

British Columbia Influenza Surveillance Bulletin

Influenza Season 2018-19, Number 22, Week 17

April 21 to April 27, 2019

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Declining influenza activity in BC

During week 17, influenza activity continued to decrease in BC overall. Although some surveillance indicators remain marginally elevated for this time of the year, activity has declined substantially following the secondary A(H3N2) epidemic peak in mid-March.

Among influenza viruses typed since week 40, virtually all have been influenza A. Influenza A(H1N1)pdm09 viruses predominated from October to mid-February, and have accounted for 60% of subtyped A viruses overall since season start. However, since week 7, A(H3N2) viruses have comprised a greater share of influenza A detections, accounting for 77% of subtyped A viruses in week 17. There is currently very little influenza B circulation compared to previous seasons.

One laboratory-confirmed long-term care facility (LTCF) outbreak of influenza A (unknown subtype) was reported in week 17, a decrease in comparison to the prior week (n=3) and a marked decrease from the peak number observed in week 13 (n=13).

This will be the final regular influenza surveillance bulletin of the 2018-19 season. Further bulletins will be issued on an ad hoc basis until the next regular reporting period begins for the 2019-20 season.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

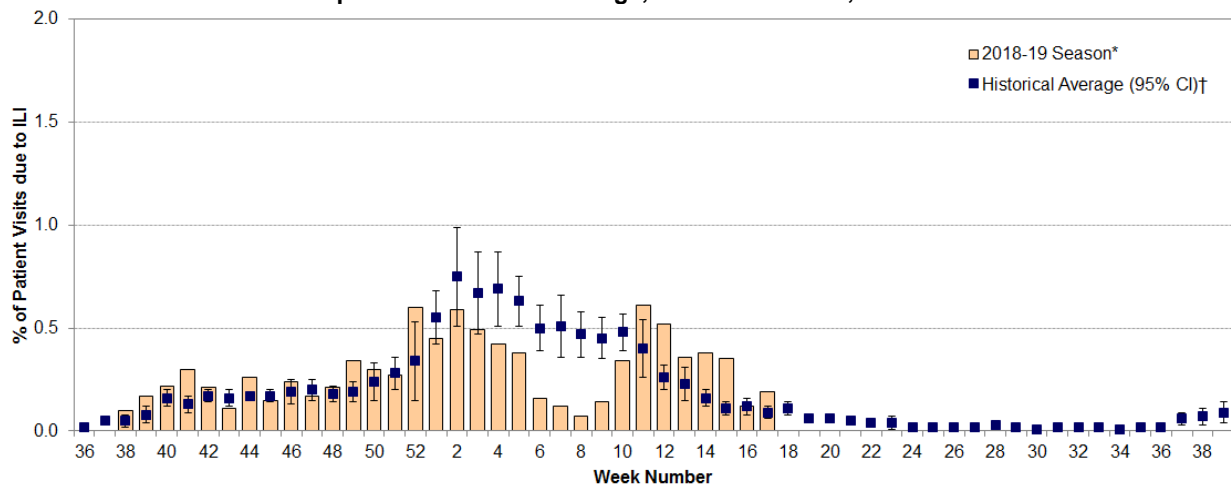
Report Disseminated: May 2, 2019

British Columbia

Sentinel Physicians

In week 17, the rate of influenza-like illness (ILI) among patients presenting to sentinel sites increased slightly above expected levels for this time of the season (at 0.2%). Eleven (46%) sentinel sites reported data for week 17; rates are subject to change as reporting becomes more complete (**Figure 1**).

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



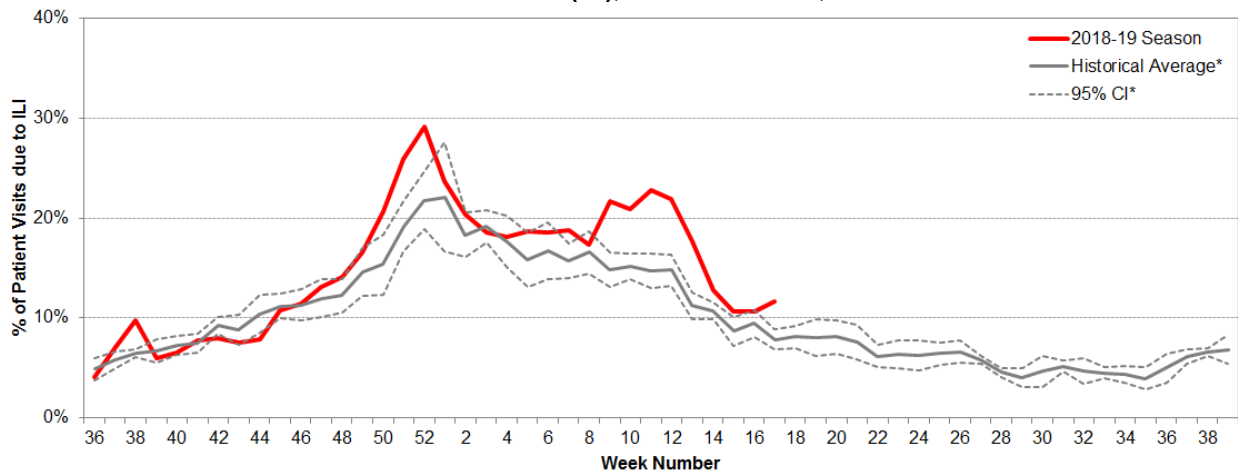
* Data are subject to change as reporting becomes more complete.

