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

British Columbia Influenza Surveillance Bulletin

Influenza Season 2018-19, Number 11, Week 6
February 3 to February 9, 2019

Table of Contents:

Peak of influenza A activity passed in BC: surveillance indicators show stable or downward trends

In BC, the current influenza A epidemic has passed peak activity, with surveillance indicators suggesting stable or downward trends in week 6.

Among influenza viruses typed since week 40, virtually all have been influenza A and, among those subtyped at the BCCDC PHL, more than 90% have been A(H1N1)pdm09.

Children under 10 years of age and non-elderly adults comprise 80% of all A(H1N1)pdm09 detections to date in BC, with children in particular disproportionately affected. Conversely, elderly adults comprise 62% of A(H3N2) detections thus far in BC.

In week 6, one laboratory-confirmed influenza A(H1N1)pdm09 outbreak in a long term care facility (LTCF) has been reported. The cumulative tally of LTCF influenza outbreaks during this predominant A(H1N1)pdm09 epidemic in 2018-19 remains far below that of prior A(H3N2)-dominant seasons in 2017-18 and 2016-17 (20, 122, and 161 outbreaks, respectively).

Interim estimates of vaccine effectiveness (VE) were published today from the United States (US) for the 2018-19 influenza season. US estimates indicate substantial protection against medically-attended influenza A(H1N1)pdm09 illness, albeit lower than reported earlier from Canada, Hong Kong, and Australia (the latter for their 2018 southern hemisphere season). Multiple factors may explain variation in VE estimates. Please see within (page 14) for details.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Report Disseminated: February 14, 2019

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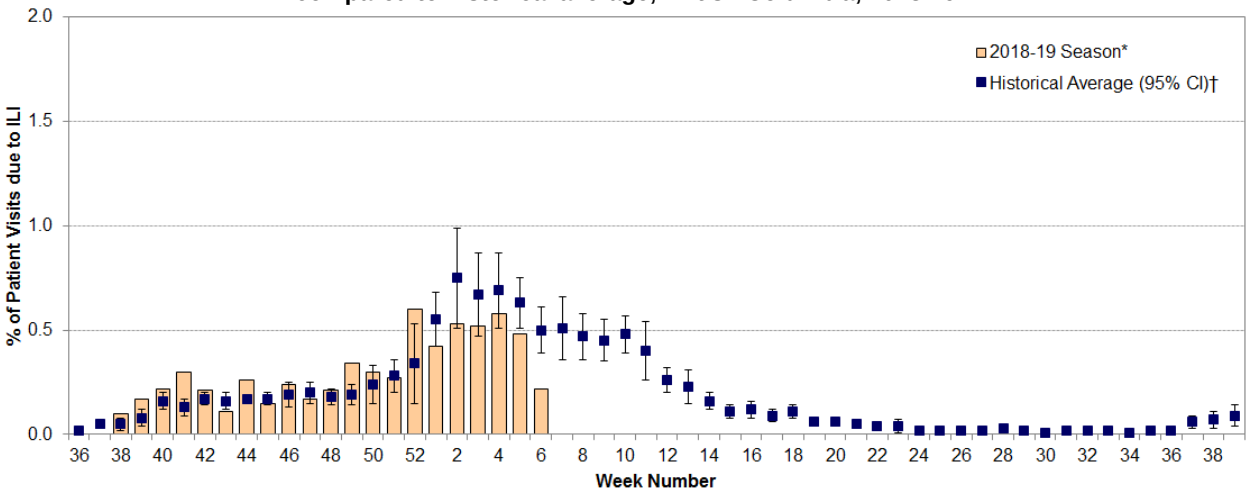
British Columbia

Sentinel Physicians

In week 6, influenza-like illness (ILI) rates among patients presenting to sentinel sites continued to decrease and are substantially below the historical average for the same period (**Figure 1**). However, ten (37%) sentinel sites reported data for week 6 and rates are subject to change as reporting becomes more complete.

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

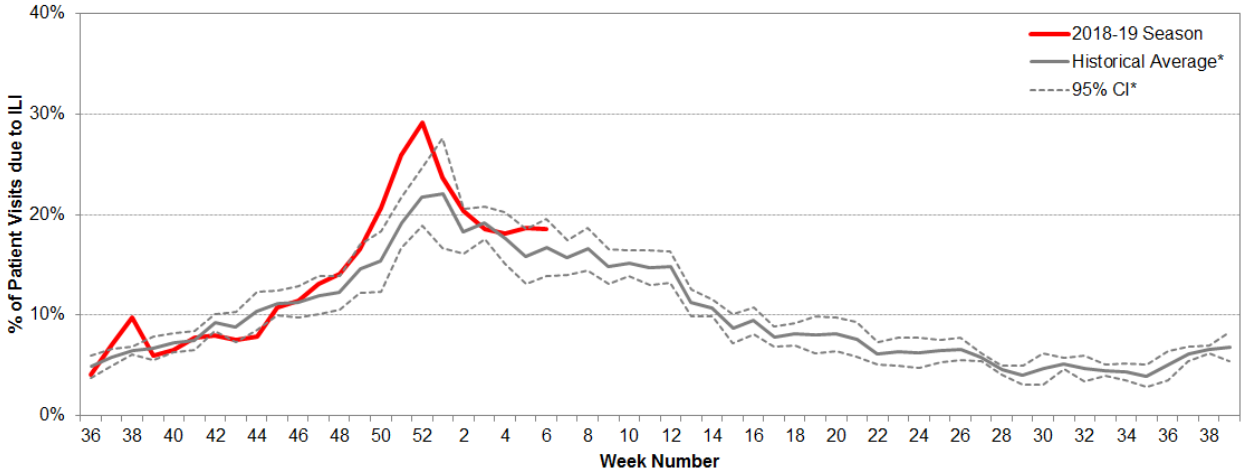


* Data are subject to change as reporting becomes more complete.
† 10-year historical average for 2018-19 season based on 2005-06 to 2017-2018 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

BC Children's Hospital Emergency Room

The proportion of visits to BC Children's Hospital Emergency Room (ER) attributed to ILI has remained stable since week 3, with rates fluctuating between 18% and 19%. Although slightly higher than the historical average, this rate continues to remain within expected levels for this time of the year (**Figure 2**).

