BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2012-13: Number 20, Weeks 16-24

April 14 to June 15, 2013

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

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Low-level influenza activity in BC

Contents:

Summary

In weeks 16-24 (April 14 to June 15, 2013), influenza activity in BC remained low. The proportion of medical visits with an influenza diagnosis was below the seasonal norm throughout the province. The proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians was generally within the expected range for this time of year. BC Children's Hospital Emergency Room also reported declining ILI consultations. Respiratory virus detections and influenza positive rates declined to low levels over this period. The predominant respiratory virus reported by the provincial laboratory at the beginning of the period was influenza B, while rhino/enterovirus predominated in recent weeks. At the BC Children's and Women's Centre Laboratory, few influenza viruses were detected. Two lab-confirmed influenza B outbreaks were reported from long-term care facilities in Interior Health Authority in week 16, since which no lab-confirmed outbreaks have been reported. In total for the 2012-13 season, 91 long-term care facility lab-confirmed influenza outbreaks were recorded in BC (predominantly A/H3N2), the highest in the past decade, exceeding the next highest number during the 2004-05 season (68) by about a third, and exceeding several-fold the number recorded during the milder post-pandemic seasons of 2010-11 (13) and 2011-12 (30). This is consistent with other surveillance findings indicating a generally more severe influenza season during 2012-13. Updated information related to recently emerging H7N9 and MERS-CoV zoonotic infections is also included in this bulletin, with relevant web links.

Report disseminated June 21, 2013

Contributors: Helen Guiyun Li, Lisan Kwindt, Danuta Skowronski

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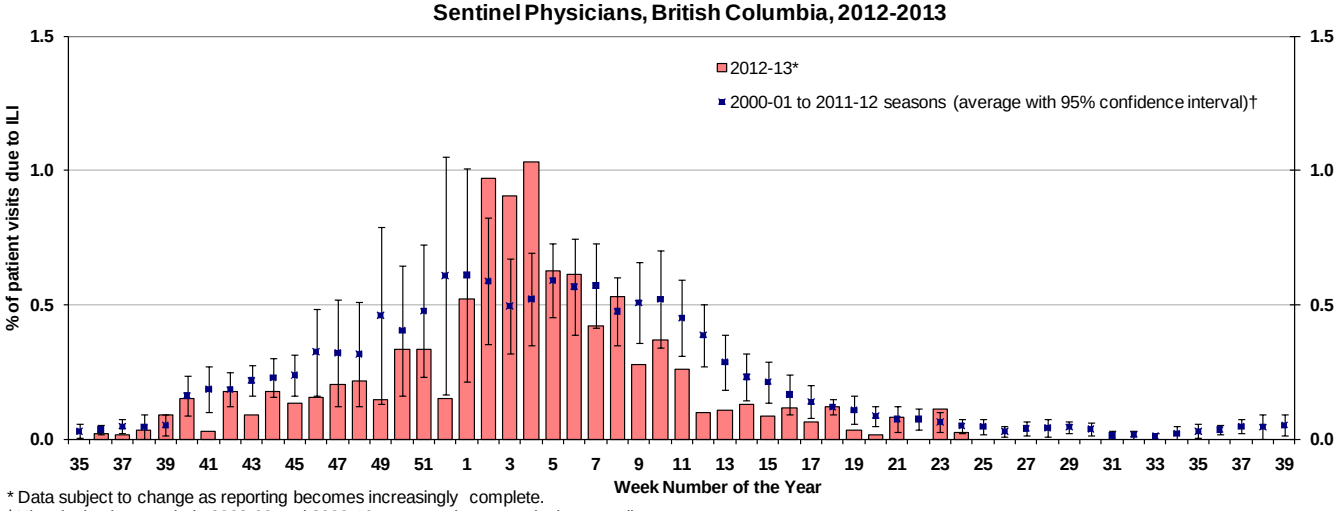
British Columbia

Sentinel Physicians

In weeks 16-24, the proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians was less than 0.12%, generally within the expected range for this time of year. During this inter-seasonal period, reporting (especially of uneventful weeks) may be delayed, resulting in the temporary appearance of increased ILI rate as in week 23 (0.11%). To date at least 57% of sentinel physician sites have reported for each of the weeks 16-24.

