



## Influenza Activity in BC Continues to Increase but within Historic Levels

### Contents:

Overview	<a href="#">Page 1</a>
Sentinel Physicians	<a href="#">Page 1</a>
ILI Outbreaks	<a href="#">Page 1</a>
Laboratory Reports	<a href="#">Page 1</a>
Oseltamivir Resistance	<a href="#">Page 2</a>
Canadian Data	<a href="#">Page 2</a>
International Data	<a href="#">Page 2</a>
Avian Influenza	<a href="#">Page 2</a>
Vaccine Composition	<a href="#">Page 3</a>
Activity Level Definitions	<a href="#">Page 3</a>
List of Acronyms	<a href="#">Page 3</a>
Web Sites	<a href="#">Page 3</a>
Weekly ILI Graph	<a href="#">Page 4</a>
ILI by Health Authority	<a href="#">Page 4</a>
ILI Outbreaks Graph	<a href="#">Page 5</a>
Lab Summary Graphs	<a href="#">Page 6</a>
ILI Outbreak Form	<a href="#">Page 7</a>

increase over previous weeks and remains close to the historic average for this time of year (0.92%). (See graph and table on page 4.)

### ILI Outbreaks

Eight ILI outbreaks in schools in FHA, IHA, and NHA (influenza A/H1 identified in one outbreak, no pathogen identified in the others) were reported during week 7. Two lab-confirmed influenza A/H3 outbreaks were reported in LTCFs in FHA and IHA. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 76 ILI outbreak investigations. Influenza was identified in 15 (20%), rhino/enterovirus was identified in 13 (17%) of the investigations, RSV in 6 (8%), human metapneumovirus (HMPV) in 5 (7%), parainfluenza in 3 (4%), coronavirus in 2 (3%), and adenovirus in 1 (1%). No pathogen was identified in the other 31 investigations. (See graph on page 5.)

**Please remember to notify BCCDC if an outbreak of ILI occurs in your region, by emailing [ilioutbreak@bccdc.ca](mailto:ilioutbreak@bccdc.ca) and attaching the outbreak report form (a copy is found at the end of this report).**

### Laboratory Reports

During week 7, BCCDC Laboratory Services tested 165 respiratory specimens. Thirty-nine (24%) specimens tested positive for influenza A, and 15 (9%) tested positive for influenza B. Thirty-three of the influenza A specimens received during week 7 have been sub-typed, of which 20 (61%) were A/H3 and 13 (39%) were A/H1. An additional 23 specimens tested positive for RSV, 9 for rhino/enterovirus, 2 for HMPV, 1 for adenovirus, and 1 for parainfluenza.

During week 7, Children's and Women's Health Centre Laboratory tested 106 respiratory specimens. Twenty-four (23%) specimens tested positive for RSV, 13 for influenza A, 6 for influenza B, and 2 for parainfluenza. (See graphs on page 6.)

To date this season (February 24), 78% (294 / 379) of influenza isolates tested at both laboratories have

### Highlights

During week 7 (February 15-21, 2009), 8 ILI outbreaks occurred in schools in FHA, IHA, and NHA, and 2 lab-confirmed influenza A/H3 outbreaks occurred in LTCFs in FHA and IHA. **Twenty-seven percent (73 / 271) of respiratory specimens tested in BC laboratories (BCCDC and Children's and Women's Health Centre) during week 7 were positive for influenza, of which 71% were influenza A. Of those influenza A specimens that were sub-typed during week 7, 61% were A/H3. To date this season (February 24), 78% (294 / 379) of influenza isolates have been type A, and of those sub-typed, 58% (156 / 270) have been A/H3. Oseltamivir resistance continues to be reported in nearly all A/H1N1 viruses. The rate of ILI visits to physicians continued to increase in week 7 but remains close to average for this time of year.**

### Sentinel Physicians

In week 7, 0.91% of all patient visits to sentinel physicians were attributed to ILI. This proportion is an

# BRITISH COLUMBIA (BC) INFLUENZA SURVEILLANCE

2008-2009

UPDATE



BC Centre for Disease Control  
AN AGENCY OF THE PROVINCIAL HEALTH SERVICES AUTHORITY

been type A, and of those sub-typed, 58% (156 / 270) have been A/H3.

