

INFLUENZA WEEKLY UPDATE

2014/37: 8–14 September 2014

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 from sentinel general practice (GP) surveillance and non-sentinel surveillance for week 37 (8–14 September 2014).

Summary

- ILI through sentinel surveillance was reported from 17 out of 20 District Health Boards (DHB) with a national consultation rate of 31.7 per 100 000 (96 ILI consultations).
- A total of 677 swabs were received from sentinel (33) and non-sentinel (644) surveillance.
- 246 viruses were identified: A(H1N1)pdm09 (56), A(H3N2) (51), A (not sub-typed) (99), and B (lineage not typed) (40).

INFLUENZA-LIKE ILLNESS SURVEILLANCE

In the past week, a total of 96 consultations for influenza-like illness (ILI) were reported from 58 general practices in 17 out of 20 DHBs. This gives a weekly consultation rate of 31.7 per 100 000 patient population. Figure 1 shows the weekly national consultation rate for 2014 in comparison to the average epidemic curve in 2000–2013 (excluding 2009). For more details on threshold definitions, see Appendix. The current rate of influenza-like illness is below the seasonal threshold.

Figure 1. Weekly consultation rates for influenza-like illness in New Zealand in 2014 in comparison to the average epidemic curve in 2000–2013 (excluding 2009)

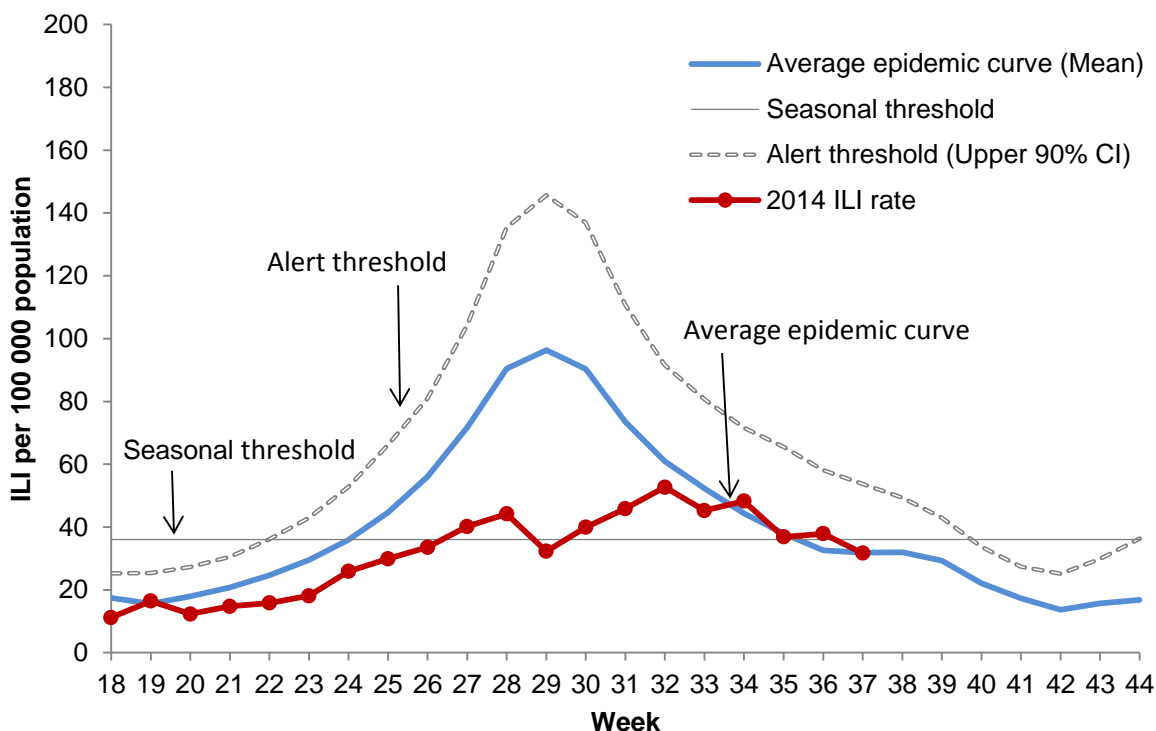


Figure 2 shows the weekly national consultation rate for 2014 in comparison to the previous years 2010–2013.

