



Influenza Activity due to Novel Pandemic H1N1 Approaching Expected Range for this Time of Year

Contents:

Highlights	Page 1
Sentinel Physicians	Page 1
MSP	Page 1
ILI Outbreaks	Page 1
Laboratory Reports	Page 1
Novel Pandemic H1N1	Page 2
Canadian Data	Page 2
International Data	Page 2
Vaccine Composition	Page 3
List of Acronyms	Page 3
Web Sites	Page 3
Weekly Sentinel ILI Graph	Page 4
MSP Graphs	Pages 4-6
ILI Outbreaks Graph	Page 6
Lab Summary Graphs	Page 7
nH1N1 Graphs	Page 8
ILI Outbreak Form	Page 9

Highlights

In week 35 (Aug 30 – Sept 5), the proportion of patients presenting to sentinel physicians with ILI was similar to previous weeks. Medical Services Plan claims for influenza illness remained consistent with the historical median. No school or facility influenza outbreaks were reported during this period. Ten percent (27/260) of respiratory specimens tested at the BC Provincial Laboratory were positive for novel pandemic H1N1 virus (nH1N1), a decrease from 27% in week 30. Together, BC surveillance indicators suggest influenza activity, predominantly associated with nH1N1, is approaching the expected range for this time of year.

Sentinel Physicians

During week 35, the percentage of patients presenting to sentinel physicians with ILI was 0.21%, this is close to expected levels for this time of year. 69% of sentinel physicians reported for week 35. (See graph on page 4.)

MSP

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims were at levels consistent with the historical median in week 35. On a regional level VIHA maintained an elevated proportion and NHA a reduced proportion of claims related to ILI compared to previous years (See graphs, pages 4-6.)

ILI Outbreaks

No influenza outbreaks were reported in schools or facilities during week 35. Since late April, when nH1N1 was first detected in BC, specimens have been submitted to BCCDC Laboratory Services in relation to 36 ILI outbreak investigations (25 in LTCFs, 4 in schools, 2 in ACFs, 2 in correctional facilities, 2 in summer camps, and 1 in a workplace). Influenza A/H3N2 was identified in 4 of the investigations (all LTCFs), nH1N1 was identified in 4 (two summer camps, one school, one correctional facility), influenza B in 1 school, rhino/enterovirus in 3 LTCFs, HMPV in 2 LTCFs, and coronavirus in a workplace. No pathogen was identified in the other 21. (See graph on page 6.)

Please remember to notify BCCDC of any ILI outbreaks occurring in your region by sending an e-mail to ilioutbreak@bccdc.ca and attaching the outbreak report form (a copy is found at the end of this report).

Laboratory Reports

BCCDC Laboratory Services tested 260 respiratory specimens in week 35. Five (2%) specimens tested positive for human influenza viruses. 26 (10.0%) tested positive for nH1N1; proportions are similar to the previous week. Other respiratory pathogens detected included: rhino/enterovirus (6.5% of specimens tested), adenovirus (0.4%) and parainfluenza (2.7%).

During week 35, Children's and Women's Health Centre Laboratory tested 46 respiratory specimens. None of the isolates were positive for influenza. 2 tested positive for parainfluenza and 1 for adenovirus. (See graphs on page 7.)



Novel pandemic H1N1

BCCDC continues to monitor the novel H1N1 virus pandemic. To date, 4 laboratory confirmed cases have died. The age distribution of nH1N1 cases indicates that younger persons are disproportionately affected. An epidemic curve showing BC ambulatory and hospitalized cases as well as a graph showing the age-stratified cumulative case rates are presented on page 8.

For further description of BC nH1N1 cases, visit:
www.bccdc.ca/discord/DiseaseStatsReports/influSurveillanceReports.htm

nH1N1-related information and resources for healthcare professionals are available at:
www.bccdc.ca/resourcematerials/newsandalerts/healthalerts/H1N1FluVirusHumanSwineFlu.htm

CANADA

FluWatch

During week 35, activity levels were similar to the previous week, but are consistent with a declining trend. Compared to week 33 the proportion of tests positive for influenza and ILI consultation rate remained approximately constant at 2.9 % and 14 per 1000 patient visits respectively. These figures illustrate a decline from 23% tests positive and 14 per 1000 patient visits in the week ending June 13. Overall activity remains slightly higher than expected for this time of year. www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory

Since Sept 1, 2008 and as of August 31, 1306 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):

262 A/Brisbane/59/07(H1N1)-like* † from BC, AB, SK, MB, ON, QC, NB, NS, & PEI;

172 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

302 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 (nH1N1) selected by WHO as a potential candidate for a pandemic influenza A/H1N1 vaccine.

