

British Columbia Influenza Surveillance Bulletin

Influenza Season 2013-14, Number 10, Week 3

January 12 to January 18, 2014

Table of Contents:

British Columbia:

Sentinel Physician	Page 2
Children's Hospital ER	Page 2
Medical Services Plan	Page 3
Laboratory Surveillance	Page 5
ILI Outbreaks	Page 7
Hospitalization	Page 7

Canada:

FluWatch Activity levels	Page 8
NML Strain Characterization	Page 8
NML Antiviral Resistance	Page 8

International:

WHO 2013-14 Recommended Vaccine Components	Page 9
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Additional Information:

List of Acronyms	Page 10
Web Sites	Page 10
Outbreak Report Form	Page 10

Influenza A(H1N1)pdm09 activity has peaked: elevated but declining levels in BC

In week 3 (January 12 to 18, 2014), influenza activity remained high in BC, but most surveillance indicators suggest that influenza A(H1N1)pdm09 activity has peaked and is now declining. BC Medical Services Plan claims for influenza illness as a proportion of all claims declined in the past week but remain above the 10-year maximum throughout the province. The percent of specimens positive for influenza at BC Provincial Health Microbiology & Reference Laboratory fell to below 30% for the first time since week 51. Influenza A(H1N1)pdm09 continues to be the predominant circulating influenza virus, representing >90% of viruses with subtype information available. However, a greater proportion of A(H3N2) and B viruses (~5% each) were detected compared to previous weeks. One LTCF facility outbreak due to lab-confirmed influenza A(H1N1)pdm09 was reported from FHA.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team
Contributors: Helen Guiyun Li, Catharine Chambers, Danuta Skowronski, Lisan Kwindt

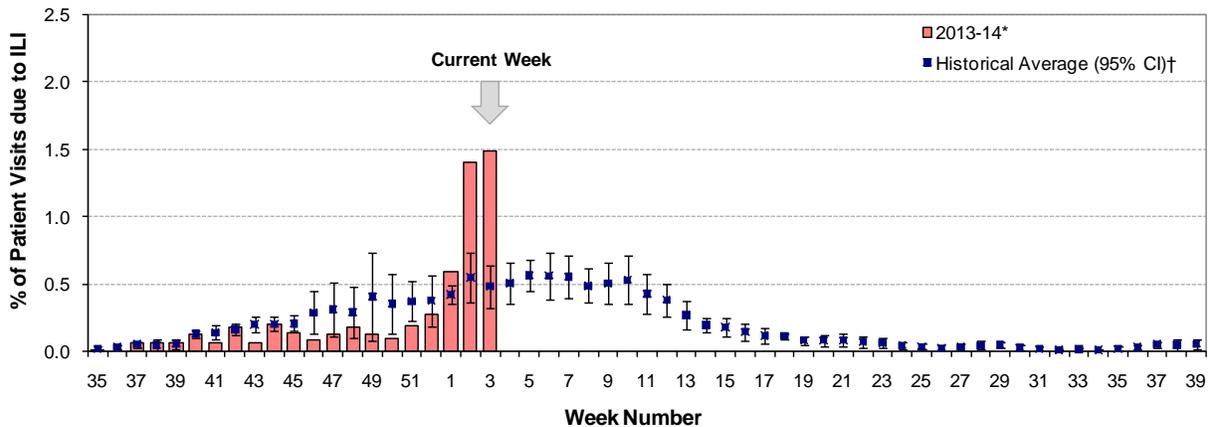
Report Disseminated: January 23, 2014

British Columbia

Sentinel Physicians

The proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians remained above the historical average again in week 3. The ILI consultation rate has increased from 0.6% in week 1 to 1.4% in week 2 and 1.5% in week 3. To date, 76% and 53% of sentinel sites have reported data for weeks 2 and 3, respectively.

