



Sustained, Below Average Influenza Activity in BC

Contents:

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

ILI Outbreaks

Seven ILI outbreaks in schools in IHA, NHA, and VCHA (no pathogens identified) were reported during week 8. Three lab-confirmed influenza A/H3 outbreaks were reported in LTCFs in FHA. Additionally, to date in week 9 (Mar 4, 2009), four influenza A/H3 outbreaks (3 in LTCFs, 1 in an ACF) have been declared in FHA. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 84 ILI outbreak investigations. Influenza was identified in 21 (25%), rhino/enterovirus was identified in 13 (15%) of the investigations, RSV in 7 (8%), human metapneumovirus (HMPV) in 5 (6%), parainfluenza in 3 (4%), coronavirus in 2 (2%), and adenovirus in 1 (1%). No pathogen was identified in the other 32 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 and attaching the outbreak report form (a copy is found at the end of this report).

Laboratory Reports

During week 8, BCCDC Laboratory Services tested 188 respiratory specimens. Fifty-seven (36%) specimens tested positive for influenza A, and 23 (12%) tested positive for influenza B. Fifty-four of the influenza A specimens received during week 8 have been sub-typed, of which 46 (85%) were A/H3 and 8 (15%) were A/H1. An additional 10 specimens tested positive for rhino/enterovirus, 9 for RSV, and 2 for parainfluenza.

During week 8, Children's and Women's Health Centre Laboratory tested 101 respiratory specimens. Twenty-two (22%) specimens tested positive for RSV, 13 for influenza A, and 5 for influenza B. (See graphs on page 6.)

To date this season (March 3), 76% (364 / 477) of influenza isolates tested at both laboratories have been type A, and of those sub-typed, 60% (184 / 305) have been A/H3.

Highlights

During week 8 (February 22-28, 2009), 7 ILI outbreaks occurred in schools in IHA, NHA, and VCHA, and 3 lab-confirmed influenza A/H3 outbreaks occurred in LTCFs in FHA. **Thirty-four percent (98 / 289) of respiratory specimens tested in BC laboratories (BCCDC and Children's and Women's Health Centre) during week 8 were positive for influenza, of which 71% were influenza A. Of those influenza A specimens that were sub-typed during week 8, 85% were A/H3. To date this season (March 3), 76% (364 / 477) of influenza isolates have been type A, and of those sub-typed, 60% (184 / 305) have been A/H3.** Oseltamivir resistance continues to be reported in nearly all A/H1N1 viruses. The rate of ILI visits to physicians decreased slightly in week 8 and remains below average for this time of year.

Sentinel Physicians

In week 8, 0.64% of all patient visits to sentinel physicians were attributed to ILI. This proportion is a slight decrease over previous weeks and remains below the historic average for this time of year (0.90%). (See graph and table on page 4.)



Oseltamivir Resistance

To date (March 3, 2009) during the 2008-09 season, BCCDC has assessed 119 A/H1N1 isolates for oseltamivir resistance; 107 show genotypic evidence of oseltamivir resistance, and the other 12 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 that influenza activity levels are sustained, it is not too late to get vaccinated.

CANADA

Flu Watch

During week 7 (Feb 15-21), influenza activity continued to increase in Canada with localized activity reported in most provinces (BC, AB, SK, MB, ON, NB, & NL) and widespread activity reported in parts of BC and AB. Thirty-three ILI outbreaks were reported: 5 in LTCFs (BC, AB, SK, & ON), 1 in a hospital (AB), and 27 in schools (BC, AB, NB, & NS). The percentage of all reported tests for influenza in Canada that were positive continued to increase, from 14.1% in week 6 to 16.8% in week 7. Since August 24, 2008 provincial/territorial laboratories have detected 3405 cases of influenza, 1936 (57%) influenza A and 1469 (43%) influenza B. The national rate of ILI visits to sentinel physicians decreased from 34 cases per 1,000 patient visits in the previous week to 23 per 1,000 in week 7, which 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 Feb 26, 356 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):