Percentage of Patient Visits due to Influenza Like Illness (ILI) per Week Compared to Average Percentage of ILI Visits for the Past 10 Seasons Sentinel Physicians, British Columbia, 2012-2013

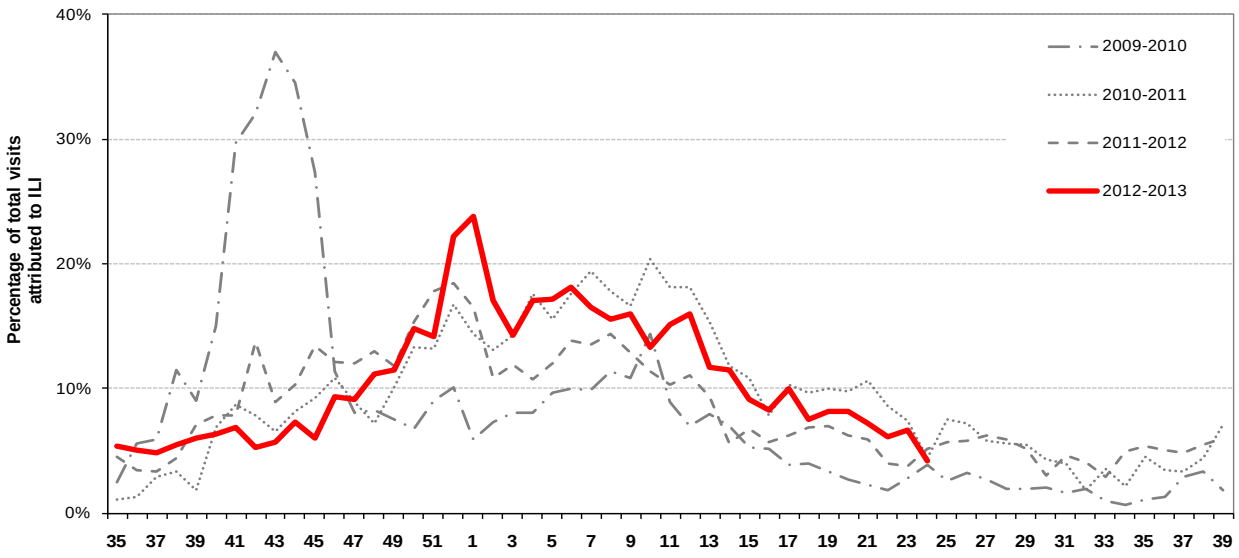


* Data subject to change as reporting becomes increasingly complete.
† Historical values exclude 2008-09 and 2009-10 seasons due to atypical seasonality.

BC Children's Hospital Emergency Room

The proportion of BC Children's Hospital ER visits attributed to "fever and cough" or flu-like illness ranged from10.0% to 4.2% in weeks 16-24, in a gradually declining trend consistent with the expected level for this time of year.

Percentage of Patients Presenting to BC Children's Hospital ER with Presenting Complaint (Triage Chief Complaint) of "Flu," "Influenza," or "Fever/Cough", by Week

