

British Columbia Influenza Surveillance Bulletin

Influenza Season 2013-14, Number 19, Weeks 19-35

May 4 to August 30, 2014

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End-of-Summer Update: Influenza Activity at Inter-seasonal Levels

Over the spring-summer period spanning weeks 19-35 (May 4 to August 30, 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 was detected at low sporadic levels throughout the summer period, mostly influenza B and A(H3N2). Overall influenza percent positivity remained at low levels, averaging 5.1% for weeks 19-35. Enteroviruses were the most commonly detected respiratory viruses over this period.

One lab-confirmed influenza A(H3N2) outbreak has recently been reported from a long-term care facility in VCHA with symptom onset in week 33 (week of August 10-16).

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team
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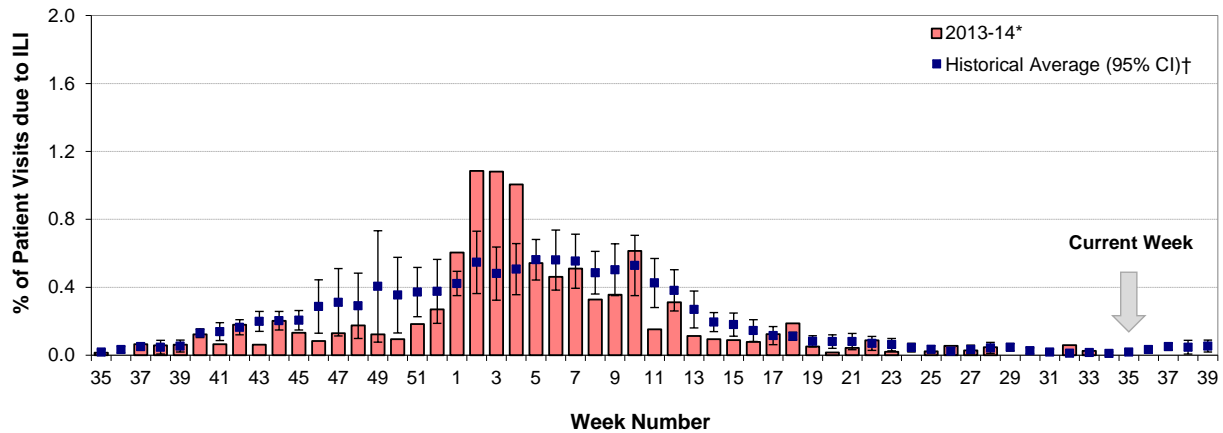
Report Disseminated: September 4, 2014

British Columbia

Sentinel Physicians

In weeks 19-35, the proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians remained at low levels (<0.1%), consistent with historical averages for this period. On average, 58% (range: 32-73%) of sentinel physicians reported data each week during weeks 19-35.

