



## Increasing Influenza Activity in BC

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### Highlights

During week 3 (January 18-24, 2009), one lab-confirmed influenza outbreak occurred in a LTCF in FHA (A/H3), and three ILI outbreaks occurred in schools—two in IHA and one in NHA. BC laboratories reported 27 positive respiratory specimens for influenza A and 6 positive specimens for influenza B. To date this season (January 28), 89% (124/139) of influenza isolates have been type A, and of those sub-typed, 61% (61/100) have been A/H1; however, an increasing number of isolates in recent weeks have been sub-typed as A/H3. Oseltamivir resistance continues to be reported in a high proportion of A/H1N1 viruses. Thirty-five percent of respiratory specimens tested at BC Children's and Women's Health Centre during week 3 were positive for RSV. The rate of ILI visits to physicians 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 3, 0.46% 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. (See graph and table on page 4.)

### ILI Outbreaks

Three ILI outbreaks in schools were reported during week 3: two in IHA (pathogens unknown) and one in NHA (lab-confirmed as A/H3). Additionally, one lab-confirmed influenza A/H3 outbreak in a LTCF in FHA was reported. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 44 ILI outbreak investigations. Rhino/enterovirus was identified in 12 (27%) of the investigations, influenza in 4 (9%), parainfluenza in 3 (7%), RSV in 3 (7%), and human metapneumovirus (HMPV) in 3 (7%). No pathogen was identified in the other 19 investigations. (See graph on page 5.)

### Laboratory Reports

During week 3, BCCDC Laboratory Services tested 132 respiratory specimens. Twenty-six specimens tested positive for influenza A, of which 8 have been sub-typed as A/H1 and 18 as A/H3. **This gradual change in the proportionate contribution of A/H1 and A/H3 viruses from previous weeks suggests that A/H3 activity is starting to increase in BC.** Six specimens tested positive for influenza B. An additional 11 specimens tested positive for RSV, 4 for HMPV, 2 for rhino/enterovirus, 2 for parainfluenza, and 1 for adenovirus.

During week 3, Children's and Women's Health Centre Laboratory tested 82 respiratory specimens. Twenty-nine (35%) specimens tested positive for RSV, 1 for influenza A, 1 for parainfluenza, and 1 for adenovirus. (See graphs on page 6.)

To date this season (January 28), 89% (124/139) of influenza isolates tested at both laboratories have been type A, and of those sub-typed, 61% (61/100) have been A/H1, although there may be recent indication of increase in A/H3 contribution.



### Oseltamivir Resistance

During the 2007-08 season, oseltamivir resistance was identified among circulating A/H1N1 viruses worldwide. Testing in Canada indicated that 26% of last season's A/H1N1 isolates were resistant to oseltamivir. To date (January 28), BCCDC has assessed 59 A/H1N1 isolates for oseltamivir resistance; 54 show genotypic evidence of oseltamivir resistance, and the other 5 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 3, sporadic activity was reported in most provinces, with localized activity in parts of NT, BC, AB, and ON. Four ILI outbreaks were reported: one in a LTCF and three in schools (all from BC). Since August 24, 2008 provincial/territorial laboratories have detected 835 cases of influenza, 487 (58%) influenza A and 348 (42%) influenza B. The national rate of ILI visits to sentinel physicians (13 cases per 1,000 visits) is below 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 Jan 29, 134 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):

30 A/Brisbane/59/07(H1N1)-like\* from BC, AB, ON, NS, & PEI;  
8 A/Brisbane/10/07(H3N2)-like\* from BC, SK, & ON;  
5 B/Florida/04/06(Yamagata)-like\* from AB & ON;  
and 91 B/Malaysia/2506/04(Victoria)-like from AB, MB, ON, QC, & PEI.

\* indicates a strain match to the vaccine component.

