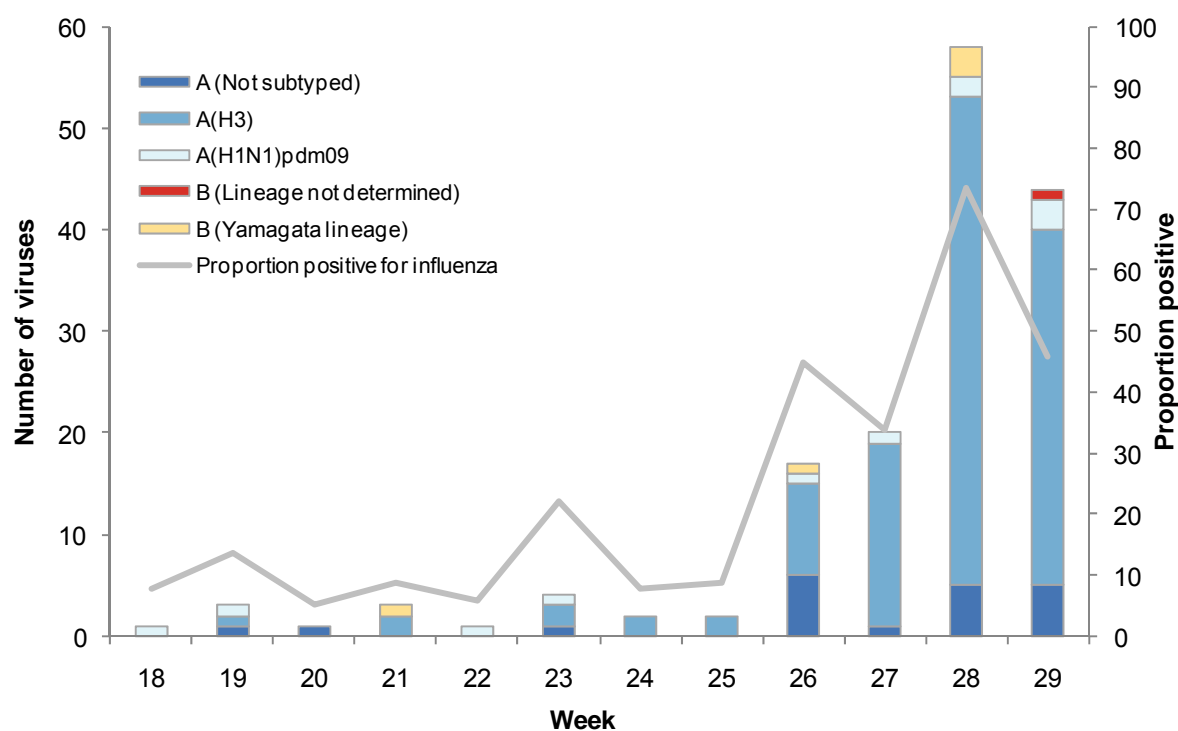
VIROLOGICAL SURVEILLANCE

A total of 96¹ swabs were received by virology laboratories from sentinel surveillance. Of these, 44 viruses were identified (Figure 4): A(H3N2) (34), A (Not subtyped) (5), A(H1N1)pdm09 (2), B (Lineage not determined) (1), A/Perth/16/2009 (H3N2)-like (1), and A/California/7/2009 (H1N1)-like (1). The distribution by DHB is shown in Table 1.

Table 1. Influenza viruses from sentinel surveillance for week 29 by DHB

Antigenic strain	DHB											Total
	AK/WM	WK	BP	TK	HB	MC	HU	CC	NM	CB	SN	
A (Not subtyped)	2	2	0	0	0	0	0	1	0	0	0	5
A(H1N1)pdm09	0	0	0	0	0	0	0	0	0	2	0	2
A(H3N2)	0	0	1	1	1	1	1	2	3	19	5	34
B (Lineage not determined)	0	0	0	0	0	0	0	0	0	1	0	1
A/Perth/16/2009 (H3N2)-like	1	0	0	0	0	0	0	0	0	0	0	1
A/California/7/2009 (H1N1)-like	1	0	0	0	0	0	0	0	0	0	0	1
Total	4	2	1	1	1	1	1	3	3	22	5	44

Figure 4. Total influenza viruses from sentinel surveillance by type and week reported, week 18–29 and the total percentage positive from the swabs received



In addition, 606¹ swabs were received by virology laboratories from non-sentinel surveillance. Of these, 197 viruses were identified (Figure 5): A(H3N2) (120), A(H1N1)pdm09 (28), A (Not subtyped) (28), B (Lineage not determined) (18), and B/Wisconsin/1/2010-like (3). The distribution by DHB is shown in Table 2.