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

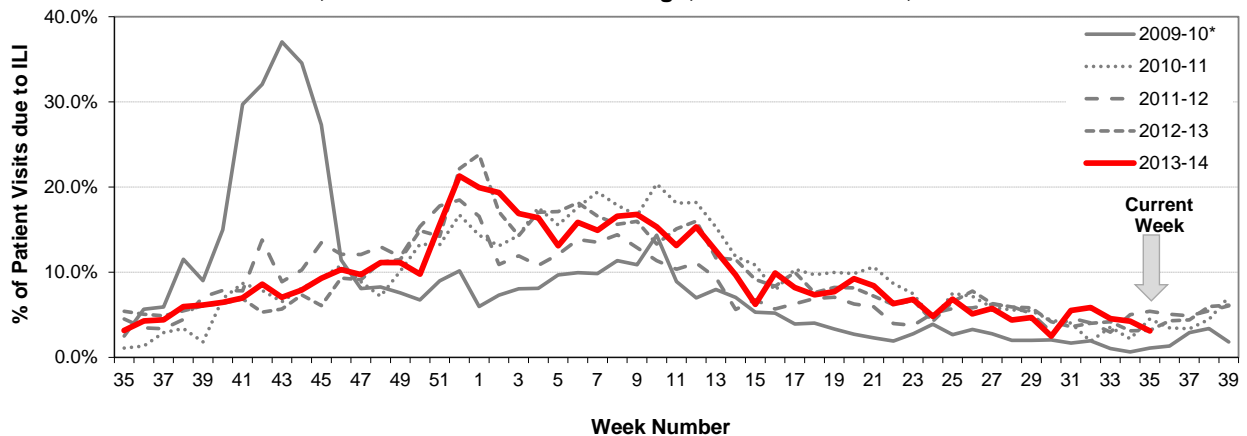


* Data are subject to change as reporting becomes more complete.
† Historical average based on 2001-02 to 2012-13 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

BC Children’s Hospital Emergency Room

In weeks 19-35, the proportion of visits to BC Children’s Hospital Emergency Room (ER) attributed to ILI ranged from 2.5% to 9.2%, consistent with 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

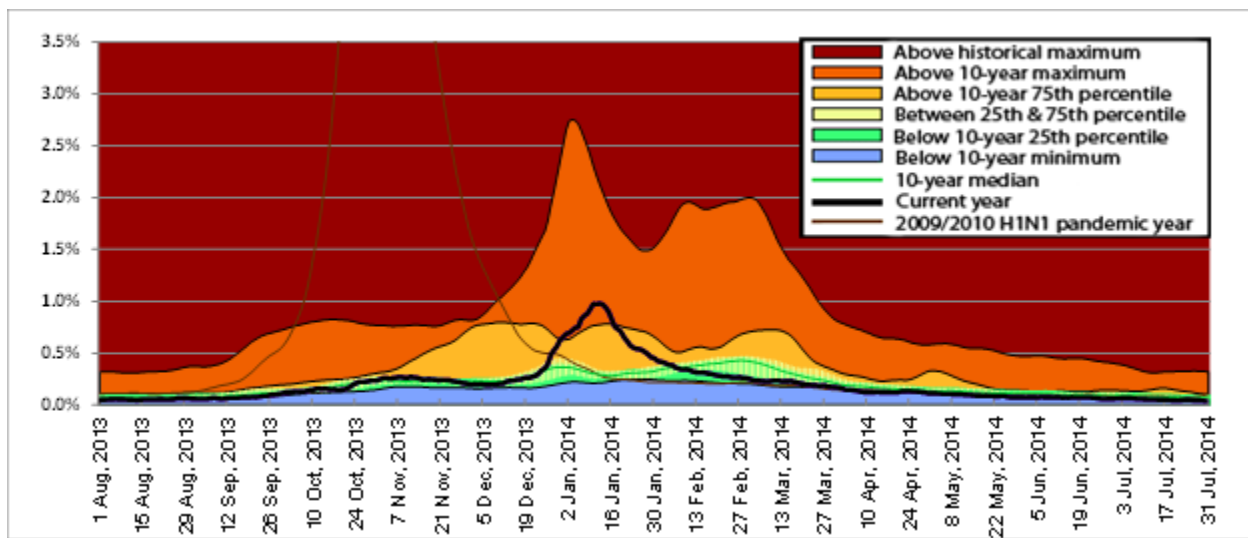


Source: BCCH Admitting, discharge, transfer database, ADT
* Data from 2010-11 to 2013-14 is based on new system (Triage Chief Complaint) not directly comparable to data for 2009-10. In bulletins before week 9 of 2011-12 season, data is based on old system.

Medical Services Plan

BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, have remained below 10-year minimums throughout the province over the spring-summer months.