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

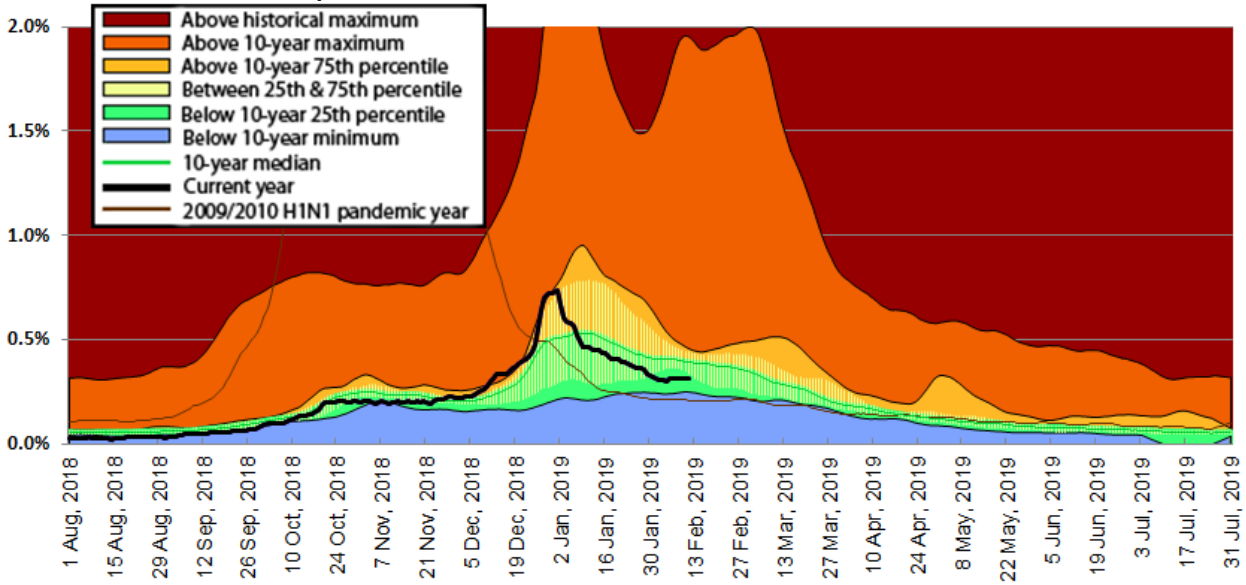


Source: BCCH Admitting, Discharge, Transfer database (ADT). Data includes records with a triage chief complaint of "flu" or "influenza" or "fever/cough."
* 5-year historical average for 2018-19 season based on 2012-13 to 2017-18 seasons; CI=confidence interval.

Medical Services Plan

In week 6, BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, remained stable in the province overall (**Figure 3**). Notably, II claims in the Northern Health Authority have fallen below the 10-year minimum (**Figure 4**).

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



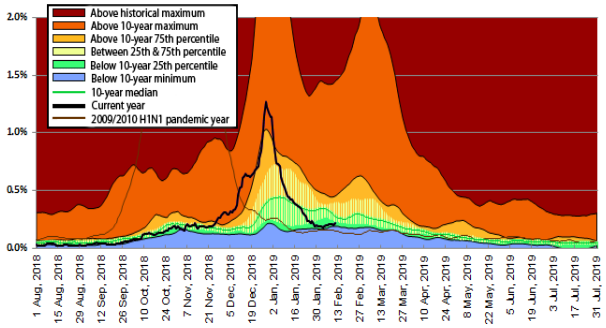
* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

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 February 11, 2019.

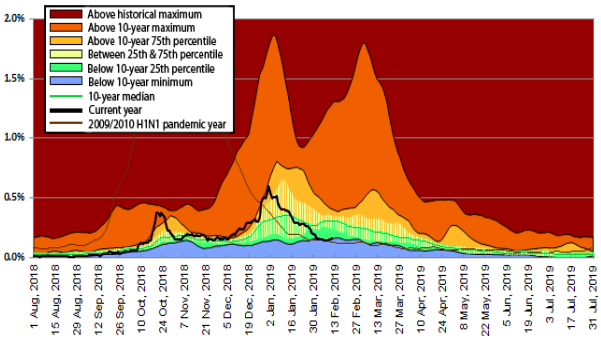
Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services.

