

British Columbia Influenza Surveillance Bulletin

Influenza Season 2013-14, Number 18, Weeks 17-18

April 20 to May 3, 2014

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Influenza B activity showing signs of decline in BC

In weeks 17-18 (April 20 to May 3, 2014), influenza activity, predominantly influenza B, began to decrease in BC, following a secondary peak of activity in weeks 15-16.

At the BC provincial laboratory, the overall influenza positivity rate decreased from 18% in week 16 to 15% in week 17 and 9% in week 18. Influenza B remained the predominant influenza virus during this period, representing 68% and 93% of all influenza viruses detected in weeks 17 and 18, respectively.

MSP service claims for influenza illness remained at low levels throughout the province. The proportion of visits to BC Children's Hospital ER attributed to influenza-like illness remained stable in weeks 17-18, while the consultation rates among patients presenting to sentinel physicians increased over this period.

One lab-confirmed influenza A outbreak was reported in a long-term care facility from FHA in week 18. Subtype information is pending.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Contributors: Helen Guiyun Li, Catharine Chambers, Danuta Skowronski, Lisan Kwindt

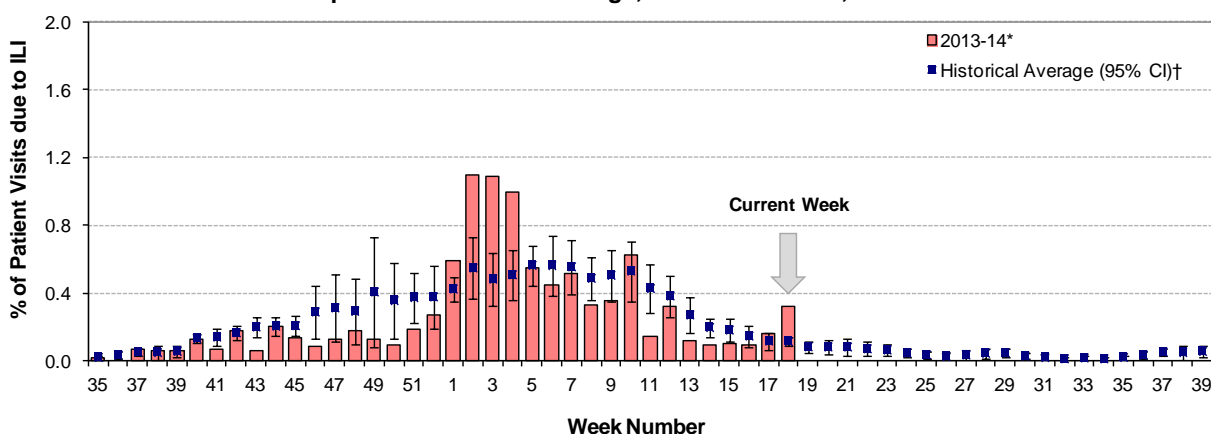
Report Disseminated: May 8, 2014

British Columbia

Sentinel Physicians

The proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians has remained relatively stable around 0.1% in weeks 13-16. Rates increased slightly to 0.16% in week 17 and more substantially to 0.32% in week 18, above the expected range for this time of year. However, rates are subject to change as data become more complete; only 51% and 35% of sentinel sites have reported data in weeks 17 and 18, respectively.

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



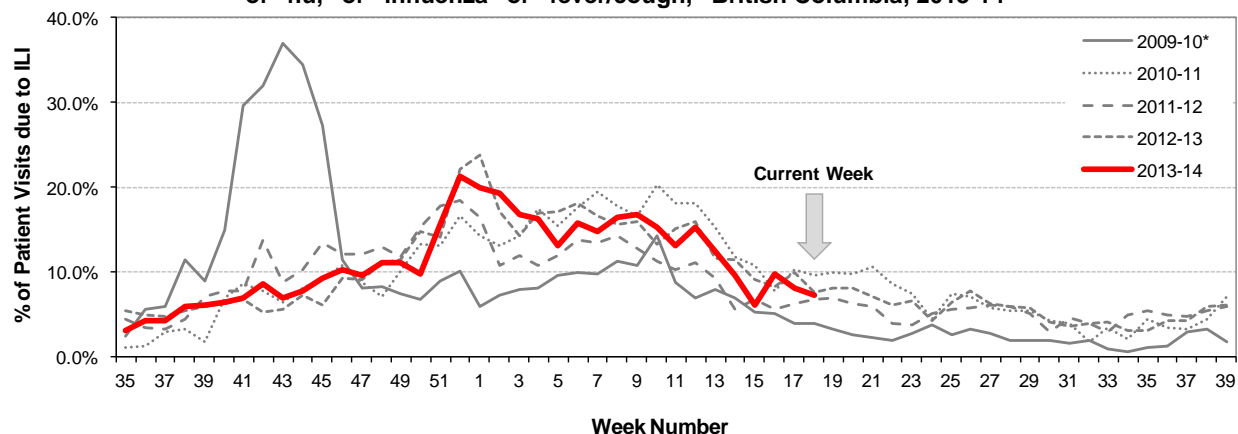
* Data are subject to change as reporting becomes more complete.

