BRITISH COLUMBIA (BC) INFLUENZA SURVEILLANCE *2008-2009* UPDATE

BC Centre for Disease Control
AN AGENCY OF THE PROVINCIAL HEALTH SERVICES AUTHORITY

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Number 24: Weeks 23-24
June 7 – 20, 2009

Ongoing Circulation of Swine-Origin Influenza A/H1N1 in BC with Some Sign of Increase in Community ILI Rates

Contents:

Highlights

In weeks 23-24 (June 7-20), the proportion of patients presenting to sentinel physicians with ILI increased above the expected range for this time of year. A similar increase was observed in Medical Services Plan claims for influenza illness, particularly in the lower mainland region. No ILI outbreaks were reported during this period. One percent (5/385) of respiratory specimens tested at the BC Provincial Laboratory during weeks 23-24 were positive for human influenza viruses, whereas 21% (79/385) were positive for swine-origin influenza (s-oiv) H1N1, indicating an increase in percentage of specimens positive for s-oiv over the past 3 weeks. This suggests atypical seasonality and continued s-oiv activity for which further increase should be considered.

Sentinel Physicians

During weeks 23-24, the percentage of patients presenting to sentinel physicians with ILI increased from 0.03% in week 23 to 0.34% in week 24. As previously explained, the surge in ILI activity during weeks 17-19 may at least in part be attributed to heightened public awareness of swine-origin influenza virus (s-oiv) in late April and early May, which may have induced care-seeking among patients with mild illness who would not otherwise present to a physician. It is uncertain to what degree this phenomenon may explain the more recent increase in weeks 23-24. (See graph on page 4.)

MSP

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims also increased slightly over this period (weeks 23-24). As shown in the regional graphs below, this increase was apparent in VCHA and FHA but not in the other RHAs. (See graphs on pages 4-6.)

ILI Outbreaks

No ILI outbreaks were reported during weeks 23-24. Since April 20, when public health partners were first informed of the evolving situation in Mexico, specimens have been submitted to BCCDC Laboratory Services in relation to 27 ILI outbreak investigations (18 in LTCFs, 4 in schools, 2 in ACFs, 2 in correctional facilities, and 1 in a workplace). Influenza A/H3N2 was identified in 4 of the investigations (all LTCFs), s-oiv H1N1 was identified in 2 (one school and one correctional facility), influenza B in 1 school, HMPV in 2 LTCFs, rhino/enterovirus in 1 LTCF, and coronavirus in a workplace. No pathogen was identified in the other 16. (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 385 respiratory specimens in weeks 23-24. Five (1%) specimens tested positive for human influenza viruses (2 human influenza A/H1, 1 A/H3, and 2 B). Seventy-nine (21%) tested positive for s-oiv H1N1. Other respiratory pathogens detected included: rhino/enterovirus (3% of specimens tested), parainfluenza (1%), and HMPV (1%).

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During weeks 23-24, Children's and Women's Health Centre Laboratory tested 56 respiratory specimens. Thirteen percent tested positive for parainfluenza, 5% for s-oiv H1N1, 4% for adenovirus, and 4% for RSV. (See graphs on page 7.)

Swine-origin influenza H1N1

For up-to-date information on confirmed cases of swine influenza in Canada, visit:
http://www.phac-aspc.gc.ca/alert-alerte/swine-porcine/surveillance-eng.php
BC-specific information, including resources for healthcare professionals, is available here:
http://www.bccdc.ca/resourcematerials/newsandalerts/healthalerts/H1N1FluVirusHumanSwineFlu.htm

CANADA

FluWatch

During week 23, overall influenza activity in Canada increased. The proportion of positive tests increased to 26.1%, and the ILI consultation rate was 41 per 1000 patient visits, both of which are higher than expected for this time of year. http://www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory

Since Sept 1 and as of June 25, 976 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):
242 A/Brisbane/59/07(H1N1)-like* † from BC, AB, SK, MB, ON, QC, NB, NS, & PEI;
168 A/Brisbane/10/07(H3N2)-like* † from all 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;
176 B/ Brisbane/60/08(Victoria)-like † from BC, AB, SK, MB, ON, QC, NB, NS, & NU;
And, 99 A/California/07/2009-like§ from BC, AB, SK, MB, ON, QC, NB, & NS;

* 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 (s-oiv) selected by WHO as a potential candidate for a novel influenza A/H1N1 vaccine.