Figure 4

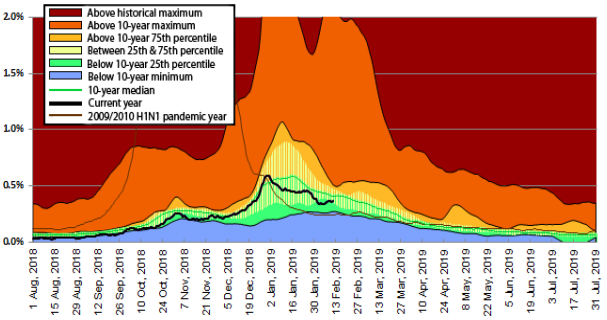
Interior



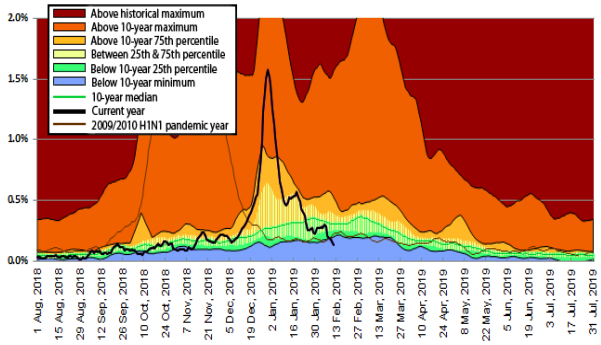
Vancouver Island



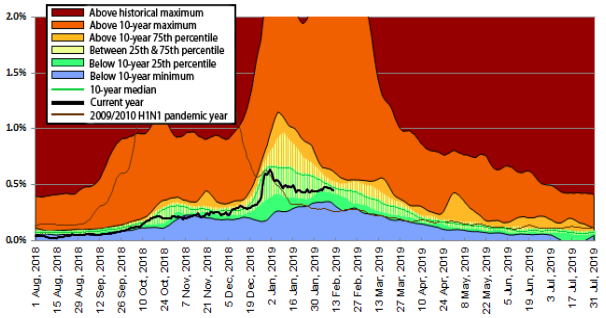
Fraser



Northern



Vancouver Coastal



British Columbia Laboratory Reports

In recognition of expanded influenza testing by additional laboratories across British Columbia (BC), this section of the bulletin now includes respiratory specimens tested at sites beyond the BCCDC Public Health Laboratory (PHL) in deriving the test-positivity indicator. This change was implemented in the bulletin issued week 48 and represents a change from earlier bulletins of this and previous seasons. Influenza A subtype distribution will continue to be derived from the BCCDC PHL.

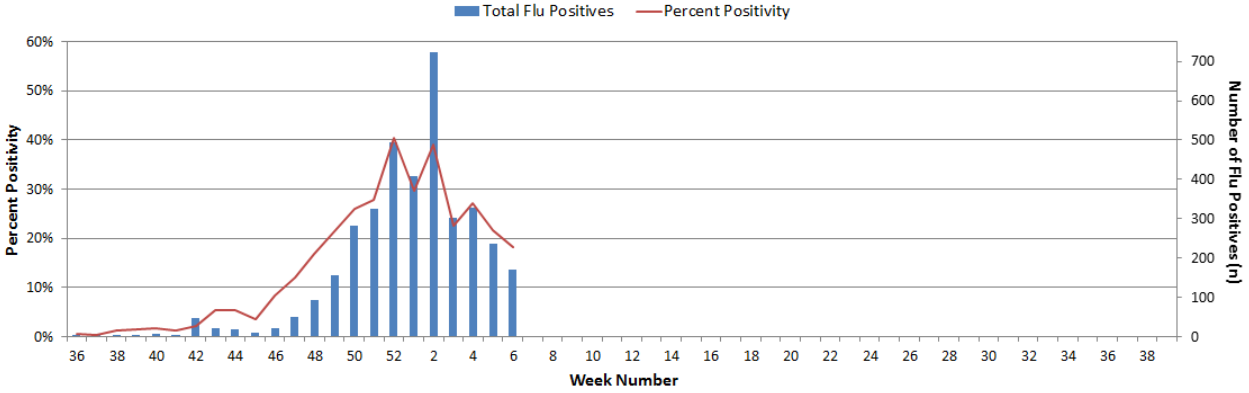
Cumulatively, during the 2018-19 season (since week 40, starting October 1, 2018), 3693 (22%) specimens tested positive for influenza at participating laboratories across BC (as submitted to FluWatch), of which 99.4% were influenza A and 0.6% were influenza B. In week 6, 169 (18%) specimens tested positive for influenza at these laboratories, which represents a continued decrease in the proportionate positivity since week 4 (27%) (**Figure 5**).

Cumulatively, during the 2018-19 season (since week 40, starting October 1, 2018), 2524 patients tested positive for influenza at the BCCDC PHL, of which 2508 (99.4%) were typed as influenza A [180 (7%) A(H3N2), 2016 (80%) A(H1N1)pdm09, 312 (13%) subtype unknown] and 16 (0.6%) as influenza B. Among influenza A viruses subtyped, 2016/2196 (92%) were A(H1N1)pdm09. Of 91 typed influenza viruses in week 6, 89 (98%) were typed as influenza A and 2 (2%) were typed as influenza B. Among the influenza A viruses, 9 (10%) were identified as A(H3N2), 28 (31%) as A(H1N1)pdm09, and for 52 (58%) subtype was unknown. In week 6, therefore, 28/37 (76%) influenza A viruses subtyped were A(H1N1)pdm09 (**Figure 6**).

Since week 40, approximately half (52%) of A(H1N1)pdm09 detections were among adults 20-64 years of age (**Figure 8**). Twenty-four percent of A(H1N1)pdm09 detections were observed among children ≤ 9 years who comprise about 10% of the BC population, suggesting they have been disproportionately affected. Children aged 10-19 years comprised a smaller proportion of cases (5%). Twenty percent of A(H1N1)pdm09 detections have been among elderly adults ≥ 65 years of age. Conversely, the majority (62%) of A(H3N2) detections have been among elderly adults ≥ 65 years of age, despite comprising about 18% of the population in BC[1].

Respiratory syncytial viruses (n=49) were the most commonly detected other respiratory virus (excluding influenza) at the BCCDC in week 6 (**Figure 6**).

