

# BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 12, Week 51

December 20-26, 2009



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 51 (December 20-26), surveillance indicators suggested low levels of influenza activity in British Columbia, predominantly due to the pandemic H1N1 (pH1N1) virus. The proportion of patients presenting with ILI to sentinel physicians increased, while Medical Services Plan and BC Children's Hospital indicators showed no appreciable change from the previous week. No ILI outbreaks were reported in schools or facilities. At the BC Provincial Laboratory, 5% (6/132) of respiratory specimens were positive for influenza A, and all sub-typed isolates were pH1N1. Thirty-one percent (8/26) of specimens tested for other respiratory viruses were positive for rhino/enterovirus. Globally, pH1N1 continues to be the predominant influenza virus in circulation, constituting >90% of influenza detections reported to the World Health Organization from December 6-12. Together, surveillance indicators suggest that influenza activity due to pH1N1 in BC has declined since a late October/early November peak and remains at levels similar to the expected range for this time of year.

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Edited: December 30, 2009

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Contributors: Vanita Sahni, Travis Hottes, Naveed Janjua, Danuta Skowronski

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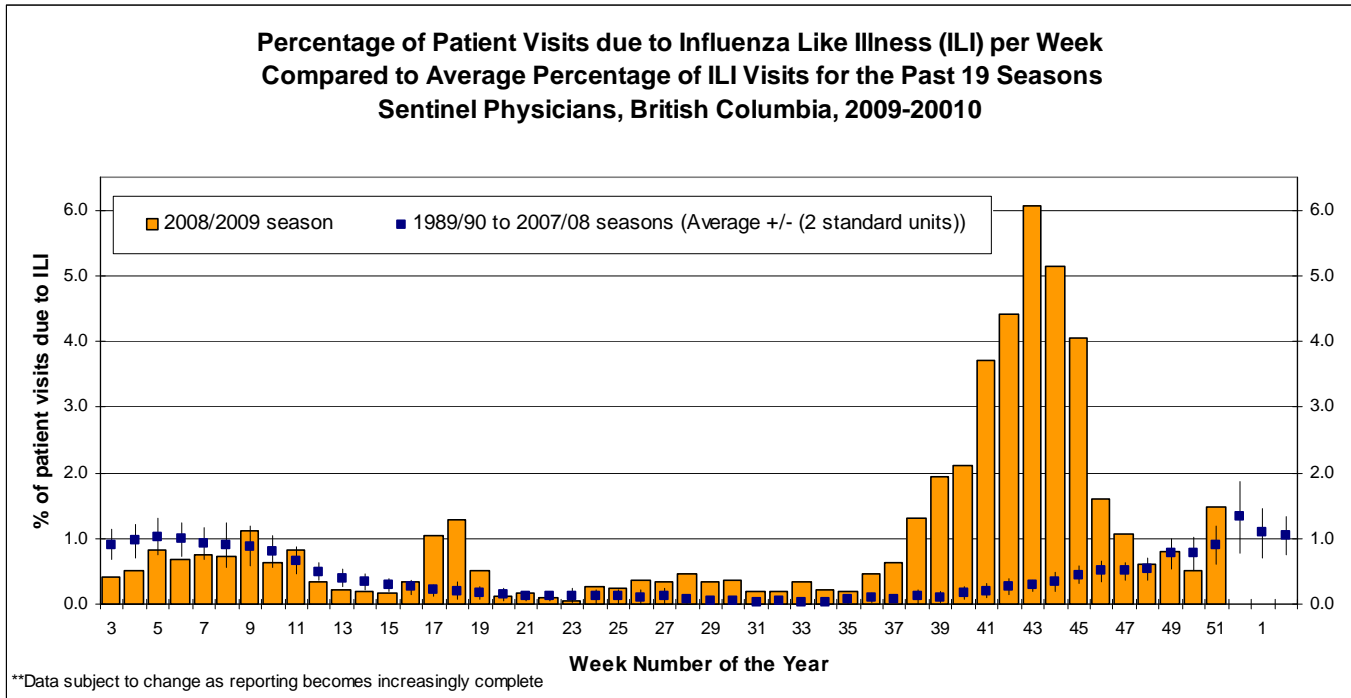
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## British Columbia