¹ Data is from 5/6 virology laboratories.

Table 2. Influenza viruses from non-sentinel surveillance for week 29 by DHB

Antigenic strain	DHB										Total
	AK/WM	CM	WK	LS	TK	MC	CC	NM	CB	SC	
A (Not subtyped)	14	3	8	3	0	0	0	0	0	0	28
A(H1N1)pdm09	2	20	2	0	0	1	2	1	0	0	28
A(H3N2)	2	3	0	0	3	3	3	0	104	2	120
B (Lineage not determined)	6	8	0	0	0	0	0	0	4	0	18
B/Wisconsin/1/2010-like	3	0	0	0	0	0	0	0	0	0	3
Total	27	34	10	3	3	4	5	1	108	2	197

Figure 5. Total influenza viruses from non-sentinel surveillance by type and week reported, week 18–29 and the total percentage positive from the swabs received

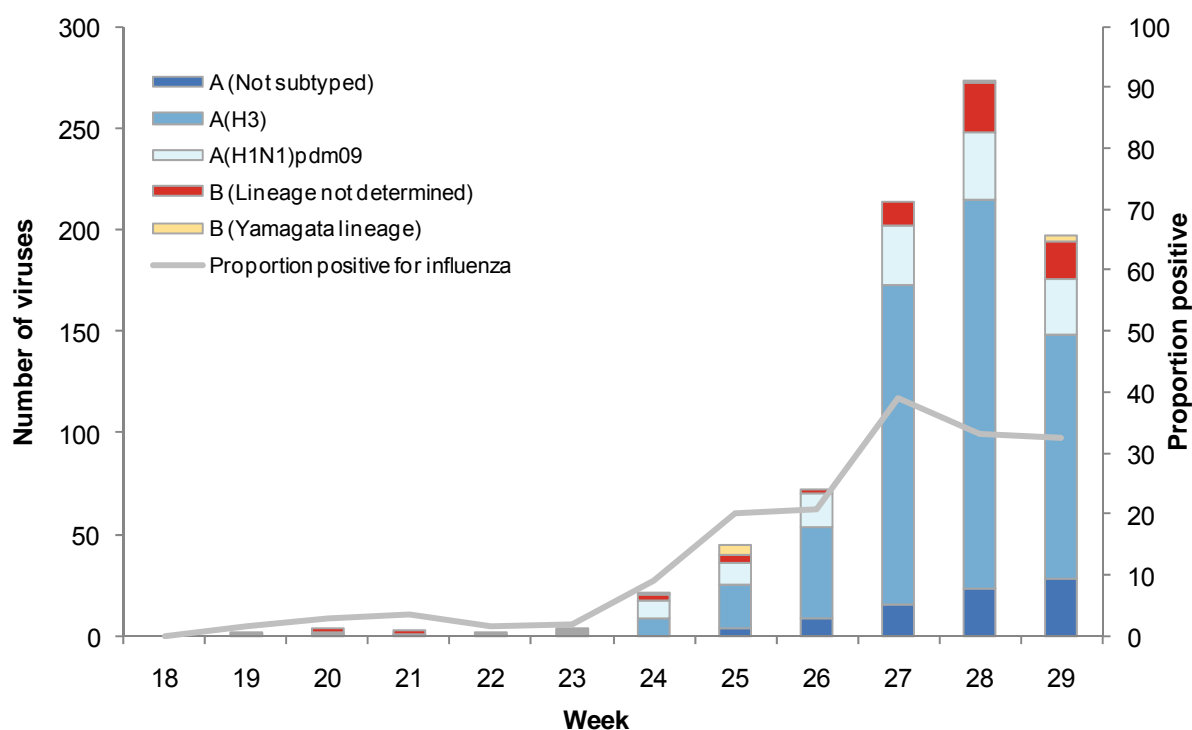
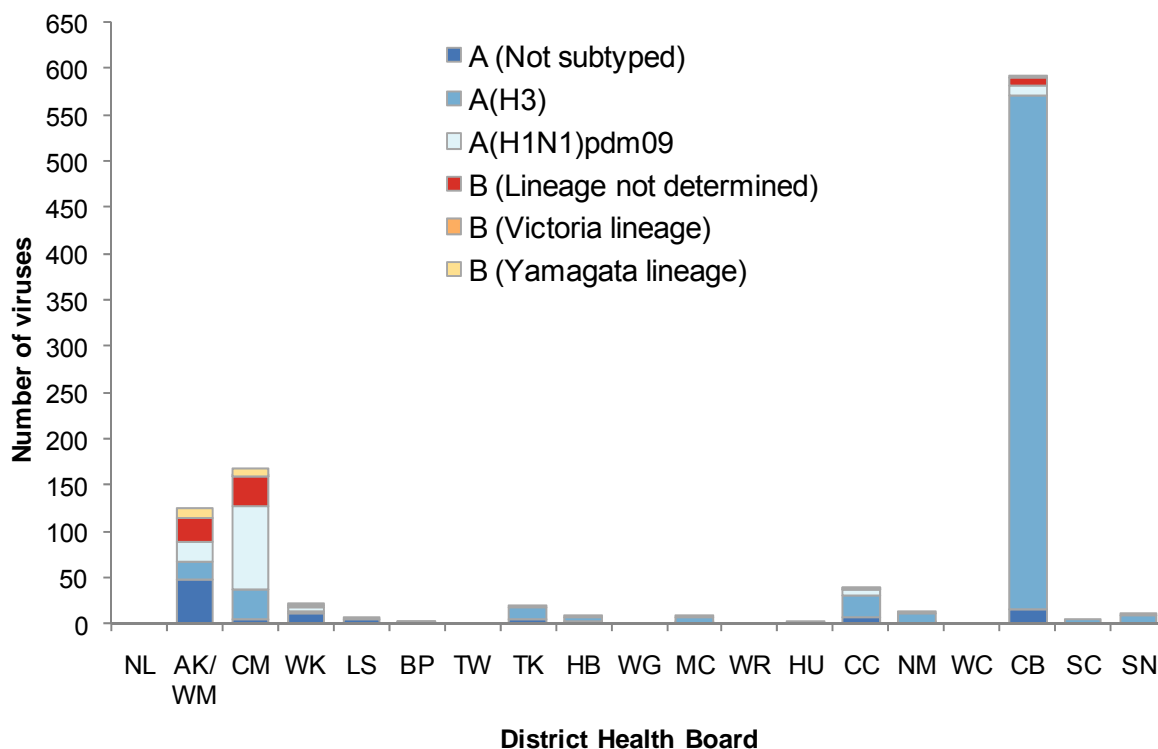