† 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

The proportion of visits to BC Children's Hospital Emergency Room (ER) attributed to ILI remained relatively stable around 7-8% in weeks 17-18, 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



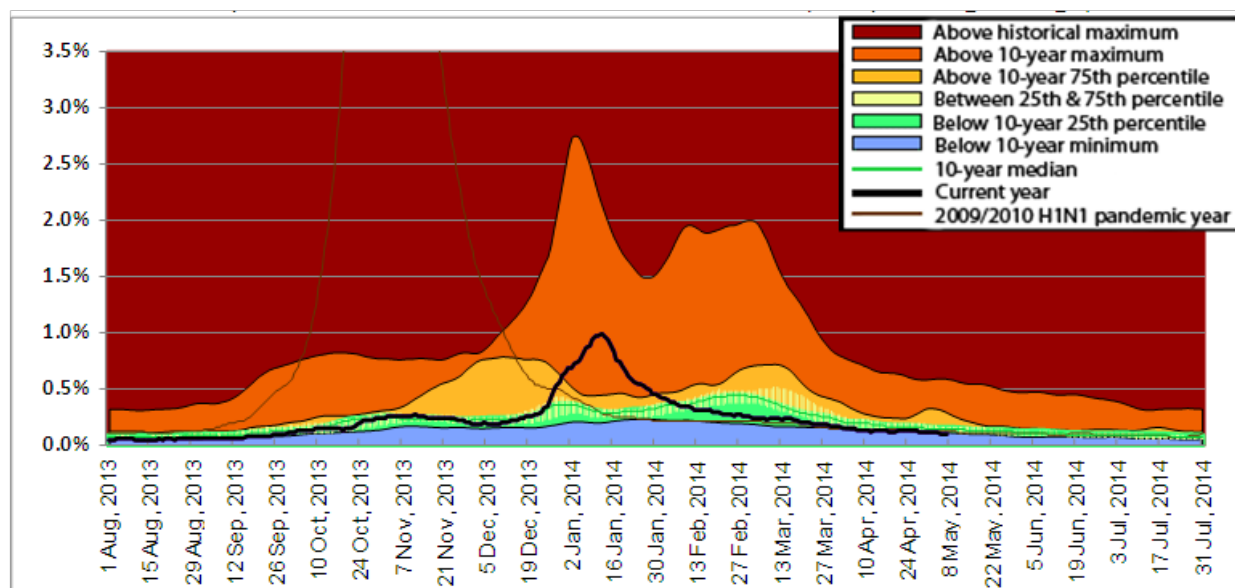
Source: BCCH Admitting, discharge, transfer database, ADT

* 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

BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, peaked around weeks 2-3 during the 2013/14 influenza season and have remained at low levels throughout the province since early March.

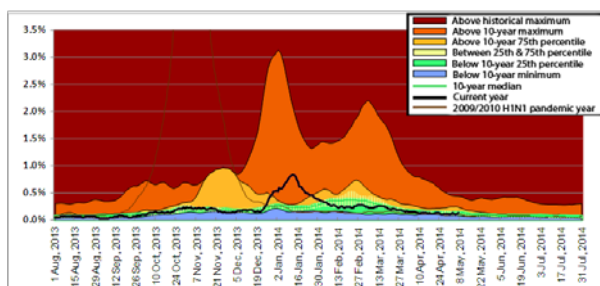
Service claims submitted to MSP for influenza illness (II)* as a proportion of all submitted general practitioner service claims, British Columbia, 2013-14



