

British Columbia Influenza Surveillance Bulletin

Influenza Season 2013-14, Number 02, Weeks 41-43
October 6 to October 26, 2013

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Sporadic influenza activity in BC

In weeks 41-43 (October 6 to October 26, 2013), surveillance indicators suggest sporadic influenza activity in BC. The proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians increased in week 42 then fell to below the expected range for this time of year in week 43. The proportion of emergency room visits to BC Children's Hospital decreased from week 42 to week 43 and remained within expected historical levels for this time of year. An increased proportion of Medical Services Plan claims for influenza illness was observed in recent weeks; however, in most regions, rates remained within historical norms. Two influenza viruses were detected by the provincial laboratory during this period, including one influenza B in week 41 and one influenza A(H3N2) in week 43. Rhino/enteroviruses were the predominant respiratory virus in circulation, with other respiratory viruses sporadically detected. No influenza viruses were detected at the BC Children's and Women's Centre Laboratory in weeks 41-43. No ILI outbreaks were reported during this period.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team
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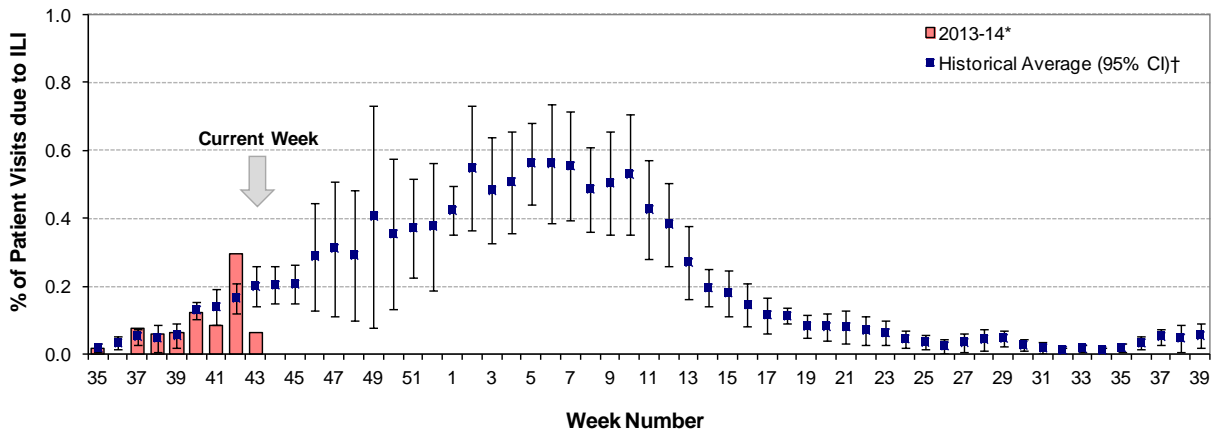
Report Disseminated: October 31, 2013

British Columbia

Sentinel Physicians

In weeks 41-43, the proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians increased to above expected seasonal levels in week 42 (0.30%) but fell to below expected levels in week 43 (0.06%). These rates, however, are subject to change as data become more complete, particularly for week 43 where only 54% of sentinel sites had reported to date. The proportion of sentinel physician sites reporting during weeks 42 and 43 were 72% and 67%, respectively.