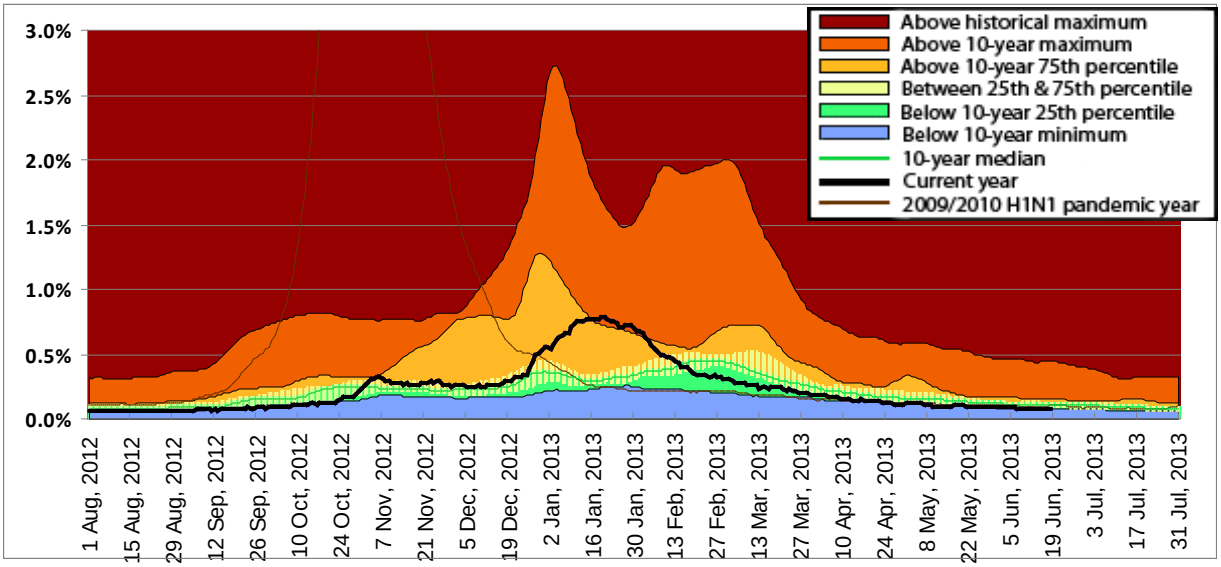


Source: BCCH Admitting, discharge, transfer database, ADT
Note: Data from 2010-11 and 2011-12 is based on new system (Triage Chief Complaint) not directly comparable to data for 2009-10. In bulletins before week 9 of 2011-12 season, data is based on old system.

Medical Services Plan

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims were below the 10-year median level throughout the province since week 16.

Influenza Illness Claims* British Columbia



* 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
Notes: MSP week beginning 1 August 2012 corresponds to sentinel ILI week 31; Data current to 18 June 2013.

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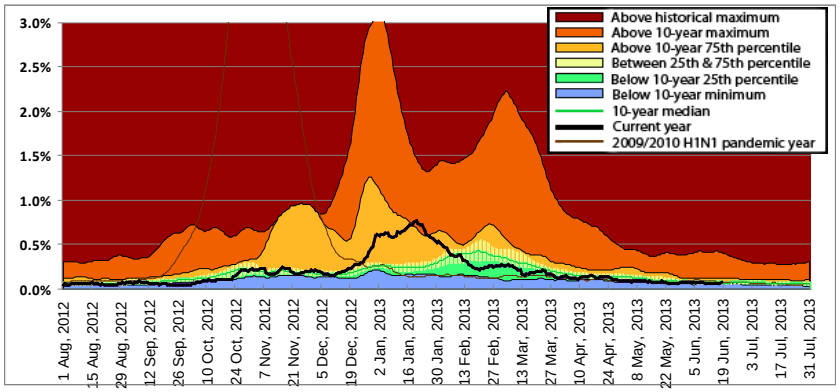
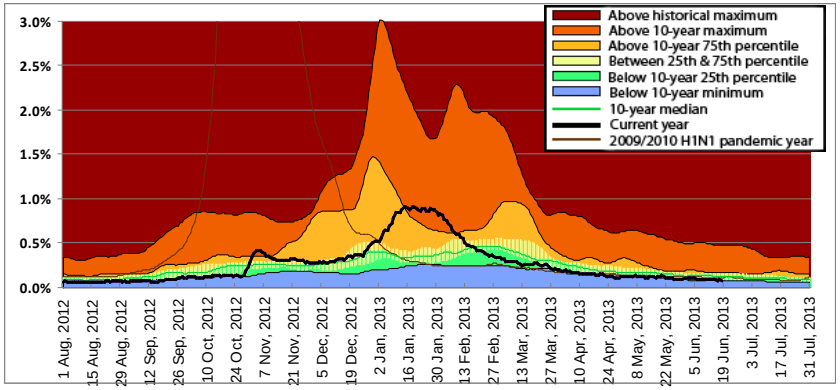
April 14 to June 15, 2013

