



Increasing Influenza Activity in BC

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Sentinel Physicians

In week 2, 0.27% of all patient visits to sentinel physicians were attributed to ILI. This rate is lower than the historic average for this time of year. (See graph and table on page 4.)

ILI Outbreaks

One ILI outbreak (pathogen unknown) in a school and two lab-confirmed outbreaks in facilities (one influenza A/H1 in a LTCF in IHA and one influenza A/H3 in a transitional care unit in FHA) were reported during week 2. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 38 ILI outbreak investigations. Rhino/enterovirus was identified in 12 (32%) of the investigations, parainfluenza in 3 (8%), RSV in 3 (8%), influenza in 2 (5%), and human metapneumovirus (HMPV) in 1 (3%). No pathogen was identified in the other 17 investigations. (See graph on page 5.)

Laboratory Reports

During week 2, BCCDC Laboratory Services tested 95 respiratory specimens. Twenty-two specimens tested positive for influenza A, of which 12 have been sub-typed: 6 as A/H1 and 6 as A/H3. This slight change in the proportionate contribution of A/H1 and A/H3 viruses from previous weeks suggests that A/H3 activity may be starting to increase in BC. One specimen tested positive for influenza B. An additional 5 specimens tested positive for RSV, 5 for rhino/enterovirus, 2 for HMPV, and 1 for parainfluenza.

During week 2, Children's and Women's Health Centre Laboratory tested 63 respiratory specimens. Twenty-three (37%) specimens tested positive for RSV, and 2 tested positive for adenovirus. There were no influenza detections in Children's and Women's Health Centre Laboratory during week 2. (See graphs on page 6.)

To date this season (January 20), 91% (86/94) of influenza isolates tested at both laboratories have been type A, and of those sub-typed, 67% (46/69)

Highlights

During week 2 (January 11-17, 2009), lab-confirmed influenza outbreaks occurred in one LTCF in IHA (A/H1) and one transitional care unit in FHA (A/H3). BC laboratories reported 22 positive respiratory specimens for influenza A and 1 positive specimen for influenza B. To date this season (January 20), 91% (86/94) of influenza isolates have been type A, and of those sub-typed, 67% (46/69) have been A/H1. Oseltamivir resistance continues to be reported in a high proportion of A/H1N1 viruses. Thirty-seven percent of respiratory specimens tested at BC Children's and Women's Health Centre during week 2 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 and attaching the outbreak report form (a copy is found at the end of this report).



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 20), BCCDC has assessed 46 A/H1N1 isolates for oseltamivir resistance; 42 show genotypic evidence of oseltamivir resistance—including one isolate from an ILI outbreak—and the other 4 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 2, sporadic activity was reported in BC, AB, SK, MB, ON, QC, NB, PEI, and NS, with localized activity in parts of NT, BC, AB, and ON. Five ILI outbreaks were reported, 3 in LTCFs (ON, BC, and NT), one in a transitional care unit (BC), and one in a school (BC). Since August 24, 2008 provincial/territorial laboratories have detected 584 cases of influenza, 335 (57%) influenza A and 249 (43%) influenza B. The national rate of ILI visits to sentinel physicians (16 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 14, 69 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):

16 A/Brisbane/59/07(H1N1)-like* from NS, ON, AB, & BC,

2 A/Brisbane/10/07(H3N2)-like* from ON & BC, 4 B/Florida/04/06(Yamagata)-like* from AB & ON, and 47 B/Malaysia/2506/04(Victoria)-like from ON, QC, & AB.

* indicates a strain match to the vaccine component.

Antiviral Resistance

Drug susceptibility testing at the NML as of Jan 14 showed that all (n=15) H1N1 isolates tested to date were resistant to oseltamivir, while all H3N2 (n=2) and influenza B (n=34) isolates tested were sensitive to oseltamivir. Of those isolates tested for amantadine resistance, all (n=16) H1N1 isolates were found to be sensitive, and all (n=7) H3N2 isolates were found to be resistant. All 47 (11 H1N1, 2 H3N2, and 34 influenza B) isolates that have been tested for zanamivir resistance were sensitive.

