

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 17, Week 04

January 24-30, 2010



BC Centre for Disease Control

An agency of the Provincial Health Services Authority

Prepared by BCCDC Influenza &
Emerging Respiratory Pathogens Team

Continued Low Level Influenza Activity in BC

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Highlights

In week 4 (January 24-30), surveillance indicators continued to suggest low levels of influenza activity in the province. The proportion of patients presenting to sentinel physicians with ILI and Medical Services Plan claims for influenza illness both remained lower than expected for this time of year. Two ILI outbreaks were reported in schools in IHA; no influenza outbreaks were reported in facilities. At the BC Provincial Laboratory, one of 98 respiratory specimens tested was positive for pH1N1, while 49% (19/39) of specimens tested for other respiratory viruses were positive for RSV (7), human metapneumovirus (5), rhino/enterovirus (3), coronavirus (3), or parainfluenza (1). Of 62 specimens tested at BC Children's Hospital Laboratory, none were positive for influenza, 18 (29%) were positive for RSV, 2 (3%) for parainfluenza, and 1 (2%) for adenovirus. Thus, currently, acute respiratory illness for which respiratory virus testing is sought in BC is more likely to be due to a non-influenza cause. Globally, pH1N1 continues to be the predominant influenza virus in circulation, with increasing contribution of influenza B viruses reported in recent weeks in China. Monitoring for possible seasonal/pandemic influenza resurgence in BC continues.

Report written & disseminated: February 3, 2010

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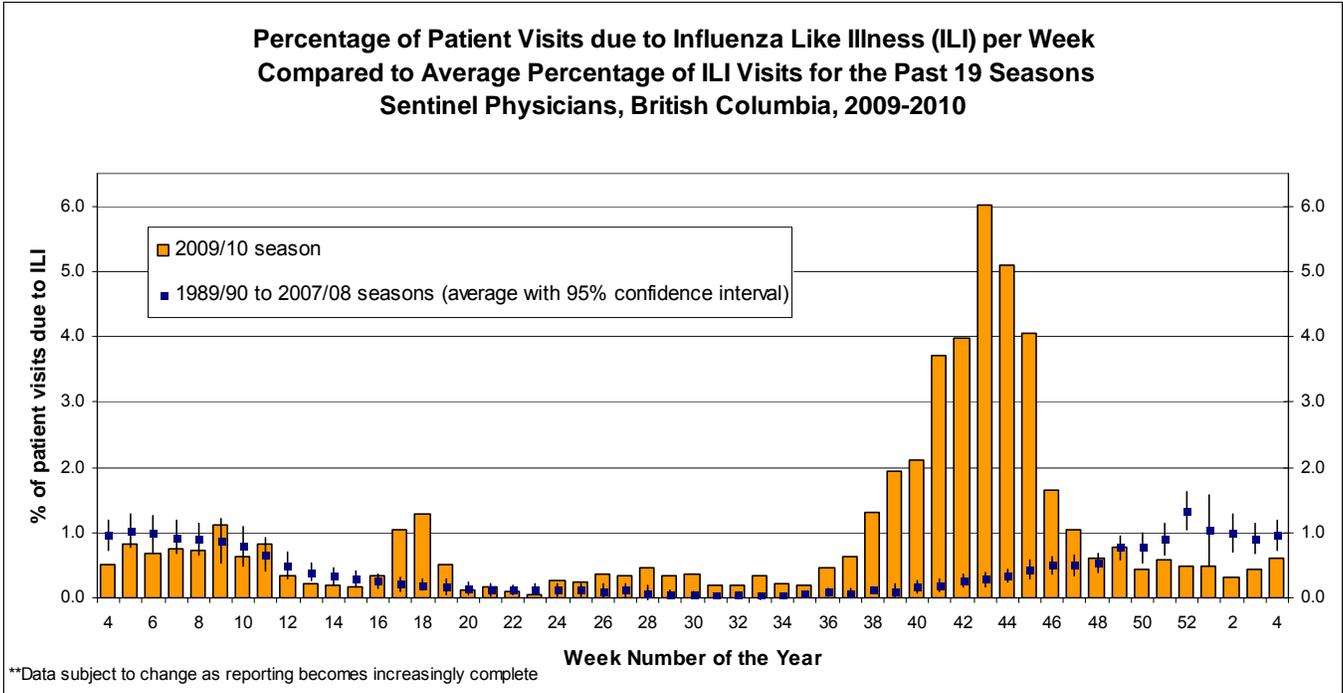
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British Columbia