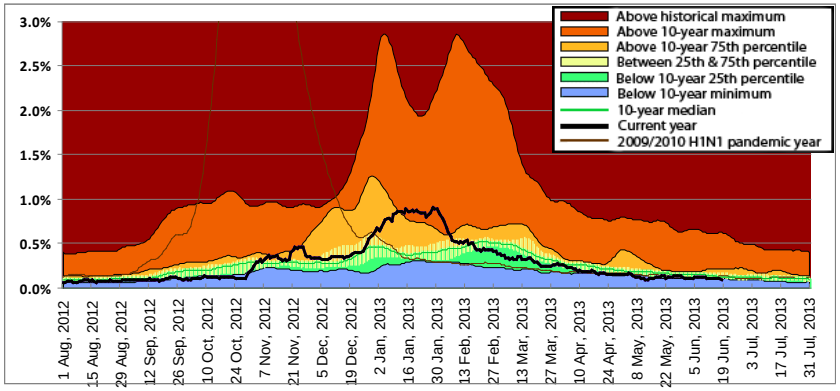
Interior



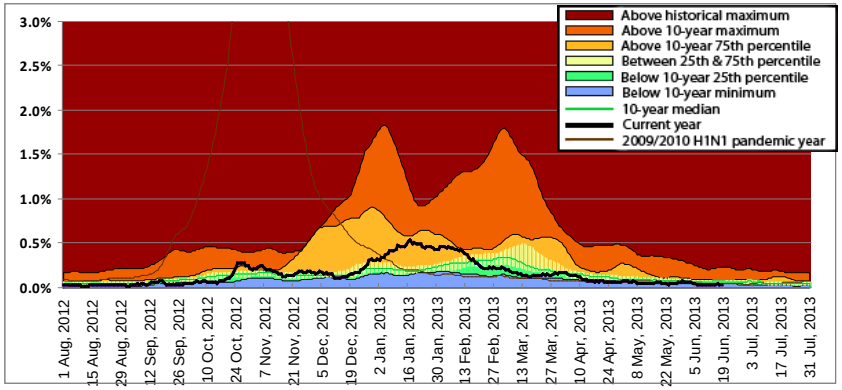
Fraser



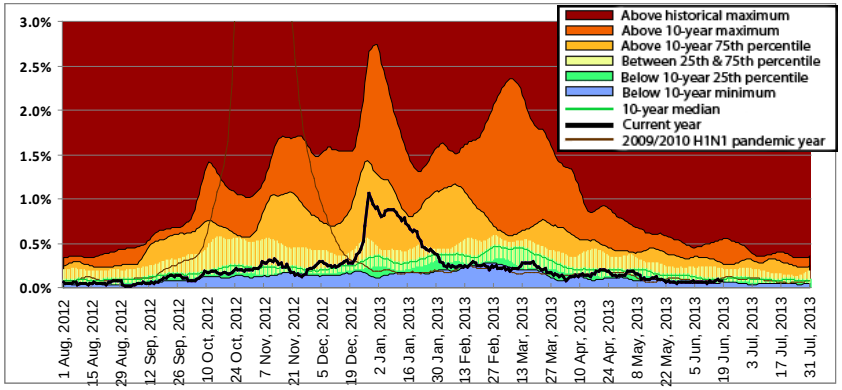
Vancouver Coastal



Vancouver Island

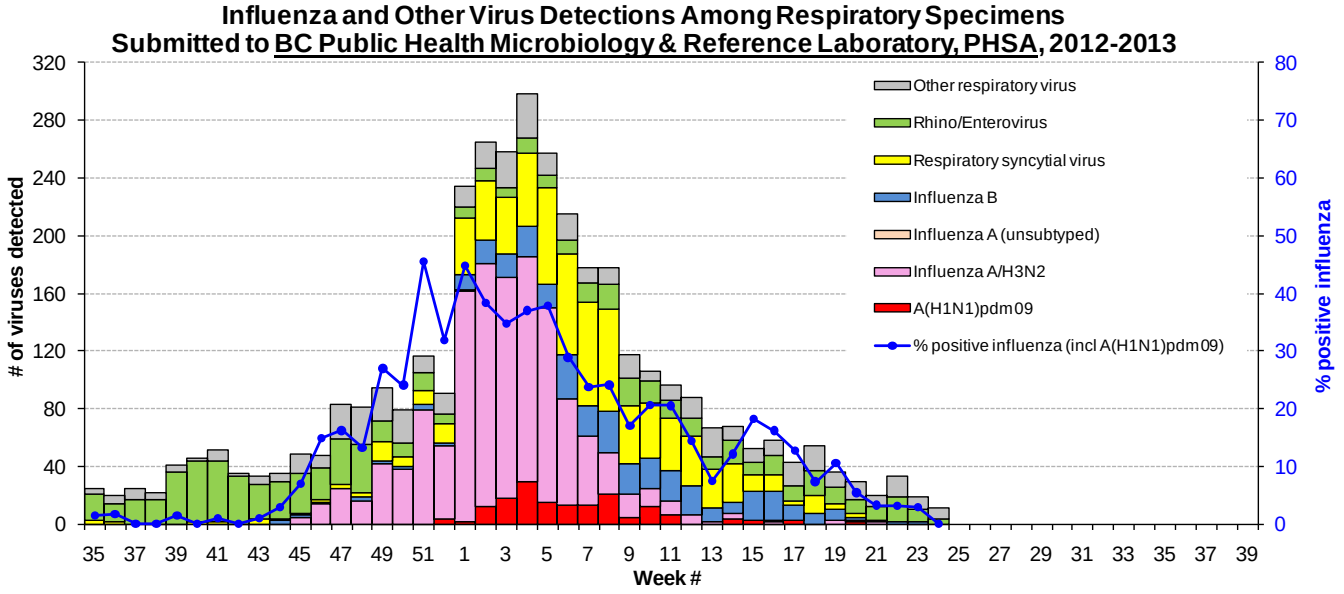


Northern

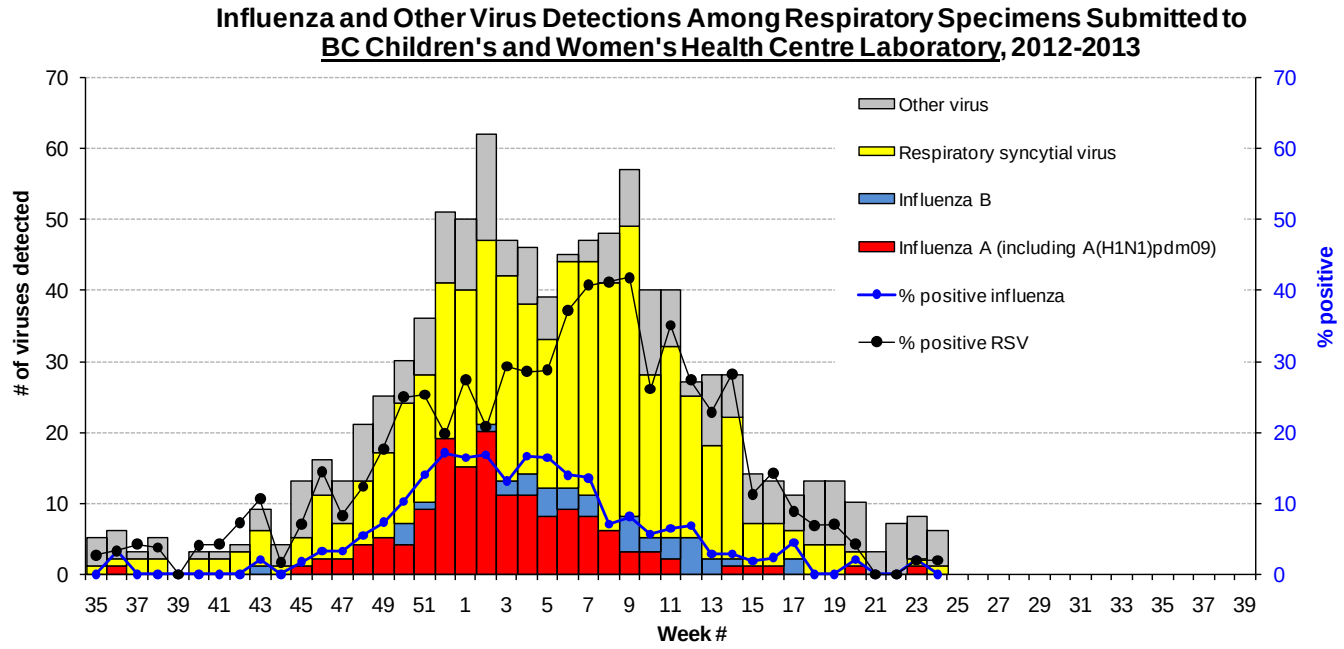


Laboratory Reports

As reported by the BC Public Health Microbiology & Reference Laboratory, PHSA, for weeks 16-24, 790 specimens were tested for influenza. Among them, 65 (8.2%, 65/790) were positive for influenza virus, including 49 (75%, 49/65) influenza B from all Health Authorities, and 16 (25%, 16/65) influenza A [7 A/H3N2, 7 A(H1N1)pdm09, 2 un-subtyped] from all but Interior and Northern Health Authorities. Other detections during this period of declining testing volumes included rhino/enterovirus, human metapneumovirus, and respiratory syncytial virus (RSV).



In weeks 16-24, BC Children's and Women's Health Centre Laboratory reported having tested 450 respiratory specimens, of which 5 (1.1%) were positive for influenza, including 3 influenza A (un-subtyped) and 2 influenza B. Other significant detections included human metapneumovirus (31/450, 6.7%) and RSV (22/450, 4.9%); other viruses were also sporadically detected.

