

British Columbia Influenza Surveillance Bulletin

Influenza Season 2014-15, Number 5, Week 43

October 19 to 25, 2014

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Early low-level influenza activity continues in BC

In week 43 (October 19–25, 2014), early low-level influenza activity continued in BC. Sentinel physician consultation rates for influenza-like illness remained above historical averages for the third consecutive week, while MSP service claims for influenza illness plateaued following a recent sharp increase.

At the BC provincial laboratory, influenza A(H3N2) was detected in 8% of patients, continuing the trend of H3N2 predominance so far this season. Two new laboratory-confirmed influenza A outbreaks were reported from long-term care facilities (LTCFs) in VCHA and FHA in week 43, one due to A(H3N2) and one with subtype pending. In total in weeks 39-43, seven laboratory-confirmed influenza outbreaks in LTCFs have been reported. LTCF influenza outbreak reports are unusual this early in the season. In no other season since the 2009 pandemic have LTCF influenza outbreaks been reported prior to week 45.

Enteroviruses continued to be the most commonly detected respiratory viruses in week 43, as expected for this time of year. As of October 30, 2014, the BC provincial laboratory has confirmed 119 cases of enterovirus D68.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Contributors: Helen Guiyun Li, Catharine Chambers, Lisan Kwindt, Danuta Skowronski

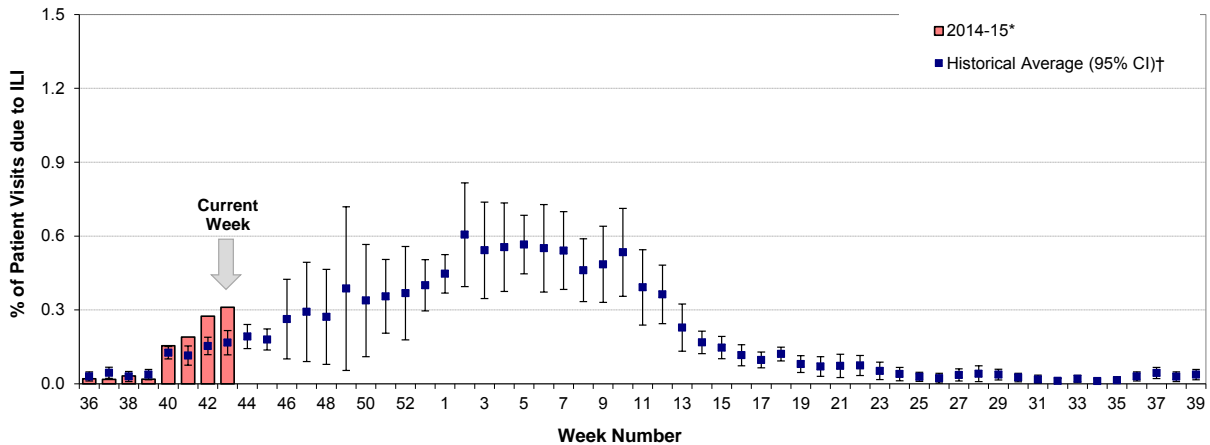
Report Disseminated: October 30, 2014

British Columbia

Sentinel Physicians

The proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians was 0.3% in week 43, significantly above the historical average for this time of year for the third consecutive week and continuing an increasing trend. For week 43, 58% 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

