

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 13, Week 52

December 27, 2009 - January 2, 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 52 (December 27- January 2), 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 decreased, 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, 4% (6/149) of respiratory specimens were positive for influenza A, and all sub-typed isolates were pH1N1. Twenty-five percent (4/16) 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 13-19. 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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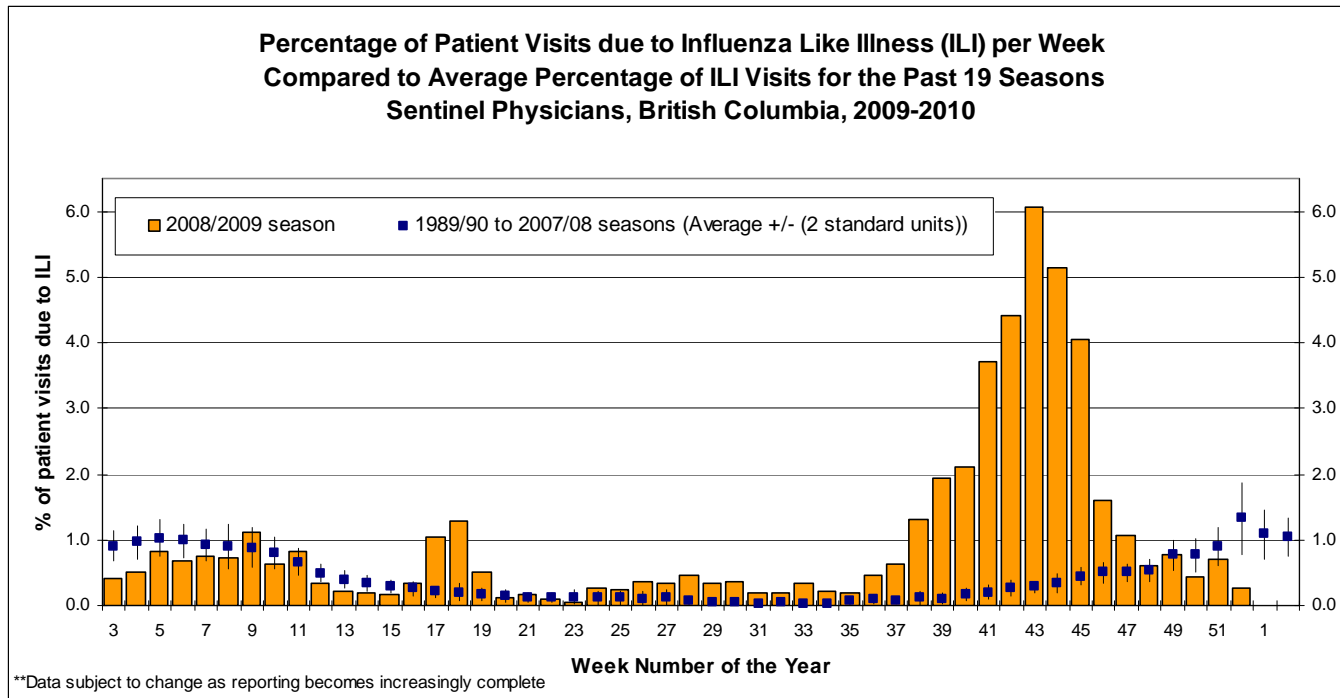
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British Columbia