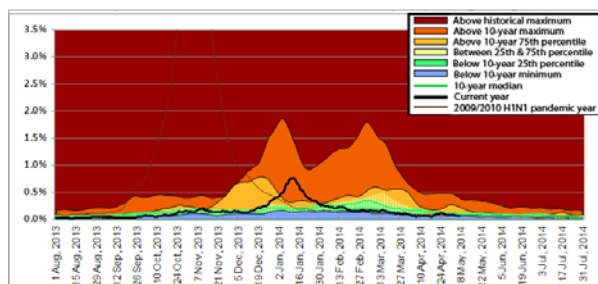
* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza). Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services

Note: MSP week beginning 1 August 2013 corresponds to sentinel ILI week 31; data current to 07 May 2014.

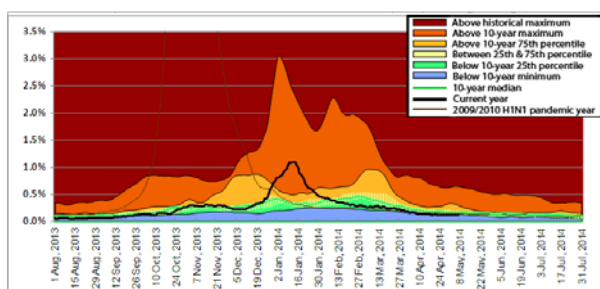
Interior



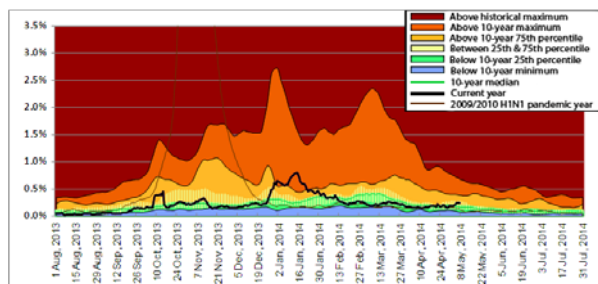
Vancouver Island



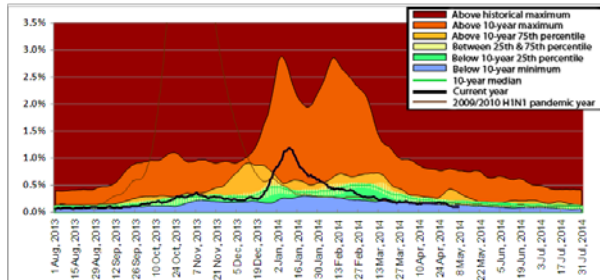
Fraser



Northern



Vancouver Coastal

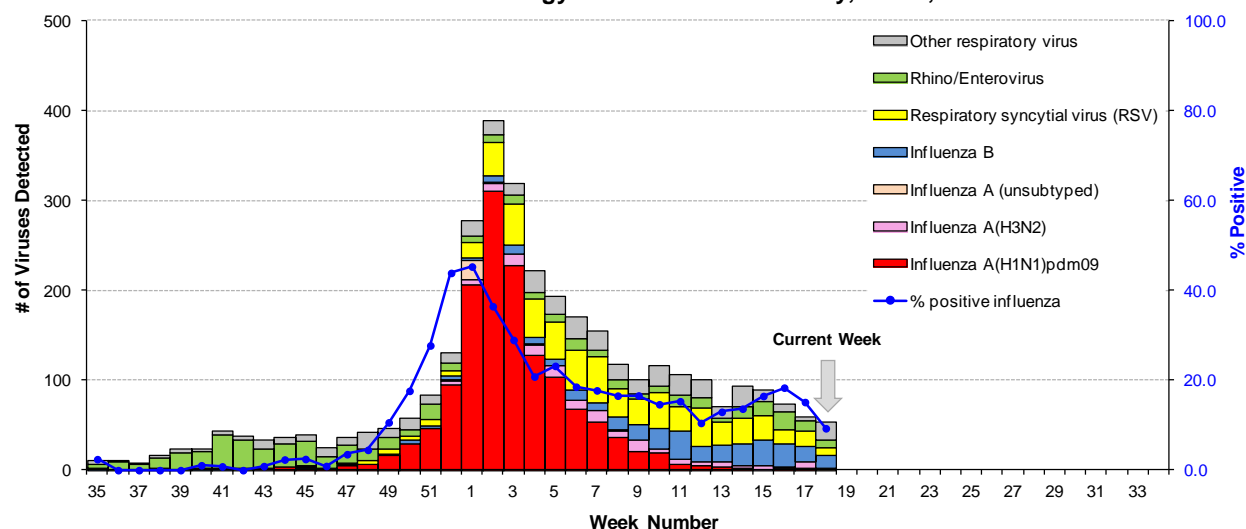


Laboratory Reports

The proportion of specimens testing positive for influenza at the BC Public Health Microbiology & Reference Laboratory (PHMRL), PHSA, decreased from 18% in week 16 to 15% in week 17 and 9% in week 18. Influenza B remains the predominant influenza virus in circulation during this period, representing 68% and 93% of all influenza viruses detected in weeks 