

British Columbia Influenza Surveillance Bulletin

Influenza Season 2014-15, Number 1, Weeks 36-38

August 31 to September 20, 2014

Table of 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 7

Canada:

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

International:

USA (CDC)	Page 8
WHO	Page 8

Emerging Respiratory Viruses

Enterovirus D68	Page 9
-----------------	------------------------

Influenza Vaccine Components (WHO Recommendations)

2014-15 Northern Hemisphere	Page 10
2015 Southern Hemisphere	Page 10

Additional Information:

List of Acronyms	Page 11
Web Sites	Page 11
Outbreak Report Form	Page 12

Back-to-School Update: Influenza Activity at Inter-seasonal Levels

During the first three weeks of September (weeks 36-38, August 31 to September 20, 2014), influenza activity remained within expected inter-seasonal levels in BC.

Community-based surveillance indicators (i.e. MSP service claims for influenza illness, sentinel physician consultations for influenza-like illness) remained at inter-seasonal levels throughout the province.

At the BC provincial laboratory, influenza activity remained at low sporadic levels. Among the 8 influenza detections during this period, 4 were A(H3N2), 2 were A(H1N1)pdm09, and 1 was influenza B, with one additional influenza A virus identified for which subtype is pending.

As expected at this time of year, entero/rhinoviruses were the most commonly detected respiratory viruses. As of September 25, 2014, the BC provincial laboratory has confirmed 8 cases of enterovirus D68.

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

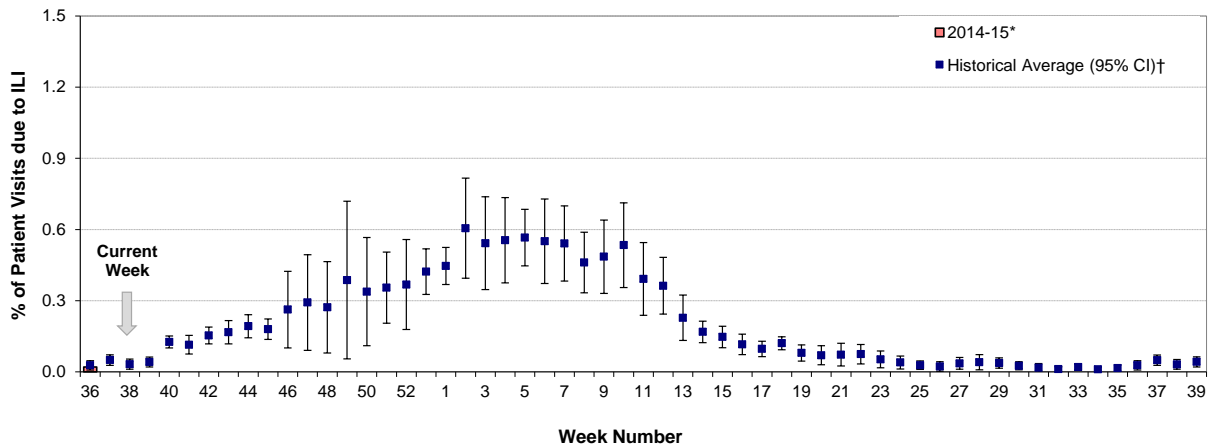
Report Disseminated: September 25, 2014

British Columbia

Sentinel Physicians

The proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians was 0.02% in week 36. Sentinel physician sites did not report any patients with ILI in weeks 37 and 38. On average, 62% (range: 54-73%) of sentinel sites reported data in weeks 36-38.

