

British Columbia Influenza Surveillance Bulletin

Influenza Season 2018-19, Number 1, Week 41

October 7 to October 13, 2018

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Inter-Seasonal Influenza Activity in BC

This is the first bulletin of the 2018-19 surveillance period, which officially commenced in week 40.

Influenza activity is at low, inter-seasonal levels as expected for this time of year. In fact, there have been fewer influenza detections in BC, and notably less A(H3N2), than in recent prior seasons.

Among the few influenza detections thus far in BC, most have been A(H1N1)pdm09 but with some further contribution by A(H3N2) in recent weeks requiring ongoing monitoring.

No new influenza outbreaks have been reported since week 20. **Please note that the [Facility Outbreak Report Form](#) has been updated for the coming season (attached). Please discard any older versions. The new version is also available on our website.**

Relative to the last few years, overall, the southern hemisphere experienced a mild influenza season. Influenza activity in Australia and New Zealand was dominated by the A(H1N1)pdm09 virus and remained below the seasonal threshold throughout the entire season.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

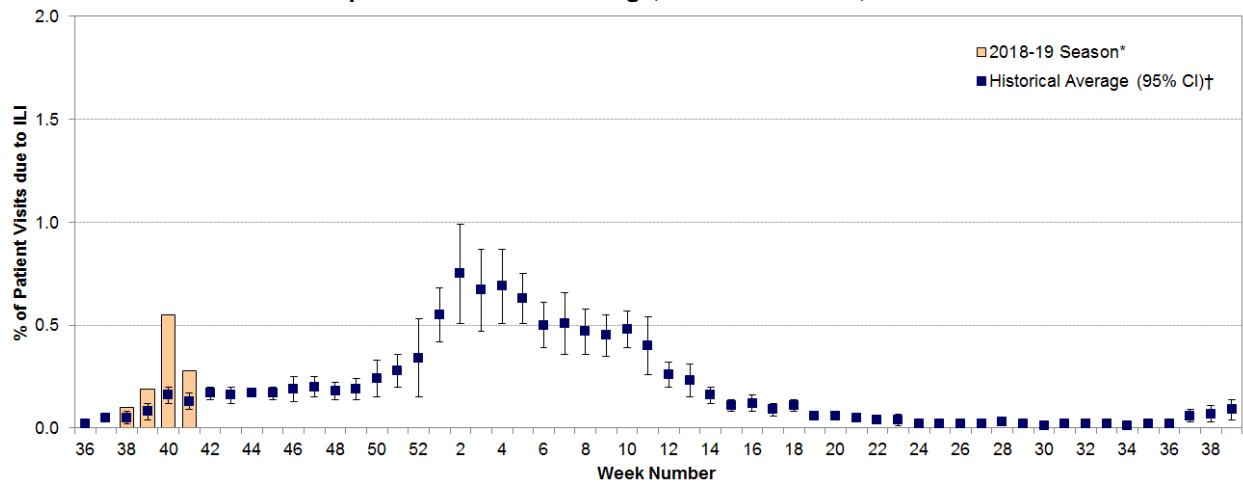
Report Disseminated: October 18, 2018

British Columbia

Sentinel Physicians

In recent weeks, including the most recent week 41, influenza-like illness (ILI) rates among patients presenting to sentinel sites have been higher than the historical average but these should be interpreted cautiously. Rates may be unreliable and are subject to change as reporting becomes more complete. Thirteen (50%) of sentinel sites have reported data for week 41.

Figure 1: Percent of patient visits to sentinel physicians due to influenza-like illness (ILI) compared to historical average, British Columbia, 2018-19