17 and 18, respectively. Of the 326 respiratory specimens tested in weeks 17-18, 40 (12%) were positive for influenza, including 31/40 (78%) influenza B and 9/40 (22%) influenza A [7 A(H3N2), 1 A(H1N1)pdm09, and 1 influenza A pending subtype]. RSV and entero/rhinoviruses were also commonly detected among other respiratory viruses.

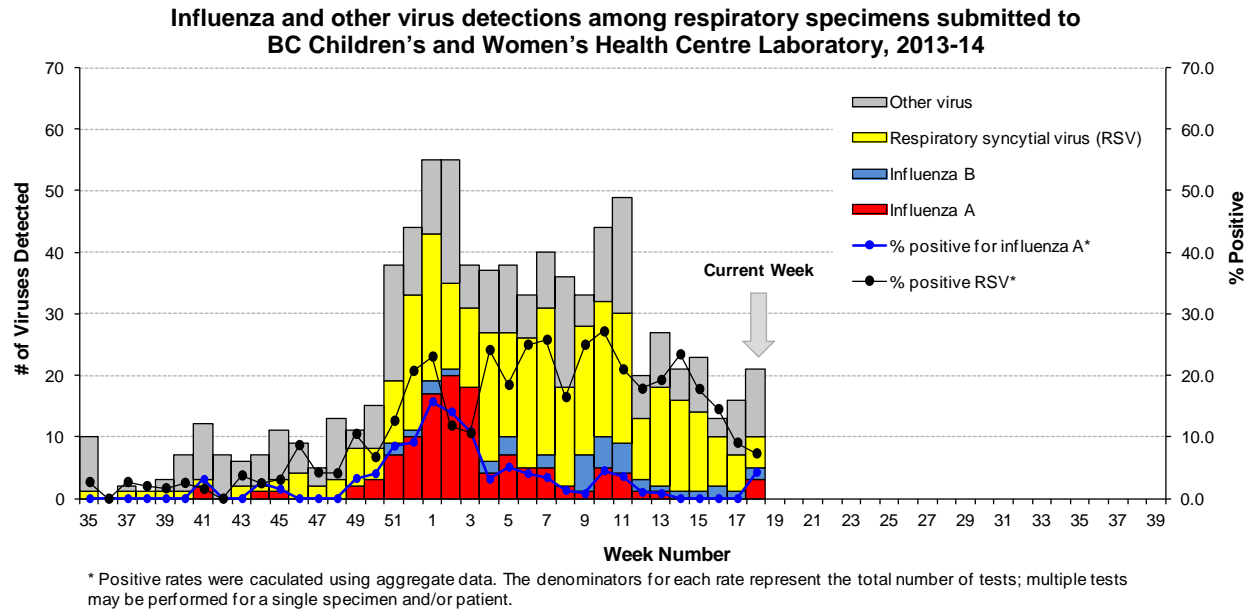
The 2013/14 influenza season to date has been characterized by predominant influenza A(H1N1)pdm09 activity, with ongoing late-season but less substantial influenza B circulation. Since week 40 (September 29 – October 5, 2013), 1,844 specimens have tested positive for influenza at the BC PHMRL. Of the 1,814 specimens with subtype information available, 1,380 (76%) were influenza A(H1N1)pdm09, 138 (8%) were influenza A(H3N2), and 296 (16%) 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 May 7, 2014.