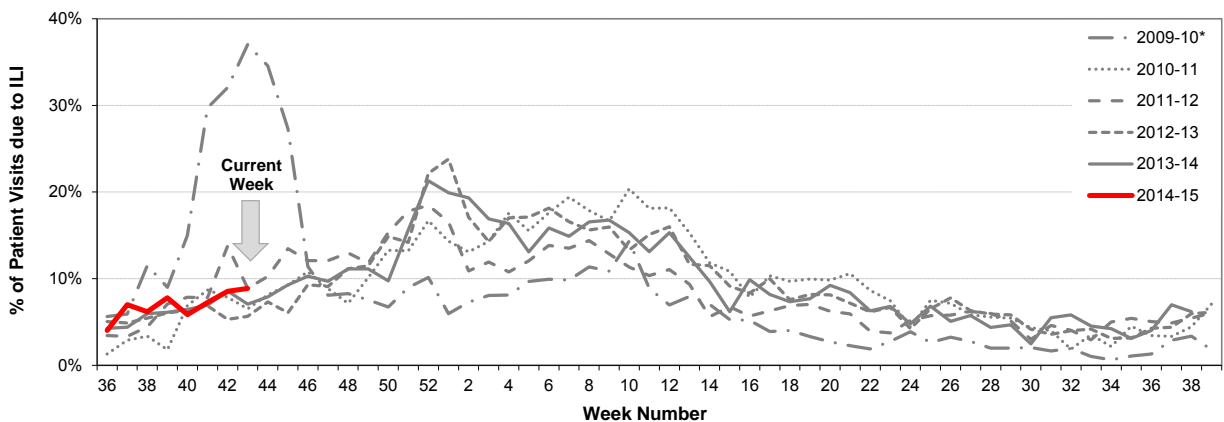


* Data are subject to change as reporting becomes more complete.
† Historical average based on 2002-03 to 2013-14 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

BC Children’s Hospital Emergency Room

In week 43, the proportion of visits to BC Children’s Hospital Emergency Room (ER) attributed to ILI was 9%, 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

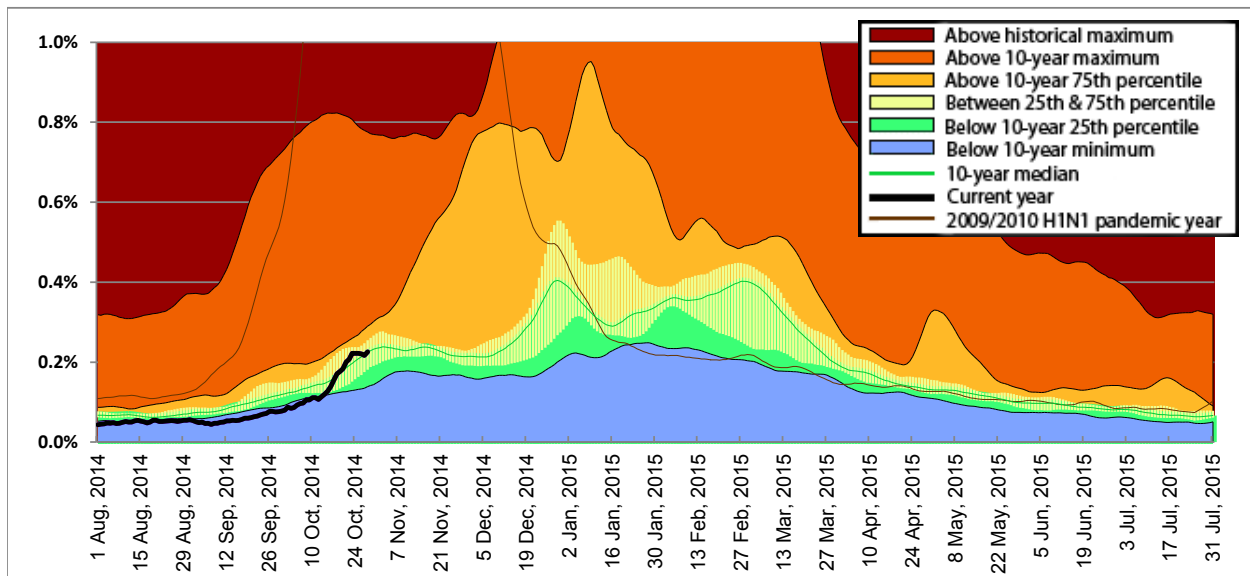


Source: BCCH Admitting, discharge, transfer database, ADT
* Data from 2010-11 to 2014-15 are based on new variable (Triage Chief Complaint) for capturing ILI symptoms and are not directly comparable to data for 2009-10. In week 9 of the 2011-12 season, the BCCH ER implemented a new data collection system,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

Medical Services Plan

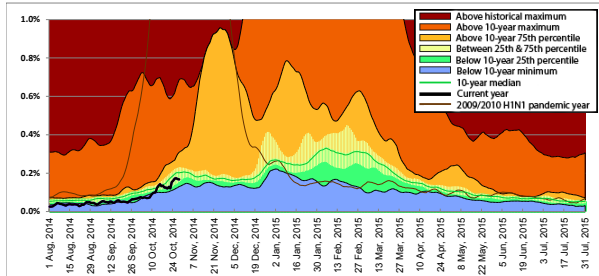
In week 43, BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, plateaued at expected median levels for this time of year following a sharp increase in the previous week. In VHCA, rates remained above 10-year 75th percentiles following the sharp rise seen in that health authority in the previous week, while, in FHA, rates show signs of returning to expected levels for this time of year. In IHA and VIHA, rates increased slightly but remained within 10-year 25th and 75th percentiles. In NHA, rates were below 10-year minimums.