Antiviral Resistance

Drug susceptibility testing at the NML as of June 25 indicated that most (n=303) 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=184), influenza B (n=569), and s-oiv H1N1 (n=149) isolates were found to be sensitive to oseltamivir when tested. Of those isolates tested for amantadine resistance, all (n=294) human H1N1 isolates were found to be sensitive, all (n=359) human H3N2 isolates were found to be resistant, and all (n=207) s-oiv H1N1 isolates were found to be resistant. All 1063 (241 human H1N1, 180 human H3N2, 574 influenza B, and 68 s-oiv H1N1) isolates that have been tested for zanamivir resistance were sensitive.

INTERNATIONAL

In the United States, influenza activity levels decreased during week 23 but remained higher than usual for this time of year, with 39% of respiratory specimens testing positive for influenza, and over 98% of those influenza detections s-oiv H1N1. Influenza activity in Europe remains at low, end-of-season level; however, s-oiv H1N1 detections continue to increase in several countries. Details are available at: http://www.cdc.gov/flu/weekly/ and http://www.eiss.org .

For up-to-date information on s-oiv H1N1 globally, visit the WHO website at:
http://www.who.int/csr/disease/swineflu/en/index.html

Avian Influenza

Since 2003 and to date (June 2, 2009), the WHO has confirmed 433 human avian influenza A/H5N1 cases and 262 deaths. For more information on human avian influenza cases, please visit:
http://www.who.int/csr/disease/avian_influenza .

Vaccine Composition

This year's (2008-09) influenza vaccine contains 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 influenza vaccines:

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

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Thus, only the B component will be changed from the 2008-09 vaccine. Additional information can be found here: http://www.who.int/csr/disease/influenza/recommendations2009_10north/en/index.html .

Contact Us:

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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/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm

4. Swine Influenza Web Sites
BCCDC: http://www.bccdc.ca/dis-cond/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

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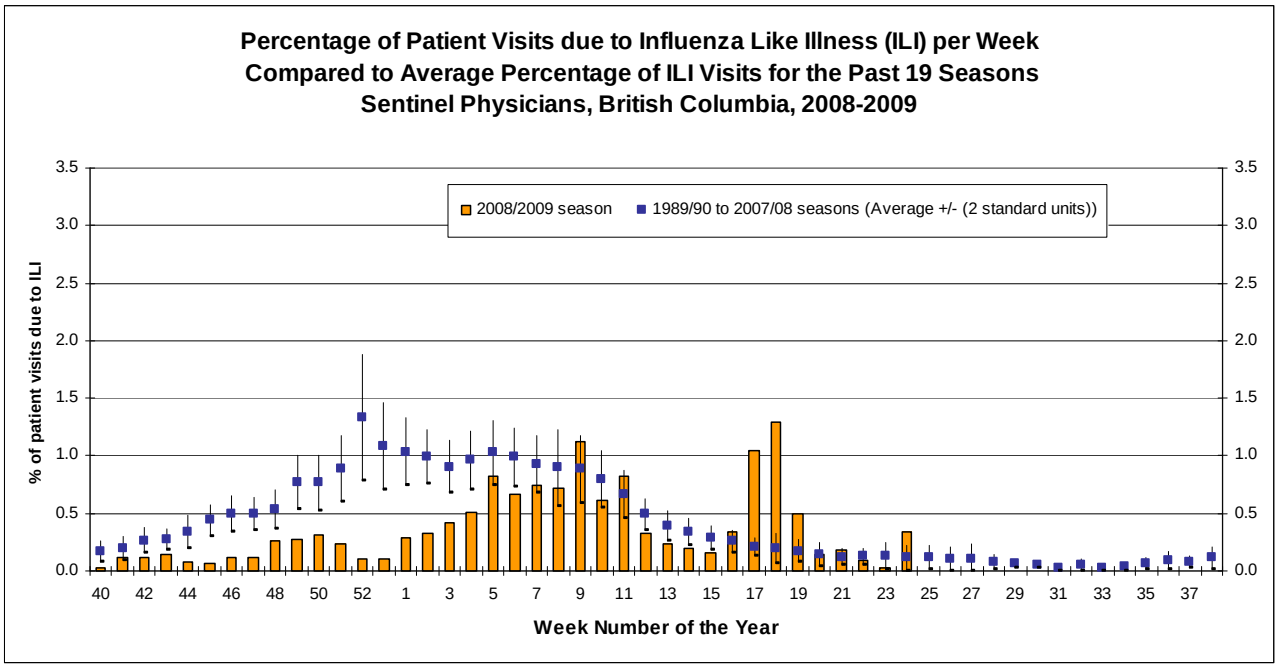
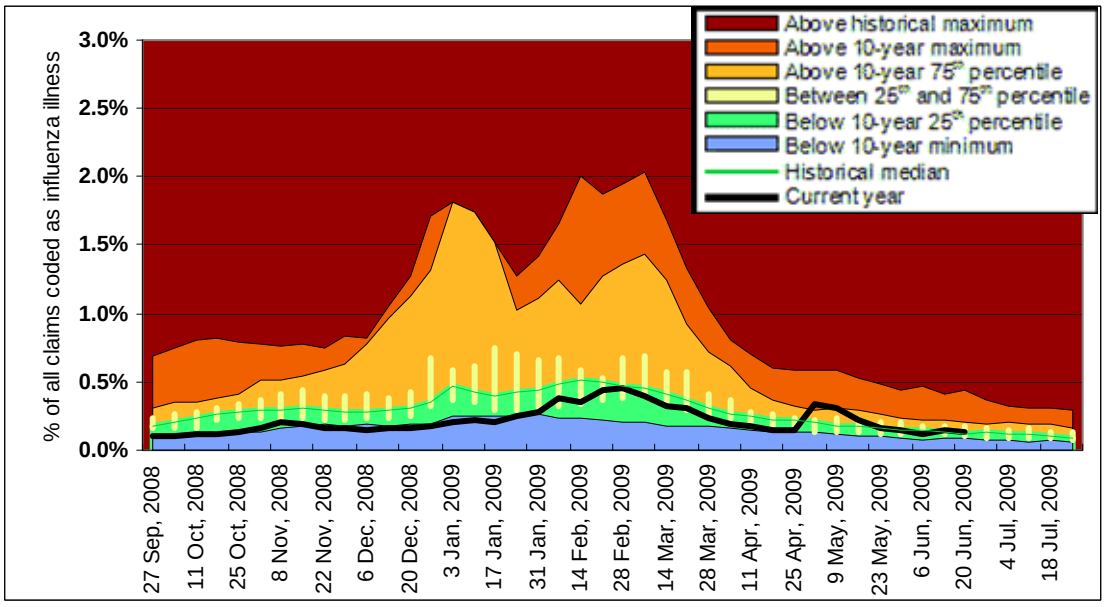
WEEKLY SENTINEL ILI



INFLUENZA ILLNESS CLAIMS* VIA BC MEDICAL SERVICES PLAN (MSP)
ENTIRE PROVINCE – CURRENT TO JUNE 25, 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.

