

# British Columbia Influenza Surveillance Bulletin

Influenza Season 2015-16, Number 22, Week 38

September 18 to 24, 2016

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## More EV-D68 Cases and Sporadic, Low-level Influenza Activity in BC

During week 38 (September 18-24, 2016), sporadic, low-level influenza activity continued in BC. At the BCCDC Public Health Laboratory (PHL), influenza positivity increased slightly but remained <10% in week 38. Enteroviruses were the most commonly detected respiratory virus during this period.

Since August 2016, the BCCDC PHL has detected 16 cases of enterovirus D68 (EV-D68), almost double the number compared to last week. Two-thirds of cases have occurred in infants/toddlers <2 years old and at least two-thirds with known information have been hospitalized.

This week, FHA reported an influenza A(H3N2) outbreak in a long-term care facility (LTCF) with onset in week 38. This is the second lab-confirmed influenza outbreak reported in recent weeks, which is atypical for the summer/early fall period.

Today, the WHO announced the recommended strain components for the 2017 southern hemisphere influenza vaccine. For the first time since the 2009 pandemic, the WHO recommended a change to the A(H1N1)pdm09 component, replacing the A/California/07/2009-like virus with an A/Michigan/45/2015-like virus belonging to the emerging phylogenetic subclade 6B.1 for the southern hemisphere's next influenza season. The A(H3N2) and influenza B components remain unchanged from the 2016-17 northern hemisphere influenza vaccine.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

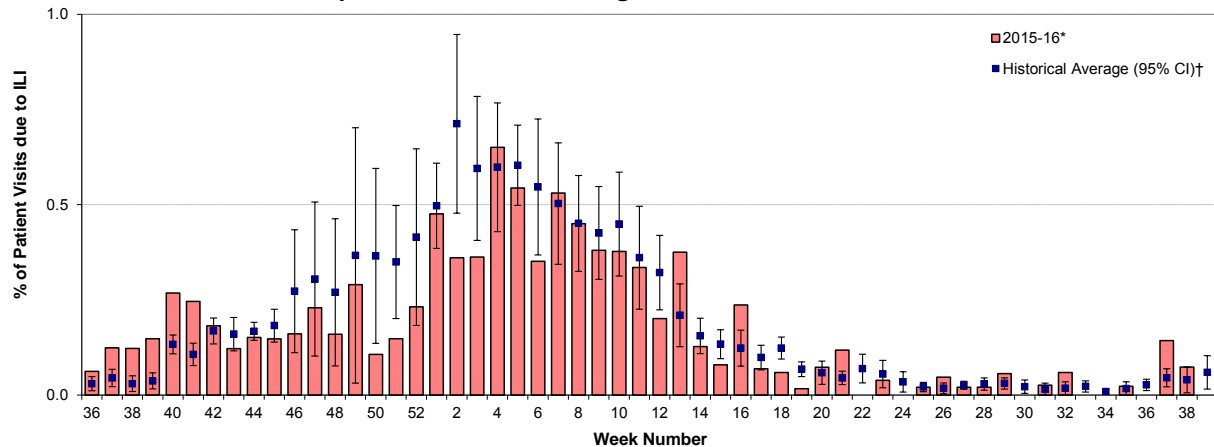
Report Disseminated: September 29, 2016

## British Columbia

### Sentinel Physicians

During week 38, the proportion of patients with influenza-like illness (ILI) among those presenting to sentinel sites was 0.07% and was within 10-year historical averages for this time of year. So far, 47% of sentinel sites have reported data for this week.