Percent of patient visits to sentinel physicians due to influenza-like illness (ILI) compared to historical average, British Columbia, 2013-14



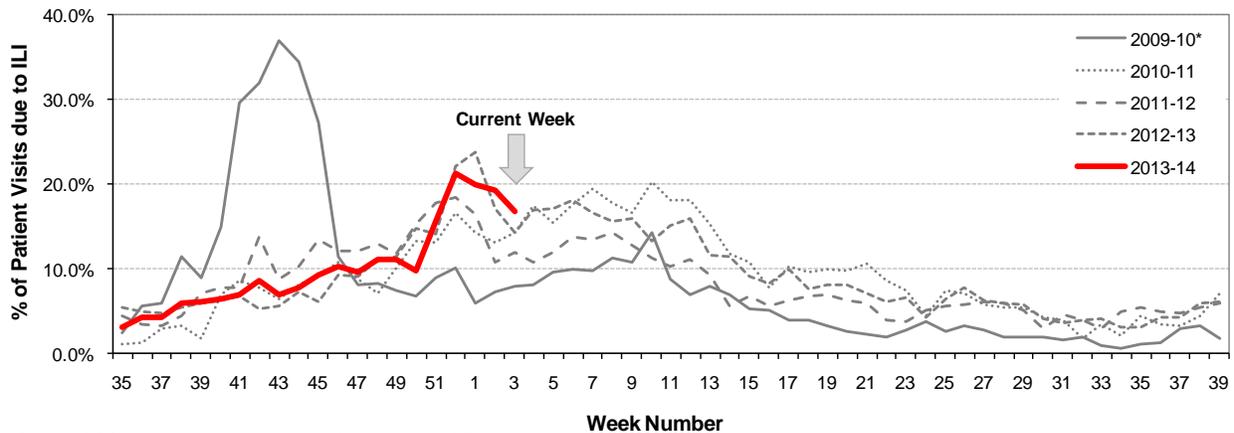
* Data are subject to change as reporting becomes more complete.

† Historical average based on 2001-02 to 2012-13 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

BC Children’s Hospital Emergency Room

In week 3, the proportion of visits to BC Children’s Hospital Emergency Room (ER) attributed to ILI continued to decrease for the third week in a row and is now at 17%, down from a peak of 21% in week 52. Rates were consistent with, although slightly higher than, those from previous seasons for this time of year.

Percent of patients presenting to BC Children’s Hospital ER with triage chief complaint of “flu,” or “influenza” or “fever/cough,” British Columbia, 2013-14



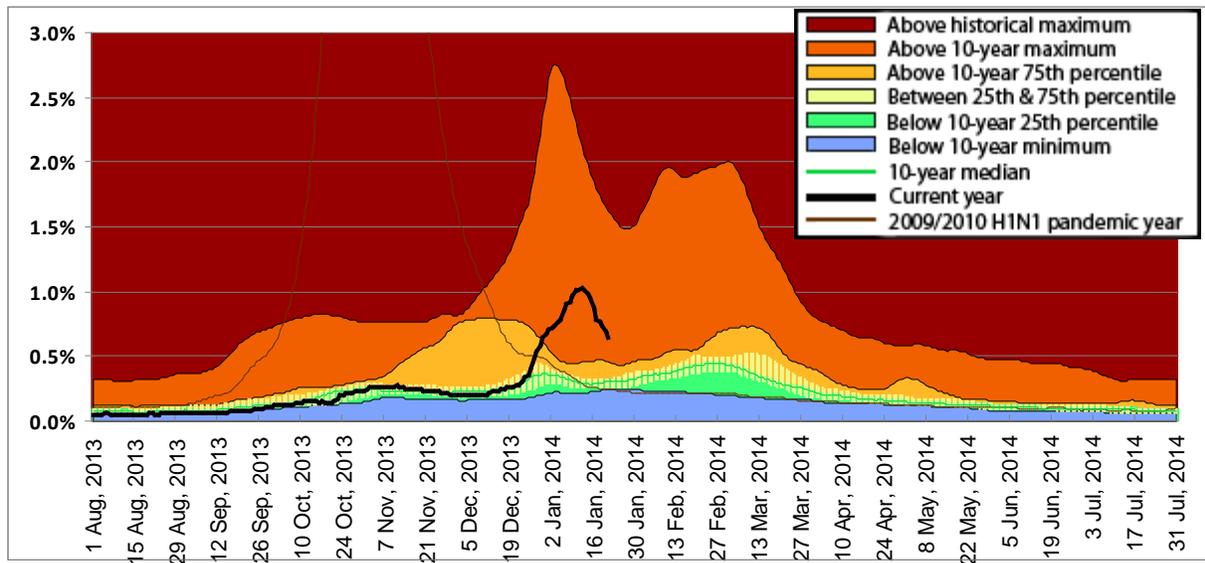
Source: BCCCH Admitting, discharge, transfer database, ADT

