



Influenza Activity Levels Decline while Detections of Swine-Origin Influenza A/H1N1 Continue in BC

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Highlights

In weeks 17-19 (April 26 – May 16), the proportion of patients presenting to sentinel physicians with ILI rose sharply and then declined. This sudden increase is not unexpected, given heightened public awareness of swine-origin influenza A/H1N1. Both sentinel ILI and MSP indicators show decreases through week 19. Three lab-confirmed influenza A/H3N2 outbreaks were reported in LTCFs during weeks 17-19. Additionally, seven ILI outbreaks in schools and one swine-origin influenza A/H1N1 outbreak in a correctional facility were reported. Nine percent (256 / 2800) of respiratory specimens tested in BC laboratories (BCCDC and Children's and Women's Health Centre) during weeks 17-19 were positive for influenza; thus, although the volume of respiratory specimens tested in provincial labs has increased dramatically, the proportion positive remains low in comparison to previous weeks. Ninety-six percent of the influenza detections during weeks 17-19 were influenza A, and of those further assessed for sub-type or strain, 47% were swine-origin influenza A/H1N1, 46% were human influenza A/H3N2, and 6% were human influenza A/H1N1. BCCDC continues to closely monitor all surveillance indicators for trends in community activity.

Sentinel Physicians

During weeks 17-19, the proportion of patients presenting to sentinel physicians with ILI increased beyond the expected range for this time of year and subsequently decreased. This surge in ILI activity may at least in part be attributed to heightened public awareness of swine-origin influenza A/H1N1 since late April. (See graph on page 4.)

MSP

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims also showed a sharp increase and subsequent decrease during weeks 17-19. Likewise, this sudden peak may be partially explained by heightened concern among the public, which has induced care-seeking among patients with mild illness who would not otherwise present to a physician. As of May 20, 2009, this indicator has returned to the expected range for this time of year. (See graphs on pages 4-6.)

ILI Outbreaks

During weeks 17-19, three influenza A/H3N2 outbreaks were reported in LTCFs (two in VCHA and one in FHA), seven ILI outbreaks were reported in schools throughout the province (one due to swine-origin influenza A/H1N1 and one due to influenza B; no pathogen identified in the others), and one swine-origin influenza A/H1N1 outbreak was reported in a correctional facility. 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 23 ILI outbreak investigations (14 in LTCFs, 4 in schools, 2 in ACFs, 2 in correctional facilities, and 1 in a workplace). Influenza A/H3N2 was identified in 3 of the investigations (all LTCFs), swine-origin influenza A/H1N1 was identified in 2 (one school and one correctional facility), influenza B in 1 school, HMPV in

BRITISH COLUMBIA (BC) INFLUENZA SURVEILLANCE

2008-2009

UPDATE



BC Centre for Disease Control
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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

During weeks 17-19, BCCDC Laboratory Services tested 2594 respiratory specimens. Two-hundred thirty-two (9%) specimens tested positive for influenza A, and 10 (0.4%) tested positive for influenza B. Of those influenza A specimens which were further assessed for sub-type or strain during weeks 17-19, 47% were swine-origin influenza A/H1N1, 46% were human influenza A/H3N2, and 6% were human influenza A/H1N1. Although the volume of respiratory specimens submitted to BCCDC for testing increased dramatically over this period, the percentage of specimens which were positive for influenza steadily decreased, from 13% in week 16 (before notification or detection of swine-origin influenza A/H1N1 virus in BC) to 6% in week 19.

During weeks 17-19, Children's and Women's Health Centre Laboratory tested 206 respiratory specimens. Twenty-four (12%) specimens tested positive for parainfluenza, 13 (6%) for influenza A, 7 (3%) for adenovirus, 6 (3%) for RSV, and 1 (0.5%) for influenza B. (See graphs on page 7.)

Oseltamivir Resistance

To date (May 22) during the 2008-09 season, BCCDC has assessed 163 A/H1N1 isolates for oseltamivir resistance; 148 show genotypic evidence of oseltamivir resistance, and the other 15 are indeterminate and undergoing further assessment through sequencing of the neuraminidase gene. Thus, all A/H1N1 specimens for which oseltamivir sensitivity could be determined have so far been found resistant to date in BC during the 2008-09 season.