At the BC Children's and Women's Health Centre Laboratory, the proportion of tests positive for influenza B was 1.5% in week 17 and 2.9% in week 18. After four consecutive weeks without any influenza A virus detections, 3/70 (4.3%) tests were positive for influenza A in week 18. Parainfluenza and RSV were commonly detected among other respiratory viruses.

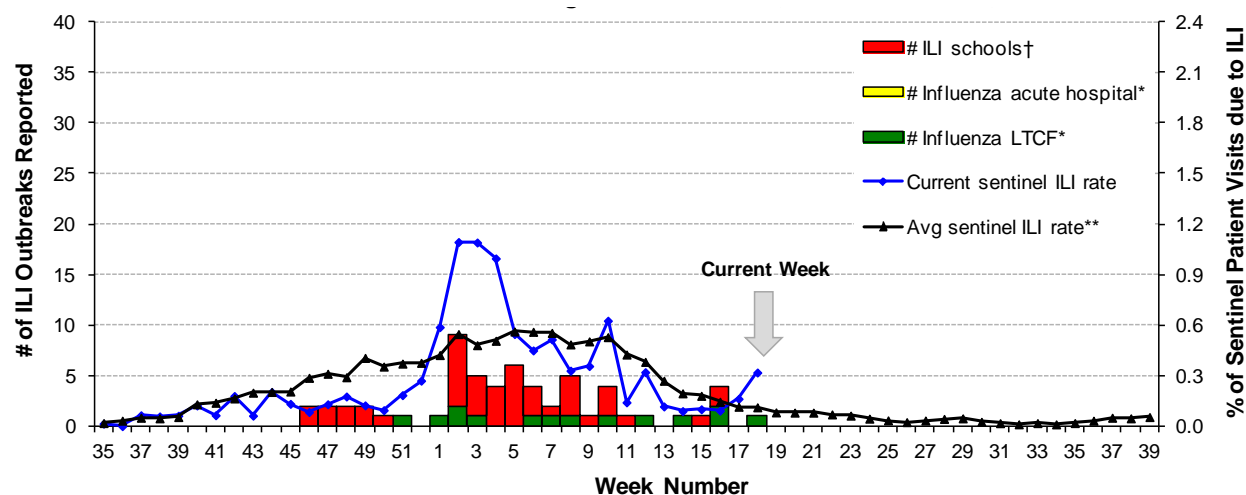


Influenza-like Illness (ILI) Outbreaks

In weeks 17-18, 4 ILI outbreaks were reported from long-term care facilities (LTCF), including one due to influenza A in FHA with subtype information pending, one due to human metapneumovirus (hMPV) in IHA, and 2 with no pathogen identified (1 in FHA and 1 in IHA). In week 19, one further LTCF outbreak was reported from VIHA with pending laboratory results.

In total during the 2013/14 season, 51 LTCF ILI outbreaks have been reported, including 14 outbreaks due to influenza viruses: 6 due to A(H1N1)pdm09 (2 in FHA, 3 in IHA, and 1 in VCHA); 3 due to A(H3N2) (2 in FHA, and 1 in VIHA); 1 influenza A with subtype unknown due to insufficient viral copies in IHA, 1 influenza A with subtype result pending in FHA; and 3 influenza B in FHA. In addition, 46 ILI outbreaks have been reported from schools so far this season, including 1 due to A(H1N1)pdm09 in week 47 and 4 due to influenza B in weeks 11 (1), 15 (1) and 16 (2), 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 17):

In week 17, influenza B continued to circulate in several regions across Canada. This sustained influenza activity remains within expected levels for this time of year, and is consistent with late-season circulation of influenza B. In week 17, the number of positive influenza tests decreased slightly from 619 in week 16 to 576 (13% of tests); influenza B remained the predominant circulating virus, representing 88% of influenza detections. Influenza B is having a greater impact on adults 65 years of age and older and young persons 5 to 19 years of age, compared to influenza A(H1N1) which circulated earlier in the year. The proportion of hospitalizations with influenza among these age groups has increased in recent weeks, and outbreaks of influenza B have been reported in long-term care facilities. As of week 17, fewer hospitalizations and deaths have been reported from participating regions compared to the same time last year. Details are available at: www.phac-aspc.gc.ca/fluwatch/13-14/w17_14/index-eng.php.

