

# BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 21, Week 8-9

February 21 – March 6, 2010



BC Centre for Disease Control

An agency of the Provincial Health Services Authority

Prepared by BCCDC Influenza &  
Emerging Respiratory Pathogens Team

## Influenza Activity Below Expected Levels in BC

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### Highlights

As of week 9 (February 28 – March 6), indicators of influenza activity in BC remained below expected levels, while other respiratory viruses continued to circulate. The proportion of patients presenting to sentinel physicians with ILI and the proportion of Medical Services Plan claims for influenza illness both remained lower than expected for this time of year. No influenza outbreaks were reported in weeks 8-9. At the BC Provincial Laboratory, 2% (4/260) of respiratory specimens tested between February 21 and March 8 were positive for pH1N1, while 18% of specimens tested for other respiratory viruses were positive for human metapneumovirus, 15% for RSV, and 11% for rhino/enterovirus. Of 202 specimens tested at BC Children's Hospital Laboratory during weeks 8-9, none were positive for influenza, and 43% were positive for RSV. Acute respiratory illness for which respiratory virus testing is sought in BC continues to be more likely due to a non-influenza cause. While pH1N1 activity levels remain low or continue to decline in most regions of the world, an increasing contribution of influenza B viruses has been reported in recent weeks in parts of Asia. Monitoring for possible seasonal/pandemic influenza resurgence in BC continues.

*Report written & disseminated: March 10, 2010*

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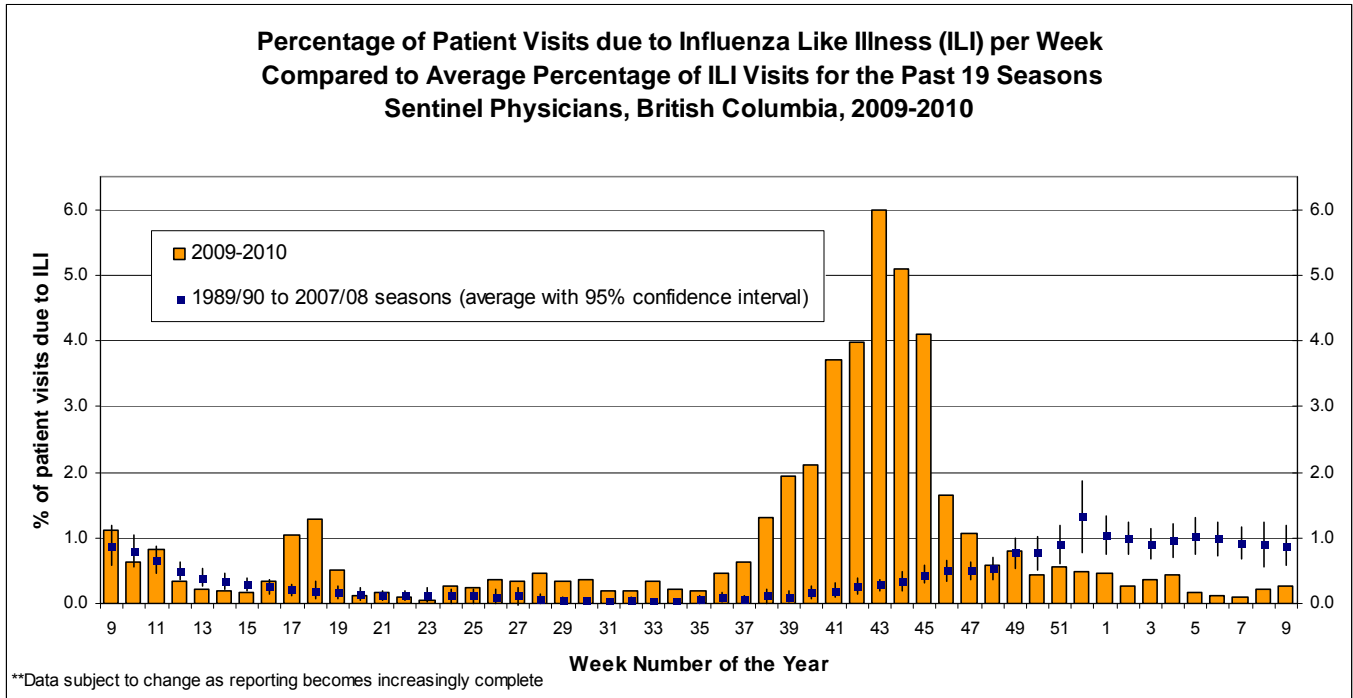
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## British Columbia