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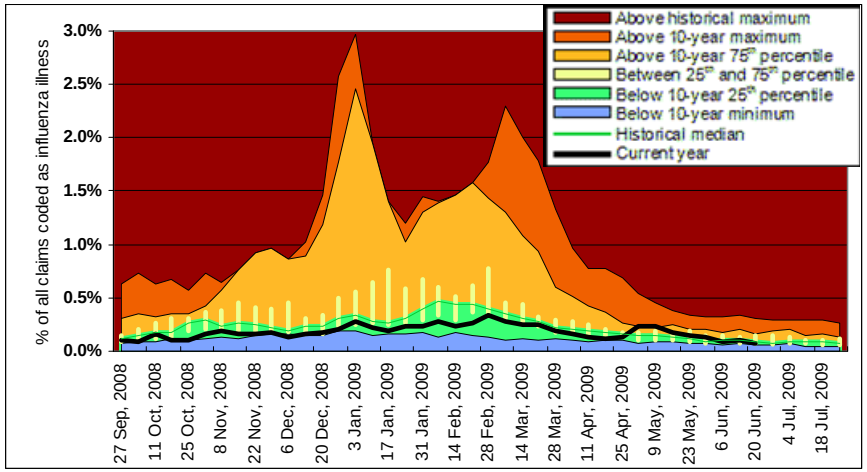
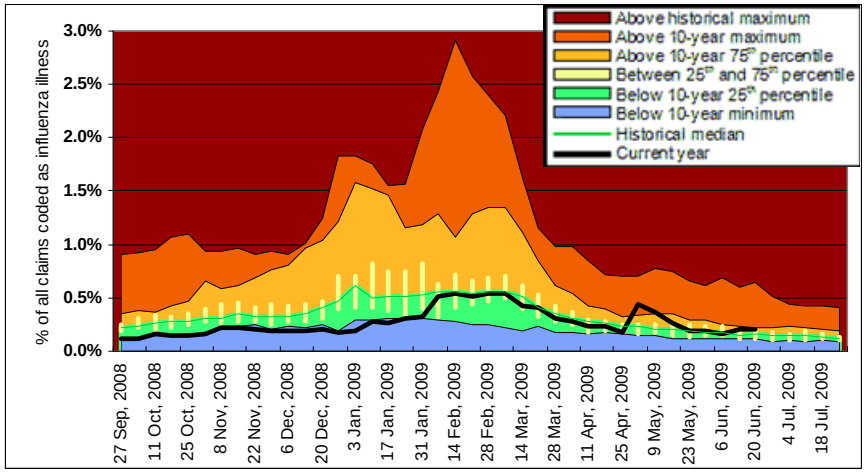
INFLUENZA ILLNESS CLAIMS* VIA BC MEDICAL SERVICES PLAN (MSP) BY REGIONAL HEALTH AUTHORITY (RHA) – CURRENT TO JUNE 25, 2009

