

# British Columbia Influenza Surveillance Bulletin

Influenza Season 2013-14, Number 16, Weeks 11-14

March 9 to April 5, 2014

## Table of Contents:

### British Columbia:

Sentinel Physician	<a href="#">Page 2</a>
Children's Hospital ER	<a href="#">Page 2</a>
Medical Services Plan	<a href="#">Page 3</a>
Laboratory Surveillance	<a href="#">Page 5</a>
ILI Outbreaks	<a href="#">Page 7</a>

### Canada:

FluWatch Activity levels	<a href="#">Page 8</a>
NML Strain Characterization	<a href="#">Page 8</a>
NML Antiviral Resistance	<a href="#">Page 8</a>

### International:

USA and WHO	<a href="#">Page 9</a>
Avian Influenza A(H7N9)	<a href="#">Page 9</a>
MERS-CoV	<a href="#">Page 9</a>
WHO 2013-14 Recommended Vaccine Components	<a href="#">Page 10</a>
WHO 2014-15 Recommended Vaccine Components	<a href="#">Page 10</a>

### Additional Information:

List of Acronyms	<a href="#">Page 11</a>
Web Sites	<a href="#">Page 11</a>
Outbreak Report Form	<a href="#">Page 11</a>

## Low-level influenza activity in BC, predominantly influenza B

In weeks 11-14 (March 9 to April 5, 2014), influenza activity remained at stable, low levels in BC. Influenza B was the predominant influenza virus in circulation during this period.

At the BC provincial laboratory, the overall influenza positivity rate ranged from 11% to 15% in weeks 11-14, with influenza B viruses comprising about 70% of all influenza positive specimens. RSV was the most commonly detected other respiratory virus.

Consultation rates among patients presenting to sentinel physicians or the BC Children's and Women's Hospital ER for influenza-like illness remained at or below seasonal norms, as did MSP service claims for influenza illness.

One lab-confirmed influenza A(H3N2) outbreak was reported from a long-term care facility in FHA and one lab-confirmed influenza B school outbreak was reported during this period.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team  
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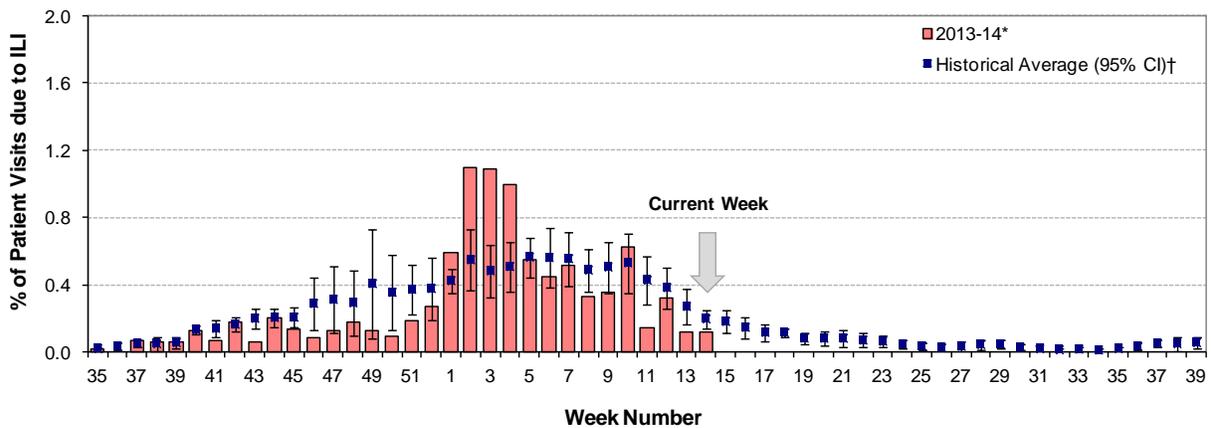
Report Disseminated: April 10, 2014

## British Columbia

### Sentinel Physicians

In weeks 11-14, the proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians remained within or below the expected range for this time of year at around 0.12-0.14% but peaked at 0.32% in week 12. For weeks 11-13, 51-68% of sentinel sites reported data, and so far in week 14, 43% of sentinel sites have reported data.

