British Columbia (BC) Influenza Surveillance Bulletin

2020-21 Influenza Season

Week 17 (End of Season): April 25 to May 1, 2021

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The season that wasn't: No sign of influenza virus circulation in 2020-21

This is the last influenza bulletin of 2020-21. In summary, this influenza season was exceptional in not having actually really happened.

Since the typical season start in week 40 (beginning September 27, 2020) to the typical season end in week 17 (ending May 1, 2021), just 18 influenza viruses (10 influenza A and 8 influenza B) were detected in total in BC from among more than 75,000 clinical diagnostic specimens tested.

These 18 influenza viruses were collected from 11 individuals. However, 10/11 had recently received the live attenuated influenza vaccine (LAIV), suggesting vaccine-type rather than wild-type virus. Detecting vaccine virus shortly after LAIV receipt is not unexpected. The single non-LAIV influenza detection was linked to out-of-country travel (likely imported).

By contrast, for the same week 40 to week 17 period of the past 5 (2015-2019) seasons, there were on average 28,366 tests conducted and 5,605 influenza detections per season (range 3,095 to 6,641).

No long-term care facility (LTCF) influenza outbreaks were reported in 2020-21 compared to 73 between week 40 and week 17 of the 2019-20 season.

Also extraordinary this season was the detection of just one pediatric RSV infection. Entero-/rhinoviruses, however, continued to circulate and were the most frequent (1,324/1,509; 88%) non-influenza respiratory virus detection (besides SARS-CoV-2) in 2020-21.

Although this is the last routine bulletin of the 2020-21 "season", we will continue monitoring and reporting as indicated until the start of the routine 2021-22 surveillance period.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Report Disseminated: May 20, 2021





A. Laboratory Surveillance

Since the last influenza bulletin this season spanning to week 8, there was one influenza virus detected among the 23,232 specimens tested between week 9 (beginning February 28, 2021) and week 17 (ending May 1, 2021) (<u>Figure 1</u>). This influenza A(H3N2) virus detected in week 10 was the only influenza virus detection of the season not to have been associated with live attenuated influenza vaccine (LAIV) receipt and was travel-associated (likely imported).

During the most recent week 17 (April 25- May 1, 2021) of the 2020-21 season, there were no influenza detections among 2,334 specimens tested by laboratories across BC (none positive). Compared to prior seasons, the influenza positivity rate (0%) is well below the 5-year historical average for week 17 (12.2%) (Figure 2).

Since the start of the 2020-21 influenza season in week 40 (beginning September 27, 2020) to the end of the season in week 17 (ending May 1, 2021), over 75,000 influenza tests having been conducted across BC laboratories (Table 1). During this period, a total of 18 influenza viruses (10 influenza A and 8 influenza B) were detected between weeks 44-17 (October 25, 2020-May 1, 2021), from among 11 individuals. Ten of these 11 individuals had recently received LAIV suggesting vaccine-type rather than wild-type influenza viruses.

By way of contrast, during the same period of 2019-20, there were 70,446 influenza tests conducted with 6,662 (9.5%) influenza viruses detected (additionally noting that LAIV was not administered as part of the publicly-funded influenza immunization program in 2019-20). During the same week 40-17 period of the past 5 (2015-2019) seasons an average of 28,366 influenza tests and 5,605 (20%) influenza detections (range 3,095 to 6,641 detections) were reported (source: RVDSS Report).

