

British Columbia (BC) Influenza Surveillance Bulletin

2021-22 Influenza Season

Week 10: March 6 to 12, 2022

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Influenza and non-influenza respiratory virus (NIRV) detections remain low in BC

Since our last bulletin for week 4, 11 influenza viruses were reported in BC among 31,248 specimens tested (<0.1%) in weeks 5-10. Influenza virus testing is higher but detection is far below the 5-year (pre-COVID-19 pandemic) average for weeks 5-10 (2,132 (32%) influenza virus detections among 6,562 tests on average).

During weeks 5-10, most detections were non-influenza respiratory viruses with RSV most commonly detected (556/1,142; 49%) followed by entero-/rhinoviruses (316/1,142; 28%). Percent positivities, however, remain within or below expected levels.

BC Medical Service Plan (MSP) general practitioner claims for influenza illness (weekly counts) remain below the 10-year historical minimum.

Elsewhere in Canada, influenza virus detection during weeks 5-10 was also low: Quebec (n=9), Ontario (n=14), Saskatchewan (n=12), and Alberta (n=11). To week 9, influenza A(H3N2) has accounted for most (91%) subtyped influenza A viruses (n=121) in Canada.

In the United States, preliminary estimates of influenza [vaccine effectiveness \(VE\) for the 2021-22 season](#) have been posted. In the context of low-level circulation of predominant A(H3N2) sub-clade 2a.2 viruses, antigenically distinct from the 2021-22 sub-clade 2a.1 vaccine strain, investigators show vaccine did not significantly reduce the (already low) risk of medically-attended influenza A(H3N2) illness. [The WHO has recommended two of four quadrivalent vaccine strains be updated](#) for 2022-23, including change to the A(H3N2) and B/Victoria components. See full bulletin for details.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Report Disseminated: March 17, 2022

A. Laboratory Surveillance

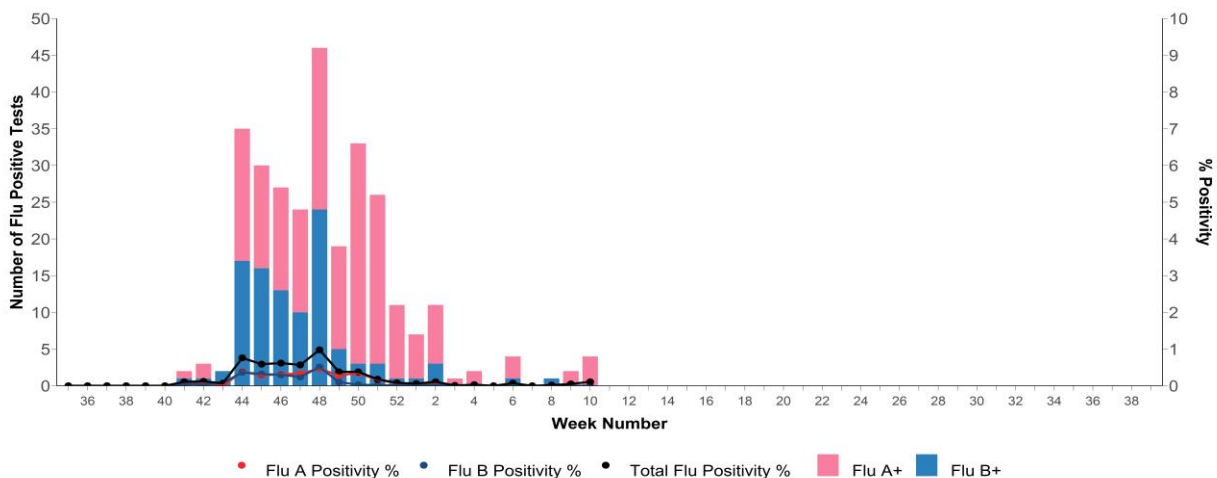
Since the beginning of the 2021-22 season, commencing October 3, 2021 (week 40), 290 (0.2%) influenza viruses have been detected among the 142,931 specimens tested in BC (Figure 1). Of these, 11 detections were reported during weeks 5 (n=0), 6 (n=4), 7 (n=0), 8 (n=1), 9 (n=2), and 10 (n=4) (spanning January 30, 2022 – March 12, 2022), representing <0.1% of the 31,248 specimens tested in weeks 5-10. These detections exclude those considered by the BCCDC Public Health Laboratory (PHL) as likely to have been associated with live attenuated influenza vaccine (LAIV). For three out of 11 detections with known age information, one was a young adult (20-24 years old) and two were mature adults (60-64 and 70-74 years old).

By way of comparison for the same period (weeks 5-10) of the 2020-21 season, there were 3 influenza detections among 17,458 specimens tested (<0.1% positivity), and 3,061 detections among 12,577 tested during the 2019-20 season (24% positivity). In the current 2021-22 season, influenza virus testing is higher but detection is far below the 5-year historical (pre-pandemic) average (Figure 2). In the historical seasons prior to the COVID-19 pandemic, an average of 6,562 influenza tests were conducted between weeks 5 to 10, with 2,132 (32%) influenza virus detections (range 169 to 709 detections per week) reported (source: RVDSS Report).

The BCCDC PHL and some local health authority (HA) laboratories also conduct testing for other non-influenza respiratory viruses (NIRV), including RSV and other pathogens beyond SARS-CoV-2 which is not addressed in this report. RSV percent positivity has declined since peaking in week 48 and has been steadily below the 5-year historical average in weeks 5-10. EV/RV positivity has been steadily increasing in weeks 5-10 but remains within expected levels (Figure 2).

Among specimens additionally subjected to multiplex testing between weeks 5-10, RSV, entero/rhinoviruses (EV/RV) and seasonal coronavirus were the first (556/1,142; 49%), second (316/1,142; 28%) and third (140/1,142; 12%) most commonly detected NIRVs, respectively. In weeks 5-10, 556 RSV positive specimens were identified among 30,473 tested (2%) compared to no detection among 17,282 specimens tested during the same weeks of the 2020-21 season and 897 detections out of 12,481 tested (7%) during the 2019-20 season. EV/RV and coronavirus were found in 9% (316/3,465) and 4% (140/3,465) of specimens tested, respectively. Most NIRV detections (at the BCCDC PHL) were among children under the age of 9 years. (Figures 2, 3, 4, 5; Table 1).

Figure 1. Influenza virus positivity among respiratory specimens tested^a across BC, 2021-2022^{a,b,c}

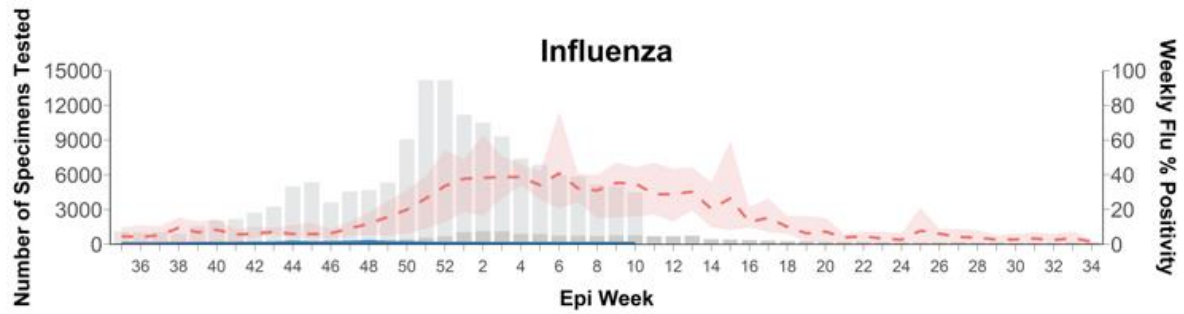


a. The percentage influenza positivity is presented by influenza type based on primary specimens submitted for influenza testing at the BCCDC Public Health Laboratory (PHL) and other external sites that share complete testing data with the BCCDC PHL. Reporting sites include: BC Children’s and Women’s Hospital, Children’s and Women’s Hospital Laboratory, Fraser Health Medical Microbiology Laboratory, Island Health, Providence Health Care, Powell River Hospital, St. Paul’s Hospital, Vancouver General Hospital, Victoria General Hospital, BCCDC PHL, Interior Health Authority sites, and Northern Health Authority (NHA data missing for week 10).

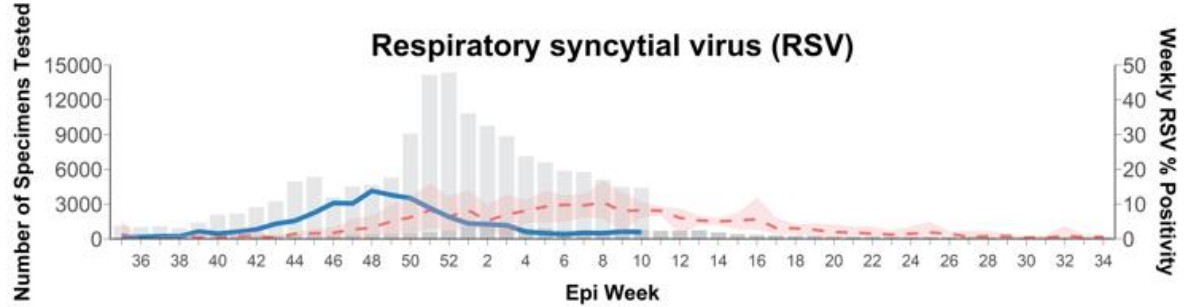
b. Rates are subject to change with subsequent data reconciliation.

c. Week of sample based on the sample collection date.

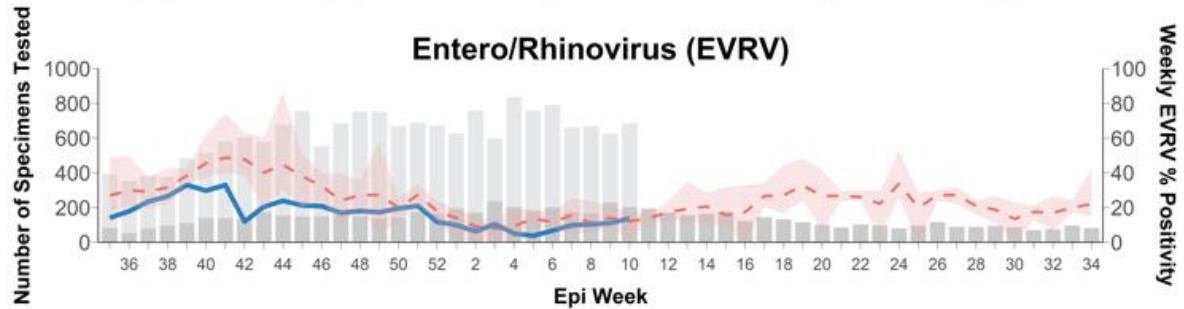
Figure 2. Laboratory influenza and other respiratory virus detections across BC with 5-season historical data*



Flu Tests (2014-2018 Average) Flu Tests 2021-22 Flu Positivity (2014-2018 Average) Flu Positivity 2021-22



RSV Positivity (2014-2018 Average) RSV Positivity 2021-22 RSV Tests (2014-2018 Average) RSV Tests 2021-22

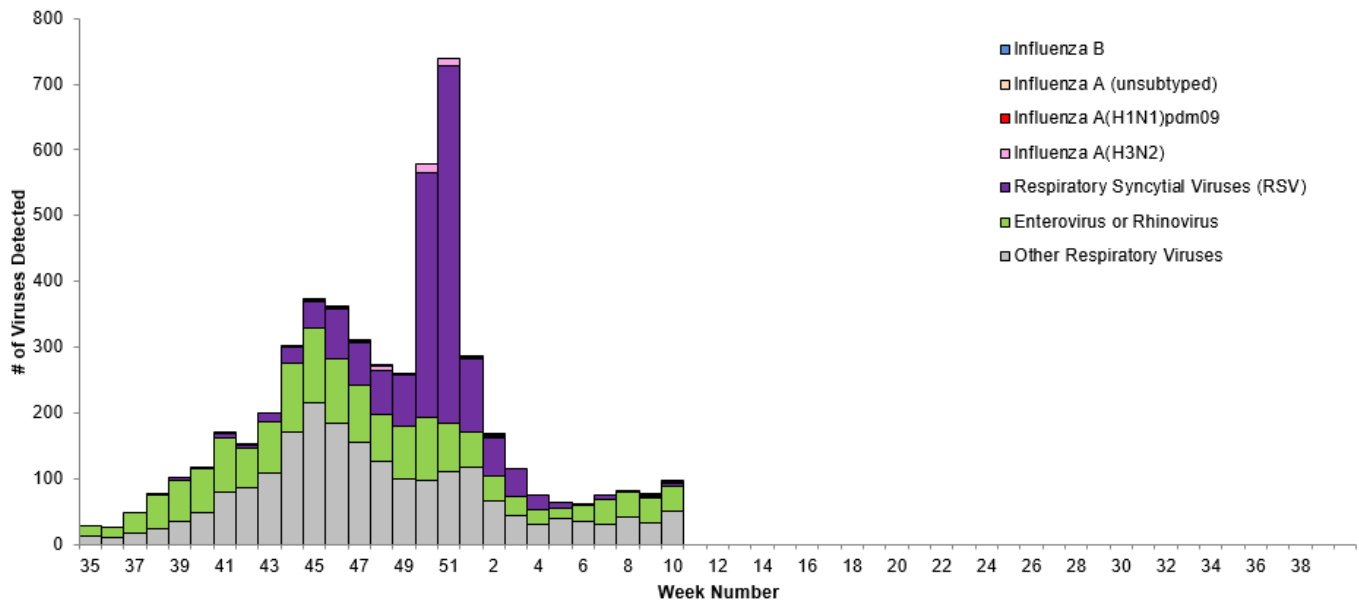


EVRV Positivity (2014-2018 Average) EVRV Positivity 2021-22 EVRV Tests (2014-2018 Average) EVRV Tests 2021-22

* The shaded area (red) represents the maximum and minimum percentage of influenza positivity reported by week from seasons 2014-2015 to 2018-2019.

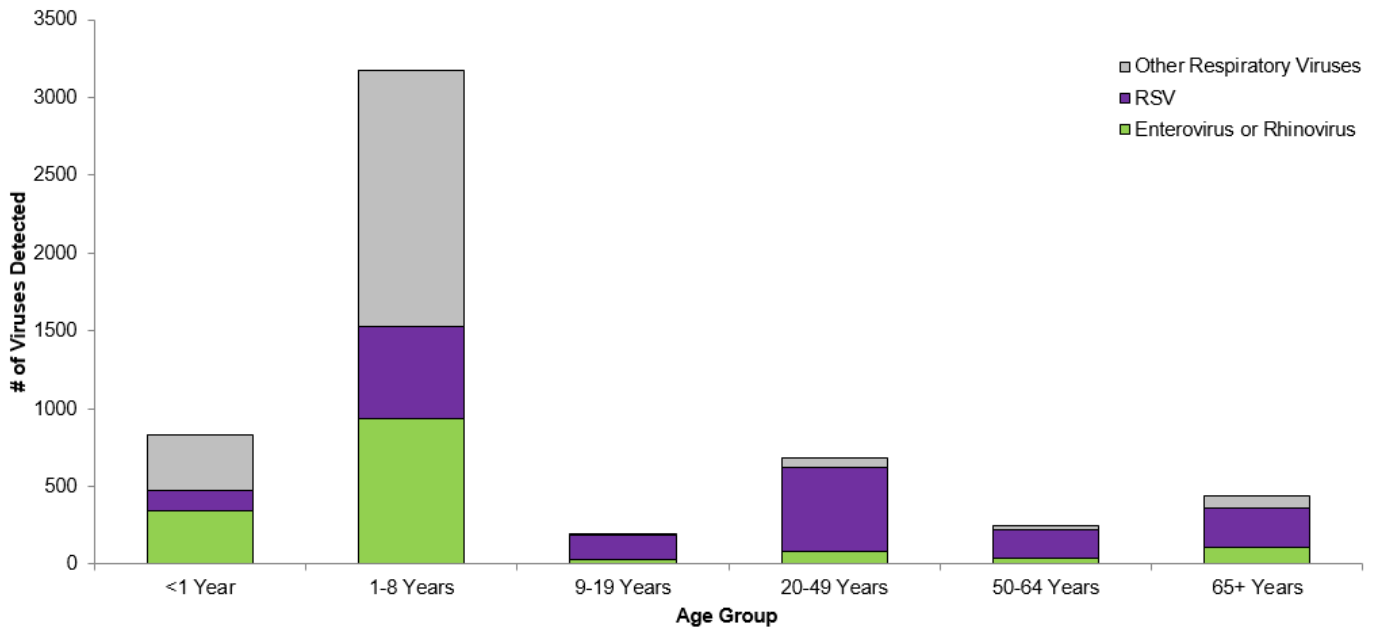
Source: Respiratory Virus Detections Surveillance System (RVDSS) weekly report; data includes seasons 2014-2015, 2015-16, 2016-17, 2017-18, 2018-19, 2021-2022 (2019-20 & 2020-21 are excluded from the historical average calculations due to the COVID-19 pandemic).

Figure 3. Influenza and non-influenza respiratory virus (NIRV) detections among specimens submitted to BCCDC Public Health Laboratory and Island Health Laboratories, 2021-2022*



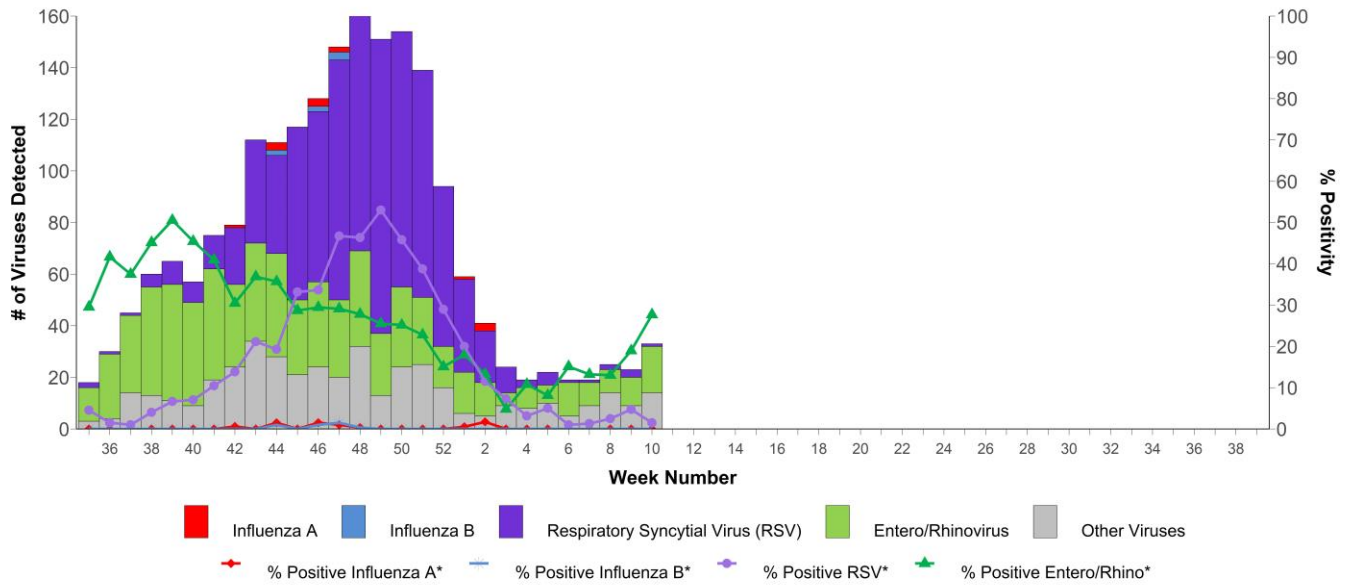
* The BCCDC Public Health Laboratory (PHL) conducts the majority of influenza subtype characterization for the province, including for primary specimens submitted directly to the BCCDC PHL for influenza diagnosis, as well as for specimens that have tested positive for influenza at other external sites and for which secondary subtyping was requested. Influenza A(H1N1)pdm09 and influenza A(subtype unknown) weekly case counts as directly typed/subtyped on primary specimens by Island Health Authority are also incorporated into the influenza counts in the graph and narrative summary above.

Figure 4. Cumulative number (since week 35) of non-influenza respiratory virus detections (NIRV) by type and age group, BCCDC Public Health Laboratory, 2021-22



Source: BCCDC Public Health Laboratory (PHDRW); Data are current to March 17, 2022; figure includes cumulative influenza detections for specimens collected from weeks 35-10.

Figure 5. Influenza and NIRV detections among respiratory specimens submitted to BC Children’s and Women’s Health Centre Laboratory, 2021-2022^{a,b,c}



- a. 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.
- b. Week of sample based on the sample collection date.
- c. From week 35 to week 10 (August 29, 2021 – March 12, 2022), 4,059 specimens were submitted for influenza virus testing at the BC Children’s and Women’s Health Centre laboratory. Amongst detected viruses, the most common viruses were RSV (938/2,066; 45%), entero/rhinoviruses (683/2,066; 33%) and parainfluenza (282/2,066; 14%).

Table 1. Influenza and non-influenza respiratory viruses (NIRV) detected among primary patient specimens by health authority of test site

| Count (% positive from total screened) | Health authority ^{a,b} where specimen tested ^c , BC Cases | | | | | | | Total |
|--|---|----------------|---------------|------------------|---------------------------|----------------|---------------|-----------------|
| | FHA | IHA | VIHA | NHA* | VCHA | BCCDC | CW | |
| Current report Week 10 | [March 6 - 12, 2022] | | | | | | | |
| Influenza, Total ^d | 3/1065 (<1) | 0/936 | 0/475 | NR | 1/791 (<1) | 0/378 | 0/66 | 4/3711 (<1) |
| Influenza A total | 3 | 0 | 0 | NR | 1 | 0 | 0 | 4 (<1) |
| A(H3N2) ^e | 1 | 0 | 0 | NR | 1 | --- | --- | 2 |
| A(H1N1)pdm09 ^e | 0 | 0 | 0 | NR | 0 | --- | --- | 0 |
| Influenza B total | 0 | 0 | 0 | NR | 0 | 0 | 0 | 0 |
| NIRV, Total ^c | 5 | 63 | 3 | NR | 15 | 76 | 33 | 195 |
| RSV | 5/1065 (<1) | 48/936 (5) | 2/475 (<1) | NR | 10/687 (1) | 4/378 (1) | 1/66 (2) | 70/3607 (2) |
| Enterovirus/Rhinovirus | --- ^f | 9/111 (8) | 0/11 | --- ^f | 35/229 (15) ^g | 35/229 (15) | 18/65 (28) | --- |
| Other ^h | --- ^f | 6/111 (5) | 1/11 (9) | --- ^f | 37/229 (16) ^g | 37/229 (16) | 14/65 (22) | --- |
| Cumulative total to date, Week 40 to 10 | [October 3, 2021 – March 12, 2022] | | | | | | | |
| Influenza Total ^d | 36/26902 (<1) | 14/24805 (<1) | 13/16600 (<1) | 13/7722 (<1) | 163/26231 (1) | 29/37078 (<1) | 22/3593 (1) | 290/142931 (<1) |
| Influenza A total | 25 (<1) | 12 (<1) | 7 (<1) | 8 (<1) | 100 (<1) | 22 (<1) | 14 (<1) | 188 (<1) |
| A(H3N2) ^e | 11 | 14 | 3 | 0 | 28 | --- | --- | 56 |
| A(H1N1)pdm09 ^e | 0 | 0 | 1 | 0 | 0 | --- | --- | 1 |
| Influenza B total | 11 (<1) | 2 (<1) | 6 (<1) | 5 (<1) | 63 (<1) | 7 (<1) | 8 (<1) | 102 (<1) |
| NIRV, Total ^c | 2131 | 1736 | 980 | 497 | 1463 | 4413 | 1826 | 13046 |
| RSV | 2131/26902 (8) | 1233/24805 (5) | 871/16900 (5) | 497/7722 (6) | 1278/23326 (5) | 1744/37066 (5) | 920/3593 (26) | 8674/140314 (6) |
| Enterovirus/Rhinovirus | --- ^f | 250/2172 (12) | 70/839 (8) | --- ^f | 107/1735 (6) ^g | 1380/7947 (17) | 528/2196 (24) | --- |
| Other ^h | --- ^f | 253/2172 (12) | 39/839 (5) | --- ^f | 78/2014 (4) ^g | 1289/7947 (16) | 378/2196 (17) | --- |

- a. FHA=Fraser Health Authority; IHA=Interior Health Authority; VIHA= Vancouver Island Health Authority; NHA=Northern Health Authority; VCHA=Vancouver Coastal Health Authority; BCCDC= primary patient specimens screened at BCCDC Public Health Laboratory; CW=Children’s and Women’s Health Centre Laboratory
- b. The HA associated with each subtyped sample is based on patient’s health authority. If patient health authority information is missing, the ordering physician’s health authority is used.
- c. The number of influenza A, influenza B, RSV, Enterovirus/Rhinovirus, and other non-influenza respiratory viruses (NIRV) detected are based on specimens submitted for influenza screening/testing to various labs across FHA, VCHA (including Providence Health), VIHA, IHA and NHA. Samples sent to Children’s & Women’s Laboratory (CW) and BCCDC Public Health Laboratory for primary diagnostic purposes are displayed separately here (i.e. excluding those already screened at another site and submitted for secondary testing or characterization).
- d. Influenza co-infections (influenza A and B virus positive) not accounted for in data source (PLOVER).
- e. 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 was requested. Influenza A(H1N1)pdm09 and influenza A(H3N2) are directly typed/subtyped on primary specimens by IHA and are also incorporated into the influenza A subtype counts above.
- f. Not tested by Fraser Health Microbiology Laboratories and Northern Health laboratory sites.
- g. Enterovirus/Rhinovirus and Coronavirus not tested by Providence Health.
- h. Other non-influenza respiratory viruses (NIRV) included on multiplex panels are parainfluenza, adenovirus, human metapneumovirus (HMPV), and seasonal coronaviruses (does not include SARS-CoV-2).

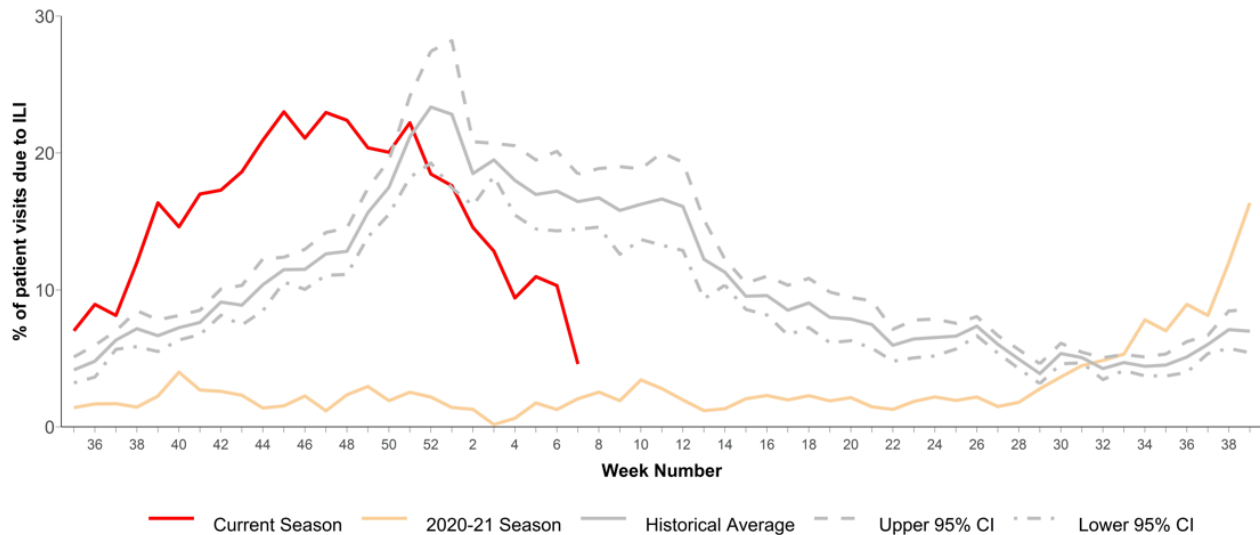
NR = Not Reported
*Week 10 data missing

B. Clinical Indicators

BC Children’s Hospital Emergency Room

The proportion of visits to BC Children’s Hospital Emergency Room (ER) attributed to ILI that had been trending above the 5-year pre-pandemic historical average earlier in the season started to decline in week 51 and was below expected levels in weeks 5-7 (Figure 6). Due to system updates, reporting of this indicator has paused since week 7.

Figure 6. Percent of patients presenting to BC Children’s Hospital ER

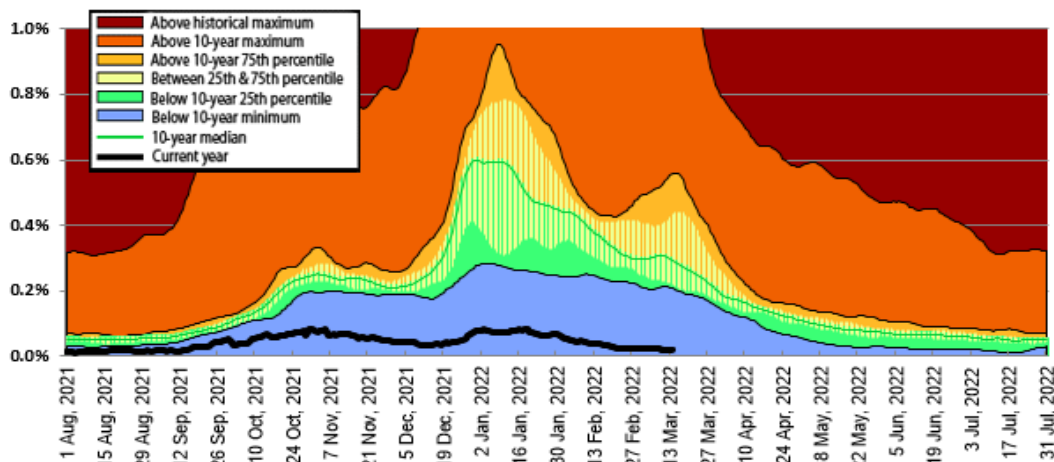


Source: BCCH Admitting, Discharge, Transfer database (ADT). Data includes records with a triage chief complaint of "flu" or "influenza" or "fever/cough." *5-year historical average for 2021-22 season based on 2014-15 to 2018-19 seasons (excluded 2019-20 & 2020-21 seasons); CI=confidence interval.

Medical Service Plan

As shown in Figure 7 and Figure 8, between weeks 5 and 10 (spanning January 30 to March 12, 2022), BC Medical Service Plan (MSP) general practitioner claims for influenza illness (weekly counts) remained below the 10-year historical minimum overall in the province and in all five health authorities.

Figure 7. Service claims submitted to MSP for influenza illness*, British Columbia, 2021-2022 season

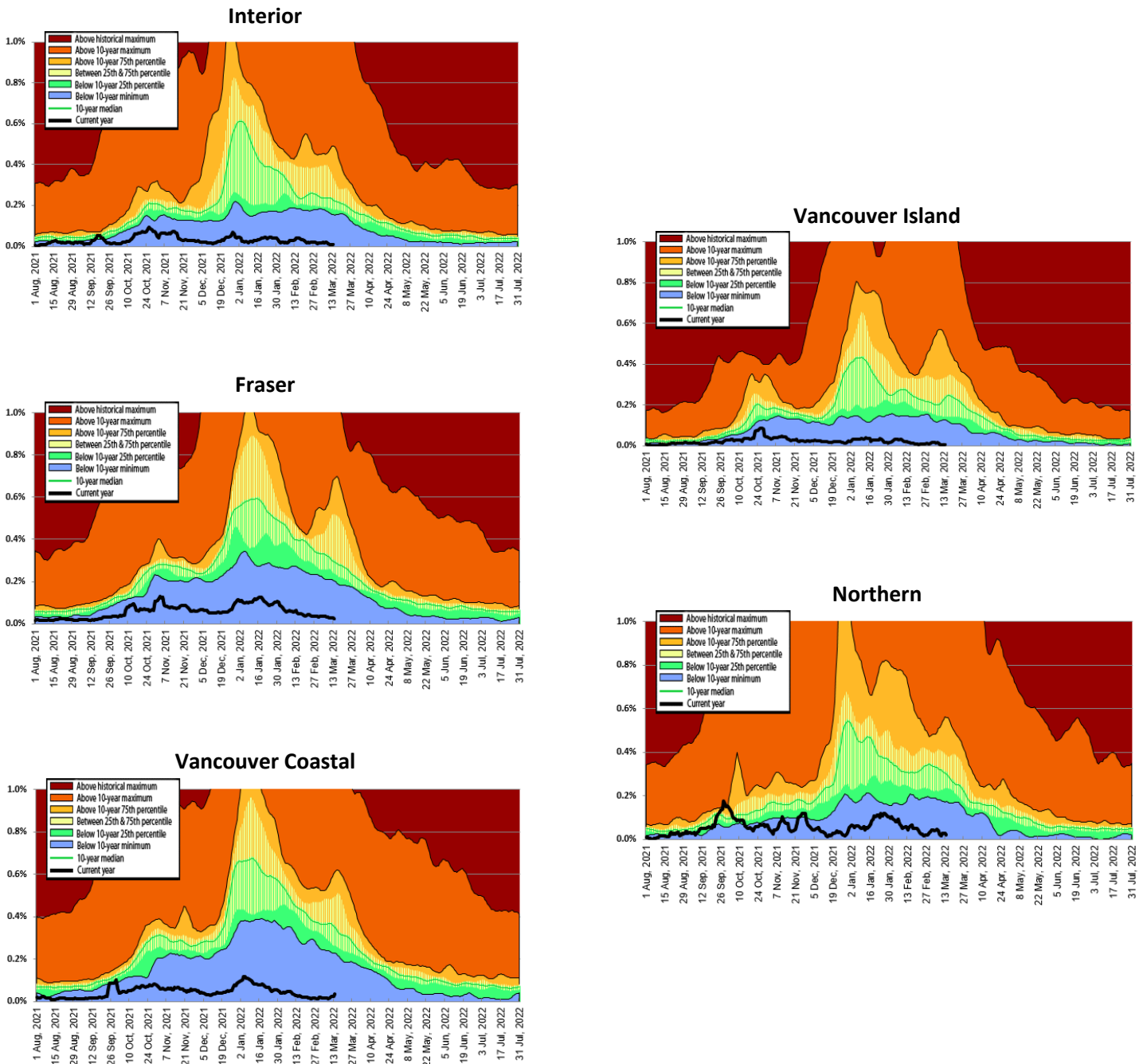


† Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services. Influenza illness (II) is tracked as the weekly count of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

* 10-year historical data was derived from the seasons 2008-09, 2010-11, 2011-12, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, and 2018-19. Seasons 2019-20 and 2020-21 were excluded due to the COVID-19 pandemic.

MSP data beginning August 1, 2021 corresponds to sentinel ILI week 31; data are current to March 14, 2022.

Figure 8.



† Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services. Influenza illness (II) is tracked as the weekly count of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

* 10-year historical data was derived from the seasons 2008-09, 2010-11, 2011-12, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, and 2018-19. Seasons 2019-20 and 2020-21 were excluded due to the COVID-19 pandemic.

MSP data beginning August 1, 2021 corresponds to sentinel ILI week 31; data are current to March 14, 2022.

C. Influenza outbreak reports

The last influenza outbreak in BC was in March 2020 (week 12) with no influenza outbreaks reported to date in the 2021-22 season.

D. National

FluWatch (week 9, February 27 to March 5, 2022)

Influenza activity across Canada has decreased in recent weeks and remained low for this time of year. In week 9, low numbers of sporadic detections of influenza continued. There has been no evidence of community circulation in the 2021-22 season to date. In week 9, a total of 14 influenza detections (14 influenza A and 0 influenza B) were reported. In week 9, 10,735 tests for influenza were performed at reporting laboratories and the percentage of tests positive for influenza was 0.1%. In the past six pre-pandemic seasons (2014-2015 to 2019-2020), an average of 10,956 tests were performed, with an average of 25% of tests positive for influenza. To date this season, 532 influenza detections (416 influenza A and 116 influenza B) have been reported, which is lower than what we have seen historically in the past six pre-pandemic seasons, where an average of 35,528 influenza detections were reported at this point in the season. Among subtyped influenza A detections (n=121), influenza A(H3N2) accounted for 91% of detections. In week 9, no ILI outbreaks were reported. From August 29, 2021 to March 5, 2022, 18 ILI outbreaks and no laboratory-confirmed influenza outbreaks have been reported. The most recent laboratory-confirmed influenza outbreak occurred in week 24 (week ending June 13, 2020) of the 2019-2020 season. The percentage visits for influenza-like illness (ILI) has decreased in recent weeks and was 0.7% in week 9. The percentage of FluWatchers reporting fever and cough has remained stable since early February and is at 0.45% in week 9.

FluWatch report is 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:

Since September 1, 2021, the National Microbiology Laboratory (NML) has characterized 41 influenza viruses (39 H3N2 and 2 H1N1) received from Canadian laboratories.

Influenza A(H3N2):

Genetic characterization

Sequence analysis of the HA gene of these viruses showed that the 39 H3N2 viruses belonged to genetic group 3C.2a1b.2a2. A/Cambodia/e0826360/2020 (H3N2)-like virus is the influenza A/H3N2 component of the 2021-22 Northern Hemisphere influenza vaccine and belongs instead to genetic group 3C.2a1b.2a1. A/Darwyn/6/2021 (H3N2)-like virus is the influenza A/H3N2 component of the 2022 southern hemisphere influenza vaccine and belongs to the genetic group 3C.2a1b.2a2.

Antigenic characterization

39 influenza A (H3N2) viruses were antigenically characterized as A/Cambodia/e0826360/2020 (H3N2)-like virus, 6 viruses were antigenically similar to A/Cambodia/e0826360/2020 (H3N2)-like virus and 33 showed reduced titers with antisera raised against egg-grown A/Cambodia/e0826360/2020 (H3N2)-like virus. A/Cambodia/e0826360/2020 (H3N2) is the influenza A/H3N2 component of the 2021-22 Northern Hemisphere influenza vaccine.

Influenza A(H1N1)pdm09:

Antigenic characterization

Two H1N1 viruses were characterized with one antigenically similar to A/Wisconsin/588/2019, and one virus showed reduced titer with ferret antisera produced against cell-propagated A/Wisconsin/588/2019. A/Wisconsin/588/2019 is the influenza A/H1N1 component of the 2021-22 Northern Hemisphere influenza vaccine.

Antiviral Resistance:

The NML conducted drug susceptibility testing on 41 influenza A (39 H3N2 and 2 H1N1) viruses received.

Oseltamivir: All H1N1 influenza viruses were sensitive to oseltamivir.

Zanamivir: All H1N1 influenza viruses were sensitive to zanamivir.

Human Influenza A with swine origin:

A human case of influenza A variant virus (H1N2v) was reported in December, 2021 from Manitoba, Canada. The virus was detected in October after the individual, who had direct exposure to pigs, sought testing for mild influenza-like illness. The test came back negative for COVID-19, but influenza A(H1N2)v was subsequently identified and confirmed by the Centre for Disease control (USA). The A(H1N2)v case appears to be a sporadic one of which there have been a few in North America over the past decade, including one in Alberta in October 2020 and one in Manitoba in April 2021.

For more information see the link below:

<https://www.canada.ca/en/public-health/services/diseases/human-influenza-a-h1n2-v-swine-origin.html>

E. International

USA (week 9, February 27 to March 5, 2022)

In week 9, influenza activity was increasing in most of the country. Majority of influenza viruses detected were A(H3N2), most of which were genetically closely related to the vaccine virus, although there were some antigenic differences that have developed as H3N2 viruses have continued to evolve. The proportion of outpatient visits for ILI was at 1.6% this week, below the national baseline. The proportion of deaths attributed to pneumonia and influenza during week 10 (9%) was above the epidemic threshold of 7%. Two influenza-associated pediatric deaths were reported to CDC in week 9. One death was associated with an influenza A (H3) virus and occurred during week 4. The other death was associated with an influenza A (subtype unknown) virus and occurred during week 7. There has been a total of 10 influenza-associated pediatric deaths so far this season. Of the 420,274 samples tested for influenza from clinical laboratories across the US in week 9, 2,446 (6%) samples were positive for influenza. Of these, 2,438 (99.7%) were influenza A and 8 (0.03%) was influenza B positive. The US CDC has posted a summary of influenza activity in the United States and elsewhere, available at: <https://www.cdc.gov/flu/weekly>

The United States Centers for Disease Control and Prevention posted preliminary estimates of influenza [vaccine effectiveness \(VE\) for the 2021-22 season](#) on March 11, 2022. In the context of low-level circulation of predominant A(H3N2) sub-clade 2a.2 viruses, antigenically distinct from the 2021-22 sub-clade 2a.1 vaccine strain, investigators show vaccine did not significantly reduce the (already low) risk of medically-attended influenza A(H3N2) illness. VE for all ages combined was 16% (95% CI = -16% to 39%) against outpatient medically attended ARI associated with influenza A(H3N2) virus infection.

WHO (March 7, 2022, based on data up to February 20, 2022)

The current influenza surveillance data should be interpreted with caution as the ongoing COVID-19 pandemic has influenced to varying extents health seeking behaviors, staffing/routines in sentinel sites, as well as testing priorities and capacities in WHO Member States.

In the temperate zone of the northern hemisphere, influenza activity decreased or remained low with detections of mainly influenza A(H3N2) and/or B/Victoria lineage viruses reported. In Europe, influenza activity remained stable at low levels with influenza A(H3N2) predominating. In Northern Africa, the number of influenza detections has decreased slightly compared to recent weeks. In Western Asia, influenza activity was low across reporting countries. In East Asia, influenza activity started to decrease, mainly reflecting the B (Victoria lineage) virus activity reported from China where percent positivity peaked in week 2. In the other countries of the subregion, influenza activity remained low.

In countries in the temperate zone of the southern hemisphere, influenza activity remained low overall as expected at this time of year, although increased detections of influenza A(H3N2) were reported in some countries in temperate South America. For example, in Chile influenza positivity has decreased, but this was still at higher levels than normally seen at this time of year. Also, in Argentina, influenza detections and positivity have increased to an extraordinary level which was much higher than normally seen at this time of year.

In tropical countries of the Caribbean, Central America and South America, decreasing or low influenza activity of predominately influenza A(H3N2) were reported. ***In tropical Africa***, influenza activity was reported mainly from Eastern Africa with influenza A(H3N2) predominating followed by influenza B/Victoria lineage, and from Middle Africa with influenza B predominantly detected.

From February 7, 2021 to February 20, 2022, the WHO GISRS laboratories tested more than 419,390 specimens. Of these, 13,619 were positive for influenza viruses, of which 9,346 (69%) were typed as influenza A and 4,273 (31%) as influenza B. Of the sub-typed influenza A viruses, 224 (11%) were influenza A(H1N1)pdm09 and 1,797 (89%) were influenza A(H3N2). Of the characterized B viruses, 4,085 (100%) belonged to B(Victoria) lineage.

Details are available at: <https://www.who.int/teams/global-influenza-programme/surveillance-and-monitoring/influenza-updates/current-influenza-update>

F. WHO Recommendations for Influenza Vaccines

WHO Recommendations for the 2022-23 Northern Hemisphere Influenza Vaccine

On February 25, 2022, the WHO announced recommended strain components for the 2022-23 northern hemisphere trivalent influenza vaccine (TIV)*:

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus [a clade 6B.1A.5a.2 virus]; †
- an A/Darwin/9/2021 (H3N2)-like virus [a clade 3C.2a1b.2a.2 virus]; ‡
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus [a clade V1A.3a.2 virus]. §

It is recommended that quadrivalent influenza vaccines (QIV) for the 2022-23 northern hemisphere season contain the above three viruses and a B/Phuket/3073/2013-like virus (B/Yamagata lineage) [a clade 3 virus], unchanged since 2015-2016.

* Recommended strains represent a change to two of the three components used in 2021-22, updated for the 2022-2023 northern hemisphere TIV. For quadrivalent influenza vaccine (QIV) two of the four components have been updated from 2021-22 to 2022-23.

† Recommended strain is unchanged from the 2021-2022 season vaccine. Note for cell-based vaccine, the WHO recommends an A/Wisconsin/588/2019 (H1N1)pdm09-like virus [a clade 6B.1A5A virus] for the 2022-23 season, unchanged since 2020-2021 season vaccine which contained an A/Guangdong-Maonan/SWL1536/2019 [a clade 6B.1A5A virus].

‡ Recommended strain represents a change from the 2021-2022 season vaccine which contained an A/Hong Kong/2671/2019 (H3N2)-like virus [a clade 3C.2a1b/T135K virus].

§ Recommended strain represents a change from the 2021-2022 season vaccine which contained a B/Washington/02/2019 (B/Victoria lineage)-like virus [a clade V1A.3, Δ3 virus].

For further details: <https://www.who.int/teams/global-influenza-programme/vaccines/who-recommendations/candidate-vaccine-viruses>

WHO Recommendations for 2022 Southern Hemisphere Influenza Vaccine

On September 24, 2021, the WHO announced the recommended strain components for the 2022 southern hemisphere trivalent influenza vaccine (TIV)*:

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus [a clade 6B.1A5A virus]; †
- an A/Darwin/9/2021 (H3N2)-like virus [a clade 3C.2a1b/T131K-A virus]; ‡
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus [a clade V1A.3, Δ3 virus]. §

It is recommended that quadrivalent influenza vaccines (QIV) for the 2022 southern hemisphere season contain the above three viruses and a B/Phuket/3073/2013-like virus (B/Yamagata lineage) [a clade 3 virus], unchanged from 2021.

* Recommended strains represent a change for two of the three components used for the 2021 southern hemisphere TIV

† Note for cell-based vaccine, the WHO recommends A/Wisconsin/588/2019 (H1N1)pdm09-like virus [also a 6B.1A5A virus] for the 2022 season. Both the cell based and egg based vaccine components have not been changed from the 2021 season vaccine.

‡ Note for cell-based vaccine, the WHO recommends an A/Darwin/6/2021 (H3N2)-like virus [also a 3C.2a1b/T131K virus] for the 2022 season. Recommended strain represents a change from the 2021 season vaccine which contained an A/Hong Kong/2671/2019 (H3N2)-like virus [a clade 3C.2a1b/T135K]

§ Note for cell-based vaccine, the WHO recommends a B/Austria/1359417/2021 (B/Victoria lineage)-like virus [a clade V1A.3, Δ3 virus] for the 2022 season. Recommended strain represents a change from the 2021 season vaccine which contained an a B/Washington/02/2019 (B/Victoria lineage)-like virus [a clade V1A.3, Δ3 virus]

For further details: <https://www.who.int/publications/m/item/recommended-composition-of-influenza-virus-vaccines-for-use-in-the-2022-southern-hemisphere-influenza-season>

G. Additional Information

Explanatory Note:

The surveillance period for the 2021-22 influenza season is defined starting in week 40. Weeks 35-39 of the 2020-21 season are shown on graphs for comparison purposes.

List of Acronyms:

| | |
|---|---|
| ACF: Acute Care Facility | LTCF: Long-Term Care Facility |
| EV/RV: Enteroviruses/Rhinoviruses | MSP: BC Medical Services Plan |
| FHA: Fraser Health Authority | NHA: Northern Health Authority |
| HA: Health authority | NML: National Microbiological Laboratory |
| HBoV: Human bocavirus | PHL: Public Health Laboratory |
| 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 |

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>

Canada – Human Emerging Respiratory Pathogens Bulletins: <https://www.canada.ca/en/public-health/services/surveillance/human-emerging-respiratory-pathogens-bulletin.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 – Influenza Updates: https://www.who.int/influenza/surveillance_monitoring/updates/en/

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 Diseases & Immunization Service (CDIS)

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-](http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Forms/Epid/Influenza%20and%20Respiratory/OutbreakReportForm_2018.pdf)

[gallery/Documents/Guidelines%20and%20Forms/Forms/Epid/Influenza%20and%20Respiratory/OutbreakReportForm_2018.pdf](http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Forms/Epid/Influenza%20and%20Respiratory/OutbreakReportForm_2018.pdf)