BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 8, Week 47

November 22 – 28, 2009

BC Centre for Disease Control
An agency of the Provincial Health Services Authority

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Influenza Activity Indicators Continue to Decline; Levels Remain Above Expected Range

Contents:

British Columbia:
Sentinel 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 47 (November 22-28), influenza activity indicators showed a decline in activity for the 4th consecutive week. All indicators including the proportion of patients presenting to sentinel physicians, Medical Services Plan claims for influenza, emergency room visits from BC children's hospital, laboratory positivity for influenza and school outbreaks decreased compared to the previous week. At the BC provincial laboratory, 23.5% (153/652) of respiratory specimens were positive for influenza A and over 99% of subtyped isolates were the pandemic H1N1 virus (pH1N1). While surveillance indicators suggest that influenza activity due to pandemic H1N1 in BC is declining, it should be noted that current activity levels are still above the expected range for this time of year and community transmission remains high.

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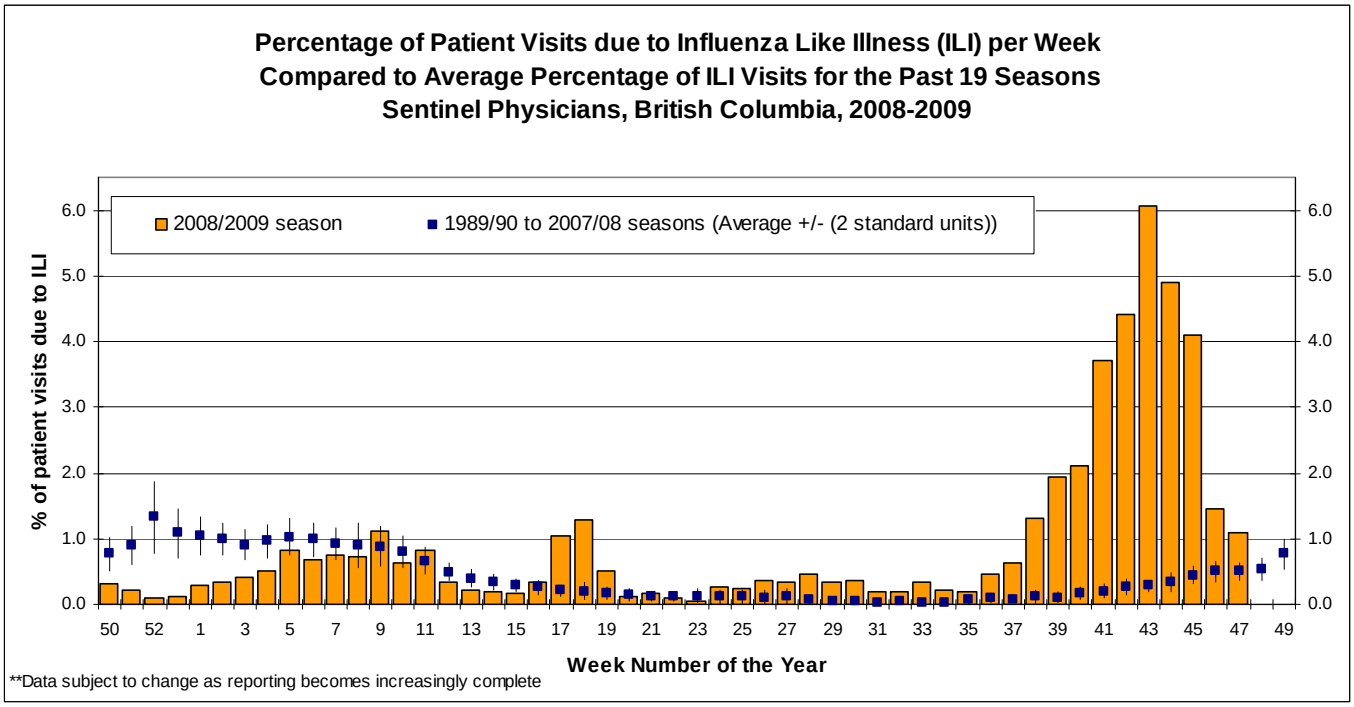
Edited: December 2, 2009
Disseminated/posted to web: December 2, 2009
Contributors: Vanita Sahni, Travis Hottes, Naveed Janjua, Danuta Skowronski