Figure 2. Weekly consultation rates for influenza-like illness in New Zealand, 2010–2014

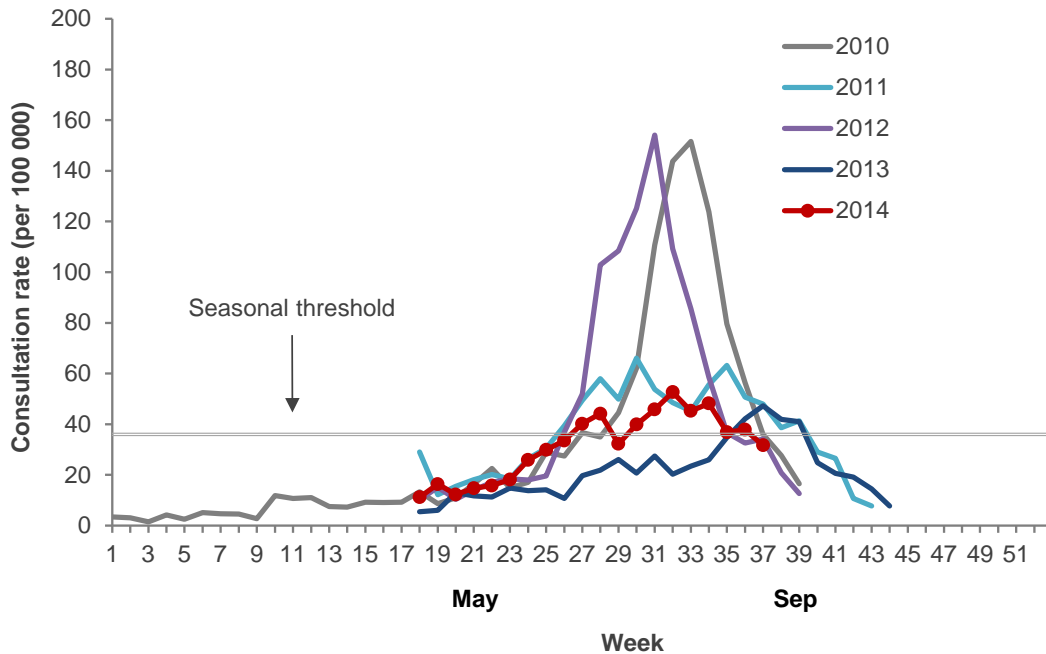
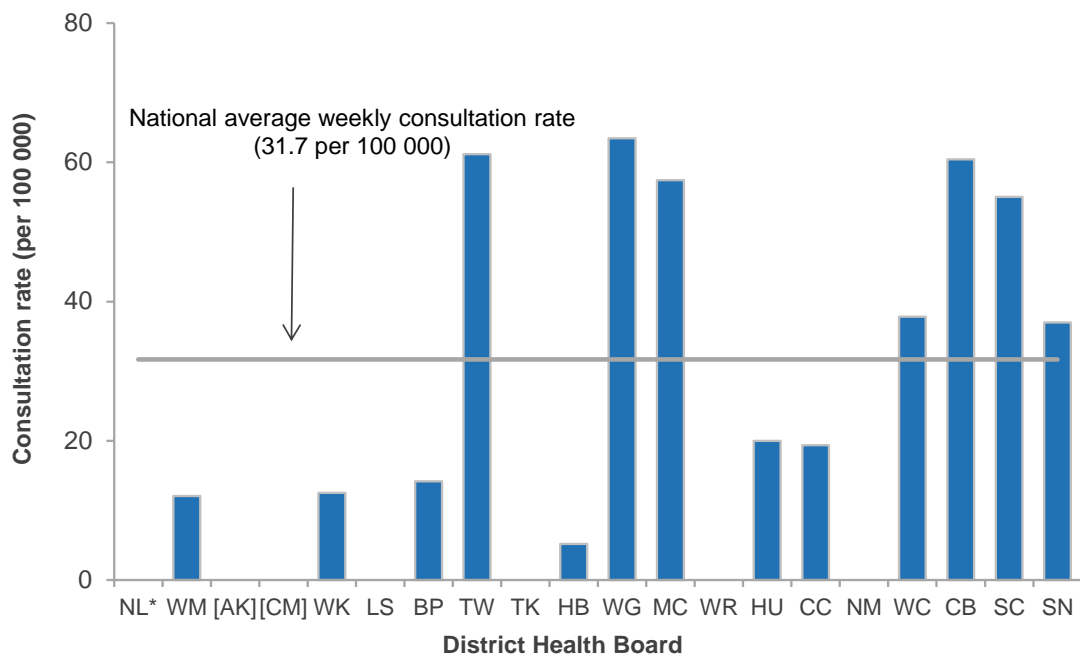


Figure 3 compares the consultation rates for influenza-like illness for each DHB over the past week. Whanganui DHB had the highest consultation rate (63.5 per 100 000, 3 cases) followed by Tairāwhiti (61.2 per 100 000, 1 case), and Canterbury (60.5 per 100 000, 41 cases).

