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 23: Weeks 20-22
May 17 – June 6, 2009

Ongoing Circulation of Swine-Origin Influenza A/H1N1 in BC

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Highlights

In weeks 20-22 (May 17 – June 6), the proportion of patients presenting to sentinel physicians with ILI was within the expected range for this time of year. One lab-confirmed influenza A/H3N2 outbreak was reported in a LTCF in FHA during week 21. Two percent (10/604) of respiratory specimens tested at BCCDC during weeks 20-22 were positive for human influenza viruses, and 6% (37/604) were positive for swine-origin influenza (s-oiv) H1N1. There is indication of increase in the percentage of total respiratory specimens submitted to the BC Provincial Laboratory testing positive for s-oiv H1N1 over the past 3 weeks. Other Canadian provinces and the US likewise report continued increases in the percentage of specimens positive for s-oiv H1N1. This suggests atypical seasonality and continued s-oiv activity for which further increase should be considered.

Sentinel Physicians

During weeks 20-22, the proportion of patients presenting to sentinel physicians with ILI decreased, returning to the expected range for this time of year. 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. (See graph on page 4.)

MSP

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims also decreased during weeks 20-22. As of June 11, activity levels throughout the province, as measured by MSP claims, have returned to levels near or below the historical median. (See graphs on pages 4-6.)

ILI Outbreaks

One influenza A/H3N2 outbreak was reported in an FHA LTCF during week 21. 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 26 ILI outbreak investigations (17 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 15. (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 604 respiratory specimens in weeks 20-22. Nine (1%) specimens tested positive for human influenza A/H3N2, 0 tested positive for human influenza A/H1N1, 1 (<1%) tested positive for human influenza B, and 37 (6%) tested positive for s-oiv H1N1. Other respiratory pathogens detected included: rhino/enterovirus (6% of specimens tested), RSV (2%), parainfluenza (2%), HMPV (1%), coronavirus (<1%), and adenovirus (<1%).

During weeks 20-22, Children's and Women's Health Centre Laboratory tested 132 respiratory specimens. Fourteen percent tested positive for parainfluenza, 2% for adenovirus, 2% for RSV, and 2% for s-oiv H1N1. (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.org/news.php?item=290

CANADA

FluWatch

During weeks 20 and 21, most regions of Canada reported sporadic influenza activity. In week 21 the proportion of positive tests increased to 8.5%, and the ILI consultation rate was 24 per 1000 patient visits, both of which are higher than expected for this time of year. http://www.phac-aspc.gc.ca/fluwatch/

Other Canadian provinces, including Ontario and Quebec, have recently reported increasing proportions of respiratory specimen tests positive for s-oiv H1N1: 17% of specimens tested from April 25 to June 5 in Quebec and 30% of specimens tested during the last week of May in Ontario were positive for s-oiv H1N1. For details see:
http://www.sante.gouv.qc.ca/sujets/prob_sante/influenza/index.php?Flash_influenza
http://www.health.gov.on.ca/english/providers/program/pubhealth/flu/flu_08/flubul_mn.html

National Microbiology Laboratory

Since Sept 1 and as of June 12, 953 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):
241 A/Brisbane/59/07(H1N1)-like* † from BC, AB, SK, MB, ON, QC, NB, NS, & PEI;
164 A/Brisbane/10/07(H3N2)-like* † from BC, AB, SK, MB, ON, QC, NB, PEI, & NL;
11 B/Florida/04/06(Yamagata)-like* from AB, ON, QC, & NB;
373 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;
And, 56 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 10 indicated that most (n=290) 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=182), influenza B (n=566), and s-oiv H1N1 (n=77) isolates were found to be sensitive to oseltamivir when tested. Of those isolates tested for amantadine resistance, all (n=257) human H1N1 isolates were found to be sensitive, all (n=305) human H3N2 isolates were found to be resistant, and all (n=83) s-oiv H1N1 isolates were found to be resistant. All 875 (240 human H1N1, 179 human H3N2, 566 influenza B, and 28 s-oiv H1N1) isolates that have been tested for zanamivir resistance were sensitive.

INTERNATIONAL

Influenza activity levels in the United States during week 21 remained higher than usual for this time of year, with 31% of respiratory specimens testing positive for influenza, and 97% 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 .

