BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 5, Week 44

November 1 - 7, 2009

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

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Early Indicators Suggest Influenza Activity Has Been Peaking; Levels Remain Above Historical Maximums in BC

Contents:

Highlights

In week 44 (November 1-7), influenza activity indicators remained elevated. Some indicators including Medical Services Plan claims for influenza, emergency room visits from BC Children's Hospital, and laboratory positivity for influenza showed early signal of possible decline. Other indicators including the proportion of patients presenting to sentinel physicians for ILI and school outbreaks were sustained at approximately the same high levels. At the BC Provincial Laboratory, 49.1% (1170/2380) of respiratory specimens were positive for influenza A, and all subtyped isolates were the pandemic H1N1 virus (pH1N1). Some surveillance indicators suggest that influenza activity due to pandemic H1N1 in BC has been peaking and may be turning the corner. Several more weeks of monitoring are required before a decline in activity can be ascertained conclusively. In the meantime, it should be noted that current activity levels are still well above the expected range for this time of year.

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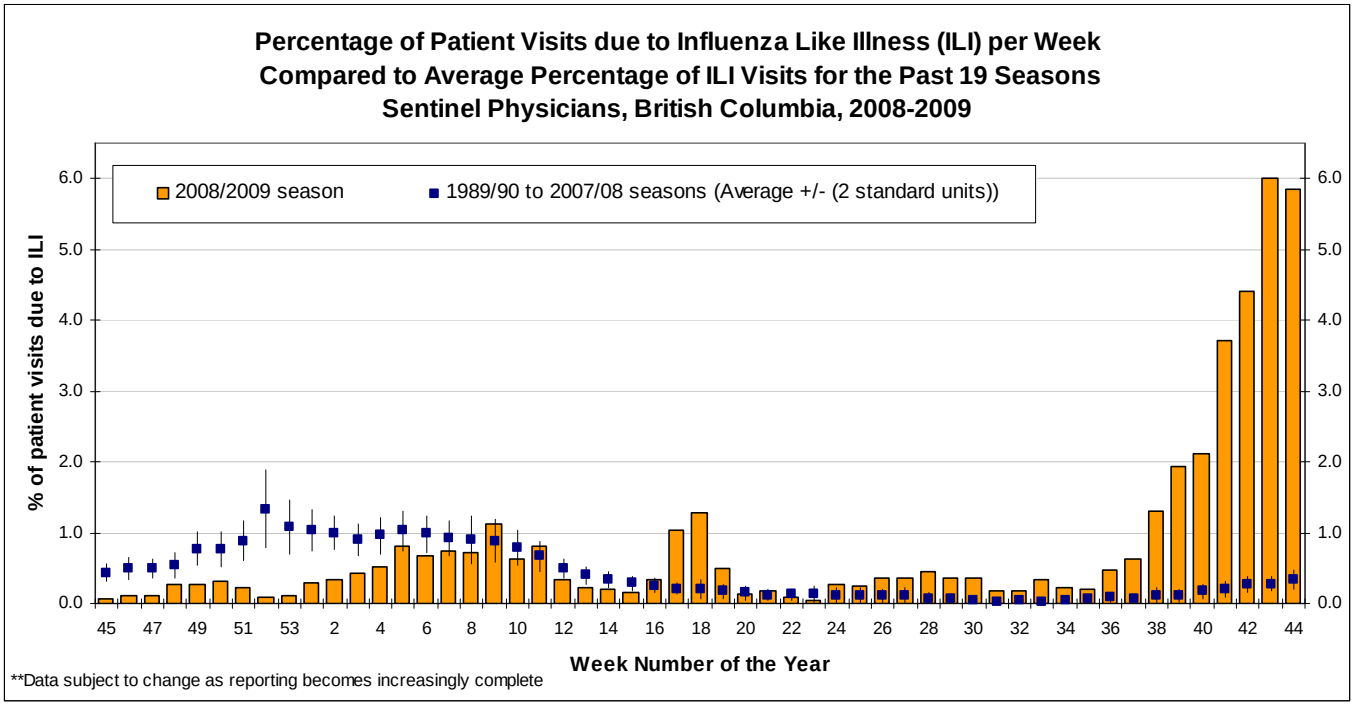
Edited: November 12, 2009
Disseminated/posted to web: November 12, 2009
Contributors: Vanita Sahni, Travis Hottes, Naveed Janjua, Danuta Skowronski

