BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 11, Week 50

December 13-19, 2009

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

Contents:

Highlights

In week 50 (December 13-19), influenza activity indicators suggested a further decline in activity compared to the previous week. The proportion of patients presenting with ILI to sentinel physicians decreased. Medical Services Plan data also showed a decrease in the proportion of patients presenting with influenza illness syndrome. Emergency room visits from BC Children's Hospital and school outbreaks remained at similar levels to last report. At the BC provincial laboratory, 10% (23/230) 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 in BC has declined and levels are similar to the expected range for this time of year.

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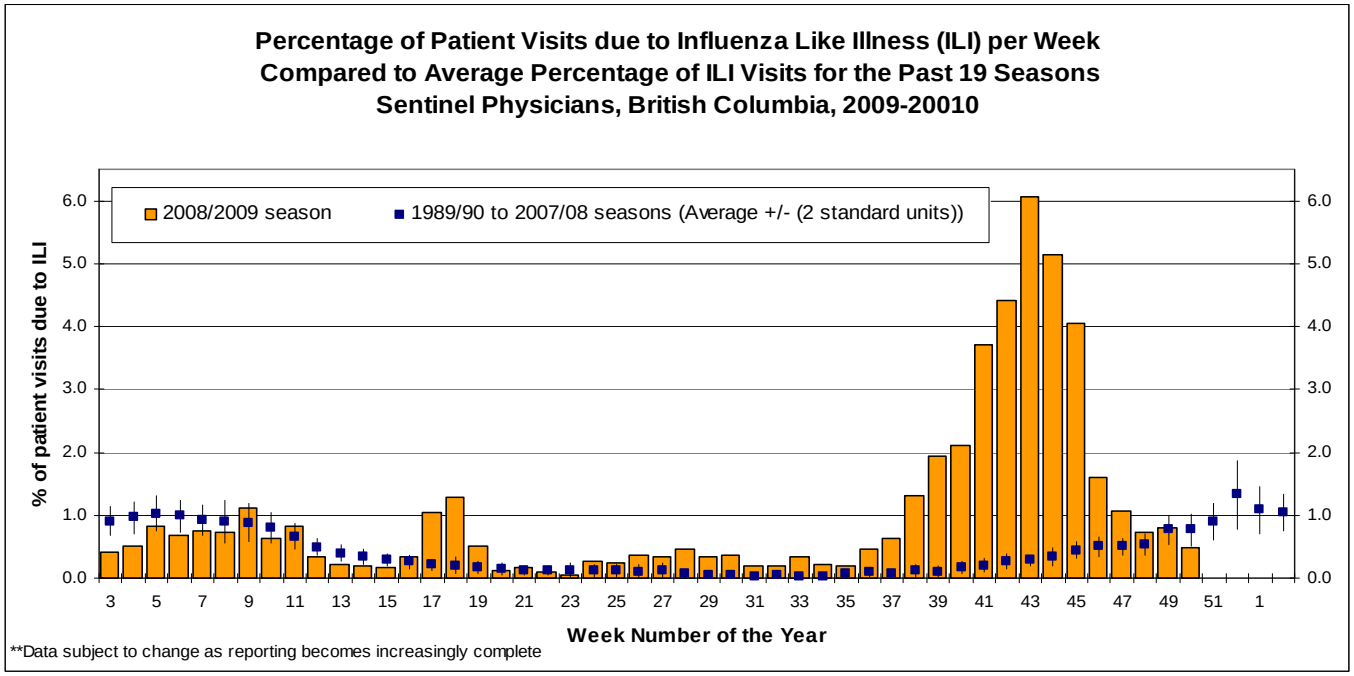
British Columbia