## Oseltamivir Resistance

To date (February 24, 2009) during the 2008-09 season, BCCDC has assessed 96 A/H1N1 isolates for oseltamivir resistance; 86 show genotypic evidence of oseltamivir resistance, and the other 10 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 shared interim guidelines for antiviral options in the context of evolving resistance patterns with local health authorities. Local health authorities may be consulted for more information. Given the continued increase in activity, it is not too late to get vaccinated.**

## CANADA

### Flu Watch

During week 6 (Feb 8-14), influenza activity continued to increase in Canada with localized activity reported in most provinces (BC, AB, MB, ON, QC, NB, & NS). Nineteen ILI outbreaks were reported: 9 in LTCFs (BC, AB, & MB) and 10 in schools (BC, AB, MB, NS, & NB). The percentage of all reported tests for influenza in Canada that were positive continued to increase, from 11.7% in week 5 to 14.1% in week 6. Since August 24, 2008 provincial/territorial laboratories have detected 2491 cases of influenza, 1425 (57%) influenza A and 1066 (43%) influenza B. The national rate of ILI visits to sentinel physicians increased from 21 cases per 1,000 patient visits in the previous week to 34 per 1,000 in week 65, 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 Feb 20, 317 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):

79 A/Brisbane/59/07(H1N1)-like\* from BC, AB, SK, ON, QC, NS, & PEI;  
39 A/Brisbane/10/07(H3N2)-like\* from BC, AB, SK, ON, QC, PEI, & NL;  
6 B/Florida/04/06(Yamagata)-like\* from AB, ON, & QC;  
and 193 B/Malaysia/2506/04(Victoria)-like from BC, AB, SK, MB, ON, QC, NB, NS, PEI, & NL.  
\* indicates a strain match to the vaccine component.

## Antiviral Resistance

Drug susceptibility testing at the NML as of Feb 19 indicated that all (n=73) H1N1 isolates tested to date were resistant to oseltamivir, while all H3N2 (n=31) and influenza B (n=148) isolates tested were sensitive to oseltamivir. Of those isolates tested for amantadine resistance, all (n=86) H1N1 isolates were found to be sensitive, and all (n=69) H3N2 isolates were found to be resistant. All 245 (66 H1N1, 31 H3N2, and 148 influenza B) isolates that have been tested for zanamivir resistance were sensitive.

## INTERNATIONAL

During week 6 (Feb 8-14), influenza activity continued to increase in the United States. The rate of ILI visits to sentinel physicians increased from 3.2% in the previous week to 3.6% in week 6, exceeding the national baseline. To date this season, US laboratories have detected influenza in 8120 respiratory specimens, of which 79% were influenza A. Of the influenza A isolates that have been sub-typed, 89% were A/H1. Two hundred and sixty-four of 268 (99%) A/H1 viruses tested were found to be resistant to oseltamivir. For more information, visit: <http://www.cdc.gov/flu/weekly/>.

During week 6 (Feb 8-14), influenza activity continued to increase across central Europe while generally decreasing in western Europe. Of the 19,033 influenza virus detections in Europe since the start of the season (week 40), 94% were influenza A, and of those sub-typed, 92% were A/H3. For more information, visit: <http://www.eiss.org>.

## Avian Influenza

Since 2003 and to date (Feb 24, 2009), the WHO has confirmed 408 human avian influenza A/H5N1 cases and 255 deaths, with 2 recent human cases reported in Vietnam. 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)



Avian influenza A/H5N2 was detected among two commercial poultry flocks in FHA over the course of the past 5 weeks. All affected birds have been culled, and surrounding farms are under enhanced surveillance. To date, there have been no reports of human illness attributed to this outbreak of avian influenza. Protective measures include personal protective equipment, vaccination, and antiviral prophylaxis for all persons who may be exposed to infected poultry. BCCDC, FHA, and other authorities continue to monitor the situation and ensure that all necessary outbreak control measures are taken.

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

### Activity Level Definitions

*Sporadic influenza activity:* sporadically occurring ILI and laboratory-confirmed influenza during previous 4 weeks, with no outbreaks.

*Localized influenza activity:* as for sporadic activity, but with ILI outbreaks in schools and worksites, or laboratory-confirmed influenza outbreaks in residential institutions occurring in less than 50% of the influenza surveillance regions during the week of reporting.

*Widespread influenza activity:* as for localized activity, but with outbreaks occurring in greater than or equal to 50% of the influenza surveillance regions during the week of reporting.