Antiviral Resistance

Drug susceptibility testing at the NML as of August 31 indicated that most (n=320) human influenza A/H1N1 isolates tested to date were resistant to oseltamivir (one human H1N1 isolate identified since mid-April was sensitive). All human H3N2 (n=194), influenza B (n=573), and nH1N1 (n=527) isolates tested at the NML were found to be sensitive to oseltamivir. Of the isolates tested for amantadine resistance, all (n=319) human H1N1 isolates were found to be sensitive, all (n=396) human H3N2 isolates were found to be resistant, and all (n=361) nH1N1 isolates were found to be resistant. All 1305 (257 human H1N1, 190 human H3N2, 578 influenza B, and 280 nH1N1) isolates that have been tested for zanamivir resistance were sensitive.

On July 21, Canada reported its first case of oseltamivir resistant nH1N1 (aka: swine flu) in a patient from Quebec who received post-exposure prophylaxis following illness in a family member. Sporadic cases of other nH1N1 isolates resistant to oseltamivir have been identified in China, Hong Kong, Singapore, Japan, USA, and Denmark. The first cases of oseltamivir resistance with an epidemiological link were identified in the US on August 14 and 19. In summary, global surveillance has shown that circulating nH1N1 viruses are resistant to amantadine but remain sensitive to zanamivir and oseltamivir, although sporadic cases of oseltamivir resistance have been observed.

INTERNATIONAL

In the United States, in the week ending September 5 influenza activity as determined by sentinel physician visits and geographic spread increased. 3.6% of visits to sentinel physicians were for ILI, an increase from 1.4% in week 33. Twenty-one percent of respiratory specimens tested in reference laboratories during this week were positive for influenza, representing an overall decrease from the peak of 39% during week ending June 20. Ninety-seven percent of the subtyped influenza A viruses were nH1N1. In Europe for the week ending September 6, influenza activity remains low or declining in most countries, with the exception of Sweden where there is medium, widespread activity with an increasing trend.

Details are available at: <http://www.cdc.gov/flu/weekly/> and <http://www.eiss.org> .

Several countries in the **Southern Hemisphere** previously reporting severe winter influenza activity



have now passed the peak. Notably as of August 28th in Australia, influenza activity is decreasing, presentations to sentinel physicians and ERs is below the previous years average. In New Zealand as of September 6th, nH1N1 activity continues to decline; consultations with sentinel physicians have declined to less than a third those observed during the peak in early July, but remains slightly elevated compared to previous years. The highest consultation rates are among children less than 5 years, followed by the 5-19 and 20-34 age groups. In Chile as of September 9, ILI activity is within the range expected for this time of year. In South Africa, laboratories are currently reporting nH1N1 is the dominant influenza subtype; previously, in June and July of this year the dominant subtype was A H3N2. In Hong Kong an ILI visits to sentinel physicians has increased in recent weeks to levels that exceed the expected range for this time of year. For more information, see:

<http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-ozflu-flucurr.htm>

http://www.surv.esr.cri.nz/virology/influenza_weekly_update.php

For information on nH1N1 globally, visit the WHO website at:
<http://www.who.int/csr/disease/swineflu/en/index.html>

Vaccine Composition

The 2008-09 influenza vaccine contained the following virus antigens:

- A/Brisbane/59/2007(H1N1)-like
 - A/Brisbane/10/2007(H3N2)-like
- Note: A/Uruguay/716/2007(H3N2) is antigenically equivalent to A/Brisbane/10/2007(H3N2) and may be included by vaccine producers.

- B/Florida/04/2006(Yamagata lineage)-like

The WHO has announced the recommended components of the 2009-10 northern hemisphere seasonal influenza vaccine:

- A/Brisbane/59/2007(H1N1)-like
- A/Brisbane/10/2007(H3N2)-like
- B/Brisbane/60/2008(Victoria lineage)-like

Thus, only the B component will be changed from the 2008-09 vaccine. For additional information, visit:

http://www.who.int/csr/disease/influenza/200902_recommendation.pdf.

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
OIE: World Organization for Animal Health
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:

<http://www.phac-aspc.gc.ca/fluwatch/>

NACI Statement on Influenza Vaccination for the 2008-09 Season: <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/08vol34/acs-3/index-eng.php>

Washington State Flu Updates:

<http://www.doh.wa.gov/ehsphl/epidemiology/CD/HTML/FluUpdate.htm>

USA Weekly Surveillance reports:

<http://www.cdc.gov/flu/weekly/>

European Influenza Surveillance Scheme:

<http://www.eiss.org/index.cgi>

WHO – Global Influenza Programme:

<http://www.who.int/csr/disease/influenza/mission/>

WHO – Weekly Epidemiological Record:

<http://www.who.int/wer/en/>

Influenza Centre (Australia):