* Data from 2010-11 to 2013-14 is based on new system (Triage Chief Complaint) not directly comparable to data for 2009-10. In bulletins before week 9 of 2011-12 season, data is based on old system.

Medical Services Plan

BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, declined in the past week from a peak in week 2 but remains above the 10-year maximum throughout the province.

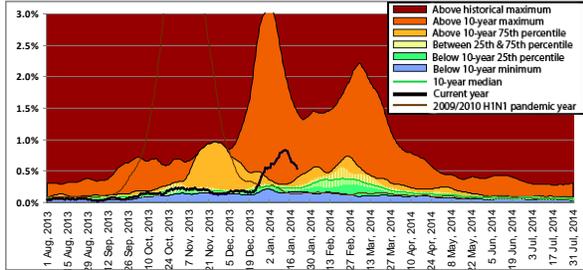
Service claims submitted to MSP for influenza illness (II)* as a proportion of all submitted general practitioner service claims, British Columbia, 2013-14



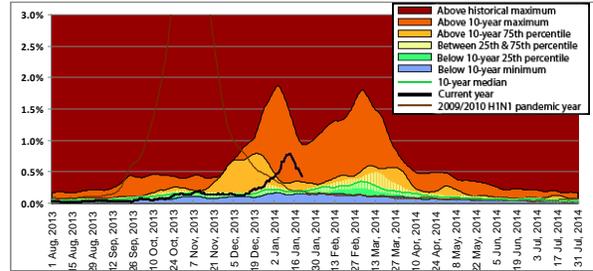
* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza). Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services

Note: MSP week beginning 1 August 2013 corresponds to sentinel ILI week 31; data current to 21 January 2014.