**Percent of patient visits to sentinel physicians due to influenza-like illness (ILI) compared to historical average, British Columbia, 2015-16**

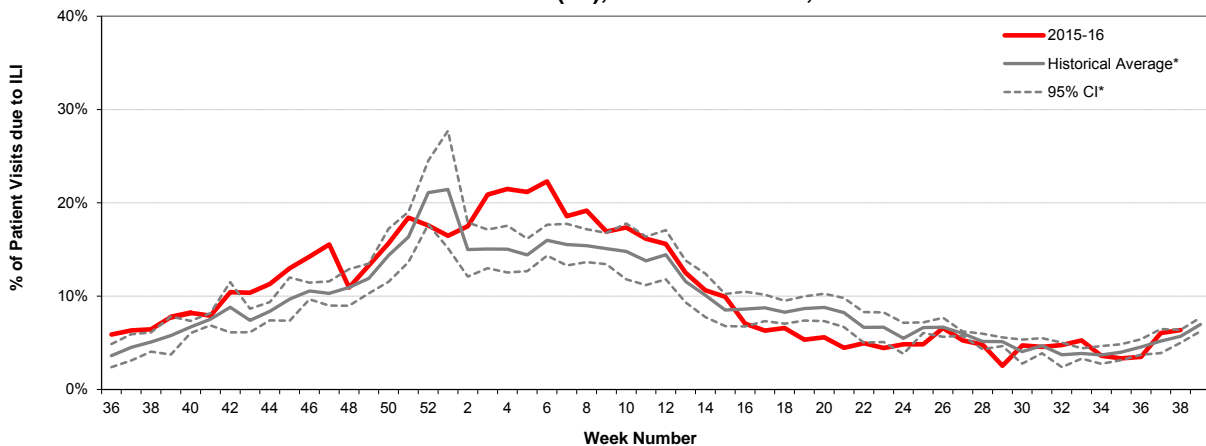


\* Data are subject to change as reporting becomes more complete. One hospital ER site that reported ILI rates of  $\geq 4\%$  during weeks 7-9 was excluded from graph.  
† 10-year historical average for 2015-16 season based on 2003-04 to 2014-15 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

### BC Children's Hospital Emergency Room

During week 38, the proportion of visits to BC Children's Hospital Emergency Room (ER) attributed to ILI was 6%, within expected inter-seasonal levels for this time of year.

**Percent of patients presenting to BC Children's Hospital ER attributed to influenza-like illness (ILI), British Columbia, 2015-16**

