BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2008-09: Number 35, Week 39

September 27– October 3, 2009

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

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Further Signs of Increase in Influenza Activity in BC for the Second Consecutive Week

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Highlights

In week 39 (Sept 27-October 3), BC continued to experienced a large increase in influenza activity. The proportion of patients presenting to sentinel physicians for ILI and Medical Services Plan claims for influenza both increased sharply compared to the previous week. The proportion of emergency room visits to BC Children's hospital decreased compared to last week but remained high for this time of year. Eighteen school outbreaks and one long term care facility outbreak for entero/rhino virus were reported during this period. At the BC Provincial Laboratory, 16.4% (151/912) 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 is increasing and remains above the expected range for this time of year.

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Edited: October 7, 2009
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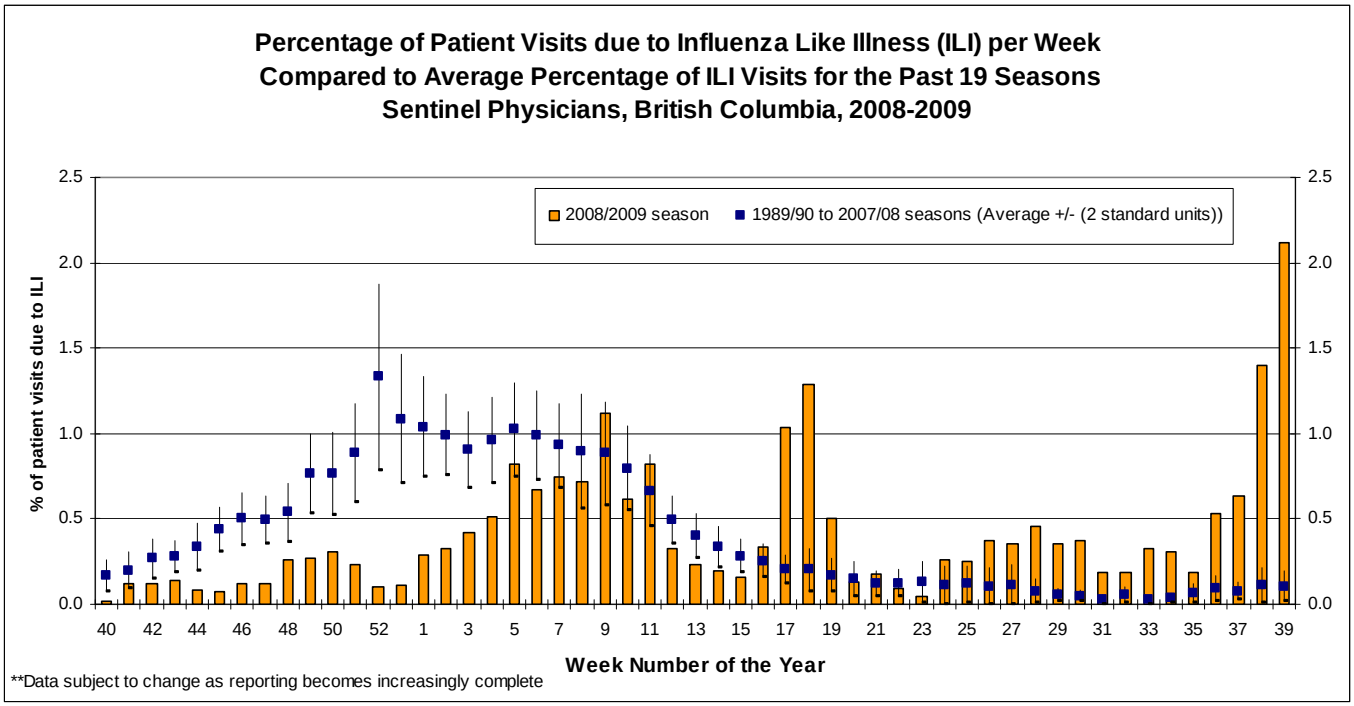
Contributors: Vanita Sahni, Travis Hottes, Naveed Janjua, Danuta Skowronski

