

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 14, Week 01

January 3-9, 2010



BC Centre for Disease Control

An agency of the Provincial Health Services Authority

Prepared by BCCDC Influenza &
Emerging Respiratory Pathogens Team

Low Level Influenza Activity in BC

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Highlights

In week 1 (January 3-9), surveillance indicators suggested low levels of influenza activity in British Columbia. The proportion of patients presenting with ILI to sentinel physicians, Medical Services Plan claims for influenza illness, and BC Children's Hospital ER visits due to fever/cough or flu-like illness all declined further during week 1. No outbreaks were reported in schools or facilities. At the BC Provincial Laboratory, 3% (6/186) of respiratory specimens were positive for influenza A, all of which were sub-typed as pH1N1. Twenty-six percent (33/125) of specimens tested for other respiratory viruses were positive for rhino/enterovirus (n=15), human metapneumovirus (n=9), or parainfluenza (n=9). Of 192 specimens tested for respiratory viruses at BC Children's Hospital Laboratory between December 20 and January 9, 27 (14%) were positive for RSV, reflecting an increase in RSV detection at that lab over the past month. Globally, pH1N1 continues to be the predominant influenza virus in circulation, constituting >85% of influenza detections reported to the World Health Organization from December 13-19. Together, surveillance indicators suggest that influenza activity due to pH1N1 in BC has continued to decline since a late October/early November peak and remains at levels below the expected range for this time of year.

Report written & disseminated: January 13, 2010
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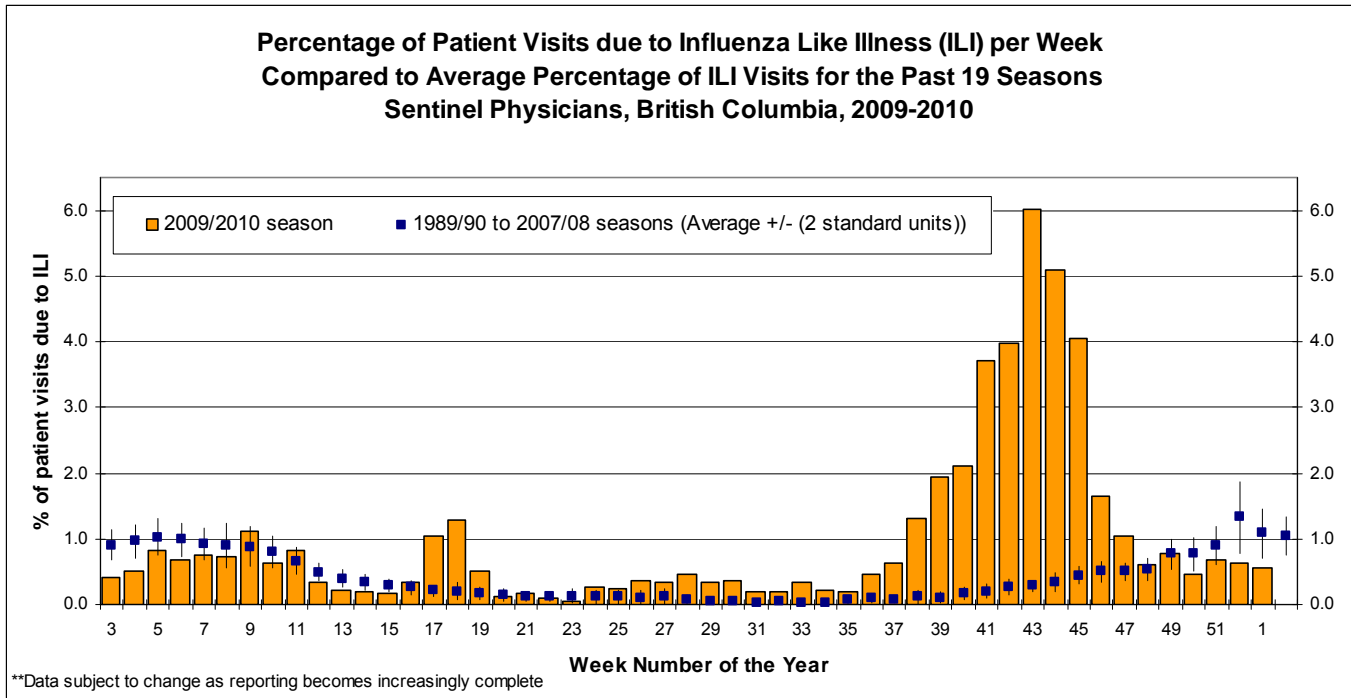
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British Columbia