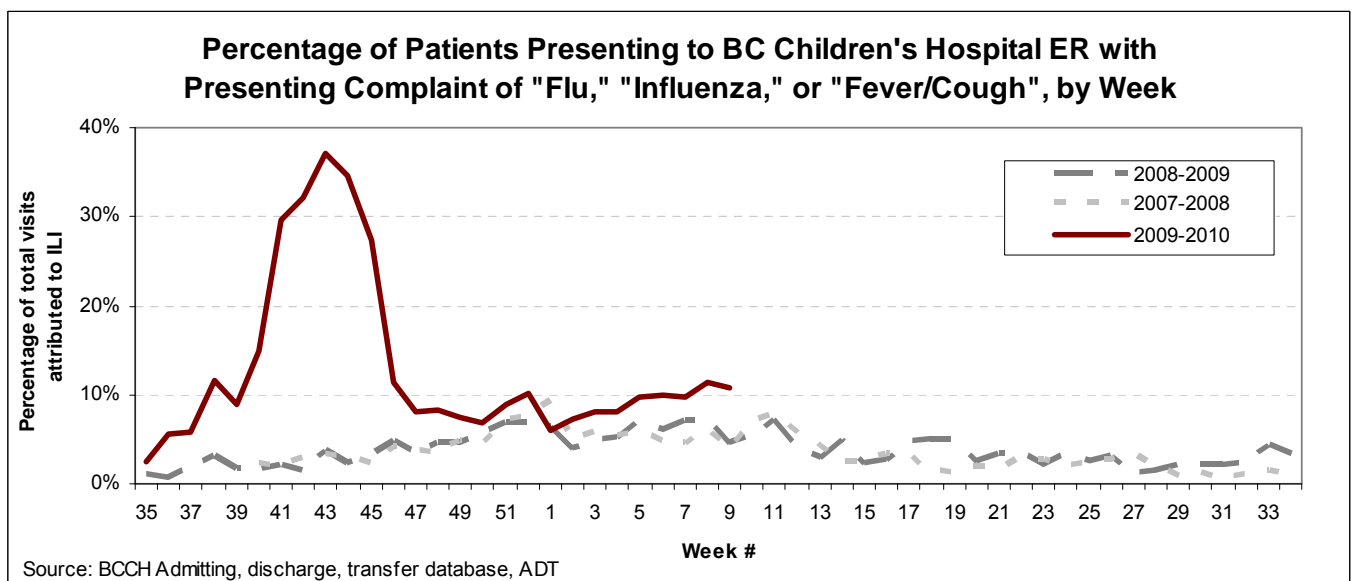
### Sentinel Physicians

During week 9, 0.27% of patients presenting to sentinel physicians had ILI, which is well below the expected range for this time of year. Forty-nine percent (25/51) of sentinel physician sites have reported to-date for week 9.



### BC Children's Hospital Emergency Room

The percentage of ER visits attributed to "fever and cough" or flu-like illness at BC Children's Hospital has gradually increased from 6% in week 1 to 11% in week 9. This increase may be at least partly explained by a corresponding increase in RSV detections at BC Children's Hospital, as shown in the graph on page 6.



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

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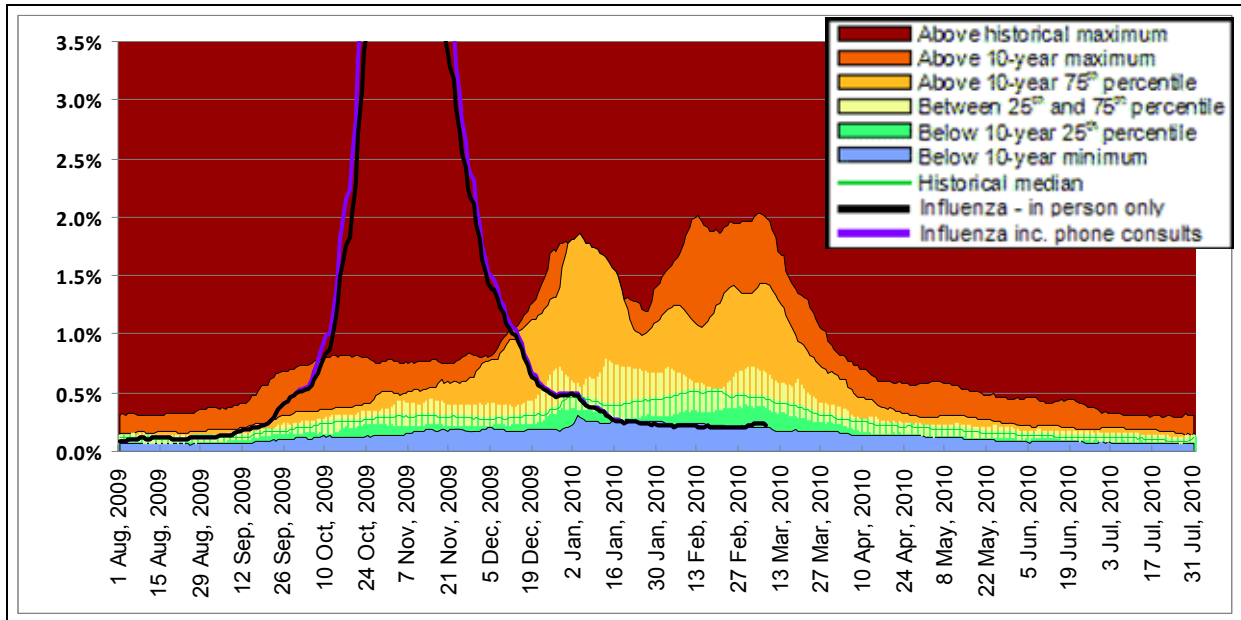
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## Medical Services Plan