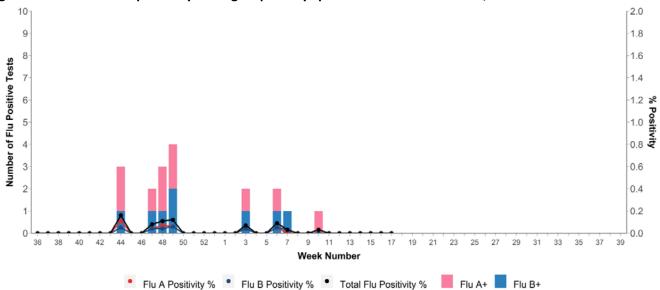


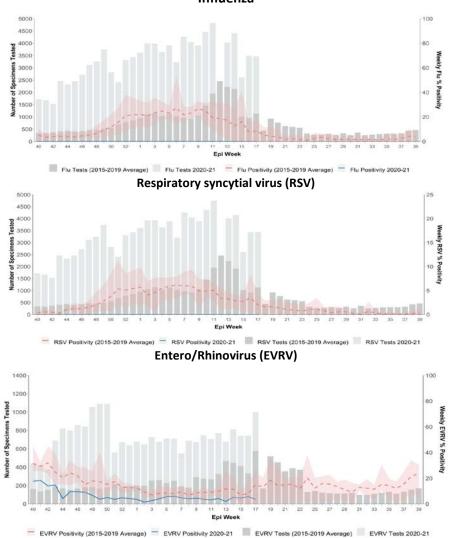
Figure 1. Influenza virus positivity among respiratory specimens tested^a across BC, 2020-2021^{b,c,d}

- 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.
- d. The positive influenza A and influenza B viruses detected in weeks 44, 47, 48, 49, 3, 6, and 7 are all associated with live attenuated influenza vaccine (LAIV) receipt in 10 individuals, and likely represent vaccine-type virus rather than community circulation of seasonal influenza.

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 +/- other multiplex testing (beyond SARS-CoV-2 which is not addressed in this report). Weekly RSV and EV/RV positivity rates have been below the 5-year historical average (2015-16 to 2019-2020) and in most weeks, remain below respective 5-year minimum values (Figure 2).

Of 2,307 respiratory specimens were tested for RSV in week 17, none were positive. In fact, there were no RSV detections this season among 75,135 specimens tested by BCCDC PHL and local HA laboratories since week 40 with just one in week 38 [Sept 13-19, 2020] before official season start (an adult 60-69 years). One other specimen was RSV positive from BC Children's and Women's Health Centre Laboratory in week 13 (see Figure 5). Of week 17 specimens additionally subjected to multiplex testing, entero/rhinoviruses (EV/RV) were found in 5.0% (21/423) and were again the most commonly detected NIRV (21/23; 91%). Cumulatively this season, EV/RVs were detected in 1,324/15,714 (8.4%) specimens tested, which is very close to 1,544/18,432 (8.4%) from the 2019-2020 season. In 2020-21 EV/RV represent 1,324/1,509 (88%) of NIRV detections with most EV/RV detections being among young children with median age of 3 years. (Figures 2, 3, 4, 5; Table 1).

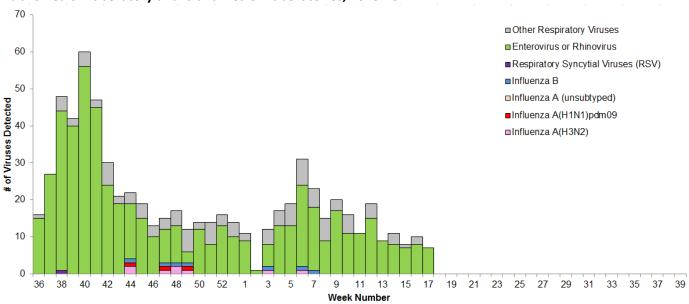
Figure 2. Laboratory influenza and other respiratory virus detections across BC with 5-season historical data*,**
Influenza



^{*} The shaded area (red) represents the maximum and minimum percentage of influenza positivity reported by week from seasons 2015-2016 to 2019-2020. Source: Respiratory Virus Detections Surveillance System (RVDSS) weekly report; data includes seasons 2015-16, 2016-17, 2017-18, 2019-20, 2020-21.

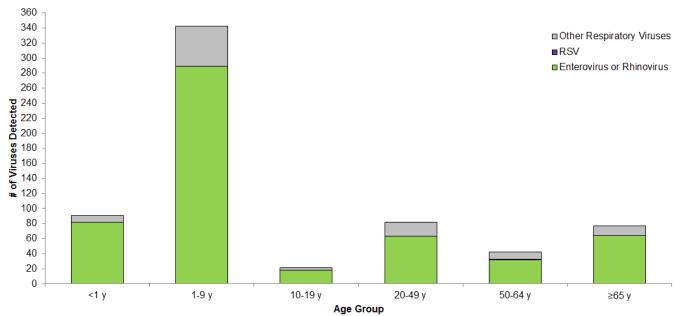
^{**} Historical average data for week 53 is calculated by taking the average of week 52 and week 1 data from the past 5 influenza seasons.

Figure 3. Influenza and non-influenza respiratory virus (NIRV) detections among specimens submitted to BCCDC Public Health Laboratory and Island Health Laboratories, 2020-2021*



^{*} 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.