The international situation concerning s-oiv H1N1 is rapidly evolving. As of June 11, 74 countries have reported 28,774 cases of s-oiv H1N1, which includes 144 deaths. Given the rapid spread of this novel virus, the WHO announced on June 11 that it has raised the pandemic alert level from phase 5 to phase 6. For the most up-to-date information, visit the WHO website at:
http://www.who.int/csr/disease/swineflu/en/index.html

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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

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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Tel: (604) 660-6061 / Fax: (604) 660-0197
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.org/content.php?item=35

4. Swine Influenza Web Sites
BCCDC: http://www.bccdc.org/news.php?item=290
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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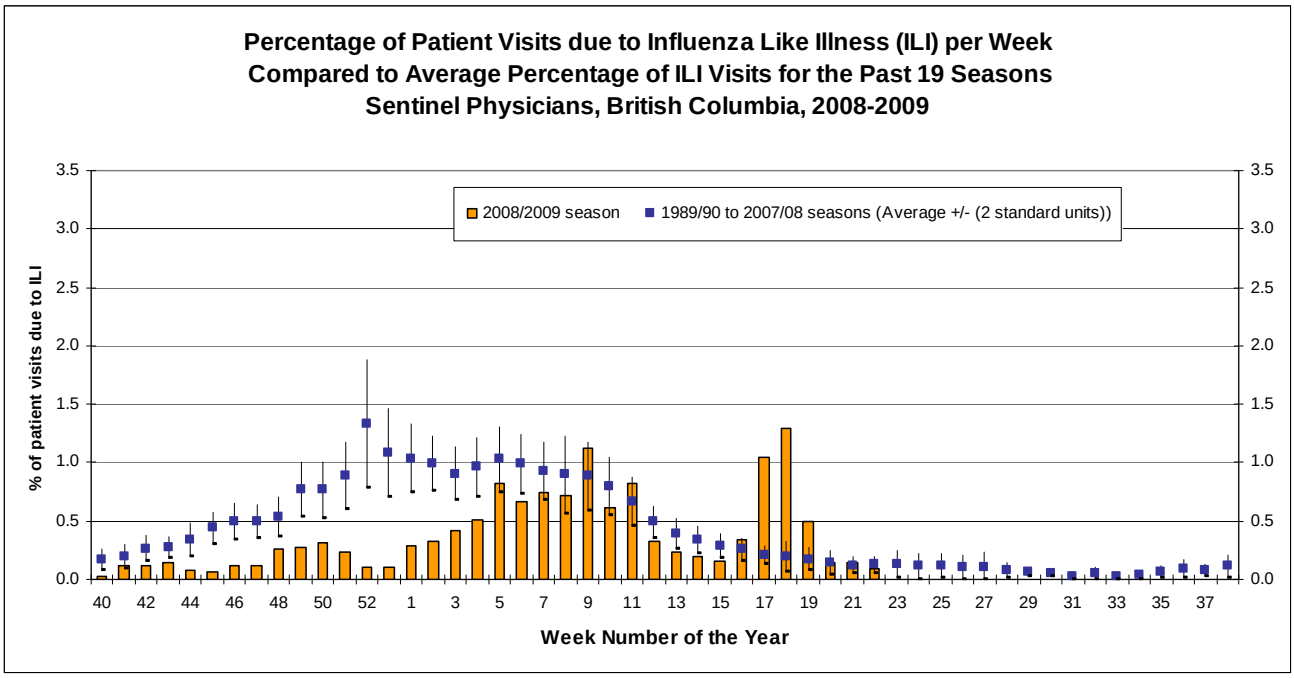
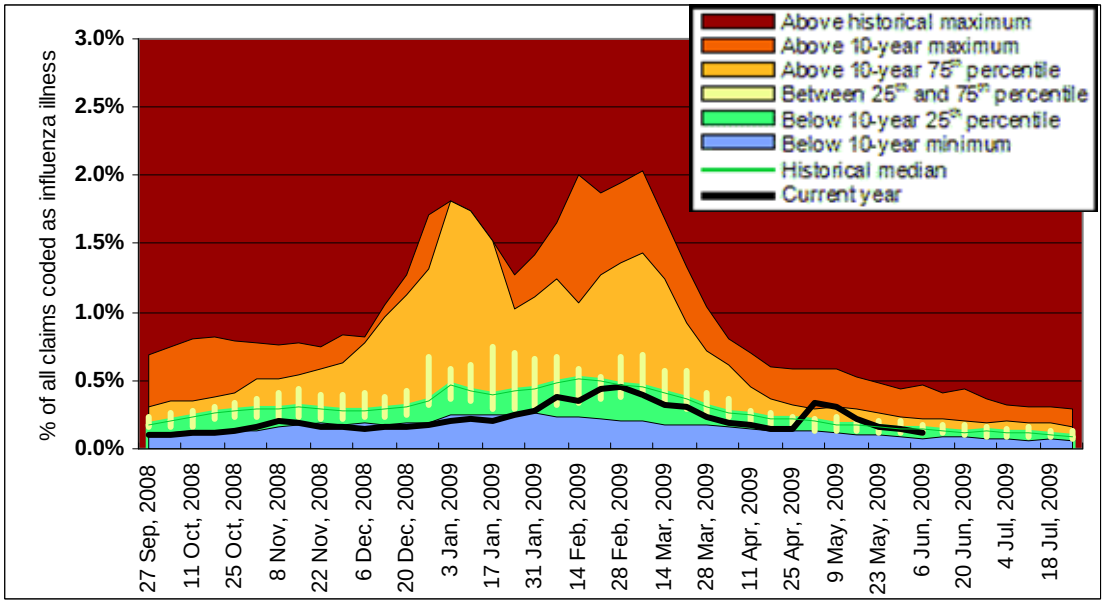
WEEKLY SENTINEL ILI