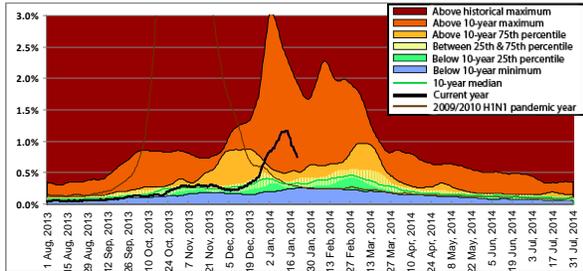
Interior



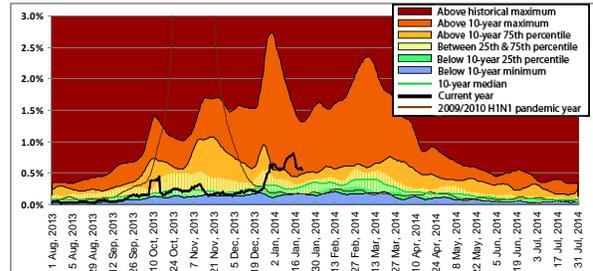
Vancouver Island



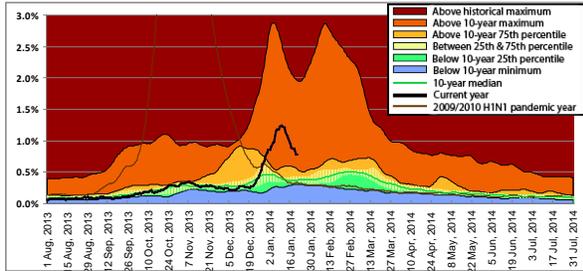
Fraser



Northern



Vancouver Coastal

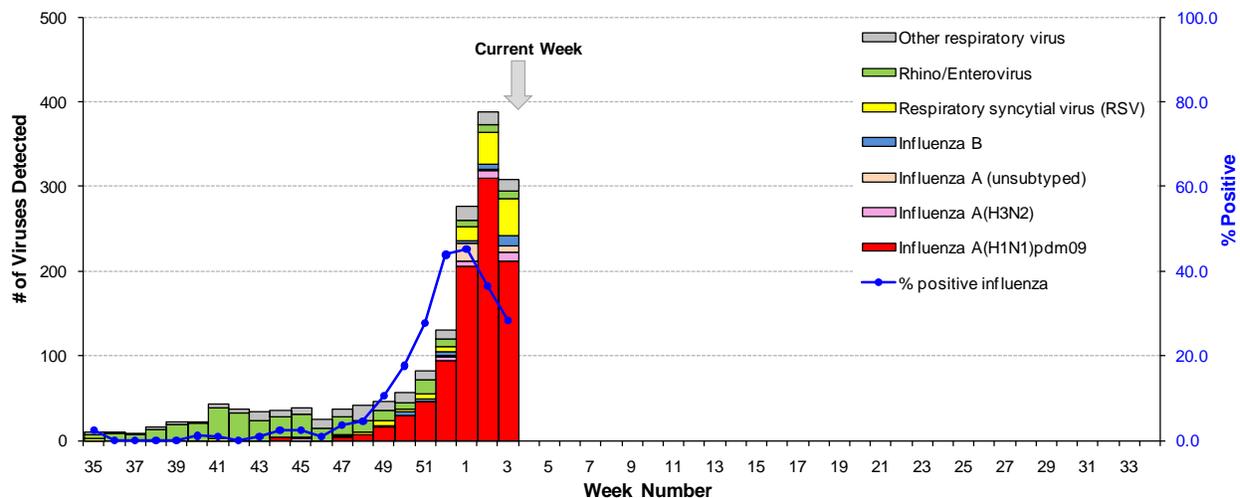


Laboratory Reports

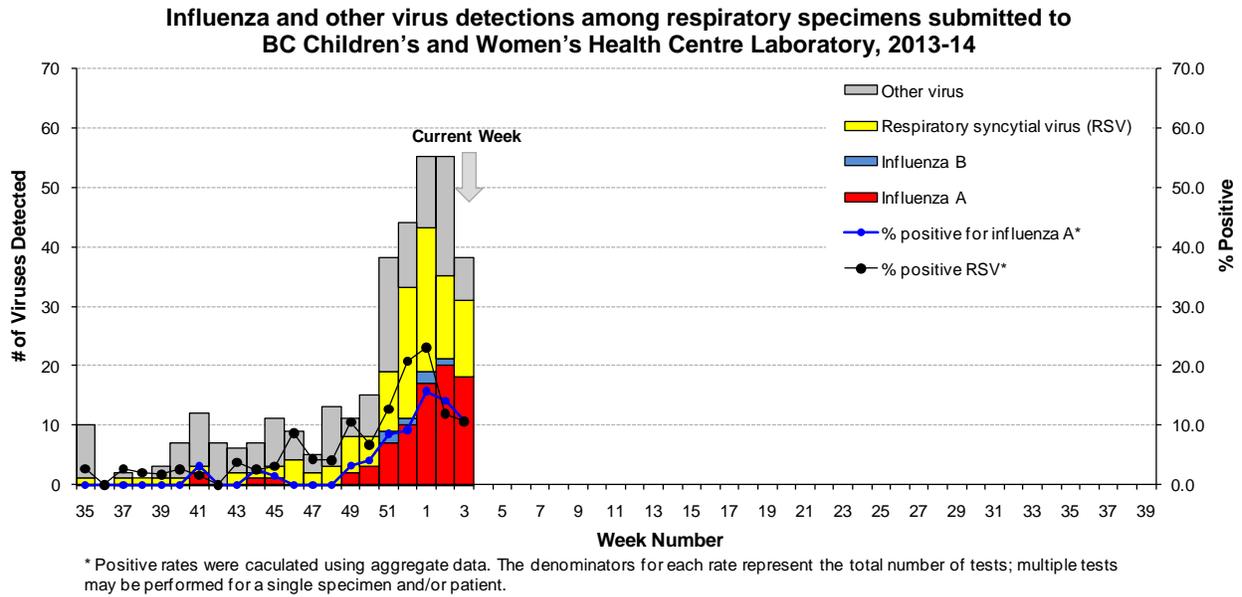
To date since week 40 (September 29 – October 5, 2013), 1026 specimens have tested positive for influenza at the BC Public Health Microbiology & Reference Laboratory (PHMRL), PHSA. Of the 992 specimens with type/subtype information available, 924 (93.1%) were influenza A(H1N1)pdm09, 35 (3.5%) were influenza A(H3N2), and 33 (3.3%) were influenza B.