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



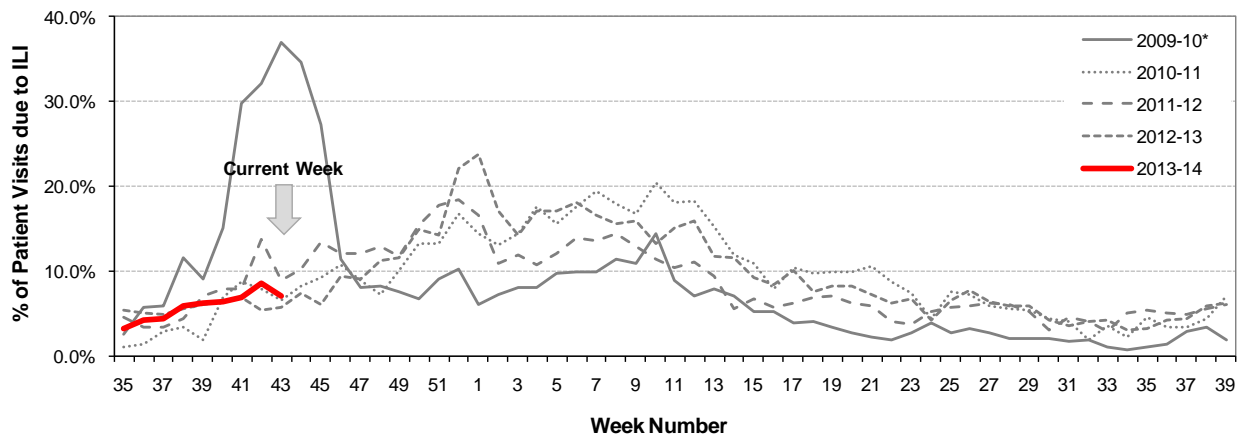
* Data are subject to change as reporting becomes more complete.

† 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

After gradually increasing for seven consecutive weeks, the proportion of BC Children's Hospital ER visits attributed to influenza-like illness showed a slight decrease from 8.6% in week 42 to 7.1% in week 43. However, rates remained consistent with those observed from this time of year in previous seasons.

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



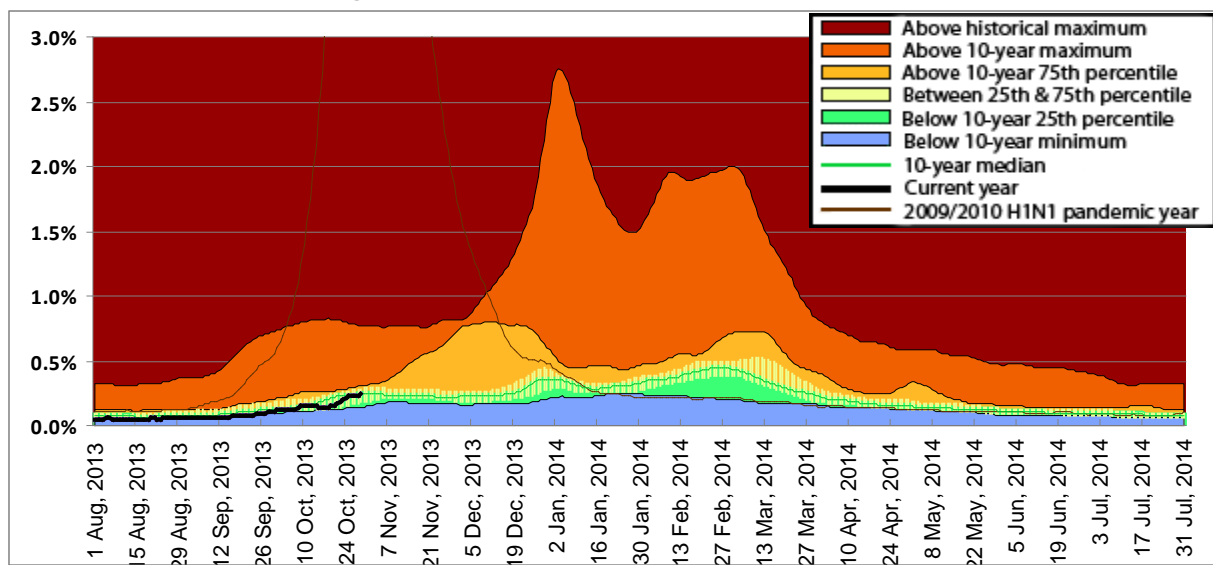
Source: BCCH Admitting, discharge, transfer database, ADT

* 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

During weeks 41-43, BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, increased slightly in recent weeks but remained around the 10-year median level provincially and in most Health Authorities. One exception was Northern Health Authority, where a sharp spike in MSP claims was observed during a single day in week 41. Further investigation, however, indicated that this atypical spike likely represented a surveillance artefact.

