



Sustained, Low-Level Influenza Activity in BC

Contents:

Overview	Page 1
Sentinel Physicians	Page 1
ILI Outbreaks	Page 1
Laboratory Reports	Page 1
Oseltamivir Resistance	Page 2
Canadian Data	Page 2
International Data	Page 2
Avian Influenza	Page 2
Vaccine Composition	Page 3
Activity Level Definitions	Page 3
List of Acronyms	Page 3
Web Sites	Page 3
Weekly Sentinel ILI Graph	Page 4
ILI Outbreaks Graph	Page 4
Lab Summary Graphs	Page 5
ILI Outbreak Form	Page 6

ILI Outbreaks

In week 14, four influenza A/H3 outbreaks were reported in LTCFs in FHA and VCHA. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 116 ILI outbreak investigations (100 in LTCFs, 10 in ACFs, 4 in schools, 1 in a correctional facility, and 1 in a substance abuse treatment centre). Influenza was identified in 46 (40%) of the investigations (35 in LTCFs, 7 in ACFs, and 4 in schools). Among the 35 influenza outbreaks in LTCFs this season, 31 (89%) were attributed to influenza A/H3, 1 to influenza A/H1, 2 to influenza A (sub-type not available), and 1 to influenza B. Rhino/enterovirus was furthermore identified in 13 (11%) of the investigations, RSV in 7 (6%), human metapneumovirus (HMPV) in 5 (4%), parainfluenza in 3 (3%), coronavirus in 2 (2%), and adenovirus in 1 (1%). No pathogen was identified in the other 39 investigations. (See graph on page 4.)

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 week 14, BCCDC Laboratory Services tested 99 respiratory specimens. Twenty-seven (27%) specimens tested positive for influenza A, and 8 (8%) tested positive for influenza B. Of the 14 influenza A specimens which were sub-typed during week 14, 12 (86%) were A/H3 and 2 (14%) were A/H1. An additional 7 specimens tested positive for rhino/enterovirus, 4 for HMPV, 3 for RSV, 2 for parainfluenza, 1 for coronavirus, and 1 for adenovirus.

During week 14, Children's and Women's Health Centre Laboratory tested 63 respiratory specimens. Six (10%) specimens tested positive for RSV, 6 (10%) for parainfluenza, and 5 (8%) for influenza A. (See graphs on page 5.)

To date this season (Apr 14), 76% (697 / 916) of influenza isolates tested at both laboratories have been type A, and of those sub-typed, 69% (418 / 604) have been A/H3.

Highlights

In week 14 (Apr 5-11), the rate of ILI visits to sentinel physicians was 0.20%, which is below the expected range for this time of year. Over the course of the past 3 weeks, sentinel ILI rates have shown an overall decline. Four lab-confirmed influenza A/H3 outbreaks occurred in LTCFs in FHA and VCHA during week 14. Twenty-five percent (40 / 162) of respiratory specimens tested in BC laboratories (BCCDC and Children's and Women's Health Centre) during week 14 were positive for influenza. Eighty percent of those influenza detections were influenza A, and of those sub-typed, 86% were A/H3. To date this season (Apr 14), 76% (697 / 916) of influenza isolates have been type A, and of those sub-typed, 69% (418 / 604) have been A/H3.

Sentinel Physicians

In week 14, 0.20% of all patient visits to sentinel physicians were attributed to ILI. This is below the average proportion for this time of year (0.33%). (See graph on page 4.)



Oseltamivir Resistance

To date (Apr 14) during the 2008-09 season, BCCDC has assessed 156 A/H1N1 isolates for oseltamivir resistance; 144 show genotypic evidence of oseltamivir resistance, and the other 12 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 .

CANADA

FluWatch

During week 13 (Mar 29 - Apr 4), influenza activity in Canada continued to decline, with most provinces and territories reporting localized activity and no province or territory reporting widespread activity. Ten new ILI outbreaks were reported: 6 in LTCFs (BC, SK, ON, QC, NS, & NT), 3 in schools (BC & NB), and 1 in a hospital (NS). The proportion of tests that were positive for influenza decreased from 15% in week 12 to 12% in week 13. Since August 24, 2008, provincial/territorial laboratories have detected 8,413 cases of influenza, of which 5,058 (60%) were influenza A and 3,355 (40%) were influenza B. The national rate of ILI visits to sentinel physicians was 20 ILI consultations per 1,000 patient visits in week 13, which is within the expected range for this time of the season. <http://www.phac-aspc.gc.ca/fluwatch/>

National Microbiology Laboratory

Since Sept 1 and as of Apr 9, 812 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):

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

142 A/Brisbane/10/07(H3N2)-like* † from BC, AB, SK, MB, ON, QC, NB, PEI, & NL;

7 B/Florida/04/06(Yamagata)-like* from AB, ON, & QC;
368 B/Malaysia/2506/04(Victoria)-like from all ten provinces;
and, 97 B/ Brisbane/60/08(Victoria)-like † from BC, SK, MB, ON, QC, and NL.

