



Decreasing Influenza Activity in BC

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below the average proportion for this time of year (0.49%). (See graph and table on page 4.)

ILI Outbreaks

Four influenza A/H3 outbreaks reported in week 12: 3 in LTCFs in FHA and VCHA and 1 in an ACF in FHA. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 106 ILI outbreak investigations. Influenza was identified in 40 (38%) of the investigations, rhino/enterovirus was identified in 13 (12%), RSV in 7 (7%), human metapneumovirus (HMPV) in 5 (5%), parainfluenza in 3 (3%), coronavirus in 2 (2%), and adenovirus in 1 (1%). No pathogen was identified in the other 35 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 12, BCCDC Laboratory Services tested 145 respiratory specimens. Forty-nine (34%) specimens tested positive for influenza A, and 10 (7%) tested positive for influenza B. Forty-eight of the influenza A specimens received during week 12 have been sub-typed, of which 41 (85%) were A/H3 and 7 (15%) were A/H1. An additional 8 specimens tested positive for rhino/enterovirus, 5 for RSV, 3 for HMPV, 2 for parainfluenza, 1 for adenovirus, and 1 for coronavirus.

During week 12, Children's and Women's Health Centre Laboratory tested 66 respiratory specimens. Thirteen (20%) specimens tested positive for RSV, 5 for influenza A, 3 for influenza B, and 3 for parainfluenza. (See graphs on page 6.)

To date this season (Mar 31), 76% (647 / 846) of influenza isolates tested at both laboratories have been type A, and of those sub-typed, 70% (389 / 554) have been A/H3.

Oseltamivir Resistance

To date (Mar 31) during the 2008-09 season, BCCDC has assessed 156 A/H1N1 isolates for oseltamivir

Highlights

During week 12 (Mar 22-28, 2009), the rate of ILI visits to sentinel physicians declined to 0.33%, which is within the expected range for this time of year. Four lab-confirmed influenza A/H3 outbreaks occurred in facilities in FHA and VCHA. Thirty-two percent (67 / 211) of respiratory specimens tested in BC laboratories (BCCDC and Children's and Women's Health Centre) during week 12 were positive for influenza. This is a decrease from week 11, in which 38% were positive for influenza. Eighty-five percent of influenza detections during week 12 were influenza A, and of those influenza A specimens that were sub-typed, 85% were A/H3. To date this season (Mar 31), 76% (647 / 846) of influenza isolates have been type A, and of those sub-typed, 70% (389 / 554) have been A/H3. Oseltamivir resistance continues to be reported in all A/H1N1 viruses.

Sentinel Physicians

In week 12, 0.33% of all patient visits to sentinel physicians were attributed to ILI. This proportion constitutes a decrease from last week (0.81%) and is

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resistance; 144 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 11 (Mar 15-21), influenza activity increased compared to week 10, but it is within the expected range for this time of year. Thirty ILI outbreaks were reported: 10 in LTCFs (BC, ON, QC, & NB), 14 in schools (BC, SK, & NB), 3 in hospitals (BC & AB), and 3 other outbreaks (facilities not described). The proportion of tests that were positive for influenza increased from the previous week (percentage positive = 17.9%; 824/4,592). Since August 24, 2008, provincial/territorial laboratories have detected 7,227 cases of influenza, 4,264 (59%) influenza A and 2,963 (41%) influenza B. The national rate of ILI visits to sentinel physicians increased from 22 per 1,000 to 28 ILI consultations per 1,000 patient visits in week 11, 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 Mar 25, 694 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):

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

132 A/Brisbane/10/07(H3N2)-like* † from BC, AB, SK, MB, ON, QC, PEI, & NL;

7 B/Florida/04/06(Yamagata)-like* from AB, ON, & QC;

361 B/Malaysia/2506/04(Victoria)-like from all ten provinces;

and, 40 B/ Brisbane/60/08(Victoria)-like †
* indicates a strain match to the 2008-09 vaccine
† indicates a strain match to the 2009-10 vaccine

Antiviral Resistance

Drug susceptibility testing at the NML as of Mar 25 indicated that all (n=158) H1N1 isolates tested to date were resistant to oseltamivir, while all H3N2 (n=109) and influenza B (n=388) isolates tested were sensitive to oseltamivir. Of those isolates tested for amantadine resistance, all (n=184) H1N1 isolates were found to be sensitive, and all (n=203) H3N2 isolates were found to be resistant. All 626 (130 H1N1, 107 H3N2, and 389 influenza B) isolates that have been tested for zanamivir resistance were sensitive.

