

## British Columbia Influenza Surveillance Bulletin

Influenza Season 2013-14, Number 08, Week 1

December 29, 2013 to January 4, 2014

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### Increasing influenza activity in BC, predominantly A(H1N1)pdm09

In week 1 (December 29, 2013 to January 4, 2014), influenza activity continued to increase in BC. Influenza A(H1N1)pdm09 remains the predominant circulating strain. Of the 484 specimens tested by the BC Provincial Health Microbiology & Reference Laboratory in week 1, 214 (44.2%) were positive for influenza, including 104 A(H1N1)pdm09, 2 A(H3N2), 3 influenza B, and 105 influenza A (subtype pending). The influenza positivity rate at BC Children's and Women's Health Centre Laboratory increased to 17.6% in week 1. The BC Medical Services Plan (MSP) claims for influenza illness as a proportion of all claims increased to above the 10-year maximum value in most regions. No influenza outbreaks were reported in week 1. So far in week 2, 3 long term care facility (LTCF) and 4 school influenza-like illness (ILI) outbreaks have been reported, including one laboratory-confirmed influenza B outbreak in a LTCF in FHA.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team  
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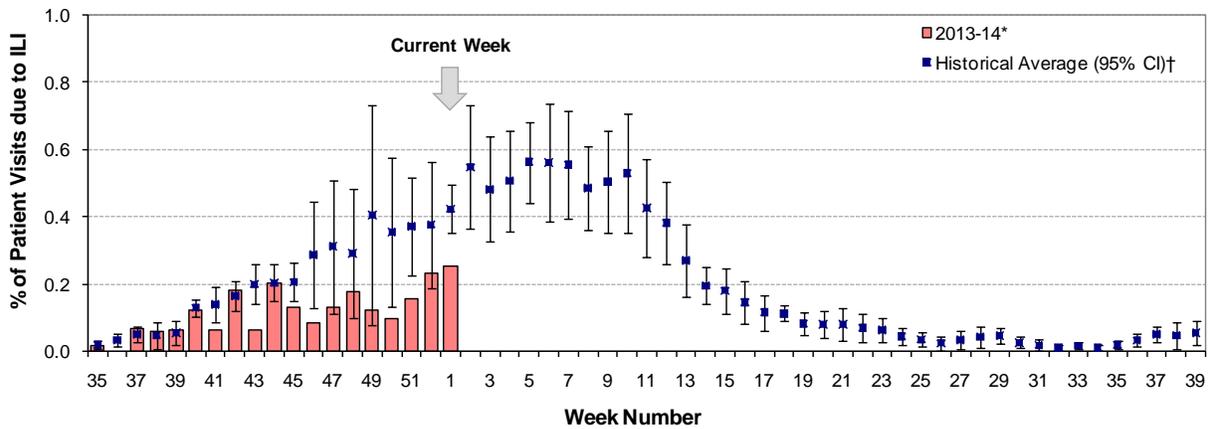
Report Disseminated: January 9, 2014

## British Columbia

### Sentinel Physicians

The proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians has shown gradual increase in the last several weeks. Consistent with previous weeks this season, consultation rates remained below the historic average for this time of year. The increased rate observed in week 52 in our previous bulletin (Weeks 51-52, Number 7) has now declined as reporting became more complete after the holiday period. Approximately 40% of sentinel sites have reported data thus far for week 1.

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



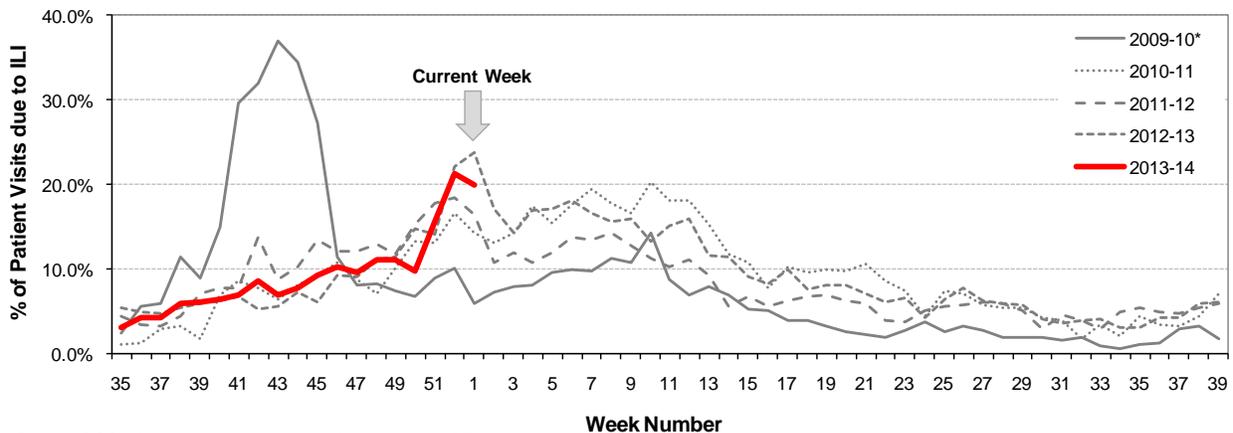
\* Data are subject to change as reporting becomes more complete.