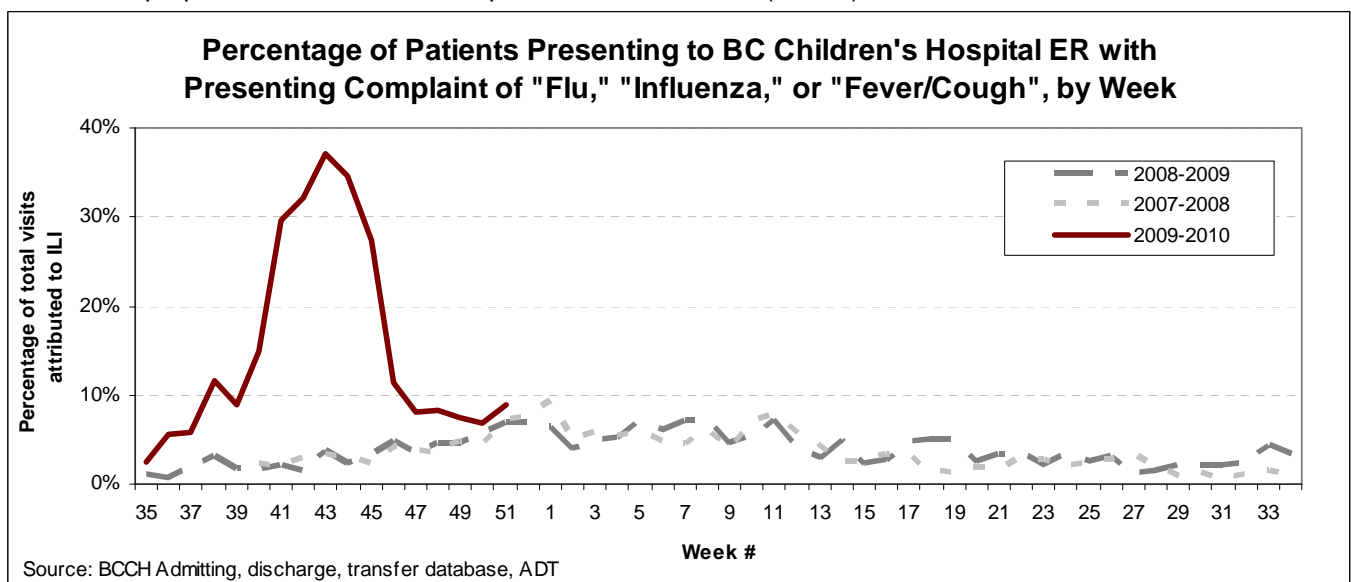
### Sentinel Physicians

During week 51, the percentage of patients presenting to sentinel physicians with ILI increased to 1.5%. Similar variability has been observed historically during weeks 51-52, possibly driven by smaller sample size and changes in the acuteness of patient visits during the holiday period. This level is near the expected range for this time of year. Forty three percent (22/51) of sentinel physician sites reported for week 51.



### BC Children's Hospital Emergency Room

BC Children's Hospital attributed 9% of its Emergency Room visits in week 51 to "fever and cough" or flu-like illness. This proportion is similar to that reported in recent weeks (~7-9%).



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

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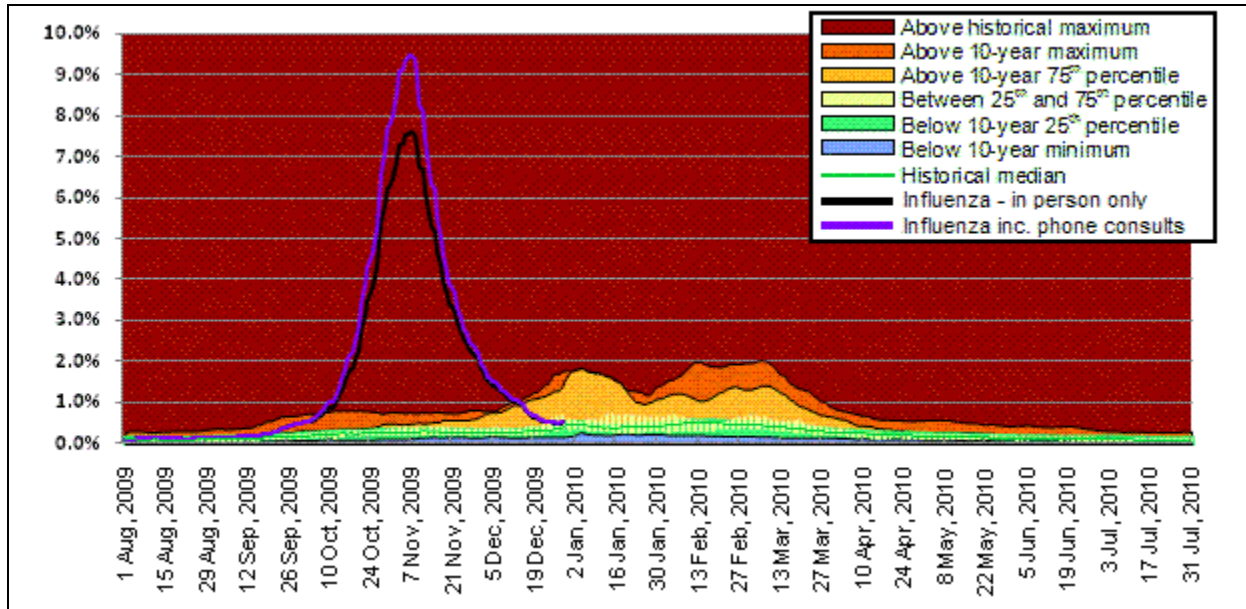
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## Medical Services Plan

