Sustained, Low-Level Influenza Activity in BC

ILI Outbreaks
In week 14, four influenza A/H3 outbreaks were reported in LTCFs in FHA and VCHA. Since the start of the season (Sept 28), specimens have been submitted to BCCDC Laboratory Services in relation to 116 ILI outbreak investigations (100 in LTCFs, 10 in ACFs, 4 in schools, 1 in a correctional facility, and 1 in a substance abuse treatment centre). Influenza was identified in 46 (40%) of the investigations (35 in LTCFs, 7 in ACFs, and 4 in schools) Among the 35 influenza outbreaks in LTCFs this season, 31 (89%) were attributed to influenza A/H3, 1 to influenza A/H1, 2 to influenza A (sub-type not available), and 1 to influenza B. Rhino/enterovirus was furthermore identified in 13 (11%) of the investigations, RSV in 7 (6%), human metapneumovirus (HMPV) in 5 (4%), parainfluenza in 3 (3%), coronavirus in 2 (2%), and adenovirus in 1 (1%). No pathogen was identified in the other 39 investigations. (See graph on page 4.)

Please remember to notify BCCDC of any ILI outbreaks occurring in your region by sending an e-mail to ilioutbreak@bccdc.ca and attaching the outbreak report form (a copy is found at the end of this report).

Laboratory Reports
During week 14, BCCDC Laboratory Services tested 99 respiratory specimens. Twenty-seven (27%) specimens tested positive for influenza A, and 8 (8%) tested positive for influenza B. Of the 14 influenza A specimens which were sub-typed during week 14, 12 (86%) were A/H3 and 2 (14%) were A/H1. An additional 7 specimens tested positive for rhino/enterovirus, 4 for HMPV, 3 for RSV, 2 for parainfluenza, 1 for coronavirus, and 1 for adenovirus.

During week 14, Children’s and Women’s Health Centre Laboratory tested 63 respiratory specimens. Six (10%) specimens tested positive for RSV, 6 (10%) for parainfluenza, and 5 (8%) for influenza A. (See graphs on page 5.)

To date this season (Apr 14), 76% (697 / 916) of influenza isolates tested at both laboratories have been type A, and of those sub-typed, 69% (418 / 604) have been A/H3.
Oseltamivir Resistance
To date (Apr 14) during the 2008-09 season, BCCDC has assessed 156 A/H1N1 isolates for oseltamivir resistance; 144 show genotypic evidence of oseltamivir resistance, and the other 12 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 posted interim guidelines, for clinician reference, concerning antiviral options in the context of evolving resistance patterns:

Antiviral Resistance
Drug susceptibility testing at the NML as of Apr 9 indicated that all (n=217) H1N1 isolates tested to date were resistant to oseltamivir, while all H3N2 (n=149) and influenza B (n=447) isolates tested were sensitive to oseltamivir. Of those isolates tested for amantadine resistance, all (n=222) H1N1 isolates were found to be sensitive, and all (n=262) H3N2 isolates were found to be resistant. All 768 (173 H1N1, 148 H3N2, and 447 influenza B) isolates that have been tested for zanamivir resistance were sensitive.

INTERNATIONAL
During week 13 (Mar 29 - Apr 4), influenza activity in the United States continued to decrease. To date this season, US laboratories have detected influenza in 24,793 (14%) respiratory specimens, of which 68% were influenza A. Of the influenza A isolates that have been sub-typed, 90% were A/H1. Six hundred and ninety-four of 699 (99%) A/H1 viruses tested this season have been found to be resistant to oseltamivir, and three (0.4%) A/H1 viruses have been found resistant to adamantanes. For more information, visit: http://www.cdc.gov/flu/weekly/.

During week 12 (Mar 22-28), the Russian Federation continued to report high influenza activity, while most other European countries indicated decreasing trends. Of the 27,247 influenza virus detections in Europe since the start of the season (week 40), 87% were influenza A, and of those sub-typed, 90% were A/H3. For more information, visit: http://www.eiss.org.

Avian Influenza
Since 2003 and to date (Apr 8, 2009), the WHO has confirmed 417 human avian influenza A/H5N1 cases and 257 deaths, with additional recent cases reported in Egypt and Vietnam. For more information on human avian influenza cases, please visit: http://www.who.int/csr/disease/avian_influenza.
For 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

The WHO has announced the recommended components of the 2009-10 northern hemisphere influenza vaccines:
- A/Brisbane/59/2007(H1N1)-like
- A/Brisbane/10/2007(H3N2)-like
- B/Brisbane/60/2008(Victoria lineage)-like

Thus, only the B component will be changed from the 2008-09 vaccine. Additional information can be found here: http://www.who.int/csr/disease/influenza/recommendations2009_10north/en/index.html.

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.

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 Epidemological 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

Contact Us:
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
WEEKLY SENTINEL 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

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
**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.

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### SECTION A: Reporting Information

<table>
<thead>
<tr>
<th>Person Reporting: ______________________</th>
<th>Title: _____________________________</th>
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<tbody>
<tr>
<td>Contact Phone: ______________________</td>
<td>Email: ____________________________</td>
</tr>
<tr>
<td>Health Authority: _____________________</td>
<td>HSDA: _____________________________</td>
</tr>
<tr>
<td>Full Facility Name: ____________________</td>
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</table>

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>
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<td>Total</td>
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<td>With ILI</td>
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<td>Hospitalized</td>
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<tr>
<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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<tr>
<td>Died</td>
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### SECTION D: Laboratory Information

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<th>Specimen(s) submitted?</th>
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<th>[ ] No</th>
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<tr>
<td>If yes, organism identified?</td>
<td>[ ] Yes (specify: ____________ )</td>
<td>[ ] No</td>
<td>[ ] Don’t know</td>
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</tbody>
</table>