Health care providers considering use of antivirals are advised to consult public health and surveillance updates and to stay informed about influenza activity and resistance patterns throughout the season. The BCCDC has posted interim guidelines, for clinician reference, concerning antiviral options in the context of evolving resistance patterns:

http://www.bccdc.org/downloads/pdf/epid/reports/BC_Interim_Antiviral_Treatment_Guidelines_Influenza.pdf .

Swine Influenza

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 17 and 18, influenza activity levels in Canada increased slightly, with most regions reporting sporadic or localized activity. The proportion of tests that were positive for influenza throughout Canada decreased from 5.1% in week 16 to 4.0% in week 17 and then increased slightly to 4.6% in week 18. The national rate of ILI visits to sentinel physicians has increased to 19 ILI consultations per 1,000 patient visits in week 18, which is above the expected range for this time of year. As explained above, increases in indicators of care-seeking are likely due to public concern about the novel swine influenza virus.

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

National Microbiology Laboratory

Since Sept 1 and as of May 6, 906 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):

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

154 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;

368 B/Malaysia/2506/04(Victoria)-like from all ten provinces;

and, 147 B/ Brisbane/60/08(Victoria)-like † from BC, AB, SK, MB, ON, QC, NB, NS, & PEI.

* indicates a strain match to the 2008-09 vaccine

† indicates a strain match to the 2009-10 vaccine

Antiviral Resistance

Drug susceptibility testing at the NML as of Apr 23 indicated that all (n=252) H1N1 isolates tested to date were resistant to oseltamivir, while all H3N2 (n=156) and influenza B (n=511) isolates tested were sensitive to oseltamivir. Of those isolates tested for amantadine resistance, all (n=254) H1N1 isolates were found to be



sensitive, and all (n=304) H3N2 isolates were found to be resistant. All 875 (202 H1N1, 162 H3N2, and 511 influenza B) isolates that have been tested for zanamivir resistance were sensitive.

INTERNATIONAL

Influenza activity level in the United States during weeks 17 and 18 was higher than expected for this time of year, while influenza activity in Europe remains at low, end-of-season level. Details are available at: <http://www.cdc.gov/flu/weekly/> and <http://www.eiss.org> .

The international situation concerning swine influenza is rapidly evolving. For the most up-to-date information, visit the WHO website at: <http://www.who.int/csr/disease/swineflu/en/index.html>

Avian Influenza

Since 2003 and to date (May 15, 2009), the WHO has confirmed 424 human avian influenza A/H5N1 cases and 261 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:

Epidemiology Services

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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-rmrc/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>