**Percent of patient visits to sentinel physicians due to influenza-like illness (ILI) compared to historical average, British Columbia, 2013-14**



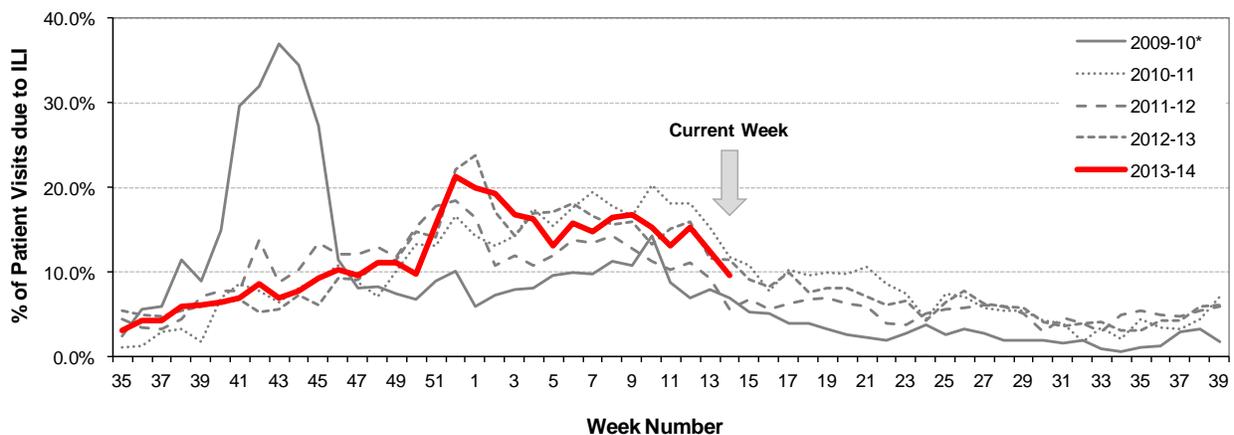
\* Data are subject to change as reporting becomes more complete.

† Historical average based on 2001-02 to 2012-13 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

### BC Children's Hospital Emergency Room

The proportion of visits to BC Children's Hospital Emergency Room (ER) attributed to ILI ranged from 10% to 15% in weeks 11-14 and suggests a decreasing trend in recent weeks, consistent with previous seasons for this time of year.

**Percent of patients presenting to BC Children's Hospital ER with triage chief complaint of "flu," or "influenza" or "fever/cough," British Columbia, 2013-14**



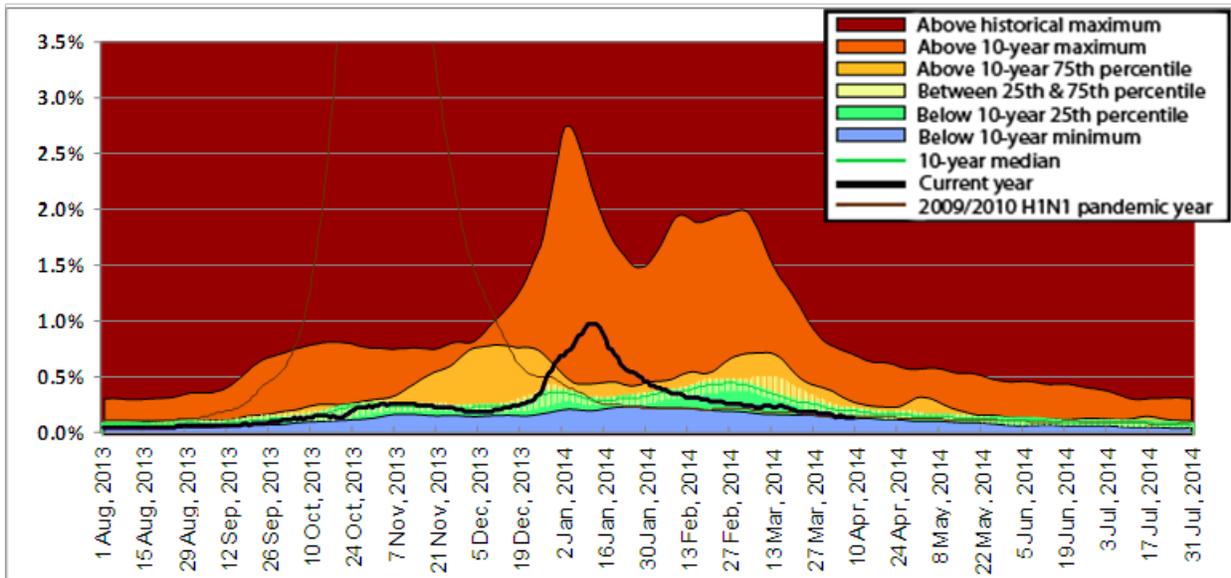
Source: BCCH Admitting, discharge, transfer database, ADT

\* Data from 2010-11 to 2013-14 is based on new system (Triage Chief Complaint) not directly comparable to data for 2009-10. In bulletins before week 9 of 2011-12 season, data is based on old system.

**Medical Services Plan**

In weeks 11-14, BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, remained at low levels throughout the province, generally remaining below the 10-year 25<sup>th</sup> percentile or minimum.

