BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 15, Week 02

January 10-16, 2010

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

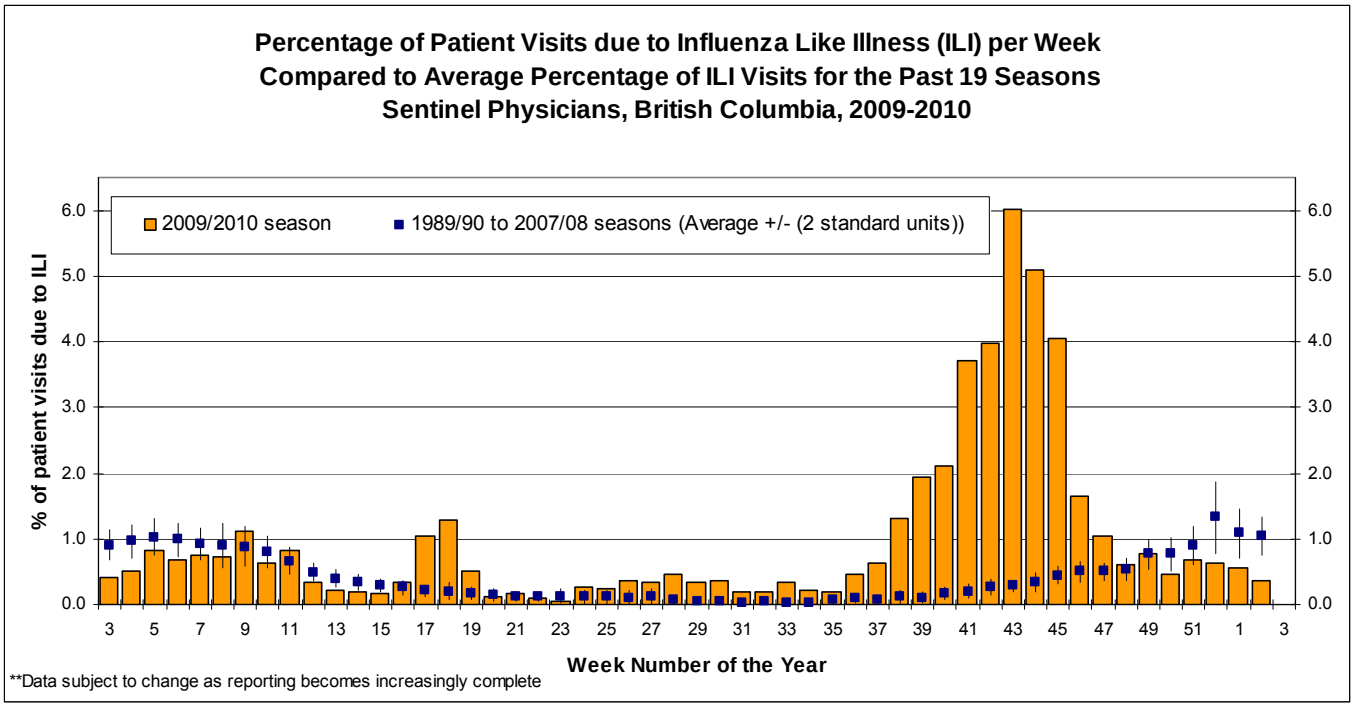
In week 2 (January 10-16), surveillance indicators suggested low levels of influenza activity in British Columbia. The proportion of patients presenting with ILI to sentinel physicians and Medical Services Plan claims for influenza illness both declined further during week 2. No outbreaks were reported in schools or facilities. At the BC Provincial Laboratory, <1% (1/132) of respiratory specimens were positive for influenza A, sub-typed as pH1N1. Thirty-four percent (27/79) of specimens tested for other respiratory viruses were positive including RSV (n=7) rhino/enterovirus (n=9), human metapneumovirus (n=6), parainfluenza (n=1) or coronavirus (n=4). Of 50 specimens tested for respiratory viruses at BC Children's Hospital Laboratory between January 10-16, 12 (24%) were positive for RSV, reflecting an increase in RSV detection at that lab over the past month, 3 (6%) were positive for adenovirus. Globally, pH1N1 continues to be the predominant influenza virus in circulation, constituting 82% of influenza detections reported to the World Health Organization from December 27- January 2 with an additional 6% in the A/unsubtyped category, 1% A/H3 and 11% influenza B. Together, surveillance indicators suggest that influenza activity due to pH1N1 in BC has continued to decline since a late October/early November peak and remains at levels below the expected range for this time of year. Currently, acute respiratory illness for which respiratory virus testing is sought in BC is more likely to be due to a non-influenza cause but monitoring for possible seasonal/pandemic influenza resurgence continues.