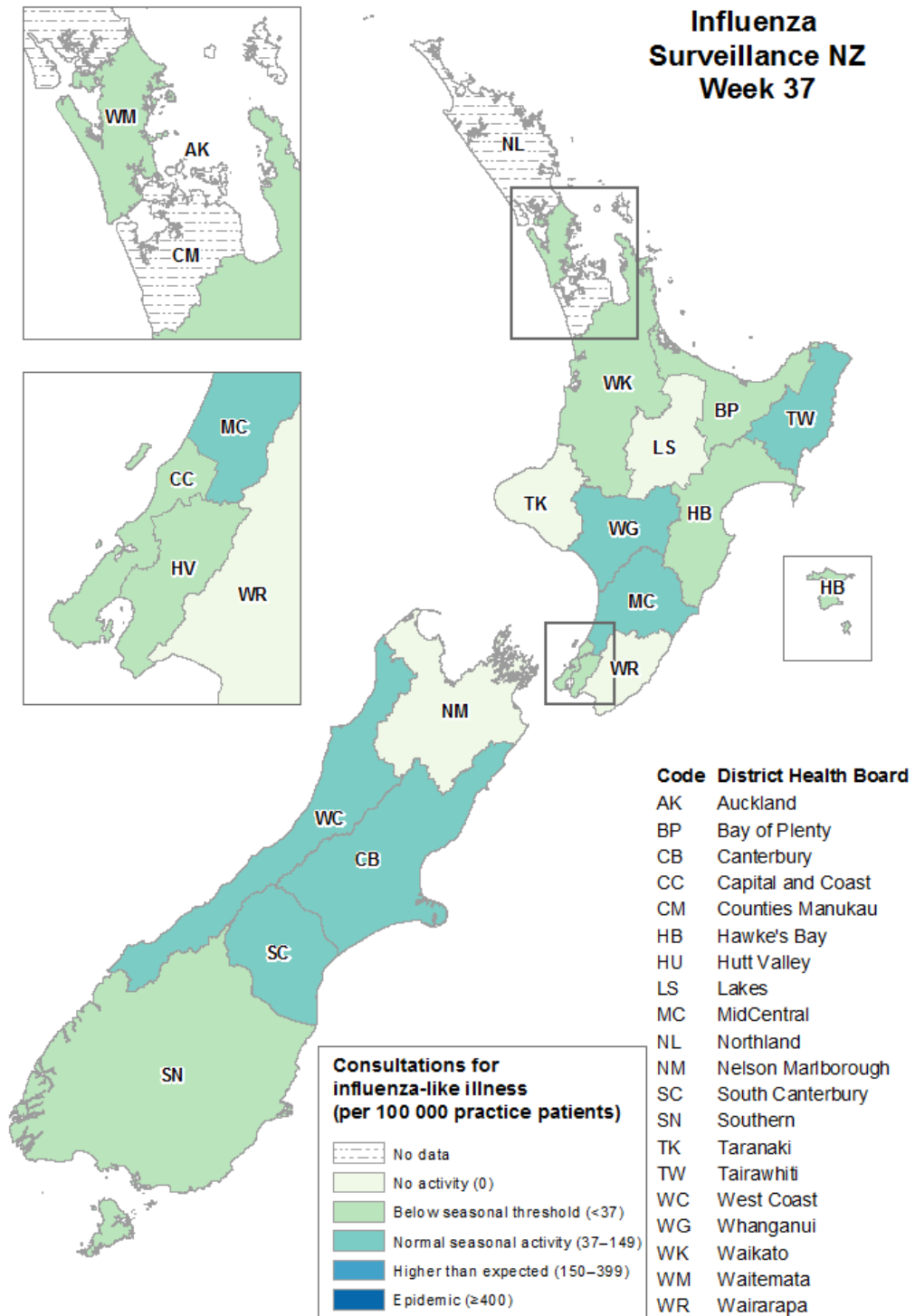
Figure 3. Weekly consultation rates for influenza-like illness by DHB week ending 14 September 2014



* Not participating in the influenza sentinel surveillance.