INTERNATIONAL

A low level of Influenza activity was reported during week 2 in the United States. Widespread activity was reported in one state (Virginia), localized activity was reported in fifteen states (including Montana, which borders BC to the southeast), and sporadic activity was reported in most other states. The rate of ILI visits to sentinel physicians remained below national baseline levels. To date this season, US laboratories have typed 1626 influenza-positive specimens, of which 1349 (83%) were influenza A. Of the influenza A isolates that have been sub-typed, 89% were A/H1. One hundred and one of 103 (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 2. Of the 7951 influenza virus detections in Europe since the start of the season (week 40), 7662 (96%) were influenza A, and of those subtyped, 94% were A/H3. For more information, please visit: <http://www.eiss.org>.

Avian Influenza

Additional cases of human H5N1 AI in China and Indonesia have been reported by the WHO in the past week. Since 2003 and to date (Jan 22, 2009), the WHO has confirmed 399 human AI cases and 251 deaths. For more information on human avian influenza cases please visit:

http://www.who.int/csr/disease/avian_influenza



A suspected outbreak of avian influenza A/H5 among a commercial poultry flock is under investigation in FHA. 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 are currently working together to conduct enhanced surveillance and outbreak control.

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

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)
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Tel: (604) 660-6061 / Fax: (604) 660-0197
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/>