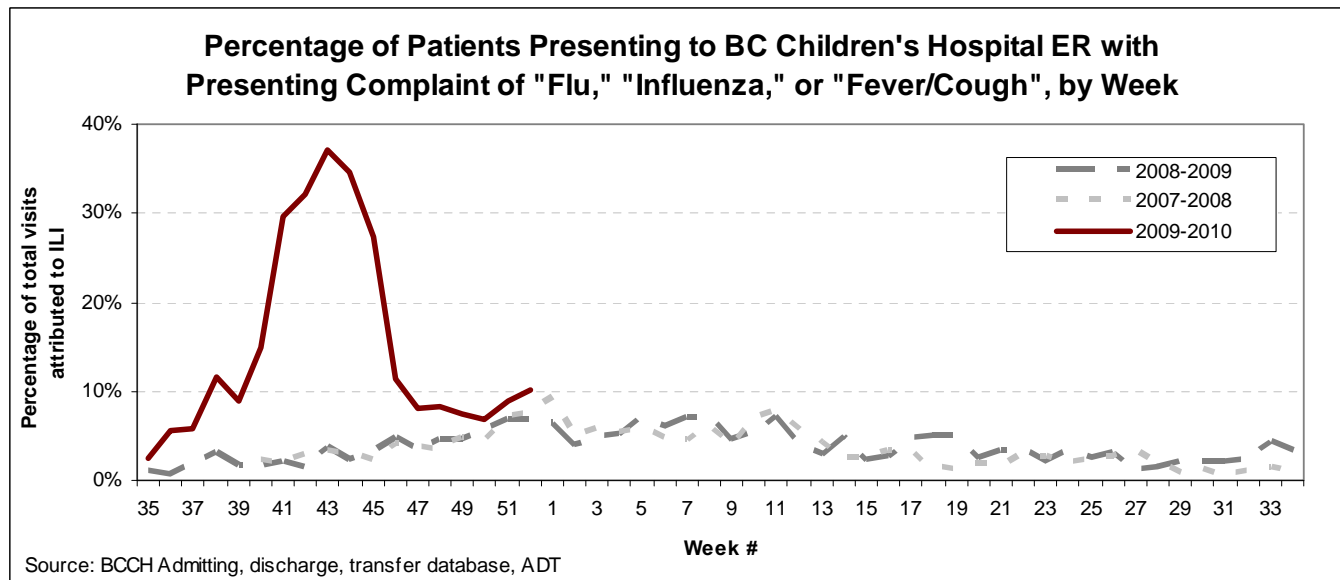
Sentinel Physicians

During week 52, the percentage of patients presenting to sentinel physicians with ILI decreased to 0.27%. This level is well below the expected range for this time of year. Forty-three percent (22/51) of sentinel physician sites reported for week 52.



BC Children's Hospital Emergency Room

BC Children's Hospital attributed 10.1% of its Emergency Room visits in week 52 to "fever and cough" or flu-like illness. This proportion has increased slightly over the last 3 weeks.



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

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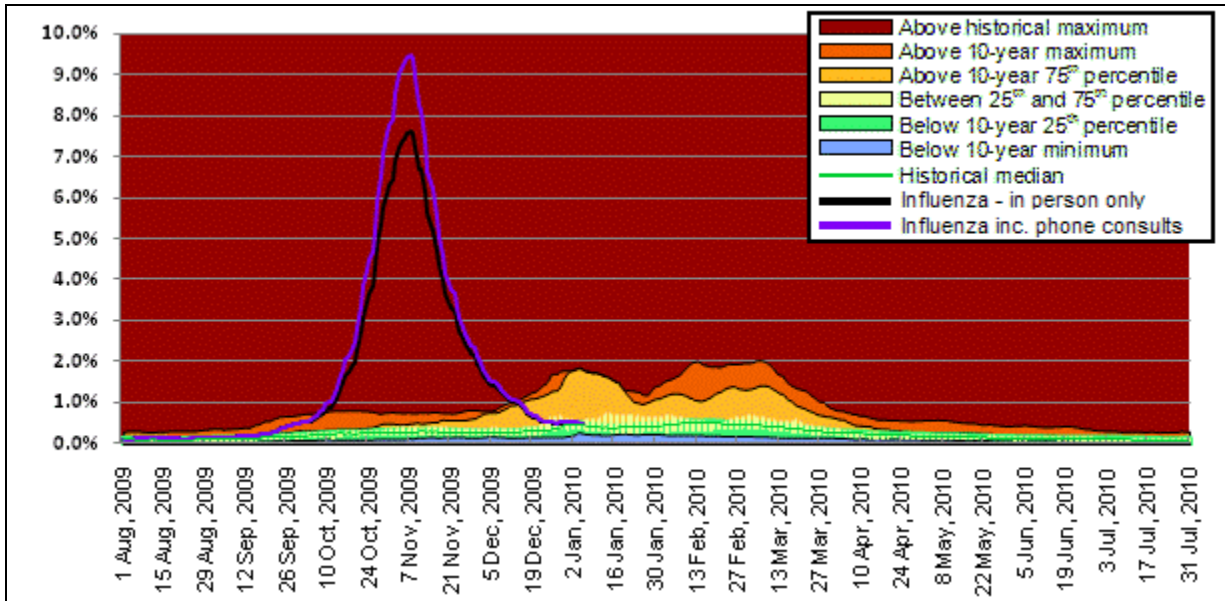
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Medical Services Plan

