Low Level Influenza Activity in BC

Contents:

British Columbia:
- Sentinel Physicians [Page 2]
- Children’s Hospital ER [Page 2]
- Medical Services Plan [Page 3]
- Laboratory Surveillance [Page 5]
- ILI Outbreaks [Page 6]
- Pandemic H1N1 (pH1N1) [Page 7]

International:
- Other: [Page 8]
- List of Acronyms [Page 9]
- Web Sites [Page 9]
- Outbreak Report Form [Page 10]

Canada:
- FluWatch Activity levels [Page 8]
- NML strain Characterization [Page 8]
- Anti-Viral Resistance [Page 8]

Highlights

In week 52 (December 27- January 2), surveillance indicators suggested low levels of influenza activity in British Columbia, predominantly due to the pandemic H1N1 (pH1N1) virus. The proportion of patients presenting with ILI to sentinel physicians decreased, while Medical Services Plan and BC Children’s Hospital indicators showed no appreciable change from the previous week. No ILI outbreaks were reported in schools or facilities. At the BC Provincial Laboratory, 4% (6/149) of respiratory specimens were positive for influenza A, and all sub-typed isolates were pH1N1. Twenty-five percent (4/16) of specimens tested for other respiratory viruses were positive for rhino/enterovirus. Globally, pH1N1 continues to be the predominant influenza virus in circulation, constituting >90% of influenza detections reported to the World Health Organization from December 13-19. Together, surveillance indicators suggest that influenza activity due to pH1N1 in BC has declined since a late October/early November peak and remains at levels similar to the expected range for this time of year.

Report written: January 6, 2010
Edited: January 6, 2010
Disseminated/posted to web: January 6, 2010
Contributors: Vanita Sahni, Travis Hottes, Naveed Janjua, Danuta Skowronski
Sentinel Physicians
During week 52, the percentage of patients presenting to sentinel physicians with ILI decreased to 0.27%. This level is well below the expected range for this time of year. Forty-three percent (22/51) of sentinel physician sites reported for week 52.

BC Children’s Hospital Emergency Room
BC Children’s Hospital attributed 10.1% of its Emergency Room visits in week 52 to “fever and cough” or flu-like illness. This proportion has increased slightly over the last 3 weeks.
Medical Services Plan
Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims remained low, consistent with the decrease over the past 6 weeks and within the expected range for this time of year. Proportions in all 5 RHAs remain close to the historical median. 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 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 January 5, 2010
Laboratory Reports
One hundred and forty-nine respiratory specimens were tested for influenza at the BC Provincial Laboratory in week 51. 6 (4%) tested positive for pH1N1; none tested positive for other influenza A or B viruses. This is similar to the previous week. Since week 35 (September 1, 2009), >99% of all sub-typed influenza A viruses in BC have been pH1N1. In week 52, 16 specimens were tested for other respiratory pathogens, of which 4 (25%) tested positive for rhino/enterovirus, 1 (6%) tested positive for parainfluenza and 1 (6%) tested positive for coronavirus. No other respiratory pathogens were detected at the provincial laboratory in week 52.

Virological data from BC Children’s and Women’s Health Centre Laboratory are not yet available for weeks 51-52.
**Virus Detections and Percentage of Respiratory Specimens Submitted to Children and Women’s Health Centre Laboratory Diagnosed Positive for a Virus, per Week, British Columbia, 2009-2010**

**ILI Outbreaks**
In week 52, no ILI outbreaks were reported in schools or facilities in BC.

**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, 2009-2010

*Infl 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
Pandemic H1N1 (pH1N1) Severe Outcomes
As of January 2 and since April 2009, 1047 hospitalizations in patients with laboratory-confirmed pH1N1 have been reported in BC, of which 3 were reported in the preceding week. Sixty-six percent of hospitalized cases had at least one reported underlying medical condition (excluding pregnancy). Twenty-six percent of hospitalized cases have been admitted to the intensive care unit, and 8% have died. As shown in the graph below, pH1N1 total case detection rates have been highest among those under 20 years of age, while hospitalization rates have been highest in those under one year of age.

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 50, all national influenza activity indicators remained low. Sentinel ILI consultation rates remained similar to the previous week at 20 consultations per 1000 patient visits, this is an overall decrease from ~110 consultations per patient visit (in week 43) and is below the expected range for this time of year. Four percent of respiratory specimens tested nationally were positive for influenza, a decline from 7% in the previous week. Over 99% of all subtype influenza A specimens were positive for pH1N1; 1 specimen was positive for H3N2 (QC) Geographically only one region in Newfoundland & Labrador reported localized activity, and none reported widespread activity. [www.phac-aspc.gc.ca/fluwatch/](http://www.phac-aspc.gc.ca/fluwatch/)

**National Microbiology Laboratory**

Between September 1st and December 24, 2009, 562 influenza isolates (554 pandemic H1N1 and 8 seasonal) were collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):

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

$^\circ$ 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$^{st}$ and December 24$^{th}$, 2009 indicated that most pH1N1 isolates were sensitive to oseltamivir, 8 viruses (from MB, ON, QC, & NB) were resistant. All influenza B isolates (n=1) and influenza A/H3N2 isolates (n=7) tested were sensitive to oseltamivir, and the 3 seasonal A/H1N1 isolates tested were oseltamivir-resistant. All pH1N1 (n=619), seasonal H1N1(n=2), A/H3N2 (n=7) and influenza B (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=665) and A/H3N2 (n=15) isolates were oseltamivir-resistant. All pH1N1 (n=665), seasonal H1N1(n=2), A/H3N2 (n=7) and influenza B (n=1) isolates were sensitive 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 51 (December 20-26), influenza activity remained low in the United States ([http://www.cdc.gov/flu/weekly/](http://www.cdc.gov/flu/weekly/)). Four percent of respiratory specimens tested in reference laboratories were positive for influenza, and all subtype influenza A viruses were pH1N1. No specimens tested positive for influenza B. The proportion of sentinel physician visits for ILI increase slightly to 3.2%. The proportion of deaths attributed to pneumonia and influenza was above epidemic threshold.

In Europe, most countries reported declining trends in influenza activity for the week of December 14-20. Thirty-three percent of sentinel laboratory samples were positive for influenza, and all sub-typed specimens were positive for pH1N1. ([http://www.eiss.org](http://www.eiss.org))

Worldwide, pH1N1 continues to be the dominant influenza virus currently circulating. From December 13-19, 87% of influenza detections reported to WHO from various regions of the world were pH1N1; 1% were seasonal influenza A/H1 virus, 2% were A/H3 virus, 8% were non-subtyped influenza A virus, and 3% were influenza B virus. In China, the proportion influenza detections attributed to the pH1N1 virus decreased from 90.7% in week 51 to 84% in week 52 ([http://www.cdc.gov/h1n1flu/updates/international/](http://www.cdc.gov/h1n1flu/updates/international/)).
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/weekly/
   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/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.

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>
</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 D: Laboratory Information

Specimen(s) submitted?
☐ Yes (location: _____________ )
☐ No  ☐ Don’t know
If yes, organism identified?
☐ Yes (specify: _____________ )
☐ No  ☐ Don’t know