British Columbia

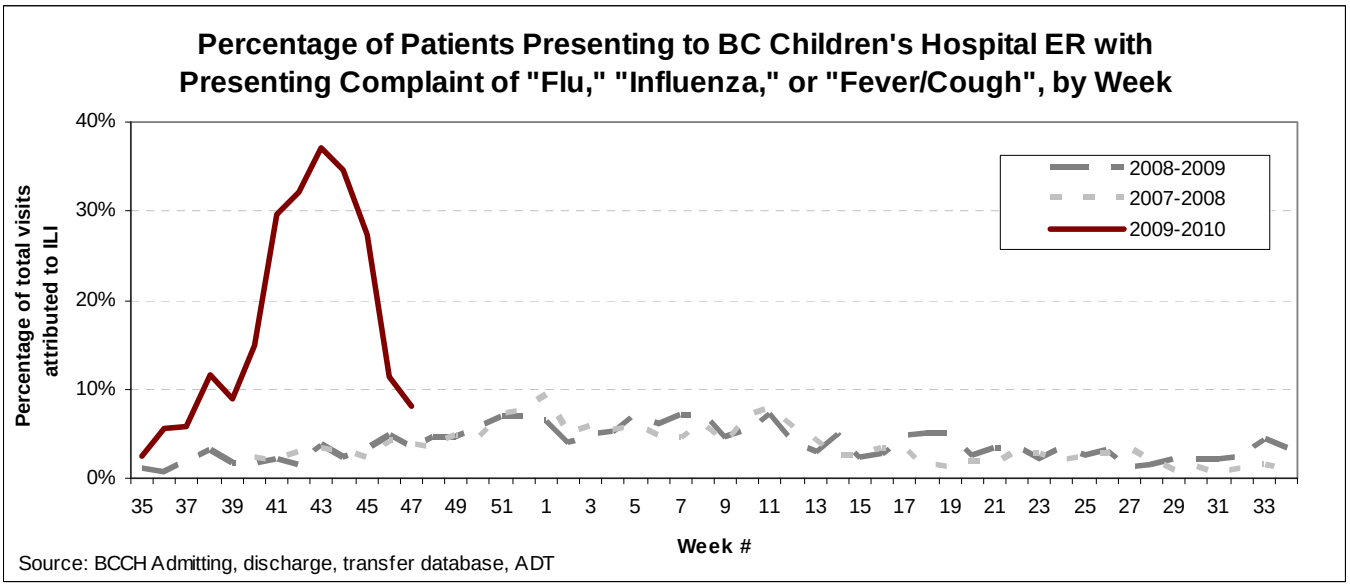
Sentinel Physicians

During week 47, the percentage of patients presenting to sentinel physicians with ILI was 1.1%. This represents a steep decrease from 6.1% in week 43, and is similar to the proportion observed during the peak of the 2008-09 season. It remains above the expected range for this time of year. 63% (32/51) of sentinel physician sites reported for week 47.



BC Children's Hospital Emergency Room

During week 47, the proportion of Emergency Room visits that BC Children's hospital attributed to fever and cough further declined to 8.1% from a high of 37% in week 43.

