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## Overall BC Influenza Activity Levels Remain Low in Week 16, while Surveillance is Strengthened in Context of Swine Influenza

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influenza outbreaks in LTCFs this season, 34 (89%) were attributed to influenza A/H3, 1 to influenza A/H1, 2 to influenza A (sub-type not available), and 1 to influenza B. Rhino/enterovirus was furthermore identified in 13 (10%) of the investigations, RSV in 7 (6%), human metapneumovirus (HMPV) in 5 (4%), parainfluenza in 3 (2%), coronavirus in 2 (2%), and adenovirus in 1 (1%). No pathogen was identified in the other 46 investigations. (See graph on page 6.)

**Please remember to notify BCCDC of any ILI outbreaks occurring in your region by sending an e-mail to [ilioutbreak@bccdc.ca](mailto:ilioutbreak@bccdc.ca) and attaching the outbreak report form (a copy is found at the end of this report).**

### Highlights

In week 16 (Apr 19-25), the percentage of visits to sentinel physicians attributed to ILI was 0.27%, which is comparable both to rates in the previous four weeks of the season and to the average rate for this time of year. No lab-confirmed influenza outbreaks were reported during week 16. Eight percent (12 / 150) of respiratory specimens tested in BC laboratories (BCCDC and Children's and Women's Health Centre) during week 16 were positive for influenza, a decrease from week 15, in which 21% of specimens were positive for influenza. Seventy-five percent of the influenza detections during week 16 were influenza A, and of the 6 further assessed for sub-type or strain, 4 were A/H3, and 2 were swine influenza A/H1. To date this season (Apr 28), 76% (727 / 959) of influenza isolates have been type A, and of those sub-typed, 70% (450 / 645) have been A/H3.

The recent international spread of a novel strain of swine influenza A/H1N1 in humans, with confirmed cases in BC, has prompted the BCCDC to further strengthen its surveillance system. Surveillance indicators are being closely followed for trends in community activity. With increased awareness, some increase in ILI activity over the coming weeks is anticipated.

### Sentinel Physicians

In week 16, 0.27% of all patient visits to sentinel physicians were attributed to ILI. This is close to the average percentage for this time of year (0.26%). (See graph on page 4.)

### MSP

As of April 28, 2009, influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims has shown a consistent decline over the past few weeks. (See graphs on pages 4-6.)

### ILI Outbreaks

In week 16, no influenza outbreaks were reported in BC. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 126 ILI outbreak investigations (108 in LTCFs, 11 in ACFs, 4 in schools, 2 in correctional facilities, and 1 in a substance abuse treatment centre). Influenza was identified in 49 (39%) of the investigations (38 in LTCFs, 7 in ACFs, and 4 in schools). Among the 38



### Laboratory Reports

During week 16, BCCDC Laboratory Services tested 75 respiratory specimens. Seven (9%) specimens tested positive for influenza A, and 3 (4%) tested positive for influenza B. Of the six influenza A specimens which were further assessed for sub-type or strain during week 16, 4 were A/H3 and 2 were swine influenza A/H1. An additional 11 (15%) specimens tested positive for rhino/enterovirus, 5 (7%) for parainfluenza, 2 (3%) for coronavirus, 2 (3%) for HMPV, 1 (1%) for RSV, and 1 (1%) for adenovirus.

During week 16, Children's and Women's Health Centre Laboratory tested 75 respiratory specimens. Eleven (3%) specimens tested positive for parainfluenza, 9 (12%) for RSV, 2 (3%) for influenza A, and 1 (1%) for adenovirus. (See graphs on page 7.)

To date this season (Apr 28), 76% (727 / 959) of influenza isolates tested at both laboratories have been type A, and of those sub-typed, 70% (450 / 645) have been A/H3.

### Oseltamivir Resistance

To date (Apr 28) during the 2008-09 season, BCCDC has assessed 163 A/H1N1 isolates for oseltamivir resistance; 148 show genotypic evidence of oseltamivir resistance, and the other 15 are indeterminate and undergoing further assessment through sequencing of the neuraminidase gene. Thus, all A/H1N1 specimens for which oseltamivir sensitivity could be determined have so far been found resistant to date in BC during the 2008-09 season.

**Health care providers considering use of antivirals are advised to consult public health and surveillance updates and to stay informed about influenza activity and resistance patterns throughout the season. The BCCDC has posted interim guidelines, for clinician reference, concerning antiviral options in the context of evolving resistance patterns:**

[http://www.bccdc.org/downloads/pdf/epid/reports/BC\\_Interim\\_Antiviral\\_Treatment\\_Guidelines\\_Influenza.pdf](http://www.bccdc.org/downloads/pdf/epid/reports/BC_Interim_Antiviral_Treatment_Guidelines_Influenza.pdf) .