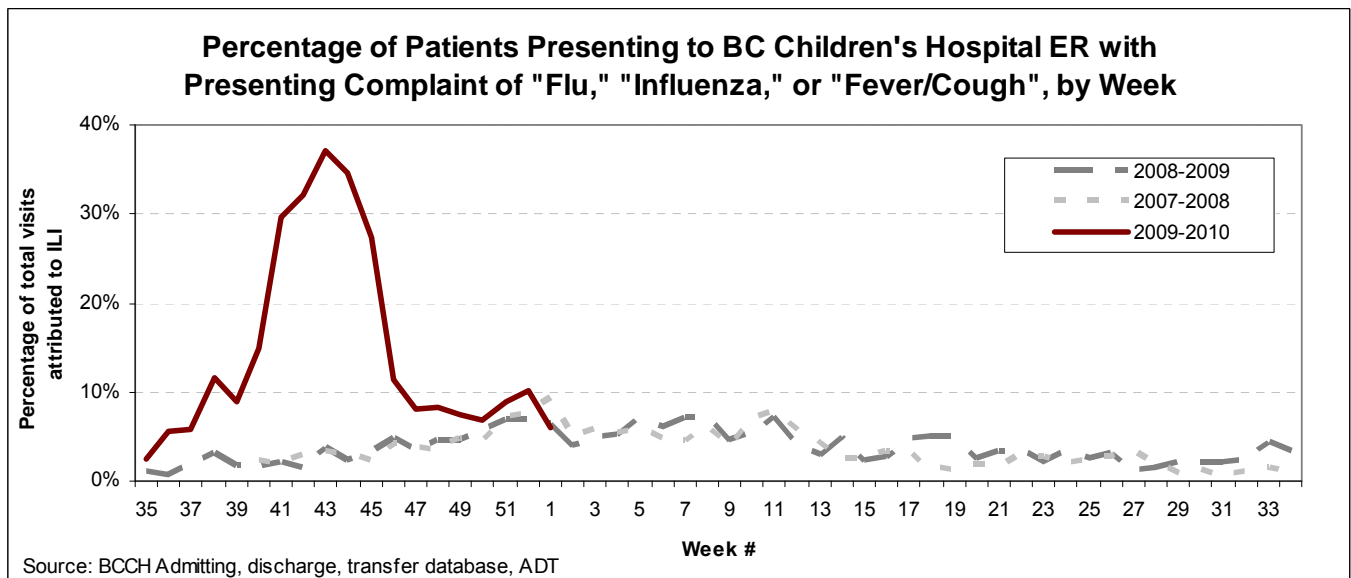
Sentinel Physicians

During week 1, the percentage of patients presenting to sentinel physicians with ILI decreased slightly to 0.55%. This level is below the expected range for this time of year. Fifty-one percent (26/51) of sentinel physician sites reported for week 1.



BC Children's Hospital Emergency Room

The percentage of Emergency Room visits attributed to "fever and cough" or flu-like illness at BC Children's Hospital decreased to 6.0% in week 1.



Emergency Room data kindly provided by Decision Support Services at BC Children's Hospital

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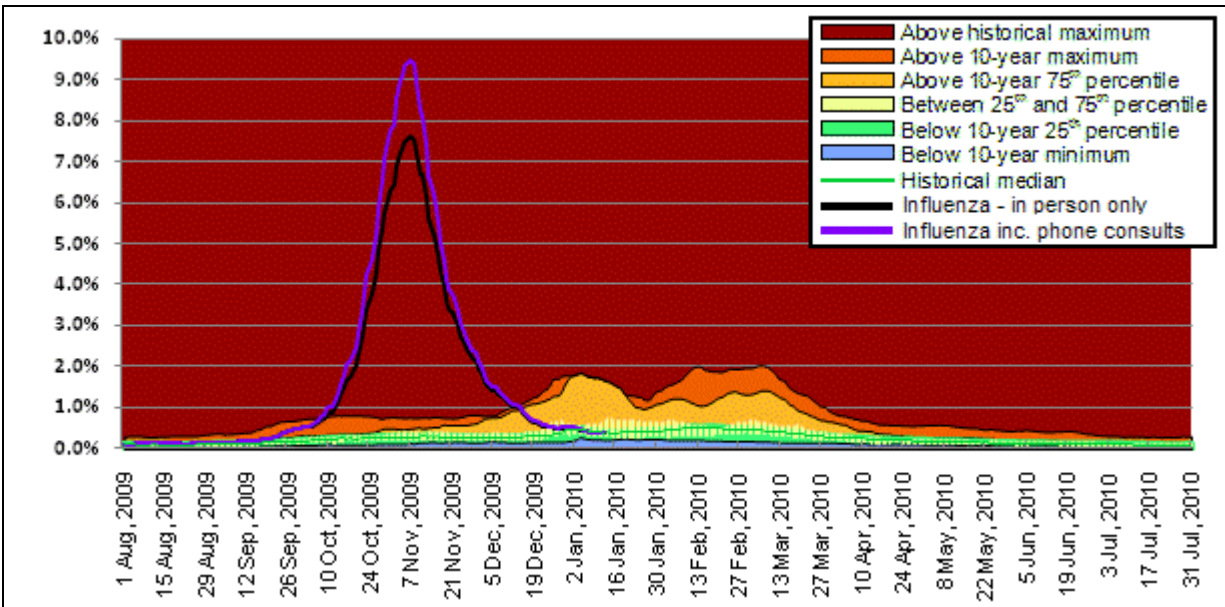
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Medical Services Plan

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims remained low in the last week, consistent with the decrease over the past 8 weeks and within the expected range for this time of year. Proportions in all 5 RHAs remain close to the historical median. Graphs presented below include two indicators: one reflecting in-person physician visits only with influenza illness claims (black) and one reflecting influenza illness claims whether in-person visits or phone consultations (purple). For surveillance purposes, however, these indicators show the same trend.