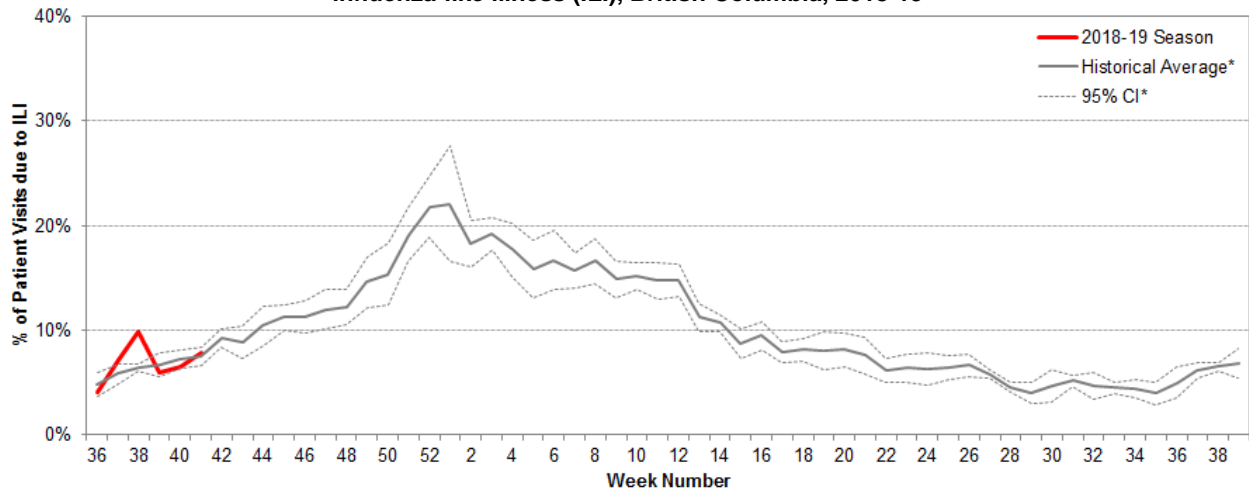
* Data are subject to change as reporting becomes more complete.

† 10-year historical average for 2018-19 season based on 2005-06 to 2017-2018 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 generally consistent with the historical average for the past 5 seasons. The earlier, temporary spike in week 37 may reflect expected variability with small numbers, back-to-school or other such considerations.

Figure 2: Percent of patients presenting to BC Children’s Hospital ER attributed to influenza-like illness (ILI), British Columbia, 2018-19

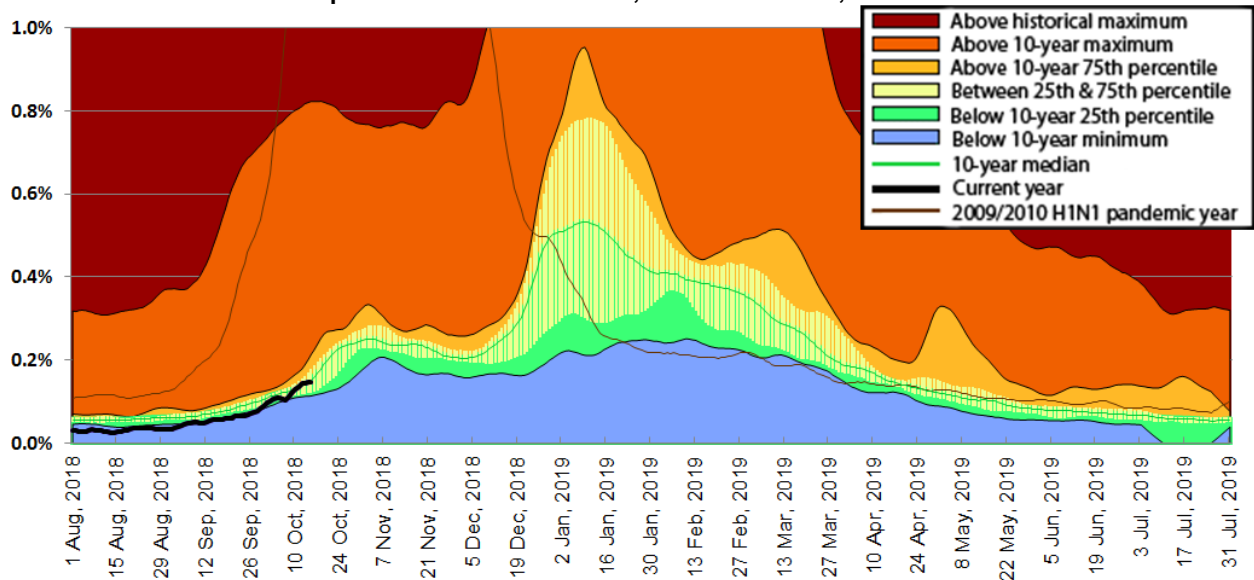


Source: BCCH Admitting, Discharge, Transfer database (ADT). Data includes records with a triage chief complaint of "flu" or "influenza" or "fever/cough."
* 5-year historical average for 2018-19 season based on 2012-13 to 2017-18 seasons; CI=confidence interval.

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, increased slightly but remained at or below expected median levels for this time of year overall in the province with some regional variation.

