



## Influenza Activity Continues to Increase in BC

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### Highlights

During week 5 (February 1-7, 2009), 12 ILI outbreaks occurred in schools throughout BC, and 1 lab-confirmed influenza A/H3 outbreak occurred in a hospital in IHA. Twenty-five percent (68 / 270) of respiratory specimens tested in BC laboratories during week 5 were positive for influenza, of which 65% were influenza A and 35% were influenza B. To date this season (February 11), 79% (192 / 242) of influenza isolates have been type A, and of those sub-typed, 55% (85 / 154) have been A/H1. Oseltamivir resistance continues to be reported in nearly all A/H1N1 viruses. The rate of ILI visits to physicians has steadily increased over the past five weeks but remains lower than average for this time of year.

**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).**

### Sentinel Physicians

In week 5, 0.78% of all patient visits to sentinel physicians were attributed to ILI. This proportion is an increase over previous weeks but remains lower than the historic average for this time of year (1.03%). (See graph and table on page 4.)

### ILI Outbreaks

Twelve ILI outbreaks in schools in FHA, IHA, and VCHA (no pathogens identified) and one lab-confirmed influenza A/H3 outbreak in a hospital in IHA were reported during week 5. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 65 ILI outbreak investigations. Rhino/enterovirus was identified in 13 (20%) of the investigations, influenza in 9 (14%), RSV in 6 (9%), human metapneumovirus (HMPV) in 4 (6%), parainfluenza in 3 (5%), and coronavirus in 1 (2%). No pathogen was identified in the other 29 investigations. (See graph on page 5.)

### Laboratory Reports

During week 5, BCCDC Laboratory Services tested 176 respiratory specimens. Thirty-six (20%) specimens tested positive for influenza A, and 23 (13%) tested positive for influenza B, signaling an increase in the proportionate contribution of influenza B virus from previous weeks. Twenty-three of the influenza A specimens received during week 5 have been sub-typed, of which 12 (52%) were A/H1 and 11 (48%) were A/H3. An additional 16 specimens tested positive for RSV, 6 for rhino/enterovirus, 5 for coronavirus, 3 for HMPV, and 1 for parainfluenza.

During week 5, Children's and Women's Health Centre Laboratory tested 94 respiratory specimens. Thirty-five (37%) specimens tested positive for RSV, 8 for influenza A, 1 for influenza B, 1 for parainfluenza, and 1 for adenovirus. (See graphs on page 6.)

To date this season (February 11), 79% (192 / 242) of influenza isolates tested at both laboratories have been type A, and of those sub-typed, 55% (85 / 154) have been A/H1.



### Oseltamivir Resistance

To date (February 11, 2009) during the 2008-09 season, BCCDC has assessed 76 A/H1N1 isolates for oseltamivir resistance; 68 show genotypic evidence of oseltamivir resistance, and the other 8 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.**

### CANADA

#### Flu Watch

During week 4 (Jan 25-31), influenza activity continued to increase in Canada with sporadic activity reported in most provinces, localized activity reported in parts of BC, AB, ON, and NL, and widespread activity noted in parts of BC and NS. Eighteen ILI outbreaks were reported: 1 in a LTCF (BC), 2 in hospitals (BC and NL), and 15 in schools (BC, AB, and NS). Since August 24, 2008 provincial/territorial laboratories have detected 1152 cases of influenza, 661 (57%) influenza A and 491 (43%) influenza B. The national rate of ILI visits to sentinel physicians increased from 17 cases per 1,000 patient visits in the previous week to 32 per 1,000 in week 4; however, this rate remains 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 5, 183 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):

42 A/Brisbane/59/07(H1N1)-like\* from BC, AB, SK, ON, NS, & PEI;

13 A/Brisbane/10/07(H3N2)-like\* from BC, AB, SK, ON, & PEI;

5 B/Florida/04/06(Yamagata)-like\* from AB & ON;

and 123 B/Malaysia/2506/04(Victoria)-like from AB, SK, MB, ON, QC, NB, NS, PEI, & NF.