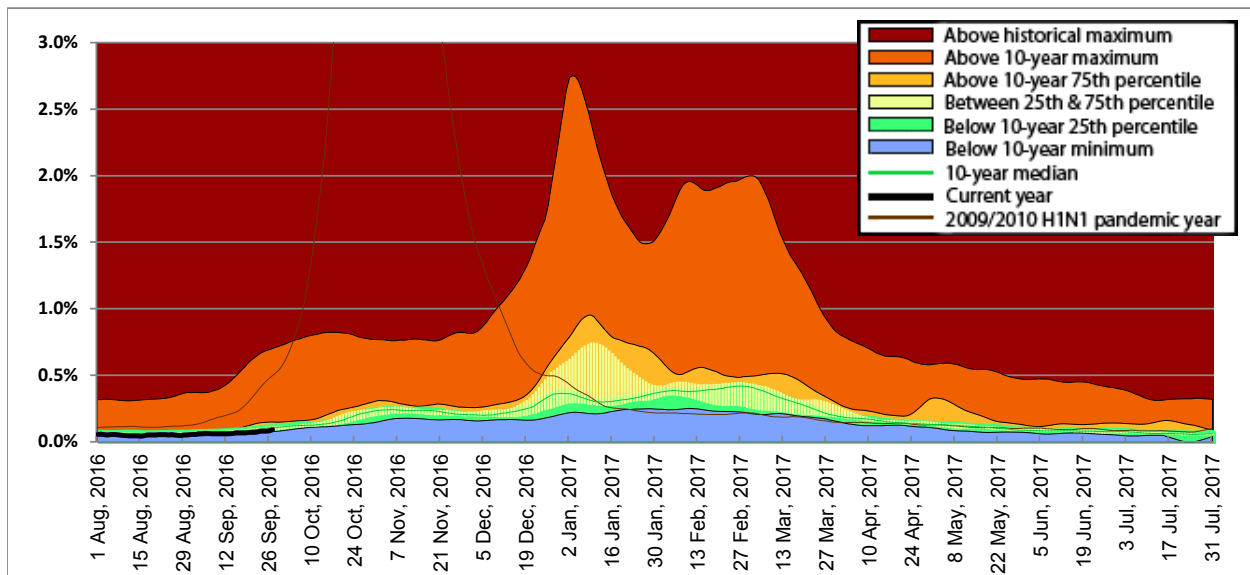


**Source:** BCCH Admitting, Discharge, Transfer database (ADT). Data includes records with a triage chief complaint of "flu" or "influenza" or "fever/cough."  
\* 5-year historical average for 2015-16 season based on 2010-11 to 2014-15 seasons; CI=confidence interval

### Medical Services Plan

In week 38, BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, remained at or below 10-year median levels in all regions of the province.

**Service claims submitted to MSP for influenza illness (II)\* as a proportion of all submitted general practitioner service claims, British Columbia, 2015-16**

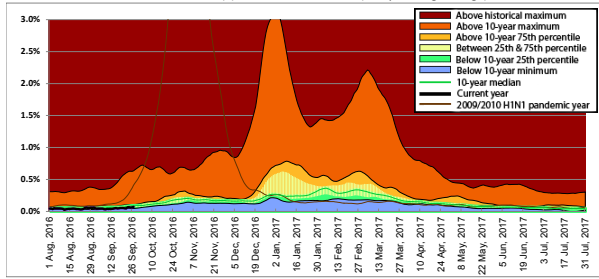


\* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

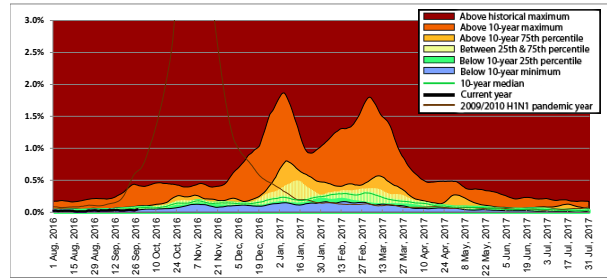
Data for the period August 1, 2009 to July 31, 2010 have been excluded from the 10-year median calculation due to atypical seasonality during the 2009/2010 H1N1 pandemic year. MSP week beginning August 1, 2016 corresponds to sentinel ILI week 31; data are current to September 27, 2016.

Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services.

