BC Centre for Disease Control
An agency of the Provincial Health Services Authority

British Columbia Influenza Surveillance Bulletin

Influenza Season 2013-14, Number 17, Weeks 15-16
April 6 to 19, 2014

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Ongoing influenza B activity in BC

In weeks 15-16 (April 6 to 19, 2014), influenza activity increased slightly in BC, driven by ongoing influenza B circulation during this period.

At the BC provincial laboratory, the overall influenza positivity rate increased from ≤15% in weeks 10-14 to 17% in week 15 and 22% in week 16. Influenza B viruses comprised >85% of all influenza positive specimens in weeks 15-16.

Consultation rates among patients presenting to sentinel physicians or the BC Children's and Women's Hospital ER for influenza-like illness increased slightly from week 15 to 16, while MSP service claims for influenza illness remained at low levels throughout the province.

Two lab-confirmed influenza B school outbreaks were reported during this period from Northern Health Authority: one in week 15 and one in week 16.

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

Report Disseminated: April 24, 2014

Provincial Health Services Authority
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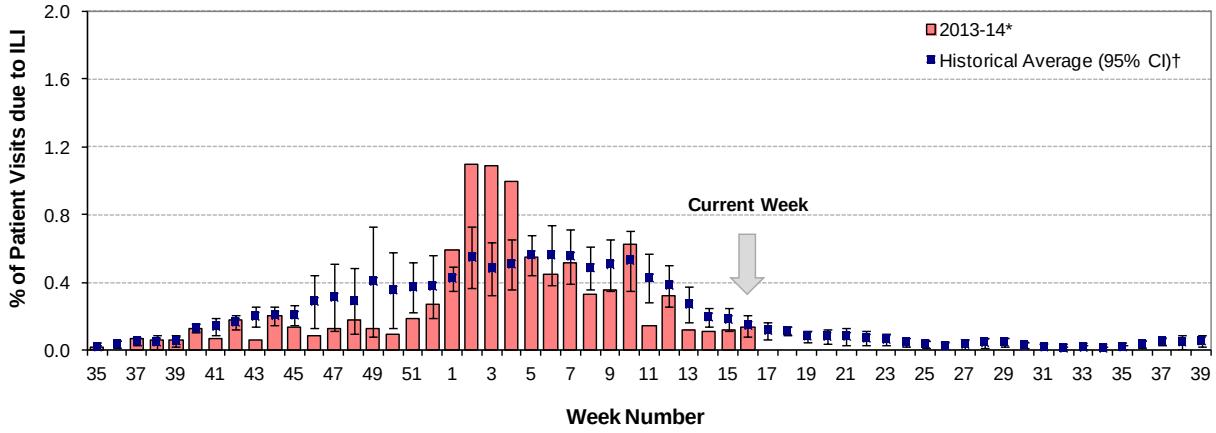
British Columbia

Sentinel Physicians

The proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians has remained relatively stable in recent weeks. Rates increased slightly from 0.12% in week 15 to 0.13% in week 16 but remained within expected ranges for this time of year. For weeks 15-16, 46-59% of sentinel sites have reported data.