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

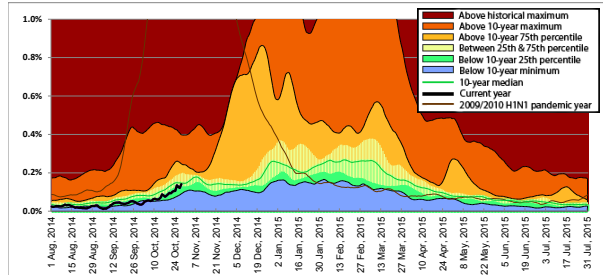


* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza). Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services.
Note: MSP week beginning 3 August 2014 corresponds to sentinel ILI week 32; data current to October 28, 2014.

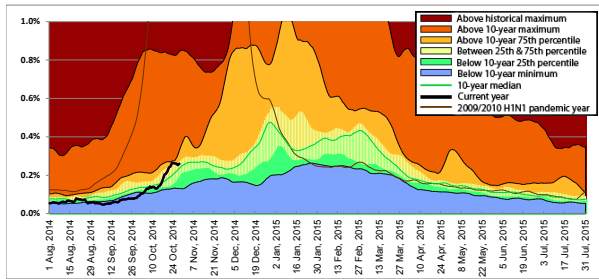
Interior



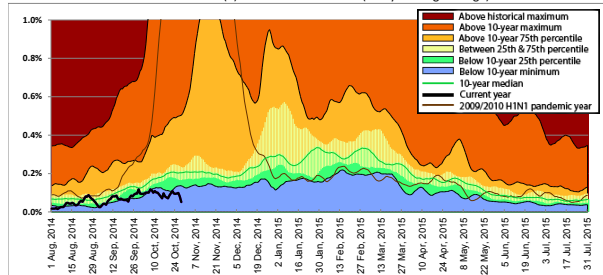
Vancouver Island



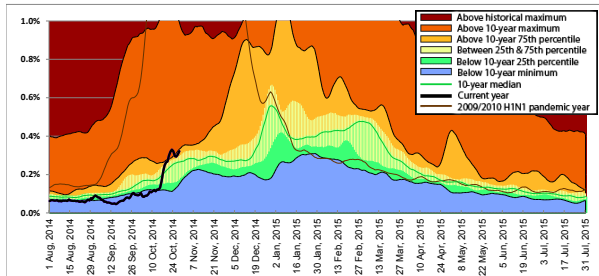
Fraser



Northern



Vancouver Coastal



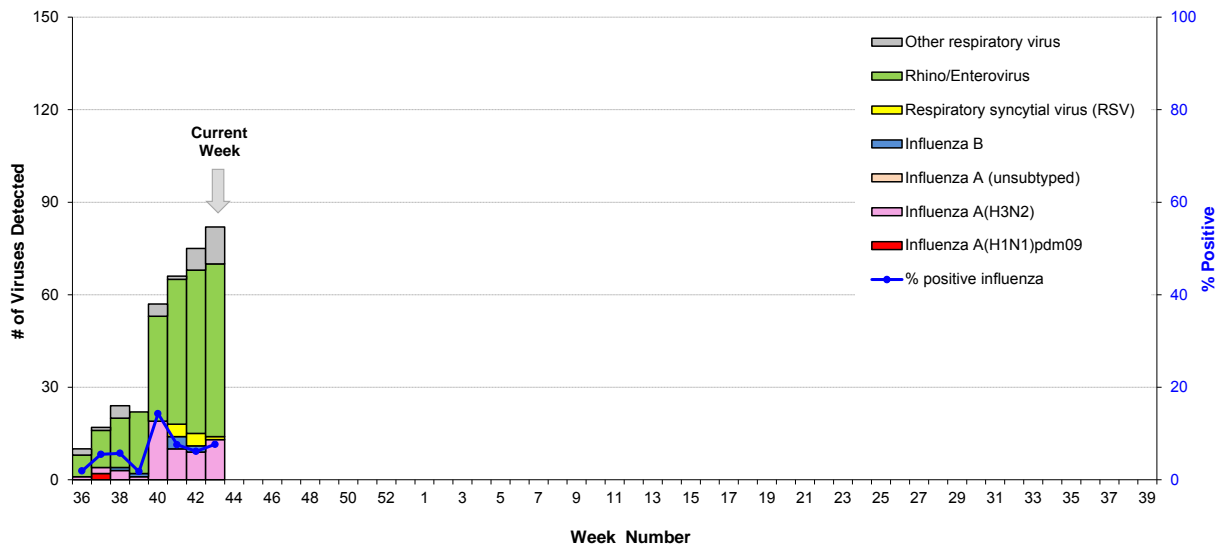
Laboratory Reports

BC Public Health Microbiology & Reference Laboratory (PHMRL)