Percent of patient visits to sentinel physicians due to influenza-like illness (ILI) compared to historical average, British Columbia, 2014-15

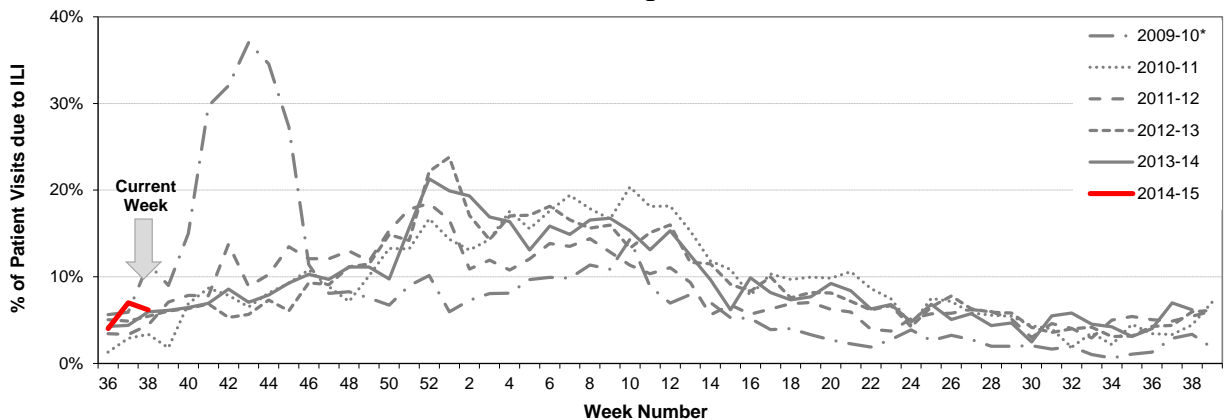


* Data are subject to change as reporting becomes more complete.
† Historical average based on 2002-03 to 2013-14 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

BC Children's Hospital Emergency Room

In weeks 36-38, the proportion of visits to BC Children's Hospital Emergency Room (ER) attributed to ILI ranged from 4-7% and remained consistent with rates observed 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, 2014-15



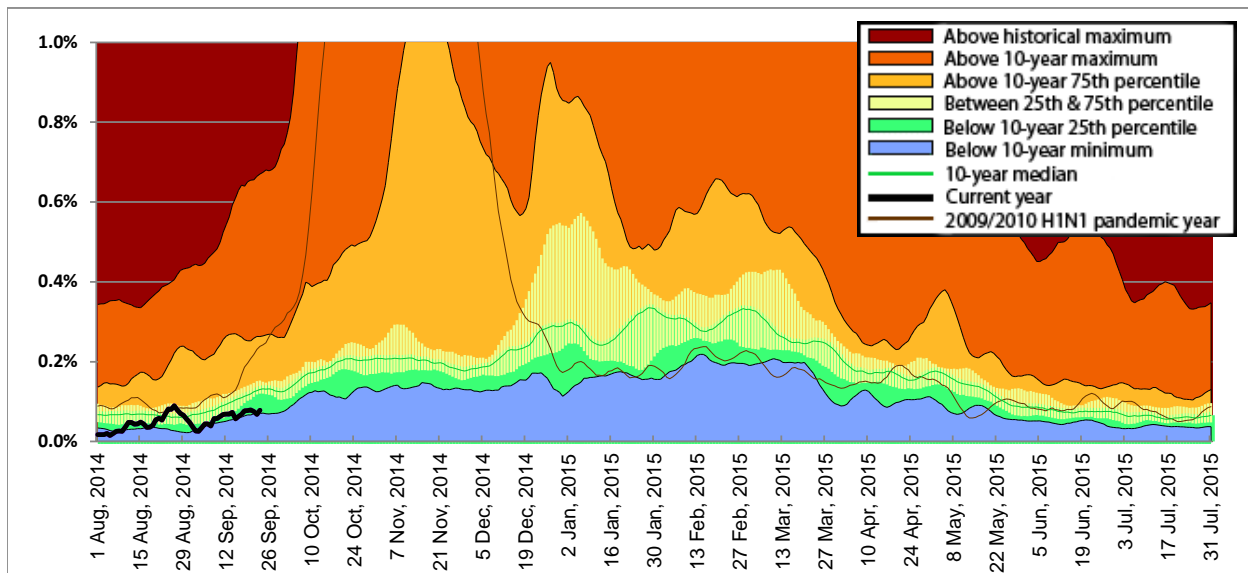
Source: BCCH Admitting, discharge, transfer database, ADT

* Data from 2010-11 to 2014-15 are based on new variable (Triage Chief Complaint) for capturing ILI symptoms and are not directly comparable to data for 2009-10. In week 9 of the 2011-12 season, the BCCH ER implemented a new data collection system the National Ambulatory Care Reporting System (NACRS); data are not directly comparable to data collected using old system.