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

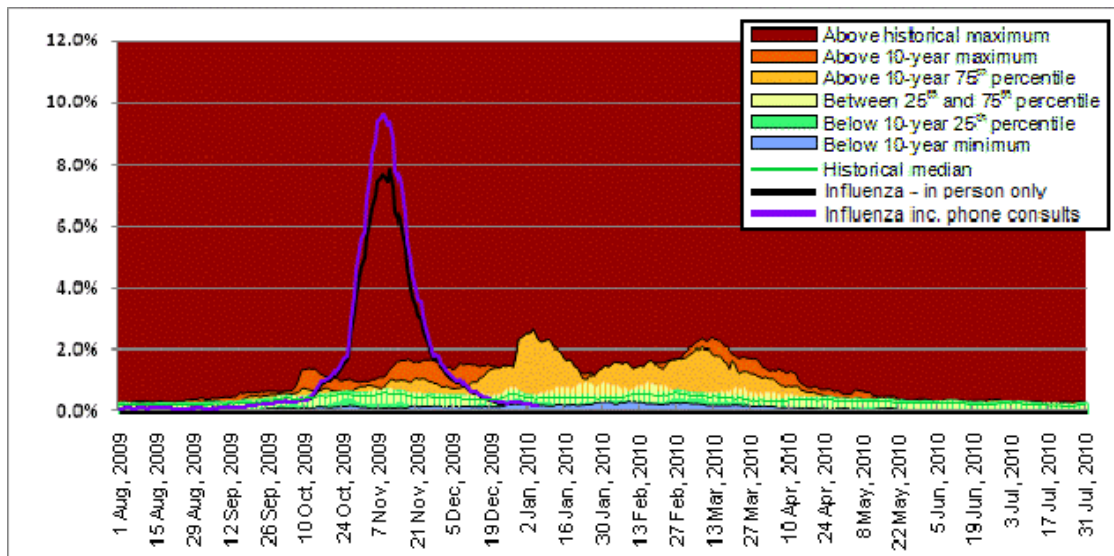


* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

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