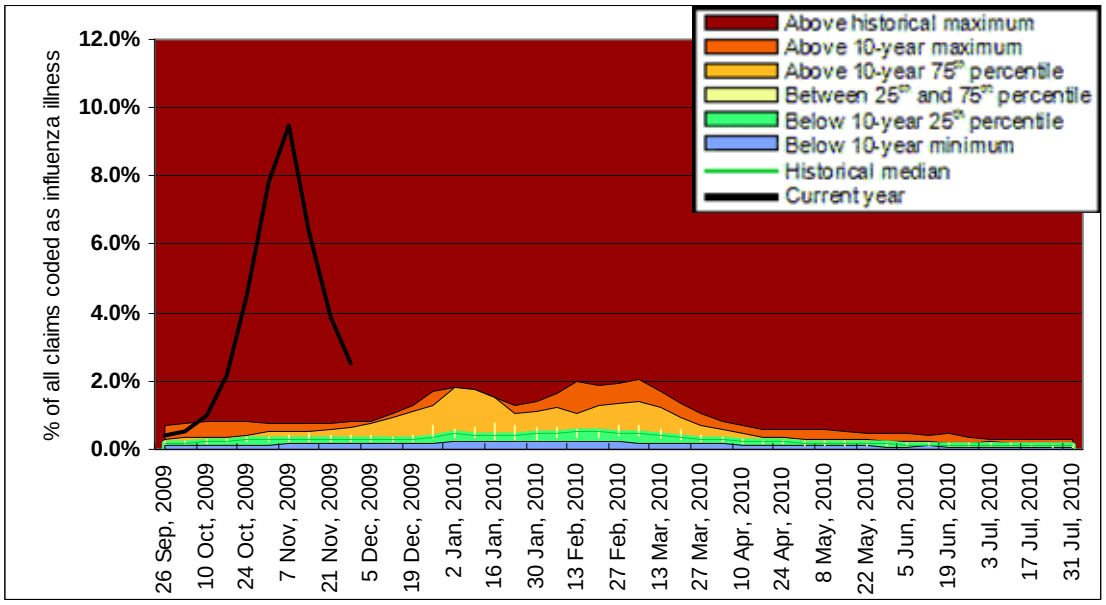


Emergency Room data kindly provided by the Decision Support Services at BC Children's Hospital

Medical Services Plan

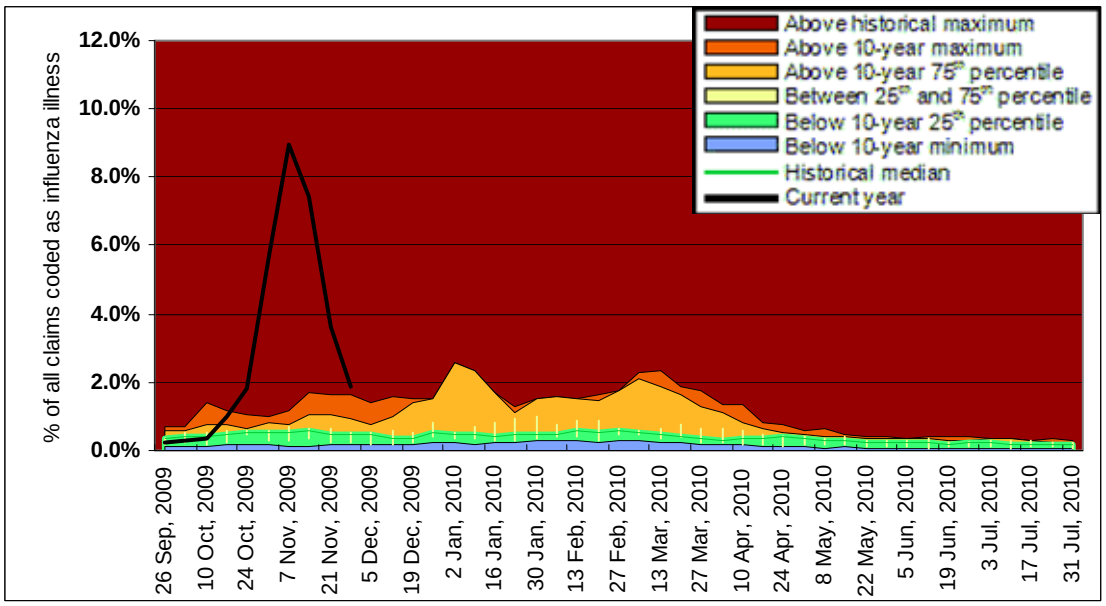
Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims show a steep decrease after several weeks of constant increase. However proportions in all five RHA's remain above the historical maximum for this time of year.

Influenza Illness Claims* British Columbia

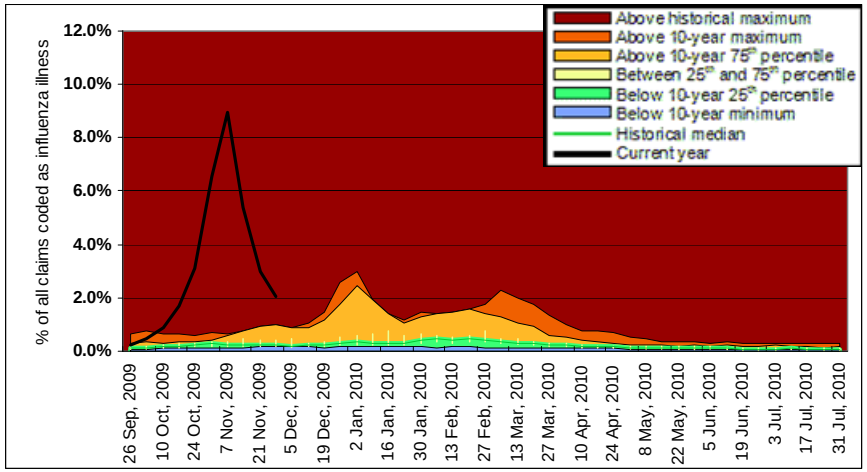


*Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).
MSP week 27 Sep 2009 corresponds to sentinel ILI week 39.**
***Current to November 25, 2009