Medical Services Plan

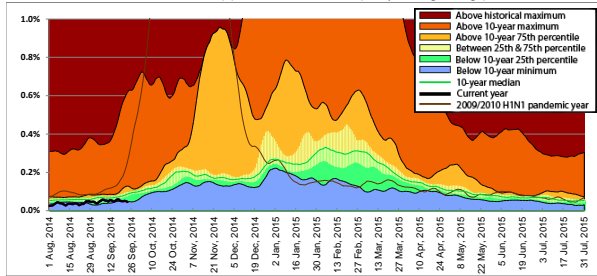
In weeks 36-38, BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, for the province overall remained below 10-year minimums during this period.

Service claims submitted to MSP for influenza illness (II)* as a proportion of all submitted general practitioner service claims, British Columbia, 2014-15

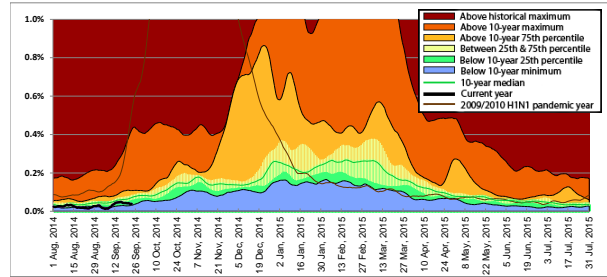


* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza). Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services.
Note: MSP week beginning 3 August 2014 corresponds to sentinel ILI week 32; data current to September 23, 2014.

