Influenza Activity Continues to be Sporadic in BC

**Highlights**

Influenza activity in BC remains limited with a small increase in laboratory detections. During weeks 49 and 50 (Nov 30 – Dec 13, 2008), BC laboratories reported 12 positive respiratory specimens for influenza A and no positive specimens for influenza B. To date this season (Dec 18), 83% (19 / 23) of the influenza isolates in BC have been sub-typed as A/H1. Nineteen A/H1 viruses have been assessed genotypically for oseltamivir resistance; 14 showed this resistance mutation, and the other 5 were indeterminate. One school ILI outbreak (pathogen unknown) was reported in week 50, and no facility influenza outbreaks were reported. The rate of ILI visits to physicians remains lower than average for this time of year.

Please remember to notify BCCDC if an outbreak of ILI occurs in your region, by emailing **ilioutbreak@bccdc.ca** and attaching the outbreak report form (a copy is found at the end of this report).

**Sentinel Physicians**

Based on the historic range for this time of year, the rate of ILI visits to sentinel physicians was lower than expected in both weeks. In week 49, the percentage of all patient visits due to ILI was 0.28%, and in week 50, the percentage was 0.12%. (See graph and table on page 4.)

**ILI Outbreaks**

One ILI outbreak (pathogen unknown) in a school was reported in BC during week 50. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 19 ILI outbreak investigations. Rhino/enterovirus was identified in 9 (47%) of the investigations, RSV was identified in 1 (5%) investigation, and no pathogen was identified in the other 9 investigations. (See graph on page 5.)

**Laboratory Reports**

During weeks 49 and 50 (Nov 30 – Dec 13, 2008), BCCDC Laboratory Services tested 96 respiratory specimens. Influenza A was identified in 12 specimens. Of these, 11 were sub-typed as H1, and 1 was sub-typed as H3. Nine specimens tested positive for RSV, 8 for rhino/enterovirus, 4 for parainfluenza, and 3 for adenovirus.

During week 49 (Nov 30 – Dec 6, 2008), Children’s and Women’s Health Centre Laboratory tested 55 respiratory specimens. Twenty specimens tested positive for RSV and 1 tested positive for parainfluenza. (See graphs on page 6.)
Oseltamivir Resistance
During the 2007-08 season, oseltamivir resistance was identified among circulating A/H1N1 viruses worldwide. Testing in Canada indicated that 26% of last season’s A/H1N1 isolates were resistant to oseltamivir. Influenza activity remains low, and only a small sample of viruses is yet available for assessment. To date (Dec 18), BCCDC has assessed 19 A/H1N1 isolates for oseltamivir resistance; 14 show genotypic evidence of oseltamivir resistance, and the other 5 are indeterminate. These specimens were from community-based cases of ILI; none was associated with an outbreak.

Health care providers considering use of antivirals are advised to regularly consult public health and surveillance updates and to stay informed about influenza activity and resistance patterns throughout the season. This may be relevant to the appropriate choice among antiviral options.

CANADA

Flu Watch
During week 49, sporadic activity was reported in BC, Ontario, and Quebec, and localized activity was reported in Alberta. ILI outbreaks in schools have been reported in Alberta and BC during weeks 49 and 50. Since August 24, 2008 provincial/territorial laboratories have detected 89 cases of influenza, 54 influenza A and 35 influenza B. The national rate of ILI visits to sentinel physicians remained below national baseline levels. To date this season, US laboratories have typed 507 influenza-positive specimens: 408 (81%) influenza A and 99 (20%) influenza B. Of the influenza A isolates, 175 have been sub-typed, of which 90% were A/H1. Forty-five of 46 A/H1 viruses tested were found to be resistant to oseltamivir. For information about influenza surveillance indicators in the United States, please visit: http://www.cdc.gov/flu/weekly/.

National Microbiology Laboratory
Since Sept 1, 16 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):
1 A/Brisbane/59/07(H1N1)-like* from Nova Scotia,
2 A/Brisbane/10/07(H3N2)-like* from BC (week 43: Oct 19 – 25) and Ontario,
3 B/Florida/04/06(Yamagata)-like* from Alberta and Ontario,
and 10 B/Malaysia/2506/04(Victoria)-like from Alberta and Ontario.
* indicates a strain match to the vaccine component.

Antiviral Resistance
Drug susceptibility testing at the NML showed that the H1N1 isolate from Nova Scotia was sensitive to amantadine and zanamivir but resistant to oseltamivir and that both H3N2 isolates were resistant to amantadine but sensitive to oseltamivir and zanamivir. Eleven influenza B viruses have been tested for oseltamivir resistance, and all were found to be sensitive. Nine influenza B viruses have been tested for zanamivir resistance, and all were found to be sensitive.