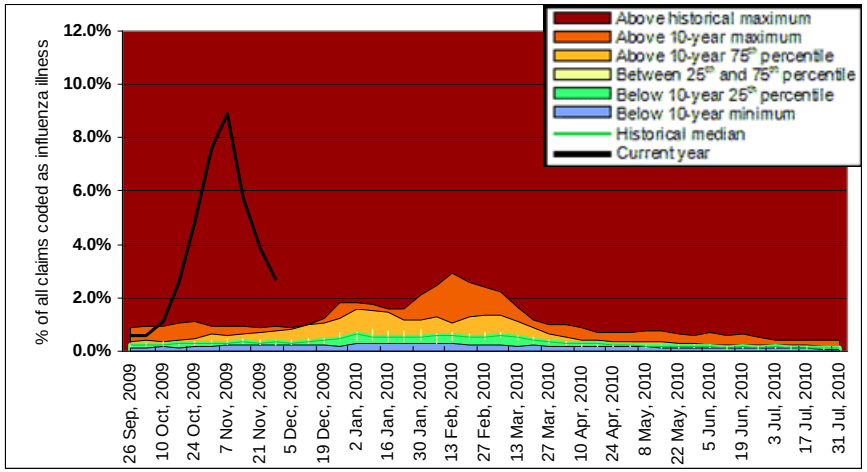
Northern



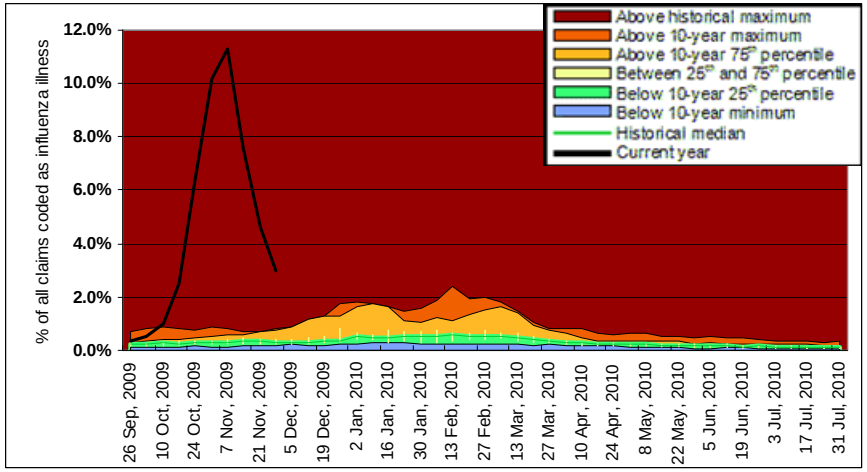
Interior



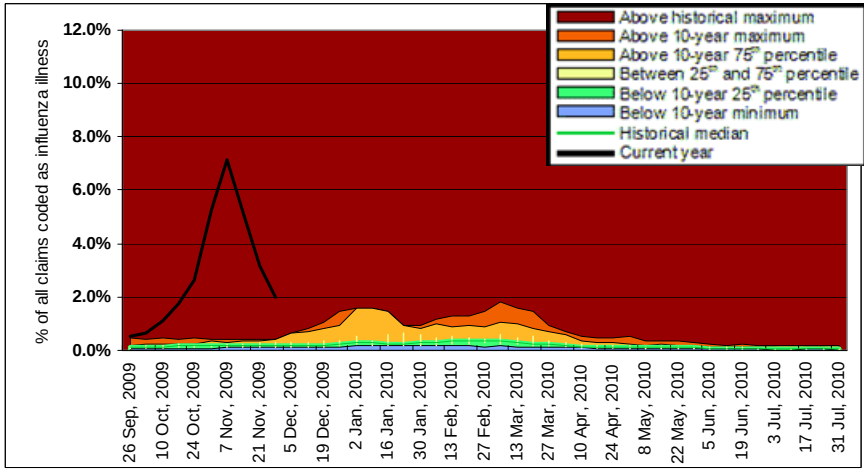
Vancouver Coastal



Fraser



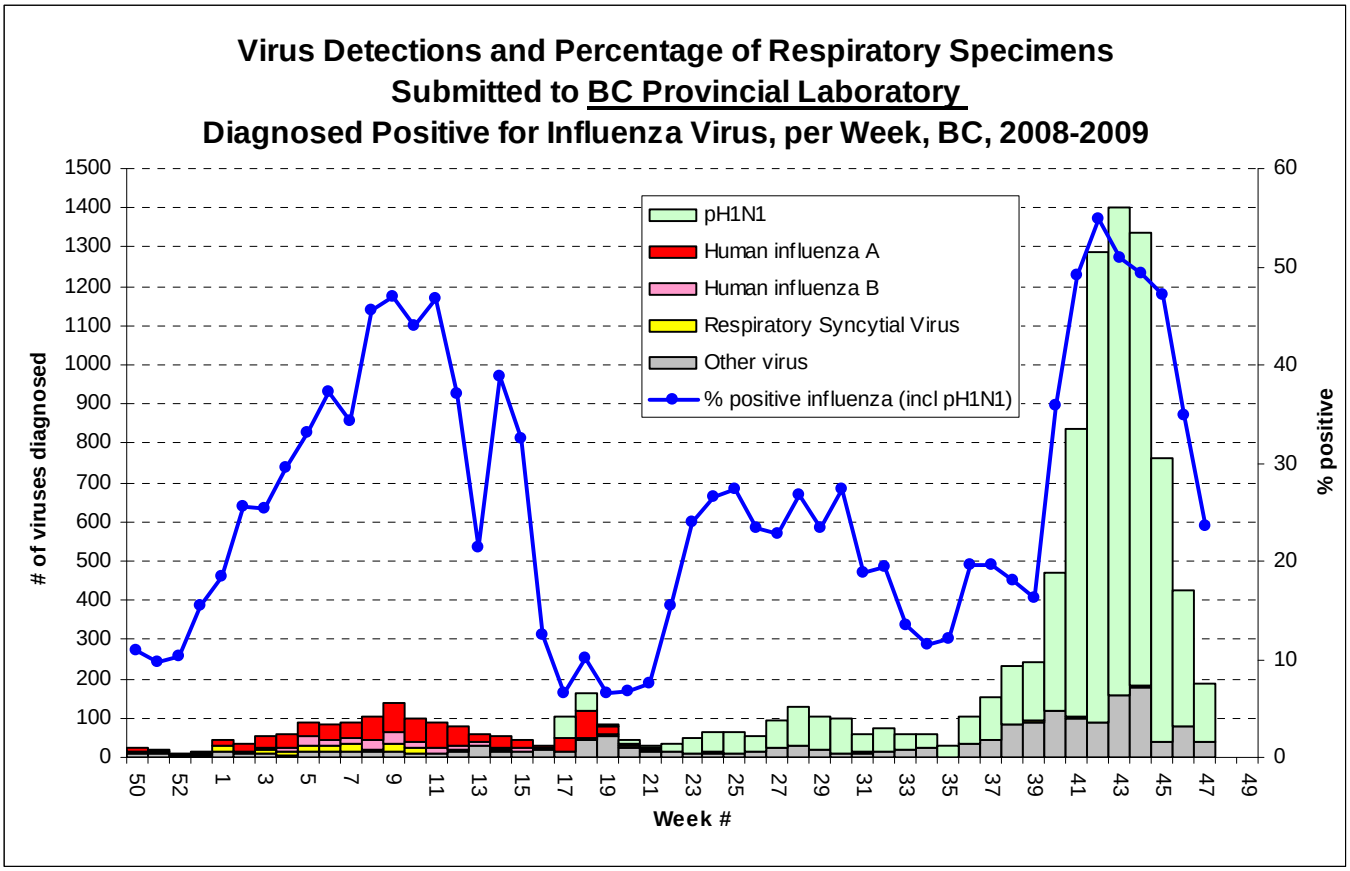
Vancouver Island

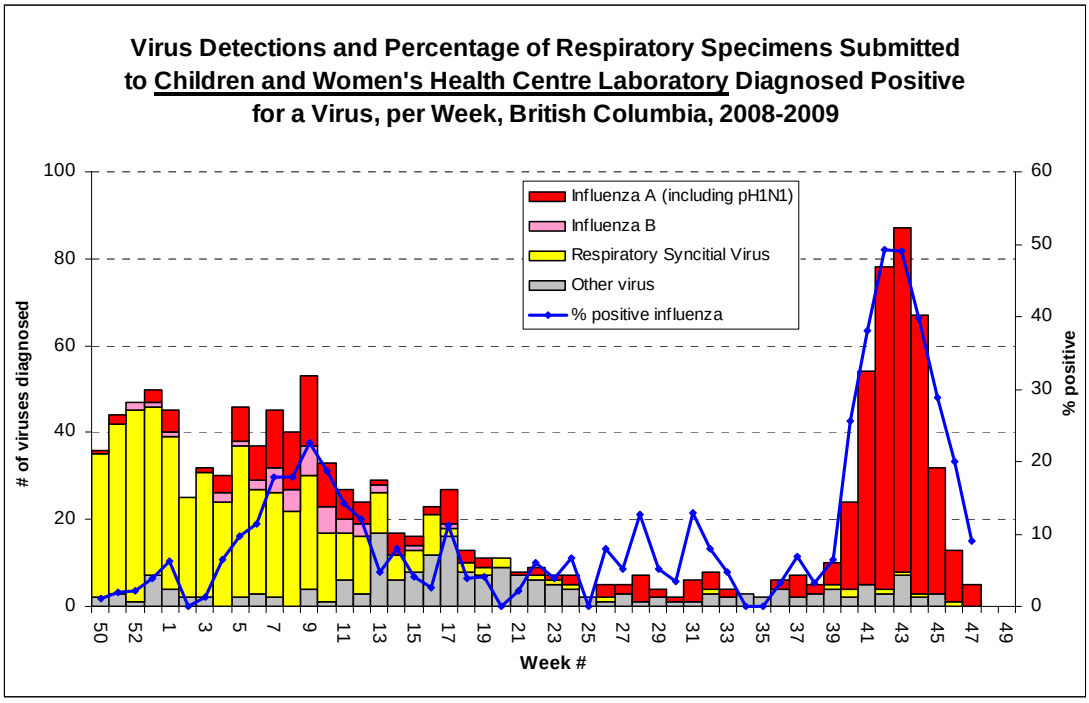


Laboratory Reports

There has been a decrease in volume of submitted specimens from 2458 specimens in week 43 to 652 in week 47. In week 