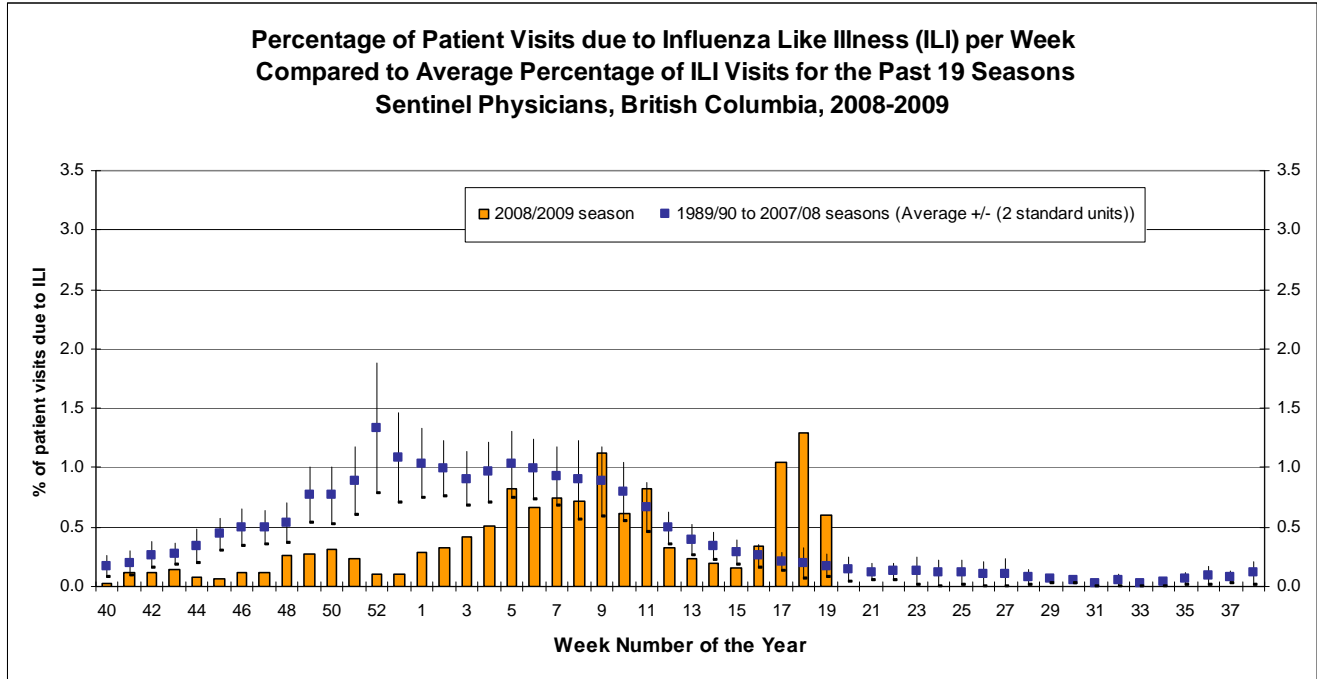
PHAC: http://www.phac-aspc.gc.ca/alert-alerte/swine_200904-eng.php

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

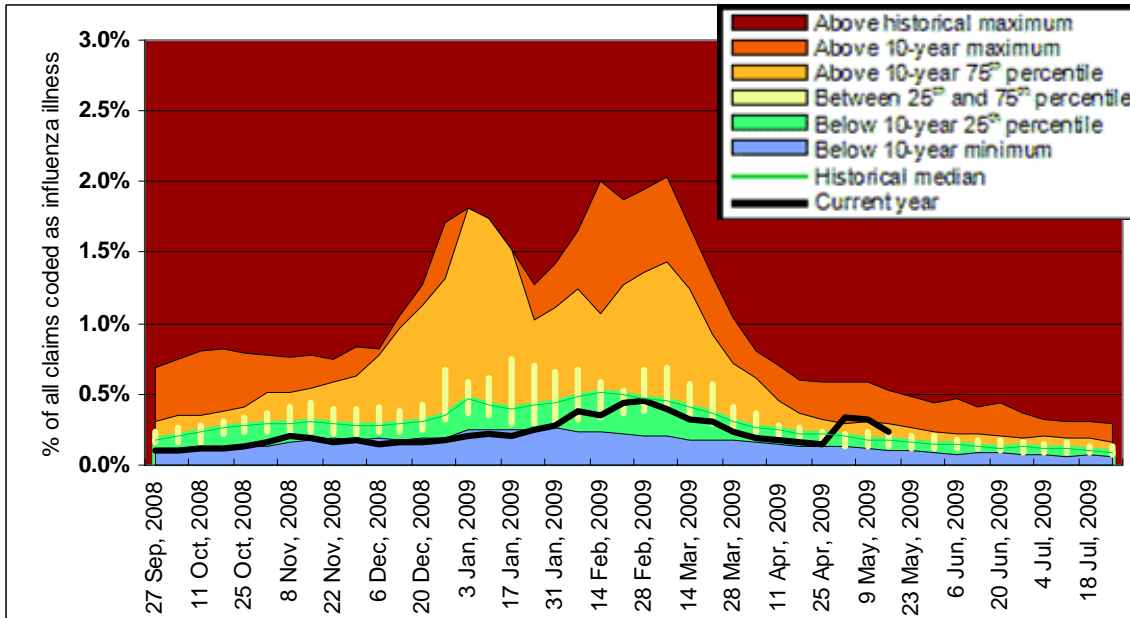
WHO: <http://www.who.int/csr/disease/swineflu/en/index.html>