### 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  
**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

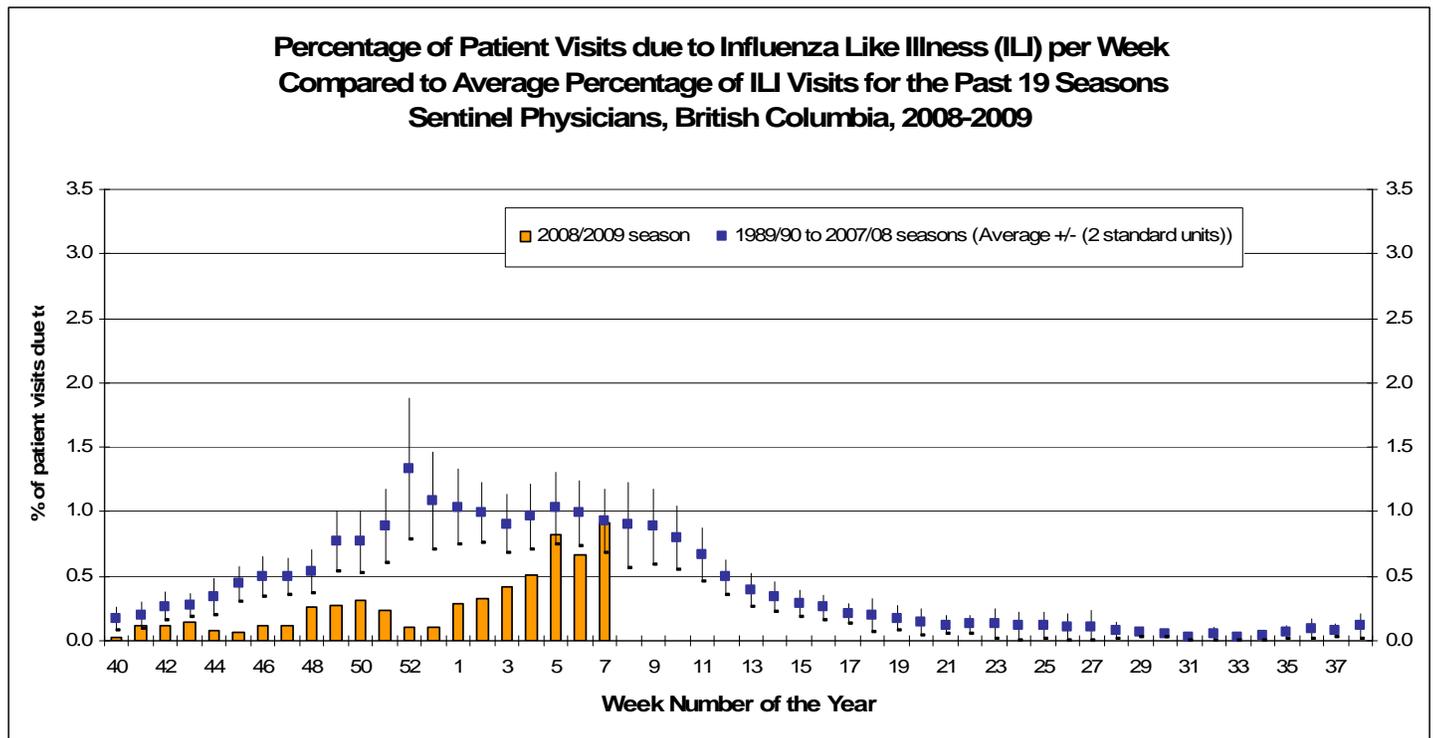
<http://www.bccdc.org/content.php?item=35>