Report written & disseminated: January 20, 2010
Contributors: Travis Hottes, Naveed Janjua, Danuta Skowronski

British Columbia

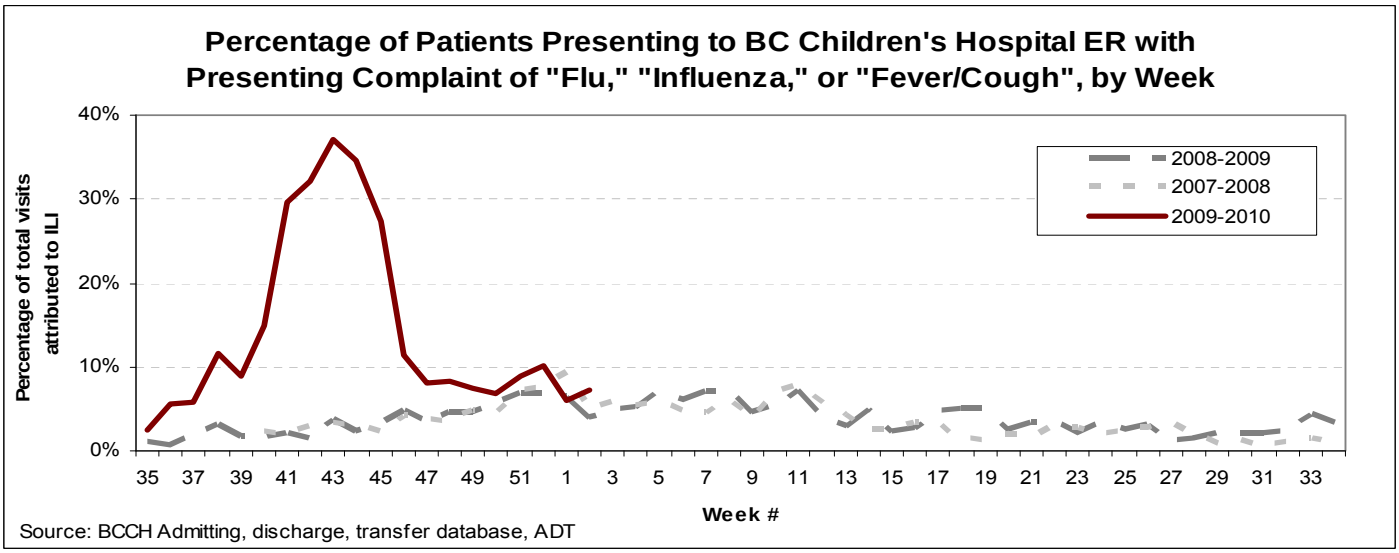
Sentinel Physicians

During week 2, the percentage of patients presenting to sentinel physicians with ILI remain low at 0.37%. This level is below the expected range for this time of year. Forty-nine percent (25/51) of sentinel physician sites reported for week 2.



BC Children's Hospital Emergency Room

The percentage of Emergency Room visits attributed to "fever and cough" or flu-like illness at BC Children's Hospital increased slightly to 7.3% in week 2. Some of this increase may be due to RSV as illustrated in the BC Children's Hospital laboratory report.

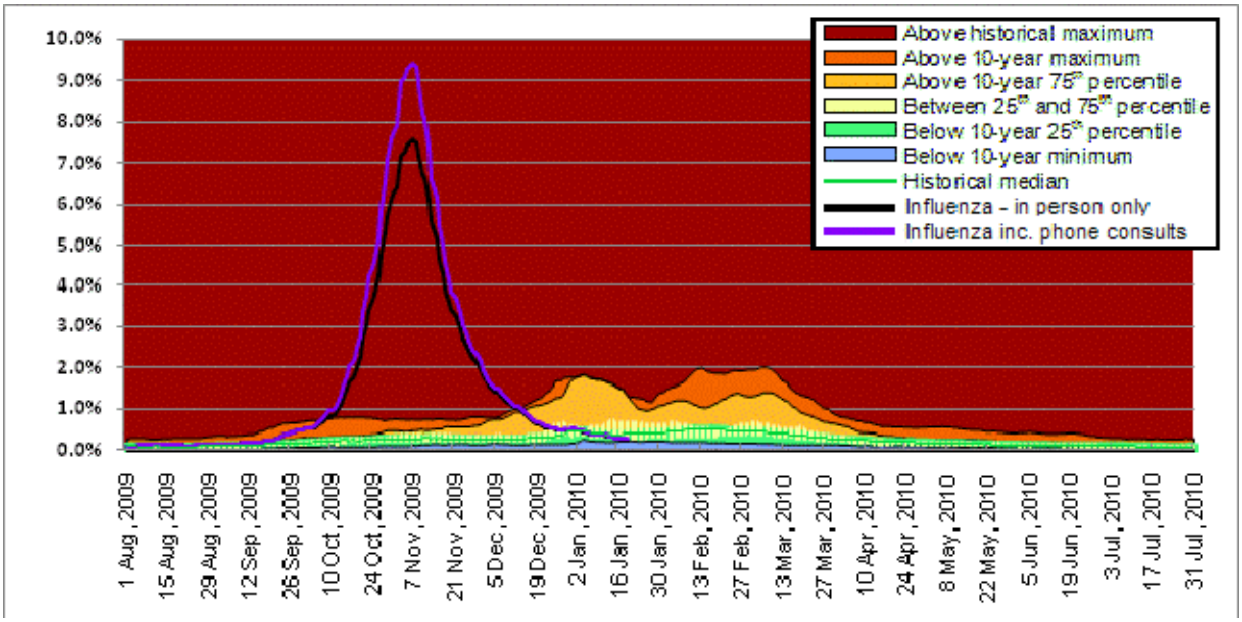


Emergency Room data kindly provided by Decision Support Services at BC Children's Hospital

Medical Services Plan

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims remained low in the last week, consistent with the decrease over the past 9 weeks and within the expected range for this time of year. Proportions in all 5 RHAs remained below historical 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). For surveillance purposes, however, these indicators show the same trend.

