



Recent increase shows signs of abating; influenza activity below average

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Sentinel Physicians

In week 10, 0.62% of all patient visits to sentinel physicians were attributed to ILI. This proportion is a decrease over previous weeks. (See graph and table on page 4.)

ILI Outbreaks

Seven ILI outbreaks in schools in FHA, IHA and VCHA were reported during week 10; no pathogen was identified. Six lab-confirmed influenza A/H3 outbreaks and 1 influenza B outbreak were reported in LTCFs in VCHA, FHA and IHA. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 94 ILI outbreak investigations. Influenza was identified in 29 (30%), rhino/enterovirus was identified in 13 (14%) of the investigations, 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 34 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 10, BCCDC Laboratory Services tested 173 respiratory specimens. Fifty-nine (34%) specimens tested positive for influenza A, and 15 (9%) tested positive for influenza B. Fifty-eight of the influenza A specimens received during week 10 have been sub-typed, of which 43 (74%) were A/H3 and 15 (26%) were A/H1. An additional 12 specimens tested positive for RSV, five for rhino/enterovirus, 4 for parainfluenza, 2 for HMPV, and none for coronavirus.

During week 10, Children's and Women's Health Centre Laboratory tested 86 respiratory specimens. Sixteen (19%) specimens tested positive for RSV, 10 for influenza A, 6 for influenza B, 1 for parainfluenza, and none for adenovirus. (See graphs on page 6.)

To date this season (March 17), 76% (424 / 692) of influenza isolates tested at both laboratories have

Highlights

During week 10 (Mar 8-14, 2009), 7 ILI outbreaks occurred in schools in FHA, IHA and VCHA, and 6 lab-confirmed influenza A/H3 and 1 influenza B outbreak occurred in facilities in FHA and VCHA. **Thirty-five percent (90 / 259) of respiratory specimens tested in BC laboratories (BCCDC and Children's and Women's Health Centre) during week 10 were positive for influenza, of which 77% were influenza A. Of those influenza A specimens that were sub-typed during week 10, 74% were A/H3. To date this season (March 17), 76% (424 / 692) of influenza isolates have been type A, and of those sub-typed, 64% (303 / 472) have been A/H3.** Oseltamivir resistance continues to be reported in all A/H1N1 viruses. The rate of ILI visits to physicians has decreased in week 10 in comparison to previous weeks and is below the historic average for this time of year.

BRITISH COLUMBIA (BC) INFLUENZA SURVEILLANCE

2008-2009

UPDATE



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

been type A, and of those sub-typed, 64% (303 / 472) have been A/H3.

Oseltamivir Resistance

To date (March 16, 2009) during the 2008-09 season, BCCDC has assessed 128 A/H1N1 isolates for oseltamivir resistance; 117 show genotypic evidence of oseltamivir resistance, and the other 11 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 10 (Mar 8-14), influenza activity appears to have peaked in Canada with reported widespread activity in parts of BC, MB, QC and localized activity in AB, ON, QC, NB & NF. Thirty-four ILI outbreaks were reported: 19 in LTCFs (BC, AB, MB, ON, QC, & NB), 12 in schools (BC, MB & NB), one in a hospital (ON) and 2 other outbreaks (facilities not described). The proportion of tests that were positive for influenza decreased from the previous week (percentage positive = 16.4%; 865/5,261). Since August 24, 2008 provincial/territorial laboratories have detected 6,398 cases of influenza, 3,724 (58%) influenza A and 2,674 (42%) influenza B. The national rate of ILI visits to sentinel physicians decreased from 48 per 1,000 to 22 ILI consultations per 1,000 patient visits in week 10, which is within the expected range for this time of the season. This decrease mirrors patterns in BC sentinel data for week 10. <http://www.phac-aspc.gc.ca/fluwatch/>

National Microbiology Laboratory

Since Sept 1 and as of Mar 19, 596 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):

136 A/Brisbane/59/07(H1N1)-like* from BC, AB, SK, ON, QC, NB, NS, & PEI;
103 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 351 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 19 indicated that all (n=125) H1N1 isolates tested to date were resistant to oseltamivir, while all H3N2 (n=89) and influenza B (n=352) isolates tested were sensitive to oseltamivir. Of those isolates tested for amantadine resistance, all (n=160) H1N1 isolates were found to be sensitive, and all (n=162) H3N2 isolates were found to be resistant. All 552 (113 H1N1, 88 H3N2, and 351 influenza B) isolates that have been tested for zanamivir resistance were sensitive.