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims remained low, consistent with the decrease over the past 6 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**

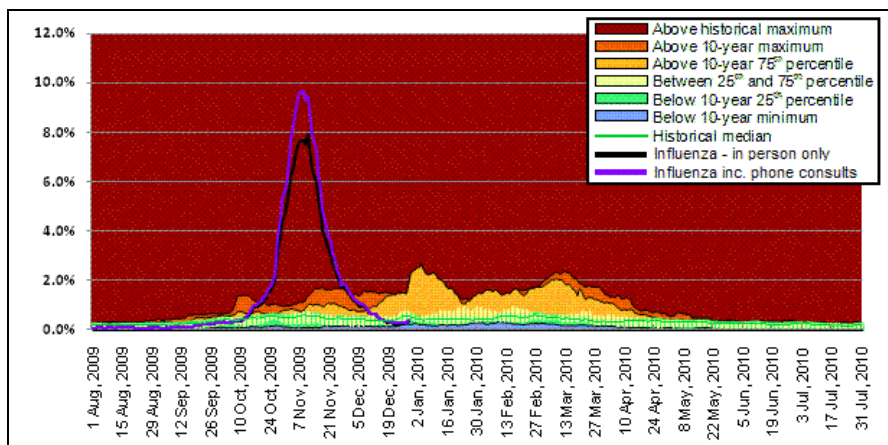


\* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

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

Data current to December 29, 2009

## Northern

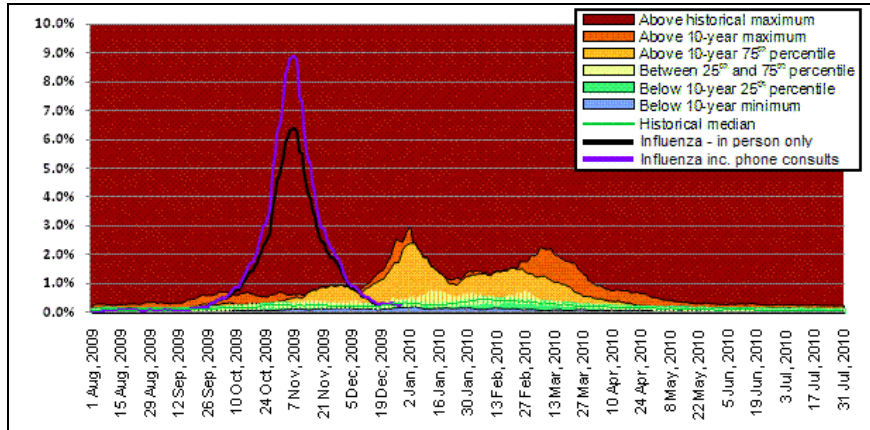


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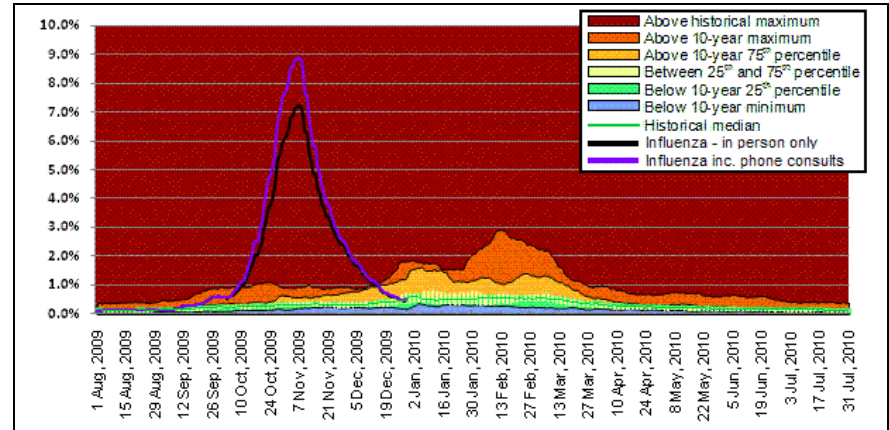
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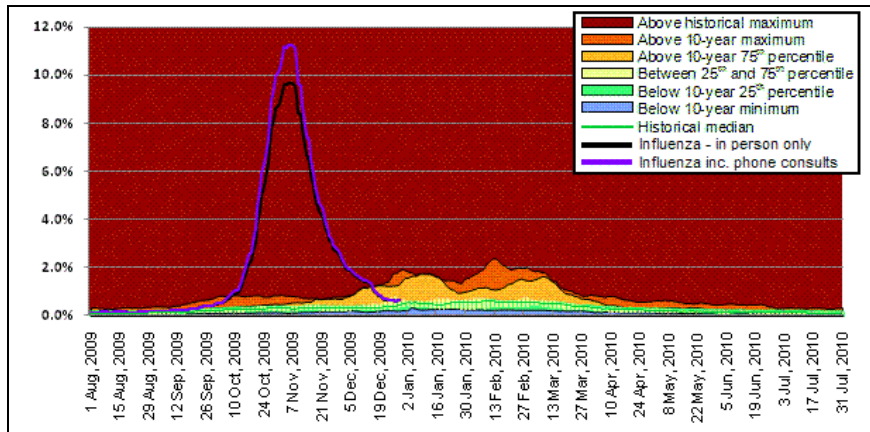
Interior