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

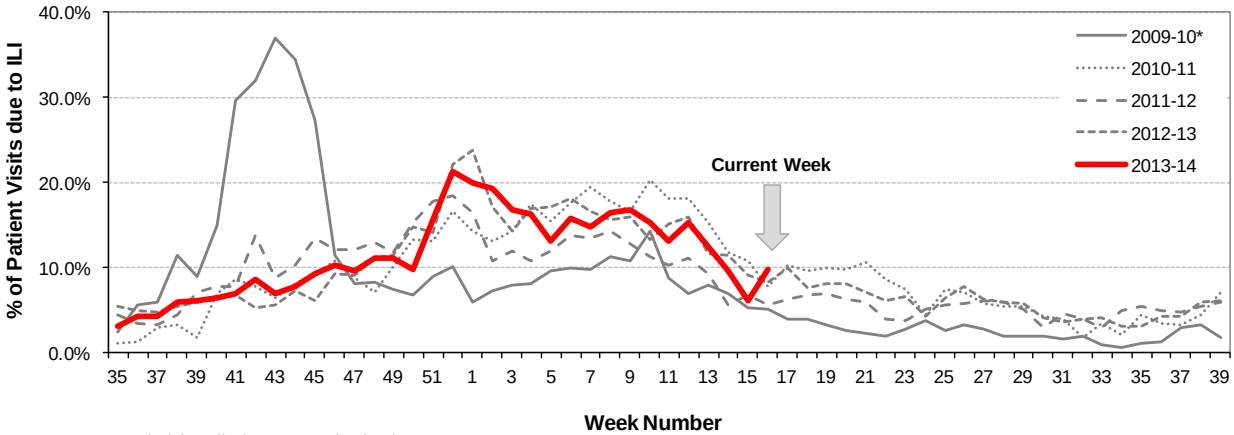


* Data are subject to change as reporting becomes more complete.
† Historical average based on 2001-02 to 2012-13 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

BC Children's Hospital Emergency Room

The proportion of visits to BC Children's Hospital Emergency Room (ER) attributed to ILI increased slightly from 6% in week 15 to 10% in week 16 but remained comparable to rates seen in 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

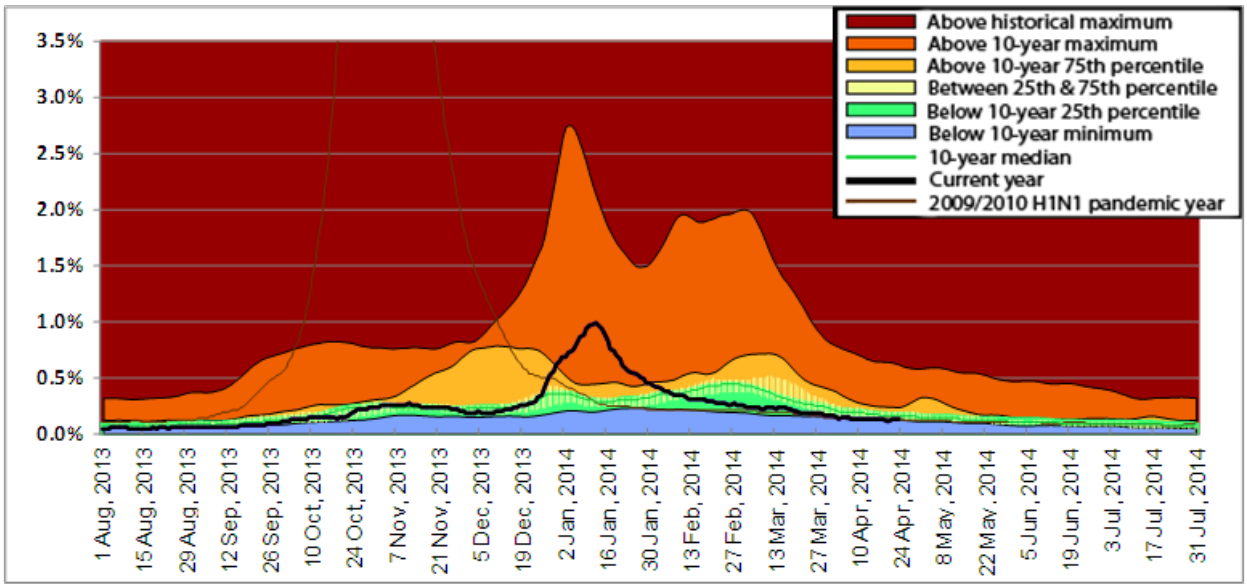


Source: BCCH Admitting, discharge, transfer database, ADT
* Data from 2010-11 to 2013-14 is based on new system (Triage Chief Complaint) not directly comparable to data for 2009-10. In bulletins before week 9 of 2011-12 season, data is based on old system.