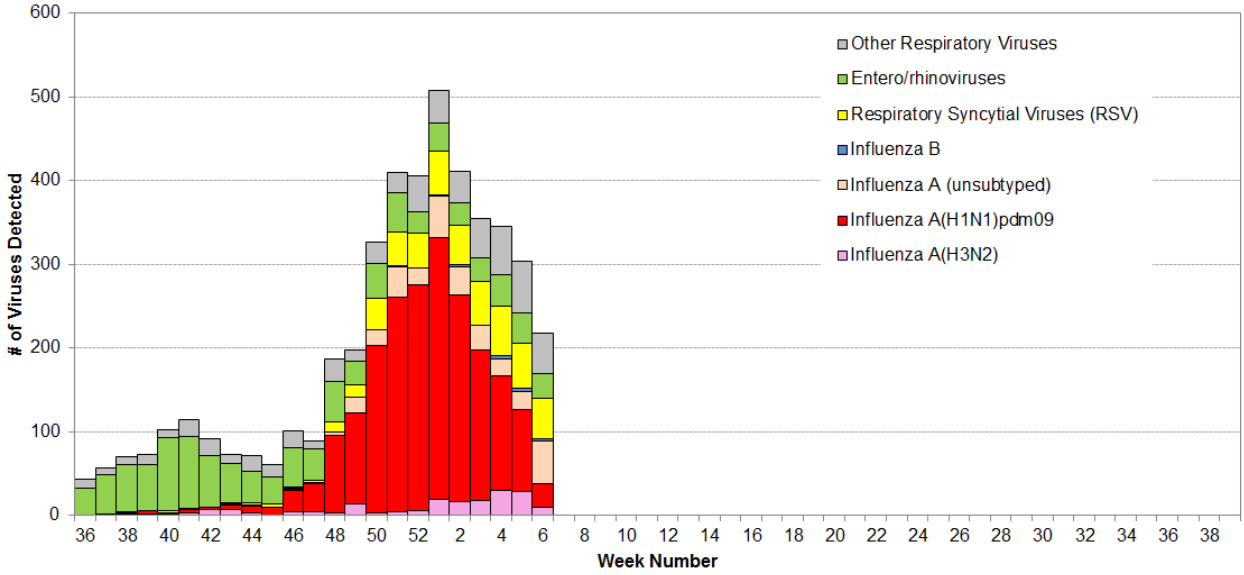
Figure 5: Flu positivity derived from influenza specimens submitted to participating laboratories across BC, 2018-19*



Source: Based on respiratory specimens tested by laboratories in BC and reported to FluWatch.
*Note: Rates are subject to change upon retrospective reconciliation of data

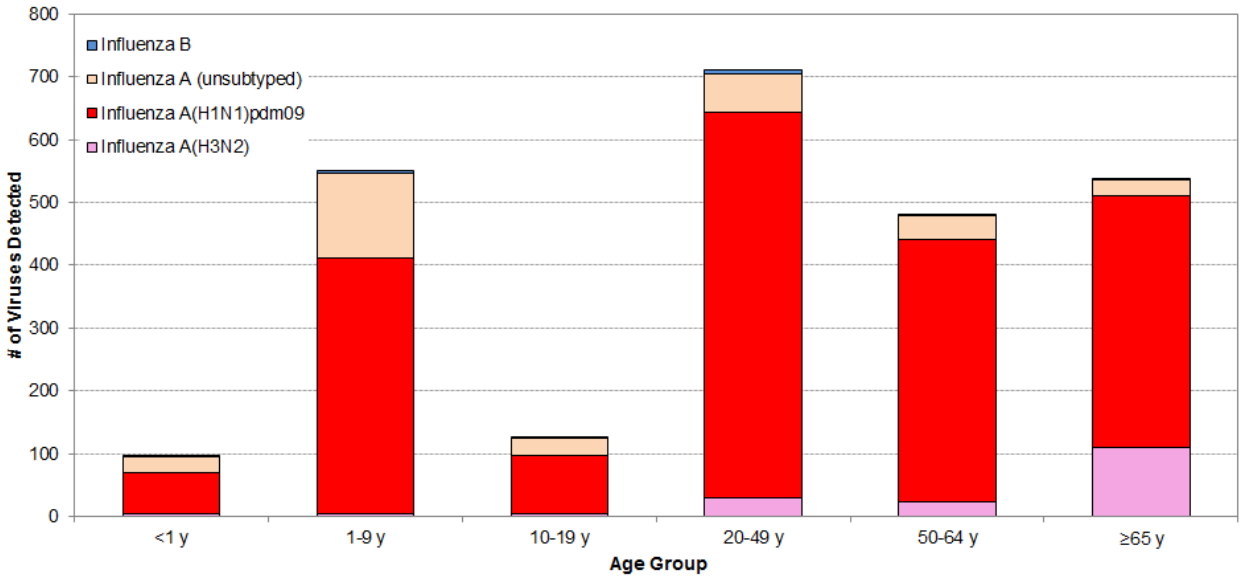
1 Government of British Columbia, BC Stats. Population Estimates 2017. URL: https://www.bcstats.gov.bc.ca/apps/PopulationEstimates.aspx. Date accessed: December 13, 2018.

Figure 6: Influenza and other virus detections among respiratory specimens submitted to BCCDC Public Health Laboratory, 2018-19



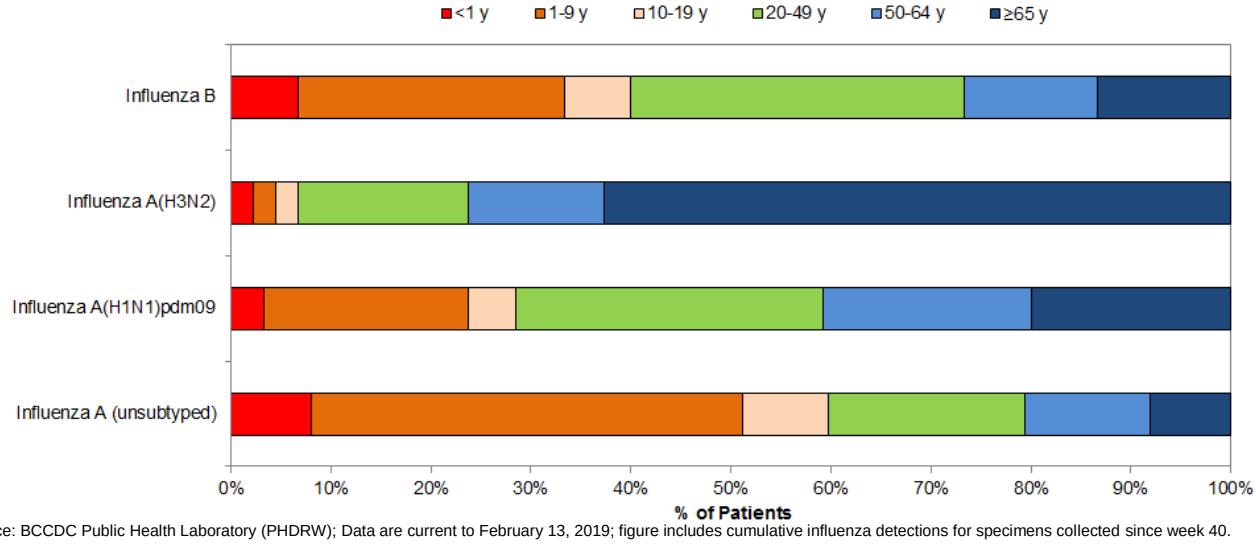
Source: BCCDC Public Health Laboratory (PHDRW); Data are current to February 13, 2019.