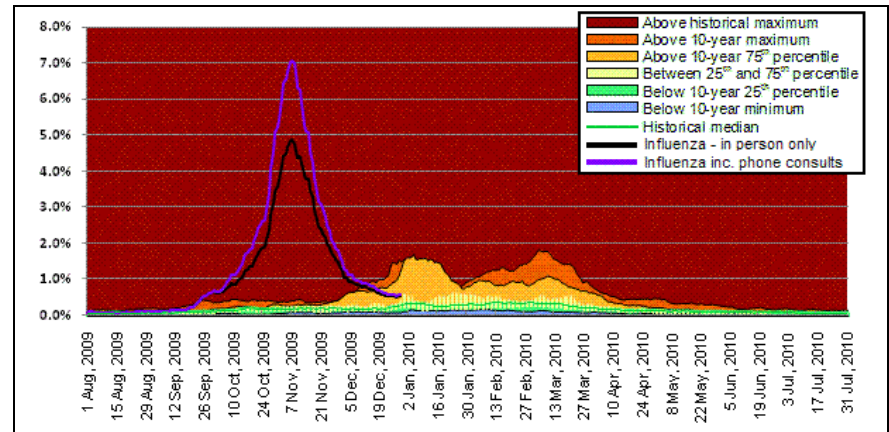
Vancouver Coastal



Fraser



Vancouver Island



# BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

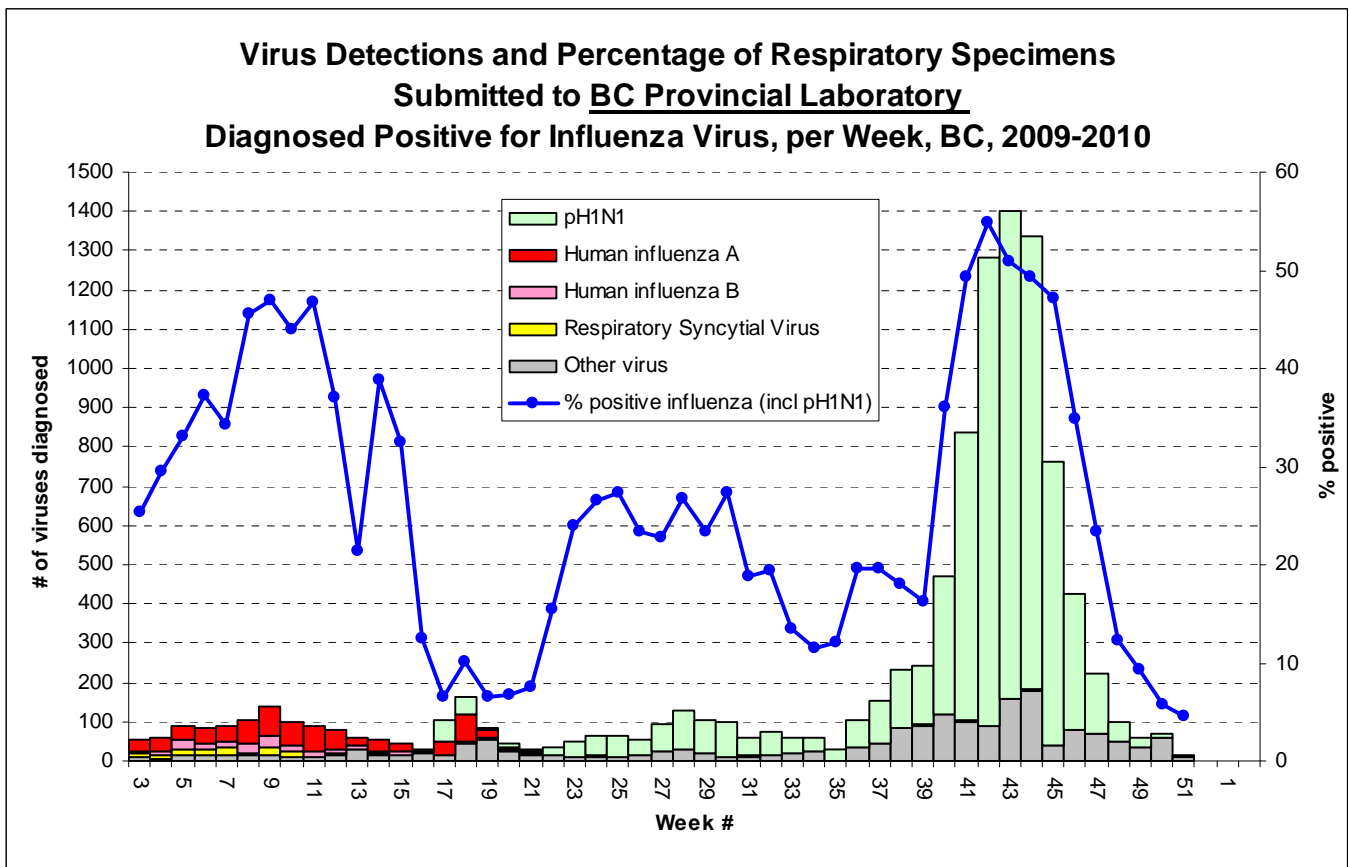
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## Laboratory Reports