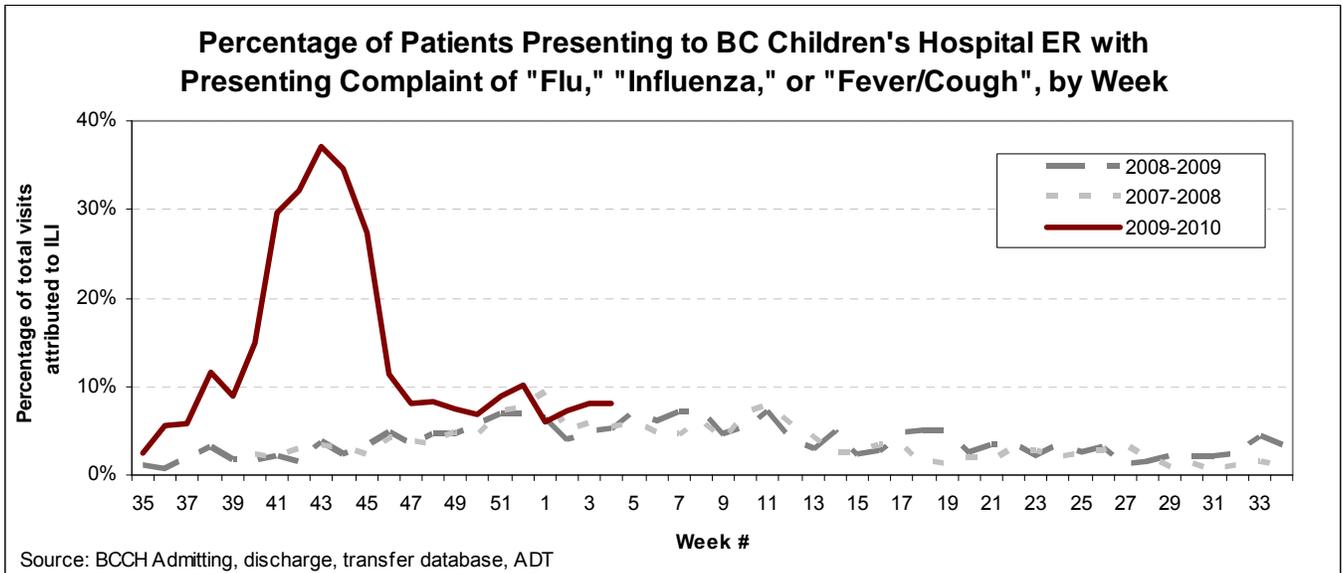
Sentinel Physicians

During week 4, 0.6% of patients presenting to sentinel physicians had ILI, which is below the expected range for this time of year. Fifty-three percent (27/51) of sentinel physician sites have reported to-date for week 4.



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 during week 4 remained comparable to previous weeks (8.1%).



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

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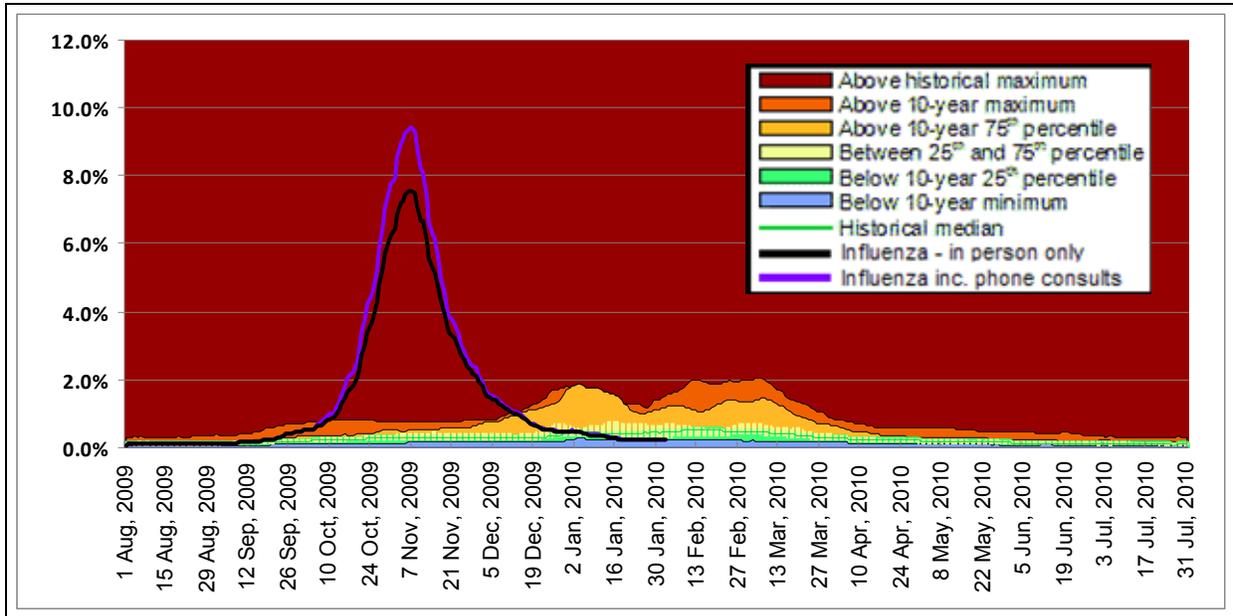
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Medical Services Plan

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 few months, within the expected range for this time of year, and bordering on the 10-year minimum. Proportions in all 5 RHAs remain below the historical medians. 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