Data current to January 5, 2010

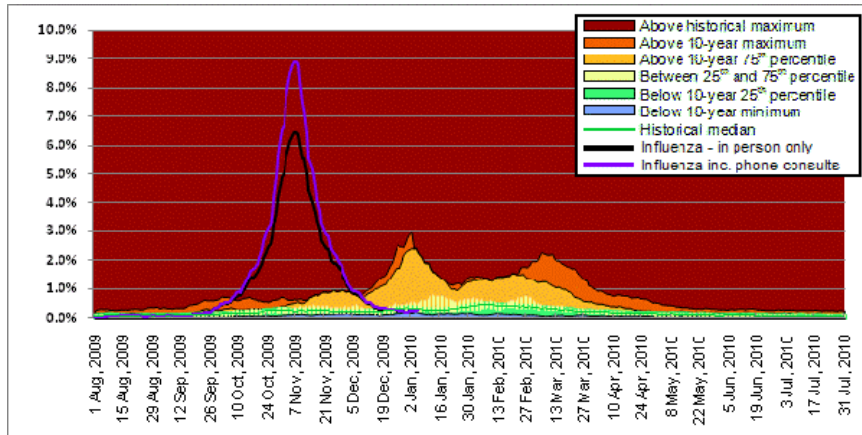
Northern



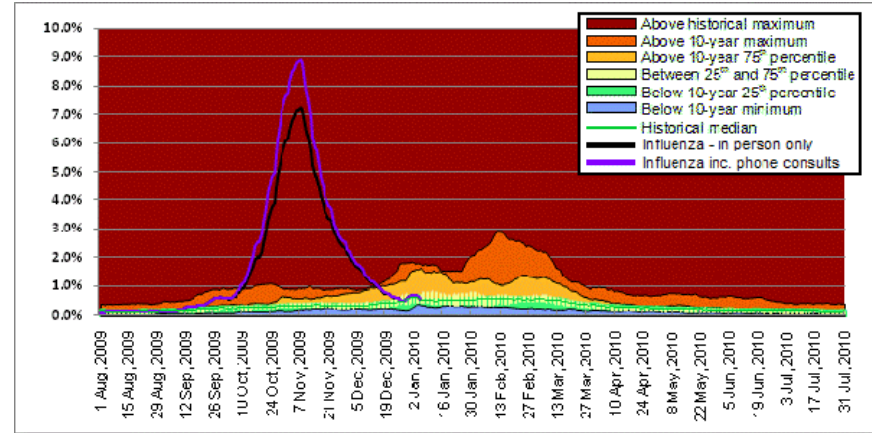
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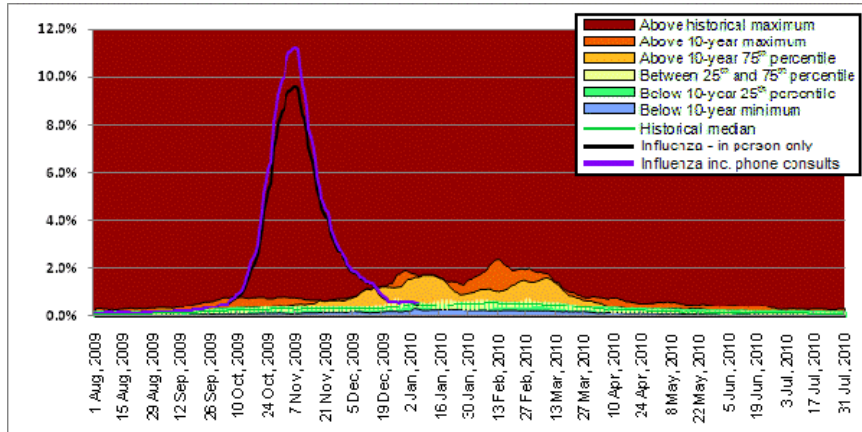
Interior