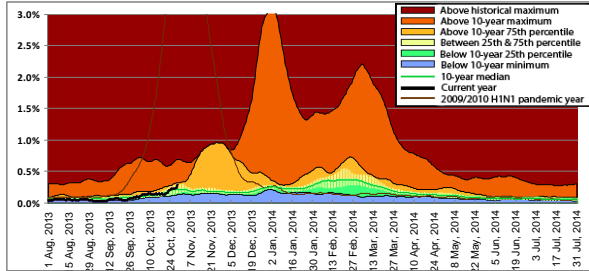
Service claims submitted to MSP for influenza illness (II)* as a proportion of all submitted general practitioner service claims, British Columbia, 2013-14



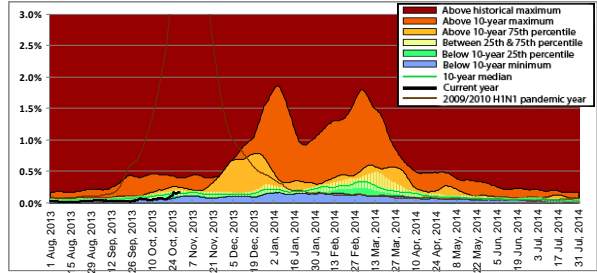
* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza). Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services

Note: MSP week beginning 1 August 2013 corresponds to sentinel ILI week 31; Data current to 30 October 2013.

