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

British Columbia Influenza Surveillance Bulletin

Influenza Season 2014-15, Number 3, Week 41
October 5 to 11, 2014

Table of Contents:

Early low-level influenza activity continues in BC

In week 41 (October 5-11, 2014), influenza activity levels remain low overall; however, some surveillance indicators continue to suggest an early increase in influenza activity, with influenza A(H3N2) dominating so far this season both provincially and nationally.

At the BC provincial laboratory, influenza positivity was 7% in week 41, lower than in week 40 but higher than expected for this time of year. In both weeks, influenza positivity was driven in part by reports of lab-confirmed long-term care facility outbreaks, 2 due to influenza A(H3N2) and one due to influenza B.

The proportion of patients presenting to sentinel physicians for influenza-like illness remained above the historical average in week 41. MSP service claims for influenza illness continued to show an increasing trend but remained within expected levels for this time of year.

Entero/rhinoviruses continued to be the most commonly detected respiratory viruses, as expected for this time of year. As of October 16, 2014, the BC provincial laboratory has confirmed 36 cases of enterovirus D68, most in young children <10 years of age.

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

Report Disseminated:October 16, 2014

Provincial Health Services Authority
Province-wide solutions. Better health.

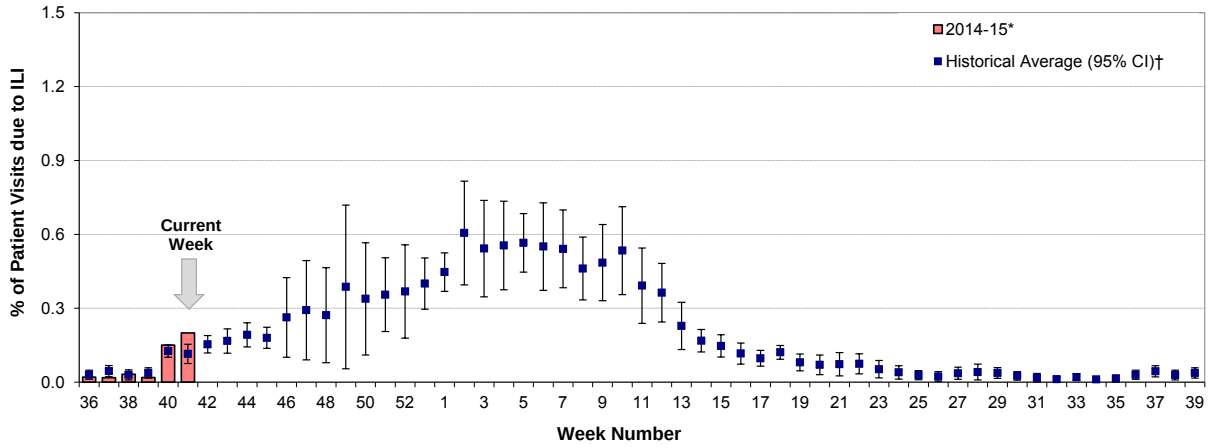
A research and teaching centre affiliated with UBC

British Columbia

Sentinel Physicians

The proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians was 0.2% in week 41, significantly above the historical average for this time of year and continuing an increasing trend compared to prior weeks this season. In week 41, 56% of sentinel sites reported data.