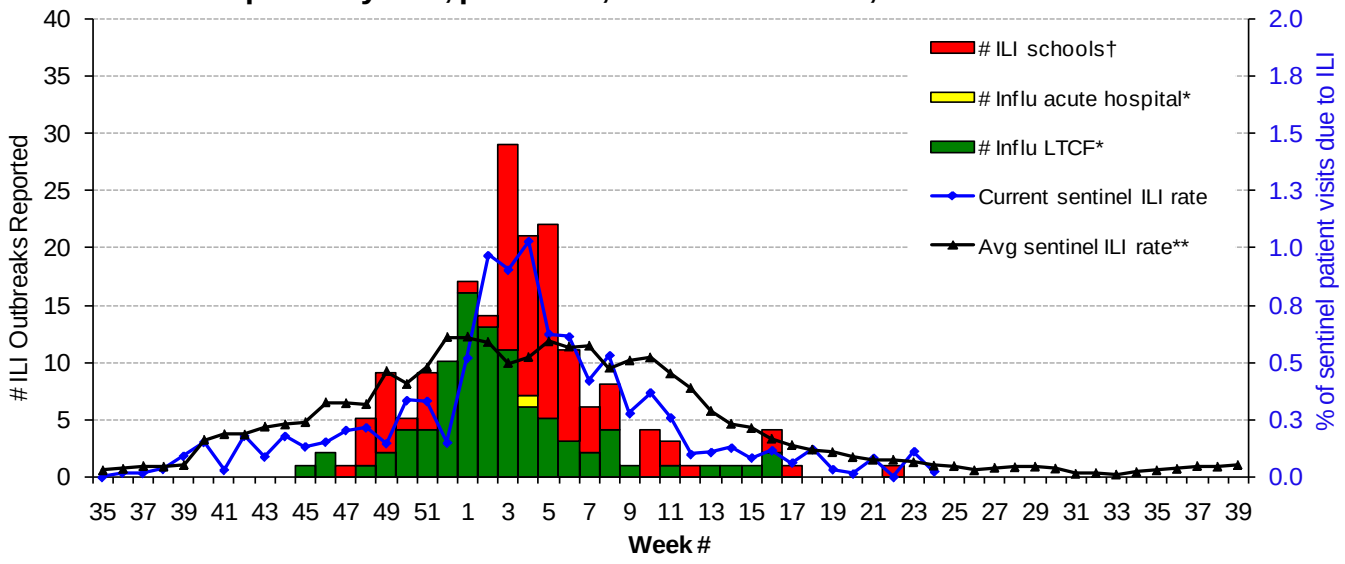


Data provided by Virology Department at Children's & Women's Health Centre of BC

ILI Outbreaks

In weeks 16-24, six ILI outbreaks were reported from long-term care facilities (LTCF), including 2 lab-confirmed influenza B from IHA in week 16, and the remainder due to other or unknown virus (FHA and IHA). Four school outbreaks were further reported from NHA during this period, including one lab-confirmed influenza B in week 16. To date, a total of 91 lab-confirmed influenza LTCF outbreaks (predominantly A/H3N2) have been reported in BC for the current season (since week 40, 30 September 2012): 37 in Fraser, 25 in Interior, 13 in Vancouver Island, 12 in Vancouver Coastal, and 4 in Northern Health Authority.

Number of Influenza and Influenza-Like Illness (ILI) Outbreaks Reported, Compared to Current Sentinel ILI Rate and Average Sentinel ILI Rate for past 10 years, per Week, British Columbia, 2012-2013 season



* Facility **influenza** outbreak defined as 2 or more ILI cases within 7-day period, with at least one case **laboratory-confirmed** as influenza.
† School **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.

FluWatch (week 21 and 22; 19 May – 1 June 2013)

In Canada, influenza activity continued to decline in weeks 21 and 22. The percentage of laboratory tests positive for influenza was 3.4% in week 22; influenza B continued to be the predominant circulating type. Interrupting its recent upward trend, detections of rhinovirus decreased in week 22. Detections of other respiratory viruses were stable or decreasing in weeks 21 and 22. The ILI consultation rate was fairly stable over the past 8 weeks, bringing it above the expected range for the past five weeks. Details are available at www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory (NML): Strain Characterization