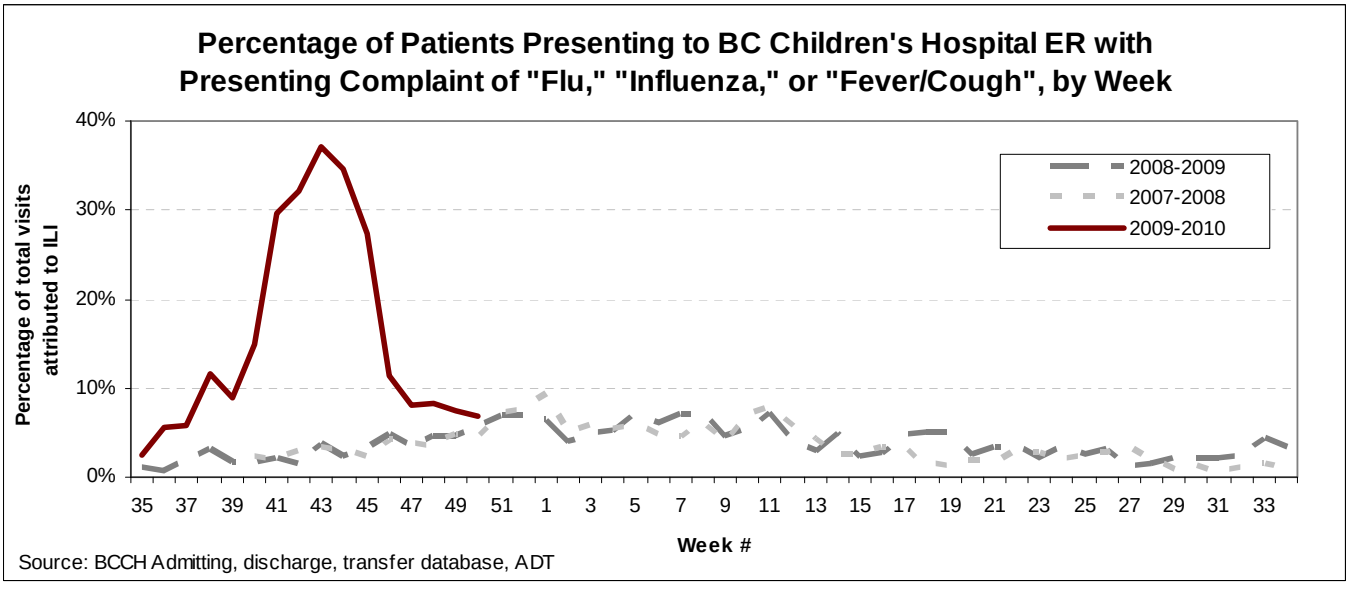
Sentinel Physicians

During week 50, the percentage of patients presenting to sentinel physicians with ILI declined to 0.49% from 0.80% during the previous week. This represents a steep decrease from 6.1% in week 43. This level is slightly below the expected range for this time of year. 63% (32/51) of sentinel physician sites reported for week 50.



BC Children's Hospital Emergency Room

During week 50, the proportion of Emergency Room visits that BC Children's hospital attributed to fever and cough declined (6.7%) slightly in comparison to the previous week (7.6%), this represents a substantial decline from a high of 37% in week 43.

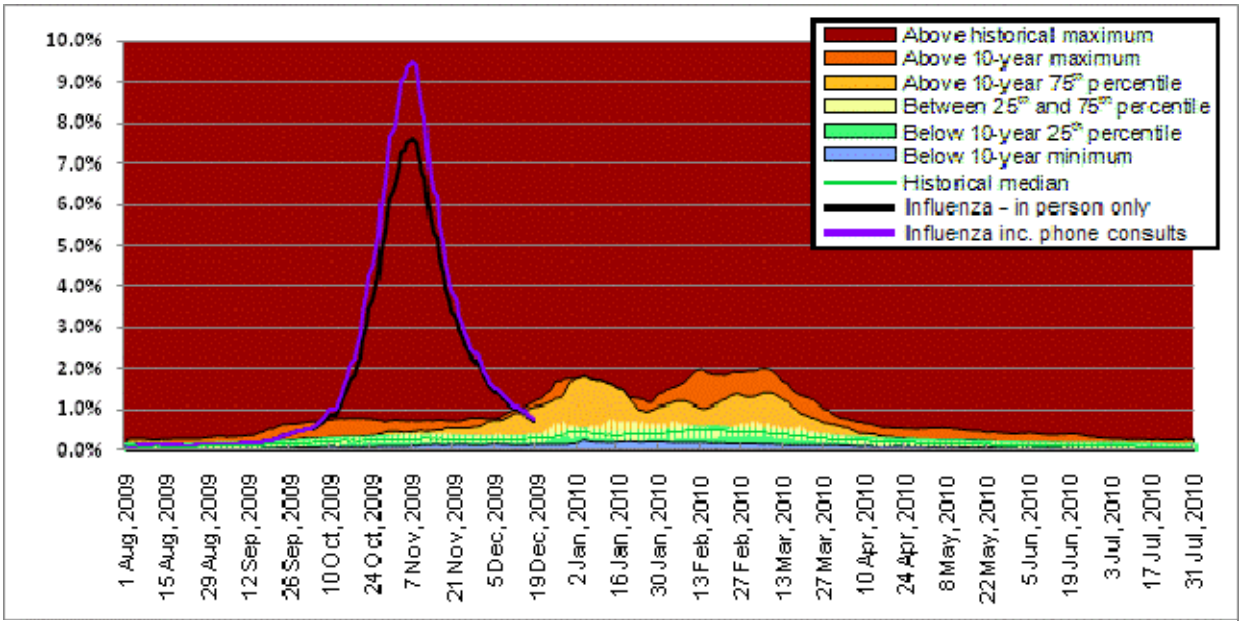


Emergency Room data kindly provided by the Decision Support Services at BC Children's Hospital