† 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

Following a primary peak in week 52 and a secondary peak between weeks 9 and 12, the proportion of visits to BC Children’s Hospital Emergency Room (ER) attributed to ILI in week 17, remained comparable to that observed in the prior week (12% vs 11%). However, rates continue to trend above the historical average for this time of 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

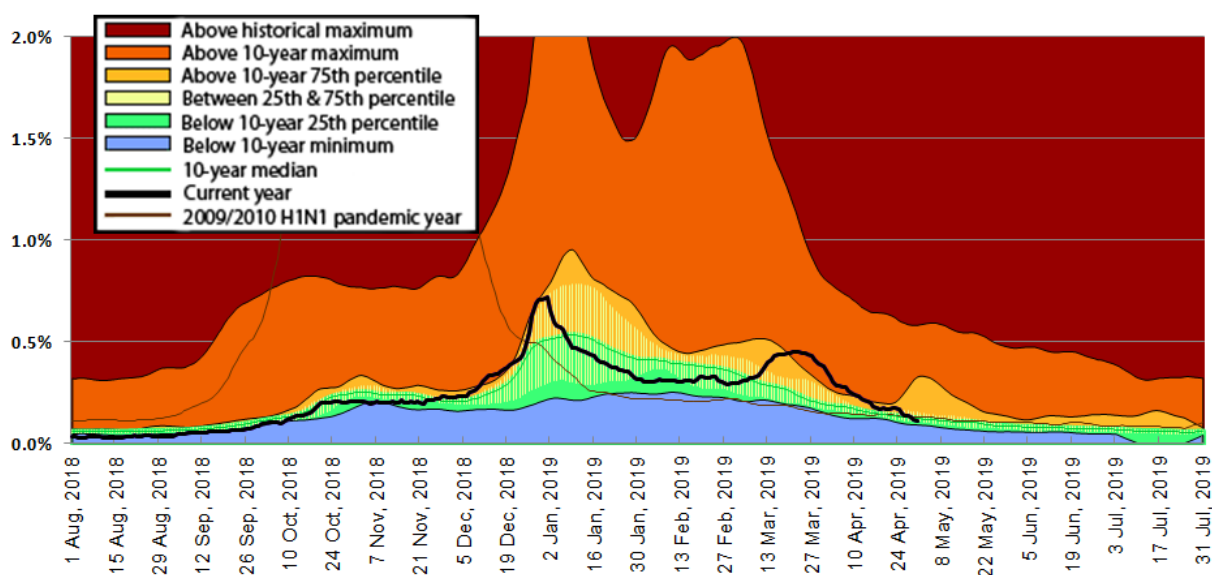


Source: BCCH Admitting, Discharge, Transfer database (ADT). Data includes records with a triage chief complaint of "flu" or "influenza" or "fever/cough."
* 5-year historical average for 2018-19 season based on 2012-13 to 2017-18 seasons; CI=confidence interval.

Medical Services Plan

The Medical Services Plan (MSP) indicator monitors general practitioner claims for influenza illness (II) as a percentage of all submitted MSP claims. Following a provincial peak around week 52 and a secondary peak around week 12, this indicator has continued to decrease in week 17 and is now trending below the 10-year 25th percentile overall for this time of year (**Figure 3**). Some regional variation has been observed (**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

