

British Columbia (BC) Influenza Surveillance Bulletin

2020-21 Influenza Season

Week 41: October 4 to 10, 2020

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No influenza viruses have been detected for several months in BC, but entero-/rhinoviruses are currently contributing to seasonal respiratory illness

This is the first influenza bulletin of the 2020-21 surveillance period which commenced in week 40 (September 27). This bulletin also includes laboratory-based surveillance for non-influenza respiratory viruses (NIRV) but does not include SARS-CoV-2 which is reported in detail elsewhere.

Across the inter-seasonal period spanning weeks 19 to 41 (May 3 to October 10) of 2020, there were just 7 influenza viruses detected in total among 28,546 respiratory specimens screened in BC, with the last influenza virus detected in June. This tally is far fewer than for the week 19-41 period each year between 2015 and 2019 (average 146, range 34-238).

The last reported influenza outbreak in BC was in March 2020 (week 12). Conversely, during the inter-seasonal period spanning weeks 19-41 (May 5 to October 12) of 2019 there were 8 influenza outbreaks reported, including two in weeks 40-41.

Influenza activity through the southern hemisphere 2020 season was also exceptionally low. For example, see the most recent [surveillance bulletin for Australia](#).

Of respiratory specimens tested for NIRV in weeks 40 and 41 in BC, nearly one third were positive for entero-/rhinoviruses. The latter are a recognized cause of the common cold at this time of year. There were no RSV detections and few other NIRV identified.

Note that caution is required when interpreting influenza and NIRV surveillance findings given the ongoing COVID-19 pandemic and associated changes in health care seeking, testing and reporting practices and mitigation measures.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Report Disseminated: October 15, 2020

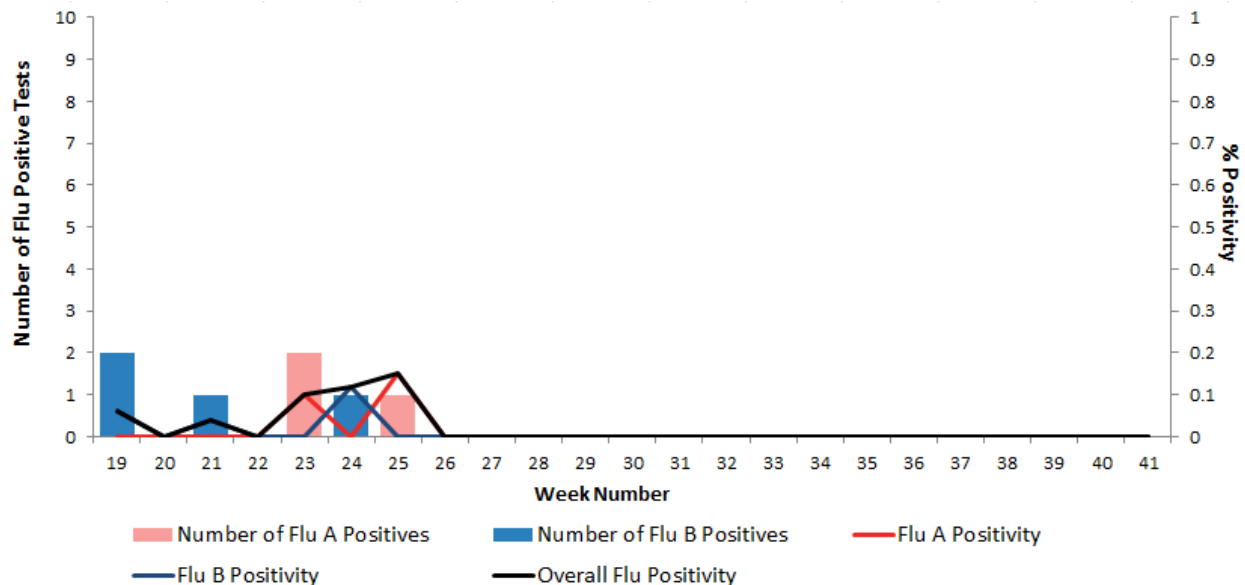
A. Influenza Laboratory Surveillance

Since the last influenza A virus was detected in BC in week 25 (June 14-20) and the last influenza B virus was detected in week 24 (June 7-13) of 2020, there have been no influenza viruses detected among 14,118 specimens screened up to the end of week 41 (Figure 1). This includes no influenza virus detections among 2,299 specimens screened during the most recent weeks 40 and 41 (spanning September 27 to October 10) of 2020.