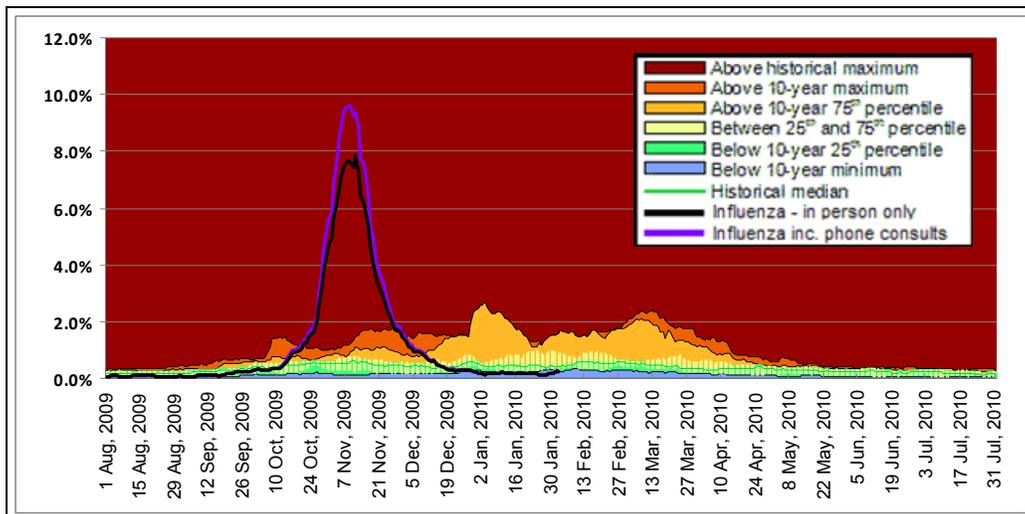


* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

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

Data current to February 2, 2010

Northern

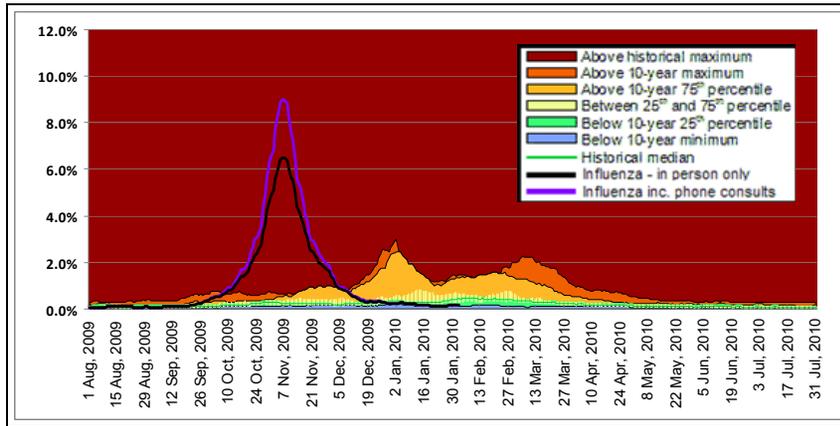


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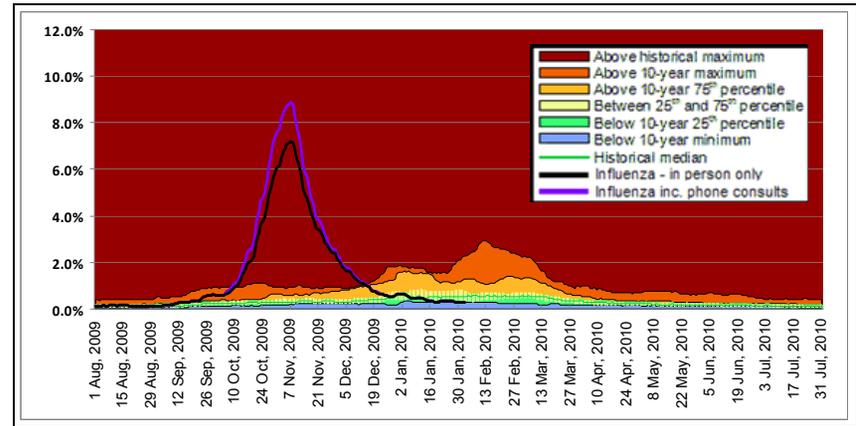
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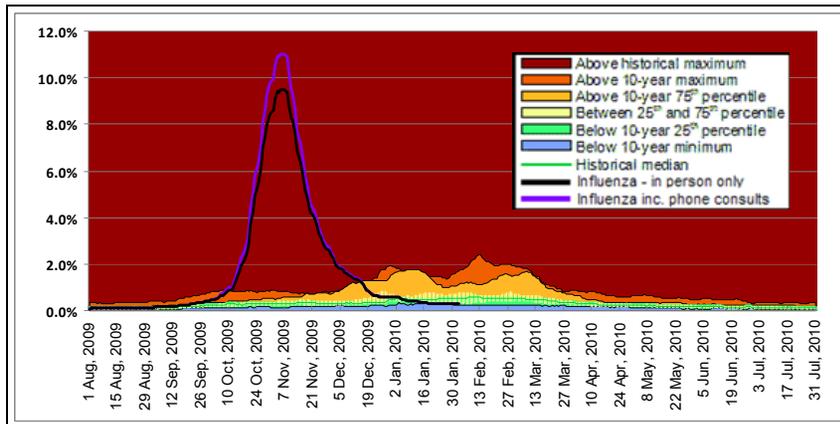
Interior