British Columbia

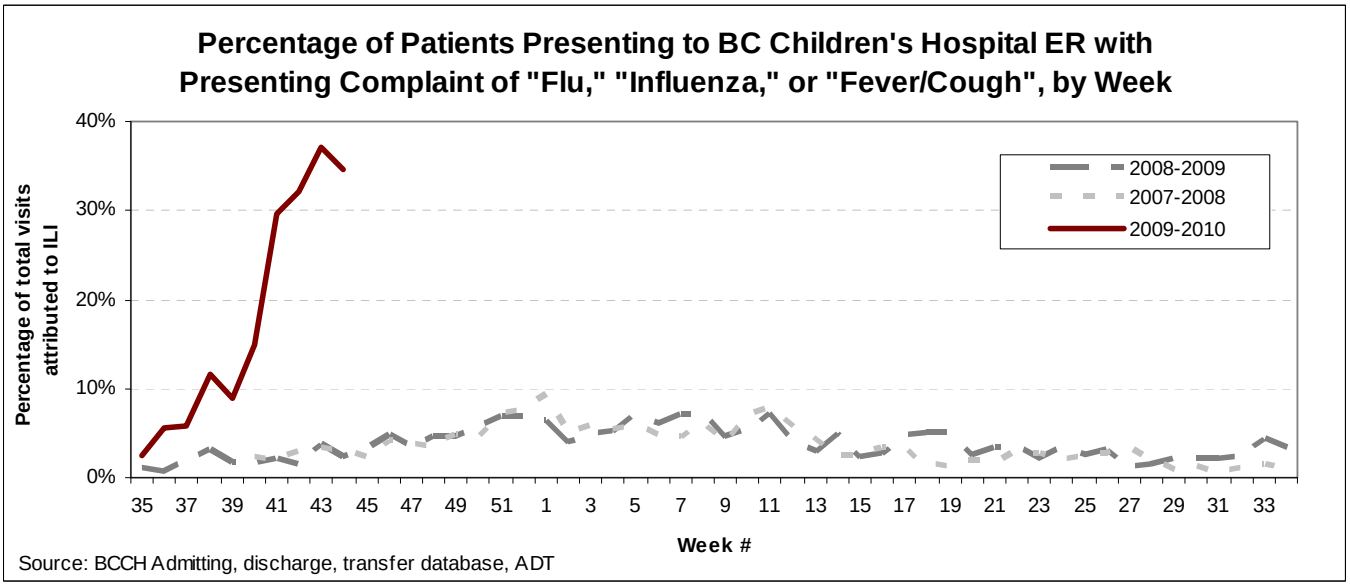
Sentinel Physicians

During week 44, the percentage of patients presenting to sentinel physicians with ILI remained at approximately the same level (5.9%) as the prior week (6.0%). This is higher than the proportion observed during the peak of the 2008-09 season and the historic peak. 65% (33/51) of sentinel physicians reported for week 44.



BC Children's Hospital Emergency Room

During week 44, the proportion of Emergency Room visits that BC Children's hospital attributed to fever and cough declined slightly from 37% during week 43 to 34.6% during week 44.

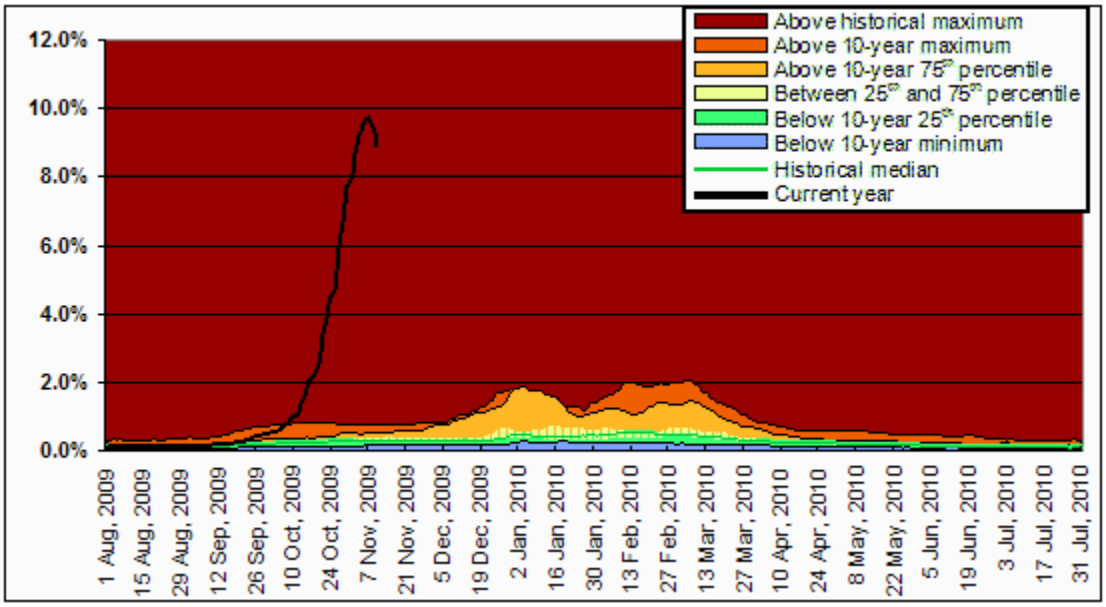


Emergency Room data kindly provided by the Decision Support Services at BC Children's Hospital