Medical Services Plan

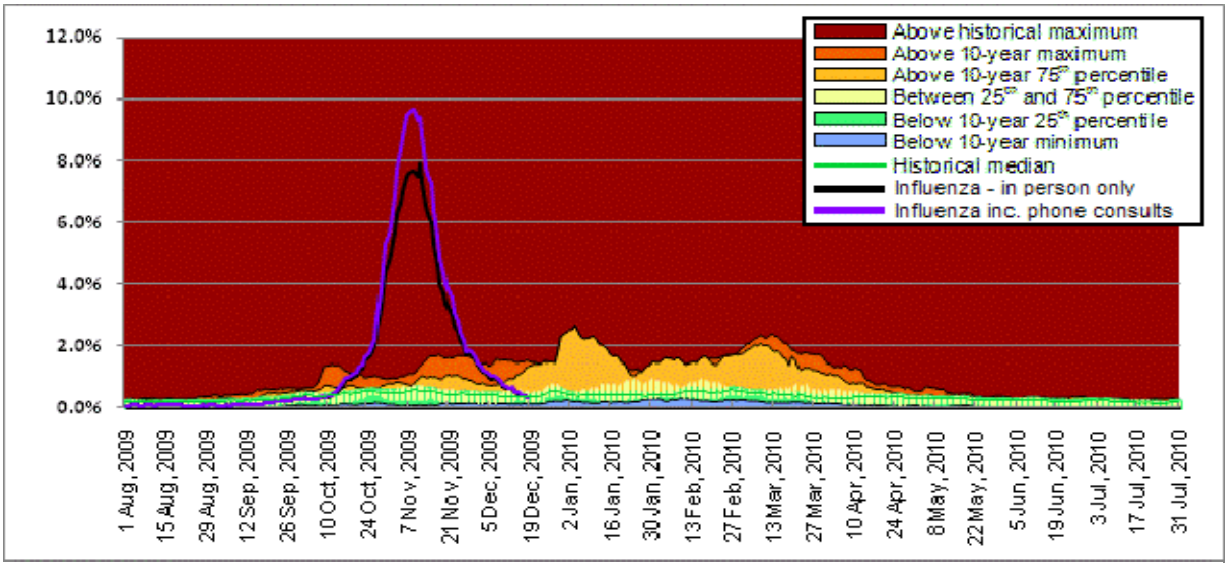
Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims showed a steep decrease after several weeks of constant increase. Proportions in VCHA, FHA and VIHA remain above the 10 year 75th percentile but below the 10 year maximum while NHA and IHA levels are below the historic 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).

Influenza Illness Claims* British Columbia

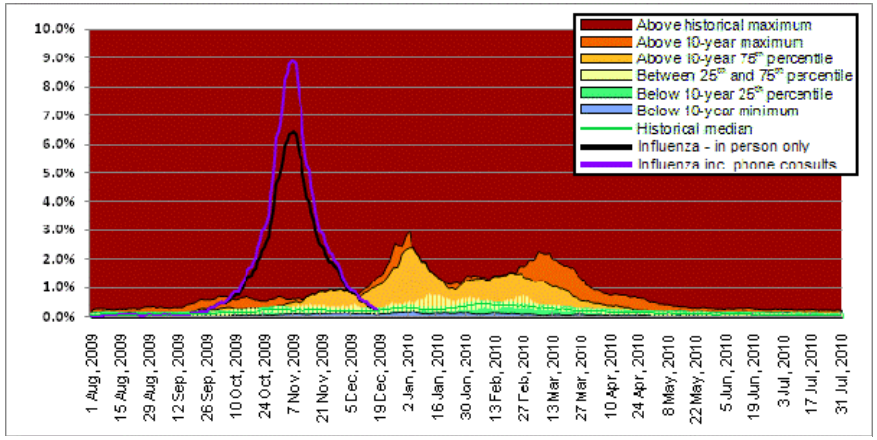


*Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).
MSP week 27 Sep 2009 corresponds to sentinel ILI week 39.**
***Current to December 8, 2009