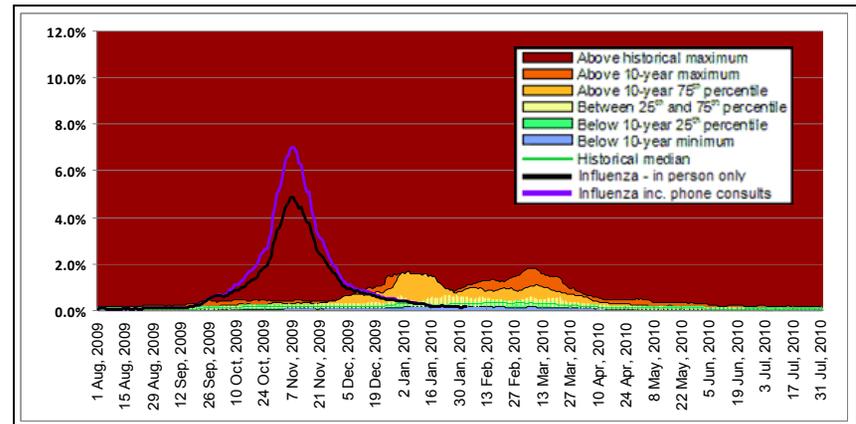
Vancouver Coastal



Fraser



Vancouver Island



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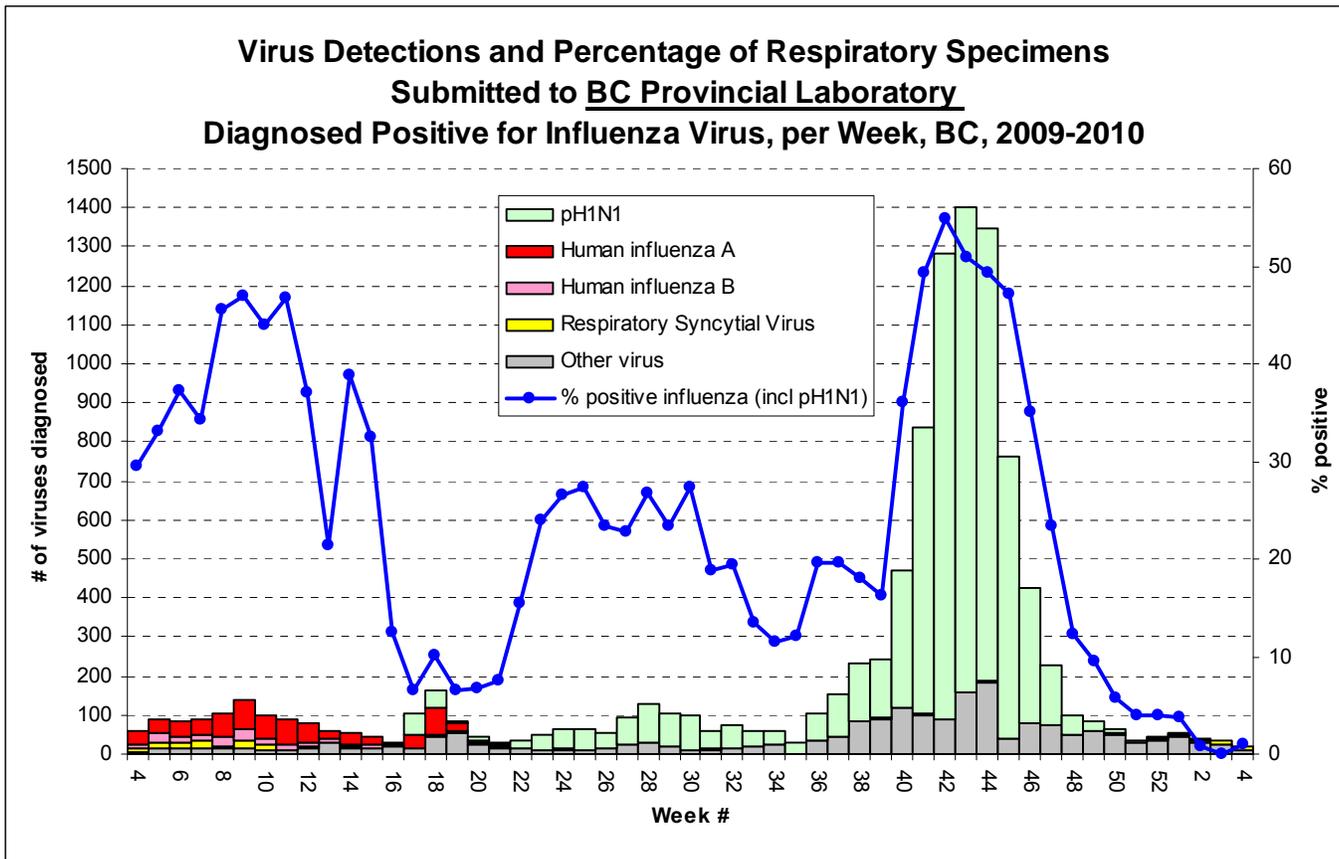
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Laboratory Reports