British Columbia

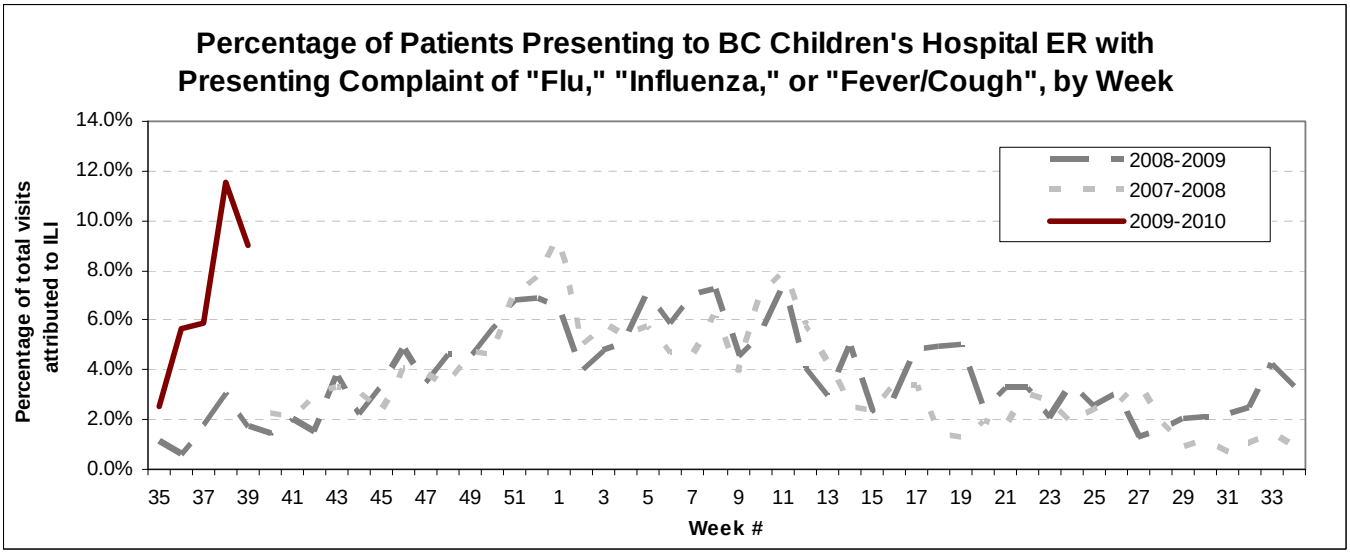
Sentinel Physicians

During week 39, the percentage of patients presenting to sentinel physicians with ILI increased to 2.1%. This is higher than both the proportion reported in the previous week and the proportion observed during the peak of the 2008-09 season. 62% (26/42) of sentinel physicians reported for week 39.



BC Children's Hospital Emergency Room

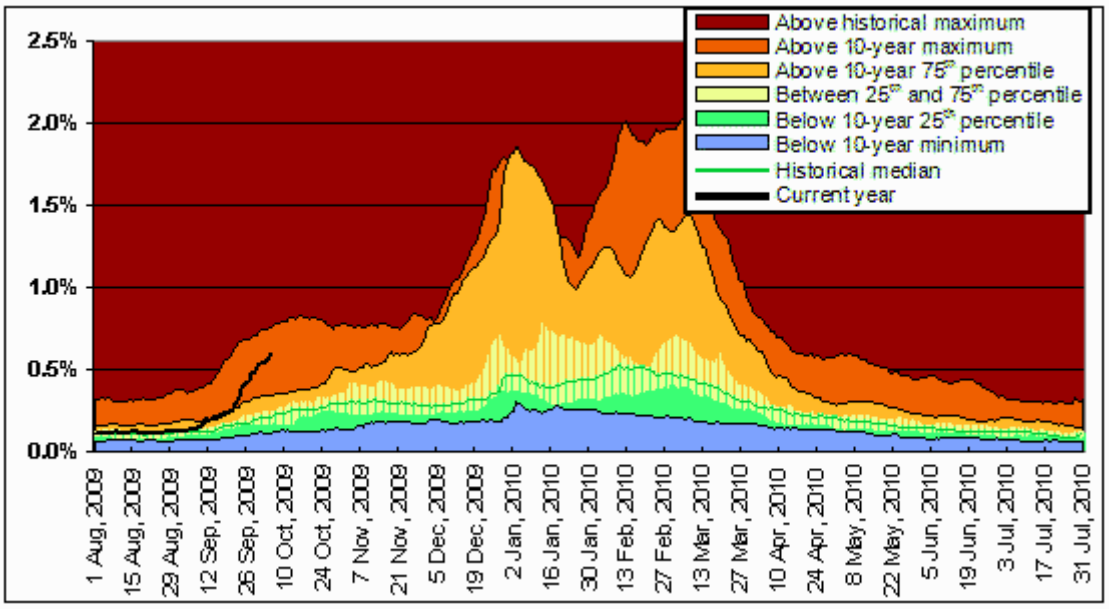
During week 39, the proportion of Emergency Room visits BC Children's hospital attributed to ILI decreased to 9.0% from 11.5%, but remained higher than the proportions observed during the same week in previous years.