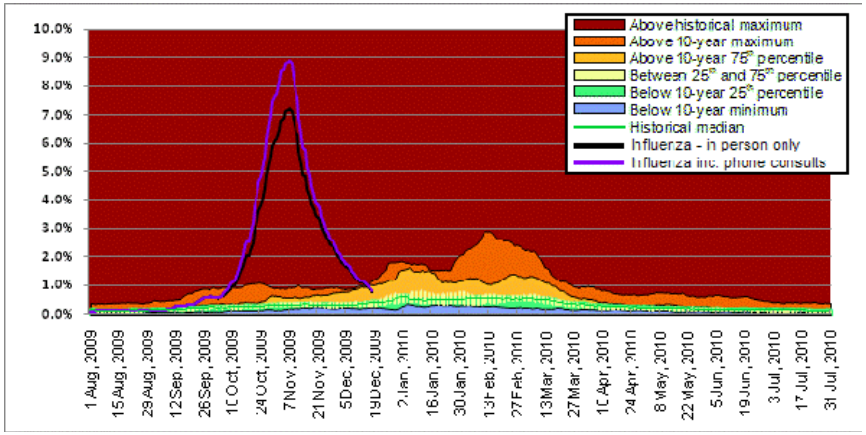
Northern



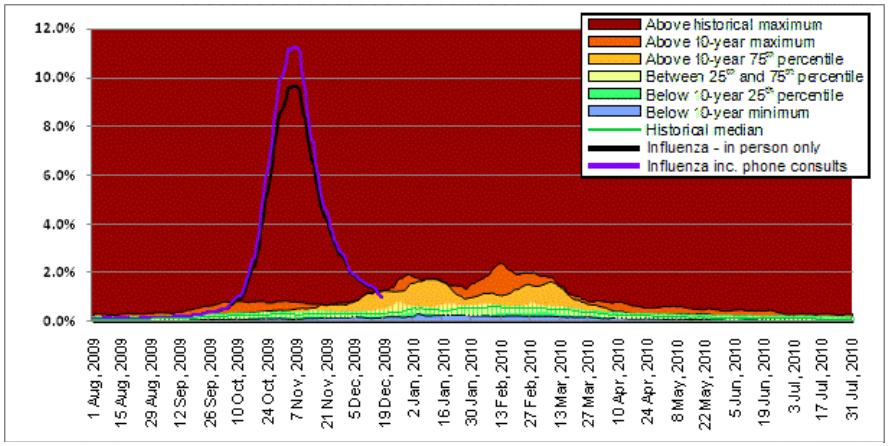
Interior



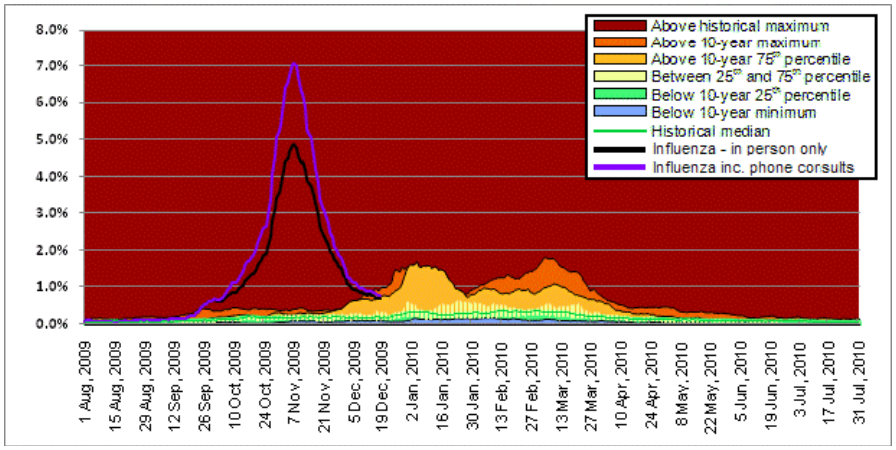
Vancouver Coastal



Fraser



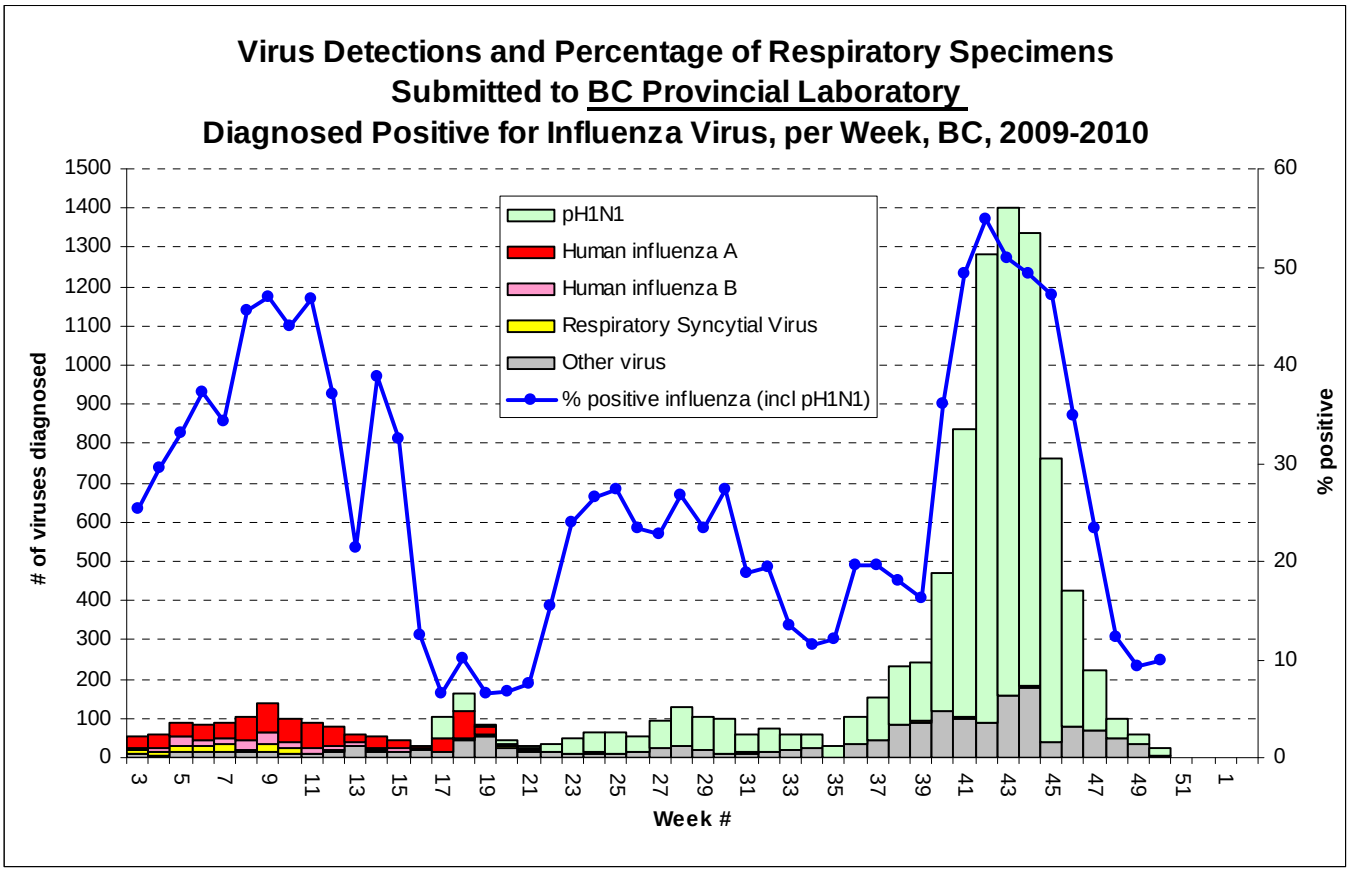
Vancouver Island

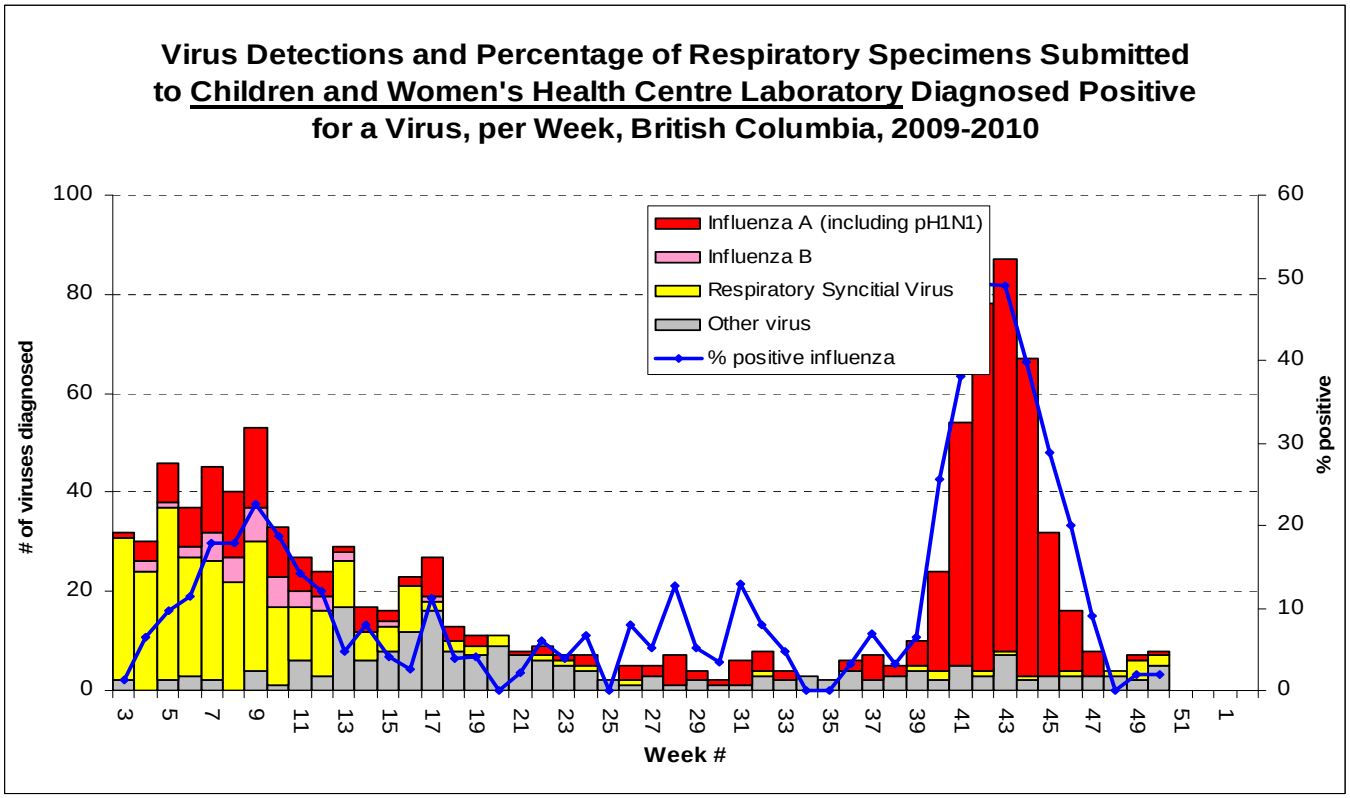


Laboratory Reports