† 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

In week 1, the proportion of visits to BC Children’s Hospital Emergency Room (ER) attributed to ILI decreased slightly from 21.3% in week 52 to 19.9% in week 1, consistent with previous seasons for this time of year and as expected following the holiday period.

**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**



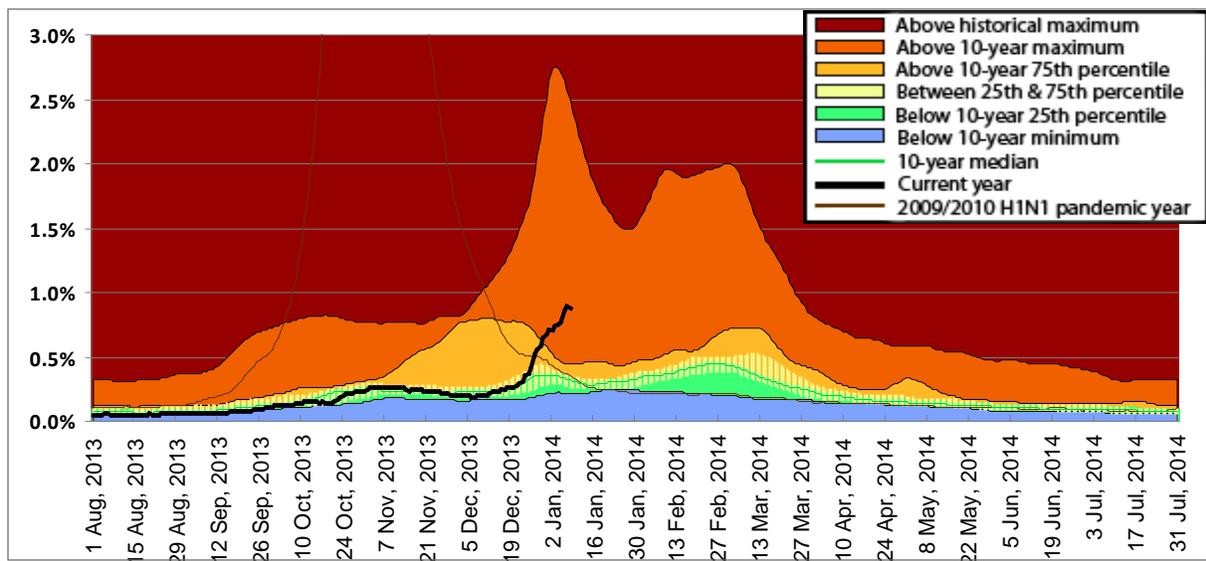
Source: BCCH Admitting, discharge, transfer database, ADT

\* 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

According to BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), influenza activity has increased in recent weeks in all regions of the province. In week 1, MSP claims for II, as a proportion of all submitted MSP claims, increased above 10-year maximum values in all Health Authorities, with the exception of NHA, where the rates were below the 10-year maximum but above the 10-year 75<sup>th</sup> percentile.