Across the inter-seasonal period spanning from week 19 to week 41 (from May 3 to October 10) of 2020 there were just 7 influenza detections in total among 28,546 respiratory specimens screened. This number of influenza detections is far fewer than for the same period each year for 2015 to 2019 (average 146 detections, range 34-238) (not shown).

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 (not including SARS-CoV-2 which is not addressed in this report). Of 2,299 respiratory specimens in weeks 40 and 41 that were tested for RSV, none were positive. Of 483 specimens in weeks 40 and 41 additionally subjected to multiplex testing, entero-/rhinoviruses were most commonly detected (143/483; 30%). Entero-/rhinoviruses are a recognized cause of seasonal respiratory illness (e.g. the common cold) at this time of year. (Figures 2-3, Table 1).

Figure 1. Influenza virus positivity among respiratory specimens tested by participating laboratories^a across BC, week 19 (May 3-9, 2020) to week 41 (October 4-10, 2020)^{b, c}

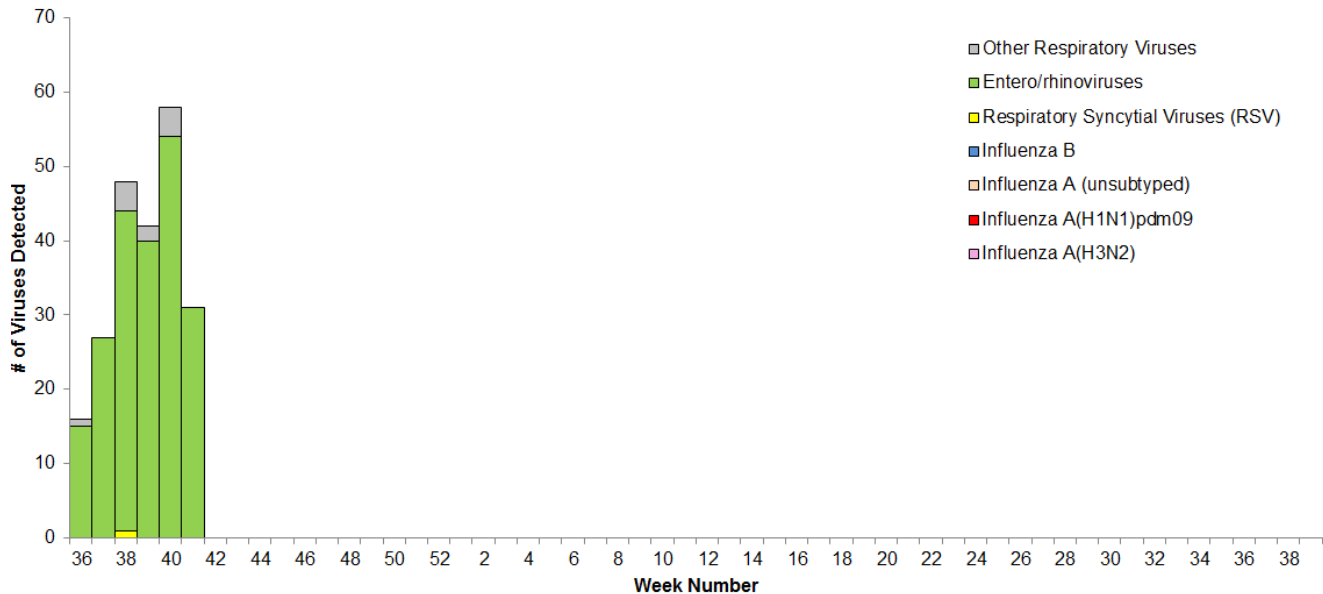


a. The percentage influenza positivity is presented by influenza type based on primary specimens submitted for influenza testing at the BCCDC Public Health Laboratory (PHL) and other external sites that share complete testing data with the BCCDC PHL. Reporting sites include: BC Children’s and Women’s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