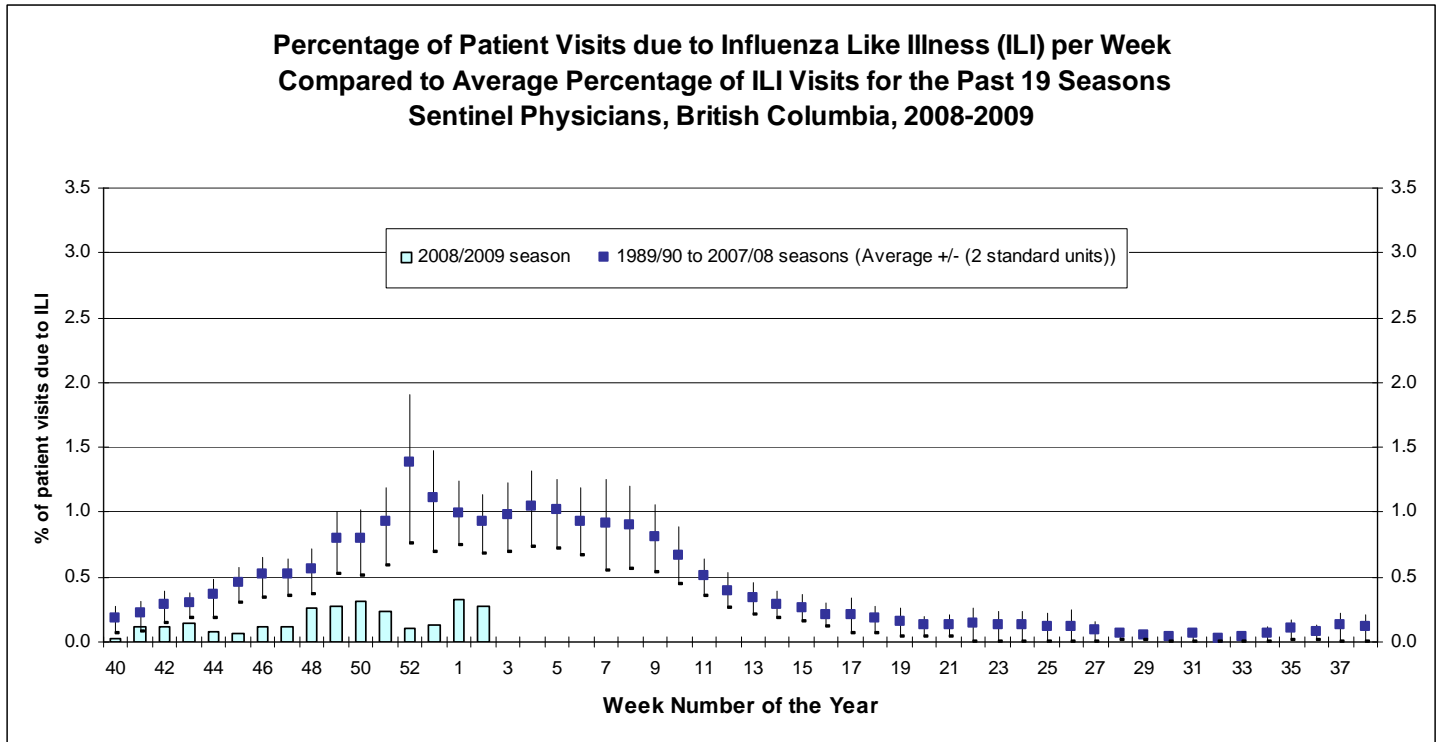
2. Avian Influenza Web Sites

- World Health Organization – Avian Influenza:
http://www.who.int/csr/disease/avian_influenza/en/
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>