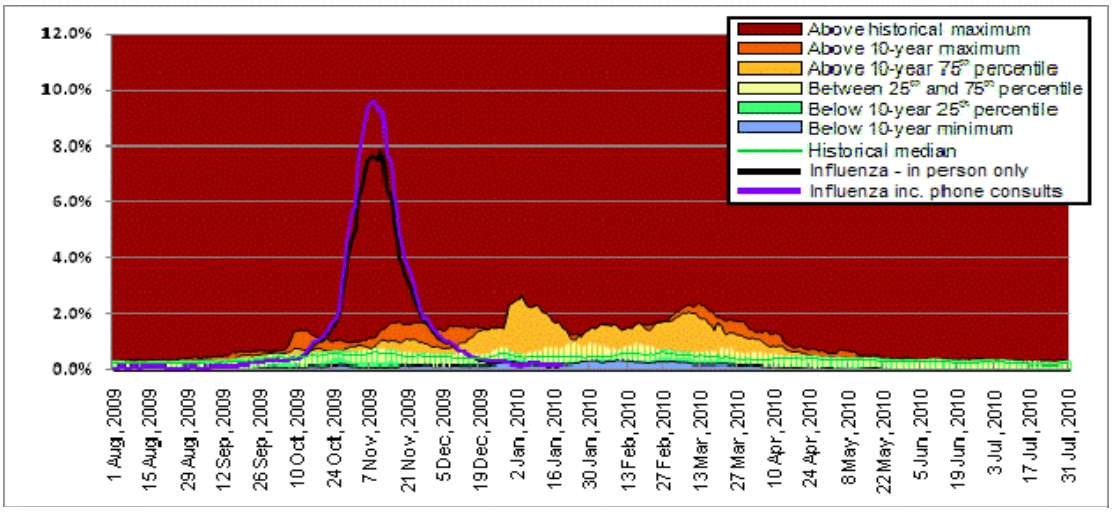
Influenza Illness Claims* British Columbia



* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

Notes: MSP week 27 Sep 2009 corresponds to sentinel ILI week 39**.**
Data current to January 20, 2010