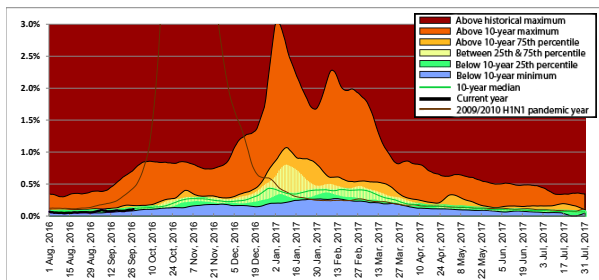
**Interior**



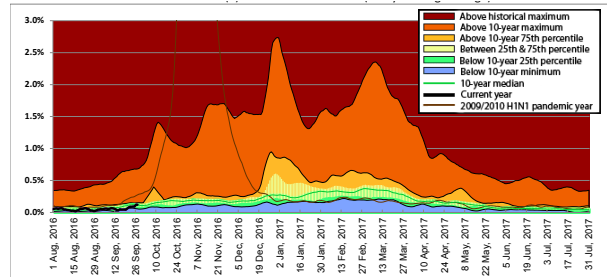
**Vancouver Island**



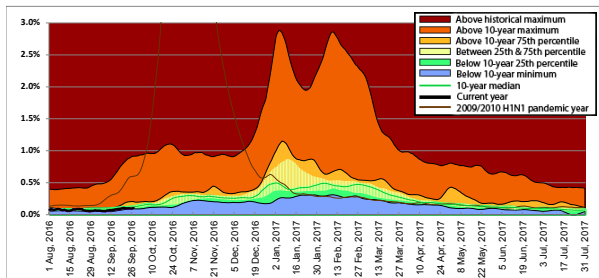
**Fraser**



**Northern**



**Vancouver Coastal**

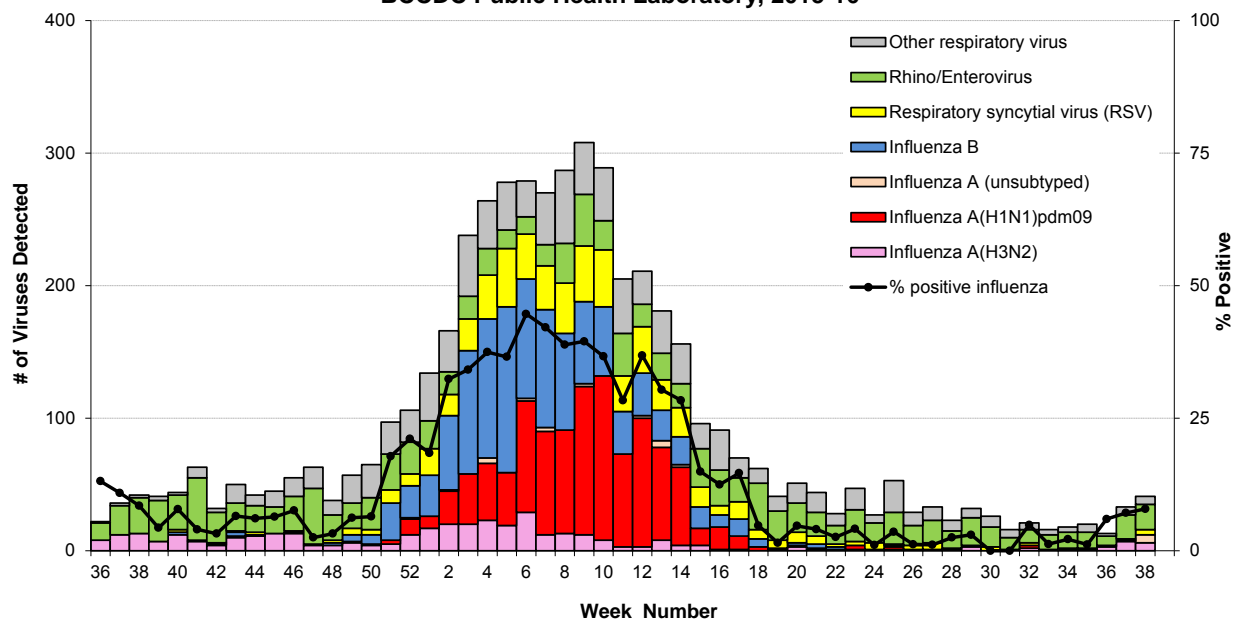


## Laboratory Reports

### BCCDC Public Health Laboratory

As shown in the far right of the graphic below for the 2015-16 season, during the most recent week 38, 152 patients were tested for respiratory viruses at the BCCDC Public Health Laboratory (PHL). Of these, 12 (8%) tested positive for influenza A, including 6 (50%) A(H3N2) and 6 (50%) with subtype pending; none tested positive for influenza B. Overall influenza positivity increased slightly from <5% prior to week 36 to 8% in week 38. Enteroviruses were the most commonly detected respiratory virus during this period.

**Influenza and other virus detections among respiratory specimens submitted to BCCDC Public Health Laboratory, 2015-16**