### Antiviral Resistance

Drug susceptibility testing at the NML as of Jan 29 showed that all (n=25) H1N1 isolates tested to date were resistant to oseltamivir, while all H3N2 (n=11) and influenza B (n=86) isolates tested were sensitive to oseltamivir. Of those isolates tested for amantadine resistance, all (n=28) H1N1 isolates were found to be sensitive, and all (n=22) H3N2 isolates were found to be resistant. All 126 (29 H1N1, 11 H3N2, and 86 influenza B) isolates that have been tested for zanamivir resistance were sensitive.

### INTERNATIONAL

A gradual increase in Influenza activity has been reported during the past few weeks in the United States. Widespread activity was reported in 2 states (New Jersey and Virginia), localized activity was reported in 26 states (including Montana, which borders BC to the southeast), and sporadic activity was reported in all other states. The rate of ILI visits to sentinel physicians increased but remained below national baseline levels. To date this season, US laboratories have typed 3188 influenza-positive specimens, of which 2680 (84%) were influenza A. Of the influenza A isolates that have been sub-typed, 86% were A/H1. One hundred and sixty-two of 165 (98%) A/H1 viruses tested were found to be resistant to oseltamivir. For information, visit:

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

Most European countries, including all western European countries reported widespread or localized influenza activity during week 3. Activity has peaked and declined in Ireland, Portugal, and England. Of the 11028 influenza virus detections in Europe since the start of the season (week 40), 10643 (97%) were influenza A, and of those sub-typed, 94% were A/H3. For more information, please visit: <http://www.eiss.org>.

#### Avian Influenza

Additional cases of human H5N1 AI in China and Egypt have been reported by the WHO in the past week. Since 2003 and to date (Jan 27, 2009), the WHO has confirmed 403 human AI cases and 254 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)

Avian influenza A/H5 was detected among a commercial poultry flock in FHA during week 3. All affected birds have been culled, and surrounding

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



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

farms are under enhanced surveillance. To date, there have been no reports of human illness associated with this outbreak. All measures of precaution are being taken, including provision of personal protective equipment, vaccination, and antiviral prophylaxis to workers 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/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

## 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  
**HPAI:** Highly Pathogenic Avian Influenza  
**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/)

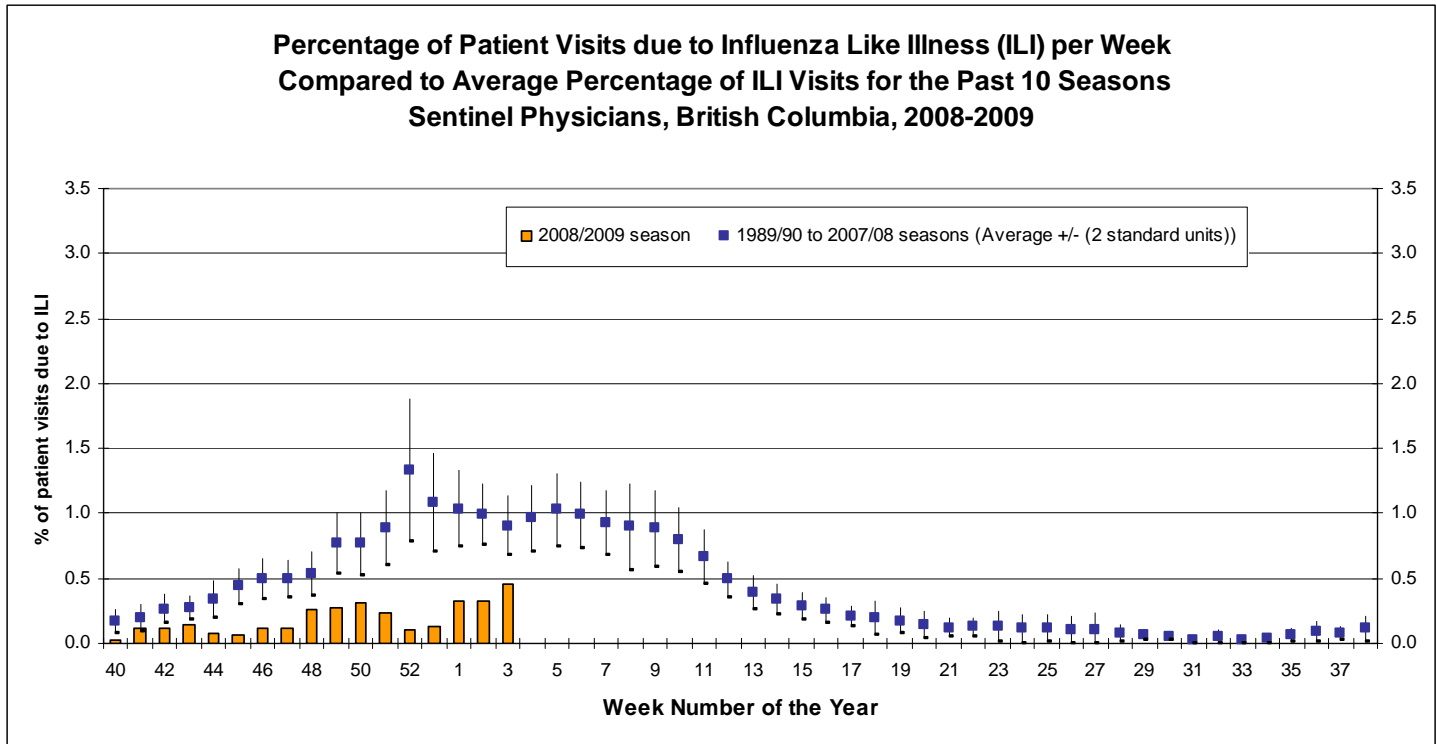
World Organization for Animal Health:

[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

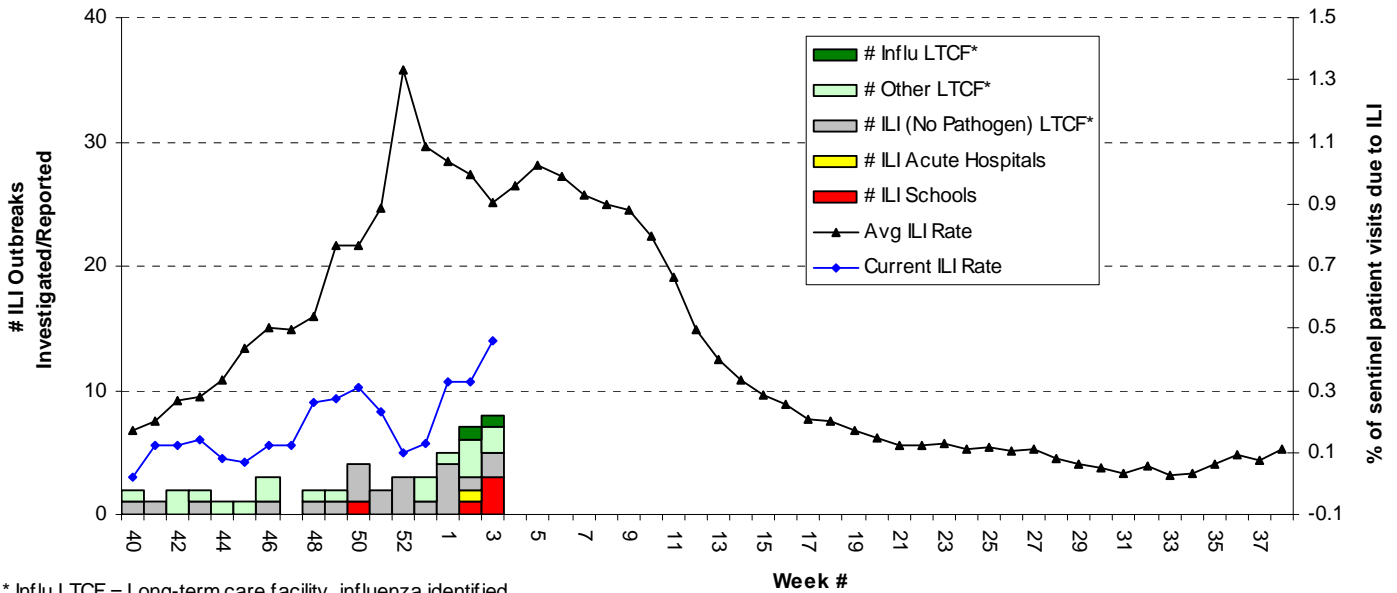


## INFLUENZA-LIKE ILLNESS BY HEALTH AUTHORITY

HEALTH AUTHORITY	Week 3 Jan 18 – 24		
	ILI Visits	Total Visits	% ILI
Fraser	8	1,436	0.56%
Interior	1	383	0.26%
Northern	0	321	0.00%
Vancouver Coastal	8	1,384	0.58%
Vancouver Island	8	1,889	0.42%
<b>BC Total</b>	<b>25</b>	<b>5,413</b>	<b>0.46%</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**