Influenza Illness Claims* British Columbia

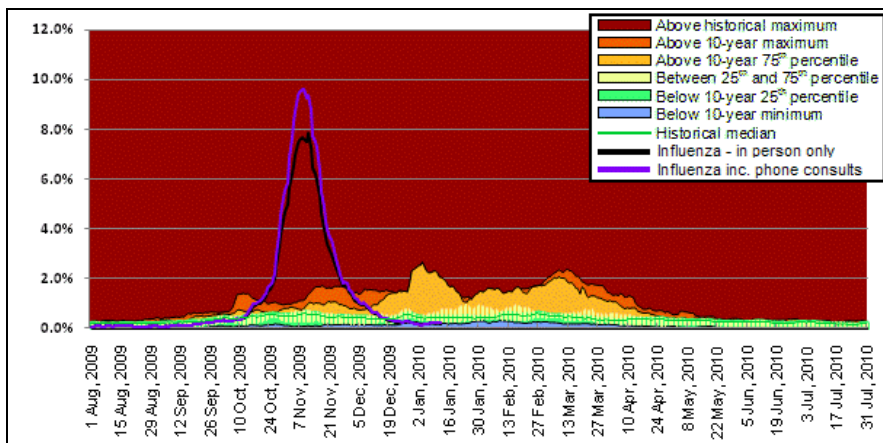


* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

Notes: MSP week 27 Sep 2009 corresponds to sentinel ILI week 39.

Data current to January 11, 2010

Northern

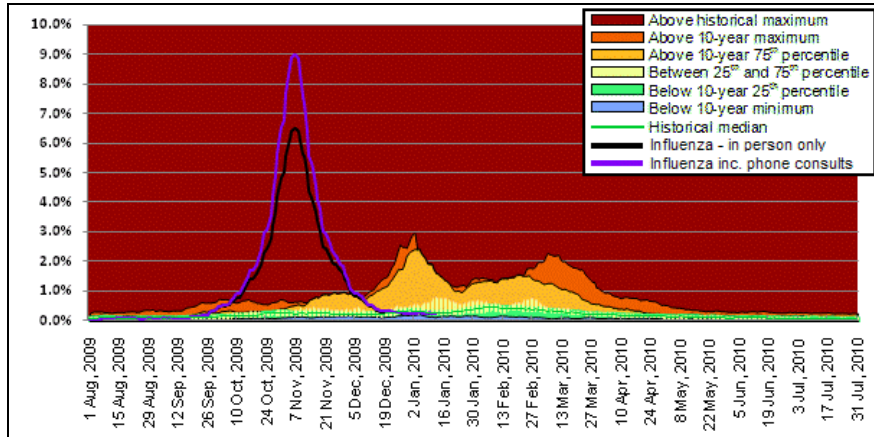


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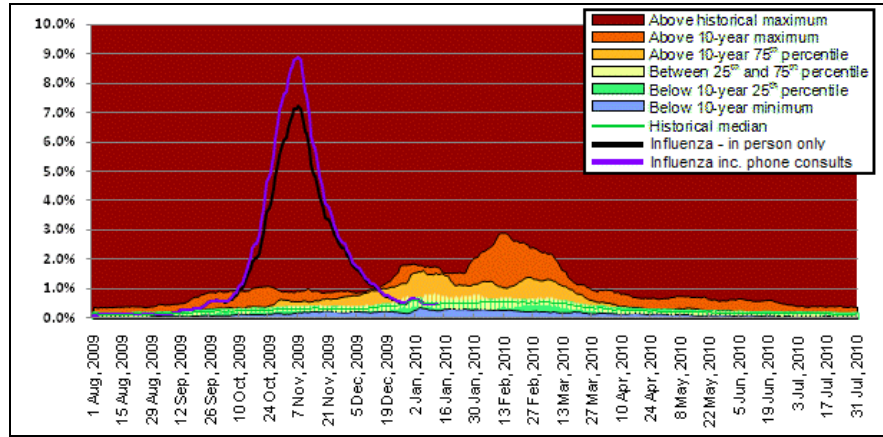
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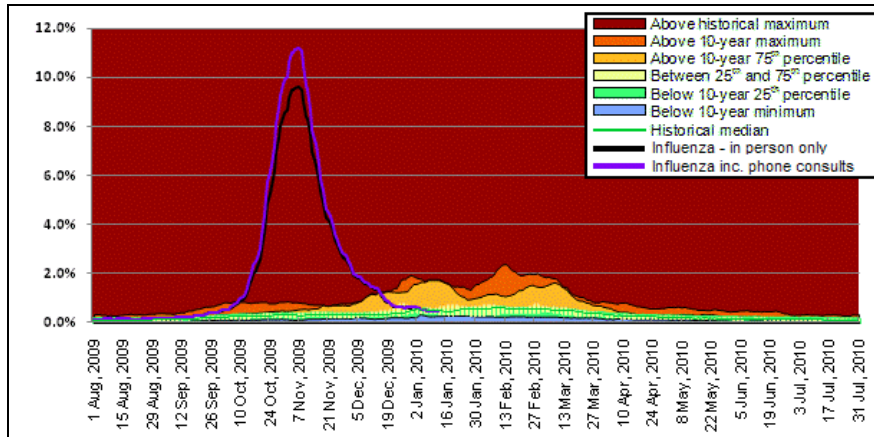
Interior