Medical Services Plan

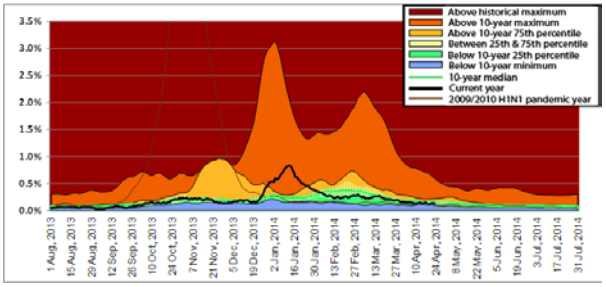
In weeks 15-16, BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, remained at low levels throughout the province.

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

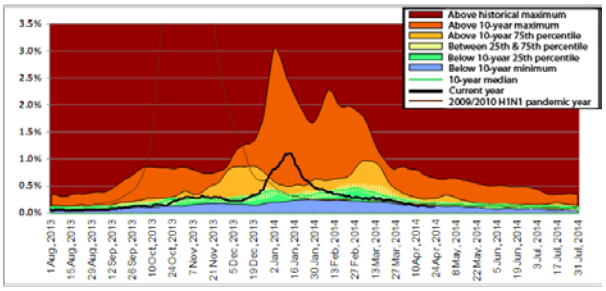


* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).
Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services
Note: MSP week beginning 1 August 2013 corresponds to sentinel ILI week 31; data current to 23 April 2014.