Medical Services Plan

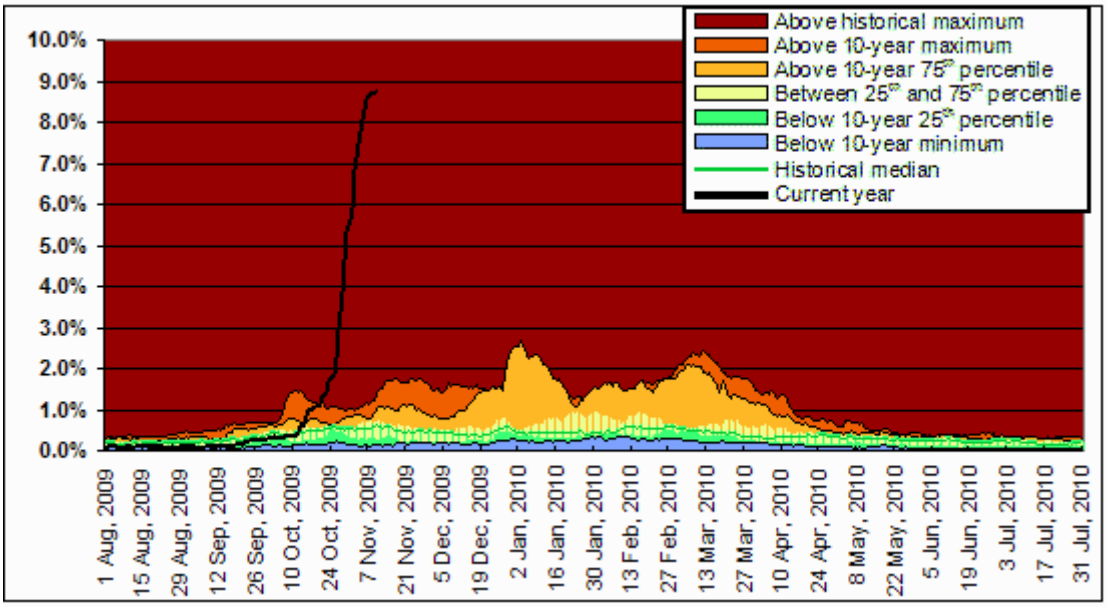
Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims shows some downward turn after several weeks of constant increase. However proportions in all five RHA's remained well above the historical maximum.

Influenza Illness Claims* British Columbia

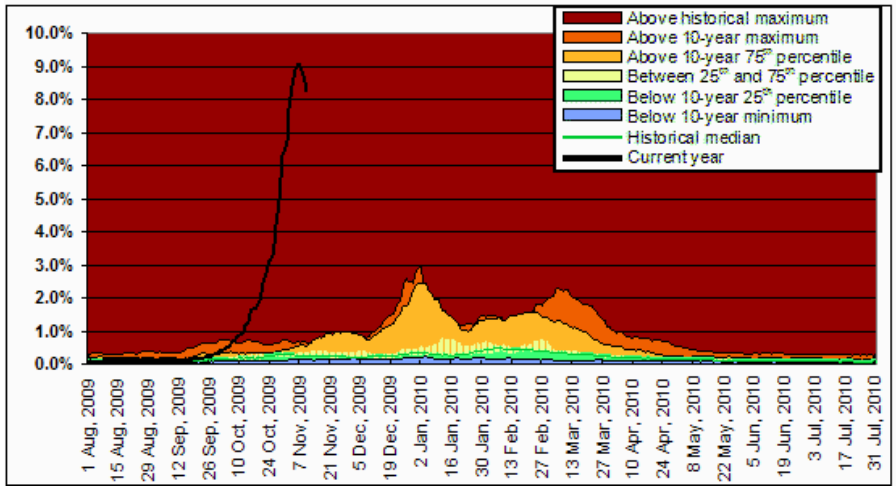


*Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).
MSP week 27 Sep 2009 corresponds to sentinel ILI week 40.**
***Current to November 10, 2009