### 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)

## WEEKLY ILI

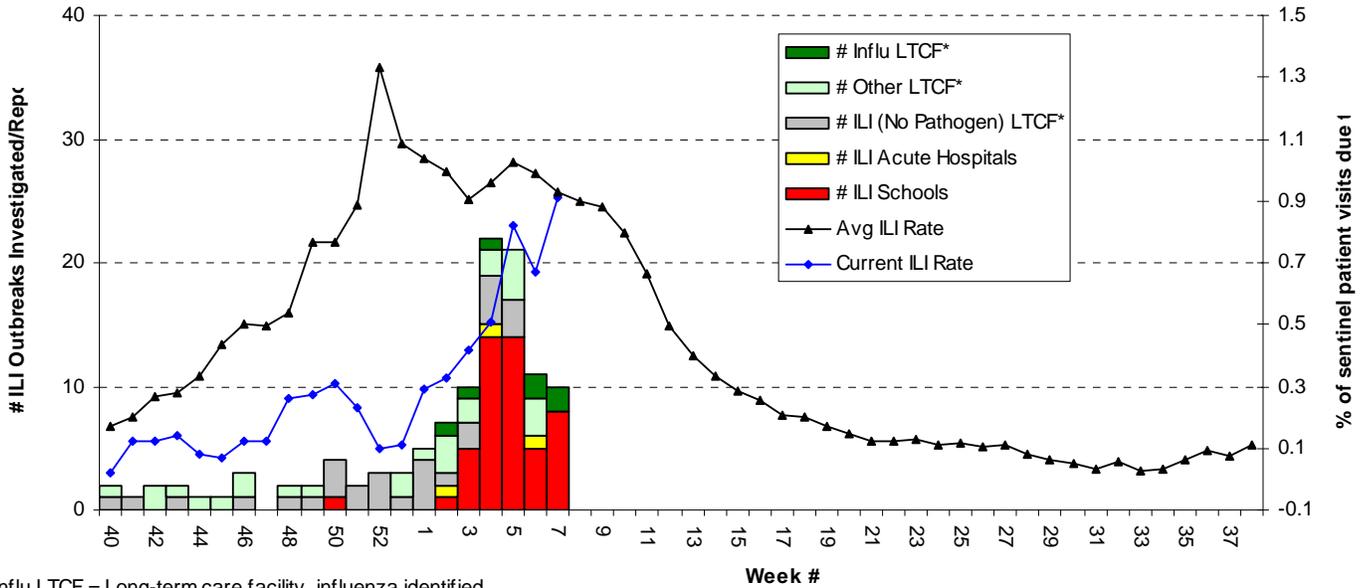


## INFLUENZA-LIKE ILLNESS BY HEALTH AUTHORITY

HEALTH AUTHORITY	Week 7 Feb 15 – 21		
	ILI Visits	Total Visits	% ILI
Fraser	18	1,455	1.24%
Interior	1	494	0.20%
Northern	1	164	0.61%
Vancouver Coastal	12	446	2.69%
Vancouver Island	6	1,620	0.37%
<b>BC Total</b>	<b>38</b>	<b>4,179</b>	<b>0.91%</b>