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 few months, and below the expected range for this time of year. Proportions in all 5 RHAs remain at or below the 10-year minimums. To better reveal current low-level trends, the ~9% peak in MSP claims of late October/early November is not shown in the graphs below (consult earlier bulletins).

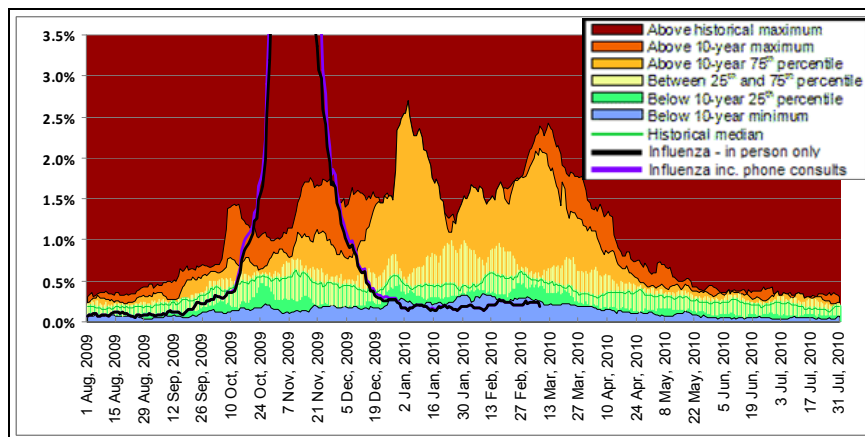
Influenza Illness Claims\* British Columbia