[] Participating in SHIVERS. Based on the SHIVERS weekly report, the ILI incidence for Auckland and Counties Manukau DHBs for week 37 were 83.0 per 100 000 and 22.3 per 100 000 patient populations, respectively. For more details, please refer to the website: <http://www.esr.cri.nz/competencies/shivers/Pages/SHIVERSReports.aspx>

Figure 4. Consultation rates for influenza-like illness mapped by DHB for week 37, 2014



VIROLOGICAL SURVEILLANCE

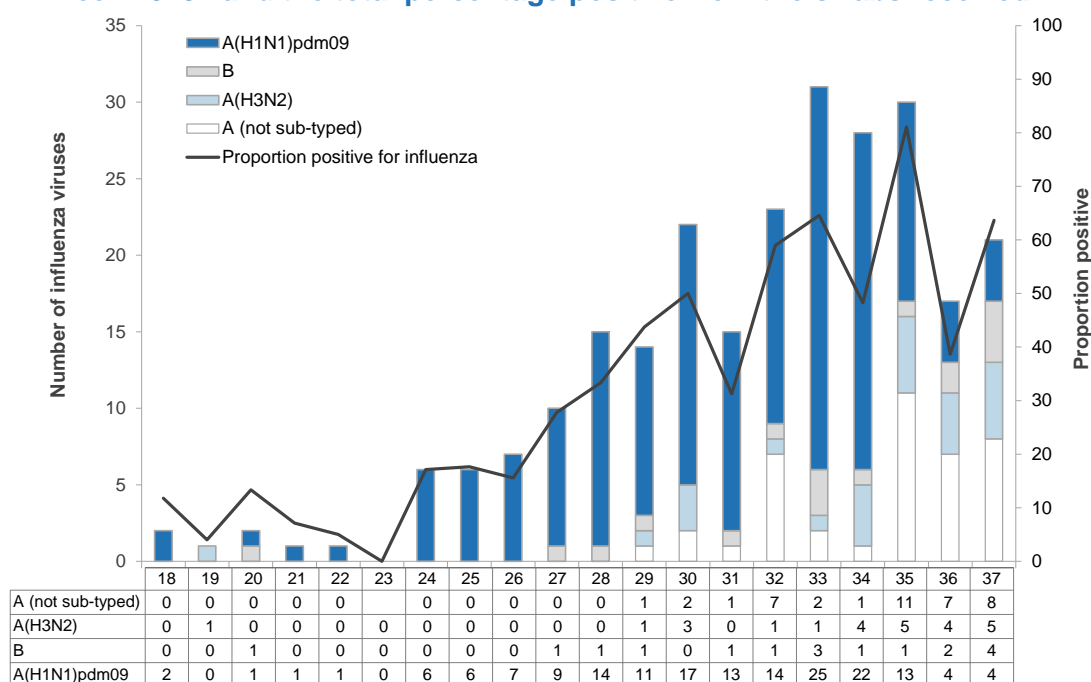
A total of 33 swabs were received from sentinel surveillance. Of these, 21 influenza viruses were identified: A(H3N2) (5), A(H1N1)pdm09 (4), A (not sub-typed) (8), and B (not lineage typed) (4) (Figure 5). The distribution by DHB is shown in Table 1.

Table 1. Influenza viruses from sentinel surveillance for week 37 by DHB

Antigenic strain	DHB						Total
	LS	WG	CC	WC	CB	SN	
A (not sub-typed)	1	4	2	0	0	1	8
A(H1N1)pdm09	0	0	0	2	2	0	4
A(H3N2)	0	0	0	1	4	0	5
B (not lineage typed)	0	1	0	0	3	0	4
Total	1	5	2	3	9	1	21

The temporal distribution of influenza viruses is shown in the graphs below for sentinel and non-surveillance from week 18 (28 April–4 May 2014) to week 37 (8–14 September 2014). The predominant strain was influenza A(H1N1)pdm09 in the sentinel and non-sentinel surveillance (67.5% and 57.5%, respectively).