Figure 7: 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 February 13, 2019; figure includes cumulative influenza detections for specimens collected since week 40.

Figure 8: Age distribution of influenza detections (cumulative since week 40), BCCDC Public Health Laboratory, 2018-19

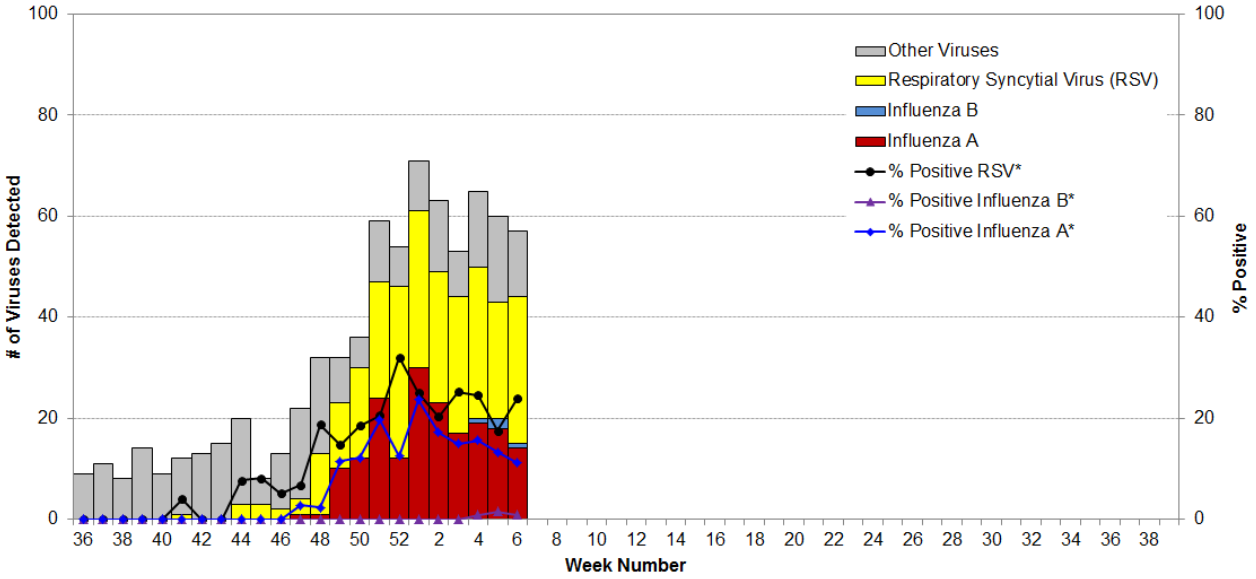


Source: BCCDC Public Health Laboratory (PHDRW); Data are current to February 13, 2019; figure includes cumulative influenza detections for specimens collected since week 40.

BC Children's and Women's Health Centre Laboratory

In week 6, 126 tests for influenza and 121 tests for respiratory syncytial virus (RSV) were conducted at the BC Children's and Women's Health Centre laboratory. Of these, 14 (11%) were positive for influenza A (not subtyped), 1 (1%) was positive for influenza B, and 29 (24%) were positive for RSV. Influenza A positivity has steadily decreased since week 4, while RSV test positivity has increased slightly from week 5 to week 6 (18% versus 24%, respectively). Influenza B positivity remains stable at very low levels (**Figure 9**).

Figure 9: 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.

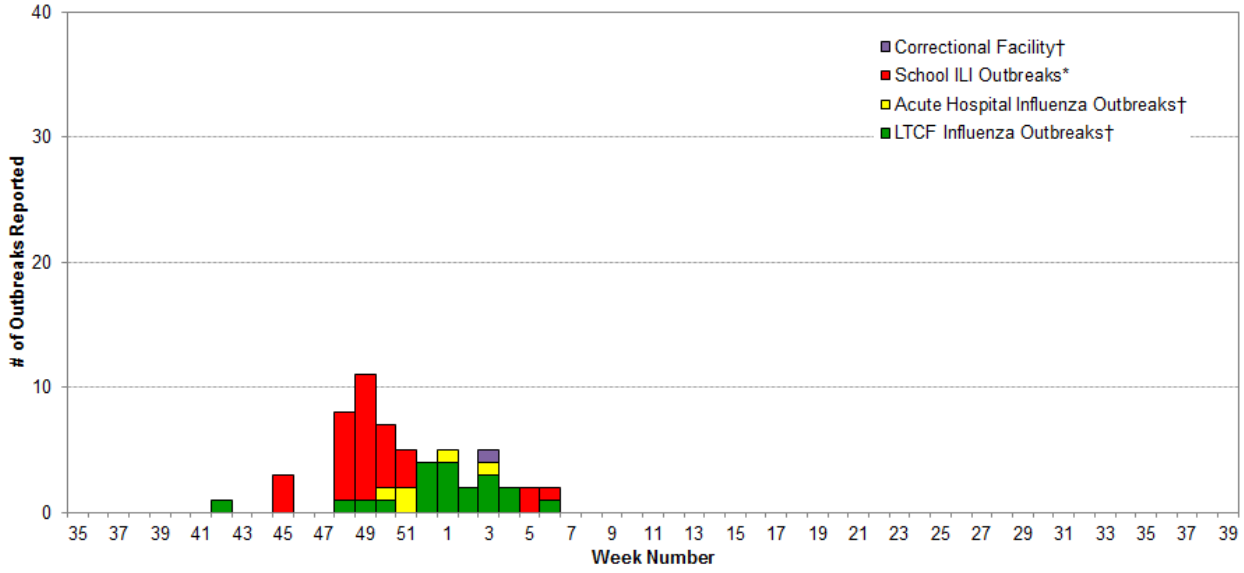
Influenza-like Illness (ILI) Outbreaks

One laboratory-confirmed long-term care facility (LTCF) outbreak of influenza A (subtype unknown) and one ILI school outbreak were reported in week 6.