WEEKLY SENTINEL ILI



INFLUENZA ILLNESS CLAIMS* VIA BC MEDICAL SERVICES PLAN (MSP)
 ENTIRE PROVINCE – CURRENT TO MAY 20, 2009



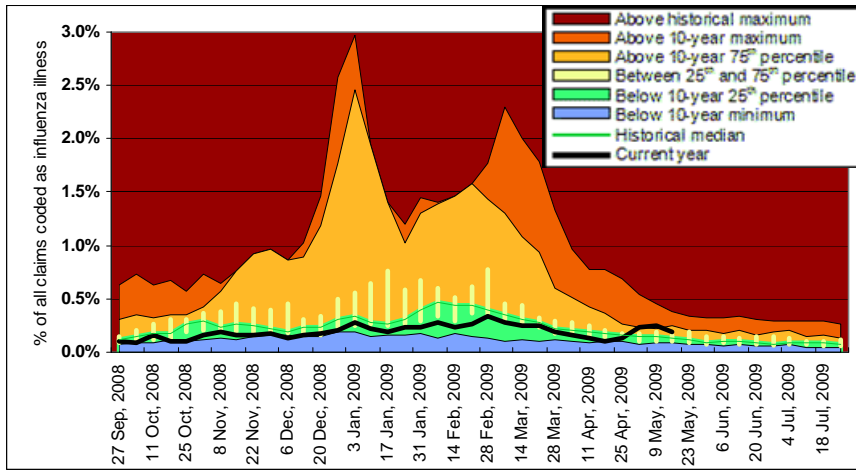
* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

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

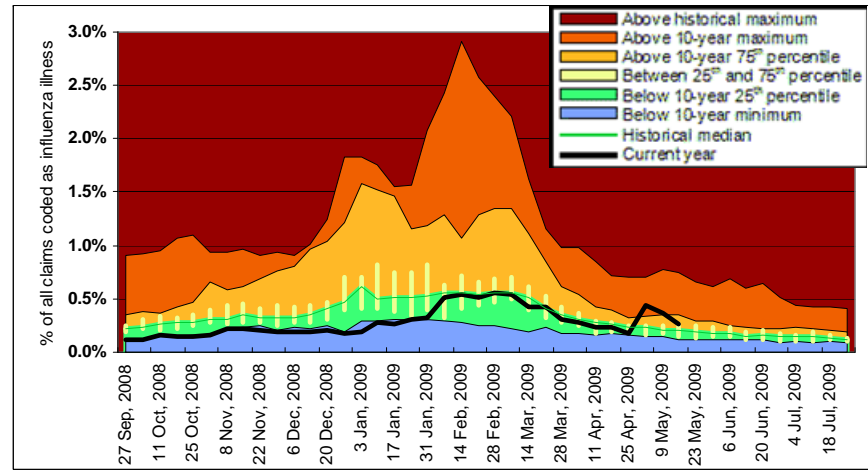


**INFLUENZA ILLNESS CLAIMS* VIA BC MEDICAL SERVICES PLAN (MSP)
 BY REGIONAL HEALTH AUTHORITY (RHA) – CURRENT TO MAY 20, 2009**

