

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 3, Week 42

October 18 - 24, 2009



BC Centre for Disease Control

An agency of the Provincial Health Services Authority

Prepared by BCCDC Influenza &
Emerging Respiratory Pathogens Team

Sharp Increases in Influenza Activity Indicators for the Fifth Consecutive Week in BC

Contents:

British Columbia:

UUSentinel Physicians	Page 2
Children's Hospital ER	Page 2
Medical Services Plan	Page 3
Laboratory Surveillance	Page 5
ILI Outbreaks	Page 6
Pandemic H1N1 (pH1N1)	Page 7

Canada:

FluWatch Activity levels	Page 8
NML strain Characterization	Page 8
Anti-Viral Resistance	Page 8

International:

Northern Hemisphere	Page 8
Southern Hemisphere	Page 8

Other:

List of Acronyms	Page 9
Web Sites	Page 9
Outbreak Report Form	Page 10

Highlights

In week 42 (October 18-24), BC continued to experienced a large increase in influenza activity. All indicators including proportion of patients presenting to sentinel physicians for ILI, Medical Services Plan claims for influenza, emergency room visits from BC children's hospital and laboratory positivity for influenza increased sharply compared to the previous week. One hundred school ILI outbreaks were reported during this period. At the BC Provincial Laboratory, 53.9% (1178/2174) of respiratory specimens were positive for influenza A, and all subtyped isolates were the pandemic H1N1 virus (pH1N1). Together surveillance indicators suggest that influenza activity due to pandemic H1N1 is increasing and remains above the expected range for this time of year.