INFLUENZA ILLNESS CLAIMS* VIA BC MEDICAL SERVICES PLAN (MSP)
ENTIRE PROVINCE – CURRENT TO JUNE 11, 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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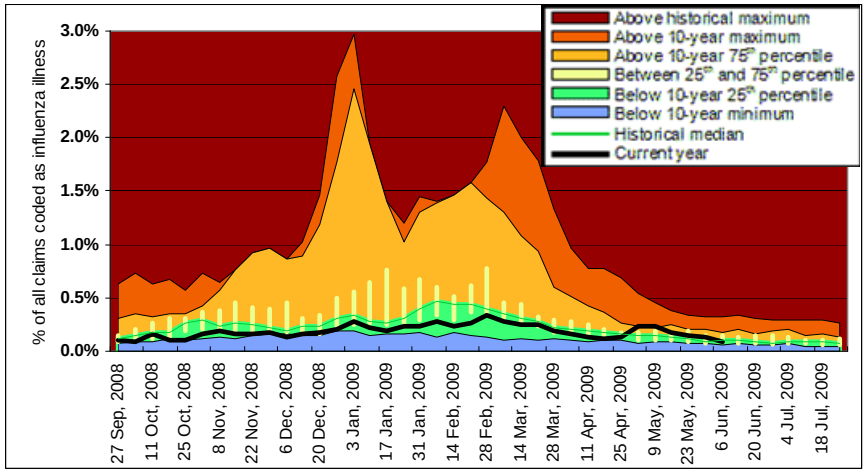
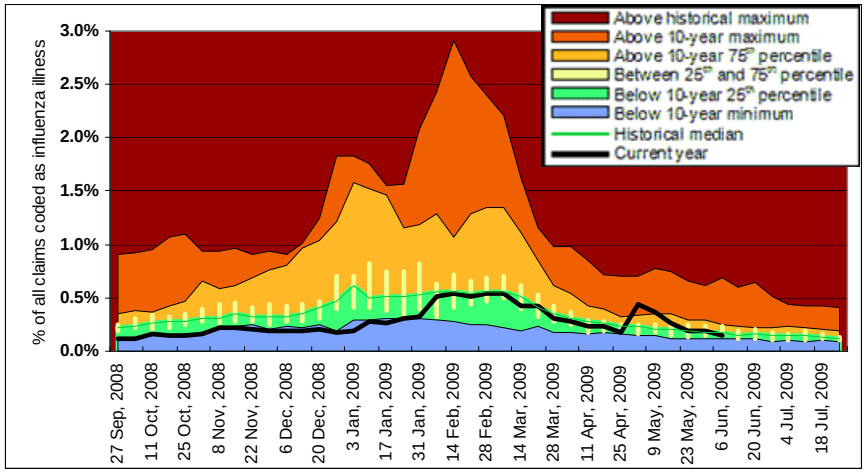
INFLUENZA ILLNESS CLAIMS* VIA BC MEDICAL SERVICES PLAN (MSP) BY REGIONAL HEALTH AUTHORITY (RHA) – CURRENT TO JUNE 11, 2009