Figure 3: Service claims submitted to MSP for influenza illness (II)* as a proportion of all submitted general practitioner service claims, British Columbia, 2018-19

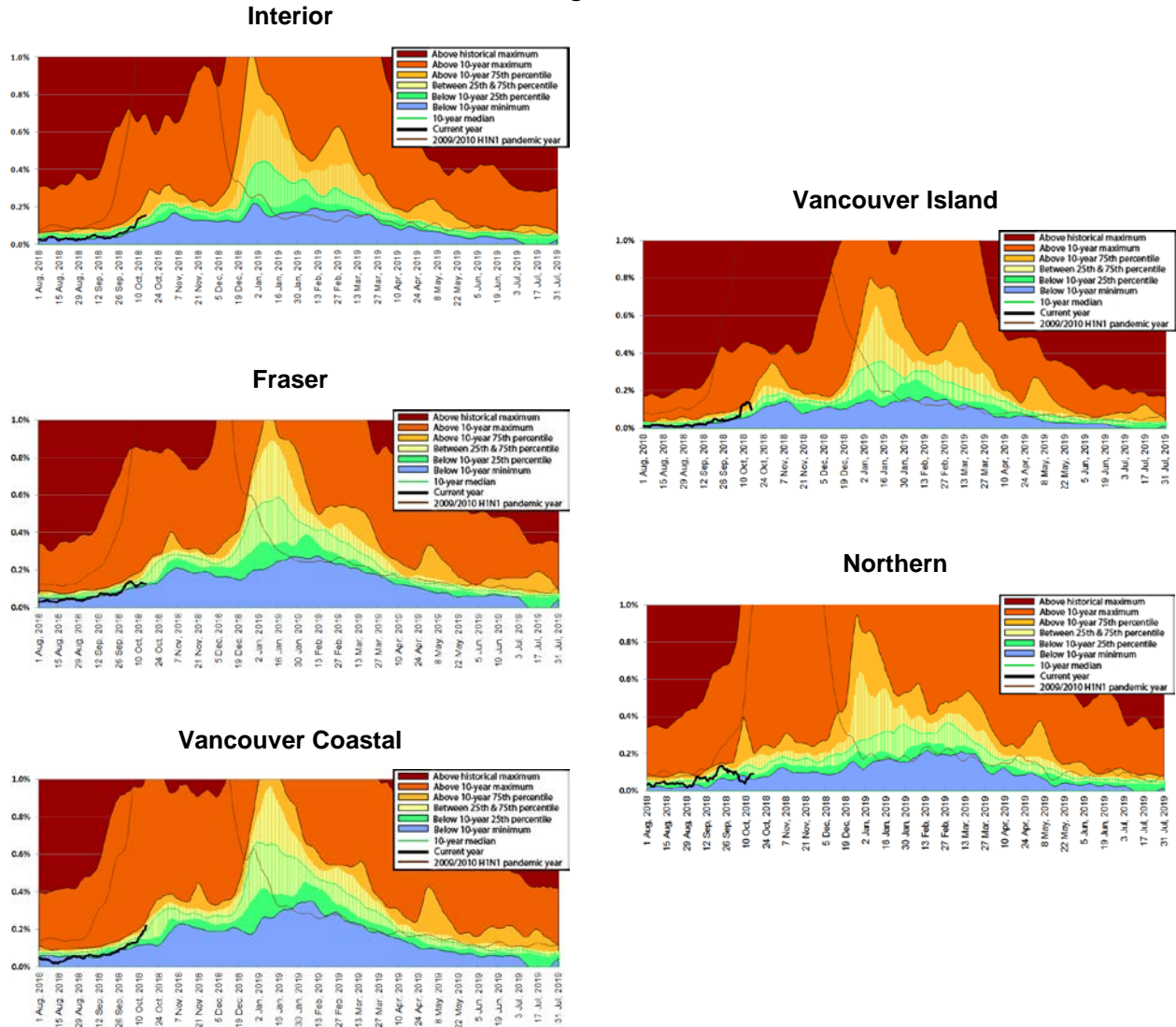


* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

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 data beginning August 1, 2018 corresponds to sentinel ILI week 31; data are current to October 17, 2018.

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

Figure 4



Laboratory Reports

BCCDC Public Health Laboratory

In BC, among low level detections throughout the late summer/autumn period, the A(H1N1)pdm09 subtype has been most common but with some further A(H3N2) contribution also in recent weeks, requiring ongoing monitoring.