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

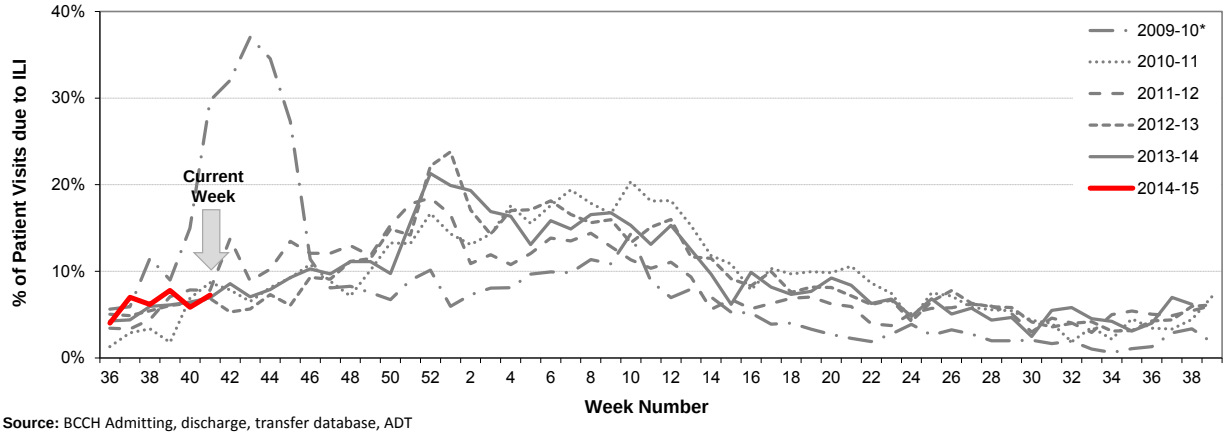


* Data are subject to change as reporting becomes more complete.
† Historical average based on 2002-03 to 2013-14 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

BC Children's Hospital Emergency Room

In week 41, the proportion of visits to BC Children's Hospital Emergency Room (ER) attributed to ILI was 7%, 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," "influenza" or "fever/cough," British Columbia, 2014-15

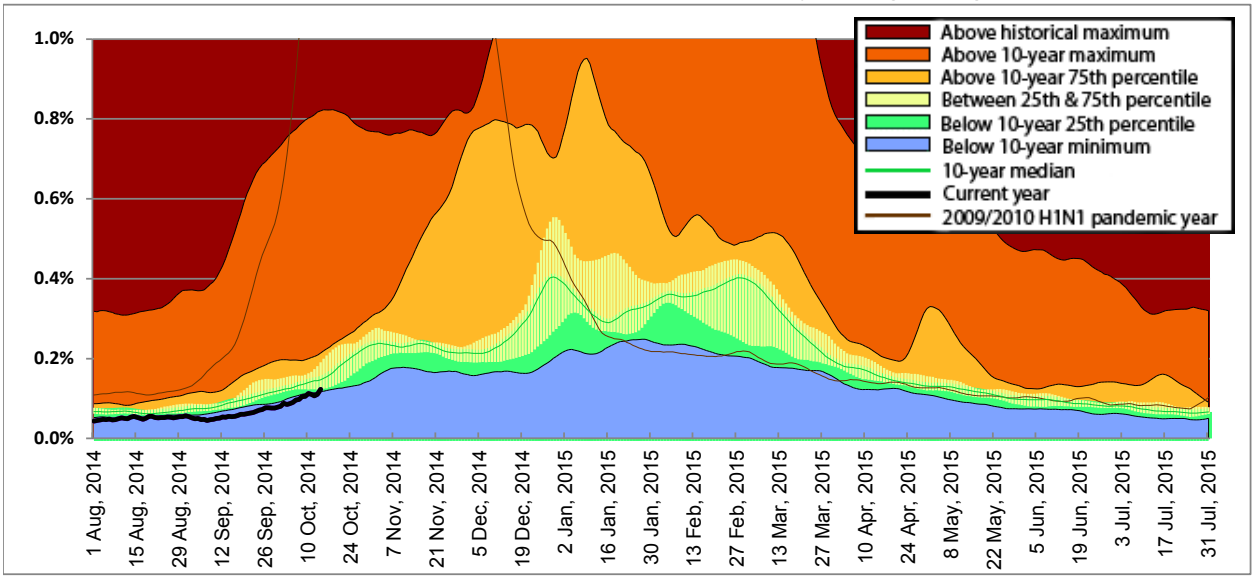


Source: BCCH Admitting, discharge, transfer database, ADT
* Data from 2010-11 to 2014-15 are based on new variable (Triage Chief Complaint) for capturing ILI symptoms and are not directly comparable to data for 2009-10. In week 9 of the 2011-12 season, the BCCH ER implemented a new data collection system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

Medical Services Plan

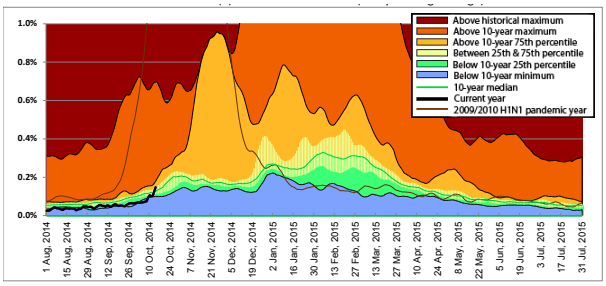
In week 41, BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, continued to show an increasing trend but remained below the 10-year 25th percentile for the province overall, with some variation observed at the regional health authority level.