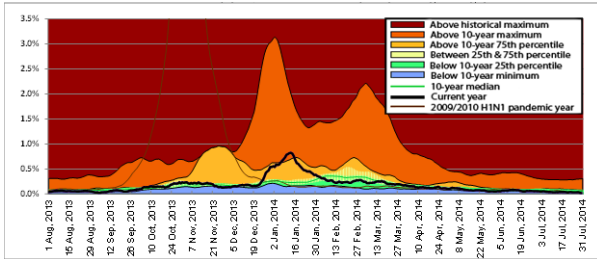
Service claims submitted to MSP for influenza illness (II)* as a proportion of all submitted general practitioner service claims, British Columbia, 2013-14



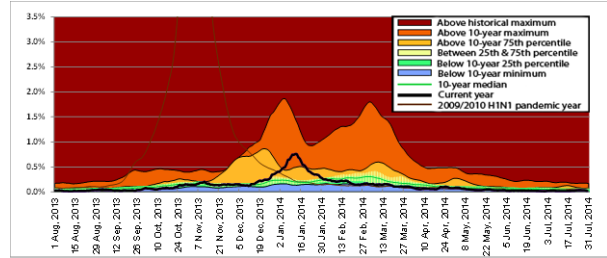
* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza). Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services

Note: MSP week beginning 1 August 2013 corresponds to sentinel ILI week 31; data current to 30 July 2014.