INTERNATIONAL

During week 11 (Mar 15-21), influenza activity in the United States continued to decrease. The rate of ILI visits to sentinel physicians were 2.6% in week 11. To date this season, US laboratories have detected influenza in 22,384 (14.0%) respiratory specimens, of which 69% were influenza A. Of the influenza A isolates that have been sub-typed, 90% were A/H1. Five hundred and forty-nine of 454 (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 11 (Mar 16-22), the Russian Federation continued to report high influenza activity. Several other countries in eastern, central, northern, and southern Europe reported medium intensity activity, while in all countries in western Europe the seasonal epidemic is over. Of the 26,457 influenza virus detections in Europe since the start of the season (week 40), 88% 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 30, 2009), the WHO has confirmed 413 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

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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-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

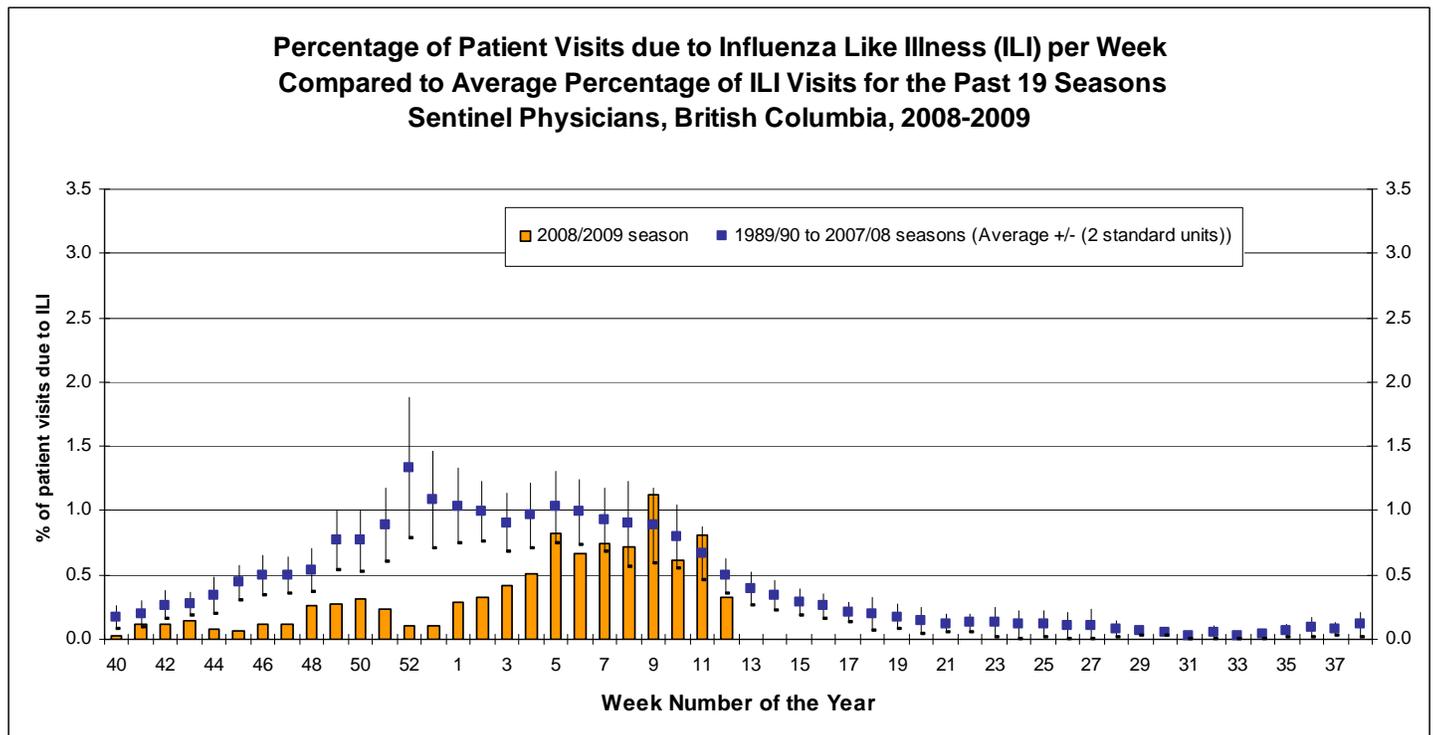
<http://www.bccdc.org/content.php?item=35>

