



Increasing Influenza Activity in BC

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ILI Outbreaks

Eight ILI outbreaks in schools in IHA and VCHA were reported during week 9; influenza A (no sub-type available) was identified in one outbreak, and no pathogen was identified in the others. Four lab-confirmed influenza A/H3 outbreaks were reported in LTCFs in FHA and VCHA, and 1 influenza A/H3 outbreak was reported in a mental health facility in FHA. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 86 ILI outbreak investigations. Influenza was identified in 22 (26%), rhino/enterovirus was identified in 13 (15%) of the investigations, RSV in 7 (8%), human metapneumovirus (HMPV) in 5 (6%), parainfluenza in 3 (3%), coronavirus in 2 (2%), and adenovirus in 1 (1%). No pathogen was identified in the other 33 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 9, BCCDC Laboratory Services tested 223 respiratory specimens. Seventy-five (34%) specimens tested positive for influenza A, and 27 (12%) tested positive for influenza B. Seventy-five of the influenza A specimens received during week 9 have been sub-typed, of which 55 (73%) were A/H3 and 20 (27%) were A/H1. An additional 20 specimens tested positive for RSV, eleven for rhino/enterovirus, 3 for parainfluenza, 2 for HMPV, and 1 for coronavirus.

During week 9, Children's and Women's Health Centre Laboratory tested 102 respiratory specimens. Twenty-six (25%) specimens tested positive for RSV, 16 for influenza A, 7 for influenza B, 3 for parainfluenza, and 1 for adenovirus. (See graphs on page 6.)

To date this season (March 11), 76% (455 / 602) of influenza isolates tested at both laboratories have been type A, and of those sub-typed, 65% (257 / 397) have been A/H3.

Highlights

During week 9 (Mar 1-7, 2009), 8 ILI outbreaks occurred in schools in IHA and VCHA, and 5 lab-confirmed influenza A/H3 outbreaks occurred in facilities in FHA and VCHA. **Thirty-eight percent (125 / 325) of respiratory specimens tested in BC laboratories (BCCDC and Children's and Women's Health Centre) during week 9 were positive for influenza, of which 73% were influenza A. Of those influenza A specimens that were sub-typed during week 9, 73% were A/H3. To date this season (March 11), 76% (455 / 602) of influenza isolates have been type A, and of those sub-typed, 65% (257 / 397) have been A/H3. Oseltamivir resistance continues to be reported in nearly all A/H1N1 viruses. The rate of ILI visits to physicians increased in week 9 and has exceeded the historic average for this time of year.**

Sentinel Physicians

In week 9, 1.16% of all patient visits to sentinel physicians were attributed to ILI. This proportion is an increase over previous weeks and exceeds the historic average for this time of year (0.88%). (See graph and table on page 4.)

BRITISH COLUMBIA (BC) INFLUENZA SURVEILLANCE

2008-2009

UPDATE



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

Oseltamivir Resistance

To date (March 11, 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 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

CANADA

FluWatch

During week 9 (Mar 1-7), influenza activity continued to increase in Canada with localized activity reported in most provinces (BC, AB, SK, ON, QC, NB, & NL) and widespread activity reported in parts of BC. Thirty-one ILI outbreaks were reported: 16 in LTCFs (BC, AB, SK, ON, QC, NB, & NL), 13 in schools (BC, AB, & NS), and 2 other outbreaks (facilities not described). The percentage of all reported tests for influenza in Canada that were positive continued to increase, from 17% in week 8 to 18.6% in week 9. Since August 24, 2008 provincial/territorial laboratories have detected 5,533 cases of influenza, 3,179 (57%) influenza A and 2,354 (43%) influenza B. The national rate of ILI visits to sentinel physicians increase from 28 cases per 1,000 patient visits in the previous week to 48 per 1,000 in week 9, which is above the expected range for this time of the season. This increase mirrors patterns in BC sentinel data for week 9.