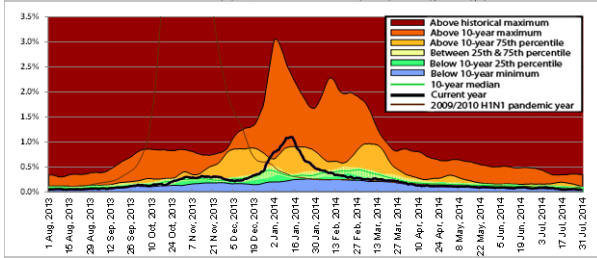
Interior



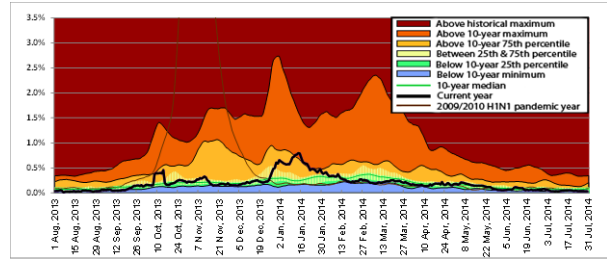
Vancouver Island



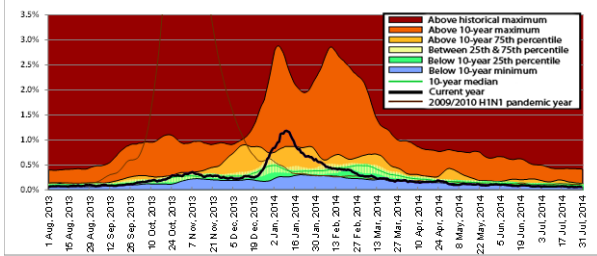
Fraser



Northern



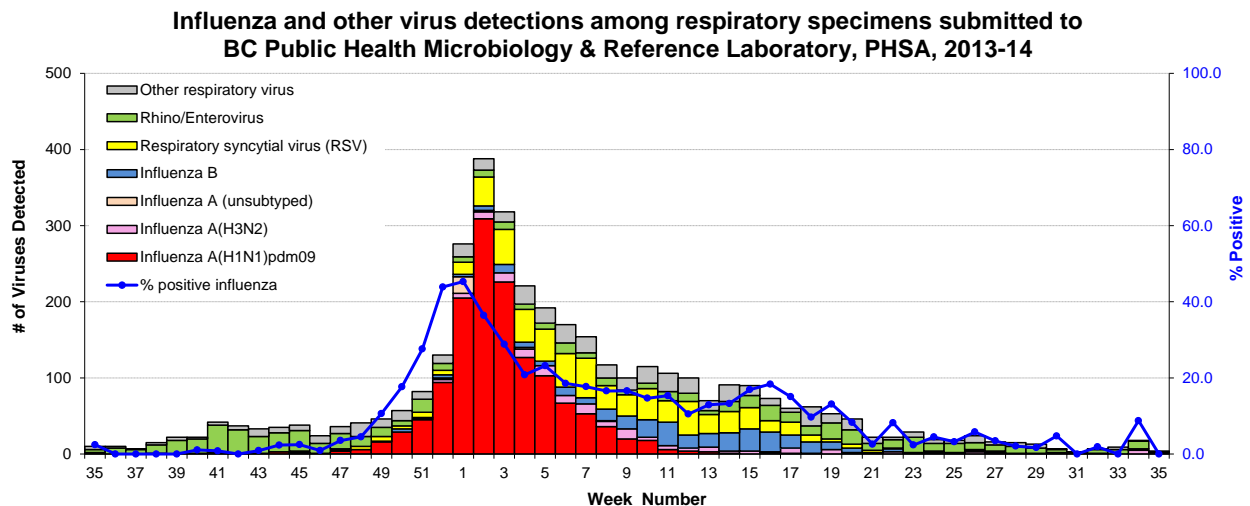
Vancouver Coastal



Laboratory Reports

The proportion of specimens testing positive for influenza at the BC Public Health Microbiology & Reference Laboratory (PHMRL), PHSA, has remained at inter-seasonal levels, averaging 5% during weeks 19-35 and remaining <5% since week 23, with the exception of week 33 when a cluster of influenza A(H3N2) viruses was detected associated with a long-term care facility outbreak in VCHA. Influenza viruses continued to be identified during the summer months, reflecting the tail-end of a late-season influenza B wave in earlier weeks and with ongoing A(H3N2) detections. Out of 1097 specimens tested, 56 (5%) were positive for influenza, including 26 (46%) influenza B and 30 (54%) influenza A [28 A(H3N2) and 2 A(H1N1)pdm09]. Enteroviruses were the most commonly detected respiratory viruses during this period, with other respiratory viruses sporadically detected.

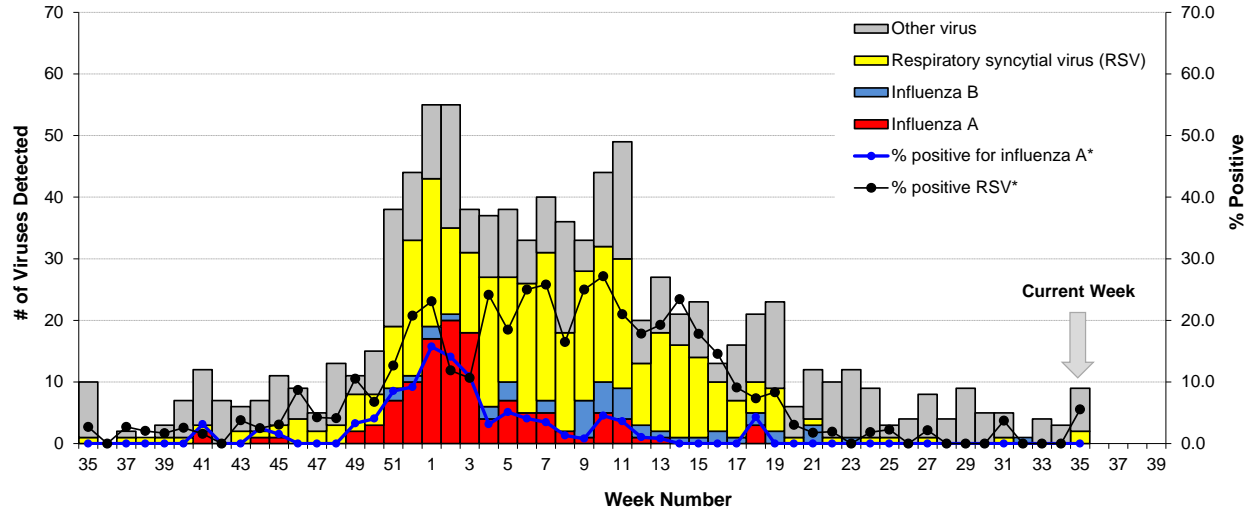
The 2013/14 influenza season in BC, as elsewhere in North America, was characterized by resurgent and dominant influenza A(H1N1)pdm09 activity, followed by late-season circulation of influenza B viruses. Since week 40 (September 29 – October 5, 2013), 1,900 specimens have tested positive for influenza at the BC PHMRL. Of the 1,871 specimens with subtype information available, 1,381 (74%) were influenza A(H1N1)pdm09, 167 (9%) were influenza A(H3N2), and 323 (17%) were influenza B.