Report written: October 28, 2009

Edited: October 28, 2009

Disseminated/posted to web: October 28, 2009

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

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

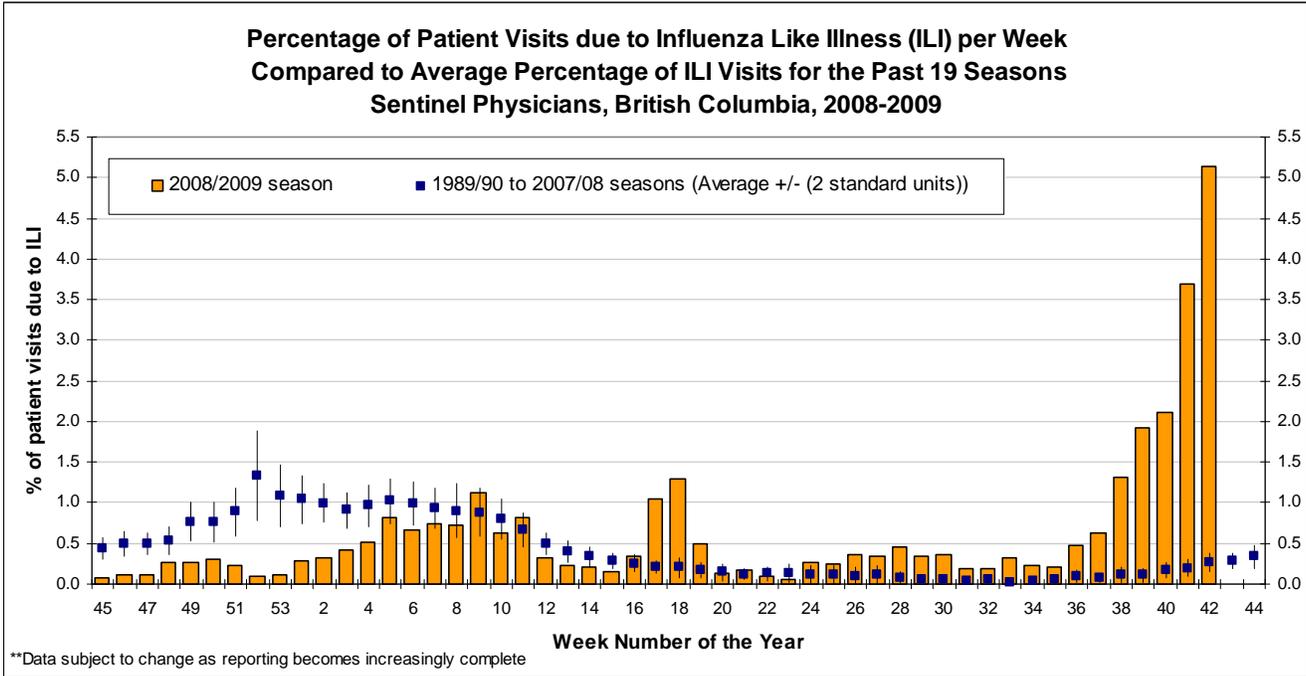
2009-10: Number 3, Week 42

October 18 - 24, 2009

British Columbia

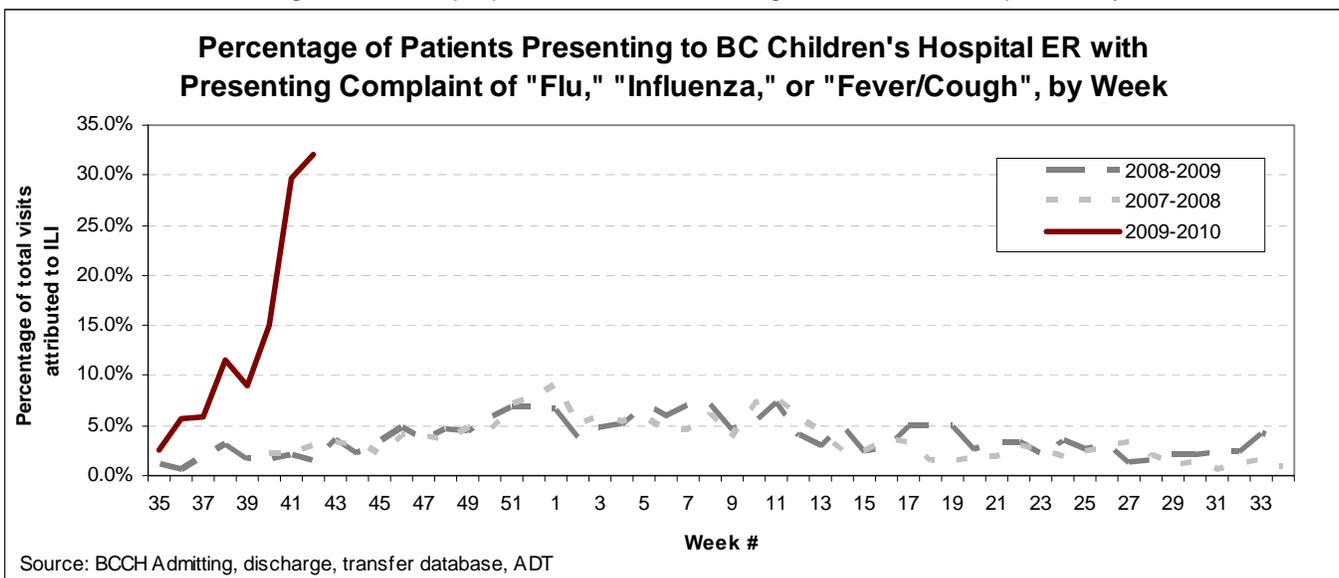
Sentinel Physicians

During week 42, the percentage of patients presenting to sentinel physicians with ILI sharply increased to 5.1%. This is higher than both the proportion reported in the previous week, the proportion observed during the peak of the 2008-09 season and the historic peak. 77% (37/48) of sentinel physicians reported for week 42.