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

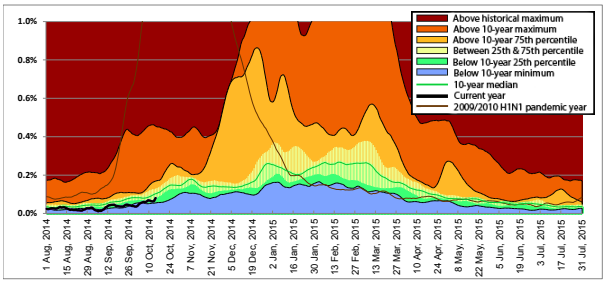


* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).
Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services.
Note: MSP week beginning 3 August 2014 corresponds to sentinel ILI week 32; data current to October 14, 2014.

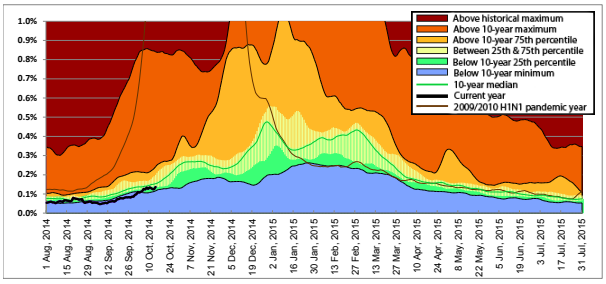
Interior



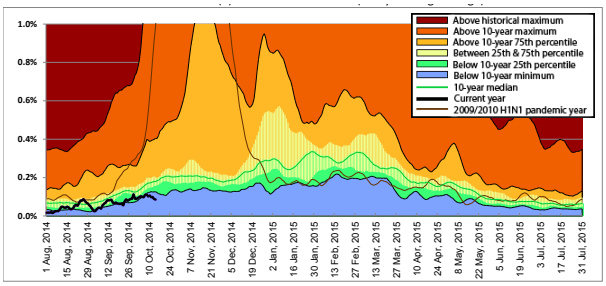
Vancouver Island



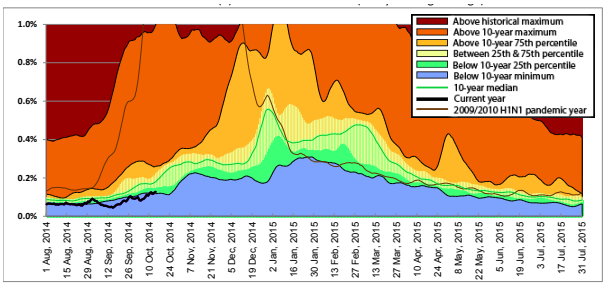
Fraser



Northern



Vancouver Coastal

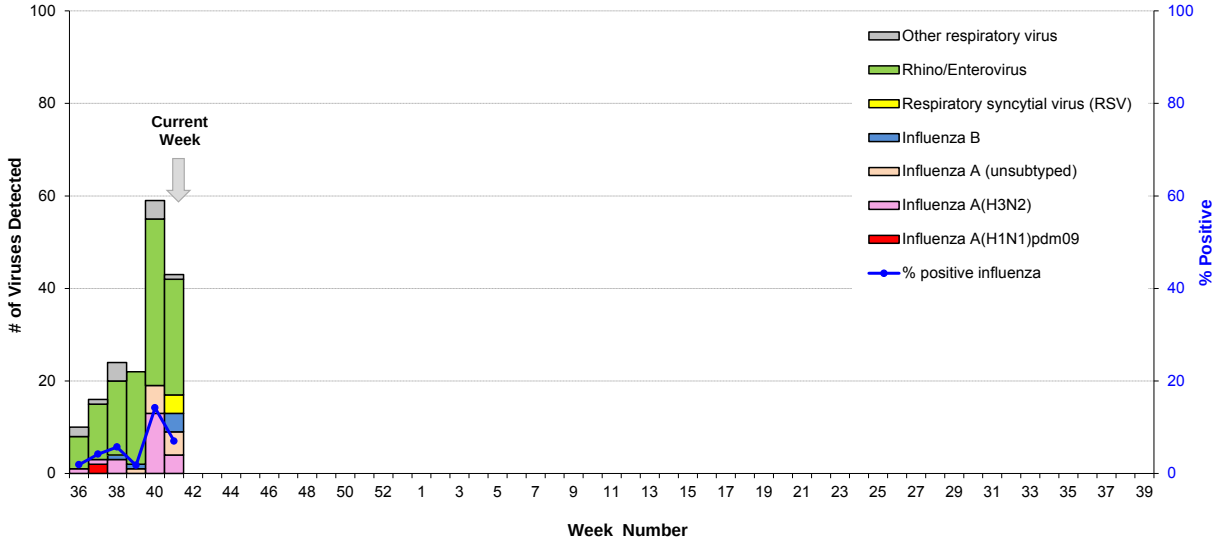


Laboratory Reports

BC Public Health Microbiology & Reference Laboratory (PHMRL)

In week 41, the BC Public Health Microbiology & Reference Laboratory (PHMRL) tested 186 patients for respiratory viruses. Of these, 13 (7%) were positive for influenza, including 