Note: PHMRL data current to September 3, 2014.

In weeks 19-35, 1% (7/736) of tests were positive for influenza B at the BC Children's and Women's Health Centre Laboratory; conversely, no influenza A virus was detected. Parainfluenza viruses were the most commonly detected respiratory viruses over this period.

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



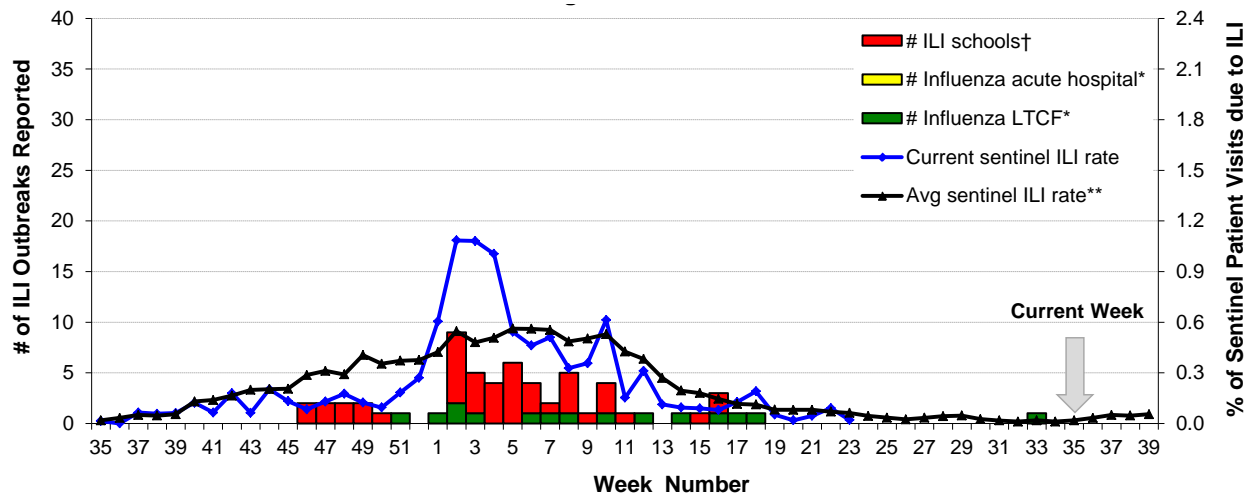
* Positive rates were calculated using aggregate data. The denominators for each rate represent the total number of tests; multiple tests may be performed for a single specimen and/or patient.

Influenza-like Illness (ILI) Outbreaks

In weeks 19-35, 5 ILI outbreaks were reported from long-term care facilities (LTCF), including one due to lab-confirmed influenza A(H3N2) in VCHA in week 33 (week of August 10-16), 3 due to entero/rhinovirus in IHA, and one with no pathogen identified in VIHA.

In total during the 2013/14 season, 55 LTCF ILI outbreaks were reported, of which 15 were due to influenza viruses: 6 due to A(H1N1)pdm09 (2 in FHA, 3 in IHA, and 1 in VCHA); 5 due to A(H3N2) (3 in FHA, 1 in VIHA, 1 in VCHA); 1 influenza A with subtype unknown due to insufficient viral copies in IHA; and 3 influenza B in FHA. In addition, 46 ILI outbreaks were reported from schools, 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 (weeks 33-34):

In weeks 33-34, influenza activity in Canada remained at expected levels for this time of year, with <1% of tests positive for influenza in recent weeks. Over the past 8 weeks, 91 influenza detections were reported, of which 67% were influenza A and 37/44 (84%) of those subtyped were influenza A(H3N2). Other respiratory virus detections (RSV, coronavirus, and human metapneumovirus) were also at expected levels. Detections of parainfluenza and adenovirus have decreased in this reporting period. In weeks 19-34, 17 influenza outbreaks in LTCFs were reported nationally; of these, almost all occurred earlier in the summer (weeks 19-23), with only one LTCF outbreak reported recently in week 33 in BC. Details are available at: http://www.phac-aspc.gc.ca/fluwatch/13-14/w34_14/index-eng.php.