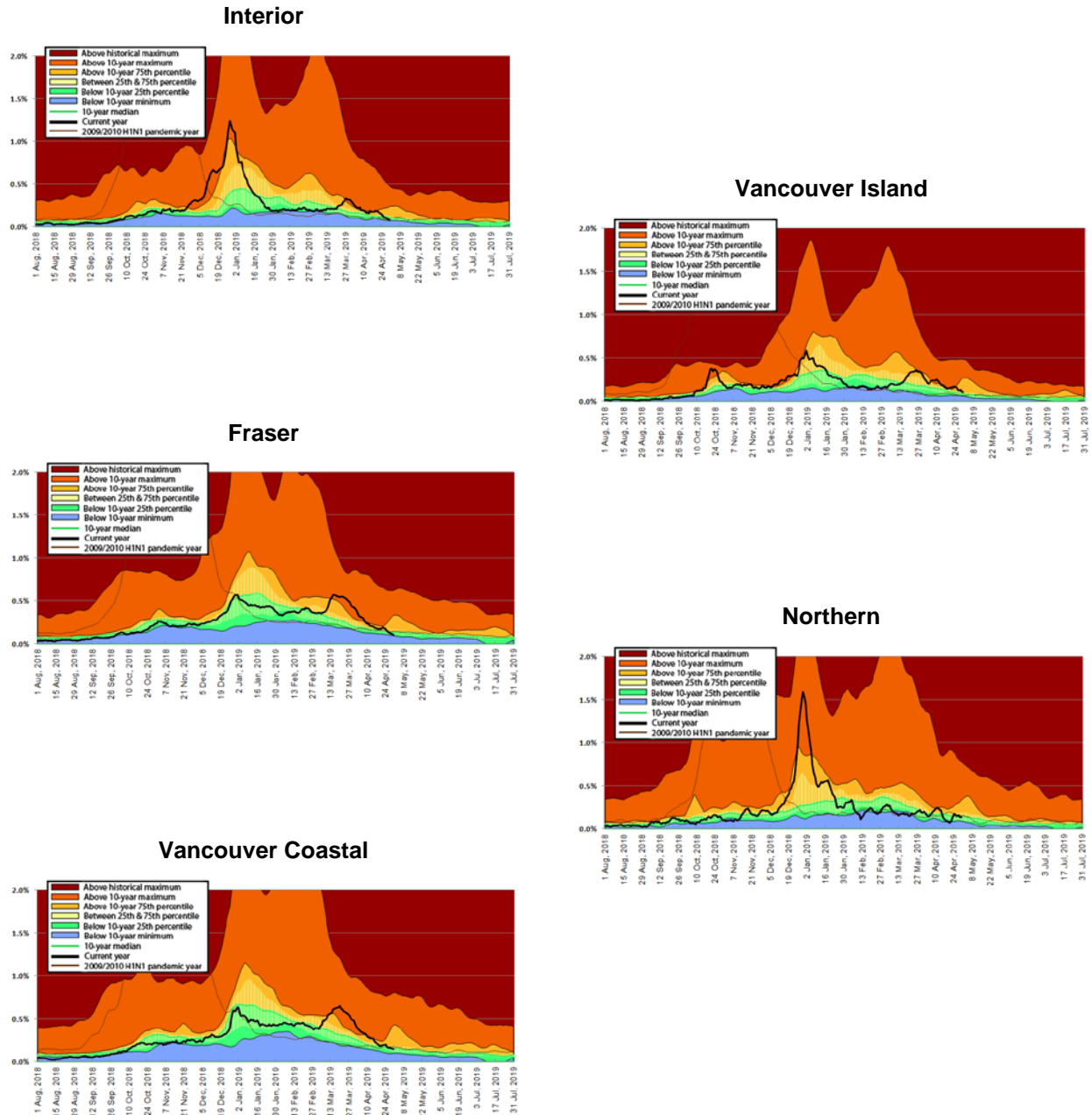


* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

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 April 30, 2019.

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

Figure 4



British Columbia Laboratory Reports

Methodological explanation

With expanded influenza testing by additional laboratories across British Columbia (BC), adjustments to data analysis methods have been required in order to reliably interpret trends in laboratory findings. Derivation of the percentage of respiratory specimens testing influenza positive has been revised to enable more reliable comparison from week to week. The percentage influenza positivity is now presented, by influenza type, based on primary specimens submitted for influenza testing at the BCCDC Public Health Laboratory (PHL) and other external sites that share complete testing data with the BCCDC PHL. It should be recognized that this report does not include data from all influenza testing sites across the province.

The BCCDC PHL conducts the majority of influenza subtype characterization for the province, including for primary specimens submitted directly to the BCCDC PHL for influenza diagnosis, as well as for specimens that have tested positive for influenza at other external sites and for which secondary subtyping is requested of the BCCDC PHL.

Laboratory surveillance observations

To date (since week 40, starting October 1, 2018), of 16,305 specimens tested for influenza across BC, 3992 (24%) tested positive for influenza A and just 168 (1%) tested positive for influenza B. Virtually all (96%) influenza detections have therefore been influenza A so far this season.

In week 17, 27/285 (9%) specimens tested positive for influenza A, which represents a considerable decrease in comparison to the percent positivity observed in week 16 (65/414; 16%). Influenza B positivity remained comparable to the prior week (2%; 7/414) at 2% (7/285), maintaining the unusually low levels of influenza B observed this season (**Figure 5**).

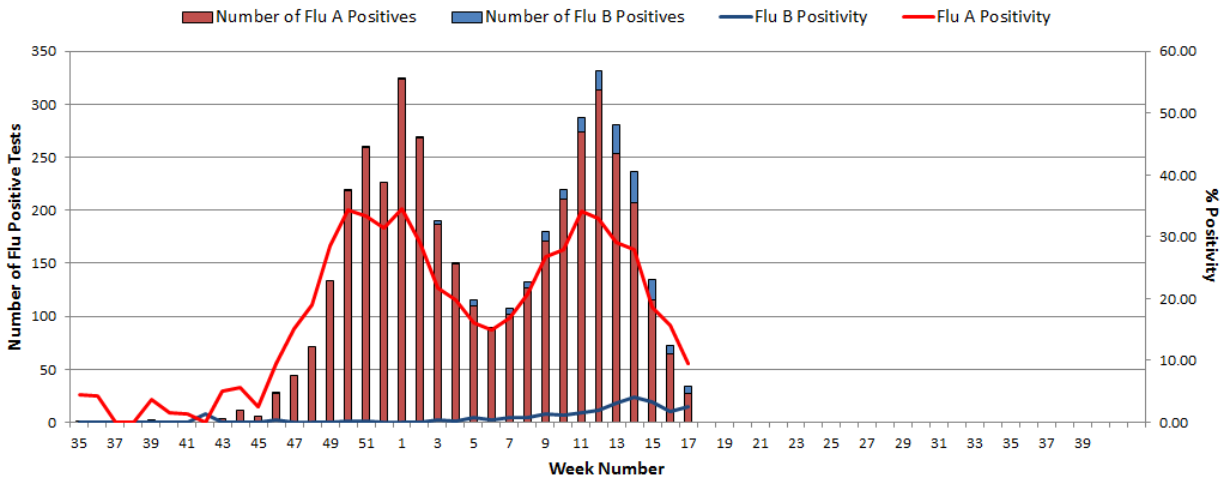
Since week 40, among influenza A viruses successfully subtyped at the BCCDC PHL, 2950/4895 (60%) were A(H1N1)pdm09. Since week 40, 4 influenza A/B co-infections have been detected (2 A(H1N1)pdm09, 1 A(H3N2), and 1 subtype pending). Of the 37 influenza viruses typed in week 17, 33 (89%) were influenza A and 4 (11%) were influenza B. In week 17, among the influenza A viruses, 24 (73%) were identified as A(H3N2), 7 (21%) as A(H1N1)pdm09, and for 2 (6%), subtype was still pending. Among subtyped influenza A viruses in week 17, therefore, the majority (24/31; 77%) were A(H3N2). These findings continue the trend of greater A(H3N2) contribution relative to A(H1N1)pdm09 observed since week 7 (**Figure 6**).