Ninety eight respiratory specimens were tested for influenza at the BC Provincial Laboratory in week 4. One (1%) was positive for pH1N1; none were positive for other influenza viruses. Since week 35 (September 1, 2009), >99% of all influenza detections in BC have been pH1N1. In week 4, 39 specimens were tested for other respiratory pathogens, of which 7 (18%) tested positive for RSV, 5 (13%) for human metapneumovirus, 3 (8%) for coronavirus, 3 (8%) for rhino/enterovirus, and 1 (3%) for parainfluenza. Currently, acute respiratory illness in BC for which a respiratory specimen is collected is more likely to be due to a cause other than influenza.

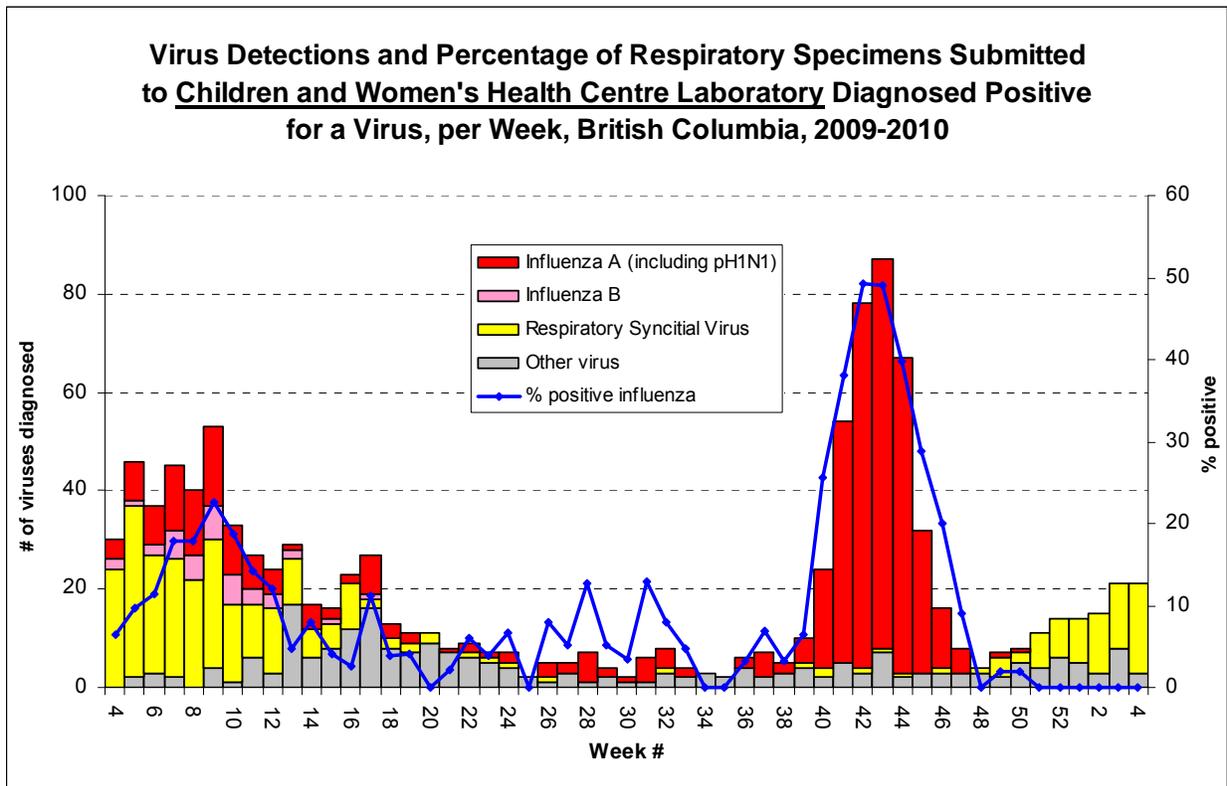
During week 4, BC Children's and Women's Health Centre Laboratory tested 62 respiratory specimens. None were positive for influenza. Sixteen (26%) specimens tested positive for RSV, 2 (3%) for parainfluenza, and 1 (2%) for adenovirus.