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

National Microbiology Laboratory

Since Sept 1 and as of Mar 12, 547 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):

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

87 A/Brisbane/10/07(H3N2)-like* from BC, AB, SK, MB, ON, QC, PEI, & NL;
6 B/Florida/04/06(Yamagata)-like* from AB, ON, & QC;
and 337 B/Malaysia/2506/04(Victoria)-like from all ten provinces.

* indicates a strain match to the vaccine component.

Antiviral Resistance

Drug susceptibility testing at the NML as of Mar 12 indicated that all (n=110) H1N1 isolates tested to date were resistant to oseltamivir, while all H3N2 (n=63) and influenza B (n=288) isolates tested were sensitive to oseltamivir. Of those isolates tested for amantadine resistance, all (n=140) H1N1 isolates were found to be sensitive, and all (n=128) H3N2 isolates were found to be resistant. All 451 (100 H1N1, 63 H3N2, and 288 influenza B) isolates that have been tested for zanamivir resistance were sensitive.

INTERNATIONAL

During week 9 (Mar 1-7), influenza activity in the United States remained high, but at approximately the same level as in the previous week. The rate of ILI visits to sentinel physicians remained unchanged at 3.5% in week 9. To date this season, US laboratories have detected influenza in 17,005 respiratory specimens, of which 73% were influenza A. Of the influenza A isolates that have been sub-typed, 90% were A/H1. Four hundred and seventeen of 422 (99%) A/H1 viruses tested were found to be resistant to oseltamivir, and three (1%) A/H1 viruses were found to be resistant to adamantanes. For more information, visit: <http://www.cdc.gov/flu/weekly/>.

During week 9 (Mar 1-7), influenza activity levels continued to increase in eastern Europe, while declining in central and western Europe. Of the 24,045 influenza virus detections in Europe since the start of the season (week 40), 90% were influenza A, and of those sub-typed, 90% were A/H3. For more information, visit: <http://www.eiss.org>.

Avian Influenza

Since 2003 and to date (Mar 11, 2009), the WHO has confirmed 411 human avian influenza A/H5N1 cases and 256 deaths, with 2 additional cases 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
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For further information on confirmed avian influenza outbreaks in poultry, please visit:

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 .

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-](http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/08vol34/acs-3/index-eng.php)

[rmtc/08vol34/acs-3/index-eng.php](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>