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

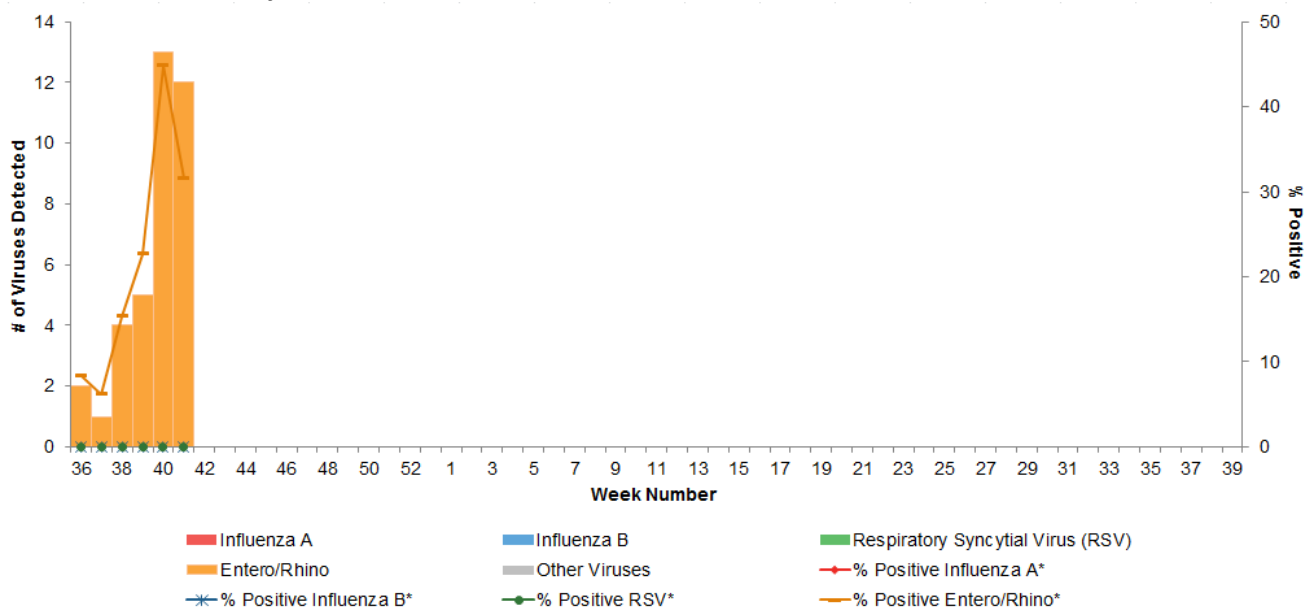
c. Week of sample based on the sample collection date.

Figure 2. Influenza and non-influenza respiratory virus (NIRV) detections among specimens submitted to BCCDC Public Health Laboratory and Island Health Laboratory, 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 3. Influenza and NIRV detections among respiratory specimens submitted to BC Children’s and Women’s Health Centre Laboratory, 2020-2021^{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 36 (August 30, 2020) to week 41, only enteroviruses (n=38) were detected among the 155 specimens submitted for influenza virus testing at the BC Children’s and Women’s Health Centre laboratory (Figure 3). The last detection of influenza A was in week 13 (March 22-28, 2020) and influenza B was in week 14 (March 29-April 4, 2020).

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

Count (% positive of total screened)	Health authority ^{a,b} where specimen tested ^c , BC Cases						Total
	FHA	IHA	VIHA	NHA	VCHA	BCCDC/CW	
Current report Week 41 [October 4, 2020 – October 10, 2020]							
Influenza, Total^d	0/55 (0)	0/20 (0)	0/743 (0)	0/4 (0)	0/186 (0)	0/116 (0)	0/1124 (0)
Influenza A	0 (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	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
NIRV, Total^f	0	3	10	0	3	68	84
RSV	0/55 (0)	0/20 (0)	0/743 (0)	0/3 (0)	0/187 (0)	0/116 (0)	0/1124 (0)
Enterovirus/Rhinovirus	--- ^f	3/20 (15)	3/23 (13)	--- ^f	2/16 (12.5) ^g	66/172 (38.4)	---
Other ^h	--- ^f	0/20 (0)	7/23 (30.4)	--- ^f	1/38 (2.6) ^g	2/172 (1.2)	---
2020-21 Season: Cumulative total to date, Week 40 to 41 [September 27, 2020 – October 10, 2020]							
Influenza, Total^d	0/121 (0)	0/36 (0)	0/1556 (0)	0/14 (0)	0/359 (0)	0/213 (0)	0/2299 (0)
Influenza A	0 (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	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
NIRV, Total^f	0	5	13	0	4	133	155
RSV	0/121 (0)	0/36 (0)	0/1556 (0)	0/13 (0)	0/360 (0)	0/213 (0)	0/2299 (0)
Enterovirus/Rhinovirus	--- ^f	5/35 (14.3)	6/43 (14)	--- ^f	3/32 (9.4) ^g	129/373 (34.6)	---
Other ^h	--- ^f	0/35 (0)	7/43 (16.3)	--- ^f	1/61 (1.6) ^g	4/373 (1.1)	---