* 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 9 indicated that all (n=217) H1N1 isolates tested to date were resistant to oseltamivir, while all H3N2 (n=149) and influenza B (n=447) isolates tested were sensitive to oseltamivir. Of those isolates tested for amantadine resistance, all (n=222) H1N1 isolates were found to be sensitive, and all (n=262) H3N2 isolates were found to be resistant. All 768 (173 H1N1, 148 H3N2, and 447 influenza B) isolates that have been tested for zanamivir resistance were sensitive.

INTERNATIONAL

During week 13 (Mar 29 - Apr 4), influenza activity in the United States continued to decrease. To date this season, US laboratories have detected influenza in 24,793 (14%) respiratory specimens, of which 68% were influenza A. Of the influenza A isolates that have been sub-typed, 90% were A/H1. Six hundred and ninety-four of 699 (99%) A/H1 viruses tested this season have been found to be resistant to oseltamivir, and three (0.4%) A/H1 viruses have been found resistant to adamantanes. For more information, visit: <http://www.cdc.gov/flu/weekly/>.

During week 12 (Mar 22-28), the Russian Federation continued to report high influenza activity, while most other European countries indicated decreasing trends. Of the 27,247 influenza virus detections in Europe since the start of the season (week 40), 87% were influenza A, and of those sub-typed, 90% were A/H3. For more information, visit: <http://www.eiss.org> .

Avian Influenza

Since 2003 and to date (Apr 8, 2009), the WHO has confirmed 417 human avian influenza A/H5N1 cases and 257 deaths, with additional recent cases reported in Egypt and Vietnam. For more information on human avian influenza cases, please visit:

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

BRITISH COLUMBIA (BC) INFLUENZA SURVEILLANCE

2008-2009

UPDATE



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

For information on confirmed avian influenza outbreaks in poultry, please visit:

http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm .

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 .

Activity Level Definitions

Sporadic influenza activity: sporadically occurring ILI and laboratory-confirmed influenza during previous 4 weeks, with no outbreaks.

Localized influenza activity: as for sporadic activity, but with ILI outbreaks in schools and worksites, or laboratory-confirmed influenza outbreaks in residential institutions occurring in less than 50% of the influenza surveillance regions during the week of reporting.

Widespread influenza activity: as for localized activity, but with outbreaks occurring in greater than or equal to 50% of the influenza surveillance regions during the week of reporting.

Contact Us:

Epidemiology Services

BC Centre for Disease Control (BCCDC)
655 W. 12th Ave, Vancouver BC V5Z 4R4
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-](http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/08vol34/acs-3/index-eng.php)

[rmtc/08vol34/acs-3/index-eng.php](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:

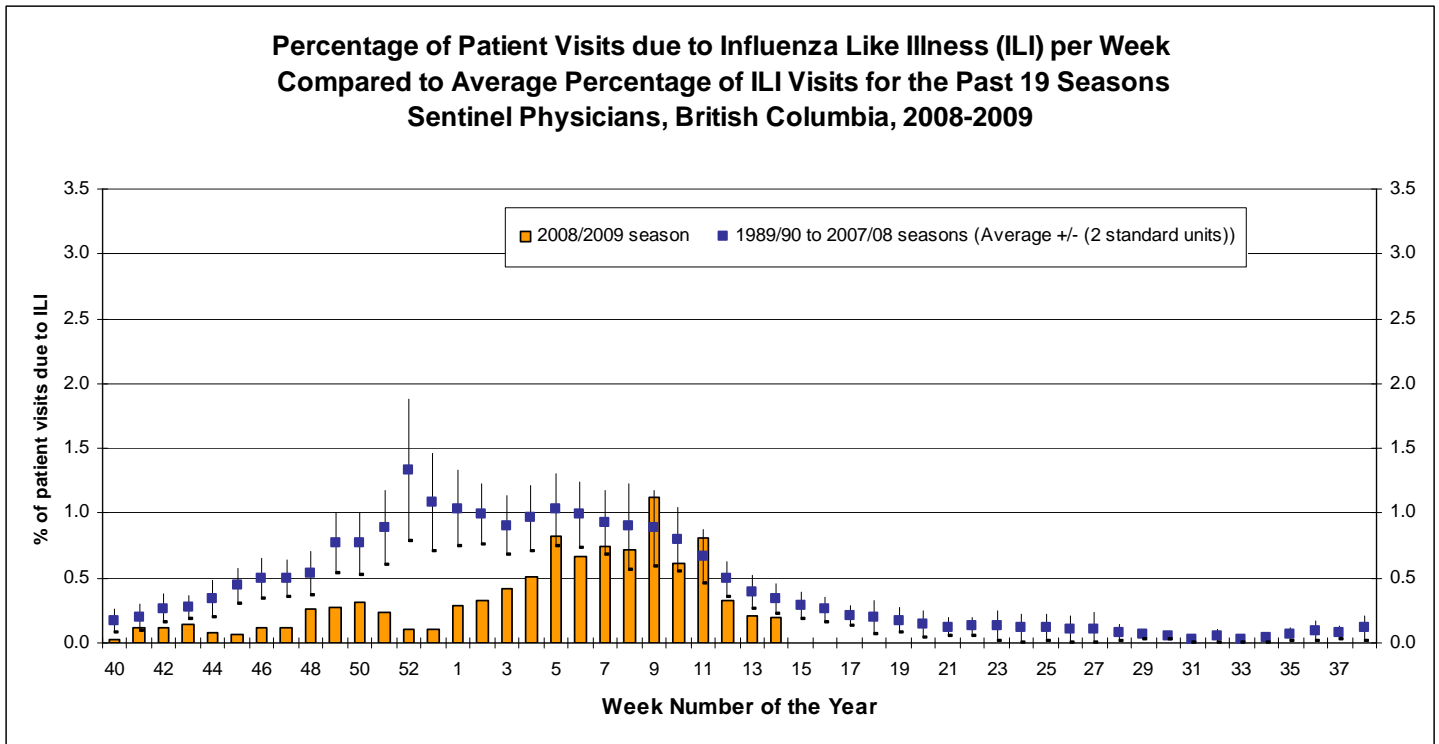
http://www.oie.int/eng/en_index.htm

3. This Report On-line

<http://www.bccdc.org/content.php?item=35>

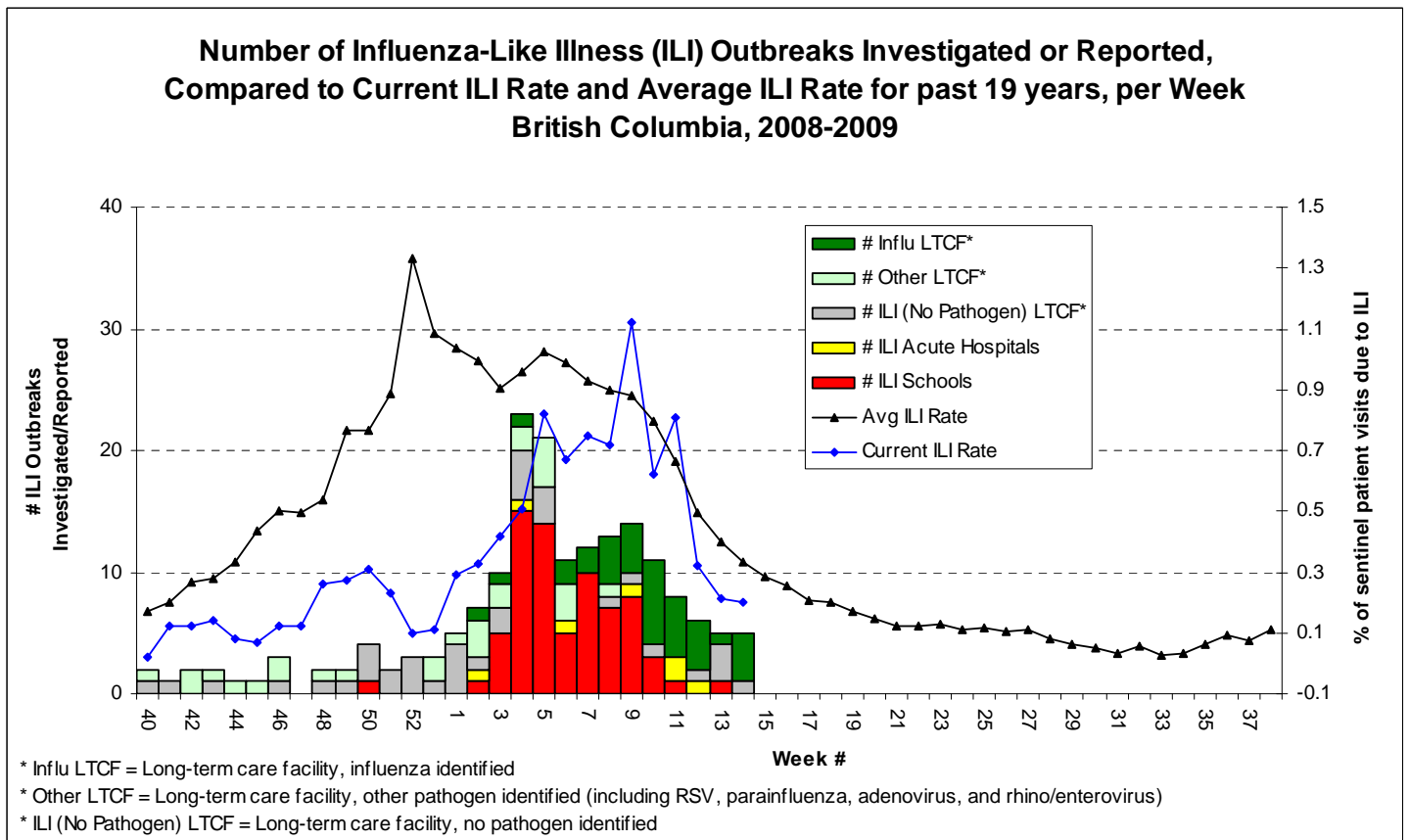
WEEKLY SENTINEL ILI

**Percentage of Patient Visits due to Influenza Like Illness (ILI) per Week Compared to Average Percentage of ILI Visits for the Past 19 Seasons
Sentinel Physicians, British Columbia, 2008-2009**