INTERNATIONAL

During week 10 (Mar 8-14), influenza activity in the United States influenza activity decreased slightly in the United States. The rate of ILI visits to sentinel physicians remained unchanged at 2.9% in week 109. To date this season, US laboratories have detected influenza in 19,825 (13.3%) respiratory specimens, of which 71% were influenza A. Of the influenza A isolates that have been sub-typed, 91% were A/H1. Four hundred and sixty-nine of 474 (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 09-15), the Russian Federation reported high influenza activity for the first time this season. Other countries in eastern Europe as well as some in central, northern and south eastern Europe maintained medium intensity levels whereas all countries in western Europe continued to report low levels. Of the 25017 influenza virus detections in Europe since the start of the season (week 40), 89% 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 19, 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

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

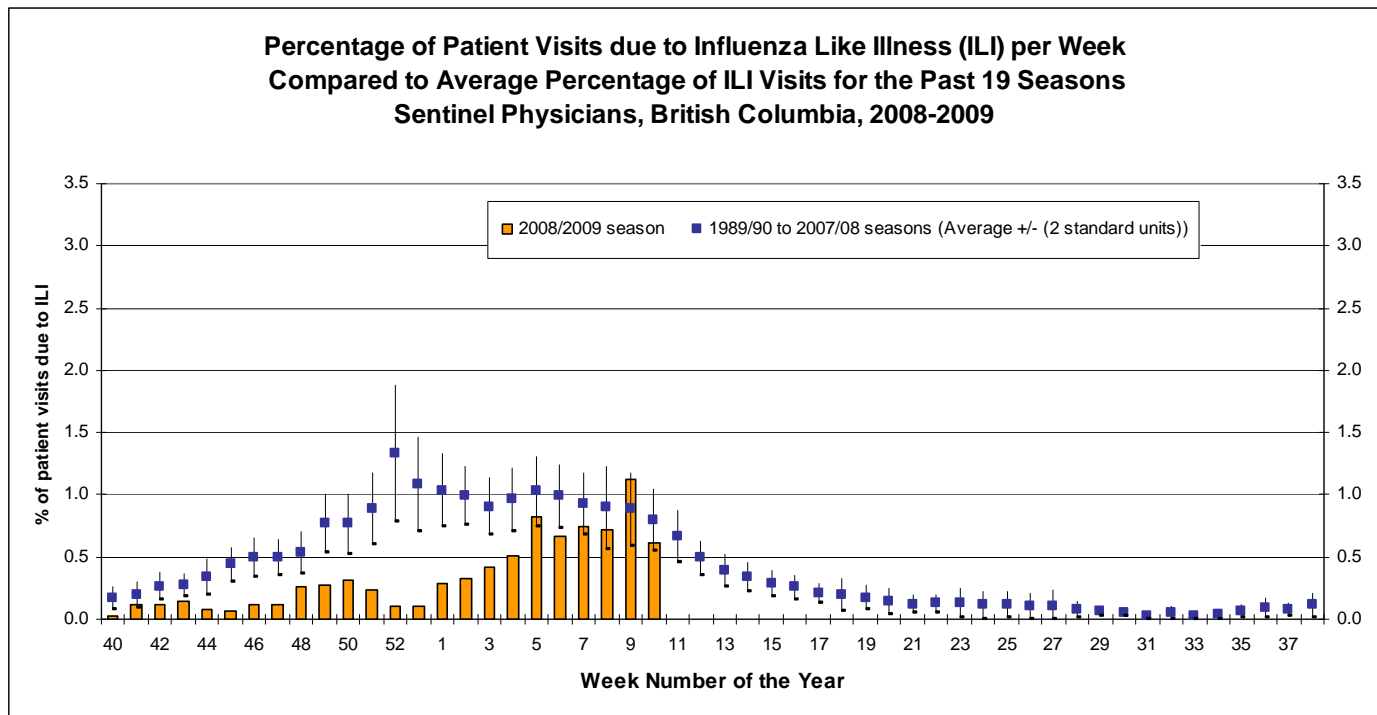
<http://www.bccdc.org/content.php?item=35>