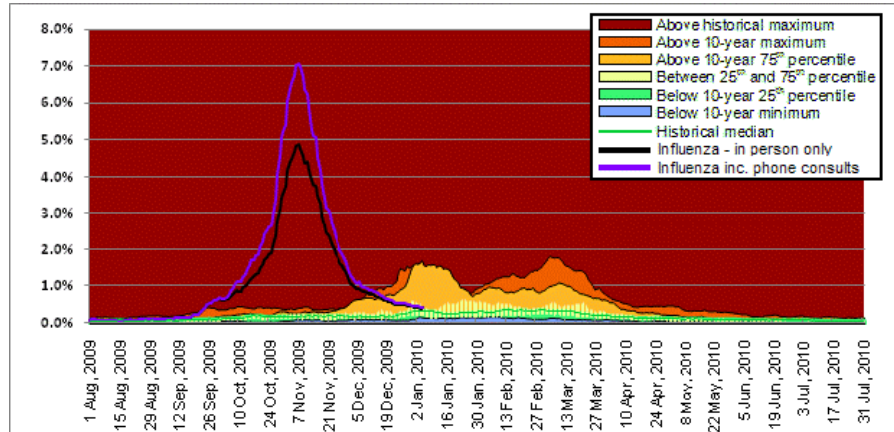
Vancouver Coastal



Fraser



Vancouver Island



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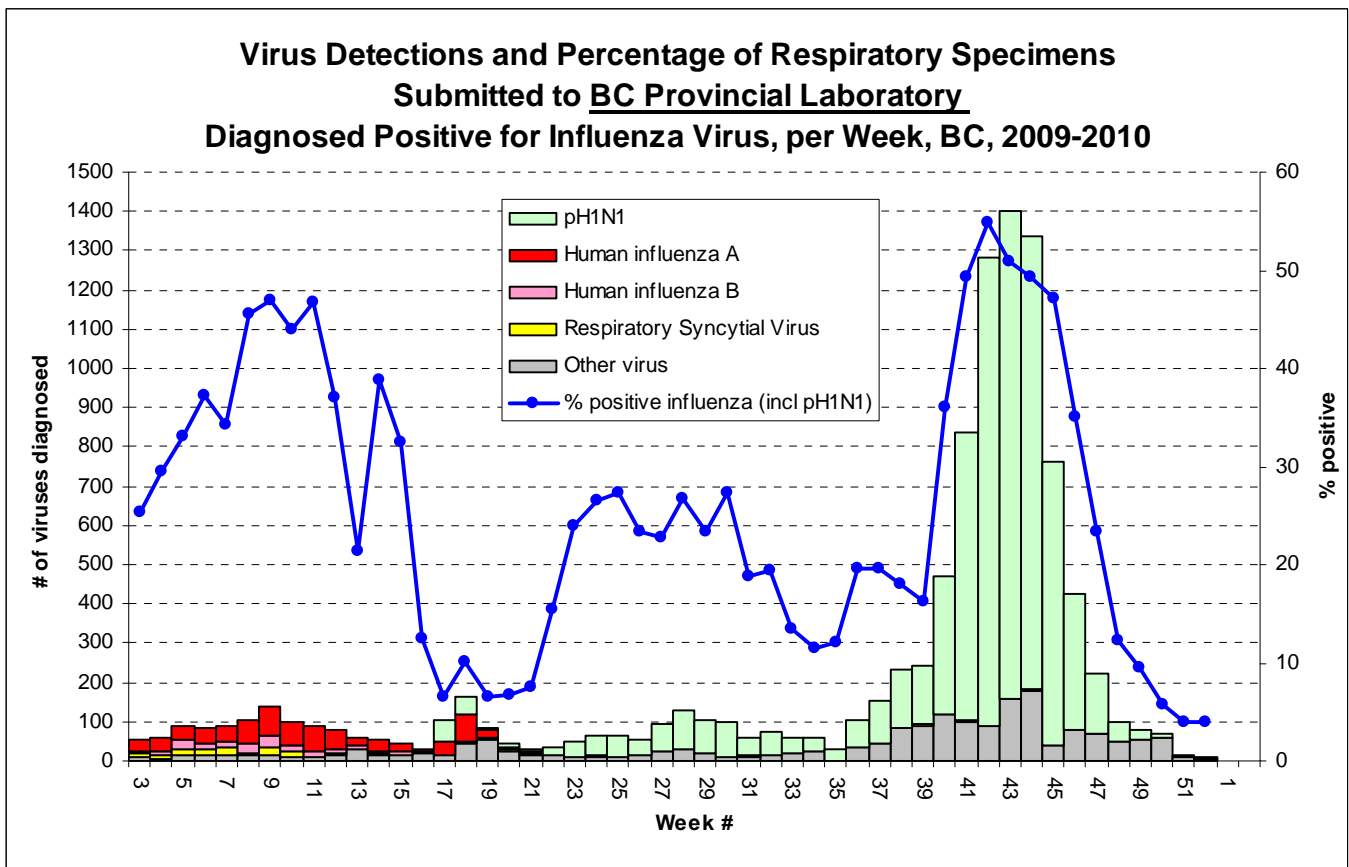
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Laboratory Reports

One hundred and forty-nine respiratory specimens were tested for influenza at the BC Provincial Laboratory in week 51. 6 (4%) tested positive for pH1N1; none tested positive for other influenza A or B viruses. This is similar to the previous week. Since week 35 (September 1, 2009), >99% of all sub-typed influenza A viruses in BC have been pH1N1. In week 52, 16 specimens were tested for other respiratory pathogens, of which 4 (25%) tested positive for rhino/enterovirus, 1 (6%) tested positive for parainfluenza and 1 (6%) tested positive for coronavirus. No other respiratory pathogens were detected at the provincial laboratory in week 52.