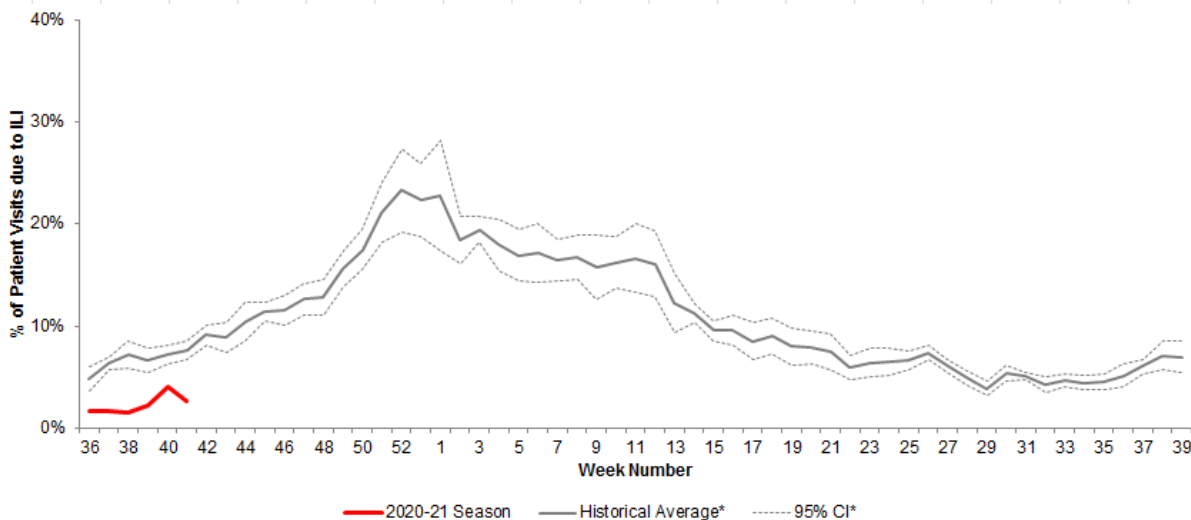
- FHA=Fraser Health Authority; IHA=Interior Health Authority; VIHA= Vancouver Island Health Authority; NHA=Northern Health Authority; VCHA=Vancouver Coastal Health Authority; BCCDC= primary patient specimens screened at BCCDC Public Health Laboratory; CW=Children’s and Women’s Health Centre Laboratory
- 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). In weeks 40 and 41, NIRV detected in BC include 1 adenovirus and 6 human metapneumoviruses in VIHA, 1 adenovirus in VCHA and 4 adenoviruses detected by the BCCDC PHL.

B. Clinical Indicators

BC Children’s Hospital Emergency Room

The proportion of visits to BC Children’s Hospital Emergency Room (BCCH ER) for clinical influenza-like illness remains substantially below the 5-year historical average (**Figure 4**). Of note, the overall number of ER registrations at BCCH is substantially lower than the similar period last year. This may be related to changes in health care seeking behaviour and physical distancing measures during the COVID-19 epidemic.

