Increasing Influenza Activity in BC

Sentinel Physicians

In week 3, 0.46% of all patient visits to sentinel physicians were attributed to ILI. This proportion is an increase over previous weeks but remains lower than the historic average for this time of year. (See graph and table on page 4.)

ILI Outbreaks

Three ILI outbreaks in schools were reported during week 3: two in IHA (pathogens unknown) and one in NHA (lab-confirmed as A/H3). Additionally, one lab-confirmed influenza A/H3 outbreak in a LTCF in FHA was reported. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 44 ILI outbreak investigations. Rhino/enterovirus was identified in 12 (27%) of the investigations, influenza in 4 (9%), parainfluenza in 3 (7%), RSV in 3 (7%), and human metapneumovirus (HMPV) in 3 (7%). No pathogen was identified in the other 19 investigations. (See graph on page 5.)

Laboratory Reports

During week 3, BCCDC Laboratory Services tested 132 respiratory specimens. Twenty-six specimens tested positive for influenza A, of which 8 have been sub-typed as A/H1 and 18 as A/H3. This gradual change in the proportionate contribution of A/H1 and A/H3 viruses from previous weeks suggests that A/H3 activity is starting to increase in BC. Six specimens tested positive for influenza B. An additional 11 specimens tested positive for RSV, 4 for HMPV, 2 for rhino/enterovirus, 2 for parainfluenza, and 1 for adenovirus.

During week 3, Children’s and Women’s Health Centre Laboratory tested 82 respiratory specimens. Twenty-nine (35%) specimens tested positive for RSV, 1 for influenza A, 1 for parainfluenza, and 1 for adenovirus. (See graphs on page 6.)

To date this season (January 28), 89% (124/139) of influenza isolates tested at both laboratories have been type A, and of those sub-typed, 61% (61/100) have been A/H1, although there may be recent indication of increase in A/H3 contribution.
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. To date (January 28), BCCDC has assessed 59 A/H1N1 isolates for oseltamivir resistance; 54 show genotypic evidence of oseltamivir resistance, and the other 5 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 shared interim guidelines for antiviral options in the context of evolving resistance patterns with local health authorities. Local health authorities may be consulted for more information.

**CANADA**

**Flu Watch**
During week 3, sporadic activity was reported in most provinces, with localized activity in parts of NT, BC, AB, and ON. Four ILI outbreaks were reported: one in a LTCF and three in schools (all from BC). Since August 24, 2008 provincial/territorial laboratories have detected 835 cases of influenza, 487 (58%) influenza A and 348 (42%) influenza B. The national rate of ILI visits to sentinel physicians (13 cases per 1,000 visits) is below 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 Jan 29, 134 influenza isolates from provincial and hospital labs have been characterized at the National Microbiology Laboratory (NML):
- 30 A/Brisbane/59/07(H1N1)-like* from BC, AB, ON, NS, & PEI;
- 8 A/Brisbane/10/07(H3N2)-like* from BC, SK, & ON;
- 5 B/Florida/04/06(Yamagata)-like* from AB & ON;
- and 91 B/Malaysia/2506/04(Victoria)-like from AB, MB, ON, QC, & PEI.
* indicates a strain match to the vaccine component.

**INTERNATIONAL**

A gradual increase in Influenza activity has been reported during the past few weeks in the United States. Widespread activity was reported in 2 states (New Jersey and Virginia), localized activity was reported in 26 states (including Montana, which borders BC to the southeast), and sporadic activity was reported in all other states. The rate of ILI visits to sentinel physicians increased but remained below national baseline levels. To date this season, US laboratories have typed 3188 influenza-positive specimens, of which 2680 (84%) were influenza A. Of the influenza A isolates that have been sub-typed, 86% were A/H1. One hundred and sixty-two of 165 (98%) A/H1 viruses tested were found to be resistant to oseltamivir. For information, visit: http://www.cdc.gov/flu/weekly/.

Most European countries, including all western European countries reported widespread or localized influenza activity during week 3. Activity has peaked and declined in Ireland, Portugal, and England. Of the 11028 influenza virus detections in Europe since the start of the season (week 40), 10643 (97%) were influenza A, and of those sub-typed, 94% were A/H3. For more information, please visit: http://www.eiss.org.

**Avian Influenza**
Additional cases of human H5N1 AI in China and Egypt have been reported by the WHO in the past week. Since 2003 and to date (Jan 27, 2009), the WHO has confirmed 403 human AI cases and 254 deaths. For more information on human avian influenza cases please visit: http://www.who.int/csr/disease/avian_influenza

Avian influenza A/H5 was detected among a commercial poultry flock in FHA during week 3. All affected birds have been culled, and surrounding
farms are under enhanced surveillance. To date, there have been no reports of human illness associated with this outbreak. All measures of precaution are being taken, including provision of personal protective equipment, vaccination, and antiviral prophylaxis to workers who may be exposed to infected poultry. BCCDC, CFIA, FHA, and other authorities continue to monitor the situation and ensure that all necessary outbreak control measures are taken.

For further information on confirmed avian influenza outbreaks in poultry, please visit: [http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm](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.

Contact Us:
[Epit peptide](http://www.bccdc.org/content.php?item=35)

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
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
European Influenza Surveillance Scheme: [http://www.eiss.org/index.cgi](http://www.eiss.org/index.cgi)
Influenza Centre (Australia): [http://www.influenzacentre.org/](http://www.influenzacentre.org/)

2. Avian Influenza Web Sites
World Organization for Animal Health: [http://www.oie.int/eng/en_index.htm](http://www.oie.int/eng/en_index.htm)

3. This Report On-line
[http://www.bccdc.org/content.php?item=35](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 10 Seasons Sentinel Physicians, British Columbia, 2008-2009

**INFLUENZA-LIKE ILLNESS BY HEALTH AUTHORITY**

<table>
<thead>
<tr>
<th>HEALTH AUTHORITY</th>
<th>Week 3</th>
<th>Total Visits</th>
<th>% ILI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan 18 – 24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fraser</td>
<td>8</td>
<td>1,436</td>
<td>0.56%</td>
</tr>
<tr>
<td>Interior</td>
<td>1</td>
<td>383</td>
<td>0.26%</td>
</tr>
<tr>
<td>Northern</td>
<td>0</td>
<td>321</td>
<td>0.00%</td>
</tr>
<tr>
<td>Vancouver Coastal</td>
<td>8</td>
<td>1,384</td>
<td>0.58%</td>
</tr>
<tr>
<td>Vancouver Island</td>
<td>8</td>
<td>1,889</td>
<td>0.42%</td>
</tr>
<tr>
<td>BC Total</td>
<td>25</td>
<td>5,413</td>
<td>0.46%</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

* 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>
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<tr>
<td>Died</td>
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</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