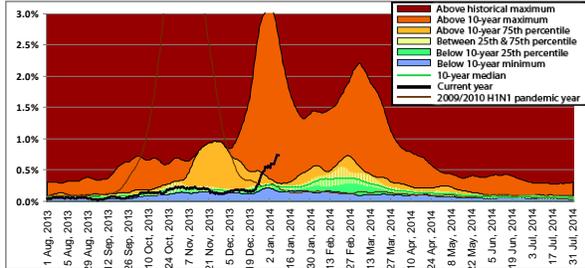
Service claims submitted to MSP for influenza illness (II)\* as a proportion of all submitted general practitioner service claims, British Columbia, 2013-14



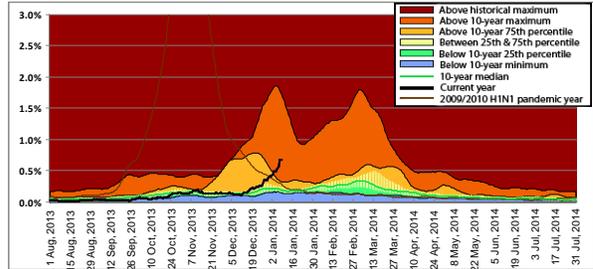
\* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza). Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services

**Note:** MSP week beginning 1 August 2013 corresponds to sentinel ILI week 31; data current to 08 January 2014.

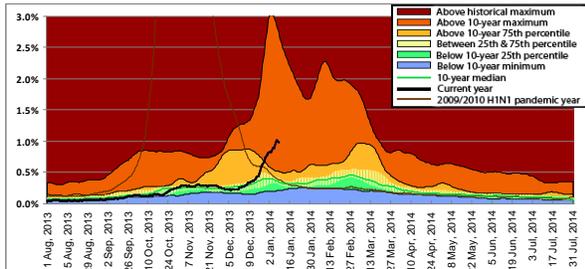
### Interior



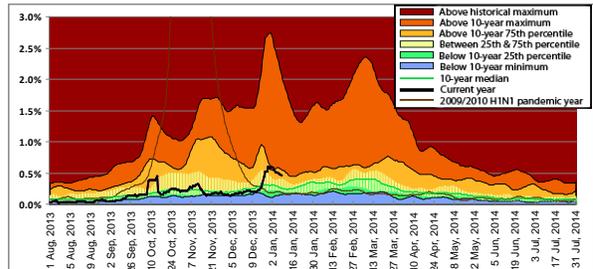
### Vancouver Island



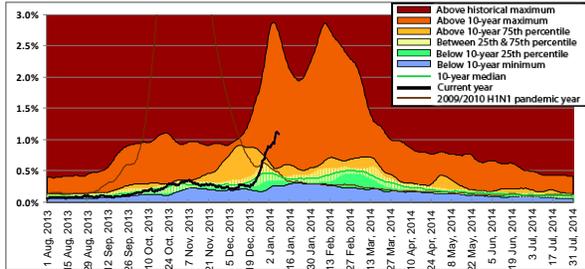
### Fraser



### Northern



### Vancouver Coastal

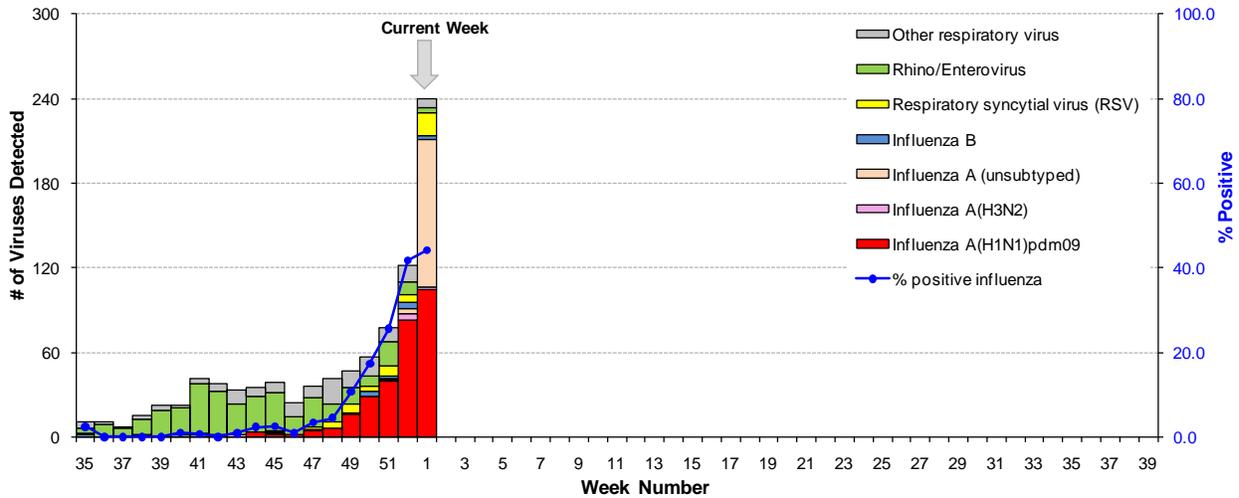


**Laboratory Reports**

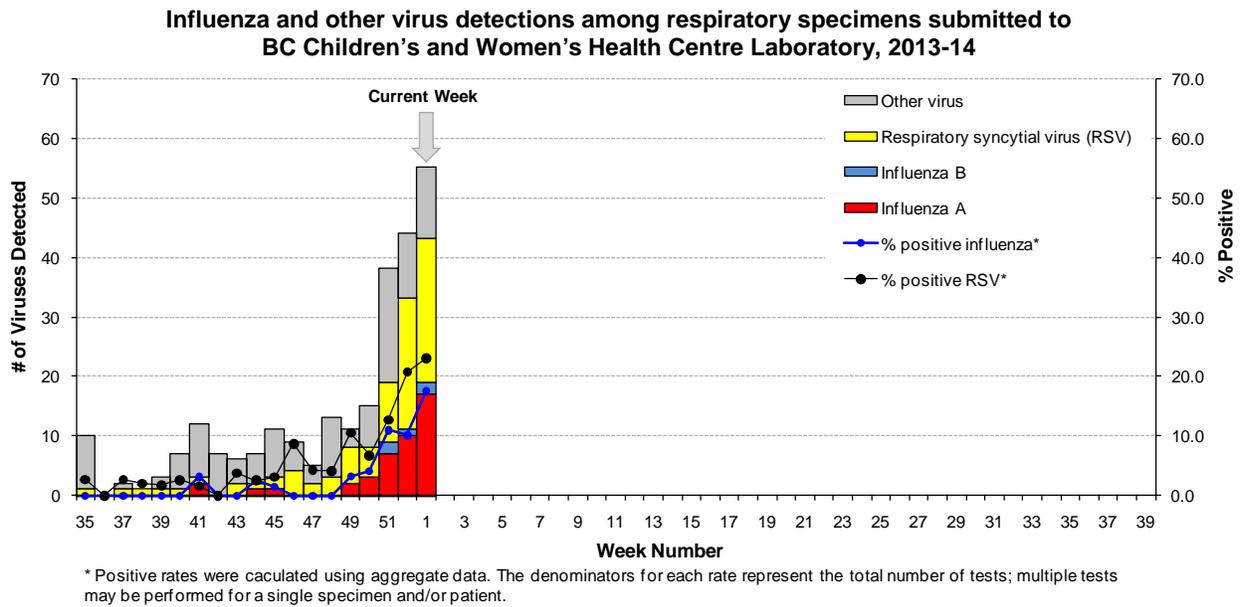
To date since week 40 (September 29 – October 5, 2013), 422 specimens have tested positive for influenza at the BC Public Health Microbiology & Reference Laboratory (PHMRL). Of the 312 specimens with subtype information available, 285 (91.3%) were influenza A(H1N1)pdm09, 11 (3.5%) were influenza A(H3N2), and 16 (5.1%) were influenza B.

In week 1, the number of specimens submitted for influenza testing to the BC PHMRL more than doubled compared to the previous week (228 in week 52 vs. 484 in week 1). Among the 484 specimens tested, 214 (44.2%) were positive for influenza, including 104 A(H1N1)pdm09, 2 A(H3N2), 3 influenza B, and 105 influenza A (subtype pending). Influenza A(H1N1)pdm09 continues to predominate so far this season. Of the 109 specimens with subtype information available in week 1, 104 (95.4%) were influenza A(H1N1)pdm09. The percent of isolates testing positive for influenza has remained above 20% since week 51 and above 40% since week 52. Among other respiratory viruses, RSV was the most commonly detected.