<http://www.influenzacentre.org/>

2. Avian Influenza Web Sites

World Health Organization – Avian Influenza:

http://www.who.int/csr/disease/avian_influenza/en/

World Organization for Animal Health:

http://www.oie.int/eng/en_index.htm

3. This Report On-line

<http://www.bccdc.ca/disc-ond/DiseaseStatsReports/influSurveillanceReports.htm>

4. Swine Influenza Web Sites

BCCDC: <http://www.bccdc.ca/disc-ond/a-z/h/HumanSwineFlu/default.htm>

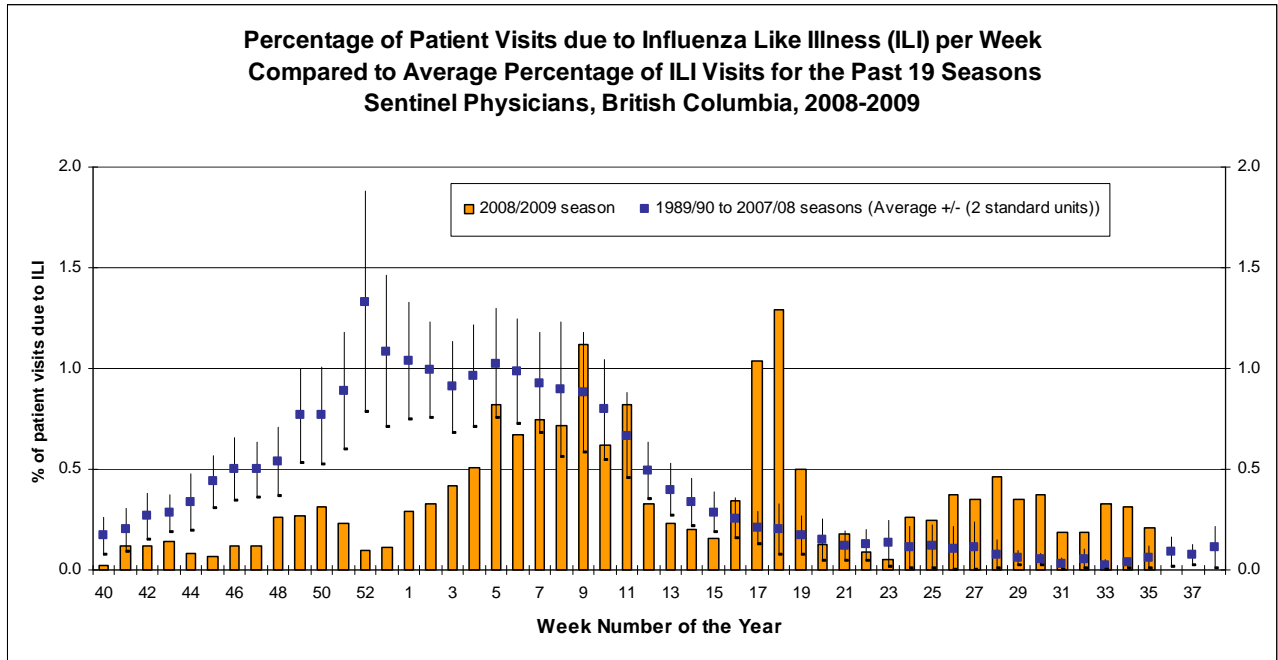
PHAC: http://www.phac-aspc.gc.ca/alert-alerte/swine_200904-eng.php

US CDC: <http://www.cdc.gov/swineflu/index.htm>

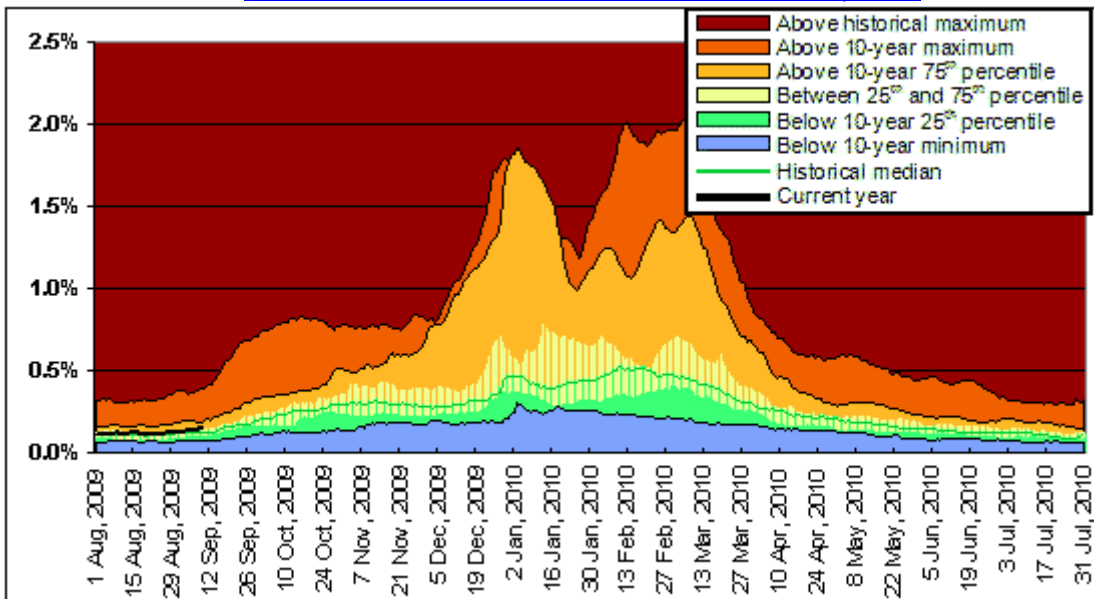
WHO: <http://www.who.int/csr/disease/swineflu/en/index.html>