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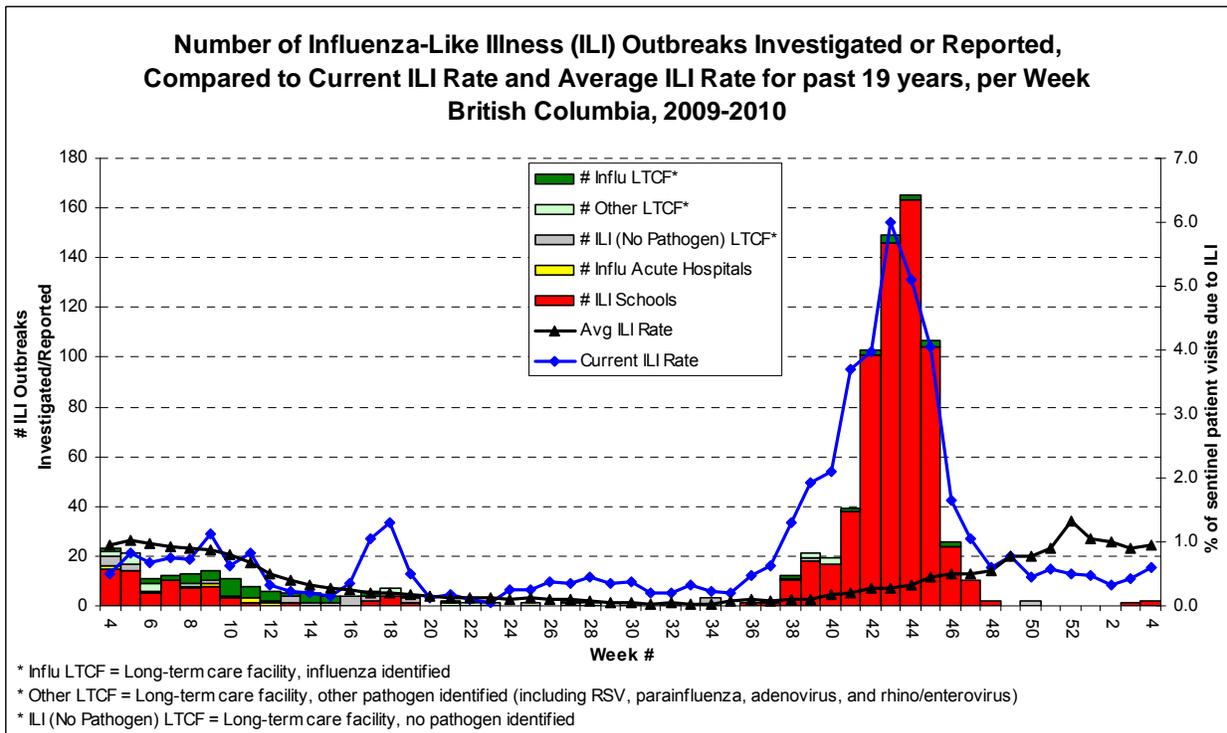
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ILI Outbreaks

In week 4, two ILI outbreaks were reported in schools in IHA. No lab-confirmed influenza outbreaks were reported in facilities in BC.



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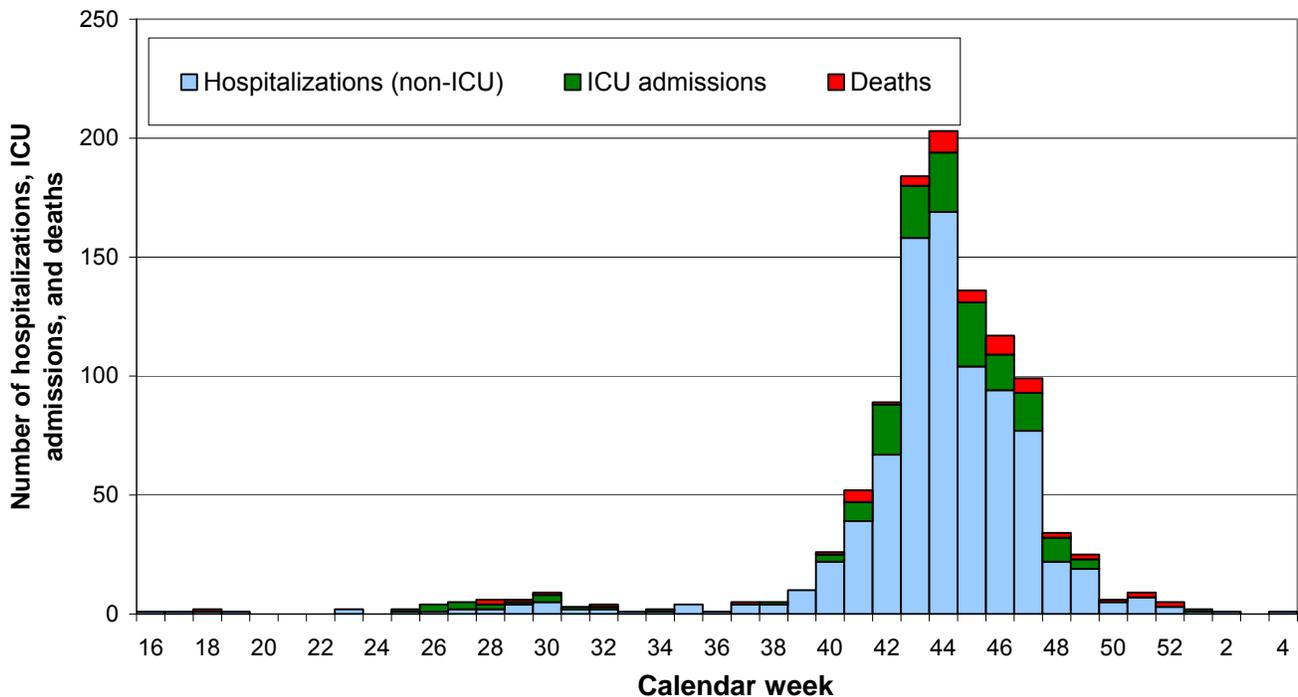
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Pandemic H1N1 (pH1N1) Severe Outcomes