Medical Services Plan

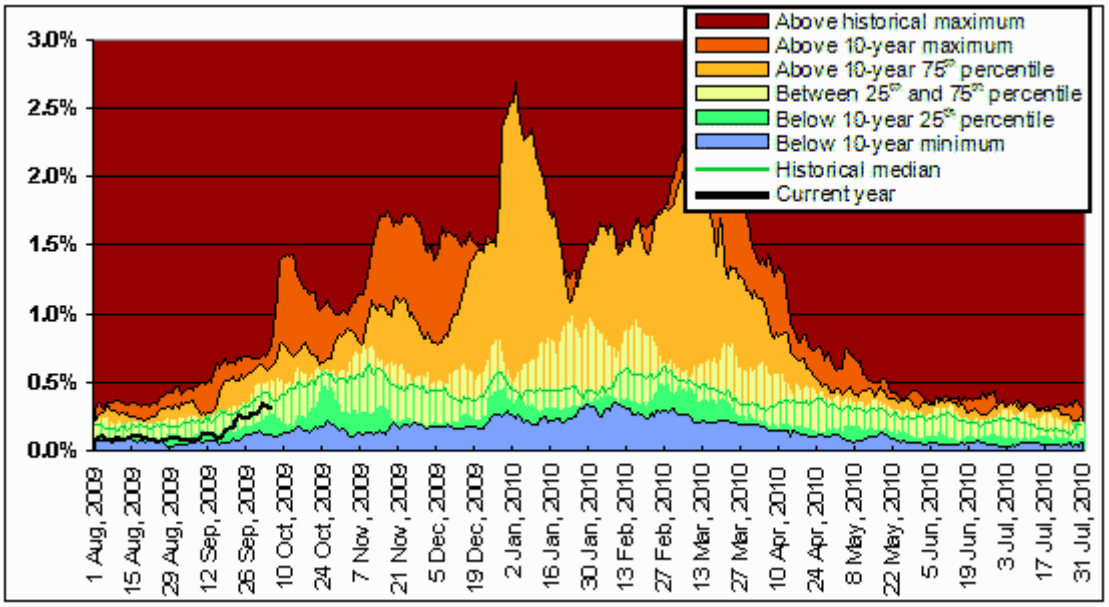
Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims continued to increase in week 39. On a regional level, increases occurred in all five RHAs. In VCH, FHA and IHA regions the proportion of claims for influenza exceeds the 10 year maximum, in VIHA the proportion of claims for influenza is above the historical maximum.

Influenza Illness Claims* British Columbia

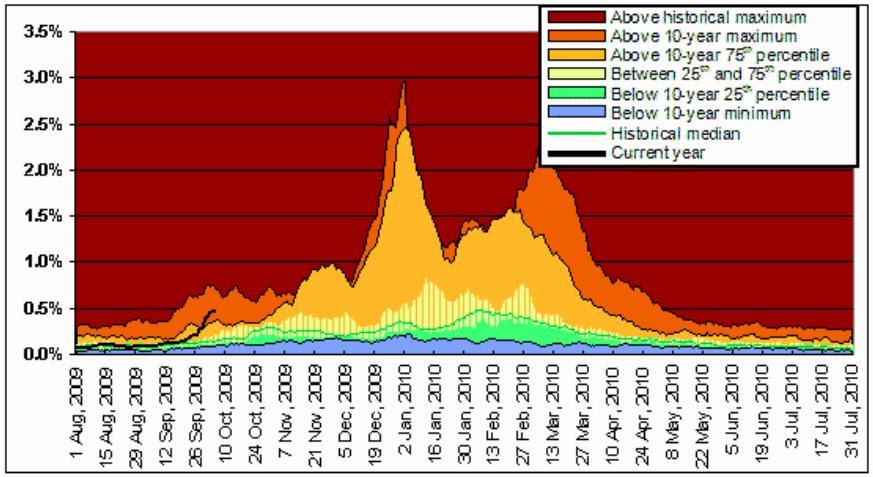


*Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).
MSP week 27 Sep 2009 corresponds to sentinel ILI week 40.**
***Current to October 5, 2009