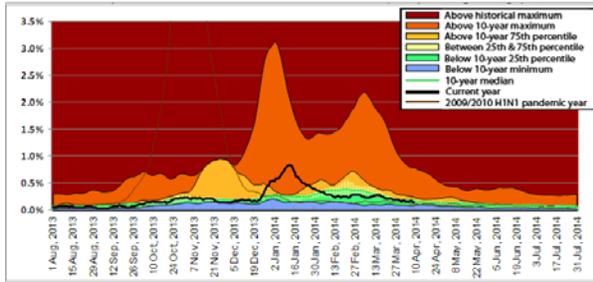
**Service claims submitted to MSP for influenza illness (II)\* as a proportion of all submitted general practitioner service claims, British Columbia, 2013-14**



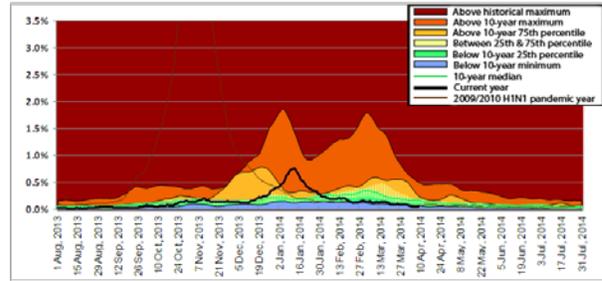
\* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza). Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services