Since week 40, a total of 20 LTCF outbreaks (3 A(H3N2), 10 A(H1N1)pdm09, and 7 subtype unknown), 5 acute care facility outbreaks, 31 school outbreaks, and 1 correctional facility outbreak have been reported (**Figures 10 and 11**).

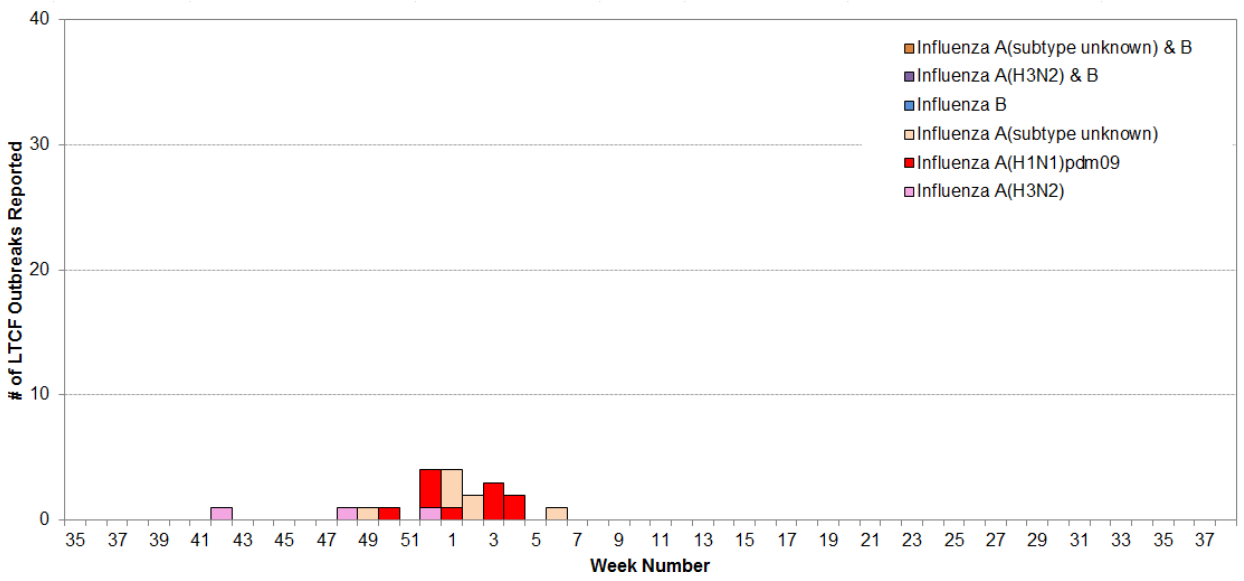
By way of comparison, between weeks 40 and 6 of the A(H3N2) dominant 2017-18 and 2016-17 seasons, 122 and 161 lab-confirmed LTCF outbreaks, respectively, were reported.

Figure 10: Number of influenza-like illness (ILI) outbreaks reported, British Columbia 2018-19



* School-based ILI outbreak defined as >10% absenteeism on any day, most likely due to ILI. Onset
† Facility-based influenza outbreaks defined as 2 or more ILI cases within 7-day period, with at least one laboratory-confirmed case of influenza.

Figure 11: Number of influenza outbreaks by type/subtype in long-term care facilities (LTCF), British Columbia 2018-19†



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

Emerging Respiratory Viruses

Cases of acute flaccid myelitis (AFM) – possibly associated with enterovirus D68 (EV-D68) – continue to rise in the US and elsewhere

Since September, the US CDC has reported an increase in paediatric cases of acute flaccid myelitis (AFM), a subset of acute flaccid paralysis (AFP) (often referred to as "polio-like illness" in the media).

As of February 1st 2019, the CDC has confirmed 210 cases of AFM across 40 states in 2018– predominantly affecting children under 5 years of age. A further 164 reports are currently under investigation, 7 of which have been reported in 2019. Patients have presented with neurological features, specifically single or multi-limb weakness, with most requiring hospitalization. More than 90% of AFM cases reported a mild respiratory or febrile illness - consistent with a viral infection - in the weeks preceding symptom onset. AFM has a variety of possible causes, including non-polio enterovirus infection. Among 71 confirmed cases tested in 2018, just over half (54%) tested positive for enterovirus or rhinovirus at the time of AFM diagnosis (37% for enterovirus D68 (EV-D68), 29% for enterovirus A71 (EV-A71)).

In the US, the number of confirmed cases has surpassed that of their previous high in 2016 (when 149 confirmed cases were detected), and continues to increase. These reports indicate that 2018 represents another biennial peak, similar to that observed during EV-D68 epidemics in 2014 and 2016. The latter EV-D68 epidemics were noteworthy for including cases with severe respiratory manifestations (less prominently noted in 2018); however, neurological complications were also identified. Accordingly, the US CDC has escalated its response by establishing an AFM task force to aid investigation efforts.

An increase in reported cases of AFP has also been detected outside of North America. Public Health England is currently investigating an apparent increase in reports of AFP in England (40 cases in 2018 as of January 21st 2019, compared to an annual expected number of less than 10). The majority of these cases have been children and have arisen since September 2018. Over half of these AFP cases reported acute respiratory tract illness prior to onset of neurological symptoms. Non-polio enteroviruses were detected in 15 (38%) cases, with EV-D68 implicated in 9/15 (60%) of these cases.

