BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2008-09: Number 34, Week 38

September 20 – 26, 2009

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

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Large Increase in Influenza Activity in BC, Predominantly Attributed to Pandemic pH1N1

Contents:

Highlights

In week 38 (Sept 20-26), BC continued to experienced a large increase in influenza activity. Most indicators, including patients presenting to sentinel physicians for ILI, proportion of emergency room visits to the BC Children's hospital for ILI and Medical Services Plan claims for influenza increased sharply compared to the previous week. Ten school outbreaks and one long term care facility pH1N1 outbreak were reported during this period. At the BC Provincial Laboratory, 17.1% (156/877) 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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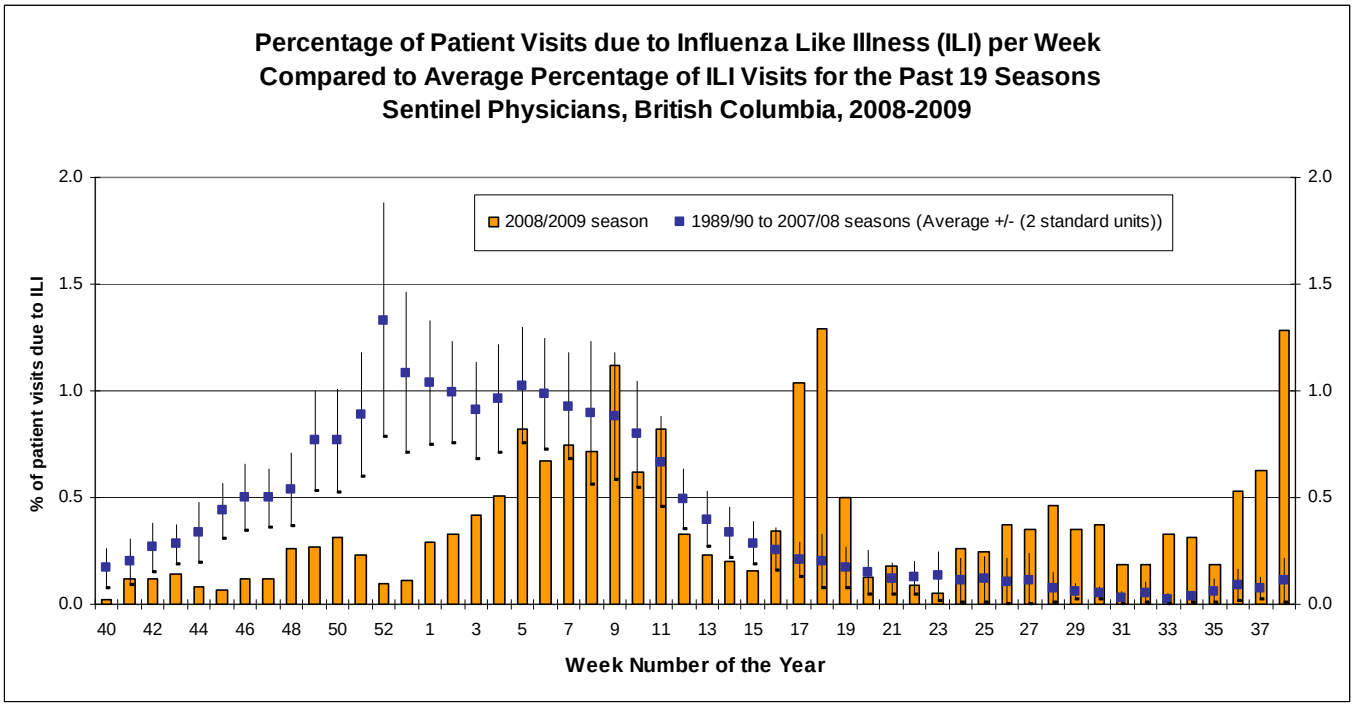
Edited: September 30, 2009
Disseminated/posted to web: Sept 30, 2009
Contributors: Vanita Sahni, Travis Hottes, Naveed Janjua, Danuta Skowronski