47, 153 out of 652 (23.5%) tested positive for influenza A, all subtyped specimens were pH1N1. This proportion is now below the seasonal peak observed last year. Since week 35 (September 1, 2009), >99% of all subtyped influenza A viruses have been pH1N1. Other respiratory pathogens detected included parainfluenza, rhino-entero, adenovirus and coronavirus. Of these other detected viruses, 71% were rhino-enterovirus.

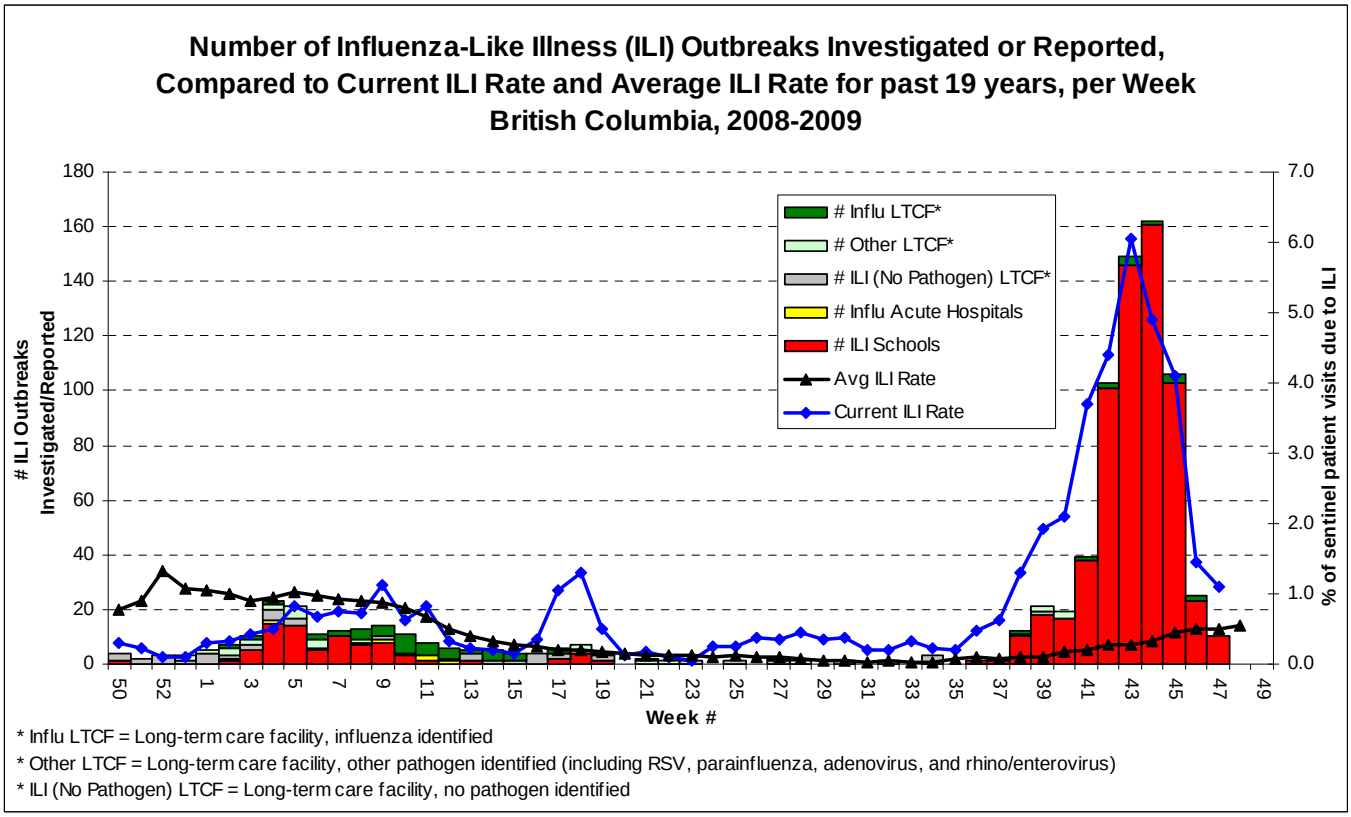
During week 47, Children's and Women's Health Centre Laboratory tested 56 respiratory specimens. The proportion positive for influenza was 8.9% and represents a decrease compared to the previous week. All subtyped specimens were pH1N1. Two specimens tested positive for parainfluenza and one tested positive for adenovirus. No other respiratory viruses were detected.