One hundred thirty-two respiratory specimens were tested for influenza at the BC Provincial Laboratory in week 51. Six (5%) tested positive for pH1N1; none tested positive for other influenza A or B viruses. This marks a further decrease in laboratory positivity for pH1N1 virus, from 9% in week 49 and 6% in week 50. Since week 35 (September 1, 2009), >99% of all sub-typed influenza A viruses in BC have been pH1N1. In week 51, 26 specimens were tested for other respiratory pathogens, of which 8 (31%) tested positive for rhino/enterovirus. No other respiratory pathogens were detected at the provincial laboratory in week 51.

Virological data from BC Children's and Women's Health Centre Laboratory are not yet available for week 51.

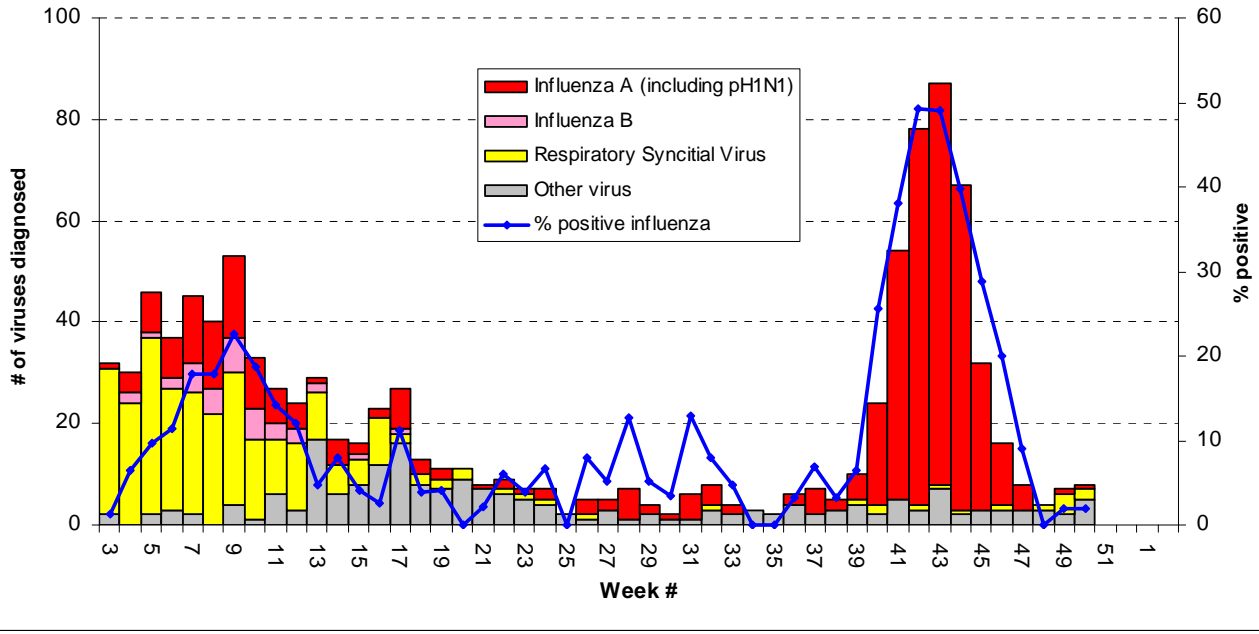


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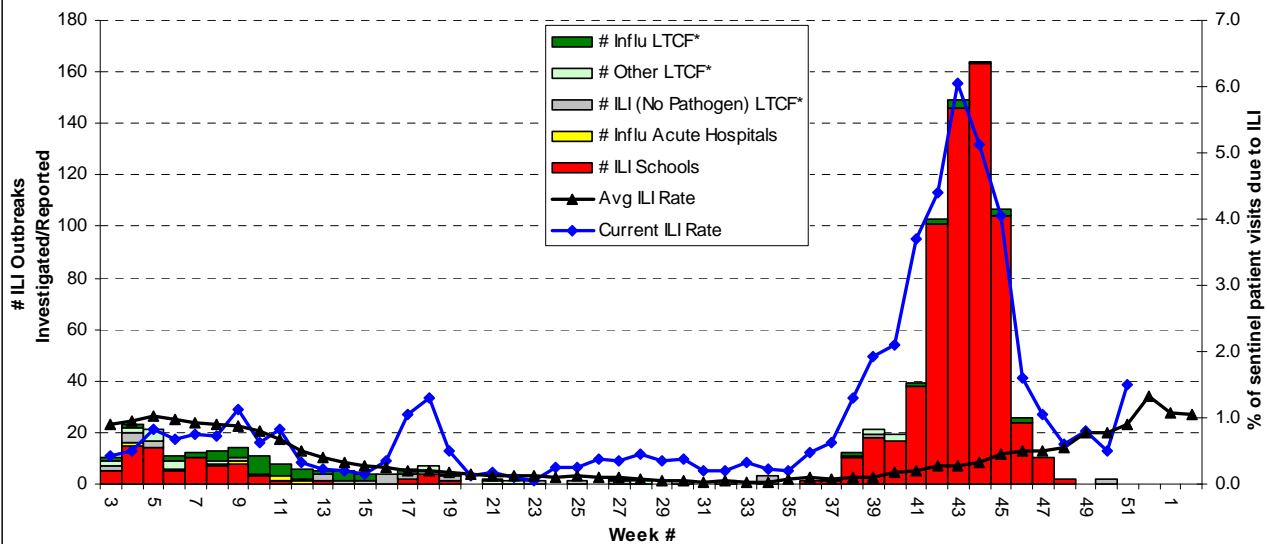
**Virus Detections and Percentage of Respiratory Specimens Submitted to Children and Women's Health Centre Laboratory Diagnosed Positive for a Virus, per Week, British Columbia, 2009-2010**



## ILI Outbreaks

In week 51, no ILI outbreaks were reported in schools or facilities in BC.