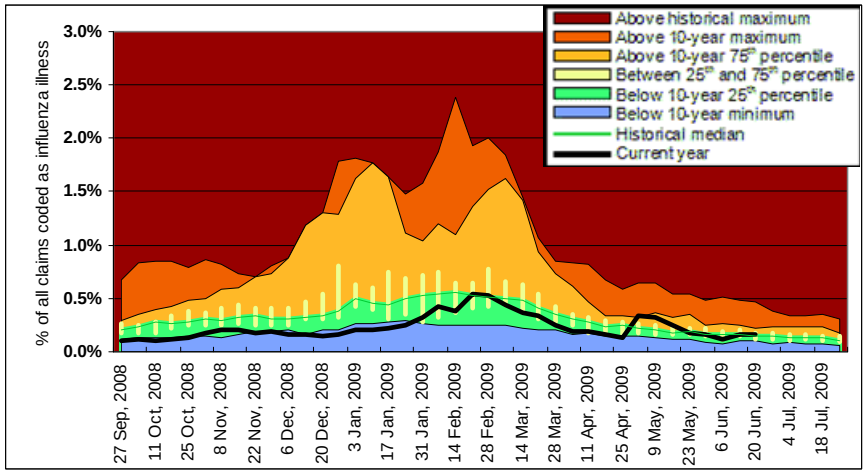
Interior



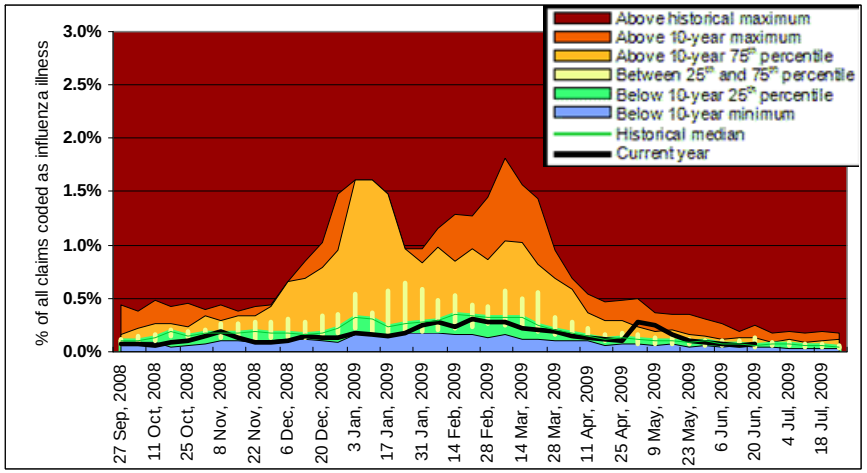
Vancouver Coastal



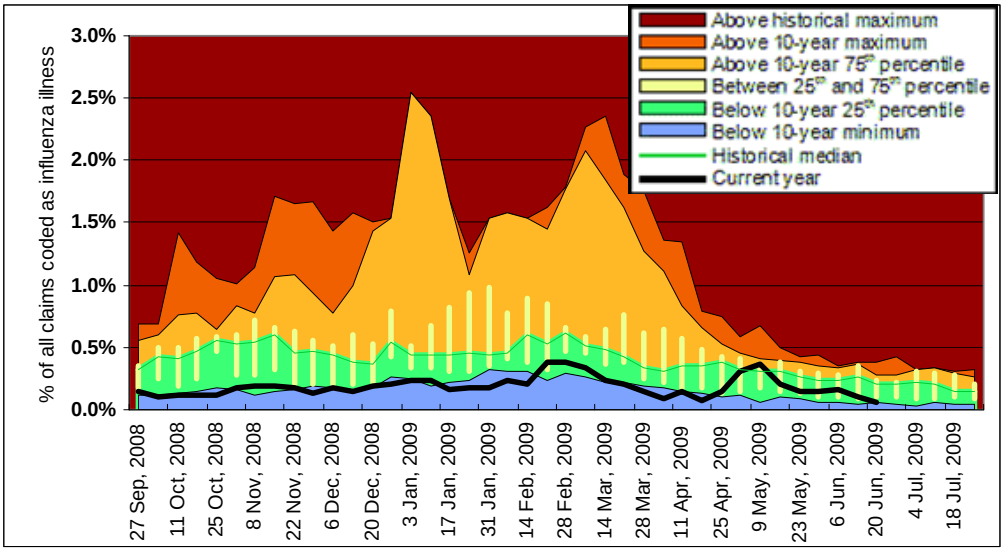
Fraser



Vancouver Island

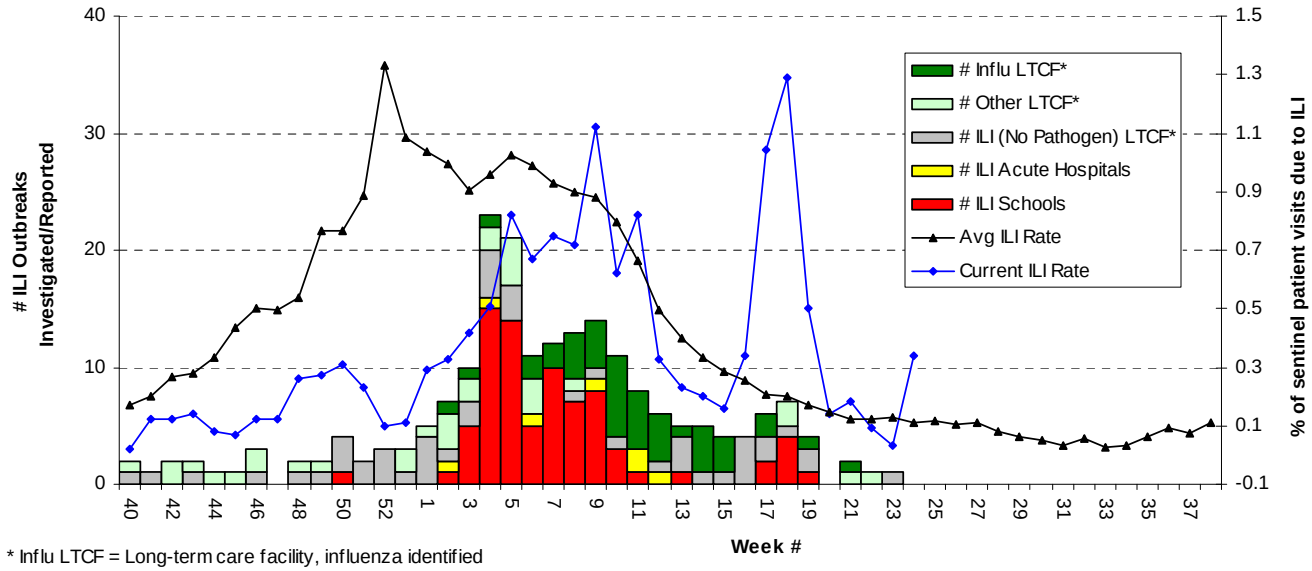


Northern