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

49 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 216 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 26 indicated that all (n=81) H1N1 isolates tested to date were resistant to oseltamivir, while all H3N2 (n=40) and influenza B (n=187) isolates tested were sensitive to oseltamivir. Of those isolates tested for amantadine resistance, all (n=95) H1N1 isolates were found to be sensitive, and all (n=79) H3N2 isolates were found to be resistant. All 301 (74 H1N1, 40 H3N2, and 187 influenza B) isolates that have been tested for zanamivir resistance were sensitive.

INTERNATIONAL

During week 7 (Feb 15-21), laboratory detections of influenza in the United States increased slightly, while the rate of ILI visits to sentinel physicians decreased from 3.6% in the previous week to 3.2% in week 7. To date this season, US laboratories have detected influenza in 11,635 respiratory specimens, of which 78% were influenza A. Of the influenza A isolates that have been sub-typed, 90% were A/H1. Three hundred and twenty-one of 325 (99%) A/H1 viruses tested were found to be resistant to oseltamivir, and two (1%) A/H1 viruses were found to be resistant to adamantanes. For more information, visit: <http://www.cdc.gov/flu/weekly/>.

During week 7 (Feb 15-21), influenza activity levels continued to increase in eastern Europe, remained unchanged across central Europe, and continued to decrease in western Europe. Of the 20,698 influenza virus detections in Europe since the start of the season (week 40), 93% 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 (Mar 2, 2009), the WHO has confirmed 409 human avian influenza A/H5N1 cases and 256 deaths, with 1 additional case reported in Egypt in the last week. For more information on human avian influenza cases please visit: http://www.who.int/csr/disease/avian_influenza

BRITISH COLUMBIA (BC) INFLUENZA SURVEILLANCE

2008-2009

UPDATE



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

Avian influenza A/H5N2 was detected among two commercial poultry flocks in FHA in late January and early February. 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/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 .

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
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/

World Organization for Animal Health:

http://www.oie.int/eng/en_index.htm

3. This Report On-line

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

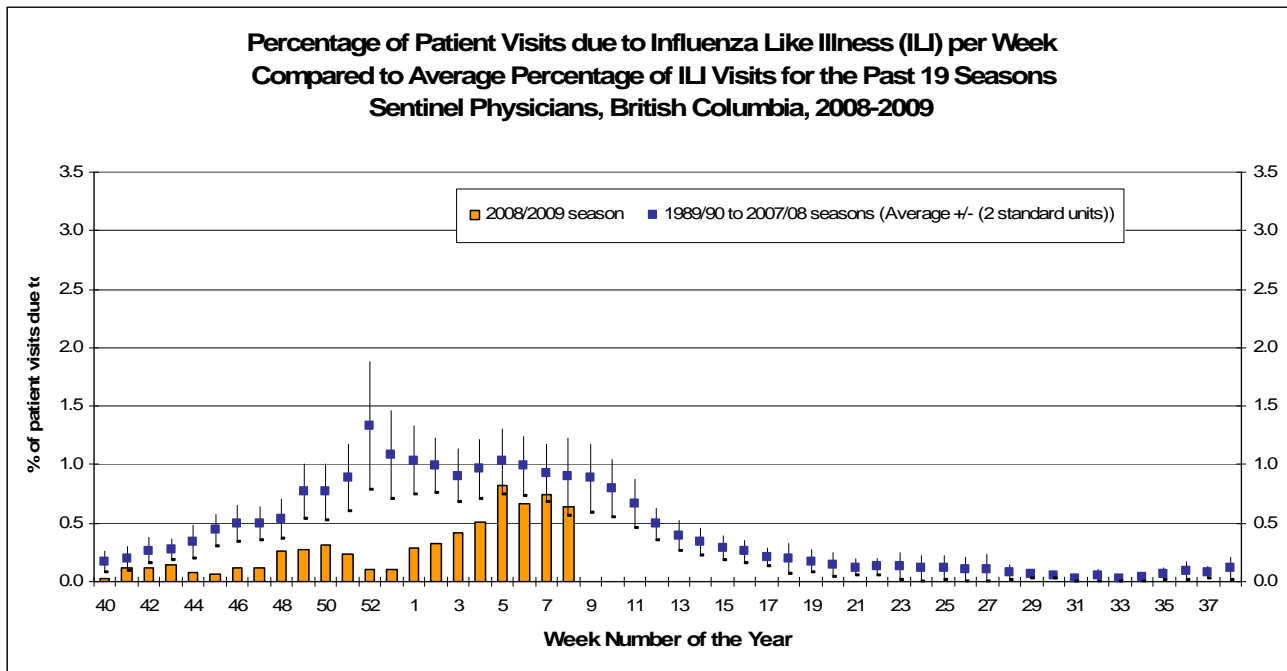
Contact Us:

Epidemiology Services

BC Centre for Disease Control (BCCDC)
655 W. 12th Ave, Vancouver BC V5Z 4R4
Tel: (604) 660-6061 / Fax: (604) 660-0197

InfluenzaFieldEpi@bccdc.ca

WEEKLY SENTINEL ILI

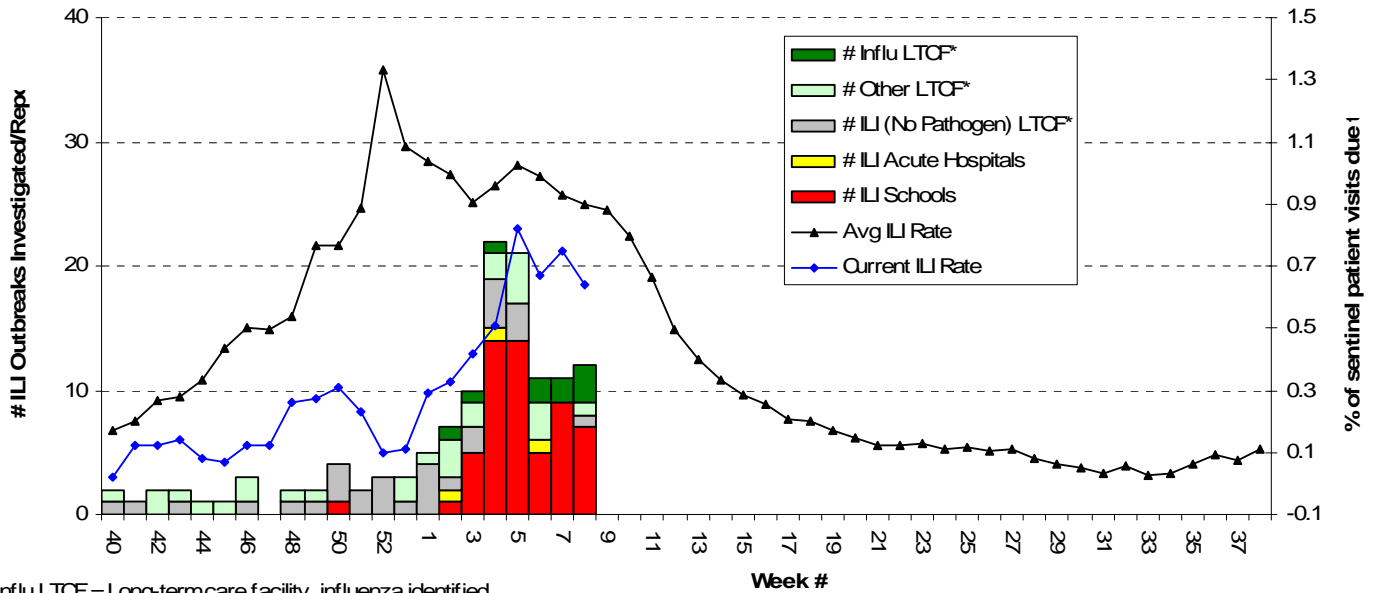


SENTINEL INFLUENZA-LIKE ILLNESS BY HEALTH AUTHORITY

HEALTH AUTHORITY	Week 8 Feb 22 – 28		
	ILI Visits	Total Visits	% ILI
Fraser	12	996	1.20%
Interior	0	263	0.00%
Northern	1	239	0.42%
Vancouver Coastal	10	1,273	0.79%
Vancouver Island	0	798	0.00%
BC Total	23	3,569	0.64%