\* indicates a strain match to the vaccine component.

### Antiviral Resistance

Drug susceptibility testing at the NML as of Feb 5 indicated that all (n=35) H1N1 isolates tested to date were resistant to oseltamivir, while all H3N2 (n=13) and influenza B (n=98) isolates tested were sensitive to oseltamivir. Of those isolates tested for amantadine resistance, all (n=40) H1N1 isolates were found to be sensitive, and all (n=32) H3N2 isolates were found to be resistant. All 150 (39 H1N1, 13 H3N2, and 98 influenza B) isolates that have been tested for zanamivir resistance were sensitive.

### INTERNATIONAL

During week 4 (Jan 25-31), influenza activity continued to increase in the United States. The rate of ILI visits to sentinel physicians increased from 2.0% in the previous week to 2.3% in week 4 but remained below levels experienced in the previous 2 seasons. To date this season, US laboratories have detected influenza in 4336 respiratory specimens, of which 84% were influenza A. Of the influenza A isolates that have been sub-typed, 87% were A/H1. One hundred and eighty-five of 190 (97%) A/H1 viruses tested were found to be resistant to oseltamivir. For more information, visit: <http://www.cdc.gov/flu/weekly/>.

Most European countries reported widespread or localized influenza activity during week 4. Activity has peaked and declined in the UK and Portugal. Of the 14,321 influenza virus detections in Europe since the start of the season (week 40), 96% were influenza A, and of those sub-typed, 94% were A/H3. For more information, visit: <http://www.eiss.org>.

### Avian Influenza

Since 2003 and to date (Feb 10, 2009), the WHO has confirmed 406 human avian influenza A/H5N1 cases and 254 deaths, with 2 recent human cases reported in Egypt. 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 a commercial poultry flock in FHA during week 3. 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

# BRITISH COLUMBIA (BC) INFLUENZA SURVEILLANCE 2008-2009 UPDATE



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

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, CFIA, 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/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

## 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.

## 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  
**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/)

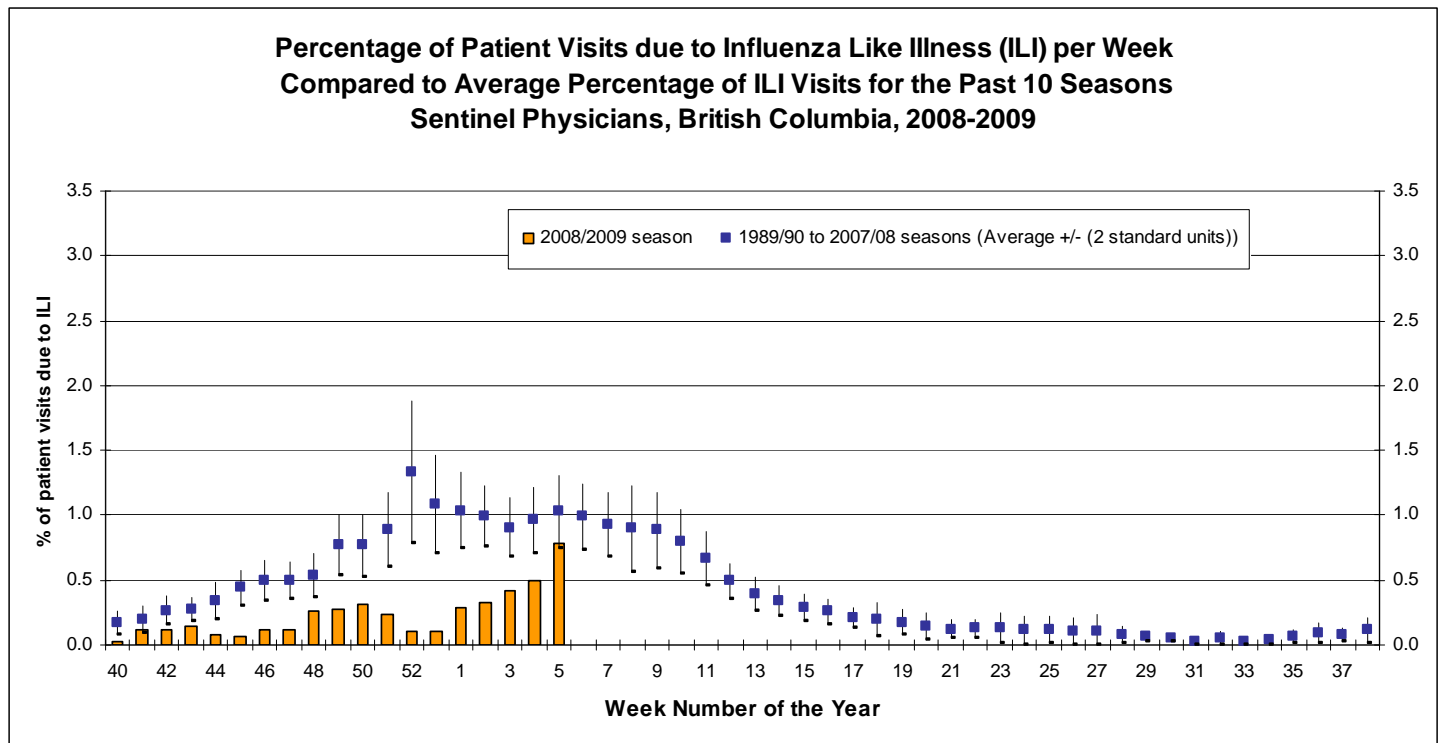
World Organization for Animal Health:

[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>

## WEEKLY ILI

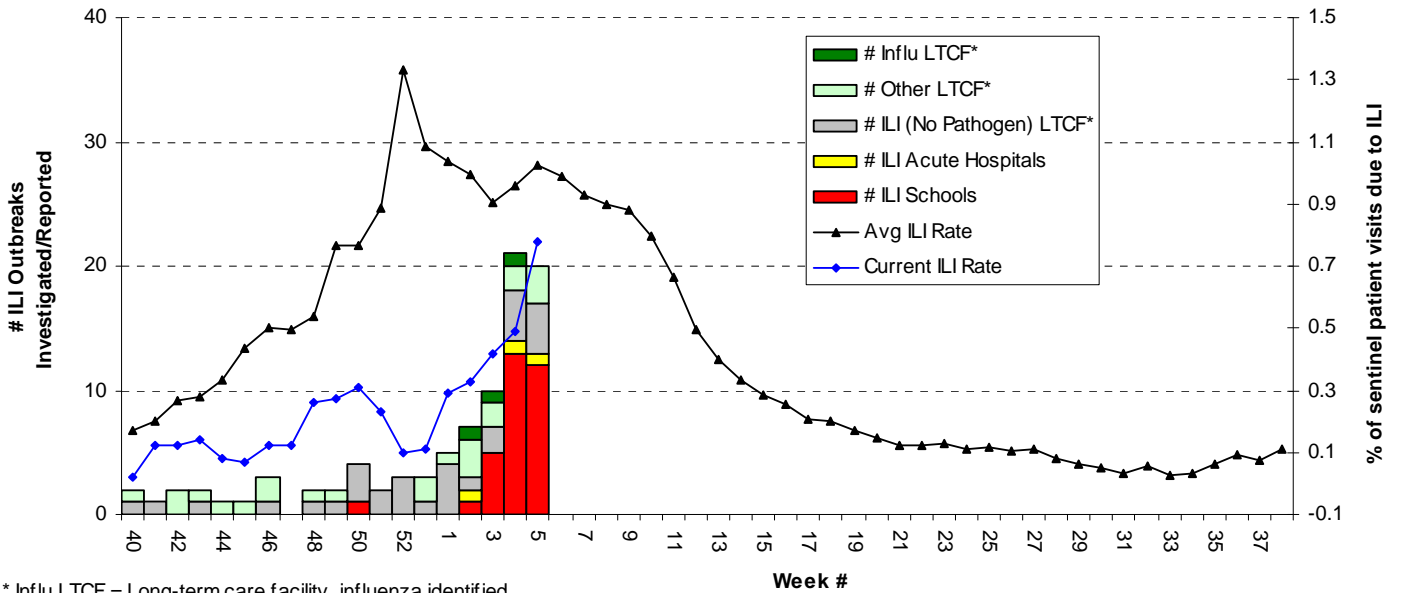


## INFLUENZA-LIKE ILLNESS BY HEALTH AUTHORITY

HEALTH AUTHORITY	Week 5 Feb 1 – 7		
	ILI Visits	Total Visits	% ILI
Fraser	8	1,328	0.60%
Interior	1	596	0.17%
Northern	0	170	1.00%
Vancouver Coastal	26	1,773	1.47%
Vancouver Island	8	1,622	0.49%
<b>BC Total</b>	<b>43</b>	<b>5,489</b>	<b>0.78%</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**