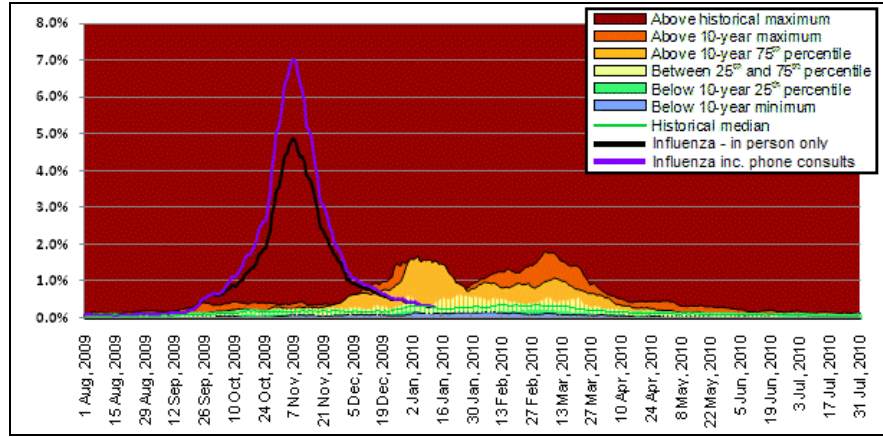
Vancouver Coastal



Fraser



Vancouver Island



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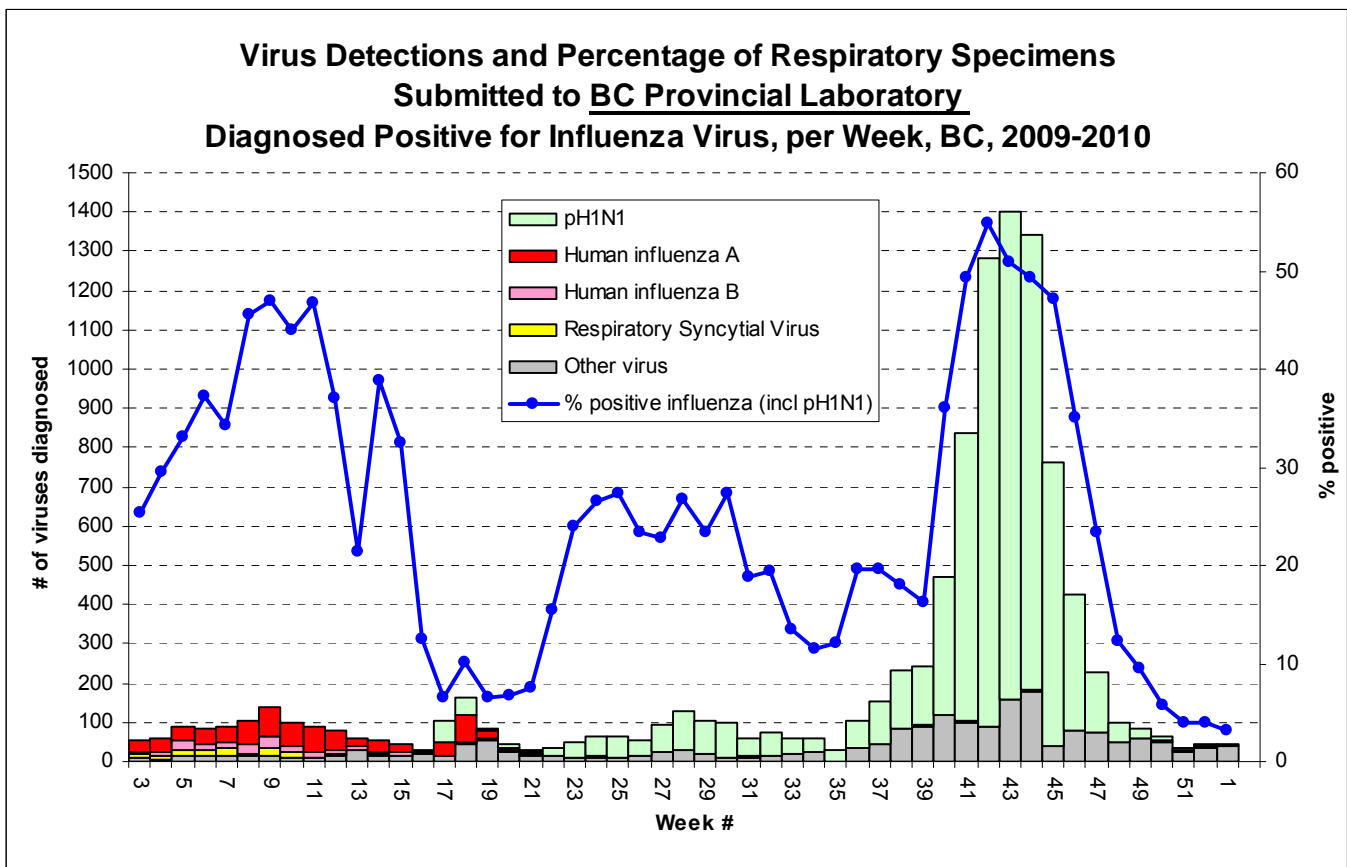
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Laboratory Reports

One hundred eighty-six respiratory specimens were tested for influenza at the BC Provincial Laboratory in week 1. Six (3%) tested positive for pH1N1; none tested positive for other influenza A or B viruses. This marks a slight decrease in laboratory positivity for pH1N1 virus, from 4% in weeks 51 and 52, and is the lowest positivity rate since the start of the 2008-09 season. Since week 35 (September 1, 2009), >99% of all influenza detections in BC have been pH1N1. In week 1, 125 specimens were tested for other respiratory pathogens, of which 15 (12%) tested positive for rhino/enterovirus, 9 (7%) for human metapneumovirus, 9 (7%) for parainfluenza, 3 (2%) for RSV, 3 (2%) for coronavirus, and 2 (2%) for adenovirus. Currently, acute respiratory illness in BC for which specimen is collected is more likely to be due to cause other than influenza.