National Microbiology Laboratory (NML): Strain Characterization

From September 1, 2013 to May 8, 2014, 1,970 isolates were collected from provincial and hospital laboratories for antigenic characterization at the NML:

- 106 A/Texas/50/2012-like A(H3N2)[¶] from NS, NB, QC, ON, SK, AB, BC and YT
- 1,353 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
- 485 B/Massachusetts/02/2012-like[†] from NL, NS, NB, QC, ON, MB, SK, AB and BC
- 26 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 May 8, 2014, drug susceptibility testing was performed at the NML for influenza viruses: 1,511 influenza A [129 A(H3N2) and 1,382 A(H1N1)pdm09] viruses were tested for resistance to amantadine; 1,714 influenza viruses [84 A(H3N2), 1,288 A(H1N1)pdm09, and 342 B] were tested for resistance to oseltamivir; and 1,718 influenza viruses [84 A(H3N2), 1,293 A(H1N1)pdm09, and 341 B] were tested for resistance to zanamivir. All tested influenza A viruses were resistant to amantadine. All but 3 tested viruses were sensitive to oseltamivir, and all were sensitive to zanamivir. All 3 viruses resistant to oseltamivir were A(H1N1)pdm09 viruses with a H275Y mutation.

International

USA (week 17): Influenza activity continued to decrease in the United States in week 17. Of the 4,031 specimens tested, 500 (12%) were positive for influenza viruses, of which 45% were influenza A [4% A(H1N1)pdm09, 41% A(H3N2), 55% untyped] and 55% were influenza B. 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 below the national baseline of 2%. Widespread influenza activity was reported from four states over this period. Details are available at: www.cdc.gov/flu/weekly/.

WHO (as of 5 May 2014): Globally, the Northern Hemisphere influenza season approached inter-seasonal levels in most countries. Influenza B continued to comprise the majority of late season detections in most regions, with the exception of Europe which reported consistently low influenza B activity. In Europe, influenza activity continued to decrease and in most countries either approached or reached inter-seasonal levels. Influenza A(H3N2) was the predominant virus, followed by A(H1N1)pdm09 and very low detections of influenza B. In Eastern Europe, influenza activity declined but remained slightly elevated compared to Southwest and Northern Europe, which peaked earlier in the season. In Eastern Asia, influenza activity approached inter-seasonal levels in most countries, and influenza B comprised the majority of influenza detections. In Tropical Asia, influenza activity continued to decline in most countries, although some variability was seen. 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 was still low and influenza detections were sporadic. 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, 3 new cases of human infection with avian influenza A(H7N9) have been reported from affected provinces/municipalities in China. To date (as of 1 May 2014), the WHO has been informed of 430 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. www.who.int/csr/don/en/.

Avian Influenza A(H5N6): On 4 May 2014, the Health and Family Planning Commission of Sichuan Province announced a fatal case of human infection with avian influenza A(H5N6) in an adult male in Sichuan, China. The patient was identified through enhanced surveillance of unexplained pneumonia and is reported to have had a history of exposure to sick and dead poultry. The WHO has not yet confirmed this case. Hong Kong CHP (Centre for Health Protection) provides this report in English: www.chp.gov.hk/en/content/599/34591.html

Middle East Respiratory Syndrome Coronavirus (MERS-CoV): Last week, the U.S. Centers for Disease Control and Prevention (CDC) announced the first imported case of MERS-CoV in North America, in a traveler returning to the United States from Saudi Arabia. Previous travel-associated cases of MERS-CoV have been reported from countries in Europe, North Africa and Southeast Asia, with some limited, indigenous transmission to close contacts. Further importation of cases to countries outside the Arabian Peninsula is anticipated. Since the beginning of the outbreak in April 2012, WHO has been informed of a total of 495 laboratory-confirmed cases. The number of MERS-CoV cases has surged dramatically in recent months, with more cases reported in the month of April 2014 than had previously been reported in total since the beginning of the outbreak. Since our last surveillance bulletin, 124 new cases of MERS-CoV have been reported, including 118 from Saudi Arabia, 3 from Jordan, 1 from Yemen, 1 from Egypt ex. Saudi Arabia, as well as the 1 case from the United States ex. Saudi Arabia. The majority of these recent cases are secondary cases, most of whom acquired their infection in health care settings. The public health risk to individuals in the community remains low at this time. 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

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