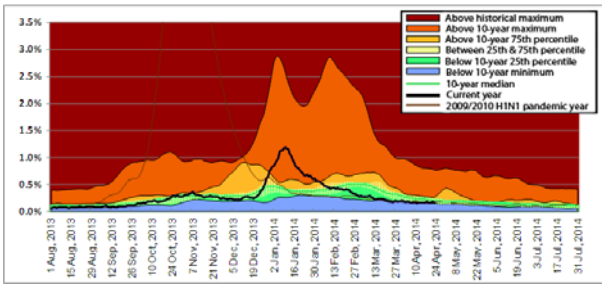
Interior



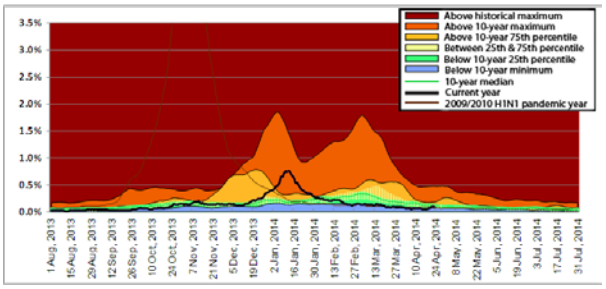
Fraser



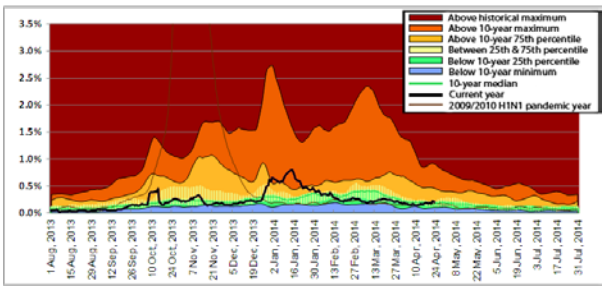
Vancouver Coastal



Vancouver Island



Northern

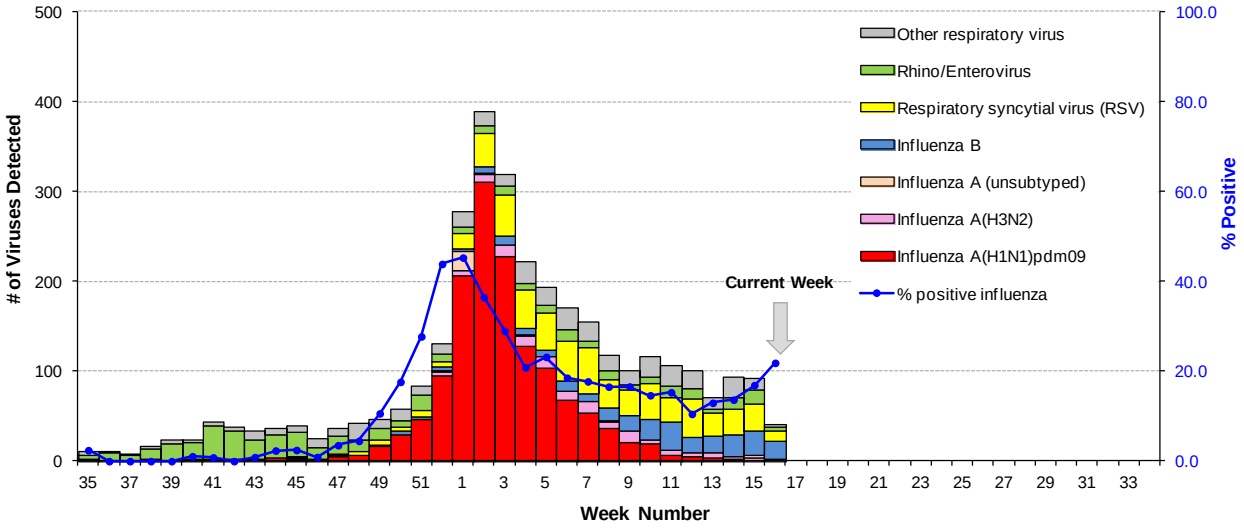


Laboratory Reports

The proportion of specimens testing positive for influenza at the BC Public Health Microbiology & Reference Laboratory (PHMRL), PHSA, increased slightly from ≤15% in weeks 10-14 to 17% in week 15 and 22% in week 16, driven by ongoing influenza B circulation during this period concurrent with decreasing test volumes. Influenza B continued to predominate during this period, comprising 85-95% of all influenza positive specimens. Of the 291 respiratory specimens tested in weeks 15-16, 54 (19%) were positive for influenza, including 48/54 (89%) influenza B and 6/54 (11%) influenza A [3 A(H3N2) and 3 pending subtype]. RSV positivity decreased slightly from 15% in week 15 to 13% in week 16.

The 2013/14 influenza season to date has been characterized by predominant influenza A(H1N1)pdm09 activity, with ongoing late-season but less substantial influenza B circulation. Since week 40 (September 29 – October 5, 2013), 1,797 specimens have tested positive for influenza at the BC PHMRL. Of the 1,765 specimens with subtype information available, 1,378 (78%) were influenza A(H1N1)pdm09, 128 (7%) were influenza A(H3N2), and 259 (15%) were influenza B.

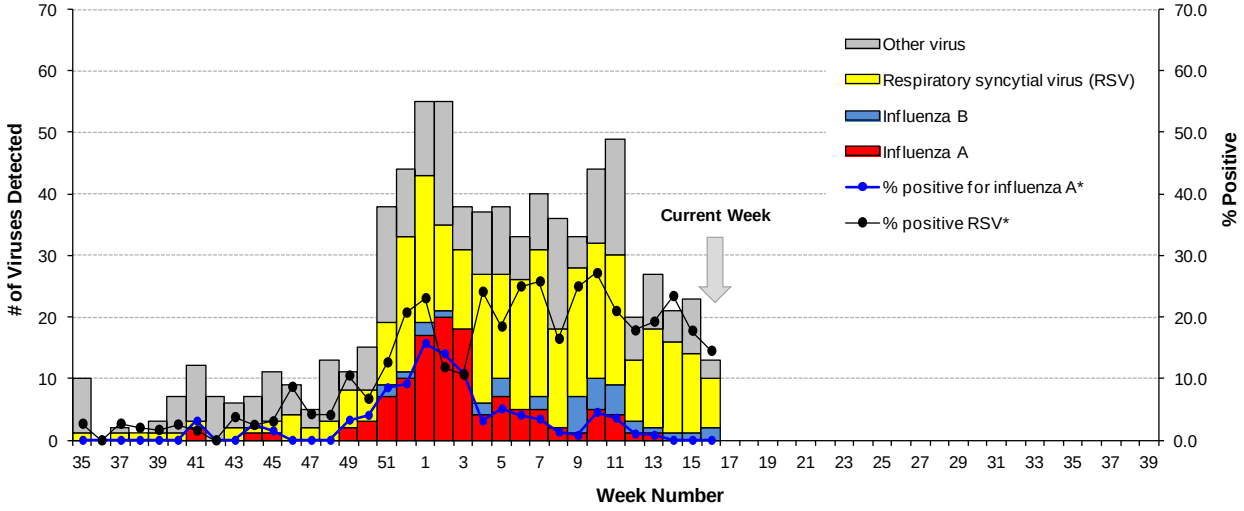
Influenza and other virus detections among respiratory specimens submitted to BC Public Health Microbiology & Reference Laboratory, PHSA, 2013-14