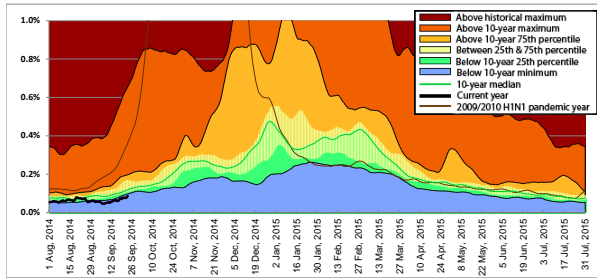
Interior



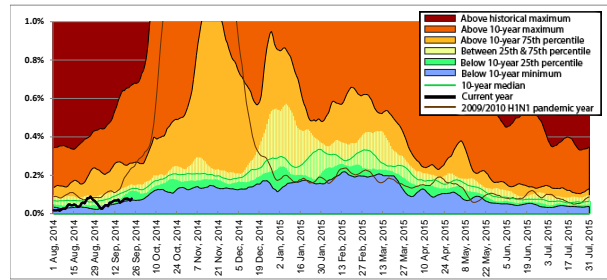
Vancouver Island



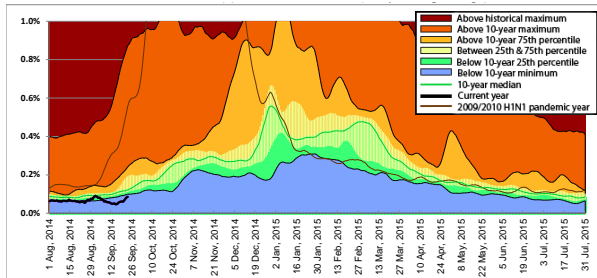
Fraser



Northern



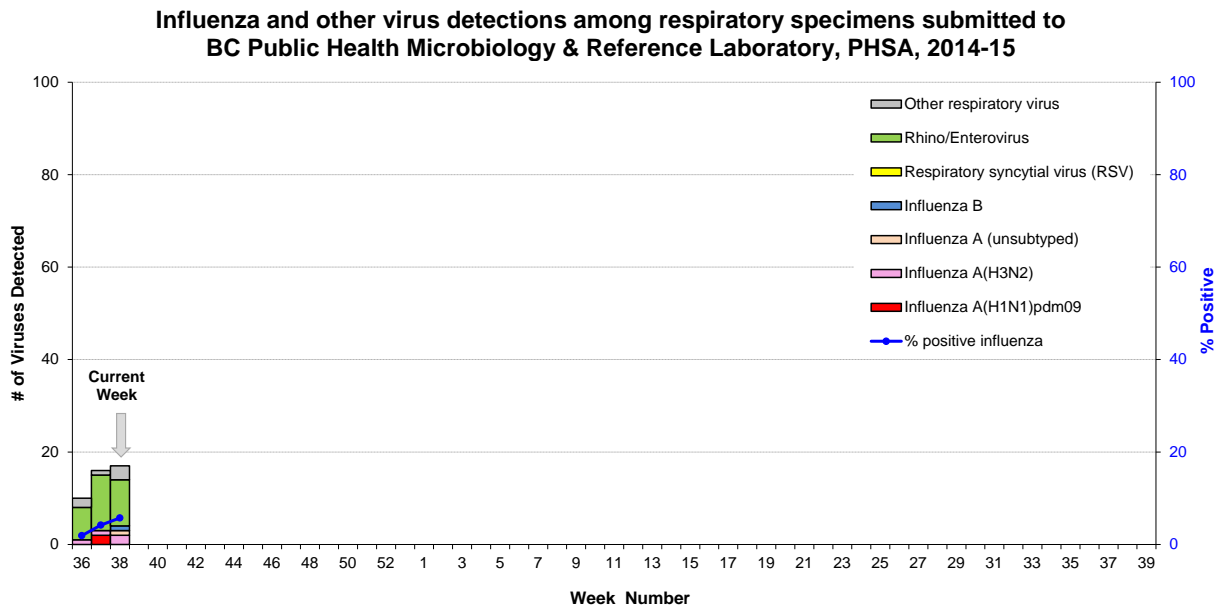
Vancouver Coastal



Laboratory Reports

BC Public Health Microbiology & Reference Laboratory (PHMRL)

In weeks 36-38, influenza activity remained at low sporadic levels, with influenza positivity ranging from 2-6% during this period. The BC Public Health Microbiology & Reference Laboratory (PHMRL) tested 192 patients for respiratory viruses in weeks 36-38. Of these, 8 (4%) were positive for influenza, including 7 (88%) influenza A [4 A(H3N2), 2 A(H1N1)pdm09, and 1 subtype pending] and 1 (13%) influenza B. Enterovirus/rhinoviruses were the most commonly detected respiratory virus.