WEEKLY SENTINEL ILI



INFLUENZA ILLNESS CLAIMS* VIA BC MEDICAL SERVICES PLAN (MSP)
 ENTIRE PROVINCE – CURRENT TO SEPTEMBER 9, 2009



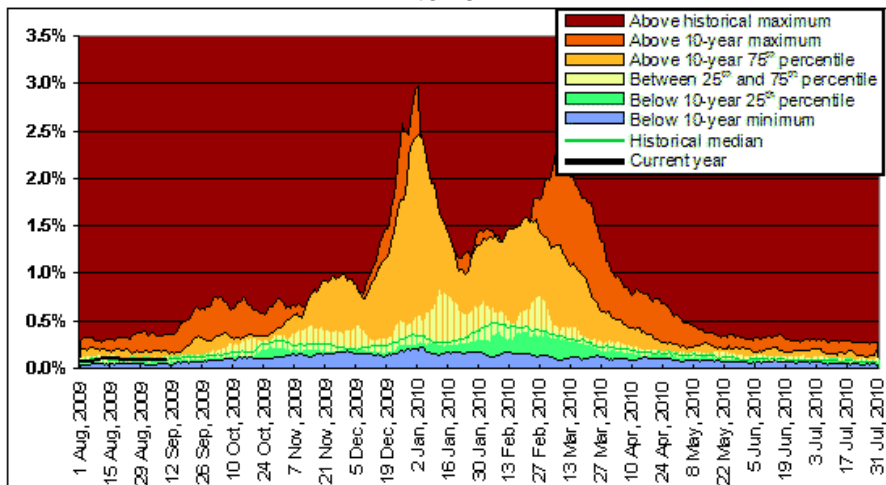
* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

Note: MSP week 27 Sep 2008 corresponds to sentinel ILI week 40.

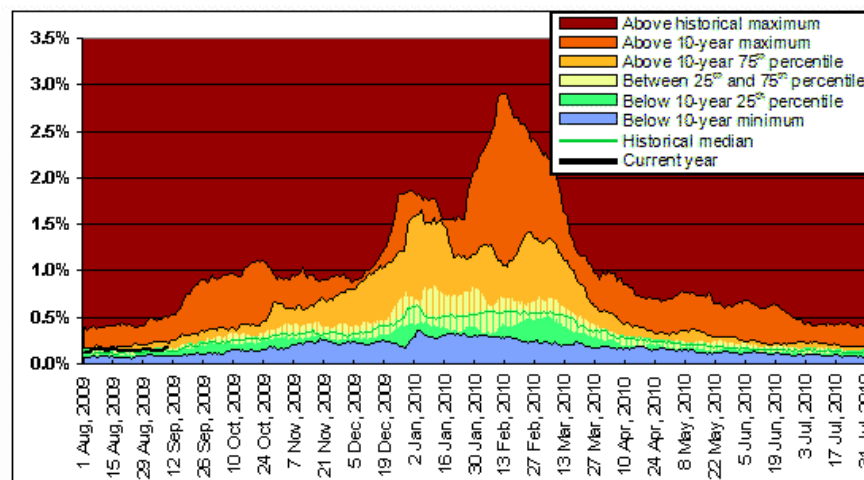


**INFLUENZA ILLNESS CLAIMS* VIA BC MEDICAL SERVICES PLAN (MSP)
 BY REGIONAL HEALTH AUTHORITY (RHA) – CURRENT TO SEPTEMBER 9, 2009**