## 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**

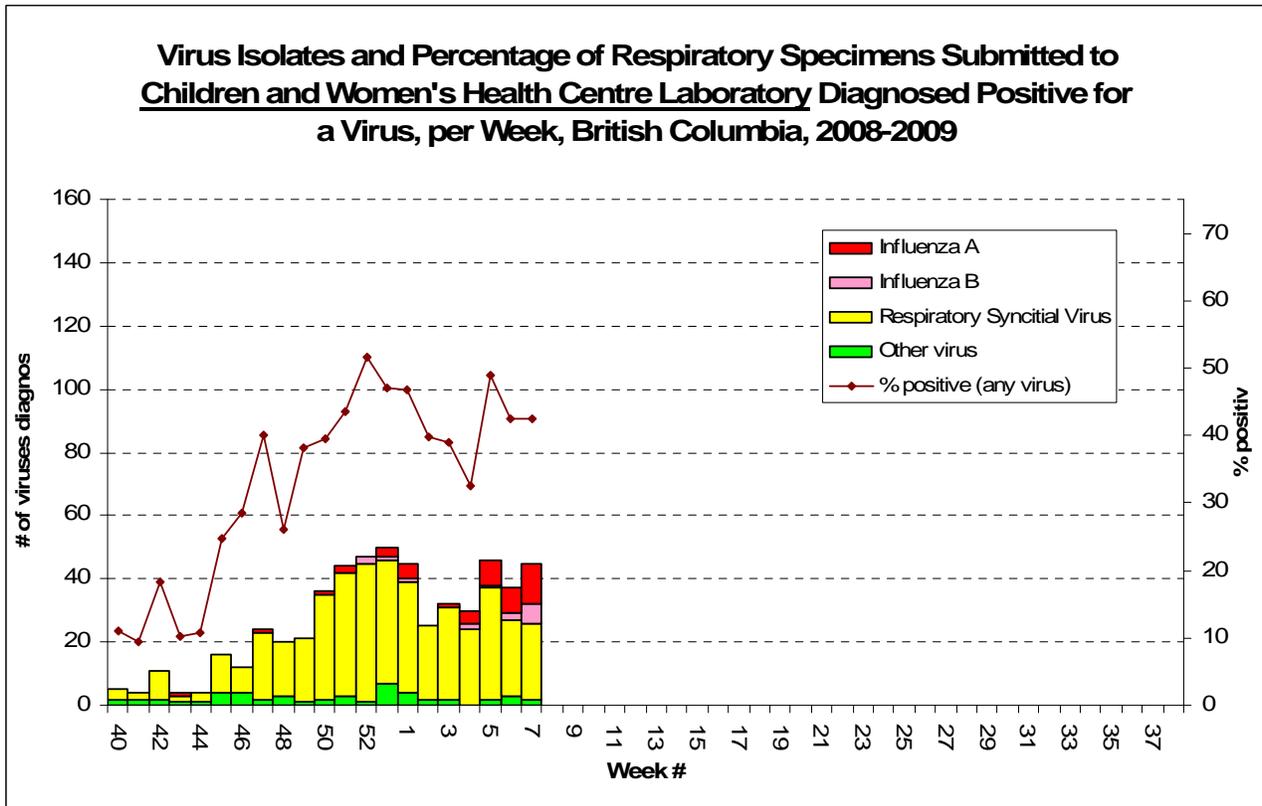
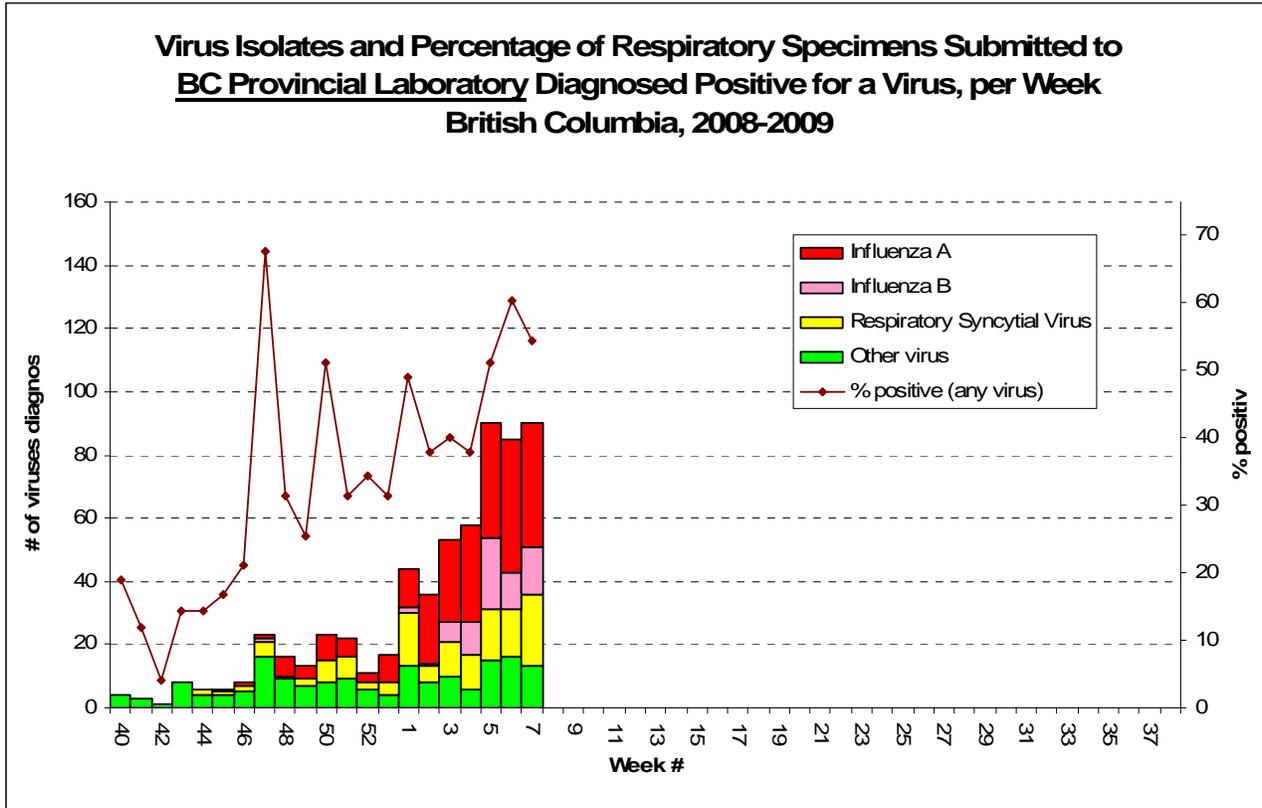


\* Influenza LTCF = Long-term care facility, influenza identified

\* 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