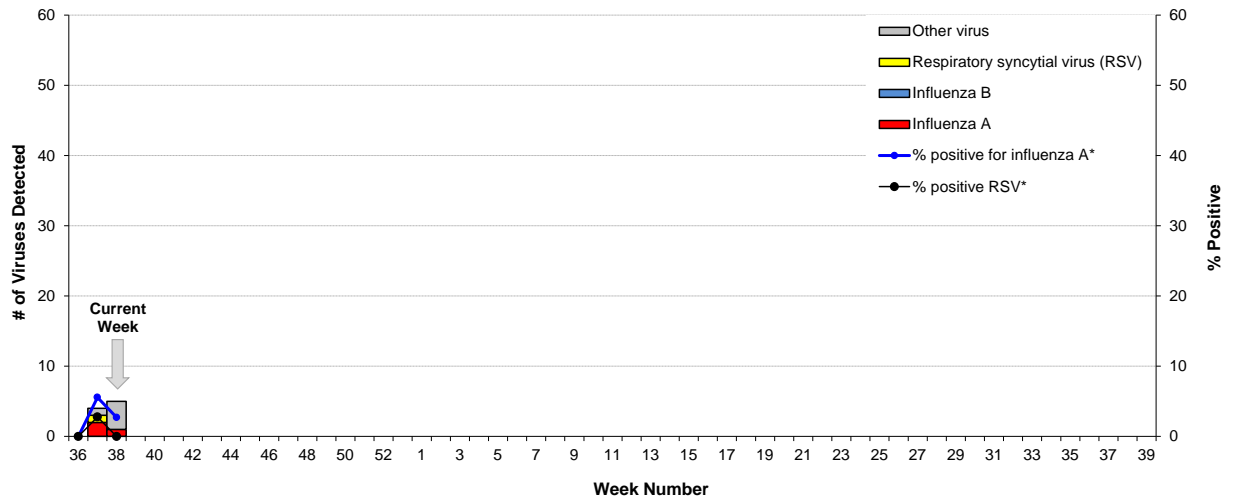


Note: Data current to September 24, 2014.

BC Children's and Women's Health Centre Laboratory

In weeks 36-38, the BC Children's and Women's Health Centre Laboratory conducted 127 tests for influenza A and 126 tests for influenza B. Of these, 3 (2%) were positive for influenza A and none were positive for influenza B. The proportion of tests positive for influenza A ranged from 0-6% during this period. Enteroviruses were the most commonly detected other respiratory virus.

Influenza and other virus detections among respiratory specimens submitted to BC Children's and Women's Health Centre Laboratory, 2014-15

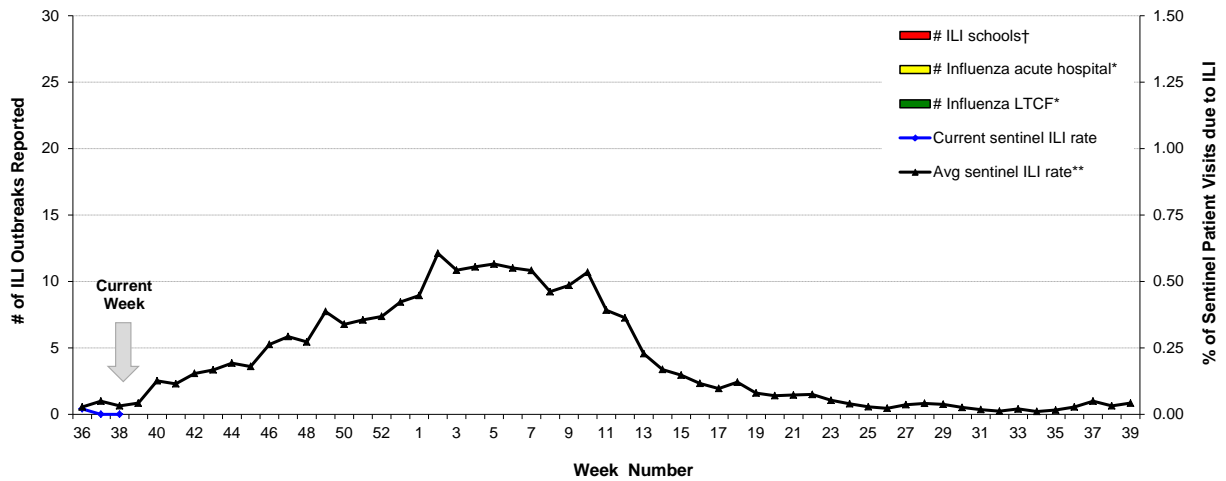


* Positive rates were calculated using aggregate data. The denominators for each rate represent the total number of tests; multiple tests may be performed for a single specimen and/or patient.

Influenza-like Illness (ILI) Outbreaks

In week 36, one ILI outbreak was reported from a long-term care facility (LTCF) in IHA with no pathogen identified. No ILI outbreaks in LTCFs were reported in weeks 37-38. One further ILI outbreak in a LTCF in IHA was reported with onset date in week 39; laboratory testing is pending. BC public schools were closed for the first three weeks of September due to a BC teacher's strike; accordingly, no school outbreaks were reported during this period.