Note: PHMRL data current to April 21, 2014

At the BC Children's and Women's Health Centre Laboratory, the proportion of tests positive for influenza B increased from 1% in week 15 to 4% in week 16, reflecting ongoing influenza B circulation in BC. No influenza A viruses have been detected since week 14. RSV remained the most commonly detected respiratory virus; however, the proportion of tests positive for this virus decreased from 18% in week 15 to 15% in week 16.

Influenza and other virus detections among respiratory specimens submitted to BC Children's and Women's Health Centre Laboratory, 2013-14



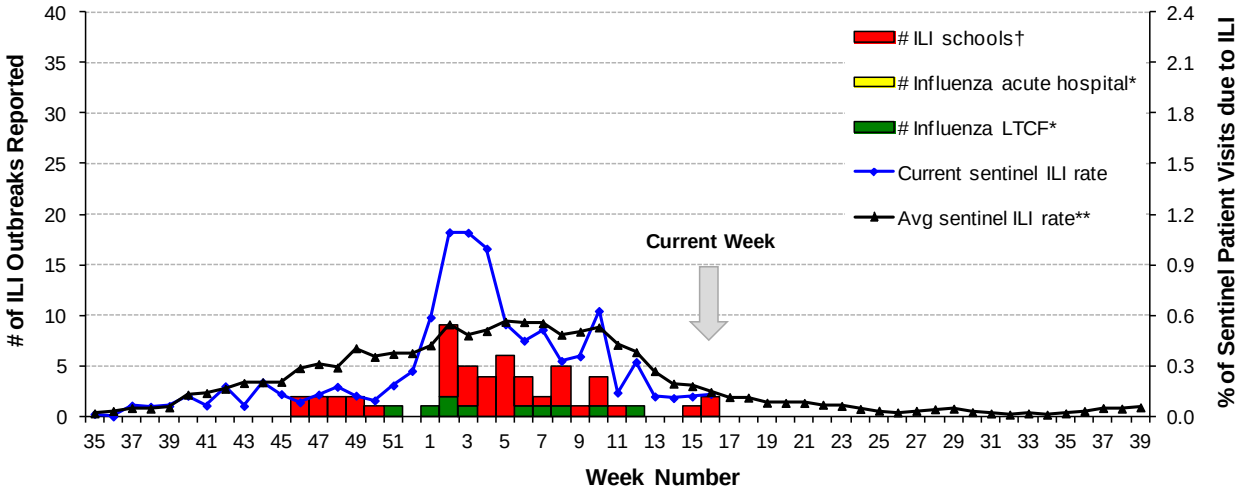
* Positive rates were caculated using aggregate data. The denominators for each rate represent the total number of tests; multiple tests may be performed for a single specimen and/or patient.

Influenza-like Illness (ILI) Outbreaks

In weeks 15-16, 5 ILI outbreaks were reported, including 3 school outbreaks from NHA (2 due to influenza B and 1 pending lab result) and 2 outbreaks from long-term care facilities (LTCF) in IHA (1 due to HMPV and 1 due to coronavirus). So far in week 17, three LTCF outbreaks have been reported from VIHA, IHA, and FHA, all with laboratory results pending.