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



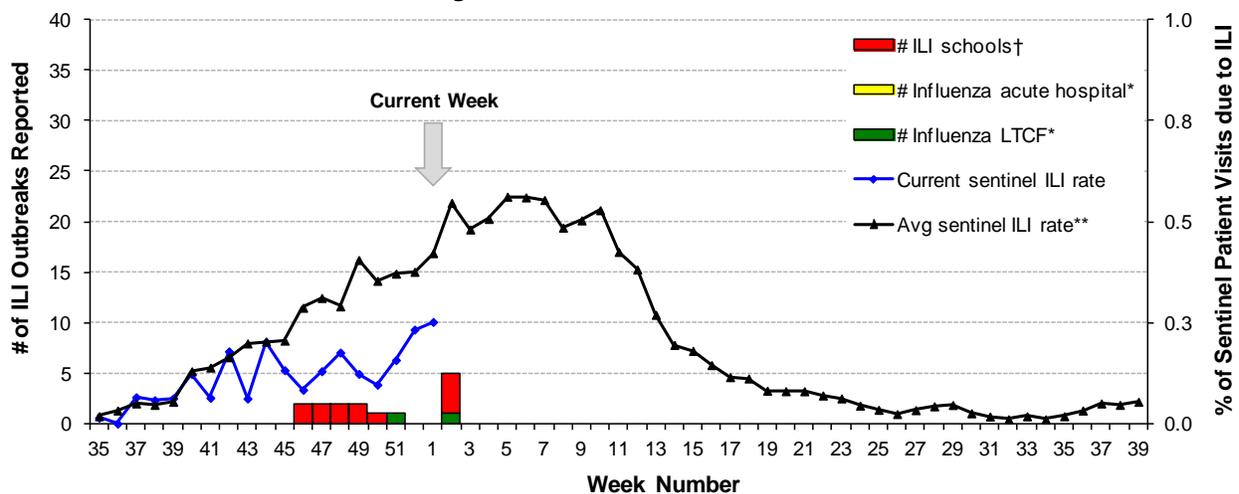
The influenza positivity rate reported by the BC Children’s and Women’s Health Centre Laboratory increased from 10.1% in week 52 to 17.6% in week 1. Of the 108 respiratory specimens tested for influenza, 19 (17.6%) were positive for influenza viruses in week 1, including 17 (89.5%) influenza A (unsubtyped) and 2 (10.5%) influenza B. RSV was the most commonly detected virus during this period at BC Children’s Laboratory; of the 104 respiratory specimens tested for RSV, 24 (23.1%) were positive. Other respiratory viruses were also sporadically detected.



### Influenza-like Illness (ILI) Outbreaks

In week 1, no ILI outbreaks were reported. So far in week 2, 7 ILI outbreaks have been reported, including 3 in long-term care facilities (LTCF) (2 in FHA, one due to influenza B and one negative for influenza but pending laboratory results for other respiratory viruses, and one in VIHA pending laboratory results) and 4 in schools. So far during the 2013-14 season, 28 ILI outbreaks have been reported, including 15 in LTCFs and 13 in schools. Of these, 3 were due to laboratory-confirmed influenza viruses: one school outbreak due to A(H1N1)pdm09 in NHA in week 47, one LTCF outbreak due to A(H1N1)pdm09 in IHA in week 51, and one LTCF outbreak due to influenza B in FHA in week 2.

**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.

### BC Sentinel Hospital Influenza Surveillance (IMPACT)

No new laboratory-confirmed influenza-associated paediatric (≤16 years of age) hospitalizations were reported in week 1 by the BC Children’s Hospital to the Immunization Monitoring Program Active (IMPACT) network, PHAC.

## National

**Fatal Human Case of Avian Influenza A(H5N1) Virus Reported in Canada:** On 7 January 2014, Alberta health officers in conjunction with the Public Health Agency of Canada reported a laboratory-confirmed fatal human case of avian influenza A(H5N1) in an Alberta resident returning from Beijing, China. The patient traveled from Beijing to Edmonton via Vancouver on 27 December 2013 and died on 3 January 2014 after being treated in hospital for severe respiratory illness. This is the first human case of H5N1 to be reported in North America. According to the WHO, 648 human cases of H5N1 and 384 deaths (case fatality of 58% among recognized cases) have been reported from 15 countries since 2003. The H5N1 virus is not easily transmitted from person to person, and the risk of community-level spread in BC is considered extremely low. Clinicians are reminded to notify their local health authority/Medical Health Officer in the event of severe acute respiratory illness (SARI) or other severe or unusual clinical outcomes in patients with recent travel to affected areas within 14 days prior to onset of symptoms.