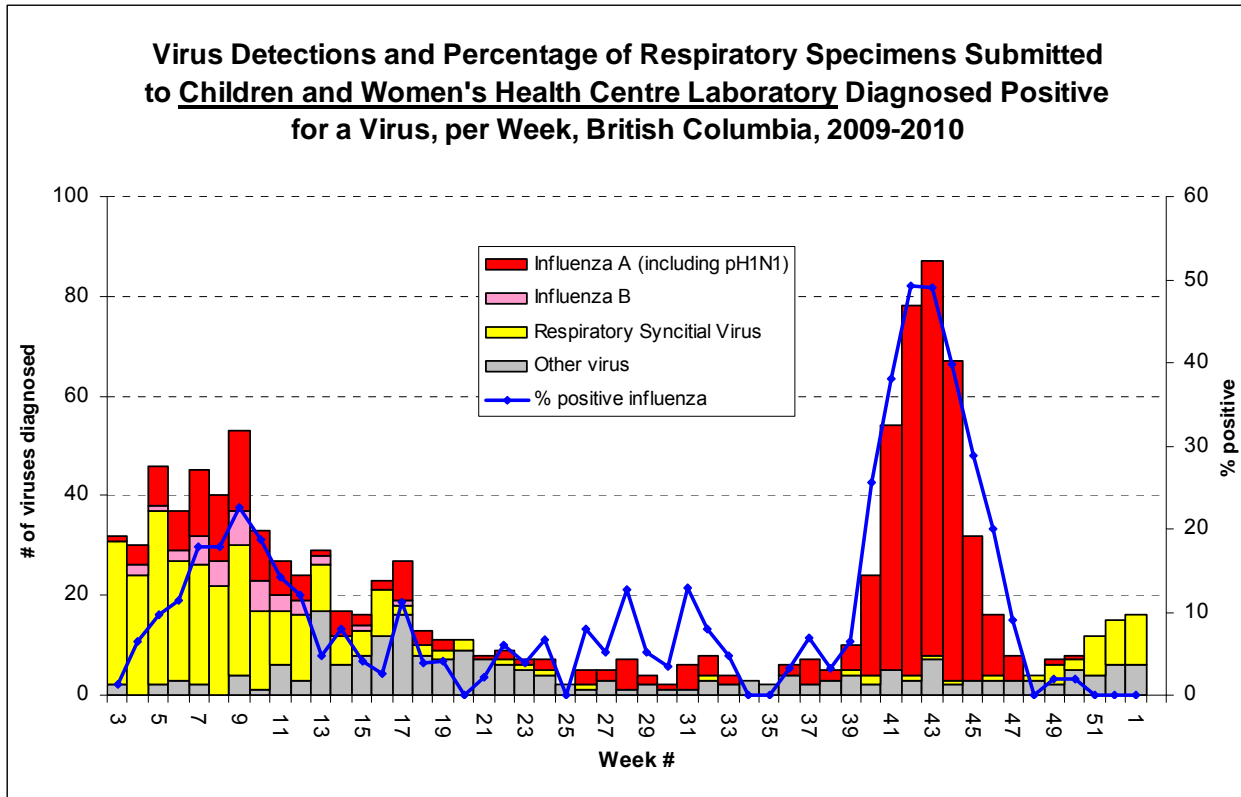
During weeks 51, 52, and 1, Children's and Women's Health Centre Laboratory tested 192 respiratory specimens. None were positive for influenza. Twenty-seven (14%) specimens tested positive for RSV, 13 (7%) for parainfluenza, and 3 (2%) for adenovirus.



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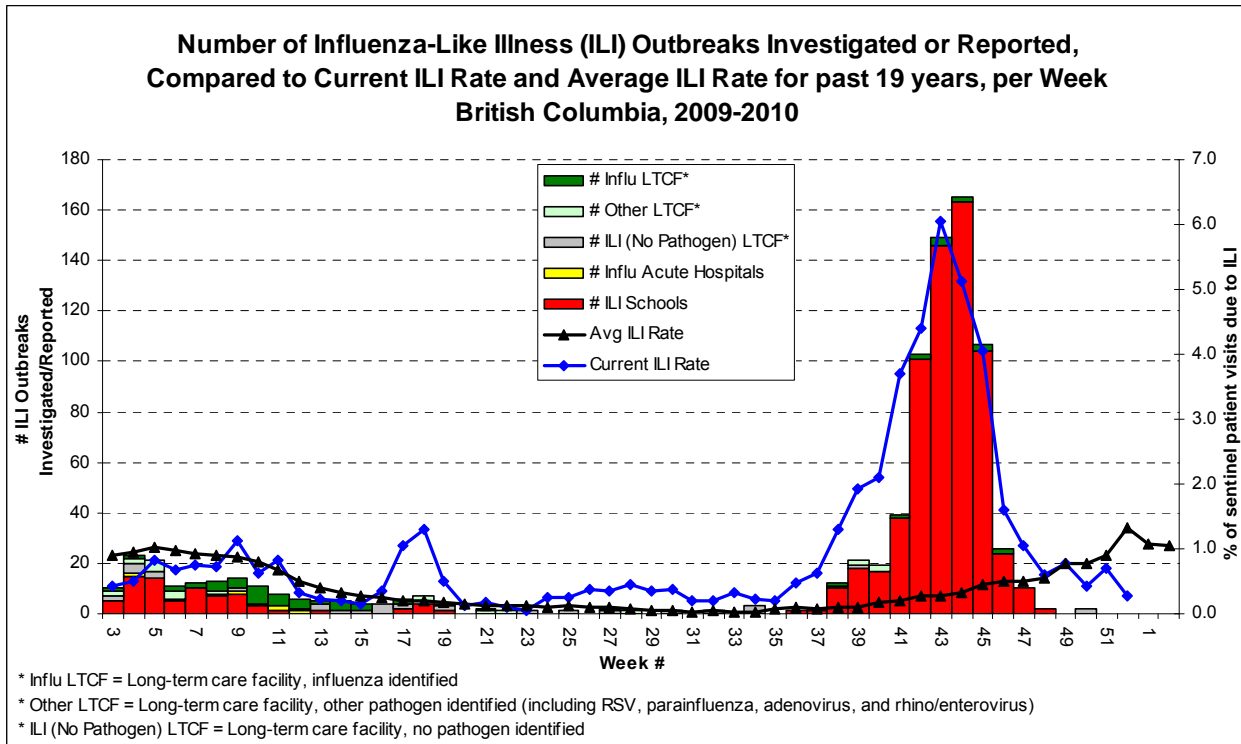
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ILI Outbreaks