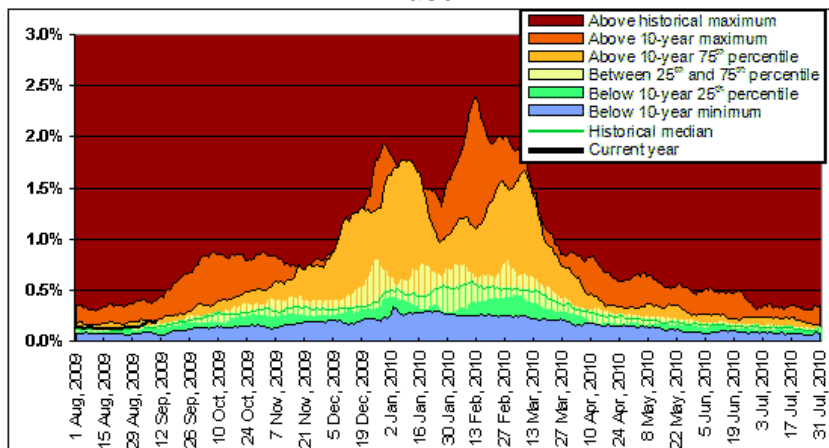
Interior



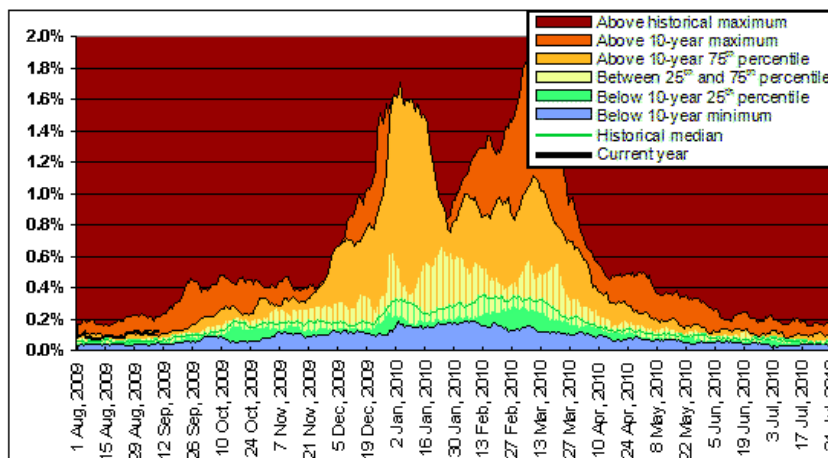
Vancouver Coastal



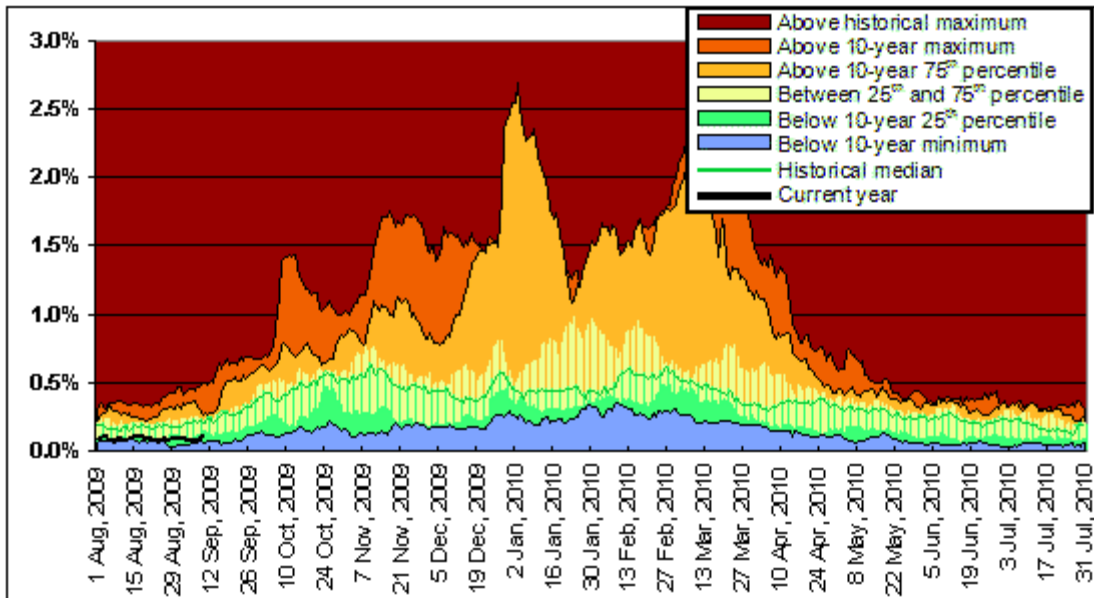
Fraser



Vancouver Island