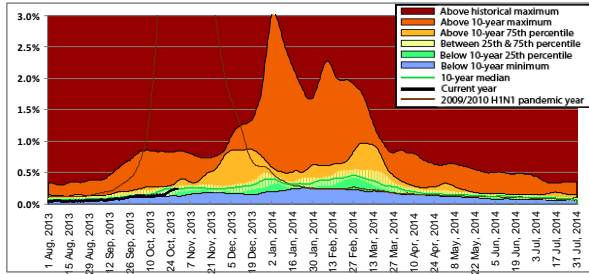
Interior



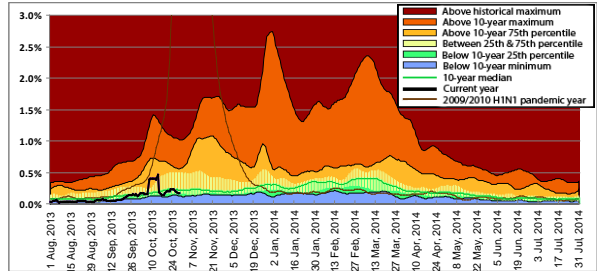
Vancouver Island



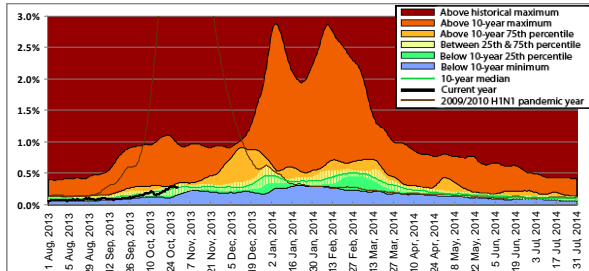
Fraser



Northern



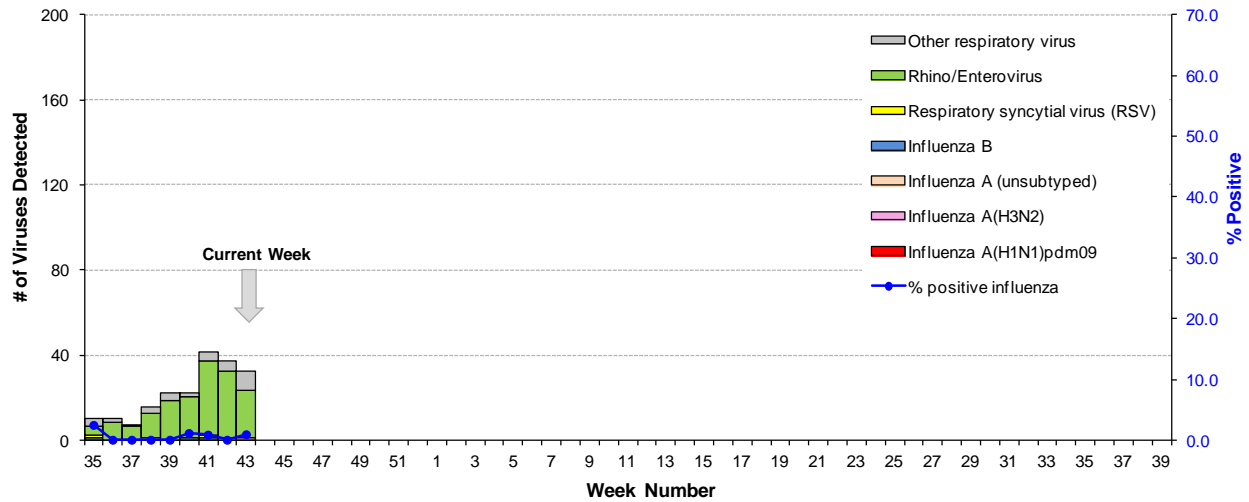
Vancouver Coastal



Laboratory Reports

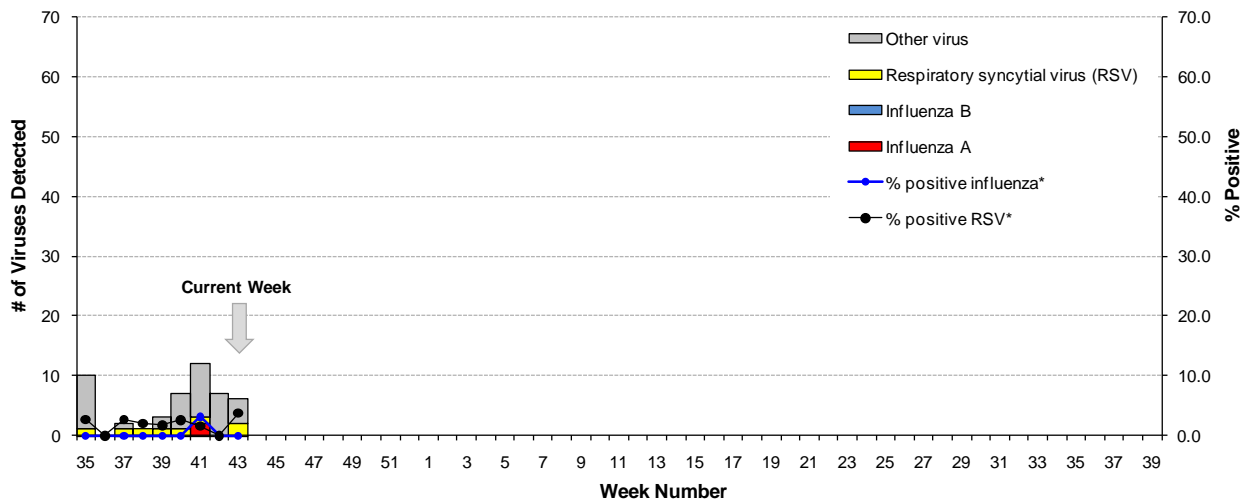
In weeks 41-43, 335 respiratory specimens were tested for influenza A and B viruses by the BC Public Health Microbiology & Reference Laboratory, PHSA. Of these, 2 (0.6%) were positive for influenza viruses, including one influenza B virus from FHA in week 41 and one influenza A(H3N2) virus from VIHA in week 43. Rhino/enteroviruses continued to be the most commonly detected respiratory viruses during this period; other respiratory viruses were also sporadically detected.

