Continued Low Level Influenza Activity in BC

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Highlights
In week 5 (January 31 – February 6), surveillance indicators continued to suggest low levels of influenza activity in the province. The proportion of patients presenting to sentinel physicians with ILI and Medical Services Plan claims for influenza illness both remained lower than expected for this time of year. One ILI outbreak was reported in a school in IHA; no influenza outbreaks were reported in facilities. At the BC Provincial Laboratory, one of 112 respiratory specimens tested was positive for influenza A/H3; no other influenza viruses were detected. Forty-seven percent (24/51) of specimens tested for other respiratory viruses were positive for RSV (13), parainfluenza (4), coronavirus (4), rhino/enterovirus (2), or human metapneumovirus (1). Of 82 specimens tested at BC Children’s Hospital Laboratory, none were positive for influenza, 28 (34%) were positive for RSV, 2 (2%) for parainfluenza, and 1 (1%) for adenovirus. Thus, currently, acute respiratory illness for which respiratory virus testing is sought in BC is more likely to be due to a non-influenza cause. While pH1N1 activity levels remain low or continue to decline in most regions of the world, an increasing contribution of influenza B viruses has been reported in recent weeks in China. Monitoring for possible seasonal/pandemic influenza resurgence in BC continues.

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**Sentinel Physicians**

During week 5, 0.2% of patients presenting to sentinel physicians had ILI, which is well below the expected range for this time of year. Fifty-seven percent (29/51) of sentinel physician sites have reported to-date for week 5.

**BC Children’s Hospital Emergency Room**

The percentage of Emergency Room visits attributed to “fever and cough” or flu-like illness at BC Children’s Hospital during week 5 remained comparable to previous weeks (9.7%).
Medical Services Plan
Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims remained low in the last week, consistent with the decrease over the past few months, and below the expected range for this time of year. Proportions in all 5 RHAs remain at or below the 10-year minimums. Graphs presented below include two indicators: one reflecting in-person physician visits only with influenza illness claims (black) and one reflecting influenza illness claims whether in-person visits or phone consultations (purple). For surveillance purposes, however, these indicators show the same trend.

Influenza Illness Claims* British Columbia

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

Notes: MSP week 27 Sep 2009 corresponds to sentinel ILI week 39.
Data current to February 9, 2010
Laboratory Reports
One hundred twelve respiratory specimens were tested for influenza at the BC Provincial Laboratory in week 5. One (1%) was positive for influenza A/H3; none were positive for other influenza viruses. Since week 35 (September 1, 2009), >99% of all influenza detections in BC have been pH1N1. Detections of other seasonal influenza viruses have been sporadic to-date. In week 5, 51 specimens were tested for other respiratory pathogens, of which 13 (25%) tested positive for RSV, 4 (8%) for parainfluenza, 4 (8%) for coronavirus, 2 (4%) for rhino/enterovirus, and 1 (2%) for human metapneumovirus. Currently, acute respiratory illness in BC for which a respiratory specimen is collected is more likely to be due to a cause other than influenza.

During week 5, BC Children’s and Women’s Health Centre Laboratory tested 82 respiratory specimens. None were positive for influenza. Twenty-eight (34%) specimens tested positive for RSV, 2 (2%) for parainfluenza, and 1 (1%) for adenovirus.
**ILI Outbreaks**

In week 5, one ILI outbreak was reported in a school in IHA. No lab-confirmed influenza outbreaks were reported in facilities in BC.
Pandemic H1N1 (pH1N1) Severe Outcomes

No additional hospitalizations or deaths in patients with laboratory-confirmed pH1N1 were reported in week 5. Over 1000 pH1N1 hospitalizations and over 50 pH1N1 deaths were reported in the province between April 2009 and February 2010. Sixty-six percent of hospitalized cases had at least one reported underlying medical condition (excluding pregnancy). Twenty-five percent of hospitalized cases were admitted to the intensive care unit, and 8% died. As shown in the mortality graph below, the ratio of pH1N1 mortality to case detection is lowest in the young and highest in the old.