INTERNATIONAL

A low level of Influenza activity was reported during week 49 (Nov 30 – Dec 6) in the United States. Localized activity was reported in Hawaii, Texas, and Massachusetts, and sporadic activity was reported elsewhere. The rate of ILI visits to sentinel physicians remained below national baseline levels. To date this season, US laboratories have typed 507 influenza-positive specimens: 408 (81%) influenza A and 99 (20%) influenza B. Of the influenza A isolates, 175 have been sub-typed, of which 90% were A/H1. Forty-five of 46 A/H1 viruses tested were found to be resistant to oseltamivir. For information about influenza surveillance indicators in the United States, please visit: http://www.cdc.gov/flu/weekly/.

Most countries in Europe continued to report lower than average activity during week 49. Of the 668 influenza virus detections in Europe since the start of the season (week 40), 621 (93%) were influenza A, and of those subtyped, 92% were A/H3. For more information, please visit: http://www.eiss.org.
Avian Influenza
Four additional cases of human H5N1 Al have been reported by the WHO since Sept 10, 2008 (2 in Indonesia, 1 in Cambodia, and 1 in Egypt). Since 2003, the WHO has confirmed 391 human Al cases and 247 deaths. For more information on human avian influenza cases please visit: http://www.who.int/csr/disease/avian_influenza
For further information on confirmed avian influenza outbreaks in poultry, please visit: http://www.oie.int/downld/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

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.

List of Acronyms
AI: Avian Influenza
FHA: Fraser Health Authority
HPAI: Highly Pathogenic Avian Influenza
HSDA: Health Service Delivery Area
IHA: Interior Health Authority
ILI: Influenza-Like Illness
LTCF: Long Term Care Facility
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/
USA Weekly Surveillance reports: http://www.cdc.gov/flu/weekly/
European Influenza Surveillance Scheme: http://www.eiss.org/index.cgi
WHO – Weekly Epidemiological Record: http://www.who.int/wer/en/
Influenza Centre (Australia): http://www.influenzacentre.org/

2. Avian Influenza Web Sites
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 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

INFLUENZA-LIKE ILLNESS BY HEALTH AUTHORITY

<table>
<thead>
<tr>
<th>HEALTH AUTHORITY</th>
<th>Week 49</th>
<th></th>
<th>Week 50</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nov 30 – Dec 6</td>
<td>Dec 7 – 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILI Visits</td>
<td>Total Visits</td>
<td>% ILI</td>
<td>ILI Visits</td>
<td>Total Visits</td>
</tr>
<tr>
<td>Fraser</td>
<td>5</td>
<td>2,448</td>
<td>0.20%</td>
<td>8</td>
</tr>
<tr>
<td>Interior</td>
<td>1</td>
<td>570</td>
<td>0.18%</td>
<td>2</td>
</tr>
<tr>
<td>Northern</td>
<td>1</td>
<td>370</td>
<td>0.27%</td>
<td>1</td>
</tr>
<tr>
<td>Vancouver Coastal</td>
<td>7</td>
<td>1,680</td>
<td>0.42%</td>
<td>0</td>
</tr>
<tr>
<td>Vancouver Island</td>
<td>5</td>
<td>1,809</td>
<td>0.28%</td>
<td>5</td>
</tr>
<tr>
<td>BC Total</td>
<td>19</td>
<td>6,877</td>
<td>0.12%</td>
<td>16</td>
</tr>
</tbody>
</table>
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

# ILI Outbreaks Investigated/Reported

% of sentinel patient visits due to ILI

* 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

Virus Isolates and Percentage of Respiratory Specimens Submitted to BC Provincial Laboratory Diagnosed Positive for a Virus, per Week
British Columbia, 2008-2009

Virus Isolates and Percentage of Respiratory Specimens Submitted to Children and Women’s Health Centre Laboratory Diagnosed Positive for a Virus, per Week, British Columbia, 2008-2009
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): __________ /_______ / ______

<table>
<thead>
<tr>
<th>Numbers to date</th>
<th>Residents/Students</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With ILI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospitalized</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Died</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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): __________ / _____ / ______

<table>
<thead>
<tr>
<th>Numbers to date</th>
<th>Residents/Students</th>
<th>Staff</th>
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<tr>
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<td></td>
</tr>
<tr>
<td>Died</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECTION D: Laboratory Information**

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

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