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



In weeks 41-43, 173 respiratory specimens were tested at the BC Children's and Women's Health Centre Laboratory; 2 (1.1%) were positive for influenza A (un-subtyped) in week 41 and 3 (1.7%) were positive for respiratory syncytial virus (RSV) in weeks 41 and 43. Among other viruses detected during this period, parainfluenza was the most common.

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

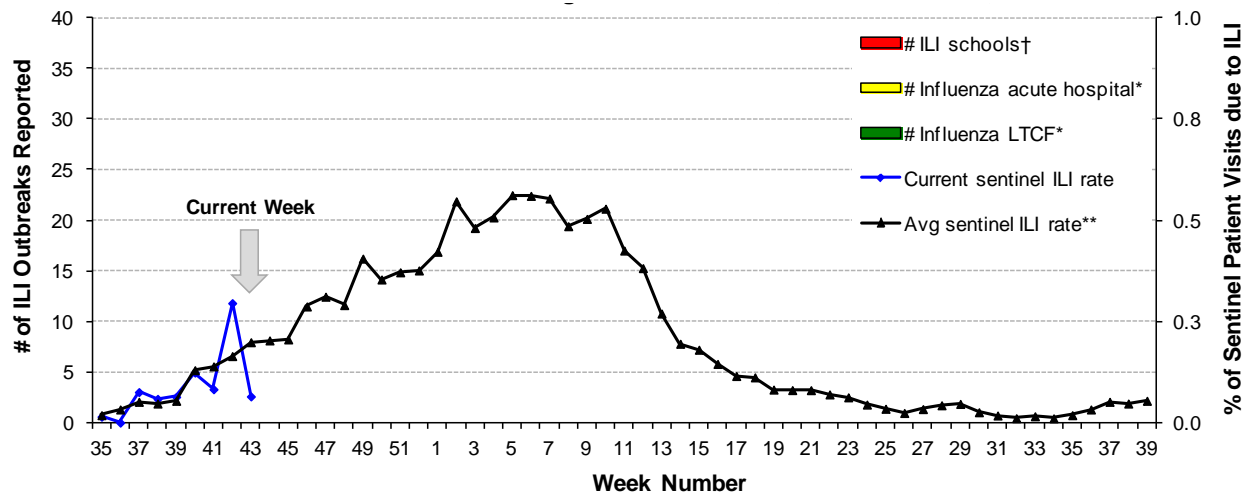


* Positive rates were calculated using aggregate data. The denominators for each rate represent the total number of tests; multiple tests may be performed for a single specimen and/or patient.

ILI Outbreaks

In weeks 41-43, no ILI 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.

National

FluWatch (week 42):

In Canada, influenza activity remained at inter-seasonal levels in week 42, with sporadic activity reported in regions in Alberta, Ontario and Quebec. Few laboratory detections of influenza have been reported to date this season; rhinovirus and parainfluenza were the predominant respiratory viruses in circulation in week 42. The ILI consultation rate has followed a gradual upward trend over the past five weeks. No new influenza outbreaks were reported in week 42. Details are available at www.phac-aspc.gc.ca/fluwatch/13-14/w42_13/index-eng.php.

National Microbiology Laboratory (NML): Strain Characterization

From September 1 to October 31, 2013, 6 isolates were collected from provincial and hospital labs and characterized at the NML as follows:

- 2 A/Victoria/361/2011-like (H3N2)[¶] from ON and AB;
- 2 A/California/07/09-like [A(H1N1)]^{*} from NB and ON;
- 2 B/Massachusetts/02/12-like[†] from ON and AB;

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

^{*} indicates virus most closely related to the recommended H1N1 vaccine reference virus for the 2013-14 northern hemisphere influenza vaccine.

[†] belongs to the B Yamagata lineage, which was the recommended influenza B component for the 2013-14 northern hemisphere influenza vaccine.