In week 43, the BC Public Health Microbiology & Reference Laboratory (PHMRL) tested 170 patients for respiratory viruses. Of these, 13 (8%) were positive for influenza; all were subtyped as influenza A(H3N2). Influenza positivity remained elevated in week 43 compared to prior seasons for this time of year. Enteroviruses continued to be the most commonly detected respiratory virus during this period.

Cumulatively, during the 2014-15 influenza season (since week 40, starting September 28, 2014), 56 (9%) patients have tested positive for influenza at the BC PHMRL, including 50 (89%) influenza A, all A(H3N2), and 6 (11%) influenza B. So far this season, the majority of influenza detections have been in elderly adults (≥ 65 years of age).

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

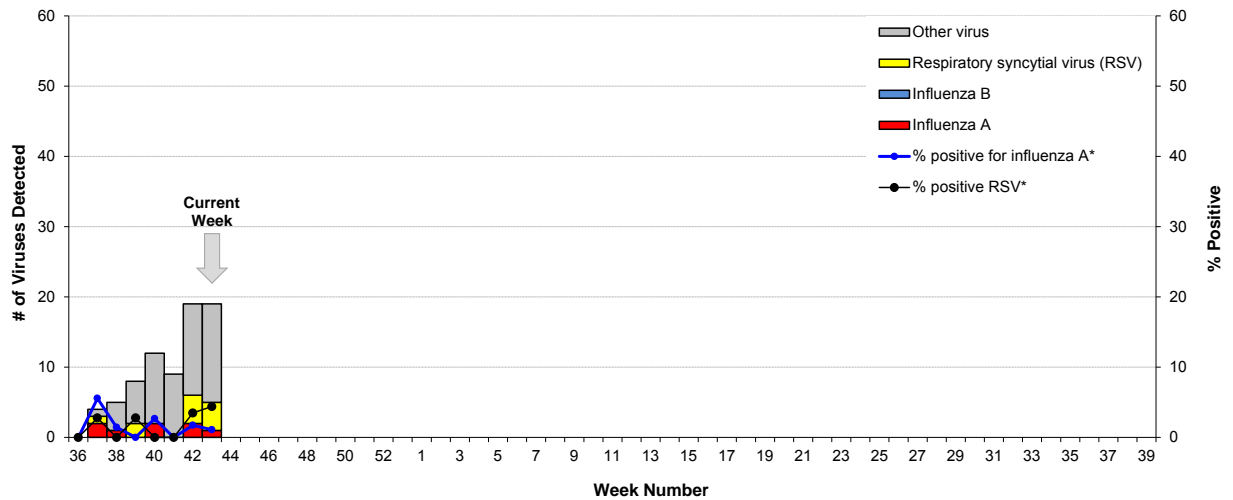


Note: Data current to October 29, 2014.

BC Children's and Women's Health Centre Laboratory

In week 43, the BC Children's and Women's Health Centre Laboratory conducted 91 tests for influenza A and influenza B. Of these, 1 (1%) was positive for influenza A; none were positive for influenza B. Enteroviruses 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 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.