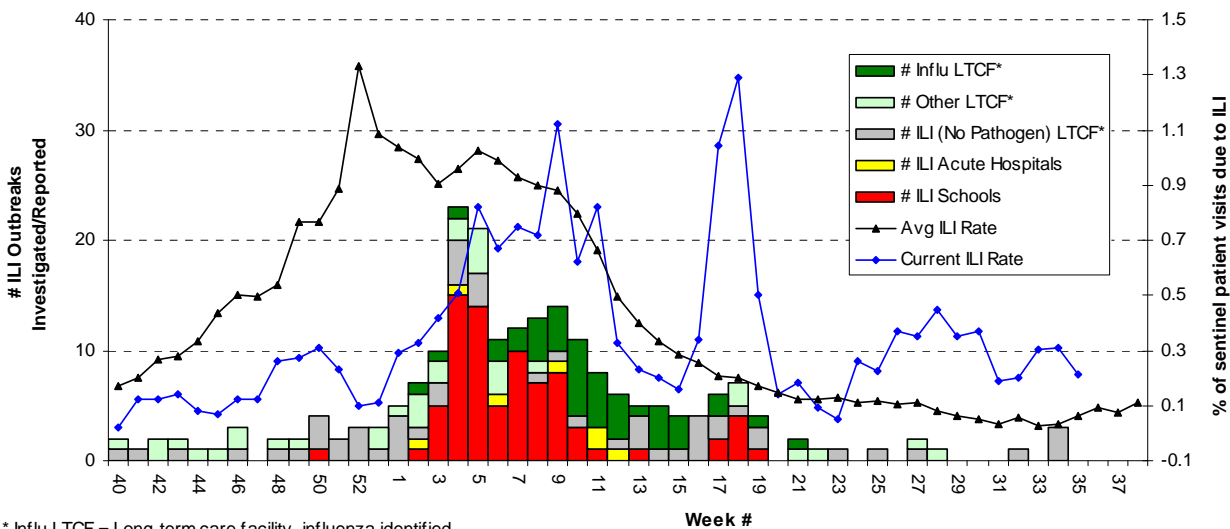


Northern



ILI OUTBREAKS

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

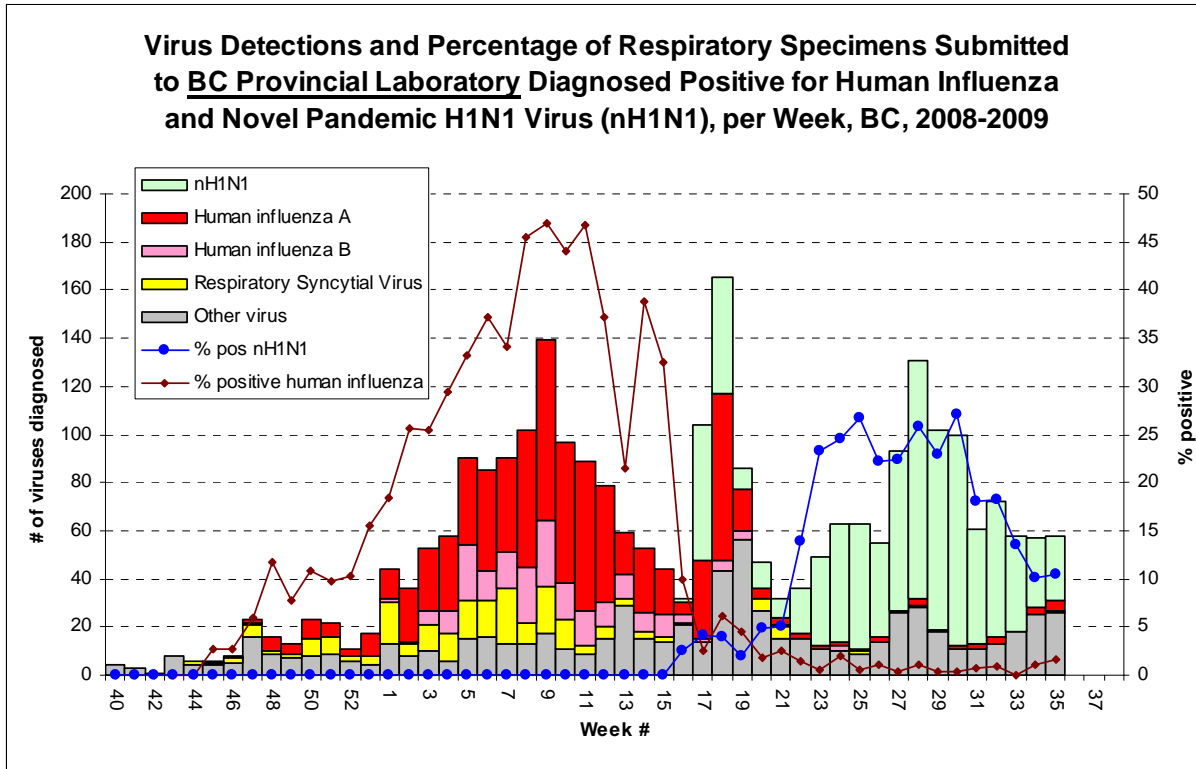


* Influenza in LTCF = Long-term care facility, influenza identified