BC Children's Hospital Emergency Room

During week 42, the proportion of Emergency Room visits BC Children's hospital attributed to ILI remained elevated at 32% this is higher than the proportions observed during the same week in previous years.



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

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

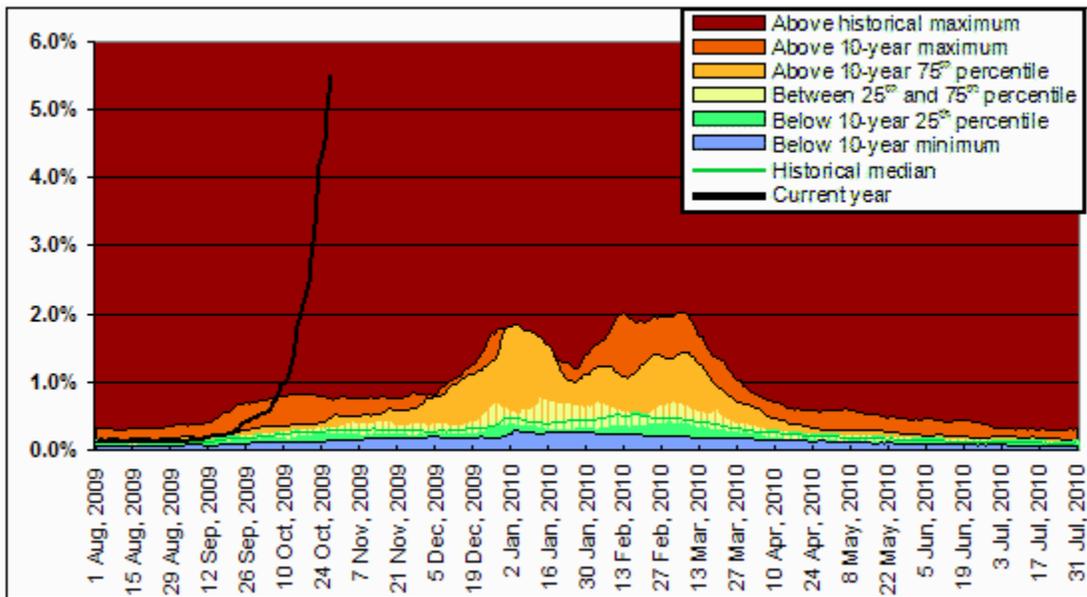
2009-10: Number 3, Week 42

October 18 - 24, 2009

Medical Services Plan

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims continued to climb steeply in week 42. All five RHA's reported increases and were above the historical maximum.