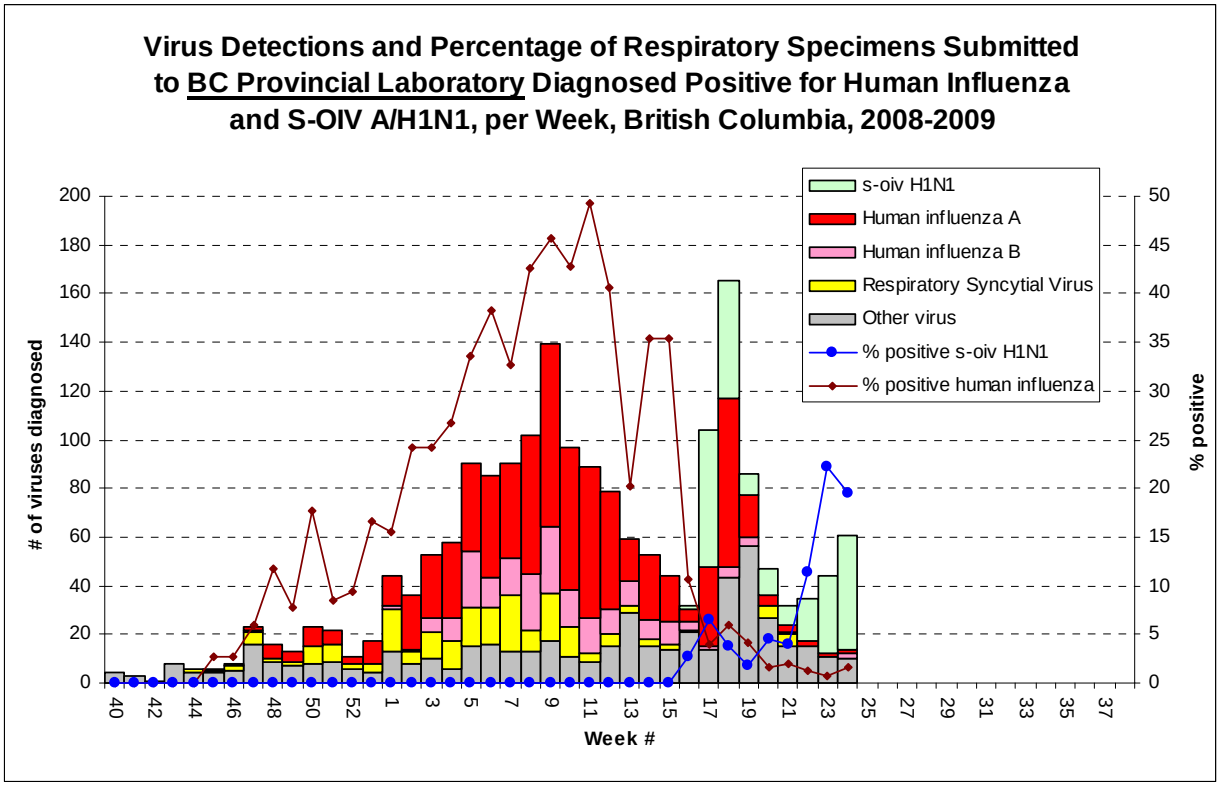
ILI OUTBREAKS

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

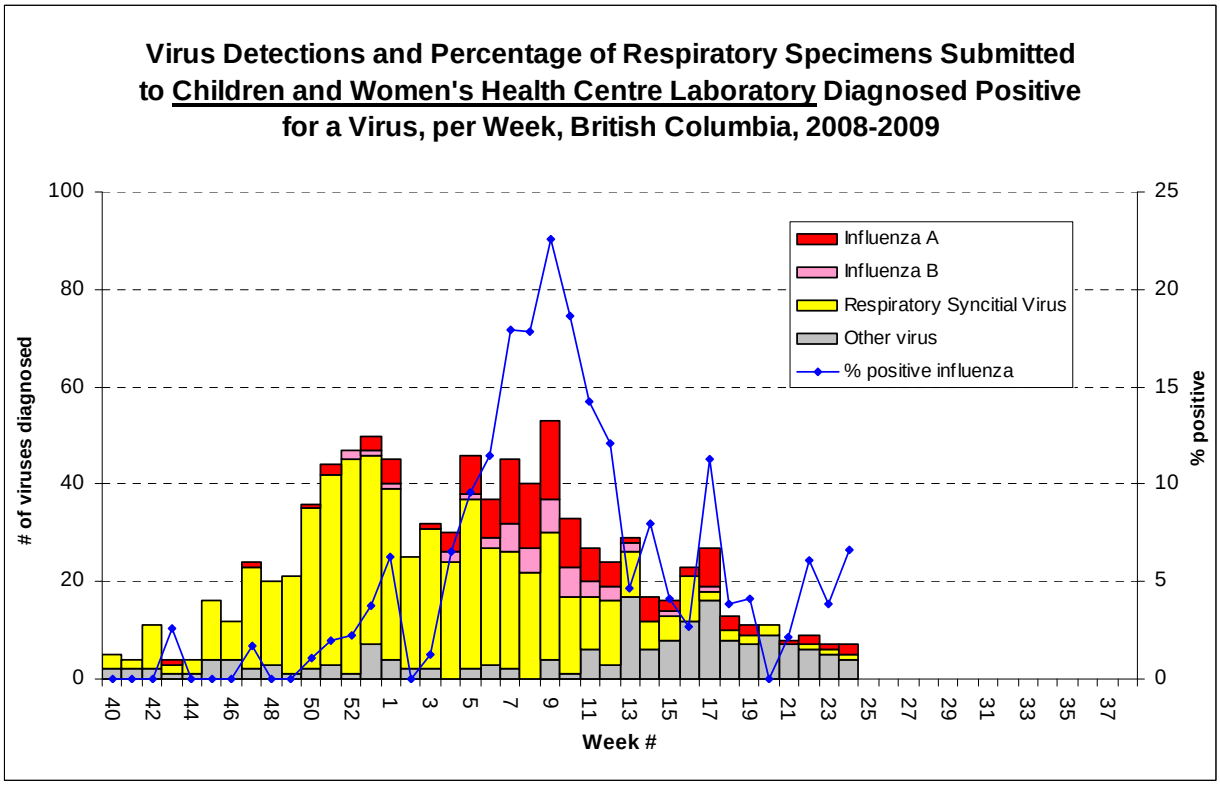


* Influ LTCF = Long-term care facility, influenza identified
* Other LTCF = Long-term care facility, other pathogen identified (including RSV, parainfluenza, adenovirus, and rhino/enterovirus)
* ILI (No Pathogen) LTCF = Long-term care facility, no pathogen identified

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).



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