Northern

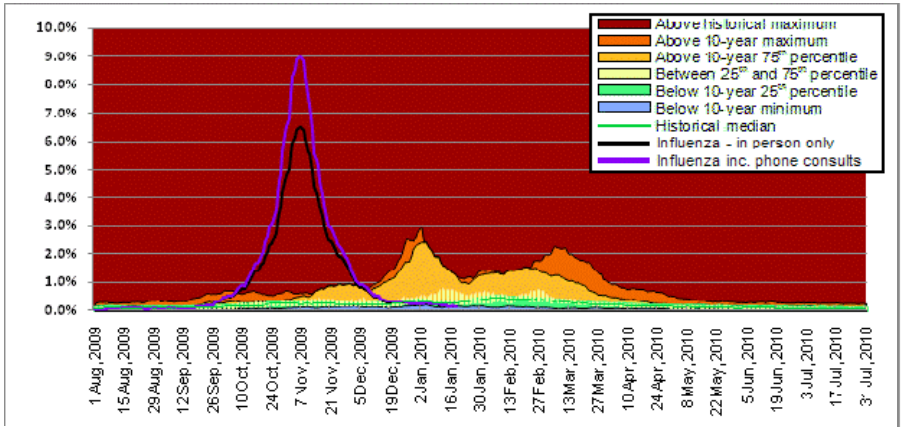


BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

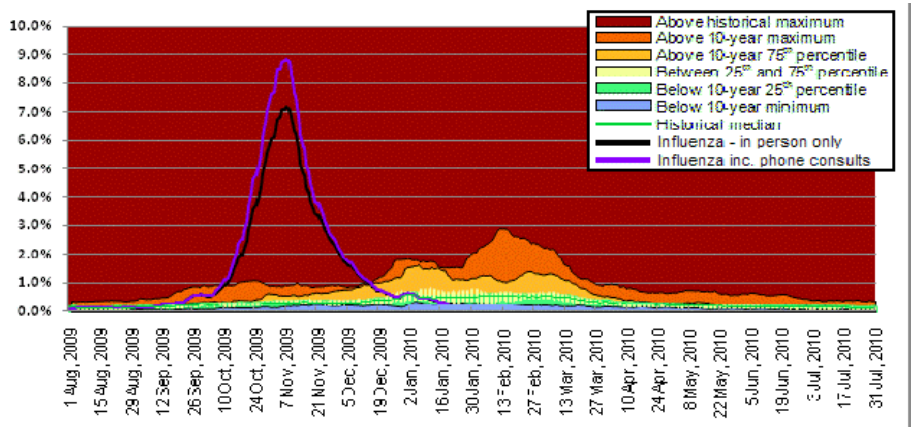
2009-10: Number 15, Week 02

January 10-16, 2010

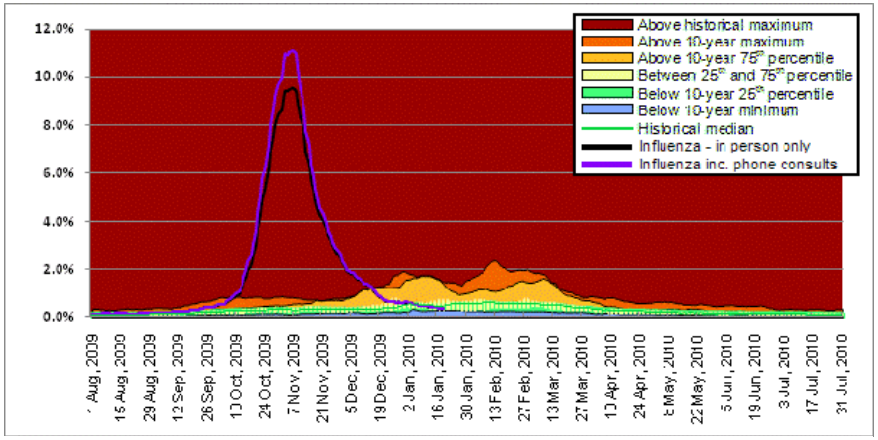
Interior



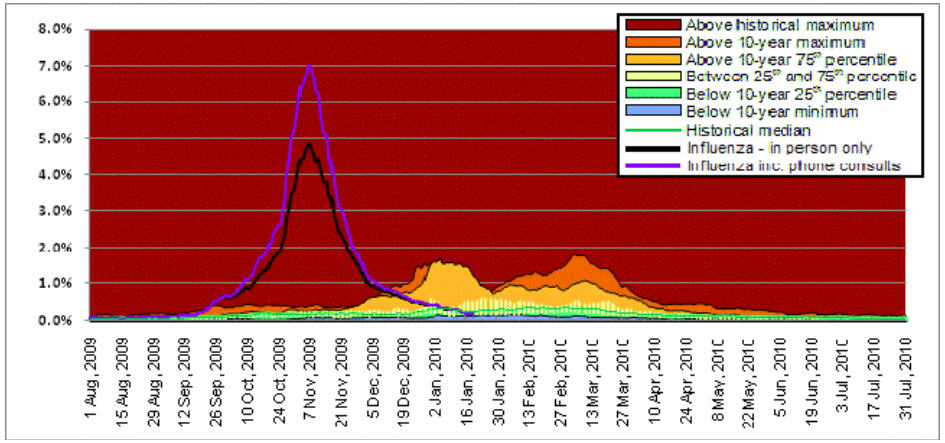
Vancouver Coastal



Fraser



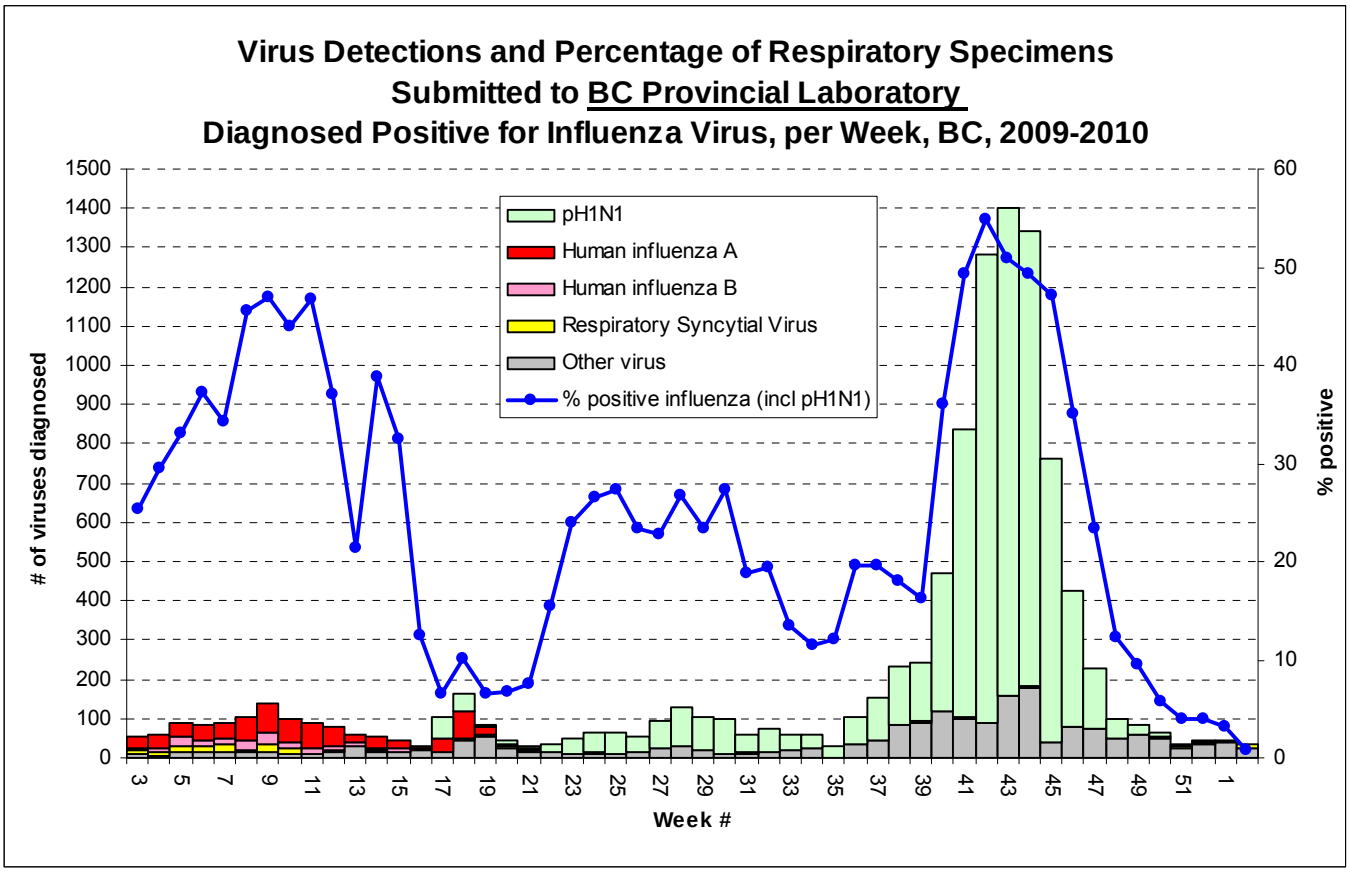
Vancouver Island



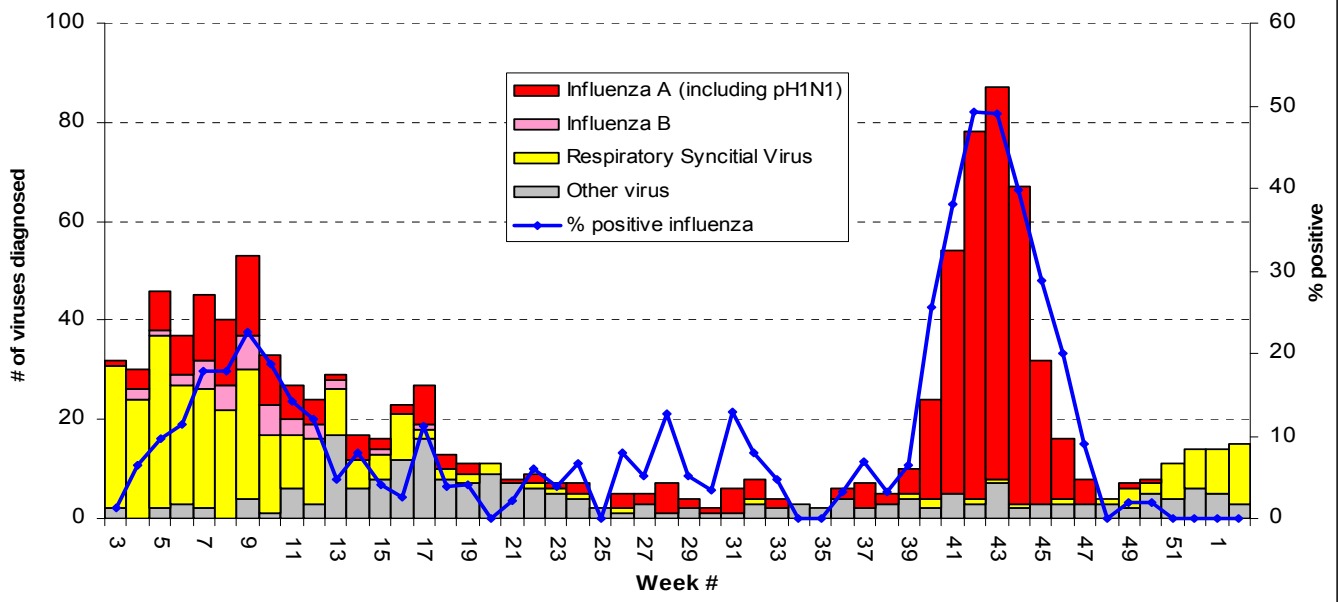
Laboratory Reports

One hundred thirty-two respiratory specimens were tested for influenza at the BC Provincial Laboratory in week 2. One (0.8%) tested positive for pH1N1; none tested positive for other influenza A or B viruses. This marks a further decrease in laboratory positivity for pH1N1 virus from 3% in week 1, and is the lowest positivity rate since the start of the 2008-09 season. Since week 35 (September 1, 2009), >99% of all influenza detections in BC have been pH1N1. In week 2, 79 specimens were tested for other respiratory pathogens, of which 9 (12%) tested positive for rhino/enterovirus, 6 (7.6%) for human metapneumovirus, 1 (1%) for parainfluenza, 7 (9%) for RSV, 4 (5%) for coronavirus, and none (0%) for adenovirus. Currently, acute respiratory illness in BC for which a respiratory specimen is collected is more likely to be due to cause other than influenza.

During weeks 2, Children's and Women's Health Centre Laboratory tested 50 respiratory specimens. None were positive for influenza. Twelve (24%) specimens tested positive for RSV, and 3 (6%) for adenovirus.