As of February 1, 2010, and since April 2009, 1059 hospitalizations in patients with laboratory-confirmed pH1N1 have been reported in BC, one of which was reported in week 4. Sixty-six percent of hospitalized cases had at least one reported underlying medical condition (excluding pregnancy). Twenty-five percent of hospitalized cases have been admitted to the intensive care unit, and 8% have died. As shown in the mortality graph on the next page, 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

Epi Curve of pH1N1 Hospitalizations, ICU Admissions and Deaths by Week Reported, British Columbia, April 2009 - February 2010



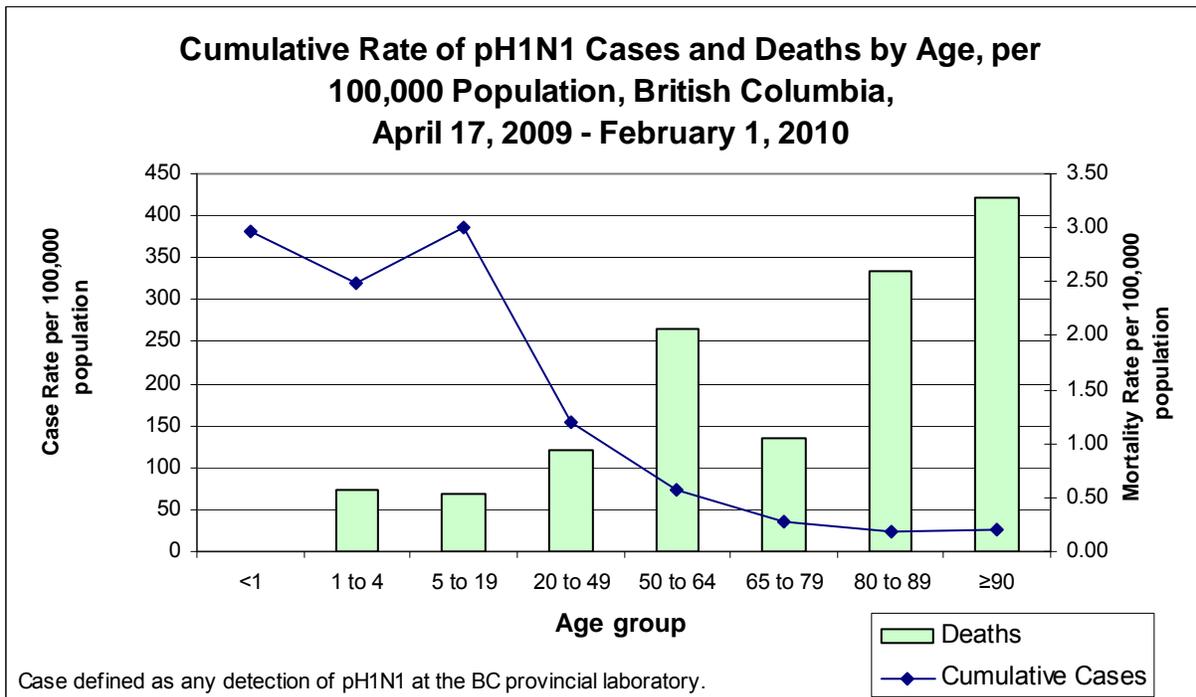
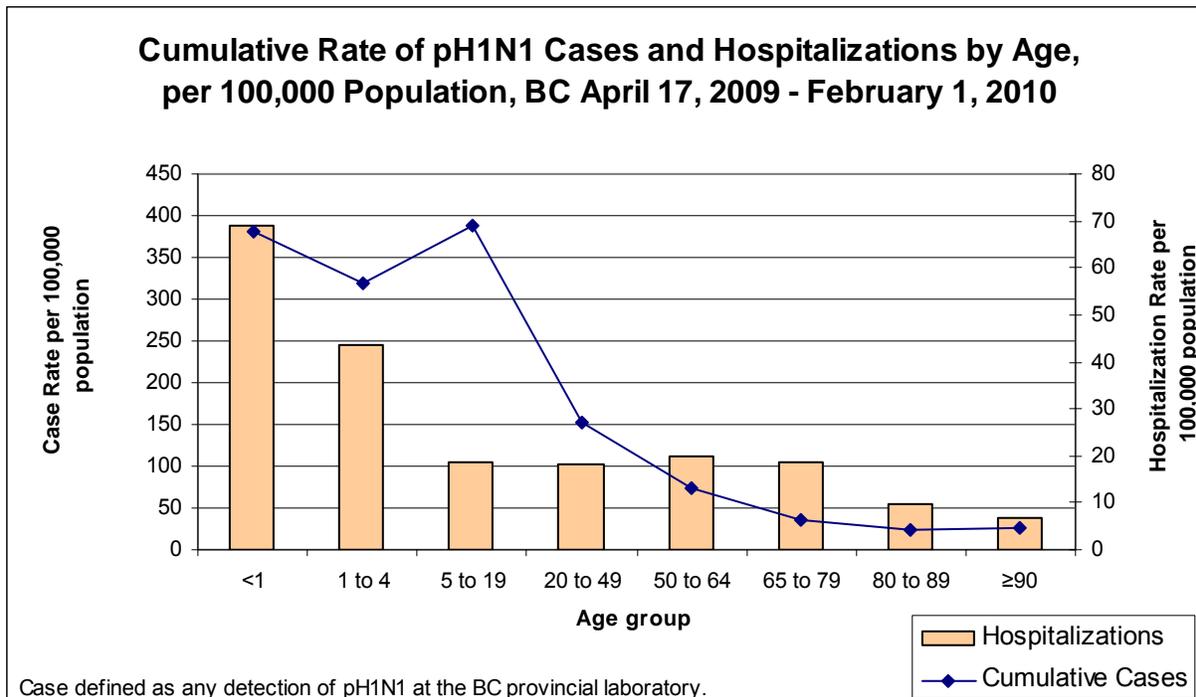
Note: Subject to updates; reporting may become more complete over time. ICU admissions not reported in all regions.