In week 1, no lab-confirmed influenza outbreaks were reported in facilities in BC and no ILI outbreaks were reported in schools.



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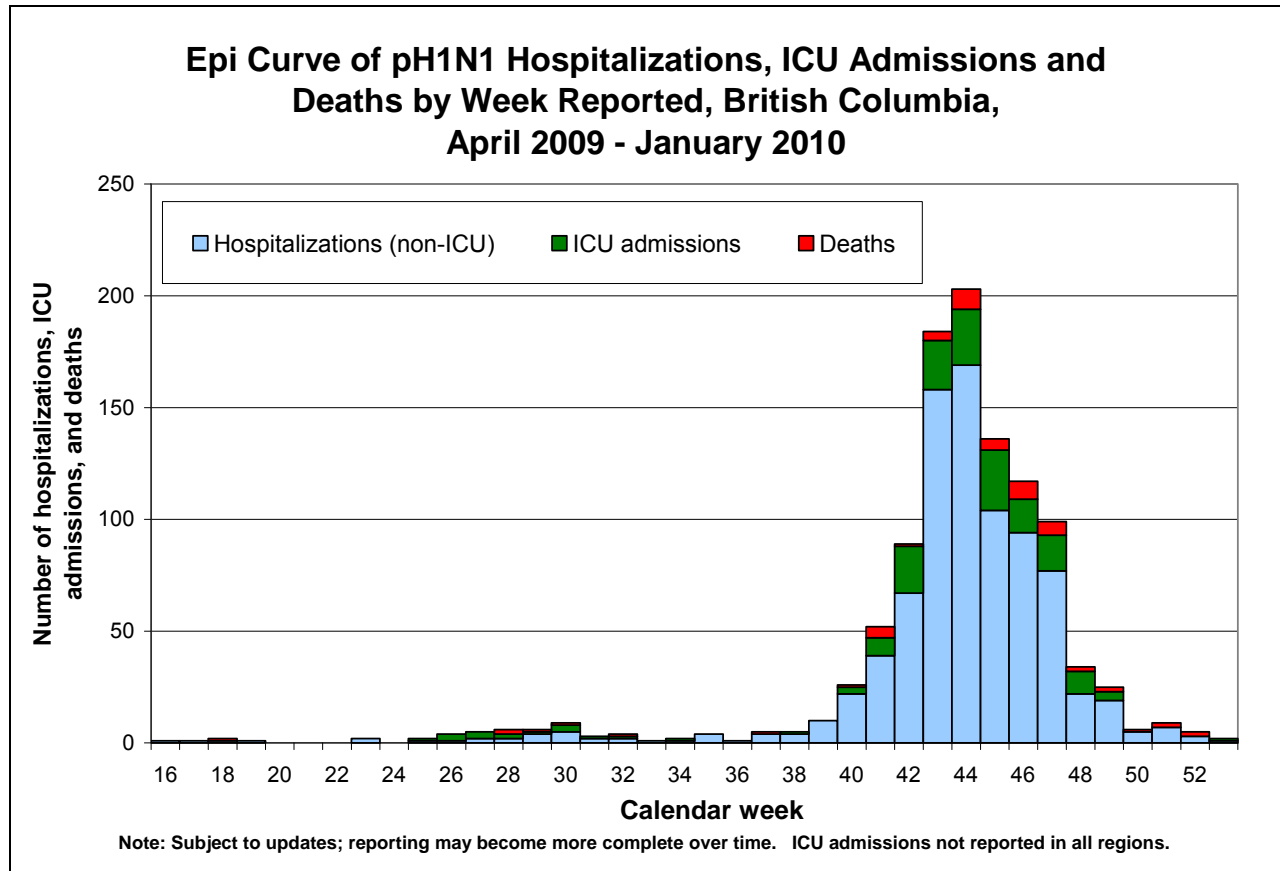
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Pandemic H1N1 (pH1N1) Severe Outcomes

As of January 11, 2010, and since April 2009, 1049 hospitalizations in patients with laboratory-confirmed pH1N1 have been reported in BC, of which 2 were reported in the preceding week. Sixty-six percent of hospitalized cases had at least one reported underlying medical condition (excluding pregnancy). Twenty-six percent of hospitalized cases have been admitted to the intensive care unit, and 9% have died. As shown in the mortality graph below, the ratio of pH1N1 mortality to case detection is lowest in the young and highest in the old.