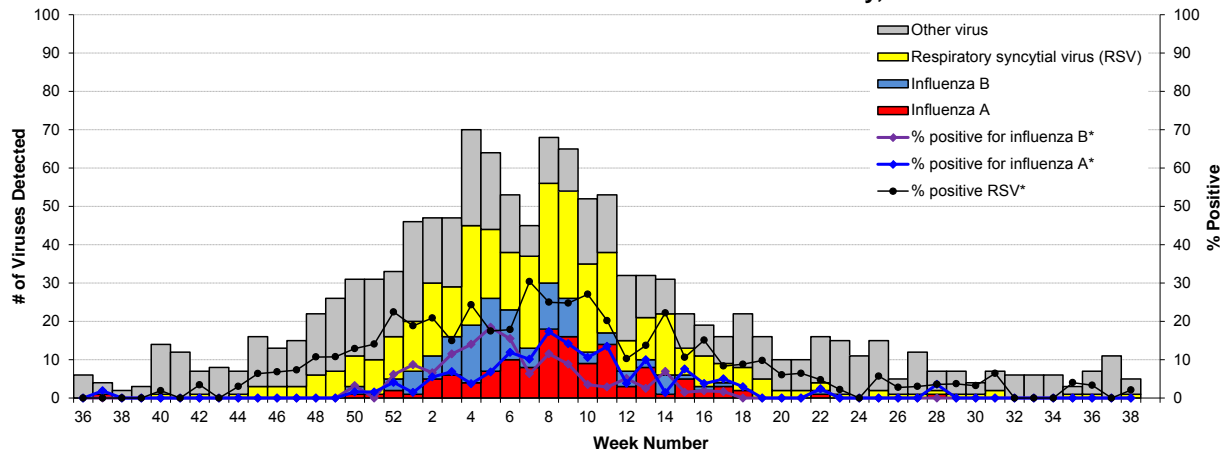


Data are current to September 28, 2016.

BC Children's and Women's Health Centre Laboratory

As shown in the far right of the graphic below for the 2015-16 season, during the most recent week 38, the BC Children's and Women's Health Centre Laboratory conducted 48 tests for influenza A and B; none were positive. Enteroviruses were the most commonly detected non-influenza respiratory viruses during this period.

**Influenza and other virus detections among respiratory specimens submitted to BC Children's and Women's Health Centre Laboratory, 2015-16**



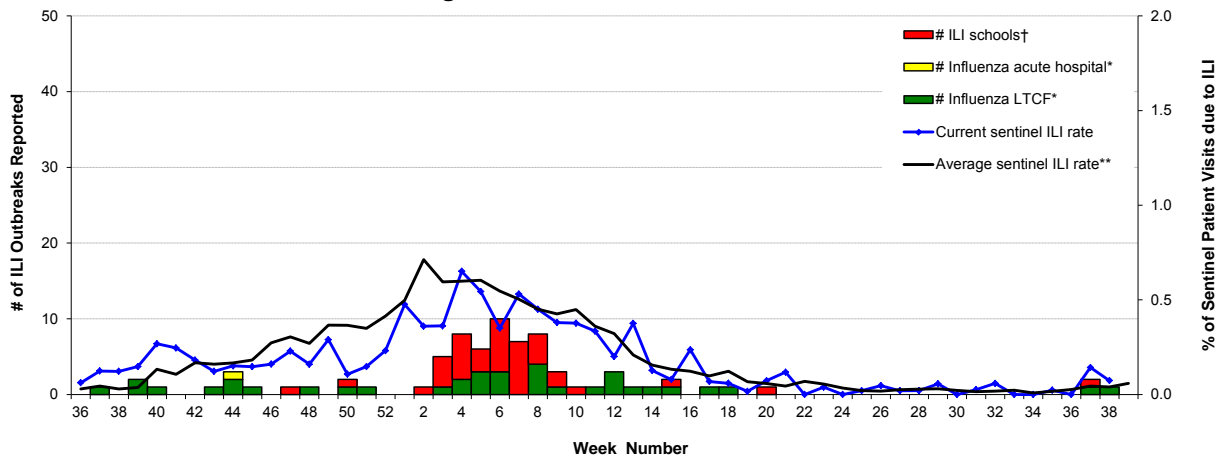
\* Positive rates were calculated using aggregate data. The denominators for each rate represent the total number of tests; multiple tests may be performed for a single specimen and/or patient.