**Note:** MSP week beginning 1 August 2013 corresponds to sentinel ILI week 31; data current to 09 April 2014.

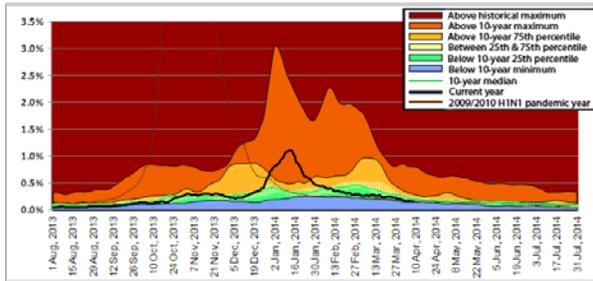
**Interior**



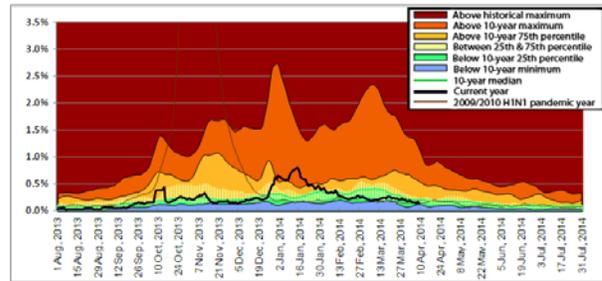
**Vancouver Island**



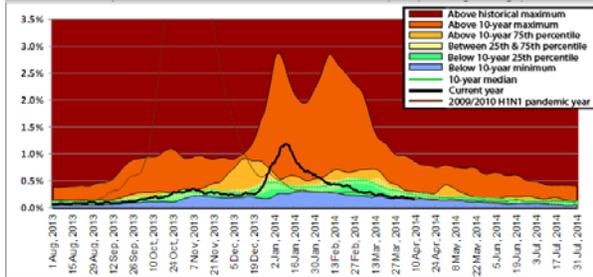
**Fraser**



**Northern**



**Vancouver Coastal**

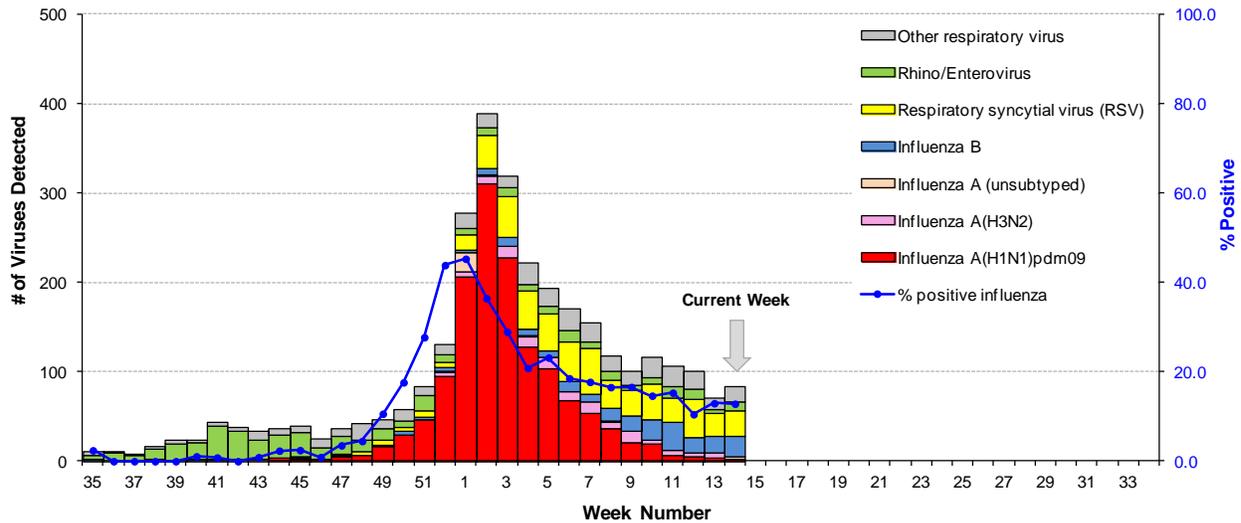


### Laboratory Reports

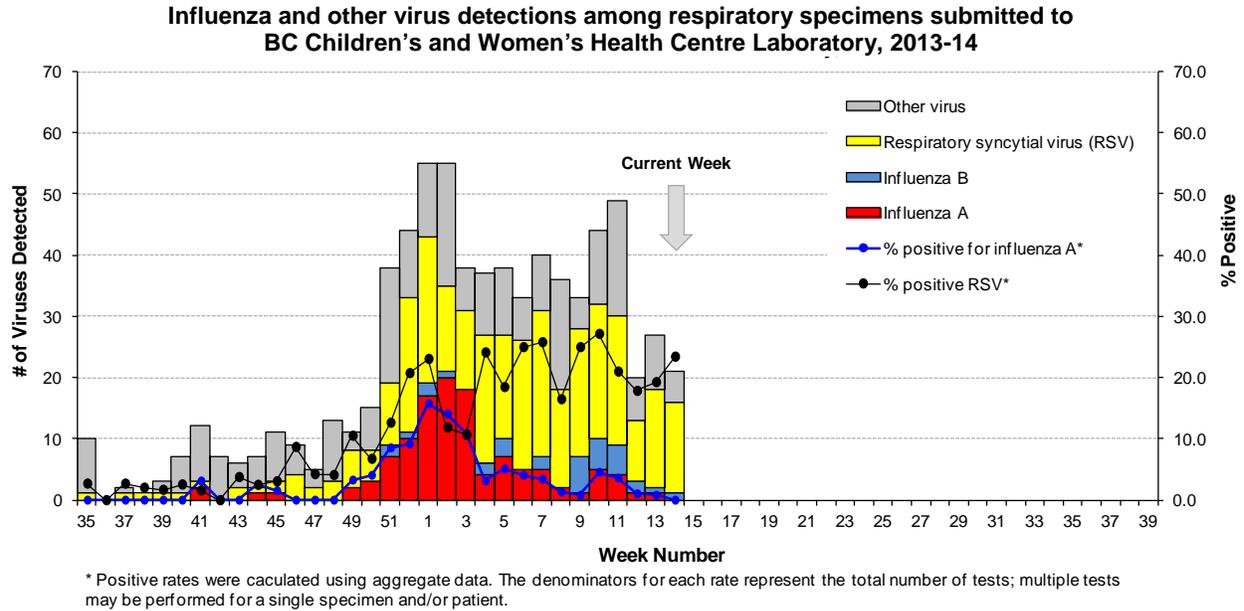
The proportion of specimens testing positive for influenza at the BC Public Health Microbiology & Reference Laboratory (PHMRL), PHSA, ranged from 11 to 15% in weeks 11-14, reflecting an ongoing gradual decrease in influenza positivity since week 5. Influenza B continued to predominate during this period, comprising 67-85% of all influenza positive specimens. Of the 930 respiratory specimens tested in weeks 11-14, 121 (13%) were positive for influenza, including 89/121 (74%) influenza B and 32/121 (26%) influenza A [14 A(H1N1)pdm09, 15 A(H3N2), and 3 with subtype pending]. Among the 29 subtyped influenza A viruses from weeks 11-14, 15 (52%) were A(H3N2) and 14 (48%) were A(H1N1)pdm09. RSV positivity ranged from 10% to 18% in weeks 11-14.

The 2013/14 influenza season to date has been characterized by predominant influenza A(H1N1)pdm09 activity, with some late-season but less substantial influenza B circulation. Since week 40 (September 29 – October 5, 2013), 1,862 specimens have tested positive for influenza at the BC PHMRL. Of the 1,827 specimens with subtype information available, 1,392 (76%) were influenza A(H1N1)pdm09, 137 (7%) were influenza A(H3N2), and 298 (16%) were influenza B.

**Influenza and other virus detections among respiratory specimens submitted to BC Public Health Microbiology & Reference Laboratory, PHSA, 2013-14**



At the BC Children's and Women's Health Centre Laboratory, the proportion of tests positive for influenza decreased from 4% in week 11 to 0% in week 14 for influenza A, and from 5% in week 11 to 2% in week 14 for influenza B. RSV remained the most commonly detected respiratory virus, with 18-23% of tests positive for this virus during this period.