From September 1, 2012 to June 20, 2013, 1396 isolates were collected from provincial and hospital labs and characterized at the NML as follows:

640 A/Victoria/361/2011-like (H3N2)¶ from NFLD, PEI, NS, NB, QUE, ONT, MAN, SASK, ALTA and BC;
229 A/California/07/2009-like [A(H1N1)pdm09]* from NFLD, NS, NB, QUE, ONT, MAN, SASK, ALTA and BC;
118 B/Brisbane/60/2008-like** from NB, QUE, ONT, MAN, SASK, ALTA, BC and NT;
409 B/Wisconsin/01/2010-like† from NFLD, NB, QUE, ONT, MAN, SASK, ALTA, BC and NT;

¶ indicates a strain match to the recommended H3N2 component for the 2012-2013 northern hemisphere influenza vaccine
† belongs to the B Yamagata lineage, and is the recommended influenza B component for the 2012-2013 northern hemisphere influenza vaccine.
* indicates a strain match to the recommended H1N1 component for the 2012-2013 northern hemisphere influenza vaccine.
** belongs to the B Victoria lineage, which was the recommended influenza B component for the 2011-2012 northern hemisphere influenza vaccine.

NML: Antiviral Resistance

From September 1, 2012 to June 20, 2013, drug susceptibility testing was performed at the NML for influenza A/H3N2 (oseltamivir: 627; zanamivir: 627; amantadine: 1017), A(H1N1)pdm09 (oseltamivir: 228; zanamivir: 226; amantadine: 267), and influenza B isolates (oseltamivir: 521; zanamivir: 521). The results indicated that all but two influenza A isolates were sensitive to oseltamivir, all but one influenza A isolates were sensitive to zanamivir, and all but one influenza A isolates were resistant to amantadine. All influenza B isolates were sensitive to both oseltamivir and zanamivir.