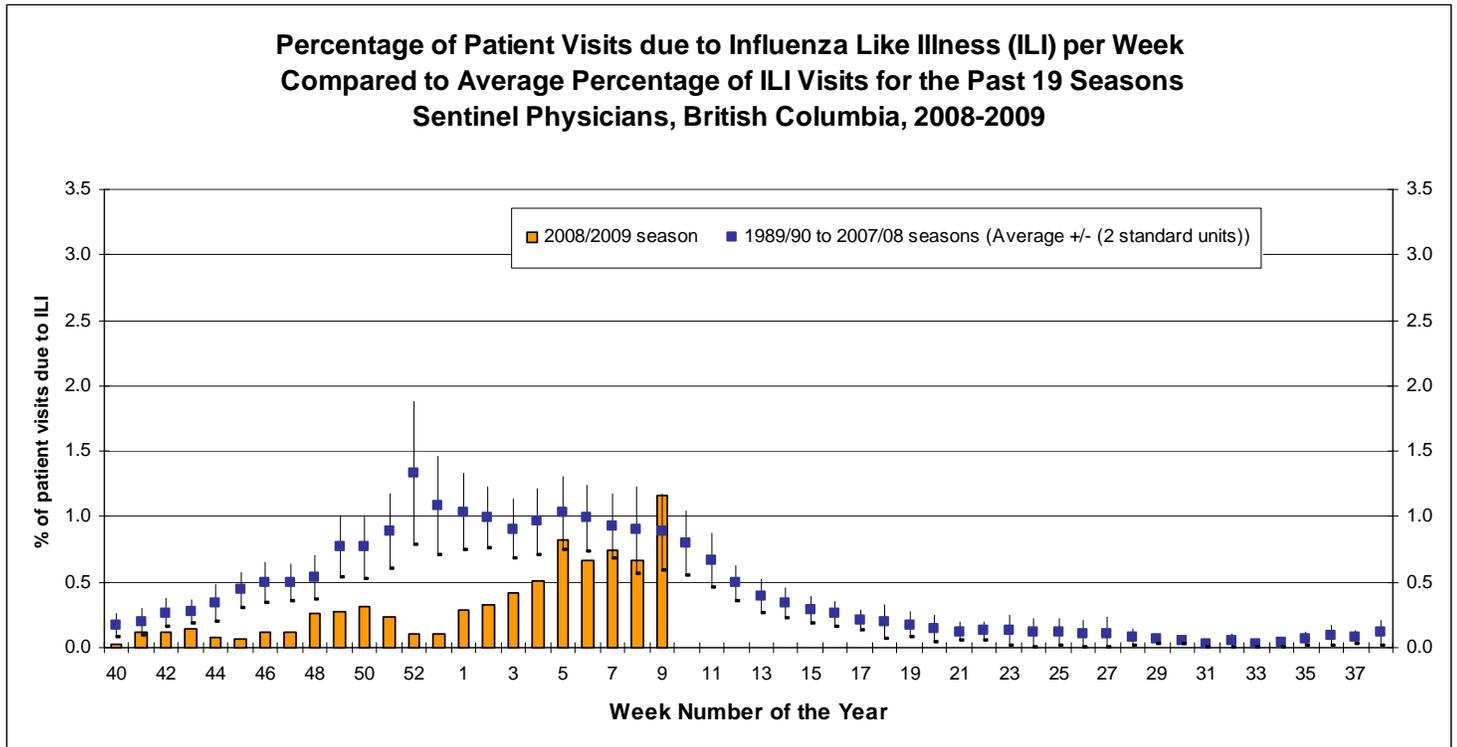
Contact Us:

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

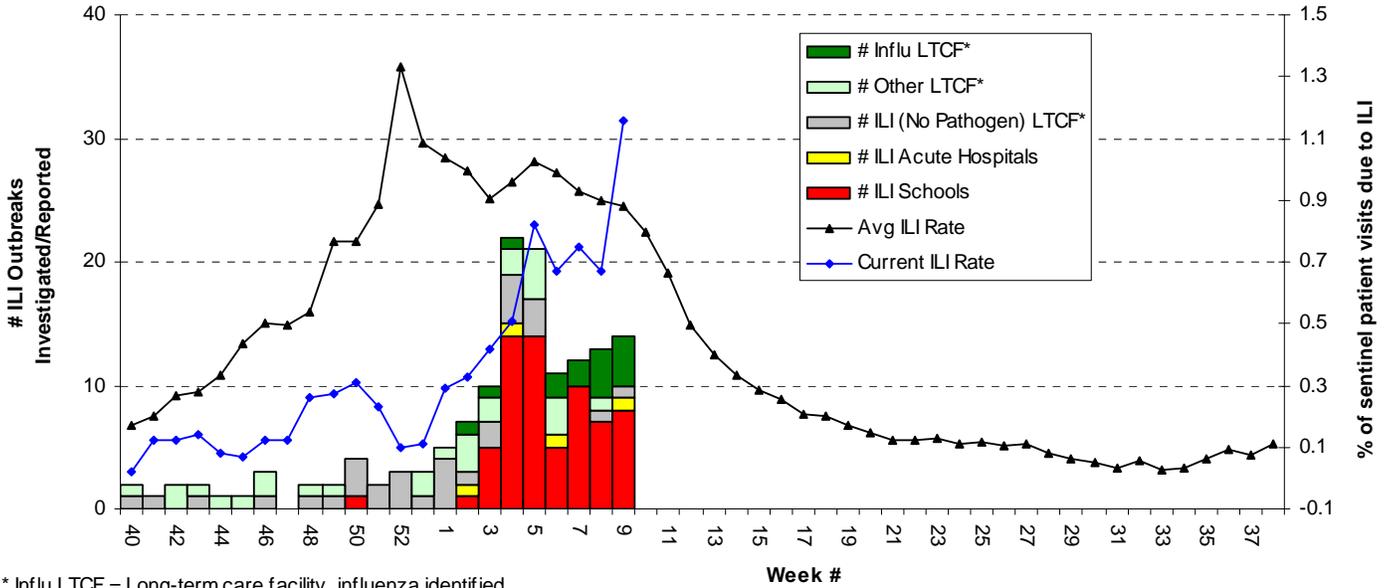


SENTINEL INFLUENZA-LIKE ILLNESS BY HEALTH AUTHORITY

HEALTH AUTHORITY	Week 9 Mar 1-7		
	ILI Visits	Total Visits	% ILI
Fraser	29	1,418	2.05%
Interior	3	575	0.52%
Northern	0	264	0.00%
Vancouver Coastal	4	422	0.95%
Vancouver Island	12	1,457	0.82%
BC Total	48	4,136	1.16%