British Columbia

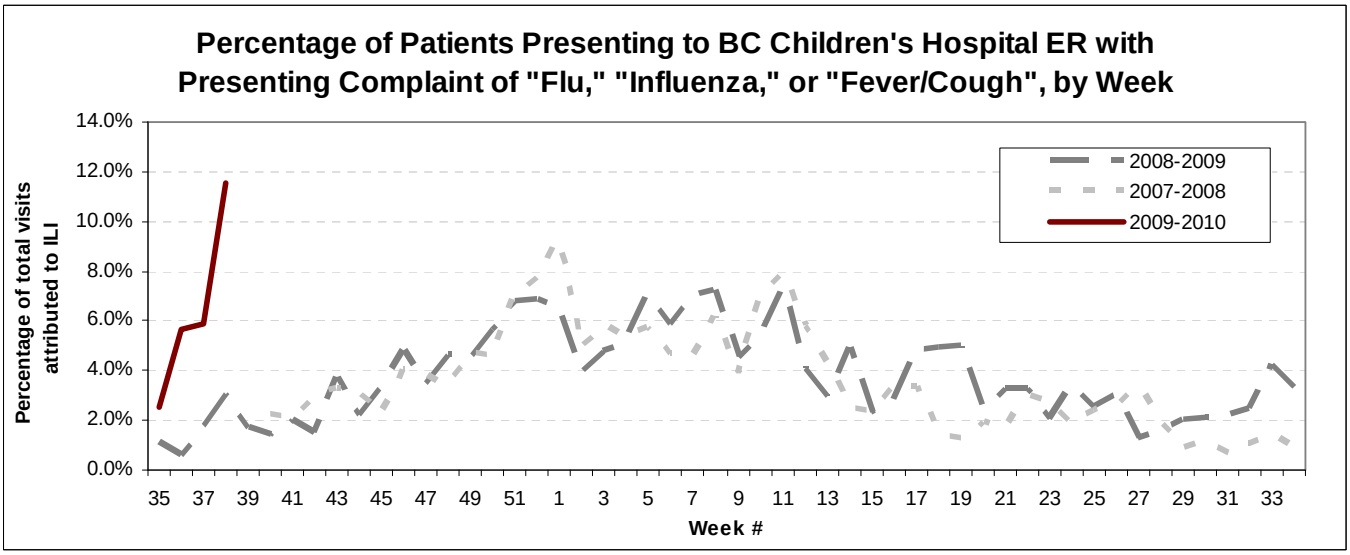
Sentinel Physicians

During week 38, the percentage of patients presenting to sentinel physicians with ILI increased to 1.3%, this is double the proportion reported in the previous week and similar to the proportion observed during the peak of the first wave of pH1N1. 71% (30/42) of sentinel physicians reported for week 38.



BC Children's Hospital Emergency Room

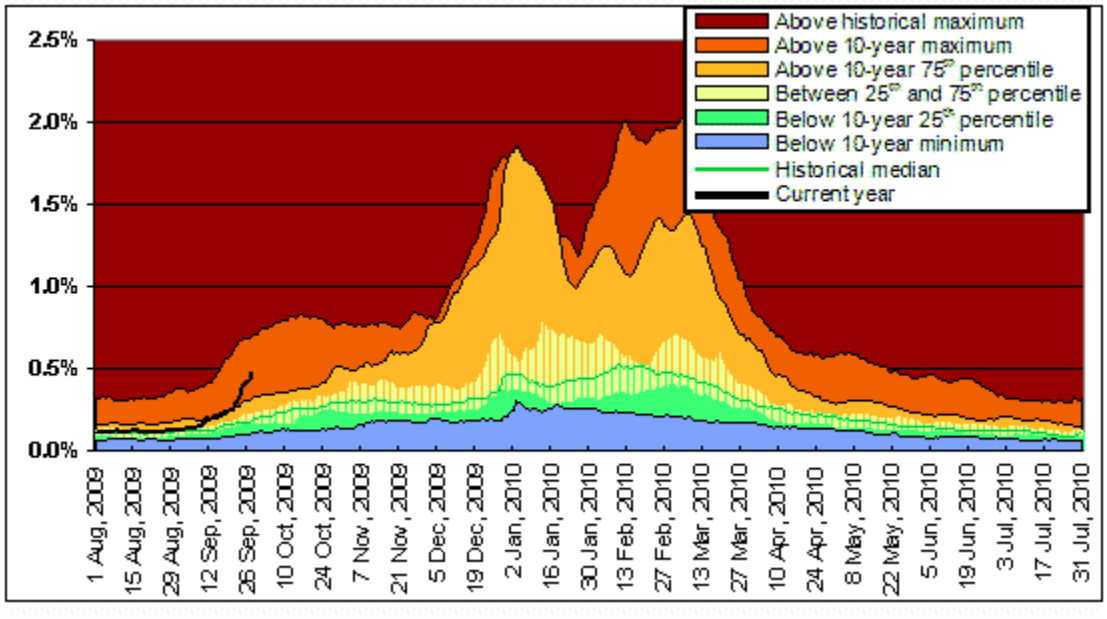
During week 38, the proportion of Emergency Room visits BC Children's hospital attributed to ILI increased sharply to 11.8%. This is almost double that of the previous week and above the proportion observed during the same time last year.



Medical Services Plan

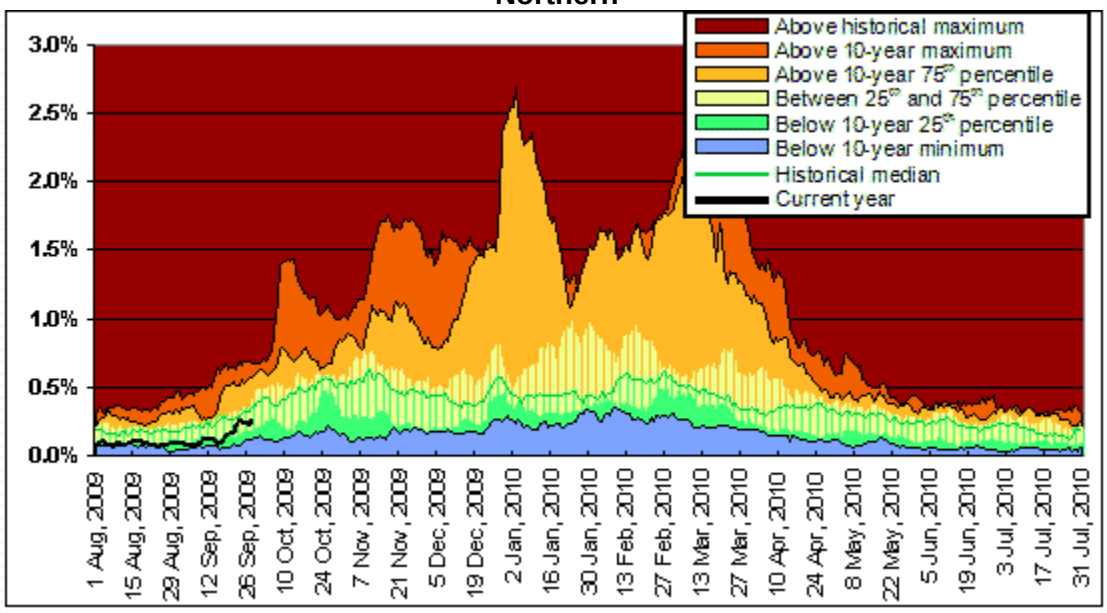
Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims increased sharply in week 38. On a regional level, increases occurred in VIHA, VCH, and FHA. In VCH and FHA regions the proportion of claims for influenza is at or exceeding the 10 year maximum, in VIHA the proportion of claims for influenza is above the historical maximum.

Influenza Illness Claims* British Columbia

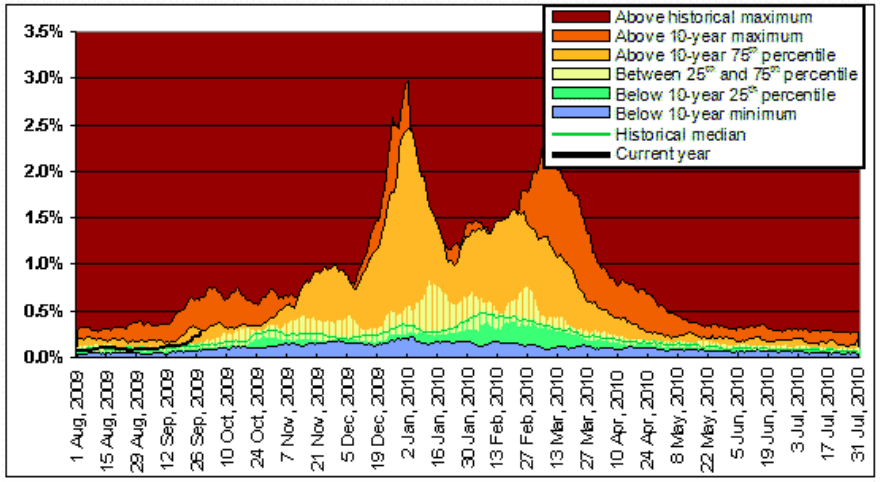


*Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).
MSP week 27 Sep 2009 corresponds to sentinel ILI week 40.**
***Current to September 28 2009

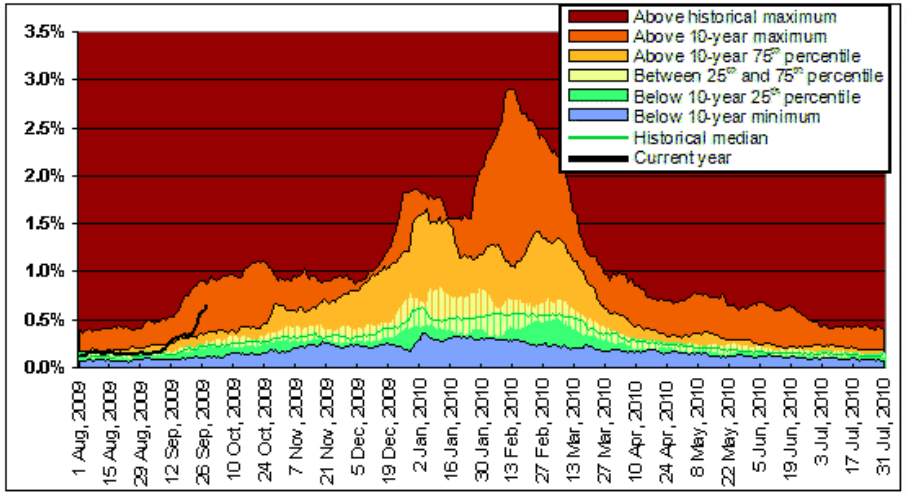
Northern



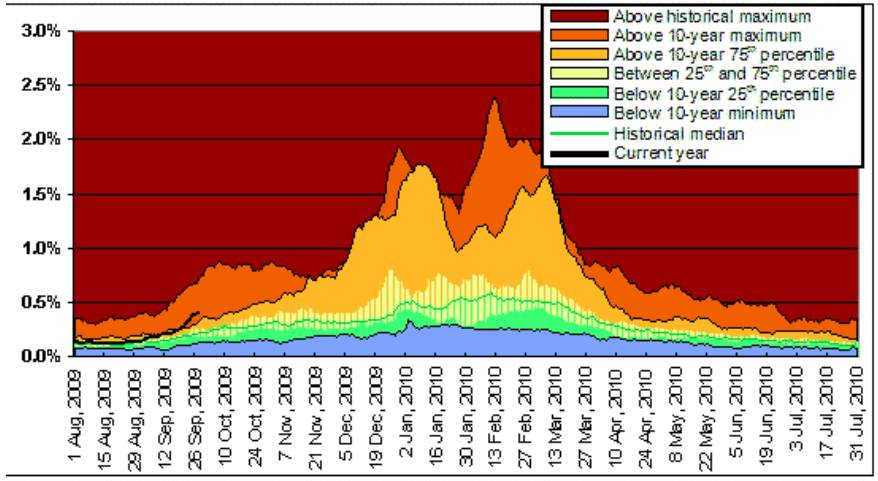
Interior



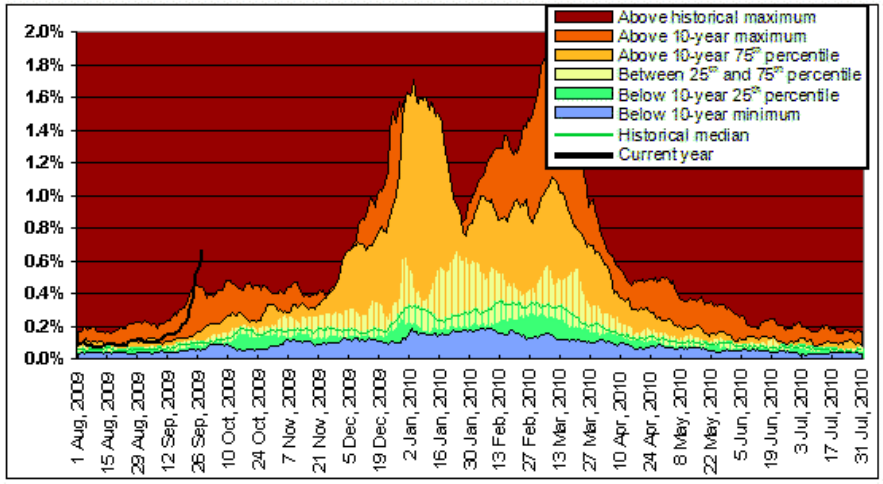
Vancouver Coastal



Fraser



Vancouver Island

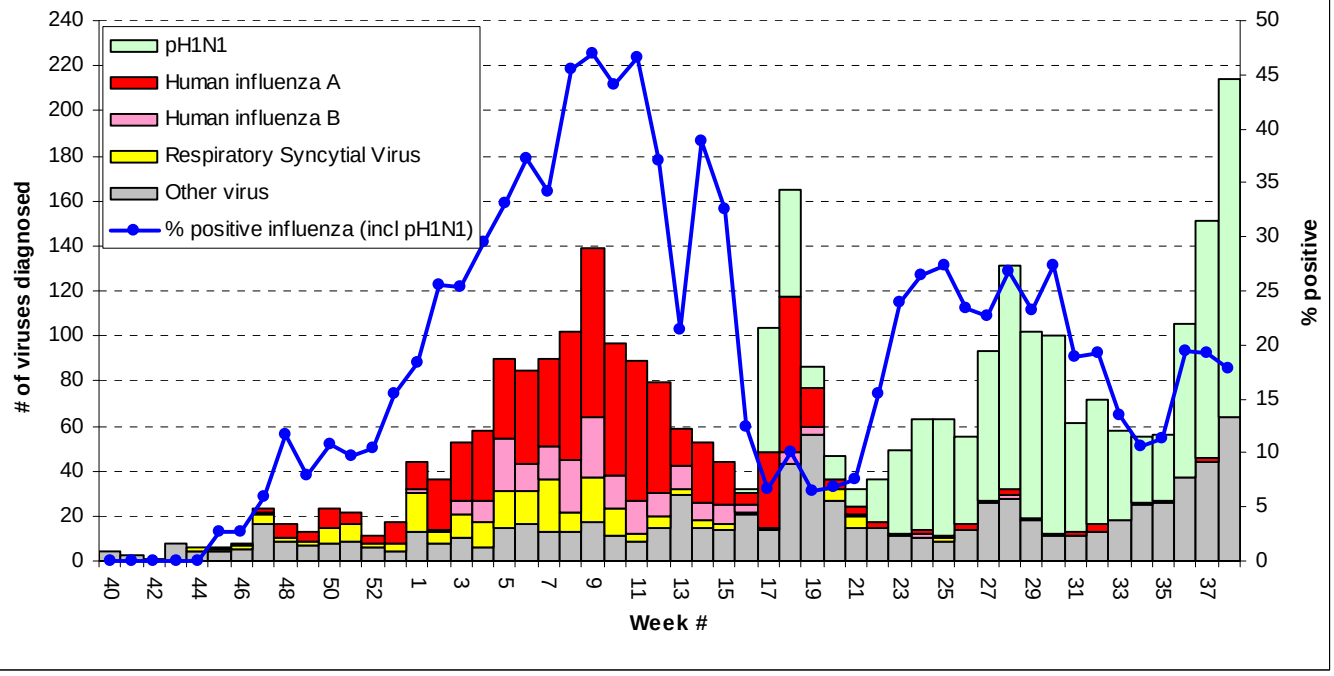


Laboratory Reports

There has been a large increase in the number of respiratory specimens submitted to and tested by BCCDC Laboratory Services. In week 38 the lab tested 877 respiratory specimens. 156 (17.1%) tested positive for influenza A (including pH1N1). Of those subtyped (n=150), 100% were pH1N1. No influenza B was detected. These proportions are similar to the previous week. Respiratory pathogens detected included: rhino/enterovirus (7% of specimens tested), parainfluenza (0.5%), corona (0.1%) and HMPV (0.1%).

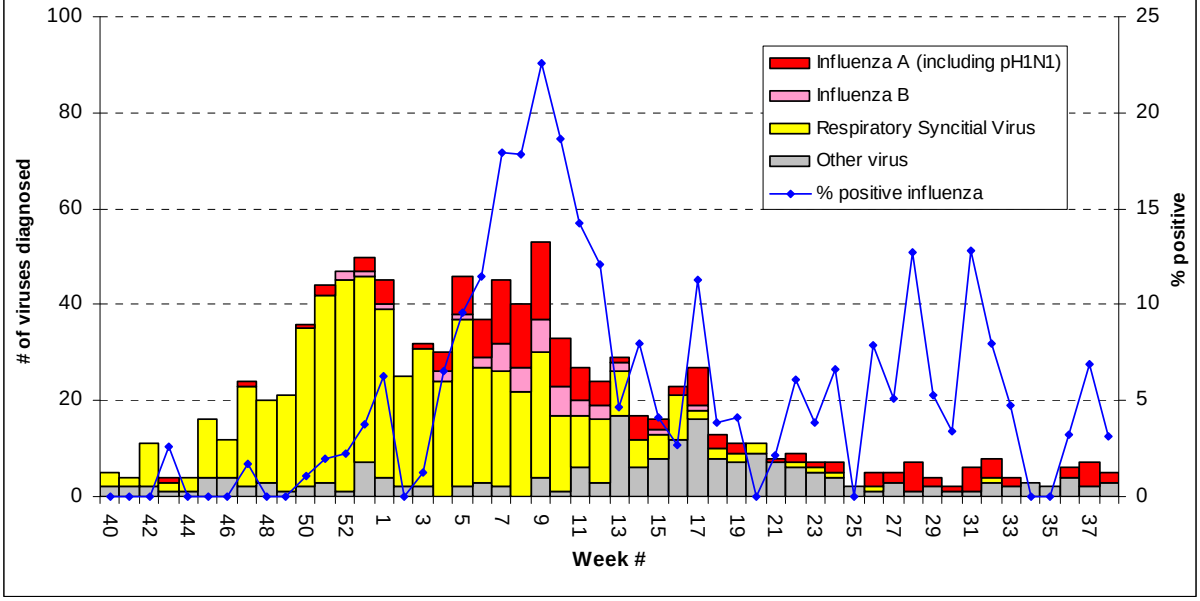
During week 38, Children's and Women's Health Centre Laboratory tested 63 respiratory specimens. Two were positive for pH1N1, 3 tested positive for parainfluenza and 1 for adenovirus.

Virus Detections and Percentage of Respiratory Specimens Submitted to BC Provincial Laboratory Diagnosed Positive for Influenza Virus, per Week, BC, 2008-2009



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 increase in week 38 reflects a similar surge in testing.

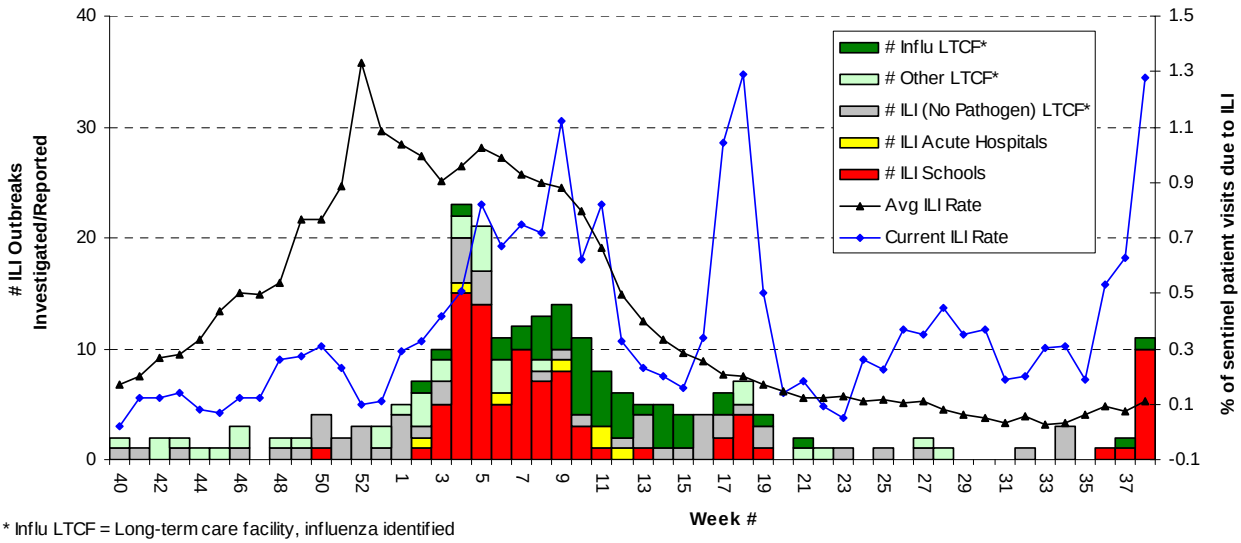
Virus Detections and Percentage of Respiratory Specimens Submitted to Children and Women's Health Centre Laboratory Diagnosed Positive for a Virus, per Week, British Columbia, 2008-2009



ILI Outbreaks

In week 38 there was an increase in school outbreaks, ten were reported (5 in IHA, 3 in VCH, and 2 in VIHA). One outbreak due to pH1N1 virus was reported in a long term care facility in FHA.

Number of Influenza-Like Illness (ILI) Outbreaks Investigated or Reported, Compared to Current ILI Rate and Average ILI Rate for past 19 years, per Week British Columbia, 2008-2009

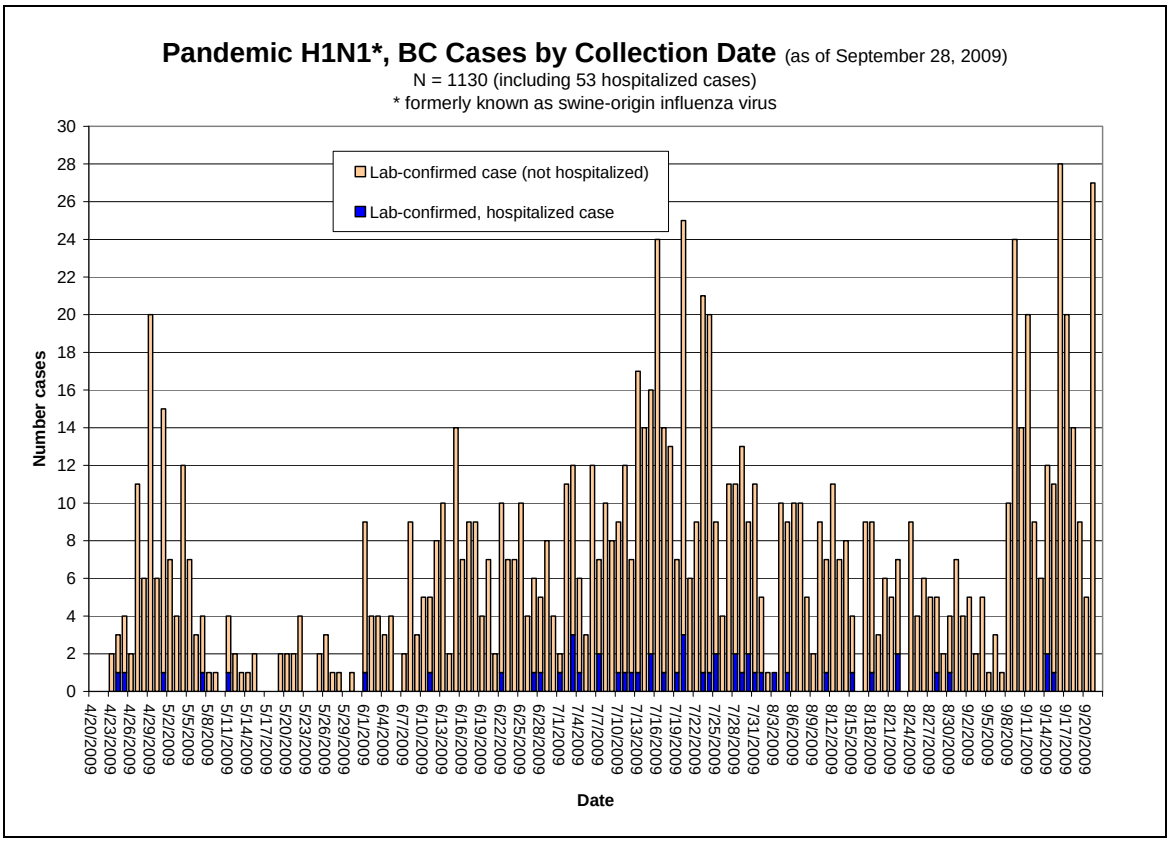


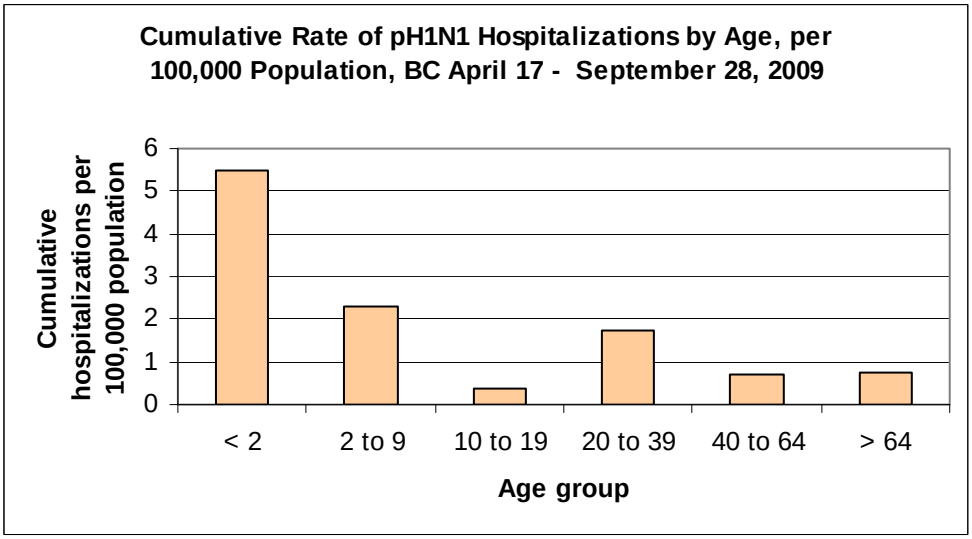
* Influ LTCF = Long-term care facility, influenza identified
* Other LTCF = Long-term care facility, other pathogen identified (including RSV, parainfluenza, adenovirus, and rhino/enterovirus)
* ILI (No Pathogen) LTCF = Long-term care facility, no pathogen identified

Pandemic H1N1 (pH1N1)

BCCDC continues to monitor the pH1N1 virus pandemic. As of September 28, fifty-three cases in BC have been admitted to hospital. Among hospitalized cases, 62% had underlying medical conditions; 21% had lung disease, 15% had asthma and 9% had chronic heart disease. 40% (21) of hospitalized cases have been admitted to the intensive care unit and 11% (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 37, national influenza activity levels increased slightly. Compared to week 35, ILI consultation rates increased from 14 to 32 consultations per 1000 patient visits; this is above the expected range for this time of year. Compared to the previous week, the proportion of tests positive for influenza increased from 2.5% to 3.5% this is low compared to the summer peak of 23% tests positive per patient visits in the week ending June 13. 98.3% of all subtyped influenza A specimens were positive for pH1N1. This increase in national level activity was driven by BC, other provinces 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 19 influenza activity as determined by laboratory detections increased. Twenty-four 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 4.4%. 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 18th in Australia, influenza activity is continuing to decrease. In New Zealand as of September 20th, pH1N1 activity continues to decline; consultations with sentinel physicians have declined to about a quarter 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