Cumulatively, during the 2018-19 season (since week 40, starting October 1, 2018), 8/354 (2.3%) patients tested positive for influenza at the BCCDC PHL, all of which were influenza A [4 A(H3N2), 4 A(H1N1)pdm09]; none of which tested positive for influenza B.

In week 41, 169 patients were tested for respiratory viruses at the BCCDC Public Health Laboratory (PHL). Of these, 5 (3%) tested positive for influenza, all of which were influenza A [2 A(H3N2), and 3 A(H1N1)pdm09] and none of which were influenza B. Influenza positivity at the BCCDC PHL remained low at 3% in week 41.

The three A(H1N1)pdm09 detections in week 41 were among <1, 1-9, and 20-49 years olds respectively, while the remaining two A(H3N2) detections were among 50-64 year olds and elderly adults aged 65+ respectively.

The total number of influenza detections is much lower this season than prior recent seasons, with far fewer A(H3N2) detections compared to prior seasons. Enteroviruses (n=68) were the most commonly detected respiratory virus in week 41; these detections have increased slightly in recent weeks, as expected for this time of year.

Figure 5: Influenza and other virus detections among respiratory specimens submitted to BCCDC Public Health Laboratory, 2018-19

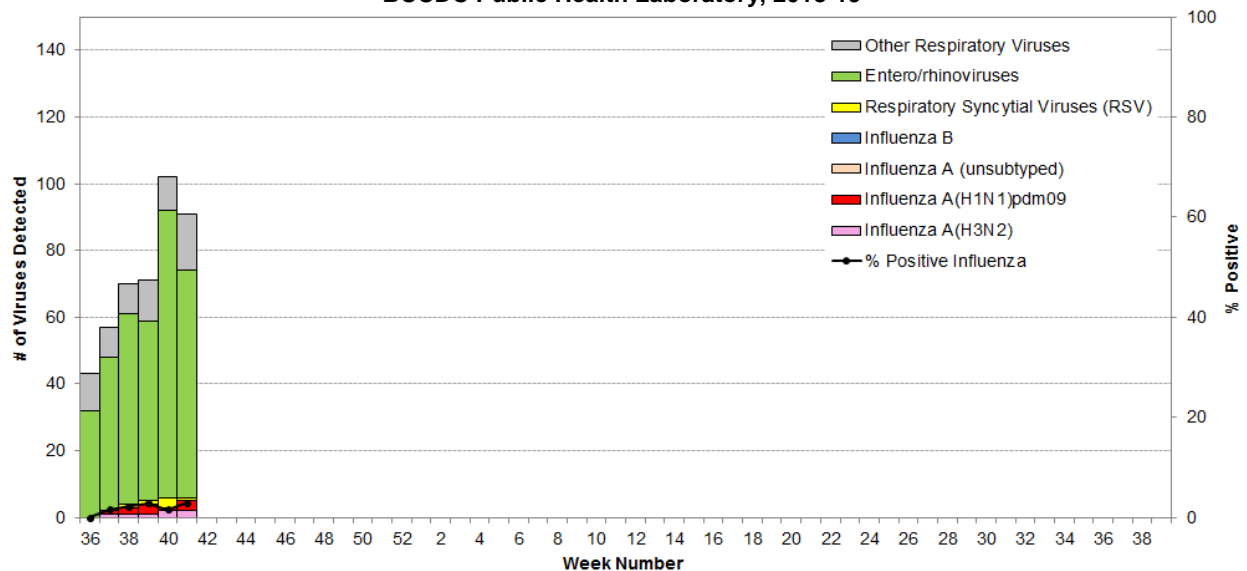
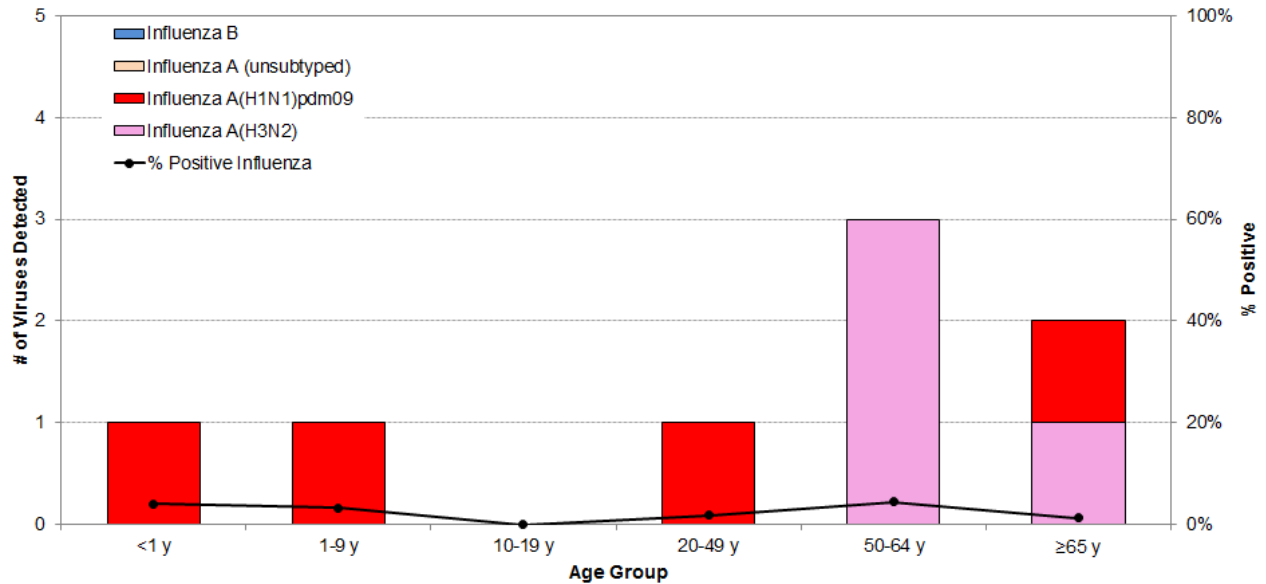
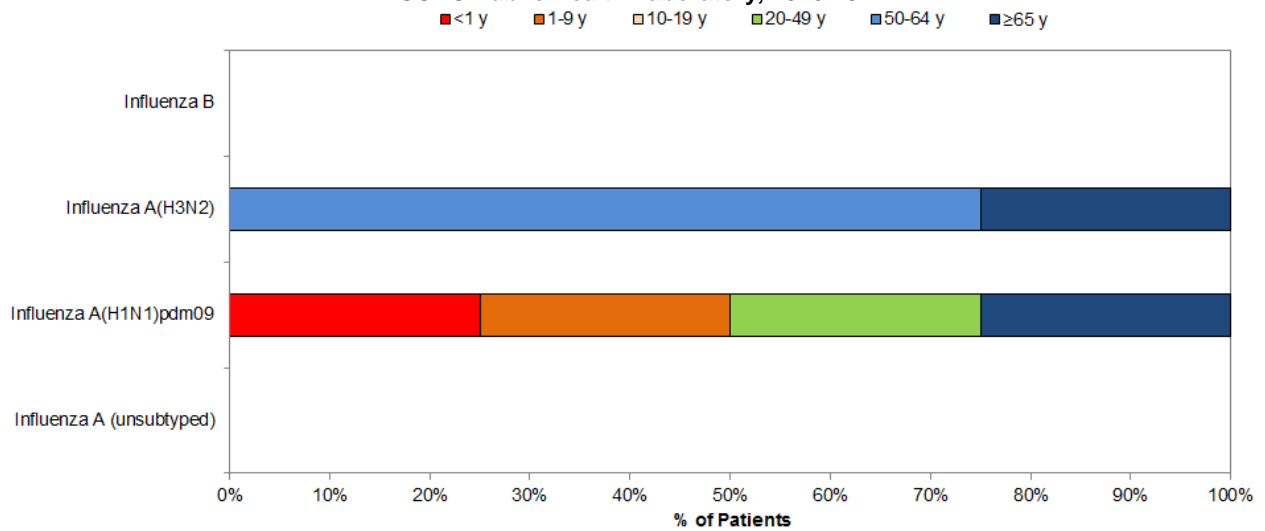


Figure 6: Cumulative number (since week 40) of influenza detections by type, subtype, and age group, BCCDC Public Health Laboratory, 2018-19



Source: BCCDC Public Health Laboratory (PHDRW); Data are current to October 18, 2018; figure includes cumulative influenza detections for specimens collected from weeks 40-41.