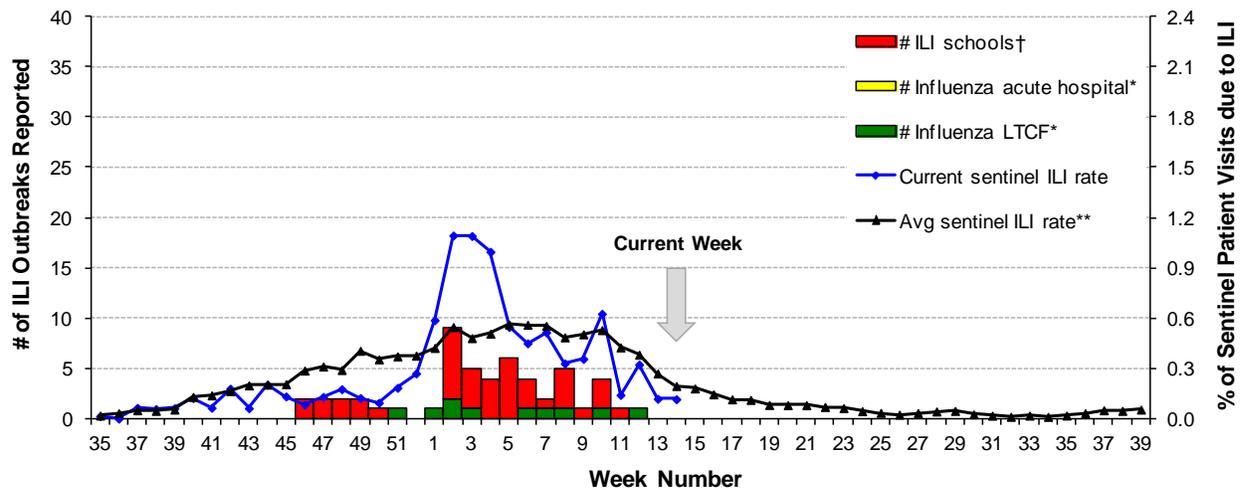


### Influenza-like Illness (ILI) Outbreaks

In weeks 11-14, 7 ILI outbreaks were reported from long-term care facilities (LTCF), including 1 due to influenza A(H3N2) in FHA, 3 due to other respiratory viruses (1 hMPV in IHA, 1 coronavirus in IHA, and 1 RSV in FHA), and 3 outbreaks with no pathogen identified or pending laboratory results. One school outbreak due to influenza B was also reported from NHA during this period.

In total during the 2013-14 season, 40 LTCF ILI outbreaks have been reported, including 10 outbreaks due to influenza viruses: 6 due to A(H1N1)pdm09 (2 in FHA, 3 in IHA, and 1 in VCHA); 2 due to A(H3N2) (both in FHA); 1 influenza A with subtype unknown due to insufficient viral copies in IHA; and 1 influenza B in FHA. In addition, 43 ILI outbreaks have been reported from schools so far this season, including one due to A(H1N1)pdm09 in week 47 and one due to influenza B in week 11, both in NHA.

**Number of influenza-like illness (ILI) outbreaks reported, compared to current sentinel ILI rate and historical average sentinel ILI rate, British Columbia 2013-14**



\* Facility-based influenza outbreaks defined as 2 or more ILI cases within 7-day period, with at least one laboratory-confirmed case of influenza.

† School-based ILI outbreak defined as >10% absenteeism on any day, most likely due to ILI.

\*\* Historical values exclude 2008-09 and 2009-10 seasons due to atypical seasonality.

## National

### **FluWatch (week 13):**

In week 13, the decline in influenza activity in Canada has been slowed by continued circulation of influenza B. Overall, influenza A(H1N1)pdm09 remains the most commonly detected influenza virus this season; however, most influenza viruses circulating in recent weeks have been influenza B. The influenza positivity rate was 14% in week 13. Of the 692 positive influenza tests in week 13, 149 (22%) were influenza A [45 A(H1N1)pdm09, 23 A(H3N2), 81 unsubtype] and 543 (79%) influenza B. RSV was the most commonly detected other respiratory virus in week 13. While influenza A(H1N1)pdm09 has mostly affected adults 20-64 years of age this season, influenza B is having a greater impact on adults 65 years of age and older, as well as young persons 5 to 19 years of age. The number of reported hospitalizations and deaths so far this season is comparable to past influenza seasons in Canada.

Details are available at: [http://www.phac-aspc.gc.ca/fluwatch/13-14/w13\\_14/index-eng.php](http://www.phac-aspc.gc.ca/fluwatch/13-14/w13_14/index-eng.php).