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

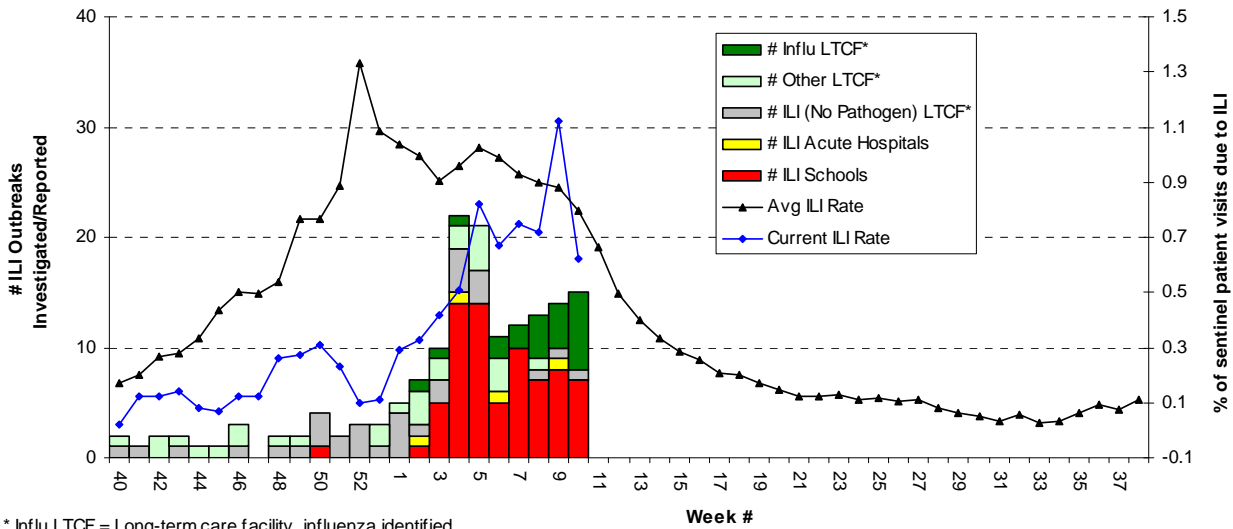


SENTINEL INFLUENZA-LIKE ILLNESS BY HEALTH AUTHORITY

HEALTH AUTHORITY	Week 9 Mar 8-14		
	ILI Visits	Total Visits	% ILI
Fraser	6	1,289	0.47%
Interior	1	475	0.21%
Northern	0	365	0.00%
Vancouver Coastal	17	1,648	1.03%
Vancouver Island	12	2,016	0.60%
BC Total	36	5,793	0.62%