For further description of BC pH1N1 cases, visit: [www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm](http://www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm)

Resources for healthcare professionals: [www.bccdc.ca/resourcematerials/newsandalerts/healthalerts/H1N1FluVirusHumanSwineFlu.htm](http://www.bccdc.ca/resourcematerials/newsandalerts/healthalerts/H1N1FluVirusHumanSwineFlu.htm)

### CANADA

**FluWatch**

During week 4, influenza activity in Canada remained low. The sentinel ILI consultation rate was 16 per 1000 patient visits, which is well below the expected range for this time of year. Less than one percent of respiratory specimens tested nationally were positive for influenza, compared to ~24% positivity for RSV. Of the 14 influenza detections reported nationally, 7 were pH1N1, 6 were non-subtyped influenza A viruses, and 1 was influenza B (Québec). [www.phac-aspc.gc.ca/fluwatch/](http://www.phac-aspc.gc.ca/fluwatch/)

**National Microbiology Laboratory**

Between September 1, 2009 and February 3, 2010, 795 influenza isolates (785 pandemic H1N1 and 10 seasonal influenza) were collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):

- 785 A/California/07/2009 (H1N1)-like from BC, AB, SK, MB, ON, QC, NB, NS, PEI, & NT;
- 2 A/Brisbane/59/2007 (H1N1)-like from AB & QC;
- 1 A/Brisbane/10/2007 (H3N2)-like from BC;
- 6 A/Perth/16/2009 (H3N2)-like from AB & QC;
- 1 B/Brisbane/60/2008 (Victoria lineage)-like from ON.

*A/California/07/2009 (H1N1) is the variant reference virus (pH1N1) selected by WHO for the pandemic influenza A/H1N1 vaccine

† indicates a strain match to the 2009-10 northern hemisphere trivalent influenza vaccine

‡ indicates a strain match to the 2010 southern hemisphere trivalent influenza vaccine
Antiviral Resistance

Drug susceptibility testing at the NML between September 1, 2009 and February 4, 2010 indicated that 99% (936/946) of pH1N1 isolates were sensitive to oseltamivir. All influenza B isolates (n=1) and influenza A/H3N2 isolates (n=9) tested were sensitive to oseltamivir, and the 4 seasonal A/H1N1 isolates tested were oseltamivir-resistant. All pH1N1 (n=927), seasonal H1N1 (n=2), A/H3N2 (n=9), and influenza B (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=996) and A/H3N2 (n=17) isolates were resistant to amantadine. Two seasonal H1N1 isolates were sensitive to amantadine, and one was resistant. 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

During week 4 (January 24-30, 2010), influenza activity remained low in the United States (http://www.cdc.gov/flu/weekly/). Three percent (119/3769) of respiratory specimens tested in reference laboratories were positive for influenza. All (60/60) subtyped influenza A viruses were pH1N1. Influenza B was detected in 2 specimens. The proportion of sentinel physician visits due to ILI remained low (2.3%) and below the national baseline.

In Europe, some Eastern European countries reported ongoing influenza activity due to pH1N1, but all other countries reported declining trends for the week of January 25-31. Nine percent of sentinel laboratory samples were positive for influenza, a decrease from the previous week. Of 76 sentinel influenza detections across Europe, 2 were influenza B, 74 were influenza A, and 100% of the sub-typed influenza A viruses were pH1N1.

Globally, 54% (1267/2354) of the influenza detections reported to WHO from January 17-23, 2010 were influenza A, and of those sub-typed, 93% (1051/1133) were pH1N1. Influenza B as a proportion of all influenza viruses detected globally has been increasing in recent weeks: 6% in week 51 (Dec 20-26, 2009), 11% in week 52 (Dec 27, 2009 – Jan 2, 2010), 18% (505/2771) in week 1 (Jan 3-9, 2010), 36% (1083/3044) in week 2 (Jan 10-16, 2010), and 46% (1087/2354) in week 3 (Jan 17-23, 2010). Most of the recent influenza B viruses have been reported from China, where a similar trend has been observed, as shown in the graph below. Of the influenza B viruses which were further characterized in recent weeks in China, the majority belonged to the Victoria lineage. In temperate regions of the southern hemisphere, sporadic cases of pH1N1 continue to be detected; however, sustained community transmission has not been observed in recent weeks. (http://www.who.int/csr/don/2010_02_5/en/index.html)

Distribution of influenza A and B by week in China

Data Accessed: February 10, 2010
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/influsurveillanceReports.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.

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**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*)

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**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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<th>Residents/Students</th>
<th>Staff</th>
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<td>With ILI</td>
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<td>Died</td>
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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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<td>Died</td>
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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