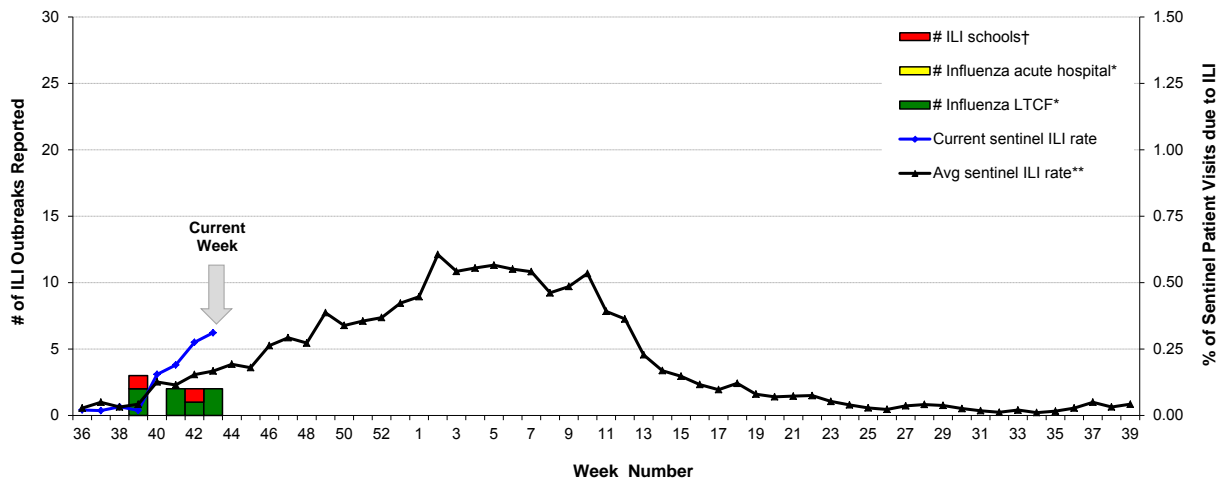
Influenza-like Illness (ILI) Outbreaks

In week 43, 2 new ILI outbreaks were reported from long-term care facilities (LTCFs) in VCHA and FHA; one was laboratory-confirmed as influenza A(H3N2) and the other was pending subtype results at the time of writing.

Cumulatively, since week 39 (starting September 21, 2014), 7 laboratory-confirmed influenza outbreaks have been reported from LTCFs, including 6 due to influenza A [5 A(H3N2) and 1 subtype pending] and 1 due to influenza B. All reported laboratory-confirmed influenza outbreaks to date have occurred in FHA or VCHA in the Lower Mainland of BC.

LTCF influenza outbreak reports are unusual this early in the season. In no other season since the 2009 pandemic have LTCF influenza outbreaks been reported prior to week 45.

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 42)

Influenza indicators (activity levels, influenza detections, influenza outbreaks and hospitalizations) in some regions across Canada continued to increase in week 42. The majority of regions in Canada reported no activity; however, sporadic or localized activity was reported in several regions in 4 provinces (BC, AB, ON, and QC). The number of positive influenza tests continued to increase in week 42; however, the percent positive for influenza detections remained $\leq 2\%$ overall. So far this season, influenza A(H3N2) has been the most common subtype affecting Canadians. In week 42, 48 influenza viruses were detected, including 32 (67%) influenza A [13 A(H3N2), 1 A(H1N1)pdm09 and 18 untyped] and 16 (33%) influenza B. So far this season, the majority of influenza laboratory detections and hospitalizations were in seniors ≥ 65 years of age. In week 42, 3 new outbreaks of influenza were reported in LTCFs. Details are available at: www.phac-aspc.gc.ca/fluwatch/14-15/index-eng.php.

National Microbiology Laboratory (NML): Strain Characterization

There have been no updates to the NML strain characterization or antiviral resistance reports our last bulletin.

From September 1, 2014 to October 23, 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 23, 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 42)

During week 42, influenza activity was low in the United States. Of 8,412 specimens tested, 403 (5%) were positive for influenza, including 268 (67%) influenza A [96 A(H3N2), 3 A(H1N1)pdm09 and 168 with subtyping not performed] and 135 (34%) 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. Two influenza-associated pediatric deaths were reported, including one that occurred during the 2013-14 season. One new human infection with an influenza A(H3N2) variant virus was reported in Wisconsin in a patient with close contact with swine in the week prior to illness onset. Details are available at: www.cdc.gov/flu/weekly/.

WHO

There have been no new WHO influenza updates since our last bulletin. For previous updates: www.who.int/influenza/surveillance_monitoring/updates/en/.