### Swine Influenza

For up-to-date information on confirmed cases of swine influenza in Canada, visit:

<http://www.phac-aspc.gc.ca/alert-alerte/swine-porcine/surveillance-eng.php>

BC-specific information, including resources for healthcare professionals, is available here:

<http://www.bccdc.org/news.php?item=290&PHPSESSID=23de71450ae7253c8bf8febbb6b4b8cf>

## CANADA

### FluWatch

During week 15 (Apr 12-18), influenza activity in Canada continued to decline, with mostly sporadic activity reported throughout the country. Six new ILI outbreaks were reported in LTCFs (BC, AB, ON, & NS). The proportion of tests that were positive for influenza decreased from 11% in week 14 to 9% in week 15. Since August 24, 2008, provincial/territorial laboratories have detected 9,049 cases of influenza, of which 5,475 (61%) were influenza A and 3,574 (39%) were influenza B. The national rate of ILI visits to sentinel physicians was 22 ILI consultations per 1,000 patient visits in week 15, which is within the expected range for this time of the season.

<http://www.phac-aspc.gc.ca/fluwatch/>

### National Microbiology Laboratory

Since Sept 1 and as of Apr 17, 828 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):

202 A/Brisbane/59/07(H1N1)-like\* † from BC, AB, SK, MB, ON, QC, NB, NS, & PEI;

142 A/Brisbane/10/07(H3N2)-like\* † from BC, AB, SK, MB, ON, QC, NB, PEI, & NL;

9 B/Florida/04/06(Yamagata)-like\* from AB, ON, QC, & NB;

368 B/Malaysia/2506/04(Victoria)-like from all ten provinces;

and, 107 B/ Brisbane/60/08(Victoria)-like † from BC, SK, MB, ON, QC, NB, and NL.

\* indicates a strain match to the 2008-09 vaccine

† indicates a strain match to the 2009-10 vaccine

### Antiviral Resistance

Drug susceptibility testing at the NML as of Apr 9 indicated that all (n=225) H1N1 isolates tested to date were resistant to oseltamivir, while all H3N2 (n=154) and influenza B (n=460) isolates tested were sensitive to oseltamivir. Of those isolates tested for amantadine resistance, all (n=242) H1N1 isolates were found to be sensitive, and all (n=285) H3N2 isolates were found to be resistant. All 794 (176 H1N1, 152 H3N2, and 466 influenza B) isolates that have been tested for zanamivir resistance were sensitive.



## INTERNATIONAL

As of week 15 (Apr 12-18), influenza activity in the United States and Europe continued to decrease, generally returning to baseline, end-of-season levels. Details are available at: <http://www.cdc.gov/flu/weekly/> and <http://www.eiss.org>.

The international situation concerning swine influenza is rapidly evolving. For the most up-to-date information, visit the WHO website at: <http://www.who.int/csr/disease/swineflu/en/index.html>

### **Avian Influenza**

Since 2003 and to date (Apr 23, 2009), the WHO has confirmed 421 human avian influenza A/H5N1 cases and 257 deaths. For more information on human avian influenza cases, please visit: [http://www.who.int/csr/disease/avian\\_influenza](http://www.who.int/csr/disease/avian_influenza).

For information on confirmed avian influenza outbreaks in poultry, please visit: [http://www.oie.int/downld/AVIAN%20INFLUENZA/A\\_AI-Asia.htm](http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm).

### **Vaccine Composition**

This year's (2008-09) influenza vaccine contains the following virus antigens:

- A/Brisbane/59/2007(H1N1)-like
- A/Brisbane/10/2007(H3N2)-like  
Note: A/Uruguay/716/2007(H3N2) is antigenically equivalent to A/Brisbane/10/2007(H3N2) and may be included by vaccine producers.
- B/Florida/04/2006(Yamagata lineage)-like

The WHO has announced the recommended components of the 2009-10 northern hemisphere influenza vaccines:

- A/Brisbane/59/2007(H1N1)-like
- A/Brisbane/10/2007(H3N2)-like
- B/Brisbane/60/2008(Victoria lineage)-like

Thus, only the B component will be changed from the 2008-09 vaccine. Additional information can be found here: [http://www.who.int/csr/disease/influenza/recommendations2009\\_10north/en/index.html](http://www.who.int/csr/disease/influenza/recommendations2009_10north/en/index.html).

## **Contact Us:**

### **Epidemiology Services**

BC Centre for Disease Control (BCCDC)  
655 W. 12<sup>th</sup> Ave, Vancouver BC V5Z 4R4  
Tel: (604) 660-6061 / Fax: (604) 660-0197  
[InfluenzaFieldEpi@bccdc.ca](mailto:InfluenzaFieldEpi@bccdc.ca)

## **List of Acronyms**

**ACF:** Acute Care Facility  
**AI:** Avian Influenza  
**FHA:** Fraser Health Authority  
**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  
**OIE:** World Organization for Animal Health  
**RSV:** Respiratory syncytial virus  
**VCHA:** Vancouver Coastal Health Authority  
**VIHA:** Vancouver Island Health Authority  
**WHO:** World Health Organization

## **Web Sites**

### **1. Influenza Web Sites**

Canada – Flu Watch:

<http://www.phac-aspc.gc.ca/fluwatch/>

NACI Statement on Influenza Vaccination for the 2008-09 Season: <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/08vol34/acs-3/index-eng.php>

Washington State Flu Updates:

<http://www.doh.wa.gov/ehsphl/epidemiology/CD/HTML/FluUpdate.htm>

USA Weekly Surveillance reports:

<http://www.cdc.gov/flu/weekly/>

European Influenza Surveillance Scheme:

<http://www.eiss.org/index.cgi>

WHO – Global Influenza Programme:

<http://www.who.int/csr/disease/influenza/mission/>

WHO – Weekly Epidemiological Record:

<http://www.who.int/wer/en/>

Influenza Centre (Australia):

<http://www.influenzacentre.org/>

### **2. Avian Influenza Web Sites**

World Health Organization – Avian Influenza:

[http://www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/)

World Organization for Animal Health:

[http://www.oie.int/eng/en\\_index.htm](http://www.oie.int/eng/en_index.htm)

### **3. This Report On-line**

<http://www.bccdc.org/content.php?item=35>

### **4. Swine Influenza Web Sites**

BCCDC:

<http://www.bccdc.org/news.php?item=290&PHPSESSID=23de71450ae7253c8bf8febbb6b4b8cf>

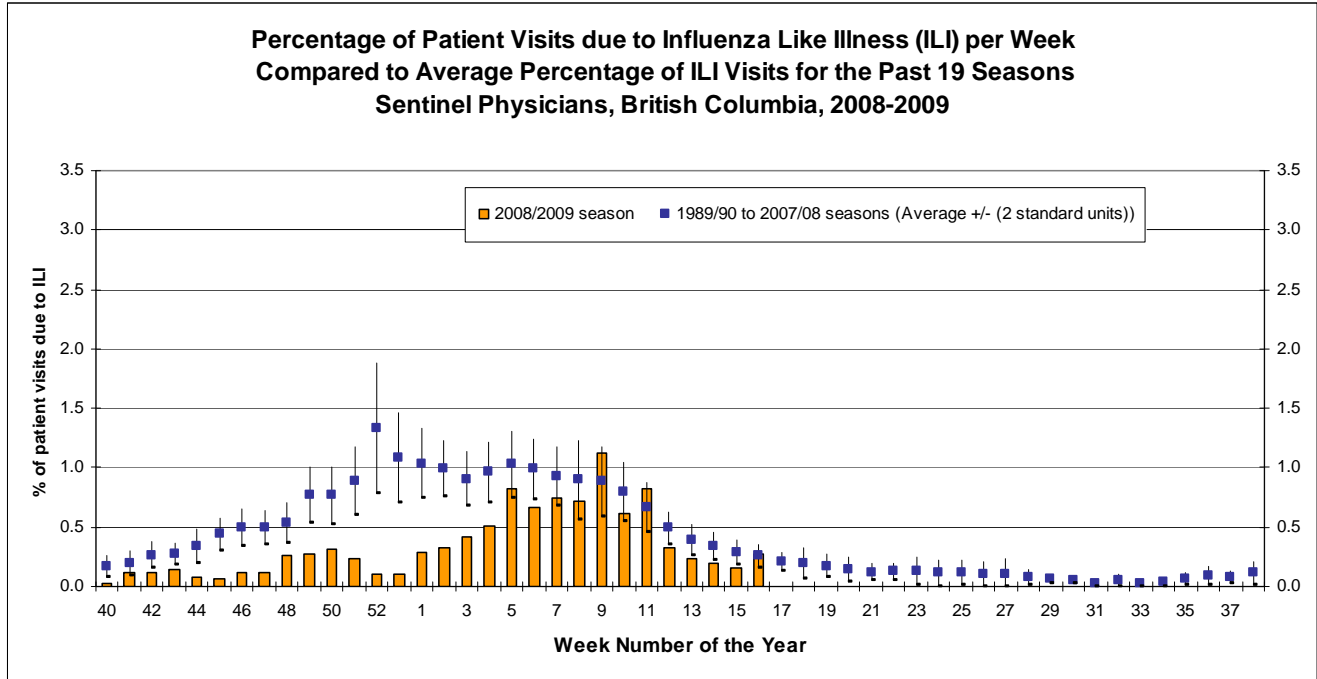
PHAC: [http://www.phac-aspc.gc.ca/alert-alerte/swine\\_200904-eng.php](http://www.phac-aspc.gc.ca/alert-alerte/swine_200904-eng.php)

US CDC: <http://www.cdc.gov/swineflu/index.htm>

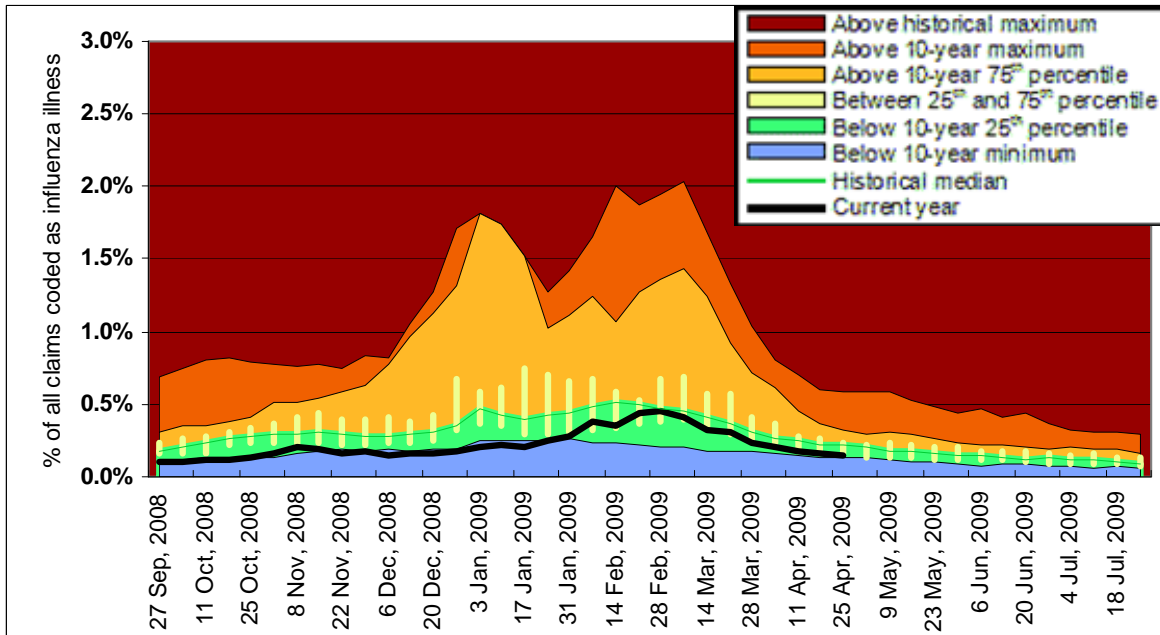
WHO: <http://www.who.int/csr/disease/swineflu/en/index.html>



WEEKLY SENTINEL ILI



INFLUENZA ILLNESS CLAIMS\* VIA BC MEDICAL SERVICES PLAN (MSP)  
 ENTIRE PROVINCE – CURRENT TO APRIL 28, 2009



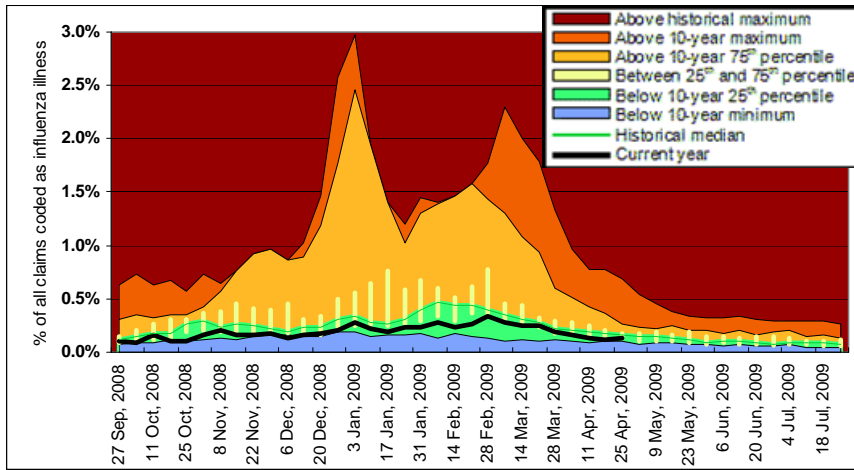
\* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

NOTE: MSP week 27 Sep 2008 corresponds to sentinel ILI week 40.

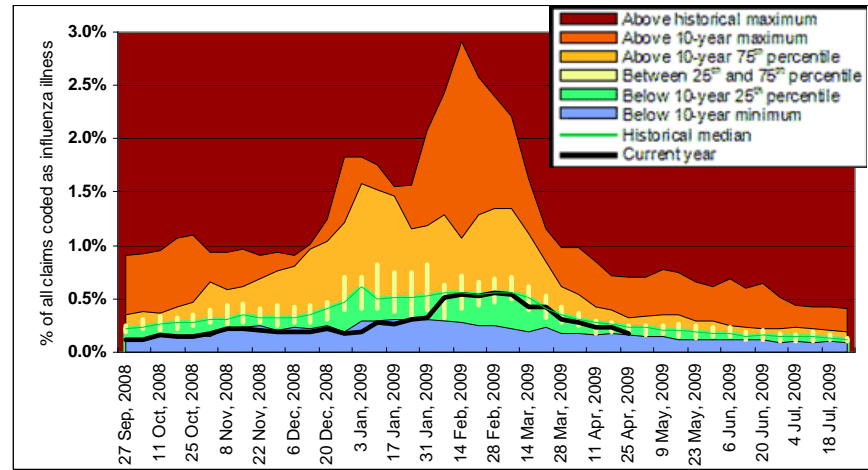


**INFLUENZA ILLNESS CLAIMS\* VIA BC MEDICAL SERVICES PLAN (MSP)  
 BY REGIONAL HEALTH AUTHORITY (RHA) – CURRENT TO APRIL 28, 2009**