ILI Outbreaks

In week 47, the number of school ILI outbreaks decreased to 10 (5 in IHA, 2 in VCH, 2 in VIHA and 1 in FHA). No outbreaks in long term care facilities were reported.

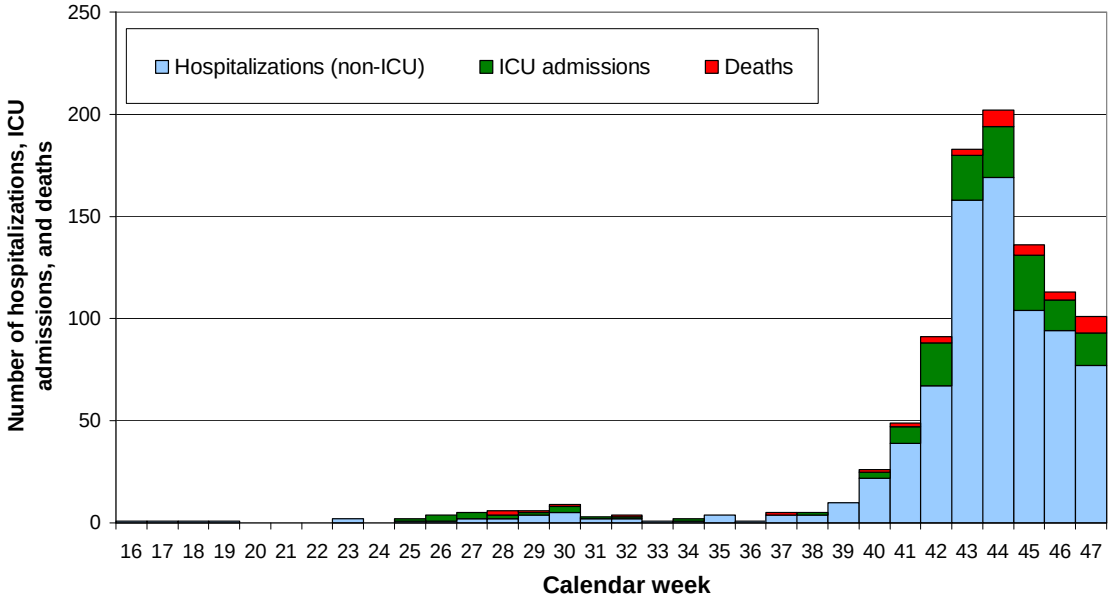


Pandemic H1N1 (pH1N1) Severe Outcomes

As of November 30 and since April 2009, 957 hospitalizations in patients with laboratory-confirmed pH1N1 have been reported in BC, of which 93 were reported in the preceding week. Among hospitalized cases, 64.4% 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 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.