\* 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 March 8, 2010

## Northern

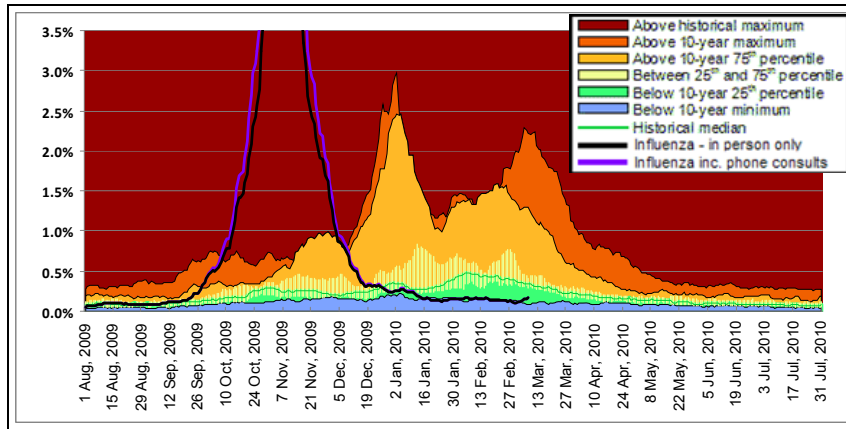


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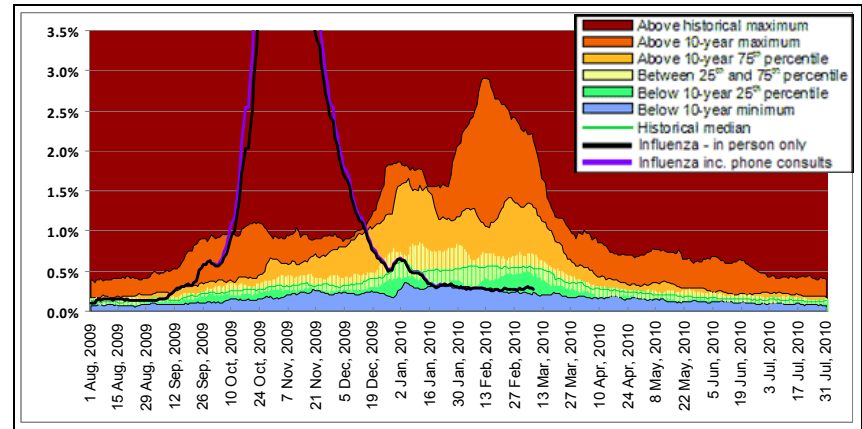
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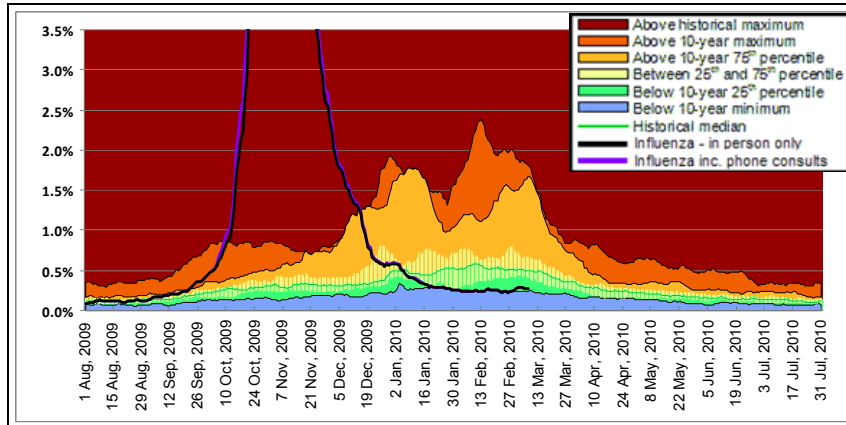
**Interior**