### **National Microbiology Laboratory (NML): Strain Characterization**

From September 1, 2013 to April 10, 2014, 1,740 isolates were collected from provincial and hospital laboratories for antigenic characterization at the NML:

- 86 A/Texas/50/2012-like A(H3N2)<sup>¶</sup> from NS, QC, NB, ON, SK, AB, BC and YT
- 1,301 A/California/07/2009-like [A(H1N1)pdm09]<sup>\*</sup> from NL, PE, NS, NB, QC, ON, MB, SK, AB, BC, NT and NU; of these, 2 viruses showed reduced titres with antiserum produced against A/California/7/2009 signalling possible antigenic change
- 334 B/Massachusetts/02/2012-like<sup>†</sup> from NL, NS, NB, QC, ON, SK, AB and BC
- 19 B/Brisbane/60/2008-like<sup>\*\*</sup> from QC, ON, MB, AB, and BC

<sup>¶</sup> Virus most closely related to the recommended H3N2 reference virus for the 2013-14 northern hemisphere influenza vaccine.

<sup>\*</sup> Virus most closely related to the recommended H1N1 reference virus for the 2013-14 northern hemisphere influenza vaccine.

<sup>†</sup> Virus most closely related to the recommended influenza B component for the 2013-14 northern hemisphere influenza vaccine; belongs to the B Yamagata lineage.

<sup>\*\*</sup> Virus most closely related to the recommended influenza B component for the 2011-2012 northern hemisphere influenza vaccine; belongs to the B Victoria/02/87 lineage.

### **NML: Antiviral Resistance**

From September 1, 2013 to April 10, 2014, drug susceptibility testing was performed at the NML for influenza viruses: 1,454 influenza A [114 A(H3N2) and 1,340 A(H1N1)pdm09] viruses were tested for resistance to amantadine; 1,368 influenza viruses [66 A(H3N2), 1,105 A(H1N1)pdm09, and 197 B] were tested for resistance to oseltamivir; and 1,370 influenza viruses [66 A(H3N2), 1,108 A(H1N1)pdm09, and 196 B] were tested for resistance to zanamivir. All tested influenza A viruses were resistant to amantadine. All but two tested viruses were sensitive to oseltamivir, and all were sensitive to zanamivir. Both viruses resistant to oseltamivir were A(H1N1)pdm09 viruses with a H275Y mutation.

## International

**USA (week 13):** Influenza activity continued to decrease in most regions of the United States in week 13. Of the 5,206 specimens tested, 652 (13%) were positive for influenza viruses, of which 48% were influenza A [22% A(H1N1)pdm09, 29% A(H3N2), 50% unsubtype] and 52% were influenza B. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold and the proportion of outpatient visits for influenza-like illness (ILI) was below the national baseline of 2%. Widespread influenza activity was reported from 5 states over this period. Details are available at: [www.cdc.gov/flu/weekly/](http://www.cdc.gov/flu/weekly/).

**WHO (as of 7 April 2014):** Globally, the northern hemisphere influenza season appeared to be approaching interseasonal levels in most countries. The proportion of influenza B detections, however, increased slightly in many regions, especially Asia, the Middle East, and North America. In North America, influenza levels continued to decline and the season was coming to its end. Late season circulation of influenza B continued; however, the overall levels of influenza remained low. In Eastern Asia, influenza activity was approaching interseasonal levels, with influenza B emerging as the current predominant virus; this timing aligns with previous seasonal influenza trends in the region. Mongolia continues to experience elevated influenza activity, despite levels beginning to decline. In Tropical Asia, influenza activity continued to decline, aligning with global seasonal trends. While in Thailand influenza activity remained elevated, small decreases were seen. In Northern Africa and Western Asia, influenza activity remained low despite the increasing proportion of influenza B positive samples. In the Caribbean, influenza activity remained low and at interseasonal levels in most countries; however, ILI activity and influenza detections increased in Guyana and Guadeloupe. In the Southern Hemisphere, influenza activity remained low and detections were sporadic. During weeks 11-12 (9 March to 22 March 2014), the WHO Global Influenza Surveillance and Response System (GISRS) laboratories tested more than 65,498 specimens: 10,986 were positive for influenza viruses, of which 7,407 (67%) were typed as influenza A and 3579 (33%) as influenza B. Of the subtyped influenza A viruses, 2,747 (57%) were influenza A(H1N1)pdm09 and 2072 (43%) were influenza A(H3N2). Of the characterized B viruses, 222 (87%) belong to the B-Yamagata lineage and 33 (13%) to the B-Victoria lineage. Details are available at: [www.who.int/influenza/surveillance\\_monitoring/updates/latest\\_update\\_GIP\\_surveillance/en/](http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/).