Since week 40, approximately half (52%) of A(H1N1)pdm09 detections were among adults 20-64 years of age (**Figures 7 and 8**). Twenty-one percent of A(H1N1)pdm09 detections were observed among children ≤ 9 years who comprise about 10% of the BC population¹. Children aged 10-19 years comprised a smaller proportion of cases (5%). Twenty-two percent of A(H1N1)pdm09 detections have been among elderly adults ≥ 65 years of age. Conversely, the majority (58%) of A(H3N2) detections have been among elderly adults ≥ 65 years of age, despite comprising about 18% of the population in BC¹.

The BCCDC PHL also conducts testing for other respiratory viruses (ORV) among specimens from select sites across the province. Other external sites perform their own ORV testing and this report does not include data from all sites across the province. Among ORV testing at the BCCDC PHL during week 17, entero/rhinoviruses (n=41) were the most commonly detected virus (including influenza). This is the first week since week 47 that influenza viruses were not the most numerous of the respiratory viruses detected (**Figure 6**).

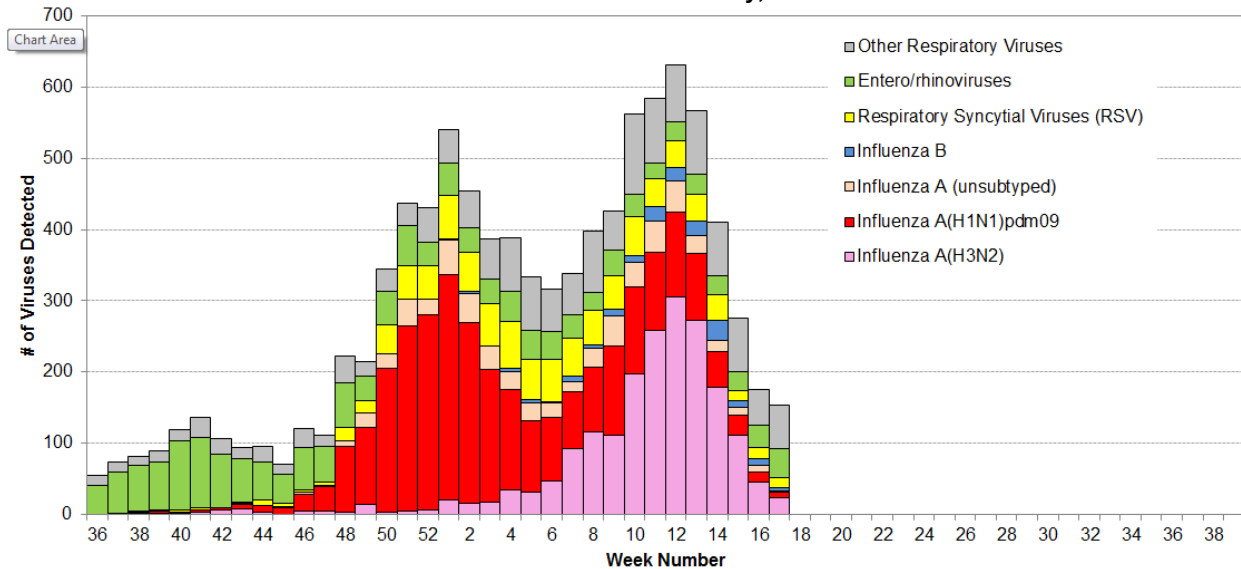
¹ Government of British Columbia, BC Stats. Population Estimates 2017. URL: <https://www.bcstats.gov.bc.ca/apps/PopulationEstimates.aspx>. Date accessed: December 13, 2018.

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



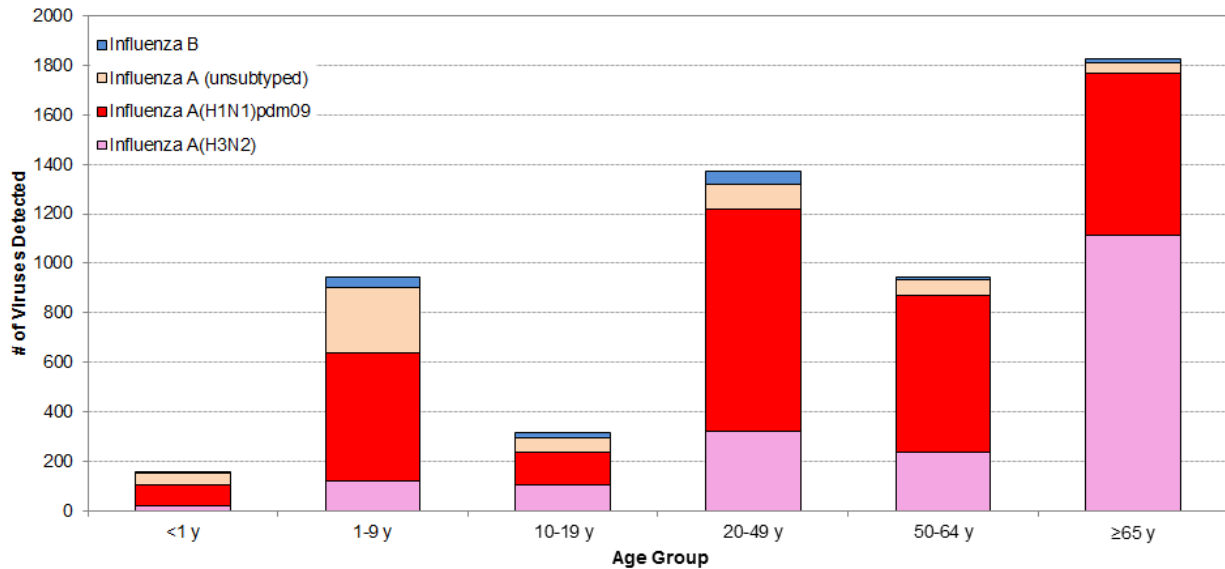
*Note: Rates are subject to change with subsequent data reconciliation. Findings support trend analysis but data do not include all testing sites in British Columbia. Source: Summary provided by the BCCDC Public Health Laboratory.