Figure 7: Age distribution of influenza detections (cumulative since week 40), BCCDC Public Health Laboratory, 2018-19

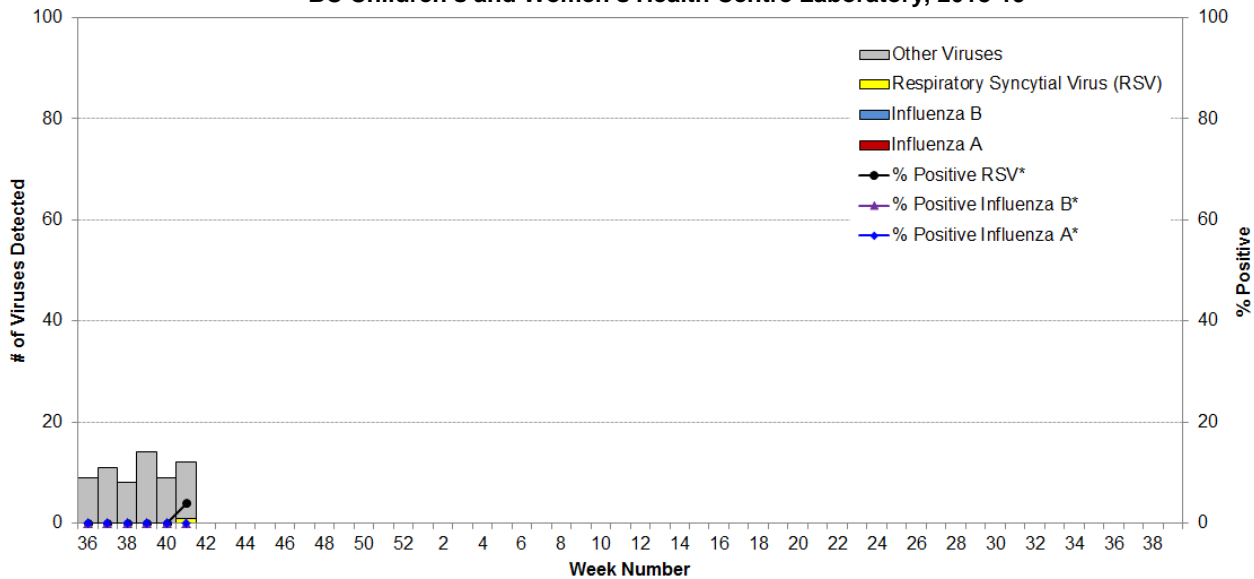


Source: BCCDC Public Health Laboratory (PHDRW); Data are current to October 18, 2018; figure includes cumulative influenza detections for specimens collected from weeks 40-41.

BC Children’s and Women’s Health Centre Laboratory

In week 41, 25 tests for respiratory viruses were conducted at the BC Children’s and Women’s Health Centre laboratory. Of these, none were positive for influenza A or influenza B. One was positive for respiratory syncytial virus (RSV). In week 41, Rhinovirus and Enterovirus detections were more numerous, as expected for this time of year.

Figure 8: Influenza and other virus detections among respiratory specimens submitted to BC Children’s and Women’s Health Centre Laboratory, 2018-19



* 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

No laboratory-confirmed influenza outbreaks have been reported since week 20 in the 2017-18 season. This is not uncommon at this time of the year.

National

FluWatch (weeks 39-40, September 23 to October 6, 2018)

Influenza activity remains at inter-seasonal levels across the country with very few reports of influenza activity for weeks 39-40. The majority of influenza detections continued to be A(H1N1)pdm09. The percentage of laboratory tests positive for influenza is lower for this time of year compared to previous seasons. Details are available at: <https://www.canada.ca/en/public-health/services/diseases/flu-influenza/influenza-surveillance/weekly-influenza-reports.html>.

National Microbiology Laboratory (NML): Strain Characterization

From September 1, 2018 to October 18, 2018, the National Microbiology Laboratory (NML) received 4 influenza viruses [1 A(H3N2), 3 A(H1N1)pdm09 and 0 B] from Canadian laboratories for antigenic characterization.

Influenza A(H3N2): The one influenza A(H3N2) virus was considered antigenically similar to A/Singapore/INF16H-16-0019/2016, a clade 3C.2a1 virus and the WHO-recommended A(H3N2) component for the 2018-19 northern hemisphere influenza vaccine. The characterized virus also belonged to genetic group 3C.2a1.

Influenza A(H1N1)pdm09: All of the 3 A(H1N1)pdm09 viruses characterized were antigenically similar to A/Michigan/45/2015: the WHO-recommended influenza A(H1N1) component for the 2018-19 northern hemisphere influenza vaccine.

Influenza B: No influenza B viruses have been detected in weeks 39-40.