9 (69%) influenza A [4 A(H3N2) and 5 subtype pending] and 4 (31%) influenza B. As in week 40, influenza positivity in week 41 was driven in part by reports of lab-confirmed outbreaks in long-term care facilities (LTCFs), 2 due to influenza A(H3N2) and 1 due to influenza B. Consistent with reports of lab-confirmed influenza outbreaks in LTCFs, almost all cases (92%) during week 41 were detected in elderly adults (≥65 years of age), with one (8%) reported in an adult 50-64 years of age. Entero/rhinoviruses continued to be the most commonly detected respiratory virus during this period.

Influenza and other virus detections among respiratory specimens submitted to BC Public Health Microbiology & Reference Laboratory, PHSA, 2014-15

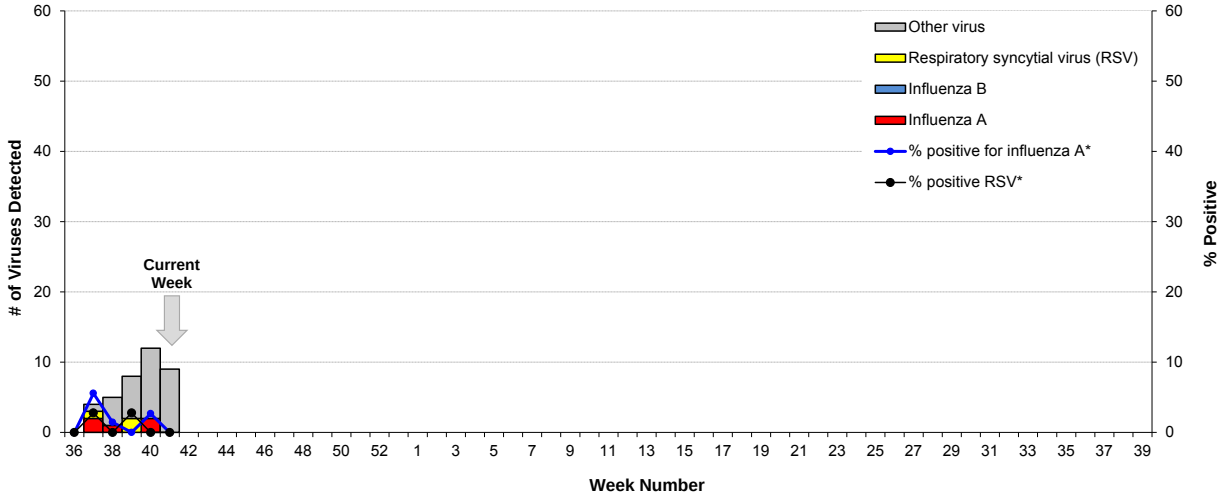


Note: Data current to October 15, 2014.