For further description of BC pH1N1 cases, visit: www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm
Resources for healthcare professionals: www.bccdc.ca/resourcematerials/newsandalerts/healthalerts/H1N1FluVirusHumanSwineFlu.htm

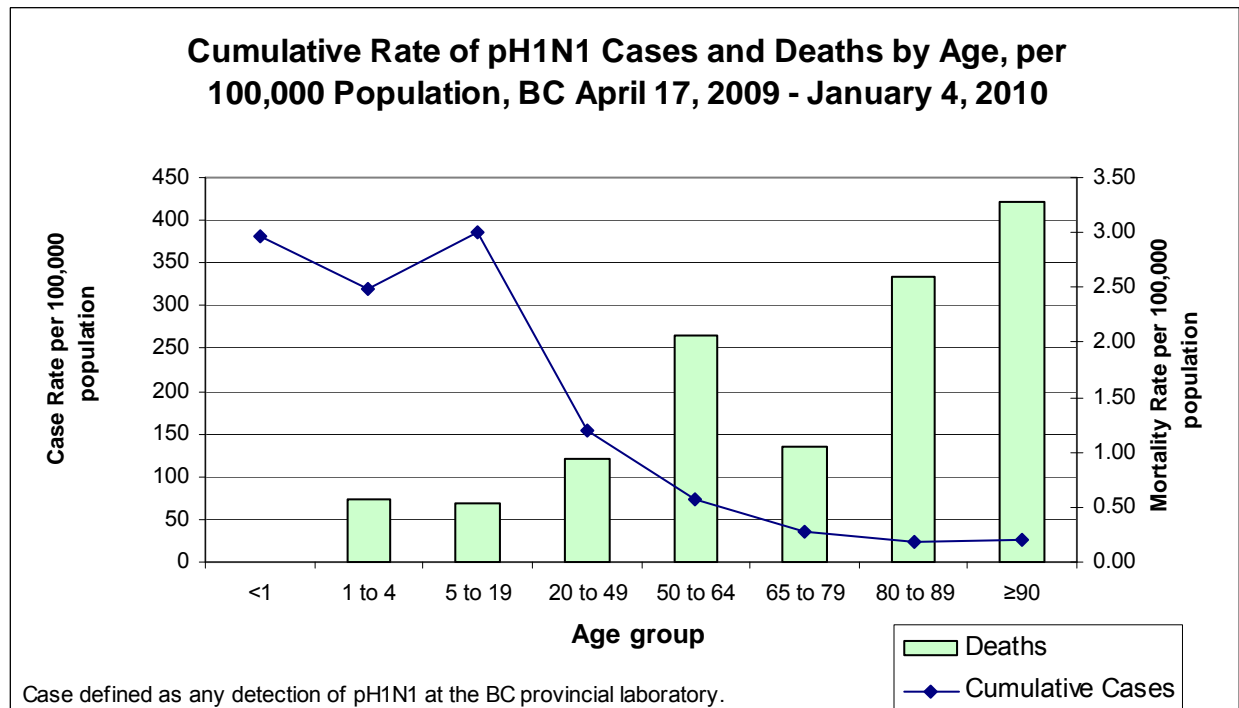
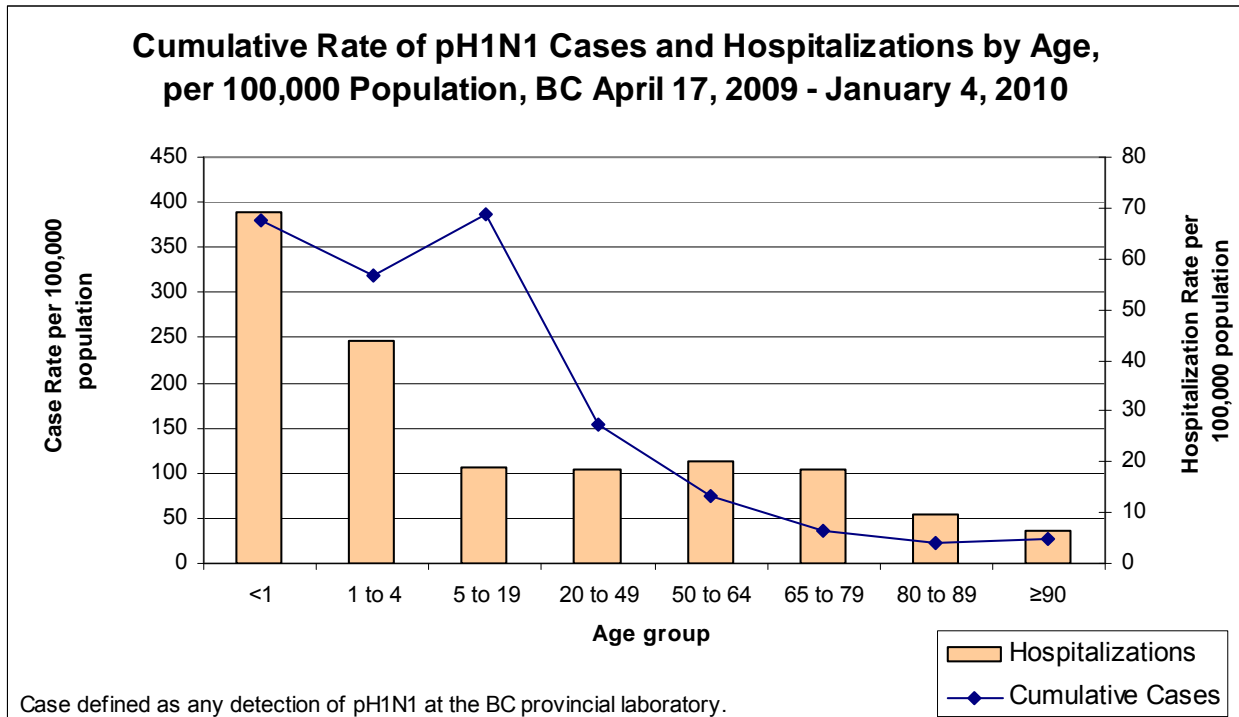