In total during the 2013-14 season, 46 LTCF ILI outbreaks have been reported, including 10 outbreaks due to influenza viruses: 6 due to A(H1N1)pdm09 (2 in FHA, 3 in IHA, and 1 in VCHA); 2 due to A(H3N2) (both in FHA); 1 influenza A with subtype unknown due to insufficient viral copies in IHA; and 1 influenza B in FHA. In addition, 46 ILI outbreaks have been reported from schools so far this season, including one due to A(H1N1)pdm09 in week 47 and three due to influenza B in weeks 11, 15 and 16, all from NHA.

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.

National

FluWatch (week 15):

In week 15, influenza activity in Canada remains within expected levels for this time of year but is being sustained by continued circulation of influenza B. Ontario reported a marked increase in influenza activity and some western provinces have also reported increases in detections of influenza B. The influenza positivity rate was 15% in week 15. Of the 722 positive influenza tests, 89 (12%) were influenza A [half A(H1N1)pdm09 and half A(H3N2) among those subtyped] and 633 (88%) influenza B. While the influenza A(H1N1) virus has mostly affected adults 20-64 years of age this season, influenza B is having a greater impact on adults 65 years of age and older, as well as young persons 5 to 19 years of age. The number of hospitalizations and deaths reported from participating regions so far this season are comparable to reports in past influenza seasons. Details are available at: http://www.phac-aspc.gc.ca/fluwatch/13-14/w15_14/index-eng.php.

National Microbiology Laboratory (NML): Strain Characterization

From September 1, 2013 to April 24, 2014, 1,814 isolates were collected from provincial and hospital laboratories for antigenic characterization at the NML:

93	A/Texas/50/2012-like A(H3N2)[¶] from NS, NB, QC, ON, SK, AB, BC and YT
1,320	A/California/07/2009-like [A(H1N1)pdm09]***** from NL, PE, 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
381	B/Massachusetts/02/2012-like[†] from NL, NS, NB, QC, ON, MB, SK, AB and BC
20	B/Brisbane/60/2008-like****** from QC, ON, MB, SK, AB, and BC

[¶] 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 April 24, 2014, drug susceptibility testing was performed at the NML for influenza viruses: 1,474 influenza A [119 A(H3N2) and 1,355 A(H1N1)pdm09] viruses were tested for resistance to amantadine; 1,557 influenza viruses [75 A(H3N2), 1,216 A(H1N1)pdm09, and 266 B] were tested for resistance to oseltamivir; and 1,479 influenza viruses [70 A(H3N2), 1,180 A(H1N1)pdm09, and 229 B] were tested for resistance to zanamivir. All tested influenza A viruses were resistant to amantadine. All but two tested viruses were sensitive to oseltamivir, and all were sensitive to zanamivir. Both viruses resistant to oseltamivir were A(H1N1)pdm09 viruses with a H275Y mutation.

International

USA (week 15): Influenza activity continued to decrease in most regions of the United States in week 15. Of the 4,653 specimens tested, 675 (15%) were positive for influenza viruses, of which 45% were influenza A [7% A(H1N1)pdm09, 46% A(H3N2), 47% unsubtyped] and 55% were influenza B. While overall detections of influenza have been relatively low, the proportion of influenza B continues to surge. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold and the proportion of outpatient visits for influenza-like illness (ILI) was 1.5%, below the national baseline of 2%. Widespread influenza activity was reported from six states over this period. Details are available at: www.cdc.gov/flu/weekly/.

WHO (as of 22 April 2014): Globally, the northern hemisphere influenza season appeared to be approaching interseasonal levels in most countries. As influenza detections declined, the proportion of influenza B detections increased slightly in many regions, especially Asia, the Middle East, and North America. In Europe, influenza activity continued to decrease, as the influenza season appeared to be winding down in the region. A rise in the percentage of influenza specimens testing positive was observed, but the overall number of specimens declined. Influenza A(H3N2) and A(H1N1)pdm09 co-circulated, with low numbers of influenza B virus detected. In Eastern Europe, influenza activity was higher later in the season compared to the north and the south-west, but detections have begun to decline as well. In Eastern Asia, influenza activity approached interseasonal levels, and influenza B comprised the majority of influenza detections. In Tropical Asia, influenza activity continued to decline. In Northern Africa and Western Asia, influenza activity remained low in most countries, with influenza B the predominant virus detected. In the Southern Hemisphere, influenza activity remained low and detections were sporadic. During weeks 13 and 14 (23 March 2014 to 5 April 2014), WHO GISRS laboratories tested more than 44,319 specimens. Of these, 6,717 were positive for influenza viruses: 4,163 (62%) were typed as influenza A and 2,554 (38%) as influenza B. Of the sub-typed influenza A viruses, 1,149 (47%) were influenza A(H1N1)pdm09 and 1,287 (53%) were influenza A(H3N2). The majority of characterized B viruses were found to belong to the B-Yamagata lineage. Details are available at: www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/.