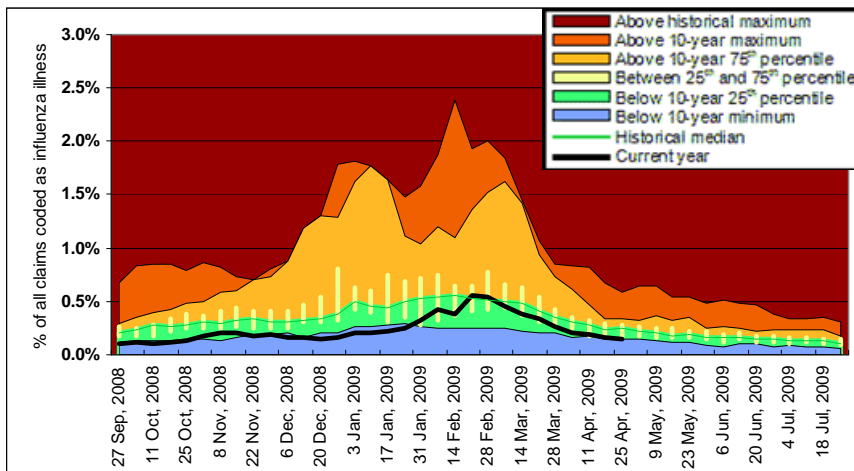
**Interior**



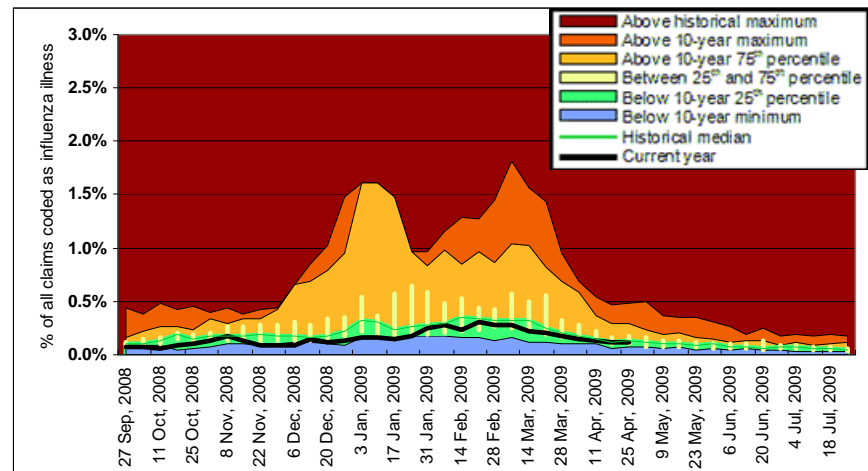
**Vancouver Coastal**



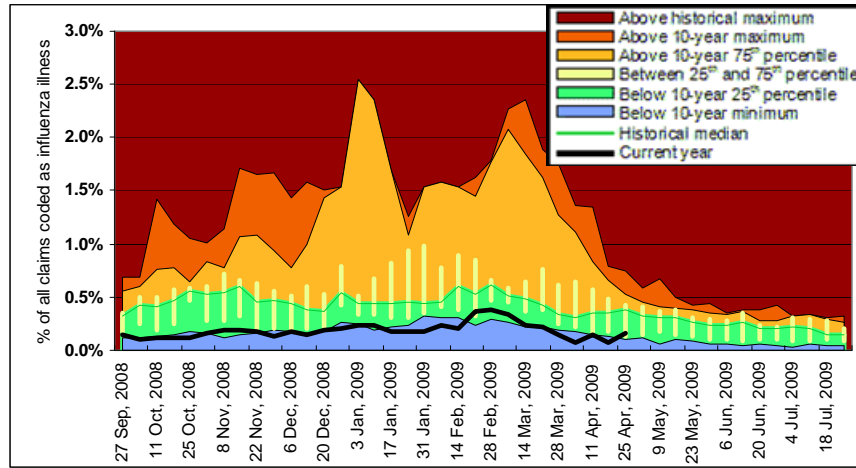
**Fraser**



**Vancouver Island**

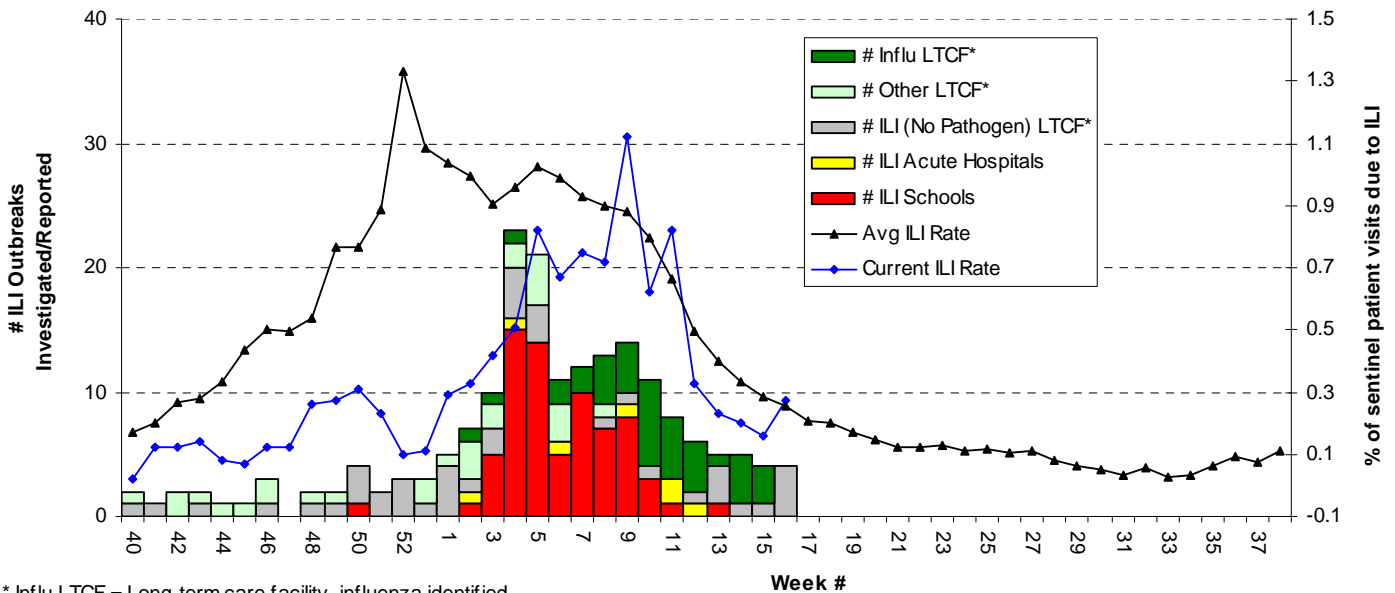


### Northern



### ILI OUTBREAKS

**Number of Influenza-Like Illness (ILI) Outbreaks Investigated or Reported, Compared to Current ILI Rate and Average ILI Rate for past 19 years, per Week British Columbia, 2008-2009**