In Canada, a possible uptick in reports of AFP was also noted in 2018; as of January 31st 2019, 49 confirmed cases have been documented since January 1st 2018, with a further 27 cases under investigation. The annual expected number of cases reported to the Public Health Agency of Canada ranges between 27-51 cases.

While EV-D68 has been detected at low levels in BC this 2018-19 autumn-winter period, we are aware of a single report of laboratory-confirmed EV-D68 infection associated with neurological features. This AFM report (a young child) presented in December 2018 with acute flaccid paralysis of an upper limb following a mild respiratory illness.

General information related to AFP/AFM and EV-D68 is available from the following sources:

US CDC AFM webpage: https://www.cdc.gov/acute-flaccid-myelitis/index.html

US CDC factsheet on EV-D68: https://www.cdc.gov/non-polio-enterovirus/about/ev-d68.html

PHAC information sheet on AFM in Canada: https://www.canada.ca/en/public-health/services/diseases/acute-flaccid-myelitis.html

A summary of the 2014 experience in BC was published in Euro Surveillance, available from: https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2015.20.43.30047

National

FluWatch (week 5, January 27 to February 2, 2019)

At the national level, influenza activity has peaked with most indicators showing downward or stable trends in week 5. However, influenza continues to circulate across Canada, with eastern regions reporting higher levels of activity compared to western regions. In week 5, 20% of laboratory tests were positive for influenza. To date, influenza A is the most common influenza virus detected in Canada (99%); the vast majority of these viruses are A(H1N1)pdm09 (92% of subtyped influenza A viruses). The majority (86%) of lab-confirmed A(H1N1)pdm09 detections have been reported among individuals under the age of 65. Conversely, the majority (62%) of influenza A(H3N2) detections have been reported among adults 65 years of age and older. 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 February 14, 2019, the National Microbiology Laboratory (NML) has characterized 1103 influenza viruses [87 A(H3N2), 992 A(H1N1)pdm09 and 24 B (17 Yamagata lineage and 7 Victoria lineage)] received from Canadian laboratories.

Influenza A(H3N2): 33 influenza A(H3N2) viruses were considered antigenically similar to A/Singapore/INFIMH-16-0019/2016, the WHO-recommended A(H3N2) component of the 2018-19 northern hemisphere influenza vaccine. However, 9 viruses showed reduced titer with ferret antisera raised against egg-propagated A/Singapore/INFIMH-16-0019/2016. 22 influenza A (H3N2) viruses belonged to genetic group 3C.2a1, 7 belonged to genetic group 3C.2a, and 7 belonged to 3C.3a. Sequencing is pending for the remaining isolate.

Influenza A(H1N1)pdm09: 966 A(H1N1)pdm09 viruses antigenically characterized were found to be similar to the A/Michigan/45/2015 virus: the WHO-recommended influenza A(H1N1) component of the 2018-19 northern hemisphere influenza vaccine. However, 26 viruses showed reduced titer with ferret antisera raised against cell culture-propagated A/Michigan/45/2015.

Influenza B: 17 influenza B viruses antigenically characterized were considered similar to the B/Phuket/3073/2013 virus, which belongs to the B Yamagata lineage: the WHO-recommended influenza B component of the 2018-19 northern hemisphere *quadrivalent* influenza vaccine. The WHO-recommended influenza B component of the *trivalent* vaccine is a B/Colorado/06/2017-like virus of the B Victoria lineage. Seven influenza B viruses characterized were antigenically similar to B/Colorado/06/2017.

National Microbiology Laboratory (NML): Antiviral Resistance

From September 1, 2018, to February 14, 2019, the NML received influenza viruses from Canadian laboratories for drug susceptibility testing.

Amantadine: Of the 325 influenza A viruses [47 A(H3N2), 278 A(H1N1)pdm09] tested against amantadine, all were resistant.

Oseltamivir: Of the 730 influenza viruses [61 A(H3N2), 647 A(H1N1)pdm09, and 22 B] tested against oseltamivir, 729 were sensitive, and 1 A(H1N1)pdm09 virus with a H275Y mutation was resistant.

Zanamivir: Of the 729 influenza viruses [61 A(H3N2), 646 A(H1N1)pdm09, and 22 B] tested against zanamivir, all were sensitive.

International

USA (week 5, January 27 to February 2, 2019)

Influenza activity increased in the United States (US) in week 5, with influenza A(H1N1)pdm09, influenza A(H3N2), and influenza B viruses continuing to co-circulate. Influenza A(H1N1)pdm09 viruses have predominated in most areas of the country; however, influenza A(H3N2) viruses have prevailed in the southeastern US. The majority of influenza viruses characterized antigenically and genetically are considered similar to the cell-grown reference viruses of the 2018-19 northern hemisphere influenza vaccine. All tested viruses showed susceptibility to zanamivir and greater than 99% of the viruses tested showed susceptibility to oseltamivir and peramivir. In week 5, the proportion of deaths attributed to pneumonia and influenza was below the system-specific epidemic threshold. Four influenza-associated pediatric deaths were reported. The proportion of outpatient visits for ILI increased from 3.8% (in week 4) to 4.3% in week 5, and remains above the national baseline of 2.2%.The US CDC has posted a summary of influenza activity in the United States and elsewhere, available at: https://www.cdc.gov/flu/weekly/index.htm

WHO (February 4, 2019, based on data up to January 20, 2019)

In the temperate zones of the northern hemisphere, influenza activity continued to increase overall. While influenza activity in North America has appeared to decrease slightly, detections in Europe, some countries in Western Asia, East Asia, and Iran have increased. Influenza levels remained high in Southern Asia. In the temperate zones of the southern hemisphere, influenza activity remained at inter-seasonal levels. Worldwide, influenza A has accounted for the majority of detections, with A(H3N2) and A(H1N1)pmd09 viruses co-circulating in Europe, influenza A(H1N1)pdm09 predominating in North Africa, East Asia, and North America, and influenza A(H3N2) predominating in parts of Southern Asia.