Figure 5. Total influenza viruses from sentinel surveillance by type and week reported, week 18–37 and the total percentage positive from the swabs received

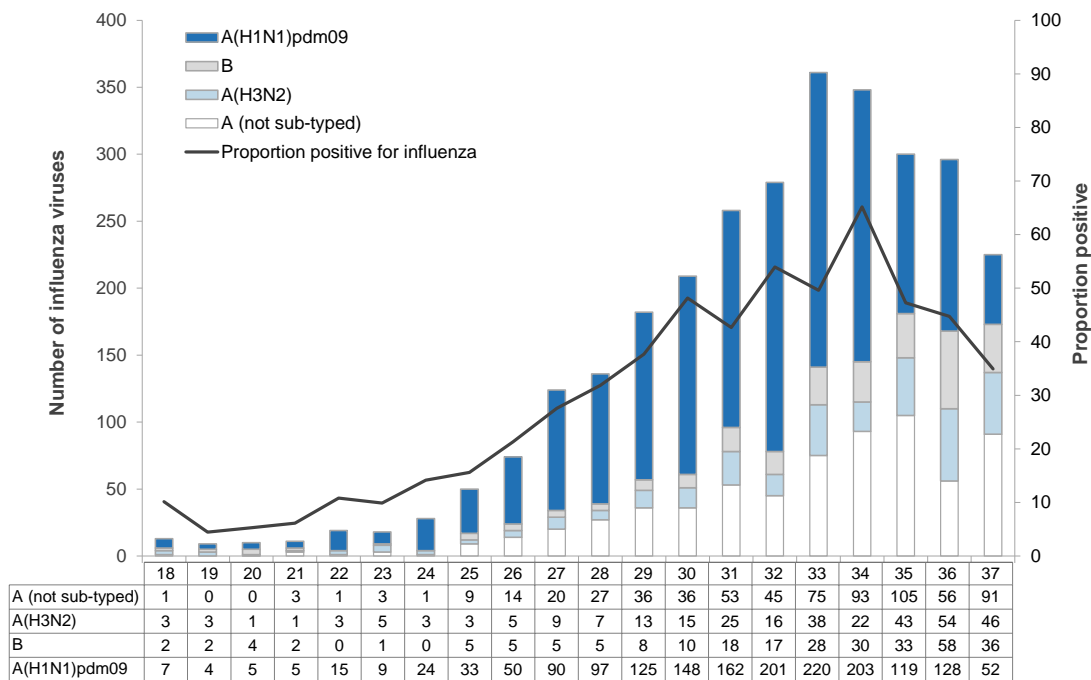


In addition, 644 swabs were received by virology laboratories from non-sentinel surveillance. Of these, 225 influenza viruses were identified: A(H1N1)pdm09 (52), A(H3N2) (46), A (not sub-typed) (91), and B (not lineage typed) (36) (Figure 6). The distribution by DHB is shown in Table 2.

Table 2. Influenza viruses from non-sentinel surveillance for week 37 by DHB

Antigenic strain	DHB												Total
	WM	AK	CM	WK	LS	BP	TK	MC	CC	CB	SC	SN	
A (not sub-typed)	0	49	1	9	2	13	0	0	17	0	0	0	91
A(H1N1)pdm09	0	9	27	0	0	1	1	0	0	14	0	0	52
A(H3N2)	0	1	21	0	0	0	0	1	0	21	1	1	46
B (not lineage typed)	1	15	7	2	0	0	0	0	8	2	0	1	36
Total	1	74	56	11	2	14	1	1	25	37	1	2	225

Figure 6. Total influenza viruses from non-sentinel surveillance by type and week reported, week 18–37 and the total percentage positive from the swabs received



*Data shown from week 18 only. One laboratory did not provide the number of swabs tested. One extra laboratory joined in week 24 (week ending 15 June 2014).