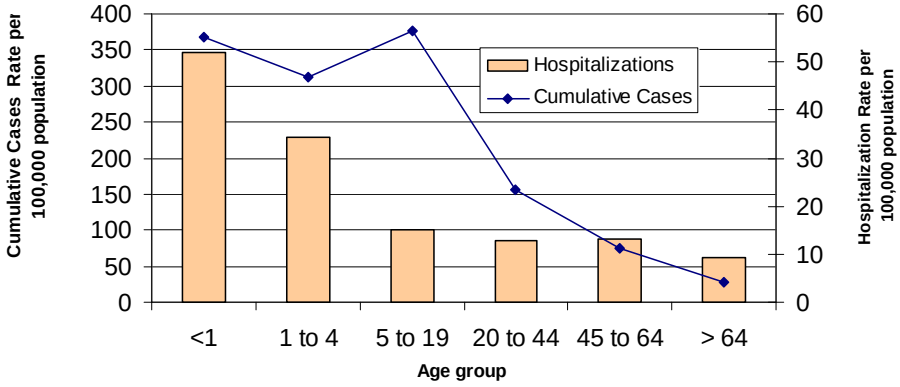
For further description of BC pH1N1 cases, visit: www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm
Resources for healthcare professionals: www.bccdc.ca/resourcematerials/newsandalerts/healthalerts/H1N1FluVirusHumanSwineFlu.htm

Epi Curve of pH1N1 Hospitalizations, ICU Admissions, and Deaths Compared to Total pH1N1 Laboratory Detections by Week Reported, British Columbia, April-November 2009



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

Cumulative Rate of pH1N1 Cases and Hospitalizations by Age, per 100,000 Population, BC April 17 - November 30, 2009



Case defined as any detection of pH1N1 at the BC provincial laboratory.

CANADA

FluWatch

During week 46, all national influenza activity indicators decreased. ILI consultation rates decreased for the second consecutive week from 111 (in week 43) to 57 consultations per 1000 patient visits in week 46; this is above the expected range for this time of year. People under 20 had the highest consultation rates. The proportion of tests positive for influenza was 34.3%, a decline from the previous week. Over 99% of all subtyped influenza A specimens were positive for pH1N1; 2 specimens were positive for H3N2 and none were positive for seasonal H1N1. One specimen was positive for influenza B. Geographically BC, Saskatchewan, Quebec and Newfoundland reported widespread activity. www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory

Between September 1st and November 26, 2009, 314 influenza isolates were collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):
310 A/California/07/2009 (H1N1)-like[§] from BC, AB, SASK, ON, QC, NS, NT, & NU;
2 A/Brisbane/59/2007(H1N1)-like[†] from AB & QC;
1 A/Brisbane/10/2007(H3N2)-like[†] from ON;
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 November 26th, 2009 indicated that most pH1N1 (n=255) isolates were sensitive to oseltamivir, 3 viruses were resistant. All influenza B isolates (n=1) and influenza A/H3N2 isolates (n=2) tested were sensitive and the one seasonal A/H1N1 isolate tested was resistant. All pH1N1 (n=220), seasonal H1N1(n=2), A/H3N2 (n=2) and influenza B (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=231), and A/H3N2 (n=7) isolates were resistant to amantadine. One isolate for seasonal H1N1 was sensitive and one was 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.

INTERNATIONAL

In the United States (http://www.cdc.gov/flu/weekly/), in the week ending November 21th, influenza activity continued to decrease. 20.5% of respiratory specimens tested in reference laboratories in week 46 were positive for influenza, and over 99% percent of the subtyped influenza A viruses were pH1N1. 0.3% of specimens tested positive for Influenza B. The proportion of sentinel physician visits for ILI decreased to 4.3%, this is above the seasonal peak for last year. The proportion of deaths attributed to pneumonia and influenza was above the epidemic threshold for the seventh consecutive week.

In Europe for the week ending November 27 influenza activity remained high. Twenty-seven countries reported activity above baseline values, 13 reported an increasing trend. 45% of sentinel laboratory samples were positive for influenza, this proportion is similar to that typically observed at the seasonal peak. Over 99% of specimens positive for influenza A were pH1N1. (http://www.eiss.org)

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

Influenza-Like Illness (ILI) Outbreak Summary Report Form

Please complete and email to 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
Total		
With ILI		
Hospitalized		
Died		

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
Total		
With ILI		
Hospitalized		
Died		

SECTION D: Laboratory Information

Specimen(s) submitted? ☐ Yes (location: _____) ☐ No ☐ Don't know

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