## Influenza-like Illness (ILI) Outbreaks

As shown in the graphic below for the full 2015-16 season, during week 38, one new lab-confirmed influenza A(H3N2) outbreak was reported from a long-term care facility (LTCF) in FHA.

Reporting of LTCF outbreaks during summer/early fall is atypical. However, during the 2014-15 and 2015-16 seasons, sporadic LTCF outbreaks were reported as early as week 32. So far, 2 LTCF outbreaks have been reported during summer/early fall before the start of the 2016-17 surveillance period, both in FHA, with onset in weeks 37 and 38.

**Number of influenza-like illness (ILI) outbreaks reported, compared to current sentinel ILI rate and historical average sentinel ILI rate, British Columbia 2015-16**



\* 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.  
\*\* 10-year historical average for 2015-16 season based on 2003-04 to 2014-15 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality.

## **Emerging Respiratory Viruses**

### **Enterovirus D68 (EV-D68), British Columbia**

This past week, 7 new cases of enterovirus D68 (EV-D68) were detected at the BCCDC Public Health Laboratory, bringing the total number of cases detected in BC since August 2016 to 16 cases, almost double the number reported compared to last week's bulletin (n=9).

Of the 16 laboratory-confirmed EV-D68 cases reported in BC to date since August 2016, 14 (88%) were detected in children <10 years old, and of those, the majority (10/14, 71%) have been detected in infants/toddlers ≤2 years old; two cases were detected in adults ≥20 years old. At least two-thirds of cases with known information have been hospitalized and one infant/toddler presented with neurologic illness characterized by arm paralysis and some truncal weakness. Cases have been detected in all regions of the province and are not epidemiologically linked. EV-D68 cases have also been reported in other parts of Canada, the US, and Europe in recent months, including one case in a young child ≤2 years old in Alberta with acute flaccid paralysis.

In 2014, BC along with other Canadian provinces and US states, experienced a nationwide outbreak of EV-D68, with several cases associated with severe respiratory illness notably in children with asthma. During the 2014 outbreak in BC, cases were initially detected in August, with subsequent increase through September and peak in October. The majority of cases were detected in young children <5 years old; however, in contrast to the current 2016 age profile, only about 20% of cases were detected in infants/toddlers ≤2 years old in 2014. A summary of the 2014 outbreak was published in *Euro Surveillance*, available from: [www.eurosurveillance.org/ViewArticle.aspx?ArticleId=21283](http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=21283).

Of note, despite systematic testing of over 700 respiratory specimens at the BCCDC Public Health Laboratory for EV-D68 during August and September 2015, no EV-D68 cases were detected in BC last fall, consistent with an expected 2-3 year periodicity.

Generally most EV-D68 cases present with mild respiratory illness; however, EV-D68 infection has been associated with neurologic illness characterized by acute flaccid paralysis in a small subset of cases. People with asthma and other lung conditions may be at higher risk of more serious respiratory complications.



## **National**

### **FluWatch**

There have been no new FluWatch reports published since our last bulletin. FluWatch reports will be published on a bi-weekly basis until week 40 (publication date: October 14, 2016), after which the weekly schedule will resume. Details are available at: [healthycanadians.gc.ca/diseases-conditions-maladies-affections/disease-maladie/flu-grippe/surveillance/fluwatch-reports-rapports-surveillance-influenza-eng.php](http://healthycanadians.gc.ca/diseases-conditions-maladies-affections/disease-maladie/flu-grippe/surveillance/fluwatch-reports-rapports-surveillance-influenza-eng.php).

### **National Microbiology Laboratory (NML): Strain Characterization**

From September 1 to 28, 2016, the National Microbiology Laboratory (NML) received 2 influenza B viruses from Canadian laboratories for antigenic characterization.

Influenza B: Of the 2 influenza B viruses characterized, both were antigenically similar to a B/Brisbane/60/2008(Victoria-lineage)-like virus, the recommended influenza B component for the 2016-17 northern hemisphere influenza vaccine.