Avian Influenza A(H7N9) Virus: Since our last surveillance bulletin, 16 new cases of human infection with avian influenza A(H7N9) have been reported, including one travel-related case reported from Hong Kong and one (unconfirmed) travel-related case from Taiwan. To date (as of 23 April 2014), the WHO has been informed of 427 laboratory-confirmed cases and 146 deaths. At this time, there is no evidence of sustained human-to-human transmission and the risk assessment remains unchanged. Clinicians should remain vigilant for patients presenting with severe acute respiratory illness (SARI) with recent travel or epidemiological links to affected areas. Details are available at: www.who.int/csr/don/en/.

Middle East Respiratory Syndrome Coronavirus (MERS-CoV): Since the beginning of April 2014, there has been a substantial increase in case reports of MERS-CoV. Most of these reports have been associated with large nosocomial outbreaks in Jeddah, Saudi Arabia, and Abu Dhabi, United Arab Emirates (UAE), including asymptomatic cases identified through case tracking and affecting mostly health care workers, as well as ongoing case reports from the Riyadh region in persons with chronic comorbidity. Also this month, Malaysia and Greece reported their first imported cases of MERS-CoV in persons with recent travel to affected regions of the Middle East. Globally, from September 2012 to date (as of 23 April 2014), the WHO has confirmed 254 cases of MERS-CoV, including 93 deaths. However, these official WHO counts do not include a large number of cases recently reported by the Saudi Ministry of Health, which would put the global tally at over 300 cases, an increase of more than 160 cases so far this month. Given ongoing activity in affected regions, clinicians are reminded to stay alert for possible importations among patients presenting with severe acute respiratory illness (SARI) and links to the Middle East. Details are available at: www.who.int/csr/don/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**

*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.

WHO Recommendations for 2014-15 Northern Hemisphere Influenza Vaccine

On February 20, 2014, the WHO announced the recommended strain components for the 2014-15 northern hemisphere vaccine:

A/California/7/2009 (H1N1)pdm09 virus
A/Texas/50/2012 (H3N2)-like virus
B/Massachusetts/2/2012-(Yamagata lineage)-like virus

These recommended strains are the same as those used for the 2013-14 northern hemisphere vaccine.

For further details, see: www.who.int/influenza/vaccines/virus/recommendations/2014_15_north/en/.

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

Recently 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

version: 26 Oct 2011

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 — Reporting Information

Health unit/medical health officer notified? ☐ *Yes* ☐ *No*

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)*

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): DD / MMM / YYYY

Numbers to date	Residents/Students	Staff
Total		
With ILI		
Hospitalized		
Died		

C — Update AND Outbreak Declared Over

Date of onset for most recent case of ILI (dd/mm/yyyy): DD / MMM / YYYY

If over, date outbreak declared over (dd/mm/yyyy): DD / MMM / YYYY

Numbers to date	Residents/Students	Staff
Total		
With ILI		
Hospitalized		
Died		

D — Laboratory Information

Specimen(s) submitted? ☐ Yes (location: _____) ☐ No ☐ Don't know

If yes, organism identified? ☐ Yes (specify: _____) ☐ No ☐ Don't know

Communicable Disease Prevention & Control Services
655 W. 12th Ave.
Vancouver BC V5Z 4R4

Phone: (604) 707-2510
Fax: (604) 707-2516
ilioutbreak@bccdc.ca