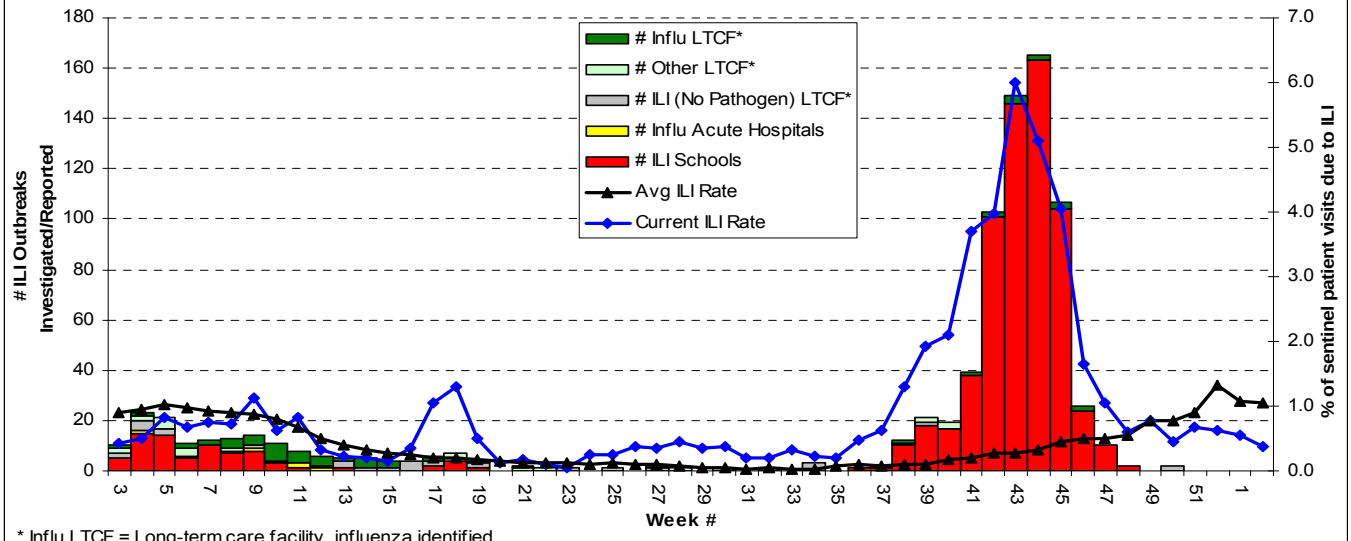
Virus Detections and Percentage of Respiratory Specimens Submitted to Children and Women's Health Centre Laboratory Diagnosed Positive for a Virus, per Week, British Columbia, 2009-2010



ILI Outbreaks

In week 2, no lab-confirmed influenza outbreaks were reported in facilities in BC and no ILI outbreaks were reported in schools.

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, 2009-2010



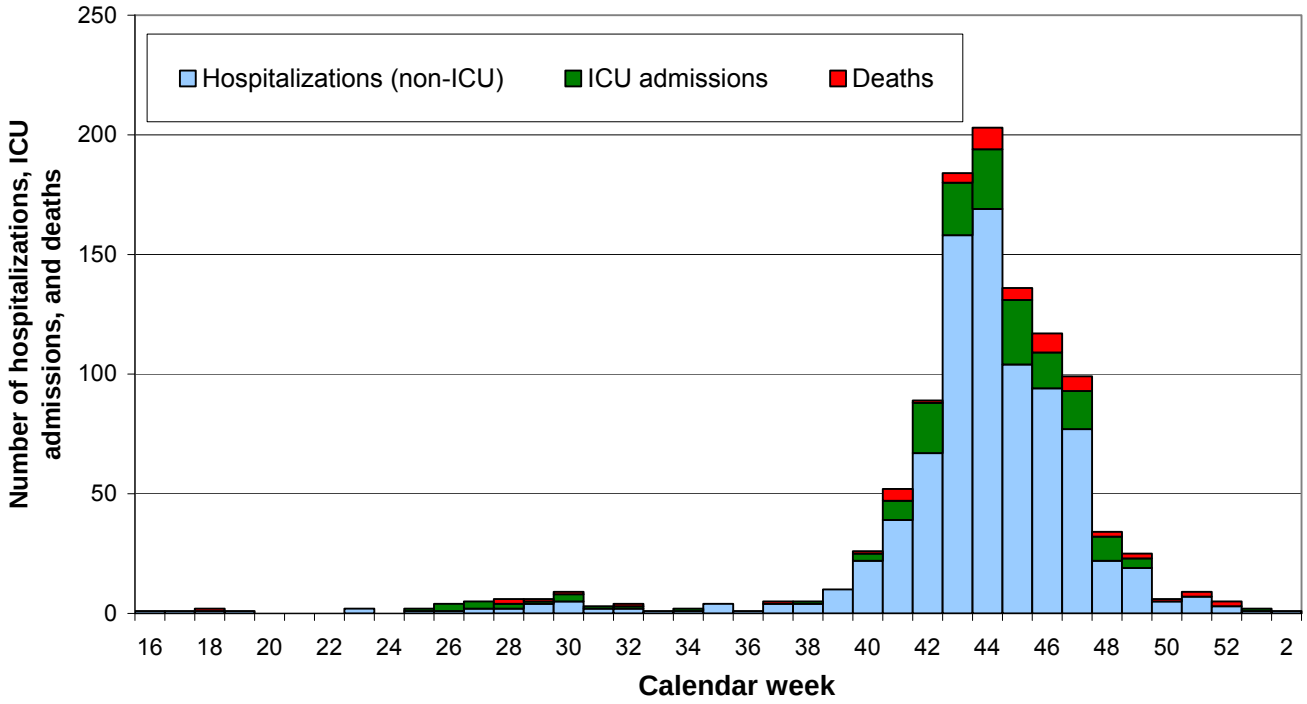
* Influ LTCF = Long-term care facility, influenza identified
* Other LTCF = Long-term care facility, other pathogen identified (including RSV, parainfluenza, adenovirus, and rhino/enterovirus)
* ILI (No Pathogen) LTCF = Long-term care facility, no pathogen identified