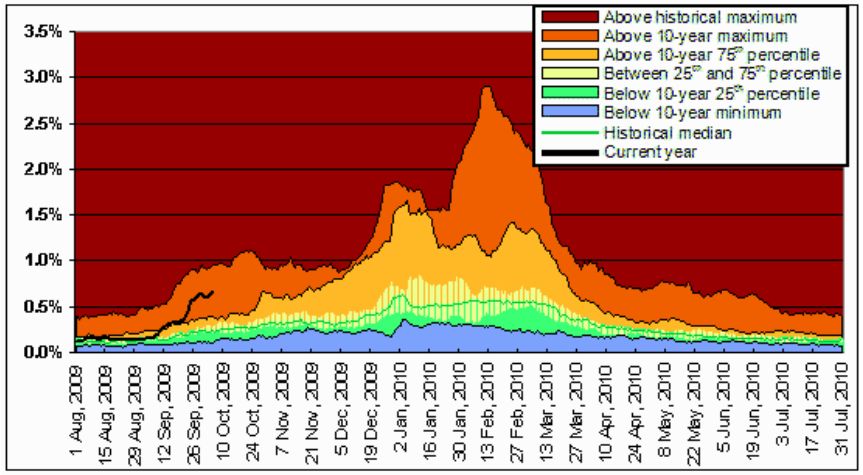
Northern



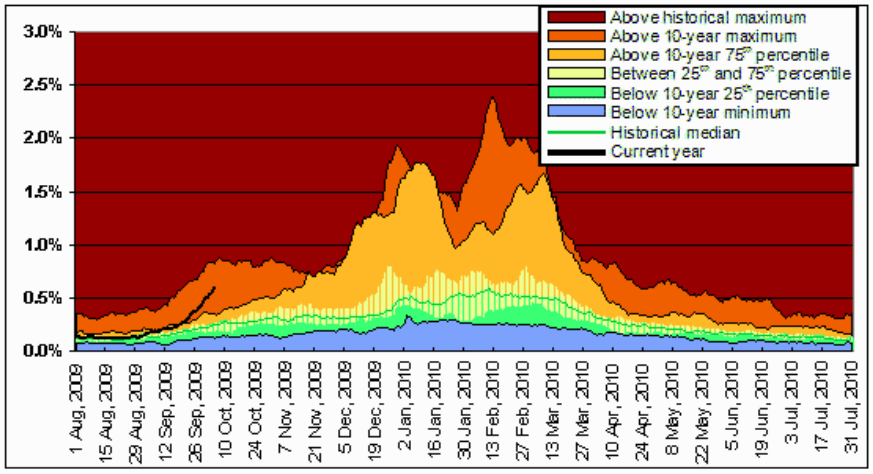
Interior



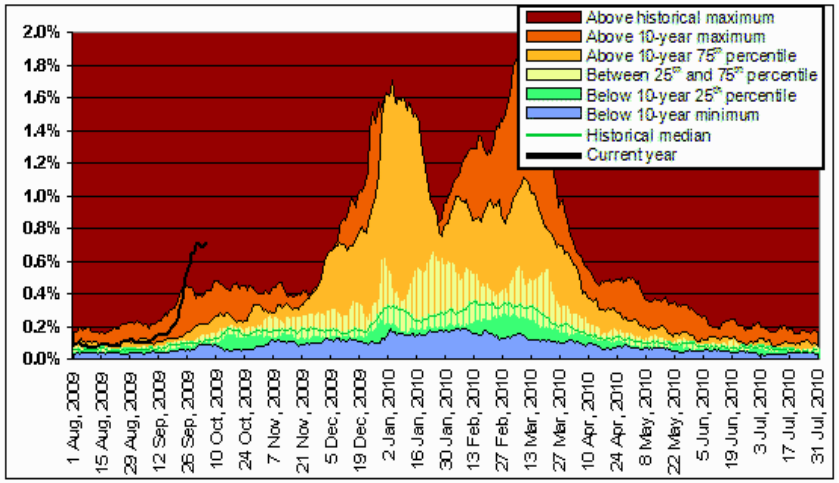
Vancouver Coastal



Fraser



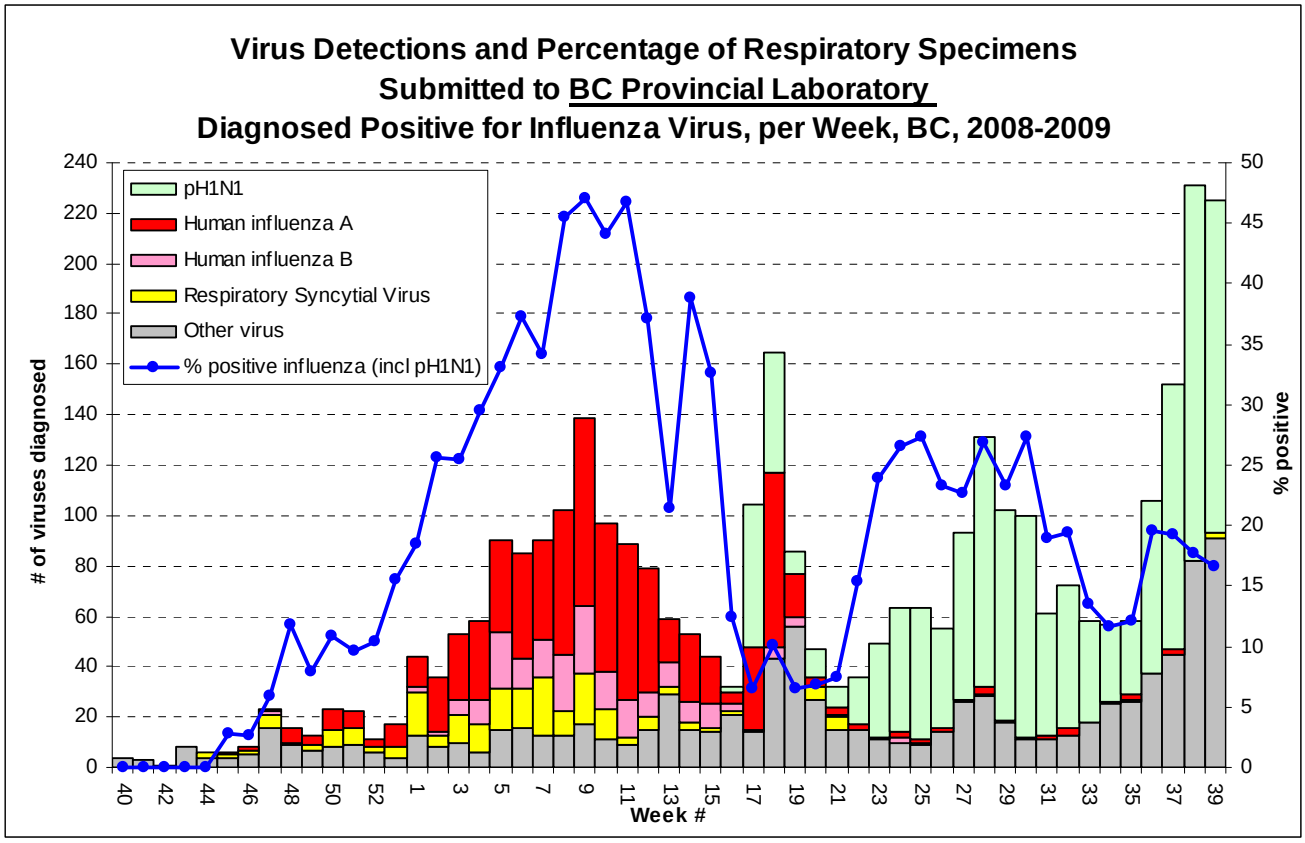
Vancouver Island



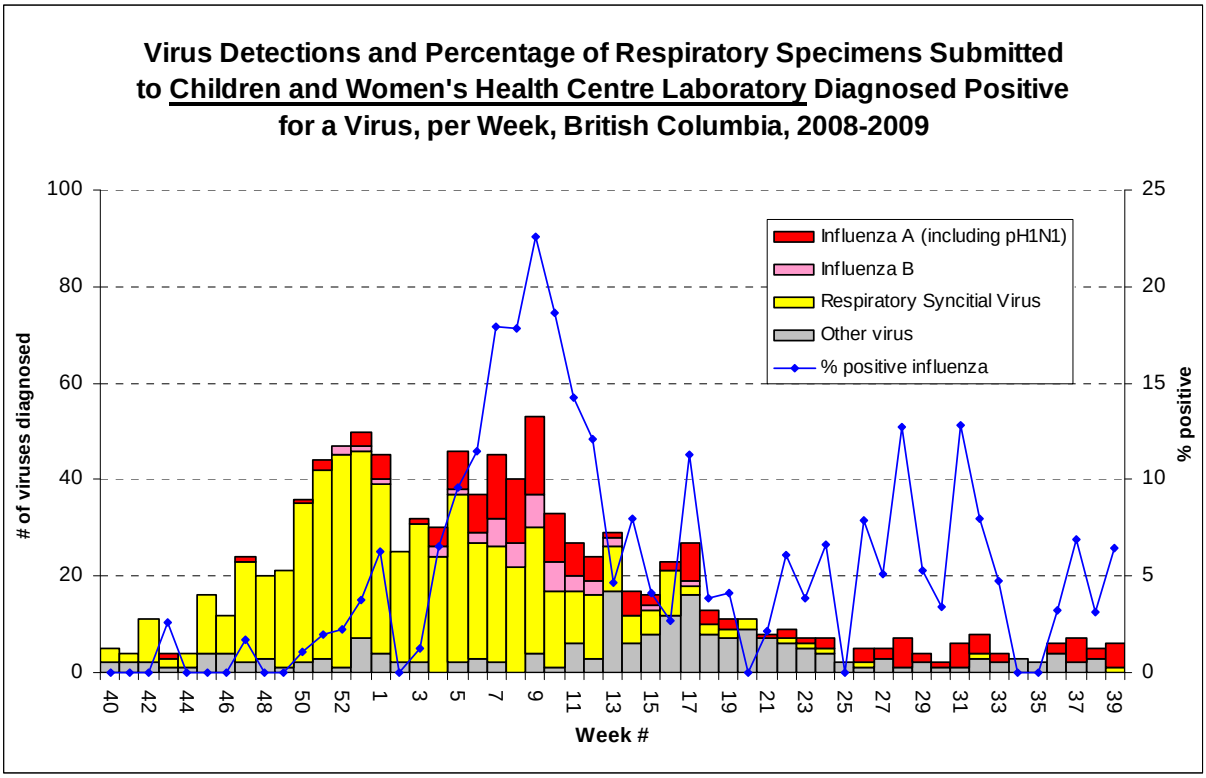
Laboratory Reports

There has been a large increase in the number of respiratory specimens submitted to and tested by BCCDC Laboratory Services. In week 39 the lab tested 912 respiratory specimens. 