Figure 4. Percent of patients presenting to BC Children’s Hospital ER

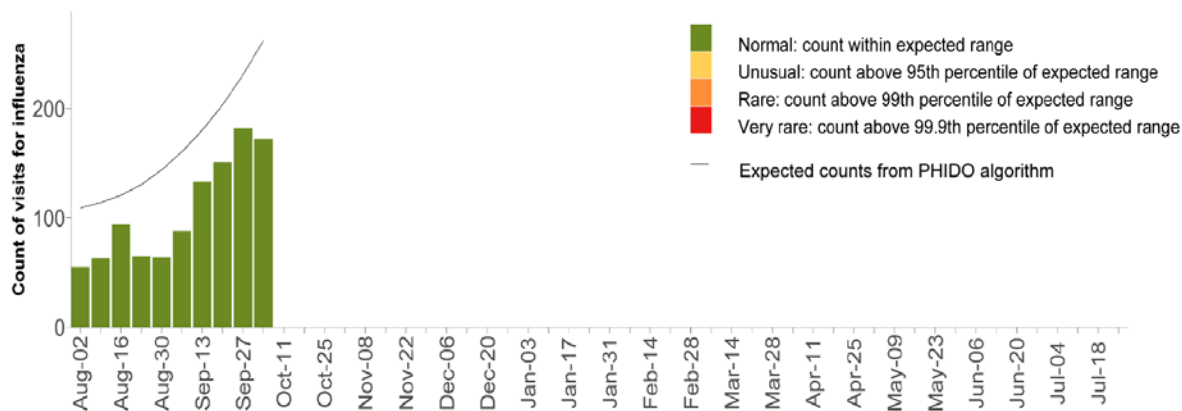


Source: BCCH Admitting, Discharge, Transfer database (ADT). Data includes records with a triage chief complaint of "flu" or "influenza" or "fever/cough."
*5-year historical average for 2020-21 season based on 2014-15 to 2018-19 seasons (excluded 2019-20 season); CI=confidence interval.

Medical Service Plan

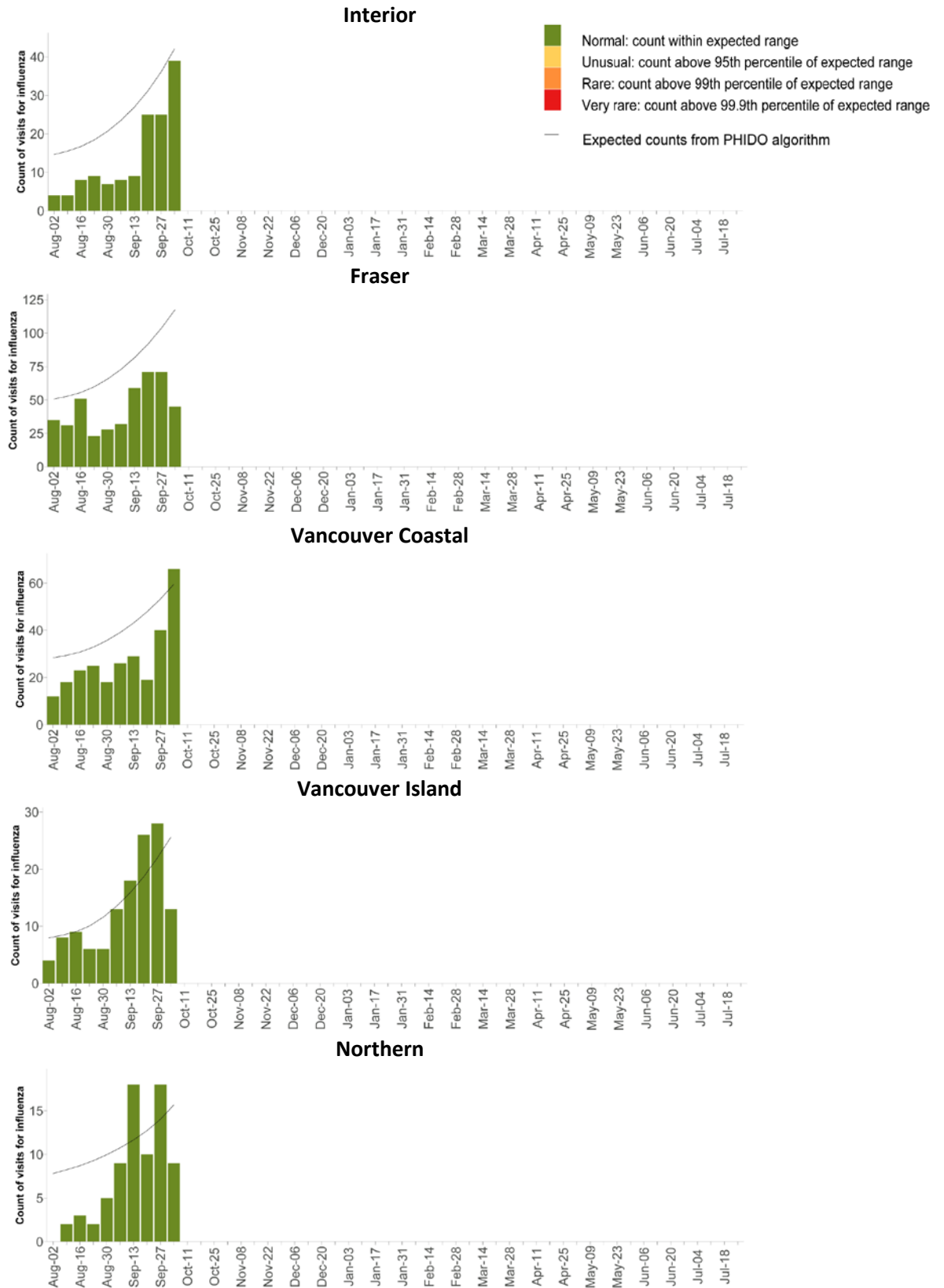
As shown in **Figure 5** and **Figure 6**, for recent weeks 32 (beginning August 2, 2020) to week 41 (beginning October 4, 2020), BC Medical Service Plan (MSP) general practitioner claims for influenza illness (weekly counts) have been within the expected range in BC and in all 5 health authorities. Note that claims are based on clinical diagnostic codes with many potential causes of ILI. Claims made through telehealth are incorporated in these figures.