Pandemic H1N1 (pH1N1) Severe Outcomes

As of January 18, 2010, and since April 2009, 1032 hospitalizations in patients with laboratory-confirmed pH1N1 have been reported in BC, of which 1 was reported in the preceding week. Sixty-six percent of hospitalized cases had at least one reported underlying medical condition (excluding pregnancy). Twenty-six percent of hospitalized cases have been admitted to the intensive care unit, and 9% have died. As shown in the mortality graph below, the ratio of pH1N1 mortality to case detection is lowest in the young and highest in the old.

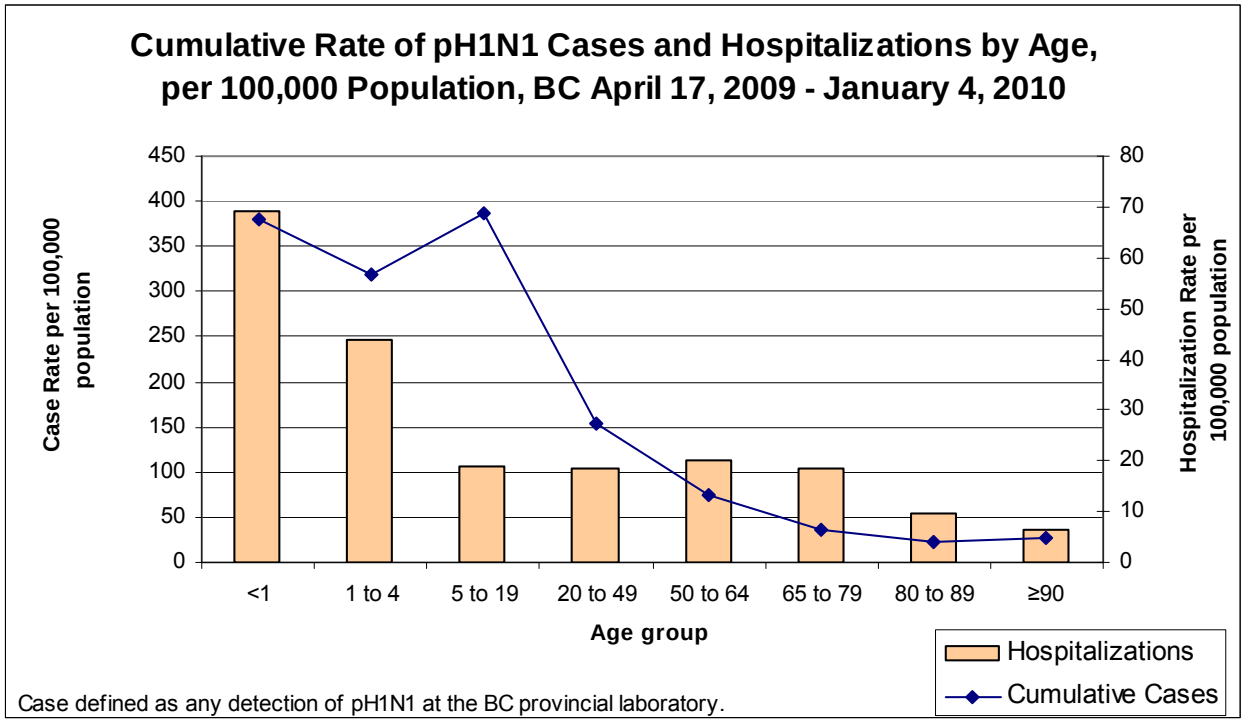
For further description of BC pH1N1 cases, visit: www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm
Resources for healthcare professionals: www.bccdc.ca/resourcematerials/newsandalerts/healthalerts/H1N1FluVirusHumanSwineFlu.htm