Influenza Illness Claims* British Columbia

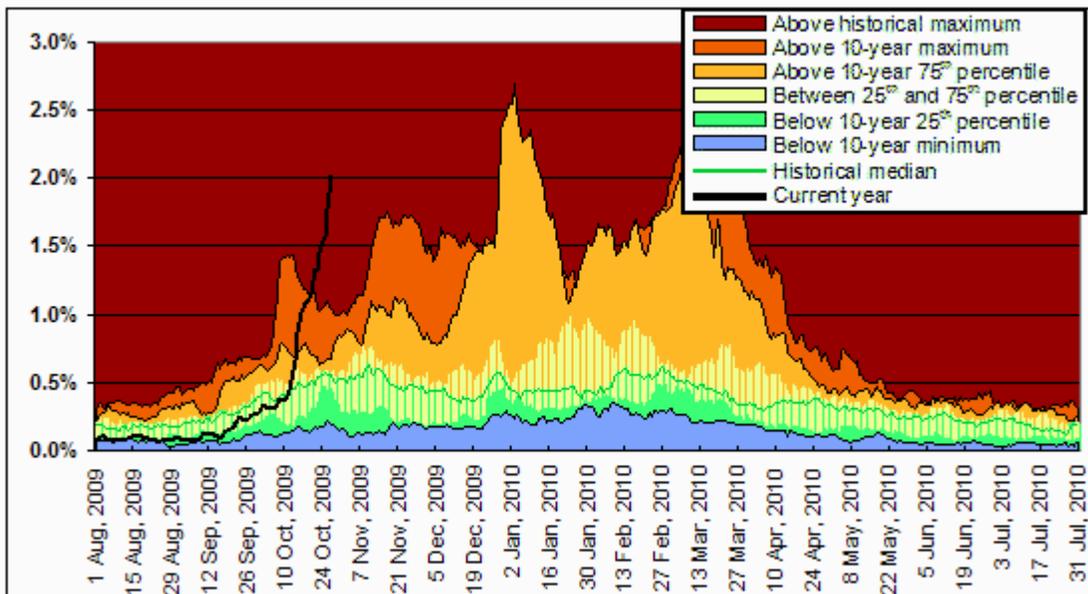


*Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

**MSP week 27 Sep 2009 corresponds to sentinel ILI week 40.

***Current to October 27, 2009

Northern

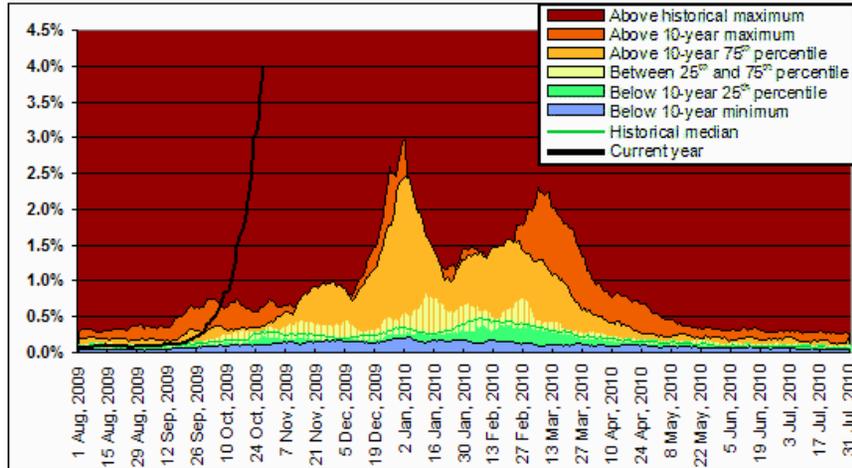


BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

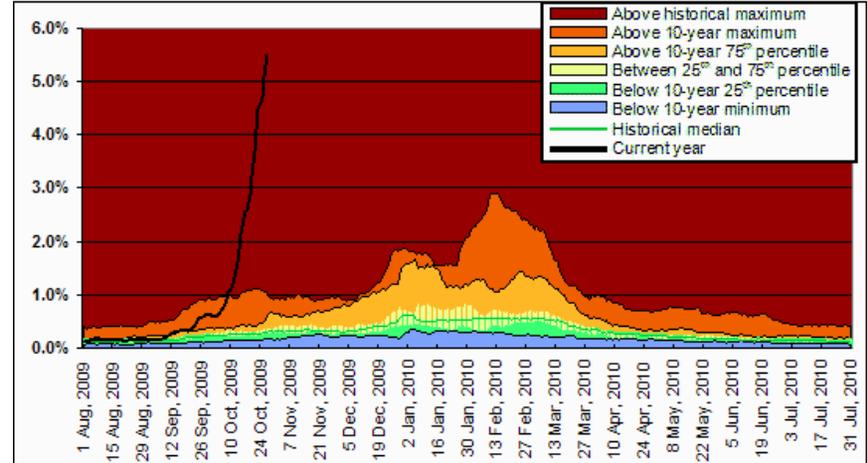
2009-10: Number 3, Week 42

October 18 - 24, 2009

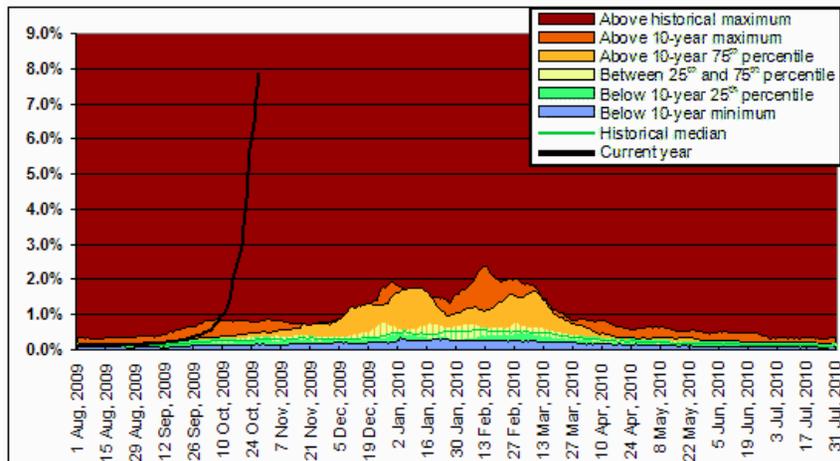
Interior



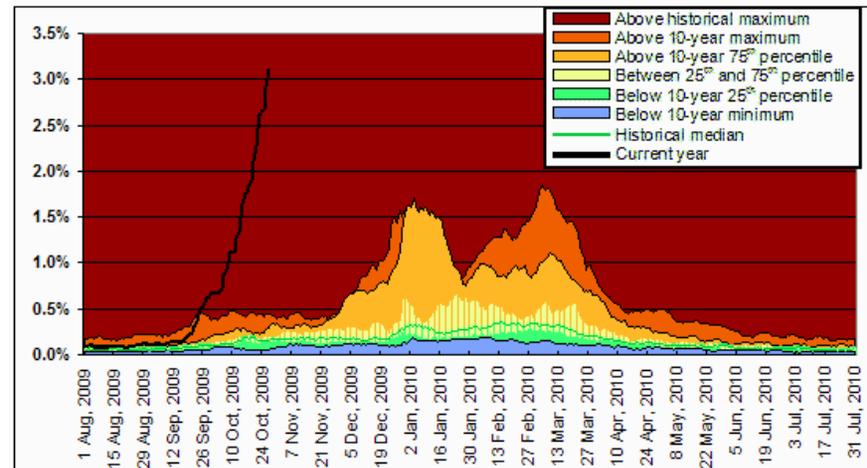
Vancouver Coastal



Fraser



Vancouver Island



BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

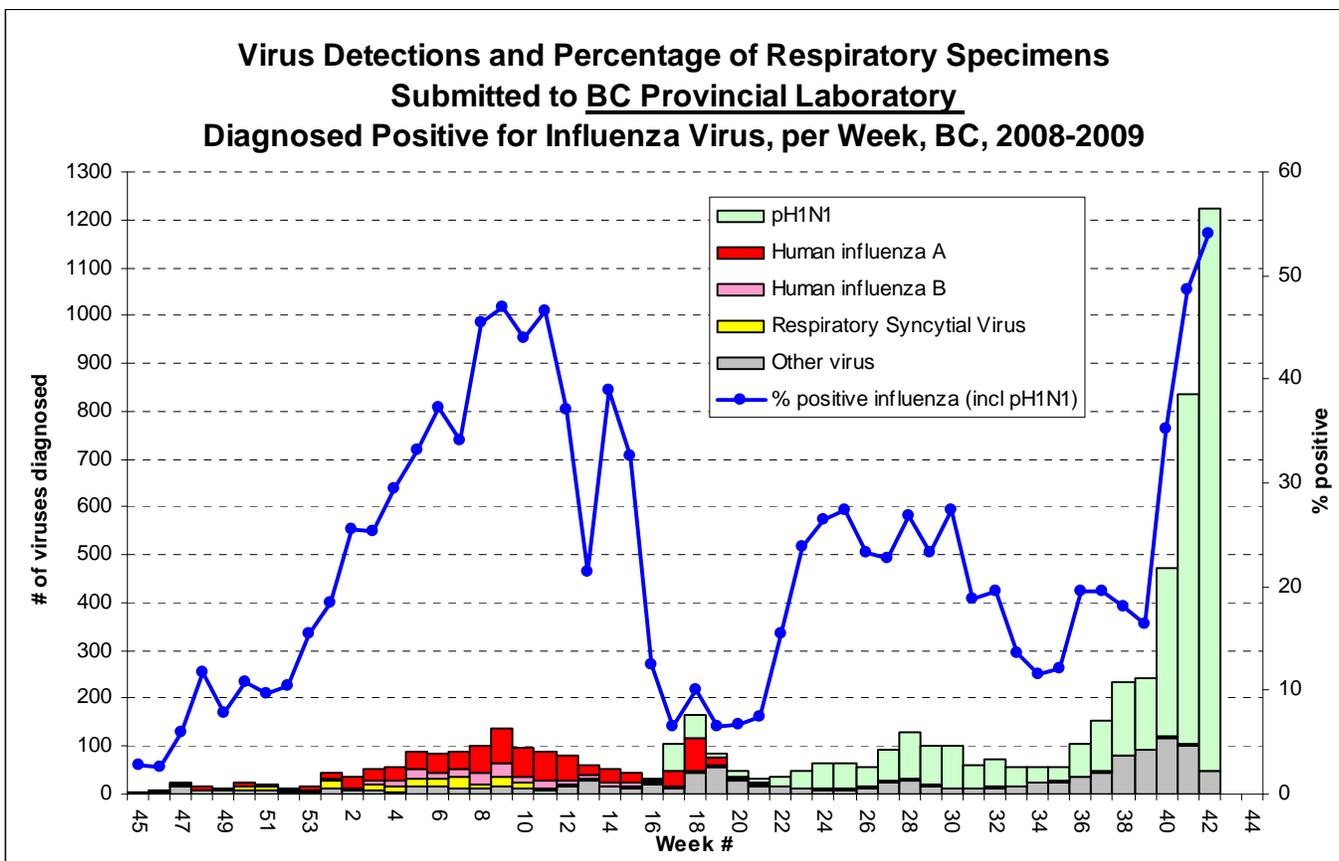
2009-10: Number 3, Week 42

October 18 - 24, 2009

Laboratory Reports

There has been a large increase in the number of respiratory specimens submitted to BCCDC Laboratory Services. In week 42 the lab tested 2174 respiratory specimens, 1178 (53.9%) tested positive for influenza A (including pH1N1), a sharp increase in volume and percent positivity compared to the previous week and percent positivity similar to the seasonal peak observed last year. Of those subtyped (n=1172) 100% were pH1N1. Since week 35 (September 1, 2009), >99% of all subtyped influenza A viruses have been pH1N1. No influenza B was detected during week 42. Other respiratory pathogens detected included rhino/enterovirus (1.8%), RSV (0.1%), parainfluenza (0.4%) coronavirus (0.1%) and adenovirus (0.1%).

During week 42, Children's and Women's Health Centre Laboratory tested 150 respiratory specimens. An increase in the proportion positive for influenza A was observed compared to previous weeks; 51 were positive for pH1N1 and 23 were positive for influenza A but had not yet been subtyped. One tested positive for RSV and 3 tested positive for parainfluenza .