WEEKLY ILI

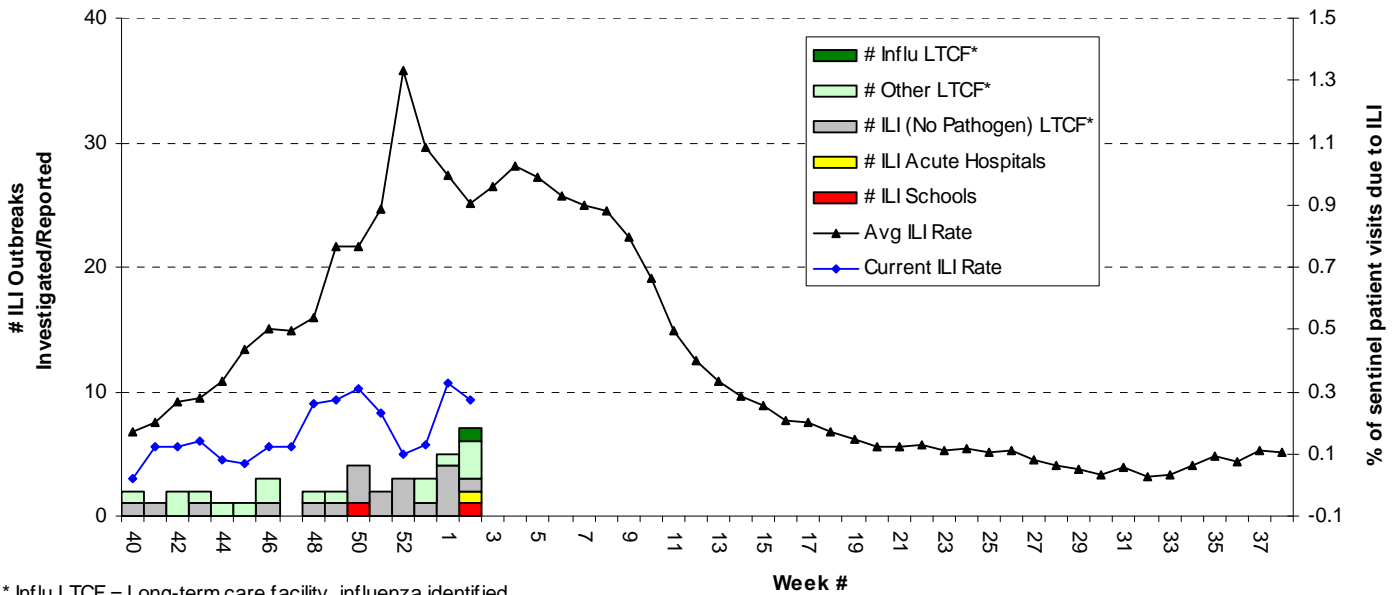


INFLUENZA-LIKE ILLNESS BY HEALTH AUTHORITY

HEALTH AUTHORITY	Week 2 Jan 11 – 17		
	ILI Visits	Total Visits	% ILI
Fraser	7	1,506	0.46%
Interior	0	648	0.00%
Northern	0	329	0.00%
Vancouver Coastal	2	1,234	0.16%
Vancouver Island	6	1,867	0.32%
BC Total	15	5,584	0.27%