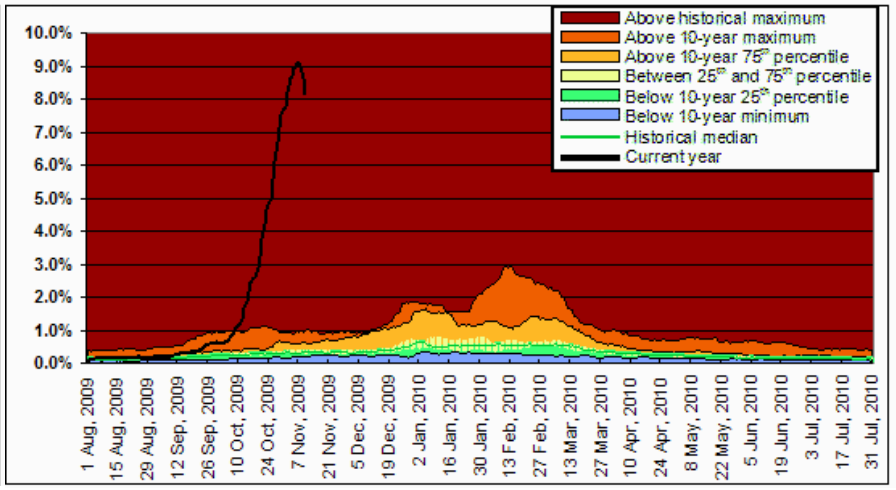
Northern



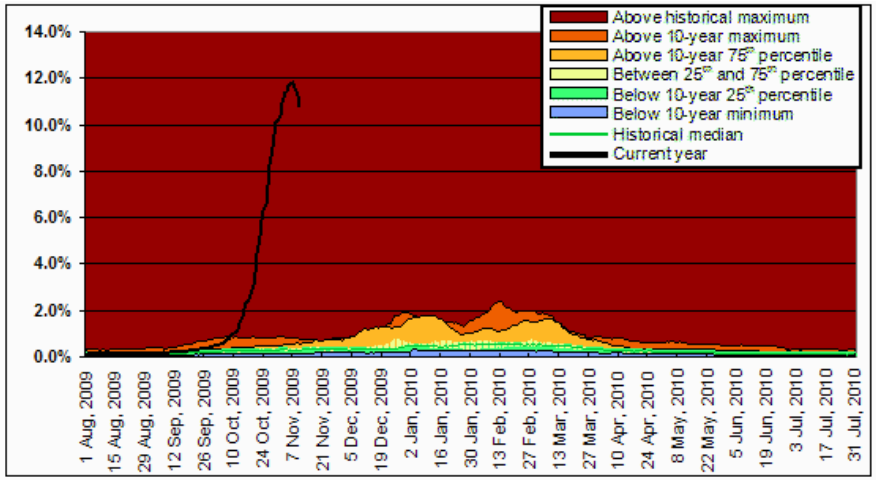
Interior



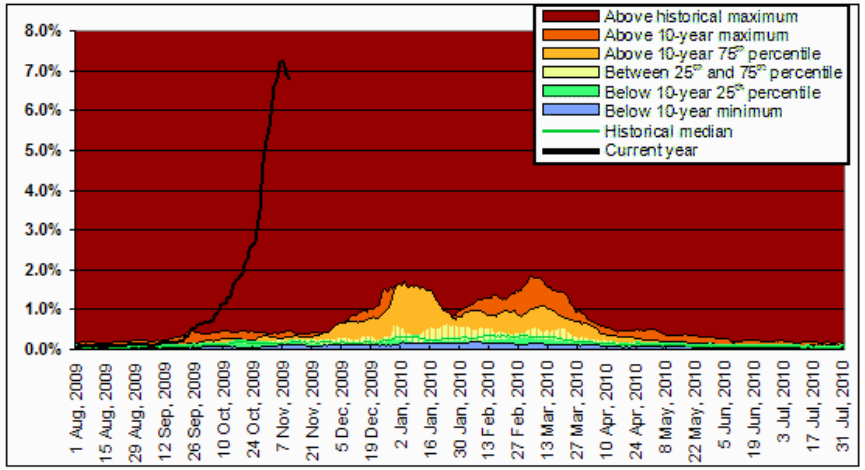
Vancouver Coastal



Fraser



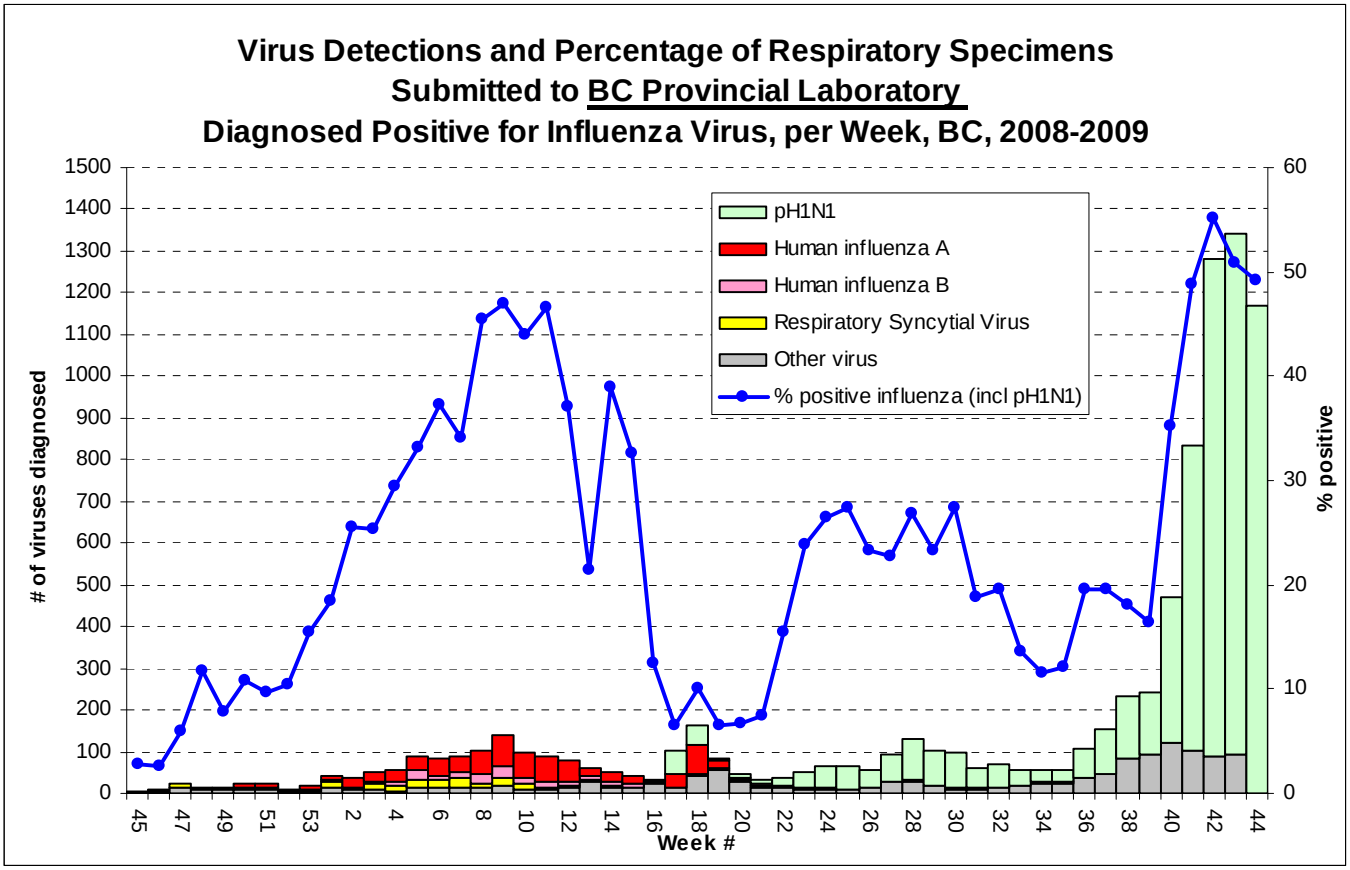
Vancouver Island



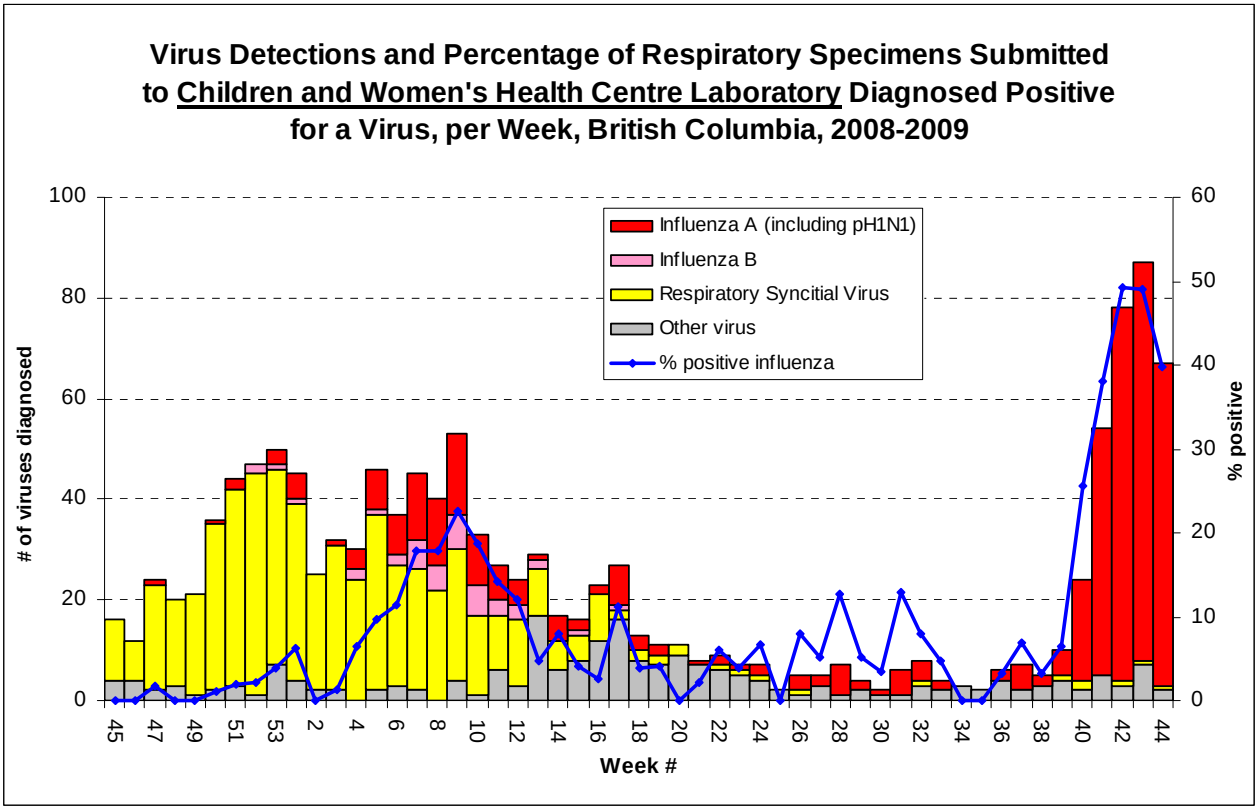
Laboratory Reports

Over the past few weeks, there has been a large increase in the number of respiratory specimens submitted to BCCDC Laboratory Services. In week 44 the lab tested 2380 respiratory specimens, 1170 (49.1%) tested positive for influenza A (including pH1N1), this is similar in volume and percent positivity compared to the previous week. The percent positivity is also similar to the seasonal peak observed last year. Of those subtyped (n=1168) 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 44. Results of other respiratory pathogen testing are not yet available.

During week 44, Children's and Women's Health Centre Laboratory tested 161 respiratory specimens. 39.8% were positive for influenza and all subtyped specimens were pH1N1. This proportion positive represents a decrease compared to the previous week. One specimen tested positive for RSV and 2 tested positive for parainfluenza.