### **National Microbiology Laboratory (NML): Antiviral Resistance**

From September 1 to 28, 2016, the NML received 2 influenza B viruses from Canadian laboratories for drug susceptibility testing. Of the 2 influenza B viruses tested against oseltamivir and zanamivir, both were sensitive to both tested antiviral drugs.

## **International**

### **USA (week 37, ending September 17, 2016)**

During week 37, the most frequently identified influenza virus type reported by public health laboratories was influenza A(H3N2). The percentage of respiratory specimens testing positive for influenza in clinical laboratories increased slightly, with a mix of influenza A and B detected. The proportion of deaths attributed to pneumonia and influenza (P&I) was below system-specific epidemic thresholds. No influenza-associated pediatric deaths were reported to CDC during week 37. The proportion of outpatient visits for ILI was 1.1%, which is below the national baseline of 2.1%. Details are available at: [www.cdc.gov/flu/weekly/](http://www.cdc.gov/flu/weekly/).

### **WHO**

There have been now new WHO Influenza Updates since our last bulletin. Details are available at: [www.who.int/influenza/surveillance\\_monitoring/updates/en/](http://www.who.int/influenza/surveillance_monitoring/updates/en/).

## **WHO Recommendations for Influenza Vaccines**

### **WHO Recommendations for 2016-17 Northern Hemisphere Influenza Vaccine**

On February 25, 2016, the WHO announced recommended strain components for the 2016-17 northern hemisphere trivalent influenza vaccine (TIV):\*

- an A/California/7/2009 (H1N1)pdm09-like virus;†
- an A/Hong Kong/4801/2014 (H3N2)-like virus;‡
- a B/Brisbane/60/2008 (Victoria-lineage)-like virus.§

It is recommended that quadrivalent influenza vaccines (QIV) containing two influenza B viruses contain the above three viruses and a B/Phuket/3073/2013 (Yamagata-lineage)-like virus.

These recommended components are the same as those recommended for the 2016 Southern Hemisphere vaccine.

\* Recommended strains represent a change for two of the three components used for the 2015-16 northern hemisphere vaccines.

† Recommended strain has been retained as the A(H1N1) component since the 2009 pandemic and has been included in the northern hemisphere vaccine since 2010-11.

‡ Recommended strain for the A(H3N2) component represents a phylogenetic clade-level change from a clade 3C.3a virus to a clade 3C.2a virus.

§ Recommended strain for the influenza B component represents a lineage-level change from a B/Yamagata-lineage virus to a B/Victoria-lineage virus.

For further details: [http://www.who.int/influenza/vaccines/virus/recommendations/2016\\_17\\_north/en/](http://www.who.int/influenza/vaccines/virus/recommendations/2016_17_north/en/).

### **WHO Recommendations for 2017 Southern Hemisphere Influenza Vaccine**

On September 29, 2016, the WHO announced the recommended strain components for the 2017 southern hemisphere trivalent influenza vaccine (TIV):\*

- an A/Michigan/45/2015 (H1N1)pdm09-like virus;†
- an A/Hong Kong/4801/2014 (H3N2)-like virus;
- a B/Brisbane/60/2008 (Victoria-lineage)-like virus.

It is recommended that quadrivalent influenza vaccines (QIV) containing two influenza B viruses contain the above three viruses and a B/Phuket/3073/2013 (Yamagata-lineage)-like virus.

\* These recommended strains represent a change for one of the three components used for the 2016 southern hemisphere TIV and 2016-17 northern hemisphere TIV.

† Recommended strain represents a change from an A/California/7/2009-like virus, which had been retained as the A(H1N1)pdm09 component since the 2009 pandemic, to an A/Michigan/45/2015-like virus belonging to the emerging phylogenetic subclade 6B.1.

For further details: [www.who.int/influenza/vaccines/virus/recommendations/2017\\_south/en/](http://www.who.int/influenza/vaccines/virus/recommendations/2017_south/en/).

## Additional Information

### **Explanatory Note:**

The surveillance period for the 2015-16 influenza season is defined starting in week 40. Weeks 36-39 of the 2014-15 season are shown on graphs for comparison purposes.