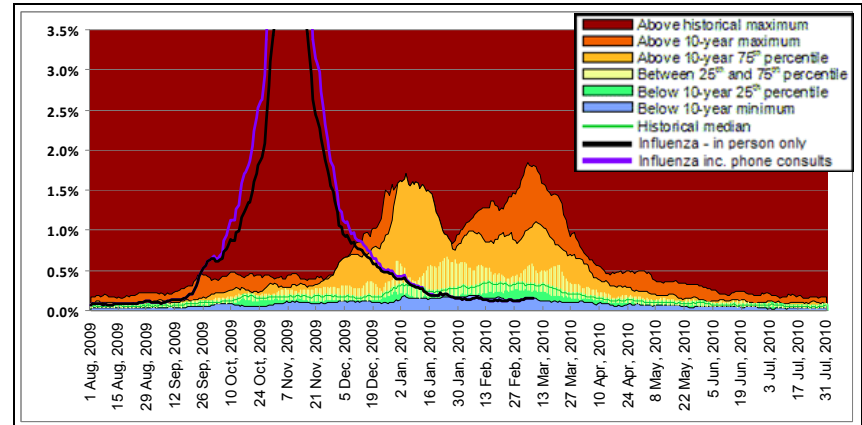
**Vancouver Coastal**



**Fraser**



**Vancouver Island**



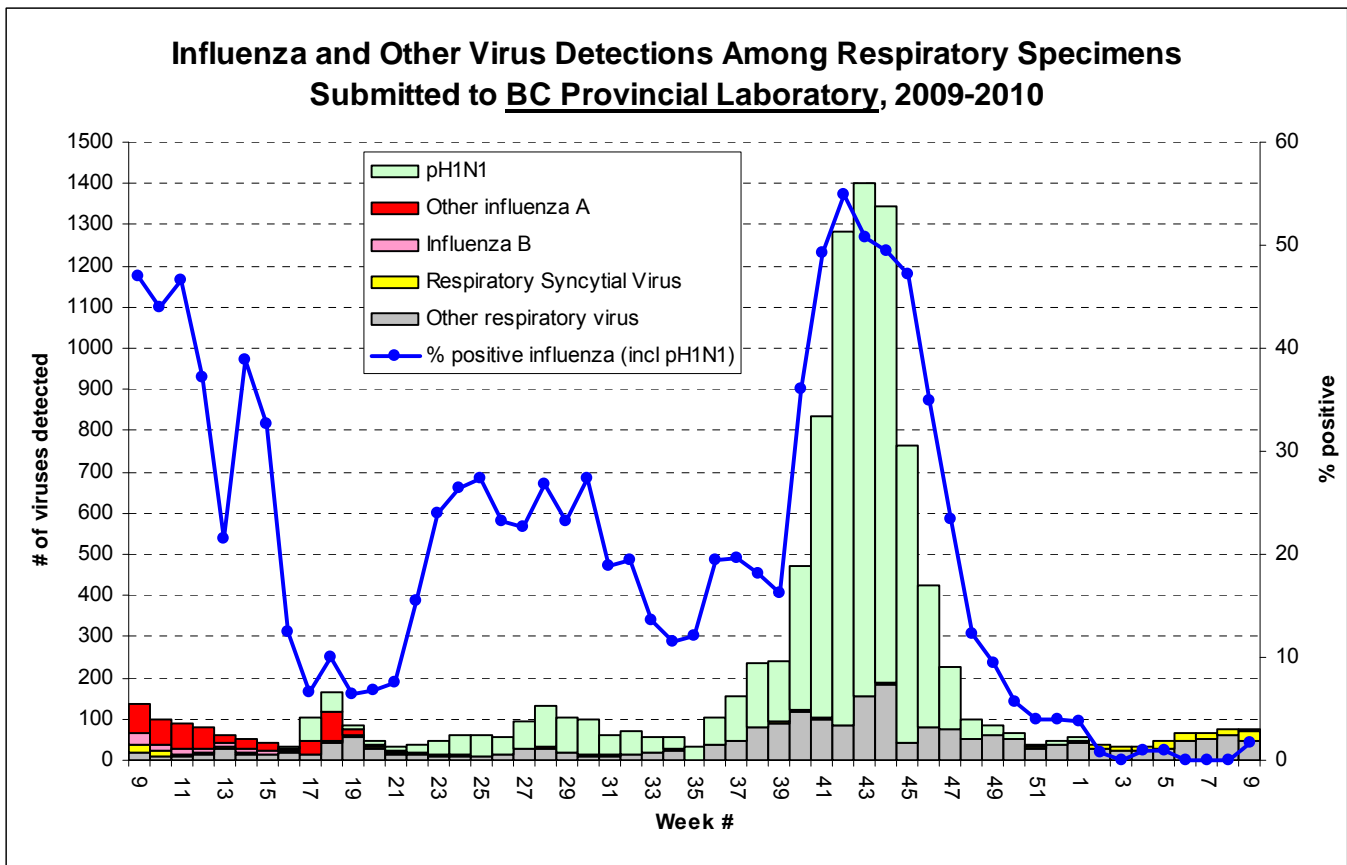
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## Laboratory Reports

Of 260 respiratory specimens tested for influenza between February 21 and March 8, 4 (2%) were positive for pH1N1. Since week 35 (September 1, 2009), >99% of all influenza detections in BC have been pH1N1. Detections of other seasonal influenza viruses over the same period have been limited to-date (29 out of 6558 influenza detections in total). In weeks 8-9, 260 specimens were tested for other respiratory pathogens, of which 46 (18%) tested positive for human metapneumovirus, 38 (15%) for RSV, 28 (11%) for rhino/enterovirus, 16 (6%) for parainfluenza, 10 (4%) for coronavirus, 6 (2%) for adenovirus, and 3 (1%) for human bocavirus. Thus, acute respiratory illness in BC for which a specimen is collected continues to be more likely due to a cause other than influenza. BCCDC will continue to monitor for additional cases of influenza to assess for any further signal of community transmission.