BC Children's and Women's Health Centre Laboratory

Of the 77 tests conducted at the BC Children's and Women's Health Centre Laboratory in week 41, none were positive for influenza A or B. Entero/rhinoviruses continued to be the most commonly detected respiratory virus during this period.

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

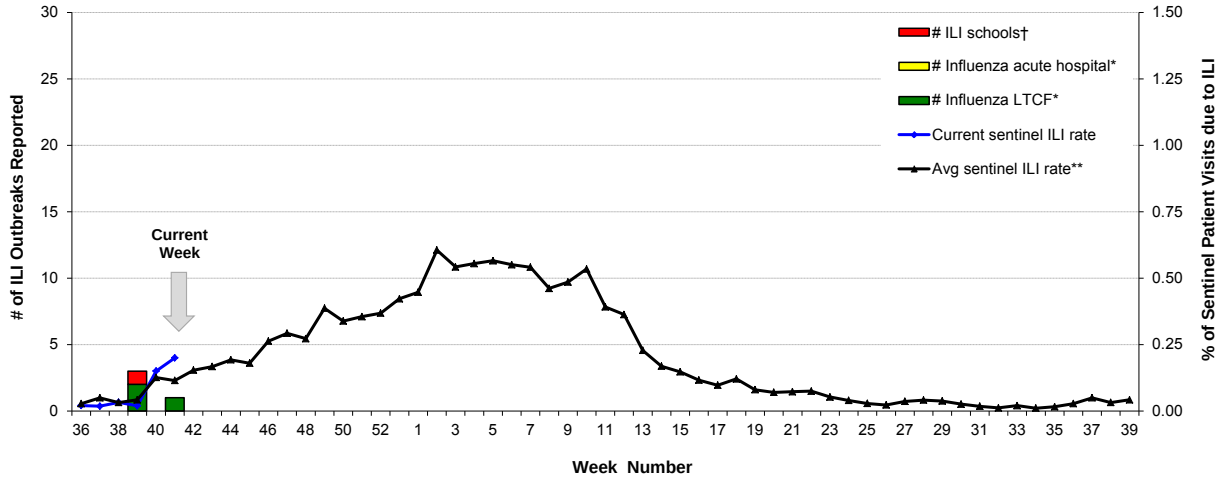


* Positive rates were caculated using aggregate data. The denominators for each rate represent the total number of tests; multiple tests may be performed for a single specimen and/or patient.

Influenza-like Illness (ILI) Outbreaks

In week 41, 2 ILI outbreaks were reported from LTCFs, including one due to lab-confirmed influenza B in FHA and 1 with lab results pending in IHA. One of the 2 LTCF ILI outbreaks in weeks 39-40 that were pending lab results at the time of last week's bulletin was confirmed as entero/rhinovirus; the other is still pending results. The LTCF ILI outbreak that initially had no pathogen identified was also later confirmed as entero/rhinovirus. No school outbreaks were reported in week 41.

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 (weeks 39-40)

Several influenza indicators (activity levels, influenza detections, ILI and hospitalizations) continued to increase in weeks 39-40. Influenza activity was reported in several regions in 6 provinces (BC, AB, SK, MB, ON, and QC) over the two-week period. Early season influenza detections show influenza A(H3N2) to be the predominant virus circulating, followed by co-circulation of influenza B. In weeks 39-40, 57 influenza viruses were detected, including 52 (91%) influenza A [23 A(H3N2), 1 A(H1N1)pdm09, and 28 unsubtyped] and 5 (9%) influenza B. However, the percent positive for influenza detections remains low at around 1%. The majority of cases among laboratory detections and hospitalizations were ≥65 years of age. In week 39, 5 lab-confirmed influenza outbreaks were reported in LTCFs, including 4 due to influenza A [1 A(H3N2) and 3 unsubtyped] and one due to influenza B; one further outbreak due to A(H3N2) was reported in another type of facility. No new outbreaks were reported in week 40. Details are available at: www.phac-aspc.gc.ca/fluwatch/14-15/index-eng.php.