There has been a decrease in the volume of submitted specimens from 2458 specimens in week 43 to 230 in week 50. In week 50, 23 out of 230 (10%) respiratory specimens tested positive for influenza A, and 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. In week 50, 16 specimens were tested for other respiratory pathogens, of these 3 (19%) tested positive for rhino-entero virus.

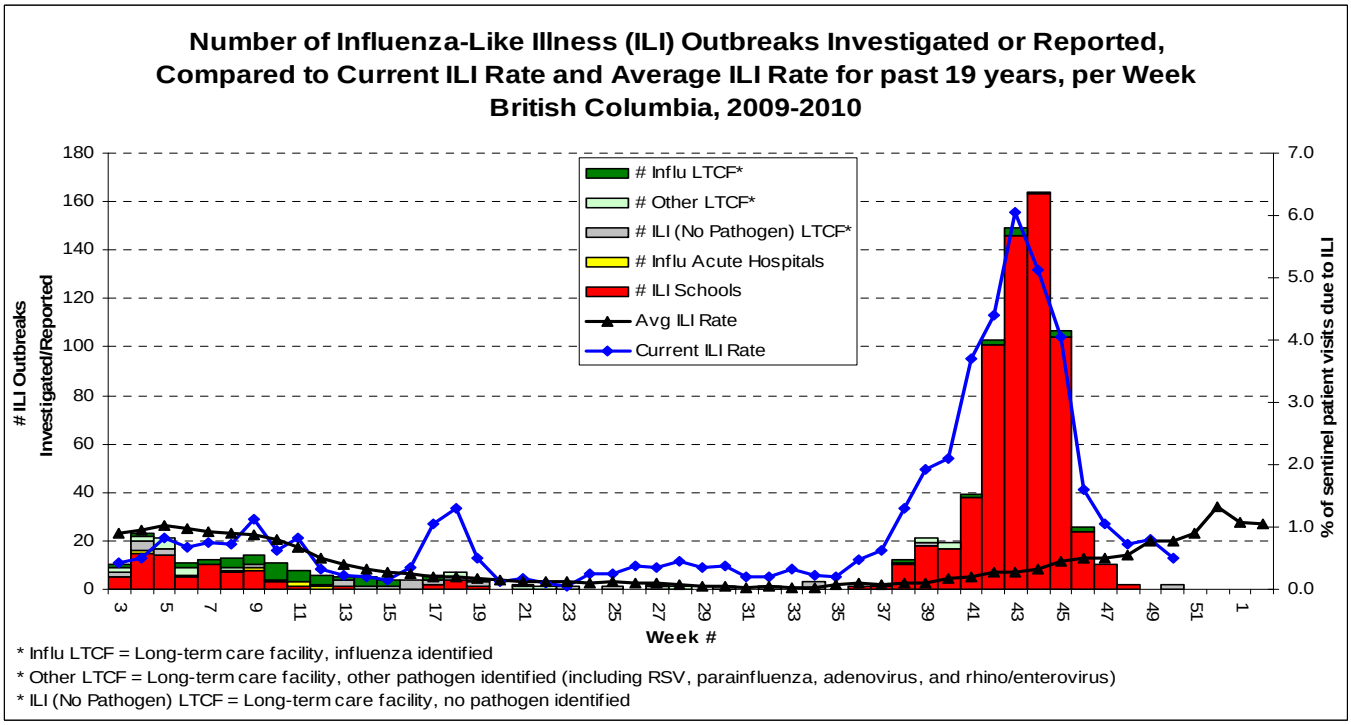
During week 50, Children's and Women's Health Centre Laboratory tested 54 respiratory specimens. One was positive for influenza; this is similar to the previous week. Two specimens tested positive for RSV, three tested positive for parainfluenza, and two tested positive for adenovirus.





ILI Outbreaks

In week 50, there were 2 ILI outbreaks in long term care facilities (one in VCH and another in VIHA), both of these were negative for influenza.

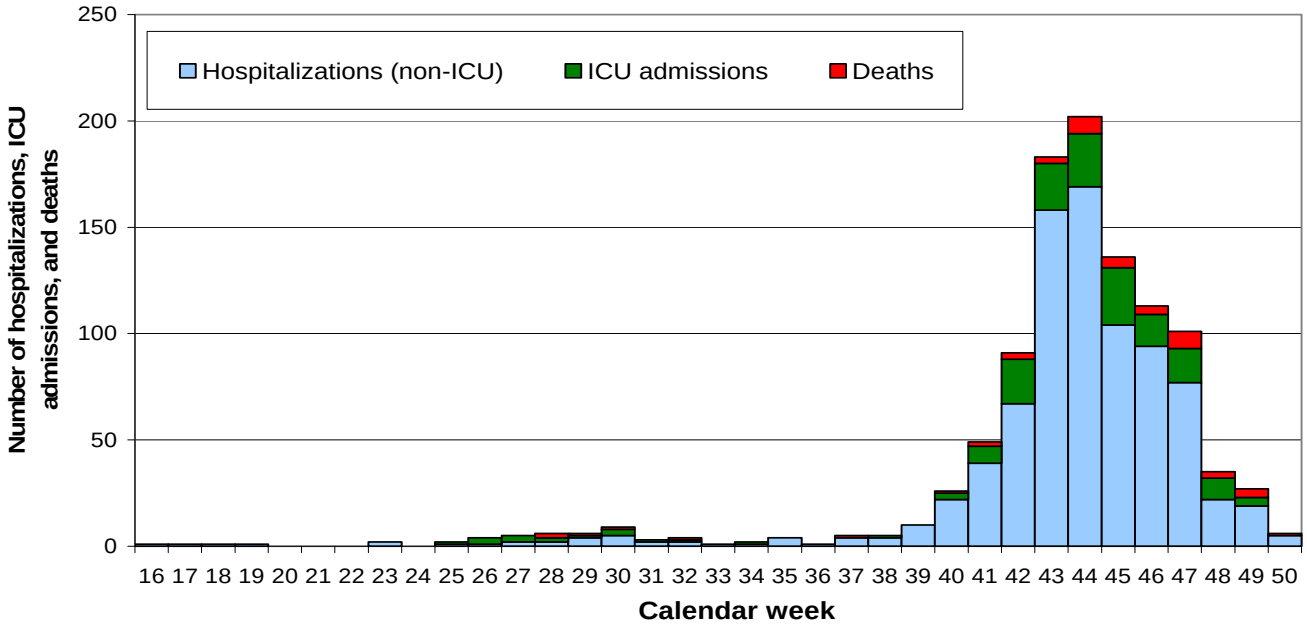


Pandemic H1N1 (pH1N1) Severe Outcomes

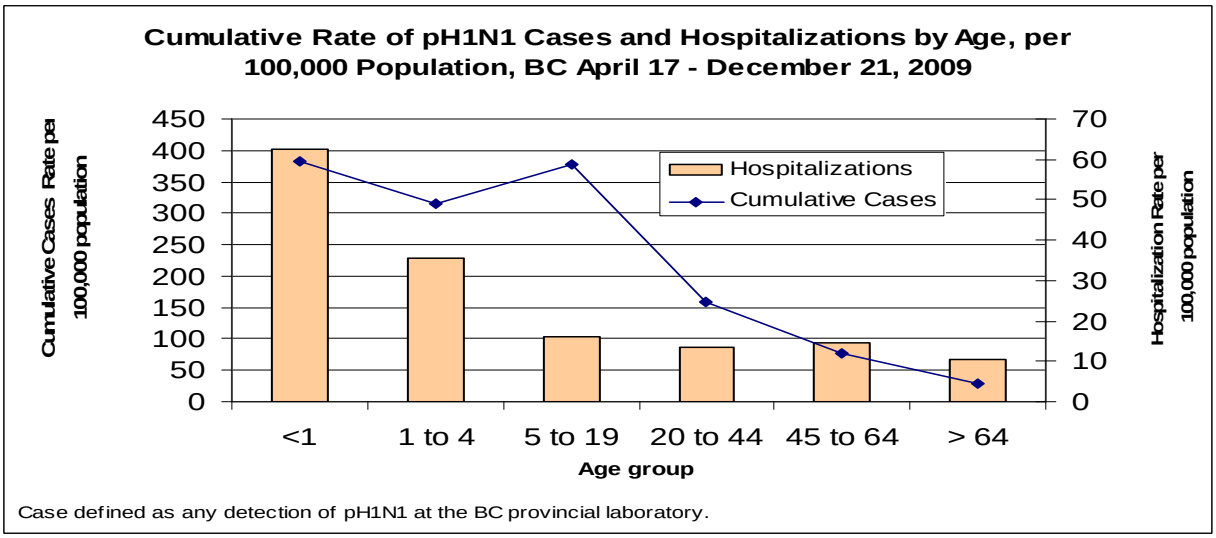
As of December 21 and since April 2009, 1037 hospitalizations in patients with laboratory-confirmed pH1N1 have been reported in BC, of which 5 were reported in the preceding week. Among hospitalized cases, 65% had at least one reported underlying medical condition (excluding pregnancy). Twenty-seven percent of hospitalized cases have been admitted to the intensive care unit and 9% 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 by Week Reported, British Columbia, April-December 2009



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



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

CANADA

FluWatch

During week 49, all national influenza activity indicators decreased. ILI consultation rates decreased for the fourth consecutive week from 111 (in week 43) to 18 consultations per 1000 patient visits in week 49 similar to last week; this is within the expected range for this time of year. People under 20 had the highest consultation rates. The proportion of tests positive for influenza was 6.6%, a decline from the previous week. Over 99% of all subtyped influenza A specimens were positive for pH1N1; 1 specimen was positive for H3N2 and none were positive for seasonal H1N1. One specimen was positive for influenza B. Geographically only four regions in Ontario, New Brunswick and Newfoundland & Labrador reported localized activity and none have reported widespread activity. www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory

Between September 1st and December 17, 2009, 526 influenza isolates (518 pandemic H1N1 and 8 seasonal) were collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):
515 A/California/07/2009 (H1N1)-like[§] from BC, AB, SASK, MN, ON, QC, NB, NS, NT, & NU; 3 isolates showed reduced titer to A/California/07/2009;
2 A/Brisbane/59/2007(H1N1)-like[†] from AB & QC;
1 A/Brisbane/10/2007(H3N2)-like[†] from ON;
4 A/Perth/16/2009 (H3N2)-like from AB & QC;
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 December 17th, 2009 indicated that most pH1N1 (n=561) isolates were sensitive to oseltamivir, 5 viruses were resistant. All influenza B isolates (n=1) and influenza A/H3N2 isolates (n=7) tested were sensitive and the 2 seasonal A/H1N1 isolates tested were resistant. All pH1N1 (n=554), seasonal H1N1(n=2), A/H3N2 (n=7) and influenza B (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=580), and A/H3N2 (n=15) 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 December 12th, influenza activity continued to decrease. 6.9% of respiratory specimens tested in reference laboratories in week 49 were positive for influenza, and over 98% percent of the subtyped influenza A viruses were pH1N1. 0.5% of specimens tested positive for Influenza B. The proportion of sentinel physician visits for ILI decreased to 2.6%; this is below the seasonal peak for last year, but above baseline levels. The proportion of deaths attributed to pneumonia and influenza was above the epidemic threshold for the eleventh consecutive week.

In Europe for the week ending December 13 influenza activity remained elevated. Most reporting countries indicated medium to high intensity influenza activity and thirteen countries reported a declining trend. 34% of sentinel laboratory samples were positive for influenza. 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