**Avian Influenza A(H7N9) Virus:** The second wave of human cases of avian influenza A(H7N9) continues in China, although the rate of reporting has decreased in recent weeks. Further human cases are expected, however, given ongoing subclinical circulation of the virus in poultry, an incubation period extending up to 10-14 days in exposed and affected people, and further anticipated reporting delays. Cumulatively to date (10 April 2014), the WHO has been informed of 414 laboratory-confirmed cases and 142 deaths (case fatality ~30-35%). This total includes 134 cases and 43 deaths reported as part of the first wave (February-May 2013) and 278 cases and 99 deaths reported as part of the second wave (ongoing since October 2013). Cases have been reported from 15 provinces/municipalities in mainland China and from Malaysia (1), Hong Kong (8) and Taiwan (2) in association with travel. At this time, there is no evidence of sustained human-to-human transmission and the risk assessment remains unchanged. Clinicians should remain vigilant for patients presenting with severe acute respiratory illness (SARI) with recent travel or epidemiological links to affected areas. Details are available at: [www.who.int/csr/don/en/](http://www.who.int/csr/don/en/).

**Middle East Respiratory Syndrome Coronavirus (MERS-CoV):** Globally from September 2012 to date (10 April 2014), the WHO has been informed of 212 laboratory-confirmed cases of MERS-CoV, including 88 deaths. Secondary cases, including those who acquired their infection in health care settings, continue to outnumber index/sporadic cases. Overall, cases have been predominantly older adult men; however, the age/sex distribution varies by type of exposure, with secondary cases more likely to be younger and female. Given ongoing activity in affected regions and an incubation period of 10 days or more, clinicians are reminded to stay alert for possible importations among patients presenting with severe acute respiratory illness (SARI) and links to the Middle East. Details are available at: [www.who.int/csr/don/en/](http://www.who.int/csr/don/en/).

### **WHO Recommendations for 2013-14 Northern Hemisphere Influenza Vaccine**

On February 21, 2013, the WHO announced the recommended strain components for the 2013-14 northern hemisphere vaccine:

- A/California/7/2009 (H1N1)pdm09 virus
- A/Victoria/361/2011 (H3N2)-like virus\*
- B/Massachusetts/2/2012-(Yamagata lineage)-like virus\*\*

\*It is recommended that A/Texas/50/2012 be used as the A(H3N2) vaccine component because of antigenic changes in earlier A/Victoria/361/2011-like vaccine viruses (such as IVR-165) resulting from adaptation to propagation in eggs.

\*\* This one of the three recommended components is different from the northern hemisphere seasonal TIV vaccines produced and administered in 2012-13 (although remaining of the same lineage).

For further details, see:

[www.who.int/influenza/vaccines/virus/recommendations/2013\\_14\\_north/en/index.html](http://www.who.int/influenza/vaccines/virus/recommendations/2013_14_north/en/index.html).

### **WHO Recommendations for 2014-15 Northern Hemisphere Influenza Vaccine**

On February 20, 2014, the WHO announced the recommended strain components for the 2014-15 northern hemisphere vaccine:

- A/California/7/2009 (H1N1)pdm09 virus
- A/Texas/50/2012 (H3N2)-like virus
- B/Massachusetts/2/2012-(Yamagata lineage)-like virus

These recommended strains are the same as those used for the 2013-14 northern hemisphere vaccine.

For further details, see: [www.who.int/influenza/vaccines/virus/recommendations/2014\\_15\\_north/en/](http://www.who.int/influenza/vaccines/virus/recommendations/2014_15_north/en/).

## Additional Information

### List of Acronyms:

**ACF:** Acute Care Facility

**AI:** Avian influenza

**FHA:** Fraser Health Authority

**HBoV:** Human bocavirus

**HMPV:** Human metapneumovirus

**HSDA:** Health Service Delivery Area

**IHA:** Interior Health Authority

**ILI:** Influenza-Like Illness

**LTCF:** Long-Term Care Facility

**MSP:** BC Medical Services Plan

**NHA:** Northern Health Authority

**NML:** National Microbiological Laboratory

**A(H1N1)pdm09:** Pandemic H1N1 influenza (2009)

**RSV:** Respiratory syncytial virus

**VCHA:** Vancouver Coastal Health Authority

**VIHA:** Vancouver Island Health Authority

**WHO:** World Health Organization

### Recently updated AMMI Canada Guidelines on the Use of Antiviral Drugs for Influenza:

[www.ammi.ca/guidelines](http://www.ammi.ca/guidelines)

### Web Sites:

BCCDC Emerging Respiratory Pathogen Updates:

[www.bccdc.ca/dis-cond/DiseaseStatsReports/EmergingRespiratoryVirusUpdates.htm](http://www.bccdc.ca/dis-cond/DiseaseStatsReports/EmergingRespiratoryVirusUpdates.htm)

### Influenza Web Sites

Canada – Flu Watch: [www.phac-aspc.gc.ca/fluwatch/](http://www.phac-aspc.gc.ca/fluwatch/)

Washington State Flu Updates: [www.doh.wa.gov/Portals/1/Documents/5100/fluupdate.pdf](http://www.doh.wa.gov/Portals/1/Documents/5100/fluupdate.pdf)