**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, 2009-2010**



\* 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

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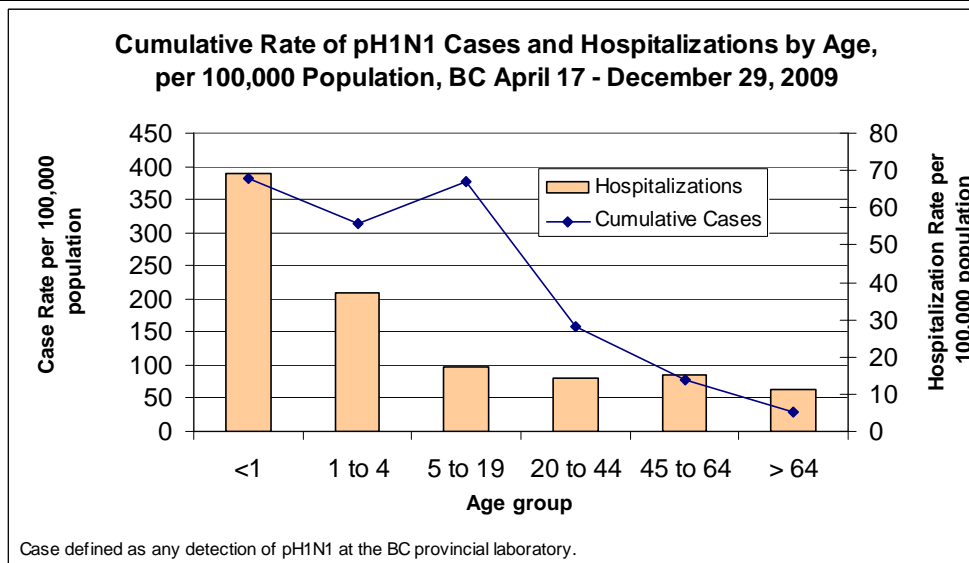
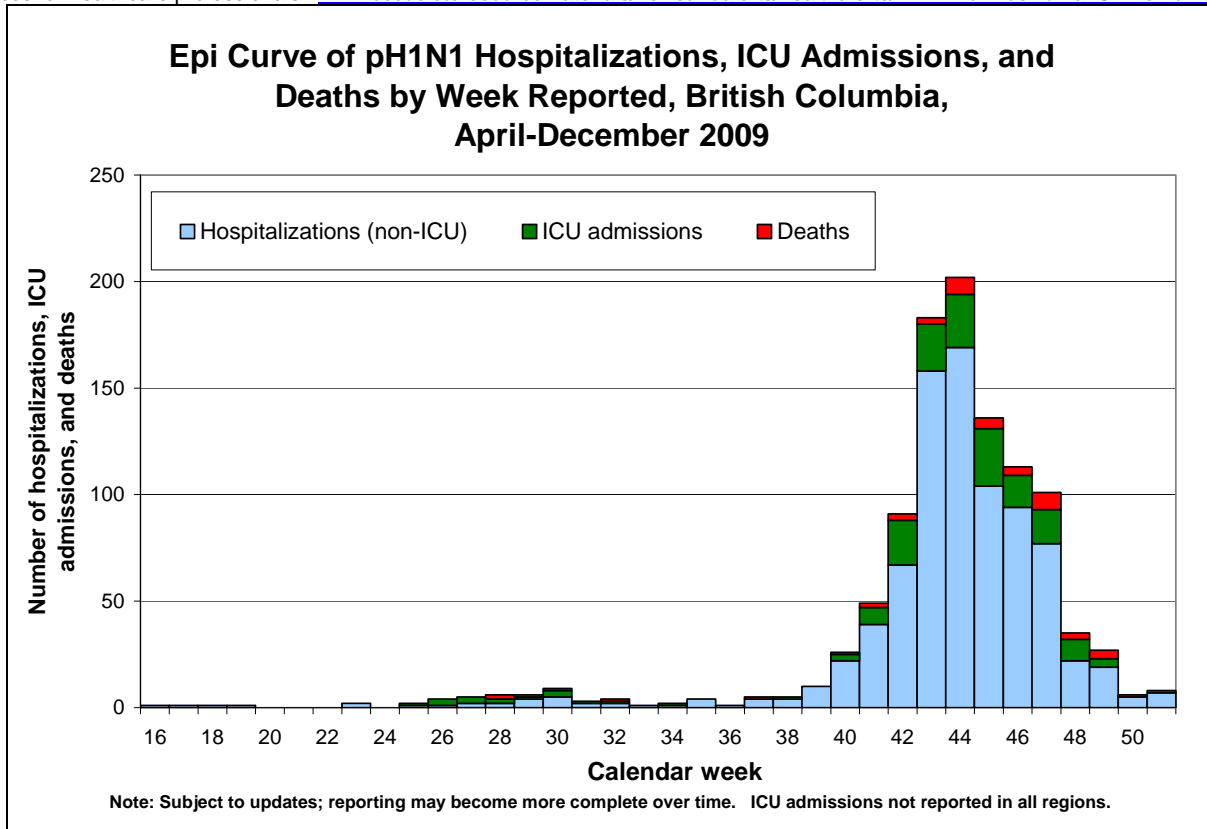
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## Pandemic H1N1 (pH1N1) Severe Outcomes

As of December 29 and since April 2009, 1044 hospitalizations in patients with laboratory-confirmed pH1N1 have been reported in BC, of which 7 were reported in the preceding week. Sixty-five percent of hospitalized cases had at least one reported underlying medical condition (excluding pregnancy). Twenty-seven percent of hospitalized cases have been admitted to the intensive care unit, and 9% have died. As shown in the graph below, pH1N1 total case detection rates have been highest among those under 20 years of age, while hospitalization rates have been highest in those under one year of age.

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



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## CANADA

### **FluWatch**

During week 49, all national influenza activity indicators decreased. Sentinel ILI consultation rates decreased for the sixth consecutive week from ~110 (in week 43) to 18 consultations per 1000 patient visits in week 49, similar to the previous week and within the expected range for this time of year. Seven percent of respiratory specimens tested nationally were positive for influenza, a decline from the previous week. Over 99% of all subtyped influenza A specimens were positive for pH1N1; 1 specimen was positive for H3N2 (QC) and 1 was positive for seasonal H1N1 (ON). One specimen was positive for influenza B (QC). Geographically only four regions in Ontario, New Brunswick, and Newfoundland & Labrador reported localized activity, and none reported widespread activity.