National Microbiology Laboratory (NML): Strain Characterization

From September 1, 2014 to October 16, 2014, the National Microbiology Laboratory (NML) received 2 influenza viruses from provincial laboratories for strain characterization. Influenza viruses were characterized as antigenically similar to:

1	A/Texas/50/2012(H3N2)-like*
0	A/California/07/2009(H1N1)pdm09-like†
1	B/Massachusetts/02/2012-like (Yamagata lineage)‡
0	B/Brisbane/60/2008-like (Victoria lineage)§

* WHO-recommended influenza A(H3N2) component for the 2014-15 Northern Hemisphere influenza vaccine.

† WHO-recommended influenza A(H1N1) component for the 2014-15 Northern Hemisphere influenza vaccine.

‡ WHO-recommended influenza B component for the 2014-15 Northern Hemisphere influenza vaccine.

§ WHO-recommended influenza B component for the 2011-2012 Northern Hemisphere influenza vaccine; for quadrivalent vaccine, a B/Brisbane/60/2008-like virus is recommended as the second influenza B component.

National Microbiology Laboratory (NML): Antiviral Resistance

From September 1, 2014 to October 16, 2014, the NML received 2 influenza viruses from provincial laboratories for drug susceptibility testing: 1 influenza A(H3N2) virus was tested and found to be resistant to amantadine but sensitive to oseltamivir and zanamivir; 1 influenza B virus was tested and found to be sensitive to oseltamivir and zanamivir.

International

USA (week 40)

During week 40, influenza activity was low in the United States. Of 6,192 specimens tested, 199 (3%) were positive for influenza, including 122 (61%) influenza A [32 A(H3N2) and 90 with subtyping not performed] and 77 (39%) influenza B.The proportion of outpatient visits for influenza-like illness (ILI) and the proportion of deaths attributed to pneumonia and influenza remained at inter-seasonal levels. No influenza-associated pediatric deaths were reported. Details are available at: www.cdc.gov/flu/weekly/.

WHO

There have been no new WHO global influenza updates since our last bulletin. Previous updates are available from: www.who.int/influenza/surveillance_monitoring/updates/en/.

Emerging Respiratory Pathogens

Enterovirus D68

As of October 16, 2014, the BC provincial laboratory has confirmed 36 cases of enterovirus D68 (EV-D68). Ages range from <1 year to >80 years: 13 cases are <5 years, 10 are 5-9 years, 6 are 10-14 years, 1 is 15-19 years, and 6 are 20+ years of age. Twenty-four (67%) cases are male. Cases have been reported from all regional health authorities in BC, with one from out of province.

On October 16, the BC PHMRL confirmed EV-D68 infection in a young adult male who died earlier this week. The patient had a history of severe asthma and developed respiratory failure in hospital. It is unknown to what extent EV-D68 infection caused or contributed to this death. Severe cases of EV-D68 have been noted previously in Canada and the United States, particularly in young children with a history of asthma. As of October 16, the US Centers for Disease Control and Prevention are now aware of 7 patients who died with lab-confirmed EV-D68 infection since the start of the current outbreak in mid-August 2014. Three deaths were previously reported during outbreaks in the Philippines in 2008-2009 and Japan in 2010. This is the first known death associated with EV-D68 in Canada. Reports of heightened risk of severe illness associated with EV-D68 have not to date been as pronounced in adults, but people of all ages with underlying conditions, notably asthma, may sometimes experience severe complications from respiratory viruses. In most people, however, enterovirus infections affecting the respiratory tract are associated with mild common cold-like symptoms or no symptoms at all.

BC is collaborating with the Public Health Agency of Canada to better understand the spectrum of illness associated with EV-D68 and participating in a national enhanced surveillance initiative.

For more information on EV-D68: www.bccdc.ca/dis-cond/a-z/_e/EnterovirusD68/default.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 2014-15Northern Hemisphere trivalent influenza vaccine (TIV):*

- an A/California/7/2009(H1N1)pdm09-like virus;
- an A/Texas/50/2012(H3N2)-like virus;
- aB/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 2015Southern 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 since2010-11.

†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 theA/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: 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
VCHA: 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

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 BCV5Z 4R4

Phone: (604) 707-2510
Fax: (604) 707-2516
ilioutbreak@bccdc.ca