Figure 5. 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 week 32; data are current to October 10, 2020.

Figure 6.



C. Influenza outbreak reports

The last reported influenza outbreak in BC was in March 2020 (week 12) with no influenza outbreaks reported since. By way of comparison, during the inter-seasonal period spanning weeks 19 (from May 5) to 41 (to October 12) of 2019, there were 8 influenza outbreaks reported, including two in weeks 40-41 of 2019.

D. National

FluWatch (week 39-40, September 20 to October 3, 2020)

Influenza activity remains at exceptionally low levels across Canada. Testing for influenza continues at elevated levels, but no influenza virus detection and no influenza activity were reported. In weeks 39-40, an average of 6,294 tests for influenza were performed at reporting laboratories, which is 2.1 times the average for this period over the past 6 seasons. The average weekly percentage of tests positive for influenza during this 2-week period was 0%, compared to 1.7% during the past 6 seasons. Since the start of the 2020-21 season, 15 influenza-like-illness (ILI) outbreaks have been reported; all outbreaks were in schools and/or daycares. Although the number of ILI outbreaks in schools and daycares reported is higher compared to the same time period in the previous two seasons, this is not unexpected given changes to outbreak surveillance and the increased restrictions on attendance for children with symptoms of viral respiratory illness. It should be remembered that there are many other non-influenza respiratory virus causes of ILI.

FluWatch report (week 39-40) 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 40, September 27 to October 3, 2020)

In week 40, influenza activity remains low in the US. The proportion of outpatient visits for ILI is at 1.1% this week, which is below the national baseline (2.6%). Of the 5,755 specimens tested by public health laboratories in week 40, 1 (0.02%) influenza A (subtype unknown) was detected. The proportion of deaths attributed to pneumonia, influenza, and COVID-19 during week 40 (7.0%) is slightly above the epidemic threshold of 5.6%. No influenza-associated pediatric deaths have been reported to the US CDC in the current influenza season. Of the 7,923 samples tested for influenza from clinical laboratories across the US in week 40, 9 (0.1%) were influenza A and 8 (0.1%) were influenza B positive. Influenza virus characterization and influenza-associated hospitalization indicators will be available later this season.

