Influenza Activity Indicators Continue to Decline; Levels Remain Above Expected Range

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Highlights

In week 47 (November 22-28), influenza activity indicators showed a decline in activity for the 4th consecutive week. All indicators including the proportion of patients presenting to sentinel physicians, Medical Services Plan claims for influenza, emergency room visits from BC children’s hospital, laboratory positivity for influenza and school outbreaks decreased compared to the previous week. At the BC provincial laboratory, 23.5% (153/652) of respiratory specimens were positive for influenza A and over 99% of subtyped isolates were the pandemic H1N1 virus (pH1N1). While surveillance indicators suggest that influenza activity due to pandemic H1N1 in BC is declining, it should be noted that current activity levels are still above the expected range for this time of year and community transmission remains high.

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Sentinel Physicians
During week 47, the percentage of patients presenting to sentinel physicians with ILI was 1.1%. This represents a steep decrease from 6.1% in week 43, and is similar to the proportion observed during the peak of the 2008-09 season. It remains above the expected range for this time of year. 63% (32/51) of sentinel physician sites reported for week 47.

BC Children’s Hospital Emergency Room
During week 47, the proportion of Emergency Room visits that BC Children’s hospital attributed to fever and cough further declined to 8.1% from a high of 37% in week 43.

**Data subject to change as reporting becomes increasingly complete**

Emergency Room data kindly provided by the Decision Support Services at BC Children’s Hospital
Medical Services Plan
Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims show a steep decrease after several weeks of constant increase. However proportions in all five RHA’s remain above the historical maximum for this time of year.

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

**MSP week 27 Sep 2009 corresponds to sentinel ILI week 39.

***Current to November 25, 2009

Northern
BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN
2009-10: Number 8, Week 47
November 22 – 28, 2009
Laboratory Reports
There has been a decrease in volume of submitted specimens from 2458 specimens in week 43 to 652 in week 47. In week 47, 153 out of 652 (23.5%) tested positive for influenza A, all subtyped specimens were pH1N1. This proportion is now below the seasonal peak observed last year. Since week 35 (September 1, 2009), >99% of all subtyped influenza A viruses have been pH1N1. Other respiratory pathogens detected included parainfluenza, rhino-entero, adenovirus and coronavirus. Of these other detected viruses, 71% were rhino-enterovirus.

During week 47, Children’s and Women’s Health Centre Laboratory tested 56 respiratory specimens. The proportion positive for influenza was 8.9% and represents a decrease compared to the previous week. All subtyped specimens were pH1N1. Two specimens tested positive for parainfluenza and one tested positive for adenovirus. No other respiratory viruses were detected.
ILI Outbreaks
In week 47, the number of school ILI outbreaks decreased to 10 (5 in IHA, 2 in VCH, 2 in VIHA and 1 in FHA). No outbreaks in long term care facilities were reported.

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
Pandemic H1N1 (pH1N1) Severe Outcomes
As of November 30 and since April 2009, 957 hospitalizations in patients with laboratory-confirmed pH1N1 have been reported in BC, of which 93 were reported in the preceding week. Among hospitalized cases, 64.4% had at least one reported underlying medical condition (excluding pregnancy). Twenty-seven percent of hospitalized cases have been admitted to the intensive care unit and 8% have died. As shown in the graph below, pH1N1 total case detection rates have been highest among those under 20 years of age, while hospitalization rates have been highest in those under one year of age.

For further description of BC pH1N1 cases, visit: www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm
Resources for healthcare professionals: www.bccdc.ca/resourcematerials/newsandalerts/healthalerts/H1N1FluVirusHumanSwineFlu.htm
**FluWatch**

During week 46, all national influenza activity indicators decreased. ILI consultation rates decreased for the second consecutive week from 111 (in week 43) to 57 consultations per 1000 patient visits in week 46; this is above the expected range for this time of year. People under 20 had the highest consultation rates. The proportion of tests positive for influenza was 34.3%, a decline from the previous week. Over 99% of all subtyped influenza A specimens were positive for pH1N1; 2 specimens were positive for H3N2 and none were positive for seasonal H1N1. One specimen was positive for influenza B. Geographically BC, Saskatchewan, Quebec and Newfoundland reported widespread activity. www.phac-aspc.gc.ca/fluwatch/