National Microbiology Laboratory (NML): Strain Characterization

From September 1, 2013 to August 31, 2014, 2,491 isolates were collected from provincial and hospital laboratories for antigenic characterization at the NML:

- 191 A/Texas/50/2012-like A(H3N2)[¶] from NS, NB, QC, ON, MB, SK, AB, BC and YT; one virus showed reduced titres with antiserum produced against A/Texas/50/2012
- 1,402 A/California/07/2009-like [A(H1N1)pdm09]^{*} from NL, PE, NS, NB, QC, ON, MB, SK, AB, BC, NT and NU; 2 viruses showed reduced titres with antiserum produced against A/California/7/2009
- 865 B/Massachusetts/02/2012-like[†] from NL, PE, NS, NB, QC, ON, MB, SK, AB, BC, NT and NU
- 30 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 August 31, 2014, drug susceptibility testing was performed at the NML for influenza viruses: 1,699 influenza A [239 A(H3N2) and 1,460 A(H1N1)pdm09] viruses were tested for resistance to amantadine; 2,496 influenza viruses [187 A(H3N2), 1,412 A(H1N1)pdm09, and 897 B] were tested for resistance to oseltamivir; and 2,493 influenza viruses [185 A(H3N2), 1,413 A(H1N1)pdm09, and 895 B] were tested for resistance to zanamivir. All tested influenza A viruses were resistant to amantadine. All but 5 tested viruses were sensitive to oseltamivir; of the 5 resistant viruses, all were A(H1N1)pdm09 with a H275Y mutation. All viruses were sensitive to zanamivir.

International

USA (week 34 ending August 23, 2014): Overall, influenza activity in USA remained at inter-seasonal levels, with co-circulation of influenza A, predominantly A(H3N2), and influenza B. Details are available at: www.cdc.gov/flu/weekly/.

WHO (as of 11 August 2014): Globally influenza activity continued to increase in the southern hemisphere. In Europe and North America, overall influenza activity remained at inter-seasonal levels. In eastern Asia, influenza activity reached inter-seasonal levels in most countries with influenza A(H3N2) and influenza B virus predominating. Influenza activity still continued in the south region of China mainly due to influenza A(H3N2) viruses. In Africa and western Asia, influenza activity was low. In the southern hemisphere, influenza activity continued to increase in most countries. In the temperate zone of South America, influenza-like illness continued to increase, but was predominantly due to respiratory syncytial virus (RSV). Influenza A(H3N2) was the most commonly detected influenza virus. In Australia and New Zealand, the influenza season seemed to have started with increased influenza-like illness and an increasing number of influenza detections reported. Influenza A(H1N1)pdm09 was the most commonly detected virus. In South Africa, the influenza detection rate increased with influenza A(H3N2) the most frequently detected virus. During weeks 29-30, the WHO Global Influenza Surveillance and Response System (GISRS) laboratories tested more than 16,203 specimens. Of these, 1,579 were positive for influenza viruses: 1,274 (81%) were typed as influenza A and 305 (19%) as influenza B. Of the subtyped influenza A viruses, 426 (43%) were influenza A(H1N1)pdm09 and 568 (57%) were influenza A(H3N2). Of the characterized B viruses, 21 (57%) belonged to the B-Yamagata lineage and 16 (43%) to the B-Victoria lineage. Details are available at: http://www.who.int/influenza/surveillance_monitoring/updates/2014-08_11_update_GIP_surveillance/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	<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 (if ward or wing, please specify name/number: _____)
	<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>

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>

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