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 (October 12, 2020, based on data up to September 29, 2020)

In the temperate zone of the northern hemisphere, influenza activity remained at inter-seasonal levels overall. Influenza activity indicators remain at very low levels in the United States and Canada. Reporting European countries reported sporadic detection of influenza and slight increases in ILI activity. Western Asia reported no flu detections and activities for this period, while East Asia remained at inter-seasonal levels. No influenza updates on Central and Northern Asia for this reporting period.

In countries in the temperate zone of the southern hemisphere, influenza activity remained low overall in comparison with previous seasons. In Oceania, ILI and flu activity indicators remained below the seasonal levels. Compared to prior seasons, influenza testing in Australia and New Zealand has increased, but very few influenza viruses were detected. The most recent influenza surveillance report from Australia is available here: <https://www1.health.gov.au/internet/main/publishing.nsf/Content/cda-ozflu-2020.htm>

In South Africa no influenza virus was detected, but moderate increase in respiratory syncytial virus was detected. In temperate South America, influenza activity in Argentina just crossed the epidemic threshold with co-circulation of influenza B and A(H3N2) viruses.

In countries in the tropical zone, low influenza activity across multiple regions and countries. In Central America, the Caribbean, and South America, no influenza detections were reported. Detection of SARS-CoV-2 continues to be reported in most countries. Detection of both influenza A(H3N2) and B viruses were reported in multiple countries in Western Africa. Sporadic detection of influenza was reported in Afghanistan and Sri Lanka, but little to no influenza detection was reported in other Tropical Asia countries. In South East Asia, influenza A(H3N2) detection increased in Cambodia and Lao PDR.

From September 14 to September 27, 2020, the WHO GISRS laboratories tested more than 50,521 specimens. Of these, 99 were positive for influenza viruses including 60 (60.6%) typed as influenza A and 39 (39.4%) as influenza B. Of subtyped influenza A viruses, none were influenza A(H1N1)pdm09 and 50 (100%) were influenza A(H3N2). Of the characterized B viruses, 5 (22.7%) belonged to the B(Yamagata) lineage and 17 (77.3%) 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 2020-21 Northern Hemisphere Influenza Vaccine

On February 28, 2020, the WHO announced recommended strain components for the 2020-21 northern hemisphere trivalent influenza vaccine (TIV):*

- an A/Guangdong-Maonan/SWL1536/2019 (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-like (B/Victoria lineage) virus [a clade V1A.3, Δ3 virus]. §

It is recommended that quadrivalent influenza vaccines (QIV) for the 2020-21 northern hemisphere season contain the above three viruses and a B/Phuket/3073/2013-like virus (B/Yamagata lineage) [a clade 3 virus], unchanged from 2019-2020.

* Recommended strains represent a change for three of the three components used for the 2019-2020 northern hemisphere TIV.

† Note for cell-based vaccine, the WHO recommends A/Hawaii/70/2019 (H1N1)pdm09-like virus [also clade 6B.1A5A] for the 2020-21 season. Recommended strains represents a change from the 2019-2020 season vaccine which contained an A/Brisbane/02/2018 (H1N1)pdm09-like virus [a clade 6B.1A1 virus].

‡ Recommended strain represents a change from the 2019-2020 season vaccine which contained an A/Kansas/14/2017 (H3N2)-like virus [a clade 3C.3a virus]

§ Recommended strain represents a change from the 2019-2020 season vaccine which contained a B/Colorado/06/2017-like virus (B/Victoria/2/87 lineage) [a clade V1A.1, Δ2 virus]

For further details: https://www.who.int/influenza/vaccines/virus/recommendations/2020-21_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

AI: Avian influenza

FHA: Fraser Health Authority

HBoV: Human bocavirus

HMPV: Human metapneumovirus

HSDA: Health Service Delivery Area

IHA: Interior Health Authority

ILI: Influenza-Like Illness

LTCF: Long-Term Care Facility

MSP: BC Medical Services Plan

NHA: Northern Health Authority

NML: National Microbiological Laboratory

A(H1N1)pdm09: Pandemic H1N1 influenza (2009)

RSV: Respiratory syncytial virus

VCHA: Vancouver Coastal 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/influenza-surveillance.html>

Washington State Flu Updates: <http://www.doh.wa.gov/portals/1/documents/5100/420-100-fluupdate.pdf>

USA Weekly Surveillance Reports: www.cdc.gov/flu/weekly/

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

WHO – 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)