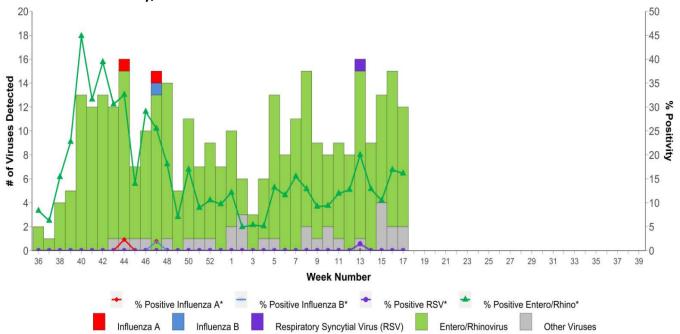
Figure 4. Cumulative number (since week 36) of non-influenza respiratory virus detections (NIRV) by type and age group, BCCDC Public Health Laboratory, 2020-21



Source: BCCDC Public Health Laboratory (PHDRW); Data are current to May 1, 2021; figure includes cumulative influenza detections for specimens collected from weeks 36-17.

^{**} The positive influenza Apdm09(H1N1), influenza A(H3N2), and influenza B viruses detected in weeks 44, 47, 48, 49, 3, 7, and 7 are all associated with live attenuated influenza vaccine (LAIV) receipt in 10 individuals. These detections have already been reported by local health authority laboratories (Figure 1, Figure 5, and Table 1) and were sent to BCCDC PHL for further subtyping and analysis.

Figure 5. Influenza and NIRV detections among respiratory specimens submitted to BC Children's and Women's Health Centre Laboratory, 2020-2021^{a,b,c,d}



- 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 36 (August 30-September 5, 2020) to week 17 (April 25- May 1, 2021), among the 2075 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 (300/331=91%). One specimen was positive for RSV.
- d. The positive influenza A and influenza B viruses detected in week 44 and 47 are associated with live attenuated influenza vaccine (LAIV) receipt in 2 individuals, and likely represent vaccine-type virus rather than community circulation of seasonal influenza viruses.

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								
	FHA	IHA	VIHA	NHA	VCHA	BCCDC/ CW	Total		
Current report Week 17 [April 25, 2021 – May 1, 2021]									
Influenza, Total ^d	0/101 (0)	0/933 (0)	0/556 (0)	0/0 (.)	0/403 (0)	0/341 (0)	0/2334 (0)		
Influenza A total	0 (0)	0 (0)	0 (0)	0 (.)	0 (0)	0 (0)	0 (0)		
A(H3N2) ^e	0	0	0	0	0		0		
A(H1N1)pdm09 ^e	0	0	0	0	0		0		
Influenza B total	0 (0)	0 (0)	0 (0)	0 (.)	0 (0)	0 (0)	0 (0)		
NIRV, Total ^c	0	3	0	0	5	15	23		
RSV	0/101 (0)	0/933 (0)	0/556 (0)	0/0 (.)	0/376 (0)	0/341 (0)	0/2307 (0)		
Entero/Rhinovirus	^f	3/119 (2.5)	0/44 (0)	^f	5/150 (3.3) ^g	13/110 (11.8)			
Other ^h	^f	0/119 (0)	0/44 (0)	^f	0/150 (0) ^g	2/110 (1.8)			
2020-21 Season: Cumulative	e total to date,	Week 40 to 17	[September 2	7, 2020 – M	ay 1, 2021]				
Influenza Total ^d	1/21382	5/13432	2/20599	2/93	0/7214	8/12879 (0.1) ⁱ	18/75599		
	(0)	(<0.1) ⁱ	(<0.1) ⁱ	(2.2) ⁱ	(0)		(<0.1) ⁱ		
Influenza A total	1 (0)	3 (<0.1)	1 (<0.1) ⁱ	1 (1.1)	0 (0)	4 (<0.1) ⁱ	10 (<0.1) ⁱ		
A(H3N2) ^e	0	2	1	2	3		8		
A(H1N1)pdm09 ^e	0	1	1	0	1		3		
Influenza B total	0 (0)	2 (<0.1)	1 (<0.1) ⁱ	1 (1.1)	0 (0)	4 (<0.1)	8 (<0.1) ⁱ		
Cumulative influenza incidence (/100,000) ^j	0.1	0.6	0.2	0.7	0		0.3		
NIRV, Total ^c	0	545	76	0	63	825	1509		
RSV	0/21382	0/13432	0/20599	0/92	0/6752	1/12878	1/75135		
	(0)	(0)	(0)	(0)	(0)	(<0.1)	(<0.1)		
Entero/Rhinovirus	^f	517/5449 (9.5)	46/1237 (3.7)	f	44/1874 (2.3) ^g	717/7154 (10.0)			
Other ^h	f	28/4983 (0.6)	30/1237 (2.4)	f	19/2162 (0.9) ^g	106/7154 (1.5)			