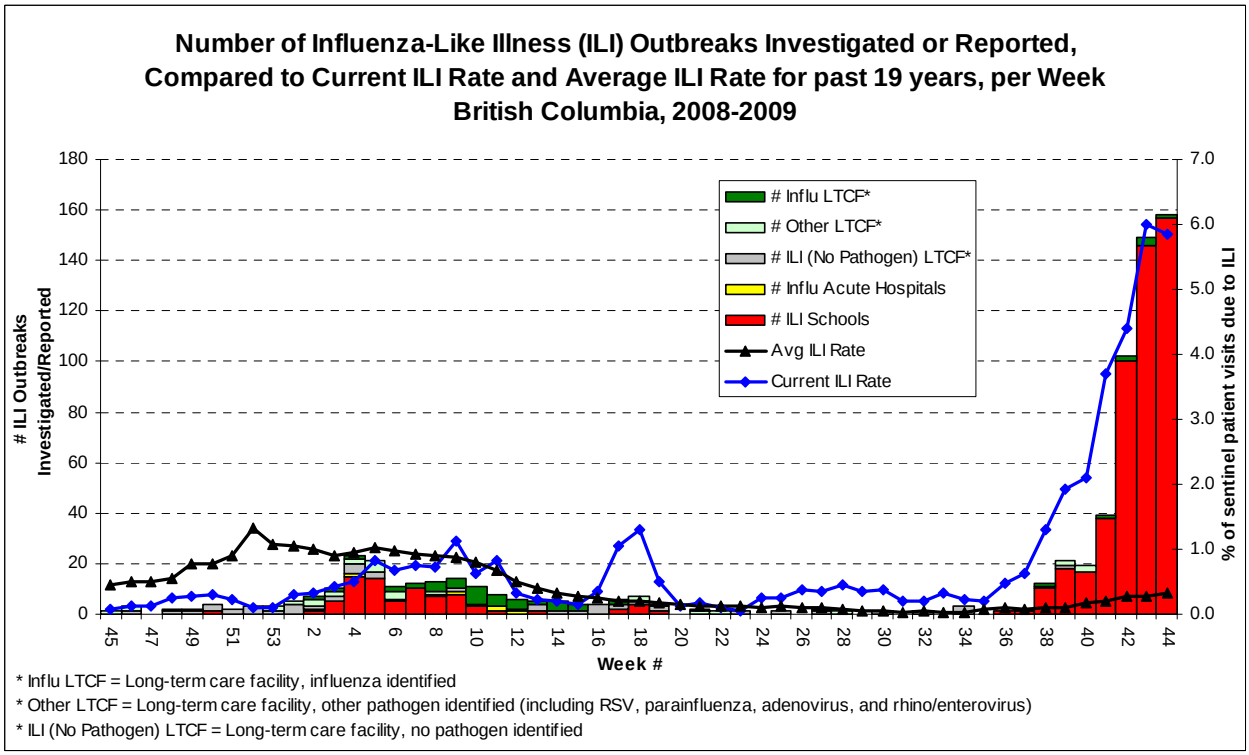


Note: The increase in bars during weeks 17-19 above reflects the large surge in specimens submitted to BCCDC for testing (2594 specimens were tested, a 5-fold increase over the number of tests performed during the 3-week period of peak activity this season). The increases in weeks 38-44 reflect a similar surge in testing.



ILI Outbreaks

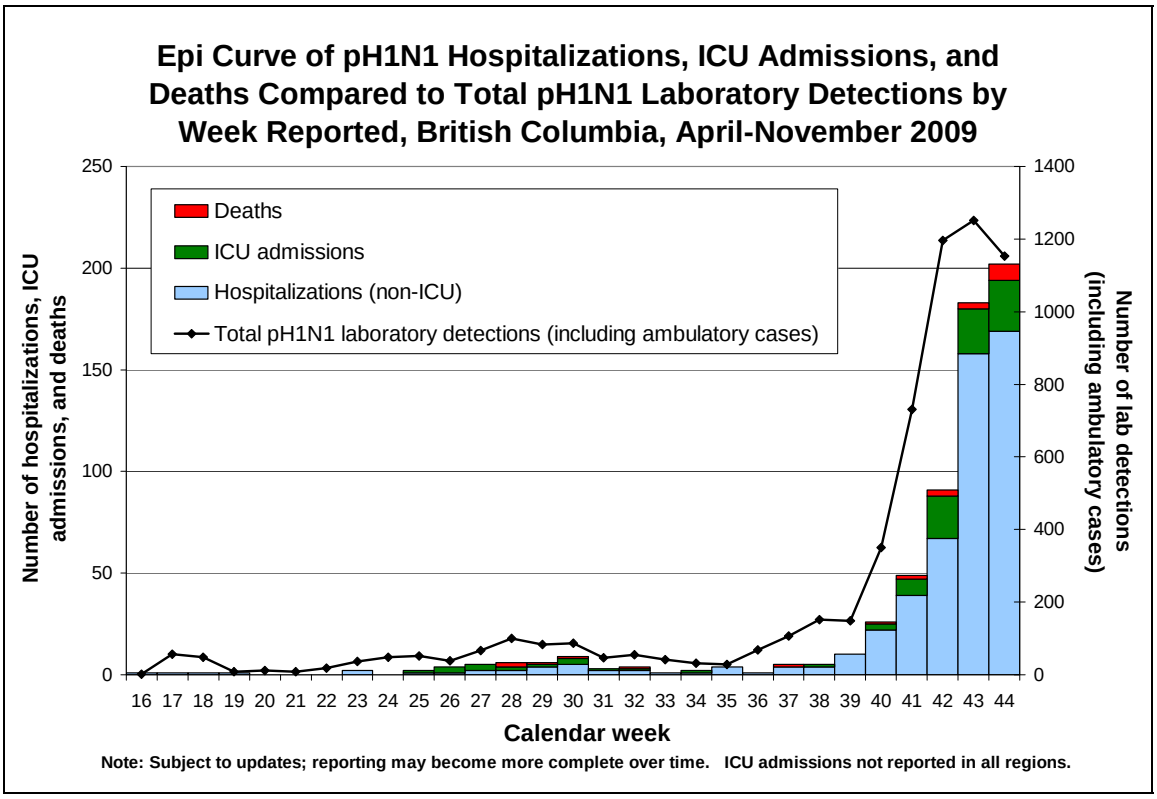
In week 44, the number of school ILI outbreaks increased to 157 (76 in IHA, 24 in FHA, 37 in VIHA, 10 in NHA, and 10 in VCH). Of these, one outbreak was tested and confirmed as pH1N1, reported in week 44 from VCH.