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

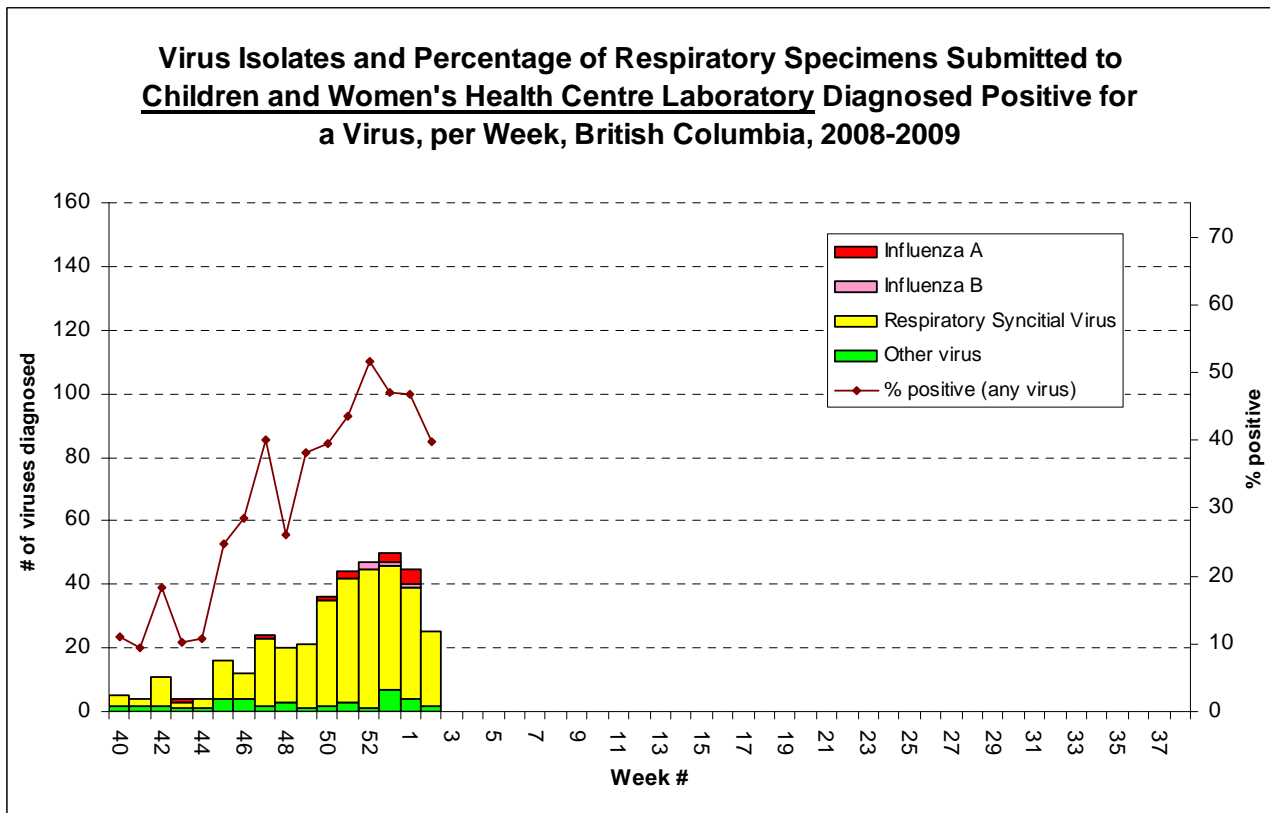
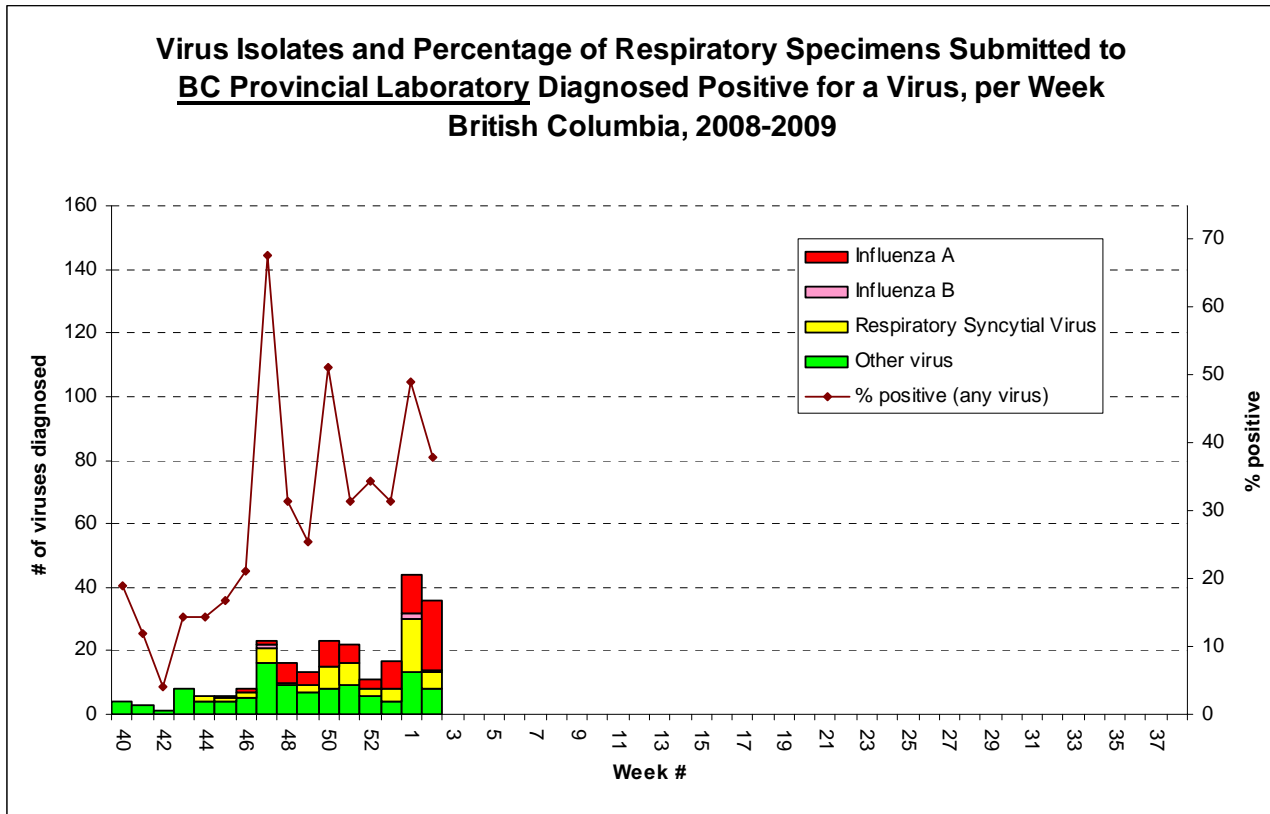


* Influenza LTCF = Long-term care facility, influenza identified

* 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