National Microbiology Laboratory (NML): Antiviral Resistance

From September 1, 2018 to October 18, 2018, the NML received influenza viruses from Canadian laboratories for drug susceptibility testing.

Amantadine: Of the 2 influenza A(H3N2) and 2A(H1N1)pdm09 viruses tested against amantadine, all were resistant.

Oseltamivir: Of the 5 influenza viruses [2 A(H3N2) and 3 A(H1N1)pdm09] tested against oseltamivir, all were sensitive.

Zanamivir: Of the 5 influenza viruses [2 A(H3N2) and 3 A(H1N1)pdm09] tested against zanamivir, all were sensitive.

International

USA (week 40, October 1 to October 6, 2018)

During week 40, influenza activity was at inter-seasonal levels in the United States. The most frequently identified influenza subtype reported by public health laboratories during week 40 was influenza A(H1N1)pdm09. The percentage of respiratory specimens testing positive for influenza in clinical laboratories remained at low levels. The proportion of deaths attributed to pneumonia and influenza (P&I) was below the system-specific epidemic threshold. Two influenza-associated pediatric deaths were reported; the deaths were attributed to an influenza B virus and occurred during week 40. The proportion of outpatient visits for ILI was 1.4%, which is below the national baseline of 2.2%. The US CDC has also posted a summary of influenza activity in the US and elsewhere for the period May 20 to October 6, 2018, available at: <https://www.cdc.gov/flu/weekly/index.htm>

WHO (October 15, 2018, based on data up to September 30, 2018)

In the temperate zone of the northern hemisphere, influenza detections remained at inter-seasonal levels. Influenza activity is decreasing in the temperate zone of the southern hemisphere, with influenza percent positivity remaining high in Southern Africa. Australia and New Zealand experienced a mild season, below threshold, while some countries in Southern and South-East Asia reported increased influenza detections. Worldwide, influenza A(H1N1)pdm09 viruses predominated.

From September 4 to September 17, 2017, the WHO GISRS laboratories tested more than 58,772 specimens. Of these, 2,124 were positive for influenza viruses including 1,789 (84.2%) typed as influenza A and 335 (15.8%) as influenza B. Of the subtyped influenza A viruses, 1,051 (74%) were influenza A(H1N1)pdm09 and 369 (26%) were influenza A(H3N2). Of the characterized B viruses, 51 (49%) belonged to the B(Yamagata) lineage and 53 (51%) to the B(Victoria) lineage.

In countries in the temperate zone of the southern hemisphere, overall influenza activity appeared to be low. ILI and influenza activity reached high levels in Southern Africa, mostly due to influenza B viruses (both lineages). In South America, there was a reported overall decrease in influenza and respiratory syncytial virus (RSV). Influenza activity in Paraguay decreased but remained above alert threshold. In Uruguay, severe acute respiratory infections (SARI) remained high, with influenza positivity decreasing. In Oceania, influenza activity was low overall. Influenza activity in Australia and New Zealand was dominated by the A(H1N1)pdm09 virus and remained below the seasonal threshold throughout the entire season. Low to moderate ILI activity was reported in the Pacific Islands.

In select countries in the tropical zone, low overall influenza and RSV activity has been reported, with the exception of Cuba and Haiti where influenza A(H1N1)pdm09 activity has continued to increase. In El Salvador and Nicaragua, influenza activity remains elevated with predominantly A(H1N1)pdm09 detections. Guatemala and Panama reported elevated RSV activity. Most tropical countries of South America reported low influenza and RSV activity overall; however, with Peru reporting an increase in RSV percent positivity. Details are available at: www.who.int/influenza/surveillance_monitoring/updates/en/.

WHO Recommendations for Influenza Vaccines

WHO Recommendations for 2018-19 Northern Hemisphere Influenza Vaccine

On February 22, 2018, the WHO announced the recommended strain components for the 2018-19 northern hemisphere trivalent influenza vaccine (TIV)*:

- an A/Michigan/45/2015 (H1N1)pdm09-like virus;
- an A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus; †
- a B/Colorado/06/2017-like virus (B/Victoria/2/87 lineage) ‡.

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.

* Recommended strains represent a change for two of the three components used for the 2017-18 northern hemisphere TIV

† Recommended strain represents a change from the 2017-18 season vaccine which contained an A/Hong Kong/4801/2014 (H3N2)-like virus

‡ Recommended strain represents a change from the 2017-18 season vaccine which contained a B/Brisbane/60/2008-like virus.