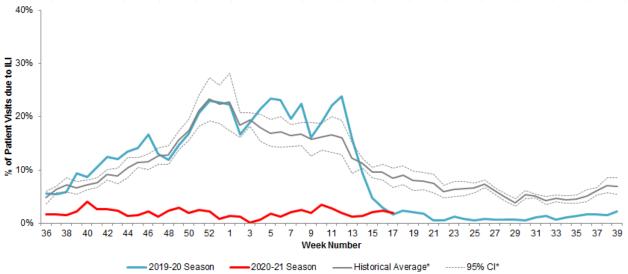
- a. FHA=Fraser Health Authority; IHA=Interior Health Authority; VIHA= Vancouver Island Health Authority; NHA=Northern Health Authority; VCHA=Vancouver Coastal Health Authority; BCCDC= primary patient specimens screened at BCCDC Public Health Laboratory; CW=Children's and Women's Health Centre Laboratory
- 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, Entero/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. Entero/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).
- i. Since the start of the season (week 40), there has been 10 laboratory reported cases known to be associated with recent live attenuated influenza vaccine (LAIV) receipts. The reported LAIV cases correspond with all the influenza A and B virus detections between weeks 44-7; majority of these cases have dual influenza A and B virus detections.
- j. Cumulative incidence of influenza is calculated from dividing total influenza cases (starting week 40) by the total population size of each health authority and BC (PEOPLE2020 population estimates).

B. Clinical Indicators

BC Children's Hospital Emergency Room

Continuing a pattern since week 13 of the 2019-20 season, the proportion of visits to BC Children's Hospital Emergency Room (BCCH ER) in week 17 of the 2020-21 season attributed to ILI (2.0%) remains substantially below the 5-year historical average (8.5%) (Figure 6). The overall season average was 2.0% with a range 0.2% - 4.0%.

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

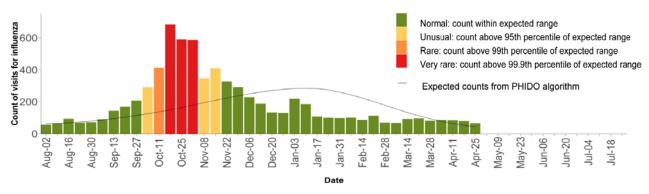


Source: BCCH Admitting, Discharge, Transfer database (ADT). Data includes records with a triage chief complaint of "flu" or "influenza" or "fever/cough." *5-year historical average for 2020-21 season based on 2014-15 to 2018-19 seasons (excluded 2019-20 season); CI=confidence interval.

Medical Service Plan

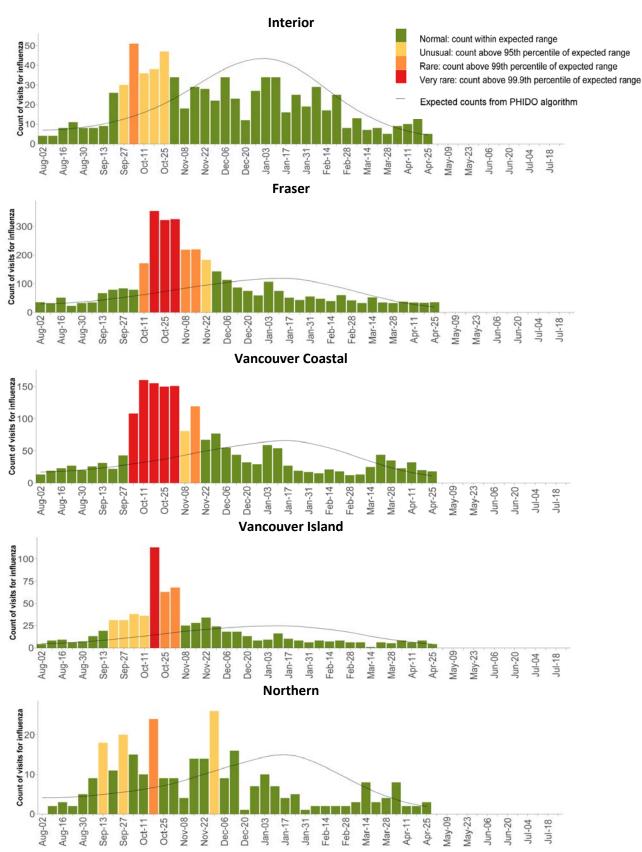
As shown in Figure 7 and Figure 8, in all weeks between week 1 (beginning January 3, 2021) and week 17 (beginning April 25, 2021), BC Medical Service Plan (MSP) general practitioner claims for influenza illness (weekly counts) were within (mostly below) the expected range in BC and in all 5 health authorities. For earlier or more recent weeks that may have exceeded the expected range, note that the clinical diagnosis of "influenza illness" as represented in administrative MSP billing data is non-specific. In the absence of laboratory-confirmed influenza detections in the province for many months more likely reflects other non-influenza respiratory pathogens such as SARS-CoV-2 or entero/rhinoviruses. See <u>laboratory findings</u>.

Figure 7. Service claims submitted to MSP for influenza illness[‡], British Columbia, 2020-2021 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). MSP data beginning August 2, 2020 corresponds to sentinel ILI week 32; data are current to May 1, 2021.

Figure 8.



C. Influenza outbreak reports

The last influenza outbreak in BC was in March 2020 (week 12) with no influenza outbreaks reported during the 2020-2021 season (since week 40, starting September 27, 2020). By way of comparison, during the same period spanning weeks 40 (from September 29, 2019) to 17 (to May 1, 2021) of the 2019/2020 season, there were 73 long-term care facility influenza outbreaks reported.

D. National

FluWatch (week 12-16, March 21, 2021 to April 24, 2021)

Despite continued monitoring across Canada, there continues to be no evidence of community circulation of influenza virus. Public health measures implemented to reduce the impact of COVID-19 continue to prevent the transmission of influenza virus within the community. In weeks 12 to 16, two laboratory detections of influenza virus (A(subtype unknown)) were reported in week 14. In weeks 12 to 16, 131,720 tests for influenza virus were performed at reporting laboratories and the average percentage of tests positive was 0%. Compared to the past six seasons, the number of tests performed for this time period was higher than the average (35,401) whereas the percentage of tests positive for influenza virus remains well below average (17.7%).

To date this season, 68 influenza virus detections have been reported, which is significantly lower than the past six seasons for which an average of 49,641 influenza virus detections were reported for the season to date. All provinces and territories are closely monitoring indicators of influenza activity this season. Thirty-one of the influenza virus detections reported to date this season are known to have been associated with recent live attenuated influenza vaccine (LAIV) receipt and do not represent community circulation of seasonal influenza viruses.

To date this season, 125 influenza-like-illness (ILI) outbreaks in schools and/or daycares, and no other influenza or ILI outbreaks were reported in any other settings. Note outbreaks of ILI are not specific to any one respiratory pathogen and can be due to influenza or other respiratory viruses, including rhinovirus and even COVID-19. For more information on the respiratory viruses currently circulating in Canada, please refer to the Respiratory Virus-Petections in Canada Report.

FluWatch report (week 12-16) 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

The National Microbiology Laboratory has not yet reported influenza strain characterization results for influenza viruses collected during the 2020-21 season.

National Microbiology Laboratory (NML): Antiviral Resistance

The National Microbiology Laboratory has not yet reported antiviral resistance results for influenza viruses collected during the 2020-21 season.

E. International

USA (week 17, April 25, 2021 to May 1, 2021)

Seasonal influenza activity in the United States remains lower than usual for this time of year. Nationwide during week 17, 1.1% of patient visits reported through ILINet were due to influenza-like illness. This percentage is below the national baseline of 2.6%. Of the 11,512 specimens tested by public health laboratories in week 17, 1 (<0.01%) influenza A (subtype unknown) and 0 influenza B viruses were detected. Cumulatively since week 40, a total of 463,374 specimens were tested and 150 (0.03%) were influenza A and 95 (0.02%) were influenza B positive. In clinical laboratories across the US, 21,477 samples were tested for influenza in week 17, 9 (0.04%) were influenza A and 5 (0.02%) were influenza B positive. The proportion of deaths attributed to pneumonia, influenza, and COVID-19 during week 17 (11.7%) were above the epidemic threshold of 6.6%. No influenza-associated pediatric death was reported to the US CDC in the current reporting week; the total for 2020-2021 season is one.

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 (March 29, 2021, <u>based on data up to March 14, 2021</u>)

In the temperate zone of the northern hemisphere, influenza activity remained below baseline overall. In the countries of North America, influenza activity indicators, including the percent of tests positive for influenza and influenza like illness (ILI) activity, were at very low levels, despite testing at usual or increased levels. In Europe, influenza activity was at very low level with sporadic detections of influenza A and B viruses reported in some countries. No influenza detection reported in Central Asia and Northern Africa. In Western and East Asia, influenza illness indicators and influenza activity remained low or below baseline in reporting countries.

In countries in the temperate zone of the southern hemisphere, influenza activity remained at inter-seasonal level. In parts of Australia, RSV continued to be reported at higher levels than the average of previous years and rhinovirus and enterovirus circulated at levels like 2020. In South Africa, one influenza virus detection was reported from pneumonia surveillance, but RSV detections continued to be reported from all surveillance sites.

In countries in the tropical zone, there was sporadic detection of influenza virus in some reporting regions. In the countries of South America, Caribbean, and Central American, no influenza virus detections were reported for this period. Sporadic detection of influenza virus was reported in Eastern and Western Africa. Influenza A(H3N2) detections were reported in South and South East Asia.

From March 1 to March 14, 2021, the WHO GISRS laboratories tested more than 291,427 specimens. Of these, 375 were positive for influenza viruses including 132 (35.2%) typed as influenza A and 243 (64.8%) as influenza B. Of subtyped influenza A viruses, 5 (6.1%) were influenza A(H1N1)pdm09 and 77 (93.9%) were influenza A(H3N2). Of the 188 characterized B viruses, all belonged to the B(Victoria) lineage.

Details are available at:

https://www.who.int/influenza/surveillance monitoring/updates/latest update GIP surveillance/en/.

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/influenza/vaccines/virus/recommendations/2021-22 north/en/

WHO Recommendations for 2021 Southern Hemisphere Influenza Vaccine

On September 25, 2020, the WHO announced the recommended strain components for the 2021 southern hemisphere trivalent influenza vaccine (TIV)*:

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus [a clade 6B.1A5A virus]; †
- an A/Hong Kong/2671/2019 (H3N2)-like virus [a clade 3C.2a1b/T135K virus];‡
- a B/Washington/02/2019 (B/Victoria lineage)-like virus [a clade V1A.3, Δ3 virus].

It is recommended that quadrivalent influenza vaccines (QIV) for the 2021 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 2020.

- * Recommended strains represent a change for two of the three components used for the 2020 southern hemisphere TIV
- † Note for cell-based vaccine, the WHO recommends A/Wisconsin/588/2019 (H1N1)pdm09-like virus [also a clade 6B.1A5A virus] for the 2020-21 season. Recommended strain represents a change from the 2020 season vaccine which contained an A/Brisbane/02/2018 (H1N1)pdm09-like virus [a clade 6B.1A1 virus]
- ‡ Note for cell-based vaccine, the WHO recommends an A/Hong Kong/45/2019 (H3N2)-like virus [also clade 3C.2a1b/T135K virus] for the 2020-21 season. Recommended strain represents a change from the 2020 season vaccine which contained an A/South Australia/34/2019 (H3N2)-like virus [a clade 3C.2a1b/T131K virus]

For further details: https://www.who.int/influenza/vaccines/virus/recommendations/2021 south/en/

G. Additional Information

Explanatory Note:

The surveillance period for the 2020-21 influenza season is defined starting in week 40. Weeks 36-39 of the 2019-20 season are shown on graphs for comparison purposes.

List of Acronyms:

ACF: Acute Care Facility

EV/RV: Entero/Rhinoviruses

FHA: Fraser Health Authority

LTCF: Long-Term Care Facility

MSP: BC Medical Services Plan

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

VIHA: Vancouver Island Health Authority

VIHA: Vancouver Island Health Authority

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-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-

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