Increasing Influenza Activity in BC

Sentinel Physicians

In week 2, 0.27% of all patient visits to sentinel physicians were attributed to ILI. This rate is lower than the historic average for this time of year. (See graph and table on page 4.)

ILI Outbreaks

One ILI outbreak (pathogen unknown) in a school and two lab-confirmed outbreaks in facilities (one influenza A/H1 in a LTCF in IHA and one influenza A/H3 in a transitional care unit in FHA) were reported during week 2. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 38 ILI outbreak investigations. Rhino/enterovirus was identified in 12 (32%) of the investigations, parainfluenza in 3 (8%), RSV in 3 (8%), influenza in 2 (5%), and human metapneumovirus (HMPV) in 1 (3%). No pathogen was identified in the other 17 investigations. (See graph on page 5.)

Laboratory Reports

During week 2, BCCDC Laboratory Services tested 95 respiratory specimens. Twenty-two specimens tested positive for influenza A, of which 12 have been sub-typed: 6 as A/H1 and 6 as A/H3. This slight change in the proportionate contribution of A/H1 and A/H3 viruses from previous weeks suggests that A/H3 activity may be starting to increase in BC. One specimen tested positive for influenza B. An additional 5 specimens tested positive for RSV, 5 for rhino/enterovirus, 2 for HMPV, and 1 for parainfluenza.

During week 2, Children’s and Women’s Health Centre Laboratory tested 63 respiratory specimens. Twenty-three (37%) specimens tested positive for RSV, and 2 tested positive for adenovirus. There were no influenza detections in Children’s and Women’s Health Centre Laboratory during week 2. (See graphs on page 6.)

To date this season (January 20), 91% (86/94) of influenza isolates tested at both laboratories have been type A, and of those sub-typed, 67% (46/69)
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 20), BCCDC has assessed 46 A/H1N1 isolates for oseltamivir resistance; 42 show genotypic evidence of oseltamivir resistance—including one isolate from an ILI outbreak—and the other 4 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.

INTERNATIONAL
A low level of Influenza activity was reported during week 2 in the United States. Widespread activity was reported in one state (Virginia), localized activity was reported in fifteen states (including Montana, which borders BC to the southeast), and sporadic activity was reported in most other states. The rate of ILI visits to sentinel physicians remained below national baseline levels. To date this season, US laboratories have typed 1626 influenza-positive specimens, of which 1349 (83%) were influenza A. Of the influenza A isolates that have been sub-typed, 89% were A/H1. One hundred and one of 103 (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 2. Of the 7951 influenza virus detections in Europe since the start of the season (week 40), 7662 (96%) were influenza A, and of those subtyped, 94% were A/H3. For more information, please visit: http://www.eiss.org.

Avian Influenza
Additional cases of human H5N1 AI in China and Indonesia have been reported by the WHO in the past week. Since 2003 and to date (Jan 22, 2009), the WHO has confirmed 399 human AI cases and 251 deaths. For more information on human avian influenza cases please visit: http://www.who.int/csr/disease/avian_influenza
A suspected outbreak of avian influenza A/H5 among a commercial poultry flock is under investigation in FHA. 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 are currently working together to conduct enhanced surveillance and outbreak control.

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
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
LTDCF: 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/eng_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 2</th>
<th>% ILI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan 11 – 17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ILI Visits</td>
<td>Total Visits</td>
</tr>
<tr>
<td>Fraser</td>
<td>7</td>
<td>1,506</td>
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<tr>
<td>Interior</td>
<td>0</td>
<td>648</td>
</tr>
<tr>
<td>Northern</td>
<td>0</td>
<td>329</td>
</tr>
<tr>
<td>Vancouver Coastal</td>
<td>2</td>
<td>1,234</td>
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<tr>
<td>Vancouver Island</td>
<td>6</td>
<td>1,867</td>
</tr>
<tr>
<td>BC Total</td>
<td>15</td>
<td>5,584</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
- # Influ LTCF*
- # Other LTCF*
- # ILI (No Pathogen) LTCF*
- # ILI Acute Hospitals
- # ILI Schools
- Avg ILI Rate
- Current ILI Rate

* 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

Week #

% positive

Influenza A
Influenza B
Respiratory Syncytial Virus
Other virus
% positive (any virus)

# of viruses diagnosed

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

Week #

% positive

Influenza A
Influenza B
Respiratory Syncytial Virus
Other virus
% positive (any virus)

# of viruses diagnosed
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