Virological data from BC Children's and Women's Health Centre Laboratory are not yet available for weeks 51-52.

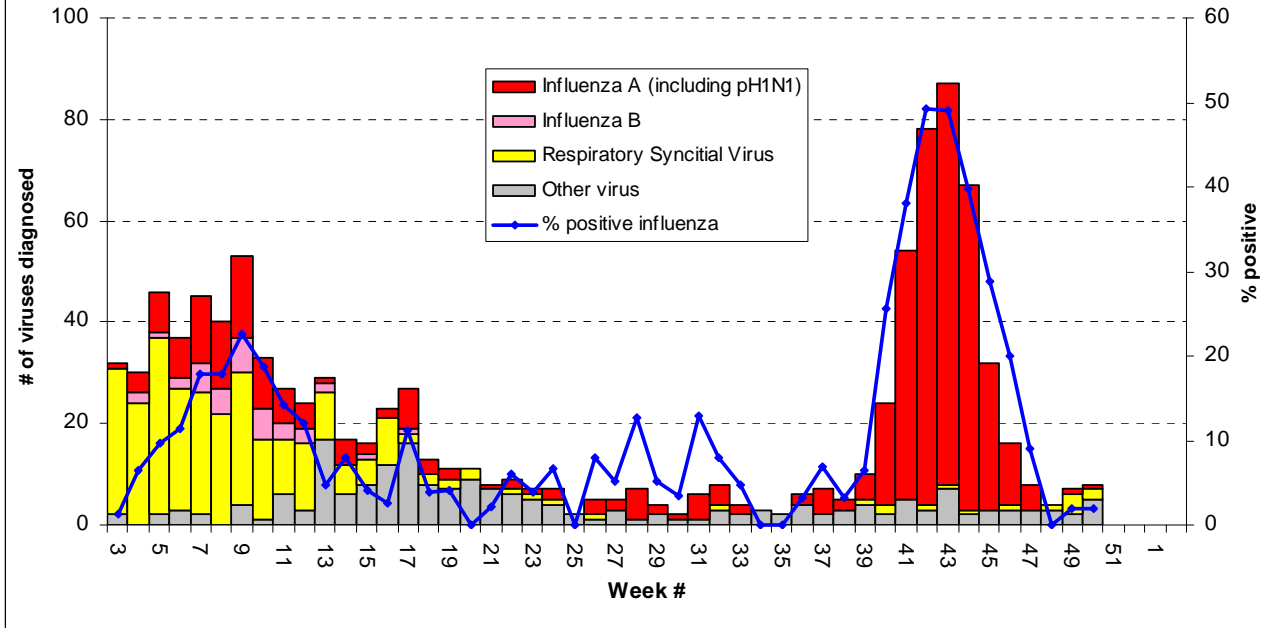


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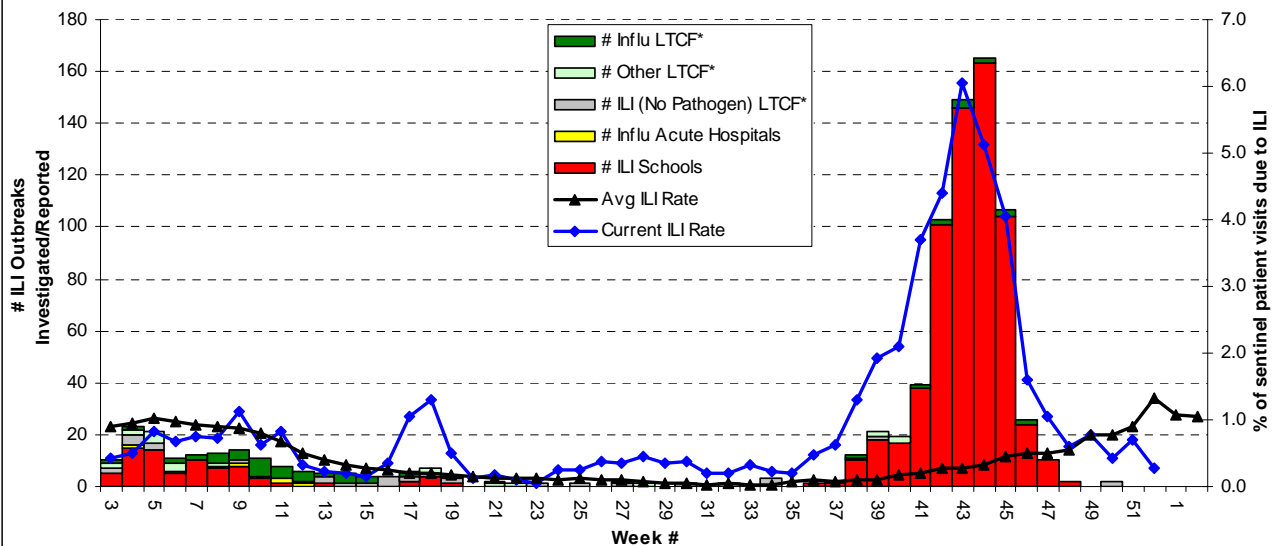
Virus Detections and Percentage of Respiratory Specimens Submitted to Children and Women's Health Centre Laboratory Diagnosed Positive for a Virus, per Week, British Columbia, 2009-2010