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

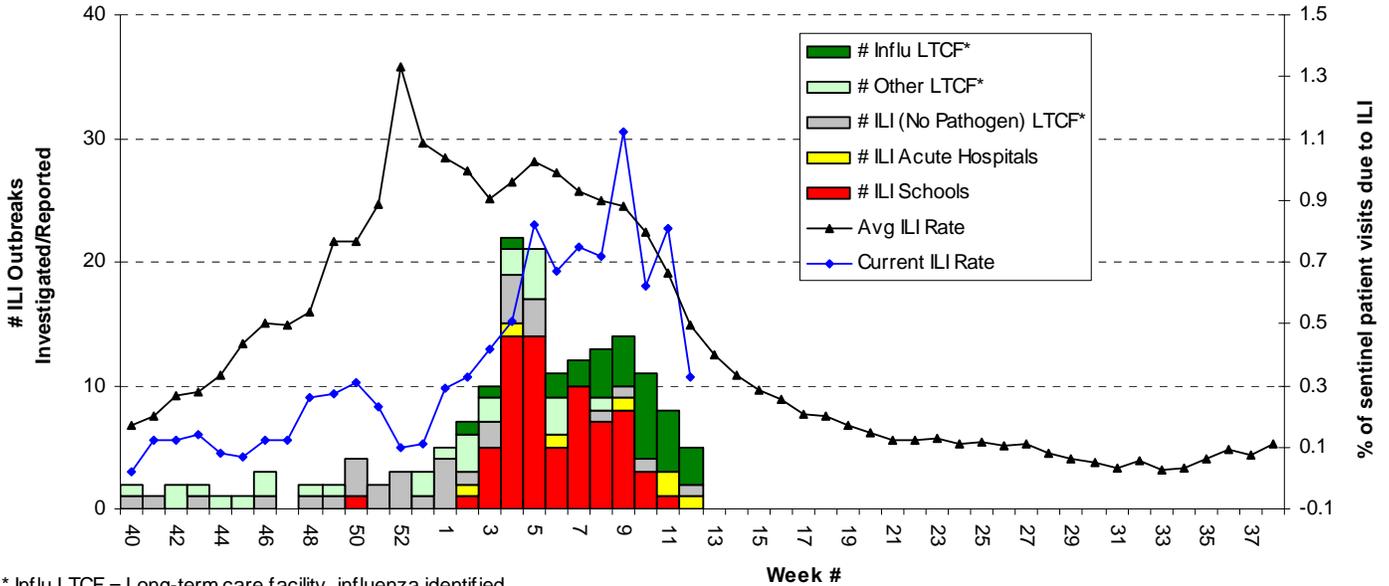


SENTINEL INFLUENZA-LIKE ILLNESS BY HEALTH AUTHORITY

HEALTH AUTHORITY	Week 12 Mar 22-28		
	ILI Visits	Total Visits	% ILI
Fraser	7	1,255	0.56%
Interior	0	572	0.00%
Northern	0	299	0.00%
Vancouver Coastal	5	1,239	0.40%
Vancouver Island	4	1,539	0.26%
BC Total	16	4,904	0.33%