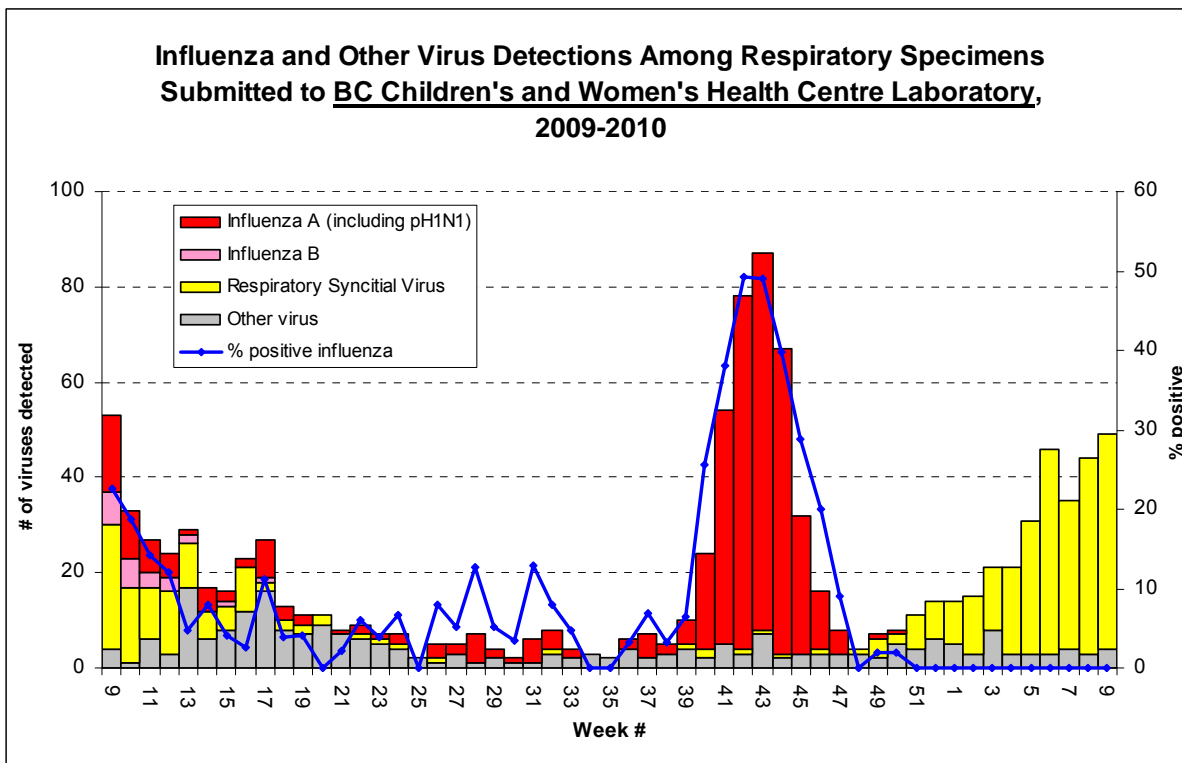


During weeks 8-9, BC Children's and Women's Health Centre Laboratory tested 202 respiratory specimens. None were positive for influenza. Eighty-six (43%) specimens tested positive for RSV, 5 (2%) for parainfluenza, and 2 (1%) for adenovirus.

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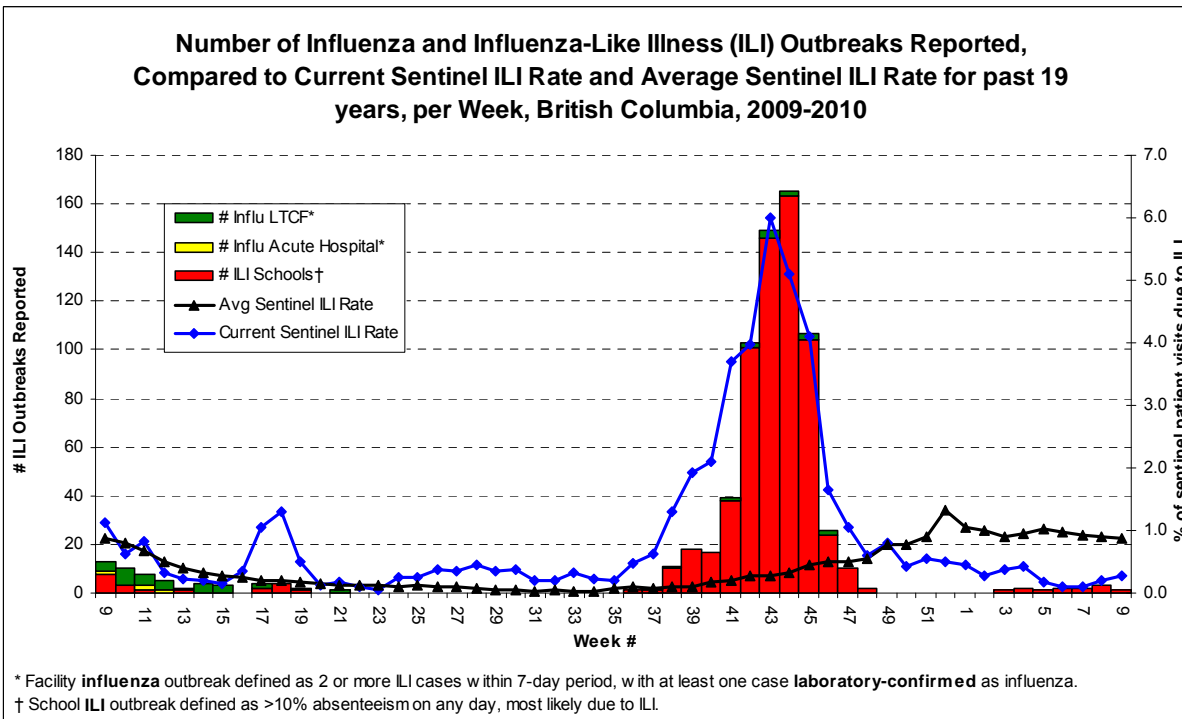
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## ILI Outbreaks

In weeks 8-9, no lab-confirmed influenza outbreaks were reported in facilities in BC. Four ILI outbreaks were reported in schools. Note that reports of school ILI outbreaks are based on symptoms, do not require laboratory-confirmation, and may therefore reflect illness due to other unidentified respiratory viruses or other causes.