[www.phac-aspc.gc.ca/fluwatch/](http://www.phac-aspc.gc.ca/fluwatch/)

### **National Microbiology Laboratory**

Between September 1<sup>st</sup> and December 24, 2009, 562 influenza isolates (554 pandemic H1N1 and 8 seasonal) were collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):

554 A/California/07/2009 (H1N1)-like<sup>§</sup> from BC, AB, SK, MB, ON, QC, NB, NS, PEI, NT, & NU;

2 A/Brisbane/59/2007 (H1N1)-like<sup>†</sup> from AB & QC;

1 A/Brisbane/10/2007 (H3N2)-like<sup>†</sup> from BC;

4 A/Perth/16/2009 (H3N2)-like<sup>¶</sup> from AB & QC;

1 B/Brisbane/60/2008 (Victoria lineage)-like<sup>†</sup> from ON.

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

<sup>†</sup> indicates a strain match to the 2009-10 northern hemisphere trivalent influenza vaccine

<sup>¶</sup> indicates a strain match to the 2010 southern hemisphere trivalent influenza vaccine

### **Antiviral Resistance**

Drug susceptibility testing at the NML between September 1<sup>st</sup> and December 24<sup>th</sup>, 2009 indicated that most pH1N1 (n=626) isolates were sensitive to oseltamivir, 8 viruses (from MB, ON, QC, & NB) were resistant. 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=619), seasonal H1N1 (n=2), A/H3N2 (n=7) and influenza B (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=665) 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 50 (December 13-19), influenza activity continued to decrease in the United States

(<http://www.cdc.gov/flu/weekly/>). Seven percent of respiratory specimens tested in reference laboratories were positive for influenza, and all subtyped influenza A viruses were pH1N1. One percent of specimens tested positive for influenza B. The proportion of sentinel physician visits for ILI decreased to 2.3%, reaching CDC-defined baseline level. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold for the first time in >10 weeks.

In Europe, most countries reported declining trends in influenza activity for the week of December 14-20. Thirty-three 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 6-12, 91% of influenza detections reported to WHO from various regions of the world were pH1N1; 1% were seasonal influenza A/H1 virus, 1% were A/H3 virus, 6% were non-subtyped influenza A virus, and 2% were influenza B virus. In China, 1934 of 2111 (92%) influenza detections during week 51 (December 20-26) were pH1N1 virus.

(<http://www.cdc.gov/h1n1flu/updates/international/>)



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## Contact Us:

### Epidemiology Services : BC Centre for Disease Control (BCCDC)

655 W. 12<sup>th</sup> Ave, Vancouver BC V5Z 4R4. Tel: (604) 707-2510 / Fax: (604) 707-2516. [InfluenzaFieldEpi@bccdc.ca](mailto: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/](http://www.phac-aspc.gc.ca/fluwatch/)

Washington State Flu Updates: [www.doh.wa.gov/ehsphl/epidemiology/CD/HTML/FluUpdate.htm](http://www.doh.wa.gov/ehsphl/epidemiology/CD/HTML/FluUpdate.htm)

USA Weekly Surveillance reports: [www.cdc.gov/flu/weekly/](http://www.cdc.gov/flu/weekly/)

European Influenza Surveillance Scheme: [www.eiss.org/index.cgi](http://www.eiss.org/index.cgi)

WHO – Global Influenza Programme: [www.who.int/csr/disease/influenza/mission/](http://www.who.int/csr/disease/influenza/mission/)

WHO – Weekly Epidemiological Record: [www.who.int/wer/en/](http://www.who.int/wer/en/)

Influenza Centre (Australia): [www.influenzacentre.org/](http://www.influenzacentre.org/)

Australian Influenza Report: [www.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-ozflu-flucurr.htm](http://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](http://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/](http://www.who.int/csr/disease/avian_influenza/en/)

World Organization for Animal Health: [www.oie.int/eng/en\\_index.htm](http://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](http://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](http://www.phac-aspc.gc.ca/alert-alerte/swine_200904-eng.php)

US CDC: [www.cdc.gov/swineflu/index.htm](http://www.cdc.gov/swineflu/index.htm)

WHO: [www.who.int/csr/disease/swineflu/en/index.html](http://www.who.int/csr/disease/swineflu/en/index.html)

### 4. This Report On-line: [www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm](http://www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm)

# Influenza-Like Illness (ILI) Outbreak Summary Report Form

Please complete and email to [ilioutbreak@bccdc.ca](mailto: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
<b>Total</b>		
<b>With ILI</b>		
<b>Hospitalized</b>		
<b>Died</b>		

## 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
<b>Total</b>		
<b>With ILI</b>		
<b>Hospitalized</b>		
<b>Died</b>		

## SECTION D: Laboratory Information

Specimen(s) submitted?  Yes (location: \_\_\_\_\_)  No  Don't know

If yes, organism identified?  Yes (specify: \_\_\_\_\_)  No  Don't know