In week 3, both the absolute number of specimens submitted for influenza testing to the BC PHMRL and the proportion testing positive for influenza decreased. The proportion testing positive fell to below 30% for the first time since week 51. Of the 853 specimens tested, 241 (28%) were positive for influenza, including 230 influenza A [211 A(H1N1)pdm09, 11 A(H3N2), 8 subtype pending] and 11 influenza B. Influenza A(H1N1)pdm09 continued to predominate in week 3, representing 211/233 (91%) of influenza viruses with type/subtype information available. Among other respiratory viruses, the proportion of specimens positive for RSV continued to increase in week 3, with 45/853 (5%) specimens testing positive.

Influenza and other virus detections among respiratory specimens submitted to BC Public Health Microbiology & Reference Laboratory, PHSA, 2013-14



In week 3, the proportion of tests positive for influenza A and influenza B continued to decrease at the BC Children's and Women's Health Centre Laboratory. Of the 165 tests for influenza A, 18 (11%) were positive for influenza A (un-subtyped). Of the 122 tests for influenza B, none were positive. RSV continued to be the most commonly detected other respiratory virus. An approximately equal number of tests were positive for influenza A and RSV in week 3.



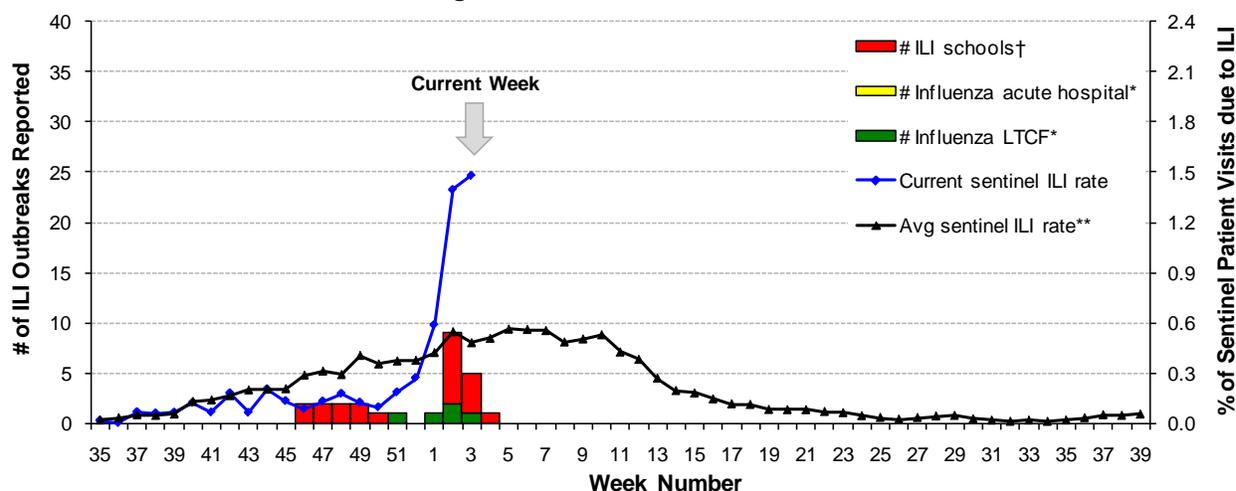
Influenza-like Illness (ILI) Outbreaks

In week 3, two ILI outbreaks were reported from long-term care facilities (LTCF): one in FHA due to lab-confirmed influenza A(H1N1)pdm09 and one in VIHA with no pathogen identified. Four school outbreaks were also reported in week 3. So far in week 4, two LTCF outbreak and one school outbreak have been reported with no pathogen identified, or lab result pending.

In total during the 2013-14 season, 22 LTCF outbreaks, including five outbreaks due to influenza viruses: 3 A(H1N1)pdm09, 1 influenza A (subtype unknown), and 1 influenza B, and 21 school outbreaks, including one due to A(H1N1)pdm09 in NHA in week 47, have been reported.

Compared to previous seasons, the number of reported outbreaks due to laboratory-confirmed influenza is relatively low to date this season. A recent sero-survey in British Columbia has shown schoolchildren and very old adults have higher levels of population immunity to influenza A(H1N1)pdm09, which has predominated so far during the 2013-14 season. This may explain in part the low number of reported outbreaks from LTCFs and schools. In contrast, during the 2012-13 season when influenza A(H3N2) was the predominant circulating virus, a substantially higher number of outbreaks were reported.

Number of influenza-like illness (ILI) outbreaks reported, compared to current sentinel ILI rate and historical average sentinel ILI rate, British Columbia 2013-14



* Facility-based influenza outbreaks defined as 2 or more ILI cases within 7-day period, with at least one laboratory-confirmed case of influenza.

† School-based ILI outbreak defined as >10% absenteeism on any day, most likely due to ILI.

** Historical values exclude 2008-09 and 2009-10 seasons due to atypical seasonality.

BC Sentinel Hospital Influenza Surveillance (IMPACT)

In week 2, eight new laboratory-confirmed influenza-associated paediatric (≤ 16 years of age) hospitalizations were reported by the BC Children's Hospital to the Immunization Monitoring Program Active (IMPACT) network, PHAC. Three occurred in children <2 years of age, four in children 2-4 years old, and one in a child 10-16 years old. All were influenza A, of which five were A(H1N1)pdm09.

National

FluWatch (week 2):

Influenza activity in Canada continued to increase in week 2. Three regions in Alberta and one in Quebec reported widespread activity. The number of positive influenza tests continued to increase from 2,304 in week 01 to 3,403 in week 02. However, due to an increase in the number of tests performed, the percentage of positive influenza tests was stable at 28.7% in week 2. Influenza A(H1N1)pdm09 continues to be the predominant circulating virus, representing 98% of subtyped influenza A viruses in week 2. Compared to the 2012-13 season, most indicators this season are following a similar trend but lag by about 2-3 weeks. However, over 90% of laboratory detections this season have been A(H1N1)pdm09, compared to 10% in 2012-13. Surveillance of laboratory detections, hospitalizations with influenza and prescriptions for influenza antivirals this season all show a greater proportion of cases among adults 20-64 years of age compared to those ≥65 years of age, which is a change from the demographics of the 2012-13 season. Details are available at: http://www.phac-aspc.gc.ca/fluwatch/13-14/w02_14/index-eng.php.