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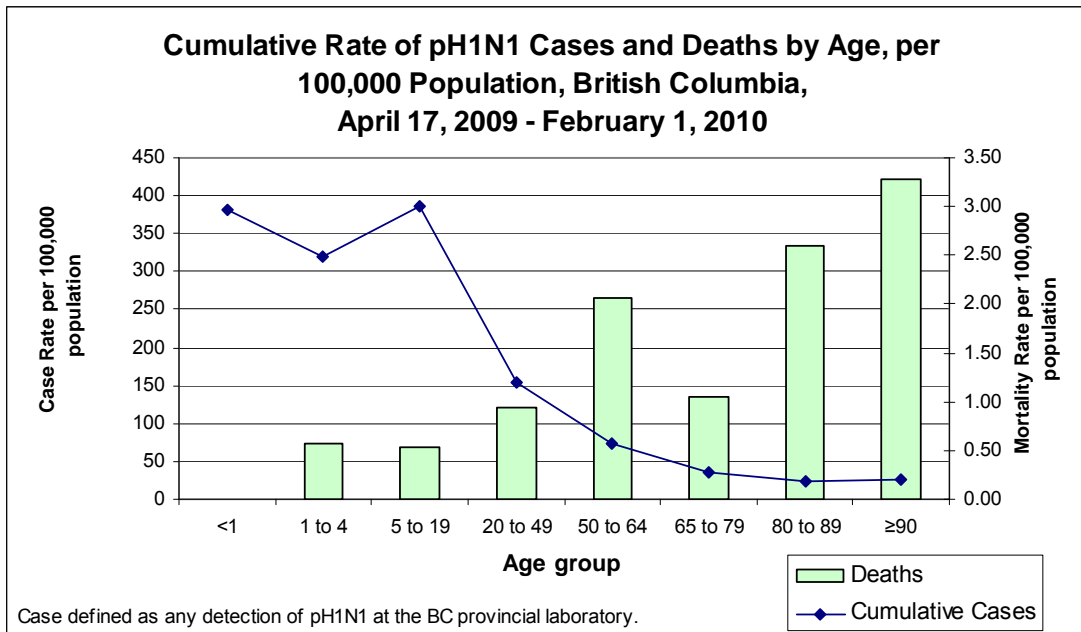
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## Pandemic H1N1 (pH1N1) Severe Outcomes

No additional hospitalizations or deaths in patients with laboratory-confirmed pH1N1 were reported in weeks 8-9. More than 1000 pH1N1 hospitalizations and >50 pH1N1 deaths were reported in the province between April 2009 and February 2010. Sixty-six percent of hospitalized cases had at least one reported underlying medical condition (excluding pregnancy). Twenty-five percent of hospitalized cases were admitted to the intensive care unit, and 8% 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](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)



## CANADA

### FluWatch

During week 8 (February 21-27), influenza activity in Canada remained low. The sentinel ILI consultation rate was 10 per 1000 patient visits, which is well below the expected range for this time of year. Less than one percent of respiratory specimens tested nationally were positive for influenza, compared to 24% positivity for RSV. Of the 7 influenza detections reported nationally, 5 were pH1N1 (ON and QC), 1 was non-subtyped influenza A virus, and 1 was influenza B (QC).

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

### National Microbiology Laboratory

Between September 1, 2009 and March 4, 2010, 851 influenza isolates (835 pandemic H1N1 and 16 seasonal influenza) were collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):

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

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

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

8 A/Perth/16/2009 (H3N2)-like<sup>‡</sup> from BC, AB, & QC;

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

1 B/Florida/04/2006 (Yamagata lineage)-like\* from QC.

<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 recommended H3N2 component of the 2010-11 northern hemisphere trivalent influenza vaccine

\* indicates a strain match to the influenza B component of the 2008-09 northern hemisphere trivalent influenza vaccine