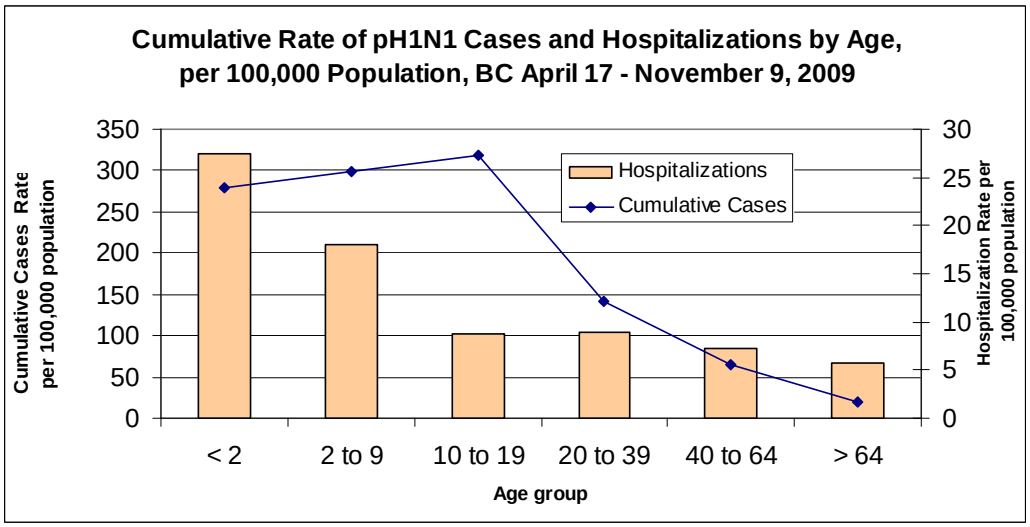


Pandemic H1N1 (pH1N1) Severe Outcomes

As of November 9, 601 pH1N1 cases in BC have been admitted to hospital, of which 201 were reported in the preceding week. Among hospitalized cases, 61.8% had at least one underlying medical condition; 14% had lung disease, 17% had asthma and 8% had chronic heart disease. Twenty-six percent of hospitalized cases have been admitted to the intensive care unit and 7% have died. As shown in the graph below, pH1N1 total case detection rates have been highest among those 10 to 19 years of age, while hospitalization rates have been 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





CANADA

FluWatch

During week 43, national influenza activity levels increased from the previous week. ILI consultation rates increased from 59 to 111 consultations per 1000 patient visits; 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 36.3% a large increase compared to previous weeks. 99.7 % of all subtyped influenza A specimens were positive for pH1N1; a single specimen was positive for seasonal H1N1 and 13 specimens were positive for H3N2. Two were positive for influenza B. Geographically BC, Alberta Saskatchewan, Ontario, Newfoundland and the Northwest Territories reported widespread activity; however activity levels are also increasing in the rest of the country. www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory

Between September 1st and November 12, 2009, 72 influenza isolates were collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):
70 A/California/07/2009 (H1N1)-like[§] from AB, ON, SASK, BC, NT, & NU;
1 A/Brisbane/59/2007(H1N1)-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 November 12th, 2009 indicated that most pH1N1 (n=67) isolates were sensitive to oseltamivir, 2 viruses were resistant. All influenza B isolates (n=1) and influenza A/H3N2 isolates tested were sensitive and the one seasonal A/H1N1 isolate tested was resistant. All pH1N1 (n=70), seasonal H1N1(n=1), A/H3N2 (n=1) and influenza B (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=62), seasonal H1N1(n=1) and A/H3N2 (n=3) 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.

INTERNATIONAL

Northern Hemisphere: In the United States (http://www.cdc.gov/flu/weekly/), in the week ending October 31 influenza activity remained elevated. 37.2% of respiratory specimens tested in reference laboratories in week 43 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 remained elevated at 7.7%, 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 November 6 influenza activity continued to increase. Eight of out of 24 countries reported a very high or high activity, of these 4 countries reported high activity for the first time. 48% of sentinel laboratory samples were positive for influenza, and over 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.

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