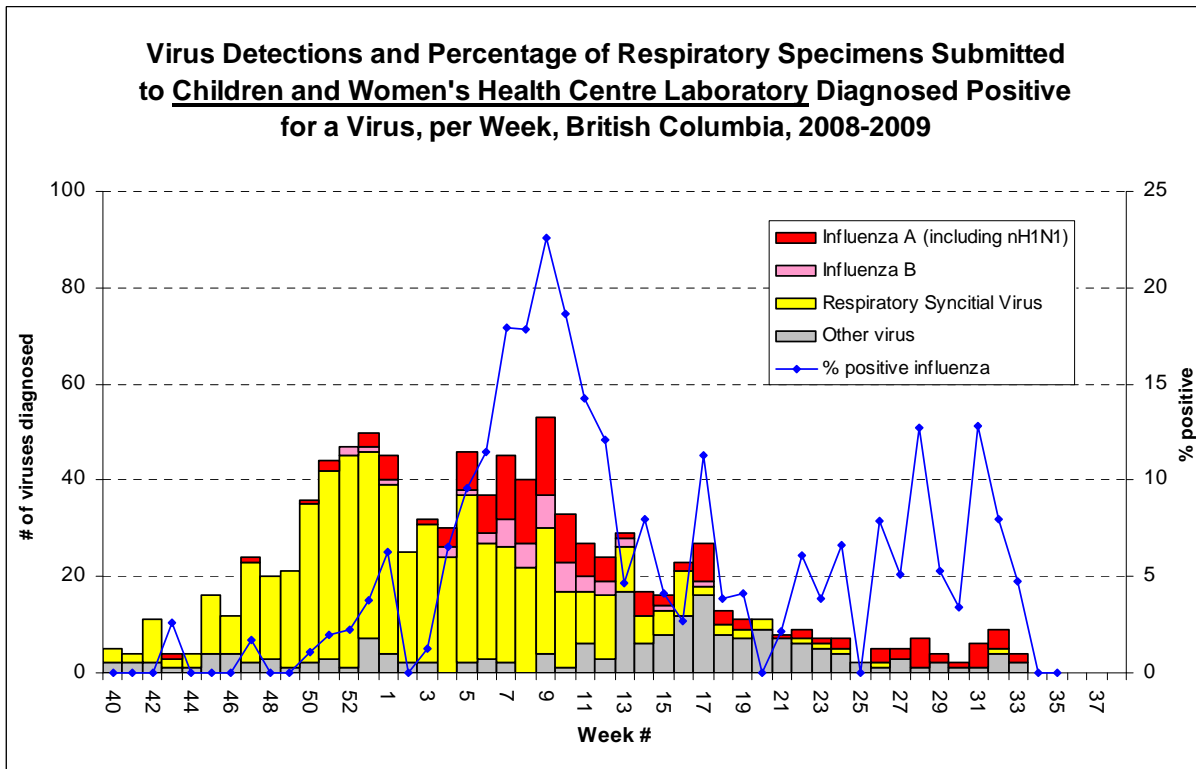
* Other LTCF = Long-term care facility, other pathogen identified (including RSV, parainfluenza, adenovirus, and rhino/enterovirus)