Number of influenza-like illness (ILI) outbreaks reported, compared to current sentinel ILI rate and historical average sentinel ILI rate, British Columbia 2014-15



* 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 35-36)

Influenza activity in Canada remains at inter-seasonal levels with only sporadic detections of influenza. In weeks 35-36, 9 influenza viruses were detected, including 5 (56%) influenza A [1 A(H3N2) and 4 unsubtype] and 4 (44%) influenza B. The proportion of tests positive for influenza has remained at <1% since early July. No outbreaks or hospitalizations were reported during this period. Details are available at: <http://www.phac-aspc.gc.ca/fluwatch/14-15/index-eng.php>.

National Microbiology Laboratory (NML)

National Microbiology Laboratory (NML) reports for influenza strain characterization and antiviral drug susceptibility testing for the 2014-15 influenza season are not available at this time.

International

USA (week 37)

Influenza activity in USA remained at inter-seasonal levels. In weeks 35-37, 250 influenza positive tests were reported to the US CDC, including 183 (73%) influenza A [84 A(H3N2), 11 A(H1N1)pdm09, and 88 subtyping not performed] and 67 (27%) influenza B. Details are available at: www.cdc.gov/flu/weekly/.

WHO (as of September 22, 2014)

Globally, the influenza season was ongoing in the Southern Hemisphere. Elsewhere, influenza activity remained low, except for some tropical countries in the Americas. In Europe and North America, overall influenza activity remained at inter-seasonal levels. In tropical countries of the Americas, influenza B was predominant with co-circulation of respiratory syncytial virus (RSV). In Africa (with exception of the southern cone) and western Asia, influenza activity was low. In eastern Asia, influenza activity remained low in most countries with influenza A(H3N2) the main detected virus subtype. Influenza A(H3N2) and B activity continued in south China. In the southern hemisphere, the influenza season was ongoing. In the temperate zone of South America, influenza activity associated mainly with A(H3N2) viruses decreased. In Australia and New Zealand, the influenza season was ongoing. Australia reported continued high activity associated with A(H1N1)pdm09 and A(H3N2) viruses. In South Africa, the influenza season continued with A(H3N2) predominating. During weeks 35-36 the WHO Global Influenza Surveillance and Response System (GISRS) laboratories tested more than 22,607 specimens. Of these, 2,675 were positive for influenza viruses: 2,168 (81%) were typed as influenza A and 507 (19%) as influenza B. Of the sub-typed influenza A viruses, 529 (30%) were influenza A(H1N1)pdm09 and 1,231 (70%) were influenza A(H3N2). Of the characterized B viruses, 66 (99%) belonged to the B-Yamagata lineage and 1 (2%) to the B-Victoria lineage. Details are available at: http://www.who.int/influenza/surveillance_monitoring/updates/en/.

Emerging Respiratory Pathogens

Enterovirus D68

Beginning in mid-August 2014, children's hospitals in several U.S. cities reported clusters of severe respiratory illness in hospitalized children due to enterovirus D68 (EV-D68). Since then (as of September 25, 2014), a total of 226 cases in 38 U.S. states have been confirmed to have respiratory illness caused by EV-D68. Not unexpectedly, cases of EV-D68 have also been identified in Canada; as of September 25, 2014, the BC provincial laboratory has confirmed 8 cases of EV-D68 in BC children (age range: 0-19 years). Investigations into the early U.S. clusters suggest that children with a history of asthma or wheezing may be at higher risk for severe infection. Some children have required ICU admission and mechanical ventilation, but no deaths have been reported among recently confirmed cases in the United States or Canada. Notably, fever has not been a common symptom. EV-D68 is a rare but known non-polio enterovirus that causes mild to severe respiratory illness. It was first identified in California in 1962 but since then has only rarely been reported in the United States compared to other non-polio enteroviruses. Like other enteroviruses, EV-D68 has a late summer/fall seasonality. For more information on EV-D68: http://www.bccdc.ca/dis-cond/a-z/_e/EnterovirusD68/overview/default.htm.