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## Antiviral Resistance

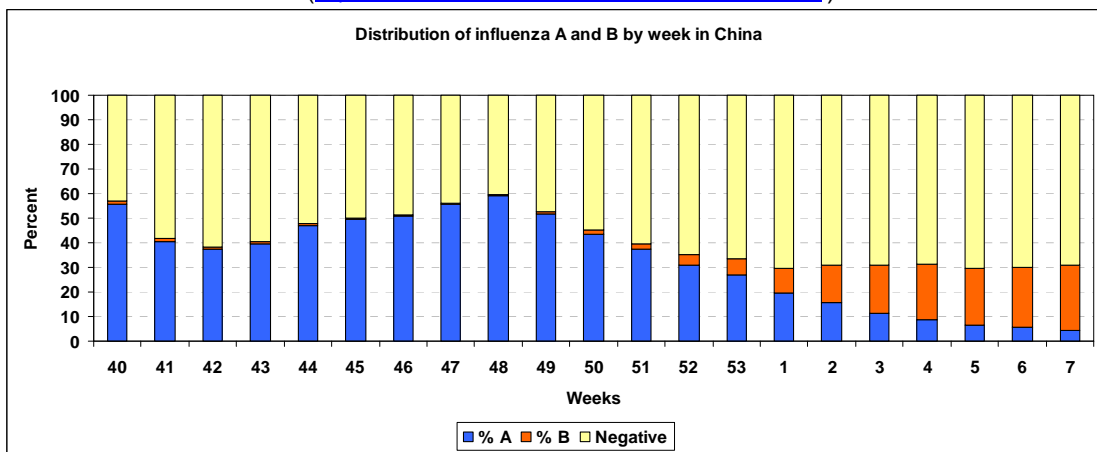
Drug susceptibility testing at the NML between September 1, 2009 and March 4, 2010 indicated that 99% (1052/1064) of pH1N1 isolates were sensitive to oseltamivir. All influenza B isolates (n=1) and influenza A/H3N2 isolates (n=13) tested were sensitive to oseltamivir, and the 6 seasonal A/H1N1 isolates tested were oseltamivir-resistant. All pH1N1 (n=1042), seasonal H1N1 (n=2), A/H3N2 (n=13), and influenza B (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=1121) and A/H3N2 (n=24) isolates were resistant to amantadine. Four 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 8 (February 21-27), influenza activity remained low in the United States ([www.cdc.gov/flu/weekly/](http://www.cdc.gov/flu/weekly/)). Six percent (263/4128) of respiratory specimens tested in reference laboratories were positive for influenza. Ninety-nine percent (195/196) of subtyped influenza A viruses were pH1N1. One influenza A/H3 virus and 1 influenza B virus were detected. The proportion of sentinel physician visits due to ILI remained low (1.7%) and below the national baseline.

In Europe, nearly all countries reported low-level influenza activity for the week of February 22-28. Six percent of sentinel laboratory samples were positive for influenza, a further decrease from the previous week. Of 26 sentinel influenza detections across Europe from February 22-28, 1 was influenza B, 25 were influenza A, and all (18) of the sub-typed influenza A viruses were pH1N1. ([www.eiss.org](http://www.eiss.org))

Globally, 41% (365/898) of the influenza detections reported to WHO from February 14-20, 2010 were influenza A, and of those sub-typed, 75% (243/365) were pH1N1. Influenza B activity has been increasing in recent weeks in various countries in Asia, including China, Mongolia, Japan, Hong Kong, and parts of Southeast Asia. Of the influenza B viruses which were further characterized in recent weeks in China, the majority belonged to the Victoria lineage (i.e., matching lineage of 2009-10 vaccine influenza B component). In temperate regions of the southern hemisphere, sporadic cases of pH1N1 continue to be detected; however, sustained community transmission has not been observed in recent weeks. ([http://www.who.int/csr/don/2010\\_03\\_05/en/index.html](http://www.who.int/csr/don/2010_03_05/en/index.html))



Data source: FluNet World Health Organization, <http://gamapserver.who.int/GlobalAtlas/home.asp> Accessed: March 10, 2010

## WHO Recommendations for 2010-11 Northern Hemisphere Influenza Vaccine

On February 18, the WHO announced the recommended strain components for the 2010-11 Northern Hemisphere trivalent influenza vaccine:

- A/California/7/2009 (H1N1)-like virus
- A/Perth/16/2009 (H3N2)-like virus
- B/Brisbane/60/2008 (Victoria lineage)-like virus

A/California/7/2009 (H1N1) is the recommended component for pandemic H1N1 vaccines produced and administered in 2009-10. The recommended H3N2 virus has changed from the previous year's vaccine (A/Brisbane/10/2007), while the recommended B virus remains unchanged (B/Brisbane/60/2008). For further details, see: [www.who.int/csr/disease/influenza/recommendations2010\\_11north/en/index.html](http://www.who.int/csr/disease/influenza/recommendations2010_11north/en/index.html)

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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

**HBoV:** Human bocavirus

**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

**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: <http://www.doh.wa.gov/FLUNews/>

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

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

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:

<http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflu2009.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: [www.gov.bc.ca/h1n1/](http://www.gov.bc.ca/h1n1/)

BC H1N1 Pandemic Response Plan: [www.health.gov.bc.ca/pandemic/response/index.html](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)