National Microbiology Laboratory (NML): Strain Characterization

From September 1, 2013 to January 23, 2014, 428 isolates were collected from provincial and hospital laboratories for antigenic characterization at the NML:

- 29 A/Texas/50/2012-like A(H3N2)[¶] from NS, NB, ON, AB, BC and YT
- 356 A/California/07/09-like [A(H1N1)pdm09]* from NL, NS, NB, QC, ON, MB, SK, AB, BC, NT and NU; of these, 2 viruses showed reduced titres with antiserum produced against A/California/7/2009 signalling possible antigenic change
- 38 B/Massachusetts/02/12-like[†] from NL, QC, ON and AB
- 5 B/Brisbane/60/2008-like** from ON, MB, and AB

[¶] Virus most closely related to the recommended H3N2 reference virus for the 2013-14 northern hemisphere influenza vaccine.

* Virus most closely related to the recommended H1N1 reference virus for the 2013-14 northern hemisphere influenza vaccine.

[†] Virus most closely related to the recommended influenza B component for the 2013-14 northern hemisphere influenza vaccine; belongs to the B Yamagata lineage.

** Virus most closely related to the recommended influenza B component for the 2011-2012 northern hemisphere influenza vaccine; belongs to the B Victoria/02/87 lineage.

NML: Antiviral Resistance

From September 1, 2013 to January 23, 2014, 254 influenza A [31 A(H3N2) and 223 A(H1N1)pdm09] viruses were tested for resistance to amantadine at the NML; all tested viruses were found to be resistant. Also during this period, 326 influenza viruses [25 A(H3N2), 262 A(H1N1)pdm09, and 39 B] were tested for resistance to oseltamivir and 320 influenza viruses [25 A(H3N2), 256 A(H1N1)pdm09, and 39 B] to zanamivir; all tested viruses were sensitive to both antiviral drugs.

International

USA (week 2): Influenza activity in the United States remained high in week 2. Of the 10,841 specimens tested, 2,721 (25.1%) were positive for influenza viruses, of which 97.8% were influenza A [65.0% A(H1N1)pdm09, 2.1% A(H3N2), 32.9% un-subtyped] and 2.2% were influenza B. However, the proportion of tests positive for influenza has declined from a peak in week 52. Widespread influenza activity was reported from 40 states to the USA CDC over this period. Details are available at: www.cdc.gov/flu/weekly/.

WHO: There have been no updates since our last surveillance bulletin. The details are available at: www.who.int/influenza/surveillance_monitoring/updates/en/.

WHO Recommendations for 2013-14 Northern Hemisphere Influenza Vaccine

On February 21, 2013, the WHO announced the recommended strain components for the 2013-14 northern hemisphere vaccine:

A/California/7/2009 (H1N1)pdm09 virus

A/Victoria/361/2011 (H3N2)-like virus*

B/Massachusetts/2/2012-(Yamagata lineage)-like virus**

*For A/H3N2, it is recommended that A/Texas/50/2012 be used as the A(H3N2) vaccine component because of antigenic changes in earlier A/Victoria/361/2011-like vaccine viruses (such as IVR-165) resulting from adaptation to propagation in eggs.

** This one of the three recommended components is different from the northern hemisphere seasonal TIV vaccines produced and administered in 2012-13 (although remaining of the same lineage).

For further details, see:

www.who.int/influenza/vaccines/virus/recommendations/2013_14_north/en/index.html.

Additional Information

List of Acronyms:

ACF: Acute Care Facility

AI: Avian influenza

FHA: Fraser Health Authority

HBoV: Human bocavirus

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

A(H1N1)pdm09: Pandemic H1N1 influenza (2009)

RSV: Respiratory syncytial virus

VCHA: Vancouver Coastal Health Authority

VIHA: Vancouver Island Health Authority

WHO: World Health Organization

NEW – Updated AMMI Canada Guidelines on the Use of Antiviral Drugs for Influenza:

www.ammi.ca/guidelines

Web Sites:

BCCDC Emerging Respiratory Pathogen Updates:

www.bccdc.ca/dis-cond/DiseaseStatsReports/EmergingRespiratoryVirusUpdates.htm

Influenza Web Sites

Canada – Flu Watch: www.phac-aspc.gc.ca/fluwatch/

Washington State Flu Updates: www.doh.wa.gov/Portals/1/Documents/5100/fluupdate.pdf