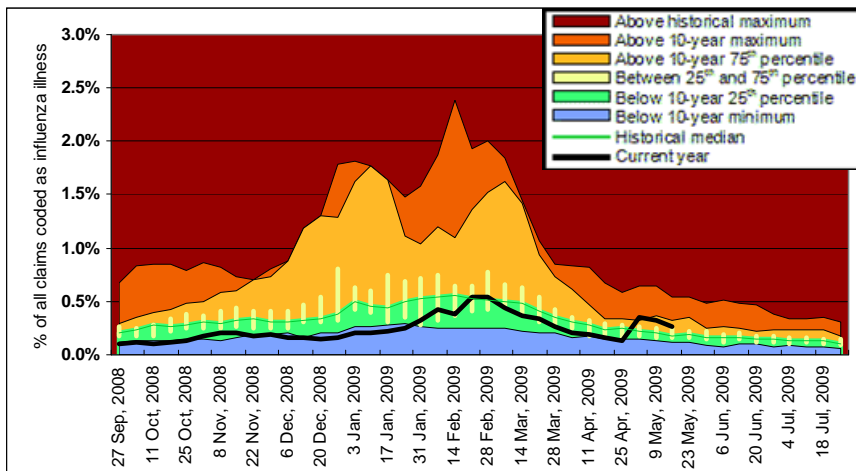
Interior



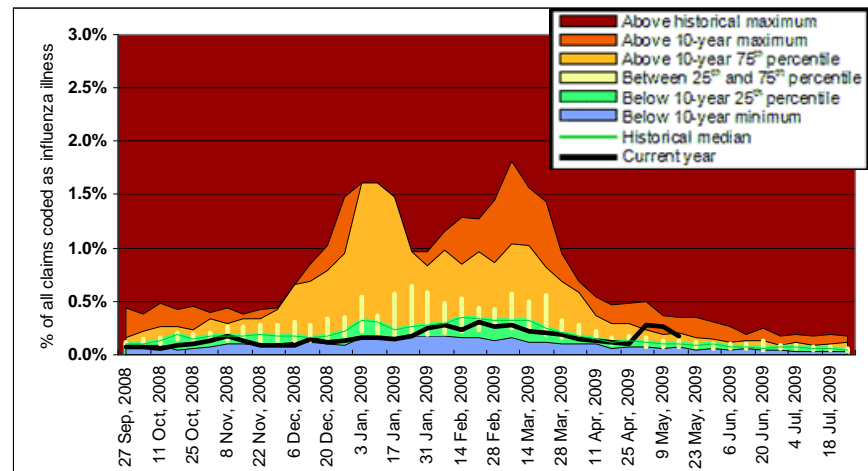
Vancouver Coastal



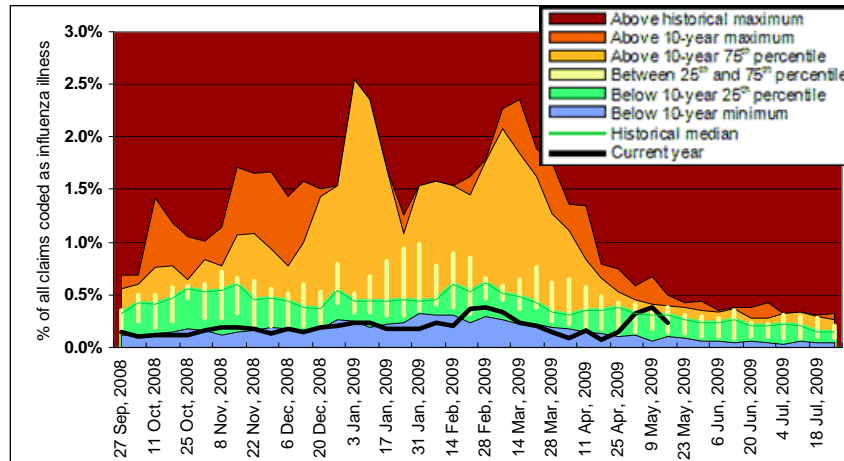
Fraser



Vancouver Island

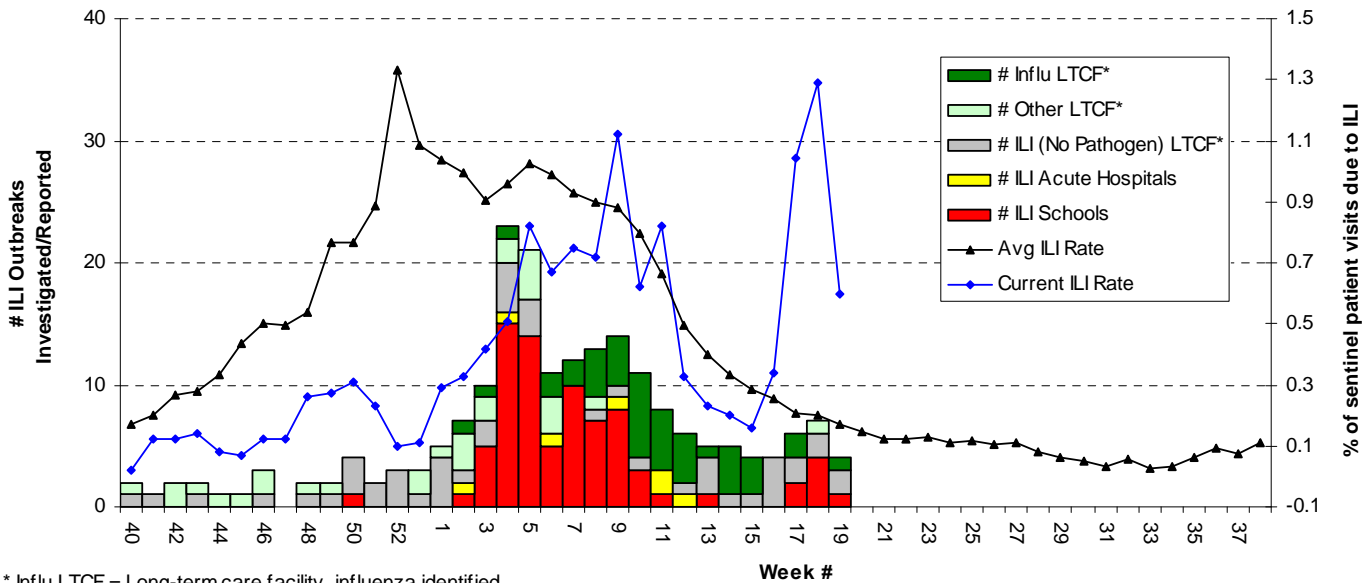


Northern