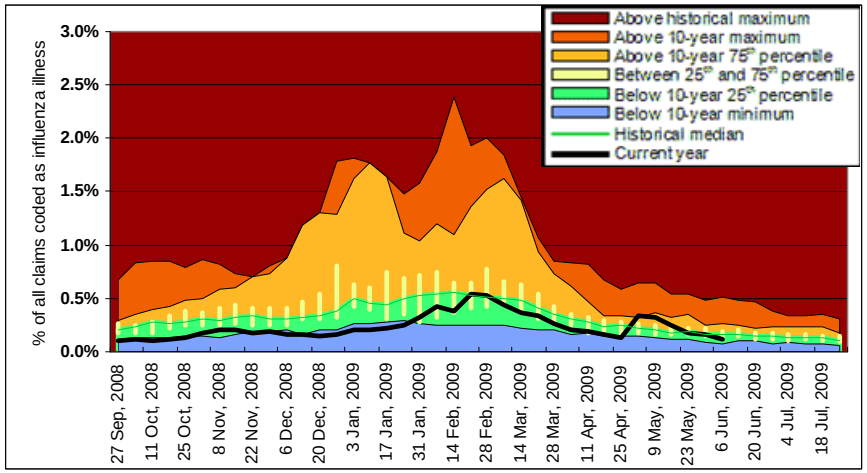
Interior



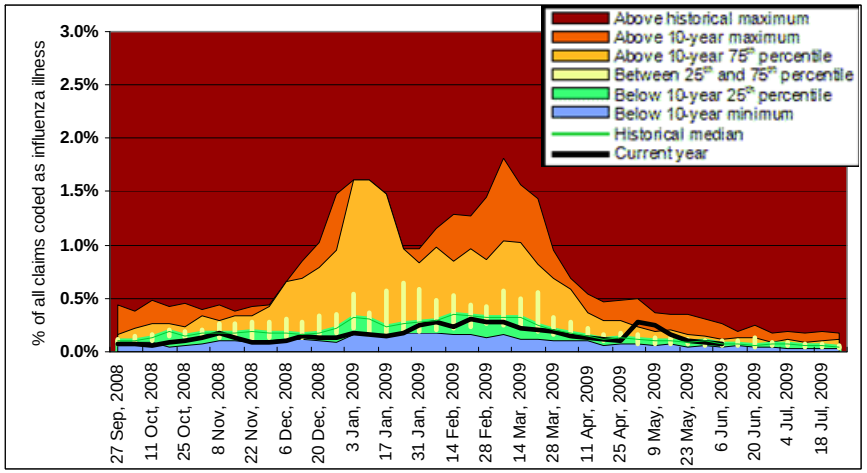
Vancouver Coastal



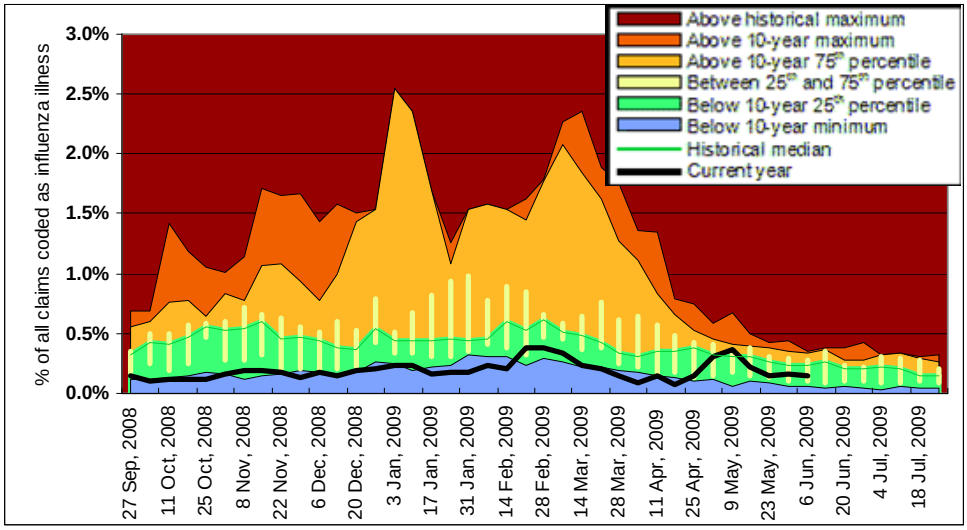
Fraser



Vancouver Island

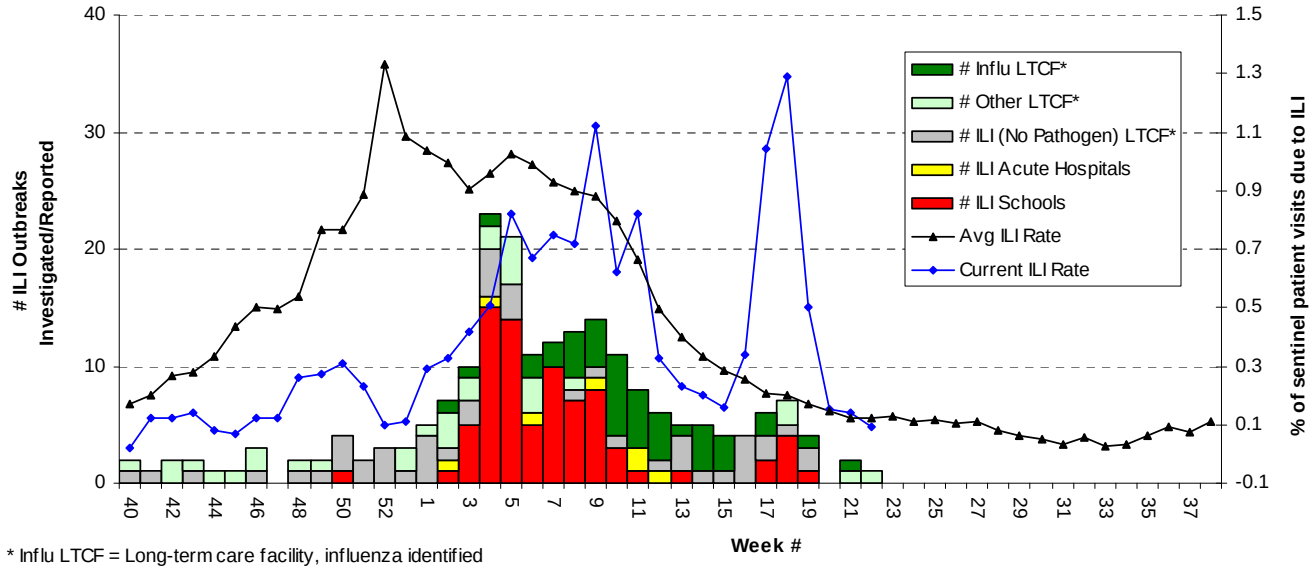


Northern