For further details: http://www.who.int/influenza/vaccines/virus/recommendations/2018_19_north/en/

WHO Recommendations for the 2019 Southern Hemisphere Influenza Vaccine

On September 27, 2018, the WHO announced recommended strain components for the 2019 southern hemisphere trivalent influenza vaccine (TIV):*

- an A/Michigan/45/2015 (H1N1)pdm09-like virus;
- an A/Switzerland/8060/2017 (H3N2)-like virus; ‡
- a B/Colorado/06/2017-like virus (B/Victoria/2/87 lineage).§

It is recommended that quadrivalent influenza vaccines (QIV) containing two influenza B viruses contain the above three viruses and a B/Phuket/3073/2013-like virus (B/Yamagata/16/88 lineage).

* Recommended strains represent a change for two of the three components used for the 2018 southern hemisphere TIV.

‡ Recommended strain represents a change from the 2018 season vaccine which contained an A/Singapore/INFIMH-16-0019/2016 (H3N2)-like 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/2019_south/en/

Additional Information

Explanatory Note:

The surveillance period for the 2018-19 influenza season is defined starting in week 40. Weeks 36-39 of the 2017-18 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.amm.ca/?ID=122&Language=ENG

Web Sites:

BCCDC Emerging Respiratory Pathogen Updates:

www.bccdc.ca/health-professionals/data-reports/emerging-respiratory-virus-updates

Influenza Web Sites

Canada – Influenza surveillance (FluWatch): <https://www.canada.ca/en/public-health/services/diseases/flu-influenza/influenza-surveillance.html>

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/

Joint ECDC – WHO/Europe weekly influenza update (Flu News Europe): flunewseurope.org

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/health-professionals/data-reports/influenza-surveillance-reports

Link to fillable Facility Outbreak Report Form: http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Forms/Epid/Influenza%20and%20Respiratory/OutbreakReportForm_2018.pdf

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>	
	Person Reporting:	Title:
	Contact Phone:	Email:
	Health Authority:	HSDA:
	Full Facility Name:	
	Is this report:	First Notification (<i>complete section B below; section D if available</i>) Outbreak Over (<i>complete section C and section D below</i>)
	Report Date (dd/mm/yyyy):	

B	<u>First Notification</u>	
	Type of facility*:	Long Term Care Facilities, Nursing Homes Acute Care Facility Other Setting:
	<i>If ward or wing, please specify name/number:</i>	
	Date of onset of first case of ILI (dd/mm/yyyy):	
	Date outbreak declared (dd/mm/yyyy):	
	<small>*Long Term Care Facilities, Nursing Homes: Facilities that provide living accommodation for people who require on-site delivery of 24 hour, 7 days a week supervised care, including professional health services, personal care and services such as meals, laundry and housekeeping or other residential care facilities where provincial/territorial public health is responsible for outbreak management under provincial legislation; Acute Care Facility: Publicly funded facilities providing medical and/or surgical treatment and acute nursing care for sick or injured people, through inpatient services. (i.e. hospitals including inpatient rehabilitation and mental facilities); Other Setting: Any locations not otherwise specified here in which outbreaks of influenza or ILI may occur (e.g. retirement homes, assisted living or hospice settings, private hospitals/clinics, correctional facilities, colleges/universities, adult education centres, shelters, group homes, and workplaces).</small>	

C	<u>Outbreak Declared Over</u>										
	Date of onset for last case of ILI (dd/mm/yyyy):										
	Date outbreak declared over (dd/mm/yyyy):										
	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Numbers to date</th> <th>Residents</th> </tr> </thead> <tbody> <tr> <td>Total</td> <td></td> </tr> <tr> <td>With ILI</td> <td></td> </tr> <tr> <td>Hospitalized*</td> <td></td> </tr> <tr> <td>Died*</td> <td></td> </tr> </tbody> </table>		Numbers to date	Residents	Total		With ILI		Hospitalized*		Died*
Numbers to date	Residents										
Total											
With ILI											
Hospitalized*											
Died*											
<small>*suspected to be linked to case of ILI</small>											

D	<u>Laboratory Information</u>			
	Specimen(s) submitted?	<input type="checkbox"/> Yes (location: _____)	No	<input type="checkbox"/> Don't know
	If yes, organism identified?	Yes	No	Don't know
	Please specify organism/subtype:	Influenza A (subtype: _____)	Influenza B	
		Parainfluenza Enterovirus Coronavirus RSV HMPV Adenovirus Other:		