For previous BCCDC updates on Emerging Respiratory Pathogens:
www.bccdc.ca/dis-cond/DiseaseStatsReports/EmergingRespiratoryVirusUpdates.htm.

WHO Recommendations for Influenza Vaccines

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 trivalent influenza vaccine (TIV):*

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

* These recommended strains are the same as those used for the 2013-14 Northern Hemisphere vaccine.

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

WHO Recommendations for 2015 Southern Hemisphere Influenza Vaccine

On September 25, 2014, the WHO announced the recommended strain components for the 2015 Southern Hemisphere trivalent influenza vaccine (TIV):

- an A/California/7/2009(H1N1)pdm09-like virus;*
- an A/Switzerland/9715293/2013(H3N2)-like virus;†
- a B/Phuket/3073/2013-like (Yamagata-lineage) virus.‡

* Recommended strain has been retained as the A(H1N1) component since the 2009 pandemic and has been included in the Southern Hemisphere vaccine since 2010 and in the Northern Hemisphere vaccine since 2010-11.

† A/South Australia/55/2014, A/Norway/466/2014 and A/Stockholm/6/2014 are A/Switzerland/9715293/2013-like viruses. Recommended strain is considered antigenically distinct from the A/Texas/50/2012-like virus recommended for the 2014-15 Northern Hemisphere vaccine and clusters within the emerging phylogenetic clade 3C.3a.

‡ Recommended strain is the same influenza B-Yamagata lineage as the B/Massachusetts/2/2012-like virus recommended for the 2014-15 Northern Hemisphere vaccine but represents a phylogenetic clade-level change from clade 2 to clade 3.

For further details: http://www.who.int/influenza/vaccines/virus/recommendations/2015_south/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

VCCHA: Vancouver Coastal Health Authority

VIHA: Vancouver Island Health Authority

WHO: World Health Organization

Current 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	<u>Reporting Information</u>		Health unit/medical health officer notified? <input type="checkbox"/> Yes <input type="checkbox"/> No
	Person Reporting: _____	Title: _____	
	Contact Phone: _____	Email: _____	
	Health Authority: _____	HSDA: _____	
	Full Facility Name: _____		
	Is this report:	<input type="checkbox"/> First Notification (<i>complete section B below; Section D if available</i>) <input type="checkbox"/> Update (<i>complete section C below; Section D if available</i>) <input type="checkbox"/> Outbreak Over (<i>complete section C below; Section D if available</i>)	

B	<u>First Notification</u>																	
	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>																
		<input type="checkbox"/> Workplace <input type="checkbox"/> School (grades:) <input type="checkbox"/> Other (_____)																
	Date of onset of first case of ILI (dd/mm/yyyy): <u>DD / MMM / YYYY</u>																	
	<table border="1" style="width: 100%; text-align: center;"> <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>			Numbers to date	Residents/Students	Staff	Total			With ILI			Hospitalized			Died		
Numbers to date	Residents/Students	Staff																
Total																		
With ILI																		
Hospitalized																		
Died																		

C	<u>Update AND Outbreak Declared Over</u>																	
	Date of onset for most recent case of ILI (dd/mm/yyyy): <u>DD / MMM / YYYY</u>																	
	If over, date outbreak declared over (dd/mm/yyyy): <u>DD / MMM / YYYY</u>																	
		<table border="1" style="width: 100%; text-align: center;"> <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>			Numbers to date	Residents/Students	Staff	Total			With ILI			Hospitalized			Died	
Numbers to date	Residents/Students	Staff																
Total																		
With ILI																		
Hospitalized																		
Died																		

D	<u>Laboratory Information</u>		
	Specimen(s) submitted?	<input type="checkbox"/> Yes (location: _____) <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, organism identified? <input type="checkbox"/> Yes (specify: _____) <input type="checkbox"/> No <input type="checkbox"/> Don't know	