ILI Outbreaks

In week 52, 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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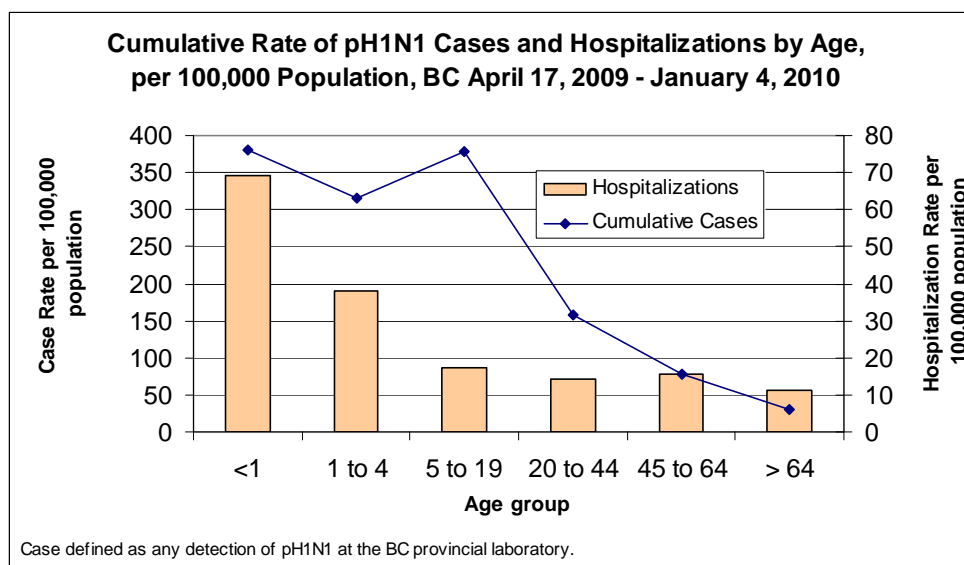
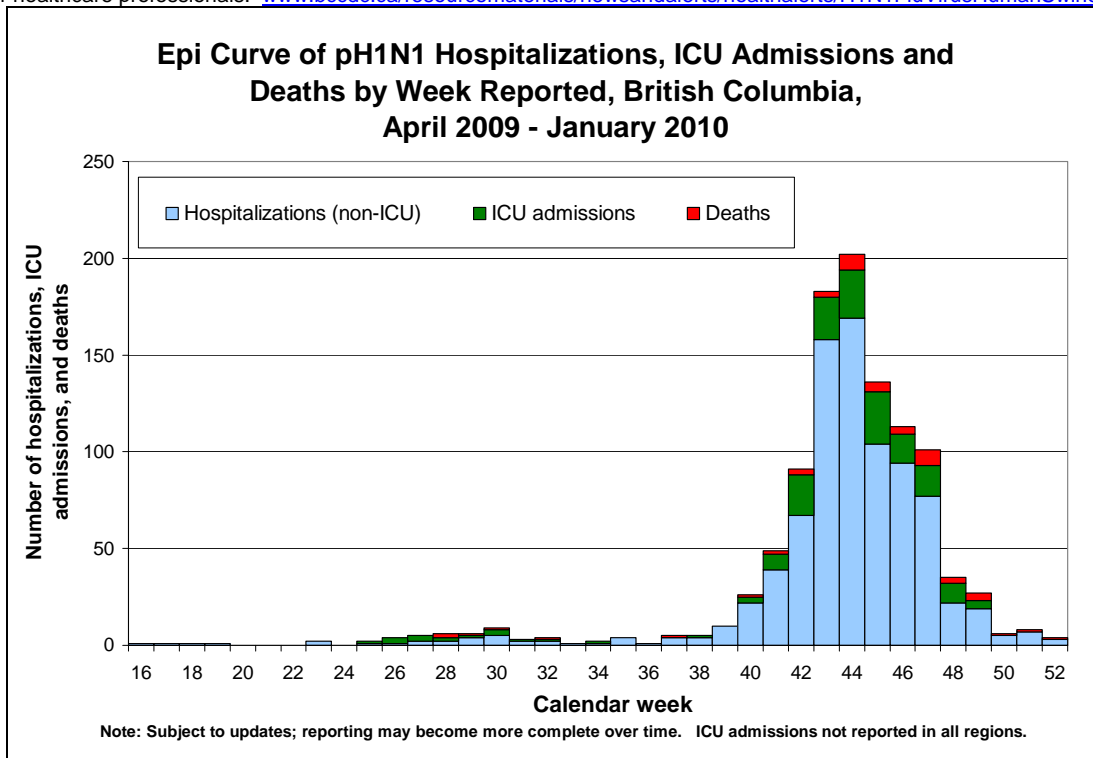
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Pandemic H1N1 (pH1N1) Severe Outcomes

As of January 2 and since April 2009, 1047 hospitalizations in patients with laboratory-confirmed pH1N1 have been reported in BC, of which 3 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 8% 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
Resources for healthcare professionals: www.bccdc.ca/resourcematerials/newsandalerts/healthalerts/H1N1FluVirusHumanSwineFlu.htm



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CANADA

FluWatch

During week 50, all national influenza activity indicators remained low. Sentinel ILI consultation rates remained similar to the previous week at 20 consultations per 1000 patient visits, this is an overall decrease from ~110 consultations per patient visit (in week 43) and is below the expected range for this time of year. Four percent of respiratory specimens tested nationally were positive for influenza, a decline from 7% in the previous week. Over 99% of all subtyped influenza A specimens were positive for pH1N1; 1 specimen was positive for H3N2 (QC) Geographically only one region in Newfoundland & Labrador reported localized activity, and none reported widespread activity. www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory

Between September 1st 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[§] 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 1st and December 24th, 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 51 (December 20-26), influenza activity remained low in the United States (<http://www.cdc.gov/flu/weekly/>). Four percent of respiratory specimens tested in reference laboratories were positive for influenza, and all subtyped influenza A viruses were pH1N1. No specimens tested positive for influenza B. The proportion of sentinel physician visits for ILI increase slightly to 3.2%. The proportion of deaths attributed to pneumonia and influenza was above epidemic threshold.

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 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. In China, the proportion influenza detections attributed to the pH1N1 virus decreased from 90.7% in week 51 to 84% in week 52 (<http://www.cdc.gov/h1n1flu/updates/international/>)

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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