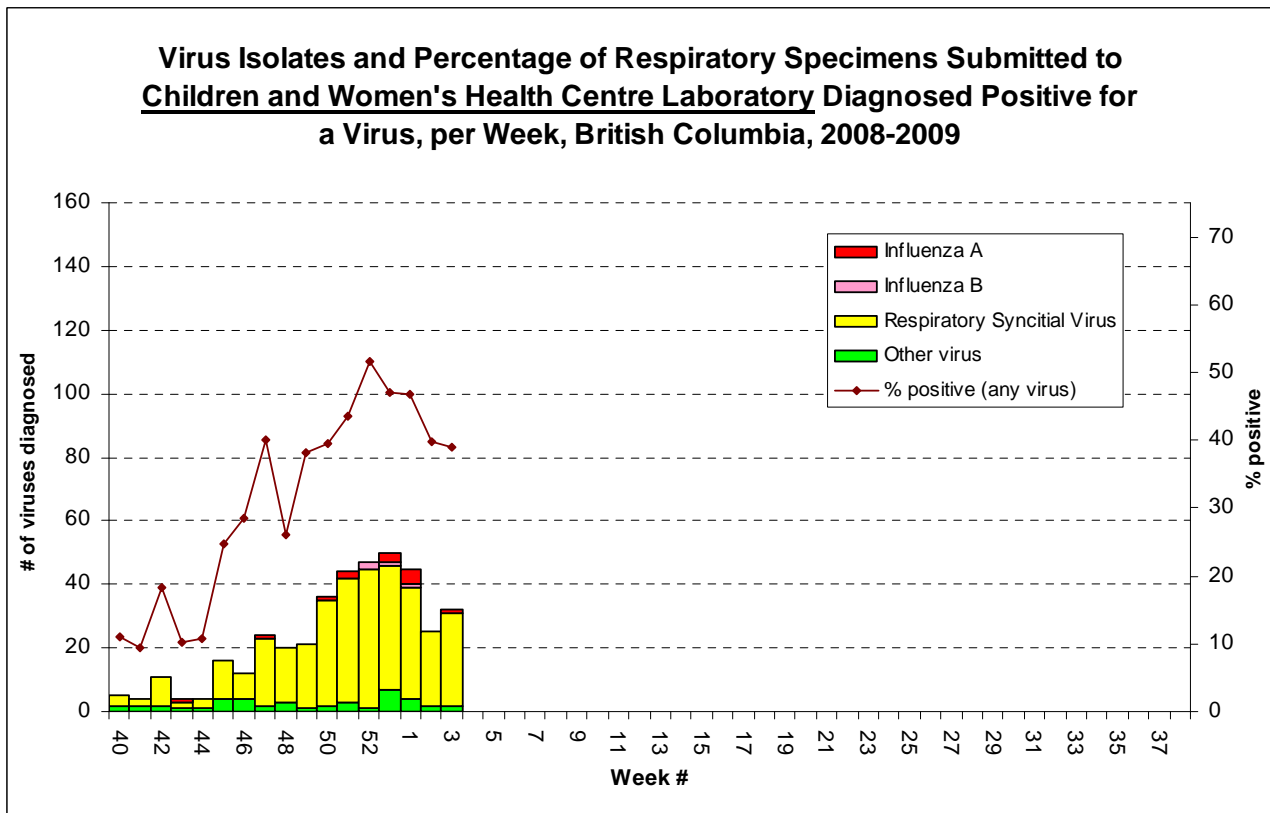
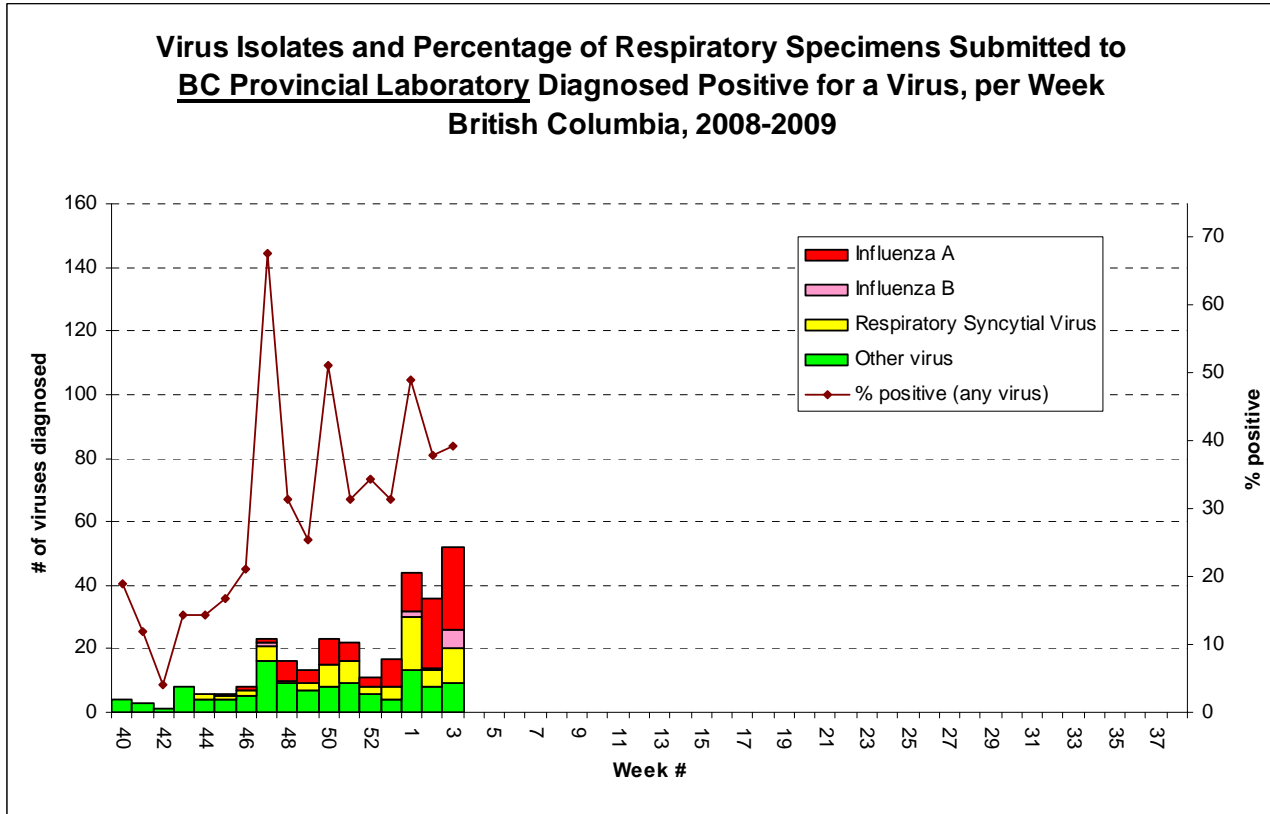


\* Influenza (Influ) LTCF = Long-term care facility, influenza identified

\* 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