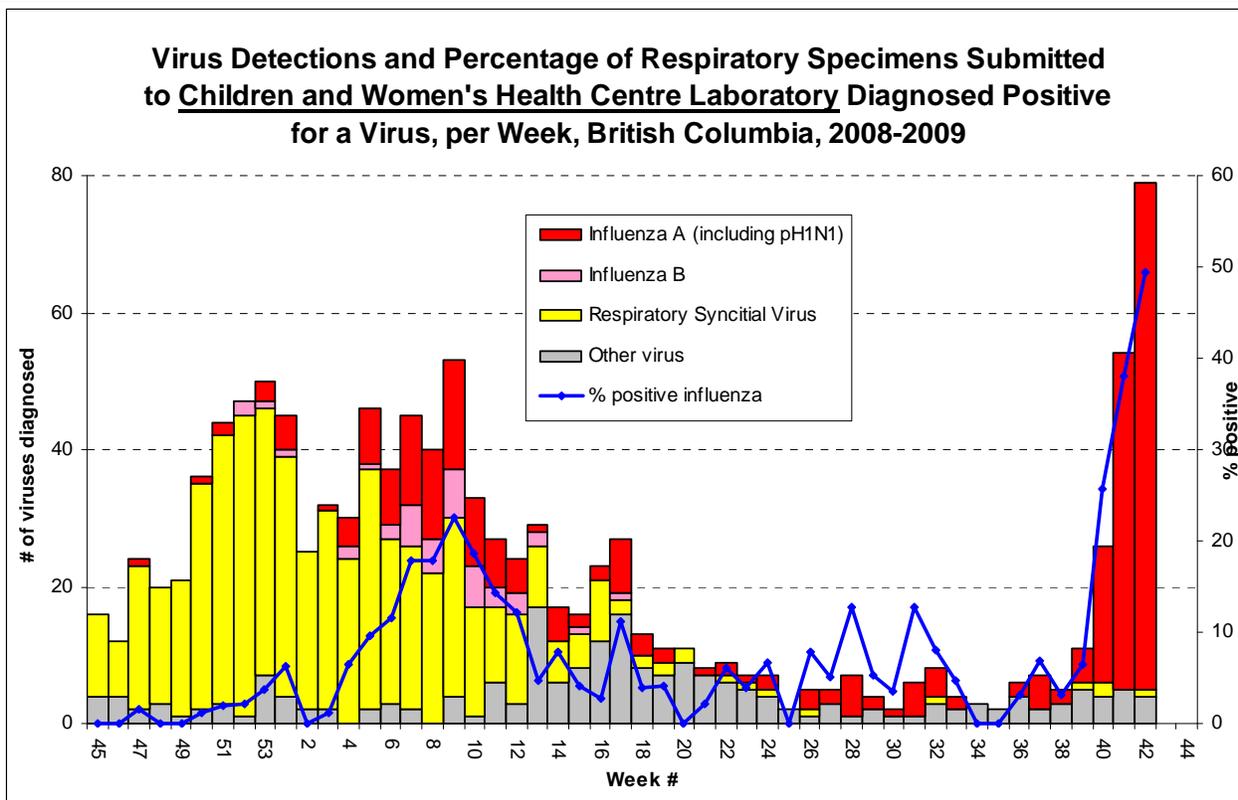


Note: The increase in bars during weeks 17-19 above reflects the large surge in specimens submitted to BCCDC for testing (2594 specimens were tested, a 5-fold increase over the number of tests performed during the 3-week period of peak activity this season). The increases in weeks 38-42 reflect a similar surge in testing.