INTERNATIONAL

USA: influenza activity in the United States has declined to inter-seasonal levels. Especially in the latter half of the 2012-2013 season, influenza B was the predominant influenza virus detected.
www.cdc.gov/flu/weekly

Europe: ECDC has reduced its reporting frequency as week 21 heralded a return to inter-seasonal influenza activity levels for that region. In weeks 21 and 22, more than half (58%) of the small number of influenza positive laboratory specimens were type B.
http://ecdc.europa.eu/EN/HEALTHTOPICS/SEASONAL_INFLUENZA/EPIDEMIOLOGICAL_DATA/Pages/Weekly_Influenza_Surveillance_Overview.aspx

Other regions: According to WHO (as of 7 June 2013), influenza activity in the northern hemisphere temperate zones has decreased to low levels. The influenza activity in tropical areas varied but was relatively stable. Madagascar reported high influenza activity since the beginning of April [primarily due to A(H1N1)pdm09]. Influenza activity in the southern hemisphere started to increase in South America and in South Africa but remained low in Oceania.
www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html.

Avian Influenza A(H7N9) Virus

To date, 133 human infections (of which 39 fatal and one asymptomatic) caused by an emerging avian influenza A(H7N9) virus have been identified, including 132 from eastern China and one resident of Taiwan who had travelled within the affected parts of China. The most recent case became ill on 21 May 2013. Evidence available so far in the ongoing investigation suggests primarily bird-to-person and limited (not sustained) person-to-person transmission.
For details and updates please see:

www.health.gov.bc.ca/pho/physician-resources.html

www.who.int/influenza/human_animal_interface/influenza_h7n9

www.ecdc.europa.eu/en/healthtopics/avian_influenza/Pages/index.aspx

www.cdc.gov/flu/avianflu/h7n9-virus.htm

www.phac-aspc.gc.ca/phn-asp/2013/h7n9-0403-eng.php

Novel Coronavirus (MERS-CoV)

As of 20 June 2013, according to information gathered from WHO, the Kingdom of Saudi Arabia Ministry of Health, and other sources, a total of 76 lab-confirmed cases of MERS-CoV have been identified, of whom 38 have died. The pathogen reservoir has not yet been determined, although the most recent cases (reported 20 June 2013) continue to be identified within Saudi Arabia. An international group has recently published the results of its investigation into one cluster in a health care setting in eastern Saudia Arabia, available from www.nejm.org/doi/full/10.1056/NEJMoa1306742
For other details and updates please see:

www.health.gov.bc.ca/pho/physician-resources.html

www.who.int/csr/don/2013_06_17/en/index.html

www.who.int/csr/disease/coronavirus_infections/archive_updates/en/index.html

www.moh.gov.sa/en/HealthAwareness/Corona/Pages/AboutCorona.aspx

WHO Recommendations for 2012-13 Northern Hemisphere Influenza Vaccine
On 23 February 2012, the WHO announced the recommended strain components for the 2012-13 northern hemisphere vaccine:

A/California/7/2009 (H1N1)pdm09 virus
A/Victoria/361/2011 (H3N2)-like virus*
B/Wisconsin/1/2010 (Yamagata lineage)-like virus*

* These two of the three recommended components are different from the northern hemisphere seasonal TIV vaccines produced and administered in 2010-11 and 2011-2012.
For further details, see:
www.who.int/influenza/vaccines/virus/recommendations/2012_13_north/en/index.html

WHO Recommendations for 2013-14 Northern Hemisphere Influenza Vaccine
On 21 February 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.
For further details, see:
www.who.int/influenza/vaccines/virus/recommendations/2013_14_north/en/index.html

Contact Us:

Communicable Disease Prevention and Control (CDPACS):
BC Centre for Disease Control (BCCDC)

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

1. Influenza Web Sites

Canada – Flu Watch: www.phac-aspc.gc.ca/fluwatch/
Washington State Flu Updates: www.doh.wa.gov/EHSPHL/Epidemiology/CD/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 – Global Influenza Programme: www.who.int/csr/disease/influenza/mission/
WHO – Weekly Epidemiological Record: www.who.int/wer/en/
Influenza Centre (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

2. Avian Influenza Web Sites

World Health Organization – Avian Influenza: www.who.int/csr/disease/avian_influenza/en/
World Organization for Animal Health: www.oie.int/eng/en_index.htm

3. This Report On-line: 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