151 (16.4%) tested positive for influenza A (including pH1N1). Of those subtyped (n=132), 100% were pH1N1. No influenza B was detected. These proportions are similar to the previous week. Of note is the increase in rhino/enterovirus in recent weeks; 9.2% of specimens tested during week 39 were rhino/enterovirus. Other respiratory pathogens detected included, RSV (0.02%) of specimens tested, parainfluenza (0.7%) and adenovirus (0.1%).

During week 39, Children's and Women's Health Centre Laboratory tested 78 respiratory specimens. Five were positive for pH1N1, 3 tested positive for parainfluenza and 1 for adenovirus.

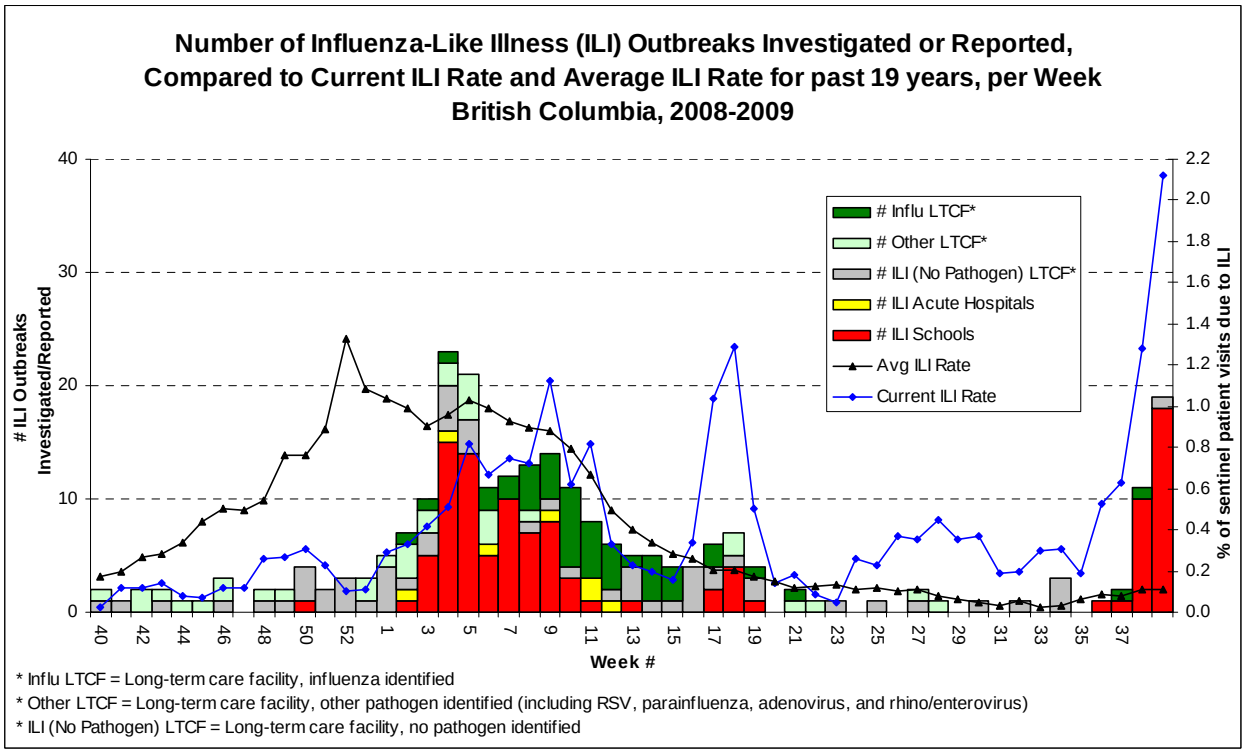


Note: The increase in bars during weeks 17-19 above reflects the large surge in specimens submitted to BCCDC for testing (2594 specimens were tested, a 5-fold increase over the number of tests performed during the 3-week period of peak activity this season). The increases in weeks 38-39 reflects a similar surge in testing.



ILI Outbreaks

In week 39 there was an increase in number of school outbreaks, eighteen were reported (3 in FHA, 11 in IHA, 1 in VCH, and 3 in VIHA). One enter/rhino outbreak was reported in a long term care facility in IHA.

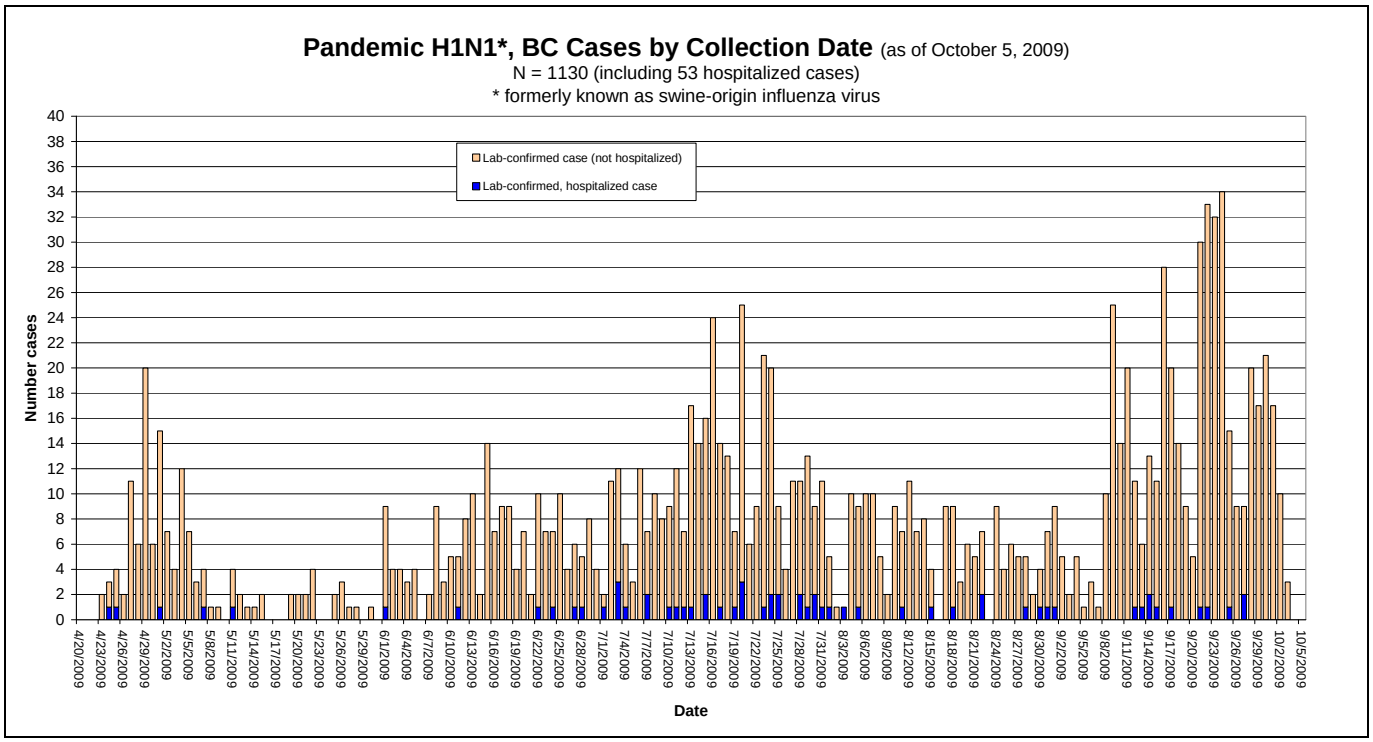


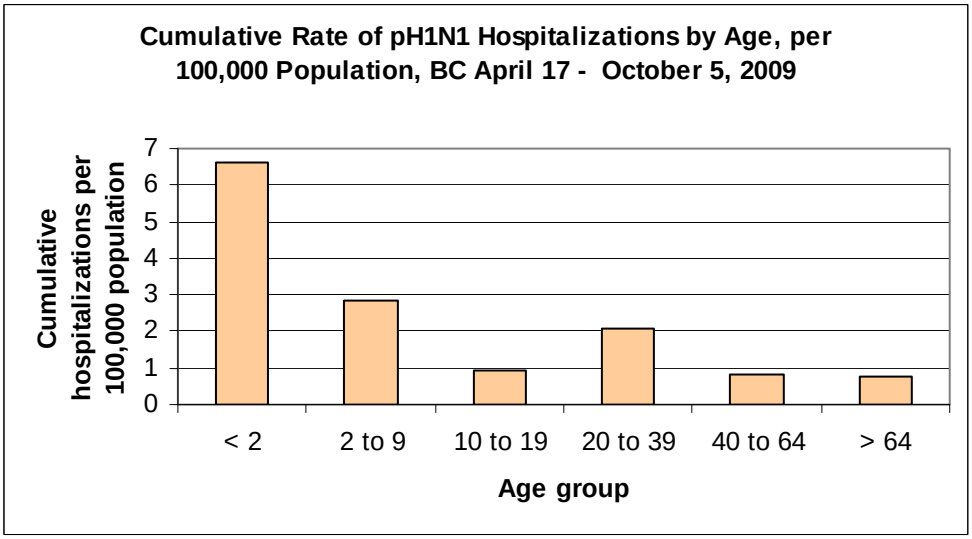
* Influ LTCF = Long-term care facility, influenza identified
* Other LTCF = Long-term care facility, other pathogen identified (including RSV, parainfluenza, adenovirus, and rhino/enterovirus)
* ILI (No Pathogen) LTCF = Long-term care facility, no pathogen identified

Pandemic H1N1 (pH1N1)

BCCDC continues to monitor the pH1N1 virus pandemic. As of October 5, sixty-four cases in BC have been admitted to hospital. Among hospitalized cases, 62% had underlying medical conditions; 20% had lung disease, 14% had asthma and 9% had chronic heart disease. 34% (22) of hospitalized cases have been admitted to the intensive care unit and 9% (6) 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





CANADA

FluWatch

During week 38, national influenza activity levels were similar to the previous week. Compared to week 35, ILI consultation rates increased from 14 to 31 consultations per 1000 patient visits; this is above the expected range for this time of year. The proportion of tests positive for influenza was 3.8%, which is low compared to the summer peak of 23%. 99.1% (116/117) of all subtyped influenza A specimens were positive for pH1N1; the remaining specimen was positive for seasonal H1N1. National levels were primarily driven by influenza activity in BC. Alberta, the Prairies, Ontario and Quebec reported sporadic or no activity (www.phac-aspc.gc.ca/fluwatch/)

National Microbiology Laboratory

As of September 24, 2009, 1342 influenza isolates collected from provincial and hospital labs between September 1, 2008 and August 31, 2009 have been characterized at the National Microbiology Laboratory (NML):
263 A/Brisbane/59/07(H1N1)-like* † from BC, AB, SK, MB, ON, QC, NB, NS, & PEI;
173 A/Brisbane/10/07(H3N2)-like* † from ten provinces;
11 B/Florida/04/06(Yamagata)-like* from AB, ON, QC & NB;
379 B/Malaysia/2506/04(Victoria)-like from all ten provinces;
180 B/ Brisbane/60/08(Victoria)-like † from BC, AB, SK, MB, ON, QC, NB, NS, & NU; and
336 A/California/07/2009-like§ from BC, AB, SK, MB, ON, QC, NB, NS, NT, & NU;

* indicates a strain match to the 2008-09 vaccine
† indicates a strain match to the 2009-10 vaccine
§ A/California/07/2009 (H1N1) is the variant reference virus (pH1N1) selected by WHO for a pandemic influenza A/H1N1 vaccine.

Antiviral Resistance

Drug susceptibility testing at the NML as of September 24 indicated that most (n=322) human influenza A/H1N1 isolates tested to date were resistant to oseltamivir (one human H1N1 isolate identified since mid-April was sensitive) Most pH1N1 (n=572) isolates were sensitive to oseltamivir (one was resistant). All human H3N2 (n=196) and influenza B (n=573) isolates were found to be sensitive to oseltamivir. Of the isolates tested for amantadine resistance, all (n=322) human H1N1 isolates were found to be sensitive, all (n=400) human H3N2 isolates were found to be resistant, and all (n=416) pH1N1 isolates were found to be resistant. All 1345 (258 human H1N1, 192 human H3N2, 578 influenza B, and 317 pH1N1) isolates that have been tested for zanamivir resistance were sensitive.

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 oseltamvir 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 September 26 influenza activity remained elevated. Twenty-three percent of respiratory specimens tested in reference laboratories in week 38 were positive for influenza. Ninety-nine percent of the subtyped influenza A viruses were pH1N1. The proportion of sentinel physician visits for ILI stayed approximately constant at 4.2%. In Europe for the week ending September 29, influenza activity remains low in most countries, with the exception of Ireland and the UK (Northern Ireland) where there is high/medium intensity and widespread activity.
(http://www.eiss.org)

Southern Hemisphere: Many countries in the Southern Hemisphere previously reporting severe winter influenza activity have now passed the peak. Notably as of September 25th in Australia, influenza activity is continuing to decrease. In New Zealand as of September 27th, pH1N1 activity continues to decline; consultations with sentinel physicians have declined to about a fifth of those observed during 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
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