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**

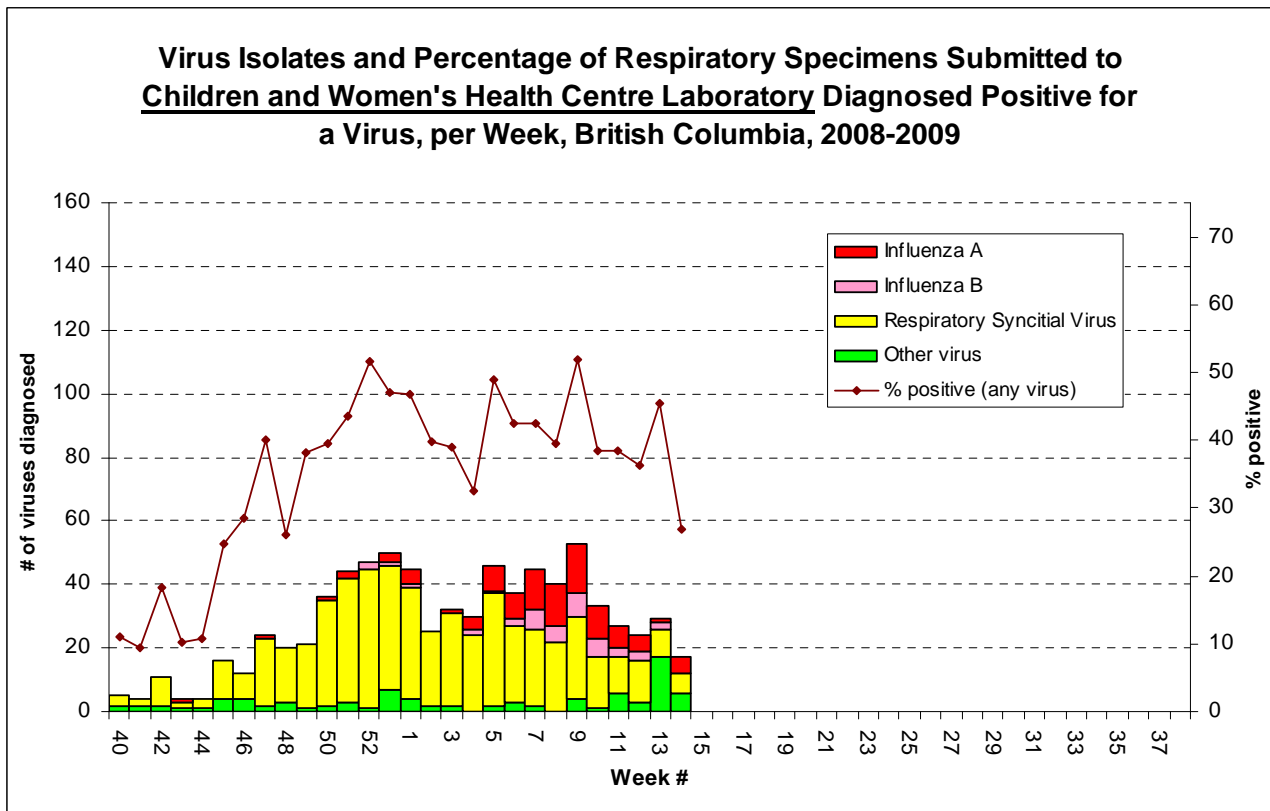
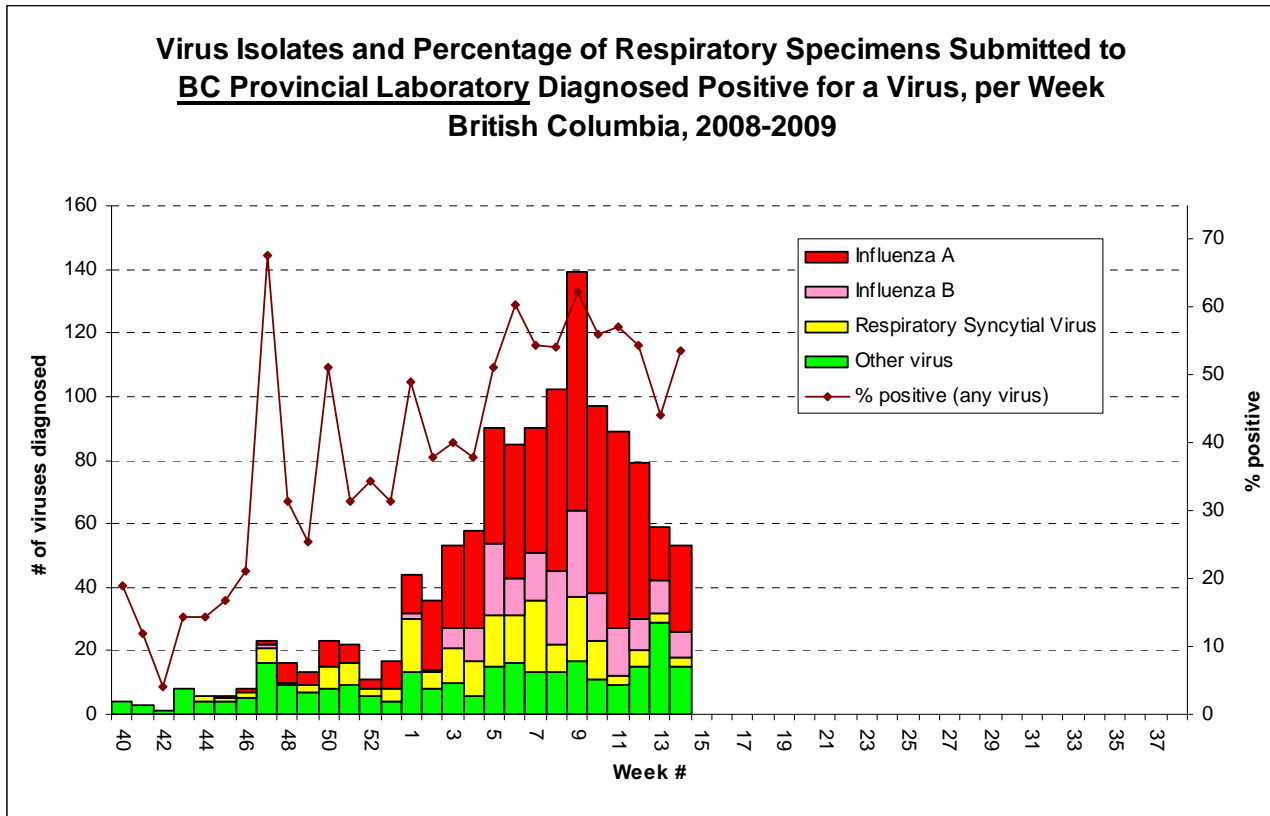


* Influenza LTCF = Long-term care facility, influenza identified

* 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





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