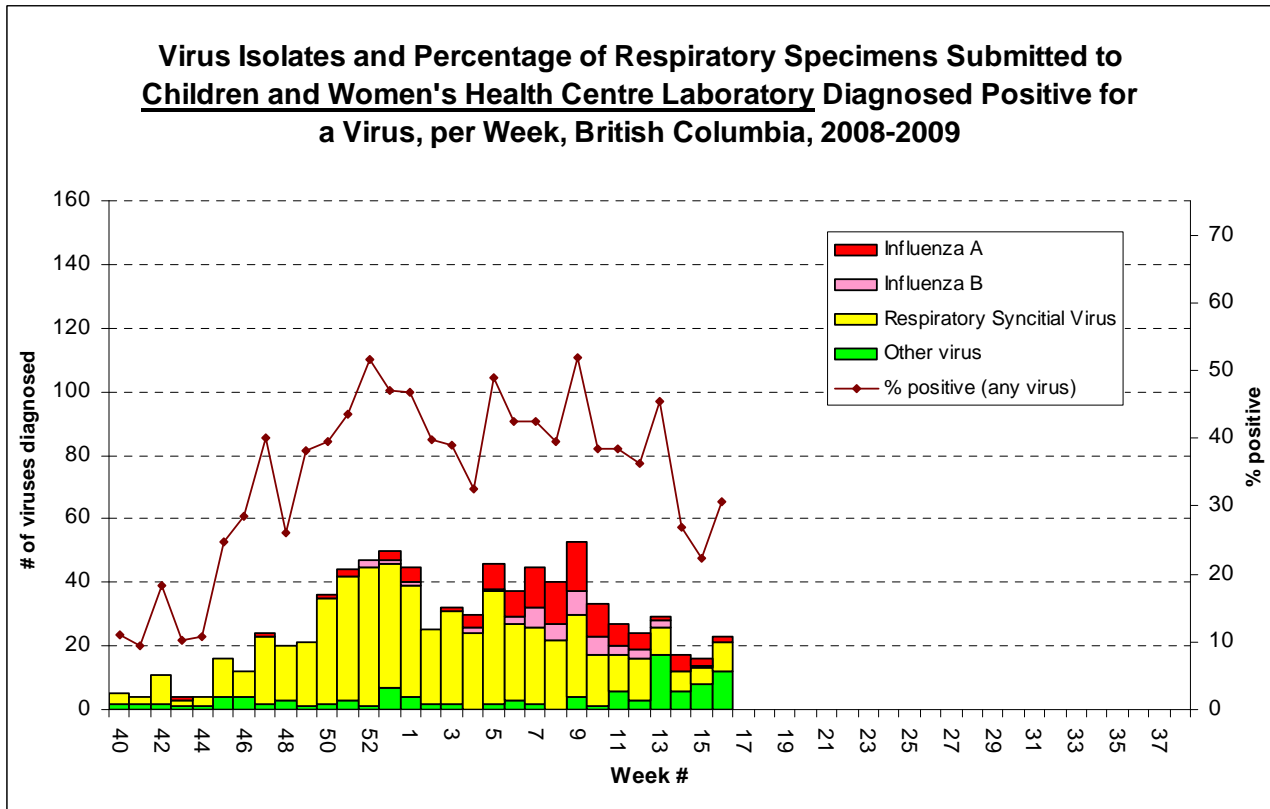
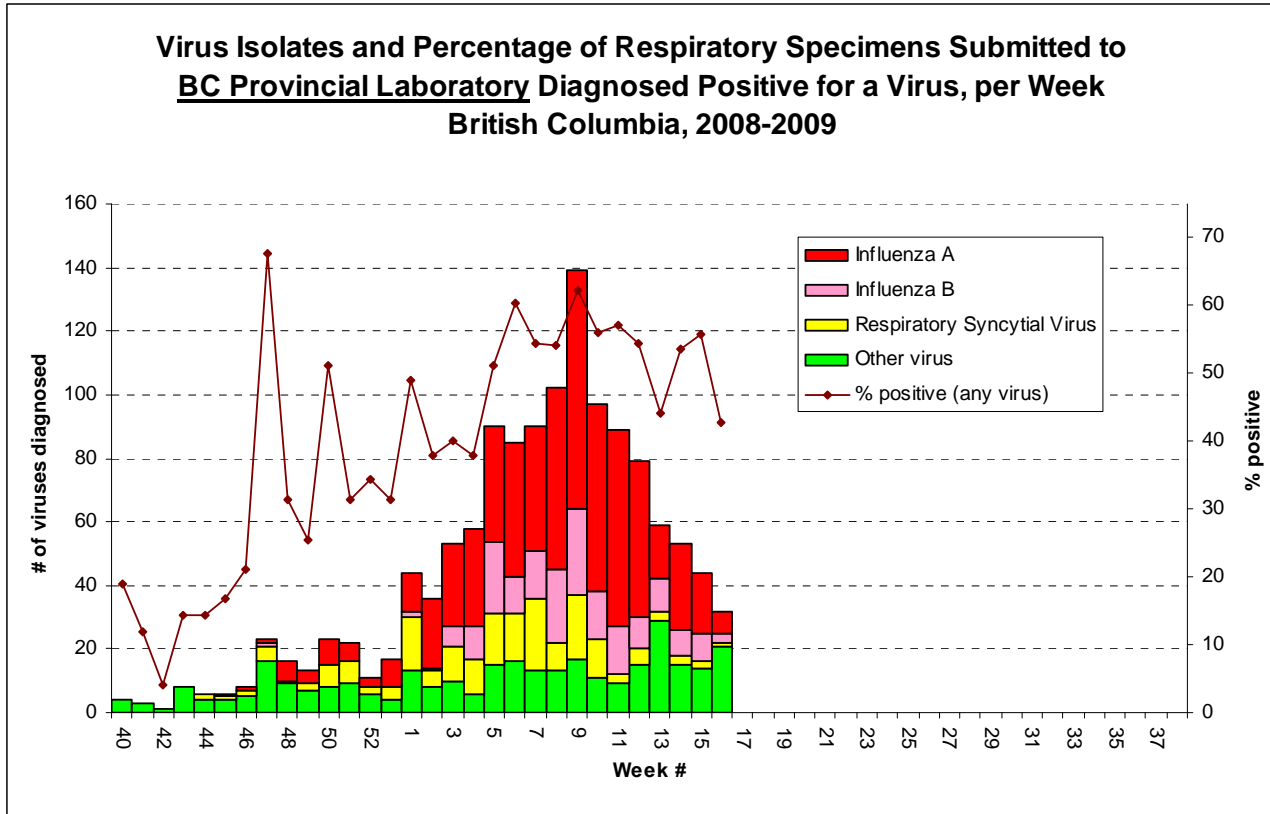


\* Influenza LTCF = Long-term care facility, influenza identified

\* Other LTCF = Long-term care facility, other pathogen identified (including RSV, parainfluenza, adenovirus, and rhino/enterovirus)

\* ILI (No Pathogen) LTCF = Long-term care facility, no pathogen identified

### LABORATORY SUMMARY



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

*Please complete and email to [ilioutbreak@bccdc.ca](mailto:ilioutbreak@bccdc.ca) or fax to (604) 660-0197*

**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.

## SECTION A: Reporting Information

Person Reporting: \_\_\_\_\_ Title: \_\_\_\_\_  
 Contact Phone: \_\_\_\_\_ Email: \_\_\_\_\_  
 Health Authority: \_\_\_\_\_ HSDA: \_\_\_\_\_  
 Full Facility Name: \_\_\_\_\_

Is this report:  First Notification (*complete section B below; Section D if available*)  
 Update (*complete section C below; Section D if available*)  
 Outbreak Over (*complete section C below; Section D if available*)

## SECTION B: First Notification

Type of facility:  LTCF  Acute Care Hospital  Senior's Residence  
 (if ward or wing, please specify name/number: \_\_\_\_\_ )  
 Workplace  School (grades: \_\_\_\_\_ )  Other ( \_\_\_\_\_ )

Date of onset of first case of ILI (dd/mm/yyyy): \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

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

## SECTION C: Update AND Outbreak Declared Over

Date of onset for most recent case of ILI (dd/mm/yyyy): \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

If over, date outbreak declared over (dd/mm/yyyy): \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

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

## SECTION D: Laboratory Information

Specimen(s) submitted?  Yes (location: \_\_\_\_\_ )  No  Don't know  
 If yes, organism identified?  Yes (specify: \_\_\_\_\_ )  No  Don't know