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

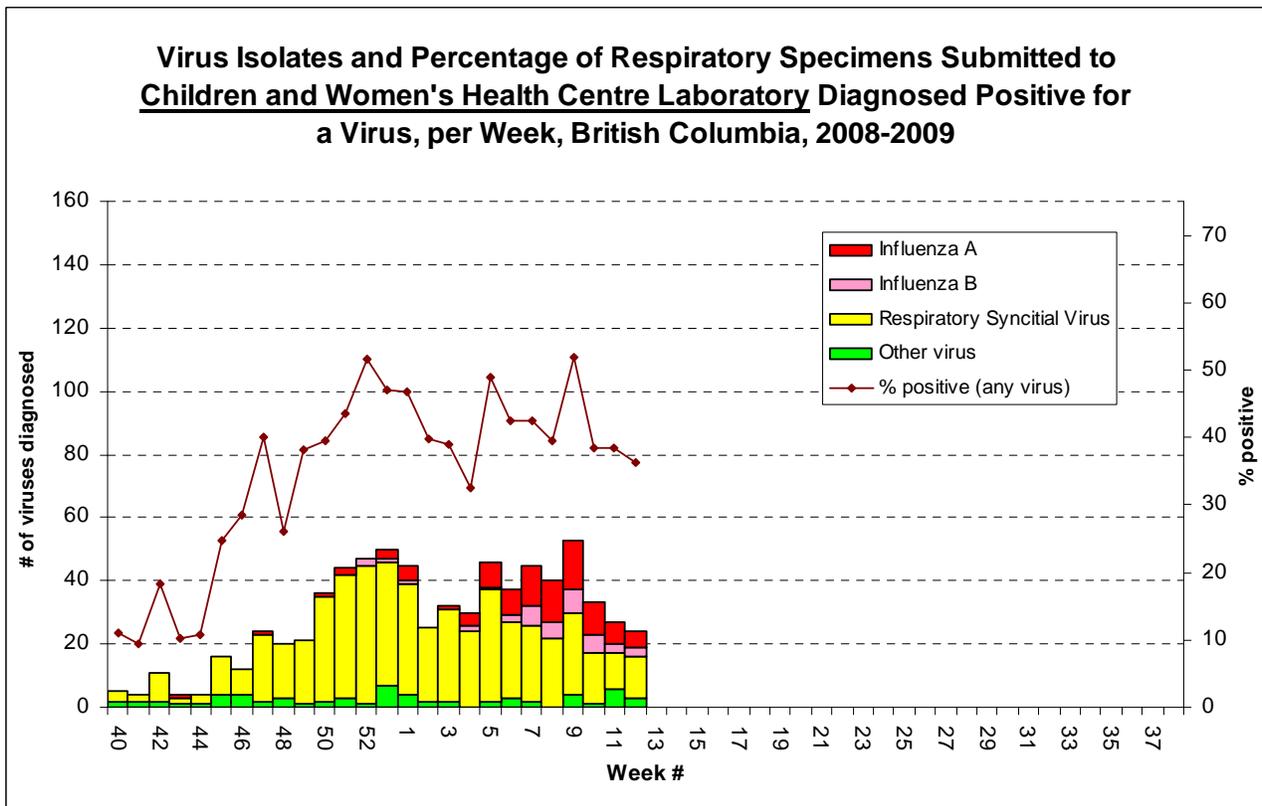
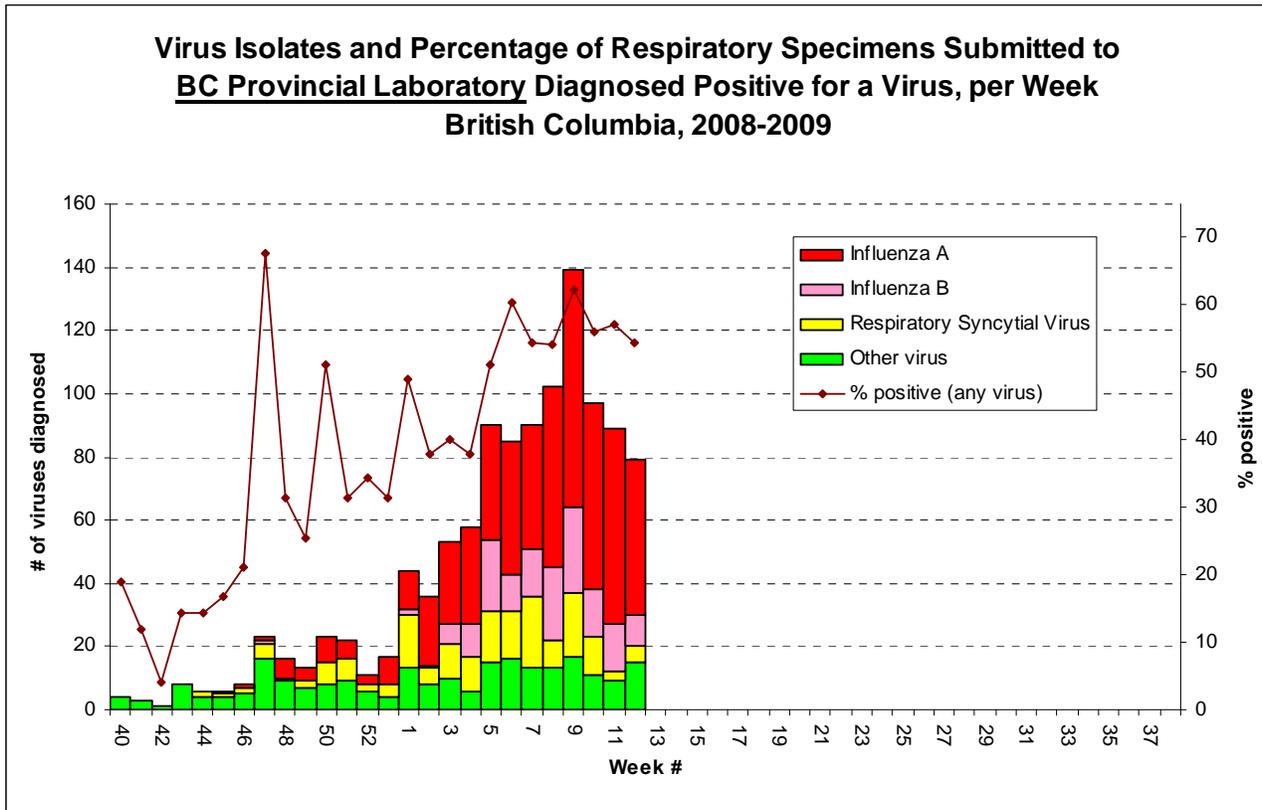


* Influenza LTCF = Long-term care facility, influenza identified

* 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