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

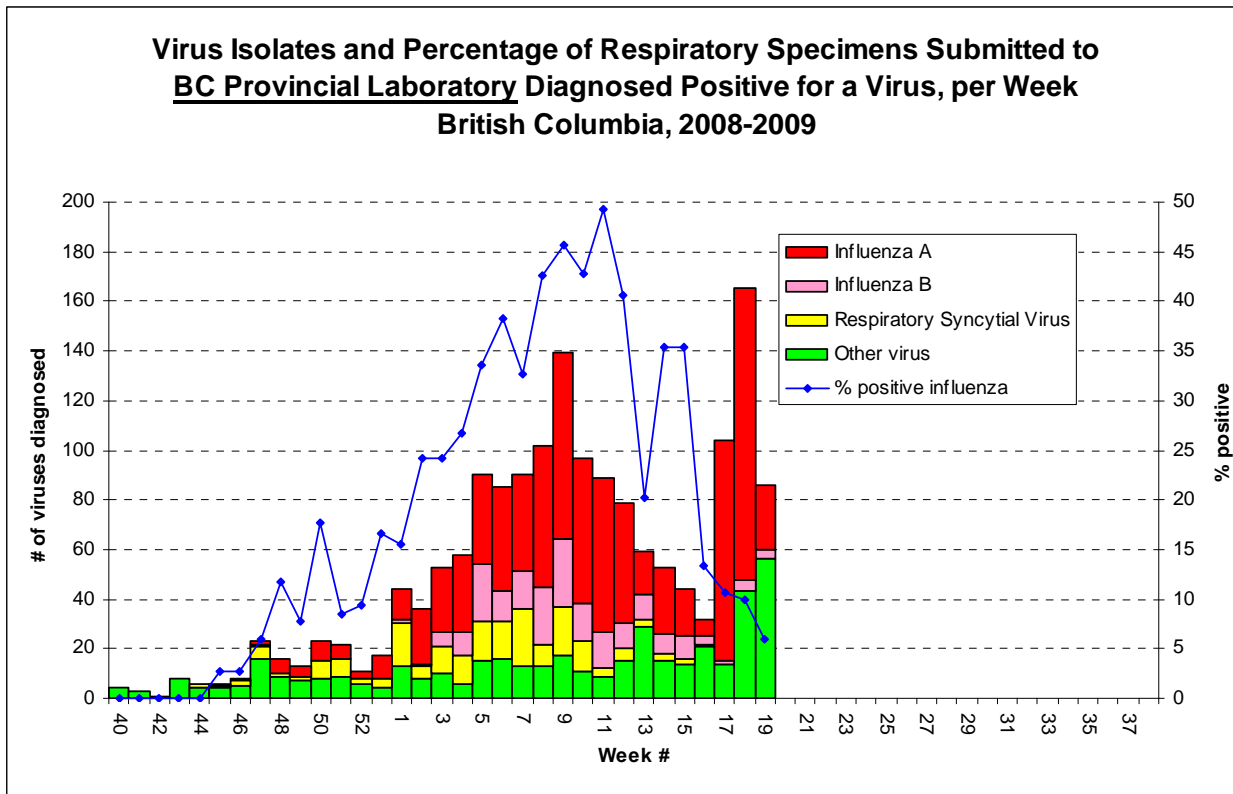


* Influenza LTCF = Long-term care facility, influenza identified

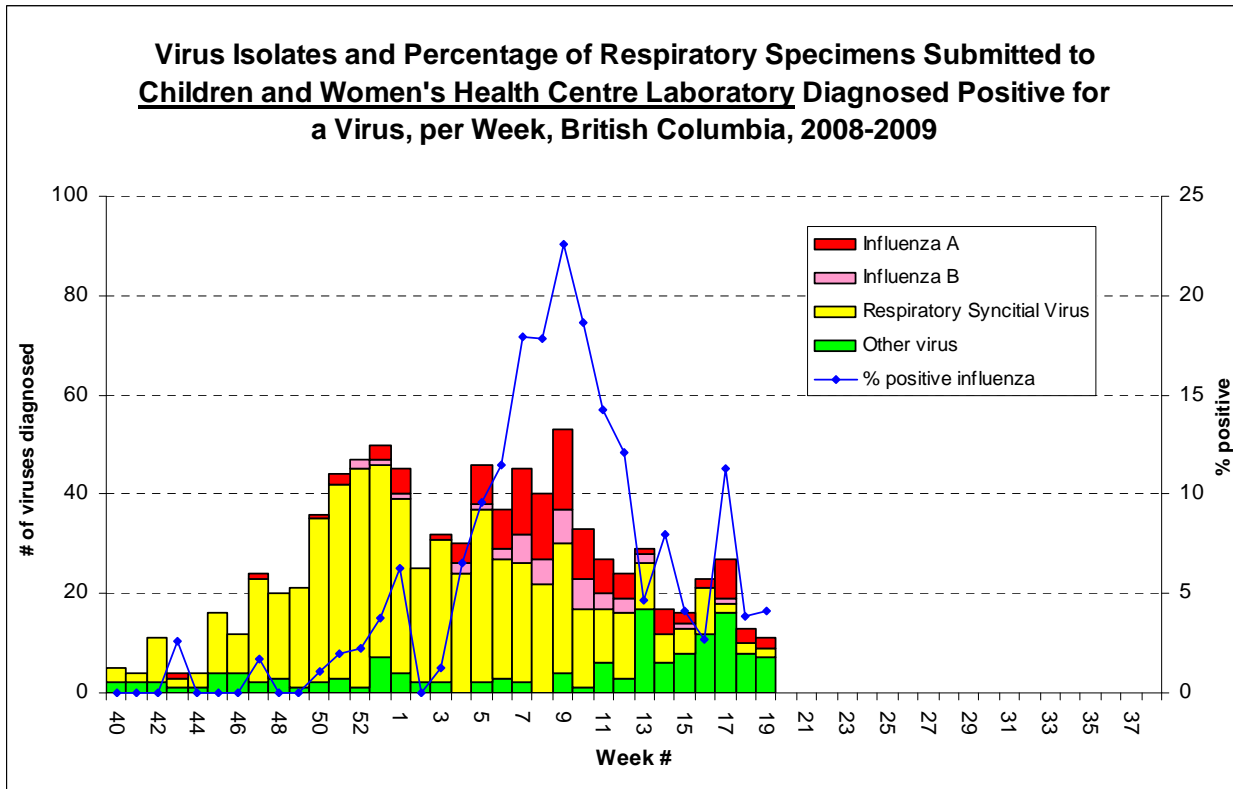
* Other LTCF = Long-term care facility, other pathogen identified (including RSV, parainfluenza, adenovirus, and rhino/enterovirus)

* 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). Although volume increased, the % of specimens positive for influenza (blue line) remains low.



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