**National Microbiology Laboratory**

Between September 1st and November 26, 2009, 314 influenza isolates were collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):

310 A/California/07/2009 (H1N1)-like§ from BC, AB, SASK, ON, QC, NS, NT, & NU;
2 A/Brisbane/59/2007(H1N1)-like† from AB & QC;
1 A/Brisbane/10/2007(H3N2)-like† from ON;
1 B/Brisbane/60/2008-like† from ON

§ A/California/07/2009 (H1N1) is the variant reference virus (pH1N1) selected by WHO for a pandemic influenza A/H1N1 vaccine.
† indicates a strain match to the 2009-10 vaccine

**Antiviral Resistance**

Drug susceptibility testing at the NML between September 1st and November 26th, 2009 indicated that most pH1N1 (n=255) isolates were sensitive to oseltamivir, 3 viruses were resistant. All influenza B isolates (n=1) and influenza A/H3N2 isolates (n=2) tested were sensitive and the one seasonal A/H1N1 isolate tested was resistant. All pH1N1 (n=220), seasonal H1N1(n=2), A/H3N2 (n=2) and influenza B (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=231), and A/H3N2 (n=7) isolates were resistant to amantadine. One isolate for seasonal H1N1 was sensitive and one was resistant to amantadine.

Global surveillance has shown that circulating pH1N1 viruses are resistant to amantadine but remain sensitive to zanamivir and oseltamivir, although sporadic cases of oseltamivir resistance have been observed worldwide.

**INTERNATIONAL**

In the United States (http://www.cdc.gov/flu/weekly/), in the week ending November 21th, influenza activity continued to decrease. 20.5% of respiratory specimens tested in reference laboratories in week 46 were positive for influenza, and over 99% percent of the subtyped influenza A viruses were pH1N1. 0.3% of specimens tested positive for Influenza B. The proportion of sentinel physician visits for ILI decreased to 4.3%, this is above the seasonal peak for last year. The proportion of deaths attributed to pneumonia and influenza was above the epidemic threshold for the seventh consecutive week.

In Europe for the week ending November 27 influenza activity remained high. Twenty-seven countries reported activity above baseline values, 13 reported an increasing trend. 45% of sentinel laboratory samples were positive for influenza, this proportion is similar to that typically observed at the seasonal peak. Over 99% of specimens positive for influenza A were pH1N1. (http://www.eiss.org)
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
pH1N1: Pandemic H1N1 influenza or swine origin influenza
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: www.phac-aspc.gc.ca/fluwatch/
Washington State Flu Updates: www.doh.wa.gov/ehsphl/epidemiology/CD/HTML/FluUpdate.htm
USA Weekly Surveillance reports: www.cdc.gov/flu/weekly/
European Influenza Surveillance Scheme: www.eiss.org/index.cgi
WHO – Global Influenza Programme: www.who.int/csr/disease/influenza/mission/
WHO – Weekly Epidemiological Record: www.who.int/wer/en/
Influenza Centre (Australia): www.influenzacentre.org/

2. Avian Influenza Web Sites
World Organization for Animal Health: www.oie.int/eng/en_index.htm

3. Pandemic H1N1 Influenza Web Sites
BCCDC: www.bccdc.ca/dis-cond/a-z_/h/HumanSwineFlu/default.htm
BC Provincial Government: http://www.gov.bc.ca/h1n1/
PHAC: www.phac-aspc.gc.ca/alert-alerte/swine_200904-eng.php
US CDC: www.cdc.gov/swineflu/index.htm

4. This Report On-line: www.bccdc.ca/dis-cond/DiseaseStatsReports/inflSuveillanceReports.htm
Influenza-Like Illness (ILI) Outbreak Summary Report Form

Please complete and email to ilioutbreak@bccdc.ca or fax to (604) 707-2516

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): __________ /_______ / ______

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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): ________ / _______ /________

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SECTION D: Laboratory Information

Specimen(s) submitted?  □ Yes (location: ______________ )  □ No  □ Don’t know

If yes, organism identified? □ Yes (specify: ______________ )  □ No  □ Don’t know