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Pandemic H1N1 (pH1N1) Severe Outcomes (continued)



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CANADA

FluWatch

During weeks 51 and 52, influenza activity in Canada remained low. The sentinel ILI consultation rates were 27 and 19 consultations per 1000 patient visits respectively, which is within or below the expected range for this time of year. Two percent of respiratory specimens tested nationally were positive for influenza, a decline from 4% in week 50. Over 99% of all subtyped influenza A specimens were positive for pH1N1; 1 specimen was positive for H3N2 (QC). www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory

Between September 1, 2009 and January 7, 2010, 603 influenza isolates (595 pandemic H1N1 and 8 seasonal influenza) were collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):

- 595 A/California/07/2009 (H1N1)-like[§] from BC, AB, SK, MB, ON, QC, NB, NS, PEI, NT, & NU;
- 2 A/Brisbane/59/2007 (H1N1)-like[†] from AB & QC;
- 1 A/Brisbane/10/2007 (H3N2)-like[†] from BC;
- 4 A/Perth/16/2009 (H3N2)-like[†] from AB & QC;
- 1 B/Brisbane/60/2008 (Victoria lineage)-like[†] from ON.

[§] A/California/07/2009 (H1N1) is the variant reference virus (pH1N1) selected by WHO for the pandemic influenza A/H1N1 vaccine

[†] indicates a strain match to the 2009-10 northern hemisphere trivalent influenza vaccine

[†] indicates a strain match to the 2010 southern hemisphere trivalent influenza vaccine

Antiviral Resistance

Drug susceptibility testing at the NML between September 1, 2009 and January 7, 2010 indicated that 99% (696/705) of pH1N1 isolates were sensitive to oseltamivir. All influenza B isolates (n=1) and influenza A/H3N2 isolates (n=7) tested were sensitive to oseltamivir, and the 3 seasonal A/H1N1 isolates tested were oseltamivir-resistant. All pH1N1 (n=758), seasonal H1N1 (n=2), A/H3N2 (n=7), and influenza B (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=783) and A/H3N2 (n=15) isolates were resistant to amantadine. Two seasonal H1N1 isolates were sensitive to amantadine, and one was resistant.

Global surveillance has shown that circulating pH1N1 viruses are resistant to amantadine but remain sensitive to zanamivir and oseltamivir, although sporadic cases of oseltamivir resistance have been observed worldwide.

INTERNATIONAL

During week 52 (December 27 – January 2), influenza activity remained low in the United States (<http://www.cdc.gov/flu/weekly/>). Four percent (161/4180) of respiratory specimens tested in reference laboratories were positive for influenza. All subtyped influenza A viruses (92/92) were pH1N1. Influenza B was detected in 4 specimens. The proportion of sentinel physician visits due to ILI decreased to 2.4%.

In Europe, all countries reported declining trends in influenza activity for the week of December 28 – January 3. Twenty-five percent of sentinel laboratory samples were positive for influenza, and all sub-typed specimens were positive for pH1N1. (<http://www.eiss.org>)

Worldwide, pH1N1 continues to be the dominant influenza virus currently circulating. From December 13-19, 87% of influenza detections reported to WHO from various regions of the world were pH1N1; 1% were seasonal influenza A/H1 virus, 2% were A/H3 virus, 8% were non-subtyped influenza A virus, and 3% were influenza B virus. (<http://www.cdc.gov/h1n1flu/updates/international/>)

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Contact Us:

Epidemiology Services : BC Centre for Disease Control (BCCDC)

655 W. 12th Ave, Vancouver BC V5Z 4R4. Tel: (604) 707-2510 / Fax: (604) 707-2516. InfluenzaFieldEpi@bccdc.ca

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

pH1N1: Pandemic H1N1 influenza or swine origin influenza

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: www.phac-aspc.gc.ca/fluwatch/

Washington State Flu Updates: www.doh.wa.gov/ehsphl/epidemiology/CD/HTML/FluUpdate.htm

USA Weekly Surveillance reports: www.cdc.gov/flu/weekly/

European Influenza Surveillance Scheme: www.eiss.org/index.cgi

WHO – Global Influenza Programme: www.who.int/csr/disease/influenza/mission/

WHO – Weekly Epidemiological Record: www.who.int/wer/en/

Influenza Centre (Australia): www.influenzacentre.org/

Australian Influenza Report: www.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-ozflu-flucurr.htm

New Zealand Influenza Surveillance Reports: www.surv.esr.cri.nz/virology/influenza_weekly_update.php

2. Avian Influenza Web Sites

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

World Organization for Animal Health: www.oie.int/eng/en_index.htm

3. Pandemic H1N1 Influenza Web Sites

BCCDC: www.bccdc.ca/dis-cond/a-z/h/HumanSwineFlu/default.htm

BC Provincial Government: <http://www.gov.bc.ca/h1n1/>

BC H1N1 Pandemic Response Plan: <http://www.health.gov.bc.ca/pandemic/response/index.html>

PHAC: www.phac-aspc.gc.ca/alert-alerte/swine_200904-eng.php

US CDC: www.cdc.gov/swineflu/index.htm

WHO: www.who.int/csr/disease/swineflu/en/index.html

4. This Report On-line: www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm

Influenza-Like Illness (ILI) Outbreak Summary Report Form

Please complete and email to ilioutbreak@bccdc.ca or fax to (604) 707-2516

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