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

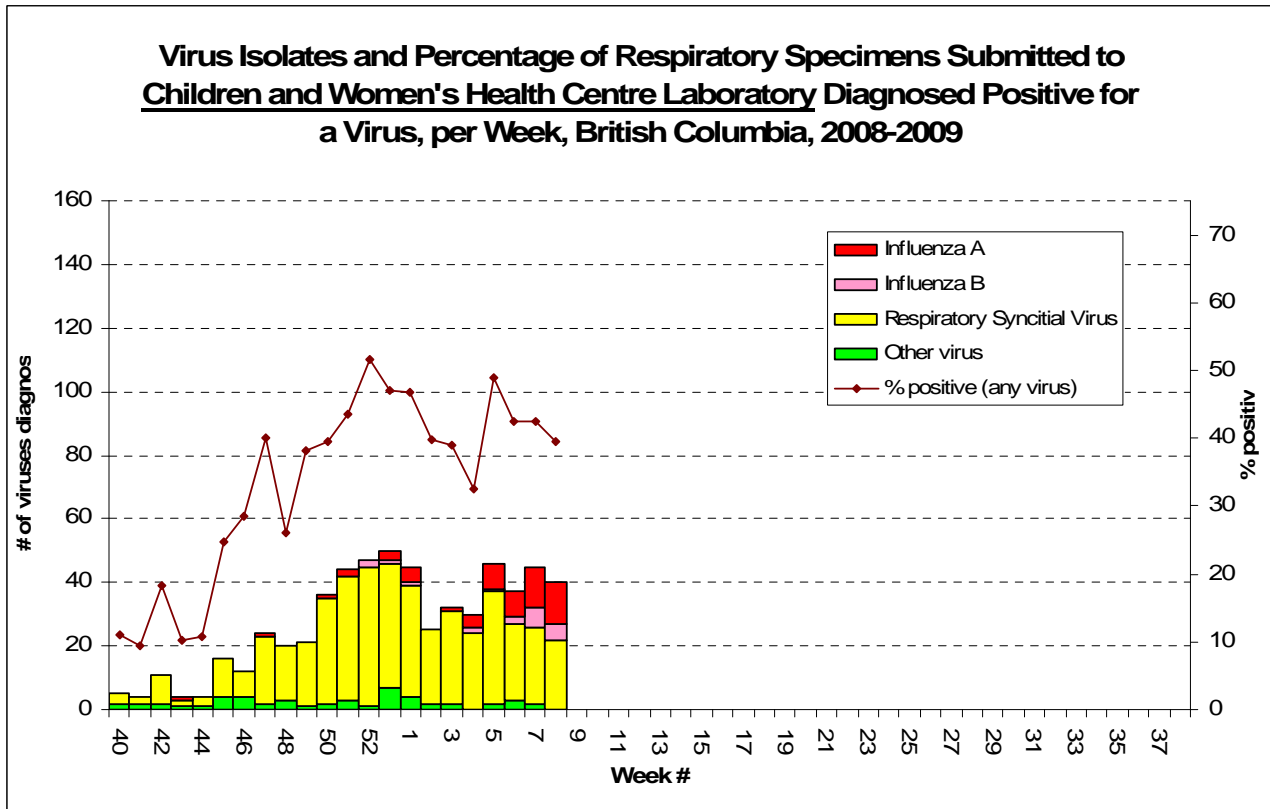
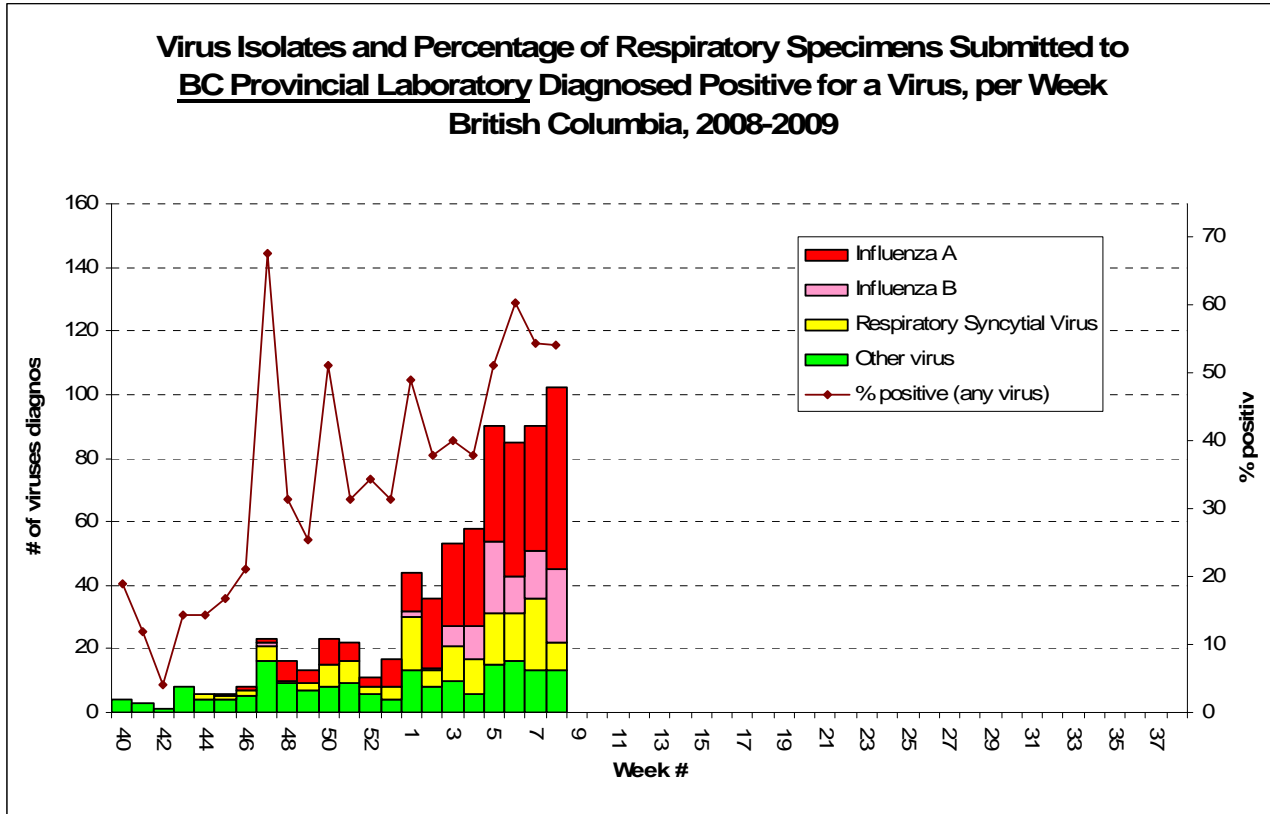


* Influenza (Infl) LTCF = Long-term care facility, influenza identified

* 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 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
Total		
With ILI		
Hospitalized		
Died		

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
Total		
With ILI		
Hospitalized		
Died		

SECTION D: Laboratory Information

Specimen(s) submitted? Yes (location: _____) No Don't know

If yes, organism identified? Yes (specify: _____) No Don't know