* ILI (No Pathogen) LTCF = Long-term care facility, no pathogen identified

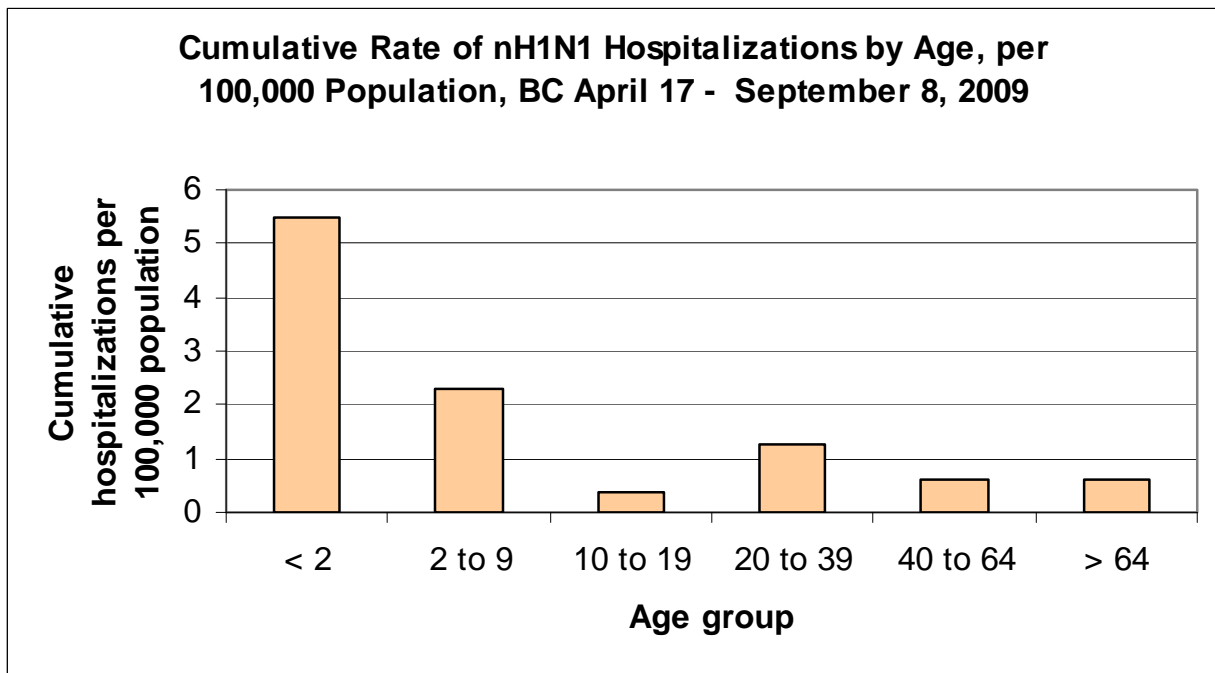
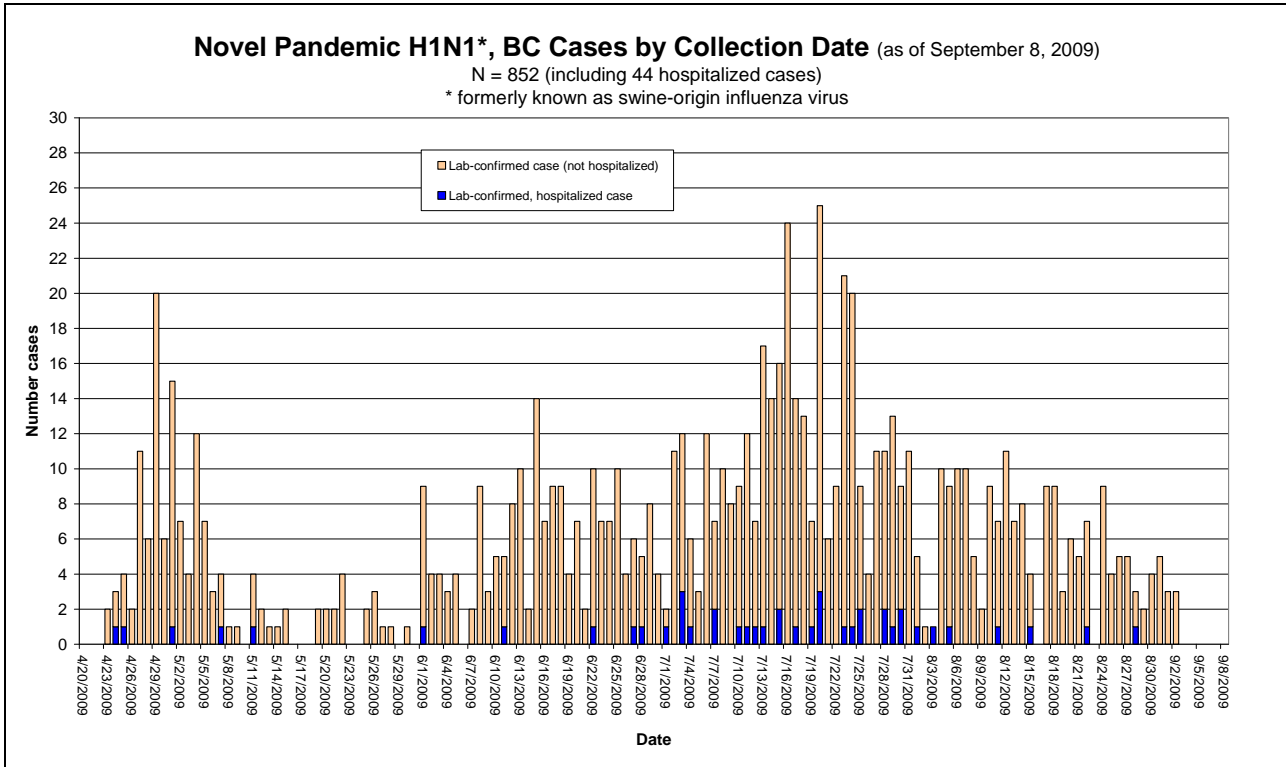
LABORATORY SUMMARY



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).



nH1N1 – RELATED GRAPHS



Influenza-Like Illness (ILI) Outbreak Summary Report Form

Please complete and email to ilioutbreak@bccdc.ca or fax to (604) 660-0197

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