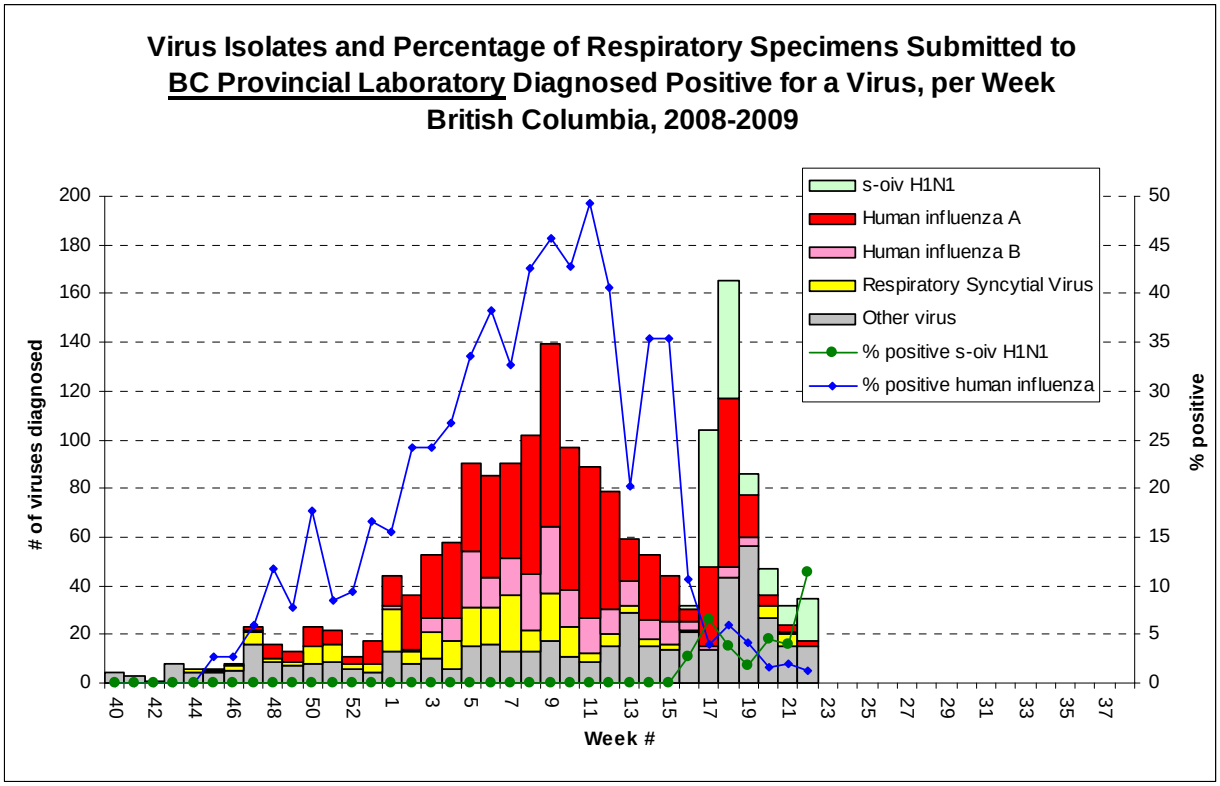
ILI OUTBREAKS

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

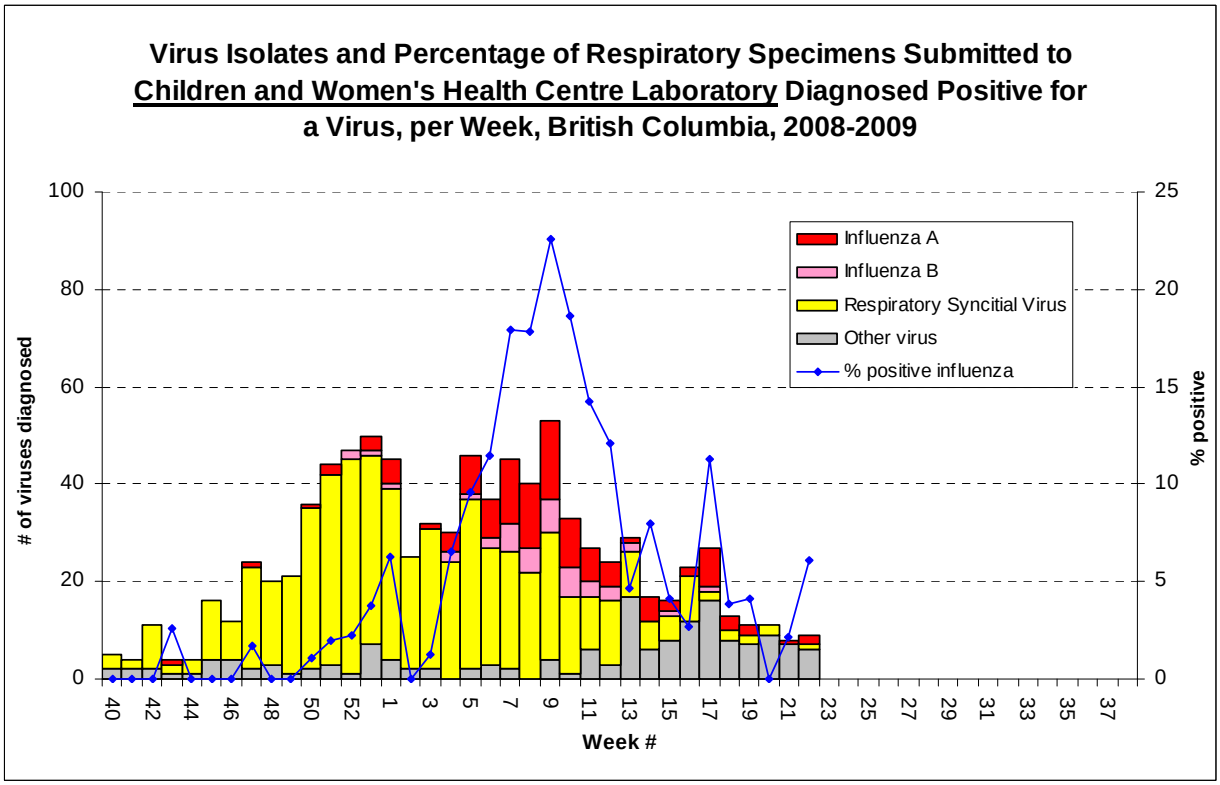


* Influ LTCF = Long-term care facility, influenza identified
* Other LTCF = Long-term care facility, other pathogen identified (including RSV, parainfluenza, adenovirus, and rhino/enterovirus)
* ILI (No Pathogen) LTCF = Long-term care facility, no pathogen identified

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