USA Weekly Surveillance Reports: [www.cdc.gov/flu/weekly/](http://www.cdc.gov/flu/weekly/)

European Influenza Surveillance Scheme:

[ecdc.europa.eu/EN/HEALTHTOPICS/SEASONAL\\_INFLUENZA/EPIDEMIOLOGICAL\\_DATA/Pages/Weekly\\_Influenza\\_Surveillance\\_Overview.aspx](http://ecdc.europa.eu/EN/HEALTHTOPICS/SEASONAL_INFLUENZA/EPIDEMIOLOGICAL_DATA/Pages/Weekly_Influenza_Surveillance_Overview.aspx)

WHO – Weekly Epidemiological Record: [www.who.int/wer/en/](http://www.who.int/wer/en/)

WHO Collaborating Centre for Reference and Research on Influenza (Australia):

[www.influenzacentre.org/](http://www.influenzacentre.org/)

Australian Influenza Report:

[www.health.gov.au/internet/main/publishing.nsf/content/cda-surveil-ozflu-flucurr.htm](http://www.health.gov.au/internet/main/publishing.nsf/content/cda-surveil-ozflu-flucurr.htm)

New Zealand Influenza Surveillance Reports: [www.surv.esr.cri.nz/virology/influenza\\_weekly\\_update.php](http://www.surv.esr.cri.nz/virology/influenza_weekly_update.php)

### Avian Influenza Web Sites

WHO – Influenza at the Human-Animal Interface: [www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/)

World Organization for Animal Health: [www.oie.int/eng/en\\_index.htm](http://www.oie.int/eng/en_index.htm)

### Contact Us:

Tel: (604) 707-2510

Fax: (604) 707-2516

Email: [InfluenzaFieldEpi@bccdc.ca](mailto:InfluenzaFieldEpi@bccdc.ca)

Communicable Disease Prevention and Control Services (CDPACS)

BC Centre for Disease Control

655 West 12<sup>th</sup> Ave, Vancouver BC V5Z 4R4

Online: [www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm](http://www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm)

# Influenza-Like Illness (ILI) Outbreak Summary Report Form

Please complete and email to [ilioutbreak@bccdc.ca](mailto:ilioutbreak@bccdc.ca)

**Note: This form is for provincial surveillance purposes.  
Please notify your local health unit per local guidelines/requirements.**

**ILI:** Acute onset of respiratory illness with fever and cough and with one or more of the following: sore throat, arthralgia, myalgia, or prostration which *could* be due to influenza virus. In children under 5, gastrointestinal symptoms may also be present. In patients under 5 or 65 and older, fever may not be prominent.

**Schools and work site outbreak:** greater than 10% absenteeism on any day, most likely due to ILI.

**Residential institutions (facilities) outbreak:** two or more cases of ILI within a seven-day period.

<b>A</b>	<b><u>Reporting Information</u></b>	Health unit/medical health officer notified? <input type="checkbox"/> Yes <input type="checkbox"/> No
	Person Reporting: _____	Title: _____
	Contact Phone: _____	Email: _____
	Health Authority: _____	HSDA: _____
	Full Facility Name: _____	
	Is this report:	<input type="checkbox"/> First Notification ( <i>complete section B below; Section D if available</i> ) <input type="checkbox"/> Update ( <i>complete section C below; Section D if available</i> ) <input type="checkbox"/> Outbreak Over ( <i>complete section C below; Section D if available</i> )

<b>B</b>	<b><u>First Notification</u></b>
	Type of facility: <input type="checkbox"/> LTCF <input type="checkbox"/> Acute Care Hospital <input type="checkbox"/> Senior's Residence (if ward or wing, please specify name/number: _____)
	<input type="checkbox"/> Workplace <input type="checkbox"/> School (grades: _____) <input type="checkbox"/> Other (_____)
	Date of onset of first case of ILI (dd/mm/yyyy): <u>DD / MMM / YYYY</u>

Numbers to date	Residents/Students	Staff
<b>Total</b>		
<b>With ILI</b>		
<b>Hospitalized</b>		
<b>Died</b>		

<b>C</b>	<b><u>Update AND Outbreak Declared Over</u></b>
	Date of onset for most recent case of ILI (dd/mm/yyyy): <u>DD / MMM / YYYY</u>
	If over, date outbreak declared over (dd/mm/yyyy): <u>DD / MMM / YYYY</u>

Numbers to date	Residents/Students	Staff
<b>Total</b>		
<b>With ILI</b>		
<b>Hospitalized</b>		
<b>Died</b>		

<b>D</b>	<b><u>Laboratory Information</u></b>
	Specimen(s) submitted? <input type="checkbox"/> Yes (location: _____) <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, organism identified? <input type="checkbox"/> Yes (specify: _____) <input type="checkbox"/> No <input type="checkbox"/> Don't know