NML: Antiviral Resistance

From September 1, 2013 to October 31, 2013, four influenza A (2 H3N2 and 2 H1N1) viruses were tested for resistance to amantadine at the National Microbiology Laboratory (NML); all tested viruses were found to be resistant. Six influenza viruses (2 H3N2, 2 H1N1, and 2 B) were tested for resistance to oseltamivir; all were sensitive. Six influenza viruses (2 H3N2, 2 H1N1, and 2 B) were tested for resistance zanamivir; all were sensitive.

International

USA (week 42): Influenza activity in the United States remains low in week 42. Of the 3,513 specimens tested, 135 (3.8%) were positive for influenza viruses, of which 83.0% were influenza A (13.4% A(H1N1)pdm09, 3.6% A(H3N2), 83.0% un-subtyped) and 17.0% were influenza B. Details are available at: www.cdc.gov/flu/weekly/.

WHO (as of October 24, 2013): In the Northern Hemisphere temperate zones, influenza activity remained low, while influenza-like illness activity started to increase in many European countries. In the regions of tropical Asia, influenza activity was variable from country to country, with co-circulation of influenza A(H3N2) and influenza B viruses. Influenza detections decreased in Thailand and Hong Kong, but increased in Viet Nam and the south of China. In the Caribbean region of Central America and tropical South America, reported cases of influenza A remained at low levels in most regions. In the temperate countries of South America and in South Africa, influenza activity peaked in late June. Co-circulation of influenza B and A(H3N2) viruses were reported in most countries. In Australia and New Zealand, the number of influenza viruses detected and rates of influenza-like illness decreased. Co-circulation of influenza A(H1N1)pdm09, A(H3N2) and B viruses was reported in both countries. Details are available at: www.who.int/influenza/surveillance_monitoring/updates/en/.

Avian Influenza A(H7N9) Virus: Since its emergence in February 2013, 138 human cases of avian influenza A(H7N9) have been reported, including 45 deaths. The age and sex distribution of human cases of H7N9 is skewed toward older adult males; 70% of cases with known sex are male, and the median age is ~60 years (range: 2-91 years). Cases have been reported from a wide geographic area in eastern China, covering 12 provinces in mainland China and Taiwan. Two laboratory-confirmed cases were reported from Zhejiang province in China in October 2013, following a period of inactivity in late August and September. These most recent cases, combined with the natural seasonality of influenza in temperate regions and ongoing circulation of the low-pathogenic avian-origin H7N9 virus in poultry, raises concerns about a possible re-emergence of this virus in fall/winter months. However, the overall risk assessment remains unchanged at this time. Evidence available so far in the ongoing investigation suggests primarily bird-to-person and limited (but not sustained) person-to-person transmission. Details are available at: www.who.int/influenza/human_animal_interface/influenza_h7n9.

Middle East Respiratory Syndrome Coronavirus (MERS-CoV): As of October 31, 2013, the WHO had been informed of a total of 149 lab-confirmed cases and 63 deaths. Five countries in the Middle East have been affected, including the Kingdom of Saudi Arabia (which accounts for ~80% of case reports), the United Arab Emirates, Jordan, Qatar, and, most recently, Oman. Cases range in age from 2 to 94 years (median: 53 years), and over 60% of cases are male. The majority of primary cases have presented with severe respiratory illness, with complications including renal failure and acute respiratory distress syndrome (ARDS) with shock. Diarrhoea has also been commonly reported. Chronic comorbidities have been reported in the majority of primary cases and are associated with more severe disease presentation and fatal outcomes. Mild or asymptomatic infections have been detected during screening of close contacts of confirmed cases. Some limited person-to-person spread in household or health care settings is evident but sustained community transmission has not been observed at this time. Additional MERS-CoV details are available at: www.who.int/csr/disease/coronavirus_infections/en/index.html.

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
RSV: Respiratory syncytial virus
VCHA: Vancouver Coastal Health Authority
VIHA: Vancouver Island Health Authority
WHO: World Health Organization

Web Sites:

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</u> / <u>MMM</u> / <u>YYYY</u>

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

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