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

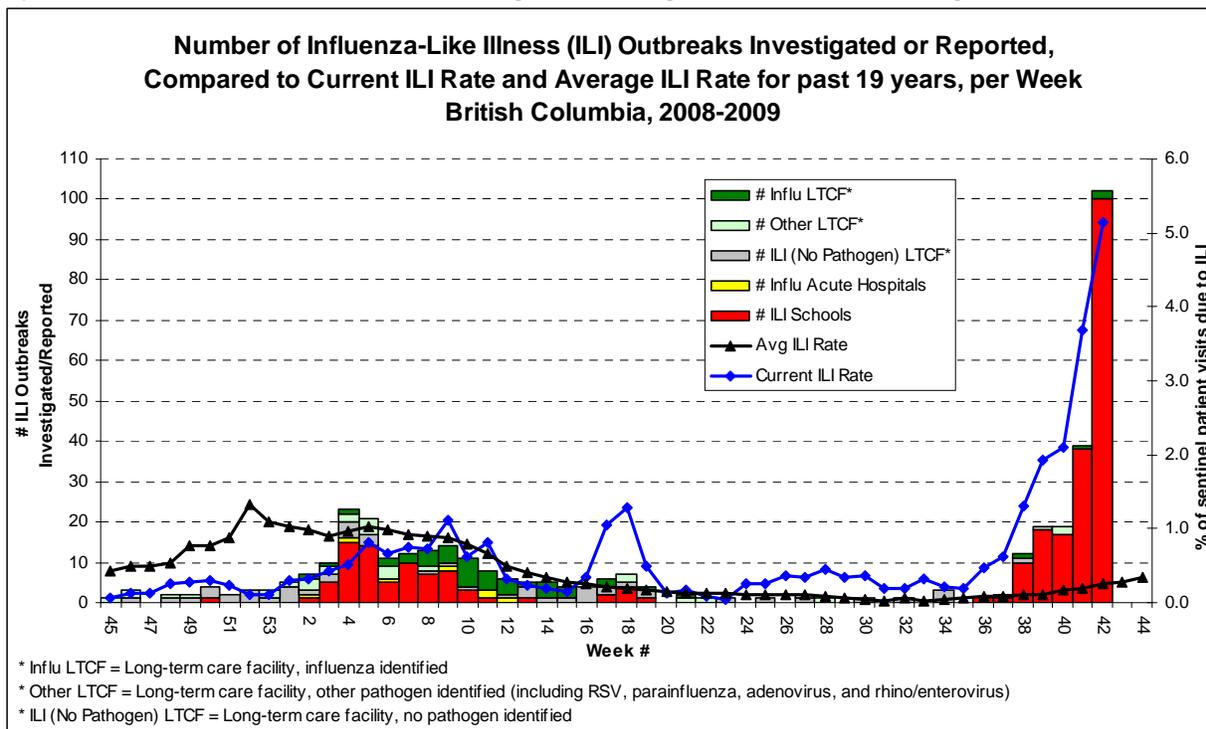
2009-10: Number 3, Week 42

October 18 - 24, 2009



ILI Outbreaks

In week 42, the number of school outbreaks increased to 100 (40 in VCH, 31 in FHA, 16 in IHA, 10 in NHA and 3 in VIHA). pH1N1 was detected in 2 outbreak investigations during week 42, both in a long term care facilities in VCH.



BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

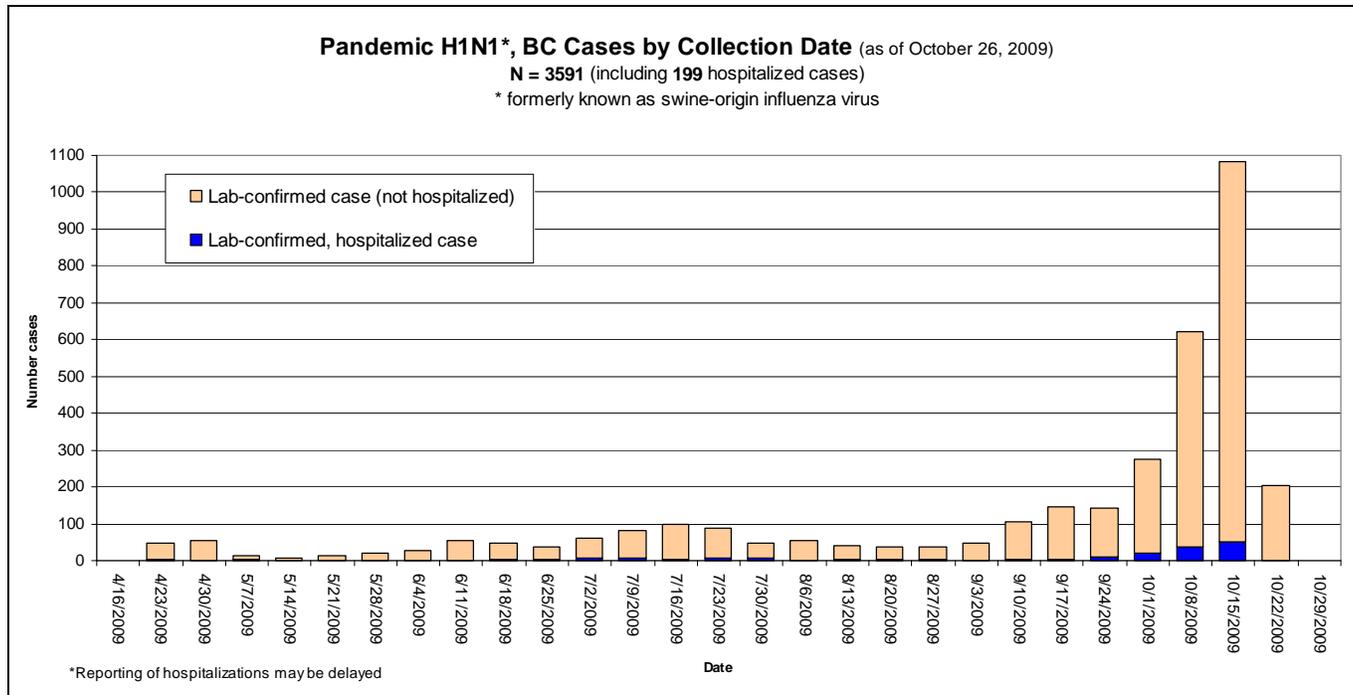
2009-10: Number 3, Week 42

October 18 - 24, 2009

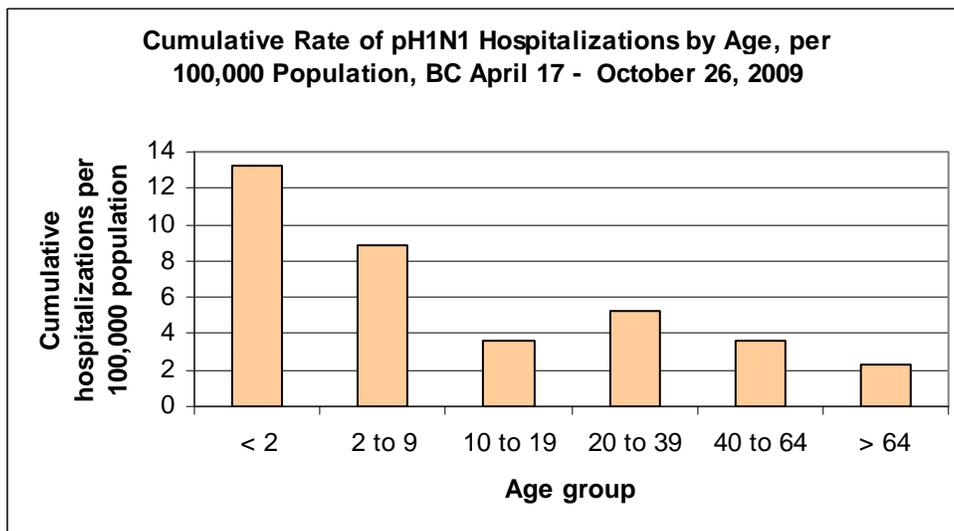
Pandemic H1N1 (pH1N1)

BCCDC continues to monitor the pH1N1 virus pandemic. As of October 26, one hundred and ninety-nine cases in BC have been admitted to hospital, of these 111 were reported in the preceding week. Among hospitalized cases, 73% had underlying medical conditions; 15% had lung disease, 16% had asthma and 8% had chronic heart disease. 26% (51) of hospitalized cases have been admitted to the intensive care unit and 6% (12) have died. As shown in the graph below, pH1N1 hospitalization rates are highest in those under 2 years 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



Note: Case count for most recent week represents an underestimate due to delays in testing and reporting.



BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 3, Week 42

October 18 - 24, 2009

CANADA

FluWatch

During week 41, national influenza activity levels increased from the previous week. Compared to the week ending September 5, ILI consultation rates increased from 14 to 48 consultations per 1000 patient visits; this is above the expected range for this time of year. The proportion of tests positive for influenza was 16.9%, which is lower than the summer peak of 23%. Ninety-nine percent of all subtyped influenza A specimens were positive for pH1N1; a single specimen was positive for seasonal H3N2. One specimen was positive for influenza B. Geographically BC and the Northwest Territories reported widespread activity; however activity levels are also increasing in the rest of the country particularly Alberta and Ontario. www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory

Between September 1st and October 21, 2009, 42 influenza isolates have been collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):

40 A/California/07/2009-like[§] from AB, ON, NT, & NU;

1 A/Brisbane/59/2007-like[†] from AB;

1 B/Brisbane/60/2008-like[†] from ON

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

[†] indicates a strain match to the 2009-10 vaccine

Antiviral Resistance

Drug susceptibility testing at the NML between September 1st and October 21 indicated that most pH1N1 (n=20) isolates were sensitive to both oseltamivir, one virus was resistant. All influenza B isolates tested (n=1) were sensitive and all seasonal H1N1 isolates (n=1) were resistant. All pH1N1 (n=21), seasonal H1N1(n=1) and A/H3N2 (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=10), seasonal H1N1(n=1) and A/H3N2 (n=2) isolates were resistant to amantadine.

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. The first cases of oseltamivir resistance with an epidemiological link were identified in the US on August 14 and 19.

INTERNATIONAL

Northern Hemisphere: In the United States (<http://www.cdc.gov/flu/weekly/>), in the week ending October 17 influenza activity increased. Thirty-eight percent of respiratory specimens tested in reference laboratories in week 40 were positive for influenza, and 100% percent of the subtyped influenza A viruses were pH1N1. 0.2% of specimens tested positive for Influenza B. The proportion of sentinel physician visits for ILI increased to 7.1%, this is above the seasonal peak for last year. The proportion of deaths attributed to pneumonia and influenza was at the epidemic threshold. In Europe for the week ending October 23, nine out of 22 countries reported medium to very high intensity activity and twelve countries reported an increasing trend. More than 99% of specimens positive for influenza A were pH1N1). (<http://www.eiss.org>)

Southern Hemisphere: Many countries in the Southern Hemisphere previously reporting severe winter influenza activity have now passed the peak. Notably Australia, influenza activity is continuing to decrease with most jurisdictions reporting activity at or near baseline levels. In New Zealand pH1N1 activity continues to decline; consultations with sentinel physicians have declined from the peak in early July, and are now approaching baseline levels. In Chile, ILI activity is within the range expected for this time of year. In South Africa cases are also declining, but pH1N1 remains the dominant subtype. Previously, in June and July of this year the dominant subtype was A/H3N2.

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 3, Week 42

October 18 - 24, 2009

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