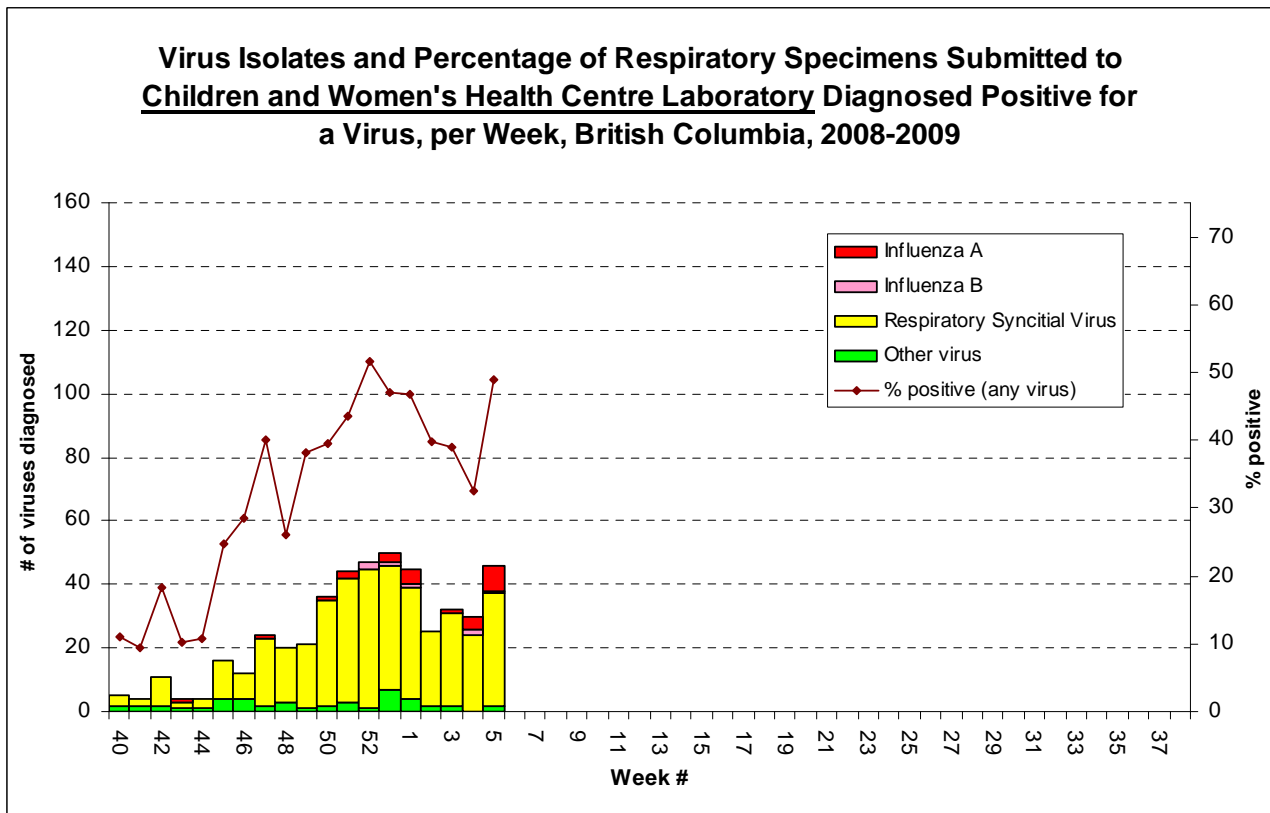
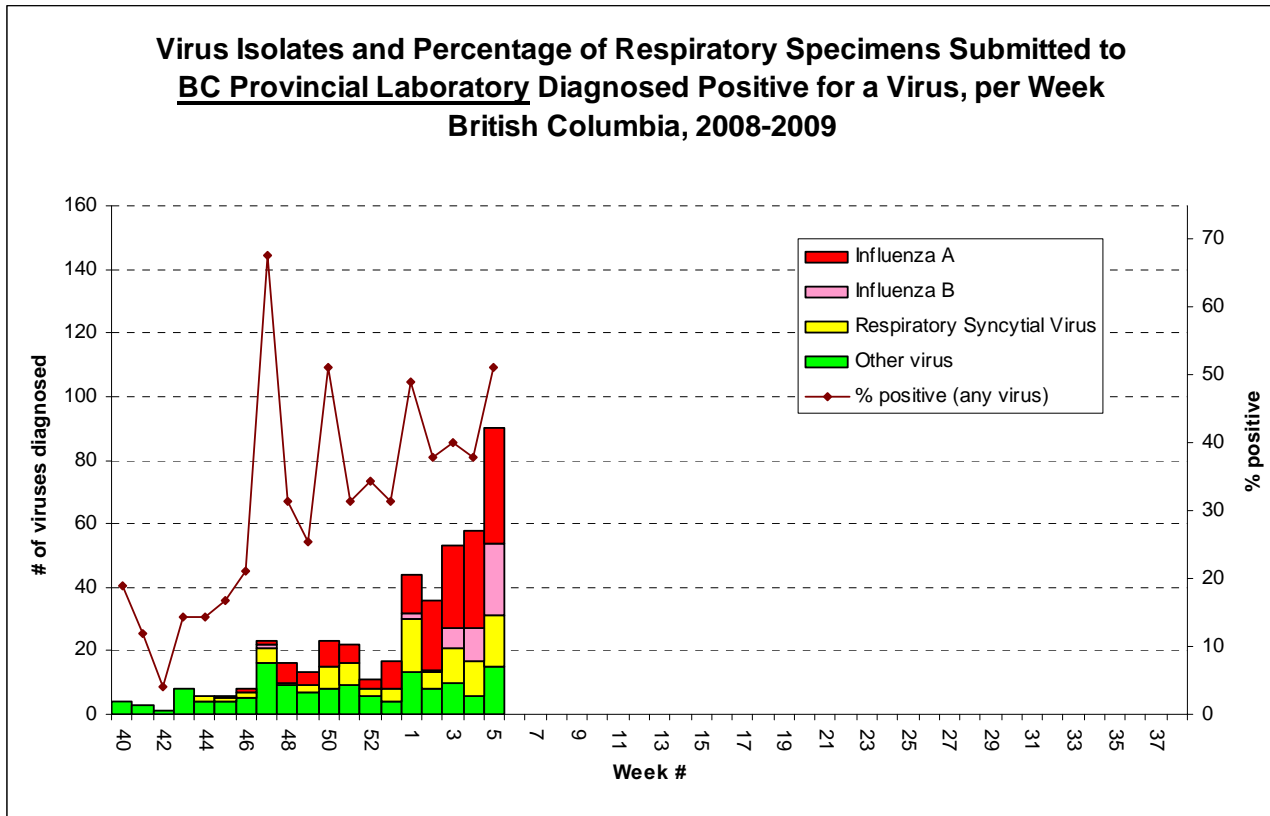
\* Influenza LTCF = Long-term care facility, influenza identified

\* 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