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



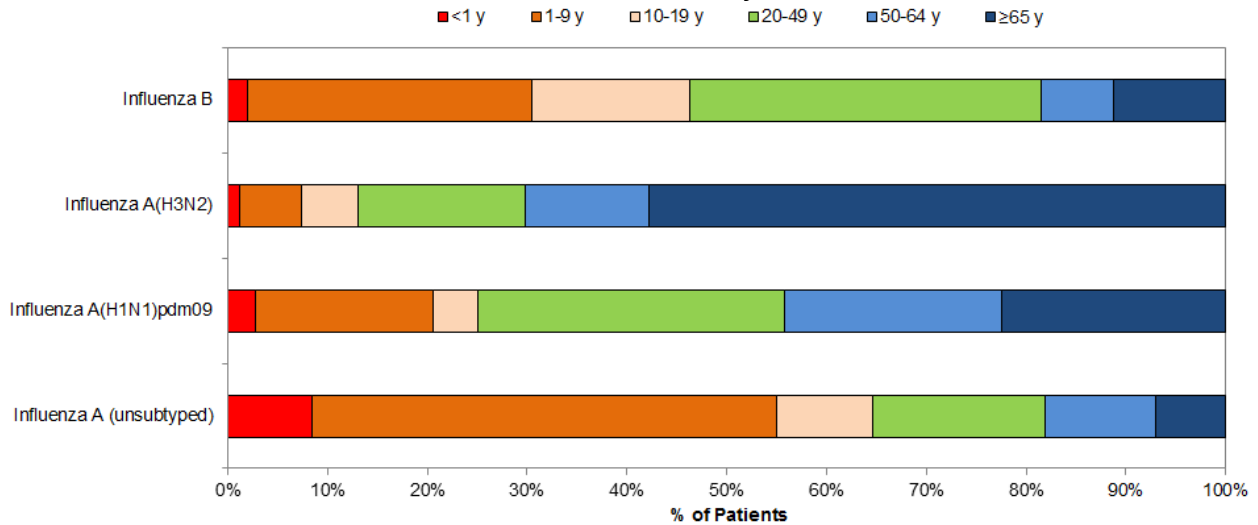
*Results are subject to change as more data become available, particularly for the most recent reporting weeks. Source: BCCDC Public Health Laboratory (PHDRW); Data are current to May 1, 2019.

Figure 7: Cumulative number (since week 40) of influenza detections by type, subtype, and age group, BCCDC Public Health Laboratory, 2018-19*



*Results are subject to change as more data become available.
Source: BCCDC Public Health Laboratory (PHDRW); Data are current to May 1, 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*

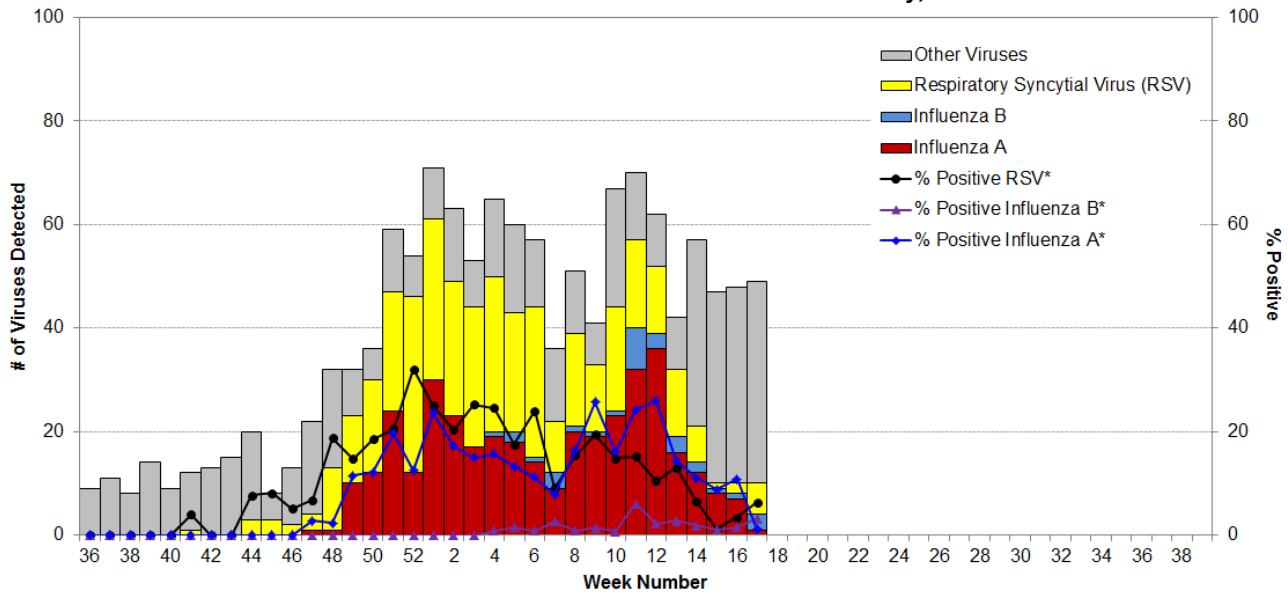


*Results are subject to change as more data become available.
Source: BCCDC Public Health Laboratory (PHDRW); Data are current to May 1, 2019; figure includes cumulative influenza detections for specimens collected since week 40.

BC Children’s and Women’s Health Centre Laboratory

In week 17, 95 tests for influenza and 95 tests for respiratory syncytial virus (RSV) were conducted at the BC Children’s and Women’s Health Centre laboratory. Of these, 1 (1%) was positive for influenza A (not subtyped), 3 (3%) were positive for influenza B, and 6 (6%) were positive for RSV. Compared to the prior week, influenza A test positivity has decreased considerably (1% in week 17 vs 11% in week 16), while RSV positivity has increased (6% in week 17 vs 3% in week 16). Influenza B test positivity has remained stable at around 3% (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



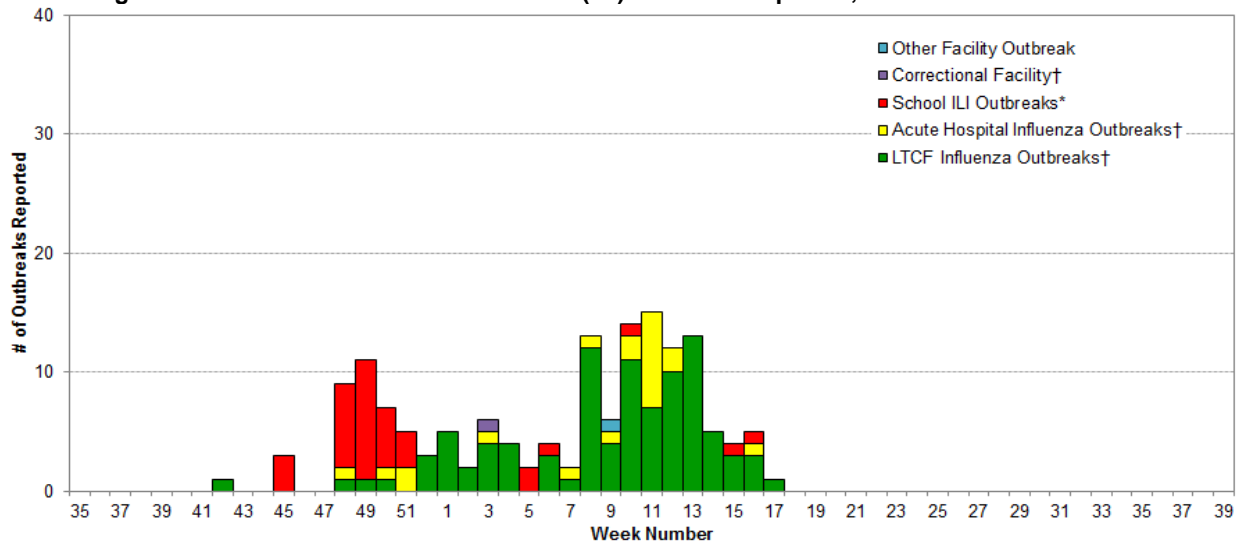
* Positive rates were calculated using aggregate data. The denominators for each rate represent the total number of tests; multiple tests may be performed for a single specimen and/or patient.

Influenza-like Illness (ILI) Outbreaks

In week 17, one laboratory-confirmed long-term care facility (LTCF) outbreak of influenza A (subtype unknown) was reported. This represents a decrease in comparison to week 16 (n=3) and a marked decrease in comparison to the peak number reported in week 13 (n=13). Since week 40, a total of 95 LTCF outbreaks (39 A(H3N2), 18 A(H1N1)pdm09, 36 subtype unknown, and 2 B), 21 acute care facility outbreaks, 34 school outbreaks, 1 correctional facility outbreak, and 1 mental health facility outbreak have been reported (**Figures 10 and 11**).

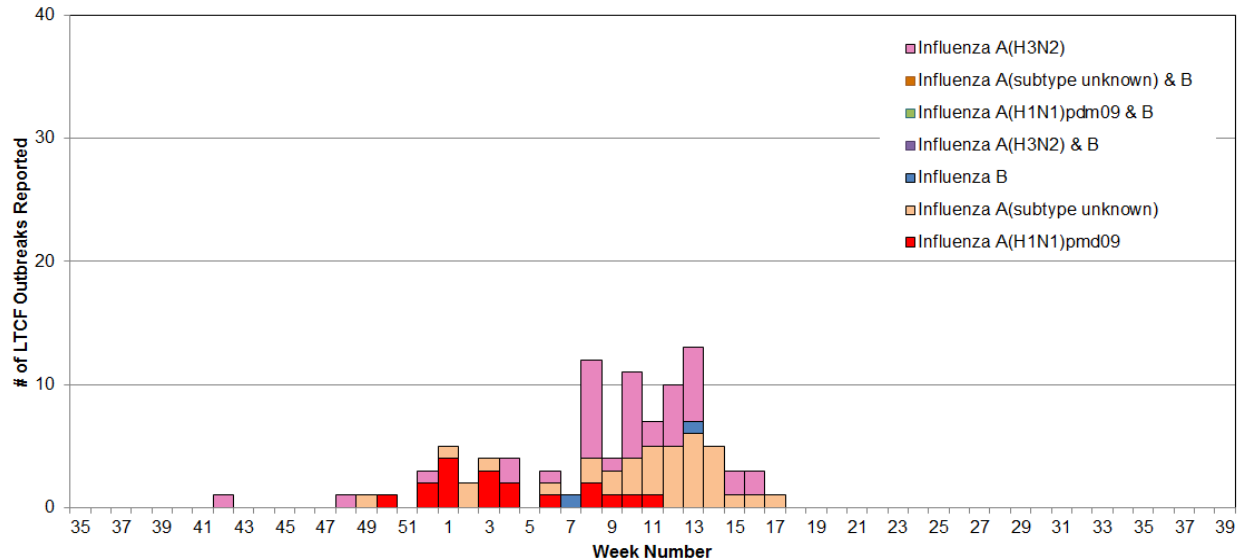
The cumulative tally of LTCF influenza outbreaks to date this A(H1N1)pdm09-dominant season is far below that of prior A(H3N2)-dominant seasons in 2017-18 and 2016-17 (95, 182, and 201 outbreaks, respectively), although with the secondary wave of A(H3N2) having recently increased the seasonal tally for 2018-19 compared to earlier in the season.

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. Data are subject to change upon retrospective reconciliation of data.
† 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. Data are subject to change upon retrospective reconciliation of data.

National

FluWatch (Week 16, April 14 to April 20, 2019)

Influenza activity continues to circulate in many regions across Canada; however, the second smaller wave of sustained influenza A(H3N2) activity was observed to have subsided in week 16. The proportion of laboratory tests that were positive for influenza decreased to 17% in week 16 in comparison to the previous week at 20%. To date, influenza A is the most common influenza virus detected in Canada (97%); the vast majority of these viruses are A(H1N1)pdm09 (73% of subtyped influenza A viruses). However, detections of influenza A(H3N2) have been steadily increasing since mid-January and accounted for the majority (89%) of subtyped influenza A detections in week 16. There is currently very little influenza B circulation compared to previous seasons. The majority (83%) of lab-confirmed A(H1N1)pdm09 detections have been reported among individuals under the age of 65. Conversely, the majority (58%) 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 May 2, 2019, the National Microbiology Laboratory (NML) has characterized 2057 influenza viruses [384 A(H3N2), 1565 A(H1N1)pdm09 and 108 B (23 Yamagata lineage and 85 Victoria lineage)] received from Canadian laboratories.

Influenza A(H3N2): 130 influenza A(H3N2) viruses were considered antigenically similar to egg-propagated A/Singapore/INFIMH-16-0019/2016, the WHO-recommended A(H3N2) component of the 2018-19 northern hemisphere influenza vaccine. However, 84 viruses showed reduced titer with ferret antisera raised against egg-propagated A/Singapore/INFIMH-16-0019/2016.

Of 364 A(H3N2) viruses successfully characterised (either genetically or antigenically), 38 (10%) belonged to genetic group (clade) 3C.2a, 226 (62%) belonged to genetic group 3C.2a1, and 100 (27%) belonged to genetic group 3C.3a. The 2018-19 northern hemisphere influenza vaccine contains a clade 3C.2a1 virus.

Influenza A(H1N1)pdm09: 1522 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, 43 viruses showed reduced titer with ferret antisera raised against cell culture-propagated A/Michigan/45/2015.

Influenza B: 23 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. 19 influenza B viruses characterized were antigenically similar to B/Colorado/06/2017. 66 viruses showed reduced titer with ferret antisera raised against cell culture-propagated B/Colorado/06/2017. Sequence analysis showed that 64 viruses that exhibited reduced titer had a three amino acid deletion (162-164) in the HA gene.

National Microbiology Laboratory (NML): Antiviral Resistance

From September 1, 2018, to May 2, 2019, the NML received influenza viruses from Canadian laboratories for drug susceptibility testing.

Amantadine: Of the 439 influenza A viruses [85 A(H3N2), 354 A(H1N1)pdm09] tested against amantadine, all were resistant.

Oseltamivir: Of the 1213 influenza viruses [140 A(H3N2), 1005 A(H1N1)pdm09, and 68 B] tested against oseltamivir, 1209 were sensitive, and 4 A(H1N1)pdm09 viruses with an H275Y mutation were resistant.

Zanamivir: Of the 1212 influenza viruses [140 A(H3N2), 1004 A(H1N1)pdm09, and 68 B] tested against zanamivir, all were sensitive.

International

USA (Week 16, April 14 to April 20, 2019)

In week 16, influenza activity continued to decrease in the United States (US). While influenza A(H1N1)pdm09 predominated from October to mid-February, influenza A(H3N2) has been more frequently reported since late February. Very little influenza B activity has been reported throughout the season. The majority of influenza A(H1N1)pdm09 and influenza B viruses characterized antigenically are considered similar to the cell-grown reference viruses of the 2018-19 northern hemisphere influenza vaccine; however, the majority of influenza A(H3N2) viruses are antigenically distinguishable from the A(H3N2) component 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 16, the proportion of deaths attributed to pneumonia and influenza was below the system-specific epidemic threshold. Five influenza-associated pediatric deaths were reported in week 16. The proportion of outpatient visits for ILI decreased from 2.4% in week 15 to 2.1% in week 16, which is below the national baseline of 2.2%. This is the first week since mid-November 2018 that ILI activity was below the national baseline. 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 (April 29, 2019, based on data up to April 14, 2019)

Influenza activity continued to decrease overall in the temperate zones of the northern hemisphere, with influenza A viruses predominating. However, influenza activity remained elevated in some countries, including in Saudi Arabia where percent positivity has continued to rise, and in the Republic of Korea, where a second wave of influenza activity, predominated by influenza B followed by influenza A(H3N2) viruses, has been reported.

In the tropical zone (tropical countries of Central America, the Caribbean, South America, Africa, and Asia), low levels of influenza have been reported overall. However, increased detections were reported in Guatemala (mainly influenza A viruses) and Malaysia (all seasonal subtypes) in recent weeks. Influenza activity continued to be reported from Eastern Africa, although with a decreasing trend, with influenza A(H3N2) predominating followed by influenza B.

In the temperate zones of the southern hemisphere, influenza detections increased in Southern Australia and South Africa. This represents an earlier apparent start to the season compared to previous years. Several islands in the Pacific also reported increased ILI and/or influenza activity. Influenza activity in South America remained at inter-seasonal levels.

From April 1 2019 to April 14 2019, the WHO GISRS laboratories tested more than 137,187 specimens. Of these, 20,772 were positive for influenza viruses, of which 17,422 (84%) were typed as influenza A and 3,350 (16%) as influenza B. Of the subtyped influenza A viruses, 1,917 (33%) were influenza A(H1N1)pdm09 and 3,922 (67%) were influenza A(H3N2). Of the characterized B viruses, 108 (8%) belonged to the B-Yamagata lineage and 1,196 (92%) to the B-Victoria lineage.

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

2018-19 Vaccine Effectiveness Estimates

Updated Canadian 2018-19 Vaccine Effectiveness Estimates (unpublished)

Given an atypical late-season wave of influenza A(H3N2), the community-based Canadian Sentinel Practitioner Surveillance Network (SPSN) undertook an additional interim analyses to assess effectiveness of the 2018-19 influenza vaccine against A(H3N2) illness. Vaccine effectiveness (VE) monitoring methods are as described in prior publications, available at the [SPSN website](#) alongside historic and current VE findings.

Based on data collected as of March 30th, 2019, including more than 2800 participants, the SPSN estimates that the 2018-19 northern hemisphere vaccine provided little or no protection against medically-attended outpatient A(H3N2) illness (VE of 23%; 95% CI: -9-46), including among working age adults 20-64 years-old who comprise the majority of SPSN participants (VE of -16%; 95% CI: -76-23). Consistent with expected patterns, VE estimates for the delayed A(H3N2) wave were considerably lower than reported earlier by the SPSN for the primary A(H1N1)pdm09 epidemic based on data collected as of January 12th, 2019. In that mid-season analysis, VE against A(H1N1)pdm09 was 72% (95% CI: 60-81) overall, with substantial protection observed in all age groups¹. In the most recent analysis spanning March 30th, estimates against A(H1N1)pdm09 remained stable at approximately 70%.

The SPSN will further update VE estimates at end-of-season.

¹ The SPSN mid-season paper 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 the 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. 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

European Interim Estimates of 2018-19 Seasonal Influenza Vaccine Effectiveness

On February 21, 2019, mid-season VE estimates were also reported from Europe, where there has been co-circulation of both influenza A(H1N1)pdm09 and A(H3N2) viruses this season. VE estimates were generally higher against A(H1N1)pdm09 than against A(H3N2) for which no vaccine protection was suggested among 3/4 studies in the outpatient setting. 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.2019.24.1900121>

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 2019-20 Northern Hemisphere Influenza Vaccine

On February 20, 2019, the WHO announced the recommended strain components for the 2019-20 northern hemisphere trivalent influenza vaccine (TIV):*

- an A/Brisbane/02/2018 (H1N1)pdm09-like virus; †
- an A/Kansas/14/2017 (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 2018-19 northern hemisphere TIV.

† Recommended strain represents a change from the 2018-19 season vaccine which contained an A/Michigan/45/2015 (H1N1)pdm09-like virus

‡ The A(H3N2) component was announced on March 21 2019. The recommended strain represents a change from the 2018-19 season vaccine which contained an A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus.

For further details:

https://www.who.int/influenza/vaccines/virus/recommendations/201902_recommendation.pdf?ua=1

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	MSP: BC Medical Services Plan
AI: Avian influenza	NHA: Northern Health Authority
FHA: Fraser Health Authority	NML: National Microbiological Laboratory
HBoV: Human bocavirus	A(H1N1)pdm09: Pandemic H1N1 influenza (2009)
HMPV: Human metapneumovirus	RSV: Respiratory syncytial virus
HSDA: Health Service Delivery Area	VCHA: Vancouver Coastal Health Authority
IHA: Interior Health Authority	VIHA: Vancouver Island Health Authority
ILI: Influenza-Like Illness	WHO: World Health Organization
LTCF: Long-Term Care Facility	

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

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 style="width: 50%;">Numbers to date</th> <th style="width: 50%;">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:		