

British Columbia (BC) Influenza Surveillance Bulletin

2021-22 Influenza Season

Week 21: May 22 to 28, 2022

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Slightly increasing but overall low-level influenza virus detection in BC

In weeks 17-21 (April 24-May 28), 523/19,693 (3%) specimens tested in BC were positive for influenza virus. Week 17-21 detections remained below the 5-year historical (pre-COVID-19 pandemic) average (123/1,252; 10%) but were higher than in 2021 (0/8,212; 0%) or 2020 (8/17,966; <0.1%). Weekly influenza positivity showed overall low-level but slightly increasing trend: 2.6%, 2.2%, 2.4%, 2.9% and 3.3% in weeks 17-21, respectively.

Of the 523 viruses detected in weeks 17-21 in BC, all were influenza A and among those subtyped, all (293/294) were H3N2. The 4th laboratory-confirmed influenza outbreak of the 2021-22 season was reported in BC in week 21 – an influenza A(subtype unknown) outbreak in a long-term care facility (LTCF). The 5-year historical average number of LTCF influenza outbreaks for weeks 17-21 was about 4.

Nationally, 8,979/82,791 (11%) specimens tested positive for influenza in weeks 17-21, of which all but 30 were influenza A. Of 946 influenza A viruses subtyped, all but 31 were H3N2. The test positivity for influenza in weeks 17-21 nationally was similar to the 5-year historical (pre-COVID-19 pandemic) average (1,917/20,210; 10%).

Of the H3N2 viruses genetically characterized in BC and elsewhere in Canada to date in 2021-22, all have been the 2a.2 sub-clade. The WHO has recommended that the northern hemisphere’s [2022-23 vaccine strain be updated](#) from the 2a.1 sub-clade used in 2021-22 to 2a.2.

[The most recent influenza surveillance report from Australia](#) shows earlier than usual increase in influenza activity, although with percent positivity and hospitalizations comparable to the last 2019 pre-pandemic season. All characterized influenza viruses have been similar to the corresponding [2022 SH vaccine components](#), which also include 2a.2 as the representative H3N2 strain.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Report Disseminated: June 02, 2022

A. Laboratory Surveillance

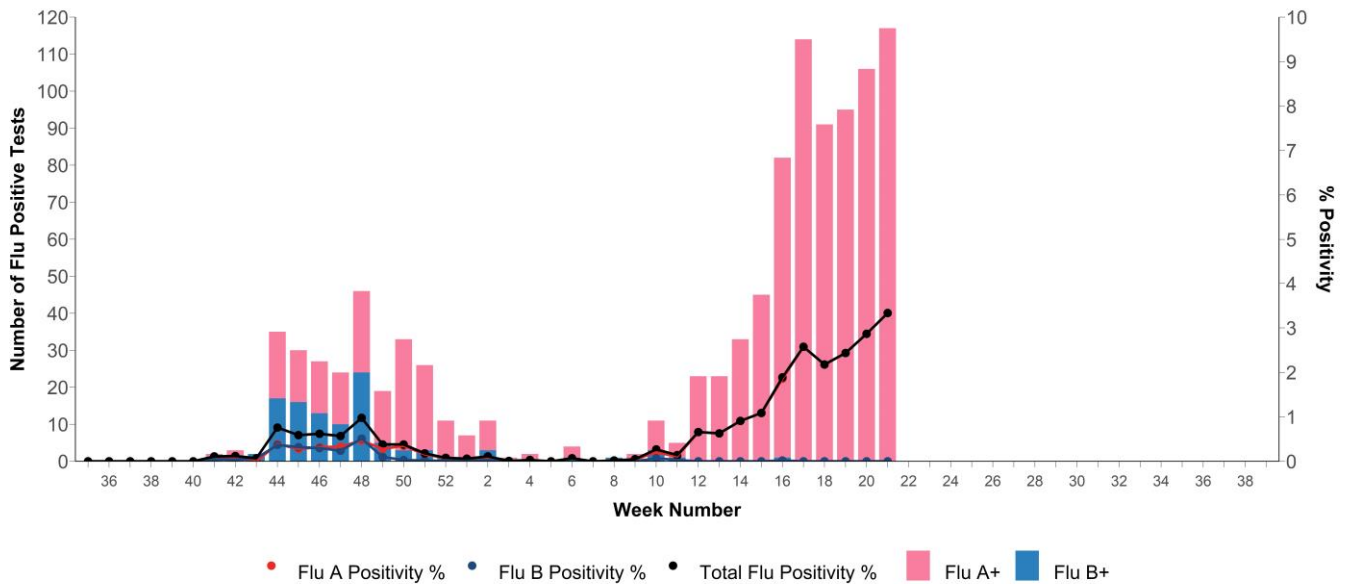
Since the beginning of the 2021-22 season, commencing October 3, 2021 (week 40), 1,031 (0.6%) influenza viruses have been detected among the 185,790 specimens tested in BC (Figure 1, Table 1). Of these, 523 detections were reported during weeks 17 (n=114/4,427 specimens tested; 3% positivity), 18 (n=91/4,182 specimens tested; 2% positivity), 19 (95/3,886 specimens tested; 2% positivity), 20 (106/3,699 specimens tested; 3% positivity), and 21 (n=117/3,499 specimens tested; 3% positivity) (spanning April 24, 2022 – May 28, 2022), indicating overall low-level but slightly increasing percent positivity across this period (Figure 1). All detections in weeks 17-21 were influenza A (523/523) and among those subtyped, all but one were influenza A(H3N2) (293/294). Among 192 (37%) of 523 detections during weeks 17-21 with known age information, 42 were 0-8 years old, 44 were 9-19 years old, 52 were 20-49 years old, 15 were 50-64 years old and 39 were 65+ years old.

Influenza virus detection in weeks 17-21 of 2022 was higher than the same period of 2021 (0/8,212 specimens tested) and the same period of 2020 (8/17,966 specimens tested; <0.1%) but below the 5-year (pre-COVID-19 pandemic) average for weeks 17-21 (123/1,252 specimens tested; 10%) (Figure 2).

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 remains below the 5-year historical average in weeks 17-21. EV/RV positivity was stable in weeks 17-21 and remained within expected levels (Figure 2).

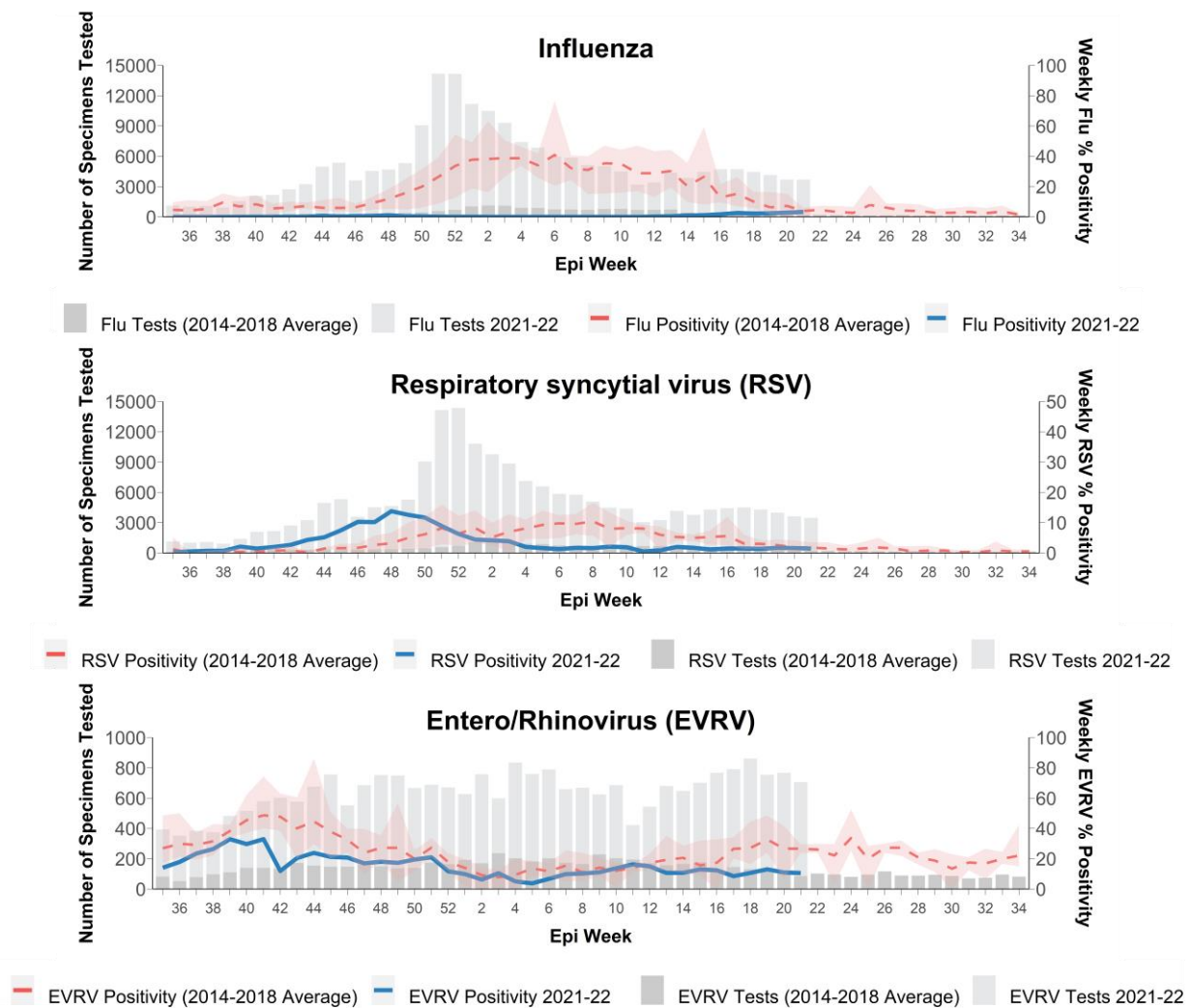
Among specimens additionally subjected to multiplex testing during weeks 17-21, entero/rhinoviruses (EV/RV), RSV and seasonal coronavirus were the first (392/1,238; 32%), second (288/1,238; 23%) and third (235/1,238; 19%) most commonly detected NIRVs, respectively. EV/RV, RSV, and coronavirus were found in 11% (392/3,631), 2% (288/18,913) and 6% (235/3,631) of specimens tested, respectively, in weeks 15-16. 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.
- b. Rates are subject to change with subsequent data reconciliation.
- c. Week of sample based on the sample collection date.

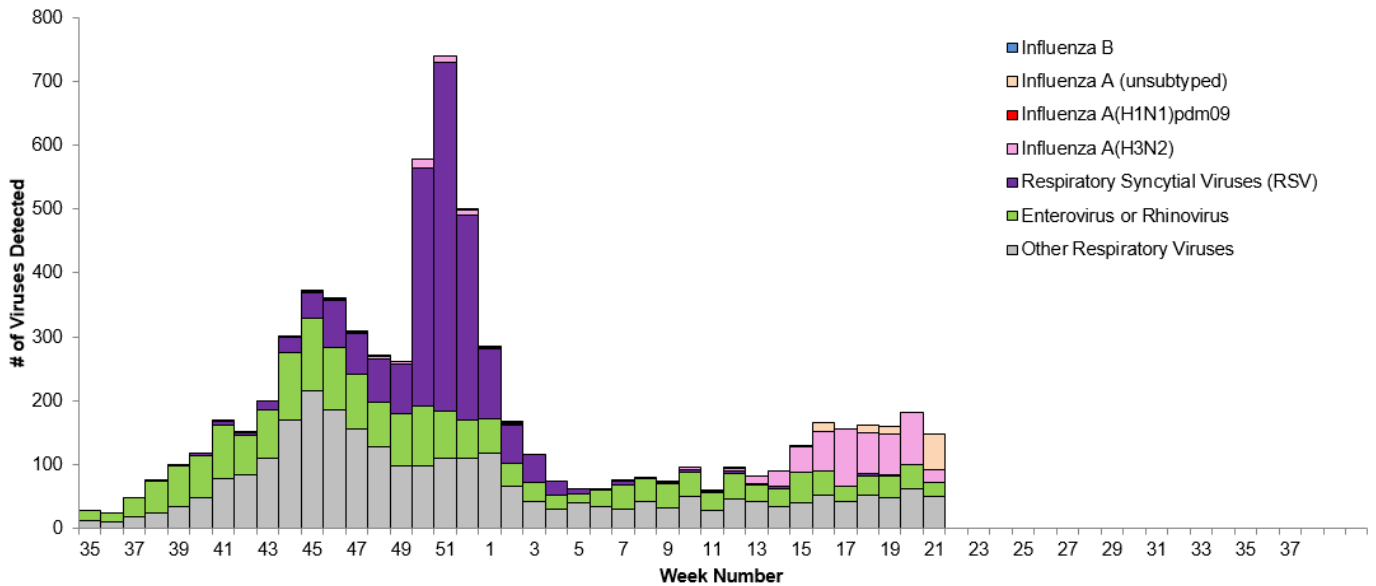
Figure 2. Laboratory influenza and other respiratory virus detections across BC with 5-season historical data*



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

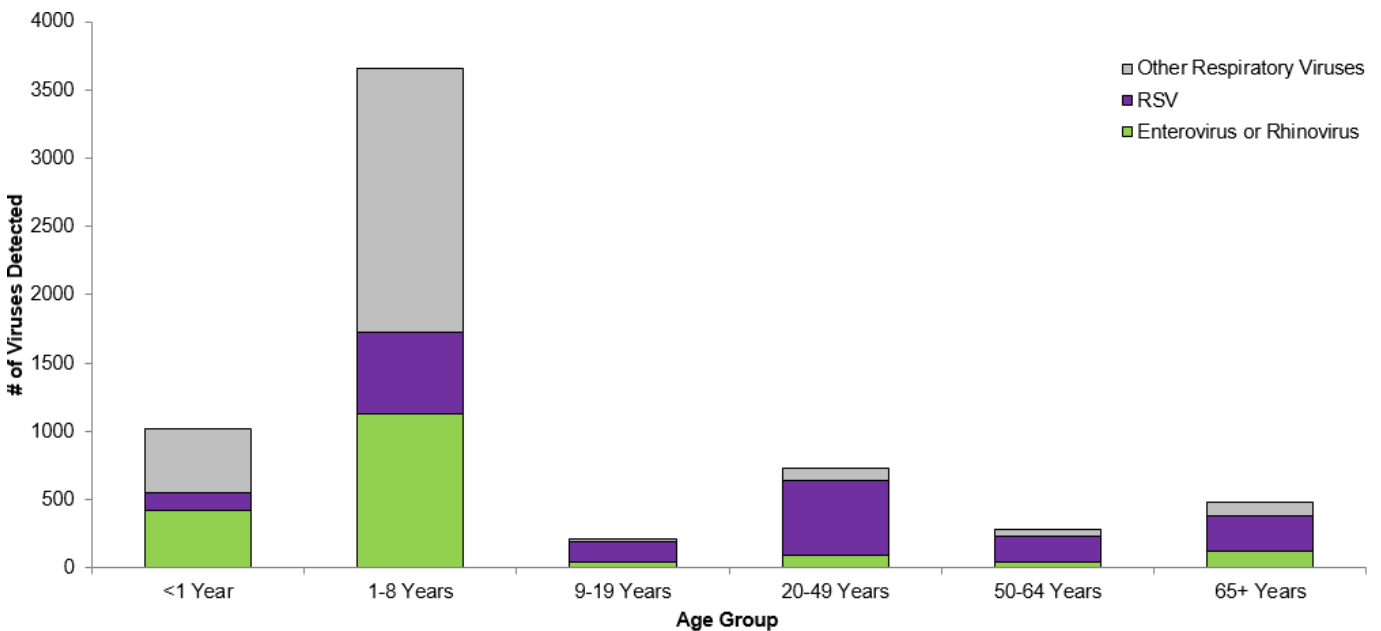
Source: Respiratory Virus Detections Surveillance System (RVDSS) weekly report; data includes seasons 2014-15, 2015-16, 2016-17, 2017-18, 2018-19, 2021-22 (2019-20 & 2020-21 are excluded from the historical average calculations due to the COVID-19 pandemic).

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



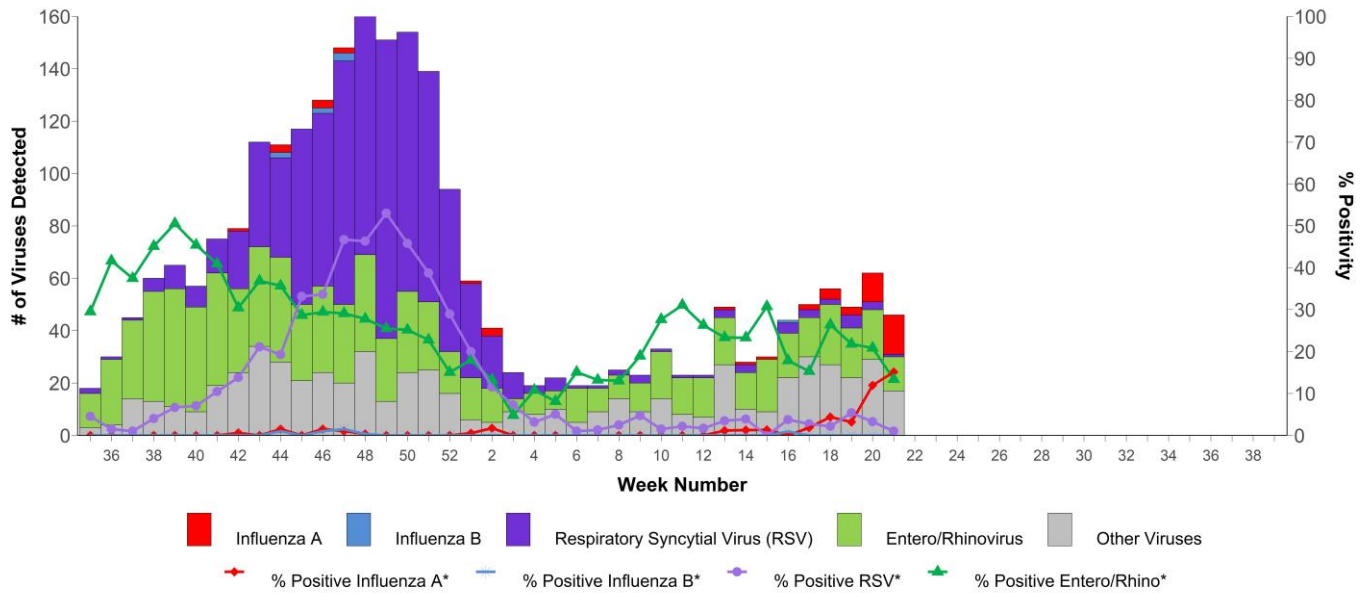
* The BCCDC Public Health Laboratory (PHL) conducts the majority of influenza subtype characterization for the province, including for primary specimens submitted directly to the BCCDC PHL for influenza diagnosis, as well as for specimens that have tested positive for influenza at other external sites 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 are current to June, 1 2022; figure includes cumulative influenza detections for specimens collected from weeks 35-21.

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 21 (August 29, 2021 – May 28, 2022), 4,990 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 (964/2,526; 38%), entero/rhinoviruses (870/2,526; 34%) and parainfluenza (316/2,526; 13%).

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 21 [May 22 to 28, 2022]								
Influenza, Total ^d	24/1051 (2)	35/790 (4)	13/456 (3)	19/222 (9)	10/847 (1)	1/70 (1)	15/99 (15)	117/3499 (3)
Influenza A total	24 (2)	35 (4)	13 (3)	19 (9)	10 (1)	1 (1)	15 (15)	117 (3)
A(H3N2) ^e	11	0	13	4	2	---	---	30
A(H1N1)pdm09 ^e	0	0	0	0	0	---	---	0
Influenza B total	0	0	0	0	0	0	0	0
NIRV, Total ^c	6	88	11	26	11	44	31	217
RSV	6/1015 (1)	25/790 (3)	10/456 (2)	4/222 (2)	3/694 (<1)	0	1/98 (1)	49/3275 (1)
Enterovirus/Rhinovirus	--- ^f	24/220 (11)	0/41 (0)	--- ^f	2/63 (3) ^g	14/138 (10)	13/97 (13)	---
Other ^h	--- ^f	39/220 (18)	1/41 (2)	--- ^f	6/74 (8) ^g	30/138 (22)	17/97 (18)	---
Cumulative total to date, Week 40 to 21 [October 3, 2021 – May 28, 2022]								
Influenza Total ^d	179/37580 (<1)	318/35155 (<1)	64/22400 (<1)	72/10584 (1)	245/35386 (1)	92/40161 (<1)	61/4524 (1)	1031/185790 (1)
Influenza A total	168 (<1)	316 (1)	58 (<1)	63 (1)	182 (1)	85 (<1)	52 (1)	924 (<1)
A(H3N2) ^e	102	47	54	12	52	---	---	267
A(H1N1)pdm09 ^e	0	0	3	0	0	---	---	3
Influenza B total	11 (<1)	2 (<1)	6 (<1)	9 (<1)	63 (<1)	7 (<1)	9 (<1)	107 (<1)
NIRV, Total ^c	2181	2530	1093	747	1560	5204	2247	15562
RSV	2181/37580 (6)	1593/35155 (5)	932/22700 (4)	627/10585 (6)	1316/30653 (4)	1759/40079 (4)	946/4525 (21)	9354/181277 (5)
Enterovirus/Rhinovirus	--- ^f	435/4547 (10)	92/1154 (8)	--- ^f	130/2407 (5) ^g	1739/10427 (17)	715/3055 (23)	---
Other ^h	--- ^f	502/4547 (11)	69/1154 (6)	--- ^f	114/2800 (4) ^g	1706/10427 (16)	586/3055 (19)	---

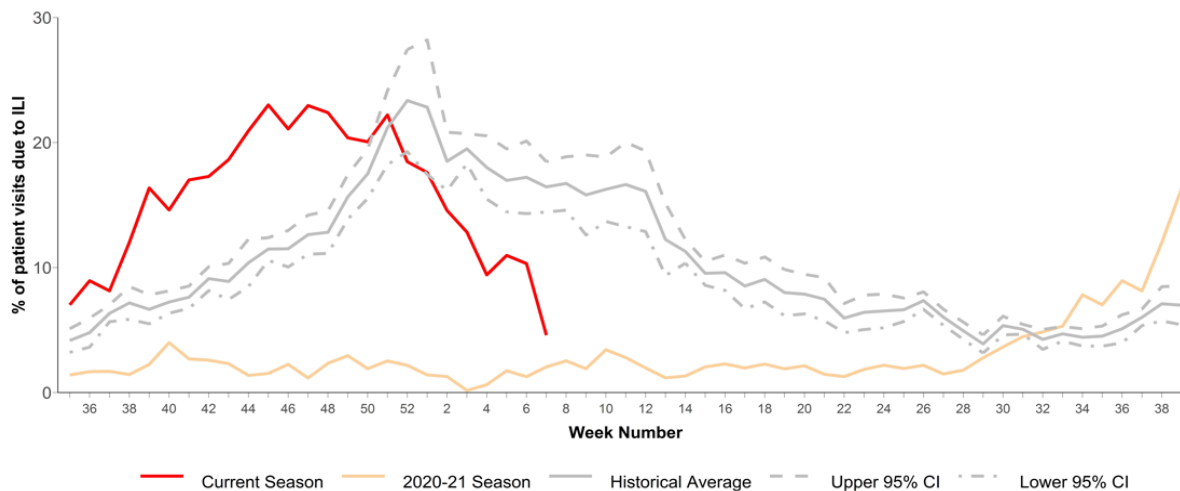
- FHA=Fraser Health Authority; IHA=Interior Health Authority; VIHA= Vancouver Island Health Authority; NHA=Northern Health Authority; VCHA=Vancouver Coastal Health Authority; BCCDC= primary patient specimens screened at BCCDC Public Health Laboratory; CW=Children’s and Women’s Health Centre Laboratory
- 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 that had been trending above the historical average earlier in the season started to decline in week 51 and was below expected levels in week 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

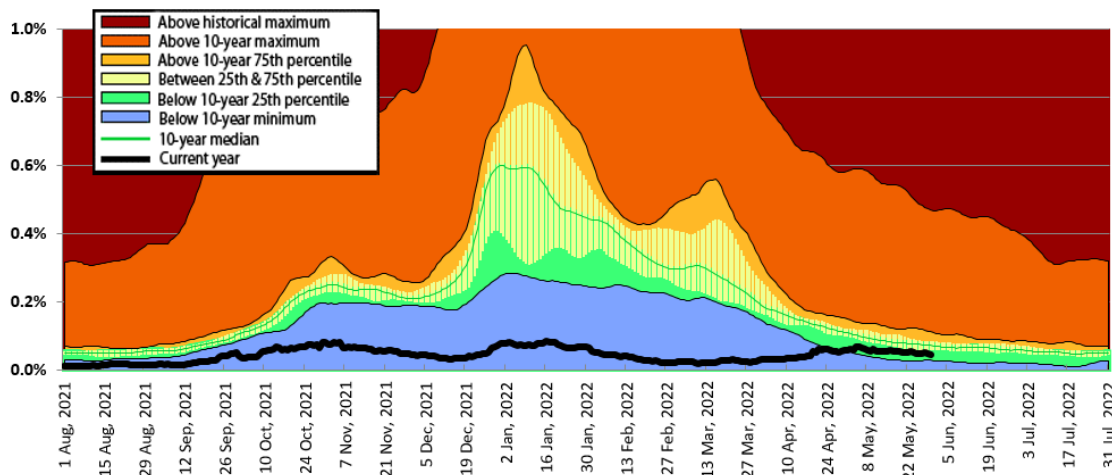


Source: BCCH Admitting, Discharge, Transfer database (ADT). Data includes records with a triage chief complaint of "flu" or "influenza" or "fever/cough."
*5-year historical average for 2021-22 season based on 2014-15 to 2018-19 seasons (excluded 2019-20 & 2020-21 seasons); CI=confidence interval.

Medical Service Plan

In BC, during weeks 17, 18, 19, 20 and 21 (spanning April 24 to May 28, 2022), counts of BC Medical Service Plan (MSP) general practitioner claims for influenza illness remained low overall from early May 2022 ([Figure 7](#)), mostly driven by Interior Health Authority, Fraser Health Authority and Northern Health Authority ([Figure 8](#)).

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

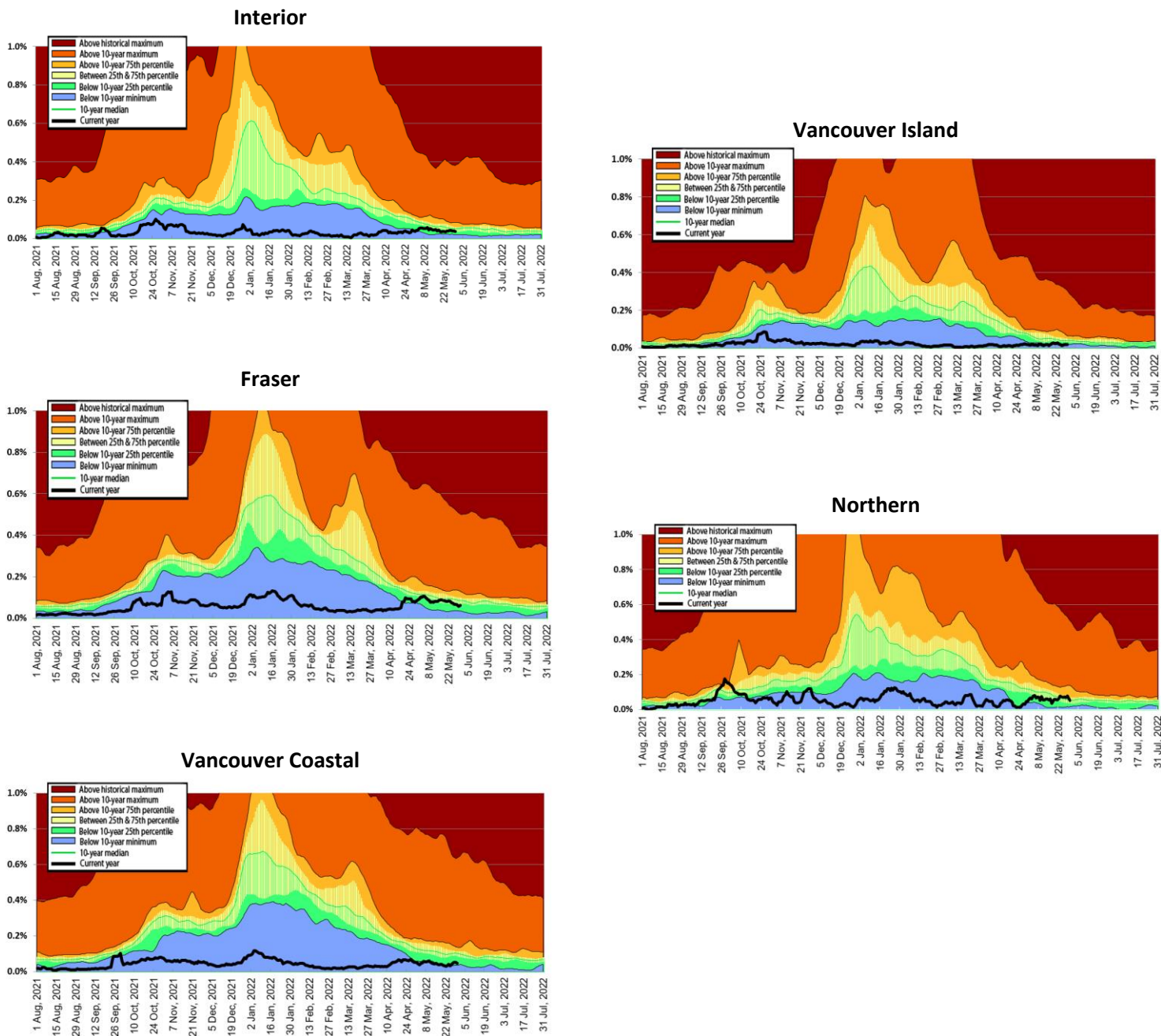


† Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services. Influenza illness (II) is tracked as the weekly count of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

* 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 May 31, 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 May 31, 2022.

C. Influenza outbreak reports

In week 21 of 2022, one laboratory-confirmed influenza A(subtype unknown) outbreaks was reported from long-term care facilities (LTCF) in Interior Health Authority ([Figure 9](#), [Figure 10](#)). This outbreak is the fourth influenza outbreak of 2021-22 season in BC.

By way of comparison, no LTCF influenza outbreaks were reported during weeks 17-21 of 2020 with a 5-year historical (pre-COVID-19 pandemic) average of around 4 LTCF influenza outbreaks reported between weeks 17-21.

Across weeks 40-21, the tally of LTCF influenza outbreaks for the 2019-20 season was 73 and the 5-year historical (pre-COVID-19 pandemic) average number of reported outbreaks was ~155 (versus 4 in 2021-22).

Figure 9. Number of influenza-like illness (ILI) outbreaks reported, British Columbia 2021-22

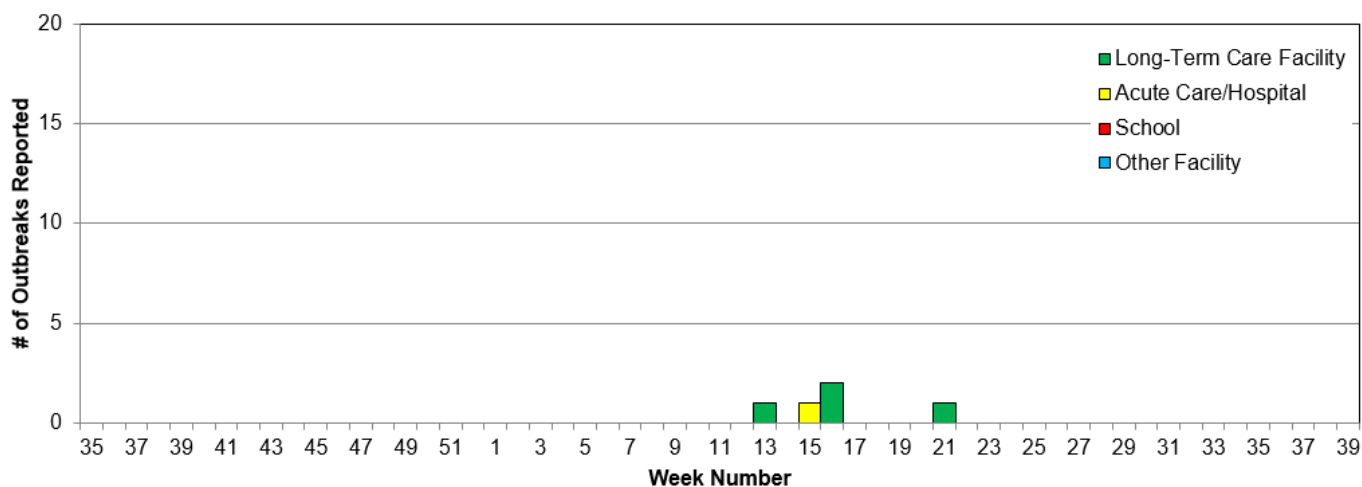
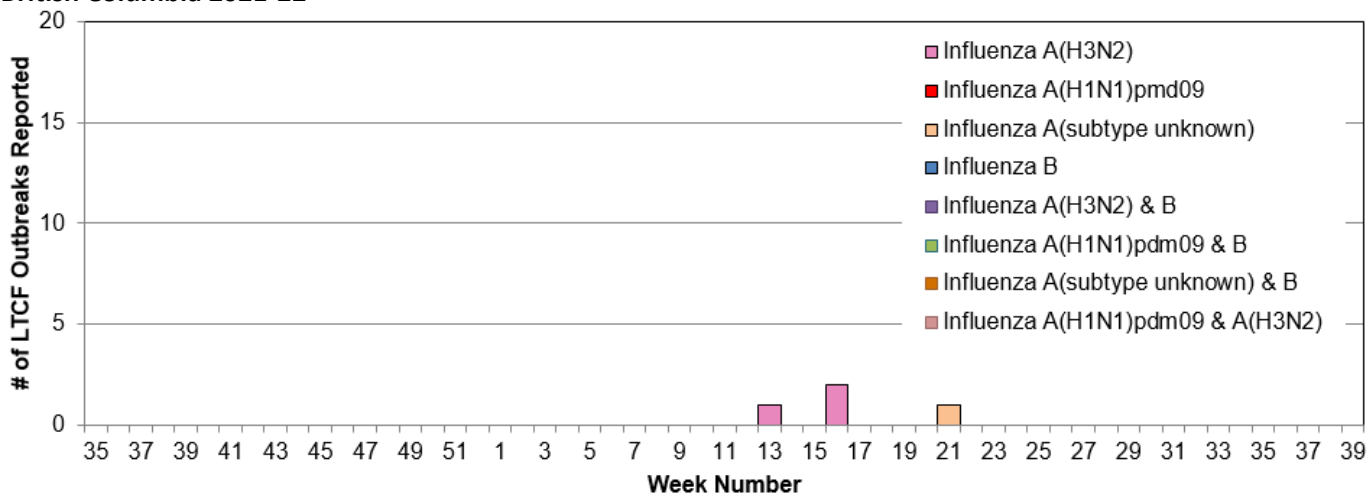


Figure 10. Number of influenza-like illness (ILI) outbreaks by type/subtype in long-term care facilities (LTCF), British Columbia 2021-22



D. National

FluWatch (Week 20, May 15 to 21, 2022)

Influenza activity has declined slightly from the previous week (week 19), but remains above the epidemic threshold. Influenza activity continues to be reported in almost all regions of all provinces and territories. In week 20, 1,793 laboratory detections (1,781 influenza A and 12 influenza B) were reported. In week 20, 16,316 tests for influenza were performed at reporting laboratories and the percentage of tests positive for influenza in week 20 was 11%. In the past six pre-pandemic seasons (2014-2015 to 2019-2020), an average of 3,862 tests were performed, with 3-9% of tests positive for influenza for week 20. To date this season, 11,064 influenza detections (10,918 influenza A and 146 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 46,356 influenza detections were reported at this point in the season. Among subtyped influenza A detections (n=2,223), influenza A(H3N2) has accounted for 98% of detections in 2021-22. Among detections with detailed age information, the majority of detections were in individuals under the age of 45 years. In week 20, the 2 laboratory-confirmed influenza outbreaks have been reported, both in long-term care facilities. To date this season (Aug 29, 2021 – May 21, 2022) 44 laboratory-confirmed influenza outbreaks have been reported, of which 22 were in long-term care facilities, 3 were in acute care facilities, 16 were in facilities categorized as ‘other’ and 3 were in remote or isolated communities. All outbreaks were due to influenza A, of which 21 were due to influenza A(H3N2), 2 were due to influenza A(H1N1) and the remaining were influenza A unsubtyped. The percentage visits to healthcare professionals for influenza-like illness (ILI) was 2% in week 20. The percentage of participants reporting symptoms of fever and cough to FluWatchers decreased in recent weeks to 1% in week 20.

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:

From September 1, 2021 to June 2, 2022, the National Microbiology Laboratory (NML) has characterized 121 influenza viruses (116 H3N2 and 5 H1N1) received from Canadian laboratories.

Influenza A(H3N2):

Genetic characterization

Sequence analysis of the HA gene of these viruses showed that the 106 H3N2 viruses belonged to genetic group 3C.2a1b.2a.2. 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.2a.1. 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.2a.2.

Antigenic characterization

116 influenza A (H3N2) viruses were antigenically characterized as A/Cambodia/e0826360/2020 (H3N2)-like virus: 29 viruses were antigenically similar to A/Cambodia/e0826360/2020 (H3N2)-like virus and 87 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

Five H1N1 viruses were characterized with four 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 126 influenza A (121 H3N2 and 5 H1N1) viruses received.

Oseltamivir: All H1N1 influenza viruses were sensitive to oseltamivir.

Zanamivir: All H1N1 influenza viruses were sensitive to zanamivir.

E. International

USA (Week 20, April 10 to 16, 2022)

In week 20, seasonal influenza viruses continue to circulate and activity is increasing in parts of the country. Most influenza viruses detected were A(H3N2), most of which were genetically related to the vaccine virus but antigenic data shows a majority of the characterized H3N2 viruses were different from the vaccine reference viruses. While the number of B/Victoria viruses circulating this season is small, the majority of the B/Victoria viruses characterized are antigenically similar to the vaccine reference virus. The proportion of outpatient visits for ILI was at 2% in week 20, below the national baseline. The proportion of deaths attributed to pneumonia and influenza during week 20 (5.7%) was close to the epidemic threshold of 6%. One influenza-associated pediatric death was reported to CDC in week 20. The death was associated with influenza A virus for which no subtyping was performed. There has been a total of 25 influenza-associated pediatric deaths so far this season. Of the 65,734 samples tested for influenza from clinical laboratories across the US in week 20, 4,225 (6%) samples were positive for influenza. Of these, 4,210 (99.6%) were influenza A and 15 (0.4%) 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>

Australia (Weeks 19-20, May 9 to 22, 2022)

In Australia, ILI activity in the community has increased since March 2022.

The number of influenza detections reported in this fortnight (n=26,193) was more than three times the notifications in the previous fortnight. In comparison to similar weeks in the previous 5 years (2017 to 2021), the current trend may signal an earlier than usual start to influenza activity. However, the proportion of sentinel laboratory tests positive for influenza observed this fortnight (12%) remained below levels observed during same weeks in [2019 \(24%\)](#), the most proximal pre-pandemic year, although, lower levels were seen during similar weeks in [2018 \(2%\)](#). The number of reported influenza hospitalizations is above the 5-year average, but below the tally of hospital admissions during the same period of the 2019 pre-pandemic season. Ongoing monitoring is required.

In the current year to date, there have been 38,743 of laboratory-confirmed influenza reported in Australia, of which 99% were influenza A: 94% were A(unsupported), 1% A(H1N1), and 5% A(H3N2). Of the 632 influenza viruses (147 A(H1N1)pdm09, 475 A(H3N2), 1 B(Victoria)) antigenically characterised, all A(H1N1) viruses, 95% A(H3N2) viruses and the one B(Victoria) virus were antigenically similar to corresponding [vaccine components](#). In the year to date, detection rates have been highest in people aged 5–19 years, followed by people aged 20–24 years and then children aged younger than 5 years of age. There have been three influenza A(unsupported) associated deaths reported in 2022 and the median age of deaths notified was 91 years (range: 87–92 years).

Details are available at: <https://www1.health.gov.au/internet/main/publishing.nsf/Content/ozflu-surveil-no04-22.htm>

WHO (May 30, 2022, based on data up to May 15, 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 stable. Detections were mainly influenza A(H3N2) viruses and B/Victoria lineage viruses, with some detections of A(H1N1)pdm09 viruses. In Europe, overall influenza continues to decline with influenza A(H3N2) predominant.

In countries in the temperate zone of the southern hemisphere, influenza activity was low overall, except in Argentina and Chile. Influenza detections increased in South Africa and Australia. RSV activity increased in parts of Australia and temperate South America and remained at moderate levels in South Africa.

In tropical countries of the Caribbean, Central America and South America, low influenza activity was reported with influenza A(H3N2) predominant. ***In tropical Africa***, influenza activity remained low with influenza A(H3N2) predominating followed by influenza B/Victoria lineage viruses.

From May 02, 2022 to May 15, 2022, the WHO GISRS laboratories tested more than 224,033 specimens. Of these, 23,784 were positive for influenza viruses, of which 23,393 (98.4%) were typed as influenza A and 394 (1.6%) as influenza B. Of the sub-typed influenza A viruses, 153 (4.3%) were influenza A(H1N1)pdm09 and 3,427 (95.7%) were influenza A(H3N2). Of the characterized B viruses, all 129 (100%) belonged 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 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/publications/m/item/recommended-composition-of-influenza-virus-vaccines-for-use-in-the-2022-2023-northern-hemisphere-influenza-season>

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/

WHO – Influenza vaccine recommendations: <https://www.who.int/teams/global-influenza-programme/vaccines/who-recommendations>

Australian Influenza Report:

www.health.gov.au/internet/main/publishing.nsf/content/cda-surveil-ozflu-flucurr.htm

New Zealand Influenza Surveillance and Intelligence Reporting: <https://www.esr.cri.nz/our-services/consultancy/flu-surveillance-and-research>

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-gallery/Documents/Guidelines%20and%20Forms/Forms/Epid/Influenza%20and%20Respiratory/OutbreakReportForm_2018.pdf