### **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](http://www.ammi.ca/guidelines)

### **Web Sites:**

BCCDC Emerging Respiratory Pathogen Updates:

[www.bccdc.ca/health-professionals/data-reports/emerging-respiratory-virus-updates](http://www.bccdc.ca/health-professionals/data-reports/emerging-respiratory-virus-updates)

### **Influenza Web Sites**

Canada – Flu Watch: [www.phac-aspc.gc.ca/fluwatch/](http://www.phac-aspc.gc.ca/fluwatch/)

Washington State Flu Updates: <http://www.doh.wa.gov/portals/1/documents/5100/420-100-fluupdate.pdf>

USA Weekly Surveillance Reports: [www.cdc.gov/flu/weekly/](http://www.cdc.gov/flu/weekly/)

European Influenza Surveillance Scheme:

[ecdc.europa.eu/EN/HEALTHTOPICS/SEASONAL\\_INFLUENZA/EPIDEMIOLOGICAL\\_DATA/Pages/Weekly\\_Influenza\\_Surveillance\\_Overview.aspx](http://ecdc.europa.eu/EN/HEALTHTOPICS/SEASONAL_INFLUENZA/EPIDEMIOLOGICAL_DATA/Pages/Weekly_Influenza_Surveillance_Overview.aspx)

WHO – Weekly Epidemiological Record: [www.who.int/wer/en/](http://www.who.int/wer/en/)

WHO Collaborating Centre for Reference and Research on Influenza (Australia):

[www.influenzacentre.org/](http://www.influenzacentre.org/)

Australian Influenza Report:

[www.health.gov.au/internet/main/publishing.nsf/content/cda-surveil-ozflu-flucurr.htm](http://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](http://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/](http://www.who.int/csr/disease/avian_influenza/en/)

World Organization for Animal Health: [www.oie.int/eng/en\\_index.htm](http://www.oie.int/eng/en_index.htm)

### **Contact Us:**

Tel: (604) 707-2510

Fax: (604) 707-2516

Email: [InfluenzaFieldEpi@bccdc.ca](mailto:InfluenzaFieldEpi@bccdc.ca)

Communicable Disease Prevention and Control Services (CDPACS)

BC Centre for Disease Control

655 West 12<sup>th</sup> Ave, Vancouver BC V5Z 4R4

Online: [www.bccdc.ca/health-professionals/data-reports/influenza-surveillance-reports](http://www.bccdc.ca/health-professionals/data-reports/influenza-surveillance-reports)

# Influenza-Like Illness (ILI) Outbreak Summary Report Form

Please complete and email to [ilioutbreak@bccdc.ca](mailto: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	<b><u>Reporting Information</u></b> <span style="float: right;">Health unit/medical health officer notified? <input type="checkbox"/> Yes <input type="checkbox"/> No</span>
	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	<b><u>First Notification</u></b>														
	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 / MMM / YYYY</u>														
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Numbers to date</th> <th style="width: 50%;">Residents/Students</th> <th style="width: 25%;">Staff</th> </tr> </thead> <tbody> <tr> <td><b>Total</b></td> <td></td> <td></td> </tr> <tr> <td><b>With ILI</b></td> <td></td> <td></td> </tr> <tr> <td><b>Hospitalized</b></td> <td></td> <td></td> </tr> <tr> <td><b>Died</b></td> <td></td> <td></td> </tr> </tbody> </table>	Numbers to date	Residents/Students	Staff	<b>Total</b>			<b>With ILI</b>			<b>Hospitalized</b>			<b>Died</b>	
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<b>Total</b>															
<b>With ILI</b>															
<b>Hospitalized</b>															
<b>Died</b>															

C	<b><u>Update AND Outbreak Declared Over</u></b>														
	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>														
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<b>With ILI</b>															
<b>Hospitalized</b>															
<b>Died</b>															

D	<b><u>Laboratory Information</u></b>
	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