USA Weekly Surveillance Reports: www.cdc.gov/flu/weekly/

European Influenza Surveillance Scheme:

ecdc.europa.eu/EN/HEALTHTOPICS/SEASONAL_INFLUENZA/EPIDEMIOLOGICAL_DATA/Pages/Weekly_Influenza_Surveillance_Overview.aspx

WHO – Weekly Epidemiological Record: www.who.int/wer/en/

WHO Collaborating Centre for Reference and Research on Influenza (Australia):

www.influenzacentre.org/

Australian Influenza Report:

www.health.gov.au/internet/main/publishing.nsf/content/cda-surveil-ozflu-flucurr.htm

New Zealand Influenza Surveillance Reports: www.surv.esr.cri.nz/virology/influenza_weekly_update.php

Avian Influenza Web Sites

WHO – Influenza at the Human-Animal Interface: www.who.int/csr/disease/avian_influenza/en/

World Organization for Animal Health: www.oie.int/eng/en_index.htm

Contact Us:

Tel: (604) 707-2510

Fax: (604) 707-2516

Email: InfluenzaFieldEpi@bccdc.ca

Communicable Disease Prevention and Control Services (CDPACS)

BC Centre for Disease Control

655 West 12th Ave, Vancouver BC V5Z 4R4

Online: www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm

Influenza-Like Illness (ILI) Outbreak Summary Report Form

Please complete and email to ilioutbreak@bccdc.ca

Note: This form is for provincial surveillance purposes.

Please notify your local health unit per local guidelines/requirements.

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.

A	<p><u>Reporting Information</u> Health unit/medical health officer notified? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Person Reporting: _____ Title: _____</p> <p>Contact Phone: _____ Email: _____</p> <p>Health Authority: _____ HSDA: _____</p> <p>Full Facility Name: _____</p> <p>Is this report: <input type="checkbox"/> First Notification (<i>complete section B below; Section D if available</i>)</p> <p style="margin-left: 20px;"><input type="checkbox"/> Update (<i>complete section C below; Section D if available</i>)</p> <p style="margin-left: 20px;"><input type="checkbox"/> Outbreak Over (<i>complete section C below; Section D if available</i>)</p>
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B	<p><u>First Notification</u></p> <p>Type of facility: <input type="checkbox"/> LTCF <input type="checkbox"/> Acute Care Hospital <input type="checkbox"/> Senior's Residence <i>(if ward or wing, please specify name/number: _____)</i></p> <p><input type="checkbox"/> Workplace <input type="checkbox"/> School (grades: _____) <input type="checkbox"/> Other (_____)</p> <p>Date of onset of first case of ILI (dd/mm/yyyy): <u>DD</u> / <u>MMM</u> / <u>YYYY</u></p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 25%;">Numbers to date</th> <th style="width: 25%;">Residents/Students</th> <th style="width: 25%;">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>	Numbers to date	Residents/Students	Staff	Total			With ILI			Hospitalized			Died		
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C	<p><u>Update AND Outbreak Declared Over</u></p> <p>Date of onset for most recent case of ILI (dd/mm/yyyy): <u>DD</u> / <u>MMM</u> / <u>YYYY</u></p> <p>If over, date outbreak declared over (dd/mm/yyyy): <u>DD</u> / <u>MMM</u> / <u>YYYY</u></p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 25%;">Numbers to date</th> <th style="width: 25%;">Residents/Students</th> <th style="width: 25%;">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>	Numbers to date	Residents/Students	Staff	Total			With ILI			Hospitalized			Died		
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D	<p><u>Laboratory Information</u></p> <p>Specimen(s) submitted? <input type="checkbox"/> Yes (location: _____) <input type="checkbox"/> No <input type="checkbox"/> Don't know</p> <p style="margin-left: 20px;">If yes, organism identified? <input type="checkbox"/> Yes (specify: _____) <input type="checkbox"/> No <input type="checkbox"/> Don't know</p>
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