From January 7 2019 to January 20 2019, the WHO GISRS laboratories tested more than 232,136 specimens. Of these, 59,457 were positive for influenza viruses, of which 58,436 (98.3%) were typed as influenza A and 1021 (1.7%) as influenza B. Of the subtyped influenza A viruses, 24,559 (77.7%) were influenza A(H1N1)pdm09 and 7,058 (22.3%) were influenza A(H3N2). Of the characterized B viruses, 85 (34.6%) belonged to the B-Yamagata lineage and 161 (65.4%) to the B-Victoria lineage.

The full report is available at: https://www.who.int/influenza/surveillance_monitoring/updates/en/

2018/19 Vaccine Effectiveness Estimates

Canadian Mid-Season 2018-19 Vaccine Effectiveness Estimates

On January 24th, 2019, the Canadian Sentinel Practitioner Surveillance Network (SPSN) published the first mid-season estimates of influenza vaccine effectiveness (VE) for the 2018-19 season in the northern hemisphere.

The Canadian SPSN reported substantial VE of 72% (95% confidence interval (CI): 60-81%) against medically-attended outpatient A(H1N1)pdm09 illness. Substantial vaccine protection was observed across all age groups, notably young children, who also appeared to be disproportionately affected by this year's A(H1N1)pdm09-dominant epidemic.

The Canadian interim estimate for 2018-19 is comparable to preliminary estimates of VE against A(H1N1)pdm09 using the same vaccine component reported from Australia (78%; 95%CI: 51-91%) for their 2018 season. It is substantially higher than reported for Canada during last year's A(H3N2)-dominant epidemic (for which vaccine effectiveness against A(H3N2) viruses was less than 20%).

Consistent with global trends, sequencing analysis of viruses collected by the Canadian SPSN showed considerable genetic diversity among circulating clade 6B.1 viruses of A(H1N1)pdm09; however, a dominant drift (immunologic escape) variant was not identified.

The full report is available as an open-access publication in the online journal *Eurosurveillance*:
https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2019.24.4.1900055

Hong Kong Early Season Estimates – 2018/19 Vaccine Effectiveness Against Pediatric Hospitalization

On January 31st, 2019, interim VE estimates for the 2018-19 northern hemisphere influenza vaccine were reported from Hong Kong for prevention of influenza A(H1N1)pdm09 hospitalization in children. Authors report substantial VE of 92% (95%CI: 82-96%) against A(H1N1)pdm09-attributed hospitalisation in children (aged 6 months-17 years). This estimate is comparable to the VE estimate reported earlier by the Canadian SPSN for the prevention of medically attended outpatient A(H1N1)pdm09 illness in children 1-8 years of age (91%; 95%CI: 67-98%).

The full report is available as an open-access publication in the online journal *Eurosurveillance*:
https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2019.24.5.1900056

United States (US) Interim Estimates of 2018-19 Seasonal Influenza Vaccine Effectiveness

On February 14th, 2019, mid-season VE estimates for the prevention of laboratory-confirmed influenza associated with medically-attended acute respiratory illness (ARI) were reported from the US CDC.

Authors report an overall VE of 46% (95%CI: 30-58%) against influenza A(H1N1)pdm09 which is lower than the recently reported interim VE estimates against A(H1N1)pdm09 of 72% in Canada during the 2018-19 season and 78% in Australia during the 2018 southern hemisphere influenza season (see above). A higher VE of 62% (95%CI: 40-75%) against A(H1N1)pdm09 among those aged 6 months to 17 years was reported in this study.

Discrepancies in VE estimates across studies may be attributed to multiple factors including differences in the stage of the influenza epidemic relative to the initiation of the immunization campaign, variation in circulating viruses, as well as methodological differences including contributing sample sizes (and statistical power), participant profiles and clinical outcomes assessed. In general to date, however, networks are reporting substantial vaccine protection in mid-season analyses that will be re-assessed end-of-season.

The full report is available as an open-access publication in *Morbidity and Mortality Weekly Report:*
https://www.cdc.gov/mmwr/volumes/68/wr/mm6806a2.htm?s_cid=mm6806a2_w

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-like virus (B/Yamagata/16/88 lineage).

* 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 in the 2018 vaccine to a B(Victoria)-lineage virus in the 2019 vaccine.

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.ammi.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

Communicable Diseases & Immunization Service
655 W. 12th Ave. Vancouver BC V5Z 4R4
Phone: (604) 707-2510; Fax: (604) 707-2516

Reset Form

Submit By Email

Version: 30 Jul 2018

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

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)*
☐ Outbreak Over *(complete section **C** and section **D** below)*

Report Date (dd/mm/yyyy):

B — First Notification

Type of facility*: ☐ Long Term Care Facilities, Nursing Homes ☐ Acute Care Facility
☐ Other Setting:

If ward or wing, please specify name/number:

Date of onset of first case of ILI (dd/mm/yyyy):
Date outbreak declared (dd/mm/yyyy):

***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).

C — Outbreak Declared Over

Date of onset for last case of ILI (dd/mm/yyyy):
Date outbreak declared over (dd/mm/yyyy):

Numbers to date	Residents
Total	
With ILI	
Hospitalized*	
Died*	

*suspected to be linked to case of ILI

D — Laboratory Information

Specimen(s) submitted? ☐ Yes (location:) ☐ No ☐ Don't know
If yes, organism identified? ☐ Yes ☐ No ☐ Don't know

Please specify organism/subtype: ☐ Influenza A (subtype:) ☐ Influenza B
☐ Parainfluenza ☐ Entero/rhinovirus ☐ Coronavirus ☐ RSV
☐ HMPV ☐ Adenovirus ☐ Other: