

# British Columbia (BC) Influenza Surveillance Bulletin

2021-22 Influenza Season

**Week 45:** November 7 to 13, 2021

## Table of Contents

### A. Laboratory surveillance

Laboratory findings [2](#)

### B. Clinical Indicators

BC Children's Hospital Emergency Room [7](#)

Medical Service Plan [8](#)

### C. Influenza outbreak reports

[9](#)

### D. National

FluWatch Activity levels [10](#)

NML Strain Characterization [10](#)

NML Antiviral Resistance [10](#)

### E. International

USA (CDC) [11](#)

WHO [11](#)

### F. Influenza Vaccine Components (WHO Recommendations)

2019-20 Northern Hemisphere [12](#)

2021 Southern Hemisphere [12](#)

### G. Additional Information

Explanatory note [13](#)

List of Acronyms [13](#)

Web Sites [13](#)

## Increased influenza virus detections in BC, likely LAIV-associated rather than wild-type circulation

Since our last bulletin for week 42, 67 detections of influenza virus were reported among 12,598 specimens tested (0.5%). By way of comparison for the same week 43-45 period of 2020 there were 3 influenza virus detections among 6,022 specimens tested (0.04%), and in 2019 there were 53 detections among 2,187 tested (2.4%).

Among the 67 recent detections between weeks 43-45, 46 were from 23 individuals (median age of 3, range: 2 - 13) with co-detection of influenza A and influenza B. Given the age and dual A/B co-detection at a time of only low-level influenza activity overall, it is highly likely that these represent live attenuated influenza vaccine (LAIV) strains rather than wild-type infection. Of the 23 single detections of influenza A (n=10) and influenza B (n=11), 5 have been confirmed to be LAIV-associated. Assuming that all dual influenza A/B detections represent LAIV receipt, it means more than three quarters of influenza detections (i.e. 51/67; 76%) were likely LAIV-associated and do not reflect community influenza virus circulation.

During weeks 43 and 45 of 2021, most detections were non-influenza respiratory viruses, notably including RSV, EV/RV and parainfluenza. Most have been among young children <9 years of age. RSV percent positivity has been steadily increasing, ranging above the 5-year historical average (2014-15 to 2018-2019) for 10 weeks. In weeks 43-45, there were 769 RSV detections among 12,555 tested (6.1%) compared to none among 6,022 specimens tested in 2020 and 38 of 2,178 tested (1.7%) in 2019.

Visits to BC Children's Hospital Emergency Room for influenza-like illness (ILI) as a percentage of all visits has exceeded the 5-year historical average since week 33.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Report Disseminated: November 18, 2021

## A. Laboratory Surveillance

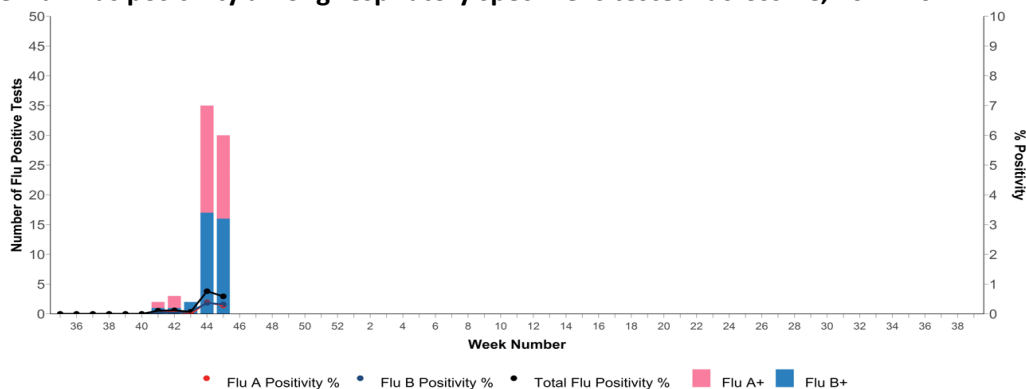
Since the beginning of the 2021-22 season, commencing October 3, 2021 (week 40), 72 (0.4%) influenza viruses have been detected among the 18,765 specimens tested in BC (Figure 1). Of these 72 detections, 67 were reported during weeks 43 (n=2), 44 (n=35) and 45 (n=30) (spanning October 24 – November 13, 2021), representing 0.5% of the 12,598 specimens tested in weeks 43-45. Among these recent detections (week 43-45), 46 were associated with 23 individuals (median age of 3, range: 2 - 13) with dual influenza A and B co-detection. Given the age and dual A/B co-detection at a time of low level influenza activity overall, it is highly likely that these are associated with live attenuated influenza vaccine (LAIV) receipt and do not represent wild-type infection. Of the 23 single detections of influenza A (n=10) and influenza B (n=11), 5 have been confirmed to be associated with LAIV receipt and the overall median age is 3 years old (range: 0 – 33). Assuming that all co-detections represent LAIV receipt, it means more than three quarters of influenza detections (i.e. 51/67; 76%) were likely LAIV-associated rather than wild-type influenza virus infections.

By way of comparison for the same week 43-45 period, there were 3 influenza detections among 6,022 specimens tested in 2020 (0.04% positivity), and 53 detections among 2,187 tested in 2019 (2.4% positivity). In 2021, influenza virus testing is higher but detection is lower than the 5-year historical (pre-pandemic) average (Figure 2). In the historical seasons prior to the COVID-19 pandemic, an average of 908 influenza tests were conducted in weeks 43-45, with 59 (6.5%) detections (range 49 to 120 detections) reported (source: [RVDSS Report](#)).

The BCCDC Public Health Laboratory (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. In recent weeks, RSV percent positivity has been steadily increasing, ranging above the 5-year historical average (2014-15 to 2018-2019) for 10 weeks. Weekly EV/RV positivity remains below the historical average for this time of year (Figure 2).

Among specimens additionally subjected to multiplex testing between weeks 43 and 45, RSV, entero/rhinoviruses (EV/RV) and parainfluenza were the first (769/1605; 48%), the second (438/1605; 27%) and the third (359/1605; 22%) most commonly detected NIRV. In weeks 43-45, 769 RSV positive specimens were identified among 12,555 tested (6.1%) compared to no detections among 6,022 specimens tested in 2020 and 38 detections out of 2,178 tested (1.7%) in 2019. EV/RV and parainfluenza were found in 23% (438/1891) and of 19% (359/1932) 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<sup>a</sup> across BC, 2021-2022<sup>a,b,c</sup>

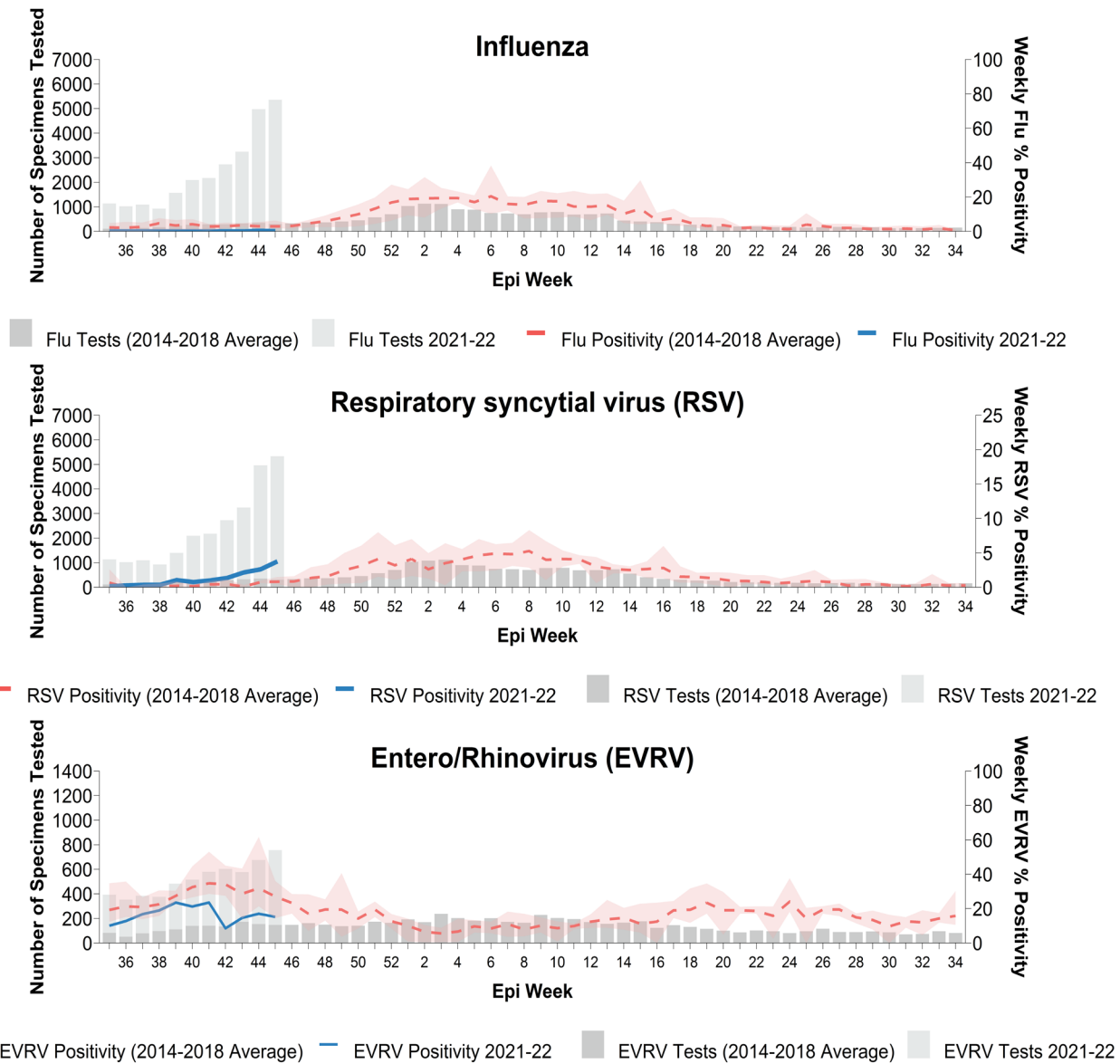


a. The percentage influenza positivity is presented by influenza type based on primary specimens submitted for influenza testing at the BCCDC Public Health Laboratory (PHL) and other external sites that share complete testing data with the BCCDC PHL. Reporting sites include: BC Children's and Women's 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, Vancouver Coastal Health, BCCDC PHL, Interior Health Authority sites, and Northern Health Authority.

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

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

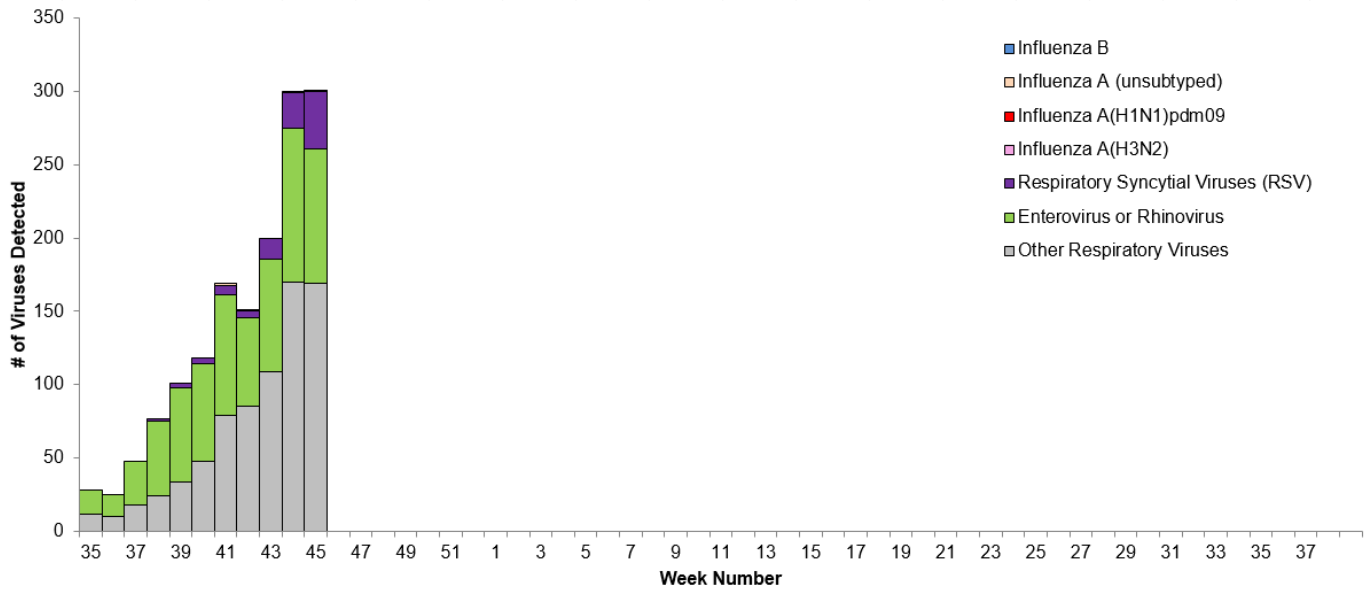
Figure 2. Laboratory influenza and other respiratory virus detections across BC with 5-season historical data\*



\* The shaded area (red) represents the maximum and minimum percentage of influenza positivity reported by week from seasons 2014-15 to 2018-19.

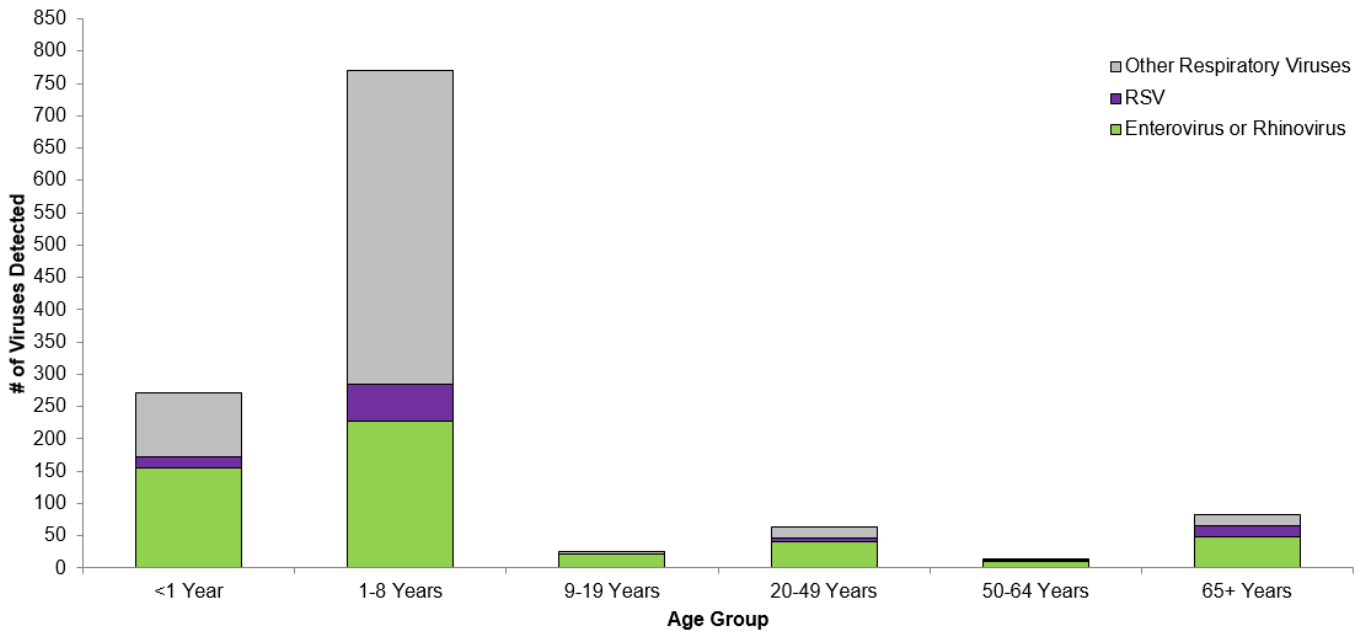
Source: Respiratory Virus Detections Surveillance System (RVDSS) weekly report; data includes seasons 2014-15, 2015-16, 2016-17, 2017-18, 2018-19, 2021-22 (2019-20 & 2020-21 are excluded from the historical average calculations due to the COVID-19 pandemic).

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



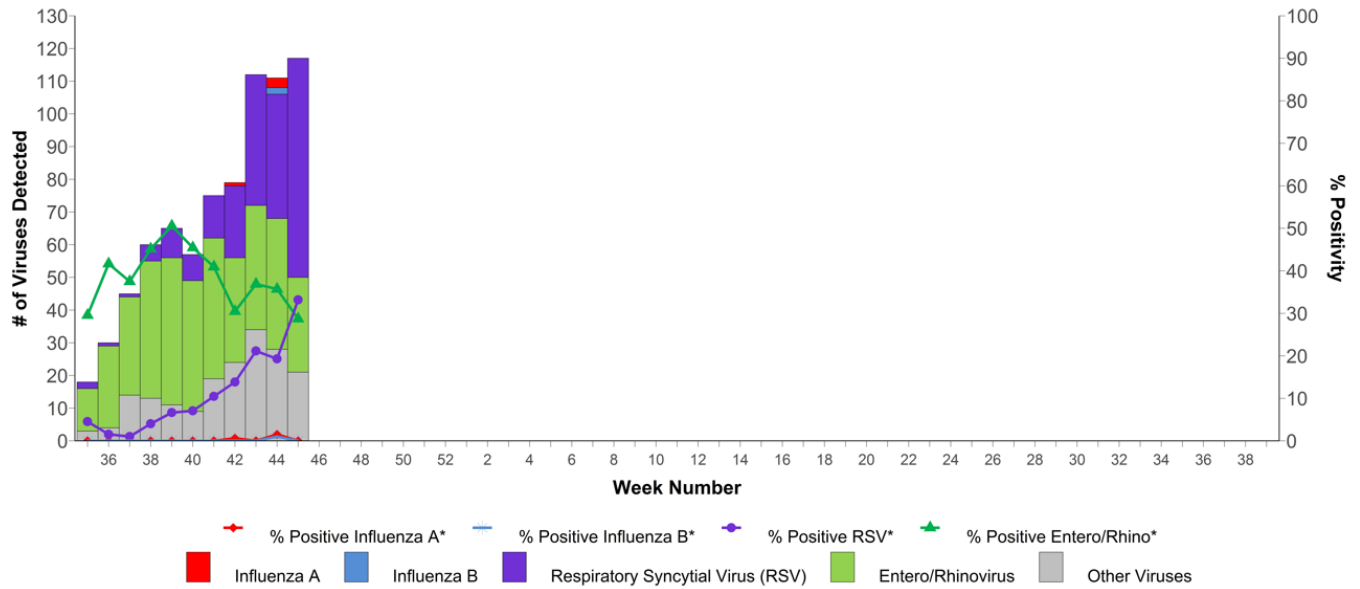
\* The BCCDC Public Health Laboratory (PHL) conducts the majority of influenza subtype characterization for the province, including for primary specimens submitted directly to the BCCDC PHL for influenza diagnosis, as well as for specimens that have tested positive for influenza at other external sites 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 refreshed on November 17, 2021; figure includes cumulative influenza detections for specimens collected from weeks 35-45.

**Figure 5. Influenza and NIRV detections among respiratory specimens submitted to BC Children’s and Women’s Health Centre Laboratory, 2020-2021<sup>a,b,c</sup>**



- 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 45 (August 29 – November 13, 2021), among the 1450 specimens submitted for influenza virus testing at the BC Children’s and Women’s Health Centre laboratory, most that were found positive for non-influenza respiratory viruses were entero/rhinoviruses (377/763= 49%). 206 specimen were positive for RSV.

**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 <sup>a,b</sup> where specimen tested <sup>c</sup> , BC Cases							Total
	FHA	IHA	VIHA	NHA	VCHA	BCCDC	CW	
<b>Current report Week 45 [November 7 - 13, 2021]</b>								
Influenza, Total <sup>d</sup>	4/1233 (0.3)	1/1141 (0.1)	2/921 (0.2)	0/127 (0)	23/986 (2.3)	0/443 (0)	0/202 (0)	30/5053 (0.6)
Influenza A total	1 (0.1)	0 (0)	1 (0.1)	0 (0)	12 (1.2)	0 (0)	0 (0)	14 (0.3)
A(H3N2) <sup>e</sup>	0	0	0	0	0	---	---	0
A(H1N1)pdm09 <sup>e</sup>	0	0	0	0	0	---	---	0
Influenza B total	3 (0.2)	1 (0.1)	1 (0.1)	0 (0)	11 (1.1)	0 (0)	0 (0)	16 (0.3)
NIRV, Total <sup>c</sup>	109	42	58	0	112	193	117	631
RSV	109/1233 (8.8)	13/1141 (1.1)	51/921 (5.5)	0/127 (0)	98/956 (10.3)	38/443 (8.6)	67/202 (33.2)	376/5023 (7.5)
Enterovirus/Rhinovirus	--- <sup>f</sup>	15/60 (25)	4/59 (6.8)	--- <sup>f</sup>	11/97 (11.3) <sup>g</sup>	71/292 (24.3)	29/101 (28.7)	---
Other <sup>h</sup>	--- <sup>f</sup>	14/60 (23.3)	3/59 (5.1)	--- <sup>f</sup>	3/104 (2.9) <sup>g</sup>	84/292 (28.8)	21/101 (20.8)	---
<b>Cumulative total to date, Week 40 to 45 [October 3 – November 13, 2021]</b>								
Influenza Total <sup>d</sup>	9/3136 (0.3)	3/2879 (0.1)	8/4676 (0.2)	0/970 (0)	45/4257 (1.1)	1/1863 (0.1)	6/984 (0.6)	72/18765 (0.4)
Influenza A total	3 (0.1)	1 (0)	3 (0.1)	0 (0)	24 (0.6)	0 (0)	4 (0.4)	35 (0.2)
A(H3N2) <sup>e</sup>	1	0	0	0	1	---	---	2
A(H1N1)pdm09 <sup>e</sup>	0	0	0	0	0	---	---	0
Influenza B total	6 (0.2)	2 (0.1)	5 (0.1)	0 (0)	21 (0.5)	1 (0.1)	2 (0.2)	37 (0.2)
NIRV, Total <sup>c</sup>	254	154	178	0	281	962	545	2374
RSV	254/3136 (8.1)	20/2879 (0.7)	138/4676 (3)	0/970 (0)	218/4214 (5.2)	90/1863 (4.8)	188/984 (19.1)	908/18722 (4.8)
Enterovirus/Rhinovirus	--- <sup>f</sup>	78/312 (25)	27/273 (9.9)	--- <sup>f</sup>	50/461 (10.8) <sup>g</sup>	447/1763 (25.4)	222/614 (36.2)	---
Other <sup>h</sup>	--- <sup>f</sup>	56/312 (17.9)	13/273 (4.8)	--- <sup>f</sup>	13/535 (2.4) <sup>g</sup>	425/1763 (24.1)	135/614 (22)	---

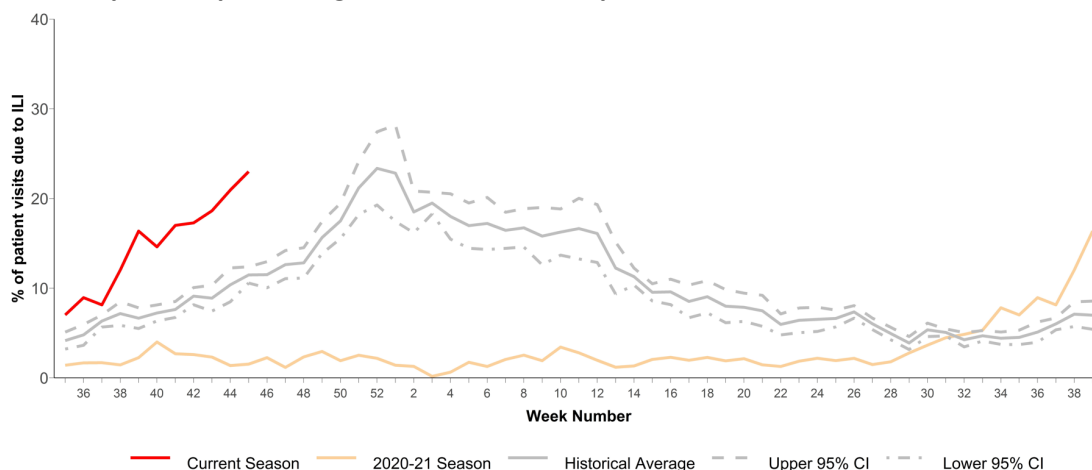
- FHA=Fraser Health Authority; IHA=Interior Health Authority; VIHA= Vancouver Island Health Authority; NHA=Northern Health Authority; VCHA=Vancouver Coastal Health Authority; BCCDC= primary patient specimens screened at BCCDC Public Health Laboratory; CW=Children's and Women's Health Centre Laboratory
- 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.
- 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).
- Influenza co-infections (influenza A and B virus positive) not accounted for in data source (PLOVER).
- 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.
- Not tested by Fraser Health Microbiology Laboratories and Northern Health laboratory sites.
- Enterovirus/Rhinovirus and Coronavirus not tested by Providence Health.
- 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).

## B. Clinical Indicators

### BC Children’s Hospital Emergency Room

The proportion of visits to BC Children’s Hospital Emergency Room (ER) attributed to ILI is trending at 23% in week 45 (November 7-13, 2021) and remains above the 5-year historical average for this time of the year (~10%) (Figure 6). Acknowledging the ongoing COVID-19 pandemic, changes in healthcare seeking behaviours and circulation of other respiratory viruses likely contribute. (Figure 5).

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

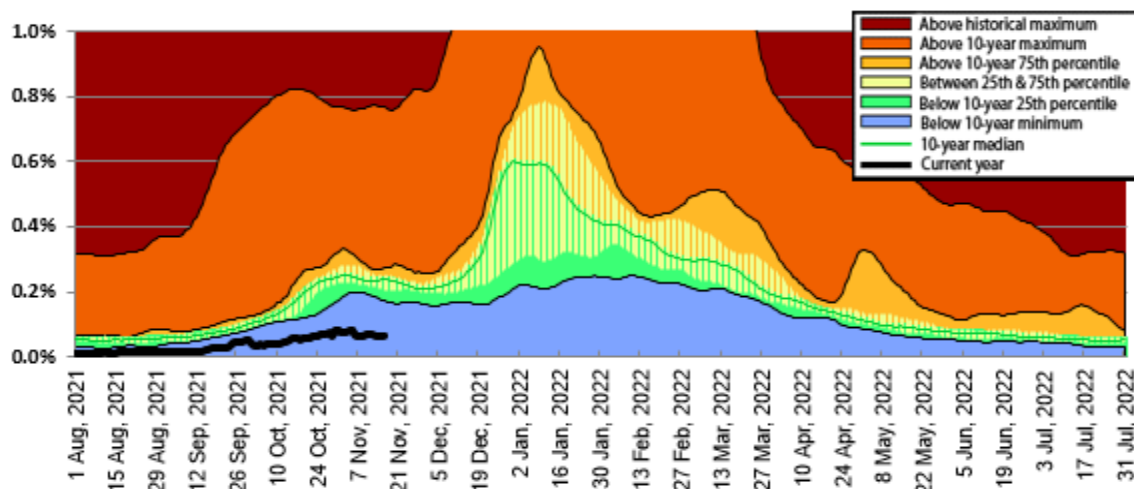


Source: BCCH Admitting, Discharge, Transfer database (ADT). Data includes records with a triage chief complaint of "flu" or "influenza" or "fever/cough."  
\*5-year historical average for 2021-22 season based on 2014-15 to 2018-19 seasons (excluded 2019-20 & 2020-21 seasons); CI=confidence interval.

### Medical Service Plan

As shown in Figure 7 and Figure 8, between weeks 43 to 45 (spanning October 24-November 13, 2021), 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



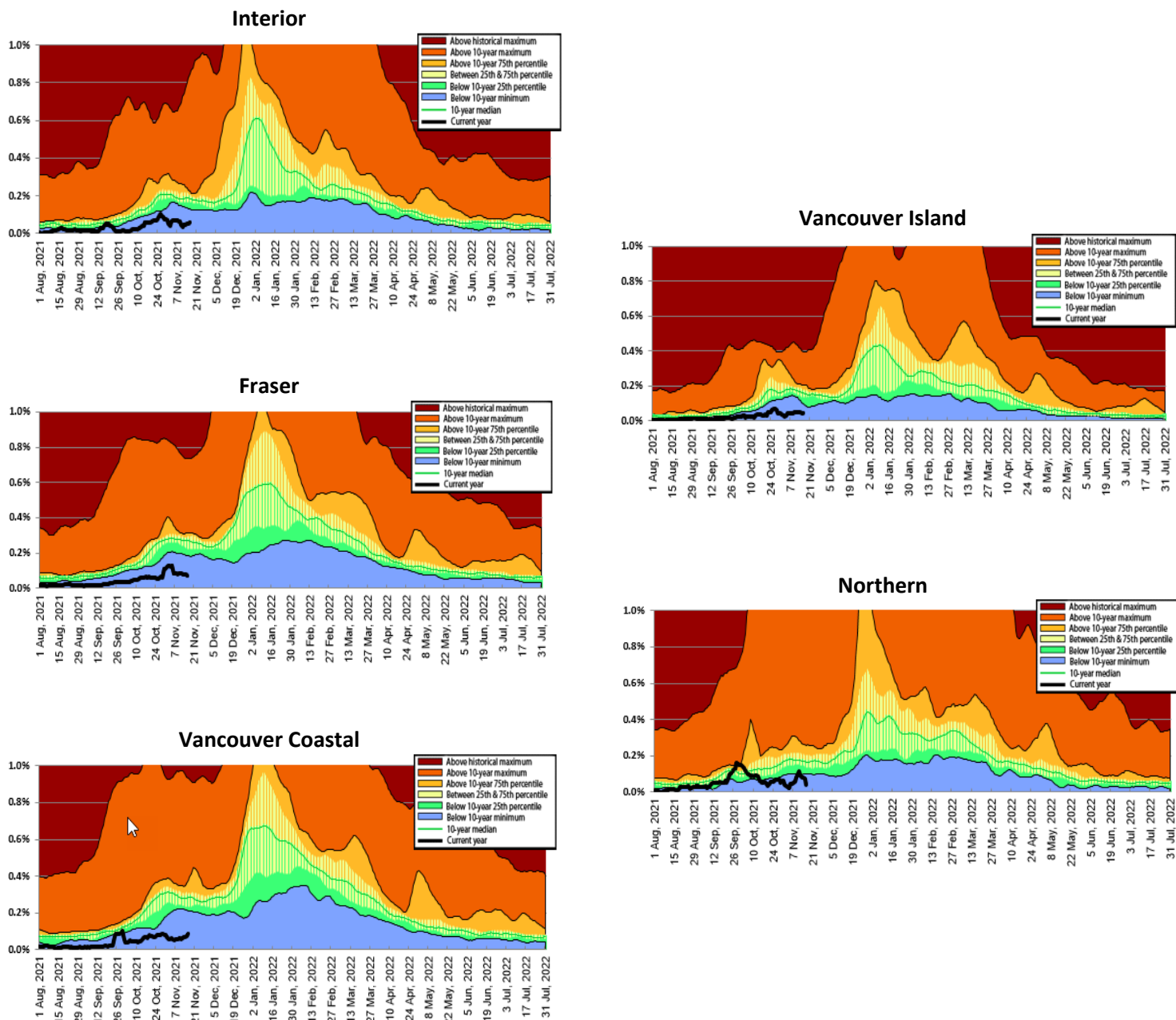
† Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services. Influenza illness (II) is tracked as the weekly count of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

\* 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 November 16, 2021.



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 October 16, 2021



### **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 44, October 31 to November 6, 2021)

In week 44, influenza activity across Canada was exceptionally low with almost all regions reporting no influenza activity. In the past week, all influenza indicators were at exceptionally low inter-seasonal levels. In week 44, 37 influenza detections (18 influenza A and 19 influenza B) were reported\*. Two of the influenza detections (influenza A and B co-infections) are known and 22 are suspected to be associated with recent live attenuated influenza vaccine (LAIV) receipt. These detections do not represent community transmission of seasonal influenza viruses. Among the 18 cases with detailed age information, all were individuals under the age of 65 years. Overall, the percentage of laboratory tests positive for influenza remains at exceptionally low levels, despite the elevated levels of testing. In week 44, 14,810 tests for influenza were performed at reporting laboratories and the average percentage of tests positive for influenza was 0.25%. Compared to the past six pre-pandemic seasons (2014-2015 to 2019-2020), an average of 4,020 tests were performed for this time period, with an average of 3.7% of tests positive for influenza. To date this season (August 28 to November 6, 2021), 67 influenza detections (38 influenza A and 29 influenza B) have been reported. In week 44, no outbreaks were reported. To date this season (August 28 to November 6, 2021), 11 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) was 0.58% in week 44 and is below expected levels. The percentage of FluWatchers reporting fever and cough was 0.5% in week 44; it remains below expected levels and is stable.

FluWatch report (week 44) is available at: <https://www.canada.ca/en/public-health/services/publications/diseases-conditions/fluwatch/2021-2022/week-44-october-31-november-6-2021.html>

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

The National Microbiology Laboratory has not yet reported influenza strain characterization results for influenza viruses collected during the 2021-2022 season.

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

The National Microbiology Laboratory has not yet reported antiviral resistance results for influenza viruses collected during the 2021-2022 season.

*\*From the RVDSS week 44 report, the 37 influenza detections were from British Columbia (n=33) and Yukon (n=4).*

## E. International

### USA (week 44, October 31 to November 6, 2021)

In week 44, influenza activity remained low in the US but the number of influenza virus detections reported by public health laboratories has increased in recent weeks. The proportion of outpatient visits for ILI is at 2.1% this week, which is below the national baseline (2.5%). The proportion of deaths attributed to pneumonia, influenza or COVID-19 during week 44 (14.1%) is above the epidemic threshold of 6.1% for this week. No influenza-associated pediatric deaths were reported to CDC during week 44. Of the 34,828 samples tested for influenza from clinical laboratories across the US in week 44, 78 (77.2%) were influenza A and 23 (22.8%) 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/index.htm>.

### WHO (8 November 2021, based on data up to 24 October 2021)

**In the temperate zone of the northern hemisphere**, influenza activity remained at interseasonal levels. Both influenza A and B were detected and in some countries (e.g. Canada, Britain, Northern Island and Germany) RSV activity was higher than in previous years, particularly in young children.

**In the temperate zone of the southern hemisphere**, influenza activity remained at inter-seasonal levels. In Oceania, influenza virus is being detected at very low levels, even below the already low detection in 2020, despite ongoing testing. In South Africa, both influenza virus and RSV are being detected below seasonal levels. In temperate South America no detections of influenza virus were reported but RSV activity was reported at high level though decreasing in Argentina and Chile.

**In tropical South America**, no influenza detections were reported, however RSV activity remained elevated in some countries like Honduras, Mexico, Bolivia, Colombia and Peru. **In tropical Africa**, a few influenza detections of predominately influenza A and some influenza B viruses were reported. Previously increased activity in West African appeared to be decreasing. **In tropical Asia**, the number of influenza virus detections reported was in a similar range to previous seasons. The majority of detections were reported from India, the Maldives and Nepal with influenza B/Victoria lineage predominantly detected following a wave of influenza A(H3) in previous weeks. Bangladesh however reported predominantly H1N1pdm09 detections.

From October 11 to October 24, 2021, the WHO GISRS laboratories tested more than 307,999 specimens. Of these, 2,199 were positive for influenza viruses, of which 875 (39.8%) typed as influenza A and 1,324 (60.2%) as influenza B. Of subtyped influenza A viruses, 186 (36.2%) were influenza A(H1N1)pdm09 and 328 (63.8%) were influenza A(H3N2). Of the characterized B viruses, 1 (0.1%) belonged to the B(Yamagata) lineage and 1,176 (99.9%) to the 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 2021-22 Northern Hemisphere Influenza Vaccine

On February 26, 2021, the WHO announced recommended strain components for the 2021-22 northern hemisphere trivalent influenza vaccine (TIV):\*

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus [a clade 6B.1A5A virus]; †
- an A/Cambodia/e0826360/2020 (H3N2)-like virus [a clade 3C.2a1b/T131K virus]; ‡
- a B/Washington/02/2019-like (B/Victoria lineage) virus [a clade V1A.3, Δ3 virus]. §

It is recommended that quadrivalent influenza vaccines (QIV) for the 2021-22 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 for two of the three components used for the 2020-2021 northern hemisphere TIV.

† Note for cell-based vaccine, the WHO recommends an A/Wisconsin/588/2019 (H1N1)pdm09-like virus [a clade 6B.1A5A virus] for the 2021-22 season. Recommended strains represent a change from the 2020-2021 season vaccine which contained an A/Guangdong-Maonan/SWL1536/2019 [a clade 6B.1A5A virus] for the egg-based vaccine and an A/Hawaii/70/2019 (H1N1)pdm09-like virus [also clade 6B.1A5A] for the cell-based vaccine.

‡ Recommended strain represents a change from the 2020-2021 season vaccine which contained an A/Hong Kong/2671/2019 (H3N2)-like virus [a clade 3C.2a1b/T135K virus].

§ Recommended strain is unchanged from the 2020-2021 season vaccine.

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:**

<b>ACF:</b> Acute Care Facility	<b>LTCF:</b> Long-Term Care Facility
<b>EV/RV:</b> Enteroviruses/Rhinoviruses	<b>MSP:</b> BC Medical Services Plan
<b>FHA:</b> Fraser Health Authority	<b>NHA:</b> Northern Health Authority
<b>HA:</b> Health authority	<b>NML:</b> National Microbiological Laboratory
<b>HBoV:</b> Human bocavirus	<b>PHL:</b> Public Health Laboratory
<b>HMPV:</b> Human metapneumovirus	<b>RSV:</b> Respiratory syncytial virus
<b>HSDA:</b> Health Service Delivery Area	<b>VCHA:</b> Vancouver Coastal Health Authority
<b>IHA:</b> Interior Health Authority	<b>VIHA:</b> Vancouver Island Health Authority
<b>ILI:</b> Influenza-Like Illness	<b>WHO:</b> World Health Organization

### **Web Sites:**

BCCDC Emerging Respiratory Pathogen Updates:

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

### **Influenza Web Sites**

Canada – 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/](http://www.cdc.gov/flu/weekly/)

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

WHO – Influenza Updates: [https://www.who.int/influenza/surveillance\\_monitoring/updates/en/](https://www.who.int/influenza/surveillance_monitoring/updates/en/)

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

WHO Collaborating Centre for Reference and Research on Influenza (Australia): [www.influenzacentre.org/](http://www.influenzacentre.org/)

Australian Influenza Report:

[www.health.gov.au/internet/main/publishing.nsf/content/cda-surveil-ozflu-flucurr.htm](http://www.health.gov.au/internet/main/publishing.nsf/content/cda-surveil-ozflu-flucurr.htm)

New Zealand Influenza Surveillance Reports: [www.surv.esr.cri.nz/virology/influenza\\_weekly\\_update.php](http://www.surv.esr.cri.nz/virology/influenza_weekly_update.php)

### **Avian Influenza Web Sites**

WHO – Influenza at the Human-Animal Interface: [www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/)

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

### **Contact Us:**

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Communicable Diseases & Immunization Service (CDIS)

BC Centre for Disease Control, 655 West 12<sup>th</sup> Ave, Vancouver BC V5Z 4R4

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

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