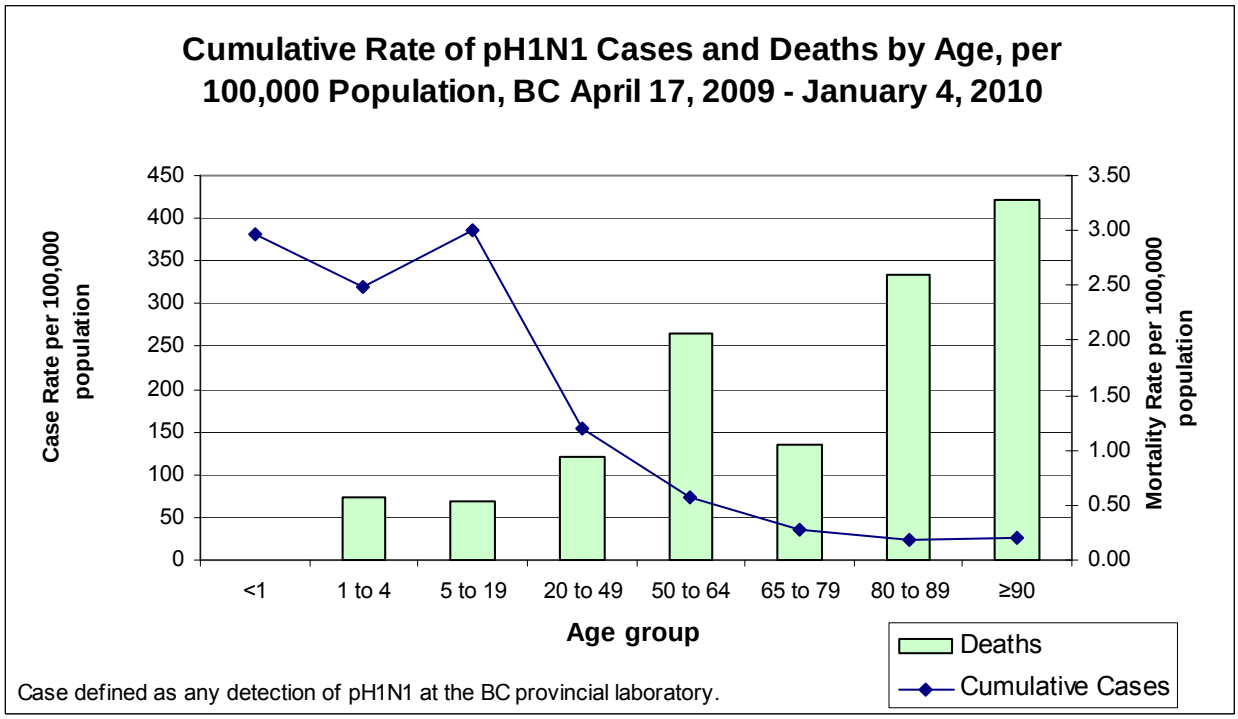
Epi Curve of pH1N1 Hospitalizations, ICU Admissions and Deaths by Week Reported, British Columbia, April 2009 - January 2010



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

Pandemic H1N1 (pH1N1) Severe Outcomes (continued)





CANADA

FluWatch

During week 1, influenza activity in Canada remained low. The sentinel ILI consultation rate was 17 consultations per 1000 patient visits respectively, which is within or below the expected range for this time of year. One percent of respiratory specimens tested nationally were positive for influenza, a further slight decline from 2% in week 1. Over 99% of all subtyped influenza A specimens were positive for pH1N1; 1 specimen was positive for H3N2 (QC).
www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory

Between September 1, 2009 and January 14, 2010, 727 influenza isolates (717 pandemic H1N1 and 10 seasonal influenza) were collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):
713 A/California/07/2009 (H1N1)-like[§] from BC, AB, SK, MB, ON, QC, NB, NS, PEI, NT, & NU;
2 A/Brisbane/59/2007 (H1N1)-like[†] from AB & QC;
1 A/Brisbane/10/2007 (H3N2)-like[†] from BC;
6 A/Perth/16/2009 (H3N2)-like[¶] from AB & QC;
1 B/Brisbane/60/2008 (Victoria lineage)-like[†] from ON.

[§] A/California/07/2009 (H1N1) is the variant reference virus (pH1N1) selected by WHO for the pandemic influenza A/H1N1 vaccine
[†] indicates a strain match to the 2009-10 northern hemisphere trivalent influenza vaccine
[¶] indicates a strain match to the 2010 southern hemisphere trivalent influenza vaccine

Antiviral Resistance

Drug susceptibility testing at the NML between September 1, 2009 and January 14, 2010 indicated that 99% (817/826) of pH1N1 isolates were sensitive to oseltamivir. All influenza B isolates (n=1) and influenza A/H3N2 isolates (n=7) tested were sensitive to oseltamivir, and the 4 seasonal A/H1N1 isolates tested were oseltamivir-resistant. All pH1N1 (n=807), seasonal H1N1 (n=2), A/H3N2 (n=7), and influenza B (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=831) and A/H3N2 (n=15) isolates were resistant to amantadine. Two seasonal H1N1 isolates were sensitive to amantadine, and one was resistant.

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

During week 1 (January 3-9, 2010), influenza activity remained low in the United States (http://www.cdc.gov/flu/weekly/). About 4% (139/3886) of respiratory specimens tested in reference laboratories were positive for influenza. All subtyped influenza A viruses (78/78) were pH1N1. Influenza B was detected in 2 specimens. The proportion of sentinel physician visits due to ILI decreased to 1.9%.

In Europe, all countries reported declining trends in influenza activity for the week of January 4-10. Twenty percent of sentinel laboratory samples were positive for influenza, and all sub-typed specimens were positive for pH1N1. (http://www.eiss.org)

Worldwide, pH1N1 continues to be the dominant influenza virus currently circulating. From December 27, 2009-January 2, 2010, 82% of influenza detections reported to WHO from various regions of the world were pH1N1; 0.1% were seasonal influenza A/H1 virus, 1.4% were A/H3 virus, 5.7% were non-subtyped influenza A virus, and 10.9% were influenza B virus. (http://www.cdc.gov/h1n1flu/updates/international/)

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