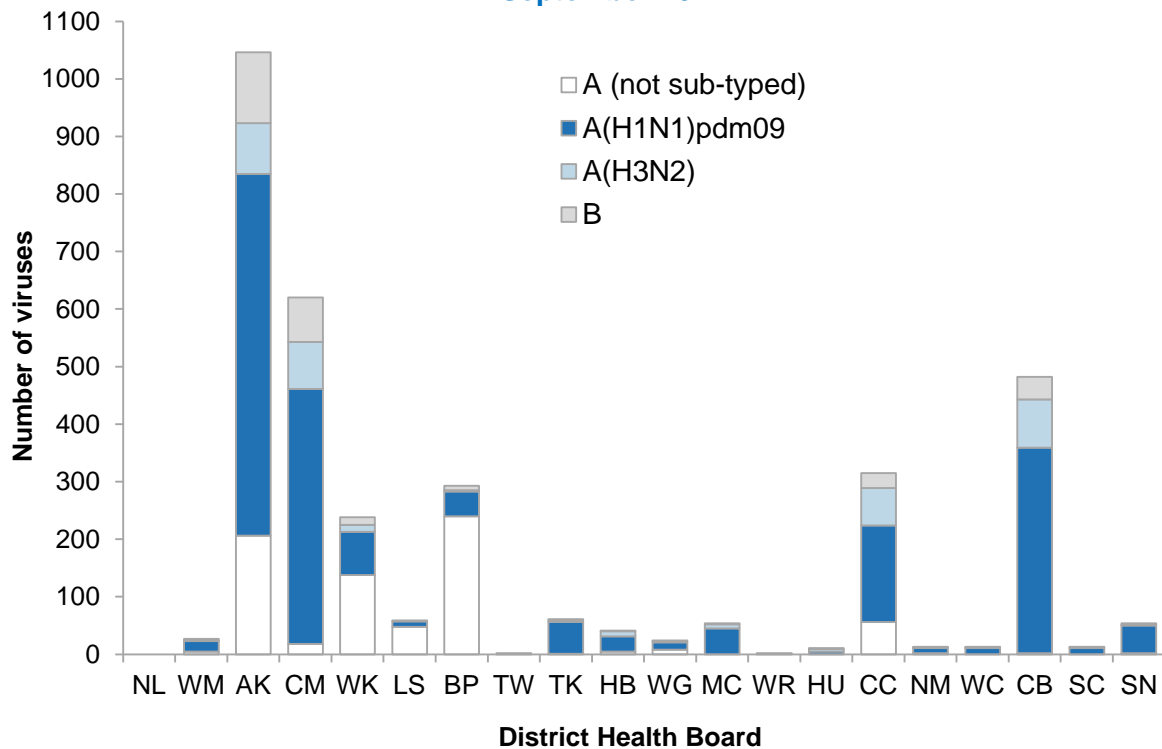
Figure 7 shows the cumulative total of influenza viruses confirmed (sentinel and non-sentinel surveillance) from week 1 to the end of week 37 (14 September 2014). A total of 3368 influenza viruses were identified: A(H1N1)pdm09 (1969) including 369 A/California/7/2009 (H1N1)-like viruses, A(H3N2) (363) including 54 A/Texas/50/2012 (H3N2)-like viruses, A (not sub-typed) (731), B/Yamagata lineage (73) including 46 B/Massachusetts/02/2012-like and one B/Wisconsin/1/2010-like, B/Brisbane/60/2008-like viruses (4) belonging to B/Victoria lineage, and B (not lineage typed) (228).

The recommended influenza vaccine formulation for New Zealand in 2014 is:

- A(H1N1) an A/California/7/2009 (H1N1)pdm-like strain***
- A(H3N2) an A/Texas/50/2012 (H3N2)-like strain**
- B a B/Massachusetts/2/2012-like strain**

* Note: A/California/7/2009 (H1N1)-like strain is an influenza A(H1N1)pdm09 strain.

Figure 7. Cumulative laboratory-confirmed viruses by DHB from week 1 to week 37, 14 September 2014



APPENDIX

New Zealand’s ILI data in recent years was reviewed and updated:

- The average epidemic curve (based on the 2000–2013 ILI data, excluding 2009) is the usual level of influenza activity that may occur during a typical year using the method described in “*Global epidemiological surveillance standards for influenza*” (http://www.who.int/influenza/resources/documents/WHO_Epidemiological_Influenza_Surveillance_Standards_2014.pdf).
- The seasonal threshold is the level of influenza activity that signals the start and end of the annual influenza season and it was based on the 2000–2013 ILI data (excluding 2009) using the Moving Epidemic Method (*Vega et al. Influenza and other respiratory viruses 2013;7(4):546-558*). A weekly rate of 36 ILI consultations per 100 000 patient population is considered the seasonal threshold.
- Alert threshold (defined as 90% upper confidence interval of the mean) is a level above which, varying by time of year, influenza activity is higher than most years.
- A rate of 37–149 per 100 000 is used to describe normal seasonal influenza activity based on the 25th and 75th percentiles of the ILI data (2000–2013 excluding 2009). A rate of 150–399 is used to describe higher than expected influenza activity (i.e. 2009 pandemic). A rate of ≥ 400 is used to describe an epidemic level of influenza activity (i.e. 1996 experience).

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