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Pandemic H1N1 (pH1N1) Severe Outcomes (continued)



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CANADA

FluWatch

During week 3, influenza activity in Canada remained low. The sentinel ILI consultation rate was 12 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 22% positivity for RSV. Of the 8 influenza detections reported nationally, 7 were pH1N1, and 1 was influenza B (Ontario). www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory

Between September 1, 2009 and January 28, 2010, 744 influenza isolates (734 pandemic H1N1 and 10 seasonal influenza) were collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):

734 A/California/07/2009 (H1N1)-like[§] from BC, AB, SK, MB, ON, QC, NB, NS, PEI, & NT;

2 A/Brisbane/59/2007 (H1N1)-like[†] from AB & QC;

1 A/Brisbane/10/2007 (H3N2)-like[†] from BC;

6 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 28, 2010 indicated that 99% (935/945) of pH1N1 isolates were sensitive to oseltamivir. All influenza B isolates (n=1) and influenza A/H3N2 isolates (n=9) tested were sensitive to oseltamivir, and the 4 seasonal A/H1N1 isolates tested were oseltamivir-resistant. All pH1N1 (n=926), seasonal H1N1 (n=2), A/H3N2 (n=9), and influenza B (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=992) and A/H3N2 (n=17) 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 3 (January 17-23, 2010), influenza activity remained low in the United States (<http://www.cdc.gov/flu/weekly/>). Five percent (164/3588) of respiratory specimens tested in reference laboratories were positive for influenza. All (98/98) subtyped influenza A viruses were pH1N1. Influenza B was detected in 2 specimens. The proportion of sentinel physician visits due to ILI remained low (1.7%) and below the national baseline.

In Europe, some Eastern European countries reported ongoing influenza activity due to pH1N1, but all other countries reported declining trends for the week of January 18-24. Fifteen percent of sentinel laboratory samples were positive for influenza, a decrease from the previous week. Of 122 sentinel influenza detections across Europe, 6 were influenza B, 116 were influenza A, and 100% of the sub-typed influenza A viruses were pH1N1. (<http://www.eiss.org>)

Worldwide, pH1N1 continues to be the dominant influenza virus currently circulating. From January 10-16, 2010, 64% (1961/3044) of the influenza detections reported to WHO from various regions of the world were influenza A, and of those sub-typed, 95% (1637/1724) were pH1N1. Influenza B as a proportion of all influenza viruses detected globally has been increasing in recent weeks: 6% in week 51 (Dec 20-26, 2009), 11% in week 52 (Dec 27, 2009 – Jan 2, 2010), 18% (505/2771) in week 1 (Jan 3-9, 2010), and 36% (1083/3044) in week 2 (Jan 10-16, 2010). Most of the recent influenza B viruses have been reported from China, where 52% (1037/2031) of influenza detections in week 2 were type B virus. 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_01_22/en/index.html)

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Contact Us:

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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