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

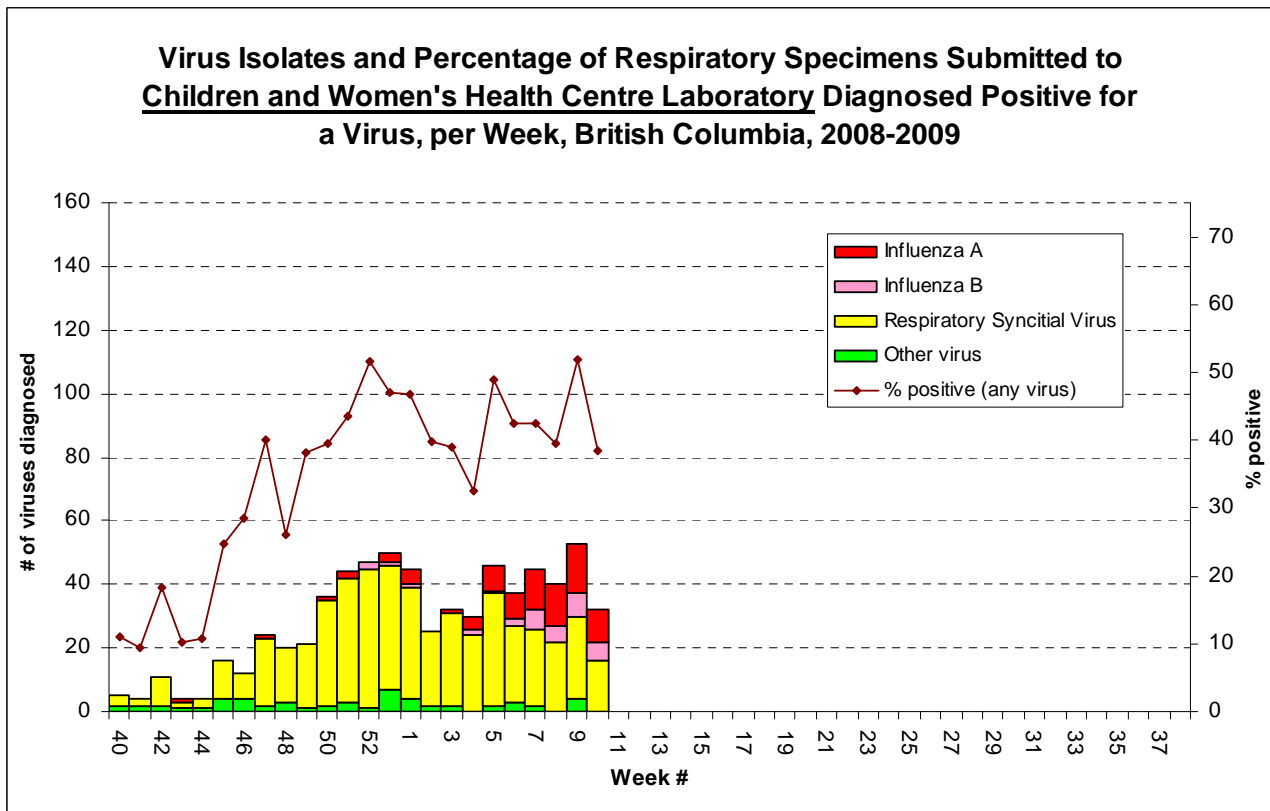
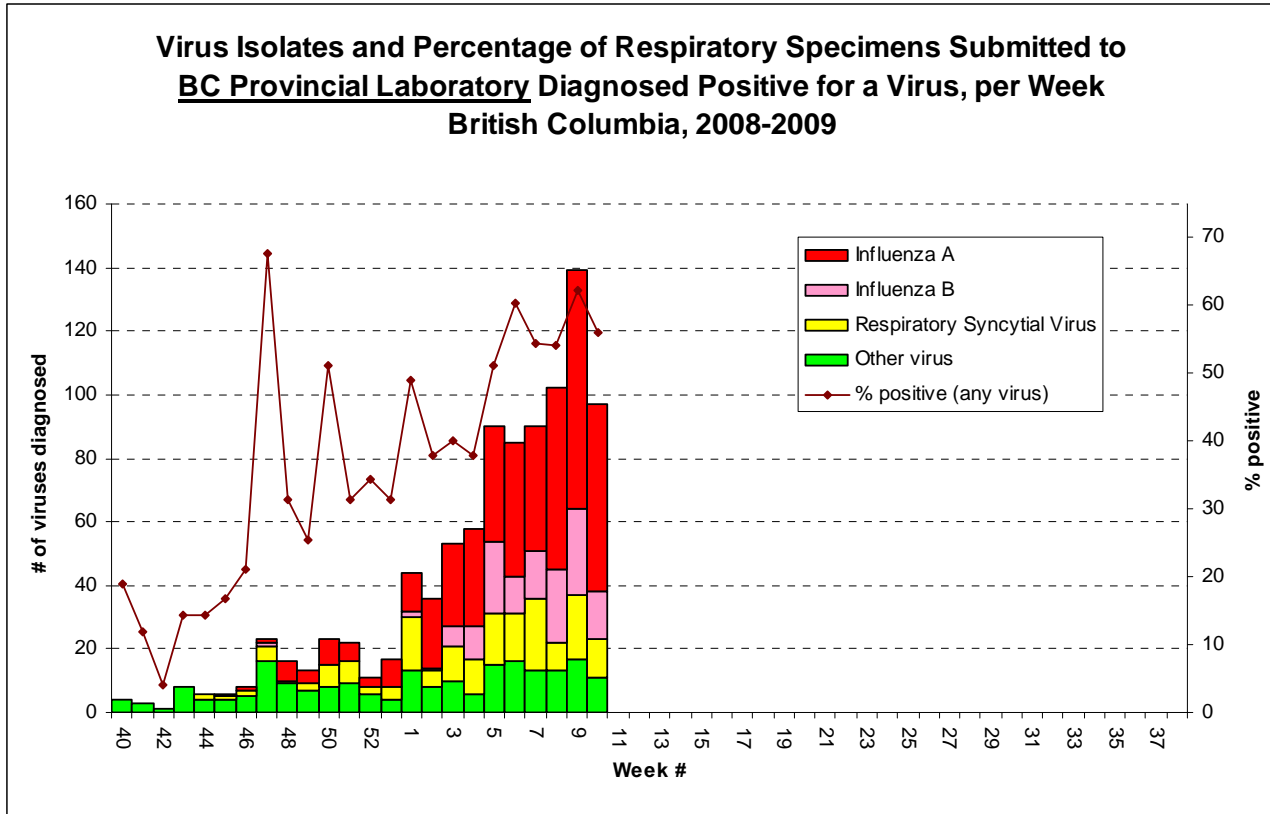


* Influenza LTCF = Long-term care facility, influenza identified

* 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