Figure 6 shows the cumulative total of influenza viruses confirmed (sentinel and non-sentinel surveillance) from week 1 to the end of week 29 (22 July 2012) in each DHB. A total of 1019 influenza viruses were identified: influenza A(H3N2) (683) including 34 A/Perth/16/2009 (H3N2)-like viruses, B (98) including four of B/Brisbane/60/2008-like (belonging to the B/Victoria lineage) and 20 B/Wisconsin/1/2010-like viruses (belonging to the B/Yamagata lineage), A(H1N1)pdm09 (138) including 17 A/California/7/2009 (H1N1)-like virus, and A (Not subtyped) (100). The highest numbers were from the Canterbury DHB, followed by Counties Manukau and Auckland DHBs.

Note: *The 2012 southern hemisphere winter influenza vaccine has the following composition: A/California/7/2009(H1N1)-like, A/Perth/16/2009(H3N2)-like and B/Brisbane/60/2008-like strains.*

Figure 6. Cumulative laboratory-confirmed viruses by DHB from week 1 to week 29, 22 July 2012



The currently circulating A(H3N2) viruses in New Zealand do not appear to demonstrate a major antigenic drift. The antigenic typing results to date characterises them as the A/Perth/16/2009-like strain that is included in the current Southern Hemisphere vaccine. The genetic sequencing work is in progress for the most recent isolated A(H3N2) viruses from New Zealand. The current A(H3N2) viruses present a different picture from the situation that occurred in 1996 and 2003 when a major antigenic drift occurred for A(H3N2) resulting in a significant additional impact on morbidity and mortality.

Influenza A(H3N2) has been the most predominant subtype over the past 20 years in New Zealand. However, prior to 2012 it has not circulated widely in New Zealand since 2007. This may have led to some reduction in immunity in the general population who do not get the annual influenza immunisation, and therefore an increase in their susceptibility to A(H3N2) infections. This may be a contributing factor to the current A(H3N2) predominance in many regions in New Zealand.

In Australia, the antigenic typing results did not detect much antigenic drift for almost all of their A(H3N2) viruses. However, genetic analysis indicated a minor drift and these A(H3N2) viruses are characterised as A/Victoria/361/2011-like viruses. The Australian Department of Health and Ageing noted that it is expected that the vaccine would still offer significant protection. This is based on the fact that the drift between the A/Perth/16/2009-like and A/Victoria/361/2011-like viruses is small.

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