Emerging Respiratory Pathogens

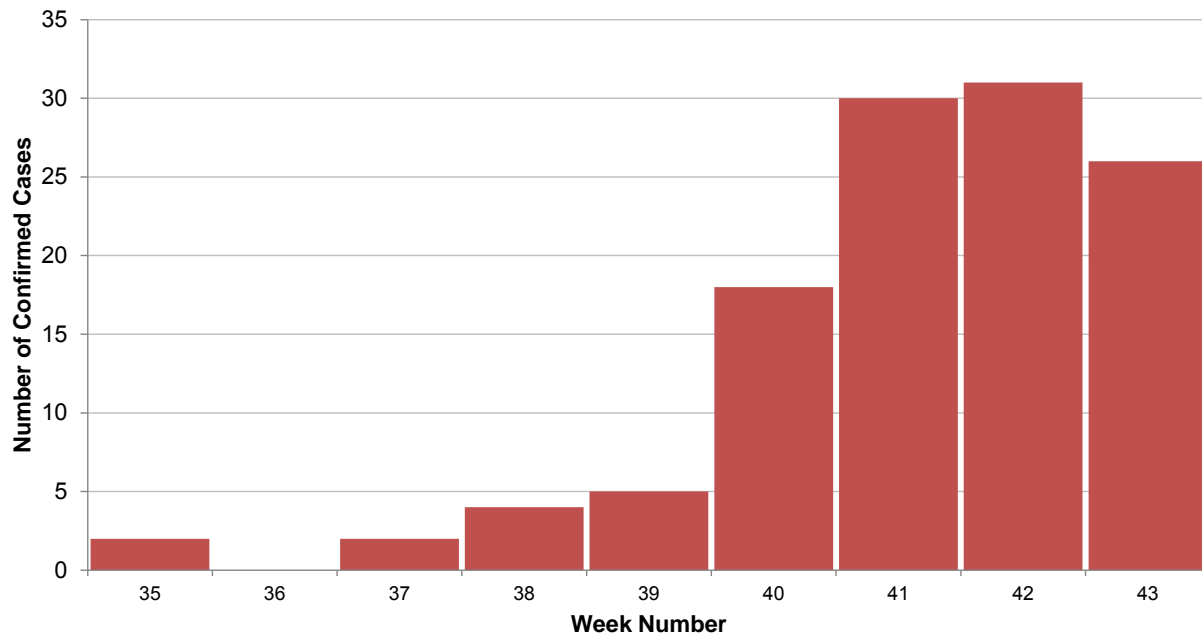
EnterovirusD68

As of October 30, the BC provincial laboratory has confirmed 119 cases of enterovirus D68 (EV-D68). The median age of cases is 8 years, and ages range from <1 year to >80 years. By age group, 40 (34%) cases are <5 years, 33 (28%) are 5-9 years, 15 (13%) are 10-14 years, 5 (4%) are 15-19 years, and 26 (22%) are ≥20 years of age. The majority of cases (58%) are male. Cases have been reported from all regional health authorities in BC, with one from out of province.

Since mid-August, 3 cases of neurologic illness and one death associated with EV-D68 infection have been reported in BC. However, it remains unclear to what extent EV-D68 infection caused or contributed to these severe manifestations. 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.

Number of confirmed EV-D68 cases by week of specimen collection, British Columbia, August 28 to October 25, 2014*



* Counts are subject to change as testing becomes more complete.

Note: Counts are based on number of patients; where multiple specimens per patient were collected, the earlier collection date was used if specimens were collected on different days. Data are current to October 30, 2014.

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: 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

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	<p><u>Reporting Information</u> Health unit/medical health officer notified? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Person Reporting: _____ Title: _____</p> <p>Contact Phone: _____ Email: _____</p> <p>Health Authority: _____ HSDA: _____</p> <p>Full Facility Name: _____</p> <p>Is this report: <input type="checkbox"/> First Notification (<i>complete section B below; Section D if available</i>)</p> <p style="margin-left: 20px;"><input type="checkbox"/> Update (<i>complete section C below; Section D if available</i>)</p> <p style="margin-left: 20px;"><input type="checkbox"/> Outbreak Over (<i>complete section C below; Section D if available</i>)</p>															
B	<p><u>First Notification</u></p> <p>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></p> <p><input type="checkbox"/> Workplace <input type="checkbox"/> School (grades: _____) <input type="checkbox"/> Other (_____)</p> <p>Date of onset of first case of ILI (dd/mm/yyyy): <u>DD/MMM/YYYY</u></p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 25%;">Numbers to date</th> <th style="width: 45%;">Residents/Students</th> <th style="width: 30%;">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		
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C	<p><u>Update AND Outbreak Declared Over</u></p> <p>Date of onset for most recent case of ILI (dd/mm/yyyy): <u>DD/MMM/YYYY</u></p> <p>If over, date outbreak declared over (dd/mm/yyyy): <u>DD/MMM/YYYY</u></p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 25%;">Numbers to date</th> <th style="width: 45%;">Residents/Students</th> <th style="width: 30%;">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		
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