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

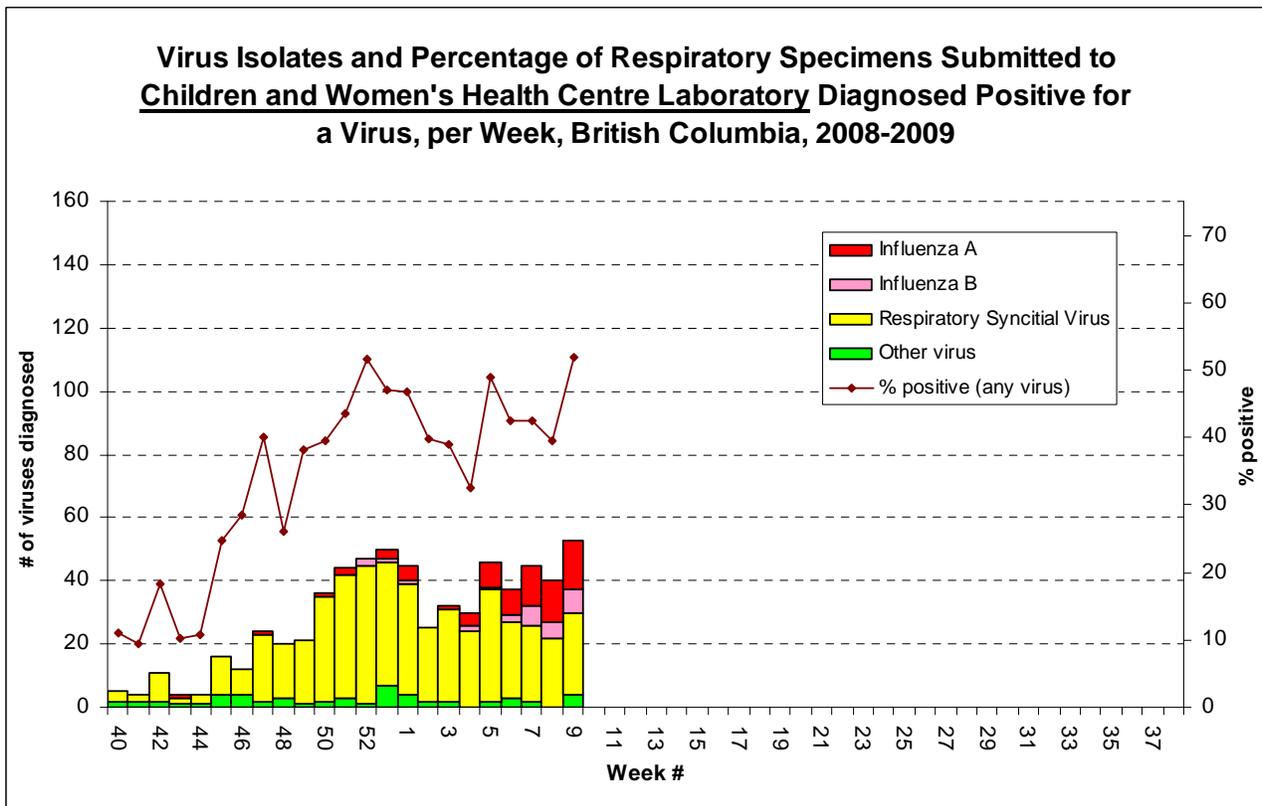
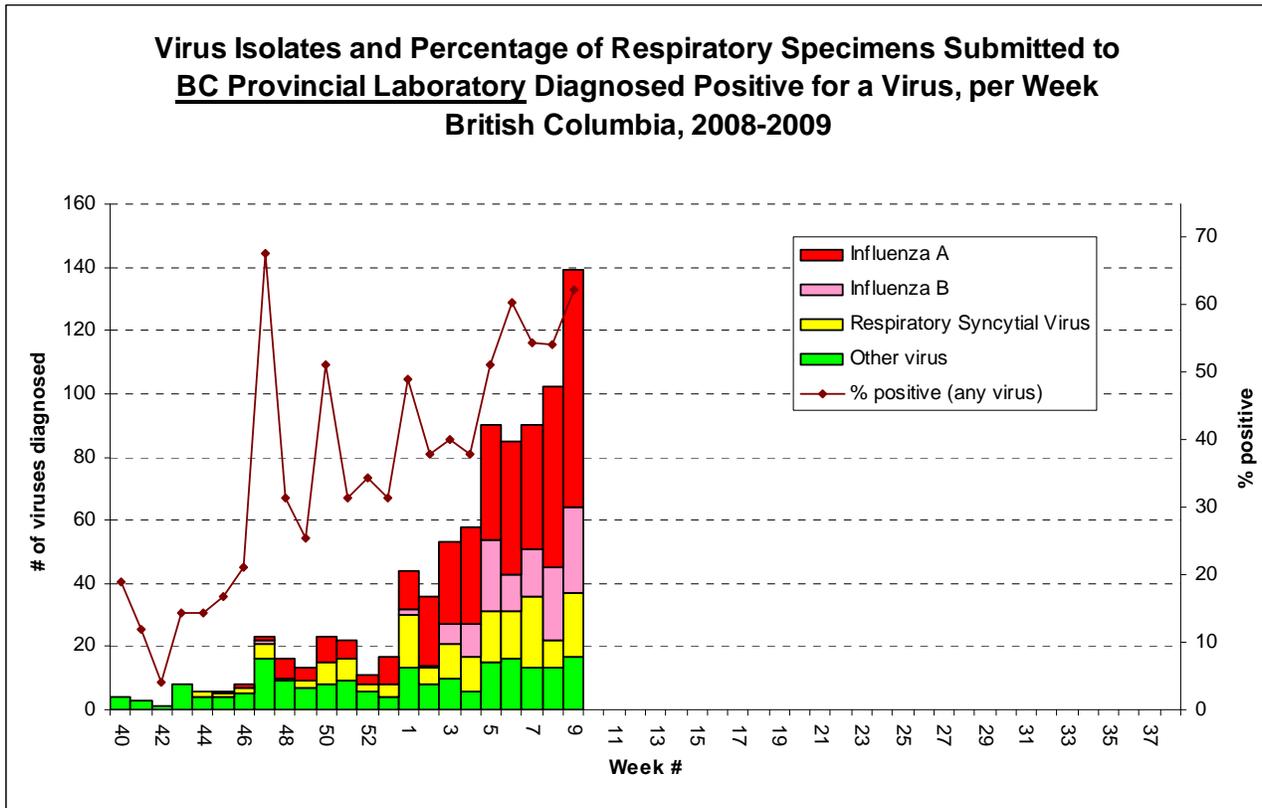


* Influenza LTCF = Long-term care facility, influenza identified

* 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 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