### **FluWatch (weeks 51-52):**

Influenza activity in Canada continued to increase sharply in weeks 51 and 52, with 2 regions in Alberta reporting widespread activity. Over this period, the percent of positive influenza tests increased to 17.3% in week 51 and 23.6% in week 52. RSV was the second most frequently detected virus after influenza. So far this season, influenza A has been identified in >90% of laboratory detections. Influenza A(H1N1)pdm09 remains the predominant subtype, representing 94% of subtyped influenza A viruses. A significantly greater proportion of laboratory detections have been reported among adults 20-64 years of age than those ≥65 years of age this season as compared to the 2012-13 season when H3N2 was the predominant circulating strain. Details are available at: [www.phac-aspc.gc.ca/fluwatch/13-14/w52\\_13/index-eng.php](http://www.phac-aspc.gc.ca/fluwatch/13-14/w52_13/index-eng.php).

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

From September 1, 2013 to January 9, 2014, 234 isolates were collected from provincial and hospital laboratories for antigenic characterization at the NML:

- 22 A/Texas/50/2012-like A(H3N2)<sup>¶</sup> from NB, ON, AB and BC
- 179 A/California/07/09-like [A(H1N1)pdm09]<sup>\*</sup> from NL, NB, QC, ON, MB, SK, AB, BC and NT; of these, 2 viruses showed reduced titres with antiserum produced against A/California/7/2009 signalling possible antigenic change
- 28 B/Massachusetts/02/12-like<sup>†</sup> from QC, ON and AB
- 5 B/Brisbane/60/2008-like<sup>\*\*</sup> from ON, MB, and AB

<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 January 9, 2014, 166 influenza A [29 A(H3N2) and 137 A(H1N1)pdm09] viruses were tested for resistance to amantadine at the NML; all tested viruses were found to be resistant. Also during this period, 197 influenza viruses [23 A(H3N2), 143 A(H1N1)pdm09, and 31 B] were tested for resistance to oseltamivir and zanamivir; all tested viruses were sensitive to both antiviral drugs.

## International

**USA (week 52):** Influenza activity in the United States continued to increase in week 52. Of the 6,419 specimens tested, 1,711 (26.7%) were positive for influenza viruses, of which 97.4% were influenza A [54.9% A(H1N1)pdm09, 0.4% A(H3N2), 44.7% un-subtyped] and 2.6% were influenza B. Widespread influenza activity was reported from 25 states to the US CDC over this period. Details are available at: [www.cdc.gov/flu/weekly/](http://www.cdc.gov/flu/weekly/).

**WHO:** There have been no updates since our last bulletin. The latest report is available at: [www.who.int/influenza/surveillance\\_monitoring/updates/en/](http://www.who.int/influenza/surveillance_monitoring/updates/en/).

**Avian Influenza A(H7N9) Virus:** Since our last surveillance bulletin, 8 new human cases of avian-origin influenza A(H7N9) have been reported in China from Guangdong (4), Zhejiang (2), Shanghai (1), and Jiangsu (1). All of these latest cases were reported in adults  $\geq 30$  years old, of whom 5/8 (63%) were  $\geq 50$  years old. Since the start of the outbreak in February 2013, 157 human cases have been reported, including 48 deaths. This total includes two imported cases in Taiwan and two imported cases in Hong Kong, all of whom reported recent travel in mainland China during their exposure period. 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/2013\\_12\\_17influenza/en/index.html](http://www.who.int/csr/don/2013_12_17influenza/en/index.html)

**Avian Influenza A(H9N2) Virus:** A second human case of avian-origin influenza A(H9N2) has been reported in a 7-year-old boy living in Hunan Province, China, with symptom onset in November 2013. Follow-up investigations suggest that the boy had close contact with live birds. This case is not epidemiological linked to the H9N2 case in a Hong Kong citizen with exposure in Guangdong Province, China, that was previously reported in our last surveillance bulletin.

**Middle East Respiratory Syndrome Coronavirus (MERS-CoV):** Since our last surveillance bulletin, one new case of MERS-CoV has been reported in a 33-year-old male in Dubai, United Arab Emirates (UAE). This individual is a health care worker who has underlying chronic conditions and was in contact with a previously reported case in UAE. As of 9 January 2014, the WHO has been informed of 178 laboratory-confirmed cases of MERS-CoV and 75 deaths. 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/2013\\_12\\_27/en/index.html](http://www.who.int/csr/don/2013_12_27/en/index.html).

### **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\*\*

\*For A/H3N2, 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).

## 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

### **NEW – 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.

A	<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><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</u> / <u>MMM</u> / <u>YYYY</u>

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

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

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

D	<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